2010 TRANSMISSION

Automatic Transmission - 6L45/6L50/6L80/6L90 - Camaro

SCHEMATIC AND ROUTING DIAGRAMS

AUTOMATIC TRANSMISSION CONTROLS SCHEMATICS

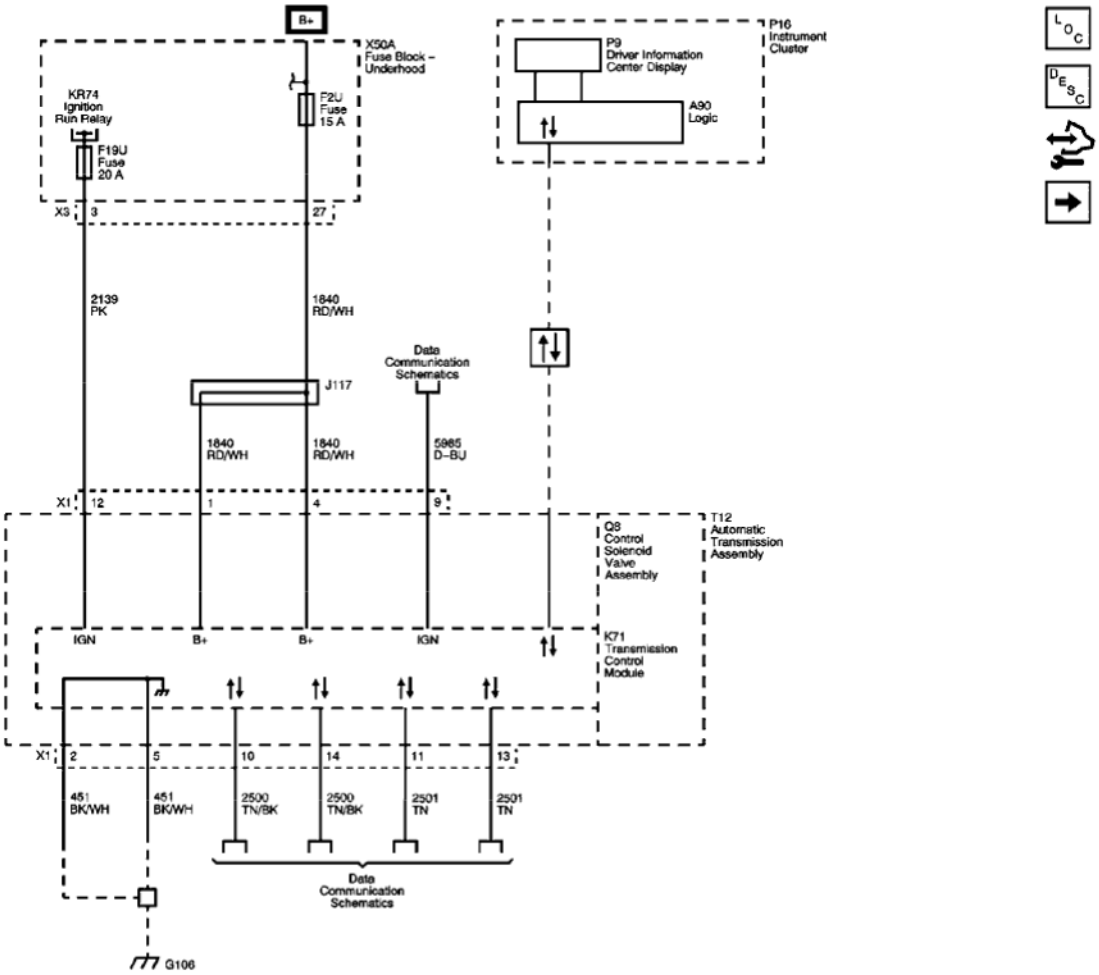


Fig. 1: Module Power, Ground, Data Communication, and MIL
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

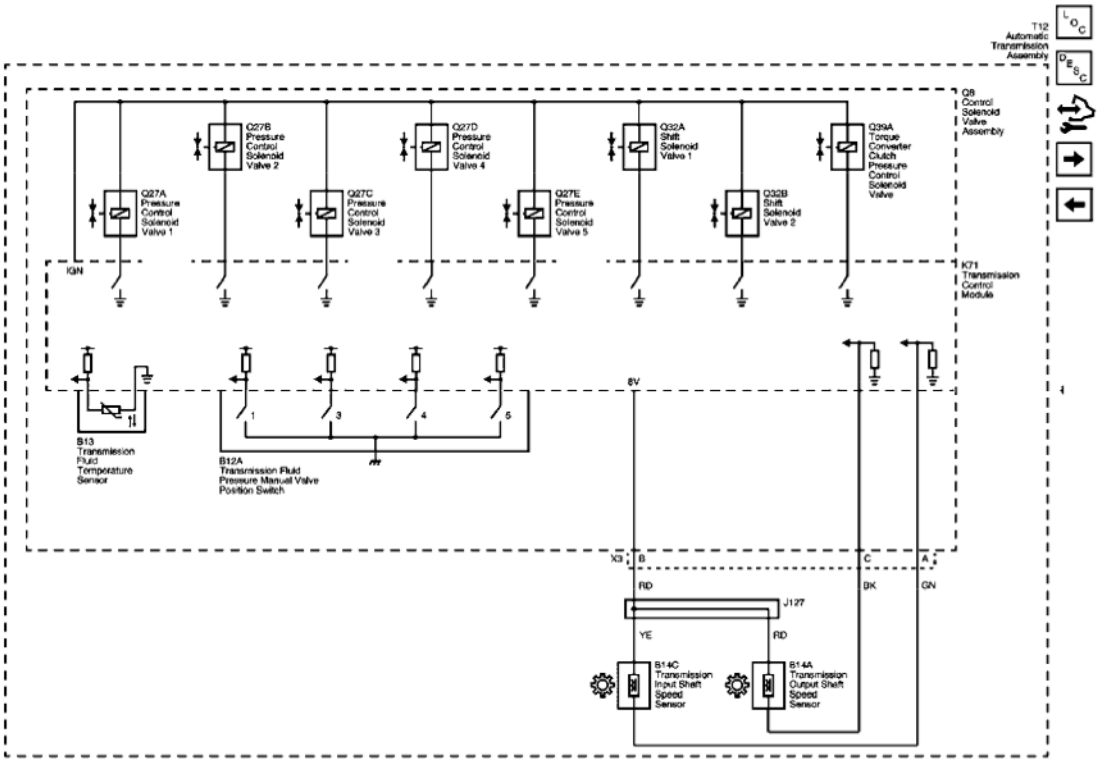


Fig. 2: ISS, OSS, TFP, TFT, Pressure Controls, and Shift Controls
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

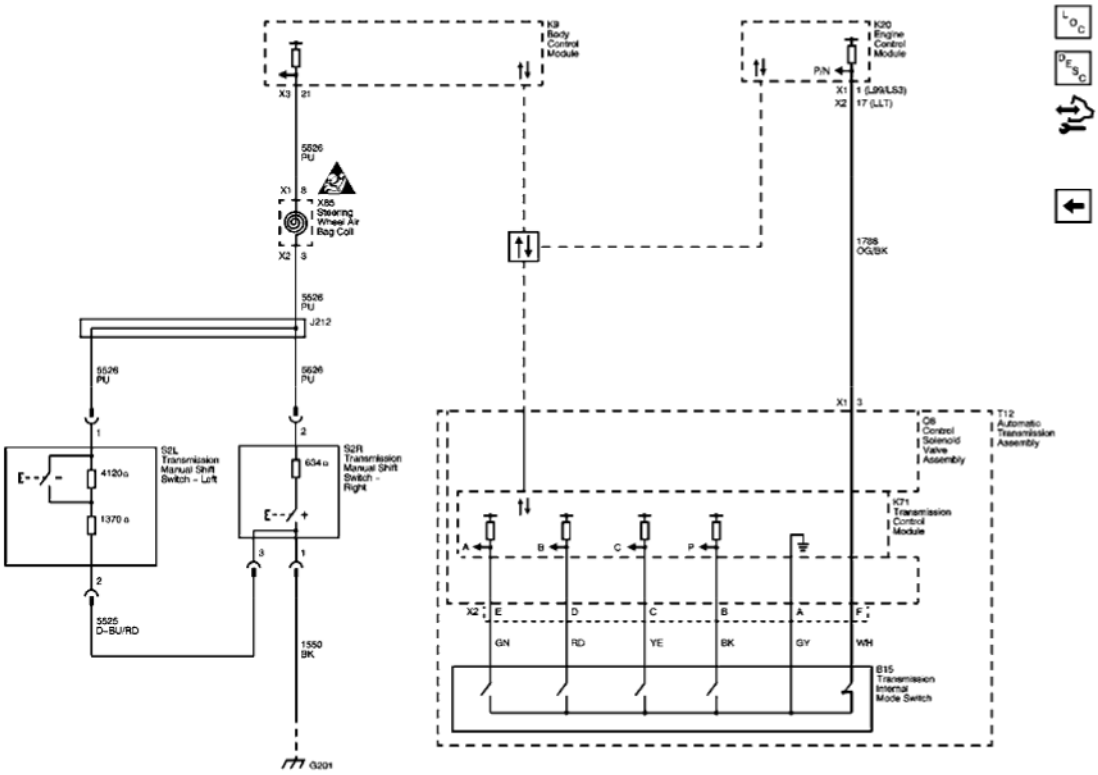


Fig. 3: IMS and Tap Up/Tap Down
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

GENERAL INFORMATION

Diagnostic Connector (DLC) Locations

DOMESTIC CARS

CHRYSLER GROUP LLC

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

CHRYSLER GROUP LLC - DOMESTIC CARS

Application	Connector Location
Acclaim	
1989-90	Under Left Side Of Dash
1991-92	On Left Front Fender Panel, Near Shock Tower
1993-94	Near Battery
1995	Behind Left Side Of Dash, Near Fuse Block
Aries, Caravelle, Dynasty, E Class, Executive Sedan, LeBaron Sedan, New Yorker, Reliant, Town & Country, 400 & 600	
1984-85	On Left Fender Apron, Behind Battery (2.2L Only)
1986-87	On Front Of Right Shock Tower (2.2L & 2.5L Only)
1988-89	On Left Fenderwell
1990	Under Left Side Of Dash
1991-92	On Left Front Fender Panel, Near Shock Tower
1993 (Except New Yorker)	Near Battery
1993 (New Yorker)	On Left Fender Panel Near PCM
Avenger (1995-00)	Under Center Of Dash, Near Center Console
Breeze, Cirrus & Stratus (1995)	Left Of Steering Column, On BCM
Charger, Horizon, Omni, Rampage, Scamp & Turismo	
1985-89	
2.2L Carbureted	On Left Fender Apron
2.2L Turbo	On Front Of Right Shock Tower
Concorde, Intrepid, LHS, New Yorker, Vision & 300M	
1993-95	Behind Left Side Of Dash
1996-97	Under Left Side Of Dash, Near Center Console
Daytona	

cardiagn.com

1984-87	On Front Of Right Shock Tower
1988-89	On Left Fenderwell
1990-92	On Left Front Fender Panel, Near Shock Tower
1993	On Left Front Inner Fender Or Under Steering Column
Dynasty	
1990	Under Left Side Of Dash
1991-93	On Left Fender Panel, Near SBEC/PCM
Fifth Avenue	
1990	Under Left Side Of Dash
1991-93	On Left Fender Panel Near SBEC/PCM
Horizon & Omni (1989-90)	Under Left Side Of Dash
Imperial	
1981-83	CCC Connector Left Of Air Cleaner
1990	Under Left Side Of Dash
1991-93	On Left Fender Panel Near SBEC/PCM
LeBaron Coupe & Convertible	
1985-87	On Right Front Shock Tower
1988-89	On Left Fenderwell
1990-92	On Left Front Fender Panel, Near Shock Tower
1993	On Left Front Inner Fender Or Under Steering Column
1994	Near Battery
1995	Behind Left Side Of Dash, Near Fuse Block
Lancer	
1985-87	On Right Front Shock Tower
1988-89	On Left Fenderwell
Laser	
1990-94	Above Left Kick Panel, Near Fuse Block
1995	Under Left Side Of Dash, Near Center Console
Monaco & Premier	
1990	On Right Front Fender Panel
1991-92	On Left Fender Panel, Next To SBEC
Neon (1995)	Under Headlight Switch, Under Left Side Of Dash
Shadow	
1985-87	On Right Front Shock Tower
1988	On Left Fenderwell
1989	Under Dash, To Right Of Steering Column

cardiagn.com

1990	On Left Fender Front Panel, Near SBEC
1991-92	On Left Front Fender Panel, Near Shock Tower
1993-94	Near Battery
Spirit & Sundance	
1985-87	On Right Front Shock Tower
1989-90	Under Left Side Of Dash
1991-92	On Left Front Fender Panel, Near Shock Tower
1993-94	Near Battery
1995	Behind Left Side Of Dash, Near Fuse Block
Talon	
1990-94	Above Left Kick Panel, Near Fuse Block
1995-98	Under Left Side Of Dash, Near Center Console

FORD MOTOR CO.

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

FORD MOTOR CO. - DOMESTIC CARS

Application	Connector Location
Bobcat & Pinto	On Center Of Right Fender Apron
Capri	
1980-85	On Center Of Left Front Fender Apron
1986	On Left Rear Corner Of Engine Compartment
Continental	
1984-89	On Right Rear Corner Of Engine Compartment
1990-91	On Right Rear Corner Of Firewall, On Electronic Assembly Cover
1992	On Right Fender Apron
1993-94	VIP Connectors (2) On Right Rear Of Engine Compartment, On PCM Cover
Contour & Mystique	
1995	On Left Rear Corner Of Engine Compartment
Cougar & Thunderbird	
1982-90	On Left Fender Apron
1991	On Rear Of Right Front Fender Panel
1992	Front Of Right Shock Tower
1993	2 Connectors In Right Rear Corner Of Engine Compartment

cardiagn.com

1994	On Right Side Of Engine Compartment & Below Glove Box
1995	
3.8L	On Right Side Of Engine Compartment & Below Glove Box
4.6L	Behind Right Side Of Dash, Below Glove Box
1996	Lower Right Side Of Dash, Below Glove Box
Crown Victoria, Grand Marquis & Lincoln Town Car	
1983 & 1987	On Right Fender Apron
1985-86 & 1988-90	On Left Fender Apron
1992	On Left Front Fender Panel
1993-94	On Top Of Left Front Wheelwell
Escort, EXP, Lynx & Tracer	
1985-90	On Right Fender Apron Near Firewall
1991	On Left Rear Of Engine Compartment
1992	On Right Rear Of Engine Compartment, Near Cowl
1993-95	On Left Side Of Firewall
LTD & Marquis	
1983	On Left Fender Apron
1984-86	On Left Rear Corner Of Engine Compartment
Mark VII	
1984-87	On Right Rear Corner Of Engine Compartment
1988-90	Front Of Right Fender Apron
1991	On Right Side Of Engine Compartment, Near Thermactor Solenoids
Mark VIII	
1993-96	On Top Of Left Wheelwell
Mustang	
1980-85	On Center Of Left Front Fender Apron
1986-91	On Left Rear Corner Of Engine Compartment
1992	On Left Shock Tower, Near Ignition Coil
1993	2 Connectors On Right Front Strut Tower
1994-95	Behind Right Front Strut Tower & Right Of Steering Column
Probe	
1991-92	On Left Rear Corner Of Engine Compartment
1993	DLC - Behind Left Side Of Dash; STI Connector - On Left Inner Fender Panel
1994-95	On Left Front Inner Fender Panel
Sable & Taurus	
1986-87 (3.0L Only)	Near Alternator
1988-90	
2.5L	On Engine Harness Near PCV Hose
3.0L	On Right Rear Corner Of Engine Compartment

cardiagn.com

1991	On Right Rear Corner Of Engine Compartment, On ECA Cover
1992	On Right Rear Corner Of Engine Compartment, Below MAP Sensor
1993-95	Right Rear Of Engine Compartment
Tempo & Topaz	
1984-92	On Right Rear Corner Of Engine Compartment
1993-94	In Engine Compartment, On Left Strut Tower

GENERAL MOTORS

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

GENERAL MOTORS - DOMESTIC CARS

Application	Connector Location
Allante	Enter Diagnostic Mode By Pressing OFF & WARM Buttons On Instrument Panel
Bonneville (1980-81)	ECU Connector On Upper Right Kick Panel
Brougham (1987-92)	Bottom Center Of Instrument Panel
Camaro & Firebird (1980)	Diagnostic Ground Lead Connector On Right Shroud Above ECM
Caprice Classic	
1980-81	ECU Connector On Upper Right Kick Panel
1982-88	Under Center Of Instrument Panel
Catalina	ECU Connector On Upper Right Kick Panel
Cavalier (1982-88)	On Side Of Fuse Block
Cimarron	On Side Of Fuse Block
Century	Under Left Of Dash Ashtray
Corvette (1980-83)	In Center Console, Under Ashtray
Custom Cruiser	
1980-81	ECU Connector On Upper Right Kick Panel
1982-88	Under Center Of Instrument Panel
DeVille (1981-88)	Enter Diagnostic Mode By Pressing OFF & WARMER Buttons On Instrument Panel
Delta 88	ECU Connector On Upper Right Kick Panel
Eldorado (1981-88)	Enter Diagnostic Mode By Pressing OFF & WARMER Buttons On Instrument Panel
Electra (1980-81)	ECU Connector On Upper Right Kick Panel
Estate Wagon	ECU Connector On Upper Right Kick Panel
Fiero	Under Ashtray Or Cigar Lighter Panel Within Center Console
Firenza	On Side Of Fuse Block

cardiagn.com

Fleetwood (1981-88)	Enter Diagnostic Mode By Pressing OFF & WARMER Buttons On Instrument Panel
Fleetwood Brougham	On Bottom Center Of Dash, Near Ashtray
Impala (1982-88)	Under Center Of Instrument Panel
LeMans	ECM Connector On Right Kick Panel Or Under Left Side Of Dash
LeSabre (1980-81)	ECU Connector On Upper Right Kick Panel
LeSabre Wagon (1982-88)	Under Center Of Instrument Panel
Monza	Under Right Side Of Dash
Ninety-Eight (1980-81)	ECU Connector On Upper Right Kick Pane
Nova	Behind Right Strut Tower
Parisienne	Under Center Of Instrument Panel
Reatta	
1988-92 (MFI)	Enter Diagnostic Mode By Pressing OFF & WARM Buttons On Instrument Panel
1991-93	Above Parking Brake Pedal
Riviera	
1980-85 (Carbureted)	Under Left Or Center Of Dash
1986-92 (MFI)	Enter Diagnostic Mode By Pressing OFF & WARM Buttons On Instrument Panel
Safari	Under Center Of Instrument Panel
Seville (1981-88)	Enter Diagnostic Mode By Pressing OFF & WARMER Buttons On Instrument Panel
Skyhawk	Under Right Side Of Dash
Starfire	Under Right Side Of Dash
Sunbird	On Side Of Fuse Block, Under Right Side Of Dash
Toronado	
1980-85 (Carbureted)	Under Left Or Center Of Dash
1986-92 (MFI)	Enter Diagnostic Mode By Pressing OFF & WARM Buttons On Instrument Panel
Trofeo	
1988-92 (MFI)	Enter Diagnostic Mode By Pressing OFF & WARM Buttons On Instrument Panel
1991-93	Above Parking Brake Pedal
2000	On Side Of Fuse Block

DOMESTIC LIGHT TRUCKS & VANS

CHRYSLER GROUP LLC

NOTE: **This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.**

cardiagn.com

CHRYSLER GROUP LLC - DOMESTIC LIGHT TRUCKS & VANS

Application	Connector Location
Caravan, Grand Caravan, Grand Voyager, Mini Ram Van, Town & Country, & Voyager	
1984-92	On Left Side Fender Apron
1993	On Left Fender Front Fender Panel, Near SBEC
1994-95	On Wiring Harness, On Center Of Firewall
Dakota	
1987-88	On Right Side Fender Apron
1989	On Left Side Of Firewall
1990-92	On Right Side Of Firewall
1993-95	On Right Rear Corner Of Engine Compartment
Jeep	
Cherokee (1992-95)	On Left Front Fender Apron, Behind Air Cleaner
Comanche	On Left Front Fender Apron, Behind Air Cleaner
Grand Cherokee & Wagoneer	
1993-95	
PCM	On Right Rear Of Engine Compartment, Near PCM
TCM	Behind Left Side Of Instrument Panel
Wrangler (1992-95)	On Left Side Of Firewall, Near PCM
Pickup & Ramcharger	
1985-90	On Left Side Of Firewall
1991-93	On Left Front Fender Panel, Next To SBEC/PCM
1995 Pickup	On Right Side Of Firewall
Ram Wagon & Van	
1985-90	On Left Side Of Firewall
1991-95	On Center Of Firewall, Near SBEC/PCM

FORD MOTOR CO.

NOTE: **This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.**

FORD MOTOR CO. - DOMESTIC LIGHT TRUCKS & VANS

Application	Connector Location
Aerostar	
1986-90	On Left Front Fender
1991	Near Starter Relay
1992	On Left Front Inner Fender Panel
1993-95	On Left Side Of Firewall

cardiagn.com

Bronco	
1982-85	
6-Cylinder	On Left Front Fender
V8	On Right Inner Fender Panel
1986-87	On Right Front Fender, Near Starter Relay
1988-92	On Left Fender Apron
1993-95	2 Connectors In Left Rear Of Engine Compartment, On Bracket
1996-	Below Glove Box
Bronco II	
1983-85	On Right Front Inner Fender Panel (2.3L Only)
1986-90	On Right Front Fender Apron
Excursion	Behind Center Of Dash
Explorer & Mountaineer (1991-94)	On Right Rear Of Engine Compartment, Near A/C-Heater Blower
Pickup	
1982-85	
6-Cylinder	On Left Front Fender
V8	On Right Inner Fender Panel
1986-87	On Right Front Fender, Near Starter Relay
1988-92	On Left Fender Apron
1993-95	2 Connectors In Left Rear Of Engine Compartment, On Bracket
1996-	Below Center Of Instrument Panel
Pickup (F250 Heavy Duty & F350)	Under Right Side Of Dash
Ranger	
1983-85	On Right Front Inner Fender Panel (2.3L Only)
1986-90	On Right Front Fender Apron
1991	Behind Engine Compartment Fuse/Relay Block
1992	On Left Front Inner Fender Panel
1993-95	On Rear Of Engine Compartment Fuse/Relay Block
Van	
1986-92	On Right Fender Apron
1993-95	On Left Front Corner Of Engine Compartment
1996	
5.8L (49 State, Over 8600 GVW) & 7.5L (Except Calif.)	On Left Front Corner Of Engine Compartment

cardiagn.com

All Others	Under Left Side Of Dash
1997-98	
Diesel	Under Left Side Of Dash
All Others	Left Front Corner Of Engine Compartment
Villager (1993)	On Left Side Of Engine Compartment, Below Coolant Reservoir

GENERAL MOTORS

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

GENERAL MOTORS - DOMESTIC LIGHT TRUCKS & VANS

Application	Connector Location
Astro & Safari Van (1986-87)	Under Left Corner Of Cowl
"S" & "T" Series Blazer, Bravada, Envoy, Jimmy, Pickup & Sonoma	
1982-85	
1.9L	Under Left Side Of Dash, Behind ECM
2.0L & 2.8L	Under Ashtray
2.5L	Under Left Side Of Dash
1986-87	Under Ashtray
Van ("G" Series) (1982-87)	Under Driver's Seat

IMPORTED CARS & TRUCKS

ACURA

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

ACURA - IMPORTED CARS & TRUCKS

Application	Connector Location
Integra	
1991-93	Behind Right Kick Panel
1994-97	Behind Glove Compartment
1998-02	Behind Right Side Of Center Console
Legend	
1991-93	Under Right Side Of Dash, Above PGM-FI ECU/PCM
1994-95	Behind Glove Compartment
NSX (1997-01)	Under Glove Compartment

cardiagn.com

SLX	Behind Lower Left Corner Of Dash, Behind Cover
Vigor	
1992-93	Under Right Side Of Dash, Near Center Console
1994	Behind Glove Compartment
2.2CL & 2.3CL	In Front Of Shift Lever, Behind Ashtray
2.5TL	In Front Of Shift Lever, Behind Ashtray
3.0CL	In Front Of Shift Lever, Behind Ashtray
3.2TL & 3.5RL	In Front Of Shift Lever, Behind Ashtray

AUDI

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

AUDI - IMPORTED CARS & TRUCKS

Application	Connector Location
A4	
1996	Next To Rear Ashtray
1997-01 (1.8L Turbo)	Behind Cover, Under Left Side Of Steering Column
1997-99 (2.8L V6)	Under Cover, Next To Rear Ashtray
1997-	Under Left Side Of Dash, Behind Cover
A6	
1995	Under Ashtray, In Front Storage Compartment Of Center Console
1996-97	Under Cover, Next To Parking Brake Handle
Cabriolet	
1994-96	In Fuse/Relay Block, On Left Side Of Dash
1997-98	Under Ashtray, At Rear Of Center Console
Coupe GT, 4000S & 4000S Quattro	In Fuse Socket, On Fuel Pump Relay
80	In Fuse Socket, On Fuel Pump Relay
90	
1988-92	In Fuse Socket, On Fuel Pump Relay
1993	In Main Fuse/Relay Block, On Plenum Tray
1994-95	In Fuse/Relay Block, On Left Side Of Dash
100	
1989-91	Under Left Side Of Dash
1992-94	In Auxiliary Relay Station No. 1, On Left

cardiagn.com

	Rear Of Engine Compartment
5000CS Quattro, 5000CS Turbo & 5000S	In Fuse Socket, On Fuel Pump Relay

BENTLEY

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

BENTLEY - IMPORTED CARS & TRUCKS

Application	Connector Location
1996-00	
All Models	In Glove Compartment
2001-04	
Arnage	Below Left Side Of Dash
2001-	
Azure Convertible	In Glove Compartment
Continental	In Glove Compartment

BMW

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

BMW - IMPORTED CARS & TRUCKS

Application	Connector Location
Z3	Behind Cover, On Right Side Of Center Console
Z4 & Z8	Under Left Side Of Dash, Left Of Steering Column, Behind Cover
318 & 325	
1991	On Bracket, Above Thermostat Housing
1992-95	On Right Rear Of Engine Compartment
1996	Under Left Side Of Dash, Behind Panel Labeled OBD
330	Behind Cover, On Right Side Of Center Console
524t	On Top Rear Of Engine
525i & 535i	
1990-91 (Black 20-Pin Connector)	Left Rear Corner Of Engine Compartment

cardiagn.com

1992-95	Outside Of Engine Compartment Fuse/Relay Block
528e	On Intake Manifold Bracket, Behind Thermostat Housing
635CSi	On Bracket, Next To Fuse/Relay Block
735i	
1986-87	On Bracket, On Top Of Engine
1988-92	On Right Side Of Engine Compartment, On Shock Tower
740 & 750	Under Left Side Of Dash, Behind Panel Labeled OBD
740i & 740iL (1993-01)	Behind Cover On Lower Left Corner Of A/C Control Panel
750iL	Behind Cover On Lower Left Corner Of A/C Control Panel

DAIHATSU

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

DAIHATSU - IMPORTED CARS & TRUCKS

Application	Connector Location
Charade	At Upper Section Of Transmission
Rocky	On Right Front Fender Panel

CHRYSLER GROUP LLC

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

CHRYSLER GROUP LLC - IMPORTED CARS & TRUCKS

Application	Connector Location
Colt & Summit	
1986-87	Above Inside Of Glove Compartment
1988	On Left Rear Corner Of Engine Compartment
1989-98	Under Left Side Of Dash, Near Fuse/Relay Block
Colt Vista	
1987	Behind Glove Compartment

cardiagn.com

1988-89	Under Left Side Of Dash, Near Hood Release Handle
1990-96	Under Right Side Of Dash
Conquest & Starion	Behind Glove Compartment
Expo	Under Left Side Of Dash, Near Fuse/Relay Block
Medallion	On Left Side Of Firewall
Pickup	Under Left Side Of Dash, Near Fuse/Relay Block
Ram-50	Under Left Side Of Dash, Near Fuse/Relay Block
Sigma	In Glove Compartment
Stealth	
1991-98	Under Left Side Of Dash, On Fuse/Relay Block
1999	Under Left Side Of Dash, Left Of Center Console
Summit Wagon	Under Right Side Of Dash
Vista Wagon	Under Right Side Of Dash

FERRARI

FERRARI - IMPORTED CARS & TRUCKS

Application	Connector Location
All Models	
1996-	Behind Left Side Of Dash

FORD MOTOR CO.

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

FORD MOTOR CO. - IMPORTED CARS & TRUCKS

Application	Connector Location
Aspire	
1994-95	On Left Rear Corner Of Engine Compartment
1996-97	Under Left Side Of Dash
Capri	
1991	Behind Right Side Of Dash, Behind Glove Compartment
1992	
1.3L	On Left Rear Corner Of Engine

cardiagn.com

	Compartment
1.6L	On Right Rear Corner Of Engine Compartment
1993-94	On Right Rear Corner Of Engine Compartment
Festiva	
1992-93	
1.3L	On Left Rear Corner Of Engine Compartment
1.6L	On Right Rear Corner Of Engine Compartment
Merkur XR4Ti	On Right Front Fender Apron, Near Battery
Scorpio	On Right Rear Corner Of Engine Compartment
Tracer	On Left Rear Corner Of Engine Compartment

GENERAL MOTORS

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

GENERAL MOTORS & GEO - IMPORTED CARS & TRUCKS

Application	Connector Location
LeMans	Behind Right Kick Panel, Above ECM
Metro	
1989-95	Under Left Side Of Dash, Near Fuse Block
1996	Under Right Side Of Dash, Near Center Console
1997-01	Under Left Side Of Dash
Prizm & Prizm LSi	
1989-95	On Left Front Strut Tower
1996-02	Under Left Side Of Dash
Spectrum	Under Right Side Of Dash, Above A/C-Heater Blower Motor
Sprint	On Left Front Shock Tower, Near Battery
Storm	
1990-91	Behind Right Side Of Dash, Above A/C-Heater Blower Motor
1992-93	Behind Right Kick Panel
Tracker	
1989-95	Under Left Side Of Dash, Near Fuse Block
1996	In Engine Compartment, Near MAP Sensor
1997-	Under Left Side Of Dash

cardiagn.com

HONDA

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

HONDA - IMPORTED CARS & TRUCKS

Application	Connector Location
Accord	
1990-95	Behind Right Side Of Dash, Above Kick Panel
1996-97	Behind Ashtray In Center Console
Civic (1992-95)	Behind Right Side Of Dash, Near PGM-FI ECM
Civic Del Sol	
1992-95	Behind Right Side Of Dash, Near PGM-FI ECM
1996-97	Under Removable Cover On Right Side Of Center Console
CR-V	Behind Passenger Side Of Center Console
Element	
2003-11	Above Gas Pedal, Below Fuse Block
Insight (2010-11)	Below Left-of-Center Of Dash
Odyssey	
1995	Behind Right Side Of Dash, Above Kick Panel
1996-98	Behind Passenger Side Of Center Console
Passport (1995)	Behind Left Kick Panel
Prelude	
1992-95	Behind Center Console
1996	Under Beverage Holder In Center Console
1997-02	Under Removable Cover On Right Side Of Center Console
S2000	Behind Right Side Of Center Console

HYUNDAI

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

HYUNDAI - IMPORTED CARS & TRUCKS

Application	Connector Location
Accent (1995)	In Coin Box
Sonata	
1989	Under Left Side Of Dash, In Fuse Block
1990	
W/Passive Seat Belt Restraints	In Fuse Block

cardiagn.com

W/O Passive Seat Belt Restraints	On Lower Left Of Steering Column

INFINITI

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

INFINITI - IMPORTED CARS & TRUCKS

Application	Connector Location
G20 (1993-95)	In ECCS Control Unit, Behind Center Console
I30 (1995)	Beside Fuse Box
J30	
1993	Under Left Side Of Dash
1994-95	In ECM, Behind Right Kick Panel
1996-98	Under Left Side Of Dash
M30	Under Left Side Of Dash, Near Fuse Block
Q45	
1990-93	Under Left Side Of Dash, Near Fuse Block
1994-95	In ECM, Behind Right Kick Panel

ISUZU

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

ISUZU - IMPORTED CARS & TRUCKS

Application	Connector Location
Amigo & Pickup	
1986-89	Under Left Side Of Dash
1990-95	Behind Left Kick Panel, Near ECM
1998-00	Lower Left Corner Of Dash, Behind Small Cover
Hombre	Under Lower Left Side Of Dash, Behind Cover
Impulse	
1986-89	Under Left Side Of Dash, Above ECU
1990-92	Behind Right Kick Panel
1993-95	Behind Left Kick Panel, Near ECM
I-Mark	Behind Right Side Of Dash, Above A/C-Heater Blower Motor
Oasis	Behind Right Side Of Center Console

cardiagn.com

Rodeo	
1991-95	Behind Left Kick Panel
1996-	Lower Left Side Of Dash, Behind Small Cover
Stylus	Behind Right Kick Panel
Trooper & Trooper II	
1986	Under Left Side Of Dash
1987-91	Under Center Console
1992	
DOHC	Behind Center Of Dash, Right Of Steering Column
SOHC	Under Left Side Of Dash
1993-95	Under Left Side Of Dash, Right Of Steering Column
1996-02	Lower Left Side Of Dash, Behind Small Cover
VehiCROSS	Under Left Side Of Dash

JAGUAR

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

JAGUAR - IMPORTED CARS & TRUCKS

Application	Connector Location
XJR (1995-97)	Near Center Console
XJS	
1992	On Left Rear Trunk Wheel Arch, Behind Trim Panel
1993-94	Under Battery Tray, On Right Front Of Luggage Compartment
1995-96	Near Center Console
XJ6	
1992	On Left Rear Of Engine Compartment
1993-94	Under Battery Tray, On Right Front Of Luggage Compartment
1995-97	Under Left Side Of Dash, Near Center Console
XJ12	Near Center Console

KIA

cardiagn.com

NOTE: **This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.**

KIA - IMPORTED CARS & TRUCKS

Application	Connector Location
Sephia	
1994	On Center Of Firewall
1995 & 1996	
1.6L	Under Center Of Dash, Mounted On Floorboard
2.0L	Under Right Side Of Dash, Near Kick Panel
Sportage	
1994	On Center Of Firewall
1995 & 1996	
1.6L	Under Center Of Dash, Mounted On Floorboard
2.0L	Under Right Side Of Dash, Near Kick Panel

LAND ROVER

NOTE: **This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.**

LAND ROVER - IMPORTED CARS & TRUCKS

Application	Connector Location
Defender 90	Behind Fuse Cover, In Center Of Console
Range Rover	Under Right Side Of Dash, In Footwell

LEXUS

NOTE: **This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.**

LEXUS - IMPORTED CARS & TRUCKS

Application	Connector Location
ES Series	
1990-91	
DLC	Near Left Shock Tower

cardiagn.com

Total Diagnostic Communication Link Connector	Under Left Side Of Dash
1992-94	
DLC No. 1	On Bracket, Behind Right Front Strut Tower
DLC No. 2 & 3	Under Left Side Of Dash
1995-97	In Fuse Box At Lower Left Of Dash
GS Series	
1990-95	
DLC No. 1	On Bracket, On Top Of Engine
DLC No. 2	Under Left Side Of Dash
1996-00	In Fuse Box At Lower Left Of Dash
LS Series	
1990-94	
DLC No. 1	On Bracket, On Top Of Engine
DLC No. 2	Under Left Side Of Dash
1995-00	In Fuse Box At Lower Left Of Dash
SC Series	
1992-95	
DLC No. 1	On Bracket, Behind Right Front Strut Tower
DLC No. 2 & 3	Under Left Side Of Dash
1996-00	In Fuse Box At Lower Left Of Dash

MAZDA

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

MAZDA - IMPORTED CARS & TRUCKS

Application	Connector Location
B-Series	
1987-88	On Right Front Fender Apron
1989-93	
Engine Control Check Connector (Black 6-Pin)	Near Windshield Washer Motor
Trouble Codes Connector (Green 1-Pin)	Near Black 6-Pin Connector (Engine Control)
1994-95	On Right Front Fender Panel
Miata (1990-95)	On Left Rear Of Engine Compartment, Near Master Cylinder
MPV (1989-95)	
Engine Control Unit (Green 6-Pin & 1-Pin	On Left Side Of Engine Compartment, Near

cardiagn.com

Connectors)	Inner Fender Panel
MX-3	Mounted On Bracket, On Left Front Strut Tower
MX-6 & 626	
1988	Behind Left Front Shock Tower
1989	On Left Front Corner Of Engine Compartment
1990-91	At ECU Connector Terminal
1992	On Left Rear Corner Of Engine Compartment
1993	On Side Of Fuse/Relay Block, Near Battery
1994-95	On Left Front Fender Apron
Navajo	
1991-93	On Right Rear Corner Of Engine Compartment
1994-95	On Right Front Fender Panel
Protege	
1987-89	On Passenger's Footwell (Left Foot Area)
1990-95	On Left Side Of Firewall, Near Wiper Motor
RX7	
1986-88 (3 Check Connectors)	At Left & Right Corners Of Engine Compartment
1989-91 (Green 6-Pin Connector)	Behind Ignition Coil
1993-95	On Bracket, On Left Front Strut Tower
323	
1986-88	Front Left Of Engine Compartment, Near Ignition Coil
1989 (Green 6-Pin & Green 1-Pin Connectors)	On Left Side Of Firewall
1990-95	On Left Side Of Firewall, Near Wiper Motor
929	
1989	Near Air Cleaner
1990-91 (Green 6-Pin Connector)	In Left Front Corner Of Engine Compartment
1992-93	Mounted On Air Cleaner Housing
1994-95	On Left Front Strut Tower

MERCEDES-BENZ

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

MERCEDES-BENZ - IMPORTED CARS & TRUCKS

Application	Connector Location
C-Class (1994)	On Right Rear Of Engine Compartment

cardiagn.com

E-Class	
1994-97	On Right Rear Of Engine Compartment
G-Class	Under Left Side Of Dash, Behind Cover
ML-Class	Under Left Side Of Dash, Behind Cover
S-Class	
140 Platform (1994-99)	On Right Rear Of Engine Compartment
190 Series	
1986-87	On Left Rear Of Engine Compartment
1988-93	
All Models	In Engine Compartment, On Left Front Fender
California (OBD)	On Right Side Of Firewall, Near Battery
1994	On Right Rear Of Engine Compartment
260E	
1987	On Left Front Fender Apron, Next To Ignition Control Module
1988-89	
All Models	In Engine Compartment, On Left Front Fender
California (OBD)	On Right Side Of Firewall, Near Battery
300 Series	
1986-87	On Left Front Fender Apron, Next To Ignition Control Module
1988-92	
All Models	In Engine Compartment, On Left Front Fender
California (OBD)	On Right Side Of Firewall, Near Battery
1993	
Except 300E	Left Fender Apron
300E	Right Rear Corner Of Engine Compartment
1994-95 (All Models)	On Right Rear Of Engine Compartment
400 & 500 Series	
1993	
12-Pin Connector	On Rear Of Left Front Inner Fender Panel
38-Pin (Impulse Readout)	In Module Box, On Right Rear Of Engine Compartment
1994-95	On Right Rear Of Engine Compartment
420SEL & 560 Series (Except 2.2L)	
1986-89	
All Models	In Engine Compartment, On Left Front Fender

cardiagn.com

California (OBD)	On Right Side Of Firewall, Near Battery
1990-91	In Engine Compartment, On Left Front Fender
560 Series (2.2L)	On Lower Left Side Of Engine Connector

MITSUBISHI

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

MITSUBISHI - IMPORTED CARS & TRUCKS

Application	Connector Location
Diamante (1992-98)	Under Left Side Of Dash, Near Fuse/Relay Block
Expo	Under Left Side Of Dash, Near Fuse/Relay Block
Montero	
1986-88	Left Rear Corner Of Engine Compartment
1989-91	Behind Glove Compartment
Pickup	Under Left Side Of Dash, Near Fuse/Relay Block
Raider	
1987-88	Left Rear Corner Of Engine Compartment
1989	Behind Glove Compartment
3000GT	
1991-98	Under Left Side Of Dash, On Fuse/Relay Block
1999	Under Left Side Of Dash, Left Of Center Console

NISSAN

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

NISSAN - IMPORTED CARS & TRUCKS

Application	Connector Location
Altima	
1993-94	On Driver-Side Of Center Console, Above Accelerator Pedal
1995-96	Below Fuse Box

cardiagn.com

Maxima	
1989-94	Under Left Side Of Dash
1995-96	Below Fuse Box
NX & Sentra	Under Left Side Of Dash, Near Fuse Block
Pulsar NX	
1986	Above Right Side Of Dash, Below Wiper Motor
1987	Above Steering Column
Quest (1993-95)	
CONSULT Tester Connector	On Driver-Side Of Center Console, Above Accelerator Pedal
Self-Test Connector	Located Near Starter
Stanza	Below Center Of Dash, Near Center Console
Van	On Right Side Of Engine Compartment, Behind Fuel Filter
200SX (1995-96)	Below Fuse Box
240SX	
1991-94	Under Left Side Of Dash, Below Fuse Block
1995-96	In Glove Box
300ZX (1990)	Near Parking Brake

PEUGEOT

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

PEUGEOT - IMPORTED CARS & TRUCKS

Application	Connector Location
505 Series	On Lower Left Side Of Engine Connector

PORSCHE

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

PORSCHE - IMPORTED CARS & TRUCKS

Application	Connector Location
911 Series	
1992-95	In Passenger's Footwell
1996	Left Side Of Center Console

cardiagn.com

928S	Top Front Of Engine
944 Series	On Left Side Of Engine Compartment

RENAULT

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

RENAULT - IMPORTED CARS & TRUCKS

Application	Connector Location
Sportwagon	
Engine Diagnostic	On Center Of Firewall
Fuel Injection Diagnostic	Right Rear Of Engine Compartment, Behind Airflow Meter

ROLLS-ROYCE

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

ROLLS-ROYCE - IMPORTED CARS & TRUCKS

Application	Connector Location
All Models	
1996-00	In Glove Compartment
2001-	Under Left Side Of Dash

SAAB

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

SAAB - IMPORTED CARS & TRUCKS

Application	Connector Location
900 Series	
1986-90	In Front Of Fuse/Relay Panel
1991-93	Under Back Seat, On Right Side
1994	
Convertible	Under Rear Seat
Hatchback	Under Steering Column
All Others	Under Right Front Seat

cardiagn.com

9000 Series	
1990	On Left Side Of Engine Compartment
1991-92	Under Passenger's Seat
1993	On Left Of Firewall
1994-95	Under Right Front Seat

SUBARU

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

SUBARU - IMPORTED CARS & TRUCKS

Application	Connector Location
Brat, Coupe, Hatchback, Sedan & Wagon	
1987	
Read Memory Connector	Under Left Side Of Dash, Next To MFI/SMFI Control Unit
Test Mode Connector	
MFI	On Left Side Of Dash, Next To MFI Control Unit
Sequential MFI	On Left Side Of Firewall
1988-89	On Left Side Of Dash, Next To ECU
Forester	Under Left Side of Dash, Behind Cover
Justy	
1987-88	
Read Memory Connector (Factory)	On Right Front Fender, Near Strut Tower
Test Mode Connector	On Driver-Side Kick Panel Or ECU
1989-95	
Read Memory Connector (Factory)	Under Left Side Of Dash
Test Mode Connector	On Driver-Side Kick Panel Or ECU
Legacy	
1990-94	
Check Connector (Black Connector)	Behind Right Side Of Steering Column, Near Heater Case
Diagnostic Connector (Black 4-Pin Connector)	Behind Right Side Of Steering Column, Near Heater Case
Read Memory Connector (Black Connector)	Behind Knee Panel, Right Of Steering Column
Select Monitor Connector (Yellow Connector)	Behind Right Side Of Steering Column, Near Heater Case
Test Mode Connector (Green Connector)	Behind Knee Panel, Right Of Steering Column

cardiagn.com

1995-	Under Left Side Of Dash, Behind Cover
Loyale	
1990-91	
MFI (5-Pin Connector)	In Front Of ECU
SMFI (Yellow 9-Pin & Black 13-Pin Connectors)	Near Brake Booster
1992-95	
Diagnostic Check Connector (Yellow 9-Pin & Black 13-Pin Connectors)	Behind Brake Booster
Diagnostic Read-Memory Connector (2-Single Wire Connectors)	Behind Left Front Strut Tower
Outback & Outback Sport	Under Center Of Dash
SVX	
1992-96	Under Left Side Of Dash
1997	Right Of Steering Column, On Center Console

SUZUKI

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

SUZUKI - IMPORTED CARS & TRUCKS

Application	Connector Location
Esteem (1995)	Near Battery
Samurai	
1986-90	Under Right Side Of Dash, Behind Glove Compartment
1991-92	On Right Side Of Firewall
1993-95	Under Left Side Of Dash, In Fuse Block
Sidekick & X90	
1989-91	Under Left Side Of Dash, In Fuse Block
1992-93	
ALDL Connector	Under Left Side Of Dash
Engine Connector	Under Left Side Of Dash, Near Fuse Block
1994-96	In Engine Compartment, Near Battery
Swift	
1989-91	Under Left Side Of Dash, In Fuse Block
1992	
ALDL Connector	Under Left Side Of Dash

cardiagn.com

Diagnostic Test Terminal	In Fuse Block
1993-95	Under Left Side Of Dash, In Fuse Block

TOYOTA

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

TOYOTA - IMPORTED CARS & TRUCKS

Application	Connector Location
Camry	
1983-90	Next To Brake Master Cylinder
1991	Near Left Front Shock Tower
1992-95	
4-Cylinder	Near Wiper Motor
V6	Under Left Side Of Dash
Celica	
1983-84	Next To Battery
1985-95	Behind Left Front Shock Tower
Celica Supra	Rear Of Battery, Near Relay Panel (2-Pin Connector)
Corolla	
Front Wheel Drive	
1987	Side Of Left Front Shock Tower (2-Pin Connector)
1988-94	Behind Left Front Shock Tower
Rear Wheel Drive	
1985-86	Side Of Right Front Shock Tower (2-Pin Connector)
1987	Right Rear Corner Of Engine Compartment
Cressida	
1988-93	
Check Connector	On Left Front Shock Tower
Total Diagnostic Communication Link Connector	Under Left Side Of Dash
Land Cruiser (1988-94)	Near Wiper Motor
MR2	
1986-90	Near Airflow Meter
1992-95	On Right Rear Of Engine Compartment, Near MAP Sensor
Paseo (1992-95)	On Side Of Engine Compartment Fuse/Relay Block No. 2, Near Battery

cardiagn.com

Pickup	
1984-86	Near Ignition Coil, Near Master Cylinder (2-Pin Connector)
1987-90	Right Front Inner Fender Panel, Near Relay Block
1992-94	On Side Of Engine Compartment Fuse/Relay Block No. 2, Near Battery
Previa	
1992-93	Under Front Of Driver's Seat
1994	
Except Supercharged	Under Center Console, Near Parking Brake Lever
Supercharged	Under Cover, On Top Center Of Instrument Panel
1995-97	On Top Center Of Instrument Panel
RAV4	Under Dash, Near Center Console
Starlet	
1981-82	On Instrument Panel Fuse Block, On Top Of Dash
1983-84	Right Rear Of Engine Compartment
Supra	
1986-90	Rear Of Battery, Near Relay Panel
1991-92	On Left Front Shock Tower
1993-94	
DLC No. 1	On Right Side Of Firewall
DLC No. 2	Under Left Side Of Dash, Near Kick Panel
Tacoma & T100	
1993	On Side Of Engine Compartment Fuse/Relay Block No. 2, Near Battery
1994-95	
Except OBD-II DLC	On Side Of Engine Compartment Fuse/Relay Block No. 2, Near Battery
OBD-II DLC	Under Left Side Of Dash
Tercel	
1987-90	In Engine Compartment, Next To Master Cylinder
1991-94	On Side Of Engine Compartment Fuse/Relay Block No. 2, Near Battery
1995-98	Near Steering Column
Van	Near Airflow Meter
4Runner	
1985-86	Near Ignition Coil, Next To Master Cylinder (2-Pin Connector)

cardiagn.com

1987-95	On Side Of Engine Compartment Fuse/Relay Block No. 2, Near Battery

VOLKSWAGEN

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

VOLKSWAGEN - IMPORTED CARS & TRUCKS

Application	Connector Location
Cabrio	
1996	In Center Console, Below Tachometer
1997-02	On Center Dash, Behind Panel Near Ashtray
Corrado	Under Center Console Trim Plate
Fox	Under Center Console, Near Shift Lever
Golf	
1993	On Center Of Dash, Below A/C-Heater Control Knobs
1994	Under Center Console
1998-03	In Center Console
Golf III 2.0L	
1995-96	Below A/C-Heater Control Panel
1997-98	On Center Dash, Behind Panel Adjacent To Ashtray
GTI	
1993	On Center Of Dash, Below A/C-Heater Control Knobs
1994	Under Center Console
GTI 2.8L	On Center Dash, Behind Panel Adjacent To Ashtray
Jetta	
1993	On Center Of Dash, Below A/C-Heater Control Knobs
1994	Under Center Console
Jetta III 2.0L	
1995-96	Below A/C-Heater Control Panel
1997-98	On Center Dash, Behind Panel Adjacent To Ashtray
Jetta/Jetta III 2.8L	On Center Dash, Behind Panel Adjacent To Ashtray
New Beetle	Lower Part of Dash, In Front Of Shift Lever

cardiagn.com

Passat	
1992-94	Under Center Console, Forward Of Shift Lever
1995-97	On Center Dash, Behind Panel Near Ashtray

VOLVO

NOTE: This table provides a quick reference for self-diagnostic connector locations, when available from manufacturer, that ARE NOT located at the lower left side of the dash, as mandated in 1996 by the Federal government.

VOLVO - IMPORTED CARS & TRUCKS

Application	Connector Location
C30	Under Left Center Of Dash
C70	Behind Cover, Below Parking Brake Lever
S40	Under Left Center Of Dash
S70	Behind Cover, Below Parking Brake Lever
S90	Behind Cover, Below Parking Brake Lever
V40	Under Left Center Of Dash
V70 (1997-00)	Behind Cover Below Parking Brake Lever
V90	Behind Cover, Below Parking Brake Lever
240	
1986-92	Left Rear Corner Of Engine Compartment
1993	Behind Left Front Strut Tower
740 & 760	
1986-92	
Ignition System	On Left Front Fender Apron
Fuel Injection (1990-92 Only)	Left Rear Corner Of Engine Compartment
780	On Left Front Fender, Behind Air Cleaner Housing
850	
1993	On Center Console, Forward Of Shift Lever & Near ECM
1994-95	
Non-Turbo	On Right Front Strut Tower
Turbo	Behind Cover, Forward Of Shift Lever
1996-97	Behind Cover, Forward Of Shift Lever
940	
1991-93	
Ignition System	On Left Front Fender Apron
Fuel Injection	Left Rear Corner Of Engine Compartment

cardiagn.com

1994-95	Behind Left Front Strut Tower
960	
1992-95	On Left Front Strut Tower
1996	In Center Console, To Right Of Parking Brake Lever
1997	Behind Cover, Forward Of Shift Lever

cardiagn.com

2010 ENGINE PERFORMANCE

Engine Controls and Fuel - 2.8L, 3.0L, 3.2L, or 3.6L - Camaro

SCHEMATIC AND ROUTING DIAGRAMS

ENGINE CONTROLS SCHEMATICS

cardiagn.com

Fig. 1: Module Power, Ground, Serial Data, and MIL
Courtesy of GENERAL MOTORS CORP.

Fig. 2: 5-Volt and Low Reference - 1 of 2
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 3: 5-Volt and Low Reference - 2 of 2
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 4: Engine Data Sensors - Pressure, Temperature, and Throttle Controls
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 5: Engine Data Sensors - Oxygen Sensors
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 6: Ignition Controls - Bank 1 Ignition System
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 7: Ignition Controls - Bank 2 Ignition System
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 8: Ignition Controls - CKP/CMP/KS Sensors and CMP Actuator Solenoids
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 9: Fuel Controls - Fuel Injectors
Courtesy of GENERAL MOTORS CORP.



Fig. 10: Fuel Controls - Fuel Pump Flow Control
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 11: Fuel Controls - EVAP Controls
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Fig. 12: Subsystem References
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

2010 ENGINE PERFORMANCE

Engine Controls and Fuel - 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L - Camaro

SCHEMATIC AND ROUTING DIAGRAMS

ENGINE CONTROLS SCHEMATICS



Fig. 1: ECM Power, Ground, MIL, and Serial Data
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 2: 5-Volt and Low Reference Bussing
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 3: MAP, ECT, and MAF/IAT Sensors
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

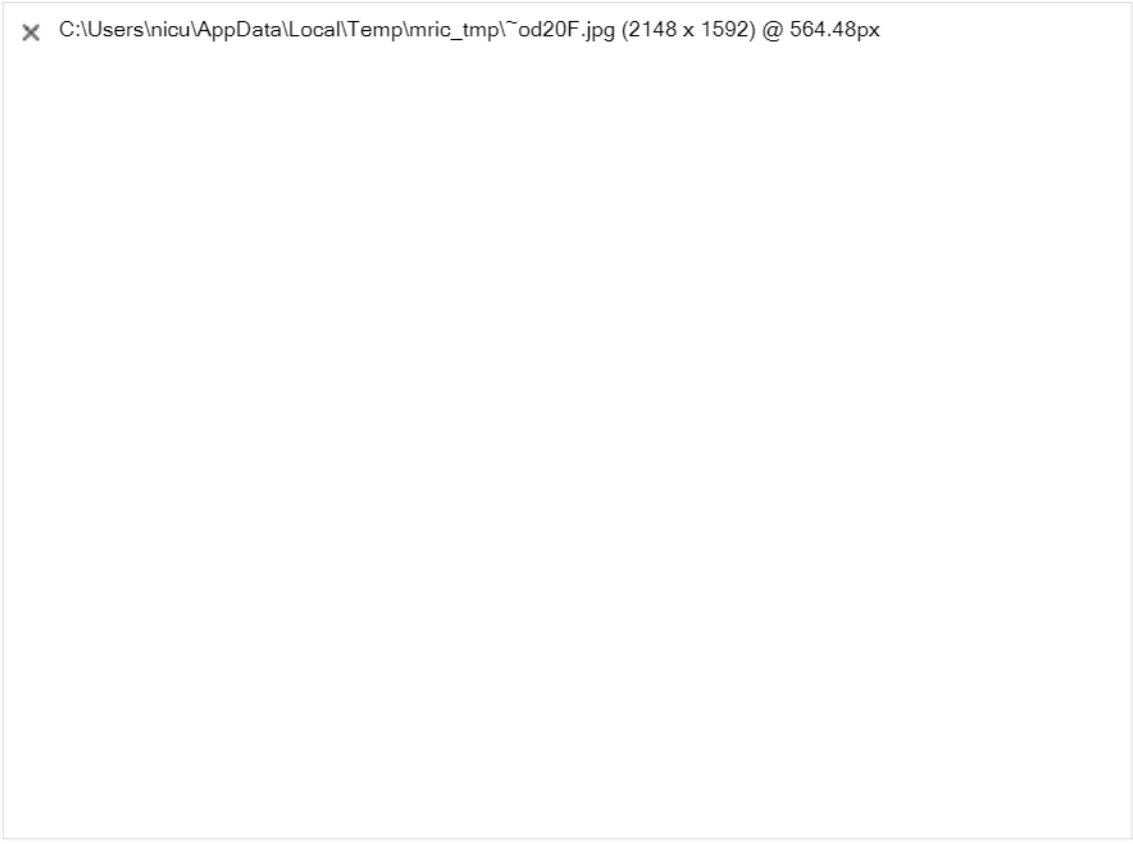


Fig. 4: Heated Oxygen Sensors
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 5: Electronic Throttle Controls
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 6: Ignition Controls Bank 1 (Odd) Ignition Coils
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 7: Ignition Controls Bank 2 (EVEN) Ignition Coils
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 8: Ignition Controls, Knock, CMP, and CKP Sensors
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 9: Valve Lifter Oil Manifold (VLOM) Assembly
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 10: Fuel Injectors
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 11: Fuel Controls - Fuel Pump Flow Control
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

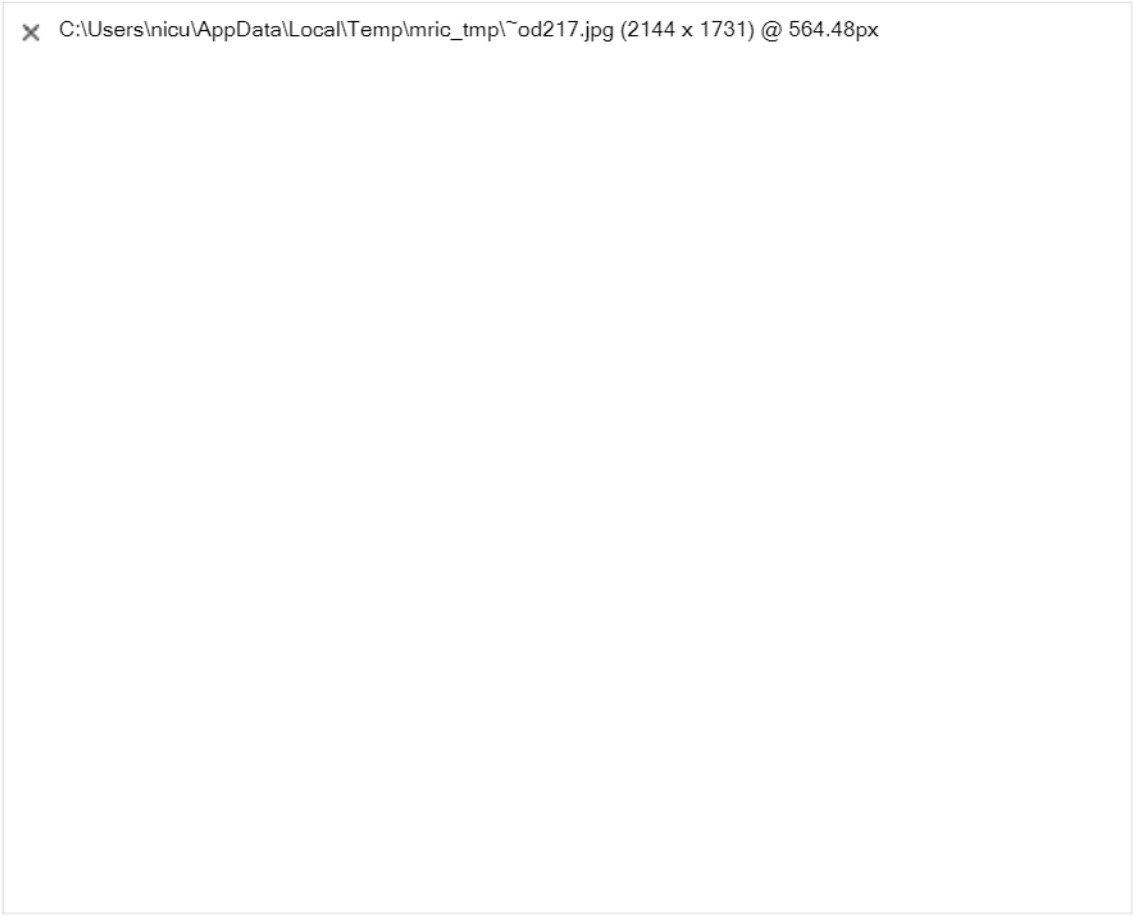


Fig. 12: Fuel Controls - EVAP Controls and Manifold Tuning
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



Fig. 13: Controlled/Monitored Subsystem References
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

2010 ELECTRICAL

Engine Electrical - Camaro

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	Specification	
	Metric	English
Battery Hold Down Retainer Bolt	22 N.m	16 lb ft
Battery Negative Cable Bolt (at rear compartment floor)	25 N.m	18 lb ft
Battery Negative Cable Terminal Nut	15 N.m	11 lb ft
Battery Positive Cable Nut (at the fuse block)	15 N.m	11 lb ft
Battery Positive Cable Nut (at the junction block)	15 N.m	11 lb ft
Battery Positive Cable Nut (at the starter)	13 N.m	115 lb in
Battery Positive Cable Terminal Nut	5 N.m	44 lb in
Engine Harness and Battery Positive Cable Harness Retainers	12 N.m	9 lb ft
Generator BAT Terminal Nut	15 N.m	11 lb ft
Generator Bolt	58 N.m	43 lb ft
Generator Bracket Bolt (at the front of the bracket)	50 N.m	37 lb ft
Generator Bracket Nut (at the front of the bracket)	50 N.m	37 lb ft
Starter	58 N.m	43 lb ft
Starter Motor Mounting Bolt	58 N.m	43 lb ft
Starter Shield Bolt	5 N.m	44 lb in

BATTERY USAGE

Application	Specification
Cold Cranking Amperage (CCA)	720 A
Amp Hours	80 A/H

GENERATOR USAGE

Application	Specification
Alternator Model	FG15
Rated Output	150 Amps
Load Test Output	108 Amps

SCHEMATIC AND ROUTING DIAGRAMS

STARTING AND CHARGING SCHEMATICS

cardiagn.com

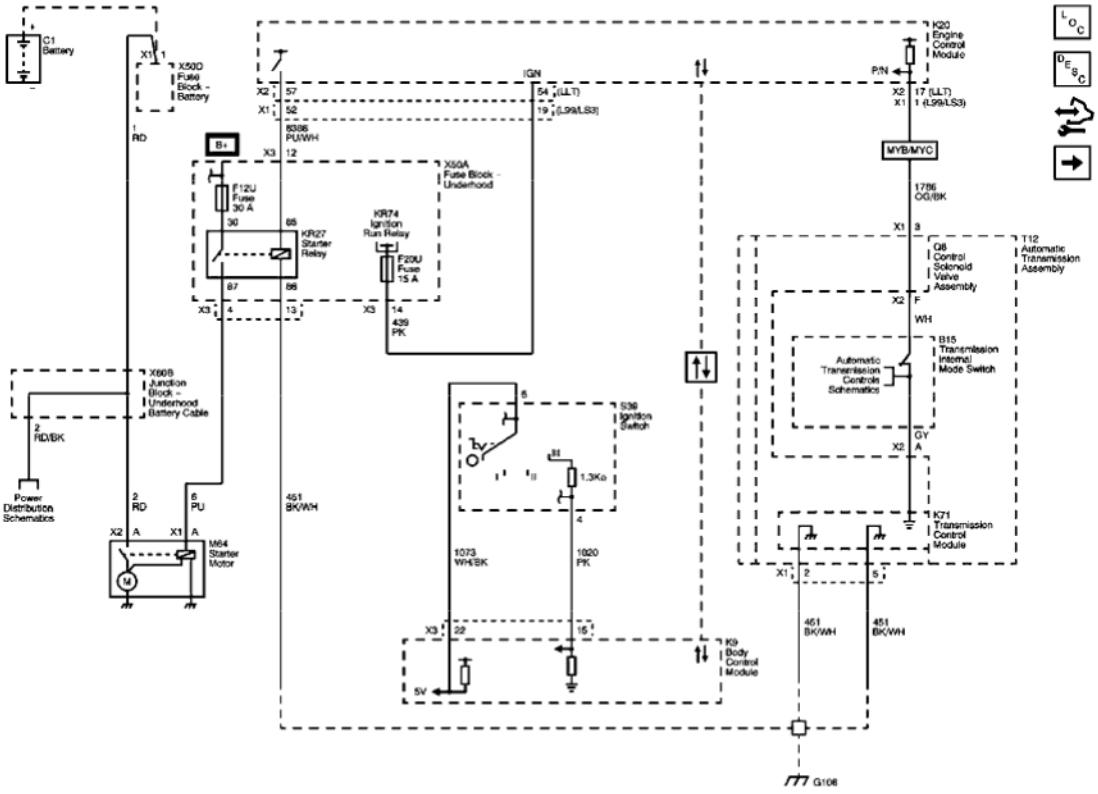


Fig. 1: Starting
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

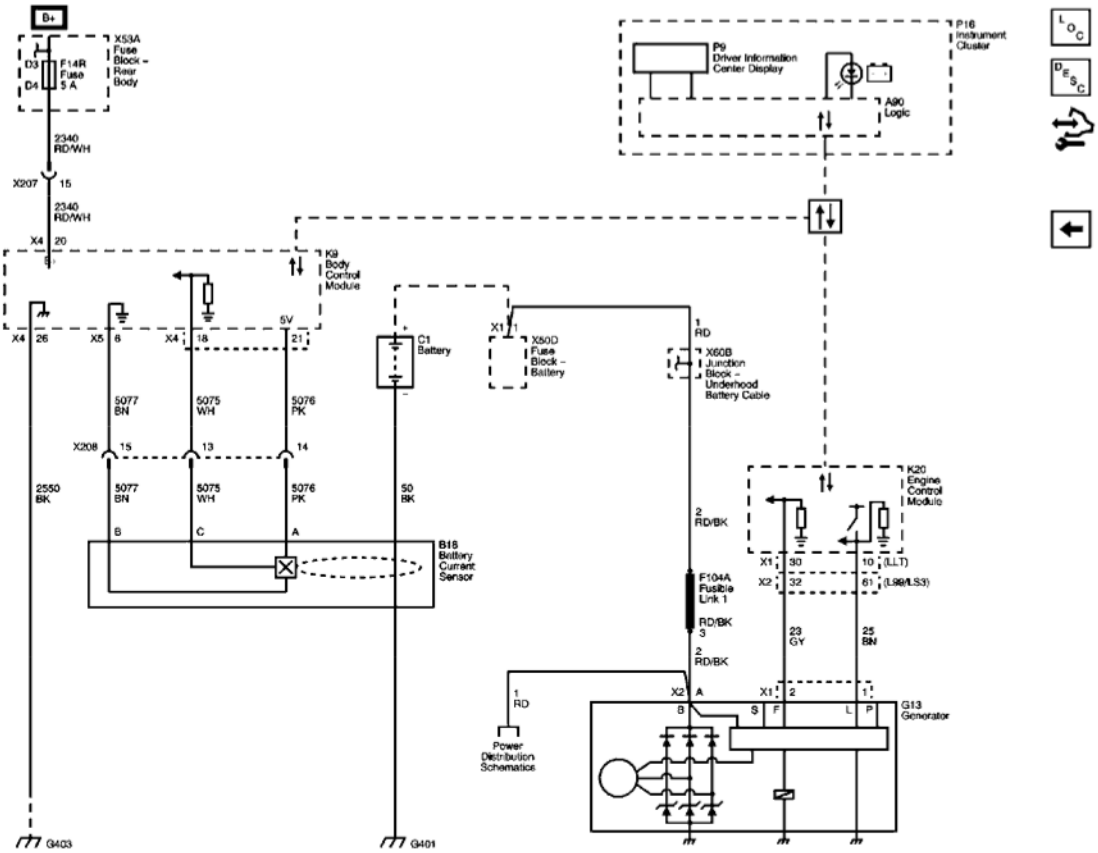


Fig. 2: Charging
Courtesy of GENERAL MOTORS CORP.

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
DTC B1325	B1325 03: Device Power Circuit Voltage Below Threshold B1325 07: Device Power Circuit Voltage Above Threshold
DTC B1420	B1420 00: Device Voltage Circuit
DTC B1516	B1516 08: Battery Current Sensor Signal Invalid B1516 66: Battery Current Sensor Wrong Mounting Position
DTC B1517	B1517 03: Battery Voltage Below Threshold B1517 07: Battery Voltage Above Threshold B1517 5A: Battery Voltage Plausibility Failure
DTC B151A	B151A 58: Low Battery Capacity Detected
DTC B1527	B1527 00: High Parasitic Load Detected
DTC C0800	C0800 03: Device Power 1 Circuit Voltage Below Threshold

cardiagn.com

	C0800 07: Device Power 1 Circuit Voltage Above Threshold
DTC P0562	P0562: System Voltage Low
DTC P0563	P0563: System Voltage High
DTC P0615, P0616, or P0617	P0615: Starter Relay Control Circuit P0616: Starter Relay Control Circuit Low Voltage P0617: Starter relay Control Circuit High Voltage
DTC P0621	P0621: Generator L-Terminal Circuit
DTC P0622	P0622: Generator F-Terminal Circuit
DTC P0625 or P0626	P0625: Generator F-Terminal Circuit Low Voltage P0626: Generator F-Terminal Circuit High Voltage

DTC B1325

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC B1325 03

Device Power Circuit Voltage Below Threshold

DTC B1325 07

Device Power Circuit Voltage Above Threshold

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	B1325 03	B1325 03	-	-
Ground	-	B1325 03	-	-

Circuit/System Description

The following control modules monitor the system voltage through the battery positive (B+) voltage circuits:

- Instrument cluster
- Passenger presence detection module
- Inflatable restraint sensing and diagnostic module
- Multimedia player interface module

cardiagn.com

- Radio
- Parking assist control module

Conditions for Running the DTC

- The voltages supplied to the control modules are in the range of 7-26 V.
- The ignition is ON.

Conditions for Setting the DTC

B1325 03

The control module detects a system voltage less than 9 V for 5 seconds.

B1325 07

The control module detects a system voltage greater than 18 V for 5 seconds.

Action Taken When the DTC Sets

- The control module immediately disables all outputs when an out of range voltage condition has been detected, with the exception of serial data, which is disabled after a 3 minute delay.
- The setting of other DTCs is inhibited.

Conditions for Clearing the DTC

The DTC passes when the malfunction is no longer present.

Diagnostic Aids

- A high or low voltage value in multiple modules indicates a concern in the charging system.
- Overcharging with a battery charger or jump starting can cause this DTC to set.

Reference Information

Schematic Reference

- **Instrument Cluster Schematics**
- **Object Detection Schematics**
- **Radio/Navigation System Schematics**
- **SIR Schematics**

Connector End View Reference

Component Connector End Views

cardiagn.com

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Engine running, accessories OFF, measure and record the battery voltage at the C1 battery terminals. The voltage should be between 12.6 and 15.0 V.
    - If the battery voltage is not within the specified range, refer to **Charging System Test**.
2. Observe the appropriate module scan tool Battery Voltage parameters. Verify that the scan tool displays a value that is within 2 V of the C1 battery terminal voltage.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connectors of the appropriate control module.
2. Ignition OFF and scan tool disconnected, open and close the driver door, and wait 1 minute. Test for less than 5 ohms between the ground circuit terminals listed below and ground:
    - Terminal 10, P16 Instrument cluster
    - Terminal A2, K85 Passenger presence detection module
    - Terminal 19 X1, K86 Inflatable restraint sensing and diagnostic module
    - Terminal 11 X1, T11 Multimedia player interface module
    - Terminal 38 X1, A11 Radio
    - Terminal 7 X1, K41 Parking assist control module
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Verify that a test lamp illuminates between the B+ circuit terminals listed below and ground:
    - Terminal 20, P16 Instrument cluster
    - Terminal A1, K85 Passenger presence detection module
    - Terminal 9 X1, K36 Inflatable restraint sensing and diagnostic module
    - Terminal 1 X1, T11 Multimedia player interface module
    - Terminal 44 X1, A11 Radio
    - Terminal 1 X1, K41 Parking assist control module

cardiagn.com

- If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.

4. If the circuits test normal, replace the appropriate control module.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Control Module References for the appropriate control module replacement, setup, and programming

DTC B1420

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC B1420 00

Device Voltage Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	B1420 00	B1420 00	-	-
Ground	-	B1420 00	-	-

Circuit/System Description

The auxiliary gauge module monitors the battery voltage through the battery voltage signal circuit. Damage to components, and incorrect data may occur when the voltage is out of range.

Conditions for Running the DTC

- The voltage supplied to the auxiliary gauge module is in the range of 7-26 V.
- The ignition is ON.
- The engine is running.

Conditions for Setting the DTC

- The auxiliary gauge module senses a battery voltage above or below the specified range of 9-16 V.
- The above condition lasts for 1 second.

cardiagn.com

Action Taken When the DTC Sets

- The auxiliary gauge module will disable all its outputs when a high voltage condition is detected.
- The setting of this DTC inhibits the setting of other DTCs.

Conditions for Clearing the DTC

The DTC clears when the system voltage returns to a normal range.

Diagnostic Aids

- A high or low voltage DTC set or voltage value in multiple modules indicates a concern in the charging system.
- A possible cause of this DTC could be overcharging with a battery charger or jump starting.

Reference Information

Schematic Reference

Instrument Cluster Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Engine running measure and record the voltage at the C1 battery terminals. Verify that the battery voltage is 12.6-15.0 V.
    - If the battery voltage is not within the specified range, refer to **Charging System Test**.
2. Engine running, observe the scan tool P26 auxiliary gauge module Battery Positive Voltage parameter.

cardiagn.com

Verify that the scan tool displays a value that is within 2 V of the battery terminal voltage.

Circuit/System Testing

1. Ignition OFF. Disconnect the harness connectors at the P26 auxiliary gauge module.
2. Ignition OFF, test for less than 5.0 ohms between the ground circuit terminal 2 and ground.
   - If greater than the specified value, test the ground circuits for an open/high resistance.
3. Ignition ON, verify a test lamp between the B+ circuit terminal 1 and ground.
   - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
4. If all the circuits test normal, replace the P26 auxiliary gauge module.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Control Module References for multifunction auxiliary gauge module replacement, setup, and programming

DTC B1516

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC B1516 08

Battery Current Sensor Signal Invalid

DTC B1516 66

Battery Current Sensor Wrong Mounting Position

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
5 V Reference	B1516 08	B1516 08	-	-
Signal	B1516 08	B1516 08	B1516 08	B1516 08, B1516 66
Low Reference	-	B1516 08	-	-

cardiagn.com

Circuit/System Description

The battery current sensor is a 3-wire hall effect current sensor. The body control module (BCM) supplies 5 V and ground tot he battery current sensor. the battery current sensor measures the amount of current flowing to or from the battery and supplies a pulse width modulation (PWM) signal to the BCM.

Conditions for Running the DTC

B1516 08

The BCM is awake.

B1516 66

- The BCM is awake.
- The engine is OFF.

Conditions for Setting the DTC

B1516 08

The battery current signal is less than 4 percent or greater than 96 percent duty cycle for 2 minutes.

B1516 66

The battery current polarity is positive for 2 minutes.

Action Taken When the DTC Sets

The regulated voltage control (RVC) is disabled.

Conditions for Clearing the DTC

The DTC passes when the battery current returns to the normal range for 15 seconds.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

cardiagn.com

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

B1516 08

1. Ignition OFF, disconnect the harness connector at the B18 battery current sensor.
2. Ignition OFF and scan tool disconnected, open and close the driver door, and wait 10 minutes. Test for less than 10 ohms between the low reference circuit terminal B and ground.
    - If greater than the specified range, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the K9 BCM.
3. Ignition ON, test for 4.8-5.2 V between the 5 V reference circuit terminal A and ground.
    - If less than the specified range, test the 5 V reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
    - If greater than the specified range, test the 5 V reference circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
4. Ignition ON, test for 4.8-5.2 V between the signal circuit terminal C and ground.
    - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
    - If greater than the specified range, test the signal circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
5. If all circuits test normal, replace the B18 battery current sensor.

B1516 66

1. Verify that the B18 battery current sensor is installed securely around the negative battery cable, with the tape tab pointing away from the negative terminal on the C1 battery.
    - If the B18 battery current sensor is not installed correctly, remove and reinstall the sensor properly.
2. Replace the B18 battery current sensor.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Battery Negative Cable Replacement**

cardiagn.com

- **Control Module References** for BCM replacement, setup, and programming

DTC B1517

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC B1517 03

Battery Voltage Below Threshold

DTC B1517 07

Battery Voltage Above Threshold

DTC B1517 5A

Battery Voltage Plausibility Failure

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	B1517 03*, B1517 5A*	B1517 03*, B1517 5A*	-	-
Ground	-	B1517 03*, B1517 5A*	-	-
* All B+ and Ground terminals can set these DTCs				

Circuit/System Description

The body control module (BCM) has designated circuits for monitoring vehicle system voltage. The BCM monitors the system voltage to ensure that the voltage stays within the proper range. Damage to components, and incorrect data may occur when the system voltage is out of range. The BCM monitors the system voltage over an extended length of time.

Conditions for Running the DTC

- The BCM has power and ground.
- The ignition is not in the START position.

cardiagn.com

Conditions for Setting the DTC

B1517 03

- The battery voltage is less than 11 V.
- The engine speed is greater than 1,100 RPM.
- The above conditions are met for 15 seconds.

B1517 07

- The battery voltage is greater than 16 V.
- The engine speed is greater than 1,100 RPM.
- The above conditions are met for 15 seconds.

B1517 5A

The battery voltage differs by 2 V on the BCM battery sense circuits for 10 seconds.

Action Taken When the DTC Sets

- The instrument panel cluster illuminates the charge indicator.
- The driver information center displays the SERVICE BATTERY CHARGING SYSTEM warning message.

Conditions for Clearing the DTC

- The DTC will clear current status when fault is no longer present.
- The history DTC will clear after 50 consecutive ignition cycles have occurred without a malfunction.

Diagnostic Aids

- A high or low voltage DTC set in multiple modules indicates a concern in the charging system. Refer to **Charging System Test**.
- This DTC may be set by overcharging with a battery charger, or by jump starting.
- Inspect the ground connection, and ensure that it is clean and tight.

Reference Information

Schematic Reference

Body Control System Schematics

Connector End View Reference

Component Connector End Views

cardiagn.com

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Engine running, accessories OFF, measure and record the voltage at the battery voltage at the battery terminals. The voltage should be between 12.6 and 15.0 V.
    - If not within the specified range, refer to **Charging System Test**.
2. Observe the scan tool BCM Battery Voltage parameter. The reading should be between 12.6 and 15.0 V.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connectors X1, X2, X4, X5, and X6 at the K9 BCM.
2. Ignition OFF, test for less than 3.0 ohms between the ground circuit terminals listed below and ground:
    - Terminal 1 X1
    - Terminal 2 X2
    - Terminal 3 X6
    - Terminal 26 X4
    - If not within the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the B+ circuit terminals listed below and ground:
    - Terminal 2 X1
    - Terminal 3 X1
    - Terminal 4 X1
    - Terminal 1 X2
    - Terminal 3 X2
    - Terminal 4 X2
    - Terminal 20 X4
    - Terminal 3 X5
    - Terminal 4 X5
    - If the test lamp does not illuminate, test the B+ circuits for a short to ground or an open/high

cardiagn.com

resistance.

4. If all the circuits test normal, test or replace the K9 BCM.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Control Module References for BCM replacement, setup, and programming

DTC B151A

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC B151A 58

Low Battery Capacity Detected

Circuit/System Description

The body control module (BCM) monitors the battery voltage level during an engine crank event to detect a low battery voltage condition.

Conditions for Running the DTC

The ignition must be in the crank position for this code to set.

Conditions for Setting the DTC

A minimum crank battery voltage is less than the minimum crank battery voltage threshold for 16 consecutive crank events.

Action Taken When the DTC Sets

A driver information center (DIC) message is displayed.

Conditions for Clearing the DTC

The DTC will clear if the minimum crank voltage is greater than the minimum crank voltage threshold during a crank event.

Reference Information

cardiagn.com

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Before replacing the C1 battery perform the **Battery Inspection/Test**.

DTC B1527

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC B1527 00

High Parasitic Load Detected

Circuit/System Description

The body control module (BCM) monitors the state of charge of the electrical system. If the BCM senses that the state of charge at ignition On is 30 percent lower than what it was when the engine was running.

cardiagn.com

Conditions for Running the DTC

The ignition must be in Accessory or Run mode for this code to set.

Conditions for Setting the DTC

The state of charge at ignition ON is 30 percent lower than when the engine was running and battery drain is more than 2 A.

Action Taken When the DTC Sets

There is no battery telltale illuminated or DIC message displayed.

Conditions for Clearing the DTC

- The DTC will clear if the fault does not return after 50 consecutive ignition cycles.
- The DTC will clear when run state of charge is greater than or equal to 80 percent.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Refer to **Battery Electrical Drain/Parasitic Load Test**.

cardiagn.com

DTC C0800

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC C0800 03

Device Power 1 Circuit Voltage Below Threshold

DTC C0800 07

Device Power 1 Circuit Voltage Above Threshold

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	C0800 03	C0800 03	-	-
Ground	-	C0800 03	-	-

Circuit/System Description

The following module/sensors monitor the system voltage circuit to determine if the voltage is within the normal operating range:

- Electronic brake control module
- Steering wheel angle sensor
- Multi-axis acceleration sensor

Conditions for Running the DTC

- Ignition is ON.
- Engine ON.

Conditions for Setting the DTC

C0800 03

- The module/sensor detects that the system voltage is less than 9.2 V.
- The above condition is present for 7 seconds.

cardiagn.com

C0800 07

- The module/sensor detects that the system voltage is greater than 16 V.
- The above condition is present for 7 seconds.

Action Taken When the DTC Sets

A DIC message and/or a warning indicator may be displayed.

Conditions for Clearing the DTC

The system voltage returns to normal operating range.

Diagnostic Aids

- A high or low voltage DTC set in multiple sensors indicates a concern in the charging system.
- A possible cause of this DTC could be overcharging with a battery charger or jump starting.

Reference Information

Schematic Reference

Antilock Brake System Schematics

Connector End View Reference

Component Connector End Views

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Engine running, measure and record the voltage at the C1 battery terminals.
2. Verify that the battery voltage is 12.6-15.0 V.
    - If the battery voltage is not within the specified range, refer to **Charging System Test**.
3. Observe the appropriate module scan tool Battery Voltage parameters. Verify that the scan tool displays a value that is within 2 V of the C1 battery terminal voltage.

cardiagn.com

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the appropriate module/sensor.
2. Ignition OFF, test for less than 3 ohms between the ground circuit terminals listed below and ground:
    - Terminal 13, K17 Electronic brake control module
    - Terminal 38, K17 Electronic brake control module
    - Terminal 6, B99 Steering wheel angle sensor
    - Terminal 6, B119 Multi-Axis acceleration sensor
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the B+/ignition circuits listed below and ground:
    - Terminal 1, K17 Electronic brake control module
    - Terminal 25, K17 Electronic brake control module
    - Terminal 35, K17 Electronic brake control module
    - Terminal 5, B99 Steering wheel angle sensor
    - Terminal 5, B119 Multi-Axis acceleration sensor
    - If the test lamp does not illuminate, test the circuit for an open/high resistance.
4. If all circuits test normal, replace the appropriate module/sensor.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Vehicle Yaw Sensor Replacement**
- **Steering Angle Sensor Replacement**
- **Control Module References** for electronic brake control module replacement, setup, and programming

DTC P0562

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC P0562

System Voltage Low

Diagnostic Fault Information

	Short to	Open/High	Short to	Signal

cardiagn.com

Circuit	Ground	Resistance	Voltage	Performance
B+	P0562	P0562	-	-
Ground	-	P0562	-	-

Circuit/System Description

The following control modules monitor the system voltage to ensure that the voltage stays within the proper range:

- Engine control module
- Fuel pump control module

Damage to components, and incorrect data may occur when the voltage is out of range.

Conditions for Running the DTC

Engine Control Module

- The system voltage is between 9.5-18 V.
- The engine is running.

Fuel Pump Control Module

The engine is running.

Conditions for Setting the DTC

Engine Control Module

The engine control module detects a system voltage below 10 V for 5 seconds.

Fuel Pump Control Module

The fuel pump control module detects that battery voltage is less than 9 V.

Action Taken When the DTC Sets

DTC P0562 is a C type DTC.

Conditions for Clearing the DTC

DTC P0562 is a C type DTC.

Reference Information

Schematic Reference

cardiagn.com

- **Engine Controls Schematics** for the 3.6L (LLT) engine
- **Engine Controls Schematics** for the 6.2L (L99) and (LS3) engine

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Engine running, accessories OFF, measure and record the battery voltage at the C1 battery terminals. The voltage should be between 12.6 and 15.0 V.
    - If not within the specified range, refer to **Charging System Test**.
2. Observe the scan tool of the appropriate control module battery voltage parameter. The reading should be between 12.6 and 15.0 V. Verify that the scan tool displays a value that is within 2 V of the battery terminal voltage.

Circuit/System Testing

Engine Control Module

1. Ignition OFF, disconnect the harness connectors at the K20 ECM.
2. Ignition OFF, and scan tool disconnected, open and close the driver door, and wait 1 minute. Test for less than 5 ohms between the ground circuit terminals listed below and ground:
    - Terminal 1 X2 (LLT)
    - Terminal 2 X2 (LLT)
    - Terminal 4 X2 (LLT)

cardiagn.com

- Terminal 73 X1 (L99, LS3)
  - If greater than the specified range, test the ground circuit for an open/high resistance.

3. Connect a 15 A fused jumper wire between B+ and the KR75 powertrain relay switch control terminal 87. Ignition ON, verify that a test lamp illuminates between the IGN/B+ circuit terminals listed below and ground:
   - Terminal 56 X2 (LLT)
   - Terminal 54 X2 (LLT)
   - Terminal 3 X2 (LLT)
   - Terminal 5 X2 (LLT)
   - Terminal 6 X2 (LLT)
   - Terminal 41 X2 (LLT)
   - Terminal 20 X1 (L99, LS3)
   - Terminal 19 X1 (L99, LS3)
   - Terminal 47 X1 (L99, LS3)
   - Terminal 18 X1 (L99, LS3)
     - If the test lamp does not illuminate, test the IGN/B+ circuit for a short to ground or an open/high resistance.
4. If all circuits test normal, replace the K20 ECM.

Fuel Pump Control Module

1. Ignition OFF, disconnect the harness connectors at the K27 fuel pump control module.
2. Ignition OFF and scan tool disconnected, open and close the driver door, and wait 1 minute. Test for less than 5 ohms between the ground circuit terminal 25 and ground.
   - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Verify that a test lamp illuminates between the IGN/B+ circuit terminals listed below and ground:
   - Terminal 21
   - Terminal 1
   - Terminal 8
     - If the test lamp does not illuminate, test the IGN/B+ circuit for a short to ground or an open/high resistance.
4. If all circuits test normal, replace the K27 fuel pump control module.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Control Module References for the appropriate control module replacement, setup, and programming

DTC P0563

Diagnostic Instructions

cardiagn.com

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC P0563

System Voltage High

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	P0562	P0562	-	-
Ground	-	P0562	-	-

Circuit/System Description

The following control modules monitor the system voltage to ensure that the voltage stays within the proper range:

- Engine control module
- Fuel pump control module

Damage to components, and incorrect data may occur when the voltage is out of range.

Conditions for Running the DTC

Engine Control Module

- The vehicle speed is above 8 km/h (5 mph).
- The system voltage is between 9.5-18 V.

Fuel Pump Control Module

The ignition is ON.

Conditions for Setting the DTC

Engine Control Module

The engine control module detects a system voltage above 16 V for less than 1 second.

Fuel Pump Control Module

The fuel pump control module detects that the system voltage is greater than 18 V.

cardiagn.com

Action Taken When the DTC Sets

DTC P0563 is a C type DTC.

Conditions for Clearing the DTC

DTC P0563 is a C type DTC.

Diagnostic Aids

- A possible cause of this DTC could be overcharging with a battery charger or jump starting.
- A high voltage value in multiple modules indicates a concern in the charging system.

Reference Information

Schematic Reference

- **Engine Controls Schematics** for the 3.6L (LLT) engine
- **Engine Controls Schematics** for the 6.2L (L99) and (LS3) engine

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Engine running, accessories OFF, measure and record the battery voltage at the battery terminals. The

cardiagn.com

voltage should be between 12.6 and 15.0 V.

- If not within the specified range, refer to **Charging System Test**.

2. Engine running, observe the scan tool of the appropriate control module Ignition 1 signal parameter. The voltage should be between 12.6 and 15.0 V.
   - If not within the specified range, replace the appropriate control module.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Control Module References for ECM replacement, setup, and programming

DTC P0615, P0616, OR P0617

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC P0615

Starter Relay Control Circuit

DTC P0616

Starter Relay Control Circuit Low Voltage

DTC P0617

Starter relay Control Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	1	1	-	-
Signal	2	1	-	-
Control Terminal 85	P0615*, P0616**	P0615, 1	3	-
Control Terminal 87	1	1	3	-
Ground	-	P0615, 1	-	-

1. Starter Solenoid Does Not Click

cardiagn.com

2. Cranks In Any Gear
3. Cranks All The Time
* L99, LS3
** LLT

Circuit/System Description

When the ignition switch is placed in the START position, a discrete signal is supplied to the body control module (BCM) notifying it that the ignition is in the START position. The BCM then sends a message to the engine control module (ECM) that crank has been requested. The ECM then verifies that the clutch pedal is depressed or the transmission is in Park/Neutral. If it is, the ECM then supplies 12 V to the control circuit of the starter relay. When this occurs, battery voltage is supplied through the switch of the starter relay to the starter solenoid.

Conditions for Running the DTC

- The ignition is in the START position.
- The system voltage is between 9.5-18 V.

Conditions for Setting the DTC

The ECM detects improper voltage on the control circuit of the starter relay.

Action Taken When the DTC Sets

DTC P0615, P0616, and P0617 are C type DTCs.

Conditions for Clearing the DTC

DTC P0615, P0616, and P0617 are C type DTCs.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Starting System Description and Operation

Electrical Information Reference

cardiagn.com

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the KR27 starter relay.
2. Ignition OFF and scan tool disconnected, open and close the driver door, and wait 1 minute. Test for less than 5.0 ohms between the relay ground circuit terminal 86 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal 30 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal and the B+ circuit fuse is open, test the control circuit terminal 87 for a short to ground.
4. Ignition ON, verify that a test lamp does not illuminate between the control circuit terminal 87 and ground.
    - If the test lamp illuminates, test the control circuit for a short to voltage.
5. Parking brake applied and the transmission is in NEUTRAL or PARK. Momentarily install a 30 A fused jumper wire between the B+ circuit terminal 30 and the control circuit terminal 87. Verify the starter is activated.
    - If the starter does not activate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the starter.
6. Ignition OFF, connect a test lamp between the control circuit terminal 85 and the ground circuit terminal 86.
7. Transmission in park or neutral, cycle the ignition between the ON and CRANK position. The test lamp should turn ON and OFF when changing between the commanded states.
    - If the test lamp is always ON, test the control circuit for short to voltage. If the circuit tests normal, replace the K20 ECM.
    - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K20 ECM.
8. If all circuits tests normal, replace the KR27 starter relay.

Component Testing

cardiagn.com

Relay Test

1. Ignition OFF, disconnect the STRTR relay.
2. Test for 60-180 ohms between terminals 85 and 86.
    - If not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
    - 30 and 86
    - 30 and 87
    - 30 and 85
    - 85 and 87
    - If not the specified value, replace the relay.
4. Install a 20 A fused jumper wire between relay terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
    - If greater than specified range, replace the relay.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Relay Replacement (Attached to Wire Harness)** or **Relay Replacement (Within an Electrical Center)**
- **Control Module References** for ECM replacement, setup, and programming

DTC P0621

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC P0621

Generator L-Terminal Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	P0622*, P0625**	P0621	-	-
Control	P0621	P0621	P0621	-

cardiagn.com

Signal	P0622*, P0625**	P0622*, P0625**	P0622*, P0626**	P0622*, P0625**
* L99 or LS3 ** LLT				

Circuit/System Description

The engine control module (ECM) uses the generator turn ON control circuit to control the load of the generator on the engine. A high side driver in the ECM applies a voltage to the voltage regulator. This controls the voltage regulator to turn the field circuit ON and OFF. The ECM monitors the state of the generator turn ON control circuit. The ECM should detect low voltage on generator turn on control circuit when the ignition is ON and the engine is OFF, or when the charging system malfunctions. With the engine running, the ECM should detect high voltage on the generator turn on control circuit.

Conditions for Running the DTC

- The ignition ON, engine OFF for ignition on test.
- The engine is running for the run test.

Conditions for Setting the DTC

- During the ignition on test, the ECM detects voltage on the generator turn on control circuit for 5 seconds.
- During the run test, the ECM detects low voltage on the generator turn on control circuit for 15 seconds.

Action Taken When the DTC Sets

DTC P0621 is a C type DTC.

Conditions for Clearing the DTC

DTC P0621 is a C type DTC.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

cardiagn.com

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

LLT Engine

1. Verify that a test lamp illuminates between the G13 generator B+ output circuit A X2 and ground.
   - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
2. Ignition OFF, disconnect the X1 harness connector at the G13 generator.
3. Ignition ON, test for less than 1 V between the control circuit terminal 1 and ground.
   - If greater than the specified range, test the control circuit for a short to voltage. If the circuit tests normal, replace the K20 ECM.
4. Engine running, test for greater than 3.5 V between the control circuit terminal 1 and ground.
   - If less than the specified range, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K20 ECM.
5. If the circuit tests normal, replace the G13 generator.

L99 or LS3 Engine

1. Verify that a test lamp illuminates between the G13 generator B+ terminal A X2 and ground.
   - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
2. Ignition OFF, disconnect the X1 harness connector at the G13 generator.
3. Ignition ON, test for 4.5-5.5 V between the control circuit terminal 1 and ground.
   - If greater than the specified range, test the control circuit for a short to voltage. If the circuit tests normal, replace the ECM.
   - If less than the specified range, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal replace the ECM.
4. If the circuits test normal, replace the G13 generator.

Repair Procedures

cardiagn.com

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Generator Replacement (LLT)** or **Generator Replacement (LS3/L99)**
- **Control Module References** for ECM replacement, setup, and programming

DTC P0622

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC P0622

Generator F-Terminal Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	-	P0621	-	-
Control	P0621	P0621	P0621	-
Signal	P0622	P0622	P0622	P0622

Circuit/System Description

The engine control module (ECM) uses the generator field duty cycle signal circuit, or F-terminal circuit, to monitor the duty cycle of the generator. The generator field duty cycle signal circuit connects to high side of the field windings in the generator. A pulse width modulated (PWM) high side driver in the voltage regulator turns the field windings ON and OFF. The ECM uses the PWM signal input to determine the generator load on the engine. This allows the ECM to adjust the idle speed to compensate for high electrical loads. The ECM monitors the status of the generator field duty cycle signal circuit. When the ignition is ON and the engine is OFF, the ECM should detect a duty cycle near 0 percent. When the engine is running, the duty cycle should be between 5-99 percent.

Conditions for Running the DTC

- Ignition ON engine OFF, for the Ignition ON test.
- Engine running, engine speed less than 3,000 RPM for the RUN test.

Conditions for Setting the DTC

- DTC P0621 is not set.

cardiagn.com

- Ignition ON engine OFF, the ECM detects a PWM signal that is greater than 65 percent for 5 seconds.
- Engine running, the ECM detects a PWM signal that is less than 5 percent for 15 seconds.

Action Taken When the DTC Sets

DTC P0622 is a C type DTC.

Conditions for Clearing the DTC

DTC P0622 is a C type DTC.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Engine running, observe the scan tool GEN-F Terminal Signal Circuit parameter. The GEN-F Terminal Signal Circuit parameter should display between 5-99 percent.

Circuit/System Testing

cardiagn.com

1. Verify that a test lamp illuminates between the G13 generator B+ terminal A X2 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
2. Ignition OFF, disconnect the X1 harness connector at the G13 generator.
3. Ignition ON, verify the scan tool ECM GEN-F Terminal Signal parameter displays less than 5 percent.
    - If greater than the specified range, test the signal circuit terminal 2 for a short to voltage. If the circuit tests normal, replace the K20 ECM.
4. Install a 3 A fused jumper wire between B+ and the signal circuit terminal 2.
5. Verify the scan tool ECM GEN-F Terminal Signal parameter displays greater than 95 percent.
    - If less than the specified range, test the signal circuit terminal 2 for a short to ground or an open/high resistance. If the circuit tests normal, replace the K20 ECM.
6. If the circuit tests normal replace the G13 generator.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Generator Replacement (LLT)** or **Generator Replacement (LS3/L99)**
- **Control Module References** for ECM replacement, setup, and programming

DTC P0625 OR P0626

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC P0625

Generator F-Terminal Circuit Low Voltage

DTC P0626

Generator F-Terminal Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	P0625	P0621	-	-
Signal	P0625	P0625	-	-

cardiagn.com

Control	P0621	P0621	P0621	-

Circuit/System Description

The engine control module (ECM) uses the generator field duty cycle signal circuit, or F-terminal circuit, to monitor the duty cycle of the generator. The generator field duty cycle signal circuit connects to high side of the field windings in the generator. A pulse width modulated (PWM) high side driver in the voltage regulator turns the field windings ON and OFF. The ECM uses the PWM signal input to determine the generator load on the engine. This allows the ECM to adjust the idle speed to compensate for high electrical loads. The ECM monitors the status of the generator field duty cycle signal circuit. When the ignition is ON and the engine is OFF, the ECM should detect a duty cycle near 0 percent. When the engine is running, the duty cycle should be between 5-99 percent.

Conditions for Running the DTC

P0625

- The engine is running.
- The engine speed is 3100 RPM +/- 15%.

P0626

- The engine is not running.
- The ignition is in the ON position.

Conditions for Setting the DTC

P0625

The ECM detects a pulse width modulated (PWM) signal less than 5 percent for 15 seconds.

P0626

The ECM detects a pulse width modulated (PWM) signal greater than 65 percent for 15 seconds.

Action Taken When the DTC Sets

DTC P0625 and P0626 are a C type DTCs.

Conditions for Clearing the DTC

DTC P0625 and P0626 are a C type DTCs.

Reference Information

Schematic Reference

cardiagn.com

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Engine running, observe the scan tool GEN-F Terminal Signal parameter. The GEN-F Terminal Signal parameter should display between 5-99 percent.

Circuit/System Testing

1. Verify that a test lamp illuminates between the G13 generator B+ output circuit terminal A X2 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
2. Ignition OFF, disconnect the X1 harness connector at the G13 generator.
3. Ignition ON, verify the scan tool ECM GEN-F Terminal Signal parameter displays less than 5 percent.
    - If greater than the specified range, test the signal circuit terminal 2 for a short to voltage. If the circuit tests normal, replace the K20 ECM.
4. Install a 3 A fused jumper wire between B+ and the signal circuit terminal 2.
5. Verify the scan tool ECM GEN-F Terminal Signal parameter displays greater than 95 percent.
    - If less than the specified range, test the signal circuit terminal 2 for a short to ground or an open/high resistance. If the circuit tests normal, replace the K20 ECM.
6. If the circuit tests normal replace the G13 generator.

cardiagn.com

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Generator Replacement (LLT)** or **Generator Replacement (LS3/L99)**
- **Control Module References** for ECM replacement, setup, and programming

SYMPTOMS - ENGINE ELECTRICAL

NOTE: The following steps must be completed before using the symptom tables.

- Perform **Diagnostic System Check - Vehicle** before using the Symptom Tables in order to verify that all of the following are true:
  - There are no DTCs set.
  - The control modules can communicate via the serial data link.
- Review the system descriptions and operations in order to familiarize yourself with the system functions. Refer to one of the following system operations:
  - **Battery Description and Operation**
  - **Charging System Description and Operation**
  - **Electrical Power Management Description and Operation**
  - **Starting System Description and Operation**
  - **Load Shed System Description and Operation**

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the starting and charging systems. Refer to **Checking Aftermarket Accessories** .
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections** .

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- **Battery Inspection/Test**
- **Battery Electrical Drain/Parasitic Load Test**
- **Charging System Test**
- **Generator Noise Diagnosis**
- **Starter Solenoid Does Not Click**

cardiagn.com

- **Starter Solenoid Clicks, Engine Does Not Crank**
- **Engine Cranks Slowly**
- **Starter Noise Diagnosis**

BATTERY INSPECTION/TEST

Diagnostic Aids

WARNING: Refer to Battery Disconnect Warning .

NOTE:

- **The battery test using the EL 42000: Battery Tester requires correct connections to the battery terminals. A failure to obtain the correct connections during the test may result in a failed test on a good battery.**
- **Use the Out of Vehicle test for each battery when testing a vehicle with dual batteries.**

Follow these instructions in order to avoid an incorrect diagnosis because of connections:

- If testing the vehicle with the battery cables still connected, wiggle the EL 42000 clips on the terminal bolt. This may cut through any coating or through any oxidation that may be present on the bolt.

  Even new bolts contain a protective coating that may insulate or cause a resistance in the test circuit.

- If correct connections to the battery terminal bolts in the vehicle are in doubt, perform the following steps:
  1. Disconnect the negative battery cable.
  2. Disconnect the positive battery cable.
  3. Install the test adapters on the terminals.
  4. Follow the instructions for testing a removed battery.
- If the tester displays a REPLACE BATTERY or BAD CELL-REPLACE result for a battery tested in the vehicle with the battery cables connected, perform the following steps:
  1. Disconnect the negative battery cable.
  2. Disconnect the positive battery cable.
  3. Install the tester adapters.

NOTE: Always write the test code displayed by the tester on the repair order for any warranty purposes. The number is a unique code that describes the test data for a particular battery at a particular time. The test code may occasionally repeat when you retest the same battery. More often, each test will result in a different code. Use the test code from the second, or Out of Vehicle test.

cardiagn.com

4. Follow the instructions for testing a removed battery.
5. Replace the battery only if the second test shows a REPLACE BATTERY or BAD CELL-REPLACE result.

   Use the test code from the second test for any warranty purposes.

- Use the correct terminal adapters.

  Do not use any common bolts or a combination of bolts, of nuts, and of washers as adapters when testing the battery.

  Use the test adapters that are provided with the EL 42000 or GM P/N 12303040 terminal adapters. If the adapters that are provided with the EL 42000 require replacement, use GM P/N 12303040. Any other adapter may not contact the correct areas of the battery terminal, causing a resistance that may result in an invalid battery test result.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Starting System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Special Tools

EL 42000: Battery Tester

For equivalent regional tools, refer to **Special Tools**.

cardiagn.com

Circuit/System Testing

WARNING: Unless directed otherwise, the ignition and start switch must be in the OFF or LOCK position, and all electrical loads must be OFF before servicing any electrical component. Disconnect the negative battery cable to prevent an electrical spark should a tool or equipment come in contact with an exposed electrical terminal. Failure to follow these precautions may result in personal injury and/or damage to the vehicle or its components.
For Vehicles equipped with OnStar® (UE1) with Back Up Battery:
The Back Up Battery is a redundant power supply to allow limited OnStar® functionality in the event of a main vehicle battery power disruption to the VCIM (OnStar®module). Do not disconnect the main vehicle battery or remove the OnStar® fuse with the ignition key in any position other than OFF. Retained accessory power (RAP) should be allowed to time out or be disabled (simply opening the driver door should disable RAP) before disconnecting power. Disconnecting power to the OnStar® module in any way while the ignition is On or with RAP activated may cause activation of the OnStar® Back-Up Battery (BUB) system and will discharge and permanently damage the back-up battery. Once the Back-Up Battery is activated it will stay on until it has completely discharged. The BUB is not rechargeable and once activated the BUB must be replaced.

1. Inspect the C1 battery for a cracked, broken, or damaged case, which may be indicated by battery acid leakage.
    - If there is any apparent damage, replace the C1 battery.
2. Verify the cold cranking amperage and amp hour rating of the C1 battery to the original C1 battery or original equipment (OE) specification. Refer to **Battery Usage**.
    - If the C1 battery does not meet or exceed specifications, replace the C1 battery.
3. Verify that the C1 battery cables are clean and tight. The C1 battery terminal bolts should be torqued as specified in **Fastener Tightening Specifications**.
    - If the C1 battery cables need to be cleaned, clean as required and tighten as specified.
    - If the C1 battery cables are damaged, replace then tighten as specified.
4. Install the EL 42000 and follow directions supplied by the tester.
    - If the tester calls for charging the C1 battery, refer to **Battery Charging**.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Battery Positive Cable Replacement**
- **Battery Negative Cable Replacement**
- **Battery Replacement**

cardiagn.com

BATTERY CHARGING

Special Tools

EL 42000: Battery Tester

For equivalent regional tools, refer to **Special Tools**.

Diagnostic Aids

- For best results, use an automatic taper-rate battery charger with a voltage capability of 16 V.
- The charging area should be well ventilated.
- Do not charge a battery that appears to be frozen. Allow the battery to warm to room temperature and test it using the EL 42000 before charging.

Battery State of Charge

NOTE: Using voltage to determine the batteries state of charge is only accurate after the battery has been at rest for 24 hours. This is enough time for the acid in each cell to equalize. If the battery has been charged or discharged in the past 24 hours, the battery state of charge will only be an estimate.

The maintenance-free batteries state of charge is estimated by reading the voltage of the battery across the battery terminals. Because the voltage is affected by current flow into or out of the battery, the engine must be stopped and all electrical loads turned OFF, including parasitic loads, when checking the voltage. The voltage can also be affected if the battery has just been charged or discharged, so it is important to consider what has happened to the battery in the time just before testing. Use the following procedure to determine the batteries state of charge:

1. Be sure all electrical loads are turned OFF.
2. Determine whether the battery has been used in a vehicle or charged within the past 12 hours.
   - If the answer is no, the terminal voltage will be stabilized and no action is necessary before reading the voltage. Skip to step 3.
   - If the answer is yes, terminal voltage will not be stabilized and you should wait 12 hours since the last time the battery was used.
3. Estimate the battery temperature by determining the average temperature to which the battery has been exposed for the past 12 hours.

   NOTE: The table is accurate to 10 percent only after the battery has been at rest for 12 hours.

4. Measure the battery voltage at the battery terminals. Refer to the following table to determine the state of charge according to the estimated battery temperature:

Battery Voltage	% Charge at 0°C (32°F)	% Charge at 25°C (75°F)

cardiagn.com

12.75 V	100%	100%
12.7 V	100%	90%
12.6 V	90%	75%
12.45 V	75%	65%
12.2 V	65%	45%
12.0 V	40%	20%

Use the state of charge information as follows:

- A battery with a state of charge that is below 65 percent must always be recharged before returning it to service or continuing storage.
- A battery with a state of charge that is 65 percent or greater is generally considered to be charged enough in order to be returned to normal service or in order to continue storage. However, if the battery is being used in slow traffic or with short drive times, or if the temperature is very hot or very cold, the battery should be fully charged, to at least 90 percent, before returning it to service or continuing storage.

Charging Time Required

The time required to charge a battery will vary depending upon the following factors:

- The battery charger capacity-The higher the charger amperage, the less time it will take to charge the battery.
- The state of charge of the battery-A completely discharged battery requires more than twice as much charging time as a half charged battery. In a discharged battery with a voltage below 11 V, the battery has a very high internal resistance and may only accept a very low current at first. Later, as the charging current causes the acid content to increase in the electrolyte, the charging current will increase. Extremely discharged batteries may not activate the reversed voltage protection in some chargers. Refer to the manufacturer's instructions for operating this circuitry.
- The temperature of the battery-The colder the battery is, the more time it takes to recharge the battery. The charging current accepted by a cold battery is very low at first. As the battery warms, the charging current will increase.

Charging Procedure

CAUTION: Turn OFF the ignition when connecting or disconnecting the battery cables, the battery charger or the jumper cables. Failure to do so may damage the ECM/PCM or other electronic components.

CAUTION: Refer to Fastener Caution .

When charging side-terminal batteries with the battery cables connected, connect the charger to the positive cable bolt and to a ground located away from the battery. When charging side-terminal batteries with the battery cables disconnected, install the battery side terminal adapters and connect the charger to the adapters.

cardiagn.com

Tighten: Tighten the battery side terminal adapters to 15 N.m (11 lb ft).

Use the following procedure to charge the battery:

1. Turn OFF the charger.
2. Ensure that all of the battery terminal connections are clean and tight.
3. Connect the charger positive lead to the battery positive terminal on the battery or the remote jumper stud underhood.

CAUTION: Do not connect the negative charger lead to the housings of other vehicle electrical accessories or equipment. The action of the battery charger may damage such equipment.

4. Connect the negative charger lead to a solid engine ground or to a ground stud in the engine compartment that is connected directly to the battery negative terminal, but away from the battery. If the negative battery cable is disconnected and a terminal adapter is being used, connect directly to the adapter.
5. Turn ON the charger and set to the highest setting for normal charging.
6. Inspect the battery every half hour after starting the battery charger.
   - Charge the battery until the taper-rate charger indicates that the battery is fully charged.
   - Estimate the battery temperature by feeling the side of the battery. If it feels hot to the touch or its temperature is over 45°C (125°F), discontinue charging and allow the battery to cool before resuming charging.
7. After charging, test the battery. Refer to **Battery Inspection/Test**.

BATTERY ELECTRICAL DRAIN/PARASITIC LOAD TEST

12 V Battery

The following procedure is for the 12 V battery only.

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Circuit/System Description

Components most likely to cause a parasitic draw on the vehicle's battery are switches, relays, and control modules. After the ignition is turned OFF the control modules will begin to go to sleep (shut OFF). All control modules do not go to sleep at the same time, some may take up to 30 minutes or longer after turning the ignition off before going to sleep, like the HVAC and body control modules. Others such as the ON Star and keyless entry control modules may periodically wake up then go back to sleep. These are all normal conditions.

Diagnostic Aids

cardiagn.com

- Rule out any possible aftermarket equipment causing an unacceptable parasitic current drain. Aftermarket accessories installed into the courtesy lamp circuit can cause the inadvertent power timer in the body control module (BCM) to keep resetting. This would cause the BCM to remain awake and cause a current drain on the battery.
- Rule out customer driving habits such as regular short trips that do not allow enough time to properly charge the battery. Refer to **Battery Description and Operation**.
- Verify that the battery and charging system are in proper working order. Refer to **Battery Charging** and **Charging System Test**.
- A battery discharging for no apparent reason while the vehicle is parked can be caused by an intermittent draw, such as a module waking up, or a continuous draw, such as a dome light or stuck relay.
- Some systems and modules such as OnStar®, and regulated voltage control (RVC), if equipped, are designed to wake-up, perform a task, and go back asleep at regular intervals. Refer to **Body Control System Description and Operation** for the system or modules description and operation.
- An engine off natural vacuum evaporative test can occur if the engine control module (ECM) determines the drive cycle has met the appropriate criteria immediately after key off. The ECM will stay awake and the vent solenoid will stay energized for as long as 45 minutes. The typical current draw for this is about 1 A.
- Digital OnStar gen 6 and later VCIMs do not "wake up" every 10 minutes for the first 48 hours as the gen 5 and prior. Gen 6 and later VCIM current draw is very low, less than 40 mA, so the OnStar system is left in that state for up to the first 48 hours. Parasitic draw of up to 40 mA with an occasional spike as high as 80 mA through the VCIM for the first 48 hours is normal.
- Some automatic climate control systems can remain in a semi-awake state for up to three hours, actual draw amounts vary by vehicle platform but are typically not greater than 50 mA.
- An extremely low mA current level is consumed by the RKE receiver for monitoring purposes, actual system wake up only occurs when the fobs for the vehicle are used. When other devices on the same RKE operating frequency are activated, such as the 4 tire pressure monitoring sensors and other vehicle FOB's in the vicinity, the RKE receiver will have a 100 mA spike. These spikes are normal and occur too briefly to have a significant effect on battery drain. Competing signals may cause RKE performance issues such as jamming but should not cause excessive battery draw.
- If an excessive current draw is not present during initial testing, continue periodic testing over a 1-2 hour period to see if the current draw increases and stays above an unacceptable level.

NOTE: **The battery specification listed below is a generic specification. Refer to Battery Usage when testing the battery.**

- The battery run down time will vary depending on the batteries reserve capacity. If the reserve capacity is higher, then the battery run down time would be longer. If the reserve capacity is lower, then the battery run down time would be shorter. The graph below indicates roughly how many days a 690 cold cranking amp battery with a 110 min. reserve capacity starting at 80 percent state of charge will last with a constant current draw until it reaches 50 percent state of charge. Differences in battery reserve capacity and temperature will affect the results.

Current Drain	Days
25 mA	33

cardiagn.com

50 mA	16.5
75 mA	11
100 mA	8.25
250 mA	3.3
500 mA	1.65
750 mA	1
1 A	0.8
2 A	0.4

Reference Information

Schematic Reference

Control Module References

Connector End View Reference

Component Connector End Views

Electrical Information Reference

- **Circuit Testing**
- **Testing for Intermittent Conditions and Poor Connections**
- **Connector Repairs**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Special Tools

EL 38758: Parasitic Draw Test Switch

For equivalent regional tools, refer to **Special Tools**.

Circuit/System Verification

NOTE:

- **Most vehicle systems will go to sleep within 30 minutes but it can take up to 2 hours before all systems power down allowing the parasitic draw test to pass. An occasional increase in the parasitic draw is normal as long as it returns within 1 second.**
- **Closing the door latches/ajar switch while leaving the doors open is recommended, this allows the vehicle systems to perform in a "doors**

cardiagn.com

closed" mode while allowing vehicle interior access that may be needed to complete the diagnostic steps.

- **Locking doors will arm the vehicle content theft deterrent system if equipped. Failure to arm the system may cause a theft system fault to not be present during testing.**
- **There are many things that can prevent the vehicle from completely going to sleep and passing the parasitic draw test. Make sure all the conditions listed below are met before performing the parasitic current draw test.**
  - **Ignition OFF**
  - **Key out of the ignition switch - when not equipped with keyless access and start**
  - **Retained Accessory Power RAP OFF - open and close the driver door after ignition OFF**
  - **Scan tool not communicating with a vehicle control module - in some cases it may need to be disconnected from the DLC**
  - **All access doors closed**
  - **Headlamps OFF - auto headlamps disabled**
  - **Any delay lighting OFF**
  - **If equipped with an under hood lamp disable it**
  - **HVAC after blow OFF**
  - **Any accessory that can work with ignition OFF inactive or OFF**
  - **Wait up to 2 minutes or longer, after all other listed conditions are met**

Using an Inductive Pickup Probe

1. Connect an inductive pickup probe to the negative battery cable that can read down to 1 mA.
2. Ignition OFF, as the vehicle systems shut down test for less than 30 mA of parasitic current drain.
   - If greater than the specified range, refer to Circuit/System Testing.

Using the EL 38758 Parasitic Draw Test Switch

WARNING: Refer to Battery Disconnect Warning .

CAUTION: When a fused jumper wire or digital multimeter is connected to the test switch terminals, always turn the test switch ON before opening any access door, turning the ignition on, or turning any accessory on. This is to prevent damaging the jumper wire or digital multimeter fuse.

NOTE: The switch knob on the EL 38758: switch is marked ON and OFF. When the

cardiagn.com

switch knob is in the ON position, the circuit is closed and electrical current will pass through the switch. When the switch knob is in the OFF position, the circuit is open and electrical current will not pass through the switch.

1. Ignition OFF, disconnect the battery negative cable from the battery. Refer to **Battery Negative Cable Disconnection and Connection**.
2. Turn the **EL 38758:** switch knob to the OFF position.
3. Install the male end of the **EL 38758:** switch to the battery ground terminal.
4. Install the battery negative cable to the female end of the **EL 38758:** switch.
5. Turn the **EL 38758:** switch knob to the ON position.
6. Road test the vehicle and activate all of the accessories such as the radio and air conditioning.
7. Ignition OFF, connect a 10 A fused jumper wire to the test switch tool terminals.
8. Turn the **EL 38758:** switch knob to the OFF position. The current now flows through the jumper wire.
9. Check the fuse in the jumper wire. The fuse should be OK.
    - If the jumper wire fuse is blown, refer to Circuit/System Testing.
10. Turn the **EL 38758:** switch knob to the ON position. Remove the fused jumper wire.
11. Connect a DMM set to the 10 A DC scale between the test switch tool terminals.
12. Turn the **EL 38758:** switch knob to the OFF position. The current now flows through the DMM.
13. As the vehicle systems shut down test for less than 30 mA of parasitic current drain.
    - If greater than the specified range, refer to Circuit/System Testing.

Circuit/System Testing

NOTE:

- **Removing or installing a fuse, relay, or connector, to determine the area causing high parasitic draw may wake up control modules. You must wait for the control modules to go back to sleep before retesting. It is best to install any removed or disconnected components after the diagnosis is completed.**
- **Fuses for power mode master components such as the BCM should be removed last to avoid misdiagnosis.**
- **If a scan tool is connected to the DLC, either disconnect it or subtract the scan tool current draw from the DMM reading to get the actual vehicle parasitic current draw.**

If the vehicle has an unacceptable amount of parasitic current draw, remove each fuse one at a time until the current draw falls to an acceptable level. A drop of more than 10-20 mA, when disabling a single system or circuit, is an indication of an overly high current draw that could be causing the battery drain. Refer to **Power Distribution Schematics** to diagnose exactly which circuit of the suspect system is causing the high parasitic drain. The follow is a list of common components that could cause a high current draw:

- Stuck switch

cardiagn.com

- Stuck relay
- Control module

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Control Module References for control module replacement, programming and setup

CHARGING SYSTEM TEST

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Charging System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Circuit/System Verification

Engine running, observe the charge indicator on the instrument cluster or message in the driver information center display. The charge indicator on the instrument cluster should be turned OFF and the driver information center display should not display any charging system message.

Circuit/System Testing

cardiagn.com

1. Ignition ON, verify that no G13 Generator or B18 battery current sensor DTCs are set that would cause a charging system concern.
   - If DTCs are set, refer to **Diagnostic Trouble Code (DTC) List - Vehicle** .
2. Ignition OFF, measure the voltage across the battery terminals. The voltage should read 12.0 V or greater at room temperature.
   - If not within the specified value, refer to **Battery Inspection/Test**.

NOTE: Ensure vehicle accessories are OFF for the next step.

3. Engine ON, increase engine speed to 2,500 RPM. Verify the battery voltage is between 12.6-15.0 V.
   - If not within specified range, replace the G13 generator.
4. Engine ON, increase engine speed to 2,500 RPM. Turn ON all vehicle accessories. Verify the battery voltage is between 12.6-15.0 V.
   - If not within specified range, replace the G13 generator.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Generator Replacement (LLT) or **Generator Replacement (LS3/L99)**

GENERATOR NOISE DIAGNOSIS

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Aids

Noise from a generator may be due to electrical or mechanical noise. Electrical noise or magnetic whine usually varies with the electrical load placed on the generator and is a normal operating characteristic of all generators. When diagnosing a noisy generator, it is important to remember that loose or misaligned components around the generator may transmit the noise into the passenger compartment and that replacing the generator may not solve the problem.

Circuit/System Testing

1. Start the engine, verify the noise can be heard. Compare the concern to a similar vehicle.
2. Inspect the generator, generator mounting, wiring harness, heater hoses, A/C lines or other accessory equipment that may be misrouted or be the cause of noise being transmitted into the passenger compartment.
3. Ignition OFF, remove the engine drive belt. Verify the generator, idler pulley and tensioner pulley spin freely.

cardiagn.com

- If any of the pulleys do not spin freely, replace the affected component.

4. Loosen all generator mounting bolts and ensure the generator is properly aligned. Tighten mounting bolts to specification, refer to **Generator Replacement (LLT)** or **Generator Replacement (LS3/L99)**.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Drive Belt Replacement** for the 2.8L, 3.0L, 3.2L, or 3.6L engines
- **Drive Belt Replacement - Accessory** for the 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L engines
- **Drive Belt Tensioner Replacement - Accessory** for the 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L engines
- **Drive Belt Tensioner Replacement** for the 2.8L, 3.0L, 3.2L, or 3.6L engines
- **Generator Replacement (LLT)** or **Generator Replacement (LS3/L99)**

STARTER SOLENOID DOES NOT CLICK

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	1	1	-	-
Signal	2	1	-	-
Control Terminal 85	-	1	3	-
Control Terminal 87	1	1	3	-
Ground	-	1	-	-
1. Starter Solenoid Does Not Click 2. Cranks In Any Gear 3. Cranks All The Time				

Circuit/System Description

When the ignition mode switch is placed in the START position, a discrete signal is supplied to the body control module (BCM) notifying it that the ignition is in the START position. The BCM then sends a serial data message to the engine control module (ECM) that crank has been requested. The ECM then verifies that the clutch is fully depressed or the automatic transmission is in Park/Neutral. If it is, the ECM then supplies 12 V to the control circuit of the starter relay. When this occurs, battery voltage is supplied through the switch of the starter relay to the starter solenoid.

Reference Information

cardiagn.com

Schematic Reference

- **Starting and Charging Schematics**
- **Automatic Transmission Controls Schematics**

Connector End View Reference

Component Connector End Views

Description and Operation

Starting System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Automatic Transmission

1. Ignition ON, verify that no ignition, starter relay, brake pedal position sensor, theft deterrent, or automatic transmission DTCs are set that would cause the ECM to disable engine starting.
   - If DTCs are set, refer to **Diagnostic Trouble Code (DTC) List - Vehicle** .
2. Ignition ON, observe the scan tool BCM 5 V Ignition Switch parameter. Place the ignition switch in the crank position, the parameter should display Crank Request.
   - If not the specified value, refer to **Power Mode Mismatch** .
3. Transmission in park, verify the scan tool TCM Internal Mode Switch parameter displays Park.
   - If the TCM Internal Mode Switch parameter does not indicate Park. Refer to **Transmission Internal Mode Switch Logic** .
4. Transmission range selector in park or neutral attempt to start the vehicle. The crank relay should click and the engine should begin cranking.
   - If the starter relay does not click or the engine does not crank, refer to Circuit/System Testing.

Manual Transmission

1. Ignition ON, verify that no ignition, starter relay, clutch pedal position sensor, brake pedal position sensor, or theft deterrent DTCs are set that would cause the ECM to disable engine starting.

cardiagn.com

- If DTCs are set, refer to **Diagnostic Trouble Code (DTC) List - Vehicle** .

2. Ignition ON, observe the scan tool BCM 5 V ignition switch. Place the ignition switch in the crank position, the parameter should display Crank Request.
   - If not the specified value, refer to **Power Mode Description and Operation** .
3. Ignition ON, observe the scan tool ECM clutch pedal starter inhibit switch, verify the scan tool parameter displays Off/On while depressing and releasing the clutch pedal.
   - If the clutch pedal starter inhibit parameter does not change. Refer to **Clutch Pedal Position Sensor Learn** for MG9 transmission and **Clutch Pedal Position Sensor Learn** for MV7 transmission.
4. Clutch pedal fully depressed, attempt to start the vehicle. The crank relay should click and the engine should begin cranking.
   - If the starter relay does not click or the engine does not crank, refer to Circuit/System Testing.

Circuit/System Testing

1. Ignition ON, with a scan tool verify the ECM Ignition 1 Signal parameter is greater than 10 V.
   - If less than the specified range, test the ECM ignition circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K20 ECM.
2. Ignition OFF, disconnect the starter relay.
3. Ignition OFF and scan tool disconnected, open and close the driver door, and wait 1 minute. Test for less than 5.0 ohms between the relay ground circuit terminal 86 and ground.
   - If greater than the specified range, test the ground circuit for an open/high resistance.
4. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal 30 and ground.
   - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal and the B+ circuit fuse is open, test the control circuit terminal 87 for a short to ground.
5. Ignition ON, verify that a test lamp does not illuminate between the control circuit terminal 87 and ground.
   - If the test lamp illuminates, test the control circuit for a short to voltage.
6. Ensure the parking brake is applied and the transmission is in NEUTRAL on manual transmission or PARK on automatic transmissions. Momentarily install a 30 A fused jumper wire between the B+ circuit terminal 30 and the control circuit terminal 87. Verify the starter is activated.
   - If the starter does not activate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the starter.
7. Connect a test lamp between the control circuit terminal 85 and the ground circuit terminal 86.
8. With the transmission range selector in park/neutral, or the clutch pedal fully applied, place the ignition switch between the OFF and CRANK position. The test lamp should turn ON and OFF when changing between the commanded states.
   - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the K20 ECM.
   - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K20 ECM.

cardiagn.com

9. If all circuits test normal, test or replace the starter relay.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Manual Shift Shaft Position Switch Replacement**
- **Relay Replacement (Attached to Wire Harness)** or **Relay Replacement (Within an Electrical Center)**
- **Control Module References** for ECM replacement, setup, and programming

STARTER SOLENOID CLICKS, ENGINE DOES NOT CRANK

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Starting System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

cardiagn.com

1. Ignition OFF, measure and record the battery voltage at the battery terminals. The voltage should be between 12.0-15.0 V.
    - If not within the specified range, refer to **Battery Charging**.
2. Remove the drive belts. Refer to **Drive Belt Tensioner Replacement** , **Drive Belt Replacement** for the LLT engine, **Drive Belt Tensioner Replacement - Accessory** or **Drive Belt Replacement - Accessory** for the L99/LS3 engines.
3. Place the S39 ignition switch to the CRANK position.
    - If the engine cranks, inspect the engine and belt drive system for mechanical binding, seized engine, or seized generator, etc.
    - If the engine does not crank, refer to **Engine Will Not Crank - Crankshaft Will Not Rotate** for the LLT engine or **Engine Will Not Crank - Crankshaft Will Not Rotate** for the LS3 engine.
4. Test for less than 0.5 V between the positive battery cable and terminal A X2 at the M64 starter motor as the ignition switch is placed to the START position.
    - If greater than the specified value, replace the positive battery cable.
5. Test for less than 0.5 V between the negative battery cable and the starter motor case as the ignition switch is placed to the START position.
    - If greater than the specified value, replace the negative battery cable.
6. If all circuits test normal, replace the M64 starter motor.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Battery Positive Cable Replacement**
- **Battery Negative Cable Replacement**
- **Starter Replacement (LLT)** or **Starter Replacement (LS3/L99)**

ENGINE CRANKS SLOWLY

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Reference Information

Schematic Reference

Starting and Charging Schematics

Connector End View Reference

Component Connector End Views

cardiagn.com

Description and Operation

Starting System Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition OFF, measure and record the battery voltage at the battery terminals. The voltage should be between 12.0-15.0 V.
    - If not within the specified range, refer to **Battery Charging**.
2. Remove the drive belts. Refer to **Drive Belt Tensioner Replacement** , **Drive Belt Replacement** for the LLT engine, **Drive Belt Tensioner Replacement - Accessory** or **Drive Belt Replacement - Accessory** for the L99/L53 engines.
3. Place the S39 ignition switch to the CRANK position.
    - If the engine cranks normal, inspect the engine and belt drive system for mechanical binding, seized engine, or seized generator, etc.
4. Test for less than 0.5 V between the positive battery cable and terminal A X2 at the M64 starter motor as the S39 ignition switch is placed to the CRANK position.
    - If greater than the specified value, replace the positive battery cable.
5. Test for less than 0.5 V between the negative battery cable and the starter motor case as the S39 ignition switch is placed to the CRANK position.
    - If greater than the specified value, replace the negative battery cable.
6. If all circuits test normal, replace the M64 starter motor.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Battery Positive Cable Replacement**
- **Battery Negative Cable Replacement**
- **Starter Replacement (LLT)** or **Starter Replacement (LS3/L99)**

STARTER NOISE DIAGNOSIS

cardiagn.com

Circuit/System Testing

1. Remove the flywheel inspection cover.
2. Inspect the flywheel for the following:
    - Loose flywheel bolts
    - Chipped gear teeth
    - Missing gear teeth
    - Bent flywheel

- If not within specifications, secure the flywheel bolts or replace the flywheel.
- If all inspections were within specification, replace the starter motor.

Repair Procedures

- **Fastener Tightening Specifications** for the 2.8L, 3.0L, 3.2L, or 3.6L engines
- **Fastener Tightening Specifications (6.2L LS3)** or **Fastener Tightening Specifications (6.2L L99)** for the 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L engines
- **Engine Flywheel Removal** for the 2.8L, 3.0L, 3.2L, or 3.6L engines
- **Engine Flywheel Replacement** for the 4.8L, 5.3L, 6.0L, 6.2L, or 7.0L engines
- **Starter Replacement (LLT)** or **Starter Replacement (LS3/L99)**

REPAIR INSTRUCTIONS

BATTERY NEGATIVE CABLE DISCONNECTION AND

cardiagn.com

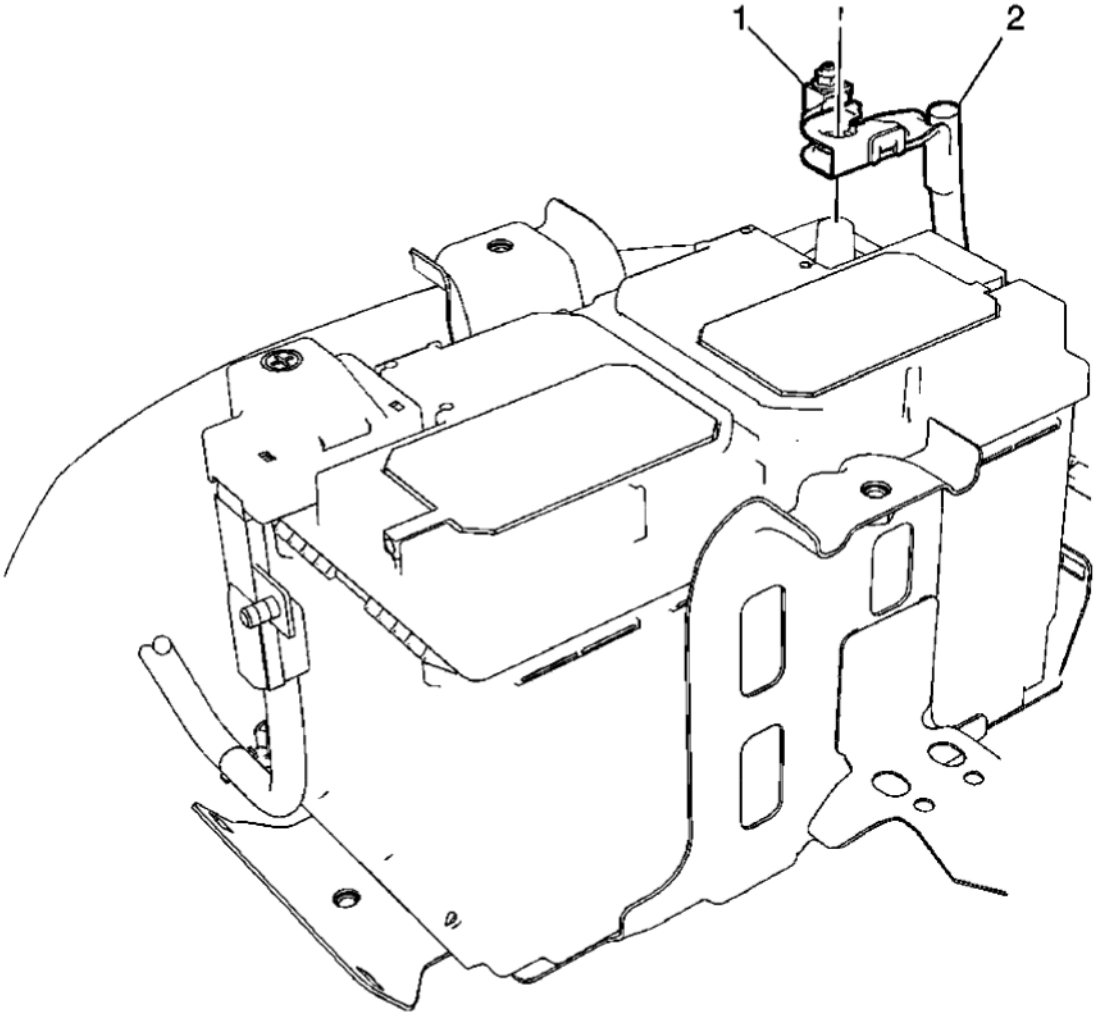


Fig. 3: Battery Negative Cable Connection
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
WARNING: **Unless directed otherwise, the ignition and start switch must be in the OFF or LOCK position, and all electrical loads must be OFF before servicing any electrical component. Disconnect the negative battery cable to prevent an electrical spark should a tool or equipment come in contact with an exposed electrical terminal. Failure to follow these precautions may result in personal injury and/or damage to the vehicle or its components.** **For Vehicles equipped with OnStar® (UE1) with Back Up Battery:** **The Back Up Battery is a redundant power supply to allow limited OnStar® functionality in the event of a main vehicle battery power disruption to the VCIM (OnStar®module). Do not disconnect the main vehicle battery or remove the OnStar® fuse with the ignition key in any position other than OFF. Retained accessory power (RAP) should be allowed to time out or be disabled (simply opening the driver door should disable RAP) before disconnecting power. Disconnecting power to the OnStar® module in any way while the ignition is On or with RAP activated may cause activation of the OnStar® Back-Up Battery (BUB) system and will discharge and permanently damage the back-up**	

cardiagn.com

battery. Once the Back-Up Battery is activated it will stay on until it has completely discharged. The BUB is not rechargeable and once activated the BUB must be replaced.

Preliminary Procedure

1. Turn all lamps and accessories OFF.
2. Turn the Ignition to the OFF position.
3. Remove the spare tire and air compressor (P43),if equipped.

1	Negative Terminal Nut **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 15 N.m (11 lb ft)
2	Negative Battery Cable

BATTERY NEGATIVE CABLE REPLACEMENT

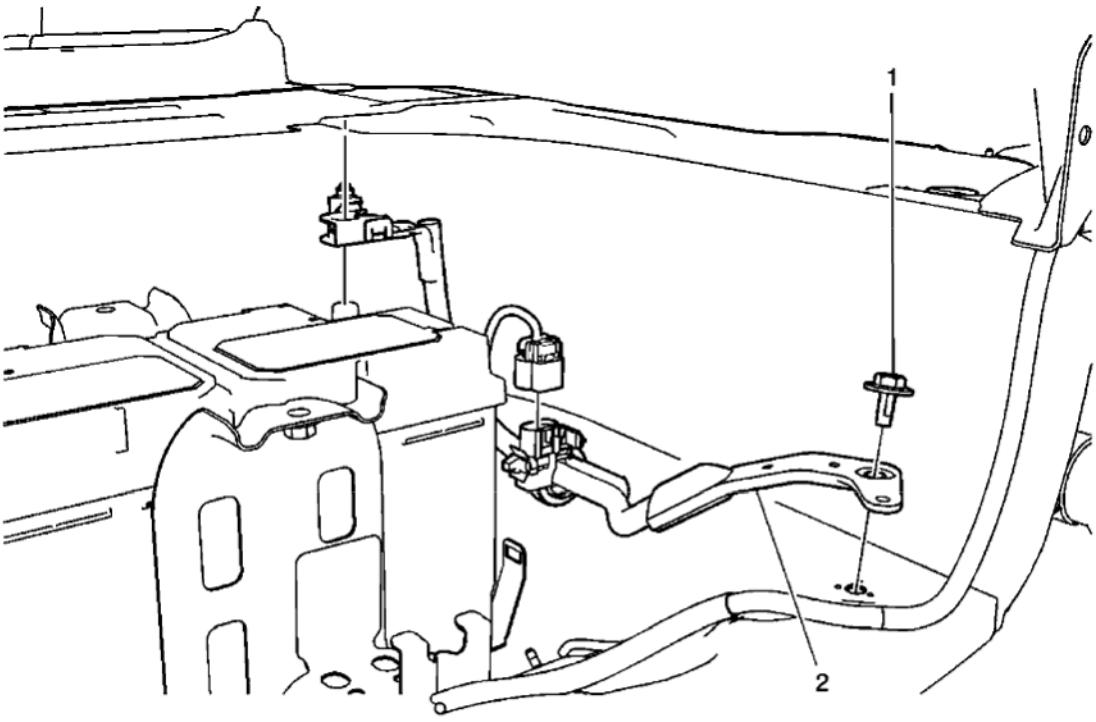


Fig. 4: Battery Negative Cable
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
WARNING:	

cardiagn.com

Unless directed otherwise, the ignition and start switch must be in the OFF or LOCK position, and all electrical loads must be OFF before servicing any electrical component. Disconnect the negative battery cable to prevent an electrical spark should a tool or equipment come in contact with an exposed electrical terminal. Failure to follow these precautions may result in personal injury and/or damage to the vehicle or its components.
For Vehicles equipped with OnStar® (UE1) with Back Up Battery:
The Back Up Battery is a redundant power supply to allow limited OnStar® functionality in the event of a main vehicle battery power disruption to the VCIM (OnStar®module). Do not disconnect the main vehicle battery or remove the OnStar® fuse with the ignition key in any position other than OFF. Retained accessory power (RAP) should be allowed to time out or be disabled (simply opening the driver door should disable RAP) before disconnecting power. Disconnecting power to the OnStar® module in any way while the ignition is On or with RAP activated may cause activation of the OnStar® Back-Up Battery (BUB) system and will discharge and permanently damage the back-up battery. Once the Back-Up Battery is activated it will stay on until it has completely discharged. The BUB is not rechargeable and once activated the BUB must be replaced.

Preliminary Procedures

1. Turn all lamps and accessories OFF.
2. Turn the Ignition to the OFF position.
3. Remove the spare tire and air compressor (P43),if equipped.
4. Disconnect the negative battery terminal. Refer to **Battery Negative Cable Disconnection and Connection**.

1	Negative Terminal Bolt **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 25 N.m (18 lb ft)
2	Negative Battery Cable

BATTERY POSITIVE CABLE REPLACEMENT

Removal Procedure

1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**.

cardiagn.com

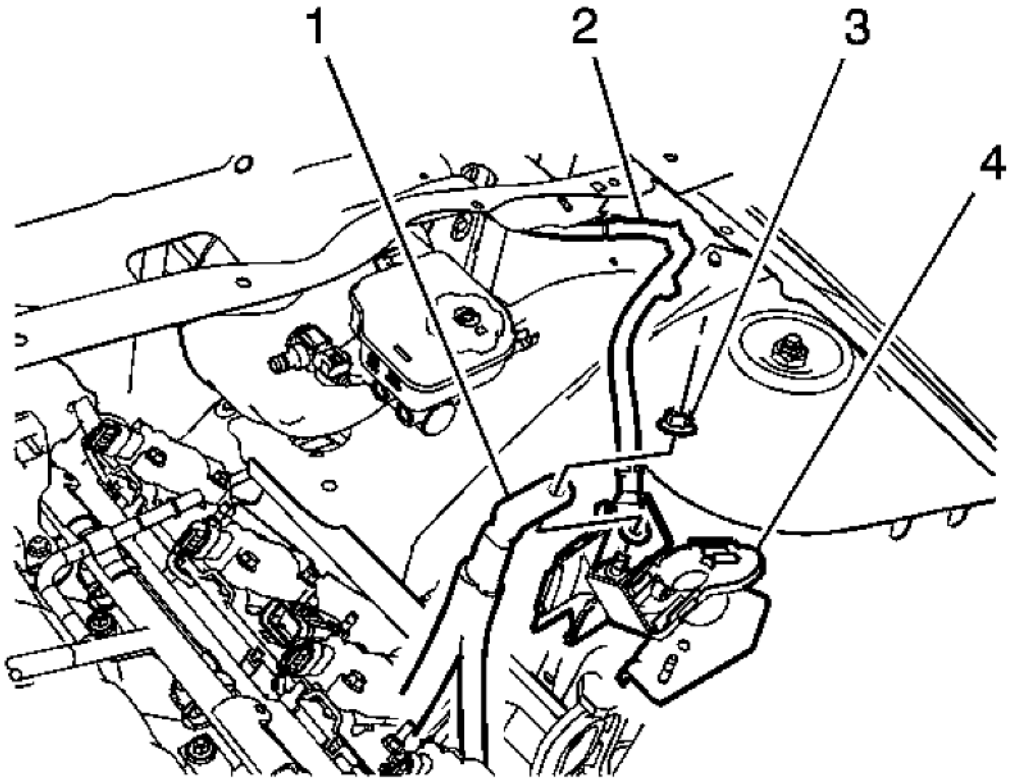


Fig. 5: Battery Positive Cable Components
Courtesy of GENERAL MOTORS CORP.

2. Remove the junction block cover (4).
3. Remove the junction block nut (3).
4. Remove the positive battery to starter cable from the junction block terminal (1).
5. Remove the positive battery cable (2).
6. Disengage all remaining cable retainers under the hood.
7. Remove the floor console. Refer to **Front Floor Console Replacement** .
8. Remove rear seat lower cushion. Refer to **Rear Seat Cushion Replacement** .
9. Remove left side quarter trim panel. Refer to **Quarter Trim Panel Replacement** .
10. Reposition rear compartment side trim panel as required.

cardiagn.com

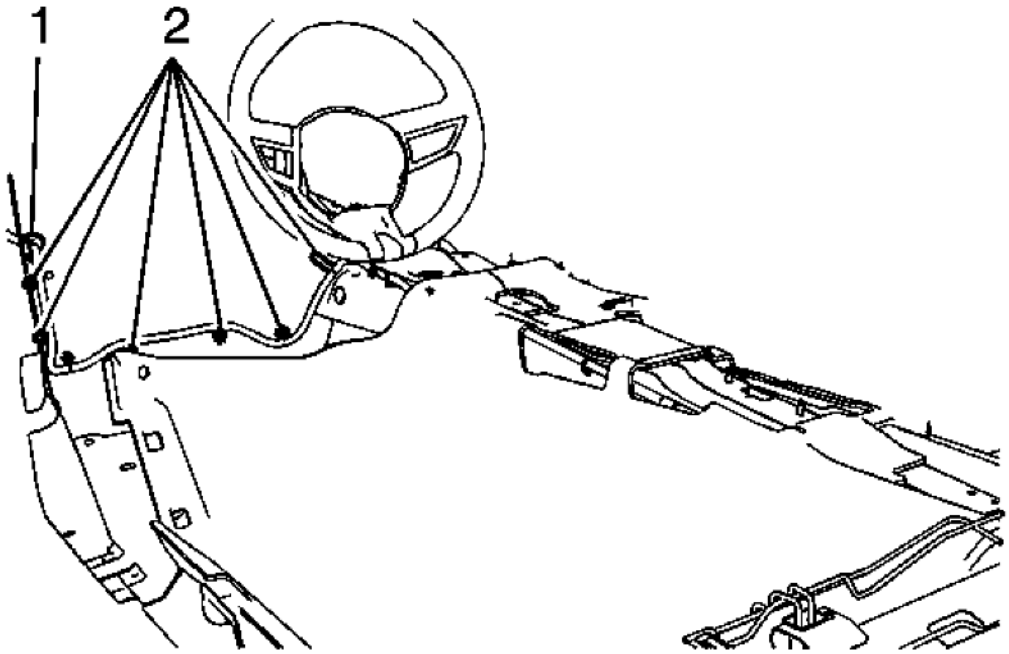


Fig. 6: Pass-Through Grommet & Cable Retainers
Courtesy of GENERAL MOTORS CORP.

11. Disconnect the pass-through grommet (1) from the floor plenum.
12. Disconnect cable retainers (2) from the floor plenum.

cardiagn.com

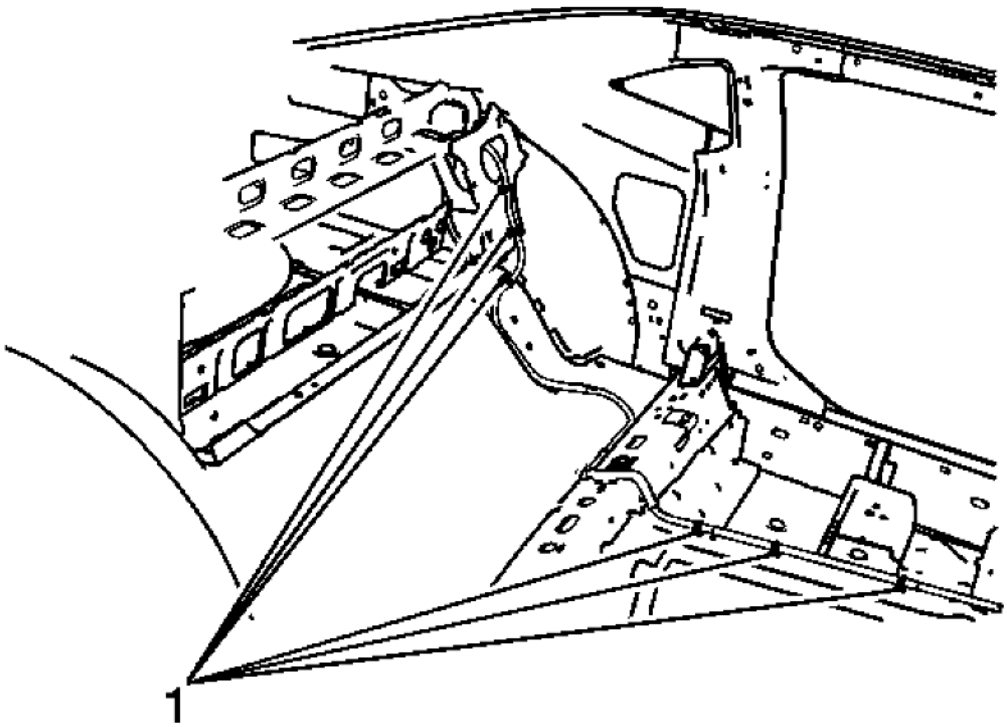


Fig. 7: Retainers
Courtesy of GENERAL MOTORS CORP.

13. Working through the openings in the floor carpet, disconnect all remaining retainers (1).
14. Pull the battery positive cable through the carpet. Note the cable routing for installation purposes.

cardiagn.com

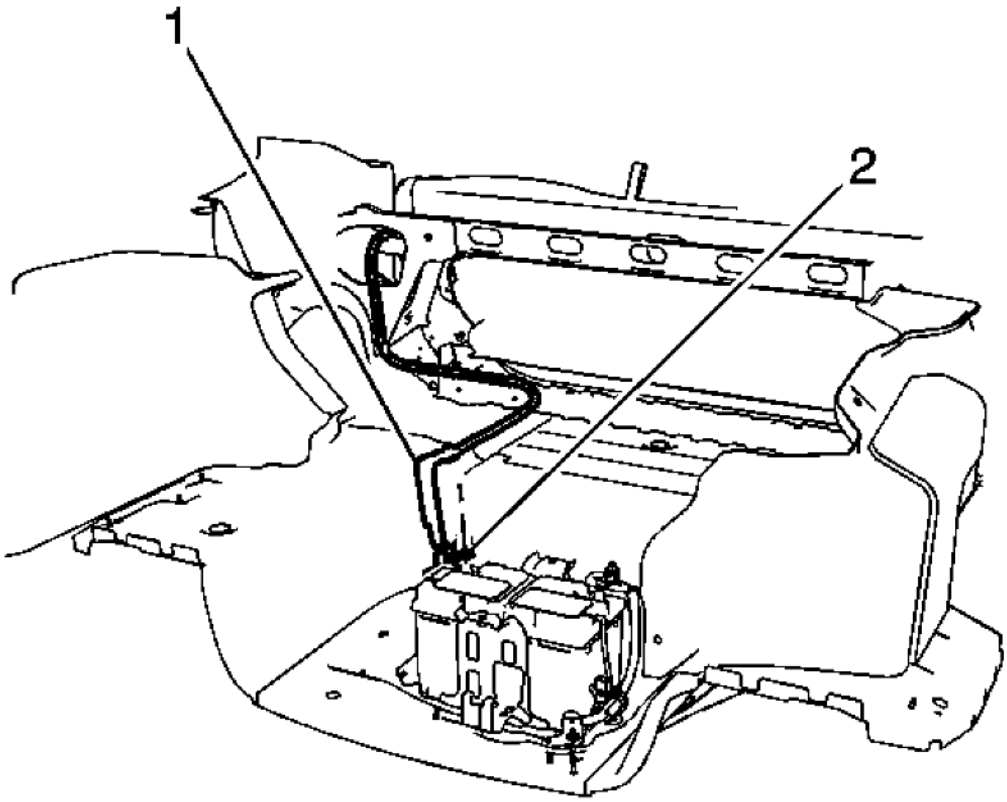


Fig. 8: Battery Positive Cable & Terminal Nut
Courtesy of GENERAL MOTORS CORP.

15. Loosen the battery terminal nut (2).
16. Open the positive battery cable terminal cover.
17. Remove the battery positive terminal.
18. Pull the positive battery cable (1) from the passenger compartment into the trunk area.

Installation Procedure

cardiagn.com

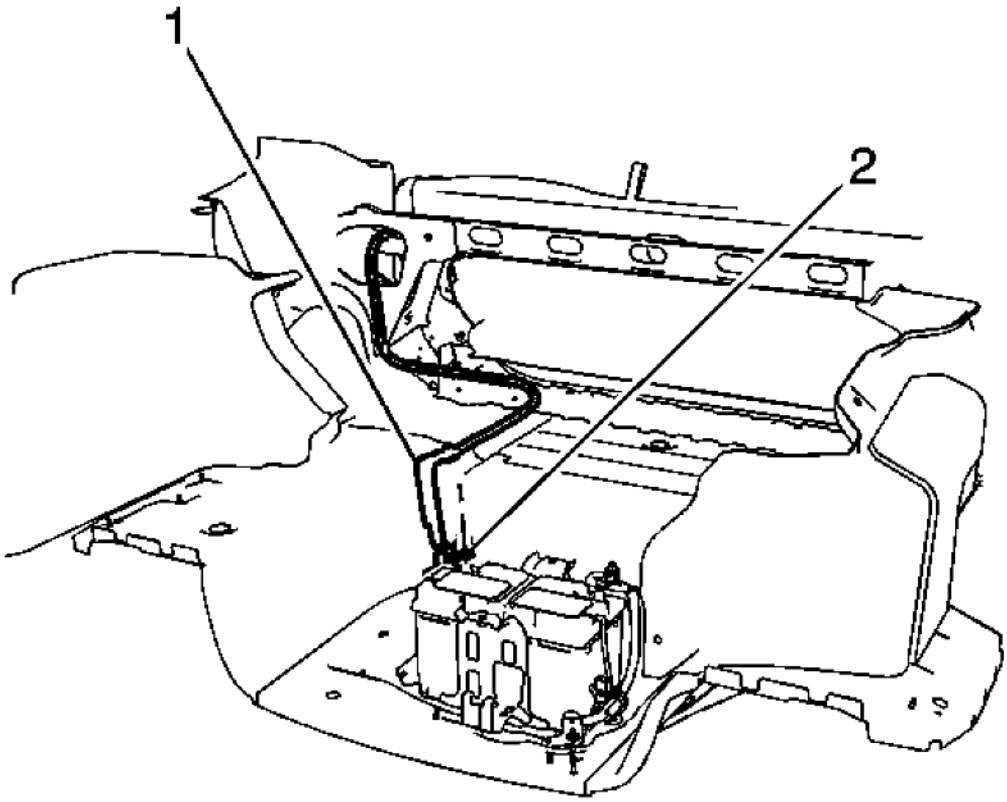


Fig. 9: Battery Positive Cable & Terminal Nut
Courtesy of GENERAL MOTORS CORP.

CAUTION: Refer to Fastener Caution .

1. Install the battery positive cable (1) to the battery post and tighten battery positive cable nut (2) to 5.5 N.m (4 lb ft).
2. Attach battery positive cable retainers to rear compartment and route cable through rear seat back body panel into rear passenger compartment.
3. Attach battery positive cable retainers along left rear quarter trim area and in front of rear seat.

cardiagn.com

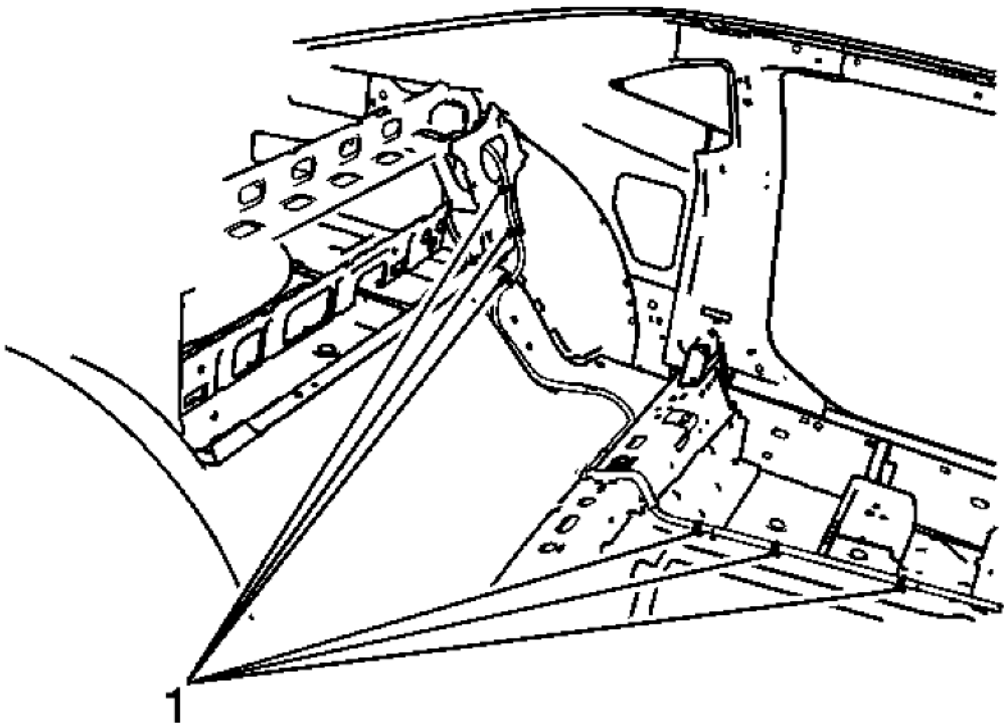


Fig. 10: Retainers
Courtesy of GENERAL MOTORS CORP.

4. Route battery positive cable under floor carpet and attach retainers along the left side of floor console (1).
5. Install the pass-through grommet and fasten battery positive cable retainers to lower floor plenum.
6. Install left side quarter trim panel. Refer to **Quarter Trim Panel Replacement** .
7. Install rear seat lower cushion. Refer to **Rear Seat Cushion Replacement** .
8. Install the floor console. Refer to **Front Floor Console Replacement** .

cardiagn.com

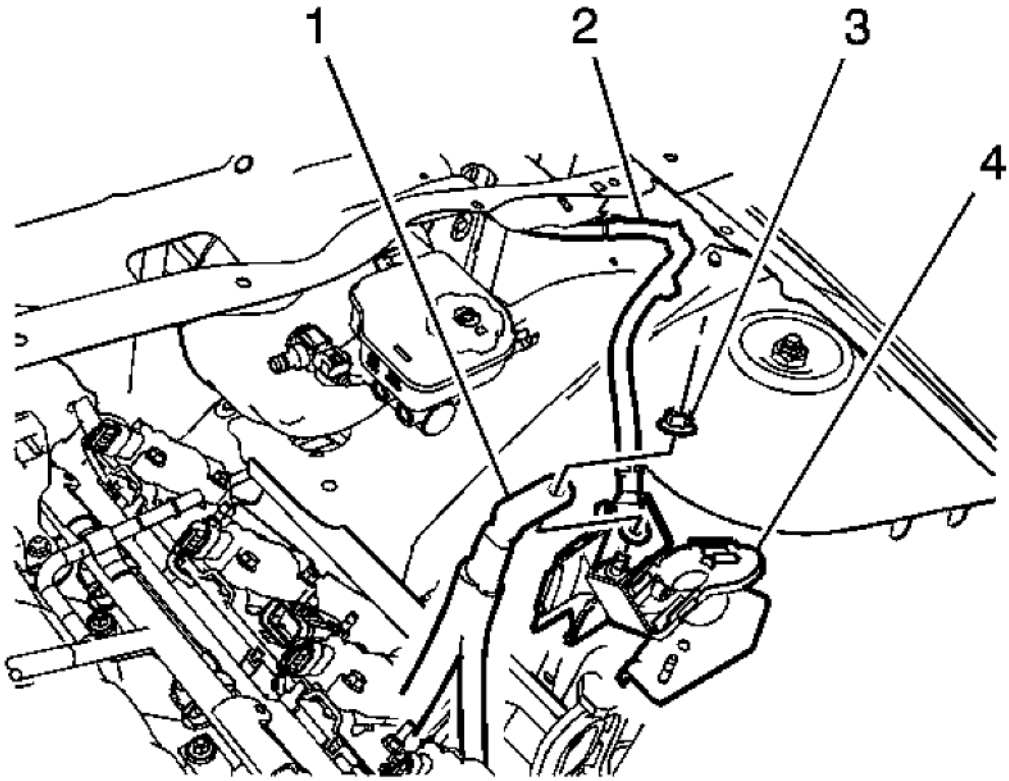


Fig. 11: Battery Positive Cable Components
Courtesy of GENERAL MOTORS CORP.

9. Route battery positive cable (2) along engine compartment and attach remaining fasteners.
10. Install battery positive cable to the junction block terminal.
11. Install the battery positive starter cable (1) to the junction block terminal and tighten nut (3) to 15 N.m (11 lb ft).
12. Attach the positive battery cable terminal cover (4).
13. Connect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**.

ENGINE WIRING AND BATTERY POSITIVE CABLE HARNESS REPLACEMENT (L99,LS3)

Removal Procedure

1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**.

cardiagn.com

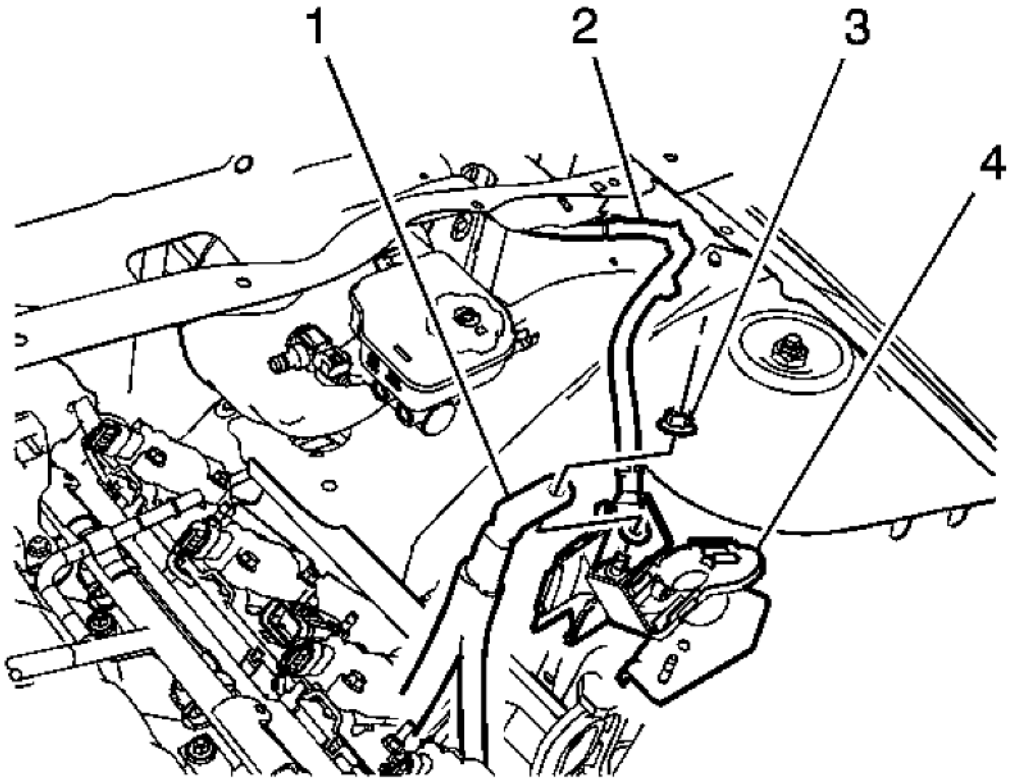


Fig. 12: Battery Positive Cable Components
Courtesy of GENERAL MOTORS CORP.

2. Remove the junction block cover (4).
3. Remove the junction block nut (3).
4. Remove the engine harness and the battery positive cable terminal from the junction block terminal (1).
5. Remove the engine harness and the battery positive cable (2).

cardiagn.com

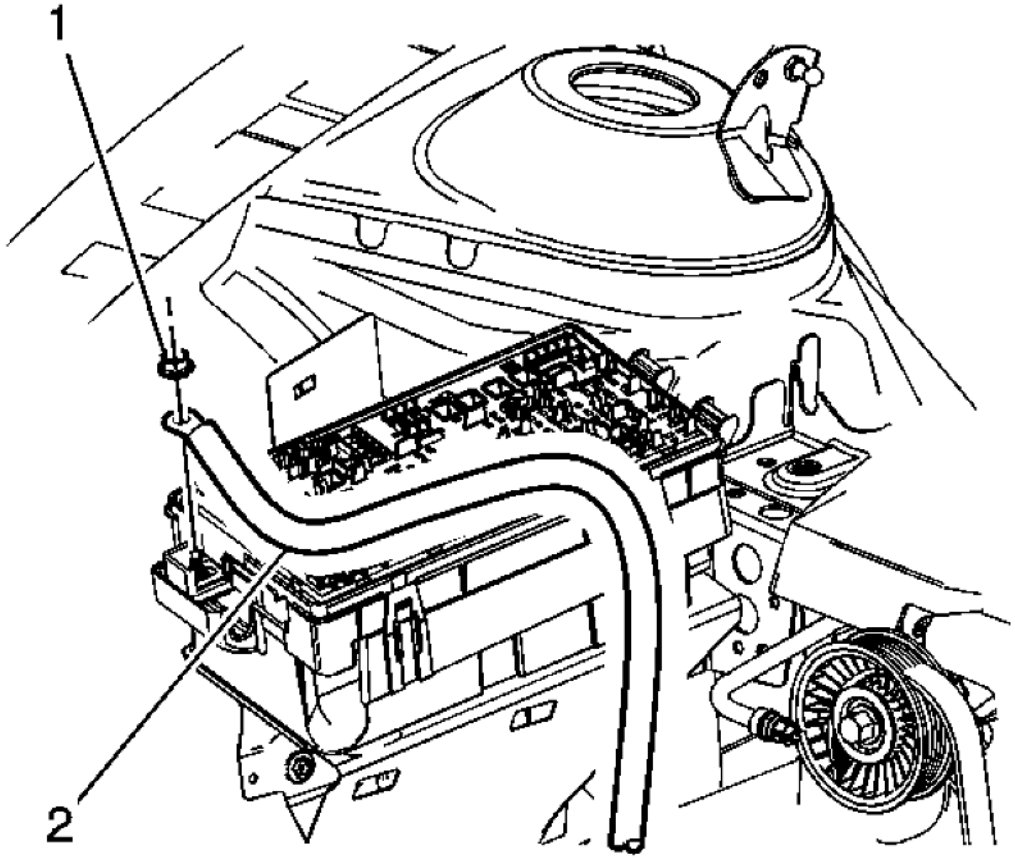


Fig. 13: Battery Positive Cable Terminal & Junction Nut
Courtesy of GENERAL MOTORS CORP.

6. Remove the battery positive cable terminal (2) and the junction nut (1), from the fuse block.

cardiagn.com

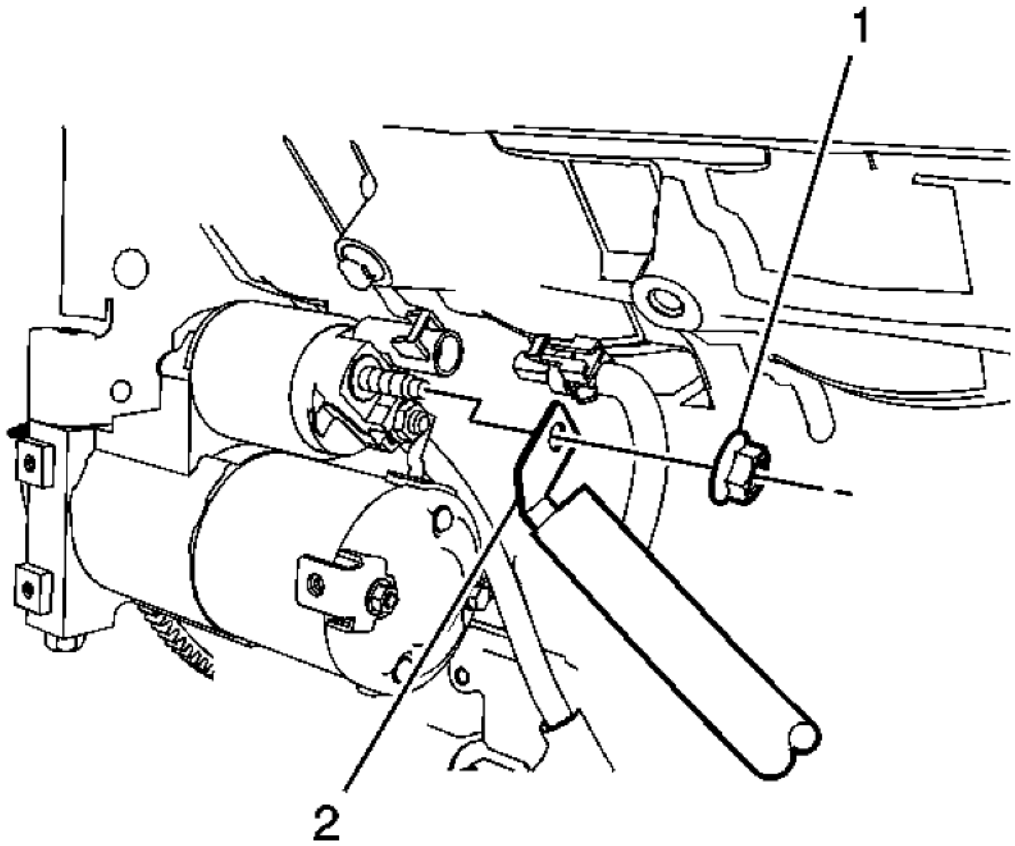


Fig. 14: Battery Positive Cable Nut & Terminal
Courtesy of GENERAL MOTORS CORP.

7. Remove the starter heat shield. Refer to **Starter Shield Replacement (LLT)** or **Starter Shield Replacement (LS3/L99)**.
8. Remove the battery positive cable nut (1) and the battery positive cable terminal (2), from the starter.

cardiagn.com

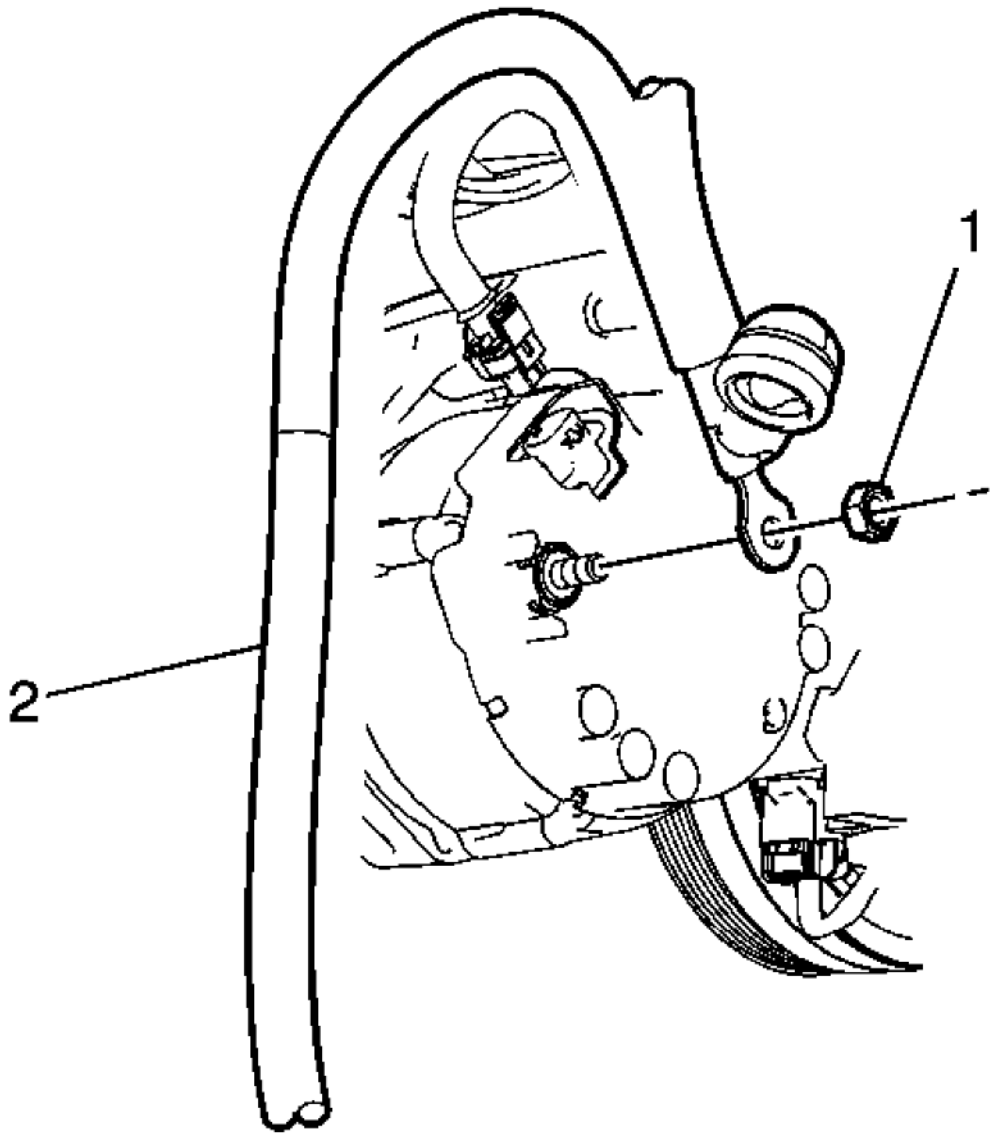


Fig. 15: Battery Positive Cable Generator Nut & Terminal
Courtesy of GENERAL MOTORS CORP.

9. Remove the battery positive cable generator nut (1) and the battery positive cable terminal (2), from the generator.

cardiagn.com

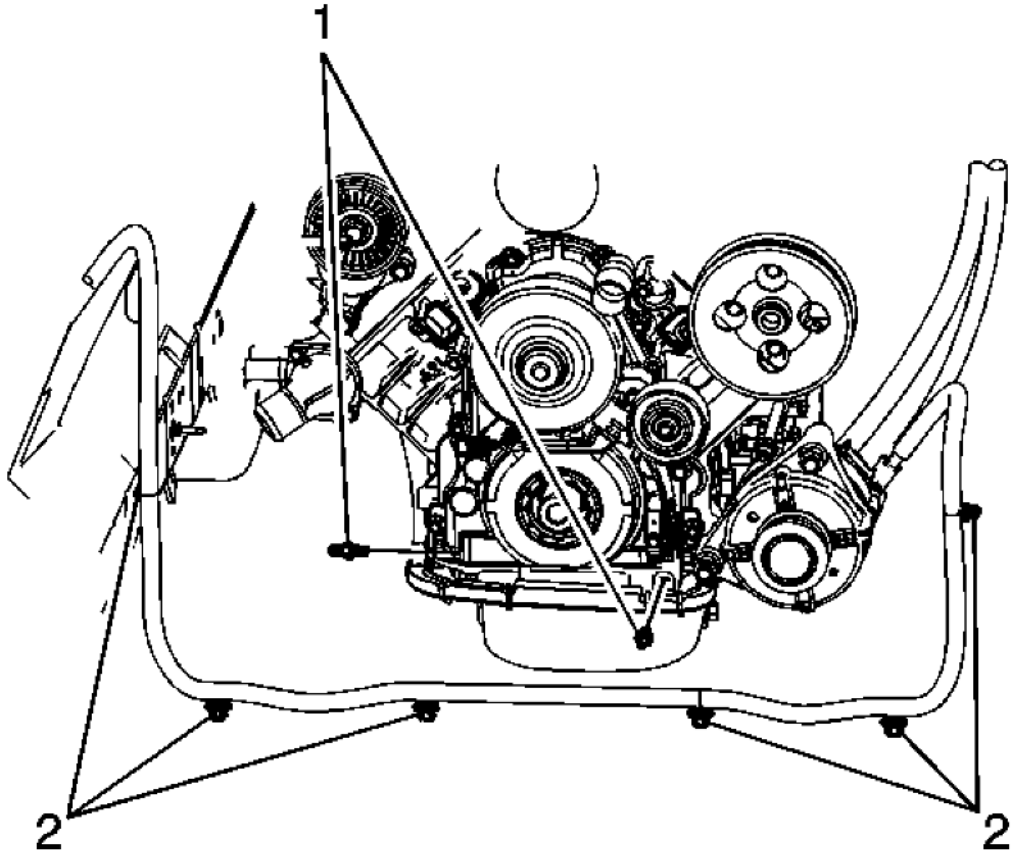


Fig. 16: Engine Harness Fasteners & Retainers
Courtesy of GENERAL MOTORS CORP.

10. Remove the nuts (1) retaining the engine harness to the oil pan.
11. Disconnect the remaining fasteners (2) that hold the harness to the frame.

NOTE: Visualize how the harness was routed within the engine compartment.

12. Remove the engine and battery positive cable harness from the engine compartment.

Installation Procedure

cardiagn.com

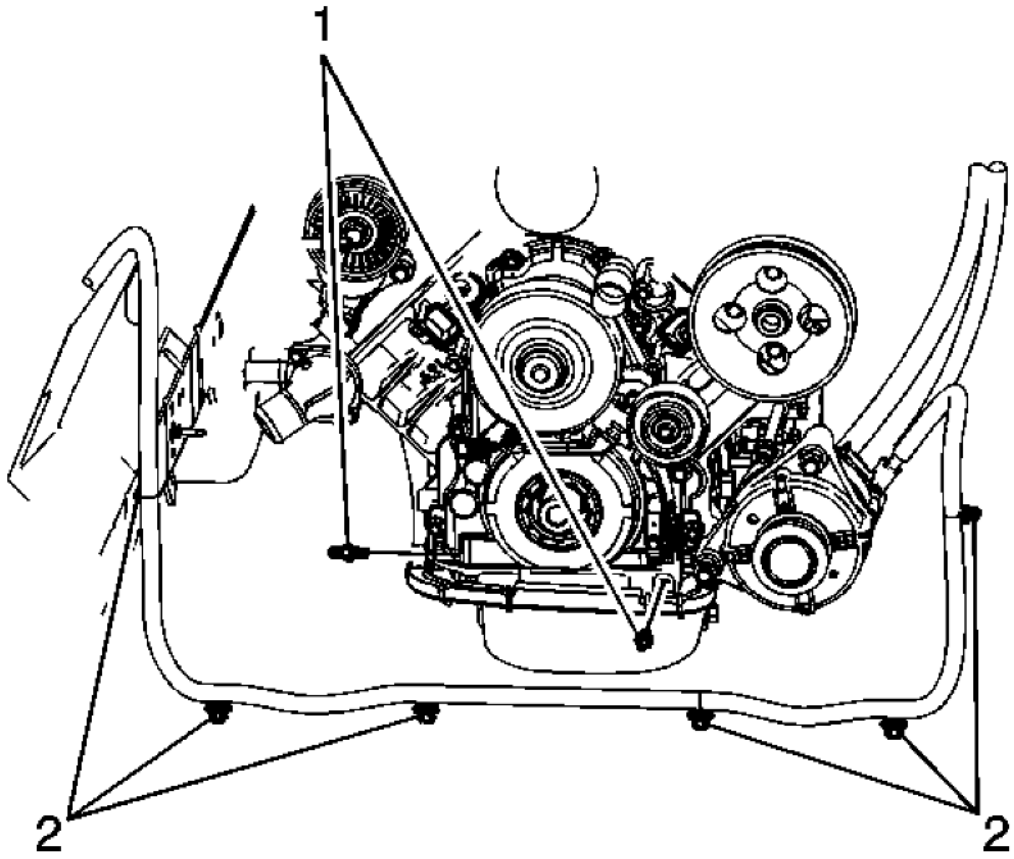


Fig. 17: Engine Harness Fasteners & Retainers
Courtesy of GENERAL MOTORS CORP.

CAUTION: Refer to Fastener Caution .

1. Fasten the engine harness and the battery positive cable to the engine compartment and tighten the harness retainers (1) to 12 N.m (9 lb ft).

cardiagn.com

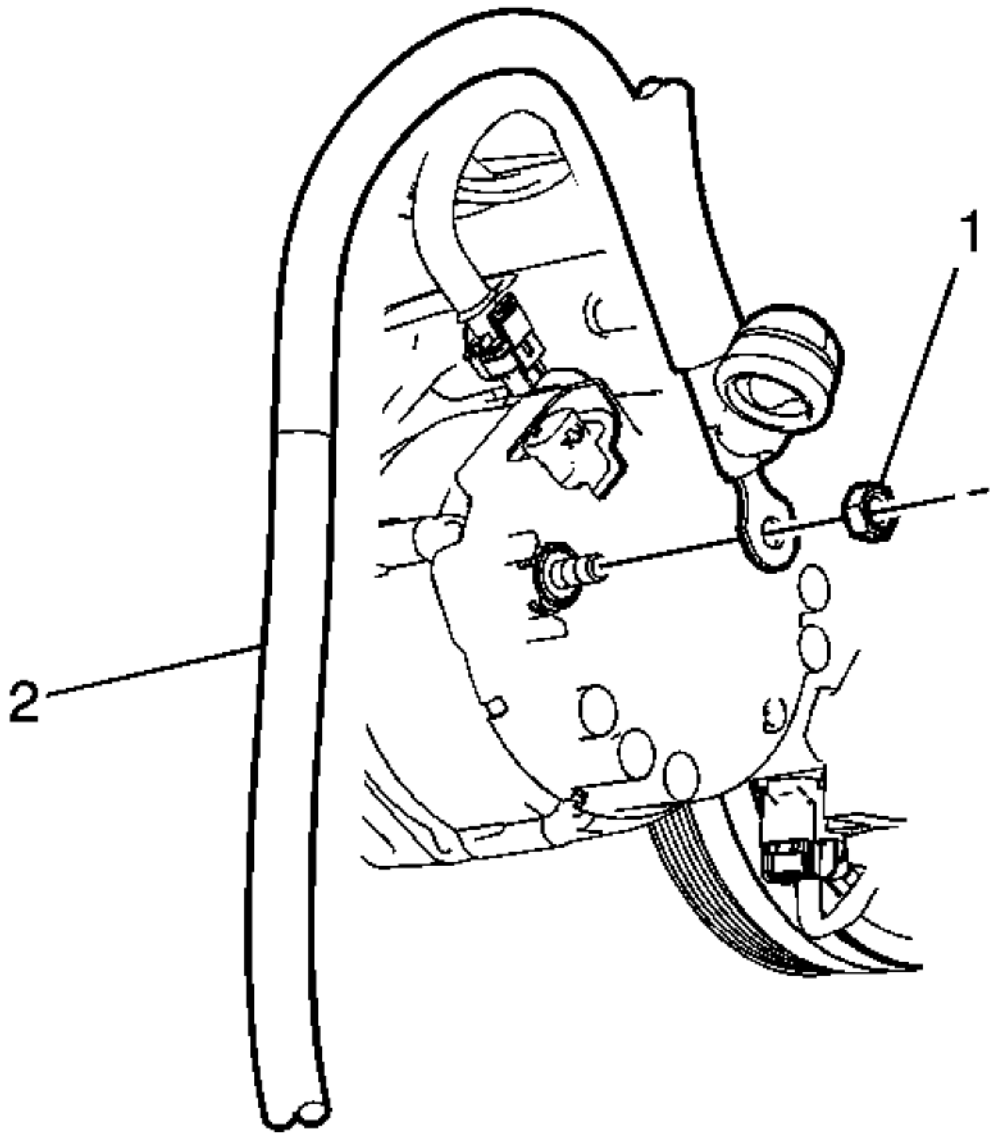


Fig. 18: Battery Positive Cable Generator Nut & Terminal
Courtesy of GENERAL MOTORS CORP.

2. Install the battery positive cable terminal (2) and the generator nut (1). Tighten to 15 N.m (11 lb ft).

cardiagn.com

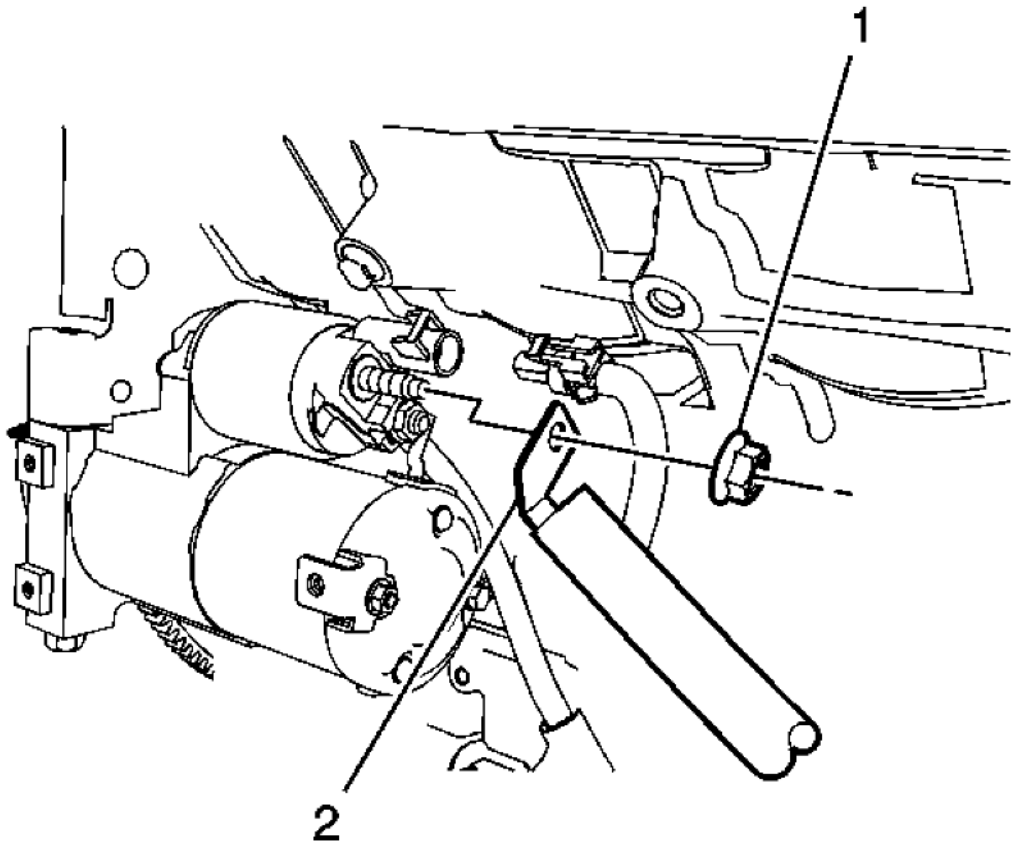


Fig. 19: Battery Positive Cable Nut & Terminal
Courtesy of GENERAL MOTORS CORP.

3. Install the battery positive cable terminal (2) and nut (1) to the starter. Tighten to 13 N.m (10 lb ft).

cardiagn.com

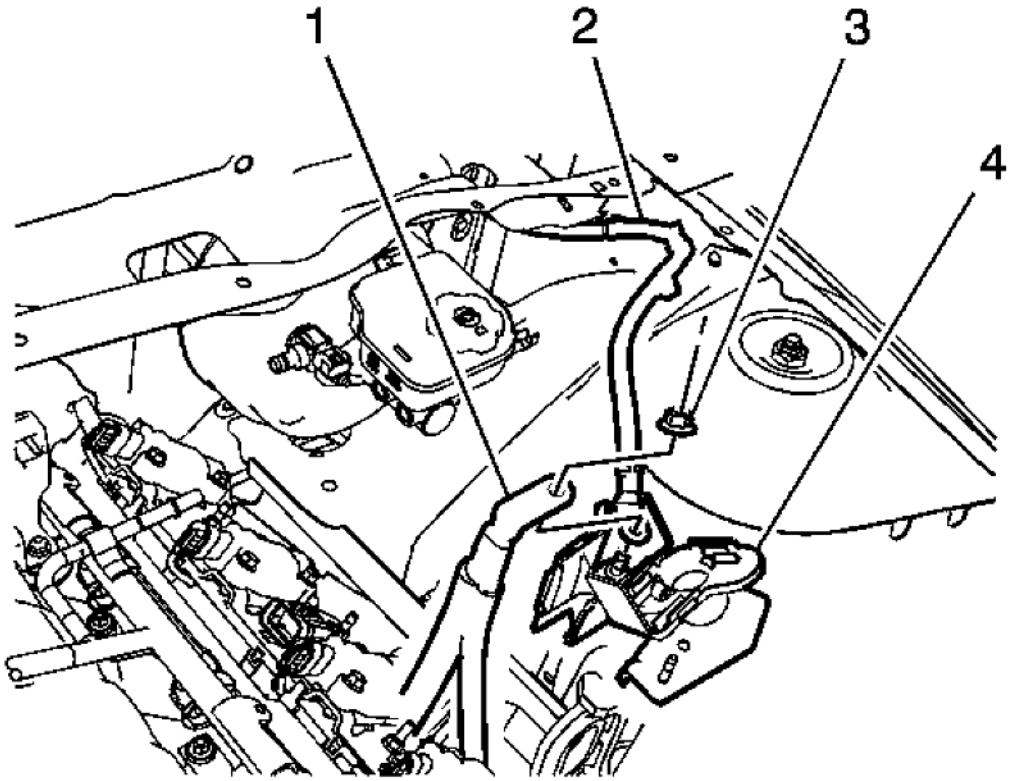


Fig. 20: Battery Positive Cable Components
Courtesy of GENERAL MOTORS CORP.

4. Install the engine harness and the battery positive cable terminal (1) to the junction block. Tighten the junction block nut (3) to 15 N.m (11 lb ft).

cardiagn.com

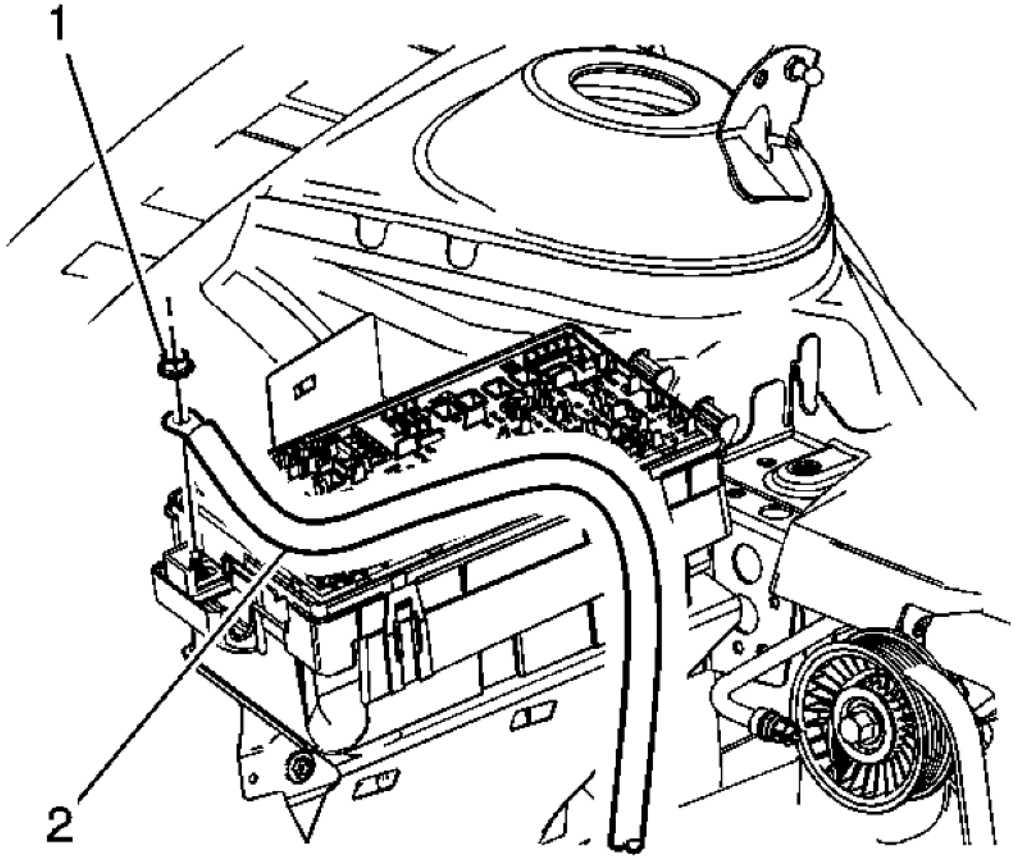


Fig. 21: Battery Positive Cable Terminal & Junction Nut
Courtesy of GENERAL MOTORS CORP.

5. Install the battery positive cable terminal (2) to the fuse block. Tighten the fuse block nut (1) to 15 N.m (11 lb ft).
6. Install the fuse block cover.
7. Connect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**.

ENGINE WIRING AND BATTERY POSITIVE CABLE HARNESS REPLACEMENT (LLT)

Removal Procedure

1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**.

cardiagn.com

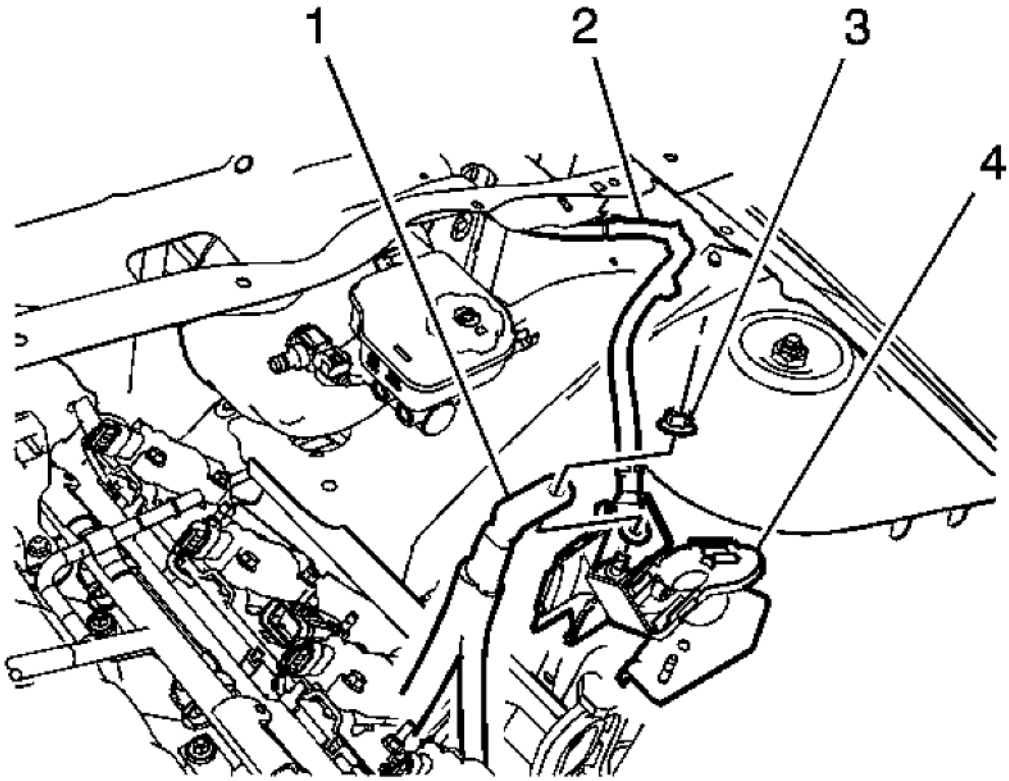


Fig. 22: Battery Positive Cable Components
Courtesy of GENERAL MOTORS CORP.

2. Remove the junction block cover (4).
3. Remove the junction block nut (3).
4. Remove the engine harness and the battery positive cable terminal from the junction block terminal (1).
5. Remove the engine harness and the battery positive cable (2).

cardiagn.com

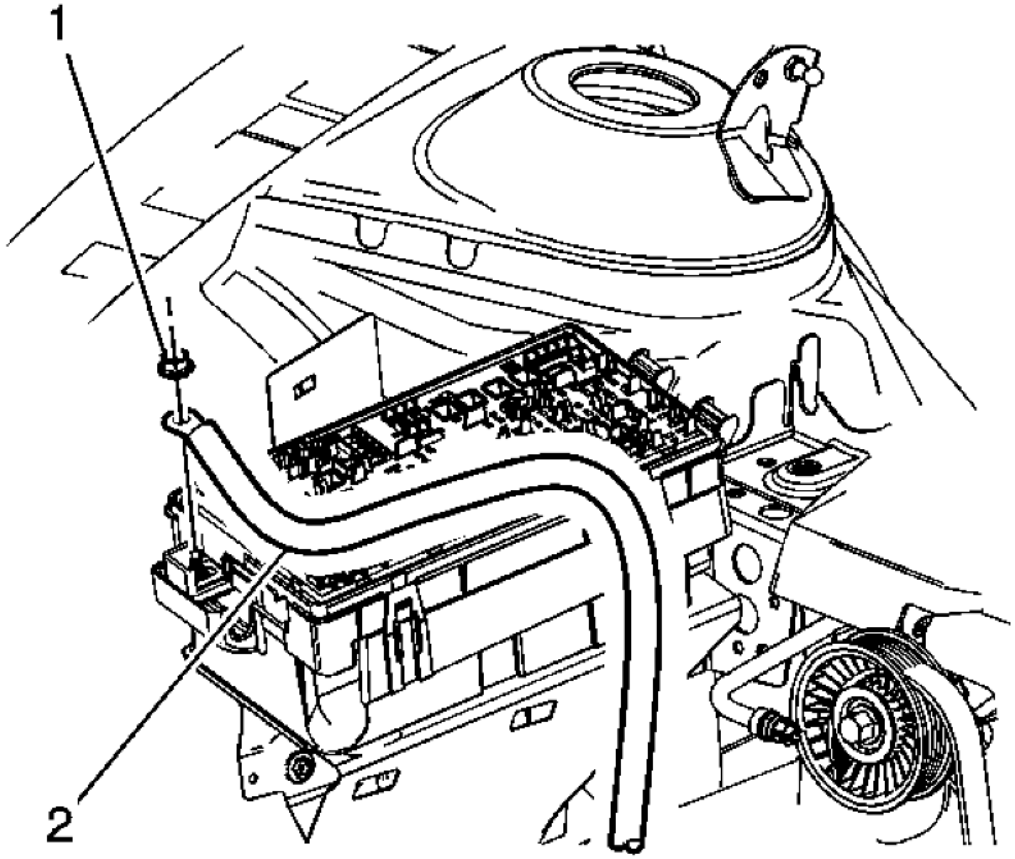


Fig. 23: Battery Positive Cable Terminal & Junction Nut
Courtesy of GENERAL MOTORS CORP.

6. Remove the battery positive cable terminal (2) and the junction nut (1), from the fuse block.

cardiagn.com

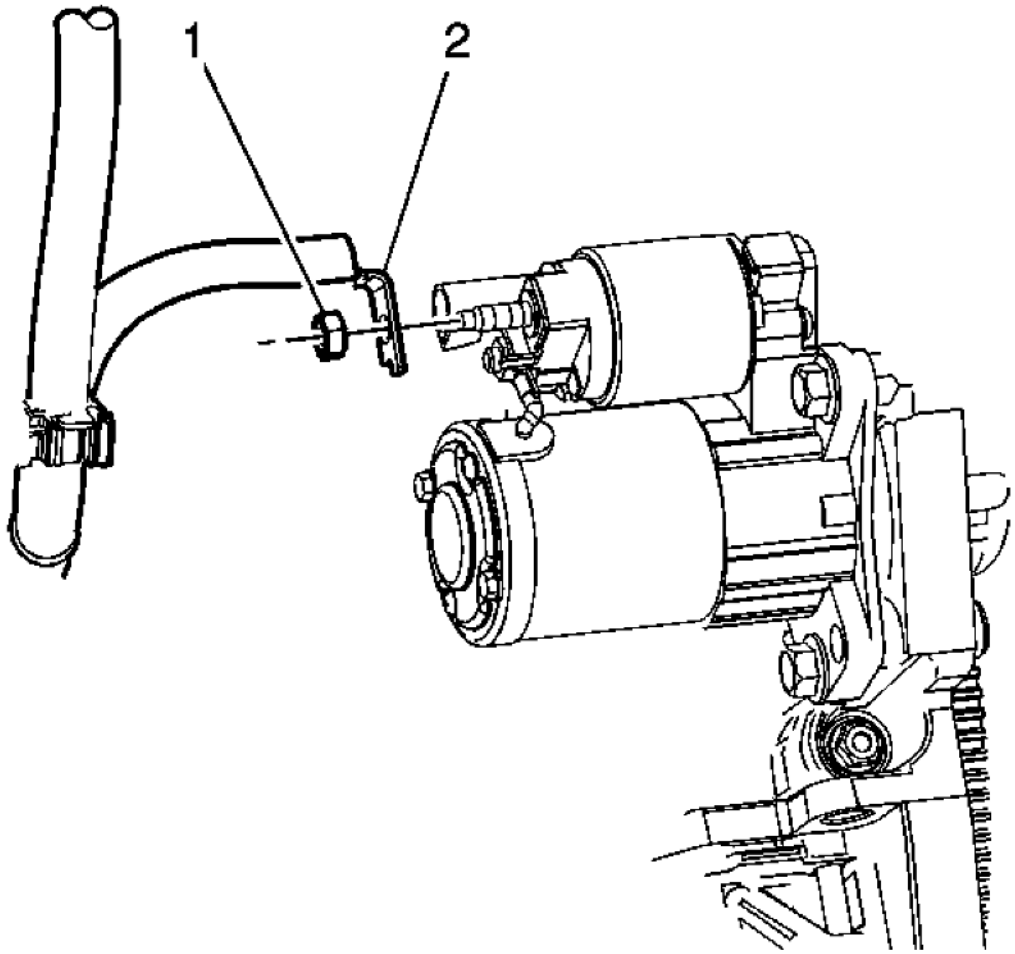


Fig. 24: Battery Positive Cable Nut & Terminal On Starter
Courtesy of GENERAL MOTORS CORP.

7. Remove the starter heat shield. Refer to **Starter Shield Replacement (LLT)** or **Starter Shield Replacement (LS3/L99)**.
8. Remove the battery positive cable nut (1) and the battery positive cable terminal (2), from the starter.

cardiagn.com

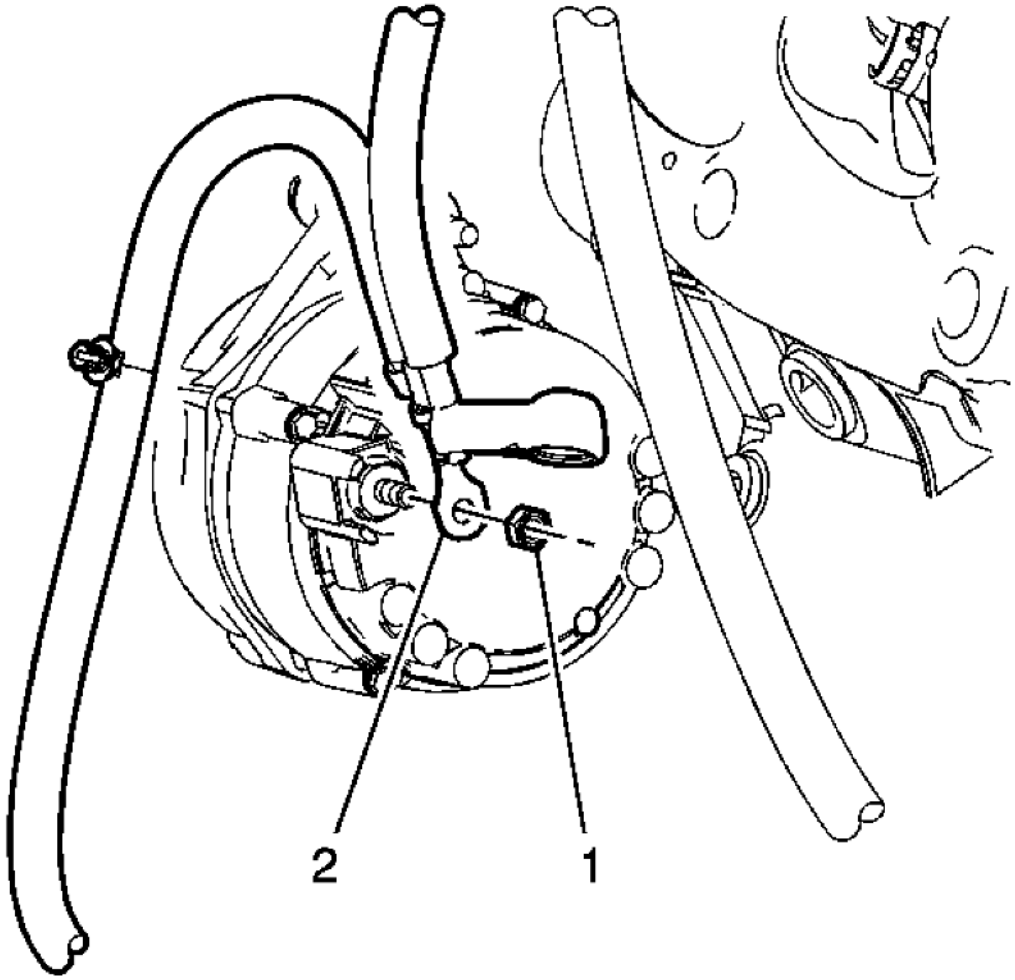


Fig. 25: Battery Positive Cable Generator Nut & Terminal On Generator
Courtesy of GENERAL MOTORS CORP.

9. Remove the battery positive cable generator nut (1) and the battery positive cable terminal (2), from the generator.

cardiagn.com

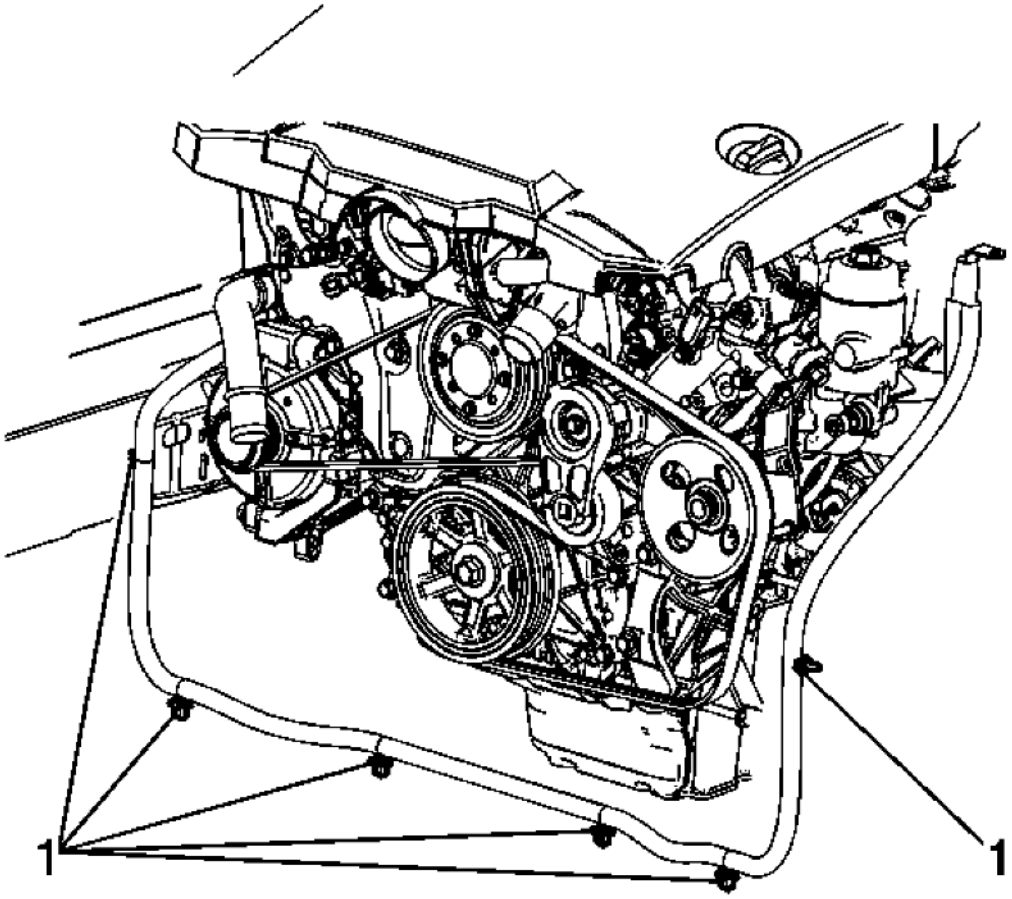


Fig. 26: Harness Fasteners On Frame
Courtesy of GENERAL MOTORS CORP.

10. Disconnect the fasteners (1) that hold the harness to the frame.

NOTE: Visualize how the harness was routed within the engine compartment.

11. Remove the engine and battery positive cable harness from the engine compartment.

Installation Procedure

cardiagn.com

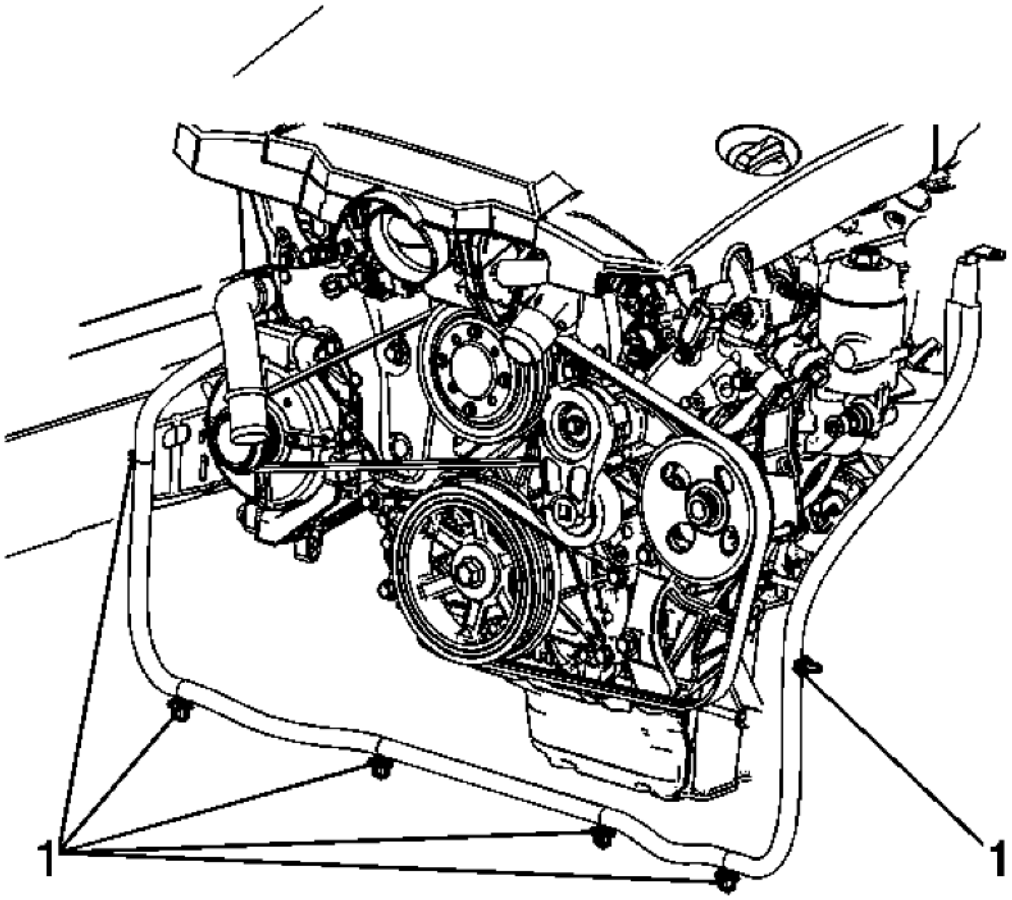


Fig. 27: Harness Fasteners On Frame
Courtesy of GENERAL MOTORS CORP.

CAUTION: Refer to Fastener Caution .

1. Fasten the engine harness and the battery positive cable to the engine compartment with the harness retainers (1).

cardiagn.com

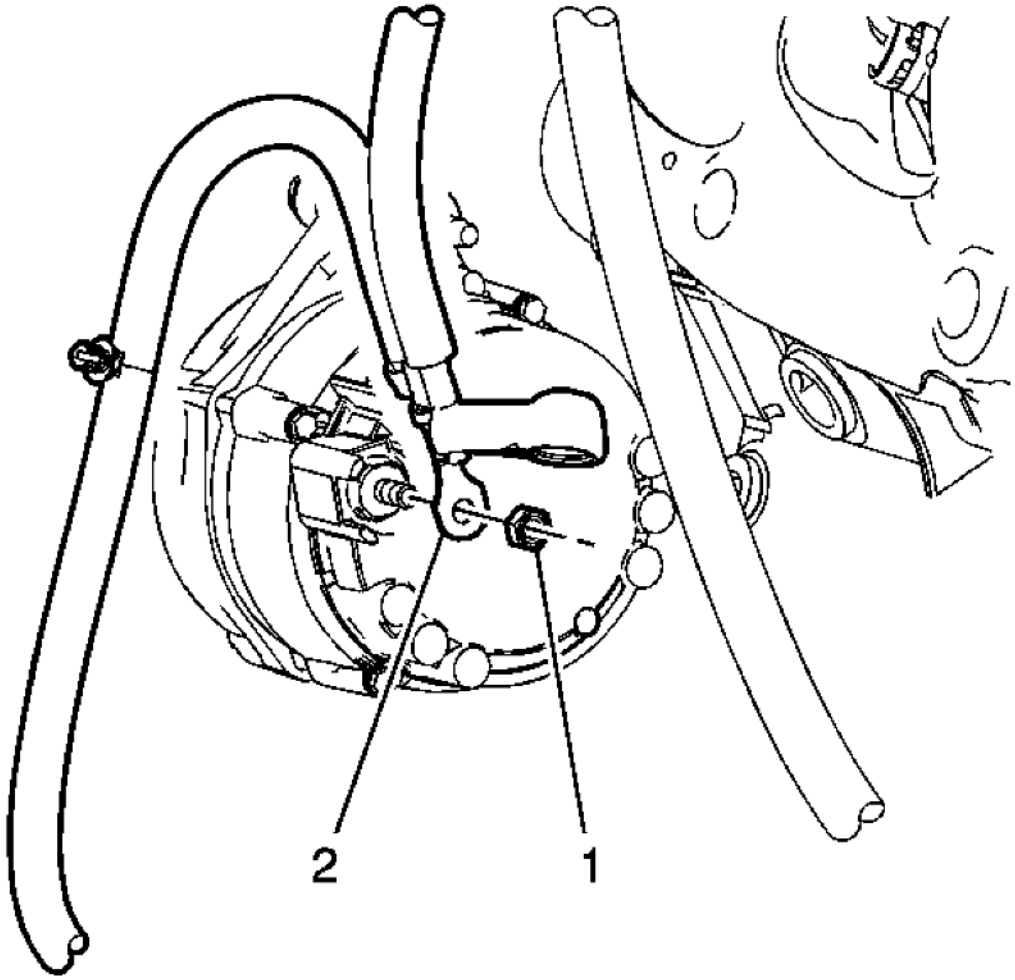


Fig. 28: Battery Positive Cable Generator Nut & Terminal On Generator
Courtesy of GENERAL MOTORS CORP.

2. Install the battery positive cable terminal (2) and the generator nut (1). Tighten to 15 N.m (11 lb ft).

cardiagn.com

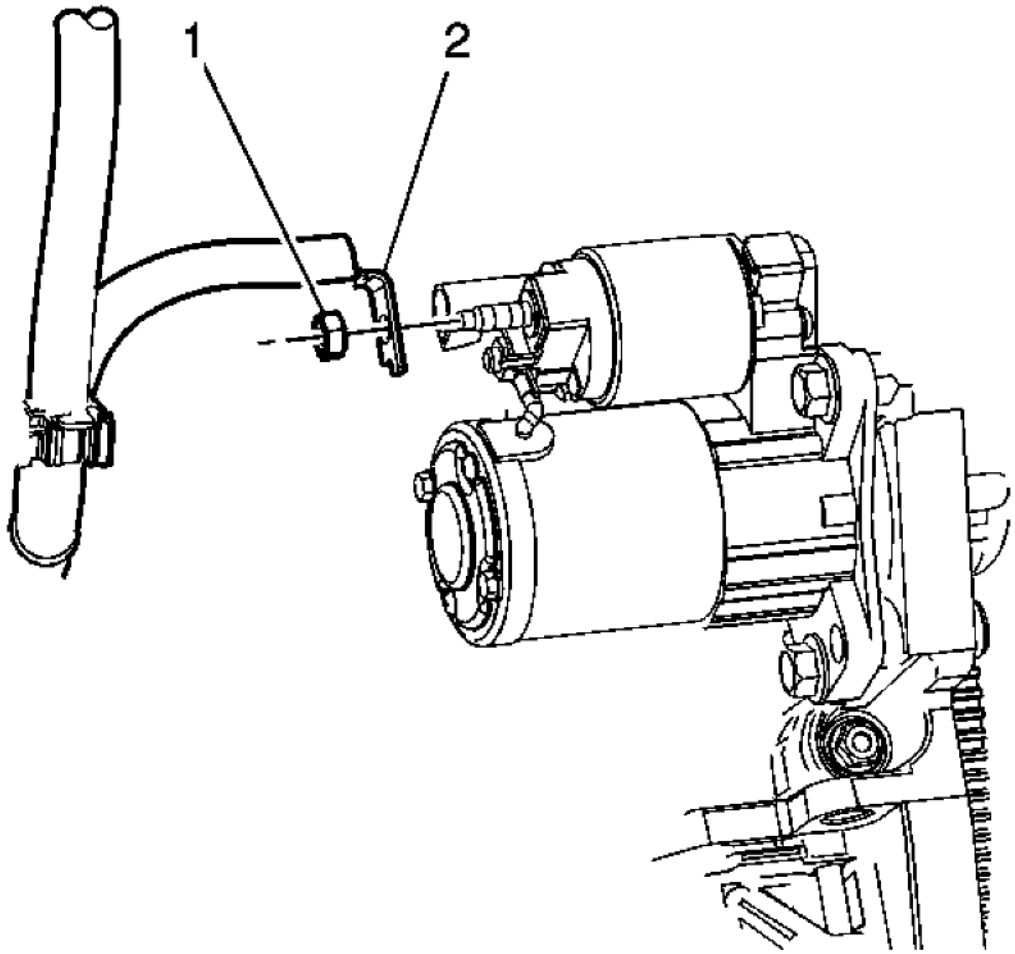


Fig. 29: Battery Positive Cable Nut & Terminal On Starter
Courtesy of GENERAL MOTORS CORP.

3. Install the battery positive cable terminal (2) and nut (1) to the starter. Tighten to 13 N.m (10 lb ft).

cardiagn.com

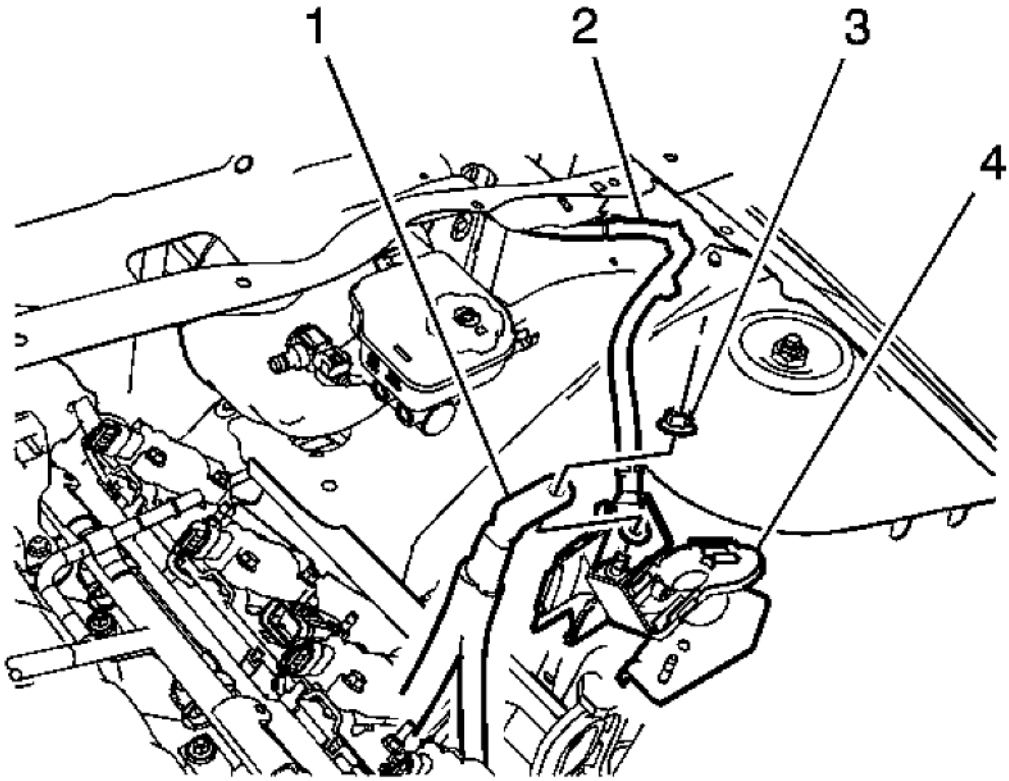


Fig. 30: Battery Positive Cable Components
Courtesy of GENERAL MOTORS CORP.

4. Install the engine harness and the battery positive cable terminal (1) to the junction block. Tighten the junction block nut (3) to 15 N.m (11 lb ft).

cardiagn.com

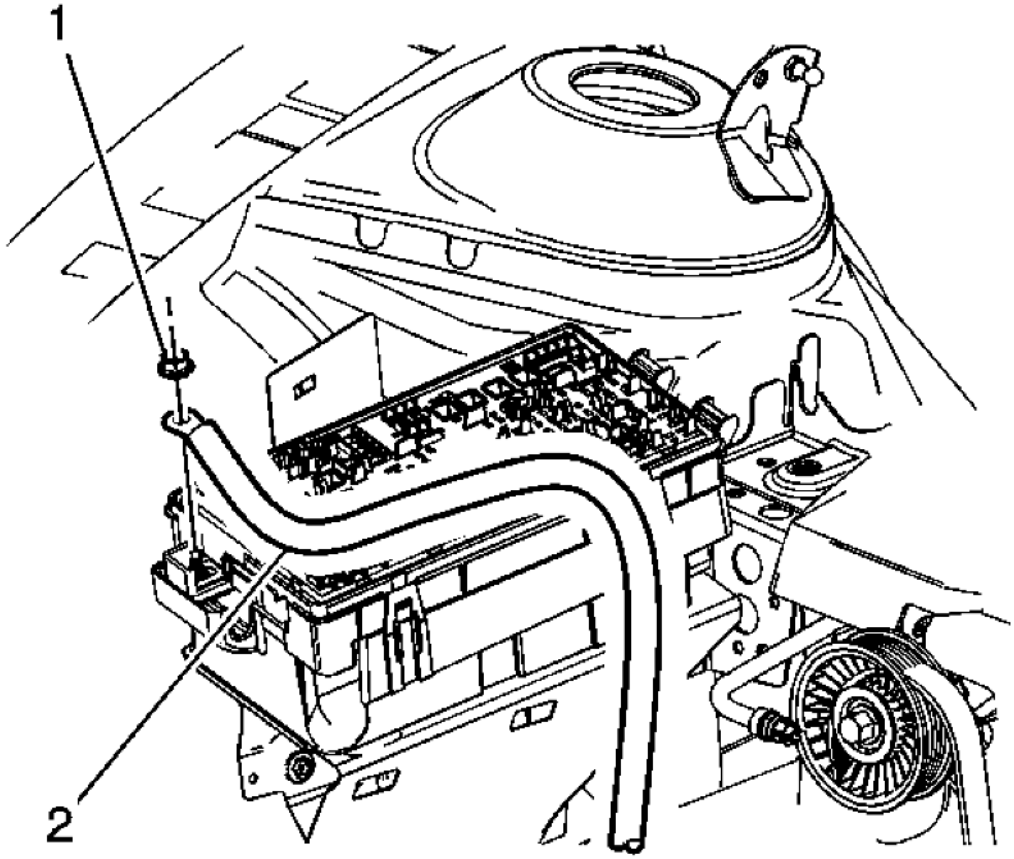


Fig. 31: Battery Positive Cable Terminal & Junction Nut
Courtesy of GENERAL MOTORS CORP.

5. Install the battery positive cable terminal (2) to the fuse block. Tighten the fuse block nut (1) to 15 N.m (11 lb ft).
6. Install the fuse block cover.
7. Connect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**.

BATTERY REPLACEMENT

cardiagn.com

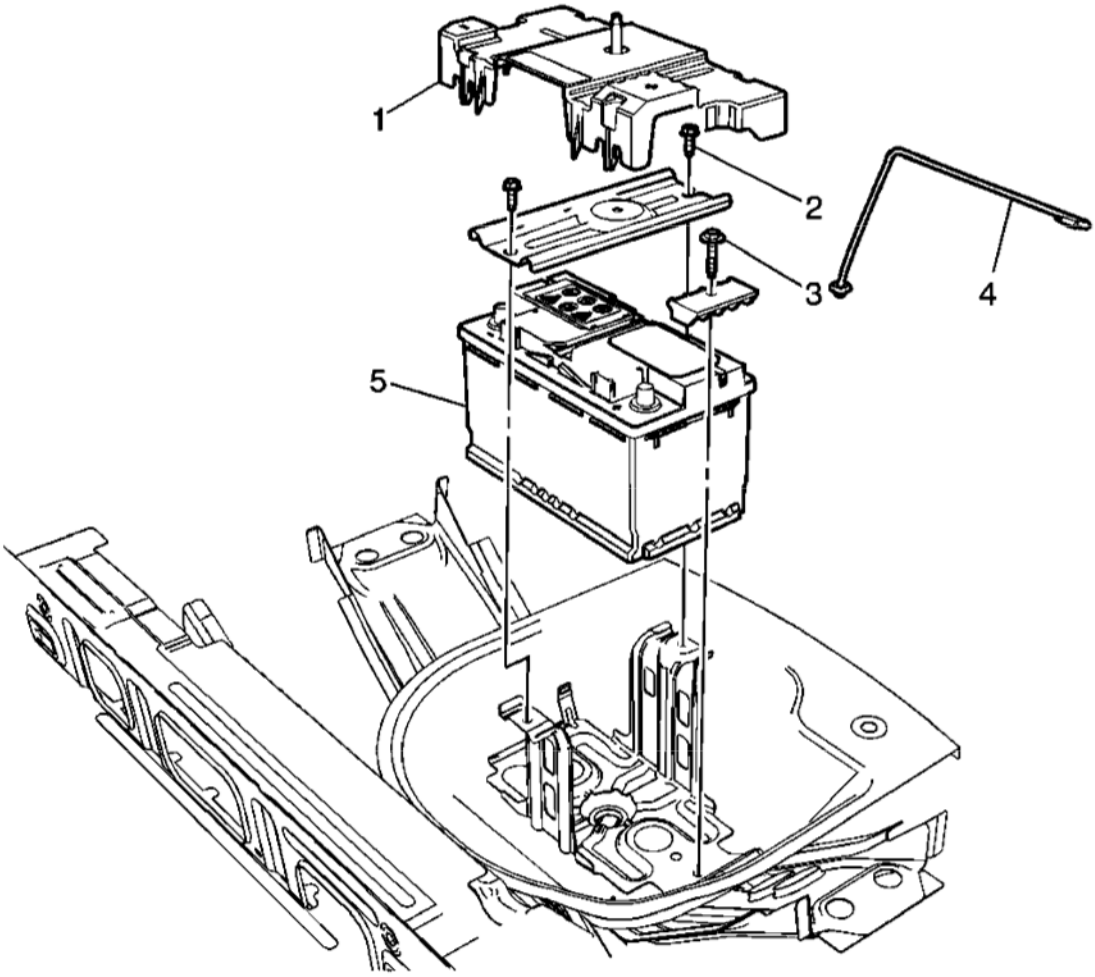


Fig. 32: Battery
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**. 2. Disconnect the positive battery cable from the battery. Refer to **Battery Positive Cable Replacement**	
1	Battery Cover
2	Battery Support Bolt (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 22 N.m(16 lb ft)

cardiagn.com

3	Battery Retainer Bolt
4	Battery Vent Tube
5	Battery

ENGINE GROUND CABLE REPLACEMENT

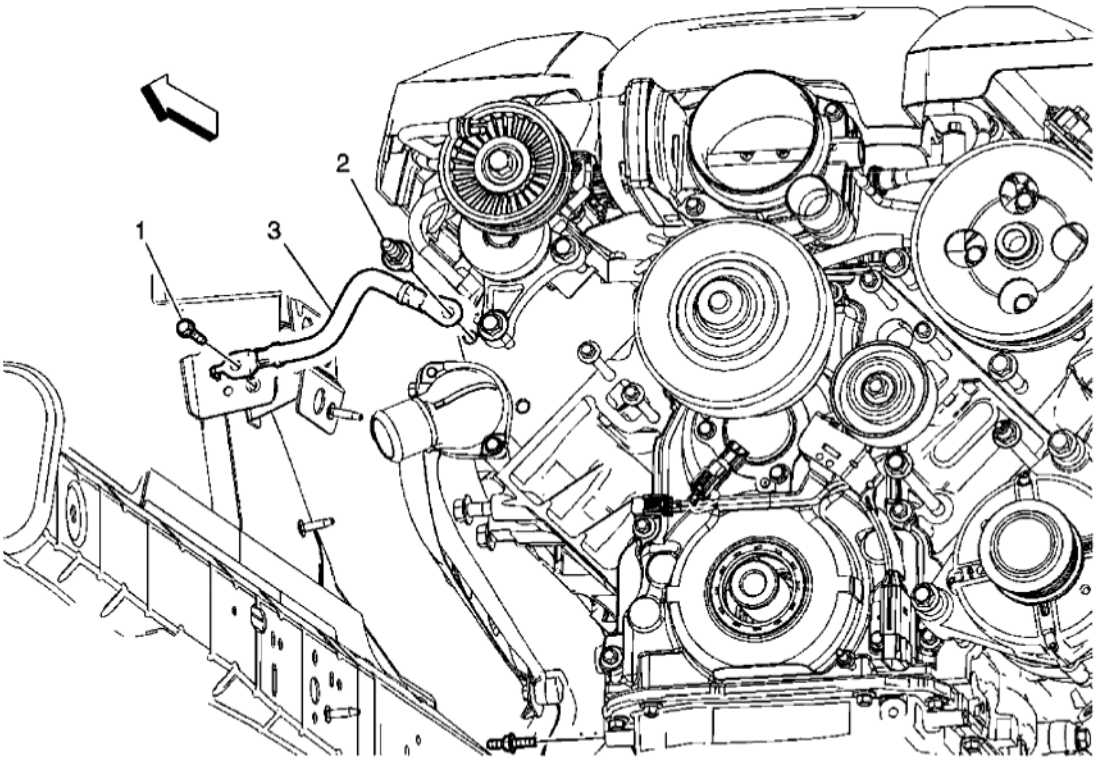


Fig. 33: Engine Ground Cable
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Engine Ground Cable Bolt **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 25 N.m (18 lb ft)
2	Engine Ground Cable Stud **Tighten:** 48 N.m (35 lb ft)
3	Engine Ground Cable

STARTER REPLACEMENT (LLT)

cardiagn.com

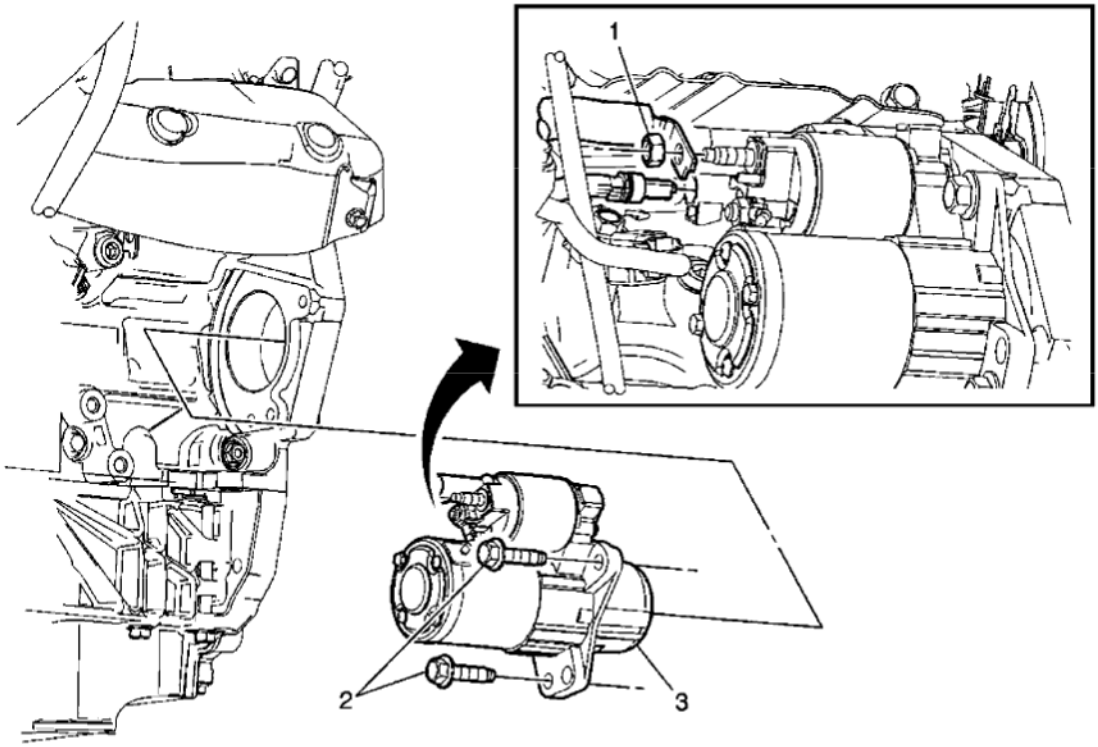


Fig. 34: Starter (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**. 2. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** . 3. Remove the starter heat shield. Refer to **Starter Shield Replacement (LLT)** or **Starter Shield Replacement (LS3/L99)**.	
1	Nut **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 13 N.m (115 lb in)
2	Bolt (Qty: 2) **Tighten:** 58 N.m (43 lb ft)
3	Starter **Procedure:** Disconnect the engine harness starter connector.

cardiagn.com

STARTER REPLACEMENT (LS3/L99)

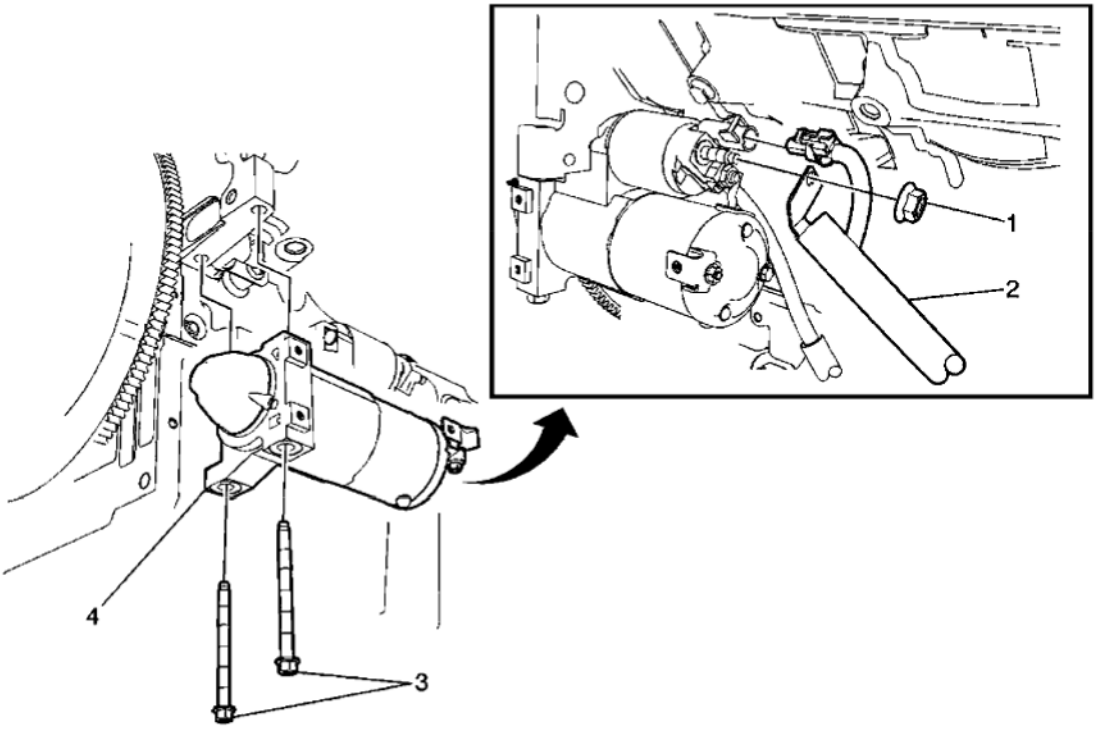


Fig. 35: Starter (LS3/L99)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**. 2. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** . 3. Remove the starter heat shield. Refer to **Starter Shield Replacement (LLT)** or **Starter Shield Replacement (LS3/L99)**.	
1	Nut **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 13 N.m (115 lb in)
2	Battery Positive Cable
3	Bolt (Qty: 2) **Tighten:** 58 N.m (43 lb ft)

cardiagn.com

4	Starter **Procedure:** Disconnect the engine harness starter connector.

STARTER SHIELD REPLACEMENT (LLT)

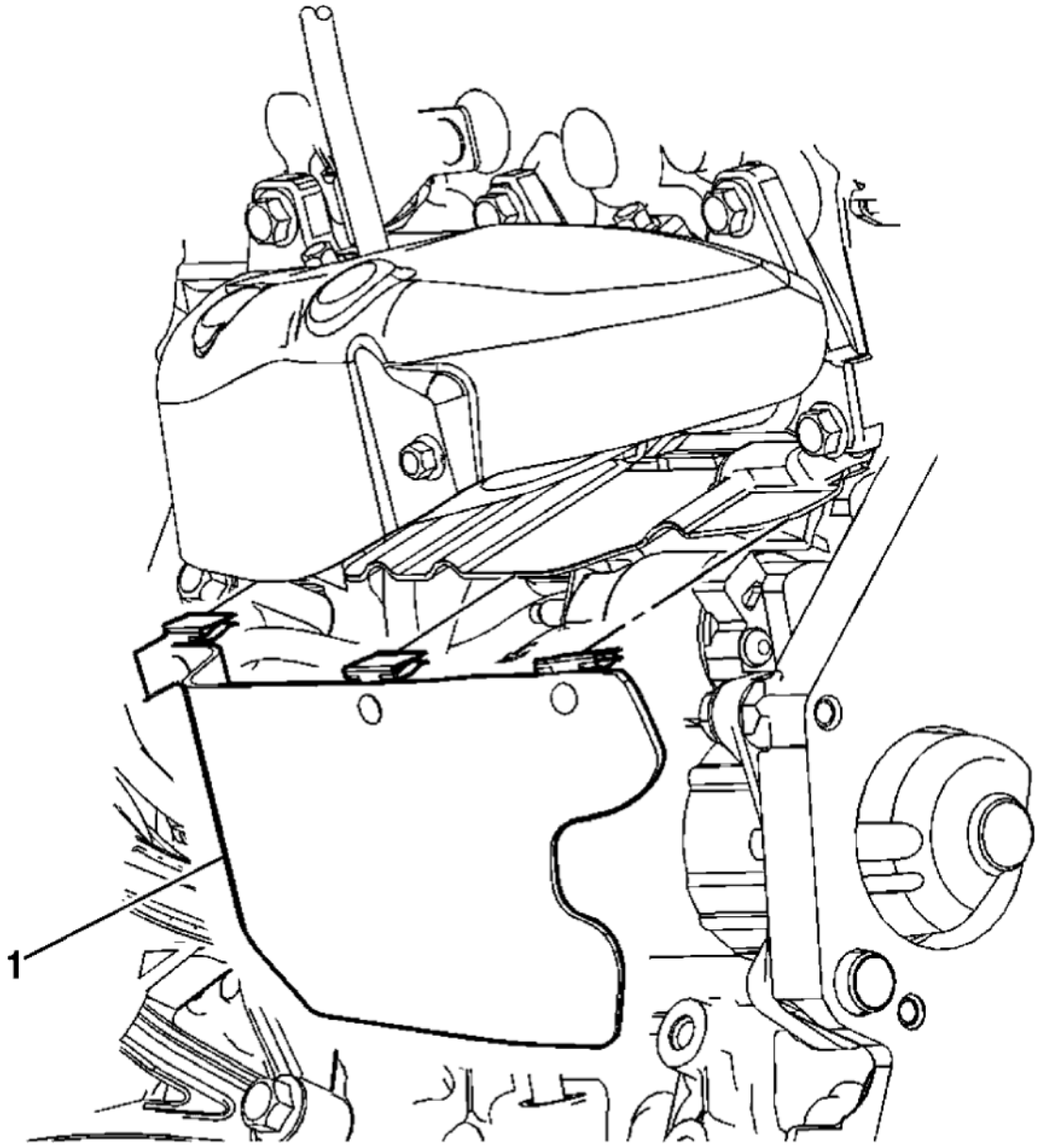


Fig. 36: Starter Shield (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure:	

cardiagn.com

Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .	
1	Shield **Tip:** The shield is held to the exhaust manifold gasket with three retainers.

STARTER SHIELD REPLACEMENT (LS3/L99)

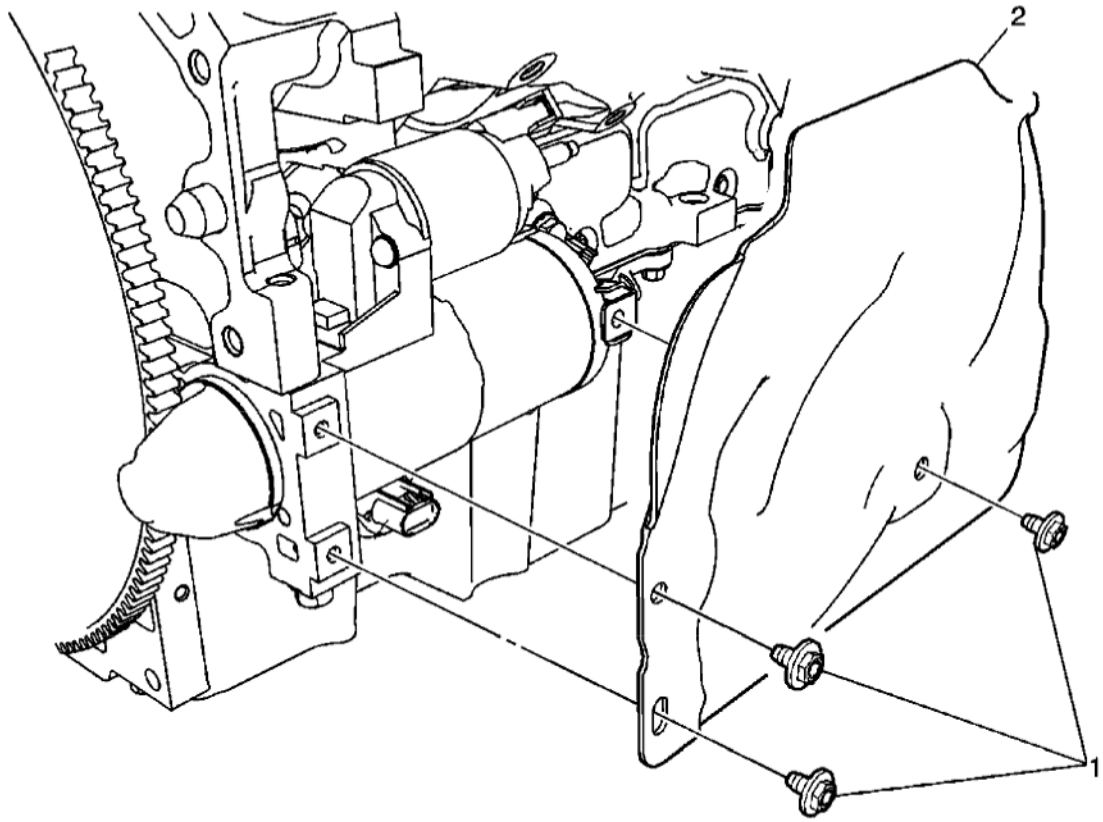


Fig. 37: Starter Shield (LS3/L99)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .	
1	Bolt (Qty: 3) **Tighten:** 5 N.m (44 lb in)
2	Starter Heat Shield

GENERATOR BRACKET REPLACEMENT (LS3/L99)

cardiagn.com

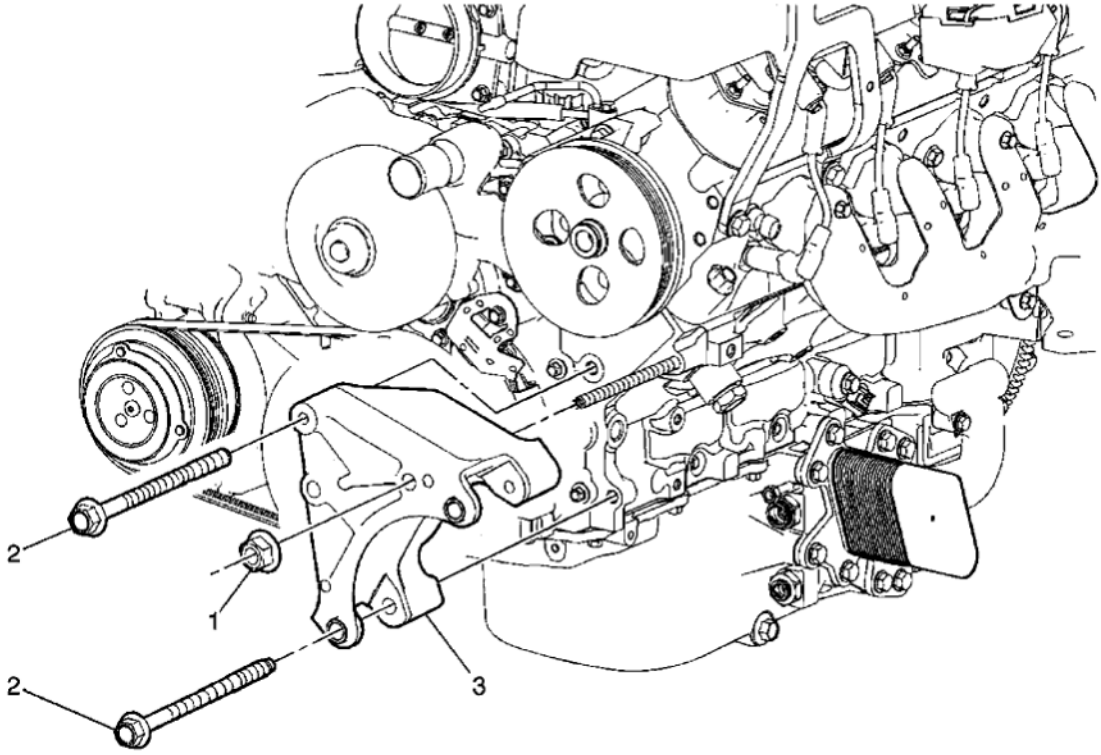


Fig. 38: Generator Bracket (LS3/L99)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**. 2. Remove the generator. Refer to **Generator Replacement (LLT)** or **Generator Replacement (LS3/L99)**.	
1	Nut **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 50 N.m (37 lb ft)
2	Bolt (Qty: 2) **Tighten:** 50 N.m (37 lb ft)
3	Generator **Procedure**

cardiagn.com

	1. Disconnect the engine harness generator connector. 2. Transfer the drive belt idler pulley, if necessary.

GENERATOR REPLACEMENT (LLT)

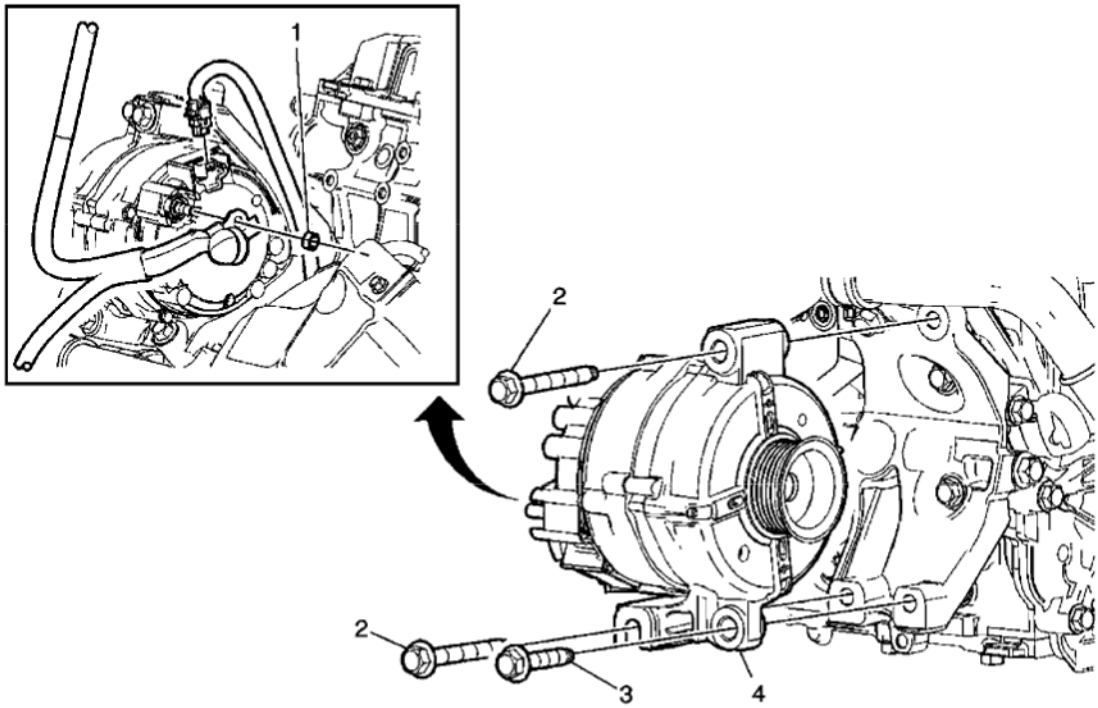


Fig. 39: Generator (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**. 2. Remove the engine manifold cover. Refer to **Intake Manifold Cover Replacement - Front** . 3. Remove the radiator outlet pipe. Refer to **Radiator Outlet Pipe Replacement (LLT)** . 4. Remove the generator drive belt. Refer to **Drive Belt Replacement** .	
1	Nut **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 15 N.m (11 lb ft)
	Bolt (Qty: 2)

cardiagn.com

2	**Tighten:** 58 N.m (43 lb ft)
3	Bolt (Qty: 1) **Tighten:** 58 N.m (43 lb ft)
4	Generator **Procedure:** Disconnect the engine harness generator connector.

GENERATOR REPLACEMENT (LS3/L99)

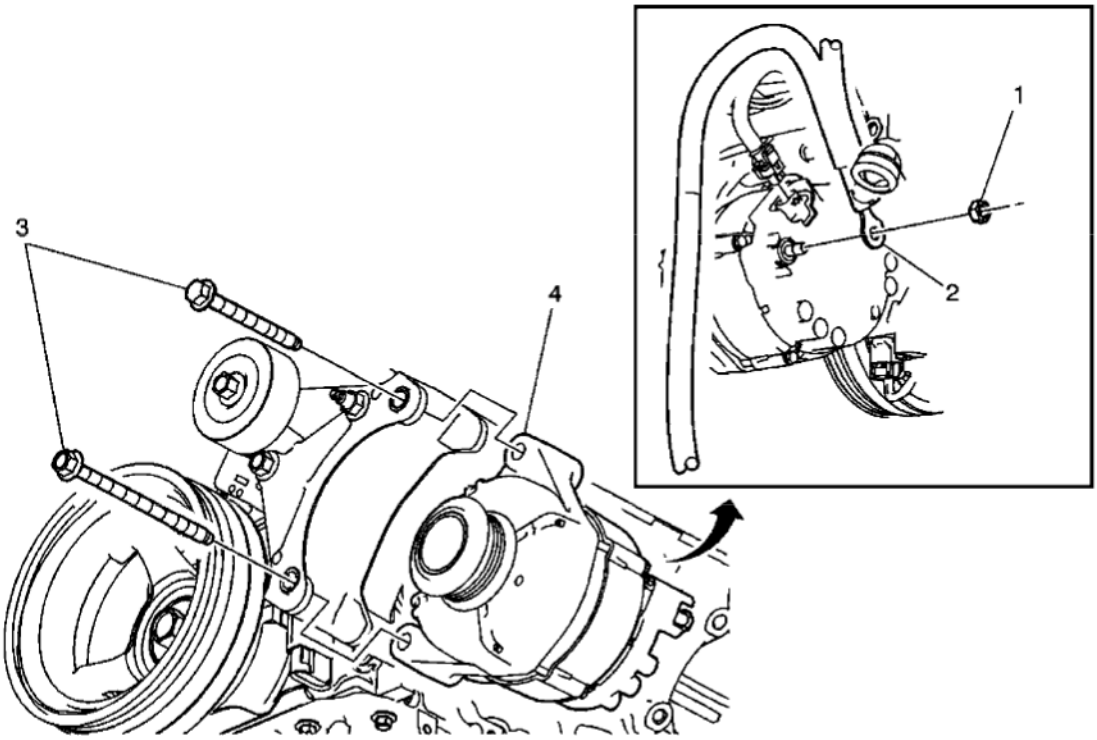


Fig. 40: Generator (LS3/L99)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Disconnect the negative battery cable. Refer to **Battery Negative Cable Disconnection and Connection**. 2. Remove the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** . 3. Remove the generator drive belt. Refer to **Drive Belt Replacement - Accessory** .	
	Nut

cardiagn.com

1	**CAUTION:** **Refer to Fastener Caution .** **Tighten:** 15 N.m (11 lb ft)
2	Generator battery positive cable
3	Bolt (Qty: 2) **Tighten:** 58 N.m (43 lb ft)
4	Generator **Procedure:** Disconnect the engine harness generator connector.

DESCRIPTION AND OPERATION

BATTERY DESCRIPTION AND OPERATION

WARNING: Batteries produce explosive gases, contain corrosive acid, and supply levels of electrical current high enough to cause burns. Therefore, to reduce the risk of personal injury when working near a battery:

- **Always shield your eyes and avoid leaning over the battery whenever possible.**
- **Do not expose the battery to open flames or sparks.**
- **Do not allow the battery electrolyte to contact the eyes or the skin. Flush immediately and thoroughly any contacted areas with water and get medical help.**
- **Follow each step of the jump starting procedure in order.**
- **Treat both the booster and the discharged batteries carefully when using the jumper cables.**

NOTE: Because of the materials used in the manufacture of automotive lead-acid batteries, dealers and service shops that handle them are subject to various regulations issued by OSHA, EPA, DOT, and various state or local agencies. Other regulations may also apply in other locations. Always know and follow these regulations when handling batteries.

Batteries that are no longer wanted must be disposed of by an approved battery recycler and must never be thrown in the trash or sent to a landfill.

Batteries that are not part of the vehicle itself, not the battery under the hood, must only be transported on public streets for business purposes via approved hazardous material transportation procedures.

Battery storage, charging and testing facilities in repair shops must meet various requirements for ventilation, safety equipment, material segregation, etc.

cardiagn.com

The maintenance free battery is standard. There are no vent plugs in the cover. The battery is completely sealed except for 2 small vent holes in the side. These vent holes allow the small amount of gas that is produced in the battery to escape.

The battery has 3 functions as a major source of energy:

- Engine cranking
- Voltage stabilizer
- Alternate source of energy with generator overload

Battery Low Start Vehicle Message

When the vehicles battery is severely discharged, this message will display and four chimes may sound. Start the vehicle immediately. If the vehicle is not started and the battery continues to discharge, the climate controls, heated seats, and audio systems will shut off and the vehicle may require a jump start. These systems will function again after the vehicle is started.

Battery Ratings

A battery has 2 ratings:

- Cold cranking amperage
- Amp hours

When a battery is replaced use a battery with similar ratings. Refer to the battery specification label on the original battery or refer to **Battery Usage**.

Amp Hours

The amp hour rating tells you how much amperage is available when discharged evenly over a 20 hour period. The amp hour rating is cumulative, so in order to know how many constant amps the battery will output for 20 hours, you have to divide the amp hour rating by 20. Example: If a battery has an amp hour rating of 74, dividing by 20 = 3.75. Such a battery can carry a 3.75 A load for 20 hours before dropping to 10.5 V. (10.5 V is the fully discharged level, at which point the battery needs to be recharged.) A battery with an amp hour rating of 55 will carry a 2.75 A load for 20 hours before dropping to 10.5 V.

Cold Cranking Amperage

The cold cranking amperage is an indication of the ability of the battery to crank the engine at cold temperatures. The cold cranking amperage rating is the minimum amperage the battery must maintain for 30 seconds at -18°C (0°F) while maintaining at least 7.2 V. Refer to **Battery Usage** for the cold cranking amperage rating for this vehicle.

CHARGING SYSTEM DESCRIPTION AND OPERATION

Electrical Power Management Overview

cardiagn.com

The electrical power management system is designed to monitor and control the charging system and send diagnostic messages to alert the driver of possible problems with the battery and generator. This electrical power management system primarily utilizes existing on-board computer capability to maximize the effectiveness of the generator, to manage the load, improve battery state-of-charge and life, and minimize the system's impact on fuel economy. The electrical power management system performs 3 functions:

- It monitors the battery voltage and estimates the battery condition.
- It takes corrective actions by boosting idle speeds, and adjusting the regulated voltage.
- It performs diagnostics and driver notification.

The battery condition is estimated during ignition-off and during ignition-on. During ignition-off the state-of-charge of the battery is determined by measuring the open-circuit voltage. The state-of-charge is a function of the acid concentration and the internal resistance of the battery, and is estimated by reading the battery open circuit voltage when the battery has been at rest for several hours.

The state-of-charge can be used as a diagnostic tool to tell the customer or the dealer the condition of the battery. Throughout ignition-on, the algorithm continuously estimates state-of-charge based on adjusted net amp hours, battery capacity, initial state-of-charge, and temperature.

While running, the battery degree of discharge is primarily determined by a battery current sensor, which is integrated to obtain net amp hours.

In addition, the electrical power management function is designed to perform regulated voltage control to improve battery state-of-charge, battery life, and fuel economy. This is accomplished by using knowledge of the battery state-of-charge and temperature to set the charging voltage to an optimum battery voltage level for recharging without detriment to battery life.

The Charging System Description and Operation is divided into 3 sections. The first section describes the charging system components and their integration into the electrical power management. The second section describes charging system operation. The third section describes the instrument panel cluster operation of the charge indicator, driver information center messages, and voltmeter operation.

Charging System Components

Generator

The generator is a serviceable component. If there is a diagnosed failure of the generator it must be replaced as an assembly. The engine drive belt drives the generator. When the rotor is spun it induces an alternating current (AC) into the stator windings. The AC voltage is then sent through a series of diodes for rectification. The rectified voltage has been converted into a direct current (DC) for use by the vehicles electrical system to maintain electrical loads and the battery charge. The voltage regulator integral to the generator controls the output of the generator. It is not serviceable. The voltage regulator controls the amount of current provided to the rotor. If the generator has field control circuit failure, the generator defaults to an output voltage of 13.8 V.

Body Control Module (BCM)

The body control module (BCM) is a GMLAN device. It communicates with the engine control module (ECM) and the instrument panel cluster for electrical power management (electrical power management) operation. The

cardiagn.com

BCM determines the output of the generator and sends the information to the ECM for control of the generator turn on signal circuit. It monitors the generator field duty cycle signal circuit information sent from the ECM for control of the generator. It monitors a battery current sensor, the battery positive voltage circuit, and estimated battery temperature to determine battery state of charge. The BCM performs idle boost.

Battery Current Sensor

The battery current sensor is a serviceable component that is connected to the negative battery cable at the battery. The battery current sensor is a 3-wire hall effect current sensor. The battery current sensor monitors the battery current. It directly inputs to the BCM. It creates a 5-volt pulse width modulation (PWM) signal of 128 Hz with a duty cycle of 0-100 percent. Normal duty cycle is between 5-95 percent. Between 0-5 percent and 95-100 percent are for diagnostic purposes.

Engine Control Module (ECM)

When the engine is running, the generator turn-on signal is sent to the generator from the ECM, turning on the regulator. The generator's voltage regulator controls current to the rotor, thereby controlling the output voltage. The rotor current is proportional to the electrical pulse width supplied by the regulator. When the engine is started, the regulator senses generator rotation by detecting AC voltage at the stator through an internal wire. Once the engine is running, the regulator varies the field current by controlling the pulse width. This regulates the generator output voltage for proper battery charging and electrical system operation. The generator field duty terminal is connected internally to the voltage regulator and externally to the ECM. When the voltage regulator detects a charging system problem, it grounds this circuit to signal the ECM that a problem exists. The ECM monitors the generator field duty cycle signal circuit, and receives control decisions based on information from the BCM.

Instrument Panel Cluster

The instrument panel cluster provides the customer notification in case a concern with the charging system. There are 2 means of notification, a charge indicator and a driver information center message of SERVICE BATTERY CHARGING SYSTEM if equipped.

Charging System Operation

The purpose of the charging system is to maintain the battery charge and vehicle loads. There are 6 modes of operation and they include:

- Battery Sulfation Mode
- Charge Mode
- Fuel Economy Mode
- Headlamp Mode
- Start Up Mode
- Voltage Reduction Mode

The engine control module (ECM) controls the generator through the generator turn ON signal circuit. The ECM monitors the generator performance though the generator field duty cycle signal circuit. The signal is a pulse width modulation (PWM) signal of 128 Hz with a duty cycle of 0-100 percent. Normal duty cycle is

cardiagn.com

between 5-95 percent. Between 0-5 percent and 95-100 percent are for diagnostic purposes. The following table shows the commanded duty cycle and output voltage of the generator:

Commanded Duty Cycle	Generator Output Voltage
10%	11 V
20%	11.56 V
30%	12.12 V
40%	12.68 V
50%	13.25 V
60%	13.81 V
70%	14.37 V
80%	14.94 V
90%	15.5 V

The generator provides a feedback signal of the generator voltage output through the generator field duty cycle signal circuit to the ECM. This information is sent to the body control module (BCM). The signal is PWM signal of 128 Hz with a duty cycle of 0-100 percent. Normal duty cycle is between 5-99 percent. Between 0-5 percent and 100 percent are for diagnostic purposes.

Battery Sulfation Mode

The BCM will enter this mode when the interpreted generator output voltage is less than 13.2 V for 45 minutes. When this condition exists the BCM will enter Charge Mode for 2-3 minutes. The BCM will then determine which mode to enter depending on voltage requirements.

Charge Mode

The BCM will enter Charge Mode when ever one of the following conditions are met.

- The wipers are ON for than 3 seconds.
- GMLAN (Climate Control Voltage Boost Mode Request) is true, as sensed by the HVAC control head. High speed cooling fan, rear defogger and HVAC high speed blower operation can cause the BCM to enter the Charge Mode.
- The estimated battery temperature is less than 0°C (32°F).
- Battery State of Charge is less than 80 percent.
- Vehicle speed is greater than 145 km/h (90 mph)
- Current sensor fault exists.
- System voltage was determined to be below 12.56 V

When any one of these conditions is met, the system will set targeted generator output voltage to a charging voltage between 13.9-15.5 V, depending on the battery state of charge and estimated battery temperature.

Fuel Economy Mode

The BCM will enter Fuel Economy Mode when the estimated battery temperature is at least 0°C (32°F) but less

cardiagn.com

than or equal to 80°C (176°F), the calculated battery current is less than 15 amperes and greater than -8 amperes, and the battery state-of-charge is greater than or equal to 80 percent. Its targeted generator output voltage is the open circuit voltage of the battery and can be between 12.5-13.1 V. The BCM will exit this mode and enter Charge Mode when any of the conditions described above are present.

Headlamp Mode

The BCM will enter Headlamp Mode when ever the headlamps are ON (high or low beams). Voltage will be regulated between 13.9-14.5 V.

Start Up Mode

When the engine is started the BCM sets a targeted generator output voltage of 14.5 V for 30 seconds.

Voltage Reduction Mode

The BCM will enter Voltage Reduction Mode when the calculated ambient air temperature is above 0°C (32°F). The calculated battery current is less than 1 ampere and greater than -7 amperes, and the generator field duty cycle is less than 99 percent. Its targeted generator output voltage is 12.9 V. The BCM will exit this mode once the criteria are met for Charge Mode.

Instrument Panel Cluster Operation

Charge Indicator Operation

The instrument panel cluster illuminates the charge indicator and displays a warning message in the driver information center if equipped, when the one or more of the following occurs:

- The engine control module (ECM) detects that the generator output is less than 11 V or greater than 16 V. The instrument panel cluster receives a GMLAN message from the ECM requesting illumination.
- The instrument panel cluster determines that the system voltage is less than 11 V or greater than 16 V for more than 30 seconds. The instrument panel cluster receives a GMLAN message from the body control module (BCM) indicating there is a system voltage range concern.
- The instrument panel cluster performs the displays test at the start of each ignition cycle. The indicator illuminates for approximately 3 seconds.

BATTERY NOT CHARGING SERVICE CHARGING SYSTEM

The BCM and the ECM will send a GMLAN message to the driver information center for the BATTERY NOT CHARGING SERVICE CHARGING SYSTEM message to be displayed. It is commanded ON when a charging system DTC is a current DTC. The message is turned OFF when the conditions for clearing the DTC have been met.

SERVICE BATTERY CHARGING SYSTEM

The BCM and the ECM will send a GMLAN message to the driver information center for the SERVICE BATTERY CHARGING SYSTEM message to be displayed. It is commanded ON when a charging system DTC is a current DTC. The message is turned OFF when the conditions for clearing the DTC have been met.

cardiagn.com

ELECTRICAL POWER MANAGEMENT DESCRIPTION AND OPERATION

Electrical Power Management

The electrical power management is used to monitor and control the charging system and alert the driver of possible problems within the charging system. The electrical power management system makes the most efficient use of the generator output, improves the battery state of charge, extends battery life.

The idle boost operation is a means of improving generator performance during a low voltage or low battery state-of-charge condition.

Idle boost is activated in incremental steps, idle boost 1 must be active before idle boost 2 can be active. The criteria used by the body control module (BCM) to regulate electrical power management are outlined below:

Function	Battery Temperature Calculation	Battery Voltage Calculation	Amp-hour Calculation	Action Taken
Idle Boost 1 Start	Less Than -15°C (5° F)	Less Than 13 V	-	First level Idle boost requested
Idle Boost 1 Start	-	-	Battery has a net loss greater than 0.6 AH	First level Idle boost requested
Idle Boost 1 Start	-	Less Than 11 V	-	First level Idle boost requested
Idle Boost 1 End	Greater Than -15°C (5°F)	Greater Than 12 V	Battery has a net loss less than 0.2 AH	First level Idle boost request cancelled
Idle Boost 2 Start	-	Less Than 11 V	-	Second level Idle boost requested
Idle Boost 2 End	-	Greater Than 12 V	Battery has a net loss less than 0.8 AH	Second level Idle boost request cancelled
Idle Boost 3 Start	-	-	Battery has a net loss of 10 AH	Third level Idle boost requested
Idle Boost 3 Start	-	Less Than 11 V	-	Third level Idle boost requested
Idle Boost 3 End	-	Greater Than 12 V	Battery has a net loss of less than 6 AH	Third level Idle boost request cancelled

LOAD SHED SYSTEM DESCRIPTION AND OPERATION

Electrical Power Management

The electrical power management is used to monitor and control the charging system and alert the driver of possible problems within the charging system. The electrical power management system makes the most

cardiagn.com

efficient use of the generator output, improves the battery state-of-charge, extends battery life, and manages system electrical loads.

The load shed operation is a means of reducing electrical loads during a low voltage or low battery state-of-charge condition.

The idle boost operation is a means of improving generator performance during a low voltage or low battery state-of-charge condition.

Each electrical power management function, either idle boost or load shed, is discrete. No two functions are active at the same time. Idle boost is activated in incremental steps, idle boost 1 must be active before idle boost 2 can be active. The criteria used by the body control module (BCM) to regulate electrical power management are outlined below:

Function	Battery Temperature Calculation	Battery Voltage Calculation	Amp-Hour Calculation	Action Taken
Idle Boost 1 Start	Less Than -15°C (5° F)	Less Than 13 V	-	First level Idle boost requested
Idle Boost 1 Start	-	-	Battery has a net loss greater than 0.6 AH	First level Idle boost requested
Idle Boost 1 Start	-	Less Than 10.9 V	-	First level Idle boost requested
Idle Boost 1 End	Greater Than -15°C (5°F)	Greater Than -12 V	Battery has a net loss less than 0.2 AH	First level Idle boost request cancelled
Load Shed 1 Start	-	-	Battery has a net loss of 4 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 20% of their cycle
Load Shed 1 Start	-	Less Than 10.9 V	-	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 20% of their cycle
Load Shed 1 End	-	Greater Than 12 V	Battery has a net loss of less than 2 AH	Clear Load Shed 1
Idle Boost 2 Start	-	-	Battery has a net loss greater than 1.6 AH	Second level Idle boost requested
Idle Boost 2 Start	-	Less Than 10.9 V	-	Second level Idle boost requested
			Battery has a net	Second level Idle

cardiagn.com

Idle Boost 2 End	-	Greater Than 12 V	loss less than 0.8 AH	boost request cancelled
Idle Boost 3 Start	-	-	Battery has a net loss of 10.0 AH	Third level Idle boost requested
Idle Boost 3 Start	-	Less Than 10.9 V	-	Third level Idle boost requested
Idle Boost 3 End	-	Greater Than 12 V	Battery has a net loss of less than 6.0 AH	Third level Idle boost request cancelled
Load Shed 2 Start	-	Less Than 10.9 V	Battery has a net loss greater than 12 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 2 Start	-	Less Than 10.9 V	-	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 2 End	-	Greater Than 12.6 V	Battery has a net loss of less than 10.5 AH	Clear Load Shed 2
Load Shed 3 Start	-	Less Than 11.9 V	Battery has a net loss greater than 20 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 100% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 3 End	-	Greater Than 12.6 V	Battery has a net loss of less than 15 AH	Clear Load Shed 3

STARTING SYSTEM DESCRIPTION AND OPERATION

The starter motors on this vehicle are non-repairable starter motors. They have pole pieces that are arranged

cardiagn.com

around the armature. Both solenoid windings are energized. The pull-in winding circuit is completed to the ground through the starter motor. The windings work together magnetically to pull and hold in the plunger. The plunger moves the shift lever. This action causes the starter drive assembly to rotate on the armature shaft spline as it engages with the flywheel ring gear on the engine. Moving at the same time, the plunger also closes the solenoid switch contacts in the starter solenoid. Full battery voltage is applied directly to the starter motor and it cranks the engine.

As soon as the solenoid switch contacts close, current stops flowing thorough the pull-in winding because battery voltage is applied to both ends of the windings. The hold-in winding remains energized; its magnetic field is strong enough to hold the plunger, shift lever, starter drive assembly, and solenoid switch contacts in place to continue cranking the engine. When the engine starts, pinion overrun protects the armature from excessive speed until the switch is opened.

When the ignition switch is released from the START position, the starter relay opens and battery voltage is removed from the starter solenoid. Current flows from the motor contacts through both windings to the ground at the end of the hold-in winding. However, the direction of the current flow through the pull-in winding is now opposite the direction of the current flow when the winding was first energized.

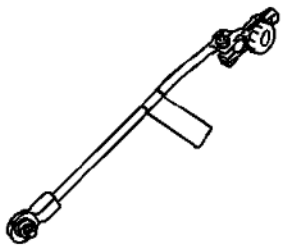
The magnetic fields of the pull-in and hold-in windings now oppose one another. This action of the windings, along with the help of the return spring, causes the starter drive assembly to disengage and the solenoid switch contacts to open simultaneously. As soon as the contacts open, the starter circuit is turned off.

Circuit Description

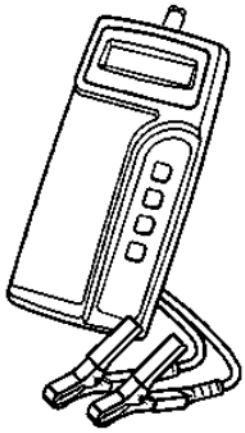
When the ignition switch is placed in the Start position a discrete signal is supplied to the body control module (BCM) notifying it that the ignition is in the START position. The BCM then sends a message to the engine control module (ECM) notifying it that CRANK has been requested. The ECM verifies that the transmission is in Park / Neutral. If it is, the ECM then supplies 12 V to the control circuit of the starter relay. When this occurs battery positive voltage is supplied through the switch side of the starter relay to the starter solenoid.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/Description
	EL 38758 EL 50074 J 38758 Parasitic Draw Test Switch

cardiagn.com

	EL 42000 EL 50076 J 42000 Battery Tester

cardiagn.com

2010 GENERAL MOTORS

Camaro

BUZZERS, RELAYS & TIMERS

BUZZERS, RELAYS & TIMERS LOCATION

Component	Location
A/C CLTCH Relay	In underhood fuse block. See **Fig. 1**.
COOL FAN CNTRL Relay	In underhood fuse block. See **Fig. 1**.
COOL FAN HI (HC) Relay	In underhood fuse block. See **Fig. 1**.
COOL FAN LOW (HC) Relay	In underhood fuse block. See **Fig. 1**.
DEFOG RR Relay	In underhood fuse block. See **Fig. 1**.
EXP RLY Relay	In instrument panel fuse block. See **Fig. 2**.
FOG Lamp (PCB) Relay	In underhood fuse block. See **Fig. 1**.
HI BEAM (PCB) Relay	In underhood fuse block. See **Fig. 1**.
HID HDLP Relay	In underhood fuse block. See **Fig. 1**.
HORN (PCB) Relay	In underhood fuse block. See **Fig. 1**.
PWR/TRN Relay	In underhood fuse block. See **Fig. 1**.
RAP RLY Relay	In instrument panel fuse block. See **Fig. 2**.
RUN/CRNK Relay	In body control module. See **Fig. 1**.
STRTR (HC) Relay	In underhood fuse block. See **Fig. 1**.
TRUNK RLY Relay	In instrument panel fuse block. See **Fig. 2**.
VAC PMP Relay	In underhood fuse block. See **Fig. 1**.
WASHER FRT (PCB) Relay	In underhood fuse block. See **Fig. 1**.
WPR CNTRL Relay	In underhood fuse block. See **Fig. 1**.
WPR SPD Relay	In underhood fuse block. See **Fig. 1**.

CIRCUIT PROTECTION DEVICES

CIRCUIT PROTECTION DEVICES LOCATION

Component	Location
Fuse Block - Battery	At battery. See **Fig. 38**.
Fuse Block - Instrument Panel	Left side of dash. See **Fig. 3**.
Fuse Block - Rear Body	Right rear of luggage compartment. See **Fig. 38**.
Fuse Block - Underhood	Right front of engine compartment. See **Fig. 30**.

CONTROL UNITS

CONTROL UNITS LOCATION

Component	Location
Blower Motor Control Module	Right side of HVAC module. See **Fig. 31**.

cardiagn.com

Body Control Module	Left side of dash. See **Fig. 9**.
Electronic Brake Control Module (EBCM)	Right front of engine compartment. See **Fig. 30**.
Engine Control Module	Right front of engine compartment. See **Fig. 30**.
Fuel Pump Control Module	Right quarterpanel. See **Fig. 12**.
HVAC Control Module	Right side of HVAC module. See **Fig. 31**.
Inflatable Restraint Sensing & Diagnostic Module	Under center console. See **Fig. 12**.
Multimedia Player Interface Module	Under center console. See **Fig. 12**.
Object Alarm Control Module	Right rear of luggage compartment. See **Fig. 32**.
Passenger Presence Detection Module	Under passenger's seat. See **Fig. 23**.
Radio Antenna Module	Left "C" pillar. See **Fig. 27**.
Remote Control Door Lock Receiver	Center of dash. See **Fig. 3**.
Telematics Communication Interface Control Module	Right side of dash. See **Fig. 3**.

MOTORS

MOTORS LOCATION

Component	Location
Air Recirculation Door Motor	Right side of HVAC module. See **Fig. 31**.
Air Temperature Door Actuator	Left side of HVAC module. See **Fig. 31**.
Blower Motor	Right side of HVAC module. See **Fig. 31**.
Brake Booster Pump - Auxiliary	Right front of engine compartment. See **Fig. 8**.
Cooling Fan - Left/Right	Rear of radiator. See **Fig. 8**.
Door Latch - Driver	Rear of driver door. See **Fig. 5**.
Door Latch - Passenger	Rear of passenger door. See **Fig. 6**.
Fuel Pump And Level Sensor Assembly	Top of fuel tank. See **Fig. 7**.
High Pressure Fuel Pump	Left rear of engine. See **Fig. 18**.
Mode Door Actuator	Left side of HVAC module. See **Fig. 31**.
Rear Compartment Lid Latch	Center rear of compartment lid. See **Fig. 32**.
Seat Front Vertical Motor - Driver	Under driver's seat. See **Fig. 24**.
Seat Horizontal Motor - Driver	Under driver's seat. See **Fig. 24**.
Seat Rear Vertical Motor - Driver	Under driver's seat. See **Fig. 24**.
Seat Recline Motor - Driver	Under driver's seat. See **Fig. 24**.
Seat Recline Motor - Passenger	Under passenger's seat. See **Fig. 23**.
Starter Motor (V6)	Lower left rear of engine. See **Fig. 18**.
Starter Motor (V8)	Right rear of engine. See **Fig. 16**.
Sunroof Control Module	Center front of sunroof. See **Fig. 33**.
Throttle Body (V6)	Upper front center of engine. See **Fig. 18**.
Throttle Body (V8)	Top front of engine. See **Fig. 26**.
Window Motor - Driver	Driver's door. See **Fig. 5**.
Window Motor - Passenger	Front passenger's door. See **Fig. 6**.

cardiagn.com

Windshield Washer Pump	In washer fluid reservoir. See **Fig. 8**.
Windshield Wiper Motor	On left side of firewall. See **Fig. 15**.

SENDING UNITS & SENSORS

SENDING UNITS & SENSORS LOCATION

Component	Location
Accelerator Pedal Position Sensor	In accelerator pedal assembly. See **Fig. 3**.
A/C Evaporator Temperature Sensor	On A/C evaporator. See **Fig. 3**.
A/C Refrigerant Pressure Sensor	On A/C high pressure line. See **Fig. 8**.
Ambient Air Temperature Sensor	On right radiator support. See **Fig. 29**.
Ambient Light Sensor	Center of dash. See **Fig. 4**.
Battery Current Sensor	On battery. See **Fig. 14**.
Brake Booster Vacuum Sensor	On brake booster. See **Fig. 15**.
Brake Pedal Position Sensor	Mounted on brake pedal bracket. See **Fig. 3**.
Camshaft Position Sensor	Lower left front of engine. See **Fig. 16**.
Camshaft Position Sensor - Bank 1 Exhaust	Right front of engine. See **Fig. 17**.
Camshaft Position Sensor - Bank 1 Intake	Right front of engine. See **Fig. 17**.
Camshaft Position Sensor - Bank 2 Exhaust	Left front of engine. See **Fig. 18**.
Camshaft Position Sensor - Bank 2 Intake	Left front of engine. See **Fig. 18**.
Clutch Pedal Position Sensor	Top of clutch pedal assembly. See **Fig. 3**.
Crankshaft Position Sensor (V6)	Lower right side of engine. See **Fig. 17**.
Crankshaft Position Sensor (V8)	Lower right rear of engine. See **Fig. 16**.
Engine Coolant Temperature Sensor (V6)	Left side of left cylinder head. See **Fig. 18**.
Engine Coolant Temperature Sensor (V8)	Front of left cylinder head. See **Fig. 19**.
Engine Oil Level & Temperature Sensor	Bottom right center of engine oil pan. See **Fig. 16**.
Engine Oil Pressure Sensor (V6)	Left side of engine. See **Fig. 18**.
Engine Oil Pressure Sensor (V8)	Top rear of engine. See **Fig. 19**.
Front Impact Sensor - Left/Right	Respective front side of engine compartment. See **Fig. 8**.
Fuel Level Sensor - Secondary	Top of fuel tank. See **Fig. 7**.
Fuel Pressure Sensor	Right front of fuel tank. See **Fig. 7**.
Fuel Rail Pressure Sensor	Top center front of engine. See **Fig. 20**.
Fuel Tank Pressure Sensor	Top of fuel tank. See **Fig. 7**.
Heated Oxygen Sensor Bank 1 Sensor 1 (V6)	Upstream of right catalytic converter. See **Fig. 21**.
Heated Oxygen Sensor Bank 1 Sensor 1 (V8)	Upstream of left catalytic converter. See **Fig. 21**.
Heated Oxygen Sensor Bank 1 Sensor 2 (V6)	Downstream of right catalytic converter. See **Fig. 21**.
Heated Oxygen Sensor Bank 1 Sensor 2 (V8)	Downstream of left catalytic converter. See **Fig. 21**.
Heated Oxygen Sensor Bank 2 Sensor 1 (V6)	Upstream of left catalytic converter. See **Fig. 21**.
Heated Oxygen Sensor Bank 2 Sensor 1 (V8)	Upstream of right catalytic converter. See **Fig. 21**.

cardiagn.com

Heated Oxygen Sensor Bank 2 Sensor 2 (V6)	Downstream of left catalytic converter. See **Fig. 21**.
Heated Oxygen Sensor Bank 2 Sensor 2 (V8)	Downstream of right catalytic converter. See **Fig. 21**.
Knock Sensor 1 (V6)	Right side of engine. See **Fig. 17**.
Knock Sensor 1 (V8)	Left rear of engine. See **Fig. 19**.
Knock Sensor 2 (V6)	Left side of engine. See **Fig. 18**.
Knock Sensor 2 (V8)	Right side of engine. See **Fig. 16**.
Manifold Absolute Pressure Sensor	Top front of engine. See **Fig. 26**.
Manual Transmission Fluid Temperature Sensor	Left side of transmission. See **Fig. 10**.
Mass Air Flow/Intake Air Temperature Sensor (V6)	In air intake duct. See **Fig. 17**.
Mass Air Flow/Intake Air Temperature Sensor (V8)	In air intake duct. See **Fig. 16**.
Multi-Axis Acceleration Sensor	Under center console. See **Fig. 12**.
Passenger Presence Detection Sensor	In passenger's seat cushion. See **Fig. 23**.
Rear Object Sensors (4)	In rear fascia. See **Fig. 27**.
Remote Control Door Lock Receiver	Top center of windshield. See **Fig. 34**.
Seat Position Sensor - Driver	Under driver's seat. See **Fig. 24**.
Seat Position Sensor - Passenger	Under passenger's seat. See **Fig. 23**.
Side Impact Sensor - Left	Base of left "B" pillar. See **Fig. 25**.
Side Impact Sensor - Right	Base of right "B" pillar. See **Fig. 12**.
Steering Wheel Angle Sensor	Steering column. See **Fig. 9**.
Transmission Input Speed Sensor	In transmission. See **Fig. 13**.
Transmission Output Speed Sensor	In transmission. See **Fig. 13**.
Vehicle Speed Sensor	Right rear of transmission. See **Fig. 10**.
Wheel Speed Sensor - Left/Right Front	Respective front wheel hub assemblies. See **Fig. 22**.
Wheel Speed Sensor - Left/Right Rear	Respective rear wheel hub assemblies. See **Fig. 22**.

SOLENOIDS & SOLENOID VALVES

SOLENOIDS & SOLENOID VALVES LOCATION

Component	Location
A/C Compressor Clutch	Right front of engine. See **Fig. 16**.
Camshaft Position Actuator Solenoid Valve	Top right front of engine. See **Fig. 16**.
Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust	Right front of engine. See **Fig. 17**.
Camshaft Position Actuator Solenoid Valve - Bank 1 Intake	Right front of engine. See **Fig. 17**.
Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust	Left front of engine. See **Fig. 18**.
Camshaft Position Actuator Solenoid Valve - Bank 2 Intake	Left front of engine. See **Fig. 18**.
Control Solenoid Valve Assembly	In automatic transmission. See **Fig. 13**.
Evaporative Emission (EVAP) Canister Purge	

cardiagn.com

Solenoid Valve (V6)	Right rear of engine. See **Fig. 17**.
Evaporative Emission (EVAP) Canister Purge Solenoid Valve (V8)	Top right front of engine. See **Fig. 16**.
Evaporative Emission (EVAP) Vent Solenoid Valve	Above rear differential. See **Fig. 36**.
Fuel Injectors 1, 2, 3, 4, 5 & 6 (V6)	Top of respective cylinders. See **Fig. 20**.
Fuel Injectors 1,2, 3, 4, 5, 6, 7 & 8 (V8)	Top of respective cylinders. See **Fig. 26**.
High Beam Solenoid Actuator - Left (Right Similar)	Behind respective headlight assemblies. See **Fig. 35**.
Ignition Cylinder Lock Control Solenoid Actuator	Steering column. See **Fig. 9**.
Reverse Inhibit Solenoid Actuator	Rear of transmission. See **Fig. 11**.
Skip Shift Solenoid Actuator	Left side of transmission. See **Fig. 11**.
Transmission Shift Lock Control Solenoid Actuator	Base of A/T shifter assembly. See **Fig. 28**.

SWITCHES

SWITCHES LOCATION

Component	Location
Backup Lamp Switch	Right side of manual transmission. See **Fig. 10**.
Brake Fluid Level Switch	In master cylinder reservoir. See **Fig. 15**.
Hood Ajar Switch	Center front of engine compartment. See **Fig. 8**.
Horn Switch	In steering wheel. See **Fig. 37**.
Park Brake Switch	Base of park brake handle. See **Fig. 4**.
Seat Belt Buckle - Driver	Right rear side of driver's seat.
Seat Belt Buckle - Passenger	Left rear side of driver's seat.
Seat Belt Switch - Driver	In driver's seat belt buckle assembly. See **Fig. 24**.
Seat Belt Switch - Passenger	In passenger's seat belt buckle assembly. See **Fig. 23**.
Transmission Internal Mode Switch	In automatic transmission. See **Fig. 13**.

MISCELLANEOUS

MISCELLANEOUS LOCATION

Component	Location
Audio Amplifier	Left rear of luggage compartment. See **Fig. 14**.
Battery	Rear of vehicle. See **Fig. 14**.
Data Link Connector (DLC)	Left side of dash. See **Fig. 3**.
Data Link Resistor	Right quarterpanel. See **Fig. 12**.
Generator (V6)	Right front of engine. See **Fig. 17**.
Generator (V8)	Left front of engine. See **Fig. 19**.
Headlamp Ballast - Left/Right	Inside respective headlamp. See **Fig. 29**.
Horn - High Note	Right front of engine compartment. See **Fig. 8**.
Horn - Low Note	Left front of engine compartment. See **Fig. 8**.
Ignition Coils 1, 3 & 5 (V6)	Above respective right cylinder. See **Fig. 17**.

cardiagn.com

Ignition Coils 1, 3, 5 & 7 (V8)	Above respective left cylinder. See **Fig. 19**.
Ignition Coils 2, 4 & 6 (V6)	Above respective left cylinder. See **Fig. 18**.
Ignition Coils 2, 4, 6 & 8 (V8)	Above respective right cylinder. See **Fig. 16**.
Immobilizer Antenna	Steering column. See **Fig. 9**.
Passenger Instrument Panel Air Bag	Right side of dash. See **Fig. 3**.
Rear Window Defogger Noise Filter - Left	Left "C" pillar. See **Fig. 27**.
Rear Window Defogger Noise Filter - Right	Right "C" pillar. See **Fig. 12**.
Roof Rail Air Bag - Left	Left edge of roof. See **Fig. 25**.
Roof Rail Air Bag - Right	Right edge of roof. See **Fig. 12**.
Seat Belt Retractor Pretensioner - Driver	Base of left "B" pillar. See **Fig. 25**.
Seat Belt Retractor Pretensioner - Passenger	Base of right "B" pillar. See **Fig. 12**.
Side Air Bag - Left	Left side of driver's seat back. See **Fig. 24**.
Side Air Bag - Right	Right side of passenger's seat back. See **Fig. 23**.
Splice Pack (JX200)	Front of center console. See **Fig. 46**.
Steering Wheel Air Bag Coil	Steering column. See **Fig. 9**.
Telematics Communication Interface Control Module Battery	Right side of dash. See **Fig. 3**.
Underhood Battery Cable Junction Block	Left rear of engine compartment. See **Fig. 15**.
Valve Lifter Oil Manifold Assembly	Top rear of engine. See **Fig. 19**.
Wireless Communication Antenna - Bluetooth	Right side of dash. See **Fig. 3**.

CONNECTORS

CONNECTORS LOCATION

Component	Location
X102 (Black, 40 Pin)	Right front of engine compartment. See **Fig. 39**.
X103 (Black, 16 Pin)	Right front of engine compartment. See **Fig. 39**.
X104 (Black, 42 Pin)	Left front of engine compartment. See **Fig. 40**.
X105 (Black, 1 Pin)	Left front of engine compartment. See **Fig. 40**.
X108 (Black, 8 Pin)	Right front of engine compartment. See **Fig. 39**.
X109 (Except High Output) (Black, 5 Pin)	Top right of engine. See **Fig. 41**.
X109 (High Output) (Black, 3 Pin)	Top left of engine. See **Fig. 41**.
X110 (Black, 4 Pin)	Left front of engine compartment. See **Fig. 40**.
X111 (Black, 6 Pin)	Top front of engine. See **Fig. 42**.
X112 (Gray, 8 Pin)	Top left of engine. See **Fig. 43**.
X113 (V8) (Gray, 8 Pin)	Top left of engine. See **Fig. 41**.
X120 (Black, 4 Pin)	Right front of engine compartment. See **Fig. 39**.
X160 (Black, 6 Pin)	Top right rear of engine. See **Fig. 42**.
X161 (Black, 12 Pin)	Top right rear of engine. See **Fig. 42**.
X204 (Black, 30 Pin)	Right kick panel. See **Fig. 45**.
X206 (Black, 5 Pin)	Left kick panel. See **Fig. 46**.

cardiagn.com

X207 (Black, 56 Pin)	Left kick panel. See **Fig. 46**.
X208 (Black, 56 Pin)	Right kick panel. See **Fig. 44**.
X209 (Black, 1 Pin)	Right kick panel. See **Fig. 44**.
X210 (Black, 40 Pin)	Right kick panel. See **Fig. 44**.
X211 (Black, 8 Pin)	Under center console. See **Fig. 45**.
X253 (Yellow, 4 Pin)	Left kick panel. See **Fig. 46**.
X254 (Yellow, 4 Pin)	Right kick panel. See **Fig. 44**.
X301 (Black, 8 Pin)	Under center console. See **Fig. 45**.
X302 (Black, 12 Pin)	Under center console. See **Fig. 45**.
X304 (Black, 8 Pin)	Right quarterpanel. See **Fig. 44**.
X306 (Black, 48 Pin)	Under passenger's seat. See **Fig. 44**.
X307 (Black, 48 Pin)	Under driver's seat. See **Fig. 47**.
X308 (Black, 2 Pin)	Under driver's seat.
X309 (Black, 2 Pin)	Under passenger's seat.
X315 (Yellow, 2 Pin)	Under driver's seat.
X316 (Yellow, 2 Pin)	Under passenger's seat.
X350 (Black, 14 Pin)	Under right rear of vehicle. See **Fig. 48**.
X360 (Black, 4 Pin)	Under right rear of vehicle. See **Fig. 48**.
X400 (Black, 8 Pin)	Left side of luggage compartment. See **Fig. 47**.
X401 (Black, 8 Pin)	Right rear of luggage compartment. See **Fig. 48**.
X402 (Black, 2 Pin)	Center of rear fascia. See **Fig. 49**.
X500 (Black, 22 Pin)	Left "A" pillar. See **Fig. 47**.
X502 (Black/Natural, 8 Pin)	Driver's door. See **Fig. 50**.
X600 (Black, 22 Pin)	Right "A" pillar. See **Fig. 44**.
X602 (Black/Natural, 8 Pin)	Passenger's door. See **Fig. 50**.

GROUNDS

GROUNDS LOCATION

Component	Location
G101	Right side of engine compartment. See **Fig. 51**.
G102	Right side of engine compartment. See **Fig. 51**.
G103	Right front of engine compartment. See **Fig. 52**.
G105	Left side of engine compartment. See **Fig. 53**.
G106 (V6)	Left rear of engine. See **Fig. 54**.
G106 (V8)	Right side of engine. See **Fig. 55**.
G107 (V6)	Left rear of engine. See **Fig. 56**.
G107 (V8)	Right rear of engine. See **Fig. 55**.
G108 (V6)	Left side of engine. See **Fig. 54**.
G108 (V8)	Left rear of engine. See **Fig. 57**.
G109 (V6)	Left side of engine. See **Fig. 56**.

cardiagn.com

G109 (V8)	Left front of engine. See **Fig. 57**.
G201	Left kick panel. See **Fig. 58**.
G202	Under center console. See **Fig. 58**.
G203	Under center console. See **Fig. 58**.
G204	Right kick panel. See **Fig. 58**.
G205	Left kick panel. See **Fig. 59**.
G206	Right kick panel. See **Fig. 60**.
G301	Under driver's seat. See **Fig. 59**.
G401	Near battery. See **Fig. 61**.
G402	Right front of luggage compartment. See **Fig. 62**.
G403	Right rear of luggage compartment. See **Fig. 62**.
G404	Left "C" pillar. See **Fig. 63**.

SPLICES

SPLICES LOCATION

Component	Location
J101	Fog lamp harness, 15 cm from breakout to X108. See **Fig. 64**.
J102	Fog lamp harness, 21.5 cm from breakout to X108. See **Fig. 64**.
J103	Forward lamp harness, 15 cm from breakout to X162. See **Fig. 39**.
J104	Forward lamp harness, 7.8 cm from breakout to underhood fuse block. See **Fig. 39**.
J105	Forward lamp harness, 16.3 cm from breakout to X104. See **Fig. 39**.
J106	Forward lamp harness, 33.9 cm from breakout to X104. See **Fig. 39**.
J107	Forward lamp harness, 35.4 cm from breakout to windshield wiper motor. See **Fig. 40**.
J108	Engine harness, 14.6 cm from breakout to X102. See **Fig. 42**.
J109	Engine harness, 7 cm from breakout to X102. See **Fig. 42**.
J110	Engine harness, 7.1 cm from breakout to X102. See **Fig. 42**.
J111 (6L50 A/T)	Engine harness, 7.2 cm from breakout to X102. See **Fig. 42**.
J111 (6L80 A/T)	Engine harness, 13.2 cm from breakout to X102. See **Fig. 43**.
J112	Engine harness, 2 cm from breakout to ignition coil 1. See **Fig. 42**.

cardiagn.com

J113	Engine harness, 3.2 cm from breakout to ignition coil 3. See **Fig. 41**.
J114	Engine harness, 2.3 cm from breakout to G108. See **Fig. 42**.
J115	Engine harness, 5 cm from breakout to heated oxygen sensor bank 1 sensor 1. See **Fig. 42**.
J116 (V6)	Engine harness, 10 cm from breakout to heated oxygen sensor bank 2 sensor 2. See **Fig. 42**.
J116 (V8)	Engine harness, 6.6 cm from breakout to X102. See **Fig. 43**.
J117	Engine harness, 7.5 cm from breakout to heated oxygen sensor bank 1 sensor 2. See **Fig. 65**.
J118	Engine harness, 21.7 cm from breakout to heated oxygen sensor bank 2 sensor 2. See **Fig. 65**.
J119	Engine harness, 6.9 cm from breakout to X161. See **Fig. 66**.
J120	Engine harness, 5.33 cm from breakout to X161. See **Fig. 66**.
J121	Engine harness, 20.6 cm from breakout to X161. See **Fig. 66**.
J122	Engine harness, 8.9 cm from breakout to ignition coil 6. See **Fig. 66**.
J123 (V6)	Engine harness, 3.9 cm from breakout to ignition coil 6. See **Fig. 66**.
J123 (V8)	Engine harness, 3.9 cm from breakout to ignition coil 6. See **Fig. 43**.
J126	Engine harness, 9.4 cm from breakout to X102. See **Fig. 43**.
J127	Automatic transmission harness, inside automatic transmission.
J129	Engine harness, 16.4 cm from breakout to X107. See **Fig. 43**.
J131	Even ignition harness, right side of engine.
J132	Even ignition harness, right side of engine.
J133	Odd ignition harness, left side of engine.
J135	Even ignition harness, right side of engine.
J142	Odd ignition harness, left side of engine.
J146	Odd ignition harness, left side of engine.
J148	Right headlamp harness, at headlight.
J201	Instrument panel harness, 5.3 cm from breakout to G203. See **Fig. 45**.
J202	Instrument panel harness, 6.1 cm from breakout to brake pedal position sensor. See **Fig. 45**.
	Instrument panel harness, 13.2 cm from breakout to

cardiagn.com

J203	brake pedal position sensor. See **Fig. 45**.
J204	Instrument panel harness, 18 cm from breakout to brake pedal position sensor. See **Fig. 45**.
J205	Instrument panel harness, 4.6 cm from breakout to instrument cluster. See **Fig. 45**.
J206	Instrument panel harness, 3.6 cm from breakout to remote control door lock receiver. See **Fig. 45**.
J207	Instrument panel harness, 4 cm from breakout to remote control door receiver. See **Fig. 45**.
J208	Instrument panel harness, 5.6 cm from breakout to body control module. See **Fig. 45**.
J209	Instrument panel harness, 11.5 cm from breakout to inflatable restraint module. See **Fig. 45**.
J210	Steering wheel harness, behind steering wheel airbag.
J211	Steering wheel harness, behind steering wheel airbag.
J241	HVAC harness, 21 cm from breakout to recirculation actuator.
J253	Steering wheel harness, behind steering wheel airbag.
J303	Body harness, 17.8 cm from breakout to X307. See **Fig. 47**.
J304	Body harness, 12.8 cm from breakout to X307. See **Fig. 47**.
J305	Body harness, 38 cm from breakout to X306. See **Fig. 44**.
J306	Body harness, 29.3 cm from breakout to X306. See **Fig. 44**.
J307	Body harness, 22.4 cm from breakout to X306. See **Fig. 44**.
J308	Body harness, 12.4 cm from breakout to X306. See **Fig. 44**.
J309	Body harness, 37.3 cm from breakout to X350. See **Fig. 44**.
J310	Body harness, 7 cm from breakout to fuel pump control module. See **Fig. 44**.
J311	Automatic transmission shift lever harness, under center console.
J312	Driver seat harness, 5 cm from breakout to X307.
J313	Passenger seat harness, 5 cm from breakout to X306.
J320	Roof console harness, 4.8 cm from breakout to inside rearview mirror.

cardiagn.com

J400	Rear fascia harness, 5.2 cm from breakout to left backup lamp. See **Fig. 49**.
J401	Rear fascia harness, 9 cm from breakout to left backup lamp. See **Fig. 49**.
J402	Rear fascia harness, 15.5 cm from breakout to left backup lamp. See **Fig. 49**.
J403	Rear fascia harness, 22 cm from breakout to left backup lamp. See **Fig. 49**.
J404	Rear fascia harness, 17.6 cm from breakout to left middle object alarm sensor. See **Fig. 49**.
J405	Rear fascia harness, 20.2 cm from breakout to left middle object alarm sensor. See **Fig. 49**.
J406	Rear fascia harness, 10.3 cm from breakout to right backup lamp. See **Fig. 49**.
J407	Rear fascia harness, 3.8 cm from breakout to right backup lamp. See **Fig. 49**.
J408	Rear fascia harness, 6.1 cm from breakout to right backup lamp. See **Fig. 49**.
J409	Body harness, 3.8 cm from breakout to rear fuse block. See **Fig. 48**.
J410	Fuel tank harness, near fuel tank.
J411	License lamp harness, in rear fascia.
J412	License lamp harness, in rear fascia.
J500	Driver door harness, 7.3 cm from breakout to window motor. See **Fig. 50**.
J501	Driver door harness, 15 cm from breakout to window motor. See **Fig. 50**.
J502	Driver door harness, 21.5 cm from breakout to outside rearview mirror. See **Fig. 50**.
J503	Driver door harness, 28 cm from breakout to outside rearview mirror. See **Fig. 50**.
J600	Passenger door harness, 8.7 cm from breakout to window motor. See **Fig. 50**.
J601	Passenger door harness, 3.5 cm from breakout to window motor. See **Fig. 50**.
J602	Passenger door harness, 7.7 cm from breakout to outside rearview mirror. See **Fig. 50**.
J603	Passenger door harness, 19.9 cm from breakout to window motor. See **Fig. 50**.
J604	Passenger door harness, 11.3 cm from breakout to outside rearview mirror. See **Fig. 50**.
J605	Passenger door harness, 3.4 cm from breakout to outside rearview mirror. See **Fig. 50**.

cardiagn.com

COMPONENT LOCATION GRAPHICS

NOTE: **Figures may show multiple component locations. Refer to appropriate table for proper figure references.**

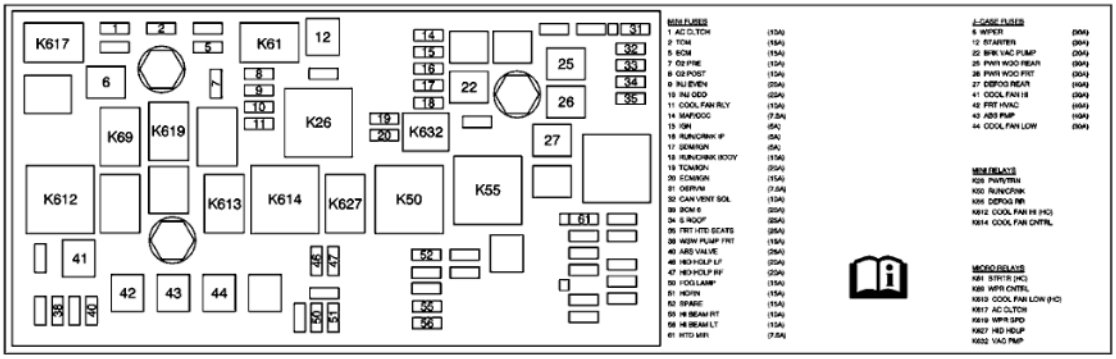


Fig. 1: Underhood Fuse Block
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

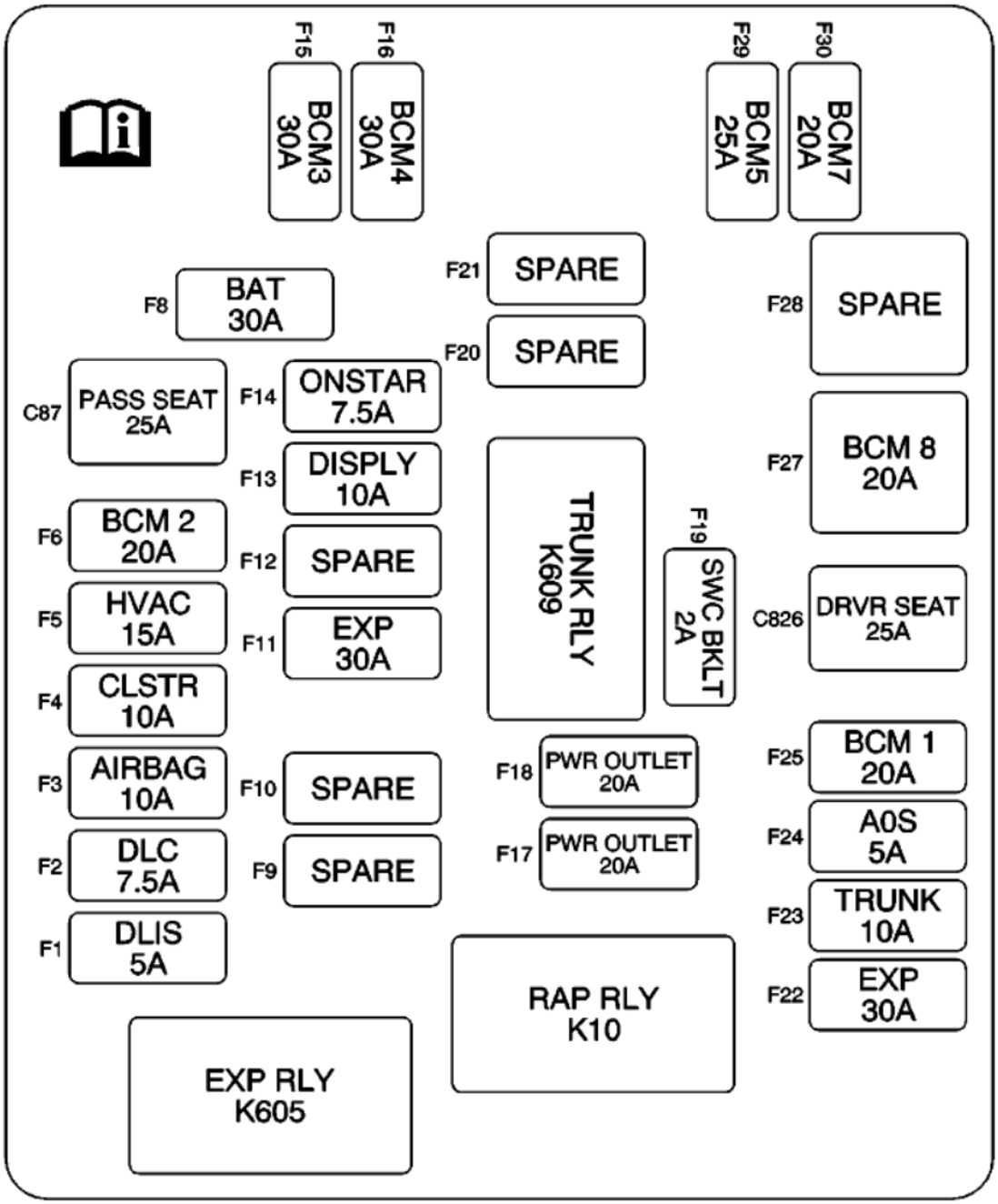
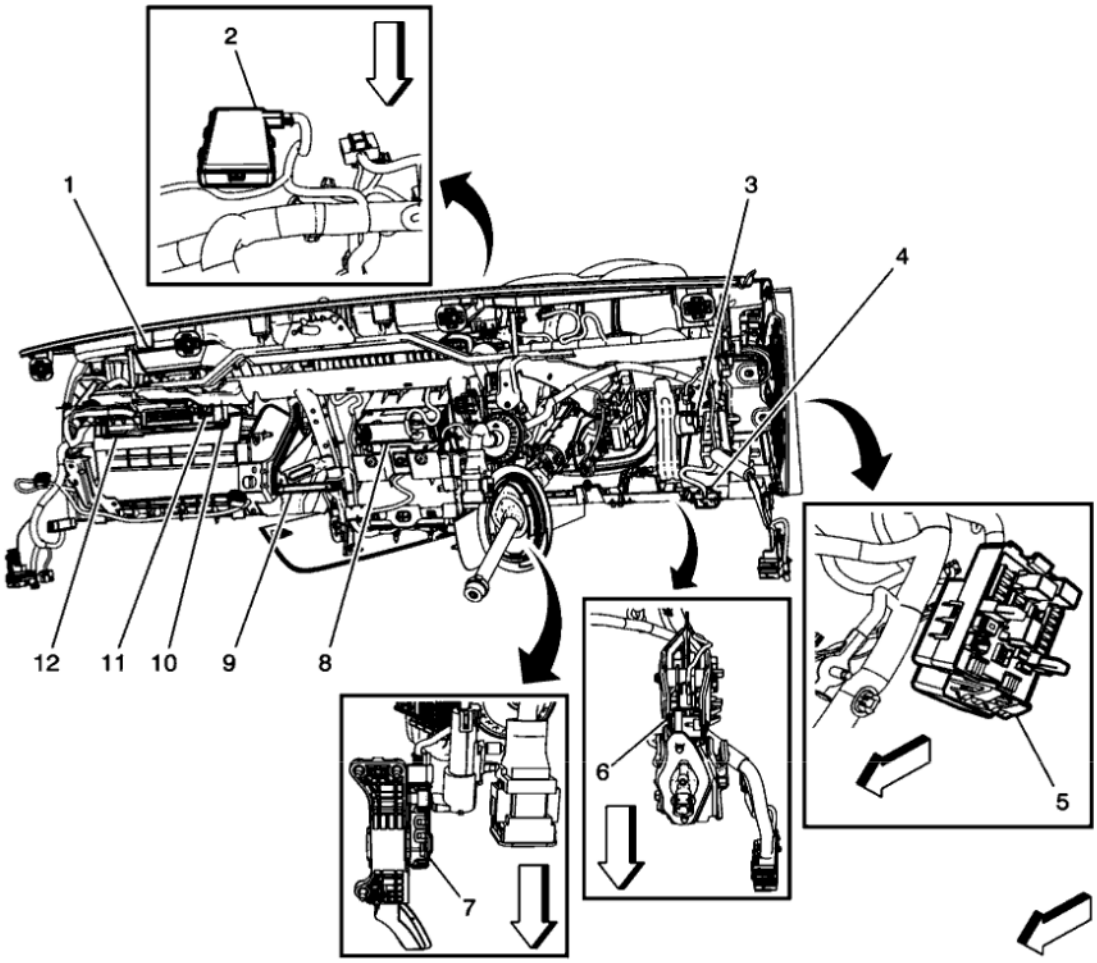


Fig. 2: Instrument Panel Fuse Block
Courtesy of GENERAL MOTORS CORP.

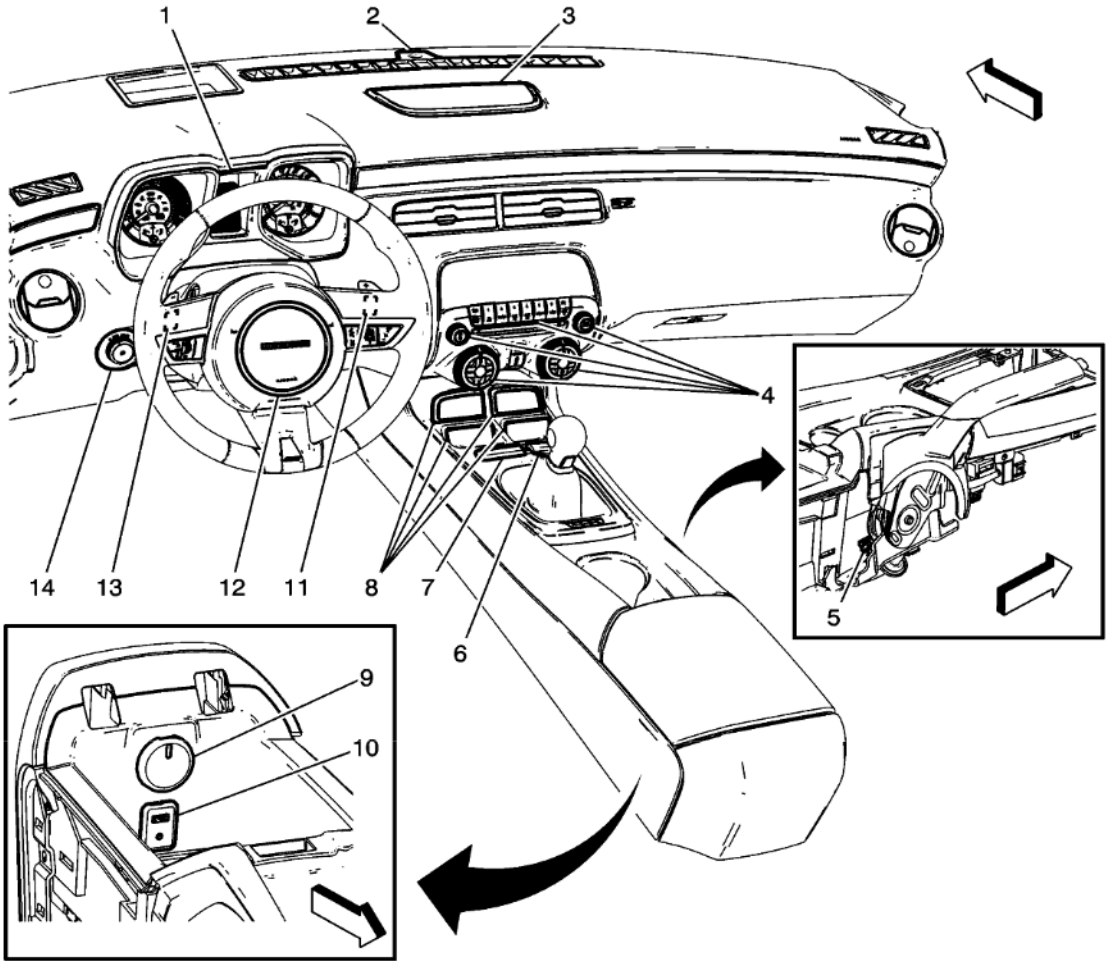
cardiagn.com



(1) F105 Passenger Instrument Panel Air Bag
(2) K77 Remote Control Door Lock Receiver (W/O BTV)
(3) B22 Brake Pedal Position Sensor
(4) X84 Data Link Connector
(5) X51A Fuse Block - Instrument Panel
(6) B25B Clutch Pedal Position Sensor (MV5/M10)
(7) B107 Accelerator Pedal Position Sensor
(8) A11 Radio
(9) B39 A/C Evaporator Temperature Sensor
(10) K73 Telematics Communication Interface Control Module (UE1)
(11) T4S Wireless Communication Antenna - Bluetooth (UPF)
(12) C3 Telematics Communication Interface Control Module Battery (UE1)

Fig. 3: Instrument Panel
Courtesy of GENERAL MOTORS CORP.

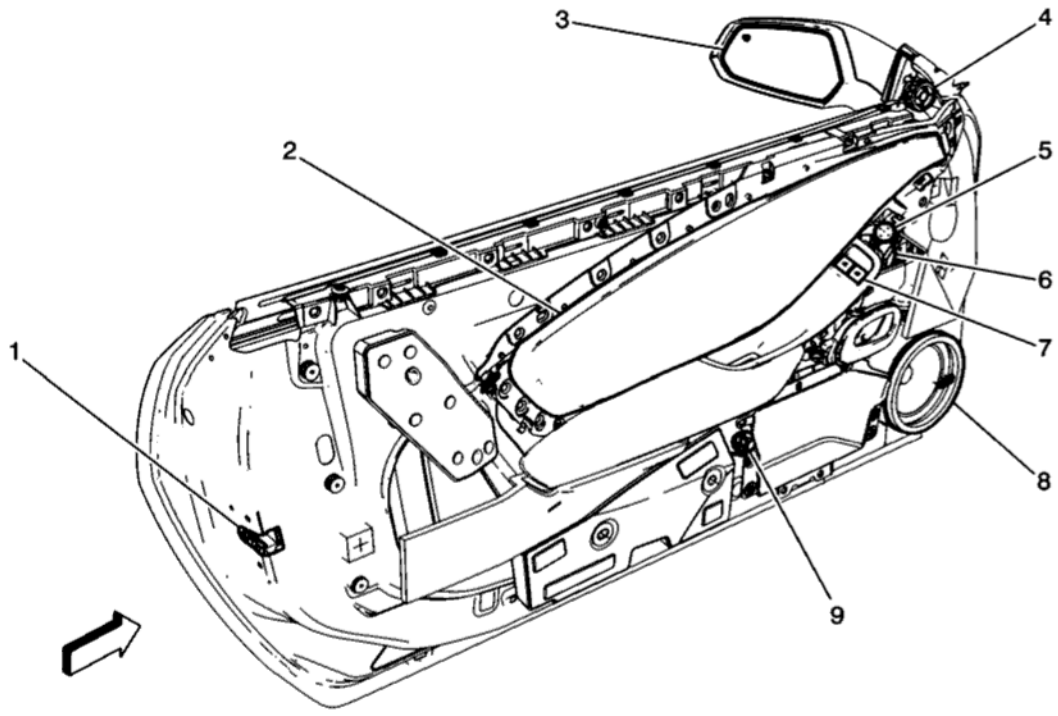
cardiagn.com



(1) P16 Instrument Cluster
(2) B10 Ambient Light Sensor
(3) P19A Speaker - Center Instrument Panel (UQA)
(4) A20 Radio/HVAC Controls
(5) B80 Park Brake Switch
(6) X80H Accessory Power Receptacle - Center Console
(7) S75 Traction Control Switch
(8) P26 Auxiliary Gauge Module (UMQ)
(9) X80D Accessory Power Receptacle - Center Console Compartment
(10) X83 Auxiliary Audio Input (USR)
(11) S2R Automatic Transmission Manual Shift Switch - Right (MYB/MYC)
(12) F107 Steering Wheel Air Bag
(13) S2L Automatic Transmission Manual Shift Switch - Left (MYB/MYC)
(14) S30 Headlamp Switch

Fig. 4: Dash & Center Console
Courtesy of GENERAL MOTORS CORP.

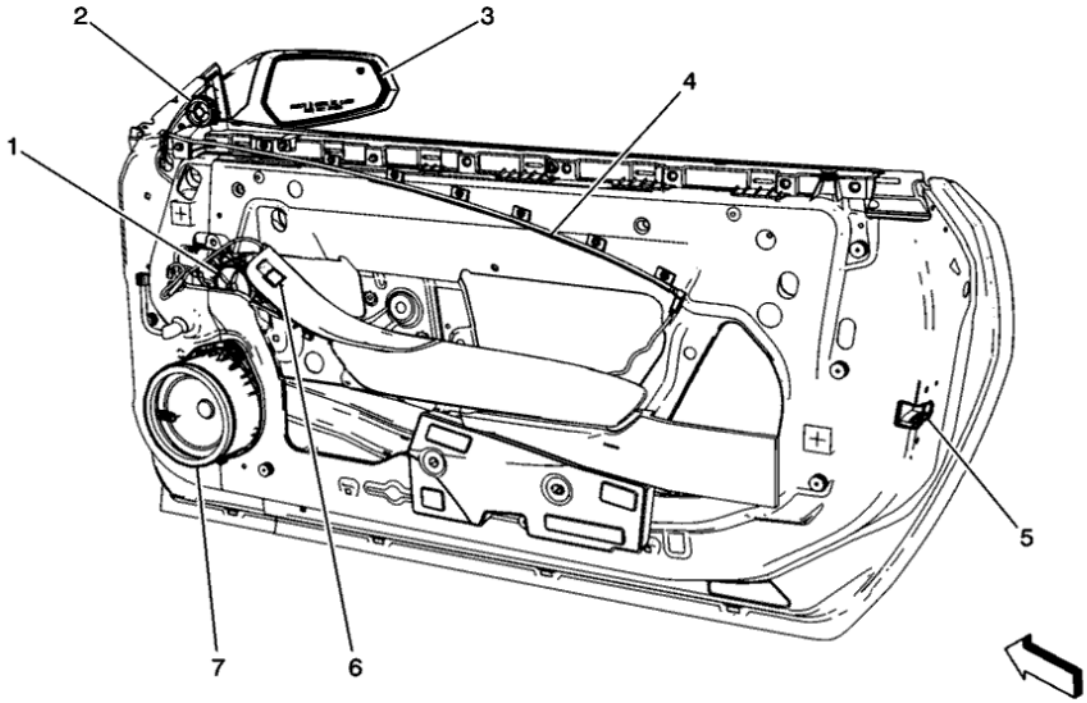
cardiagn.com



(1) A23D Door Latch Assembly - Driver
(2) E1D Accent Lamp - Driver Door (FCR)
(3) A9A Outside Rearview Mirror - Driver
(4) P19H Speaker - Left Front Tweeter
(5) S52 Outside Rearview Mirror - Switch
(6) M74D Window Motor - Driver
(7) S79D Window Switch - Driver
(8) P19G Speaker - Left Front
(9) S58 Rear Compartment Lid Unlatch Switch

Fig. 5: Driver's Door
Courtesy of GENERAL MOTORS CORP.

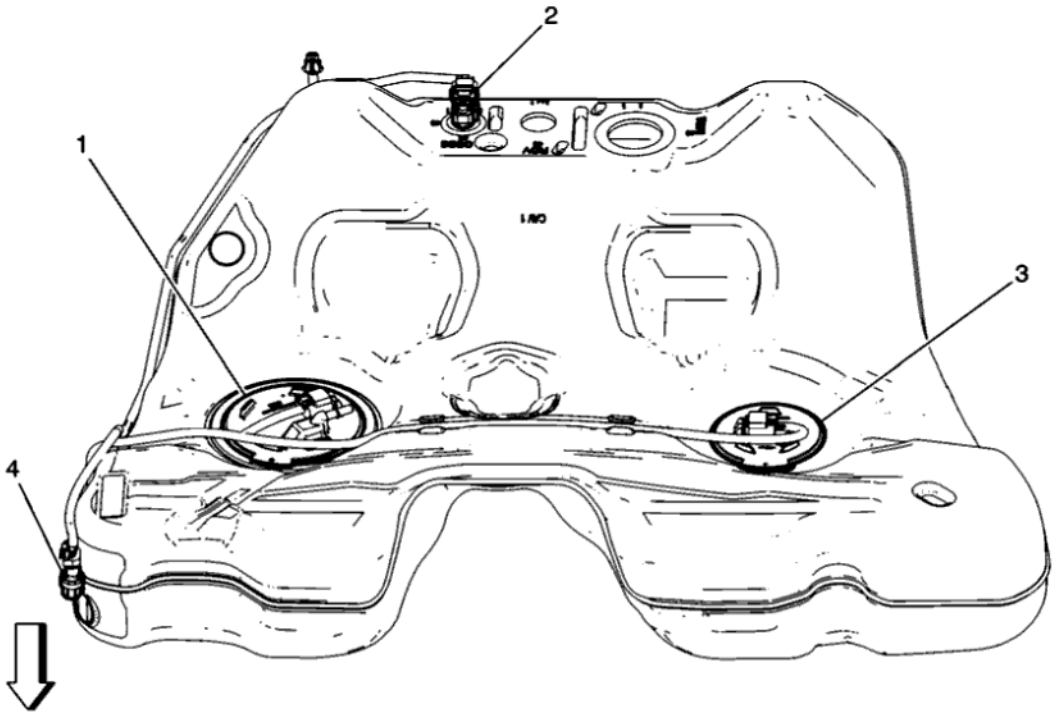
cardiagn.com



(1) M74P Window Motor - Passenger
(2) P19V Speaker - Right Front Tweeter
(3) A9B Outside Rearview Mirror - Passenger
(4) E1P Accent Lamp - Passenger Door (FCR)
(5) A23P Door Latch Assembly - Passenger
(6) S79P Window Switch - Passenger
(7) P19U Speaker - Right Front

Fig. 6: Passenger's Door
Courtesy of GENERAL MOTORS CORP.

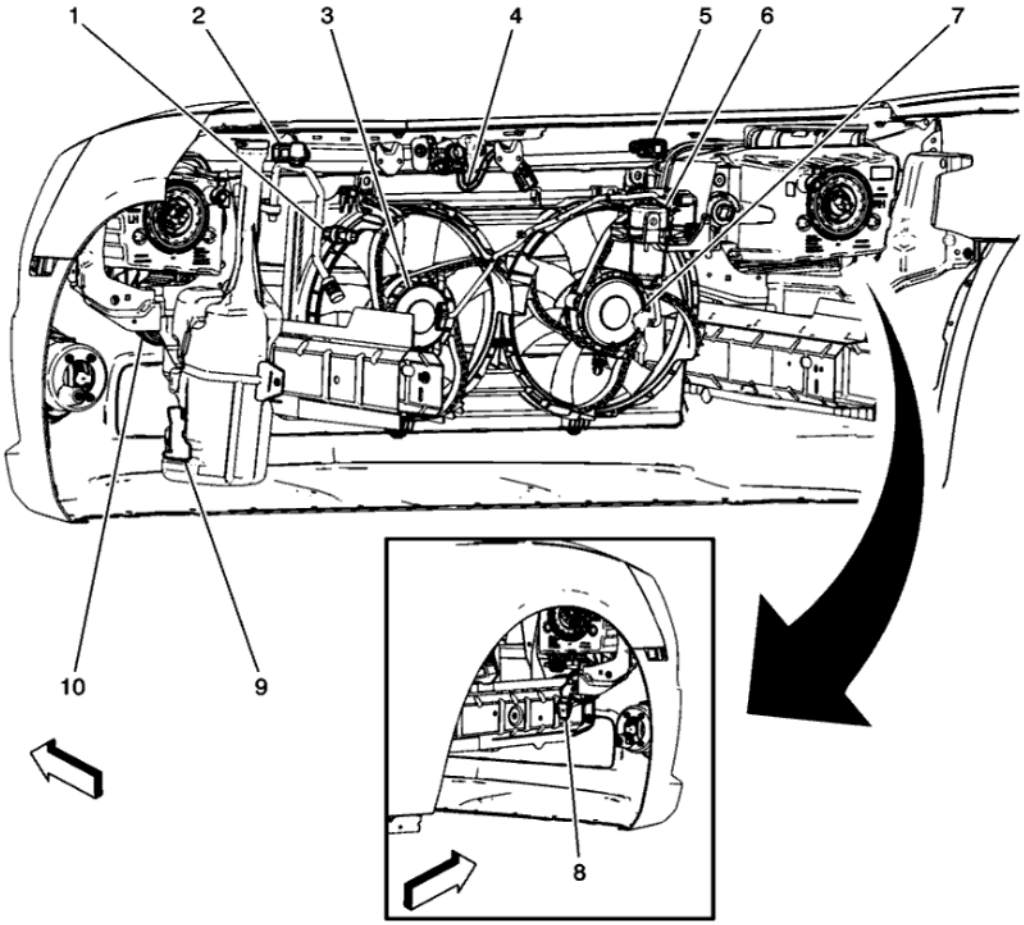
cardiagn.com



(1) A7 Fuel Pump and Level Sensor Assembly
(2) B150 Fuel Tank Pressure Sensor
(3) B46B Fuel Level Sensor - Secondary
(4) B47 Fuel Pressure Sensor

Fig. 7: Fuel Tank
Courtesy of GENERAL MOTORS CORP.

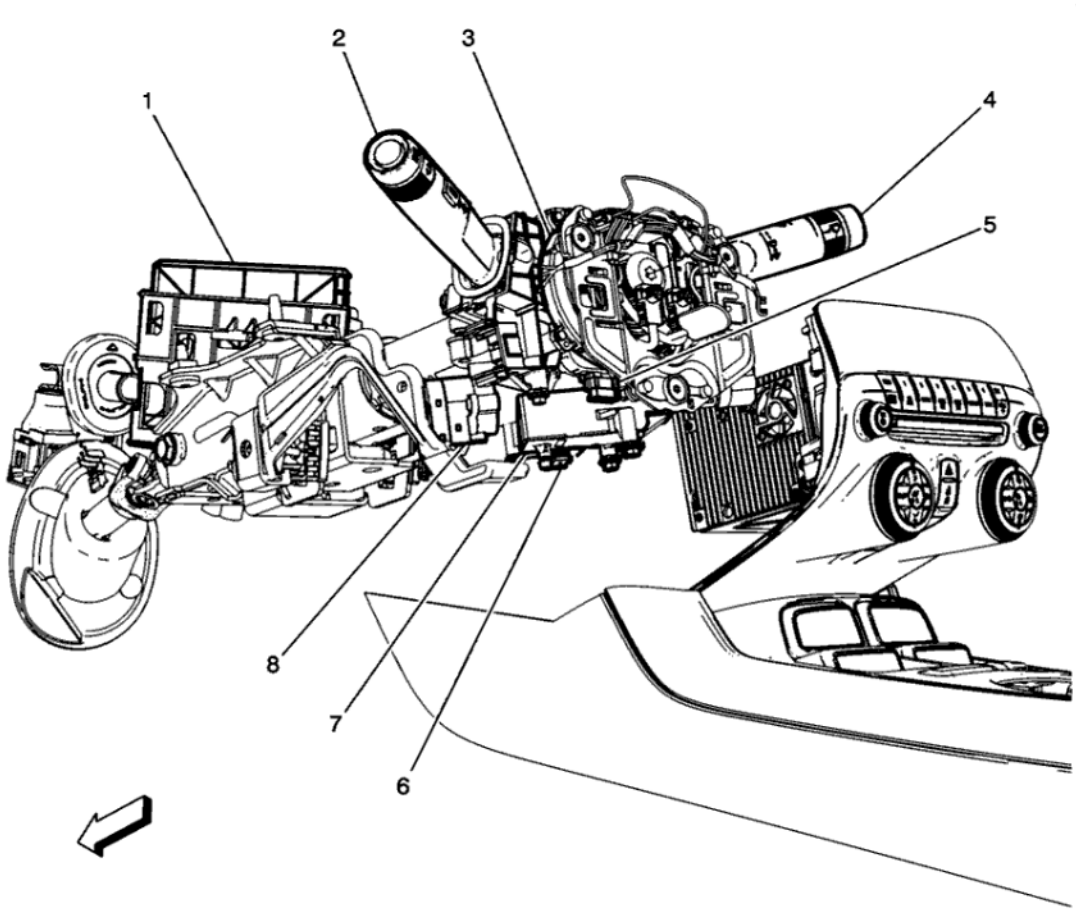
cardiagn.com



(1) B1 A/C Refrigerant Pressure Sensor
(2) B59L Front Impact Sensor - Left
(3) G10L Cooling Fan Motor - Left
(4) B55 Hood Ajar Switch
(5) B59R Front Impact Sensor - Right
(6) G6 Brake Booster Pump - Auxiliary (LLT)
(7) G10R Cooling Fan Motor - Right
(8) P12A Horn - High Note
(9) G24 Windshield Washer Pump
(10) P12B Horn - Low Note

Fig. 8: Front Of Engine Compartment
Courtesy of GENERAL MOTORS CORP.

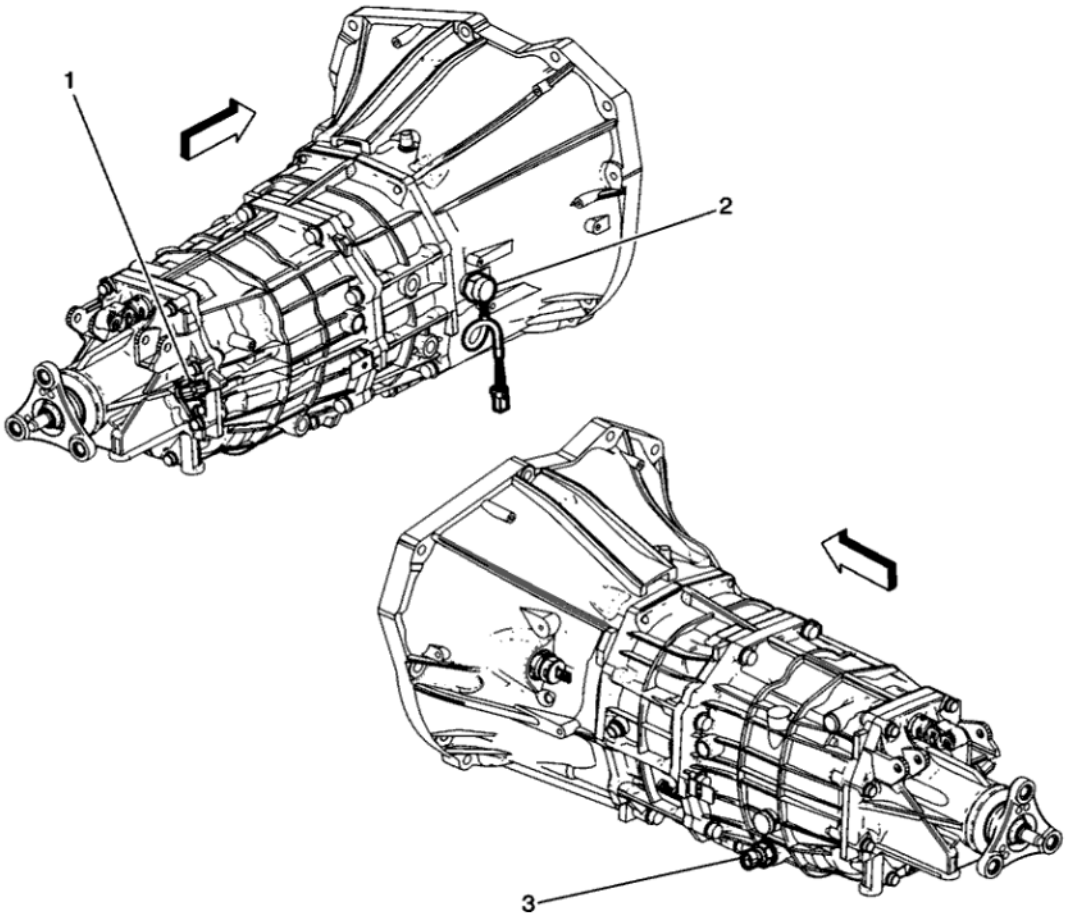
cardiagn.com



(1) K9 Body Control Module
(2) S78 Turn Signal/Multifunction Switch
(3) X85 Steering Wheel Air Bag Coil
(4) S82 Windshield Wiper/Washer Switch
(5) B99 Steering Wheel Angle Sensor
(6) M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB/MYC)
(7) B101 Immobilizer Antenna
(8) S39 Ignition Switch

Fig. 9: Left Center Of Instrument Panel & Steering Column
Courtesy of GENERAL MOTORS CORP.

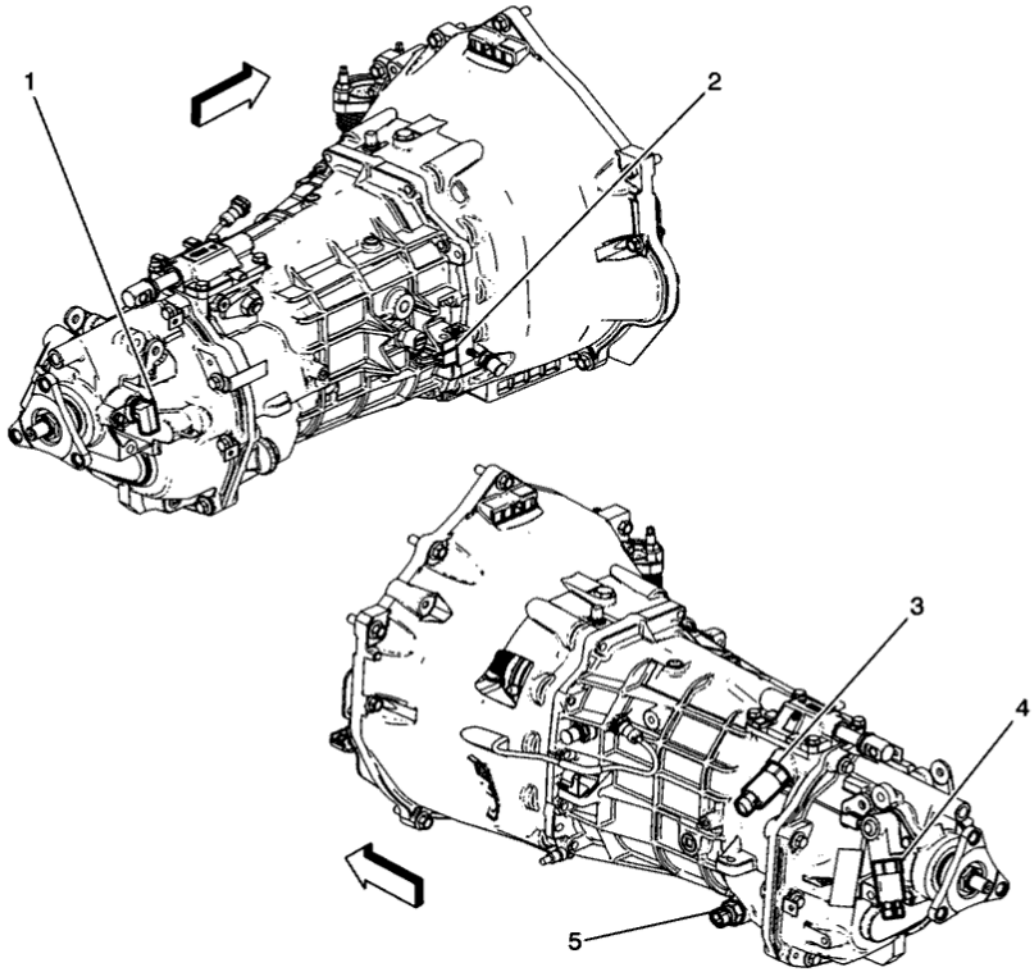
cardiagn.com



(1) B115 Vehicle Speed Sensor
(2) B16 Backup Lamp Switch
(3) B173 Manual Transmission Fluid Temperature Sensor

Fig. 10: Transmission (6 Speed M/T - Aisin)
Courtesy of GENERAL MOTORS CORP.

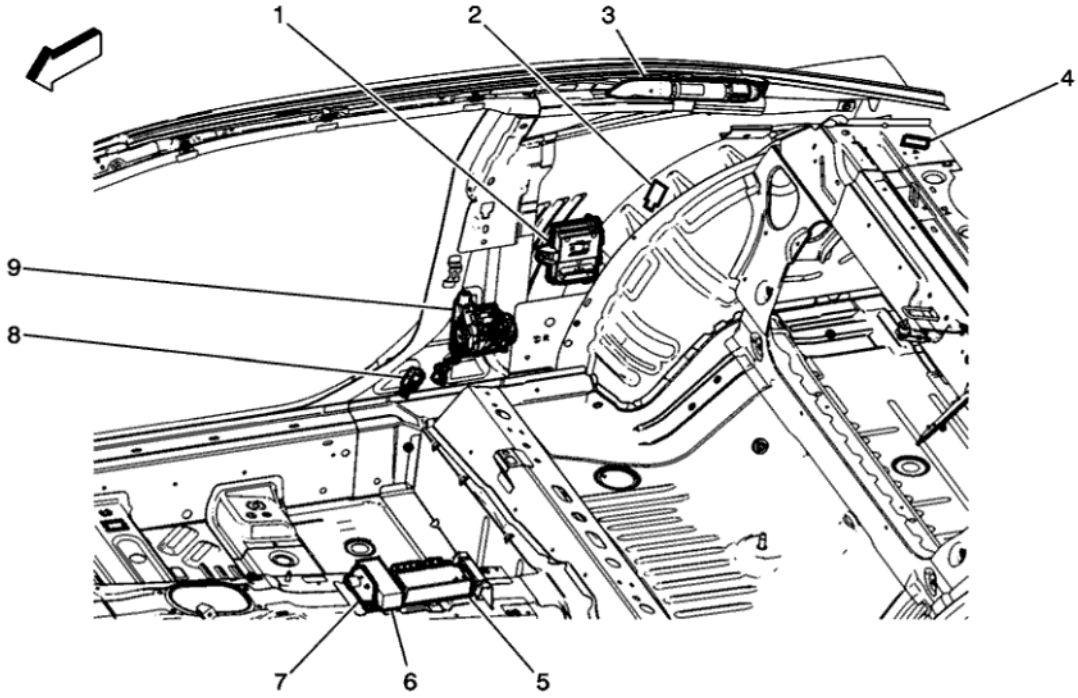
cardiagn.com



(1) B115 Vehicle Speed Sensor
(2) B16 Backup Lamp Switch
(3) Q34 Skip Shift Solenoid Actuator
(4) M47 Reverse Inhibit Solenoid Actuator
(5) B173 Manual Transmission Fluid Temperature Sensor

Fig. 11: Transmission (6 Speed M/T - Tremec)
Courtesy of GENERAL MOTORS CORP.

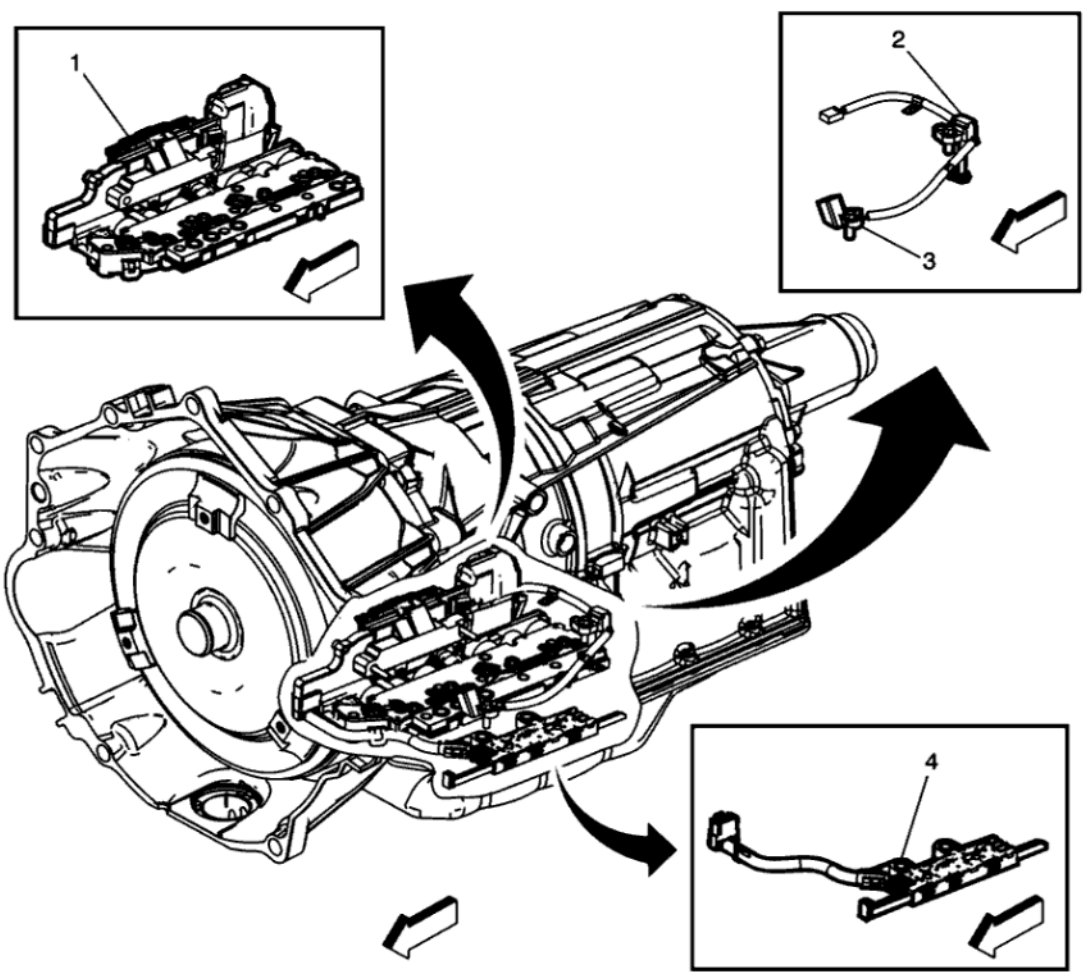
cardiagn.com



(1) K27 Fuel Pump Control Module
(2) R6 Data Link Resistor
(3) F105R Roof Rail Air Bag - Right
(4) R14R Rear Window Defogger Noise Filter - Right
(5) K36 Inflatable Restraint Sensing and Diagnostic Module
(6) T11 Multimedia Player Interface Module
(7) B119 Multi-axis Acceleration Sensor
(8) B63R Side Impact Sensor - Right
(9) F112P Seat Belt Retractor Pretensioner - Passenger

Fig. 12: Right Side Of Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

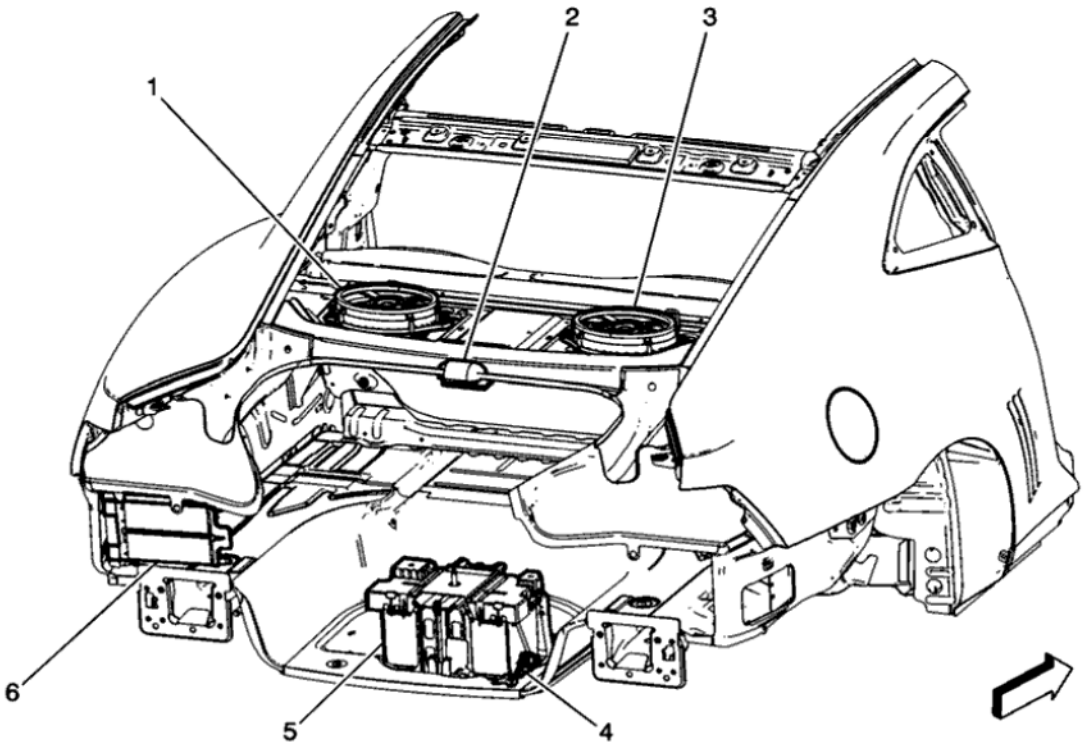
cardiagn.com



(1) Q8 Control Solenoid Valve Assembly
(2) B14A Transmission Output Shaft Speed Sensor
(3) B14C Transmission Input Shaft Speed Sensor
(4) B15 Transmission Internal Mode Switch

Fig. 13: Automatic Transmission (6L50 Or 6L80)
Courtesy of GENERAL MOTORS CORP.

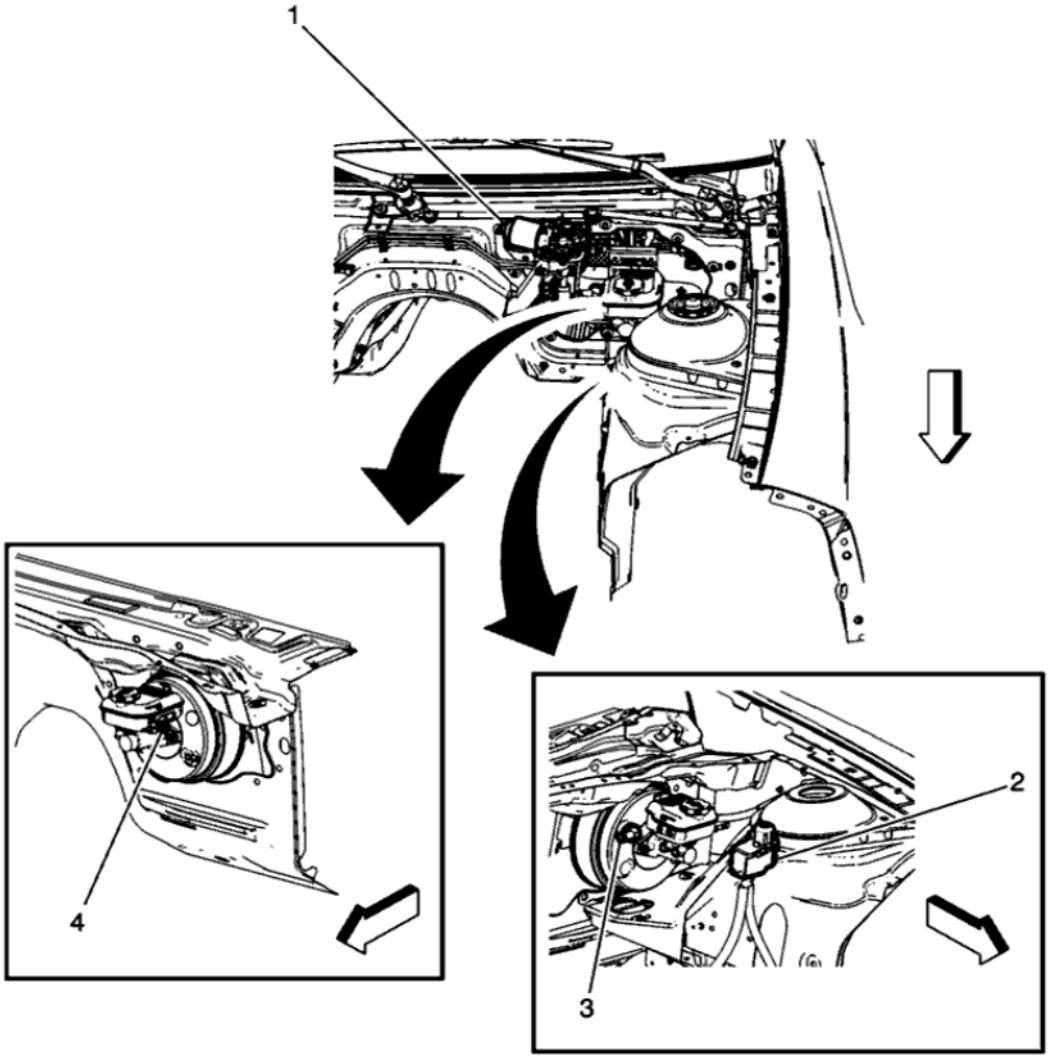
cardiagn.com



(1) P19K Speaker - Left Rear
(2) E8S Rear Compartment Courtesy Lamp
(3) P19X Speaker - Right Rear
(4) B18 Battery Current Sensor
(5) C1 Battery
(6) T3 Audio Amplifier (UQA)

Fig. 14: Rear Of Vehicle
Courtesy of GENERAL MOTORS CORP.

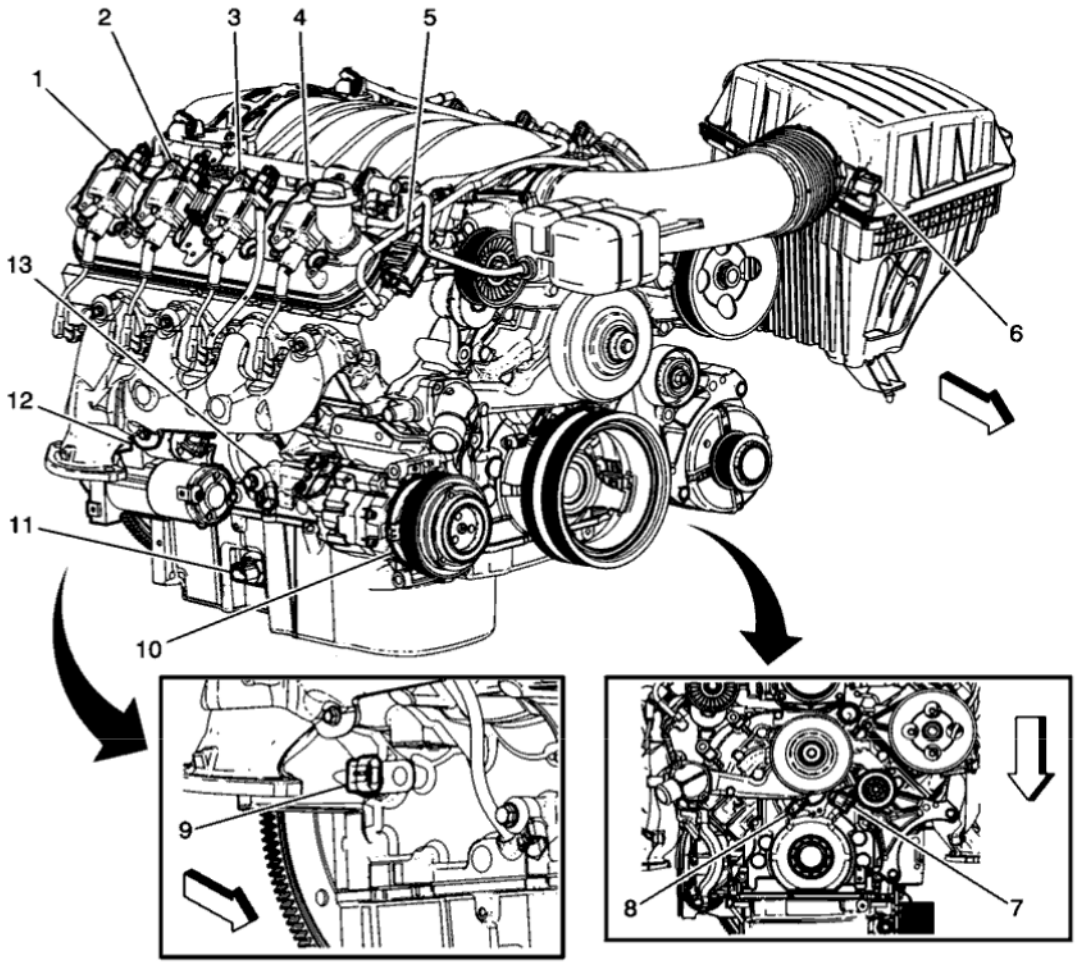
cardiagn.com



(1) M75 Windshield Wiper Motor
(2) X60B Junction Block - Underhood Battery Cable
(3) B19B Brake Booster Vacuum Sensor (L99)
(4) B20 Brake Fluid Level Switch

Fig. 15: Left Rear Of Engine Compartment
Courtesy of GENERAL MOTORS CORP.

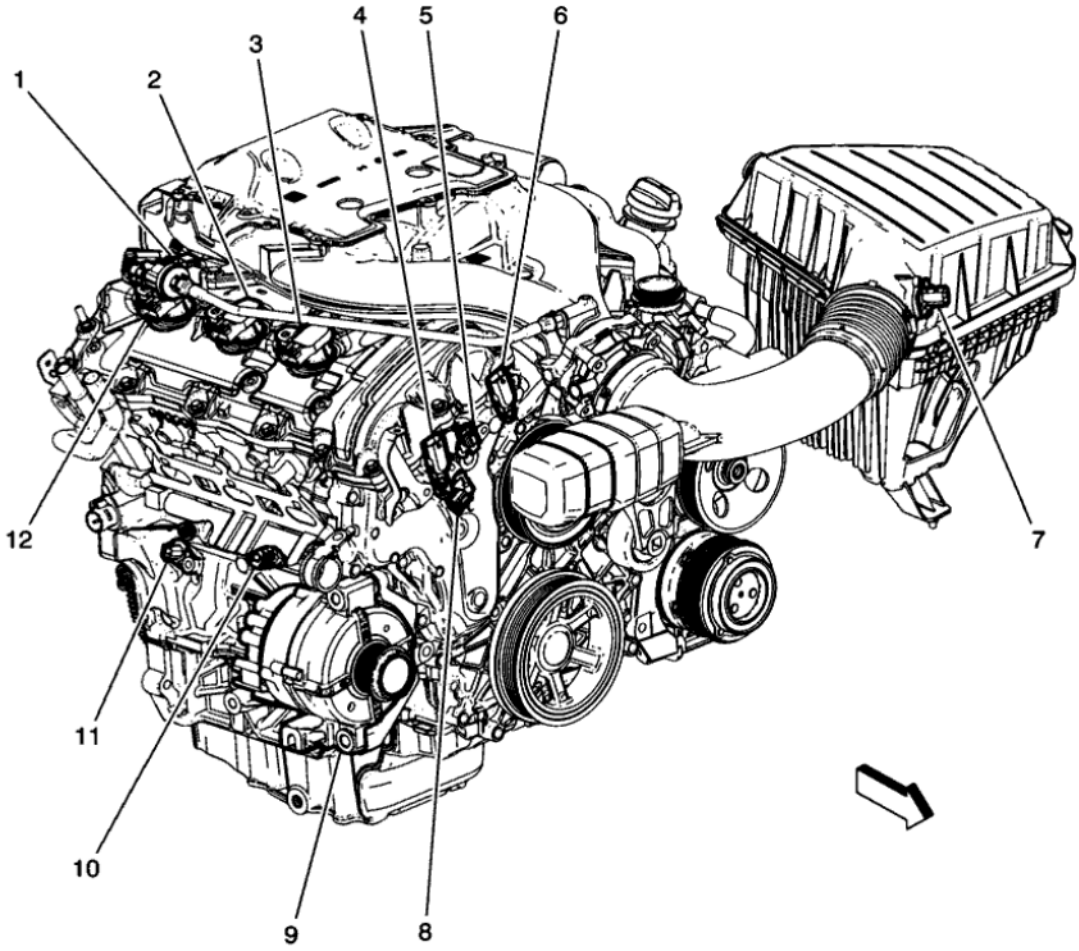
cardiagn.com



(1) T8H Ignition Coil 8
(2) T8F Ignition Coil 6
(3) T8D Ignition Coil 4
(4) T8B Ignition Coil 2
(5) Q12 Evaporative Emission (EVAP) Purge Solenoid Valve
(6) B75B Mass Air Flow/Intake Air Temperature Sensor
(7) B23 Camshaft Position Sensor
(8) Q6 Camshaft Position Actuator Solenoid Valve (L99)
(9) B26 Crankshaft Position Sensor
(10) Q2 A/C Compressor Clutch
(11) B35C Engine Oil Level and Temperature Sensor
(12) M64 Starter Motor
(13) B68B Knock Sensor 2

Fig. 16: Right Side Of Engine (V8)
Courtesy of GENERAL MOTORS CORP.

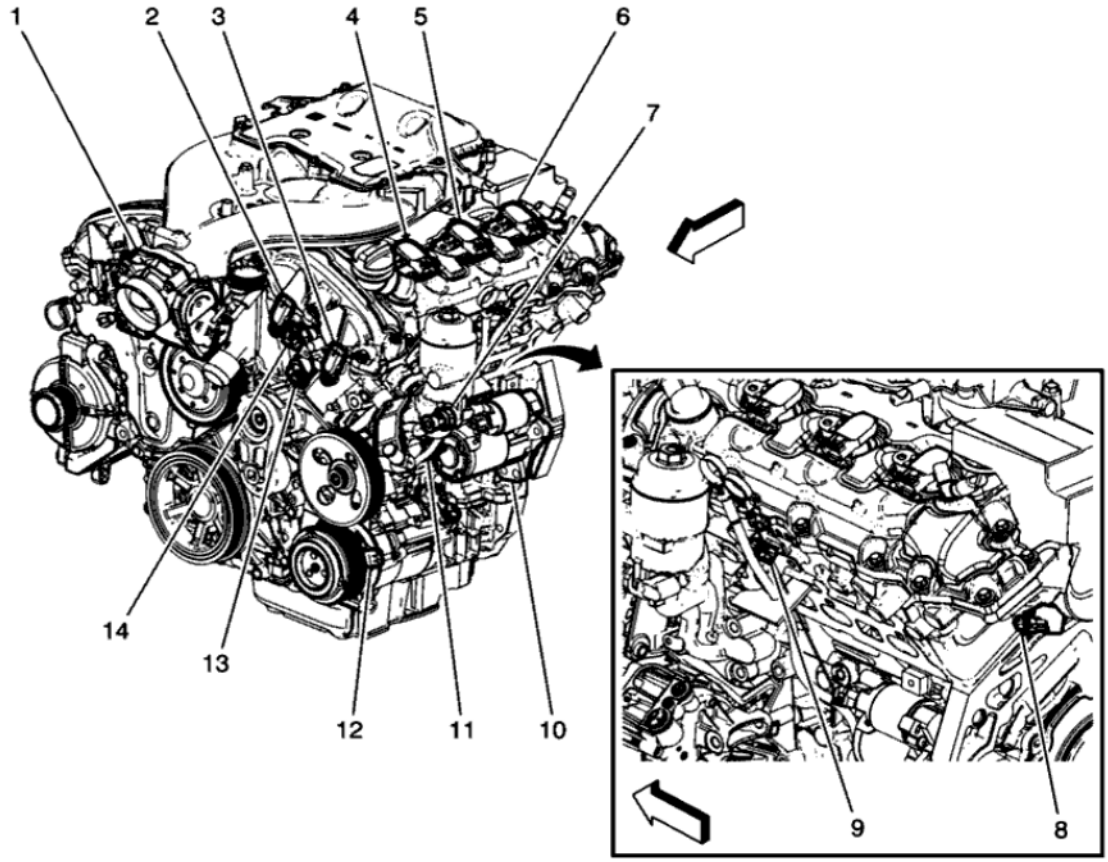
cardiagn.com



(1) Q12 Evaporative Emission (EVAP) Purge Solenoid Valve
(2) T8C Igntion Coil 3
(3) T8A Ignition Coil 1
(4) B23A Camshaft Position Sensor - Bank 1 Exhaust
(5) Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake
(6) B23B Camshaft Position Sensor - Bank 1 Intake
(7) B75B Mass Air Flow/Intake Air Temperature Sensor
(8) Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust
(9) G13 Generator
(10) B68A Knock Sensor 1
(11) B26 Crankshaft Position Sensor
(12) T8E Ignition Coil 5

Fig. 17: Right Side Of Engine (V6)
Courtesy of GENERAL MOTORS CORP.

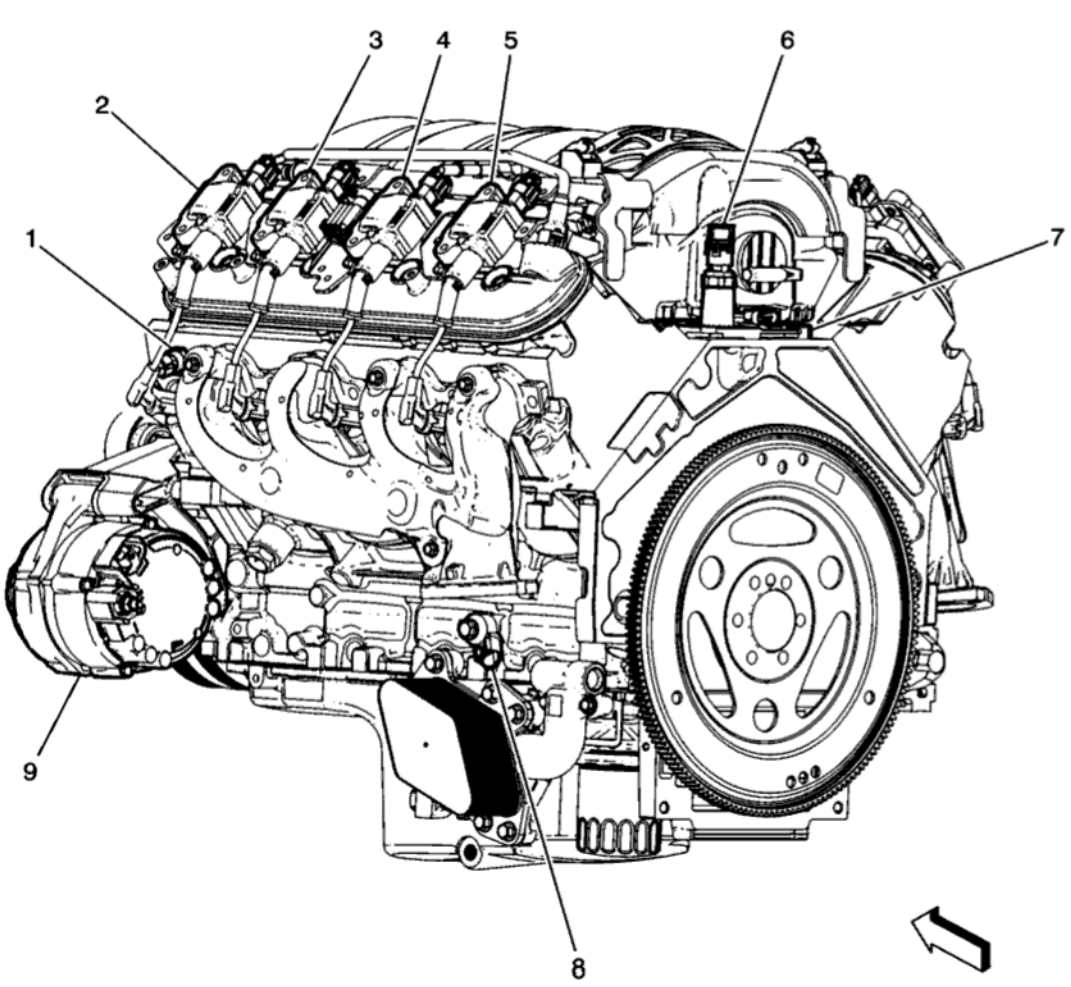
cardiagn.com



(1) Q38 Throttle Body
(2) B23D Camshaft Position Sensor - Bank 2 Intake
(3) B23C Camshaft Position Sensor - Bank 2 Exhaust
(4) T8B Ignition Coil 2
(5) T8D Ignition Coil 4
(6) T8F Ignition Coil 6
(7) B37B Engine Oil Pressure Sensor
(8) G18 High Pressure Fuel Pump
(9) B34 Engine Coolant Temperature Sensor
(10) M64 Starter Motor
(11) B68B Knock Sensor 2
(12) Q2 A/C Compressor Clutch
(13) Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust
(14) Q6B Camshaft Position Actuator Solenoid Valve - Bank 2 Intake

Fig. 18: Left Side Of Engine (V6)
Courtesy of GENERAL MOTORS CORP.

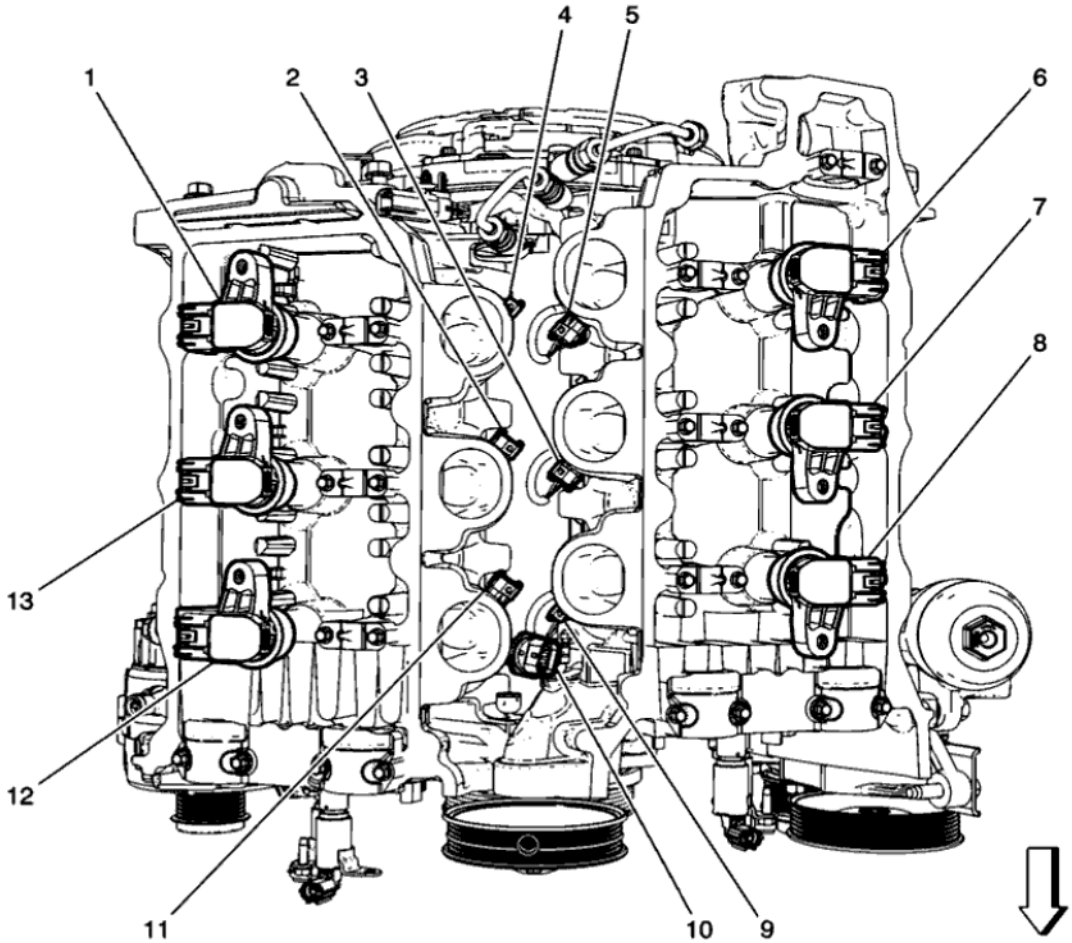
cardiagn.com



(1) B34 Engine Coolant Temperature Sensor
(2) T8A Ignition Coil 1
(3) T8C Ignition Coil 3
(4) T8E Ignition Coil 5
(5) T8G Ignition Coil 7
(6) B37B Engine Oil Pressure Sensor
(7) Q43 Valve Lifter Oil Manifold Assembly (L99)
(8) B68A Knock Sensor 1
(9) G13 Generator

Fig. 19: Left Rear Of Engine (V8)
Courtesy of GENERAL MOTORS CORP.

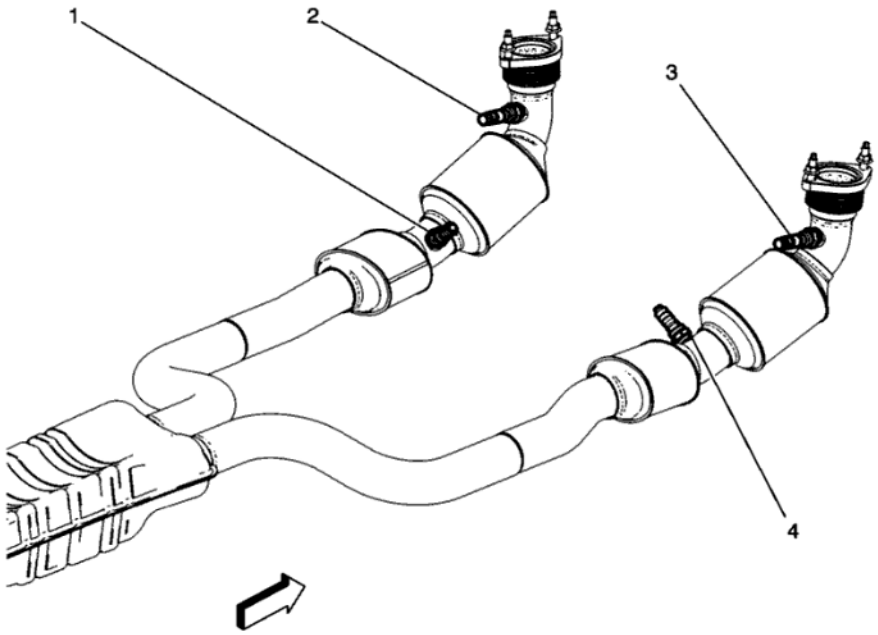
cardiagn.com



(1) T8E Ignition Coil 5
(2) Q17C Fuel Injector 3
(3) Q17D Fuel Injector 4
(4) Q17E Fuel Injector 5
(5) Q17F Fuel Injector 6
(6) T8F Ignition Coil 6
(7) T8D Ignition Coil 4
(8) T8B Ignition Coil 2
(9) Q17B Fuel Injector 2
(10) B47B Fuel Rail Pressure Sensor
(11) Q17A Fuel Injector 1
(12) T8A Ignition Coil 1
(13) T8C Ignition Coil 3

Fig. 20: Top Of Engine (V6)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



(1) B52F Heated Oxygen Sensor Bank 2 Sensor 2 (LLT) B52D Heated Oxygen Sensor Bank 1 Sensor 2 (L99/LS3)

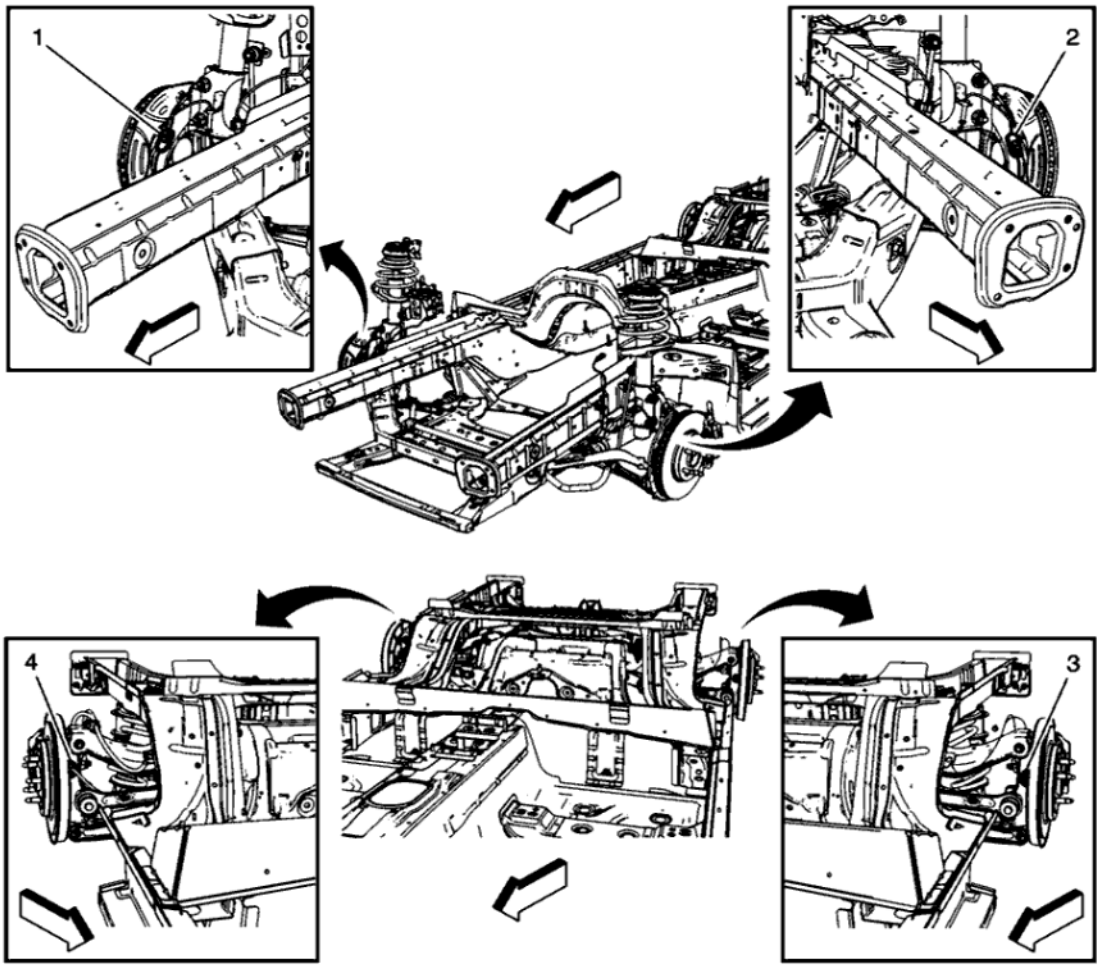
(2) B52E Heated Oxygen Sensor Bank 2 Sensor 1 (LLT) B52C Heated Oxygen Sensor Bank 1 Sensor 1 (L99/LS3)

(3) B52C Heated Oxygen Sensor Bank 1 Sensor 1 (LLT) B52E Heated Oxygen Sensor Bank 2 Sensor 1 (L99/LS3)

(4) B52D Heated Oxygen Sensor Bank 1 Sensor 2 (LLT) B52F Heated Oxygen Sensor Bank 2 Sensor 2 (L99/LS3)

Fig. 21: Front Of Exhaust System
Courtesy of GENERAL MOTORS CORP.

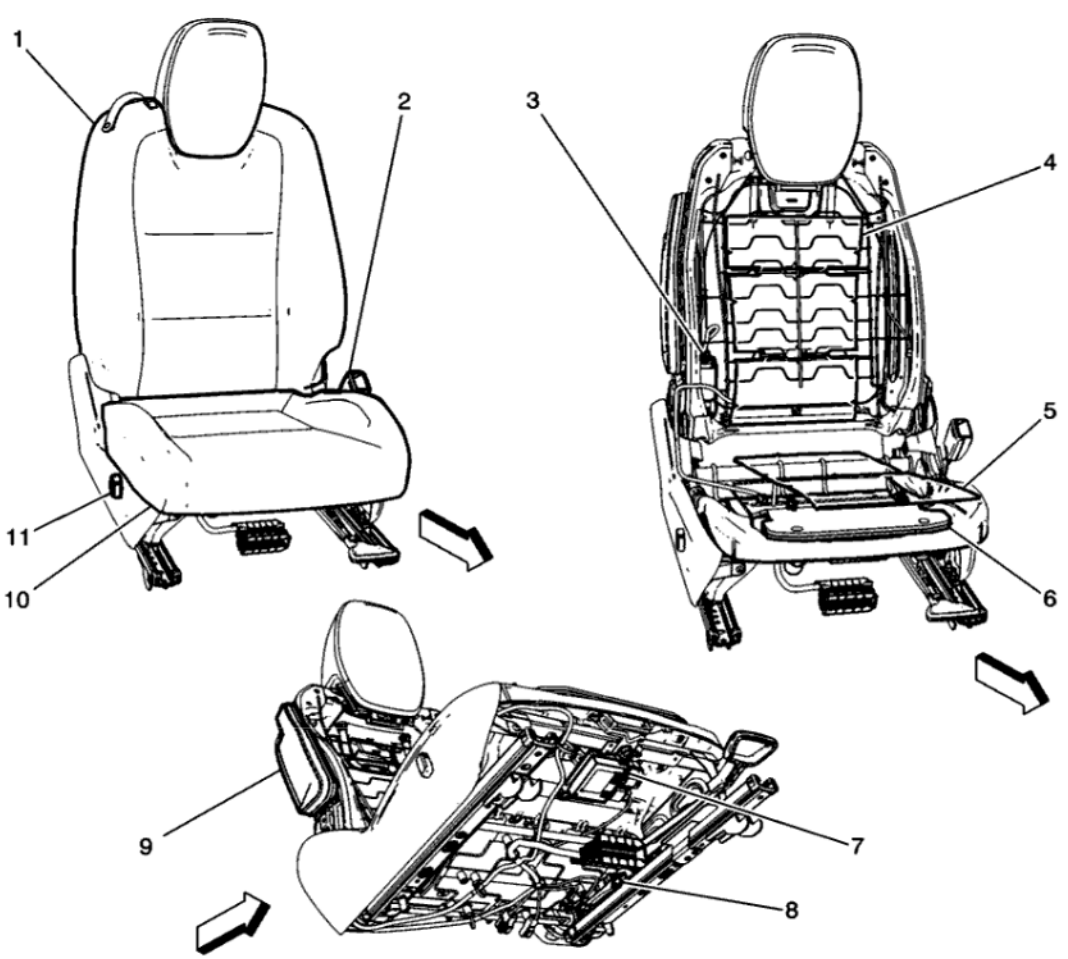
cardiagn.com



(1) B5RF Wheel Speed Sensor - Right Front
(2) B5LF Wheel Speed Sensor - Left Front
(3) B5LR Wheel Speed Sensor - Left Rear
(4) B5RR Wheel Speed Sensor - Right Rear

Fig. 22: Wheel Components
Courtesy of GENERAL MOTORS CORP.

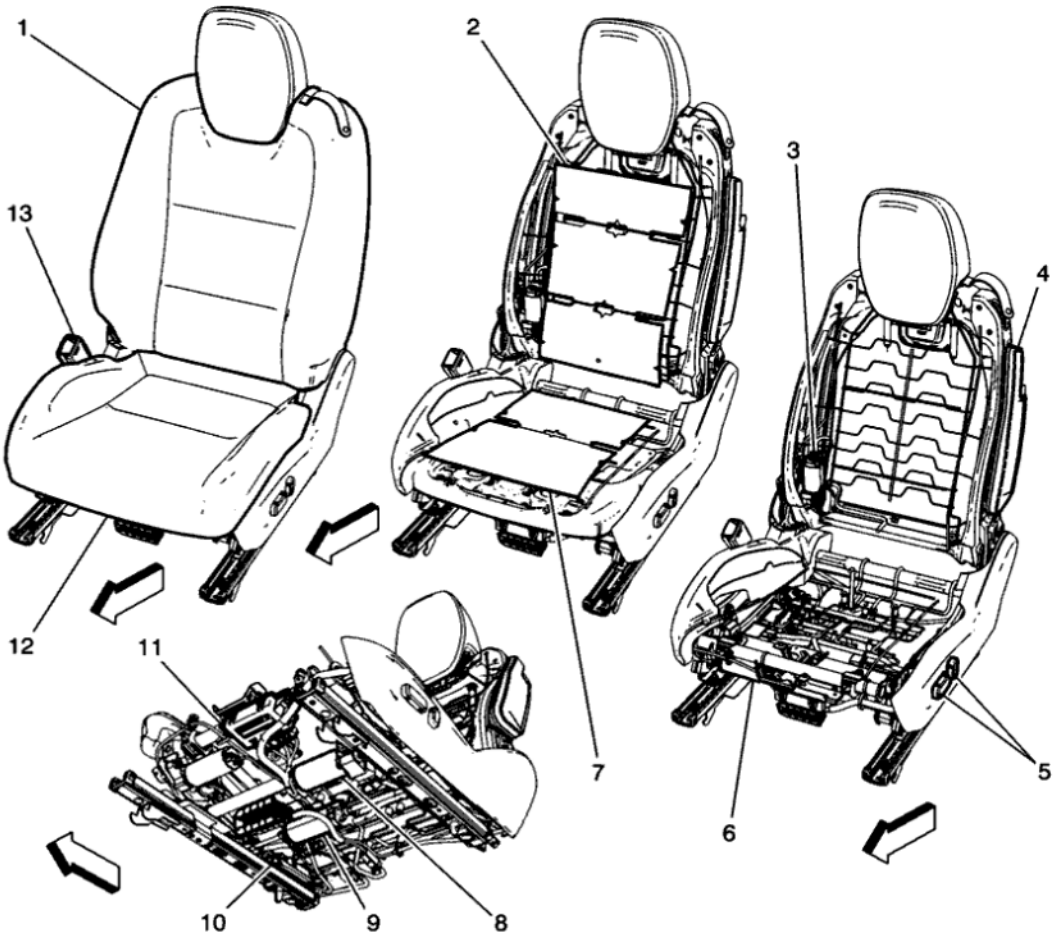
cardiagn.com



(1) Passenger Seat Back Cushion
(2) B88P Seat Belt Switch - Passenger
(3) M56P Seat Recline Motor - Passenger
(4) E14C Seat Heating Element - Passenger Back (KA1)
(5) E14D Seat Heating Element - Passenger Cushion (KA1)
(6) B60 Passenger Presence Detection Sensor
(7) K85 Passenger Presence Detection Module
(8) B62P Seat Position Sensor - Passenger
(9) F106R Side Air Bag - Right
(10) Passenger Seat Cushion
(11) S64P Seat Adjuster Switch - Passenger

Fig. 23: Front Passenger Seat
Courtesy of GENERAL MOTORS CORP.

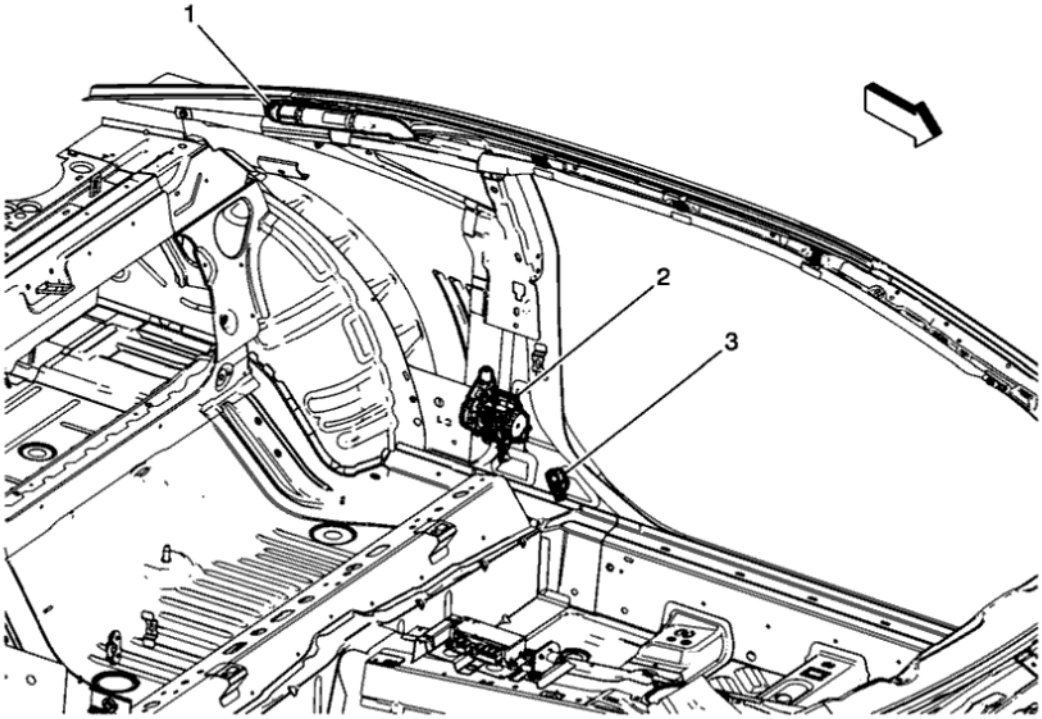
cardiagn.com



(1) Driver Seat Back Cushion
(2) E14A Seat Heating Element - Driver Back (KA1)
(3) M56D Seat Recline Motor - Driver
(4) F106L Side Air Bag - Left
(5) S64D Seat Adjuster Switch - Driver
(6) M50D Seat Front Vertical Motor - Driver (AMM)
(7) E14B Seat Heating Element - Driver Cushion (KA1)
(8) M55D Seat Rear Vertical Motor - Driver (AMM)
(9) M51D Seat Horizontal Motor - Driver (AMM)
(10) B62D Seat Position Sensor - Driver
(11) K29 Seat Heating Control Module (KA1)
(12) Driver Seat Cushion
(13) B88D Seat Belt Switch - Driver

Fig. 24: Driver's Seat
Courtesy of GENERAL MOTORS CORP.

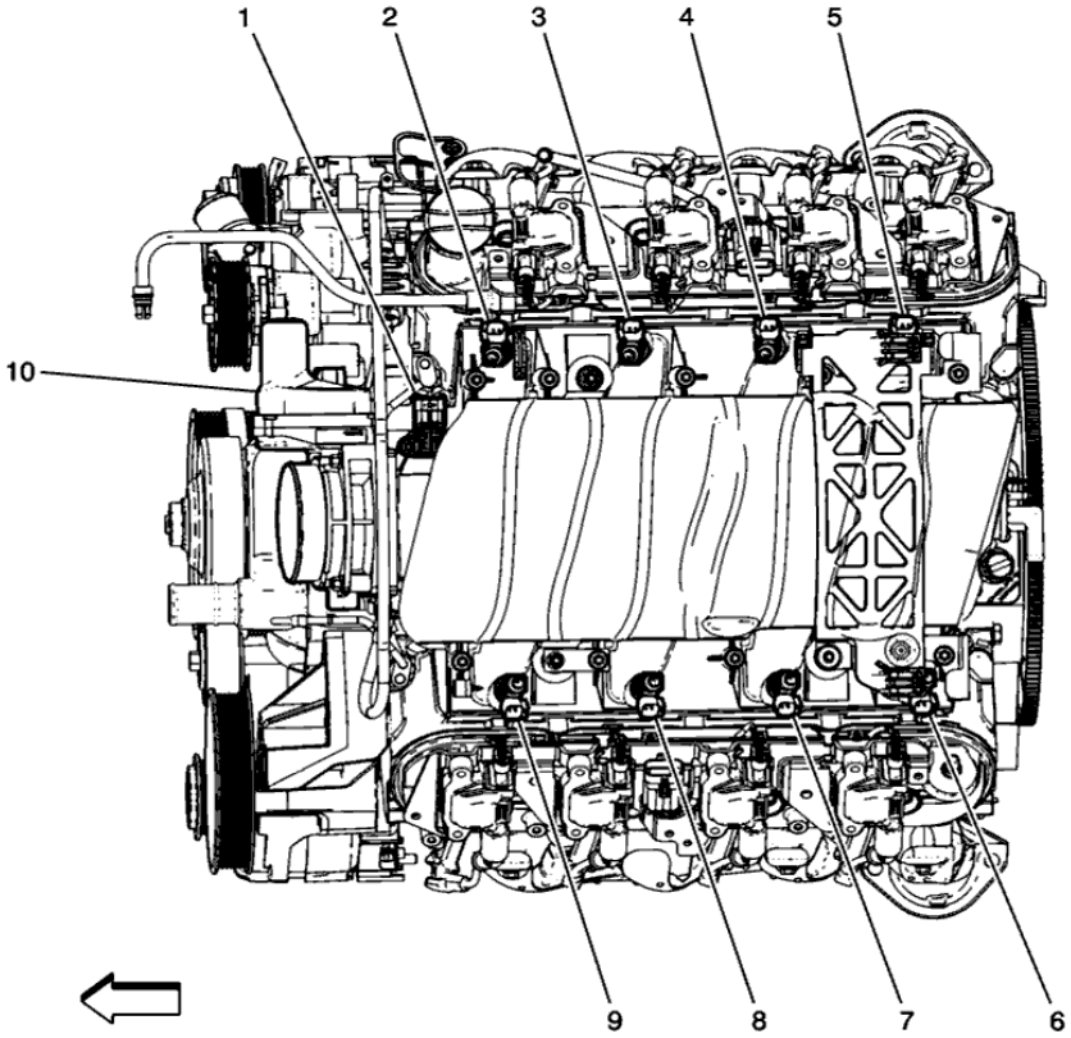
cardiagn.com



(1) F105L Roof Rail Air Bag - Left
(2) F112D Seat Belt Retractor Pretensioner - Driver
(3) B63L Side Impact Sensor - Left

Fig. 25: Left Side Of Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



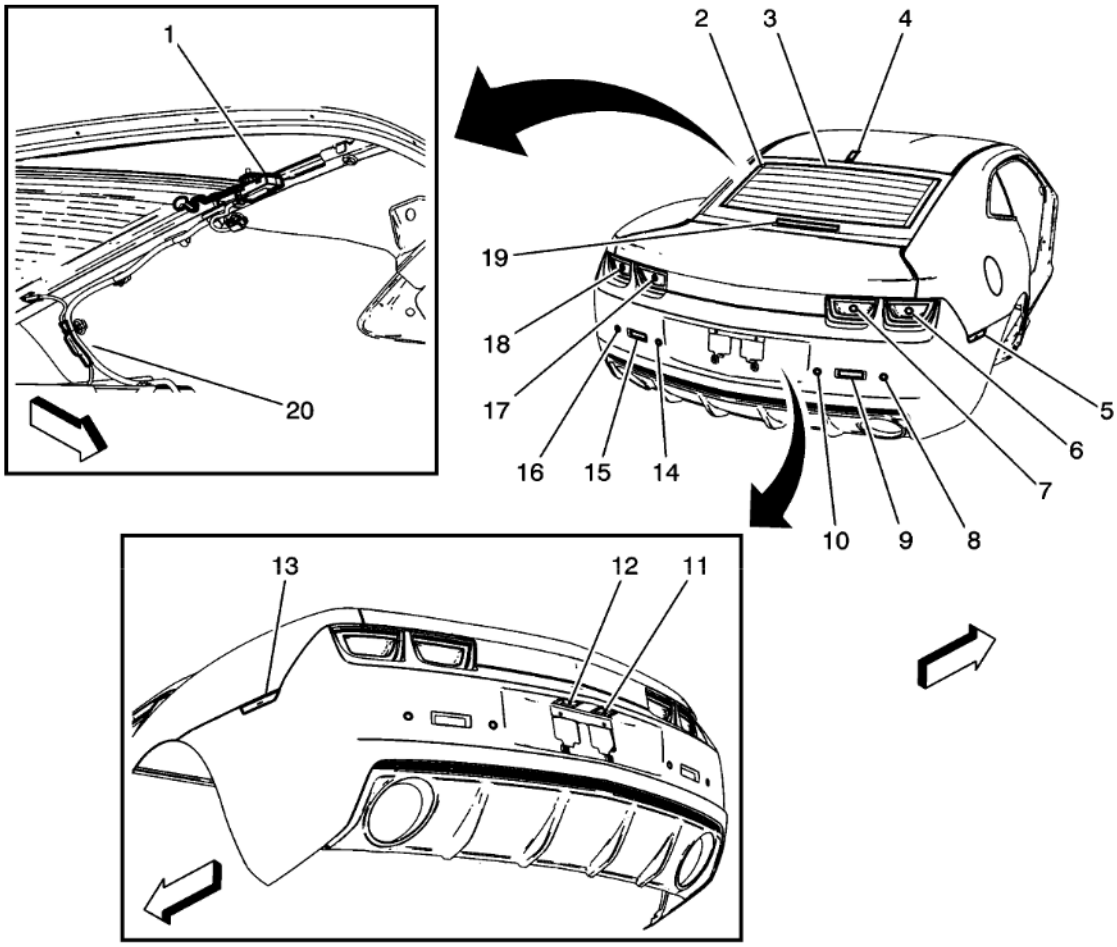
(1) B74 Manifold Absolute Pressure Sensor
(2) Q17B Fuel Injector 2
(3) Q17D Fuel Injector 4
(4) Q17F Fuel Injector 6
(5) Q17H Fuel Injector 8
(6) Q17G Fuel Injector 7
(7) Q17E Fuel Injector 5
(8) Q17C Fuel Injector 3
(9) Q17A Fuel Injector 1
(10) Q38 Throttle Body

Fig. 26: Top Of Engine (V8)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

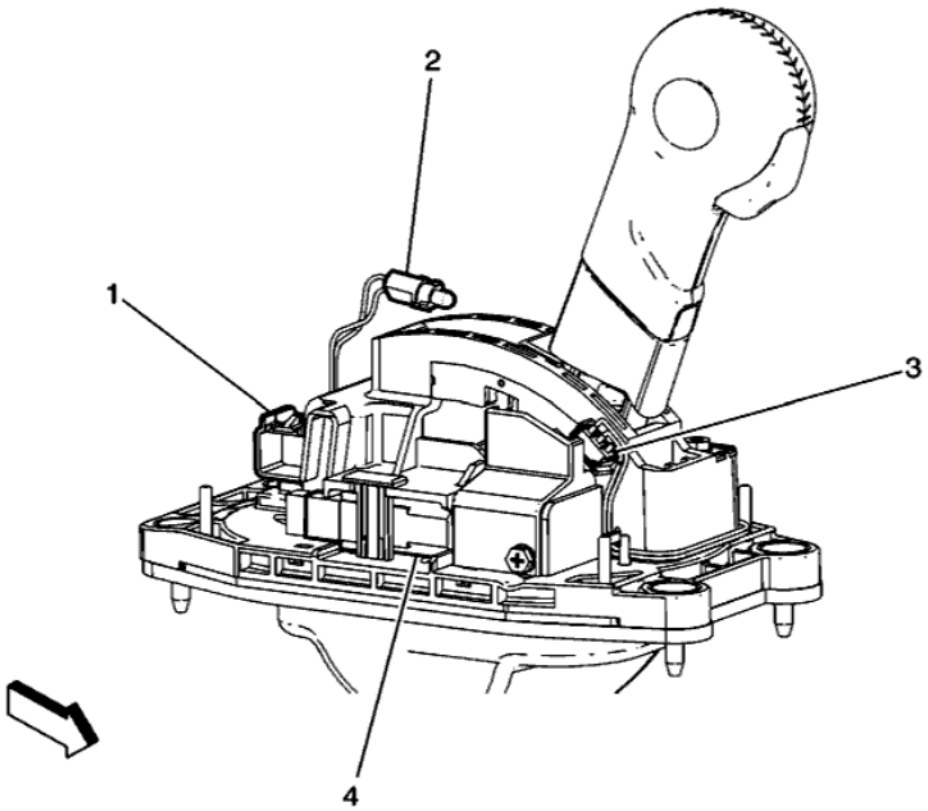
cardiagn.com



(1) K46 Radio Antenna Module
(2) T4M Radio Antenna
(3) E18 Rear Defogger Grid
(4) T4D Cellular Phone and Digital Radio Antenna (UE1/U2K)
(5) E2RR Side Marker Lamp - Right Rear
(6) E5X Tail/Stop and Turn Signal Lamp - Right Outer
(7) E5AF Tail/Stop and Turn Signal Lamp - Right Inner
(8) B78H Rear Object Sensor - Right Outer (UD7)
(9) E5B Backup Lamp - Right
(10) B78F Rear Object Sensor - Right Middle (UD7)
(11) E7R License Plate Lamp - Right
(12) E7L License Plate Lamp - Left
(13) E2LR Side Marker Lamp - Left Rear
(14) B78E Rear Object Sensor - Left Middle (UD7)
(15) E5A Backup Lamp - Left
(16) B78G Rear Object Sensor - Left Outer (UD7)
(17) E5AE Tail/Stop and Turn Signal Lamp - Left Inner
(18) E5W Tail/Stop and Turn Signal Lamp - Left Outer
(19) E6 Center High Mounted Stop Lamp
(20) R14L Rear Window Defogger Noise Filter - Left

cardiagn.com

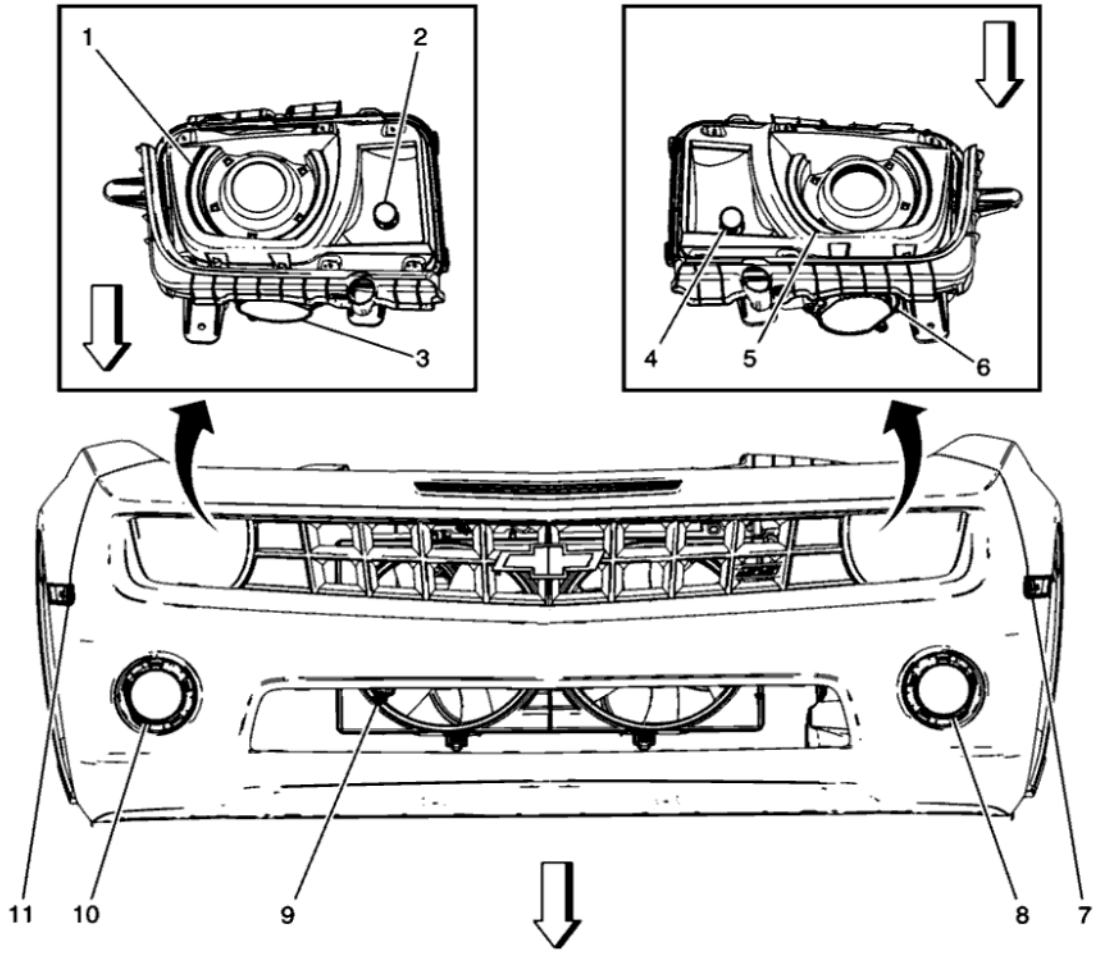
Fig. 27: Rear Of Vehicle
Courtesy of GENERAL MOTORS CORP.



(1) X301
(2) P2 Transmission Shift Lever Position Indicator
(3) B81B Park Position Switch
(4) M7 Transmission Shift Lock Control Solenoid Actuator

Fig. 28: Under Center Console (A/T)
Courtesy of GENERAL MOTORS CORP.

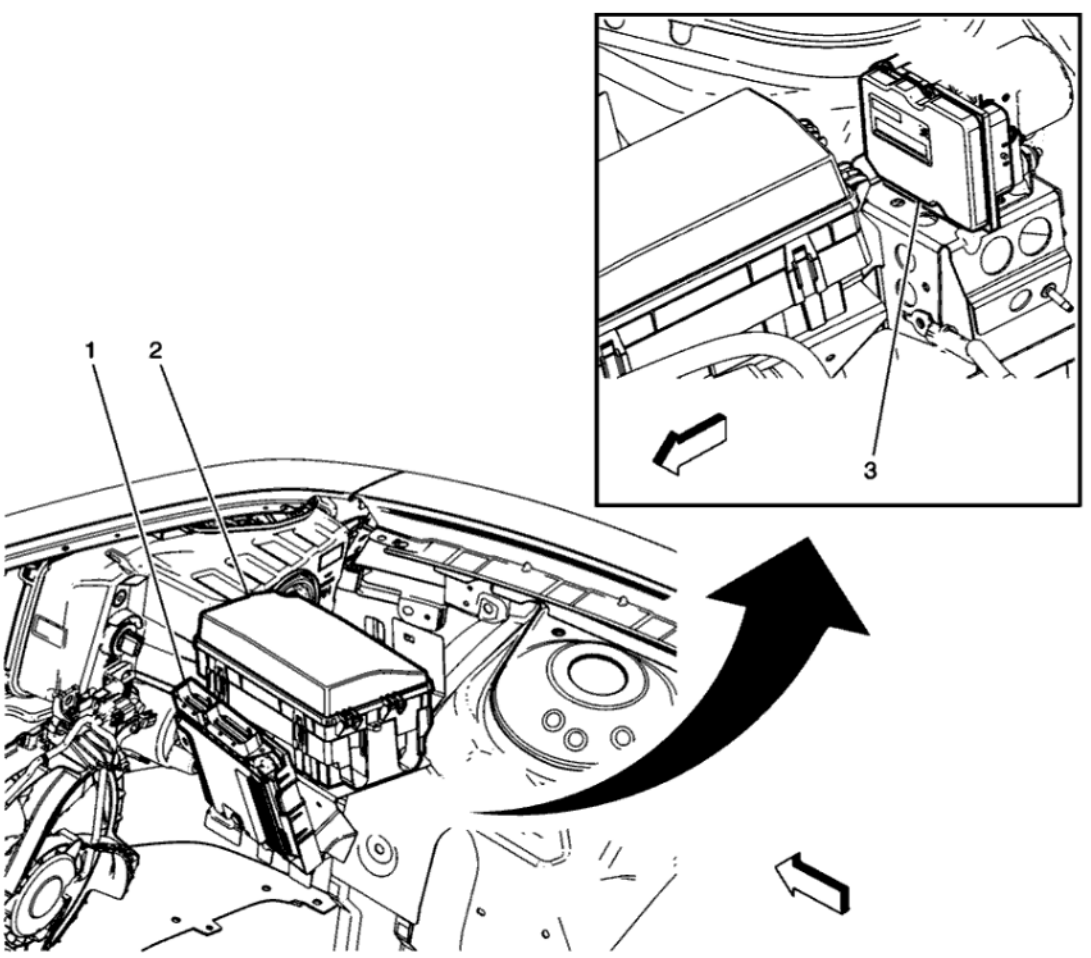
cardiagn.com



(1) E4K Park Lamp - Right Front (T4F)
(2) E4RF Turn Signal Lamp - Right Front (T4F)
(3) T7R Headlamp Ballast - Right (T4F)
(4) E4LF Turn Signal Lamp - Left Front (T4F)
(5) E4J Park Lamp - Left Front (T4F)
(6) T7L Headlamp Ballast - Left (T4F)
(7) E2LF Side Marker Lamp - Left Front
(8) E4C Daytime Running Lamp - Left (T4F)
(9) B9 Ambient Air Temperature Sensor
(10) E4D Daytime Running Lamp - Right (T4F)
(11) E2RF Side Marker Lamp - Right Front

Fig. 29: Front Of Vehicle
Courtesy of GENERAL MOTORS CORP.

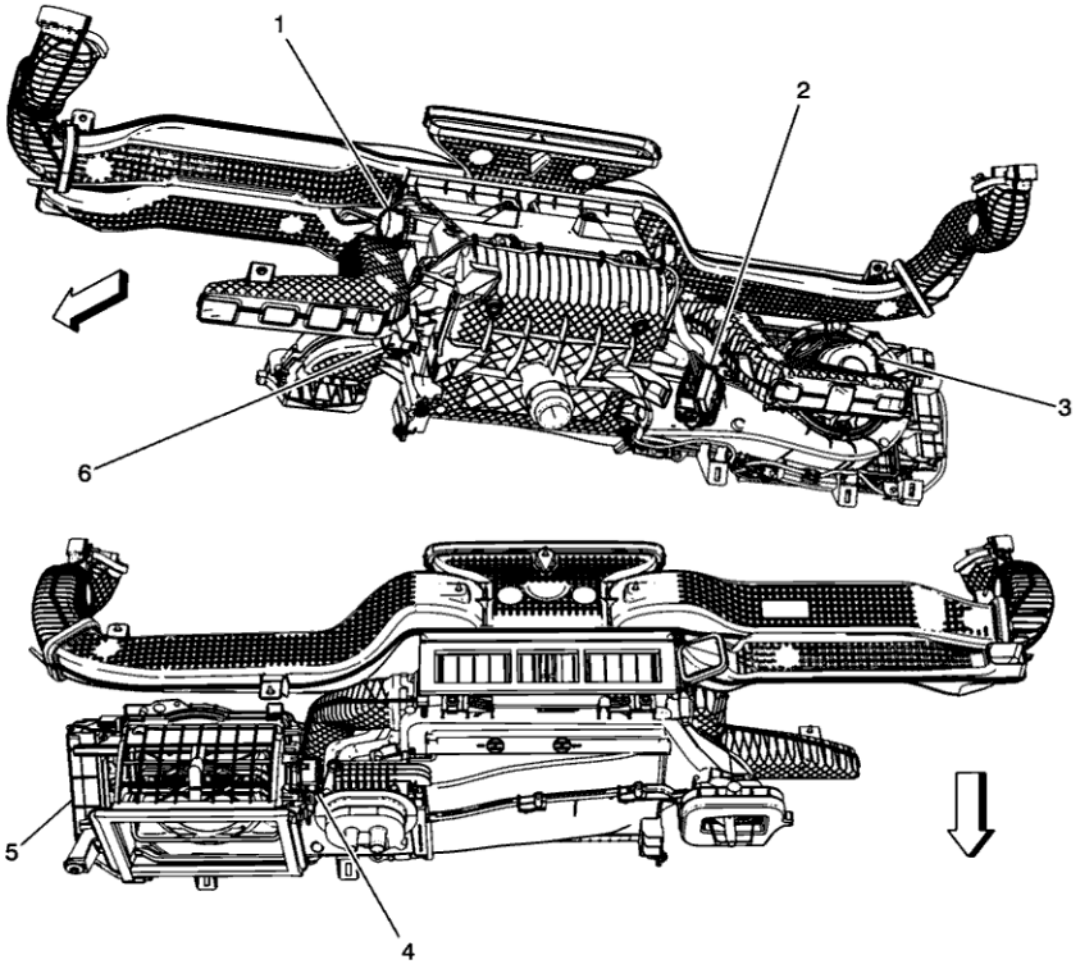
cardiagn.com



(1) K20 Engine Control Module
(2) X50A Fuse Block - Underhood
(3) K17 Electronic Brake Control Module (EBCM)

Fig. 30: Right Front Of Engine Compartment
Courtesy of GENERAL MOTORS CORP.

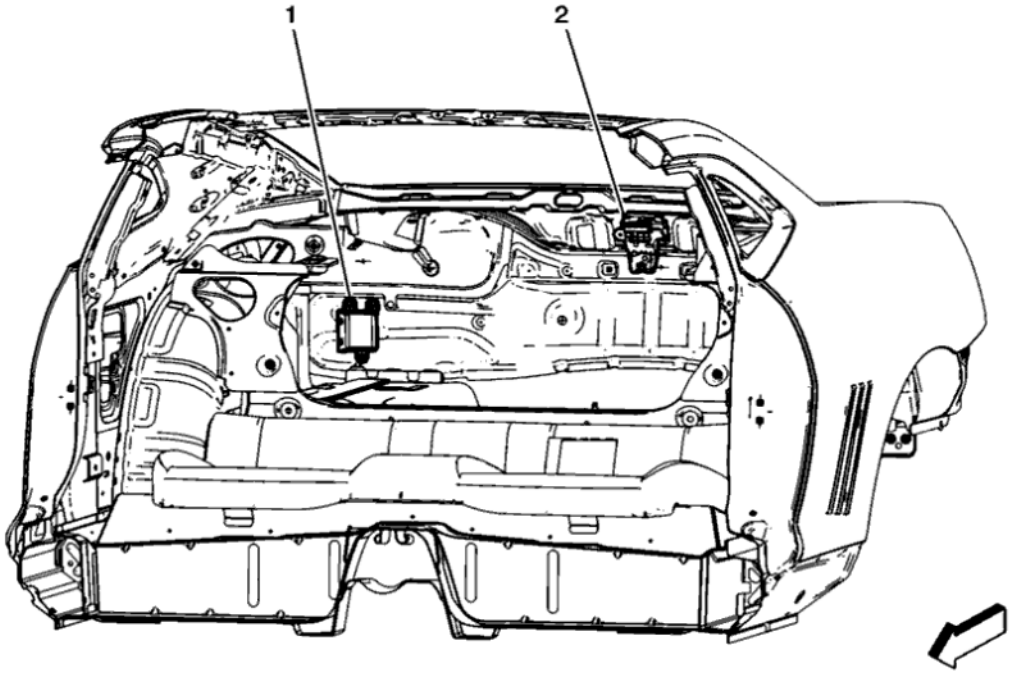
cardiagn.com



(1) M37 Mode Door Actuator
(2) K8 Blower Motor Control Module
(3) M8 Blower Motor
(4) M46 Air Recirculation Door Motor
(5) K33 HVAC Control Module
(6) M6 Air Temperature Door Actuator

Fig. 31: HVAC Module Components
Courtesy of GENERAL MOTORS CORP.

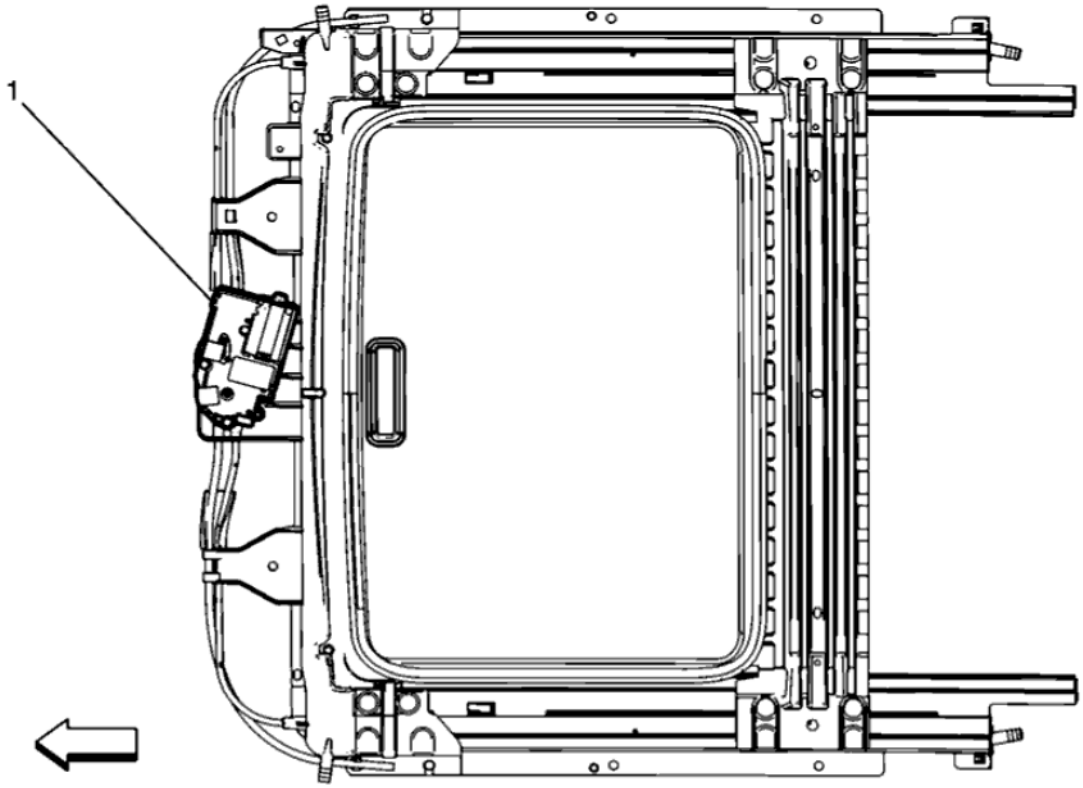
cardiagn.com



(1) K41 Object Alarm Control Module (UD7)
(2) M40 Rear Compartment Lid Latch

Fig. 32: Luggage Compartment
Courtesy of GENERAL MOTORS CORP.

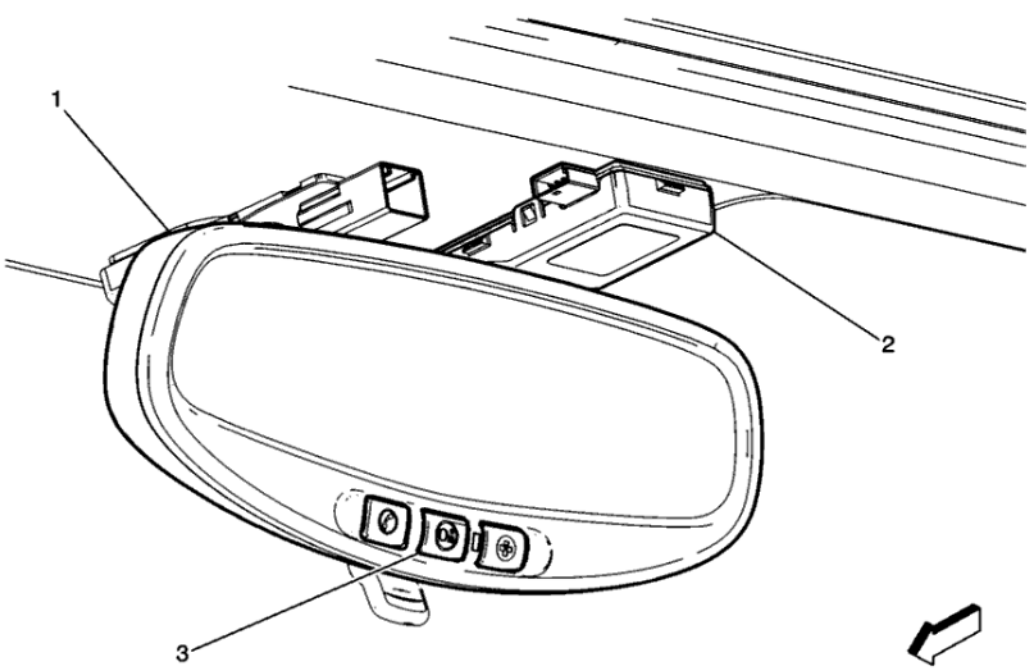
cardiagn.com



(1) K61 Sunroof Control Module (CF5)

Fig. 33: Roof
Courtesy of GENERAL MOTORS CORP.

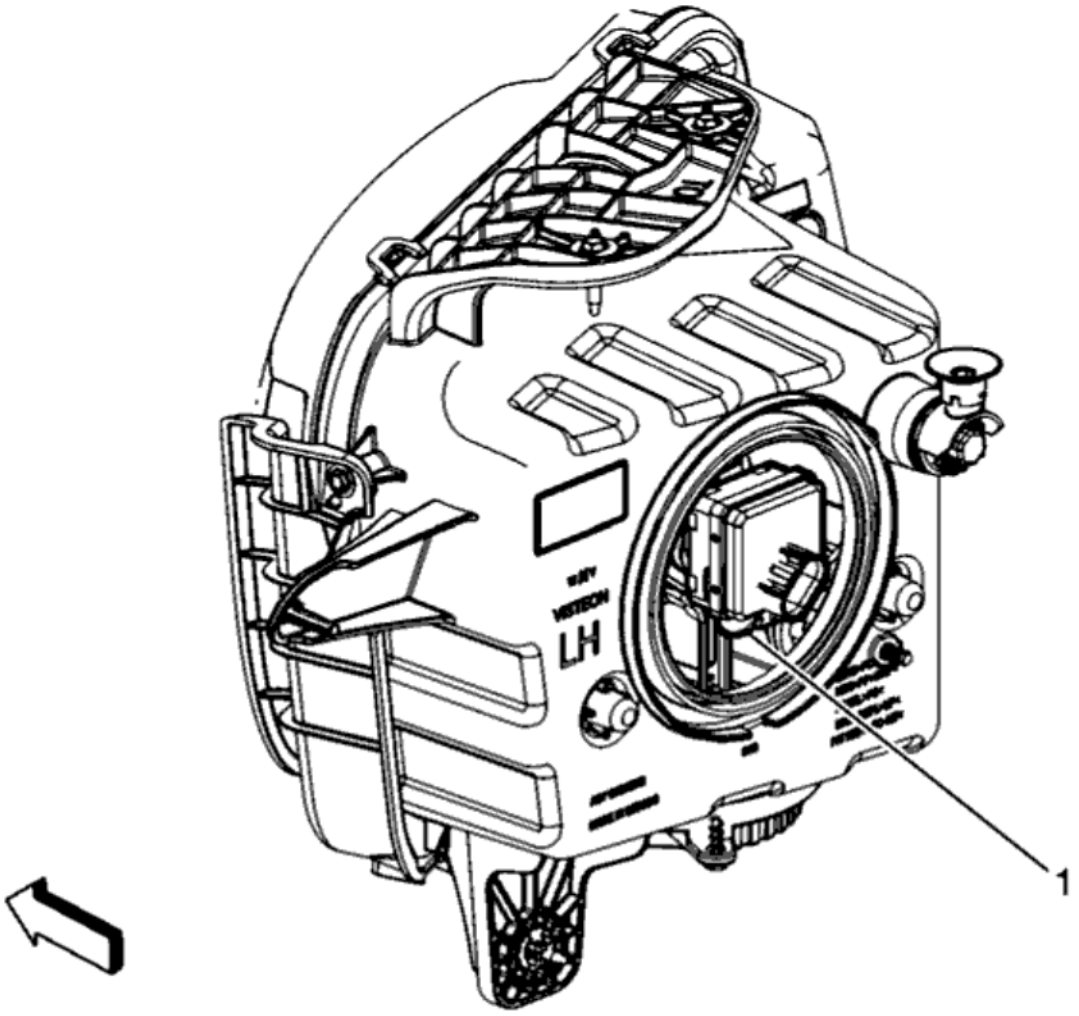
cardiagn.com



(1) A10 Inside Rearview Mirror
(2) K77 Remote Control Door Lock Receiver (BTV)
(3) OnStar Button Assembly (UE1)

Fig. 34: Top Center Of Windshield
Courtesy of GENERAL MOTORS CORP.

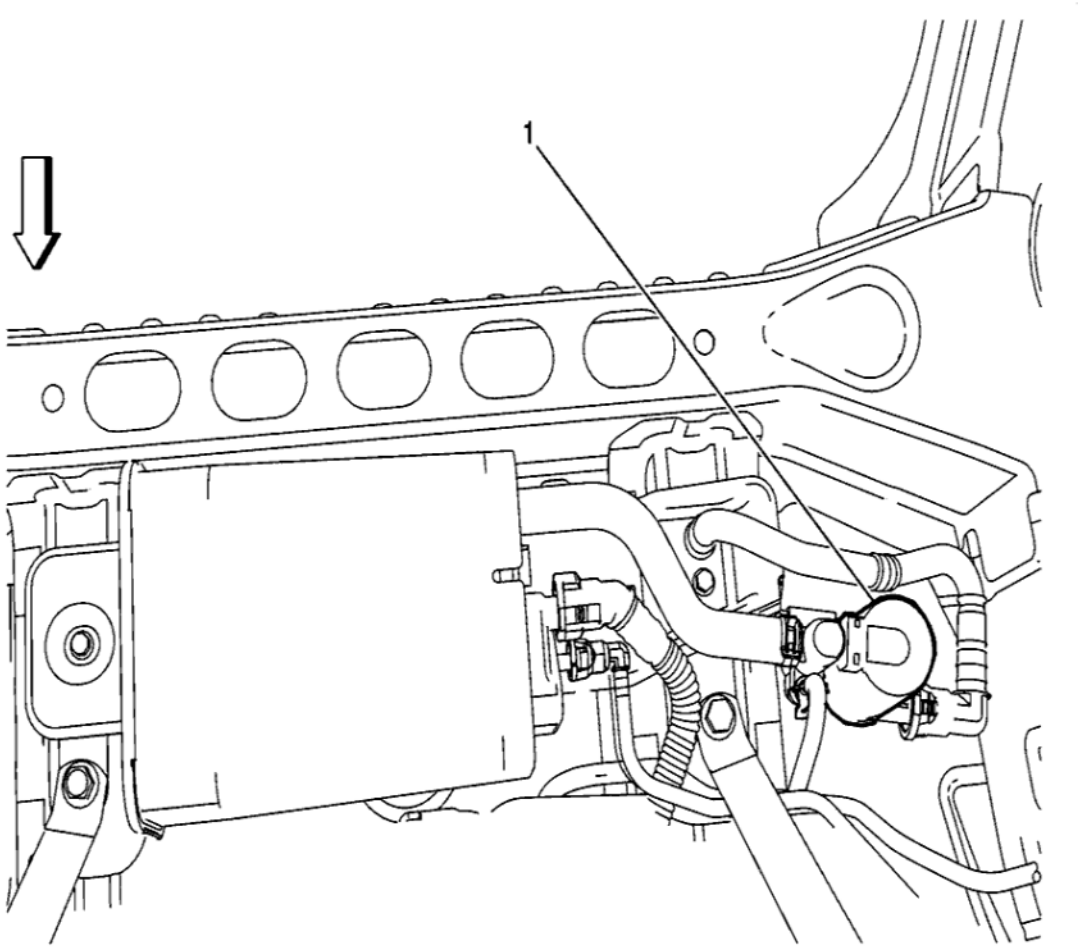
cardiagn.com



(1) M28L High Beam Solenoid Actuator - Left

Fig. 35: Left Headlight Assembly (Right Similar)
Courtesy of GENERAL MOTORS CORP.

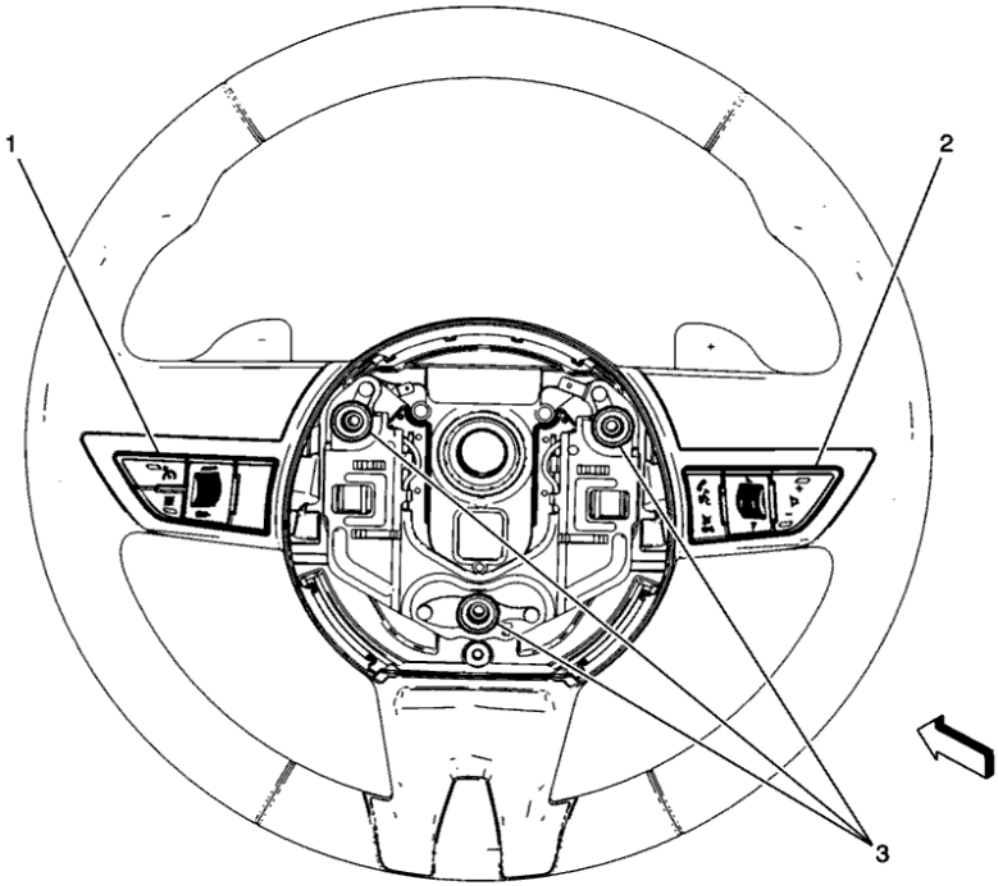
cardiagn.com



(1) Q13 Evaporative Emission (EVAP) Vent Solenoid Valve

Fig. 36: Above Rear Differential
Courtesy of GENERAL MOTORS CORP.

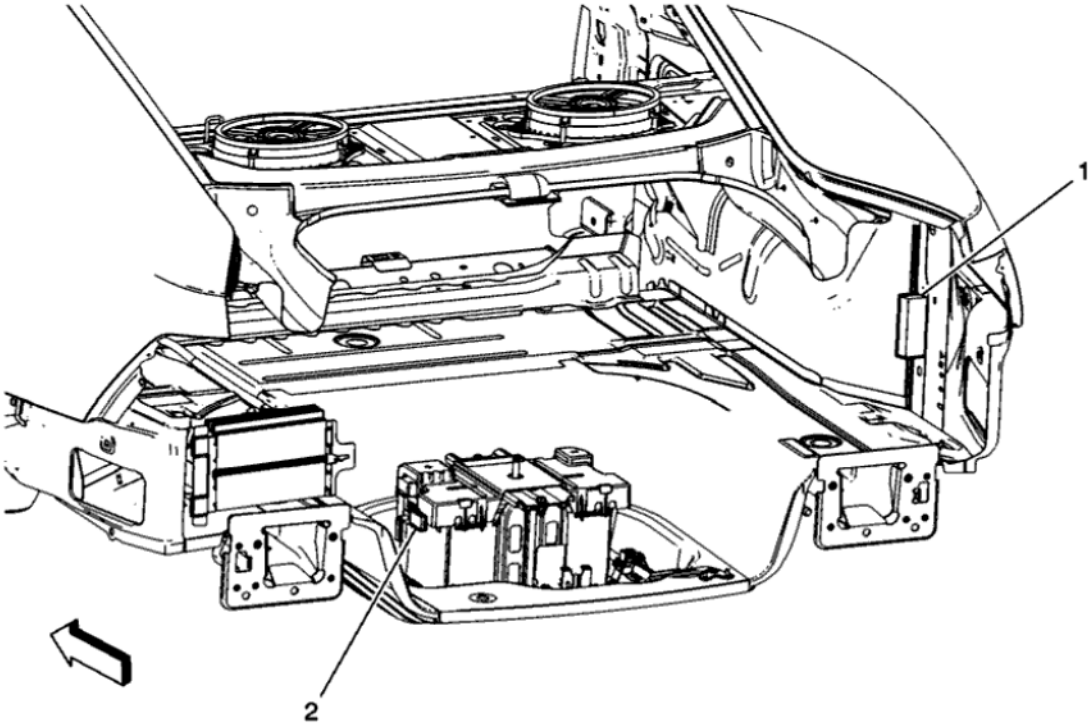
cardiagn.com



(1) S70L Steering Wheel Controls Switch - Left
(2) S70R Steering Wheel Controls Switch - Right (NZL)
(3) S33 Horn Switch

Fig. 37: Steering Wheel
Courtesy of GENERAL MOTORS CORP.

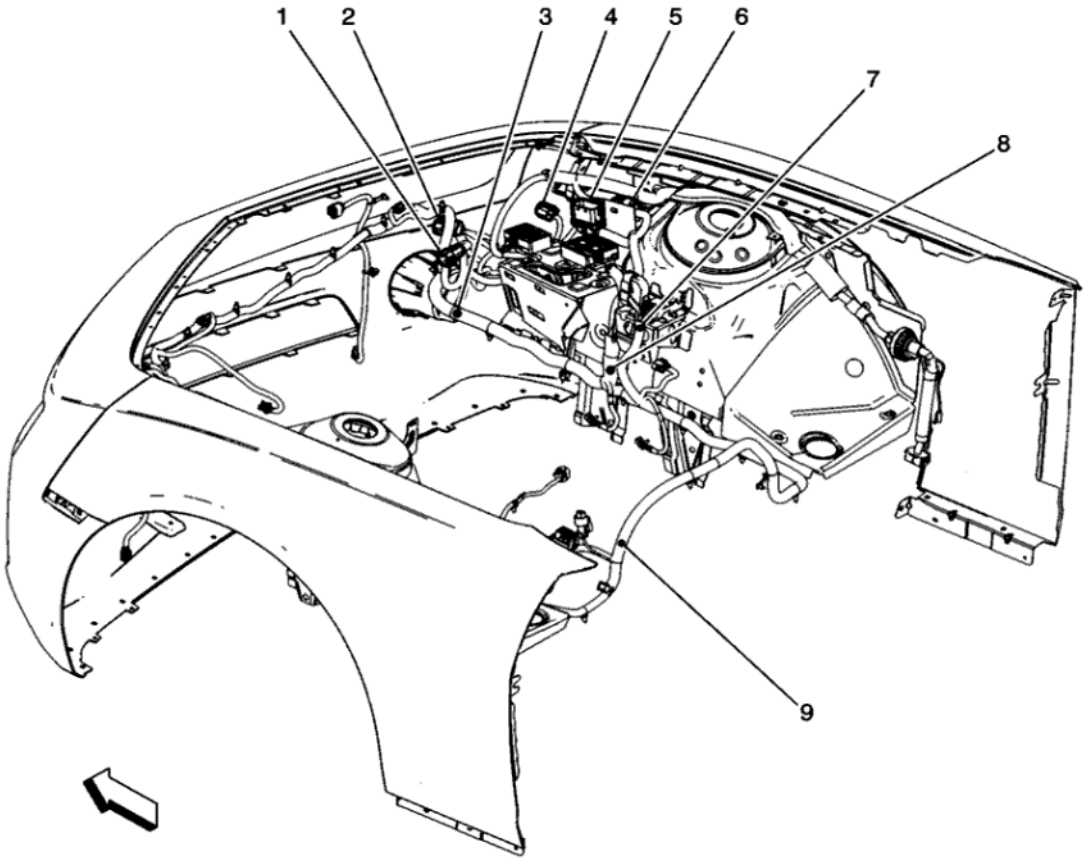
cardiagn.com



(1) X53A Fuse Block - Rear Body
(2) X50D Fuse Block - Battery

Fig. 38: Rear Of Vehicle
Courtesy of GENERAL MOTORS CORP.

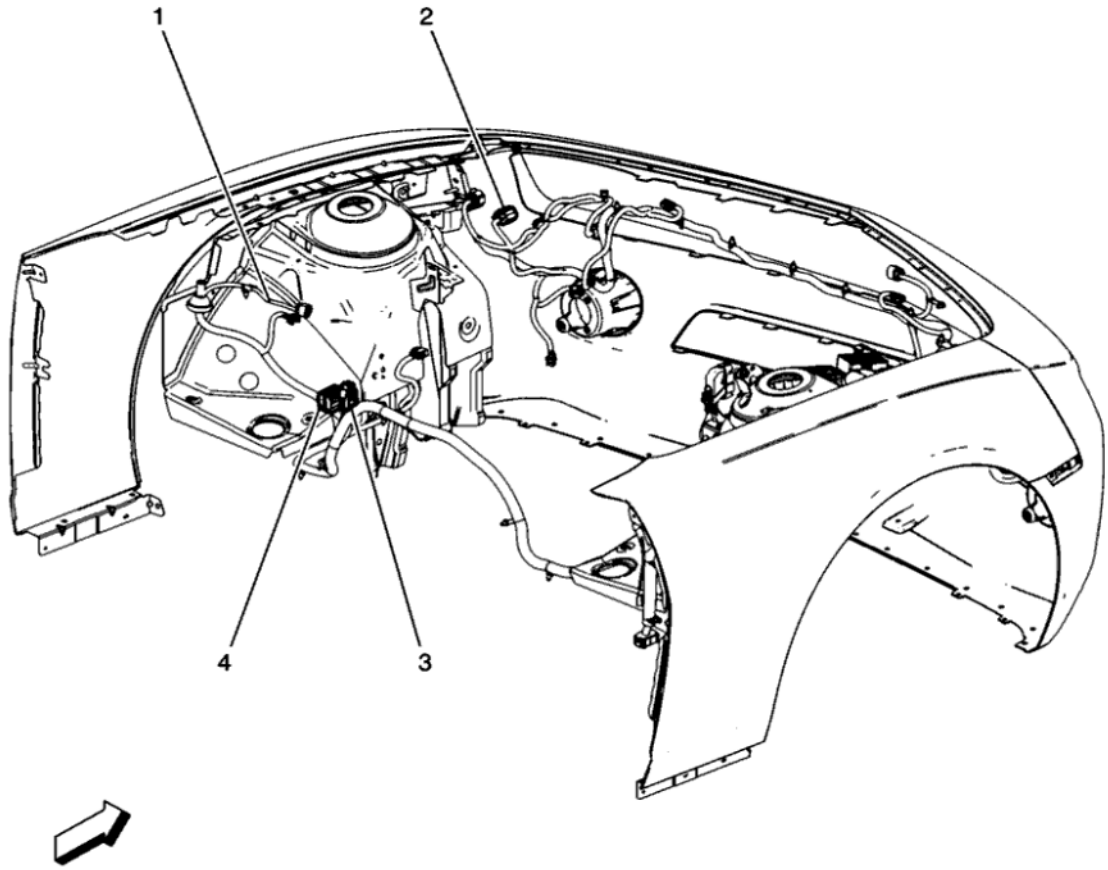
cardiagn.com



(1) X162
(2) X108
(3) J103
(4) X120 (T4F)
(5) X102
(6) X103
(7) J104
(8) J105
(9) J106 (T4A)

Fig. 39: Engine Compartment
Courtesy of GENERAL MOTORS CORP.

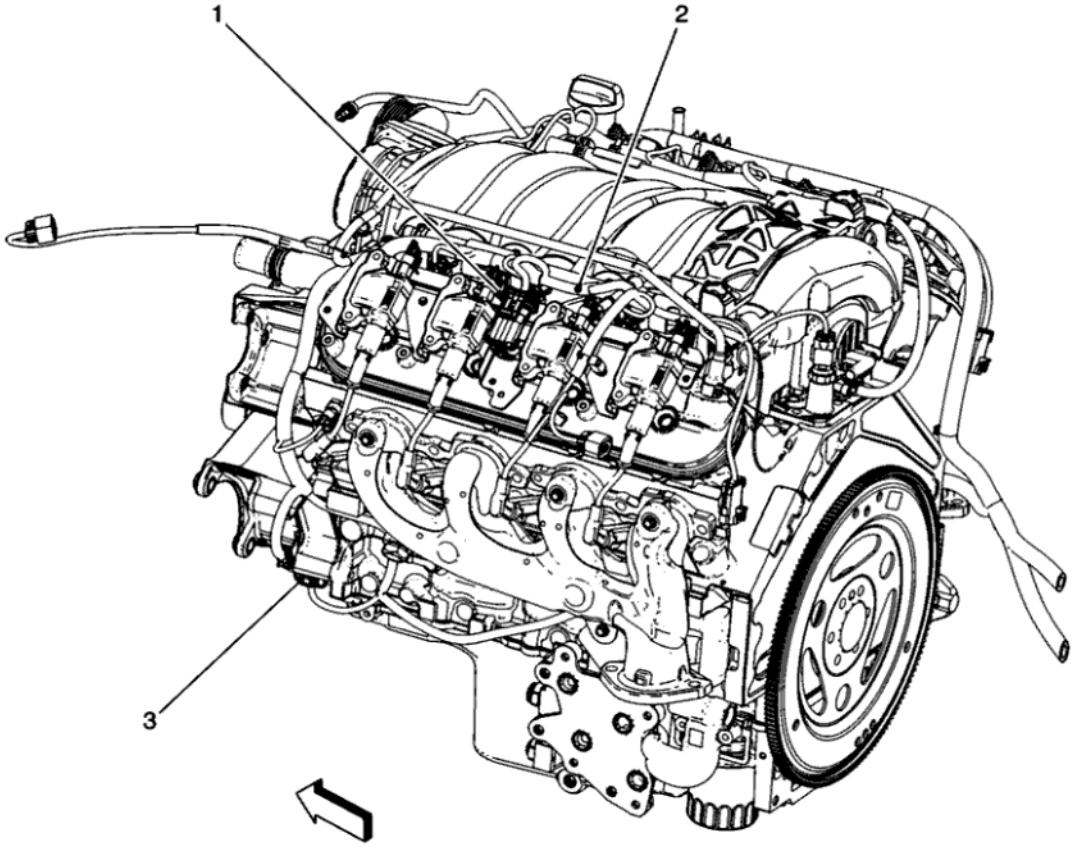
cardiagn.com



(1) J107
(2) X110 (T4F)
(3) X105
(4) X104

Fig. 40: Engine Compartment
Courtesy of GENERAL MOTORS CORP.

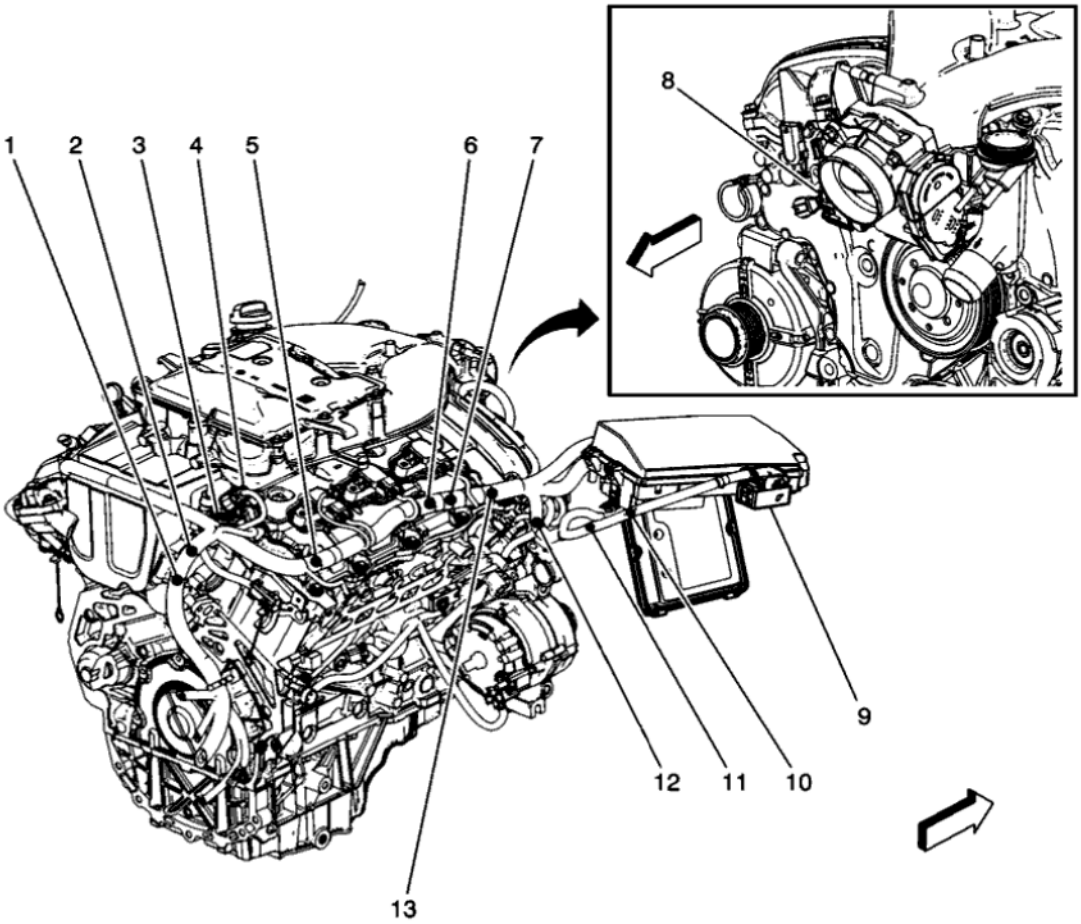
cardiagn.com



(1) X113
(2) J113
(3) X109

Fig. 41: Left Side Of Engine (V8)
Courtesy of GENERAL MOTORS CORP.

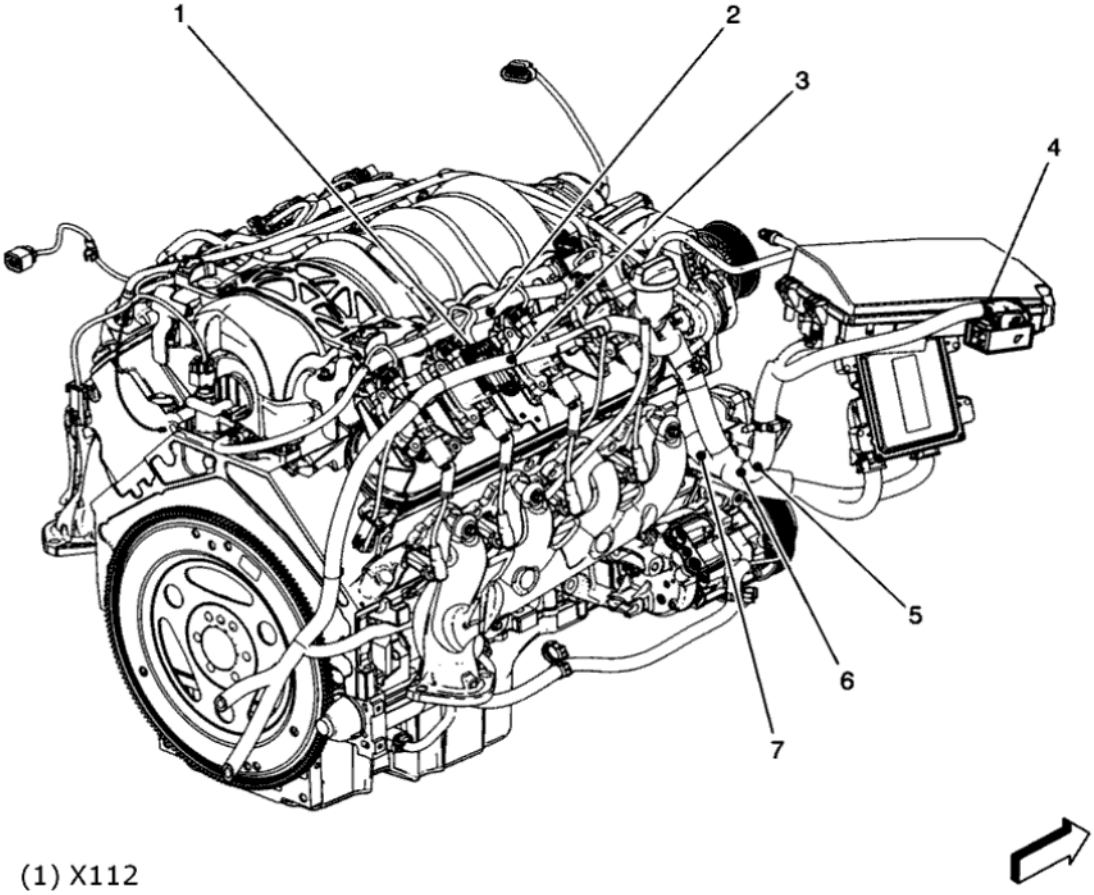
cardiagn.com



(1) J116
(2) J115
(3) X161
(4) X160
(5) J114 (MV5)
(6) J113
(7) J112
(8) X111
(9) X102
(10) J108 (MV5)
(11) J109 (MV5)
(12) J110
(13) J111 (MYB)

Fig. 42: Right Side Of Engine (V6)
Courtesy of GENERAL MOTORS CORP.

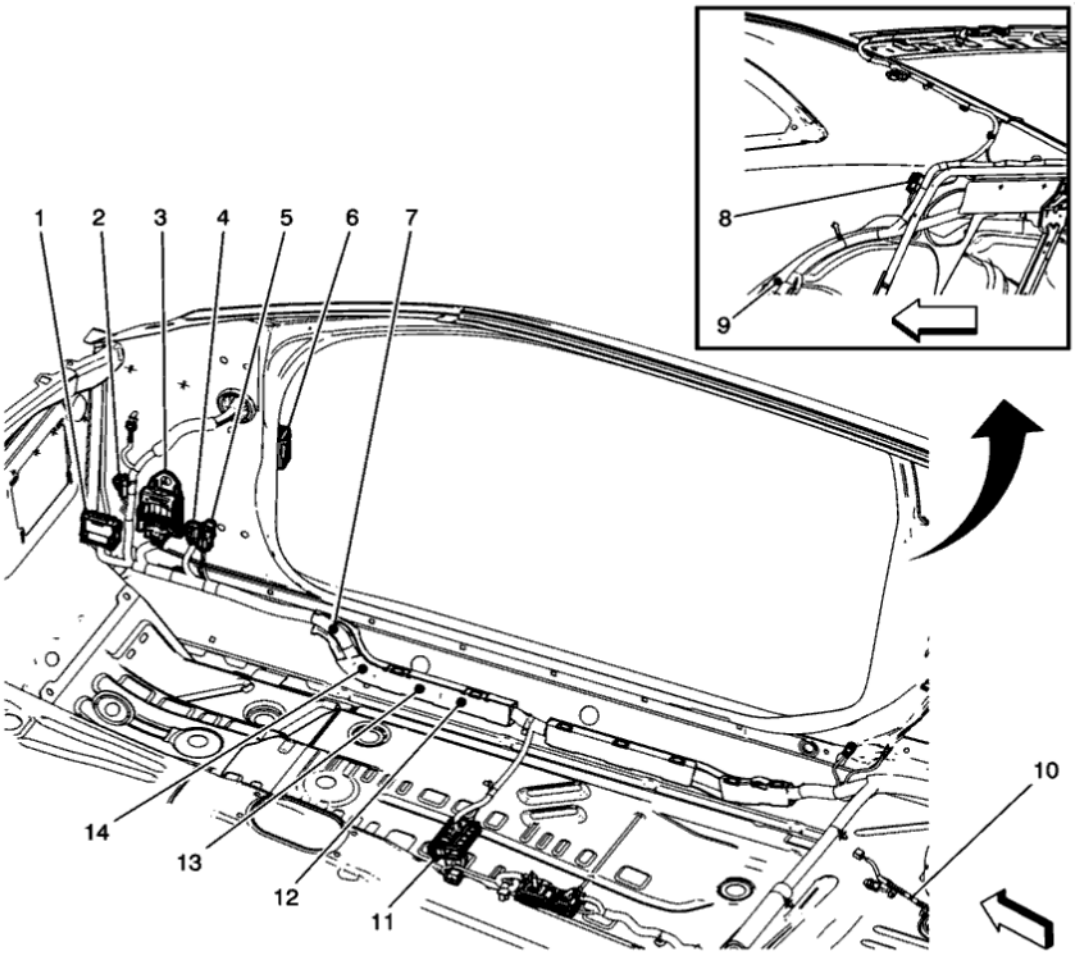
cardiagn.com



(1) X112
(2) J123
(3) J129
(4) X102
(5) J111 (MYC)
(6) J116
(7) J126

Fig. 43: Right Side Of Engine (V8)
Courtesy of GENERAL MOTORS CORP.

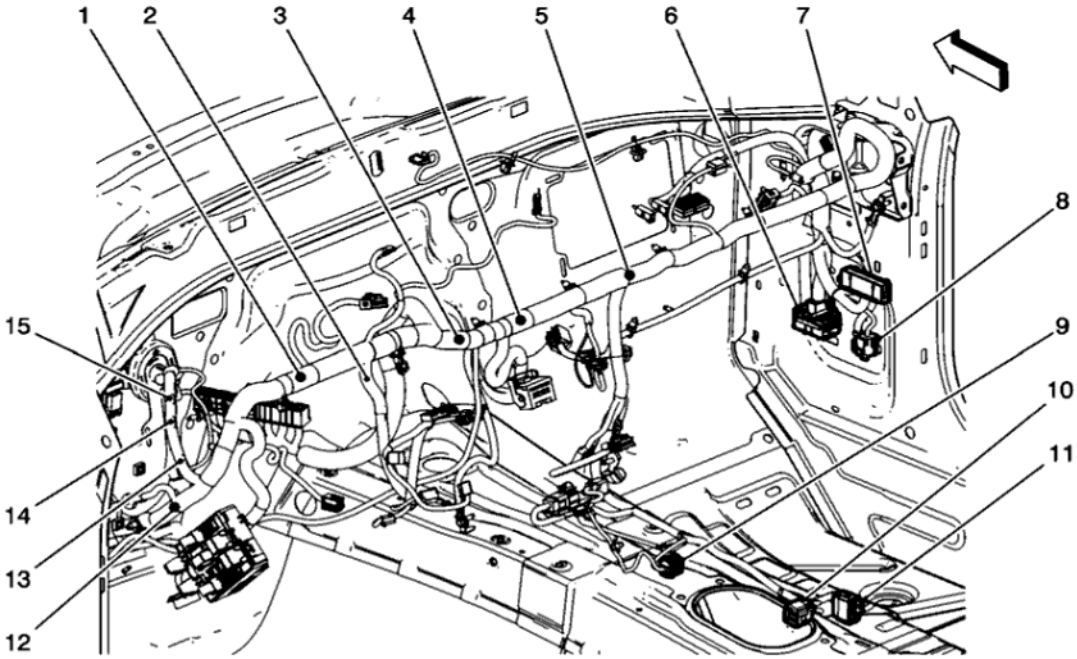
cardiagn.com



(1) X210	(8) X304
(2) X209	(9) J310
(3) X208	(10) J309
(4) X256 (UE1 or U2K)	(11) X306
(5) X254	(12) J308
(6) X600	(13) J307
(7) J305	(14) J306

Fig. 44: Right Side Of Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

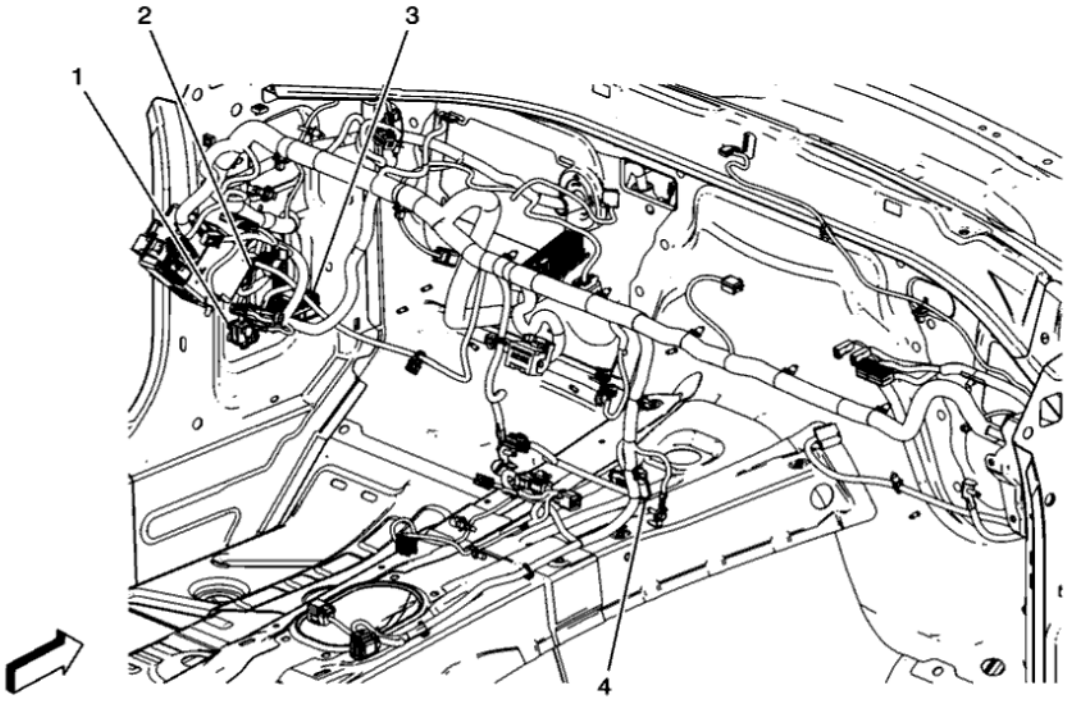
cardiagn.com



(1) J205 (DBX)
(2) J206
(3) J207
(4) J208
(5) J209 (SRK or SRM)
(6) X208
(7) X204
(8) X254
(9) X211
(10) X301 (MYB or MYC)
(11) X302
(12) J201
(13) J202
(14) J203
(15) J204

Fig. 45: Instrument Panel
Courtesy of GENERAL MOTORS CORP.

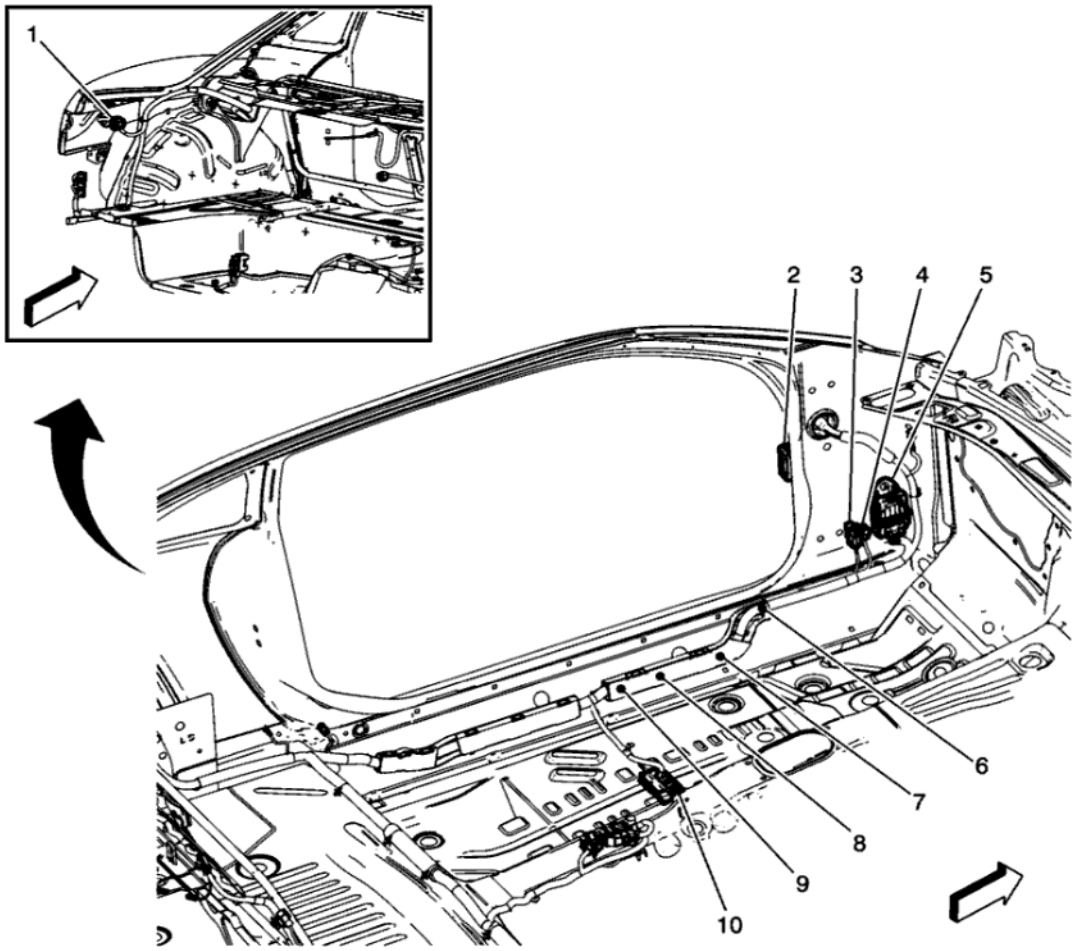
cardiagn.com



(1) X253
(2) X206 (CF5)
(3) X207
(4) JX200

Fig. 46: Instrument Panel
Courtesy of GENERAL MOTORS CORP.

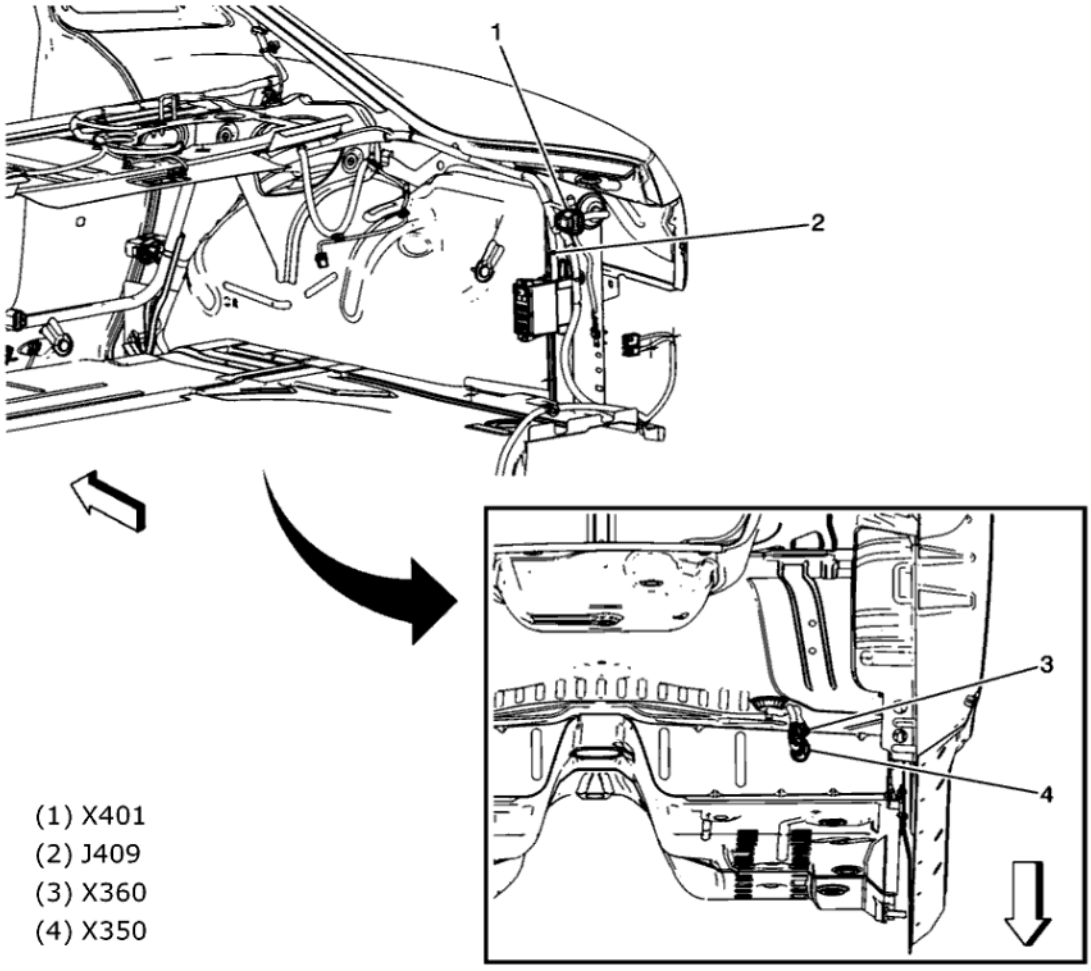
cardiagn.com



(1) X400
(2) X500
(3) X253
(4) X251
(5) X207
(6) J301
(7) J302
(8) J303
(9) J304
(10) X307

Fig. 47: Left Side Of Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

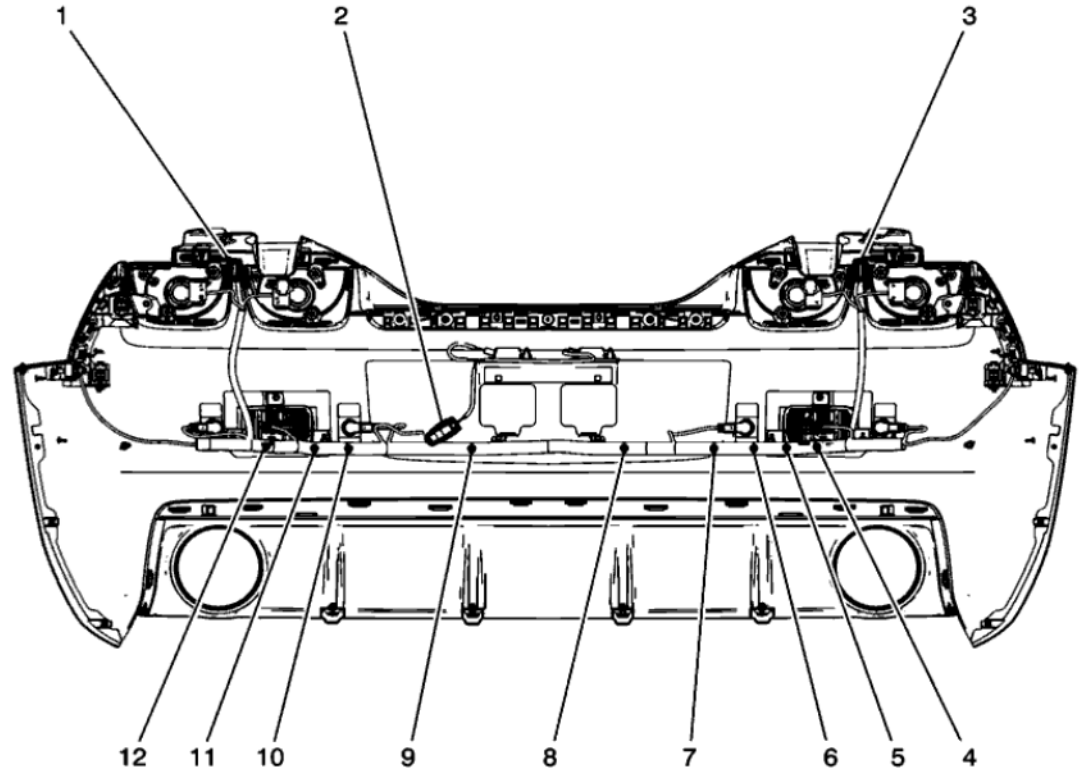
cardiagn.com



(1) X401
(2) J409
(3) X360
(4) X350

Fig. 48: Right Side Of Luggage Compartment & Underbody
Courtesy of GENERAL MOTORS CORP.

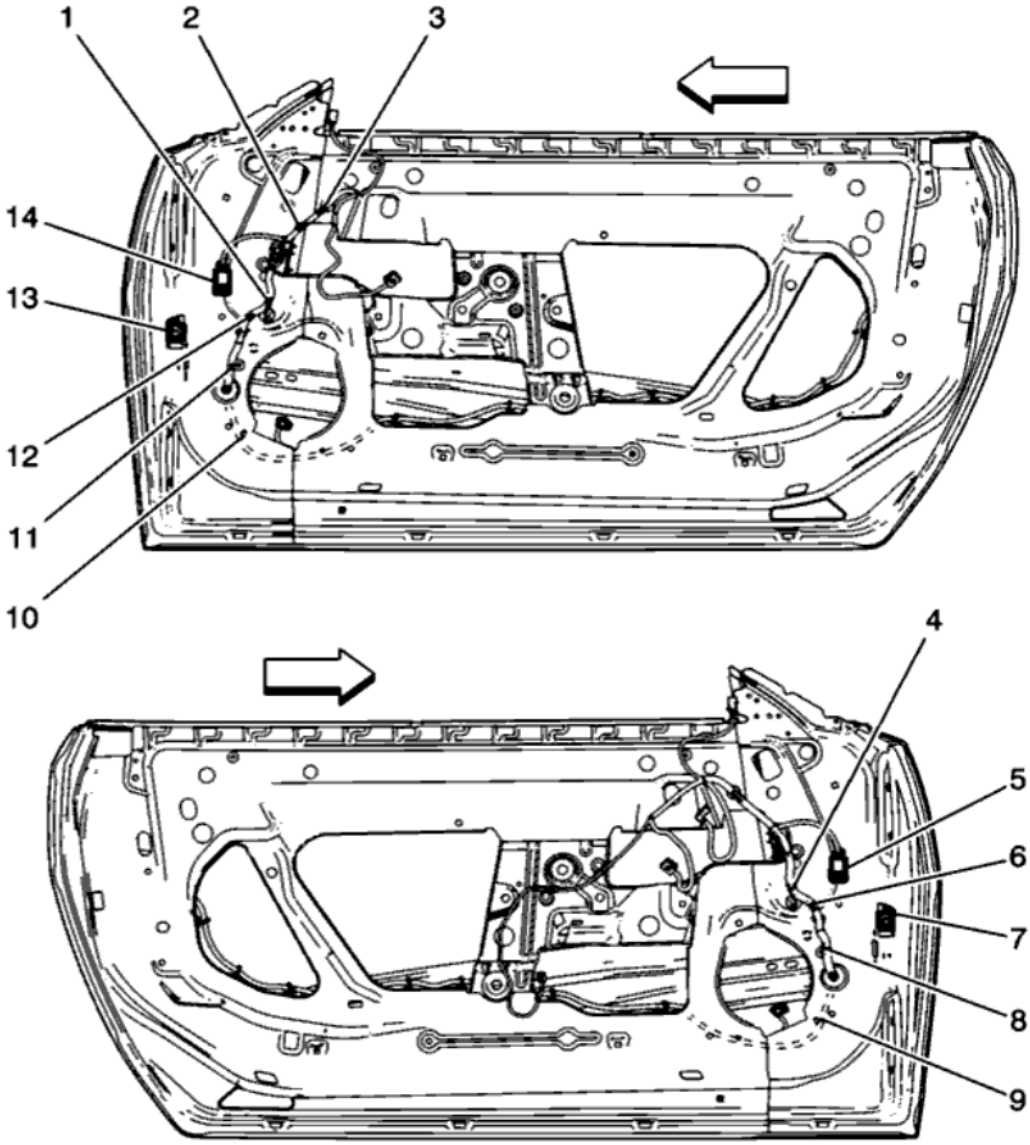
cardiagn.com



(1) X401
(2) X402
(3) X400
(4) J400
(5) J401
(6) J402
(7) J403
(8) J404 (UD7)
(9) J405 (UD7)
(10) J406
(11) J407
(12) J408

Fig. 49: Rear Fascia
Courtesy of GENERAL MOTORS CORP.

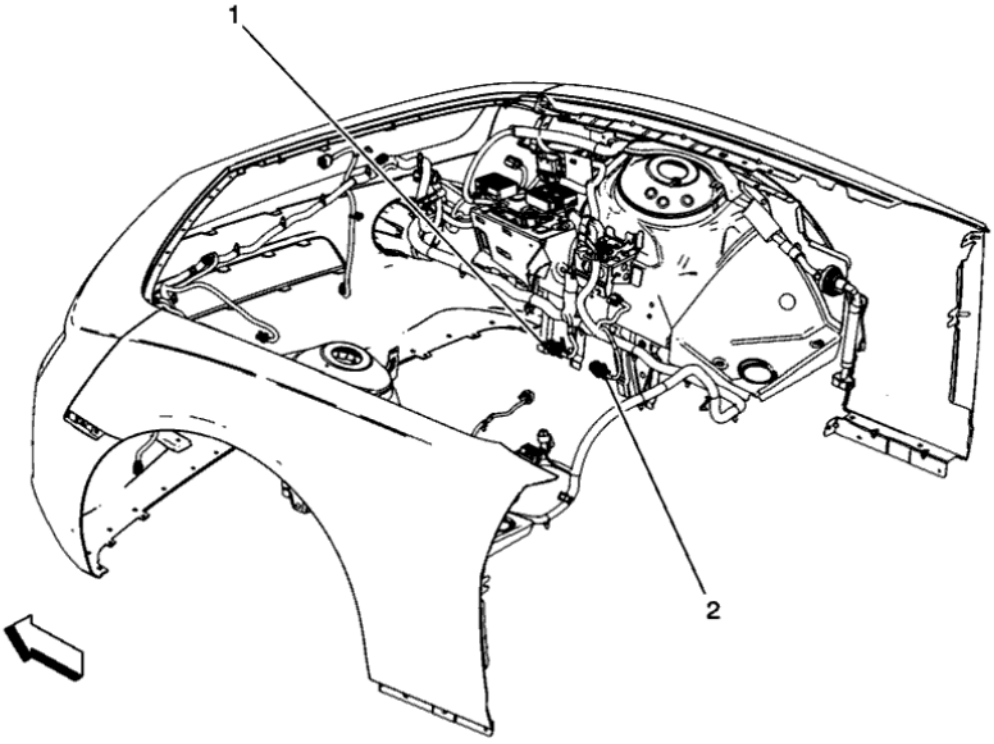
cardiagn.com



(1) J604
(2) J605
(3) J602
(4) J503
(5) X502
(6) J502
(7) X500
(8) J501
(9) J500
(10) J600
(11) J601
(12) J603
(13) X600
(14) X602

Fig. 50: Doors
Courtesy of GENERAL MOTORS CORP.

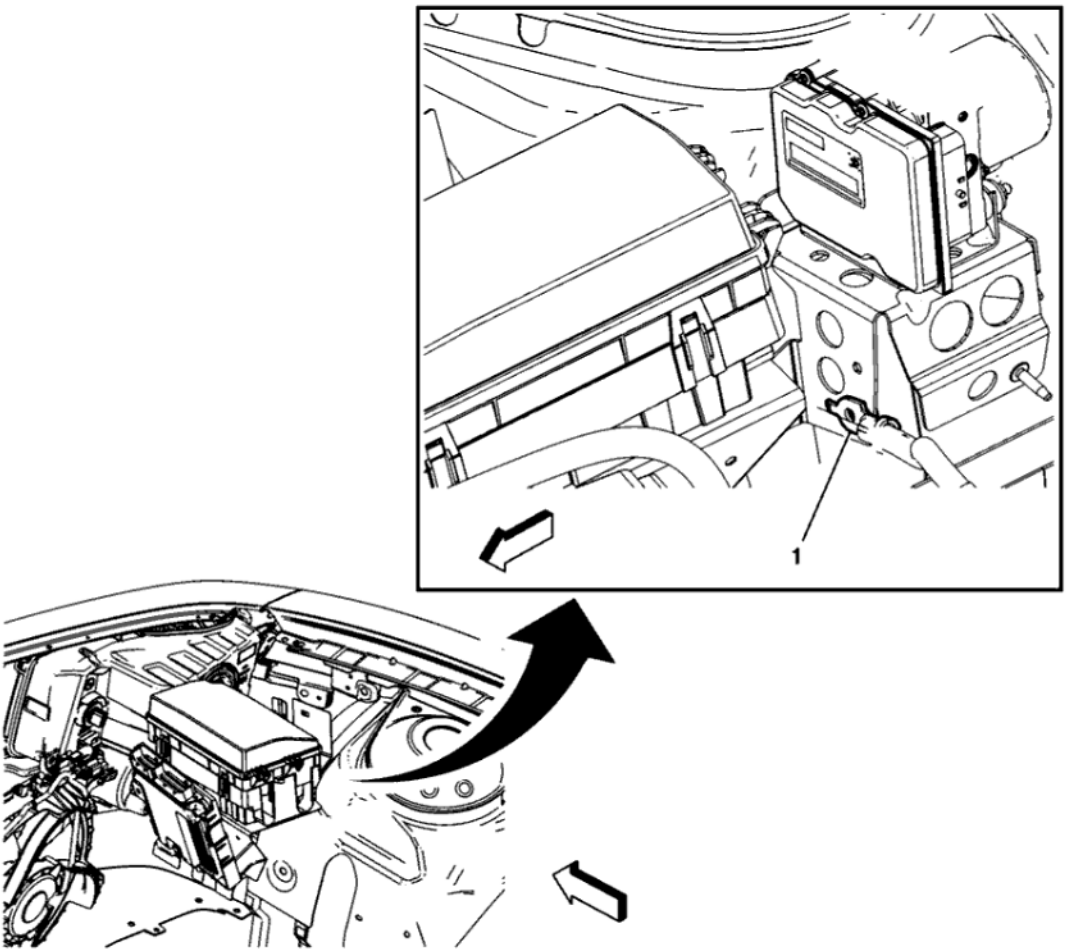
cardiagn.com



(1) G101
(2) G102

Fig. 51: Engine Compartment
Courtesy of GENERAL MOTORS CORP.

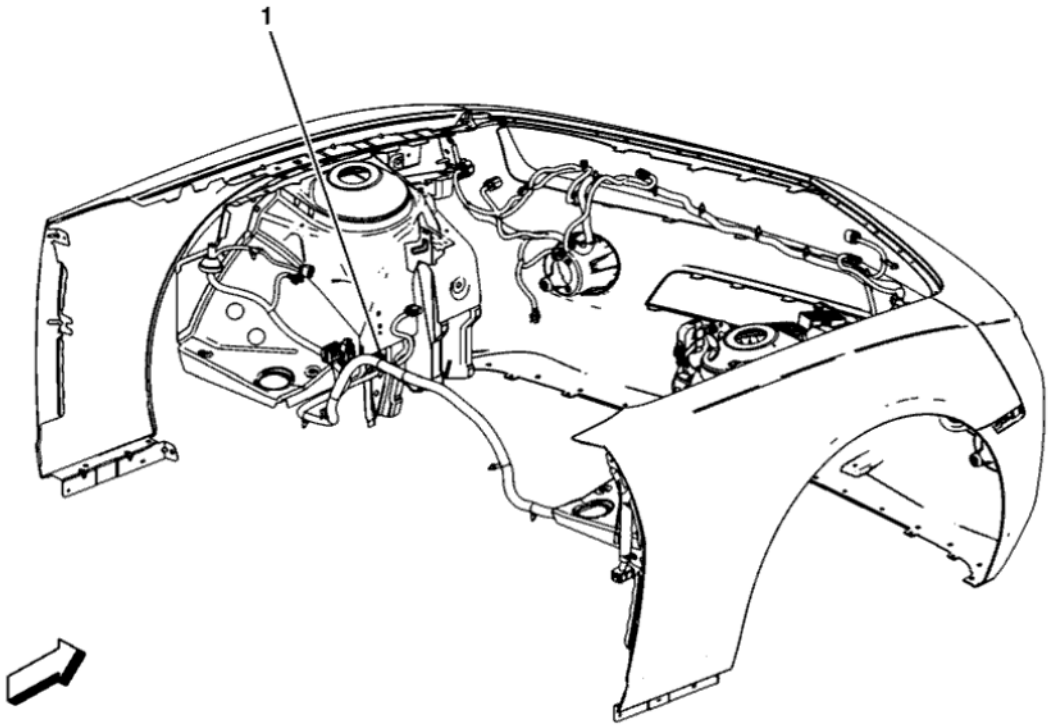
cardiagn.com



(1) G103

Fig. 52: Right Front Of Engine Compartment
Courtesy of GENERAL MOTORS CORP.

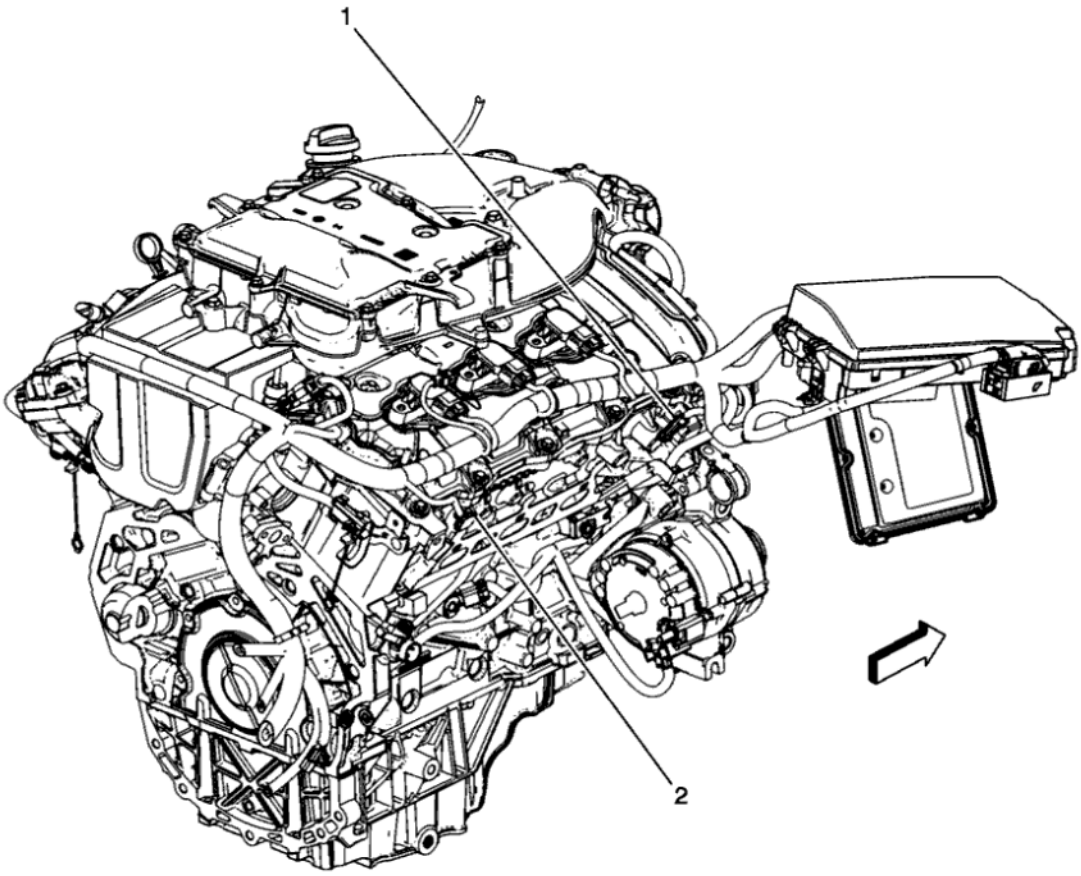
cardiagn.com



(1) G105

Fig. 53: Left Side Of Engine Compartment
Courtesy of GENERAL MOTORS CORP.

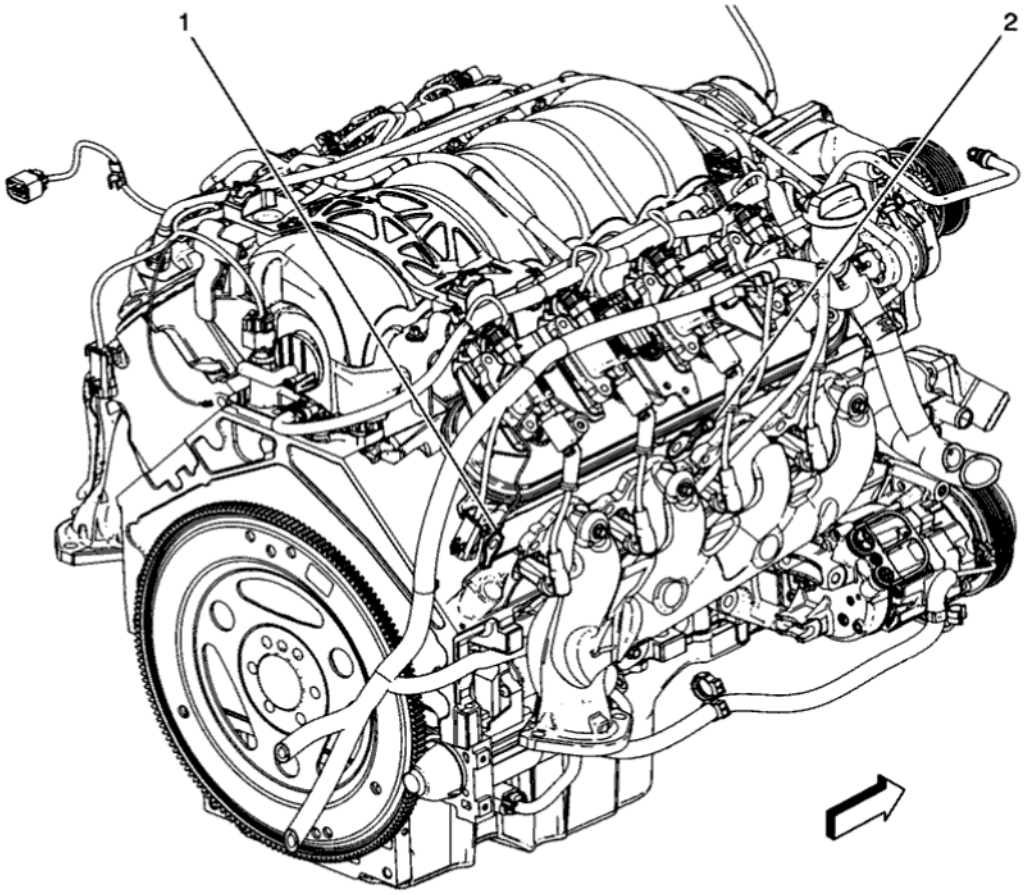
cardiagn.com



(1) G106
(2) G108

Fig. 54: Right Side Of Engine (V6)
Courtesy of GENERAL MOTORS CORP.

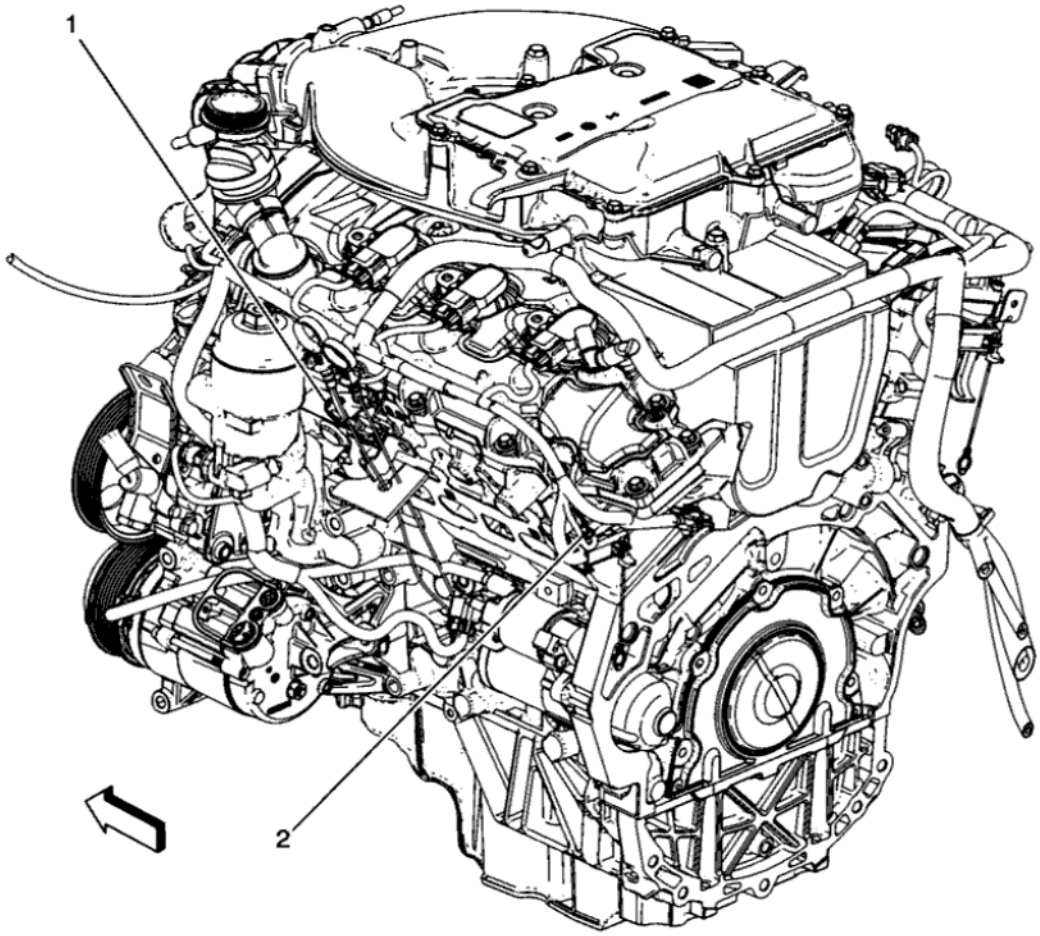
cardiagn.com



(1) G107
(2) G106

Fig. 55: Right Side Of Engine (V8)
Courtesy of GENERAL MOTORS CORP.

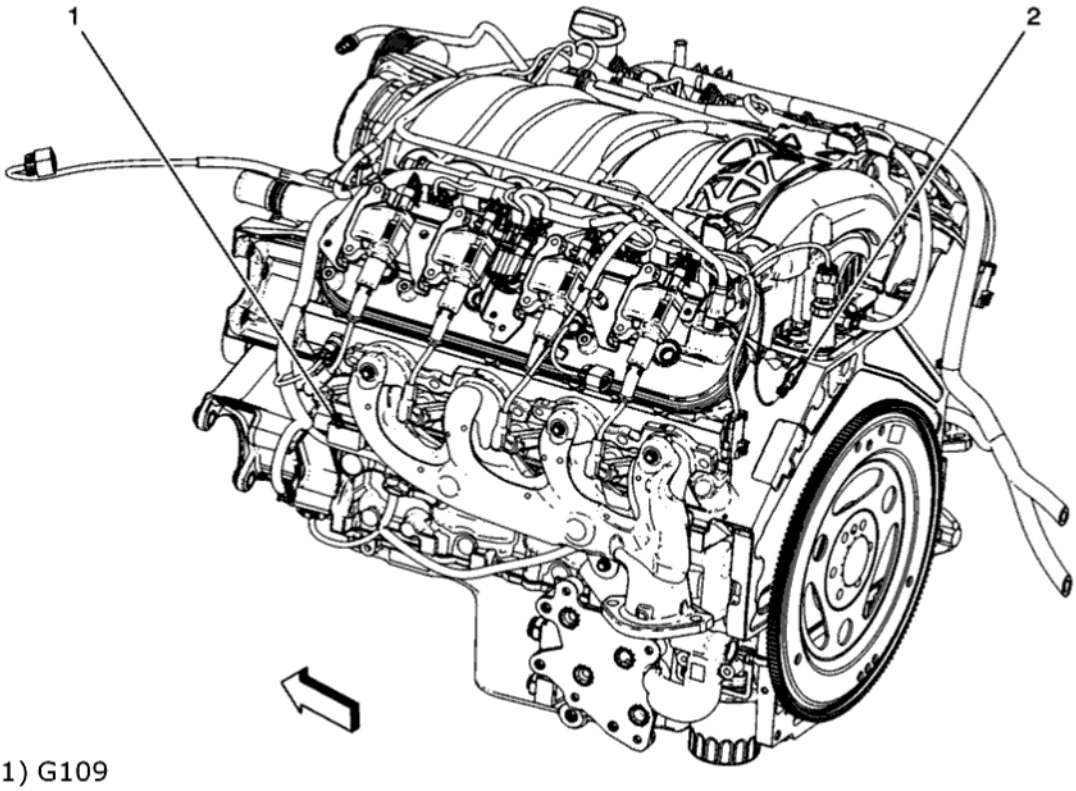
cardiagn.com



(1) G109
(2) G107

Fig. 56: Left Side Of Engine (V6)
Courtesy of GENERAL MOTORS CORP.

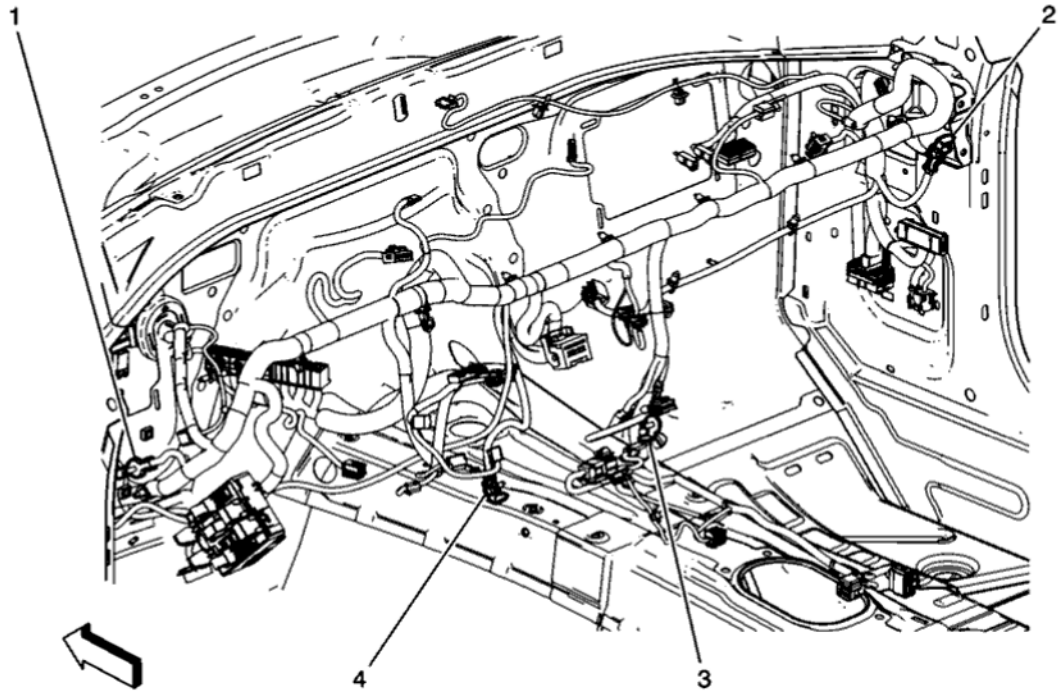
cardiagn.com



(1) G109
(2) G108

Fig. 57: Left Side Of Engine (V8)
Courtesy of GENERAL MOTORS CORP.

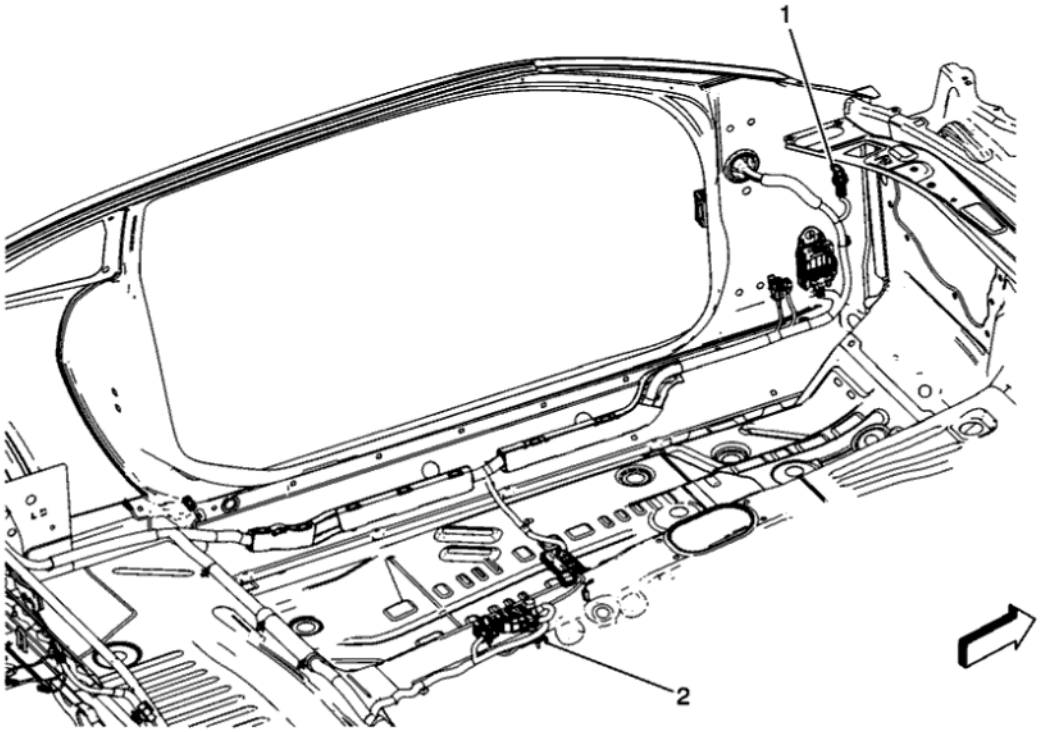
cardiagn.com



(1) G201
(2) G204
(3) G202
(4) G203

Fig. 58: Instrument Panel
Courtesy of GENERAL MOTORS CORP.

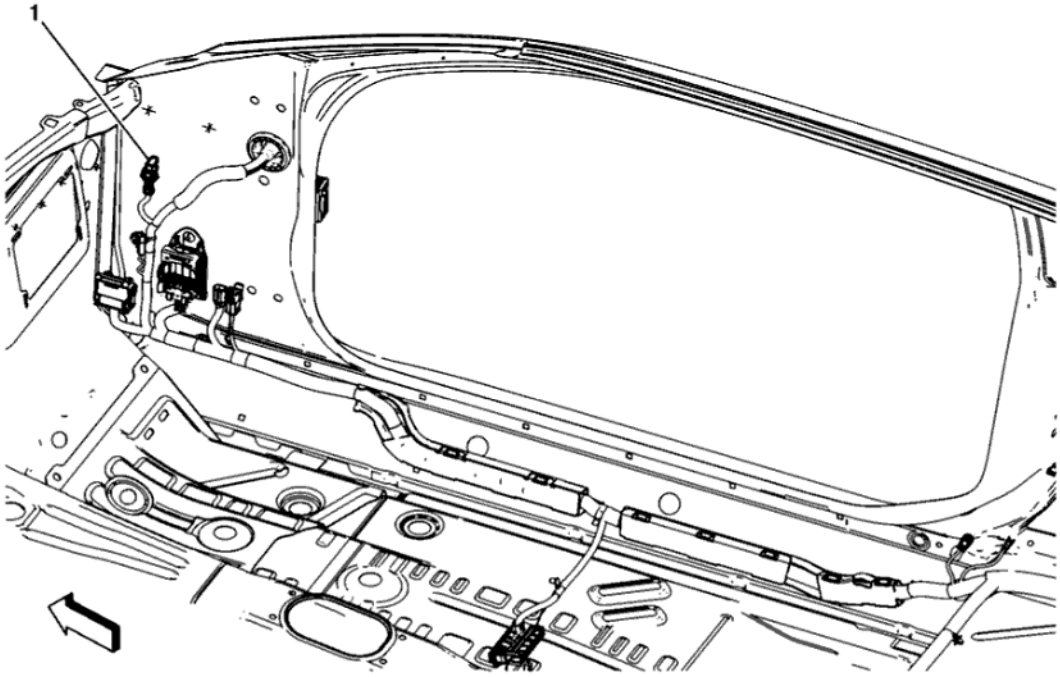
cardiagn.com



(1) G205
(2) G301

Fig. 59: Left Side Of Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

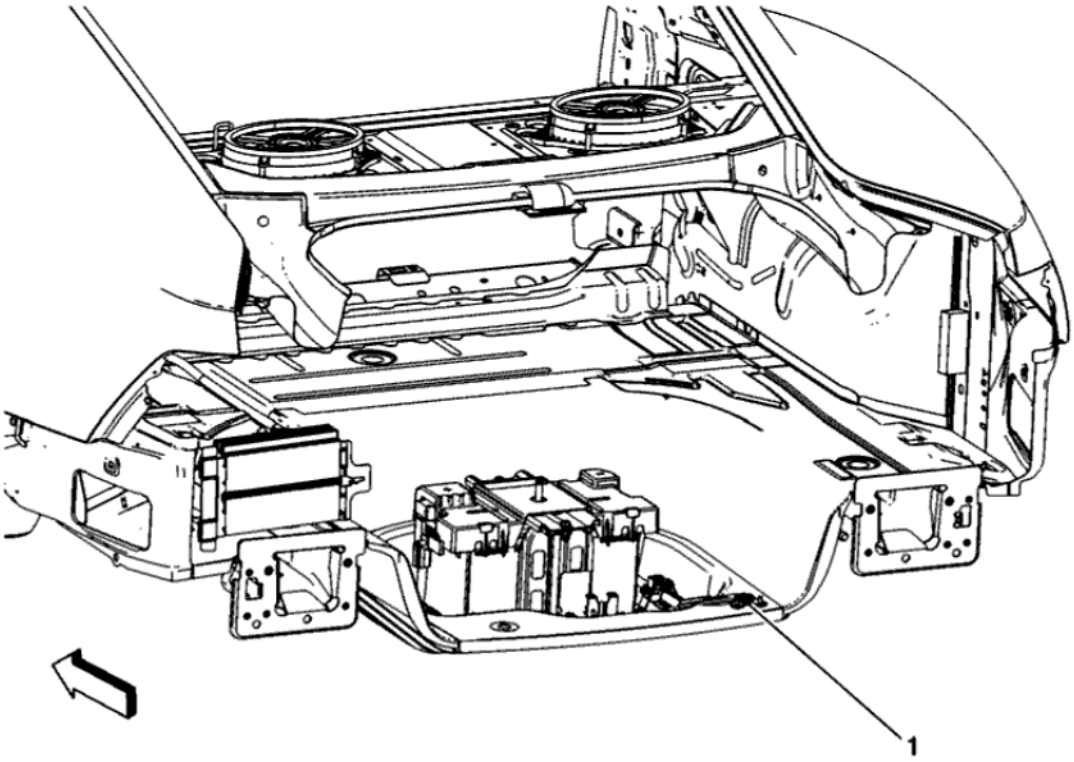
cardiagn.com



(1) G206

Fig. 60: Right Side Of Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

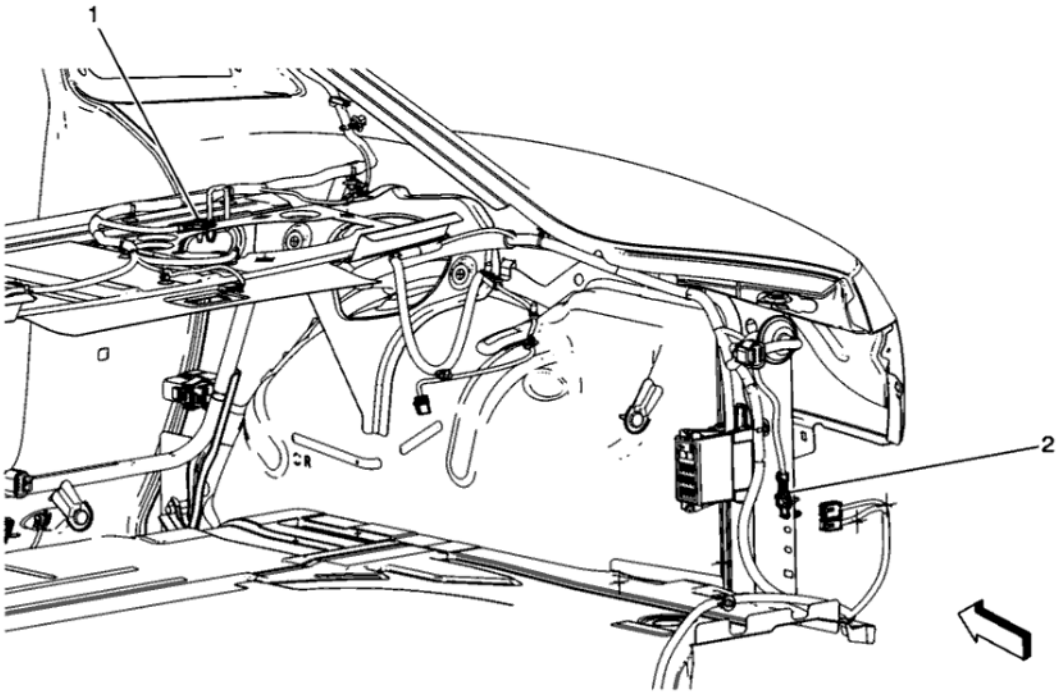
cardiagn.com



(1) G401

Fig. 61: Rear Of Vehicle
Courtesy of GENERAL MOTORS CORP.

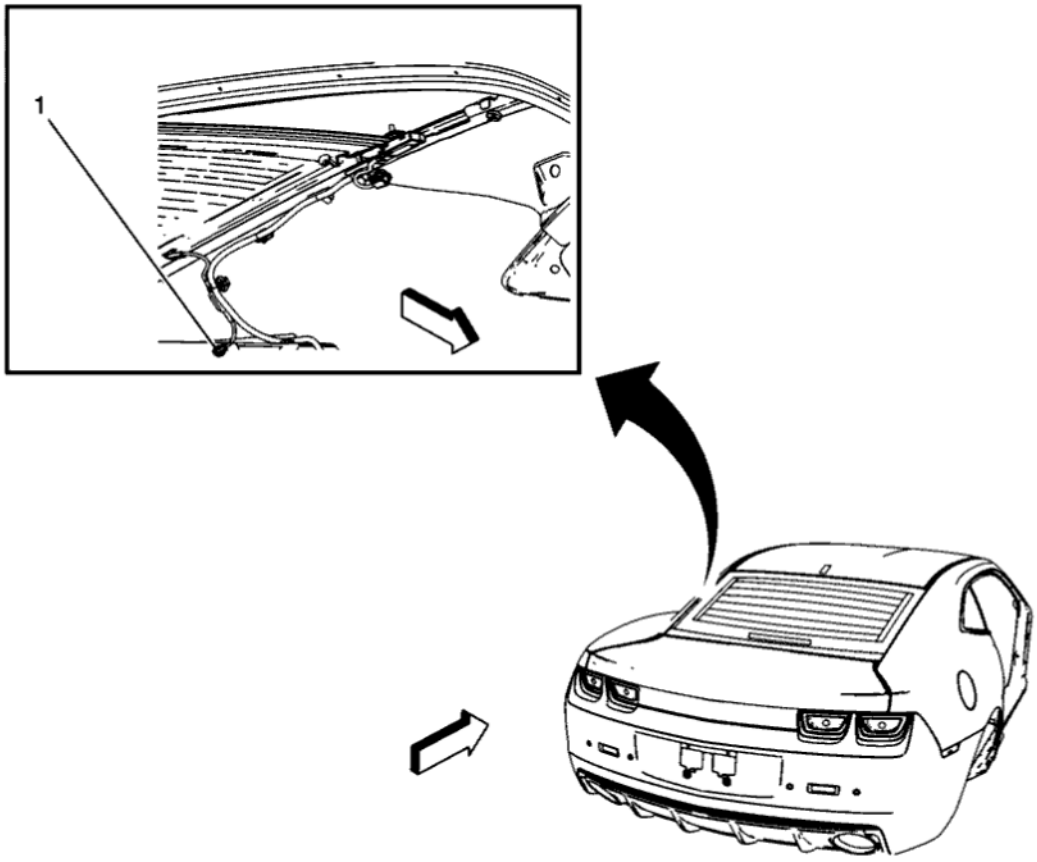
cardiagn.com



(1) G402
(2) G403

Fig. 62: Right Rear Of Luggage Compartment
Courtesy of GENERAL MOTORS CORP.

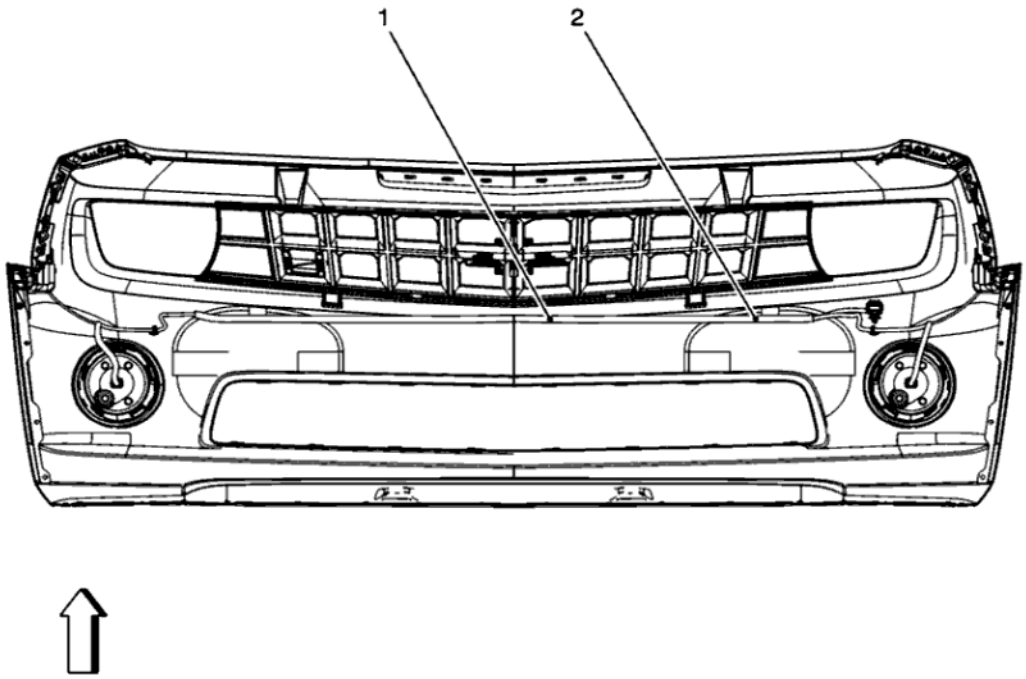
cardiagn.com



(1) G404

Fig. 63: Rear Of Vehicle
Courtesy of GENERAL MOTORS CORP.

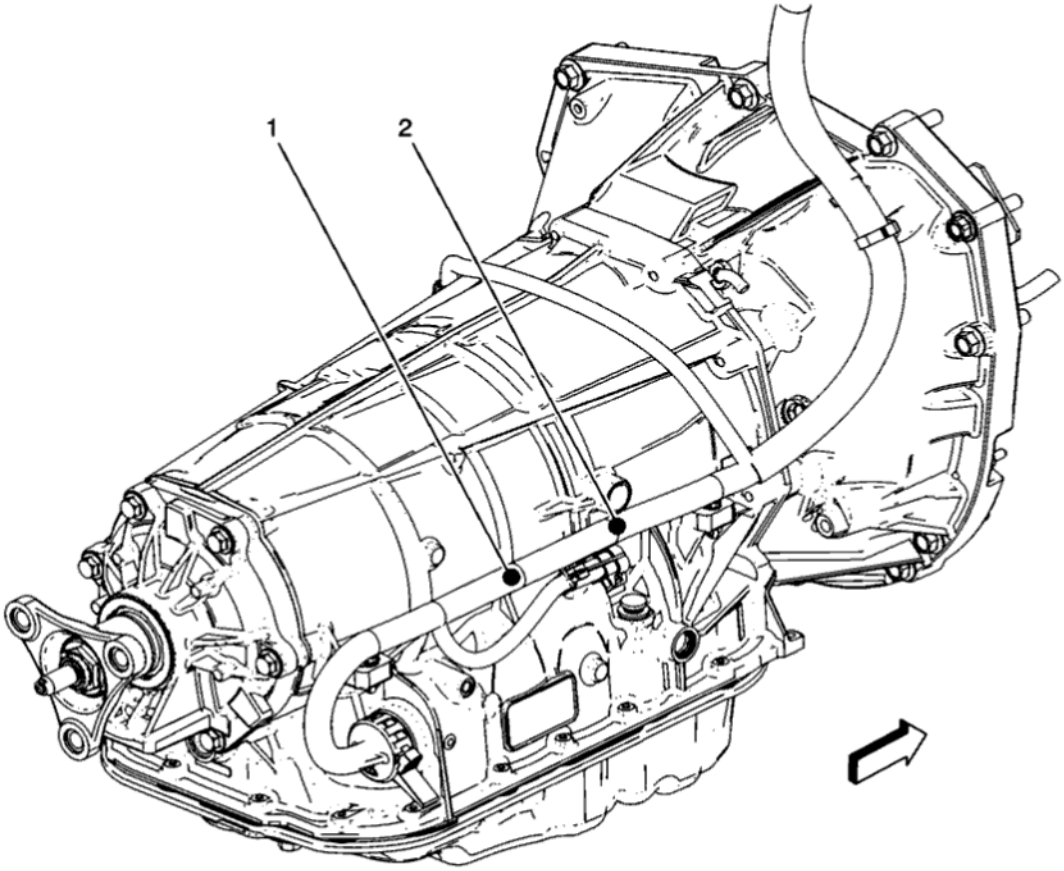
cardiagn.com



(1) J102
(2) J101

Fig. 64: Front Fascia
Courtesy of GENERAL MOTORS CORP.

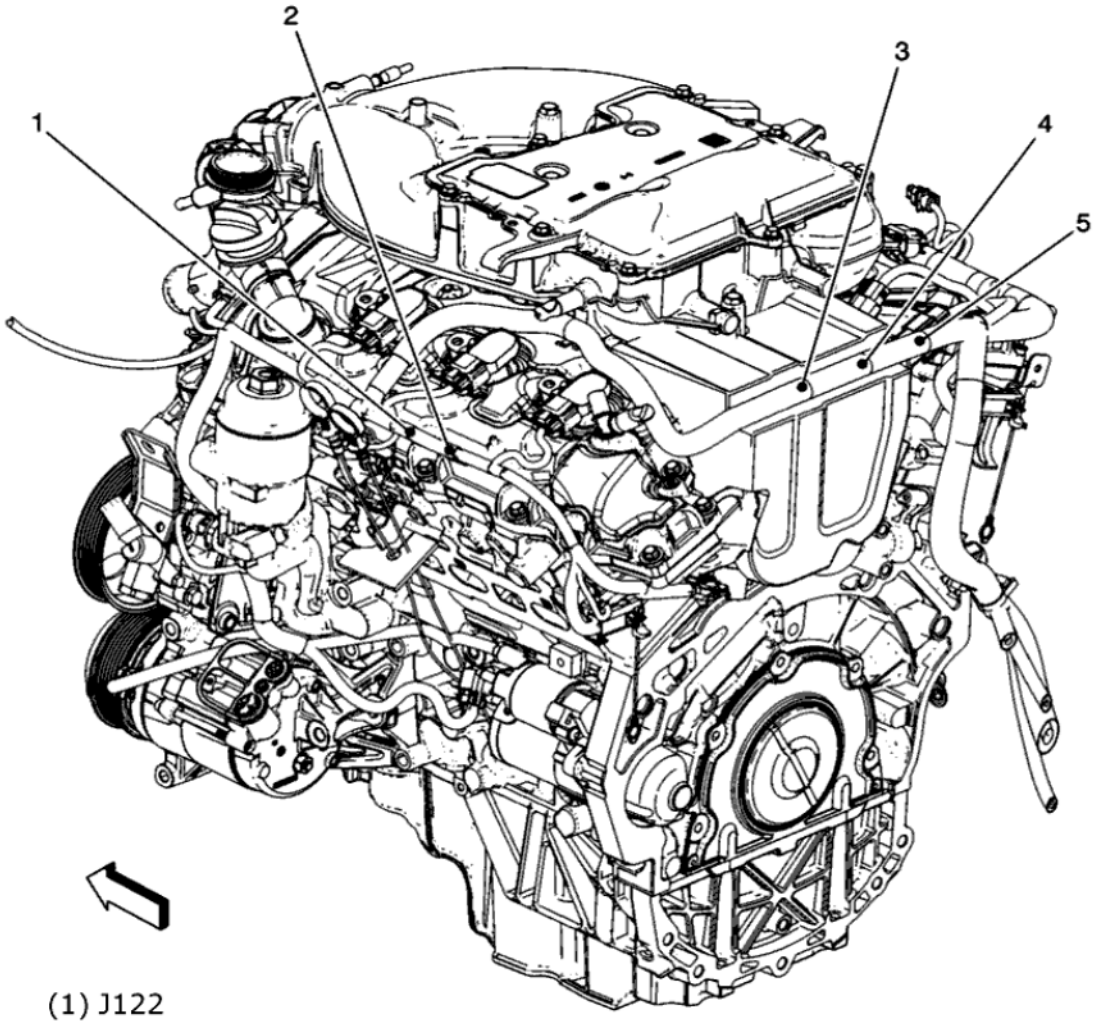
cardiagn.com



(1) J118
(2) J117

Fig. 65: Transmission
Courtesy of GENERAL MOTORS CORP.

cardiagn.com



(1) J122
(2) J123
(3) J121
(4) J120
(5) J119

Fig. 66: Left Side Of Engine (V6)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

2010 ELECTRICAL

Power Outlets - Camaro

SCHEMATIC AND ROUTING DIAGRAMS

CIGAR LIGHTER/POWER OUTLET SCHEMATICS

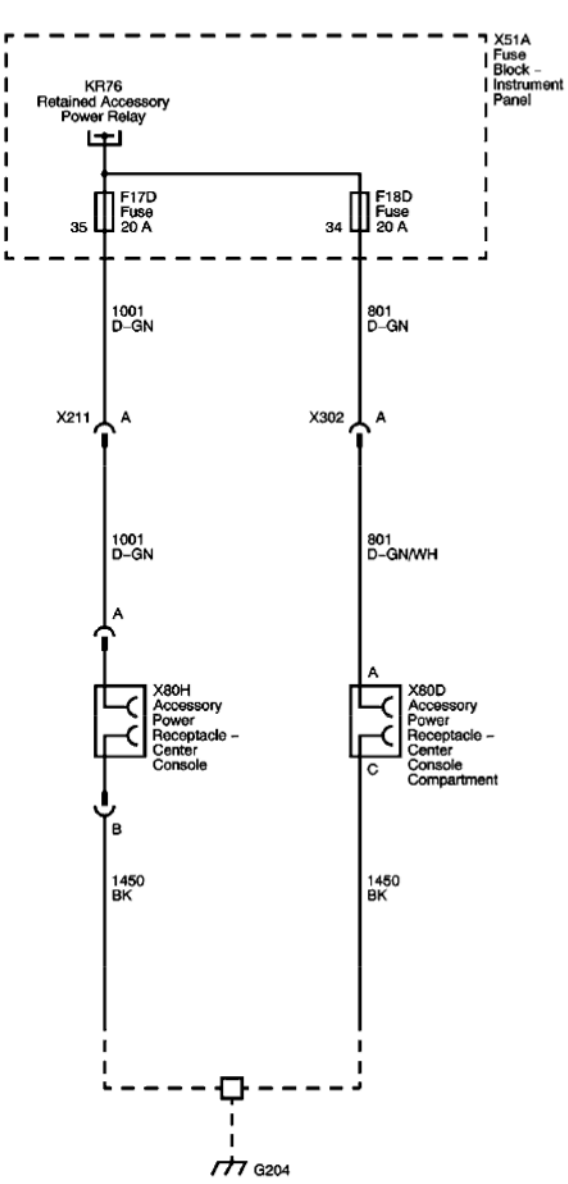






Fig. 1: Cigar Lighter/Power Outlet
Courtesy of GENERAL MOTORS CORP.

DIAGNOSTIC INFORMATION AND PROCEDURES

cardiagn.com

SYMPTOMS - POWER OUTLETS

Visual/Physical Inspection

- Inspect for aftermarket devices which can affect the operation of the power outlets. Refer to **Checking Aftermarket Accessories**
- Inspect the accessible system components or the visible system components for obvious damage or for obvious conditions which can cause the symptom.

Intermittent

Electrical connections or wiring may be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections**

Symptom List

Refer to **Power Outlet Receptacle Malfunction** in order to diagnose the system.

POWER OUTLET RECEPTACLE MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Relay Coil Ignition	1	1	2	-
Relay Coil ground	-	1	-	-
Relay Switch B+	1	1	-	-
Relay Switch control	1	1	2	-
Accessory power receptacle Ground	-	1	-	-
1. Power Outlet Receptacle Malfunction (12V DC) 2. Power Outlet Receptacle (12V DC) Always ON				

Circuit/System Description

The accessory power receptacles are supplied B+ when the ignition is on or in the accessory position.

Reference Information

Schematic Reference

cardiagn.com

Cigar Lighter/Power Outlet Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Power Outlets Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Circuit/System Verification

Install a 12 V DC accessory into an X80 accessory power receptacle. Ignition ON, command the Accessory/Retained Accessory Power Relay Command ON and OFF with a scan tool. The K10 RAP relay should click and the 12 V DC accessory should have power.

Circuit/System Testing

1. Ignition OFF, disconnect the K10 RAP relay.
2. Test for less than 10 ohms between the ground circuit terminal 86 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Verify that a test lamp does not illuminate between the control circuit terminal 87 and ground.
    - If the test lamp illuminates, test the control circuit for a short to voltage.
4. Ignition ON, verify that a test lamp illuminates between the ignition circuit terminal 85 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
5. Verify that a test lamp illuminates between the B+ circuit terminal 30 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal and the B+ circuit fuse is open, test the control circuit terminal 87 for a short to ground.
6. Disconnect the harness connector at an inoperative X80 accessory power receptacle.
7. Test for less than 10 ohms between the X80 accessory power receptacle ground circuit terminal C and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
8. Connect the harness connector at the X80 accessory power receptacle.
9. Connect a 20 A fused jumper wire between the K10 RAP relay B+ circuit terminal 30 and the control

cardiagn.com

circuit terminal 87. Verify the 12 V DC accessory has power.
    - If the 12 V DC does not have power, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the X80 accessory power receptacle.
10. If all circuits test normal, test or replace the K10 RAP relay.

Component Testing

Relay Test

1. Ignition OFF, disconnect the K10 RAP relay.
2. Test for 60-180 ohms between terminals 85 and 86.
    - If not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
    - 30 and 86
    - 30 and 87
    - 30 and 85
    - 85 and 87
    - If not the specified value, replace the relay.
4. Install a 20 A fused jumper wire between relay terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
    - If greater than specified range, replace the relay.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Relay Replacement (Attached to Wire Harness)** or **Relay Replacement (Within an Electrical Center)**
- **Accessory Power Receptacle Replacement**

REPAIR INSTRUCTIONS

ACCESSORY POWER RECEPTACLE REPLACEMENT

Tools Required

J 42059 Cigar Lighter Socket Remover. See **Special Tools**.

Removal Procedure

cardiagn.com

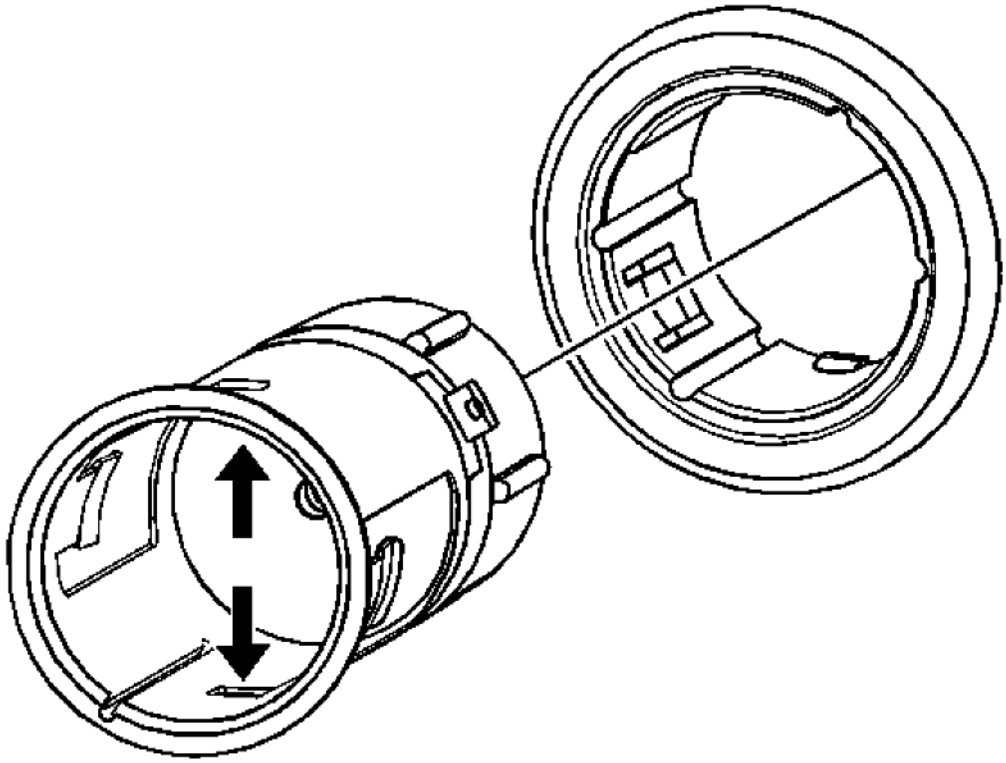


Fig. 2: View Of Cigar Lighter Socket/Accessory Power Outlet
Courtesy of GENERAL MOTORS CORP.

1. Remove the auxiliary power outlet fuse from the fuse block.
2. For the receptacle mounted in the cover, remove the front floor console cover. Refer to **Front Floor Console Front Cover Replacement (Without UMQ)** or **Front Floor Console Front Cover Replacement (With UMQ)** .
3. Remove the receptacle:
    1. Look into the receptacle. There are two 3 mm (0.11 in) tab windows 12 mm (0.47 in) from the front of the receptacle. The **J 42059** pushes the plastic latches from these tab windows and the receptacle can be pulled straight out. See **Special Tools**.
    2. Place one side of the "T" portion of the **J 42059** into the tab window. See **Special Tools**. The **J 42059** will not fit straight into the receptacle. See **Special Tools**. Angle the **J 42059** slightly for insertion into the receptacle. See **Special Tools**.
    3. Insert the other side of the "T" into the opposite tab window.

       You must move the **J 42059** handle toward horizontal to engage the other tab window. See **Special Tools**.

cardiagn.com

4. Use the **J 42059** to pull the receptacle straight out. See **Special Tools**.

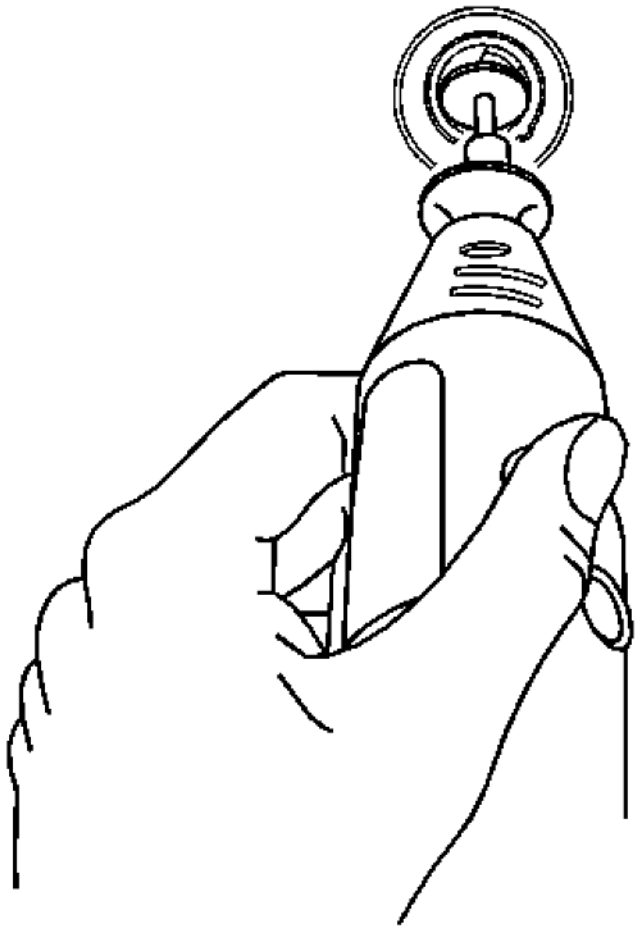


Fig. 3: Removing Plastic Latches
Courtesy of GENERAL MOTORS CORP.

4. If **J 42059** tool fails to release the lighter socket from the retainer, perform the following alternate method: See **Special Tools**.
    1. Insert a small grinding tool with a cutoff wheel into the socket.
    2. Remove the plastic latches in the 3 mm (0.11 in) square windows.
    3. Use the **J 42059** as directed above to remove the socket. See **Special Tools**.

Installation Procedure

cardiagn.com

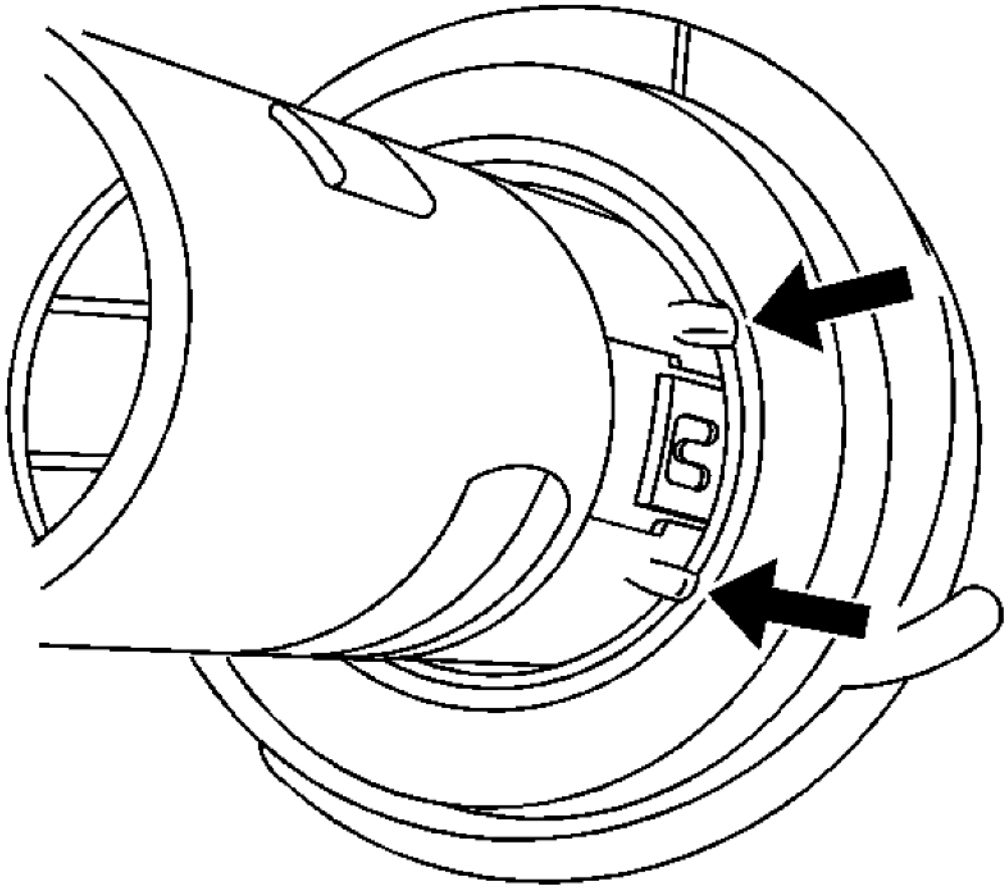


Fig. 4: View Of Receptacle Tabs & Retainer Slots
Courtesy of GENERAL MOTORS CORP.

1. Route the connector through the retainer. Align the accessory power receptacle retainer to the slot in the opening.
2. Install the retainer by pressing into place fully seated.
3. Connect the electrical connector to the receptacle.
4. Align the tabs on the receptacle to the slots in the retainer. Install the accessory power receptacle by pressing into place until fully seated.
5. Install the accessory power receptacle fuse.

DESCRIPTION AND OPERATION

POWER OUTLETS DESCRIPTION AND OPERATION

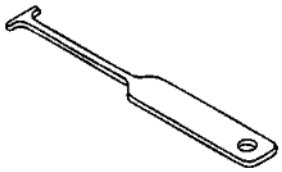
cardiagn.com

12 Volt Power Outlet Receptacle Description and Operation

The accessory power receptacles are supplied battery voltage when the ignition is ON or in the accessory position.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/ Description
	J 42059 Cigar Lighter Socket Remover

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Connector End Views - Index - Camaro

COMPONENT CONNECTOR END VIEWS - INDEX

NOTE: **Use the following tables to locate the connector end view for the desired component. These are in alphabetical sequence as supplied by the manufacturer. Connector end views are identified by manufacturer using an alpha/numeric naming convention, starting with A10 and ending with X85. In system testing, component connector may be identified using the alpha/numeric convention or using the actual component name. Example: Q17B is the connector identifier for fuel injector 2.**

COMPONENT CONNECTOR END VIEWS - A10 THROUGH B52F

COMPONENT CONNECTOR END VIEWS - A10 THROUGH B52F

Description
A10 Inside Rearview Mirror
A11 Radio
A20 Radio/HVAC Controls
A23D Door Latch Assembly - Driver
A23P Door Latch Assembly - Passenger
A7 Fuel Pump and Level Sensor Assembly
A9A Outside Rearview Mirror - Driver
A9B Outside Rearview Mirror - Passenger
B1 A/C Refrigerant Pressure Sensor
B101 Immobilizer Antenna
B107 Accelerator Pedal Position Sensor
B10 Ambient Light Sensor
B115 Vehicle Speed Sensor (MV5)
B115 Vehicle Speed Sensor (M10)
B119 Multi-Axis Acceleration Sensor
B150 Fuel Tank Pressure Sensor
B16 Backup Lamp Switch (MV5)
B16 Backup Lamp Switch (M10)
B173 Manual Transmission Fluid Temperature Sensor (MV5 or M10)
B18 Battery Current Sensor
B19B Brake Booster Vacuum Sensor (L99)
B20 Brake Fluid Level Switch
B22 Brake Pedal Position Sensor
B23 Camshaft Position Sensor (L99/LS3)
B23A Camshaft Position Sensor - Bank 1 Exhaust (LLT)

cardiagn.com

B23B Camshaft Position Sensor - Bank 1 Intake (LLT)
B23C Camshaft Position Sensor - Bank 2 Exhaust (LLT)
B23D Camshaft Position Sensor - Bank 2 Intake (LLT)
B24 Cellular Phone Microphone (UE1)
B25B Clutch Pedal Position Sensor (MV5 or M10)
B26 Crankshaft Position Sensor (L99 or LS3)
B26 Crankshaft Position Sensor (LLT)
B34 Engine Coolant Temperature Sensor (L99 or LS3)
B34 Engine Coolant Temperature Sensor (LLT)
B35C Engine Oil Level and Temperature Sensor (L99 or LS3)
B37B Engine Oil Pressure Sensor (L99 or LS3)
B37B Engine Oil Pressure Sensor (LLT)
B39 A/C Evaporator Temperature Sensor
B46B Fuel Level Sensor - Secondary
B47 Fuel Pressure Sensor
B47B Fuel Rail Pressure Sensor (LLT)
B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L99 or LS3)
B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (LLT)
B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L99 or LS3)
B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (LLT)
B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L99 or LS3)
B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (LLT)
B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L99 or LS3)
B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MV5)
B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MYB)

COMPONENT CONNECTOR END VIEWS - B55 THROUGH E4C

COMPONENT CONNECTOR END VIEWS - B55 THROUGH E4C

Description
B55 Hood Ajar Switch
B59L Front Impact Sensor - Left
B59R Front Impact Sensor - Right
B5LF Wheel Speed Sensor - Left Front
B5LR Wheel Speed Sensor - Left Rear
B5RF Wheel Speed Sensor - Right Front
B5RR Wheel Speed Sensor - Right Rear
B62D Seat Position Sensor - Driver
B62P Seat Position Sensor - Passenger
B63L Side Impact Sensor - Left
B63R Side Impact Sensor - Right

cardiagn.com

B68A Knock Sensor 1
B68B Knock Sensor 2
B74 Manifold Absolute Pressure Sensor (L99 or LS3)
B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3)
B75B Mass Air Flow/Intake Air Temperature Sensor (LLT)
B78E Rear Object Sensor - Left Middle (UD7)
B78F Rear Object Sensor - Right Middle (UD7)
B78G Rear Object Sensor - Left Outer (UD7)
B78H Rear Object Sensor - Right Outer (UD7)
B80 Park Brake Switch
B88D Seat Belt Switch - Driver
B88P Seat Belt Switch - Passenger
B9 Ambient Air Temperature Sensor
B99 Steering Wheel Angle Sensor
C1 Battery +
C1 Battery -
C3 Telematics Communication Interface Control Module Battery (UE1)
E1D Accent Lamp - Driver Door (SRK/SRM)
E13L Headlamp - Left (T4A)
E13R Headlamp - Right (T4A)
E14A Seat Heating Element - Driver Back (KA1)
E14B Seat Heating Element - Driver Cushion (KA1)
E14C Seat Heating Element - Passenger Back (KA1)
E14D Seat Heating Element - Passenger Cushion (KA1)
E18 Rear Defogger Grid X1
E18 Rear Defogger Grid X2
E1G Accent Lamp - Left I/P (SRK or SRM)
E1H Accent Lamp - Right I/P (SRK or SRM)
E1P Accent Lamp - Passenger Door (SRK/SRM)
E17D Outside Rearview Mirror Glass - Driver
E17P Outside Rearview Mirror Glass - Passenger
E29LF Fog Lamp - Left Front (T3U)
E29RF Fog Lamp - Right Front (T3U)
E2LF Side Marker Lamp - Left Front
E2LR Side Marker Lamp - Left Rear
E2RF Side Marker Lamp - Right Front
E2RR Side Marker Lamp - Right Rear
E37A Dome/Reading Lamps
E4C Daytime Running Lamp - Left (T4F)

COMPONENT CONNECTOR END VIEWS - E4D THROUGH K77

cardiagn.com

COMPONENT CONNECTOR END VIEWS - E4D THROUGH K77

Description
E4D Daytime Running Lamp - Right (T4F)
E4LF Turn Signal Lamp - Left Front (T4F)
E4N Park/Turn Signal Lamp - Left (T4A)
E4P Park/Turn Signal Lamp - Right (T4A)
E4RF Turn Signal Lamp - Right Front (T4F)
E5A Backup Lamp - Left
E5AE Tail/Stop and Turn Signal Lamp - Left Inner
E5AF Tail/Stop and Turn Signal Lamp - Right Inner
E5B Backup Lamp - Right
E5W Tail/Stop and Turn Signal Lamp - Left Outer
E5X Tail/Stop and Turn Signal Lamp - Right Outer
E6 Center High Mounted Stop Lamp
E7L License Plate Lamp - Left
E7R License Plate Lamp - Right
E8S Rear Compartment Courtesy Lamp
F105 Passenger Instrument Panel Air Bag
F105L Roof Rail Air Bag - Left
F105R Roof Rail Air Bag - Right
F106L Side Air Bag - Left
F106R Side Air Bag - Right
F107 Steering Wheel Air Bag X1
F107 Steering Wheel Air Bag X2
F112D Seat Belt Retractor Pretensioner - Driver
F112P Seat Belt Retractor Pretensioner - Passenger
G10R Cooling Fan Motor - Right
G13 Generator X1 (L99 or LS3)
G13 Generator X1 (LLT)
G13 Generator X2
G18 High Pressure Fuel Pump (LLT)
G24 Windshield Washer Pump
G6 Brake Booster Pump - Auxiliary (LLT)
K17 Electronic Brake Control Module (EBCM)
K20 Engine Control Module X1 (L99 or LS3)
K20 Engine Control Module X1 (LLT)
K20 Engine Control Module X2 (L99 or LS3)
K20 Engine Control Module X2 (LLT)
K27 Fuel Pump Control Module
K29 Seat Heating Control Module X1 (KA1)
K29 Seat Heating Control Module X2 (KA1)

cardiagn.com

K29 Seat Heating Control Module X3 (KA1)
K33 HVAC Control Module X1
K33 HVAC Control Module X2
K36 Inflatable Restraint Sensing and Diagnostic Module X1
K36 Inflatable Restraint Sensing and Diagnostic Module X2
K41 Object Alarm Control Module X1 (UD7)
K41 Object Alarm Control Module X2 (UD7)
K61 Sunroof Control Module (CF5)
K73 Telematics Communication Interface Control Module X1 (UE1)
K73 Telematics Communication Interface Control Module X2 (UE1)
K77 Remote Control Door Lock Receiver

COMPONENT CONNECTOR END VIEWS - K8 THROUGH Q17A

COMPONENT CONNECTOR END VIEWS - K8 THROUGH Q17A

Description
K8 Blower Motor Control Module X1
K8 Blower Motor Control Module X2
K85 Passenger Presence Detection Module X1
K85 Passenger Presence Detection Module X2
K9 Body Control Module X1
K9 Body Control Module X2
K9 Body Control Module X3
K9 Body Control Module X4
K9 Body Control Module X5
K9 Body Control Module X6
K9 Body Control Module X7
M37 Mode Door Actuator
M40 Rear Compartment Lid Latch
M46 Air Recirculation Door Motor
M47 Reverse Inhibit Solenoid Actuator (M10)
M50D Seat Front Vertical Motor - Driver (AMM)
M51D Seat Horizontal Motor - Driver (AMM)
M55D Seat Rear Vertical Motor - Driver (AMM)
M56D Seat Recline Motor - Driver
M56P Seat Recline Motor - Passenger
M6 Air Temperature Door Actuator
M64 Starter Motor X1
M64 Starter Motor X2
M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC)
M74D Window Motor - Driver

cardiagn.com

M74P Window Motor - Passenger
M75 Windshield Wiper Motor
M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC)
P12A Horn - High Note
P12B Horn - Low Note
P14 Passenger Air Bag Disable Indicator
P16 Instrument Cluster
P19A Speaker - Center Instrument Panel (UQA)
P19G Speaker - Left Front (UQA)
P19G Speaker - Left Front (UQ3)
P19H Speaker - Left Front Tweeter
P19K Speaker - Left Rear (UQA)
P19K Speaker - Left Rear (UQ3)
P19U Speaker - Right Front (UQA)
P19U Speaker - Right Front (UQ3)
P19V Speaker - Right Front Tweeter
P19X Speaker - Right Rear (UQA)
P19X Speaker - Right Rear (UQ3)
P2 Transmission Shift Lever Position Indicator (MYB or MYC)
P26 Auxiliary Gage Module (UMQ)
Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3)
Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT)
Q13 Evaporative Emission (EVAP) Vent Solenoid Valve
Q17A Fuel Injector 1 (L99 or LS3)
Q17A Fuel Injector 1 (LLT)

COMPONENT CONNECTOR END VIEWS - Q17B THROUGH T3

COMPONENT CONNECTOR END VIEWS - Q17B THROUGH T3

Description
Q17B Fuel Injector 2 (L99 or LS3)
Q17B Fuel Injector 2 (LLT)
Q17C Fuel Injector 3 (L99 or LS3)
Q17C Fuel Injector 3 (LLT)
Q17D Fuel Injector 4 (L99 or LS3)
Q17D Fuel Injector 4 (LLT)
Q17E Fuel Injector 5 (L99 or LS3)
Q17E Fuel Injector 5 (LLT)
Q17F Fuel Injector 6 (L99 or LS3)
Q17F Fuel Injector 6 (LLT)
Q17G Fuel Injector 7 (L99 or LS3)

cardiagn.com

Q17H Fuel Injector 8 (L99 or LS3)
Q2 A/C Compressor Clutch
Q34 Skip Shift Solenoid Actuator (M10)
Q38 Throttle Body (L99 or LS3)
Q38 Throttle Body (LLT)
Q43 Valve Lifter Oil Manifold Assembly (L99)
Q6 Camshaft Position Actuator Solenoid Valve (L99)
Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust (LLT)
Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake (LLT)
Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust (LLT)
Q6D Camshaft Position Actuator Solenoid Valve - Bank 2 Intake (LLT)
Q8 Control Solenoid Valve Assembly X1 (MYB or MYC)
Q8 Control Solenoid Valve Assembly X2 (MYB or MYC)
Q8 Control Solenoid Valve Assembly X3 (MYB or MYC)
R14R Rear Window Defogger Noise Filter - Right X1
R14R Rear Window Defogger Noise Filter - Right X2
R6 Data Link Resistor
S25 Garage Door Opener (UG1)
S2L Transmission Manual Shift Switch - Left (MYB or MYC)
S2R Transmission Manual Shift Switch - Right (MYB or MYC)
S30 Headlamp Switch
S39 Ignition Switch
S52 Outside Rearview Mirror Switch
S58 Rear Compartment Lid Unlatch Switch
S64D Seat Adjuster Switch - Driver (AH3)
S64D Seat Adjuster Switch - Driver (AMM)
S64P Seat Adjuster Switch - Passenger
S70L Steering Wheel Controls Switch - Left
S70R Steering Wheel Controls Switch - Right (NZL)
S72 Sunroof Switch (CF5)
S75 Traction Control Switch
S78 Turn Signal/Multifunction Switch
S79D Window Switch - Driver
S79P Window Switch - Passenger
S82 Windshield Wiper/Washer Switch
T11 Multimedia Player Interface Module X1 (USR)
T3 Audio Amplifier X1 (UQA)
T3 Audio Amplifier X2 (UQA)
T3 Audio Amplifier X3 (UQA)

COMPONENT CONNECTOR END VIEWS - T8A THROUGH X85

cardiagn.com

COMPONENT CONNECTOR END VIEWS - T8A THROUGH X85

Description
T8A Ignition Coil 1 (L99 or LS3)
T8A Ignition Coil 1 (LLT)
T8B Ignition Coil 2 (L99 or LS3)
T8B Ignition Coil 2 (LLT)
T8C Ignition Coil 3 (L99 or LS3)
T8C Ignition Coil 3 (LLT)
T8D Ignition Coil 4 (L99 or LS3)
T8D Ignition Coil 4 (LLT)
T8E Ignition Coil 5 (L99 or LS3)
T8E Ignition Coil 5 (LLT)
T8F Ignition Coil 6 (L99 or LS3)
T8F Ignition Coil 6 (LLT)
T8G Ignition Coil 7 (L99 or LS3)
T8H Ignition Coil 8 (L99 or LS3)
X80D Accessory Power Receptacle - Center Console Compartment
X80H Accessory Power Receptacle - Center Console
X83 Auxiliary Audio Input (USR)
X84 Data Link Connector
X85 Steering Wheel Air Bag Coil X1
X85 Steering Wheel Air Bag Coil X2
X85 Steering Wheel Air Bag Coil X3

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

FRONT OF VEHICLE/ENGINE COMPARTMENT COMPONENT VIEWS

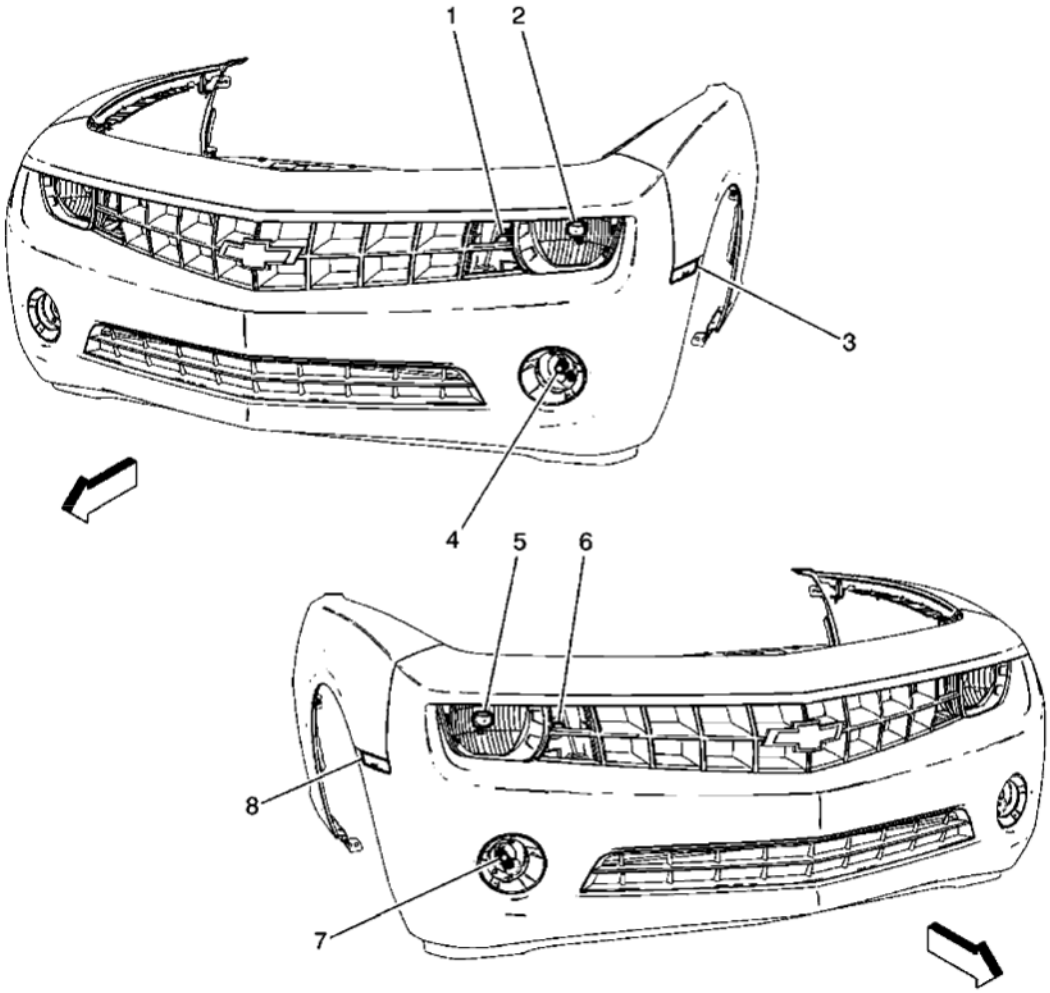


Fig. 1: Front Of Vehicle Components (T4A)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	E4N Park/Turn Signal Lamp - Left
2	E13L Headlamp - Left
3	E2LF Side Marker Lamp - Left Front
4	E29LF Fog Lamp - Left Front (T3U)
5	E13R Headlamp - Right
6	E4P Park/Turn Signal Lamp - Right

cardiagn.com

7	E29RF Fog Lamp - Right Front (T3U)
8	E2RF Side Marker Lamp - Right Front

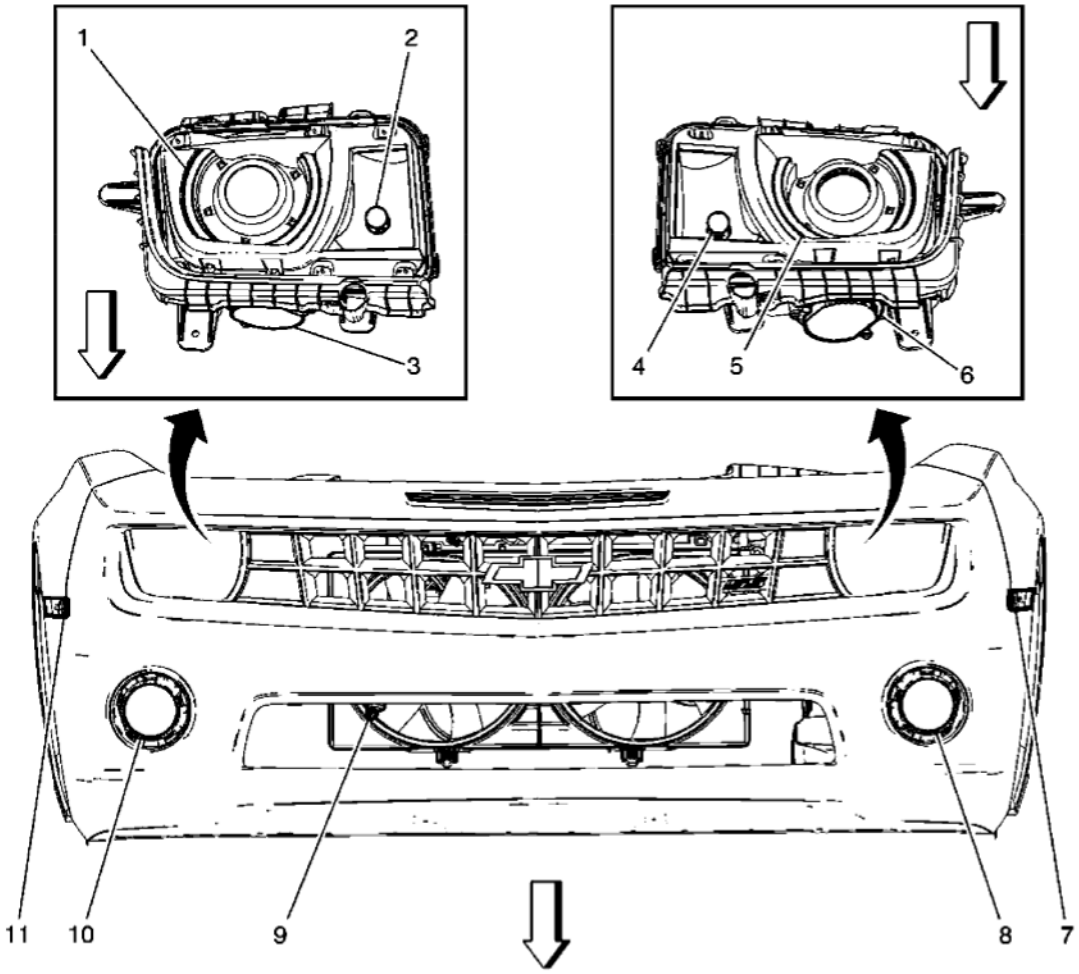


Fig. 2: Front Of Vehicle Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	E4K Park Lamp - Right Front (T4F)
2	E4RF Turn Signal Lamp - Right Front (T4F)
3	T7R Headlamp Ballast - Right (T4F)
4	E4LF Turn Signal Lamp - Left Front (T4F)
5	E4J Park Lamp - Left Front (T4F)
6	T7L Headlamp Ballast - Left (T4F)
7	E2LF Side Marker Lamp - Left Front
8	E4C Daytime Running Lamp - Left (T4F)

cardiagn.com

9	B9 Ambient Air Temperature Sensor
10	E4D Daytime Running Lamp - Right (T4F)
11	E2RF Side Marker Lamp - Right Front

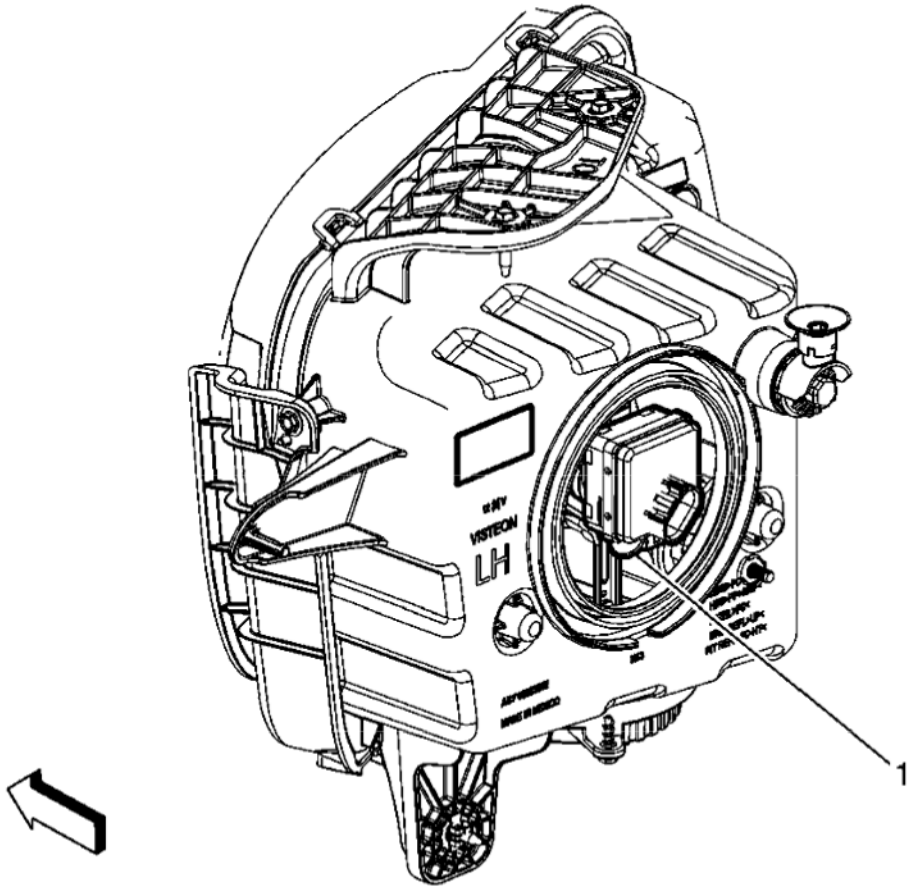


Fig. 3: Left Headlamp Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	M28L High Beam Solenoid Actuator - Left

cardiagn.com

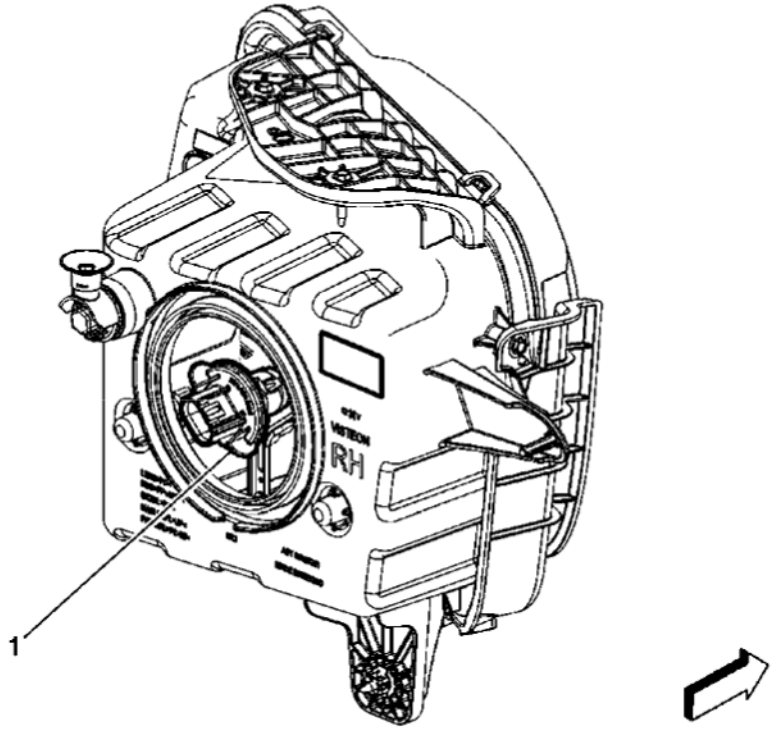


Fig. 4: Right Headlamp Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	M28R High Beam Solenoid Actuator - Right

cardiagn.com

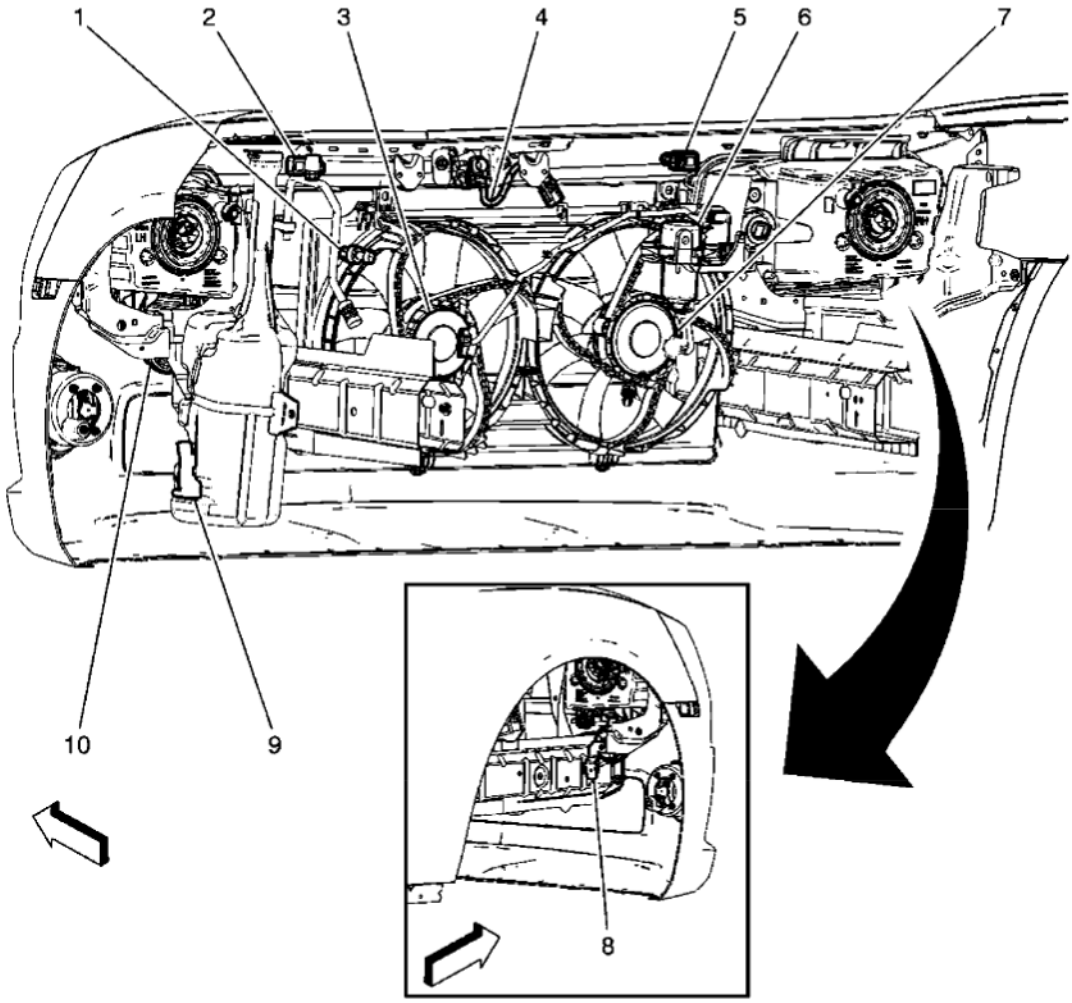


Fig. 5: Front Of Engine Compartment Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	B1 A/C Refrigerant Pressure Sensor
2	B59L Front Impact Sensor - Left
3	G10L Cooling Fan Motor - Left
4	B55 Hood Ajar Switch
5	B59R Front Impact Sensor - Right
6	G6 Brake Booster Pump - Auxiliary (LLT)
7	G10R Cooling Fan Motor - Right
8	P12A Horn - High Note
9	G24 Windshield Washer Pump
10	P12B Horn - Low Note

cardiagn.com

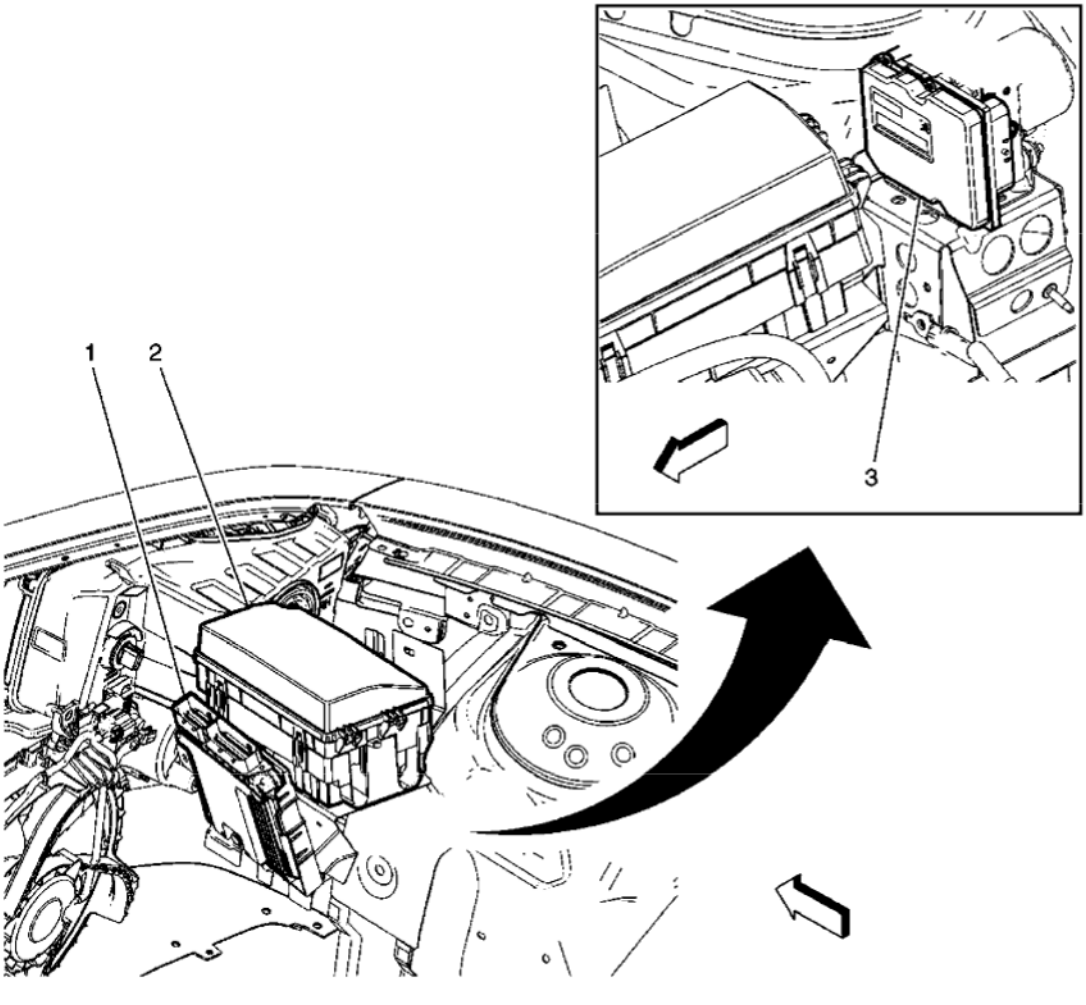


Fig. 6: Right Front Of Engine Compartment Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	K20 Engine Control Module
2	X50A Fuse Block - Underhood
3	K17 Electronic Brake Control Module (EBCM)

cardiagn.com

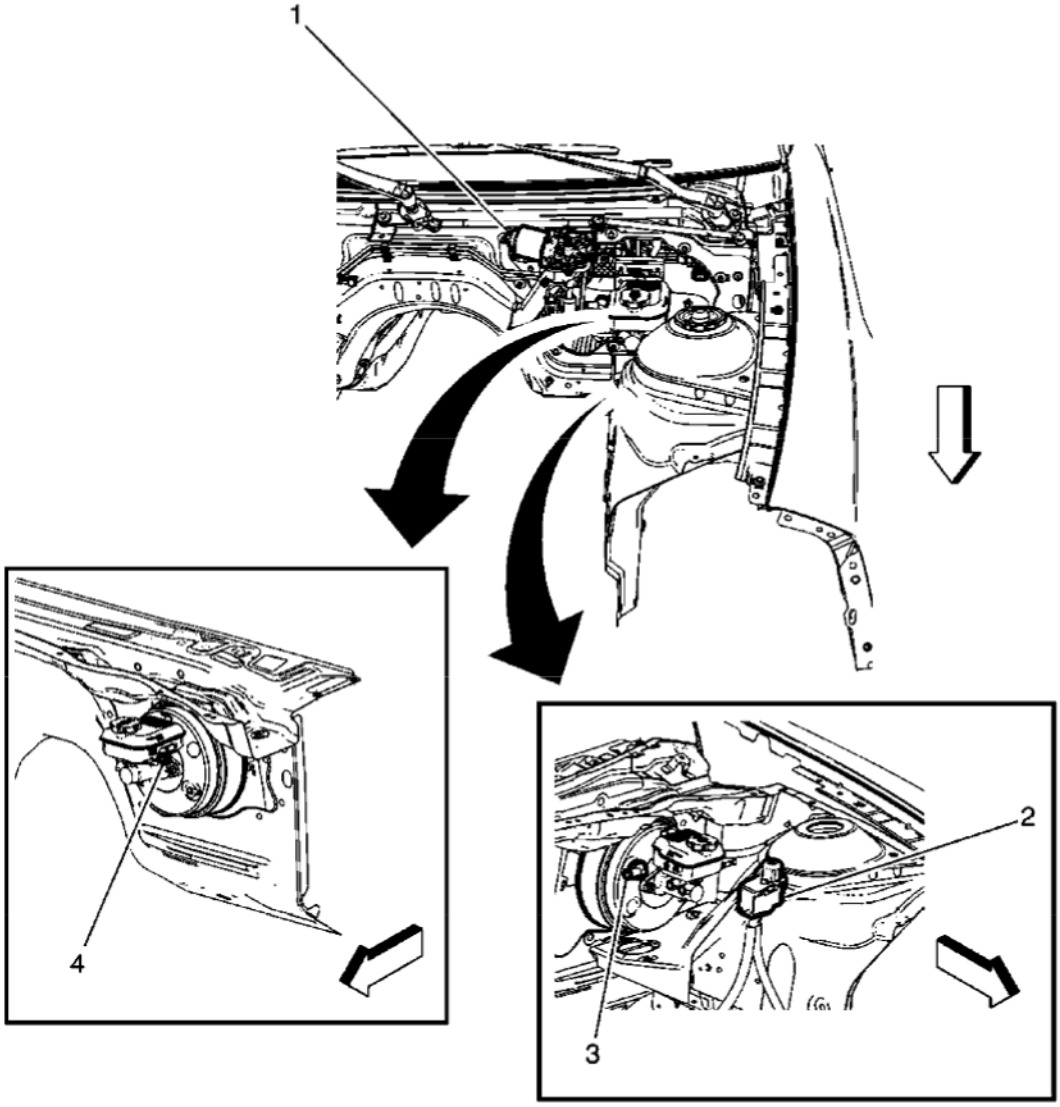


Fig. 7: Left Rear Of Engine Compartment Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	M75 Windshield Wiper Motor
2	X60B Junction Block - Underhood Battery Cable
3	B19B Brake Booster Vacuum Sensor (L99)
4	B20 Brake Fluid Level Switch

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

GROUND VIEWS

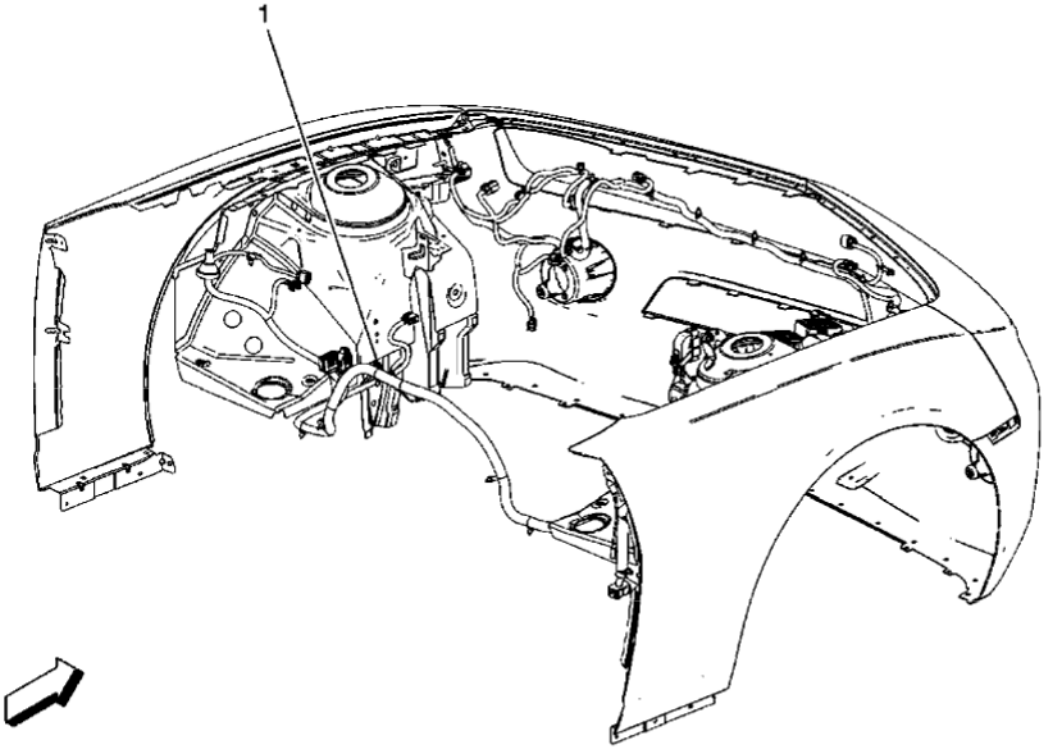


Fig. 1: G105
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G105

cardiagn.com

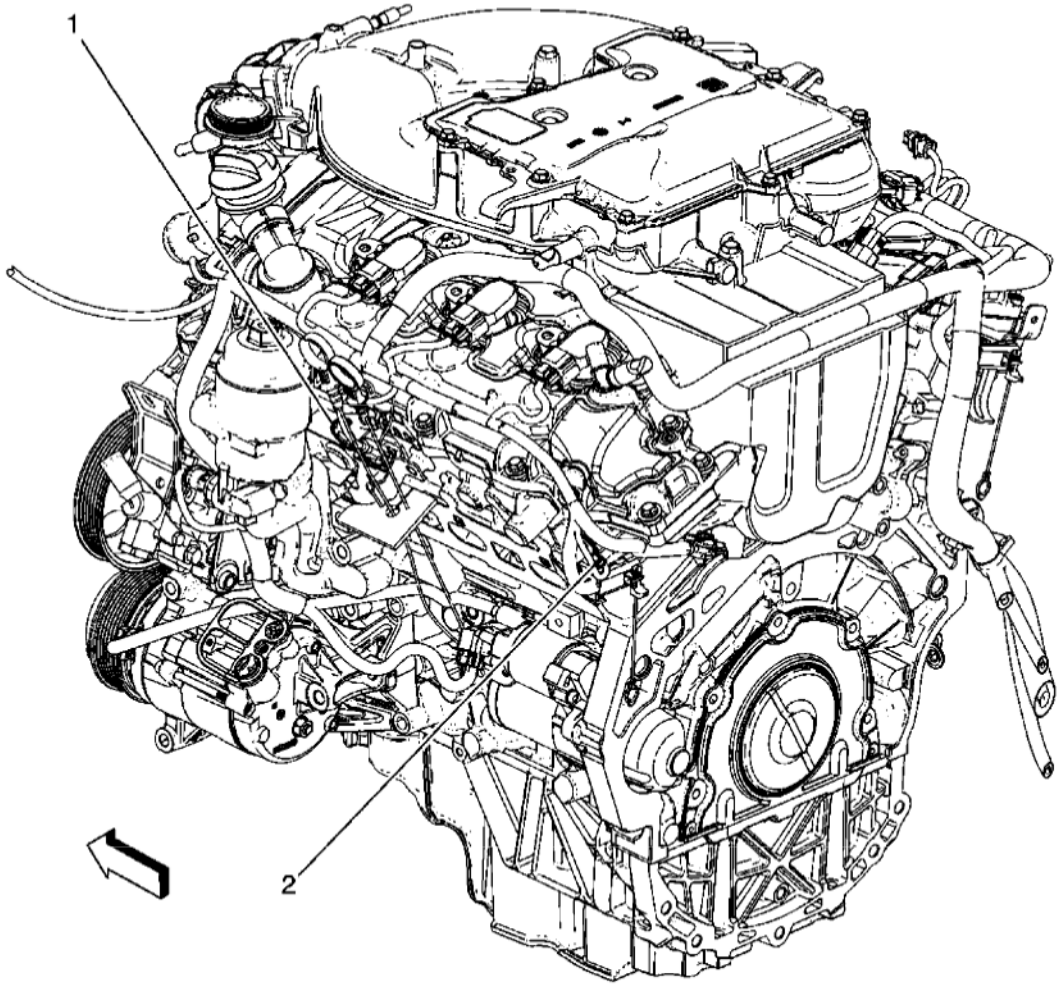


Fig. 2: G107 & G109 (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G109
2	G107

cardiagn.com

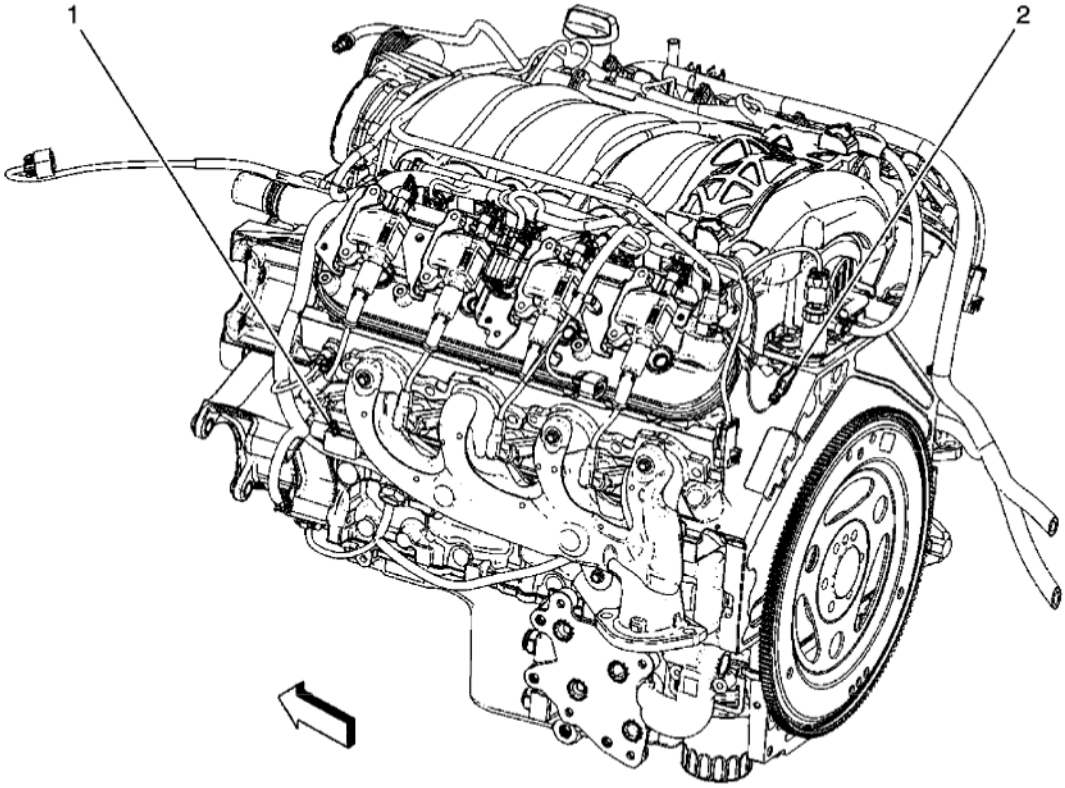


Fig. 3: G108 % G109 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G109
2	G108

cardiagn.com

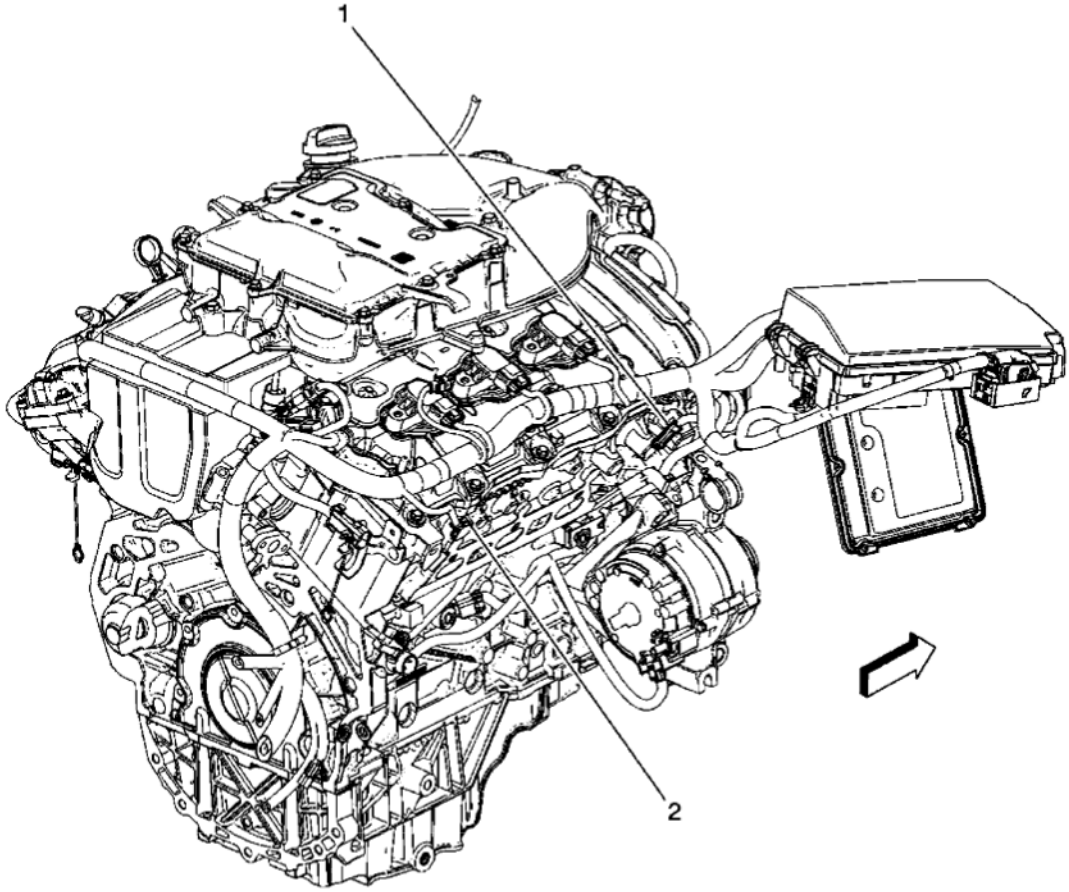


Fig. 4: G106 & G108 (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G106
2	G108

cardiagn.com

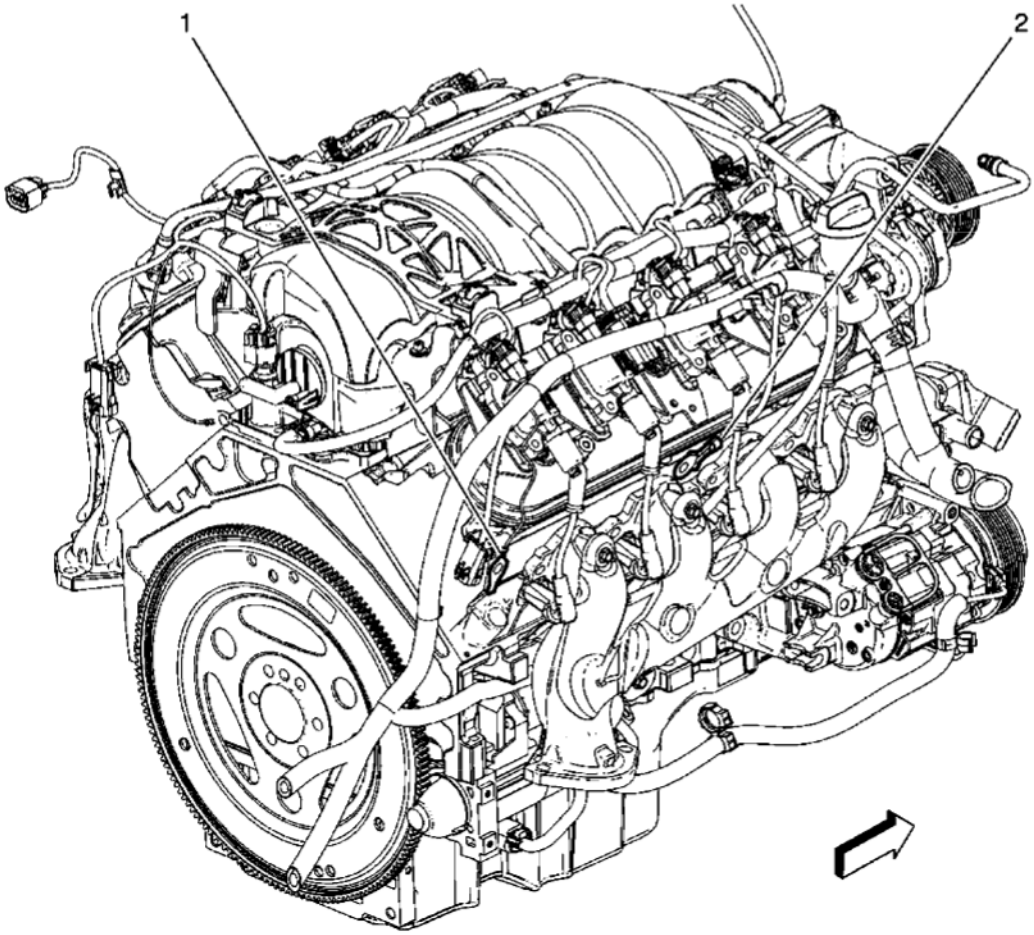


Fig. 5: G106 & G107 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G107
2	G106

cardiagn.com

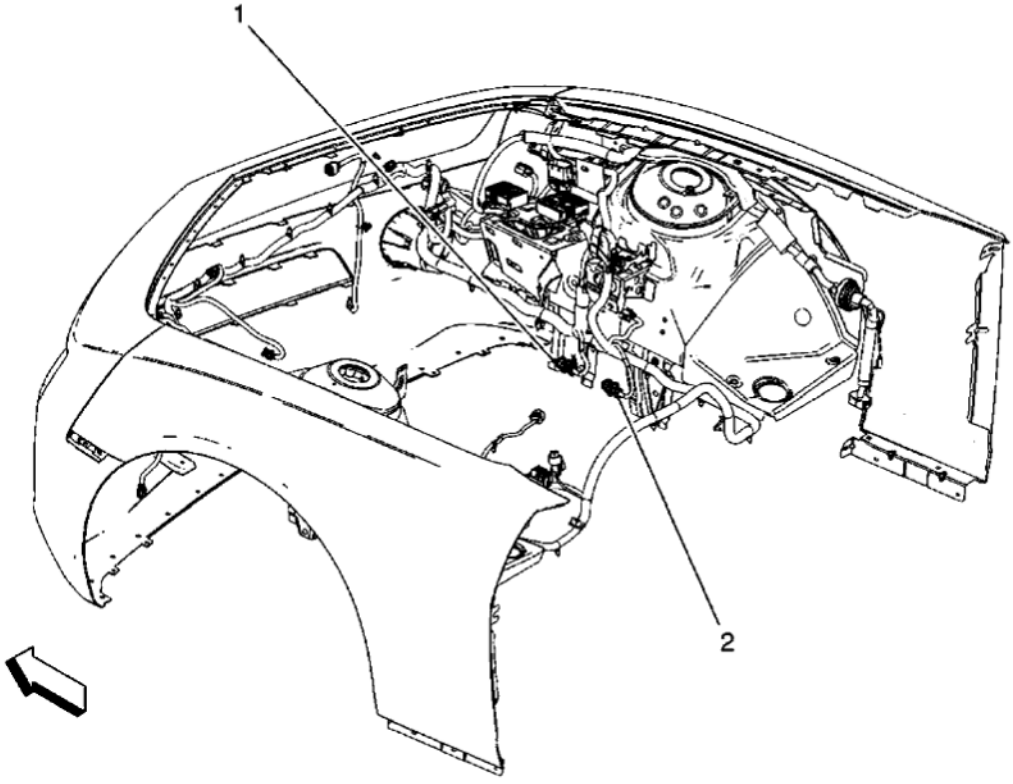


Fig. 6: G101 & G102
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G101
2	G102

cardiagn.com

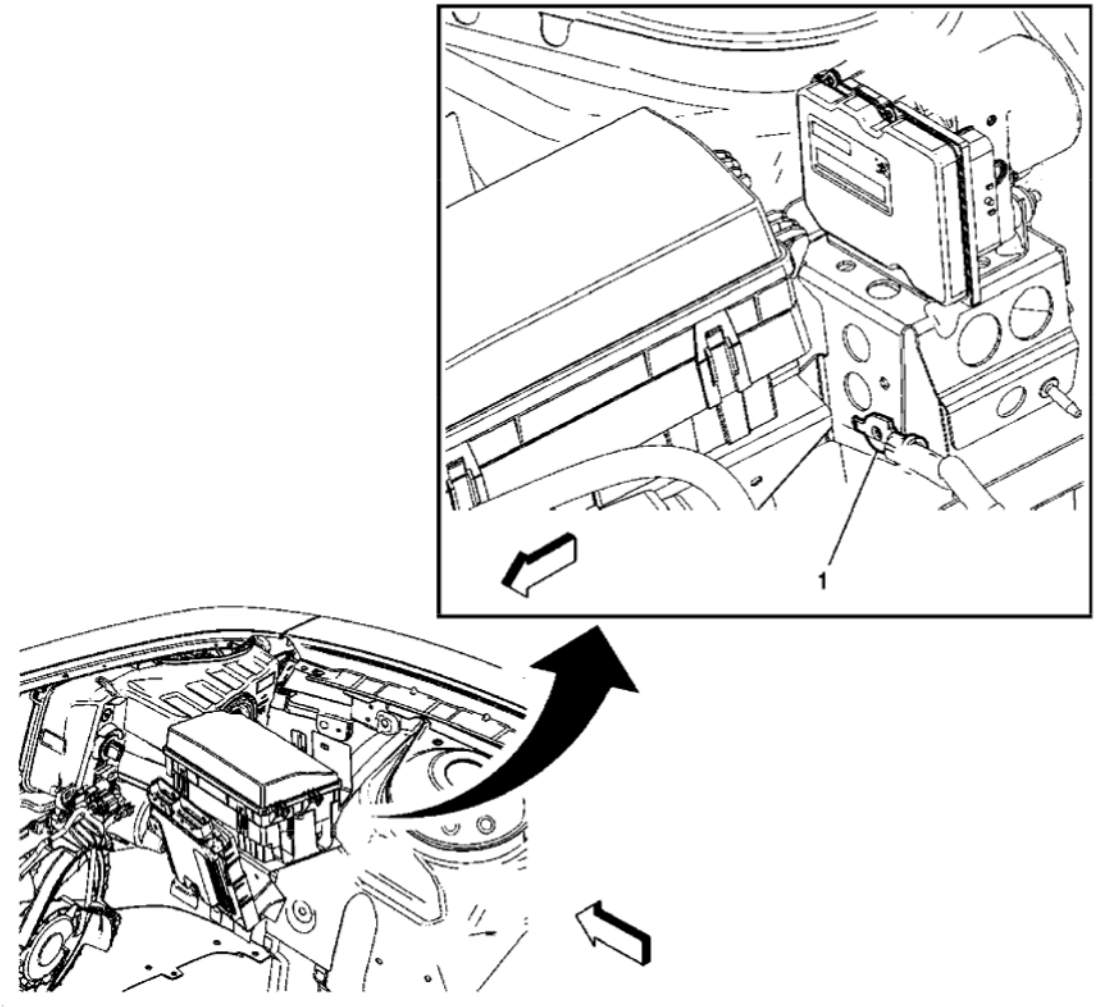


Fig. 7: G103
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G103

cardiagn.com

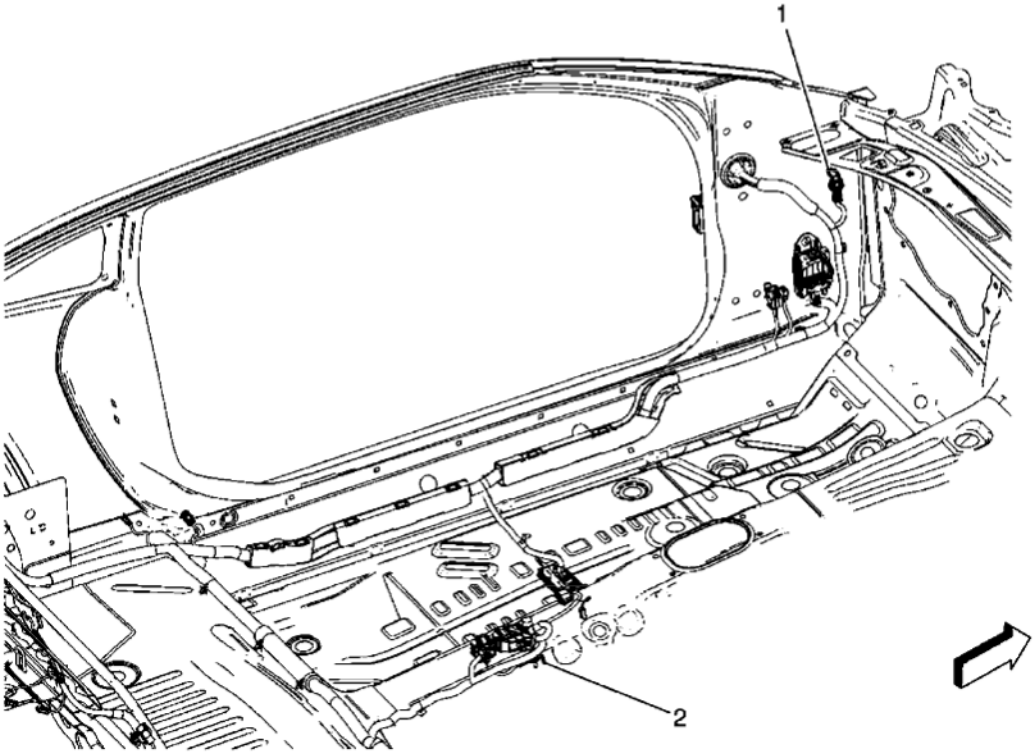


Fig. 8: G205 & G301
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G205
2	G301

cardiagn.com

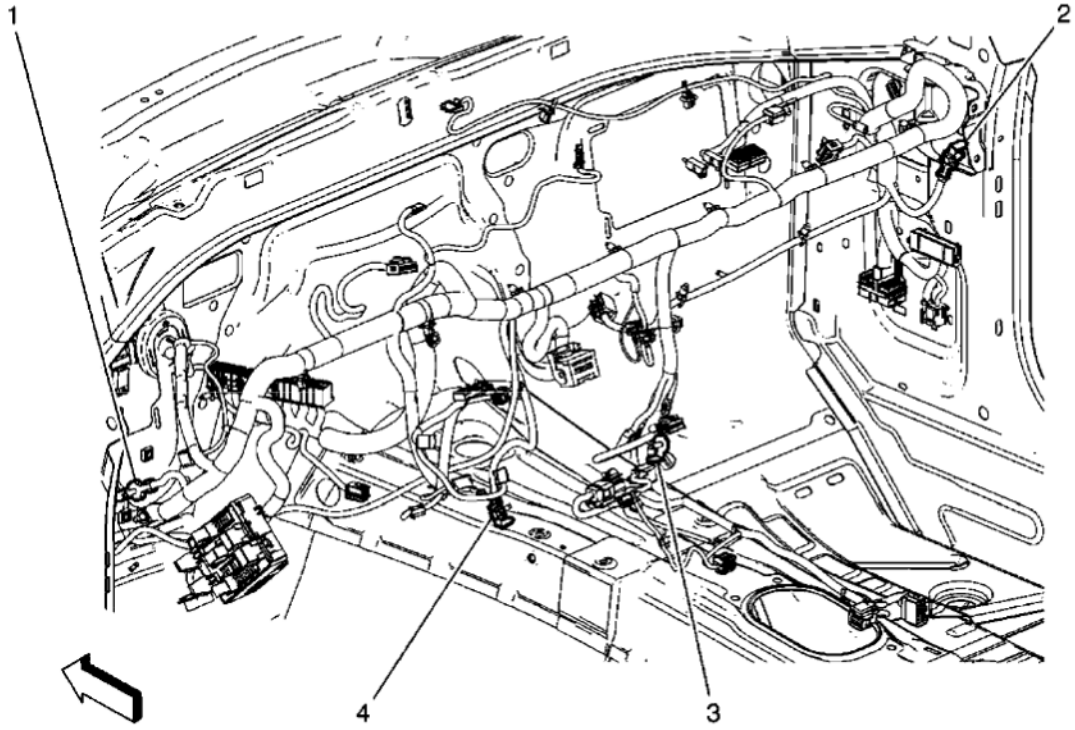


Fig. 9: G201, G202, G203 & G204
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G201
2	G204
3	G202
4	G203

cardiagn.com

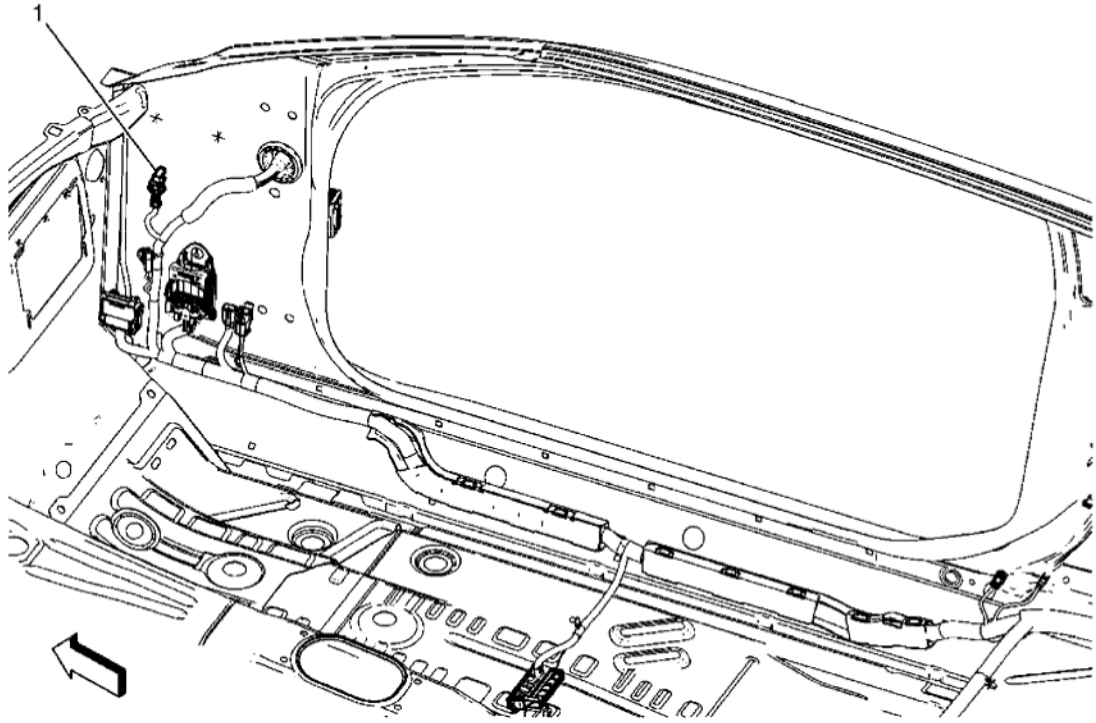


Fig. 10: G206
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G206

cardiagn.com

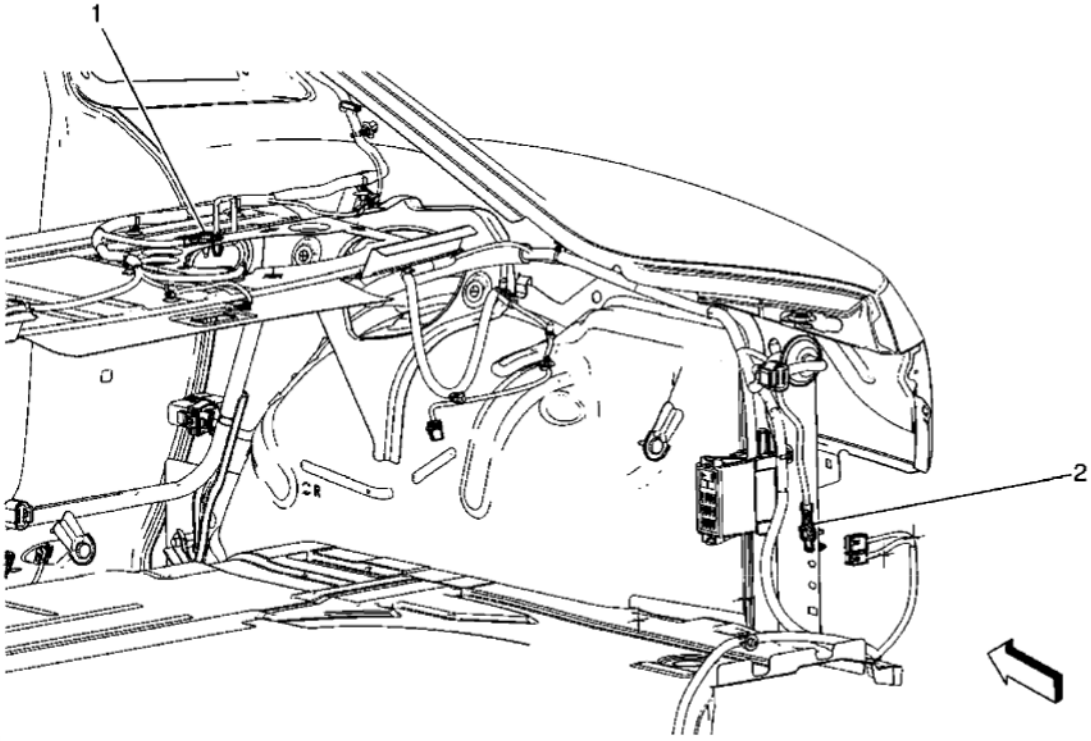


Fig. 11: G402 & G403
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G402
2	G403

cardiagn.com

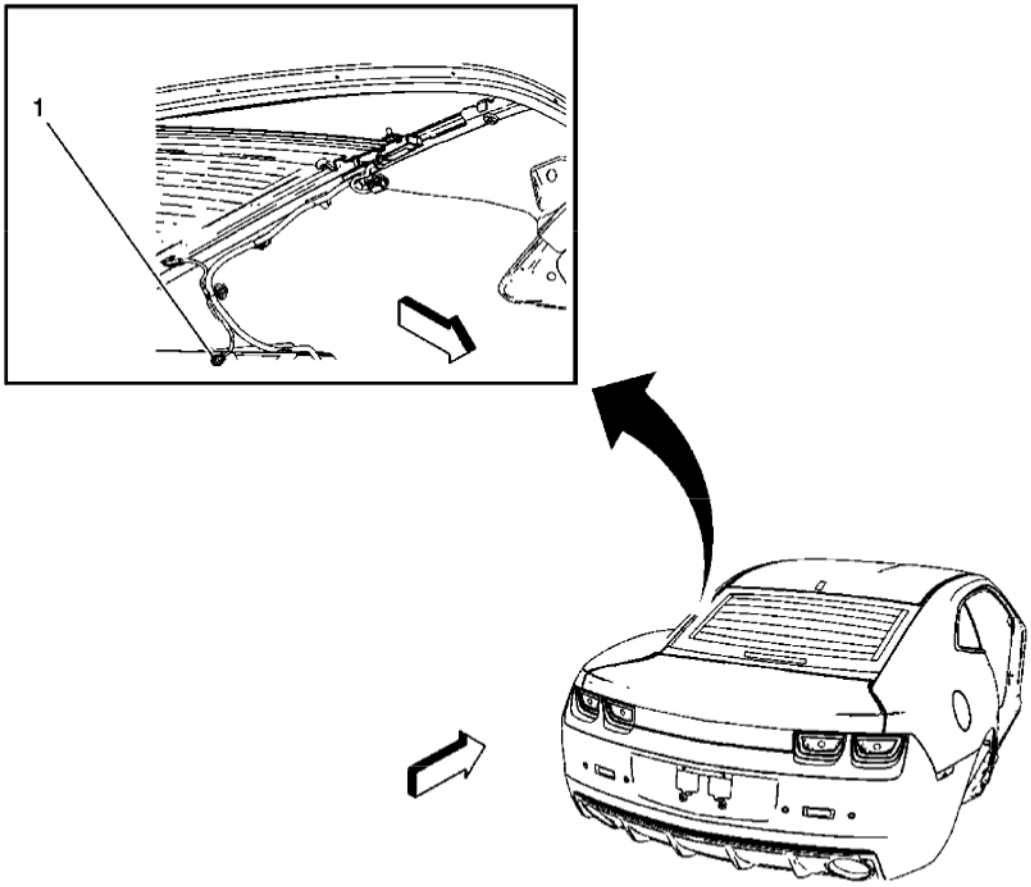


Fig. 12: G404
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G404

cardiagn.com

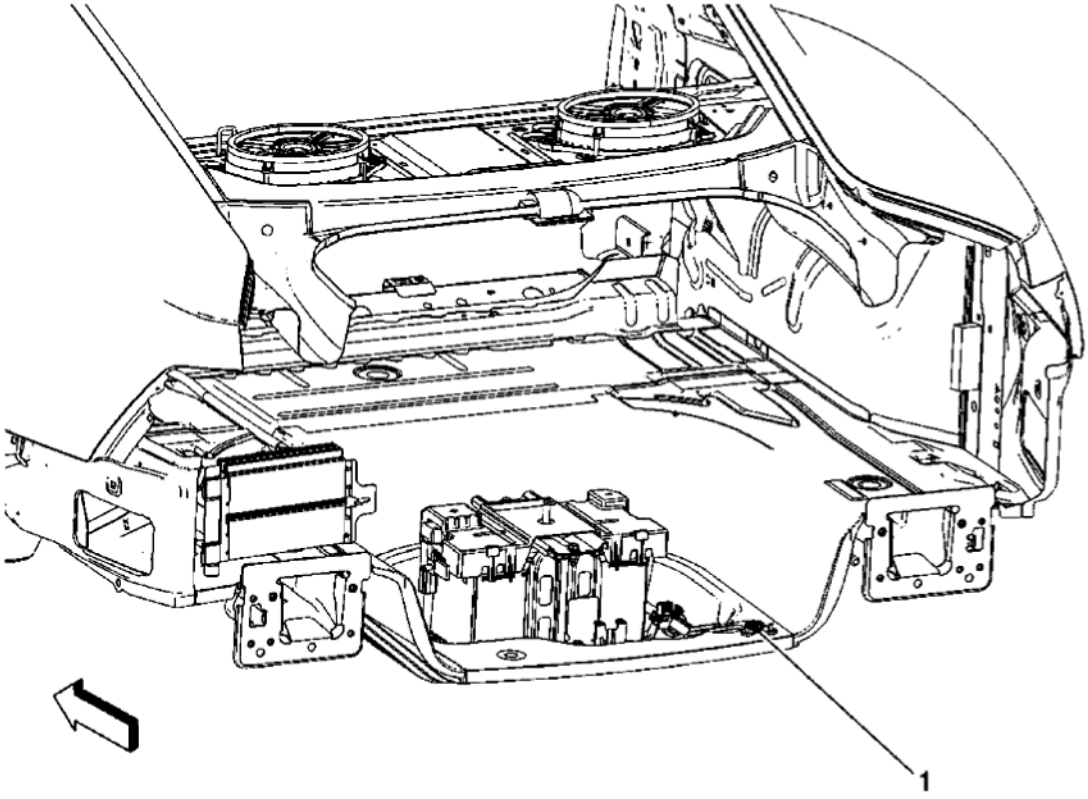


Fig. 13: G401
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	G401

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

INSTRUMENT PANEL/CENTER CONSOLE COMPONENT VIEWS

cardiagn.com

Fig. 1: Instrument Panel Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	F105 Passenger Instrument Panel Air Bag
2	K77 Remote Control Door Lock Receiver (W/O BTV)
3	B22 Brake Pedal Position Sensor
4	X84 Data Link Connector
5	X51A Fuse Block - Instrument Panel
6	B25B Clutch Pedal Position Sensor (MV5/M10)

7	B107 Accelerator Pedal Position Sensor
8	A11 Radio
9	B39 A/C Evaporator Temperature Sensor
10	K73 Telematics Communication Interface Control Module (UE1)
11	T4S Wireless Communication Antenna - Bluetooth (UPF)
12	C3 Telematics Communication Interface Control Module Battery (UE1)

Fig. 2: Front Of Passenger Compartment HVAC Module Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	M37 Mode Door Actuator
2	K8 Blower Motor Control Module
3	M8 Blower Motor
4	M46 Air Recirculation Door Motor

cardiagn.com

5	K33 HVAC Control Module
6	M6 Air Temperature Door Actuator

Fig. 3: Instrument Panel & Center Console Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	E1G Accent Lamp - Left I/P (W1H)
2	P16 Instrument Cluster
3	E1H Accent Lamp - Right I/P (W1H)
4	B10 Ambient Light Sensor
5	P19A Speaker - Center Instrument Panel (UQA)
6	A20 Radio/HVAC Controls
7	B80 Park Brake Switch
8	X80D Accessory Power Receptacle - Center Console Compartment
9	X83 Auxiliary Audio Input (USR)

cardiagn.com

10	X80H Accessory Power Receptacle - Center Console
11	S75 Traction Control Switch
12	P26 Auxiliary Gauge Module (UMQ)
13	S2R Automatic Transmission Manual Shift Switch - Right (MYB/MYC)
14	F107 Steering Wheel Air Bag
15	S2L Automatic Transmission Manual Shift Switch - Left (MYB/MYC)
16	S30 Headlamp Switch

cardiagn.com

Fig. 4: Left Center Of Instrument Panel & Steering Column Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	K9 Body Control Module
2	S78 Turn Signal/Multifunction Switch
3	X85 Steering Wheel Air Bag Coil
4	S82 Windshield Wiper/Washer Switch

5	B99 Steering Wheel Angle Sensor
6	M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB/MYC)
7	B101 Immobilizer Antenna
8	S39 Ignition Switch



Fig. 5: Steering Wheel Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	S70L Steering Wheel Controls Switch - Left
2	S70R Steering Wheel Controls Switch - Right (NZL)
3	S33 Horn Switch

cardiagn.com



Fig. 6: Automatic - Transmission Shift Lever Components (MYB or MYC)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X301
2	P2 Transmission Shift Lever Position Indicator
3	B81B Park Position Switch
4	M7 Transmission Shift Lock Control Solenoid Actuator

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

LUGGAGE COMPARTMENT/REAR OF VEHICLE COMPONENT VIEWS



Fig. 1: Rear Of Vehicle Components From Right Side
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	P19K Speaker - Left Rear
2	E8S Rear Compartment Courtesy Lamp
3	P19X Speaker - Right Rear
4	B18 Battery Current Sensor
5	C1 Battery
6	T3 Audio Amplifier (UQA)

cardiagn.com



Fig. 2: Rear Of Vehicle Components From Left Side
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X53A Fuse Block - Rear Body
2	X50D Fuse Block - Battery

cardiagn.com



Fig. 3: Luggage Compartment Components From Inside Left
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	K41 Object Alarm Control Module (UD7)
2	M40 Rear Compartment Lid Latch

cardiagn.com



Fig. 4: Rear Of Vehicle Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	K46 Radio Antenna Module
2	T4M Radio Antenna
3	E18 Rear Defogger Grid
4	T4D Cellular Phone and Digital Radio Antenna (UE1/U2K)
5	E2RR Side Marker Lamp - Right Rear
6	E5X Tail/Stop and Turn Signal Lamp - Right Outer
7	E5AF Tail/Stop and Turn Signal Lamp - Right Inner
8	B78H Rear Object Sensor - Right Outer (UD7)
9	E5B Backup Lamp - Right
10	B78F Rear Object Sensor - Right Middle (UD7)
11	E7R License Plate Lamp - Right

cardiagn.com

12	E7L License Plate Lamp - Left
13	E2LR Side Marker Lamp - Left Rear
14	B78E Rear Object Sensor - Left Middle (UD7)
15	E5A Backup Lamp - Left
16	B78G Rear Object Sensor - Left Outer (UD7)
17	E5AE Tail/Stop and Turn Signal Lamp - Left Inner
18	E5W Tail/Stop and Turn Signal Lamp - Left Outer
19	E6 Center High Mounted Stop Lamp
20	R14L Rear Window Defogger Noise Filter - Left

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator/Connector Views - Camaro

MASTER ELECTRICAL COMPONENT LIST

For:

COMPONENT CONNECTOR END VIEWS -- INDEX, click here
INLINE HARNESS CONNECTOR END VIEWS, click here
SPLICE PACK CONNECTOR END VIEWS, click here
HARNESS ROUTING VIEWSHarness Routing Views, click here
GROUND VIEWS, click here

Code	Name	Option	Location	Locator View Seee Appropriate Component view Article	Connector End View See Links Above
A10	Inside Rearview Mirror	-	In the passenger compartment, upper center of the windshield	Front Center of Roof Components	A10 Inside Rearview Mirror
A11	Radio	-	In the passenger compartment, center of the instrument panel, behind the radio/HVAC control	Behind the Instrument Panel Components	A11 Radio
A20	Radio/HVAC Controls	-	In the passenger compartment, in the center of the instrument panel, forward of the shifter	Instrument Panel and Center Console Components	A20 Radio/HVAC Controls
A23D	Door Latch Assembly - Driver	-	Rear of the left front door	Driver Door Components	A23D Door Latch Assembly - Driver
A23P	Door Latch Assembly - Passenger	-	Rear of the right front door	Passenger Door Components	A23P Door Latch Assembly - Passenger
A7	Fuel Pump and Level Sensor Assembly	-	Under the rear of the vehicle, in the top right side of the fuel tank	Under Rear of Vehicle Components	A7 Fuel Pump and Level Sensor Assembly
			On the left side of		

cardiagn.com

A9A	Outside Rearview Mirror - Driver	-	the vehicle, upper front of the driver door	Driver Door Components	A9A Outside Rearview Mirror - Driver
A9B	Outside Rearview Mirror - Passenger	-	On the right side of the vehicle, upper front of the passenger door	Passenger Door Components	A9B Outside Rearview Mirror - Passenger
B1	A/C Refrigerant Pressure Sensor	-	In the engine compartment, mounted on the A/C line, near the left side of the radiator	Front of Engine Compartment Components	B1 A/C Refrigerant Pressure Sensor
B101	Immobilizer Antenna	-	In the passenger compartment, within the steering column, near the steering angle sensor	Left Center of Instrument Panel and Steering Column Components	B101 Immobilizer Antenna
B107	Accelerator Pedal Position Sensor	-	In the passenger compartment, under left side of instrument panel, to the right of the brake pedal	Behind the Instrument Panel Components	B107 Accelerator Pedal Position Sensor
B10	Ambient Light Sensor	-	In the passenger compartment, on the top center of the instrument panel, in front of the defroster deflector, near the windshield	Instrument Panel and Center Console Components	B10 Ambient Light Sensor
B115	Vehicle Speed Sensor	MV5 or M10	Under the vehicle, at the right rear of the transmission, near the drive shaft	• Rear of the Transmission Components (MV5) • Rear of Transmission Components (M10)	• B115 Vehicle Speed Sensor (MV5) • B115 Vehicle Speed Sensor (M10)
B119	Multi-axis Acceleration Sensor	-	In the passenger compartment, under the center console, in front of the inflatable	Passenger Compartment From Top Left	B119 Multi-axis Acceleration Sensor

cardiagn.com

			restraint sensing and diagnostic module	Components	
B12A	Transmission Fluid Pressure Manual Valve Position Switch	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
B13	Transmission Fluid Temperature Sensor	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
B14A	Transmission Output Shaft Speed Sensor	MYB or MYC	Under the vehicle, inside the automatic transmission	Transmission Electronic Components (MYB or MYC)	-
B14C	Transmission Input Shaft Speed Sensor	MYB or MYC	Under the vehicle, inside the automatic transmission	Transmission Electronic Components (MYB or MYC)	-
B15	Transmission Internal Mode Switch	MYB or MYC	Under the vehicle, inside the automatic transmission	Transmission Electronic Components (MYB or MYC)	-
B150	Fuel Tank Pressure Sensor	-	Under the vehicle, at the top of the fuel tank	Under Rear of Vehicle Components	B150 Fuel Tank Pressure Sensor
B153D	Seat Belt Buckle - Driver	-	In the passenger compartment, at the right rear side of the driver seat	-	-
B153P	Seat Belt Buckle - Passenger	-	In the passenger compartment, at the left rear side of the passenger seat	-	-
B16	Backup Lamp Switch	MV5 or M10	Under the vehicle, mounted on the right front side of the transmission	• Rear of the Transmission Components (MV5) • Rear of Transmission	• B16 Backup Lamp Switch (MV5) • B16 Backup Lamp Switch

cardiagn.com

				Components (M10)	(M10)
B173	Manual Transmission Fluid Temperature Sensor	MV5 or M10	Under the vehicle, mounted on the lower left side of the transmission	• Rear of the Transmission Components (MV5) • Rear of Transmission Components (M10)	B173 Manual Transmission Fluid Temperature Sensor (MV5 or M10)
B18	Battery Current Sensor	-	In the rear compartment, under the floor panel, on the right side of the battery, on the battery ground cable	Rear of Vehicle from Right Side Components	B18 Battery Current Sensor
B19B	Brake Booster Vacuum Sensor	L99	In the engine compartment, on the right front side of the brake booster, on the vacuum line tee	Left Rear of Engine Compartment Components	B19B Brake Booster Vacuum Sensor (L99)
B20	Brake Fluid Level Switch	-	In the engine compartment, mounted to the bottom left side of the master cylinder reservoir	Left Rear of Engine Compartment Components	B20 Brake Fluid Level Switch
B22	Brake Pedal Position Sensor	-	In the passenger compartment, attached to the top of the brake pedal assembly	Behind the Instrument Panel Components	B22 Brake Pedal Position Sensor
B23	Camshaft Position Sensor	L99 or LS3	In the engine compartment, on the center left front of the engine, below the water pump	Right Front of the Engine Components (L99 or LS3)	B23 Camshaft Position Sensor (L99 or LS3)
B23A	Camshaft Position Sensor - Bank 1 Exhaust	LLT	In the engine compartment, on the right front of the right cylinder head	Right Front of Engine Components (LLT)	B23A Camshaft Position Sensor - Bank 1 Exhaust (LLT)
	Camshaft Position		In the engine	Right Front of	B23B Camshaft

cardiagn.com

B23B	Sensor - Bank 1 Intake	LLT	compartment, on the left front of the right cylinder head	Engine Components (LLT)	Position Sensor - Bank 1 Intake (LLT)
B23C	Camshaft Position Sensor - Bank 2 Exhaust	LLT	In the engine compartment, on the left front of the left cylinder head	Front and Left Side of Engine Components (LLT)	B23C Camshaft Position Sensor - Bank 2 Exhaust (LLT)
B23D	Camshaft Position Sensor - Bank 2 Intake	LLT	In the engine compartment, on the right front of the left cylinder head	Front and Left Side of Engine Components (LLT)	B23D Camshaft Position Sensor - Bank 2 Intake (LLT)
B24	Cellular Phone Microphone	UE1	In the passenger compartment, on the front center of the headliner, in the overhead console	Front Center of Roof Components	B24 Cellular Phone Microphone (UE1)
B25B	Clutch Pedal Position Sensor	MV5 or M10	In the passenger compartment, at the top of the clutch pedal assembly	Behind the Instrument Panel Components	B25B Clutch Pedal Position Sensor (MV5 or M10)
B26	Crankshaft Position Sensor	L99 or LS3	Under the vehicle, right rear of the engine, behind the starter	Right Front of the Engine Components (L99 or LS3)	B26 Crankshaft Position Sensor (L99 or LS3)
B26	Crankshaft Position Sensor	LLT	Under the vehicle, right rear of the engine, near the knock sensor	Right Front of Engine Components (LLT)	B26 Crankshaft Position Sensor (LLT)
B34	Engine Coolant Temperature Sensor	L99 or LS3	In the engine compartment, left front of the engine, above spark plug 1	Left Rear of the Engine Components (L99 or LS3)	B34 Engine Coolant Temperature Sensor (L99 or LS3)
B34	Engine Coolant Temperature Sensor	LLT	In the engine compartment, in the left side of the left cylinder head, between cylinders 2 and 4	Front and Left Side of Engine Components (LLT)	B34 Engine Coolant Temperature Sensor (LLT)
B35C	Engine Oil Level and Temperature Sensor	L99 or LS3	Under the vehicle, in the bottom right of the engine oil pan	Right Front of the Engine Components (L99 or LS3)	B35C Engine Oil Level and Temperature Sensor (L99 or LS3)
			In the engine		

cardiagn.com

B37B	Engine Oil Pressure Sensor	L99 or LS3	compartment, top middle rear of the engine, behind the upper intake manifold	Left Rear of the Engine Components (L99 or LS3)	B37B Engine Oil Pressure Sensor (L99 or LS3)
B37B	Engine Oil Pressure Sensor	LLT	In the engine compartment, on the left side of the engine, in the oil filter housing	Front and Left Side of Engine Components (LLT)	B37B Engine Oil Pressure Sensor (LLT)
B39	A/C Evaporator Temperature Sensor	-	In the passenger compartment, under the instrument panel, to the left of the instrument panel compartment, just forward of the center console	Behind the Instrument Panel Components	B39 A/C Evaporator Temperature Sensor
B46B	Fuel Level Sensor - Secondary	-	Under the rear of the vehicle, in the top left side of the fuel tank	Under Rear of Vehicle Components	B46B Fuel Level Sensor - Secondary
B47	Fuel Pressure Sensor	-	Under the vehicle, at the right side of the right fuel tank, connected to the fuel line	Under Rear of Vehicle Components	B47 Fuel Pressure Sensor
B47B	Fuel Rail Pressure Sensor	LLT	In the engine compartment, on top of the engine, mounted to the fuel injector rail, between injectors 1 and 2	Top of the Engine Components (LLT)	B47B Fuel Rail Pressure Sensor (LLT)
B52C	Heated Oxygen Sensor - Bank 1 Sensor 1	L99 or LS3	Under the vehicle, in the exhaust system, in front of the catalytic converter, on the left side of the vehicle	Front of the Exhaust System Components	B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L99 or LS3)
B52C	Heated Oxygen Sensor - Bank 1 Sensor 1	LLT	In the engine compartment, on the exhaust system, in front of the catalytic converter,	Front of the Exhaust System Components	B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (LLT)

cardiagn.com

			on the right side of the vehicle		
B52D	Heated Oxygen Sensor - Bank 1 Sensor 2	L99 or LS3	Under the vehicle, in the exhaust system, behind the catalytic converter, on the left side of the vehicle	Front of the Exhaust System Components	B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L99 or LS3)
B52D	Heated Oxygen Sensor - Bank 1 Sensor 2	LLT	Under the vehicle, in the exhaust system, behind the catalytic converter, on the right side of the vehicle	Front of the Exhaust System Components	B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (LLT)
B52E	Heated Oxygen Sensor - Bank 2 Sensor 1	L99 or LS3	Under the vehicle, in the exhaust system, in front of the catalytic converter, on the right side of the vehicle	Front of the Exhaust System Components	B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L99 or LS3)
B52E	Heated Oxygen Sensor - Bank 2 Sensor 1	LLT	In the engine compartment, on the exhaust system, in front of the catalytic converter, on the left side of the vehicle	Front of the Exhaust System Components	B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (LLT)
B52F	Heated Oxygen Sensor - Bank 2 Sensor 2	L99 or LS3	Under the vehicle, in the exhaust system, behind the catalytic converter, on the right side of the vehicle	Front of the Exhaust System Components	B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L99 or LS3)
B52F	Heated Oxygen Sensor - Bank 2 Sensor 2	LLT	Under the vehicle, in the exhaust system, behind the catalytic converter, on the left side of the vehicle	Front of the Exhaust System Components	• B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MV5) • B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MYB)
B55	Hood Ajar Switch	-	In the engine compartment, part of the hood latch,	Front of Engine Compartment	B55 Hood Ajar Switch

cardiagn.com

			behind the center of the front fascia	Components	
B59L	Front Impact Sensor - Left	-	In the engine compartment, mounted to the radiator core support, near the upper left corner of the radiator	Front of Engine Compartment Components	B59L Front Impact Sensor - Left
B59R	Front Impact Sensor - Right	-	In the engine compartment, mounted to the radiator core support, near the upper right corner of the radiator	Front of Engine Compartment Components	B59R Front Impact Sensor - Right
B5LF	Wheel Speed Sensor - Left Front	-	Under the vehicle, mounted between the left front steering knuckle and the brake rotor	Wheel Components	B5LF Wheel Speed Sensor - Left Front
B5LR	Wheel Speed Sensor - Left Rear	-	Under the vehicle, mounted between the left rear suspension knuckle and the brake rotor	Wheel Components	B5LR Wheel Speed Sensor - Left Rear
B5RF	Wheel Speed Sensor - Right Front	-	Under the vehicle, mounted between the right front steering knuckle and the brake rotor	Wheel Components	B5RF Wheel Speed Sensor - Right Front
B5RR	Wheel Speed Sensor - Right Rear	-	Under the vehicle, mounted between the right rear suspension knuckle and the brake rotor	Wheel Components	B5RR Wheel Speed Sensor - Right Rear
B60	Passenger Presence Detection Sensor	-	In the passenger compartment, in the passenger seat cushion, under the upholstery	Front Passenger Seat Components	-
B62D	Seat Position Sensor - Driver	-	In the passenger compartment, beneath the driver seat, at the right inner seat track	Driver Seat Components	B62D Seat Position Sensor - Driver

cardiagn.com

B62P	Seat Position Sensor - Passenger	-	In the passenger compartment, beneath the passenger seat, at the left inner seat track	Front Passenger Seat Components	B62P Seat Position Sensor - Passenger
B63L	Side Impact Sensor - Left	-	In the passenger compartment, near the left B-pillar base	Passenger Compartment From Top Right Components	B63L Side Impact Sensor - Left
B63R	Side Impact Sensor - Right	-	In the passenger compartment, near the right B-pillar base	Passenger Compartment From Top Left Components	B63R Side Impact Sensor - Right
B68A	Knock Sensor 1	L99 or LS3	Under the vehicle, on the lower left side of the engine block	Left Rear of the Engine Components (L99 or LS3)	B68A Knock Sensor 1
B68A	Knock Sensor 1	LLT	Under the vehicle, on the lower right side of the engine block	Right Front of Engine Components (LLT)	B68A Knock Sensor 1
B68B	Knock Sensor 2	L99 or LS3	Under the vehicle, on the lower right side of the engine block	Right Front of the Engine Components (L99 or LS3)	B68B Knock Sensor 2
B68B	Knock Sensor 2	LLT	Under the vehicle, on the lower left side of the engine block	Front and Left Side of Engine Components (LLT)	B68B Knock Sensor 2
B74	Manifold Absolute Pressure Sensor	L99 or LS3	In the engine compartment, top front of the engine, to the rear of the throttle body, on the right side	Top of the Engine Components (L99 or LS3)	B74 Manifold Absolute Pressure Sensor (L99 or LS3)
B75B	Mass Air Flow/Intake Air Temperature Sensor	-	In the engine compartment, on the left side, attached to the right of the air cleaner assembly	• Right Front of the Engine Components (L99 or LS3) • Right Front of Engine Components (LLT)	• B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3) • B75B Mass Air Flow/Intake Air Temperature Sensor (LLT)
			On the rear fascia,		B78E Rear Object

cardiagn.com

B78E	Rear Object Sensor - Left Middle	UD7	just to the left of the license plate	Rear of Vehicle Components	Sensor - Left Middle (UD7)
B78F	Rear Object Sensor - Right Middle	UD7	On the rear fascia, just to the right of the license plate	Rear of Vehicle Components	B78F Rear Object Sensor - Right Middle (UD7)
B78G	Rear Object Sensor - Left Outer	UD7	On the rear fascia, on the left side of the vehicle	Rear of Vehicle Components	B78G Rear Object Sensor - Left Outer (UD7)
B78H	Rear Object Sensor - Right Outer	UD7	On the rear fascia, on the right side of the vehicle	Rear of Vehicle Components	B78H Rear Object Sensor - Right Outer (UD7)
B80	Park Brake Switch	-	In the passenger compartment, inside the right side of the center console, part of the park brake assembly	Instrument Panel and Center Console Components	B80 Park Brake Switch
B81B	Park Position Switch	MYB or MYC	In the passenger compartment, inside the center console, in the right front of the automatic transmission shift lever assembly	Under the Center Console - Automatic Transmission Shift Lever Components (MYB or MYC)	-
B88D	Seat Belt Switch - Driver	-	In the passenger compartment, in the driver seat belt buckle	Driver Seat Components	B88D Seat Belt Switch - Driver
B88P	Seat Belt Switch - Passenger	-	In the passenger compartment, in the passenger seat belt buckle	Front Passenger Seat Components	B88P Seat Belt Switch - Passenger
B9	Ambient Air Temperature Sensor	-	Behind the front bumper fascia, below and to the right of the hood latch	Front of Vehicle Components	B9 Ambient Air Temperature Sensor
B99	Steering Wheel Angle Sensor	-	In the passenger compartment, attached to the inflatable restraint steering wheel module coil, behind the steering	Left Center of Instrument Panel and Steering Column Components	B99 Steering Wheel Angle Sensor

cardiagn.com

			wheel		
C1	Battery	-	In the rear compartment, under the floor panel	Rear of Vehicle from Right Side Components	• C1 Battery + • C1 Battery -
C3	Telematics Communication Interface Control Module Battery	UE1	In the passenger compartment, in the instrument panel, above the instrument panel compartment	Behind the Instrument Panel Components	C3 Telematics Communication Interface Control Module Battery (UE1)
E13L	Headlamp - Left	T4A	On the front of the vehicle, in the left headlamp assembly	Front of Vehicle Components (T4A)	E13L Headlamp - Left (T4A)
E13R	Headlamp - Right	T4A	On the front of the vehicle, in the right headlamp assembly	Front of Vehicle Components (T4A)	E13R Headlamp - Right (T4A)
E14A	Seat Heating Element - Driver Back	KA1	In the passenger compartment, in the driver seat back	Driver Seat Components	E14A Seat Heating Element - Driver Back (KA1)
E14B	Seat Heating Element - Driver Cushion	KA1	In the passenger compartment, in the driver seat base	Driver Seat Components	E14B Seat Heating Element - Driver Cushion (KA1)
E14C	Seat Heating Element - Passenger Back	KA1	In the passenger compartment, in the passenger seat back	Front Passenger Seat Components	E14C Seat Heating Element - Passenger Back (KA1)
E14D	Seat Heating Element - Passenger Cushion	KA1	In the passenger compartment, in the passenger seat base	Front Passenger Seat Components	E14D Seat Heating Element - Passenger Cushion (KA1)
E18	Rear Defogger Grid	-	In the passenger compartment, mounted on the rear window	Rear of Vehicle Components	• E18 Rear Defogger Grid X1 • E18 Rear Defogger Grid X2
E1D	Accent Lamp - Driver Door	FCR	On the driver door trim panel	Driver Door Components	E1D Accent Lamp - Driver Door (SRK or SRM)
E1G	Accent Lamp - Left I/P	W1H	In the passenger compartment, on the left side of the instrument panel, to the left of the steering wheel	Instrument Panel and Center Console Components	E1G Accent Lamp - Left I/P (SRK or SRM)

cardiagn.com

E1H	Accent Lamp - Right I/P	W1H	In the passenger compartment, on the right side of the instrument panel, to the right of the steering wheel	Instrument Panel and Center Console Components	E1H Accent Lamp - Right I/P (SRK or SRM)
E1P	Accent Lamp - Passenger Door	FCR	On the passenger door trim panel	Passenger Door Components	E1P Accent Lamp - Passenger Door (SRK or SRM)
E17D	Outside Rearview Mirror Glass - Driver	-	On the outside of the drivers door, part of the outside rearview mirror - driver	Driver Door Components	E17D Outside Rearview Mirror Glass - Driver
E17P	Outside Rearview Mirror Glass - Passenger	-	On the outside of the passenger door, part of the outside rearview mirror - passenger	Passenger Door Components	E17P Outside Rearview Mirror Glass - Passenger
E29LF	Fog Lamp - Left Front	T3U	Lower left front of the vehicle, below the left headlamp	Front of Vehicle Components (T4A)	E29LF Fog Lamp - Left Front (T3U)
E29RF	Fog Lamp - Right Front	T3U	Lower right front of the vehicle, below the right headlamp	Front of Vehicle Components (T4A)	E29RF Fog Lamp - Right Front (T3U)
E2LF	Side Marker Lamp - Left Front	-	Left side of the front fascia, in front of the wheel well	Front of Vehicle Components (T4A)	E2LF Side Marker Lamp - Left Front
E2LR	Side Marker Lamp - Left Rear	-	Left side of the rear fascia, in back of the wheel well	Rear of Vehicle Components	E2LR Side Marker Lamp - Left Rear
E2RF	Side Marker Lamp - Right Front	-	Right side of the front fascia, in front of the wheel well	Front of Vehicle Components (T4A)	E2RF Side Marker Lamp - Right Front
E2RR	Side Marker Lamp - Right Rear	-	Right side of the rear fascia, in back of the wheel well	Rear of Vehicle Components	E2RR Side Marker Lamp - Right Rear
E37A	Dome/Reading Lamps	-	In the passenger compartment, center front of the headliner	Front Center of Roof Components	E37A Dome/Reading Lamps
E4C	Daytime Running	T4F	On the left lower front side of the	Front of Vehicle	E4C Daytime Running

cardiagn.com

	Lamp - Left		vehicle, below the headlamp assembly	Components	Lamp - Left (T4F)
E4D	Daytime Running Lamp - Right	T4F	On the right lower front side of the vehicle, below the headlamp assembly	Front of Vehicle Components	E4D Daytime Running Lamp - Right (T4F)
E4J	Park Lamp - Left Front	T4F	On the front of the vehicle, in the left headlamp assembly, in with the headlamp lens	Front of Vehicle Components	-
E4K	Park Lamp - Right Front	T4F	On the front of the vehicle, in the right headlamp assembly, in with the headlamp lens	Front of Vehicle Components	-
E4LF	Turn Signal Lamp - Left Front	T4F	On the front of the vehicle, in the left headlamp assembly, next to the grille	Front of Vehicle Components	E4LF Turn Signal Lamp - Left Front (T4F)
E4N	Park/Turn Signal Lamp - Left	T4A	On the front of the vehicle, in the left headlamp assembly, next to the grille	Front of Vehicle Components (T4A)	E4N Park/Turn Signal Lamp - Left (T4A)
E4P	Park/Turn Signal Lamp - Right	T4A	On the front of the vehicle, in the right headlamp assembly, next to the grille	Front of Vehicle Components (T4A)	E4P Park/Turn Signal Lamp - Right (T4A)
E4RF	Turn Signal Lamp - Right Front	T4F	On the front of the vehicle, in the right headlamp assembly, next to the grille	Front of Vehicle Components	E4RF Turn Signal Lamp - Right Front (T4F)
E5A	Backup Lamp - Left	-	Rear of the vehicle, below the tail lamps, to the left of the license plate	Rear of Vehicle Components	E5A Backup Lamp - Left
E5AE	Tail/Stop and Turn Signal Lamp - Left Inner	-	On the left rear of the vehicle, towards the center	Rear of Vehicle Components	E5AE Tail/Stop and Turn Signal Lamp - Left Inner
E5AF	Tail/Stop and Turn Signal Lamp - Right Inner	-	On the right rear of the vehicle, towards the center	Rear of Vehicle Components	E5AF Tail/Stop and Turn Signal Lamp - Right Inner

cardiagn.com

E5B	Backup Lamp - Right	-	Rear of the vehicle, below the tail lamps, to the right of the license plate	Rear of Vehicle Components	E5B Backup Lamp - Right
E5W	Tail/Stop and Turn Signal Lamp - Left Outer	-	On the left rear of the vehicle, towards the fender	Rear of Vehicle Components	E5W Tail/Stop and Turn Signal Lamp - Left Outer
E5X	Tail/Stop and Turn Signal Lamp - Right Outer	-	On the right rear of the vehicle, towards the fender	Rear of Vehicle Components	E5X Tail/Stop and Turn Signal Lamp - Right Outer
E6	Center High Mounted Stop Lamp	-	In the passenger compartment, at the rear window, center rear of the package shelf	Rear of Vehicle Components	E6 Center High Mounted Stop Lamp
E7L	License Plate Lamp - Left	-	Rear of the vehicle, above the left side of the license plate	Rear of Vehicle Components	E7L License Plate Lamp - Left
E7R	License Plate Lamp - Right	-	Rear of the vehicle, above the right side of the license plate	Rear of Vehicle Components	E7R License Plate Lamp - Right
E8S	Rear Compartment Courtesy Lamp	-	In the rear compartment, on the center underside of the rear shelf	Rear of Vehicle from Right Side Components	E8S Rear Compartment Courtesy Lamp
F105	Passenger Instrument Panel Air Bag	-	In the passenger compartment, right side of the instrument panel, above the instrument panel compartment	Behind the Instrument Panel Components	F105 Passenger Instrument Panel Air Bag
F105L	Roof Rail Air Bag - Left	-	In the passenger compartment, on the left side, above the door opening, under the headliner	Passenger Compartment From Top Right Components	F105L Roof Rail Air Bag - Left
F105R	Roof Rail Air Bag - Right	-	In the passenger compartment, on the right side, above the door opening, under the headliner	Passenger Compartment From Top Left Components	F105R Roof Rail Air Bag - Right
F106L	Side Air Bag - Left	-	In the passenger compartment, on	Driver Seat	F106L Side Air Bag -

cardiagn.com

			the left side of the driver seat back	Components	Left
F106R	Side Air Bag - Right	-	In the passenger compartment, on the right side of the passenger seat back	Front Passenger Seat Components	F106R Side Air Bag - Right
F107	Steering Wheel Air Bag	-	In the passenger compartment, center of the steering wheel	Instrument Panel and Center Console Components	• F107 Steering Wheel Air Bag X1 • F107 Steering Wheel Air Bag X2
F112D	Seat Belt Retractor Pretensioner - Driver	-	In the passenger compartment, at the base of the left B-pillar, part of the driver seat belt retractor	Passenger Compartment From Top Right Components	F112D Seat Belt Retractor Pretensioner - Driver
F112P	Seat Belt Retractor Pretensioner - Passenger	-	In the passenger compartment, at the base of the right B-pillar, part of the passenger seat belt retractor	Passenger Compartment From Top Left Components	F112P Seat Belt Retractor Pretensioner - Passenger
G10L	Cooling Fan Motor - Left	-	Front of the engine compartment, to the rear of the radiator, mounted to the left side of the cooling fan shroud	Front of Engine Compartment Components	-
G10R	Cooling Fan Motor - Right	-	Front of the engine compartment, to the rear of the radiator, mounted to the right side of the cooling fan shroud	Front of Engine Compartment Components	G10R Cooling Fan Motor - Right
G13	Generator	L99 or LS3	In the engine compartment, lower front left side of the engine	Left Rear of the Engine Components (L99 or LS3)	• G13 Generator (L99 or LS3) • G13 Generator X2
G13	Generator	LLT	In the engine compartment,	Right Front of Engine Components	• G13 Generator (LLT)

cardiagn.com

			lower front right side of the engine	(LLT)	• G13 Generator X2
G18	High Pressure Fuel Pump	LLT	In the engine compartment, attached to the fuel rail, at the top left rear of the left cylinder head	Front and Left Side of Engine Components (LLT)	G18 High Pressure Fuel Pump (LLT)
G24	Windshield Washer Pump	-	Under the vehicle, mounted in the bottom of the washer fluid reservoir, at the left front of the vehicle	Front of Engine Compartment Components	G24 Windshield Washer Pump
G6	Brake Booster Pump - Auxiliary	LLT	In the right front of the engine compartment, under the air cleaner resonator, attached to the engine	Front of Engine Compartment Components	G6 Brake Booster Pump - Auxiliary (LLT)
K17	Electronic Brake Control Module (EBCM)	-	In the engine compartment, mounted to the right strut tower	Right Front of Engine Compartment Components	K17 Electronic Brake Control Module (EBCM)
K20	Engine Control Module	-	In the engine compartment, to the right of the fuse block - underhood	Right Front of Engine Compartment Components	• K20 Engine Control Module X1 (L99 or LS3) • K20 Engine Control Module X1 (LLT) • K20 Engine Control Module X2 (L99 or LS3) • K20 Engine Control Module X2 (LLT)
K27	Fuel Pump Control Module	-	In the passenger compartment, on the right side of the vehicle, next to the rear seat, behind the quarter trim panel	Passenger Compartment From Top Left Components	K27 Fuel Pump Control Module
					• K29 Seat

cardiagn.com

					Heating Control Module (KA1) X1 • K29 Seat Heating Control Module (KA1) X2 • K29 Seat Heating Control Module (KA1) X3
K33	HVAC Control Module	-	In the passenger compartment, under the right side of the instrument panel, mounted behind and to the right of the instrument panel compartment	Front of Passenger Compartment HVAC Module Components	• K33 HVAC Control Module X1 • K33 HVAC Control Module X2
K36	Inflatable Restraint Sensing and Diagnostic Module	-	In the passenger compartment, beneath the center console compartment	Passenger Compartment From Top Left Components	• K36 Inflatable Restraint Sensing and Diagnostic Module X1 • K36 Inflatable Restraint Sensing and Diagnostic Module X2
K41	Object Alarm Control Module	UD7	Inside the rear compartment, behind the rear end trim panel	Luggage Compartment from Inside Left Components	• K41 Object Alarm Control Module X1 (UD7) • K41 Object Alarm Control Module X2 (UD7)
K46	Radio Antenna Module	-	In the passenger compartment, under the headliner, near the left side, on the left rear roof panel cross beam	Rear of Vehicle Components	-

cardiagn.com

K61	Sunroof Control Module	CF5	In the passenger compartment, in front of the sunroof, above the headliner	Center of Roof Panel Components	K61 Sunroof Control Module (CF5)
K71	Transmission Control Module	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
K73	Telematics Communication Interface Control Module	UE1	In the passenger compartment, in the instrument panel, above the instrument panel compartment	Behind the Instrument Panel Components	• K73 Telematics Communication Interface Control Module X1 • K73 Telematics Communication Interface Control Module X2
K77	Remote Control Door Lock Receiver	BTV	In the passenger compartment, at the top center of the windshield	Top Center of Windshield Components	K77 Remote Control Door Lock Receiver
K77	Remote Control Door Lock Receiver	without BTV	In the passenger compartment, in the left side of the instrument panel, above and to the right of the instrument panel cluster	Behind the Instrument Panel Components	K77 Remote Control Door Lock Receiver
K8	Blower Motor Control Module	-	In the passenger compartment, under the right side of the instrument panel, to the left of the blower motor	Front of Passenger Compartment HVAC Module Components	• K8 Blower Motor Control Module X1 • K8 Blower Motor Control Module X2
K85	Passenger Presence Detection Module	-	In the passenger compartment, beneath the front of the front passenger seat cushion	Front Passenger Seat Components	• K85 Passenger Presence Detection Module X1 • K85 Passenger Presence Detection

cardiagn.com

					Module X2
K9	Body Control Module	-	In the passenger compartment, lower left side of instrument panel, above the accelerator pedal	Left Center of Instrument Panel and Steering Column Components	• K9 Body Control Module X1 • K9 Body Control Module X2 • K9 Body Control Module X3 • K9 Body Control Module X4 • K9 Body Control Module X5 • K9 Body Control Module X6 • K9 Body Control Module X7
M28L	High Beam Solenoid Actuator - Left	T4F	On the front of the vehicle, in the left headlamp assembly	Left Headlamp Components	-
M28R	High Beam Solenoid Actuator - Right	T4F	On the front of the vehicle, in the right headlamp assembly	Right Headlamp Components	-
M37	Mode Door Actuator	-	In the passenger compartment, on the left side of the HVAC module, under the instrument panel, to the right of the accelerator pedal position sensor	Front of Passenger Compartment HVAC Module Components	M37 Mode Door Actuator
M40	Rear Compartment Lid Latch	-	On the center rear of the rear compartment lid	Luggage Compartment from Inside Left Components	M40 Rear Compartment Lid Latch
M46	Air Recirculation Door Motor	-	In the passenger compartment, on the right side of the HVAC module, under the right side of the instrument panel, above the blower motor	Front of Passenger Compartment HVAC Module Components	M46 Air Recirculation Door Motor
M47	Reverse Inhibit	M10	Under the vehicle, on the left top rear of the manual	Rear of Transmission	M47 Reverse Inhibit Solenoid Actuator

cardiagn.com

	Solenoid Actuator		transmission, near the drive shaft	Components (M10)	(M10)
M50D	Seat Front Vertical Motor - Driver	AMM	In the passenger compartment, under the front of the driver seat, next to the right seat track	Driver Seat Components	M50D Seat Front Vertical Motor - Driver (AMM)
M51D	Seat Horizontal Motor - Driver	AMM	In the passenger compartment, under the center of the driver seat, between the seat tracks	Driver Seat Components	M51D Seat Horizontal Motor - Driver (AMM)
M55D	Seat Rear Vertical Motor - Driver	AMM	In the passenger compartment, under the front of the driver seat, next to the left seat track	Driver Seat Components	M55D Seat Rear Vertical Motor - Driver (AMM)
M56D	Seat Recline Motor - Driver	-	In the passenger compartment, on the driver seat, inside the lower right side of the seat back	Driver Seat Components	M56D Seat Recline Motor - Driver
M56P	Seat Recline Motor - Passenger	-	In the passenger compartment, on the passenger seat, inside the lower right side of the seat back	Front Passenger Seat Components	M56P Seat Recline Motor - Passenger
M6	Air Temperature Door Actuator	-	In the passenger compartment, under the left side of the instrument panel, mounted to the lower left side of the HVAC module, above the accelerator pedal	Front of Passenger Compartment HVAC Module Components	M6 Air Temperature Door Actuator
M64	Starter Motor	L99 or LS3	Under the vehicle, lower right rear of the engine	Right Front of the Engine Components (L99 or LS3)	• M64 Starter Motor X1 • M64 Starter Motor X2
					• M64 Starter

cardiagn.com

M64	Starter Motor	LLT	Under the vehicle, lower left rear of the engine	Front and Left Side of Engine Components (LLT)	Motor X1 • M64 Starter Motor X2
M7	Transmission Shift Lock Control Solenoid Actuator	MYB or MYC	In the passenger compartment, under the center console, attached to the right side of the shift lever assembly	Under the Center Console - Automatic Transmission Shift Lever Components (MYB or MYC)	M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC)
M74D	Window Motor - Driver	-	In the passenger compartment, in the left front door, above the speaker, behind the trim panel	Driver Door Components	M74D Window Motor - Driver
M74P	Window Motor - Passenger	-	In the passenger compartment, in the right front door, above the speaker, behind the trim panel	Passenger Door Components	M74P Window Motor - Passenger
M75	Windshield Wiper Motor	-	In the engine compartment, in the plenum chamber, at the left front of the windshield	Left Rear of Engine Compartment Components	M75 Windshield Wiper Motor
M8	Blower Motor	-	In the passenger compartment, under the right side of the instrument panel	Front of Passenger Compartment HVAC Module Components	-
M93	Ignition Cylinder Lock Control Solenoid Actuator	MYB or MYC	In the passenger compartment, in the upper steering column, at the key cylinder	Left Center of Instrument Panel and Steering Column Components	M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC)
P12A	Horn - High Note	-	Under the vehicle, behind the bumper, on the front right of the vehicle	Front of Engine Compartment Components	P12A Horn - High Note
P12B	Horn - Low Note	-	Under the vehicle, behind the bumper, on the front left of the vehicle	Front of Engine Compartment Components	P12B Horn - Low Note

cardiagn.com

P14	Passenger Air Bag Disable Indicator	-	In the passenger compartment, in the overhead console	Front Center of Roof Components	P14 Passenger Air Bag Disable Indicator
P16	Instrument Cluster	-	In the passenger compartment, left side of the instrument panel, above the steering column	Instrument Panel and Center Console Components	P16 Instrument Cluster
P19A	Speaker - Center Instrument Panel	UQA	In the passenger compartment, on the top center of the instrument panel	Instrument Panel and Center Console Components	P19A Speaker - Center Instrument Panel (UQA)
P19G	Speaker - Left Front	-	In the passenger compartment, at the lower front of the left front door	Driver Door Components	• P19G Speaker - Left Front (UQ3) • P19G Speaker - Left Front (UQA)
P19H	Speaker - Left Front Tweeter	-	In the passenger compartment, at the top of the trim panel, at the front of the left front door	Driver Door Components	P19H Speaker - Left Front Tweeter
P19K	Speaker - Left Rear	-	In the passenger compartment, mounted on the left side of the rear package shelf, under the trim panel	Rear of Vehicle from Right Side Components	• P19K Speaker - Left Rear (UQ3) • P19K Speaker - Left Rear (UQA)
P19U	Speaker - Right Front	-	In the passenger compartment, at the lower front of the right front door	Passenger Door Components	• P19U Speaker - Right Front (UQ3) • P19U Speaker - Right Front (UQA)
P19V	Speaker - Right Front Tweeter	-	In the passenger compartment, at the top of the trim panel, at the front of the right front door	Passenger Door Components	P19V Speaker - Right Front Tweeter

cardiagn.com

P19X	Speaker - Right Rear	-	In the passenger compartment, mounted on the right side of the rear package shelf, under the trim panel	Rear of Vehicle from Right Side Components	• P19X Speaker - Right Rear (UQ3) • P19X Speaker - Right Rear (UQA)
P2	Transmission Shift Lever Position Indicator	MYB or MYC	In the passenger compartment, under the center console, on the top rear of the shifter assembly	Under the Center Console - Automatic Transmission Shift Lever Components (MYB or MYC)	P2 Transmission Shift Lever Position Indicator (MYB or MYC)
P26	Auxiliary Gage Module	UMQ	In the passenger compartment, in the center console, under the radio/HVAC control, forward of the shifter	Instrument Panel and Center Console Components	P26 Auxiliary Gage Module (UMQ)
P9	Driver Information Center Display	-	In the passenger compartment, part of the instrument cluster	-	-
Q12	Evaporative Emission (EVAP) Purge Solenoid Valve	L99 or LS3	In the engine compartment, front right rear side of the engine, near the throttle body	Right Front of the Engine Components (L99 or LS3)	Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3)
Q12	Evaporative Emission (EVAP) Purge Solenoid Valve	LLT	In the engine compartment, on the right side of the engine, above the valve cover	Right Front of Engine Components (LLT)	Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT)
Q13	Evaporative Emission (EVAP) Vent Solenoid Valve	-	Under the vehicle, on the evaporative emissions canister, above the rear differential	Above Rear Differential	Q13 Evaporative Emission (EVAP) Vent Solenoid Valve
Q17A	Fuel Injector 1	LLT	In the engine compartment, under the intake manifold, attached to the fuel rail, above cylinder 1	Top of the Engine Components (LLT)	Q17A Fuel Injector 1 (LLT)
			In the engine compartment, top		

cardiagn.com

Q17A	Fuel Injector 1	L99 or LS3	of the engine, attached to the fuel rail, above cylinder 1	Top of the Engine Components (L99 or LS3)	Q17A Fuel Injector 1 (L99 or LS3)
Q17B	Fuel Injector 2	LLT	In the engine compartment, under the intake manifold, attached to the fuel rail, above cylinder 2	Top of the Engine Components (LLT)	Q17B Fuel Injector 2 (LLT)
Q17B	Fuel Injector 2	L99 or LS3	In the engine compartment, top of the engine, attached to the fuel rail, above cylinder 2	Top of the Engine Components (L99 or LS3)	Q17B Fuel Injector 2 (L99 or LS3)
Q17C	Fuel Injector 3	LLT	In the engine compartment, under the intake manifold, attached to the fuel rail, above cylinder 3	Top of the Engine Components (LLT)	Q17C Fuel Injector 3 (LLT)
Q17C	Fuel Injector 3	L99 or LS3	In the engine compartment, top of the engine, attached to the fuel rail, above cylinder 3	Top of the Engine Components (L99 or LS3)	Q17C Fuel Injector 3 (L99 or LS3)
Q17D	Fuel Injector 4	LLT	In the engine compartment, under the intake manifold, attached to the fuel rail, above cylinder 4	Top of the Engine Components (LLT)	Q17D Fuel Injector 4 (LLT)
Q17D	Fuel Injector 4	L99 or LS3	In the engine compartment, top of the engine, attached to the fuel rail, above cylinder 4	Top of the Engine Components (L99 or LS3)	Q17D Fuel Injector 4 (L99 or LS3)
Q17E	Fuel Injector 5	LLT	In the engine compartment, under the intake manifold, attached to the fuel rail, above cylinder 5	Top of the Engine Components (LLT)	Q17E Fuel Injector 5 (LLT)
			In the engine		

cardiagn.com

Q17E	Fuel Injector 5	L99 or LS3	compartment, top of the engine, attached to the fuel rail, above cylinder 5	Top of the Engine Components (L99 or LS3)	Q17E Fuel Injector 5 (L99 or LS3)
Q17F	Fuel Injector 6	LLT	In the engine compartment, under the intake manifold, attached to the fuel rail, above cylinder 6	Top of the Engine Components (LLT)	Q17F Fuel Injector 6 (LLT)
Q17F	Fuel Injector 6	L99 or LS3	In the engine compartment, top of the engine, attached to the fuel rail, above cylinder 6	Top of the Engine Components (L99 or LS3)	Q17F Fuel Injector 6 (L99 or LS3)
Q17G	Fuel Injector 7	L99 or LS3	In the engine compartment, top of the engine, attached to the fuel rail, above cylinder 7	Top of the Engine Components (L99 or LS3)	Q17G Fuel Injector 7 (L99 or LS3)
Q17H	Fuel Injector 8	L99 or LS3	In the engine compartment, top of the engine, attached to the fuel rail, above cylinder 8	Top of the Engine Components (L99 or LS3)	Q17H Fuel Injector 8 (L99 or LS3)
Q2	A/C Compressor Clutch	L99 or LS3	Right side of the engine compartment, mounted on the A/C compressor	Right Front of the Engine Components (L99 or LS3)	Q2 A/C Compressor Clutch
Q2	A/C Compressor Clutch	LLT	Left side of the engine compartment, mounted on the A/C compressor	Front and Left Side of Engine Components (LLT)	Q2 A/C Compressor Clutch
Q27A	Pressure Control Solenoid Valve 1	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
			Under the vehicle,		

cardiagn.com

Q27B	Pressure Control Solenoid Valve 2	MYB or MYC	inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
Q27C	Pressure Control Solenoid Valve 3	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
Q27D	Pressure Control Solenoid Valve 4	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
Q27E	Pressure Control Solenoid Valve 5	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
Q32A	Shift Solenoid Valve 1	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
Q32B	Shift Solenoid Valve 2	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
Q34	Skip Shift Solenoid Actuator	M10	Under the vehicle, upper left side of the manual transmission	Rear of Transmission Components (M10)	Q34 Skip Shift Solenoid Actuator (M10)
				• Front and Left	

cardiagn.com

Q38	Throttle Body	-	In the engine compartment, on the front center of the intake manifold	Side of Engine Components (LLT) • Top of the Engine Components (L99 or LS3)	• Q38 Throttle Body (LLT) • Q38 Throttle Body (L99 or LS3)
Q39A	Torque Converter Clutch Pressure Control Solenoid Valve	MYB or MYC	Under the vehicle, inside the automatic transmission, part of the control solenoid valve assembly	Transmission Electronic Components (MYB or MYC)	-
Q43	Valve Lifter Oil Manifold Assembly	L99	In the engine compartment, top rear of the engine, near the intake manifold	Left Rear of the Engine Components (L99 or LS3)	Q43 Valve Lifter Oil Manifold Assembly (L99)
Q6	Camshaft Position Actuator Solenoid Valve	L99	In the engine compartment, on the center front of the engine, behind the water pump	Right Front of the Engine Components (L99 or LS3)	Q6 Camshaft Position Actuator Solenoid Valve (L99)
Q6A	Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust	LLT	In the engine compartment, on the right front of the right cylinder head	Right Front of Engine Components (LLT)	Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust (LLT)
Q6B	Camshaft Position Actuator Solenoid Valve - Bank 1 Intake	LLT	In the engine compartment, on the left front of the right cylinder head	Front and Left Side of Engine Components (LLT)	Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake (LLT)
Q6C	Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust	LLT	In the engine compartment, on the left front of the left cylinder head	Front and Left Side of Engine Components (LLT)	Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust (LLT)
Q6D	Camshaft Position Actuator Solenoid Valve - Bank 2 Intake	LLT	In the engine compartment, on the right front of the left cylinder head	Front and Left Side of Engine Components (LLT)	Q6D Camshaft Position Actuator Solenoid Valve - Bank 2 Intake (LLT)
					• Q8 Control Solenoid Valve Assembly X1 (MYB or MYC)

cardiagn.com

Q8	Control Solenoid Valve Assembly	MYB or MYC	Under the vehicle, inside the automatic transmission	Transmission Electronic Components (MYB or MYC)	• Q8 Control Solenoid Valve Assembly X2 (MYB or MYC) • Q8 Control Solenoid Valve Assembly X3 (MYB or MYC)
R14L	Rear Window Defogger Noise Filter - Left	-	In the passenger compartment, mounted on the left B-pillar, under the trim panel, with the body harness	Rear of Vehicle Components	-
R14R	Rear Window Defogger Noise Filter - Right	-	In the passenger compartment, mounted on the right side of the rear package shelf, under the trim panel	Passenger Compartment From Top Left Components	• R14R Rear Window Defogger Noise Filter - Right X1 • R14R Rear Window Defogger Noise Filter - Right X2
R6	Data Link Resistor	-	In the passenger compartment, taped on the body harness, on the right side of the vehicle, beside the rear seat, under the quarter trim panel, to the rear of the fuel pump flow control module	Passenger Compartment From Top Left Components	R6 Data Link Resistor
S25	Garage Door Opener	UG1	In the passenger compartment, towards the front of the headliner, in the overhead console, to the right of the inflatable restraint I/P module indicator	Front Center of Roof Components	S25 Garage Door Opener (UG1)
S2L	Transmission Manual Shift Switch	MYB or MYC	In the passenger compartment, on the left rear side of	Instrument Panel and Center Console	S2L Transmission Manual Shift Switch -

cardiagn.com

	- Left		the steering wheel	Components	Left (MYB or MYC)
S2R	Transmission Manual Shift Switch - Right	MYB or MYC	In the passenger compartment, on the right rear side of the steering wheel	Instrument Panel and Center Console Components	S2R Transmission Manual Shift Switch - Right (MYB or MYC)
S30	Headlamp Switch	-	In the passenger compartment, on the instrument panel, to the left of the steering wheel	Instrument Panel and Center Console Components	S30 Headlamp Switch
S33	Horn Switch	-	In the passenger compartment, in the steering wheel, behind the inflatable restraint steering wheel module	Steering Wheel Components	-
S39	Ignition Switch	-	In the upper steering column, opposite the key cylinder	Left Center of Instrument Panel and Steering Column Components	S39 Ignition Switch
S52	Outside Rearview Mirror Switch	-	In the passenger compartment, on the left front door trim panel, forward of the window switch	Driver Door Components	S52 Outside Rearview Mirror Switch
S58	Rear Compartment Lid Unlatch Switch	-	In the passenger compartment, on the driver door panel, to the rear of the map pocket	Driver Door Components	S58 Rear Compartment Lid Unlatch Switch
S64D	Seat Adjuster Switch - Driver	-	In the passenger compartment, on the left side of the driver seat bottom	Driver Seat Components	• S64D Seat Adjuster Switch - Driver (AMM) • S64D Seat Adjuster Switch - Driver (AH3)
S64P	Seat Adjuster Switch - Passenger	-	In the passenger compartment, on the right side of the passenger seat bottom	Front Passenger Seat Components	S64P Seat Adjuster Switch - Passenger
	Steering Wheel		In the passenger compartment, on	Steering Wheel	S70L Steering Wheel

cardiagn.com

S70L	Controls Switch - Left	-	the left side of the steering wheel	Components	Controls Switch - Left
S70R	Steering Wheel Controls Switch - Right	NZL	In the passenger compartment, on the right side of the steering wheel	Steering Wheel Components	S70R Steering Wheel Controls Switch - Right (NZL)
S72	Sunroof Switch	CF5	In the passenger compartment, on the overhead console	Front Center of Roof Components	S72 Sunroof Switch (CF5)
S75	Traction Control Switch	-	In the passenger compartment, on the center console, just forward of the shifter	Instrument Panel and Center Console Components	S75 Traction Control Switch
S78	Turn Signal/Multifunction Switch	-	In the passenger compartment, on the left side of the steering column	Left Center of Instrument Panel and Steering Column Components	S78 Turn Signal/Multi-Function Switch
S79D	Window Switch - Driver	-	In the passenger compartment, mounted to the front of the arm rest, on the driver door trim panel	Driver Door Components	S79D Window Switch - Driver
S79P	Window Switch - Passenger	-	In the passenger compartment, mounted to the front of the arm rest, on the passenger door trim panel	Passenger Door Components	S79P Window Switch - Passenger
S82	Windshield Wiper/Washer Switch	-	In the passenger compartment, on the right side of the steering column	Left Center of Instrument Panel and Steering Column Components	S82 Windshield Wiper/Washer Switch
T11	Multimedia Player Interface Module	USR	In the passenger compartment, under the center console, forward of the compartment	Passenger Compartment From Top Left Components	T11 Multimedia Player Interface Module X1 (USR)
T12	Automatic Transmission Assembly	-	Under the vehicle, rear of the engine	-	-
					• T3 Audio Amplifier X1

cardiagn.com

T3	Audio Amplifier	UQA	In the rear compartment, under the left trim panel, near the tail lights	Rear of Vehicle from Right Side Components	(UQA) • T3 Audio Amplifier X2 (UQA) • T3 Audio Amplifier X3 (UQA)
T4D	Cellular Phone and Digital Radio Antenna	UE1 or U2K	On the center rear of the roof	Rear of Vehicle Components	-
T4M	Radio Antenna	-	In the passenger compartment, on the rear window top grid, above the rear window defogger	Rear of Vehicle Components	-
T4S	Wireless Communication Antenna - Bluetooth	UPF	In the passenger compartment, in the instrument panel, above the instrument panel compartment, attached to the rear side of vehicle communication interface module	Behind the Instrument Panel Components	-
T7L	Headlamp Ballast - Left	T4F	On the front of the vehicle, in the left headlamp assembly	Front of Vehicle Components	-
T7R	Headlamp Ballast - Right	T4F	On the front of the vehicle, in the right headlamp assembly	Front of Vehicle Components	-
T8A	Ignition Coil 1	LLT	In the engine compartment, right side of the engine, mounted to the rocker cover, above cylinder 1	Top of the Engine Components (LLT)	T8A Ignition Coil 1 (LLT)
T8A	Ignition Coil 1	L99 or LS3	In the engine compartment, left side of the engine, mounted to the rocker cover, above cylinder 1	Left Rear of the Engine Components (L99 or LS3)	T8A Ignition Coil 1 (L99 or LS3)
			In the engine compartment, left		

cardiagn.com

T8B	Ignition Coil 2	LLT	side of the engine, mounted to the rocker cover, above cylinder 2	Top of the Engine Components (LLT)	T8B Ignition Coil 2 (LLT)
T8B	Ignition Coil 2	L99 or LS3	In the engine compartment, right side of the engine, mounted to the rocker cover, above cylinder 2	Right Front of the Engine Components (L99 or LS3)	T8B Ignition Coil 2 (L99 or LS3)
T8C	Ignition Coil 3	LLT	In the engine compartment, right side of the engine, mounted to the rocker cover, above cylinder 3	Top of the Engine Components (LLT)	T8C Ignition Coil 3 (LLT)
T8C	Ignition Coil 3	L99 or LS3	In the engine compartment, left side of the engine, mounted to the rocker cover, above cylinder 3	Left Rear of the Engine Components (L99 or LS3)	T8C Ignition Coil 3 (L99 or LS3)
T8D	Ignition Coil 4	LLT	In the engine compartment, left side of the engine, mounted to the rocker cover, above cylinder 4	Top of the Engine Components (LLT)	T8D Ignition Coil 4 (LLT)
T8D	Ignition Coil 4	L99 or LS3	In the engine compartment, right side of the engine, mounted to the rocker cover, above cylinder 4	Right Front of the Engine Components (L99 or LS3)	T8D Ignition Coil 4 (L99 or LS3)
T8E	Ignition Coil 5	LLT	In the engine compartment, right side of the engine, mounted to the rocker cover, above cylinder 5	Top of the Engine Components (LLT)	T8E Ignition Coil 5 (LLT)
T8E	Ignition Coil 5	L99 or LS3	In the engine compartment, left side of the engine, mounted to the rocker cover, above cylinder 5	Left Rear of the Engine Components (L99 or LS3)	T8E Ignition Coil 5 (L99 or LS3)
			In the engine		

cardiagn.com

T8F	Ignition Coil 6	LLT	compartment, left side of the engine, mounted to the rocker cover, above cylinder 6	Top of the Engine Components (LLT)	T8F Ignition Coil 6 (LLT)
T8F	Ignition Coil 6	L99 or LS3	In the engine compartment, right side of the engine, mounted to the rocker cover, above cylinder 6	Right Front of the Engine Components (L99 or LS3)	T8F Ignition Coil 6 (L99 or LS3)
T8G	Ignition Coil 7	L99 or LS3	In the engine compartment, left side of the engine, mounted to the rocker cover, above cylinder 7	Left Rear of the Engine Components (L99 or LS3)	T8G Ignition Coil 7 (L99 or LS3)
T8H	Ignition Coil 8	L99 or LS3	In the engine compartment, right side of the engine, mounted to the rocker cover, above cylinder 8	Right Front of the Engine Components (L99 or LS3)	T8H Ignition Coil 8 (L99 or LS3)
X50A	Fuse Block - Underhood	-	In the engine compartment, forward of the right strut tower	Right Front of Engine Compartment Components	**Electrical Center Identification Views**
X50D	Fuse Block - Battery	-	In the rear compartment, under the floor panel, attached to the positive battery terminal	Rear of Vehicle from Left Side Components	**Electrical Center Identification Views**
X51A	Fuse Block - Instrument Panel	-	In the passenger compartment, on the left side of the instrument panel, behind the closeout panel	Behind the Instrument Panel Components	**Electrical Center Identification Views**
X53A	Fuse Block - Rear Body	-	In the rear compartment, behind the right side trim panel, behind the wheel well	Rear of Vehicle from Left Side Components	**Electrical Center Identification Views**
	Junction Block -		In the engine compartment, to	Left Rear of Engine	**Electrical Center**

cardiagn.com

X60B	Underhood Battery Cable	-	the right of the left wheel well	Compartment Components	**Identification Views**
X80D	Accessory Power Receptacle - Center Console Compartment	-	In the passenger compartment, inside the center console compartment	Instrument Panel and Center Console Components	X80D Accessory Power Receptacle - Center Console Compartment
X80H	Accessory Power Receptacle - Center Console	-	In the passenger compartment, on the center console, just forward and to the right of the shifter	Instrument Panel and Center Console Components	X80H Accessory Power Receptacle - Center Console
X83	Auxiliary Audio Input	USR	In the passenger compartment, in the rear of the center console compartment	Instrument Panel and Center Console Components	X83 Auxiliary Audio Input (USR)
X84	Data Link Connector	-	In the passenger compartment, on the bottom left side of the instrument panel, under the steering column	Behind the Instrument Panel Components	X84 Data Link Connector
X85	Steering Wheel Air Bag Coil	-	In the passenger compartment, on the steering column, behind the steering wheel	Left Center of Instrument Panel and Steering Column Components	• X85 Steering Wheel Air Bag Coil X1 • X85 Steering Wheel Air Bag Coil X2 • X85 Steering Wheel Air Bag Coil X3
X102	Engine Harness to the Forward Lamp Harness (40 Cavities)	-	Right side of the engine compartment, to the right of the fuse block - underhood, next to X103	Forward Lamp Harness Routing - Right	X102 Engine Harness to Forward Lamp Harness
X103	Forward Lamp Harness to the Body Extension Harness (16 Cavities)	-	Right side of the engine compartment, to the right of the fuse block - underhood, next to X102	Forward Lamp Harness Routing - Right	X103 Forward Lamp Harness to Body Extension Harness
			Left rear of the		

cardiagn.com

X104	Forward Lamp Harness to Instrument Panel Harness (42 Cavities)	-	engine compartment, inner side of vacuum brake booster, next to X105	Forward Lamp Harness Routing - Left	X104 Forward Lamp Harness to Instrument Panel Harness
X105	Forward Lamp Harness to Instrument Panel Harness (1 Cavity)	-	Left rear of the engine compartment, inner side of vacuum brake booster, next to X104	Forward Lamp Harness Routing - Left	X105 Forward Lamp Harness to Instrument Panel Harness
X108	Forward Lamp Harness to the Fog Lamp Harness (8 Cavities)	-	Under the right front headlamp assembly	Forward Lamp Harness Routing - Right	X108 Forward Lamp Harness to Fog Lamp Harness
X109	Engine Harness to the Camshaft Position Jumper Harness (5 Cavities)	L99	On the lower front of the engine	Engine Harness Routing - Left Rear (L99 or LS3)	X109 Engine Harness to Camshaft Position Sensor and Camshaft Position Actuator Solenoid Valve Harness (L99)
X109	Engine Harness to the Camshaft Position Jumper Harness (3 Cavities)	LS3	On the lower front of the engine	Engine Harness Routing - Left Rear (L99 or LS3)	X109 Engine Harness to Camshaft Position Sensor Harness (LS3)
X110	Forward Lamp Harness to the Left Headlamp Harness (4 Cavities)	T4F	Mounted on the left headlamp assembly	Forward Lamp Harness Routing - Left	X110 Forward Lamp Harness to Left Headlamp Harness (T4F)
X111	Engine Harness to the Throttle Body Jumper Harness (6 Cavities)	LLT	Towards the right of the throttle body	Engine Harness Routing - Right Side (LLT)	X111 Engine Harness to Throttle Body Jumper Harness (LLT)
X112	Engine Harness to the Even Ignition Coil Harness (8 Cavities)	L99 or LS3	On the right side of the engine, mounted to the rocker cover, between cylinders 4 and 6	Engine Harness Routing - Right Side (L99 or LS3)	X112 Engine Harness to Coils (Even) Harness (L99 or LS3)
X113	Engine Harness to the Odd Ignition Coil Harness (8 Cavities)	L99 or LS3	On the left side of the engine, mounted to the rocker cover, between cylinders 3 and 5	Engine Harness Routing - Left Rear (L99 or LS3)	X113 Engine Harness to Coils (Odd) Harness (L99 or LS3)
	Forward Lamp		Mounted on the	Body Harness	X120 Forward Lamp

cardiagn.com

X120	Harness to the Right Headlamp Harness (4 Cavities)	T4F	right headlamp assembly	Routing - Right Passenger Compartment	Harness to Right Headlamp Harness (T4F)
X160	Engine Harness to the Even Fuel Injector Harness (6 Cavities)	LLT	Mounted at the top right rear of the engine, next to X161	Engine Harness Routing - Right Side (LLT)	X160 Engine Harness to Injectors (Even) Harness (LLT)
X161	Engine Harness to the Odd Fuel Injector Harness (12 Cavities)	LLT	Mounted at the top right rear of the engine, next to X160	Engine Harness Routing - Right Side (LLT)	X161 Engine Harness to Injectors (Odd) Harness (LLT)
X162	Forward Lamp Harness to the Cooling Fan Harness (4 Cavities)	-	Mounted to the cooling fan shroud, in the right front corner of the engine compartment	Forward Lamp Harness Routing - Right	X162 Forward Lamp Harness to Cooling Fan Harness
X204	Instrument Panel Harness to the Roof Harness (30 Cavities)	-	Under the right kick panel, closest to the door	Instrument Panel Harness Routing - Top Left Overhead	X204 Instrument Panel Harness to Roof Harness
X206	Instrument Panel Harness to the Sunroof Harness (5 Cavities)	CF5	Under the left kick panel, closest to the door	Instrument Panel Harness Routing - Top Right Overhead	X206 Instrument Panel Harness to Sunroof Harness (CF5)
X207	Instrument Panel Harness to the Body Harness (56 Cavities)	-	Under the center of the left kick panel	Instrument Panel Harness Routing - Top Right Overhead	X207 Instrument Panel Harness to Body Harness
X208	Body Harness to the Instrument Panel Harness (56 Cavities)	-	Under the center of the right kick panel	Instrument Panel Harness Routing - Top Left Overhead	X208 Instrument Panel to Body Harness
X209	Body Extension Harness to the Body Harness (1 Cavity)	-	Under the right kick panel, forward of X208	Body Harness Routing - Right Passenger Compartment	X209 Body Extension Harness to Body Harness
X210	Body Extension Harness to the Body Harness (40 Cavities)	-	Under the right kick panel, forward of X209, under the carpeting	Body Harness Routing - Right Passenger Compartment	X210 Body Extension Harness to Body Harness
X211	Instrument Panel to the Console Cap Link Harness (8 Cavities)	-	Under the front of the center console, forward of the shifter	Instrument Panel Harness Routing - Top Left Overhead	X211 Instrument Panel Harness to Console Cap Harness
	Instrument Panel			Instrument Panel	

cardiagn.com

X251	Harness to the Body Harness (1 Cavity Coax)	-	Behind the left kick panel	Harness Routing - Top Left Overhead	-
X253	Instrument Panel Harness to the Body Harness (4 Cavities)	-	Behind the left kick panel	Instrument Panel Harness Routing - Top Right Overhead	X253 Instrument Panel Harness to Body Harness
X254	Instrument Panel Harness to the Body Harness (4 Cavities)	-	Behind the right kick panel	Instrument Panel Harness Routing - Top Left Overhead	X254 Instrument Panel Harness to Body Harness
X256	Instrument Panel Harness to the Body Harness (3 Cavity Coax)	UE1 or U2K	Behind the right kick panel	Body Harness Routing - Right Passenger Compartment	-
X301	Instrument Panel Harness to the Shifter Harness (8 Cavities)	MYB or MYC	Under the center console, to the rear of the shifter	Instrument Panel Harness Routing - Top Left Overhead	X301 Instrument Panel Harness to Shifter Harness (MYB/MYC)
X302	Instrument Panel Harness to the Floor Console Harness (12 Cavities)	-	In the center console, forward and to the right of the cup holders	Instrument Panel Harness Routing - Top Left Overhead	X302 Instrument Panel Harness to Console Harness
X304	Body Harness to the Rear Window Trim Harness (8 Cavities)	-	In the passenger compartment, near the right side of the vehicle, behind the rear seat, under the rear package shelf trim panel	Body Harness Routing - Right Passenger Compartment	X304 Rear Window Trim to Body Harness
X306	Body Harness to the Passenger Seat Harness (48 Cavities)	-	Under the passenger seat	Body Harness Routing - Right Passenger Compartment	X306 Body Harness to Passenger Seat Harness
X307	Body Harness to the Driver Seat Harness (48 Cavities)	-	Under the driver seat	Body Harness Routing - Left Passenger and Rear Compartment	X307 Body Harness to Driver Seat Harness
X308	Driver Seat Back Harness to the Driver Seat Harness (2 Cavities)	-	Attached to the bottom of the driver seat	-	X308 Driver Seat Back Harness to Driver Seat harness
X309	Passenger Seat Back Harness to the Passenger Seat Harness (2 Cavities)	-	Attached to the bottom of the passenger seat	-	X309 Passenger Seat Back Harness to Passenger Seat harness
X315	Side Air Bag - Left Jumper Harness to	-	Attached to the bottom of the	-	X315 Side Air Bag - Left Jumper Harness to

cardiagn.com

	the Driver Seat Harness (2 Cavities)		driver seat		Driver Seat Harness
X316	Side Air Bag - Right Jumper Harness to the Passenger Seat Harness (2 Cavities)	-	Attached to the bottom of the passenger seat	-	X316 Side Air Bag - Right Jumper Harness to Passenger Seat Harness
X350	Body Harness to the Fuel Tank Harness (14 Cavities)	-	Under the vehicle, at the right side of the fuel tank, next to X360	Body Harness Routing - Right Rear Compartment and Underbody	X350 Body Harness to Fuel Tank Harness
X360	Body Harness to the Rear Axle Harness (4 Cavities)	-	Under the vehicle at the right side of the fuel tank, next to X350	Body Harness Routing - Right Rear Compartment and Underbody	X360 Body Harness to Rear Axle Harness
X400	Body Harness to the Rear Fascia (LH) Harness (8 Cavities)	-	In the rear compartment, under the left tail lamp access panel	Body Harness Routing - Left Passenger and Rear Compartment	X400 Body Harness to Rear Fascia (LH) Harness
X401	Body Harness to the Rear Fascia (RH) Harness (8 Cavities)	-	In the rear compartment, under the right tail lamp access panel	Body Harness Routing - Right Rear Compartment and Underbody	X401 Body Harness to Rear Fascia (RH) Harness
X402	License Lamp Harness to the Rear Fascia Harness (2 Cavities)	-	Behind the rear fascia, below and to the right of the license lamps	Rear Fascia Harness Routing	X402 License Lamp Harness to Rear Fascia Harness
X500	Body Harness to the Driver Door Harness (22 Cavities)	-	In the passenger compartment, in the front of the left door, between the door hinges	Doors Harness Routing	X500 Body Harness to Driver Door Harness
X502	Outside Rearview Mirror - Driver Harness to the Driver Door Harness (8 Cavities)	-	On the drivers door towards the front behind the door trim panel	Doors Harness Routing	G502 Outside Rearview Mirror - Driver Harness to Driver Door Harness
X600	Body Harness to the Passenger Door Harness (22 Cavities)	-	In the passenger compartment, in the front of the right door, between the door hinges	Doors Harness Routing	X600 Body Harness to Passenger Door Harness
X602	Outside Rearview Mirror - Passenger Harness to the Passenger Door Harness (8 Cavities)	-	On the passenger door towards the front behind the door trim panel	Doors Harness Routing	G602 Outside Rearview Mirror - Passenger harness to Passenger Door Harness

cardiagn.com

G101	Forward Lamp Harness	-	In the engine compartment, on the right frame rail, below and between the fuse block - underhood and the electronic brake control module, in front of G102	G101 and G102	-
G102	Forward Lamp Harness	-	In the engine compartment, on the right frame rail, behind G101	G101 and G102	-
G103	Engine Ground Harness	-	In the engine compartment, to the right of the engine, on the electronic brake control module bracket	G103	-
G105	Forward Lamp Harness	-	In the engine compartment, on the left front frame rail, below the left front strut tower	G105	-
G106	Engine Harness	LLT	In the engine compartment, on the right cylinder head, near the front of the engine	G106 and G108 (LLT)	-
G106	Engine Harness	L99 or LS3	In the engine compartment, on the right cylinder head, above, the cylinder 6 exhaust port	G106 and G107 (L99 or LS3)	-
G107	Engine Harness	LLT	In the engine compartment, on the left cylinder head, at the rear of the engine	G107 and G109 (LLT)	-
G107	Engine Harness	L99 or LS3	In the engine compartment, on the right cylinder head, near the rear of the engine	G106 and G107 (L99 or LS3)	-
			In the engine		

cardiagn.com

G108	Engine Harness	LLT	compartment, on the left cylinder head, at the rear of the engine	G106 and G108 (LLT)	-
G108	Engine Harness	L99 or LS3	In the engine compartment, on the left cylinder head, near the rear of the engine	G108 and G109 (L99 or LS3)	-
G109	Engine Harness	LLT	In the engine compartment, on the left cylinder head, just forward of the engine coolant temperature sensor	G107 and G109 (LLT)	-
G109	Engine Harness	L99 or LS3	In the engine compartment, lower front left side of the engine, behind the generator	G108 and G109 (L99 or LS3)	-
G201	Instrument Panel Harness	-	In the passenger compartment, in the instrument panel, on the left side of the instrument panel tie bar, near the fuse block - instrument panel	G201, G202, G203, and G204	-
G202	Instrument Panel Harness	-	In the passenger compartment, under the right center console trim panel, below the radio	G201, G202, G203, and G204	-
G203	Instrument Panel Harness	-	In the passenger compartment, under the left center console trim panel, below the radio	G201, G202, G203, and G204	-
			In the passenger compartment, in the instrument panel, on the right		

cardiagn.com

G204	Instrument Panel Harness	-	of the instrument panel tie bar, to the right of the instrument panel compartment	G201, G202, G203, and G204	-
G205	Body Harness	-	In the passenger compartment, under the left kick panel, above X207	G205 and G301	-
G206	Body Harness	-	In the passenger compartment, under the right kick panel, above X208	G206	-
G301	Body Harness	-	In the passenger compartment, under the center console compartment, to the right of the inflatable restraint sensing and diagnostic module	G205 and G301	-
G401	Battery Cable Harness	-	In the rear compartment, under the floor panel, behind and to the right of the battery	G401	-
G402	Body Harness	-	In the passenger compartment, under the trim panel, on the right side of the package shelf, in front of the speaker	G402 and G403	-
G403	Body Harness	-	In the rear compartment, under the right trim panel, to the rear of the fuse block - rear	G402 and G403	-
G404	Rear Window Defogger Noise Filter - Left Harness	-	In the passenger compartment, under the trim panel, on the left side of the package shelf	G404	-

cardiagn.com

J101	Fog Lamp Harness	-	Behind the front fascia, approximately 15 cm (6 in) from the breakout to X108, towards the side marker lamp - left front	Fog Lamp Harness Routing	-
J102	Fog Lamp Harness	-	Behind the front fascia, approximately 54 cm (21.5 in) from the breakout to X108, towards the side marker lamp - left front	Fog Lamp Harness Routing	-
J103	Forward Lamp Harness	-	Right front of the engine compartment, approximately 15 cm (6 in) from the breakout to X162, towards the fuse block - underhood	Forward Lamp Harness Routing - Right	-
J104	Forward Lamp Harness	-	Right center of the engine compartment, approximately 7.8 cm (3 in) from the breakout to the fuse block - underhood, towards G101	Forward Lamp Harness Routing - Right	-
J105	Forward Lamp Harness	-	Right center of the engine compartment, approximately 16.3 cm (6.3 in) from the breakout to the fuse block - underhood, towards G101	Forward Lamp Harness Routing - Right	-
J106	Forward Lamp Harness	T4A	Left rear of the engine compartment, approximately 33.9 cm (13.5 in) from	Forward Lamp Harness Routing - Right	-

cardiagn.com

			the breakout to X104, towards G102		
J107	Forward Lamp Harness	-	Left rear of the engine compartment, approximately 35.4 cm (14.2 in) from the breakout to the windshield wiper motor, towards the windshield wiper motor	Forward Lamp Harness Routing - Left	-
J108	Engine Harness	MV5	Right front of the engine compartment, approximately 14.6 cm (5.75 in) from the breakout to X102, towards X102	Engine Harness Routing - Right Side (LLT)	-
J109	Engine Harness	MV5	Right front of the engine compartment, approximately 7 cm (2.75 in) from the breakout to X102, towards X102	Engine Harness Routing - Right Side (LLT)	-
J110	Engine Harness	LLT	Right front of the engine, approximately 7.1 cm (2.75 in) from the breakout to X102, towards G106	Engine Harness Routing - Right Side (LLT)	-
J111	Engine Harness	MYB	Right front of the engine, approximately 7.2 cm (2.8 in) from the breakout to X102 and fuse block - underhood X3, towards ignition coil 1	Engine Harness Routing - Right Side (LLT)	-
			Right front of the engine,		

cardiagn.com

J111	Engine Harness	MYC	approximately 13.2 cm (5.25 in) from the breakout to X102 and fuse block - underhood X3, towards fuse block - underhood X3	Engine Harness Routing - Right Side (L99 or LS3)	-
J112	Engine Harness	LLT	Right center of the engine, approximately 2 cm (0.75 in) from the breakout to ignition coil 1, towards ignition coil 3	Engine Harness Routing - Right Side (LLT)	-
J113	Engine Harness	LLT	Right center of the engine, approximately 3.2 cm (1.25 in) from the breakout to ignition coil 3, towards ignition coil 1	Engine Harness Routing - Right Side (LLT)	-
J113	Engine Harness	L99 or LS3	Left center of the engine, approximately 5.9 cm (2.4 in) from the breakout to fuel injector 5, towards fuel injector 3	Engine Harness Routing - Left Rear (L99 or LS3)	-
J114	Engine Harness	MV5	Right rear of the engine, approximately 2.3 cm (1 in) from the breakout to G108, towards ignition coil 5	Engine Harness Routing - Right Side (LLT)	-
J115	Engine Harness	LLT	Center rear of the engine, approximately 5 cm (2 in) from the breakout to heated oxygen sensor - bank 1 sensor 1, towards heated oxygen sensor -	Engine Harness Routing - Right Side (LLT)	-

cardiagn.com

			bank 2 sensor 2		
J116	Engine Harness	LLT	Center rear of the engine, approximately 10 cm (4 in) from the breakout to heated oxygen sensor - bank 1 sensor 1, towards heated oxygen sensor - bank 2 sensor 2	Engine Harness Routing - Right Side (LLT)	-
J116	Engine Harness	L99 or LS3	Right front of the engine, approximately 6.6 cm (2.6 in) from the breakout to X102 and fuse block - underhood X3, towards fuse block - underhood X3	Engine Harness Routing - Right Side (L99 or LS3)	-
J117	Engine Harness	MYB	Right side of the transmission, approximately 13.1 cm (5.25 in) from the breakout to heated oxygen sensor - bank 2 sensor 2, towards heated oxygen sensor - bank 1 sensor 2	Transmission Harness Routing - Right Rear (MYB)	-
J117	Engine Harness	MYC	Right side of the transmission, approximately 7.5 cm (3 in) from the breakout to the heated oxygen sensor - bank 1 sensor 2, towards heated oxygen sensor - bank 2 sensor 1	Transmission Harness Routing - Right Rear (MYC)	-
			Right side of the transmission, approximately 21.7 cm (8.75 in) from		

cardiagn.com

J118	Engine Harness	MYB	the breakout to the heated oxygen sensor - bank 2 sensor 2, towards heated oxygen sensor - bank 1 sensor 2	Transmission Harness Routing - Right Rear (MYB)	-
J118	Engine Harness	MYC	Right side of the transmission, approximately 15 cm (6 in) from the breakout to the heated oxygen sensor - bank 1 sensor 2, towards heated oxygen sensor - bank 2 sensor 1	Transmission Harness Routing - Right Rear (MYC)	-
J119	Engine Harness	LLT	Top rear of the engine, approximately 6.9 cm (2.75 in) from the breakout to X161, towards the ignition coils	Engine Harness Routing - Left Rear (LLT)	-
J120	Engine Harness	LLT	Top rear of the engine, approximately 13.6 cm (5.33 in) from the breakout to X161, towards the ignition coils	Engine Harness Routing - Left Rear (LLT)	-
J121	Engine Harness	LLT	Top rear of the engine, approximately 20.6 cm (8.1 in) from the breakout to X161, towards the ignition coils	Engine Harness Routing - Left Rear (LLT)	-
J122	Engine Harness	LLT	Left center of the engine, approximately 8.9 cm (3.5 in) from the breakout to ignition coil 6, towards ignition coil 4	Engine Harness Routing - Left Rear (LLT)	-

cardiagn.com

J123	Engine Harness	LLT	Left center of the engine, approximately 3.9 cm (1.5 in) from the breakout to ignition coil 6, towards ignition coil 4	Engine Harness Routing - Left Rear (LLT)	-
J123	Engine Harness	L99 or LS3	Right top center of the engine, approximately 6.2 cm (2.5 in) from the breakout to X112, towards fuel injector 4	Engine Harness Routing - Right Side (L99 or LS3)	-
J126	Engine Harness	L99 or LS3	Right front of the engine, approximately 9.4 cm (3.75 in) from the breakout to X102 and fuse block - underhood X3, towards the throttle body	Engine Harness Routing - Right Side (L99 or LS3)	-
J127	Automatic Transmission Harness	-	Inside the automatic transmission	-	-
J129	Engine Harness	L99 or LS3	Right top center of the engine, approximately 16.4 cm (6.5 in) from the breakout to X107, towards X106	Engine Harness Routing - Right Side (L99 or LS3)	-
J131	Even Ignition Coil Harness	L99 or LS3	On the right side of the engine	-	-
J132	Even Ignition Coil Harness	L99 or LS3	On the right side of the engine	-	-
J133	Odd Ignition Coil Harness	L99 or LS3	On the left side of the engine	-	-
J135	Even Ignition Coil Harness	L99 or LS3	On the right side of the engine	-	-
J142	Odd Ignition Coil Harness	L99 or LS3	On the left side of the engine	-	-
J146	Odd Ignition Coil Harness	L99 or LS3	On the left side of the engine	-	-

cardiagn.com

J147	Left Headlamp Assembly Harness	T4F	In the left headlamp assembly	-	-
J148	Right Headlamp Assembly Harness	T4F	In the right headlamp assembly	-	-
J201	Instrument Panel Harness	-	Behind the left side of the instrument panel, approximately 5.3 cm (2.19 in) from the breakout to G203, towards the data link connector	Instrument Panel Harness Routing - Top Left Overhead	-
J202	Instrument Panel Harness	-	Behind the left side of the instrument panel, approximately 6.1 cm (2.4 in) from the breakout to the brake pedal position sensor and X104, towards the brake pedal position sensor	Instrument Panel Harness Routing - Top Left Overhead	-
J203	Instrument Panel Harness	-	Behind the left side of the instrument panel, approximately 13.2 cm (5.25 in) from the breakout to the brake pedal position sensor and X104, towards the brake pedal position sensor	Instrument Panel Harness Routing - Top Left Overhead	-
J204	Instrument Panel Harness	-	Behind the left side of the instrument panel, approximately 18 cm (7.2 in) from the breakout to the brake pedal position sensor and X104, towards the brake pedal position sensor	Instrument Panel Harness Routing - Top Left Overhead	-
			Behind the left side of the instrument		

cardiagn.com

J205	Instrument Panel Harness	DBX	panel, approximately 4.6 cm (1.9 in) from the breakout to the instrument panel cluster, towards the headlamp and panel dimmer switch	Instrument Panel Harness Routing - Top Left Overhead	-
J206	Instrument Panel Harness	-	Behind the left center of the instrument panel, approximately 9 cm (3.6 in) from the breakout to the remote control door lock receiver and the speaker - center I/P, towards the theft deterrent module	Instrument Panel Harness Routing - Top Left Overhead	-
J207	Instrument Panel Harness	-	Behind the center of the instrument panel, approximately 4 cm (2.7 in) from the breakout to the remote control door lock receiver and the speaker - center I/P, towards the body control module	Instrument Panel Harness Routing - Top Left Overhead	-
J208	Instrument Panel Harness	-	Behind the center of the instrument panel, approximately 5.6 cm (2.25 in) from the breakout to the body control module, towards G201	Instrument Panel Harness Routing - Top Left Overhead	-
	Instrument Panel	SRK or	Left of the instrument panel compartment, approximately 11.5 cm (4.5 in) from	Instrument Panel	

cardiagn.com

J209	Harness	SRM	the breakout to the inflatable restraint I/P module, towards the vehicle communication interface module	Harness Routing - Top Left Overhead	-
J210	Steering Wheel Harness	-	Behind the steering wheel air bag	-	-
J211	Steering Wheel Harness	-	Behind the steering wheel air bag	-	-
J212	Steering Wheel Harness	-	Behind the steering wheel air bag	-	-
J241	HVAC Harness	-	Behind the instrument panel compartment, approximately 21 cm (8.25 in) from the breakout to the recirculation actuator, towards the evaporator temperature sensor	-	-
J253	Steering Wheel Harness	-	Behind the steering wheel air bag	-	-
J301	Body Harness	-	Left side of the passenger compartment, on the floor, towards the front of the driver door, approximately 27.8 cm (11 in) from the breakout to X307, towards X253	Body Harness Routing - Left Passenger and Rear Compartment	-
J302	Body Harness	-	Left side of the passenger compartment, on the floor, towards the front of the driver door, approximately 22.8 cm (9.1 in) from the breakout to X307, towards X253	Body Harness Routing - Left Passenger and Rear Compartment	-
			Left side of the passenger		

cardiagn.com

J303	Body Harness	-	compartment, on the floor, near the center of the driver door, approximately 17.8 cm (7 in) from the breakout to X307, towards X253	Body Harness Routing - Left Passenger and Rear Compartment	-
J304	Body Harness	-	Left side of the passenger compartment, on the floor, near the center of the driver door, approximately 12.8 cm (5.1 in) from the breakout to X307, towards X253	Body Harness Routing - Left Passenger and Rear Compartment	-
J305	Body Harness	-	Right side of the passenger compartment, on the floor, towards the front of the passenger door, approximately 38 cm (15.1 in) from the breakout to X306, towards X254	Body Harness Routing - Right Passenger Compartment	-
J306	Body Harness	-	Right side of the passenger compartment, on the floor, towards the front of the passenger door, approximately 29.3 cm (11.75 in) from the breakout to X306, towards X254	Body Harness Routing - Right Passenger Compartment	-
J307	Body Harness	-	Right side of the passenger compartment, on the floor, near the center of the passenger door,	Body Harness Routing - Right Passenger	-

cardiagn.com

			approximately 22.4 cm (8.9 in) from the breakout to X306, towards X254	Compartment	
J308	Body Harness	-	Right side of the passenger compartment, on the floor, near the center of the passenger door, approximately 12.4 cm (5 in) from the breakout to X306, towards X254	Body Harness Routing - Right Passenger Compartment	-
J309	Body Harness	-	Right rear of the passenger compartment, near the pass-through to X350, approximately 37.3 cm (15 in) from the breakout to X350 and X360, towards X350 and X360	Body Harness Routing - Right Passenger Compartment	-
J310	Body Harness	-	Right rear of the passenger compartment, next to the rear seat, behind the quarter trim panel, approximately 7 cm (2.75 in) from the breakout to the fuel pump flow control module, towards the fuel pump flow control module	Body Harness Routing - Right Passenger Compartment	-
J311	Automatic Transmission Shift Lever Harness	MYB or MYC	Under the center console, near the automatic transmission shift lever	-	-
J312	Driver Seat Harness	-	Under the driver seat, approximately 5 cm (2 in) from	-	-

cardiagn.com

			the breakout to X307, towards the seat belt buckle		
J313	Passenger Seat Harness	-	Under the passenger seat, approximately 5 cm (2 in) from the breakout to X306, towards the seat belt buckle	-	-
J320	Roof Console Harness	-	In the roof console, approximately 4.8 cm (1.9 in) from the breakout to the inside rearview mirror, towards the dome/reading lamps	-	-
J400	Rear Fascia Harness	-	Under the rear fascia, approximately 5.2 cm (2.2 in) from the breakout to the backup lamp - left, towards X402	Rear Fascia Harness Routing	-
J401	Rear Fascia Harness	-	Under the rear fascia, approximately 9 cm (3.6 in) from the breakout to the backup lamp - left, towards X402	Rear Fascia Harness Routing	-
J402	Rear Fascia Harness	-	Under the rear fascia, approximately 15.5 cm (6.2 in) from the breakout to the backup lamp - left, towards X402	Rear Fascia Harness Routing	-
J403	Rear Fascia Harness	-	Under the rear fascia, approximately 22 cm (8.75 in) from the breakout to the backup lamp - left, towards X402	Rear Fascia Harness Routing	-
			Under the rear		

cardiagn.com

J404	Rear Fascia Harness	UD7	fascia, approximately 17.6 cm (7 in) from the breakout to the object alarm sensor - left rear middle, towards X402	Rear Fascia Harness Routing	-
J405	Rear Fascia Harness	UD7	Under the rear fascia, approximately 20.2 cm (8 in) from the breakout to the object alarm sensor - left rear middle, towards X402	Rear Fascia Harness Routing	-
J406	Rear Fascia Harness	-	Under the rear fascia, approximately 10.3 cm (4.1 in) from the breakout to the backup lamp - right, towards X402	Rear Fascia Harness Routing	-
J407	Rear Fascia Harness	-	Under the rear fascia, approximately 3.8 cm (1.6 in) from the breakout to the backup lamp - right, towards X402	Rear Fascia Harness Routing	-
J408	Rear Fascia Harness	-	Under the rear fascia, approximately 6.1 cm (2.5 in) from the breakout to the side marker lamp - right rear, towards the backup lamp - right	Rear Fascia Harness Routing	-
J409	Body Harness	-	On the right side of the rear compartment, approximately 3.8 cm (1.5 in) from the breakout to the fuse block - rear,	Body Harness Routing - Right Rear Compartment and Underbody	-

cardiagn.com

			towards the fuse block - rear		
J410	Fuel Tank Harness	-	Under the vehicle, near the fuel tank	-	-
J411	License Lamp Harness	-	Under the rear fascia	-	-
J412	License Lamp Harness	-	Under the rear fascia	-	-
J500	Driver Door Harness	-	In the driver door, approximately 7.3 cm (2.8 in) from the breakout to the window motor - driver, towards the speaker - left front	Doors Harness Routing	-
J501	Driver Door Harness	-	In the driver door, approximately 15 cm (6 in) from the breakout to the window motor - driver, towards the outside rearview mirror	Doors Harness Routing	-
J502	Driver Door Harness	-	In the driver door, approximately 21.5 cm (8.5 in) from the breakout to the window motor - driver, towards the outside rearview mirror	Doors Harness Routing	-
J503	Driver Door Harness	-	In the driver door, approximately 28 cm (11 in) from the breakout to the window motor - driver, towards the outside rearview mirror	Doors Harness Routing	-
J600	Passenger Door Harness	-	In the passenger door, approximately 8.7 cm (3.5 in) from the breakout to the window motor - passenger, towards the speaker - right	Doors Harness Routing	-

cardiagn.com

			front		
J601	Passenger Door Harness	-	In the passenger door, approximately 13.9 cm (5.5 in) from the breakout to the window motor - passenger, towards the outside rearview mirror	Doors Harness Routing	-
J602	Passenger Door Harness	-	In the passenger door, approximately 7.7 cm (3 in) from the breakout to the outside rearview mirror, towards the window switch - passenger	Doors Harness Routing	-
J603	Passenger Door Harness	-	In the passenger door, approximately 19.9 cm (7.9 in) from the breakout to the window motor - passenger, towards the outside rearview mirror	Doors Harness Routing	-
J604	Passenger Door Harness	-	In the passenger door, approximately 11.3 cm (4.5 in) from the breakout to the outside rearview mirror, towards the window motor - passenger	Doors Harness Routing	-
J605	Passenger Door Harness	-	In the passenger door, approximately 3.4 cm (1.4 in) from the breakout to the outside rearview mirror, towards the window switch - passenger	Doors Harness Routing	-
			In the instrument		

cardiagn.com

JX200	Instrument Panel Harness	-	panel, to the right of the radio, behind G202	Instrument Panel Harness Routing - Top Right Overhead	JX200

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

PASSENGER COMPARTMENT/ROOF COMPONENT VIEWS



Fig. 1: Top Center Of Windshield Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	A10 Inside Rearview Mirror
2	K77 Remote Control Door Lock Receiver (BTV)
3	OnStar Button Assembly (UE1)

cardiagn.com



Fig. 2: Front Center Of Roof Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	B24 Cellular Phone Microphone (UE1)
2	E37A Dome/Reading Lamps
3	S25 Garage Door Opener (UG1)
4	P14 Passenger Air Bag Disable Indicator
5	A10 Inside Rearview Mirror
6	S72 Sunroof Switch (CF5)

cardiagn.com



Fig. 3: Center Of Roof Panel Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	K61 Sunroof Control Module (CF5)

cardiagn.com



Fig. 4: Driver Seat Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Driver Seat Back Cushion
2	E14A Seat Heating Element - Driver Back (KA1)
3	M56D Seat Recline Motor - Driver
4	F106L Side Air Bag - Left
5	S64D Seat Adjuster Switch - Driver
6	M50D Seat Front Vertical Motor - Driver (AMM)
7	E14B Seat Heating Element - Driver Cushion (KA1)
8	M55D Seat Rear Vertical Motor - Driver (AMM)
9	M51D Seat Horizontal Motor - Driver (AMM)
10	B62D Seat Position Sensor - Driver
11	K29 Seat Heating Control Module (KA1)

cardiagn.com

12	Driver Seat Cushion
13	B88D Seat Belt Switch - Driver



Fig. 5: Front Passenger Seat Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Passenger Seat Back Cushion
2	B88P Seat Belt Switch - Passenger
3	M56P Seat Recline Motor - Passenger
4	E14C Seat Heating Element - Passenger Back (KA1)
5	E14D Seat Heating Element - Passenger Cushion (KA1)
6	B60 Passenger Presence Detection Sensor
7	K85 Passenger Presence Detection Module
8	B62P Seat Position Sensor - Passenger

cardiagn.com

9	F106R Side Air Bag - Right
10	Passenger Seat Cushion
11	S64P Seat Adjuster Switch - Passenger



Fig. 6: Passenger Compartment From Top Right Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	F105L Roof Rail Air Bag - Left
2	F112D Seat Belt Retractor Pretensioner - Driver
3	B63L Side Impact Sensor - Left

cardiagn.com



Fig. 7: Passenger Compartment From Top Left Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	K27 Fuel Pump Control Module
2	R6 Data Link Resistor
3	F105R Roof Rail Air Bag - Right
4	R14R Rear Window Defogger Noise Filter - Right
5	K36 Inflatable Restraint Sensing and Diagnostic Module
6	T11 Multimedia Player Interface Module
7	B119 Multi-axis Acceleration Sensor
8	B63R Side Impact Sensor - Right
9	F112P Seat Belt Retractor Pretensioner - Passenger

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

POWERTRAIN COMPONENT VIEWS

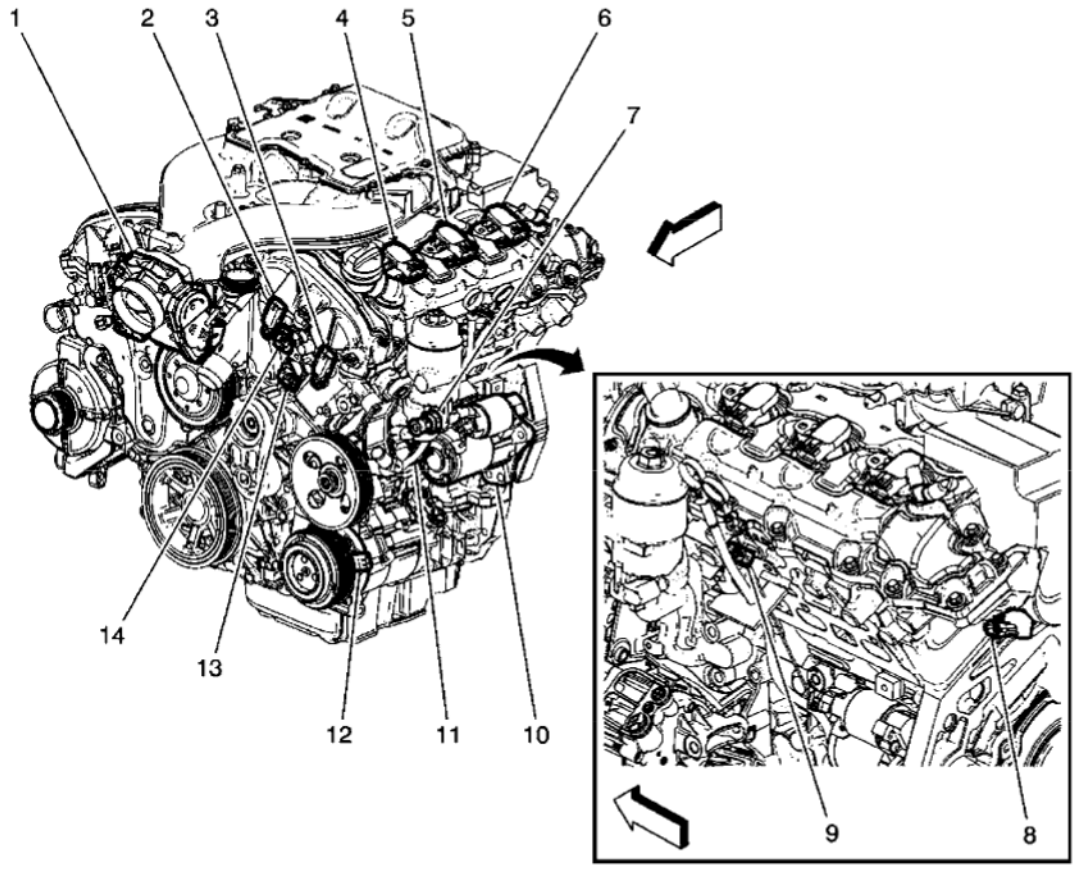


Fig. 1: Front & Left Side Of Engine Components (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Q38 Throttle Body
2	B23D Camshaft Position Sensor - Bank 2 Intake
3	B23C Camshaft Position Sensor - Bank 2 Exhaust
4	T8B Ignition Coil 2
5	T8D Ignition Coil 4
6	T8F Ignition Coil 6
7	B37B Engine Oil Pressure Sensor
8	G18 High Pressure Fuel Pump

cardiagn.com

9	B34 Engine Coolant Temperature Sensor
10	M64 Starter Motor
11	B68B Knock Sensor 2
12	Q2 A/C Compressor Clutch
13	Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust
14	Q6B Camshaft Position Actuator Solenoid Valve - Bank 2 Intake

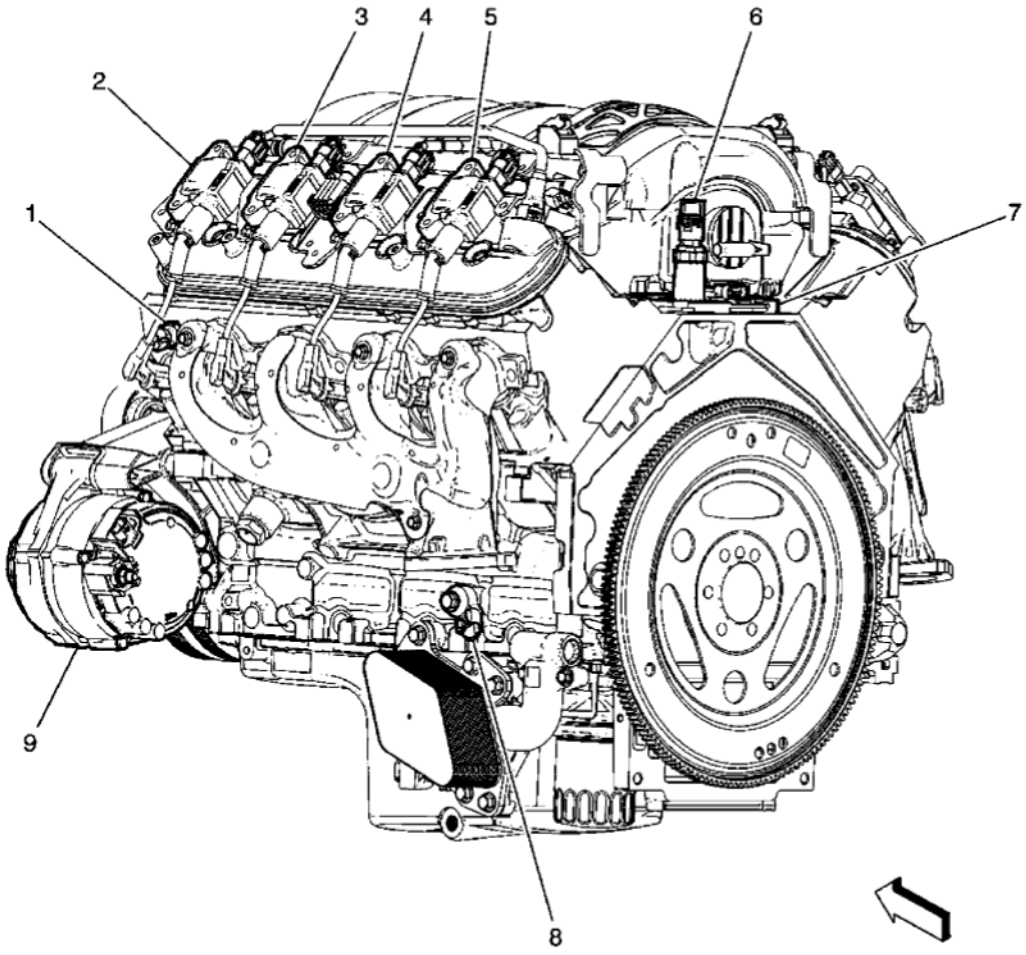


Fig. 2: Left Rear Of Engine Components (L99 Or LS3)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	B34 Engine Coolant Temperature Sensor
2	T8A Ignition Coil 1
3	T8C Ignition Coil 3
4	T8E Ignition Coil 5

cardiagn.com

5	T8G Ignition Coil 7
6	B37B Engine Oil Pressure Sensor
7	Q43 Valve Lifter Oil Manifold Assembly (L99)
8	B68A Knock Sensor 1
9	G13 Generator

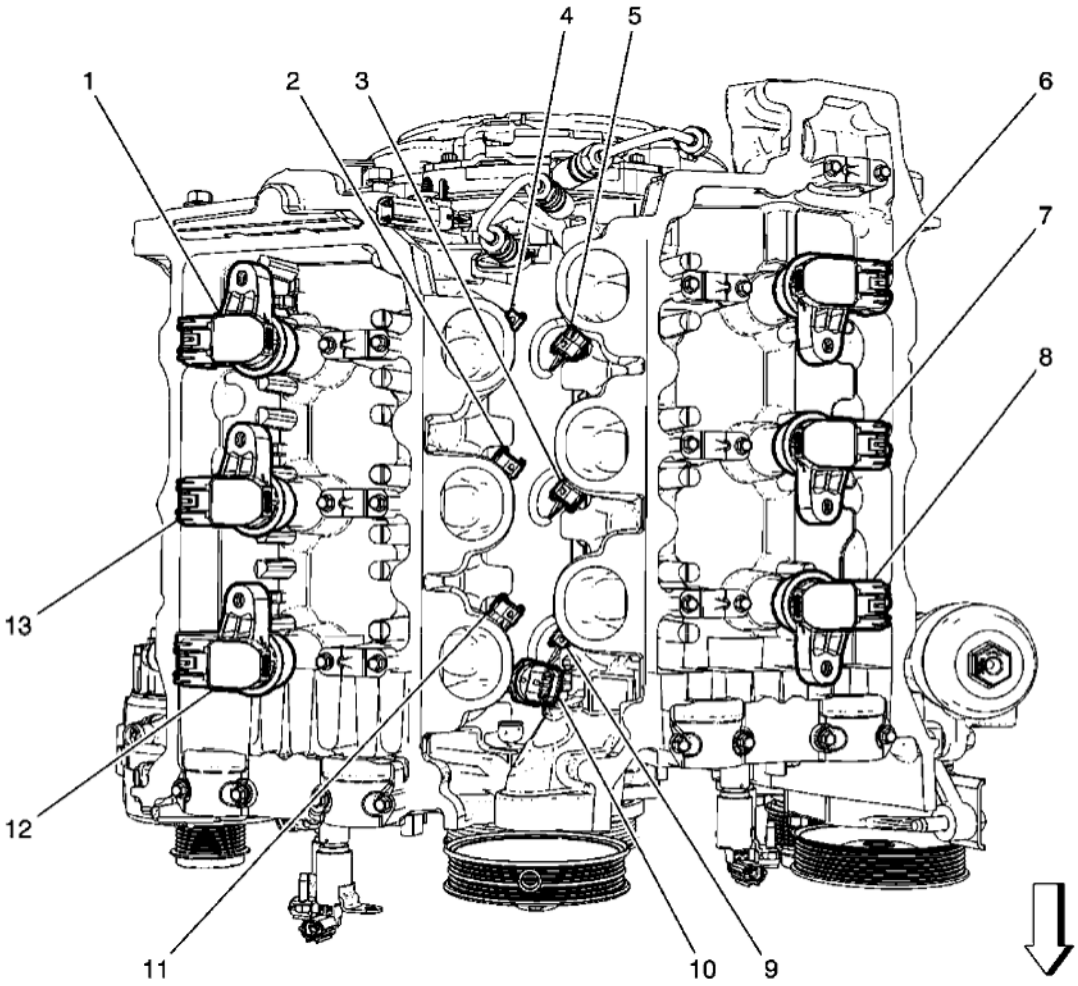


Fig. 3: Top Of Engine Components (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	T8E Ignition Coil 5
2	Q17C Fuel Injector 3
3	Q17D Fuel Injector 4
4	Q17E Fuel Injector 5

cardiagn.com

5	Q17F Fuel Injector 6
6	T8F Ignition Coil 6
7	T8D Ignition Coil 4
8	T8B Ignition Coil 2
9	Q17B Fuel Injector 2
10	B47B Fuel Rail Pressure Sensor
11	Q17A Fuel Injector 1
12	T8A Ignition Coil 1
13	T8C Ignition Coil 3

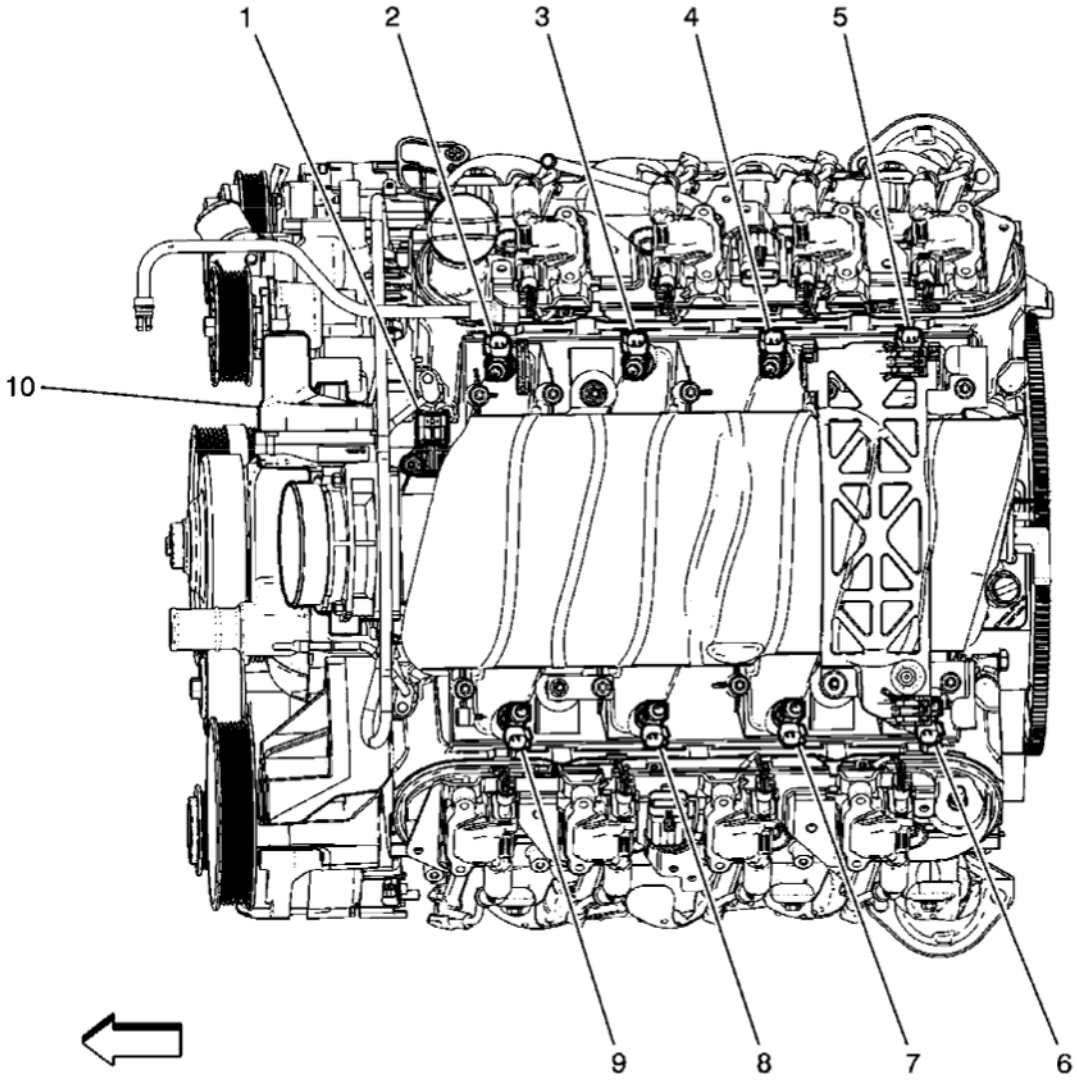


Fig. 4: Top Of Engine Components (L99 Or LS3)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Callout	Component Name
1	B74 Manifold Absolute Pressure Sensor
2	Q17B Fuel Injector 2
3	Q17D Fuel Injector 4
4	Q17F Fuel Injector 6
5	Q17H Fuel Injector 8
6	Q17G Fuel Injector 7
7	Q17E Fuel Injector 5
8	Q17C Fuel Injector 3
9	Q17A Fuel Injector 1
10	Q38 Throttle Body

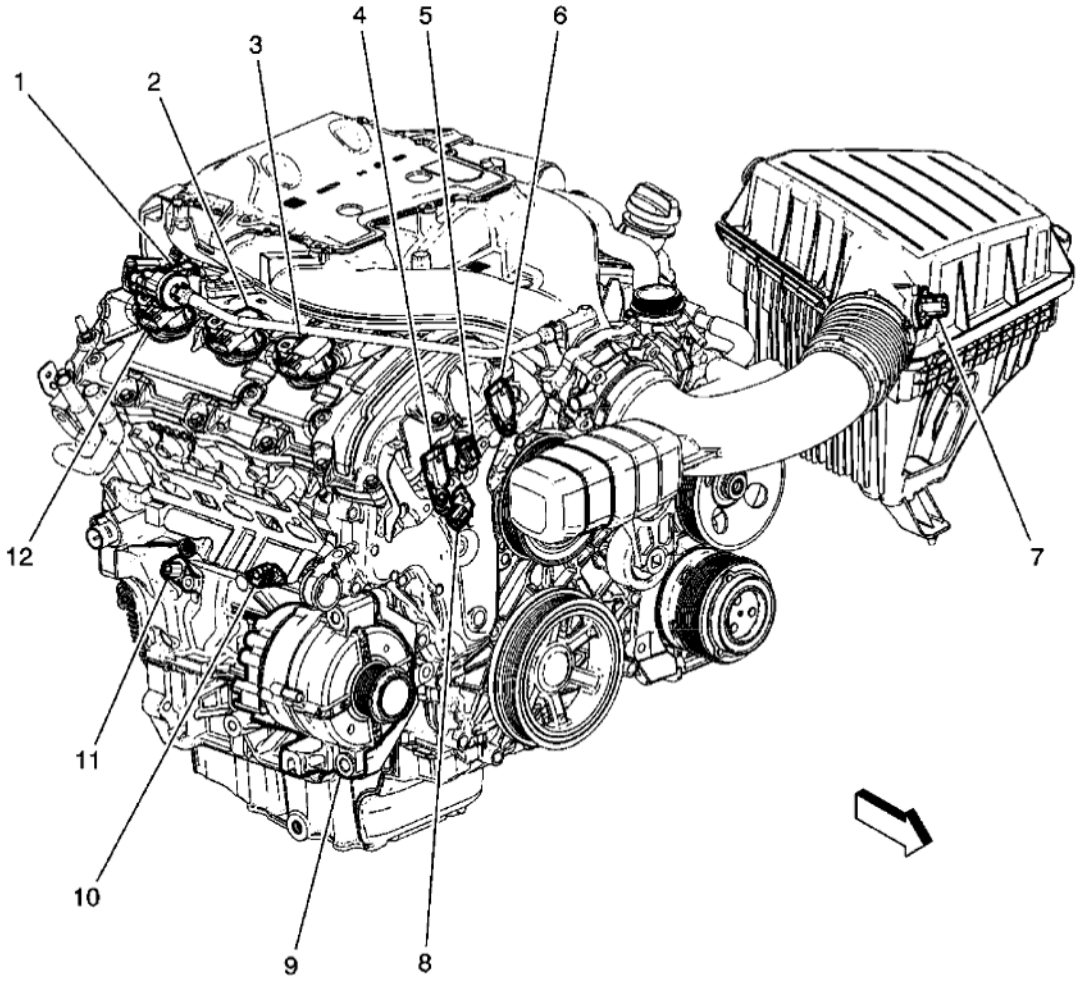


Fig. 5: Right Front Of Engine Components (LLT)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Callout	Component Name
1	Q12 Evaporative Emission (EVAP) Purge Solenoid Valve
2	T8C Igntion Coil 3
3	T8A Ignition Coil 1
4	B23A Camshaft Position Sensor - Bank 1 Exhaust
5	Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake
6	B23B Camshaft Position Sensor - Bank 1 Intake
7	B75B Mass Air Flow/Intake Air Temperature Sensor
8	Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust
9	G13 Generator
10	B68A Knock Sensor 1
11	B26 Crankshaft Position Sensor
12	T8E Ignition Coil 5

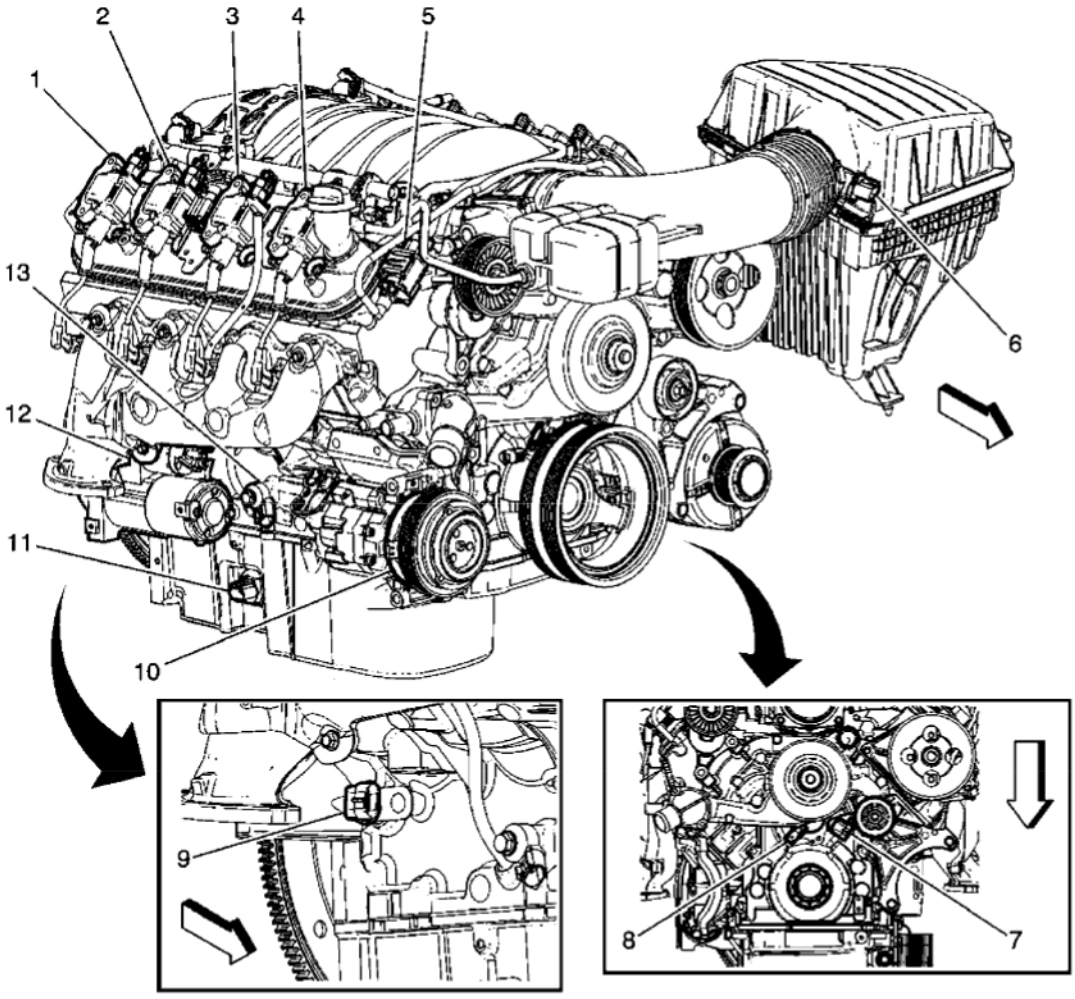


Fig. 6: Right Front Of Engine Conponents (L99 Or LS3)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	T8H Ignition Coil 8
2	T8F Ignition Coil 6
3	T8D Ignition Coil 4
4	T8B Ignition Coil 2
5	Q12 Evaporative Emission (EVAP) Purge Solenoid Valve
6	B75B Mass Air Flow/Intake Air Temperature Sensor
7	B23 Camshaft Position Sensor
8	Q6 Camshaft Position Actuator Solenoid Valve (L99)
9	B26 Crankshaft Position Sensor
10	Q2 A/C Compressor Clutch
11	B35C Engine Oil Level and Temperature Sensor
12	M64 Starter Motor
13	B68B Knock Sensor 2

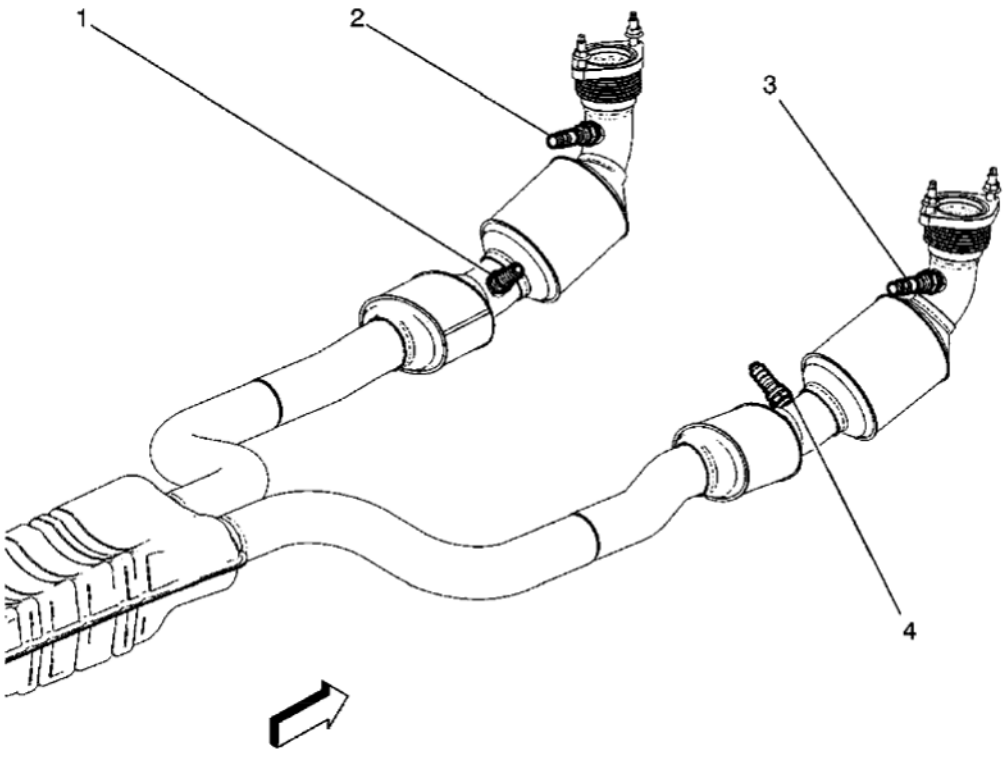


Fig. 7: Front Of Exhaust System Components

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	B52F Heated Oxygen Sensor Bank 2 Sensor 2 (LLT) B52D Heated Oxygen Sensor Bank 1 Sensor 2 (L99/LS3)
2	B52E Heated Oxygen Sensor Bank 2 Sensor 1 (LLT) B52C Heated Oxygen Sensor Bank 1 Sensor 1 (L99/LS3)
3	B52C Heated Oxygen Sensor Bank 1 Sensor 1 (LLT) B52E Heated Oxygen Sensor Bank 2 Sensor 1 (L99/LS3)
4	B52D Heated Oxygen Sensor Bank 1 Sensor 2 (LLT) B52F Heated Oxygen Sensor Bank 2 Sensor 2 (L99/LS3)

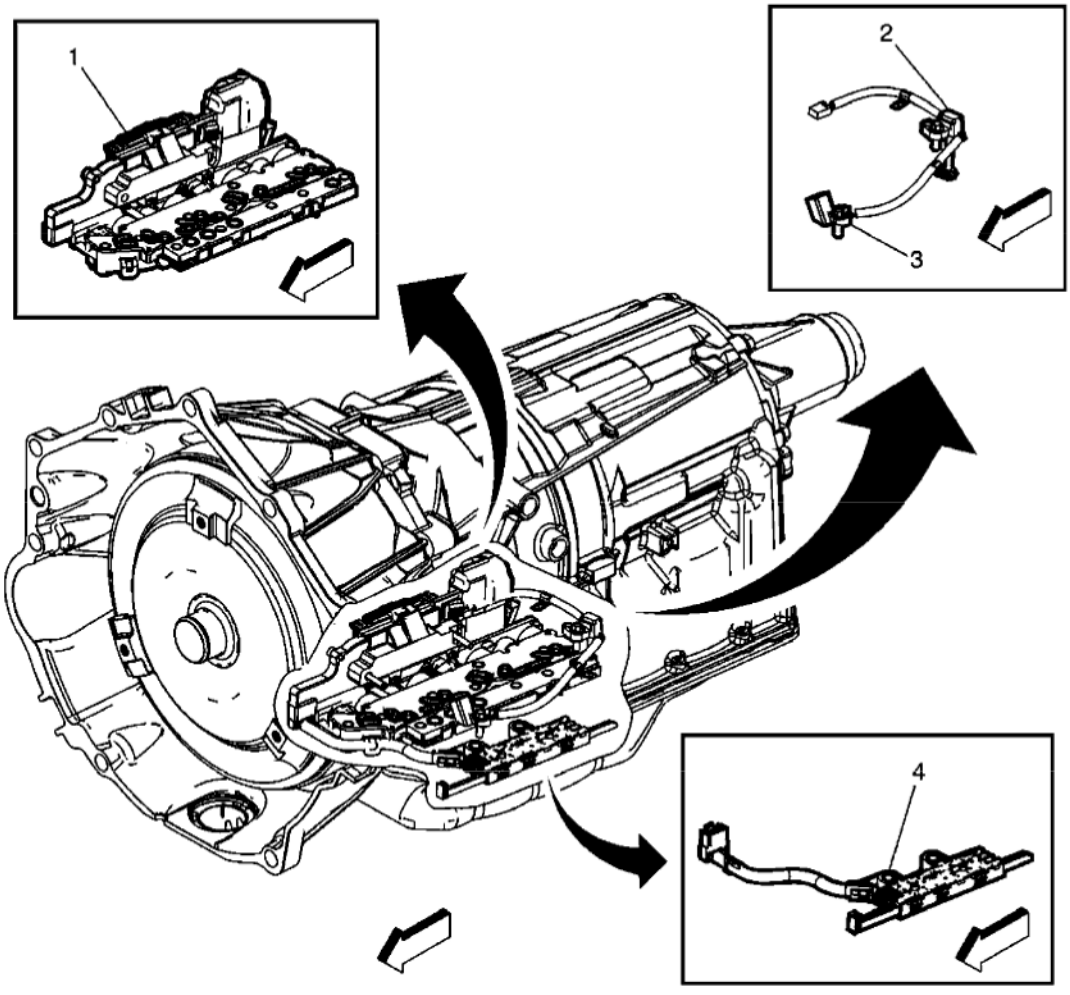


Fig. 8: Transmission Electronic Components (MYB Or MYC)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name

cardiagn.com

1	Q8 Control Solenoid Valve Assembly
2	B14A Transmission Output Shaft Speed Sensor
3	B14C Transmission Input Shaft Speed Sensor
4	B15 Transmission Internal Mode Switch

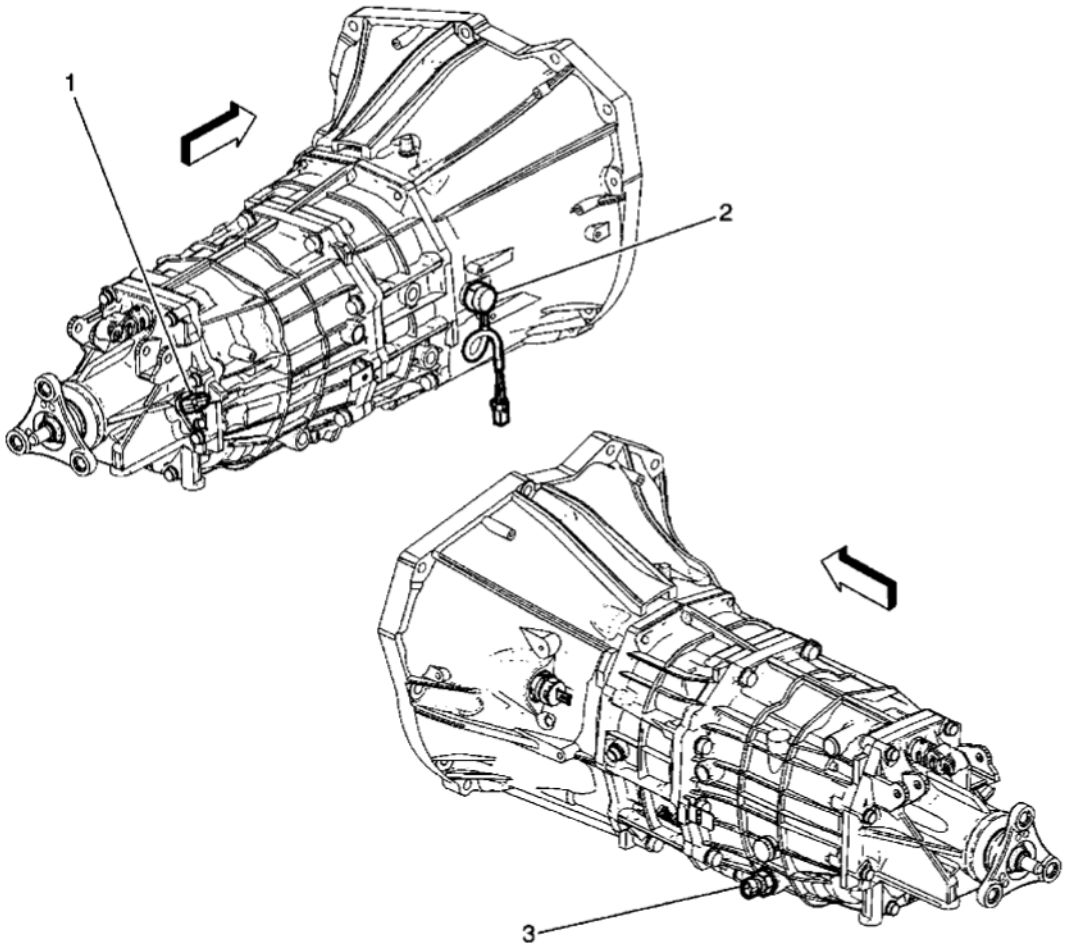


Fig. 9: Rear Of Transmission Components (MV5)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	B115 Vehicle Speed Sensor
2	B16 Backup Lamp Switch
3	B173 Manual Transmission Fluid Temperature Sensor

cardiagn.com

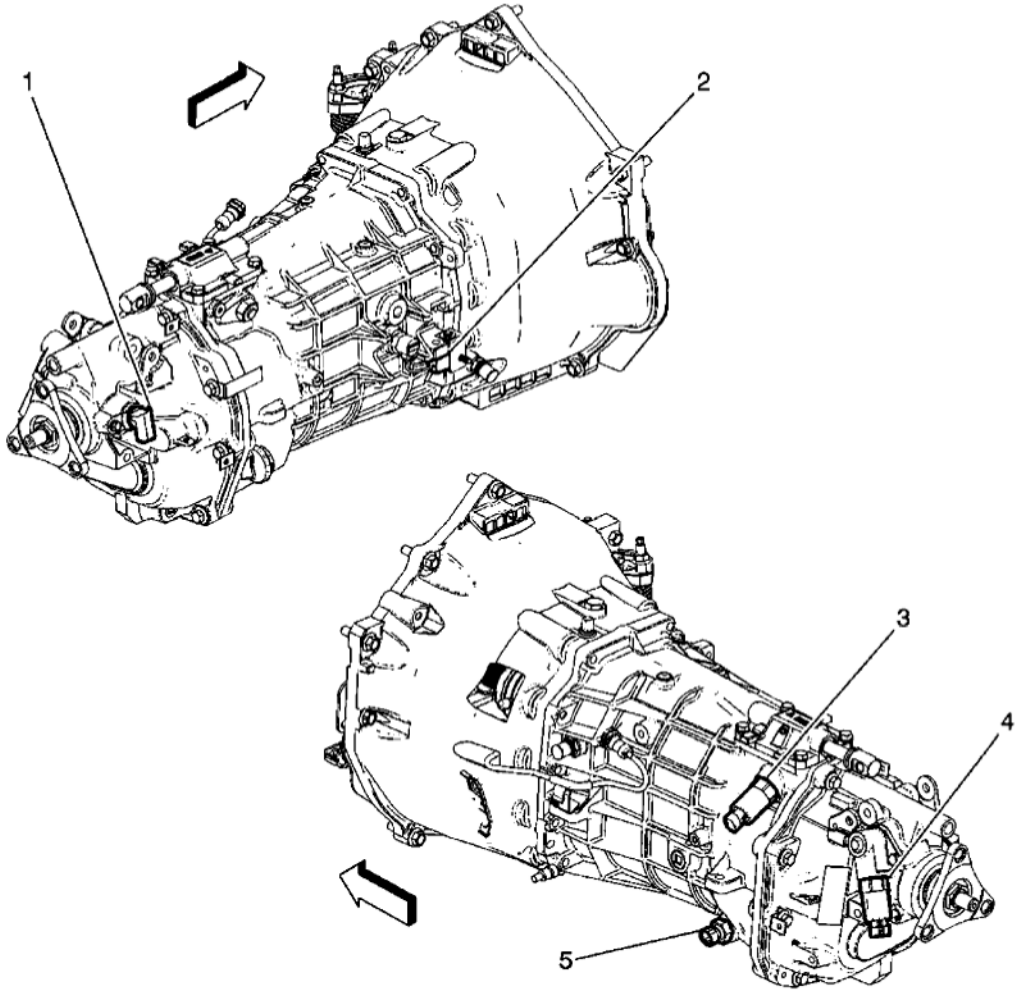


Fig. 10: Rear Of Transmission (M10)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	B115 Vehicle Speed Sensor
2	B16 Backup Lamp Switch
3	Q34 Skip Shift Solenoid Actuator
4	M47 Reverse Inhibit Solenoid Actuator
5	B173 Manual Transmission Fluid Temperature Sensor

cardiagn.com

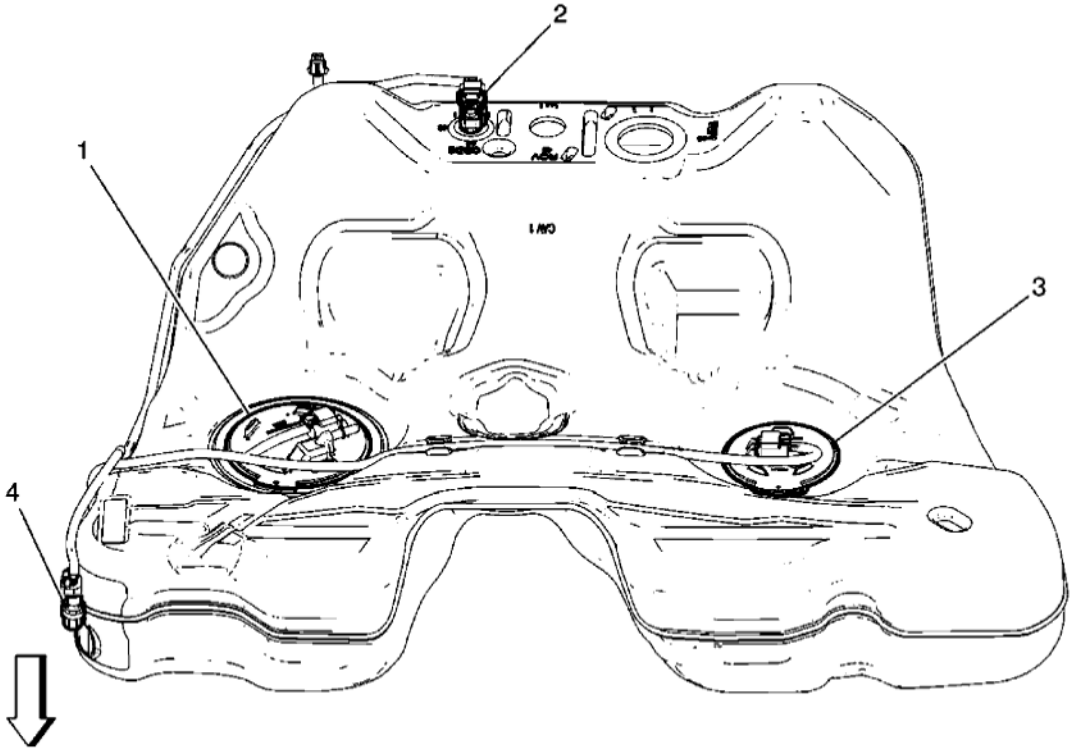


Fig. 11: Under Rear Of Vehicle Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	A7 Fuel Pump and Level Sensor Assembly
2	B150 Fuel Tank Pressure Sensor
3	B46B Fuel Level Sensor - Secondary
4	B47 Fuel Pressure Sensor

cardiagn.com

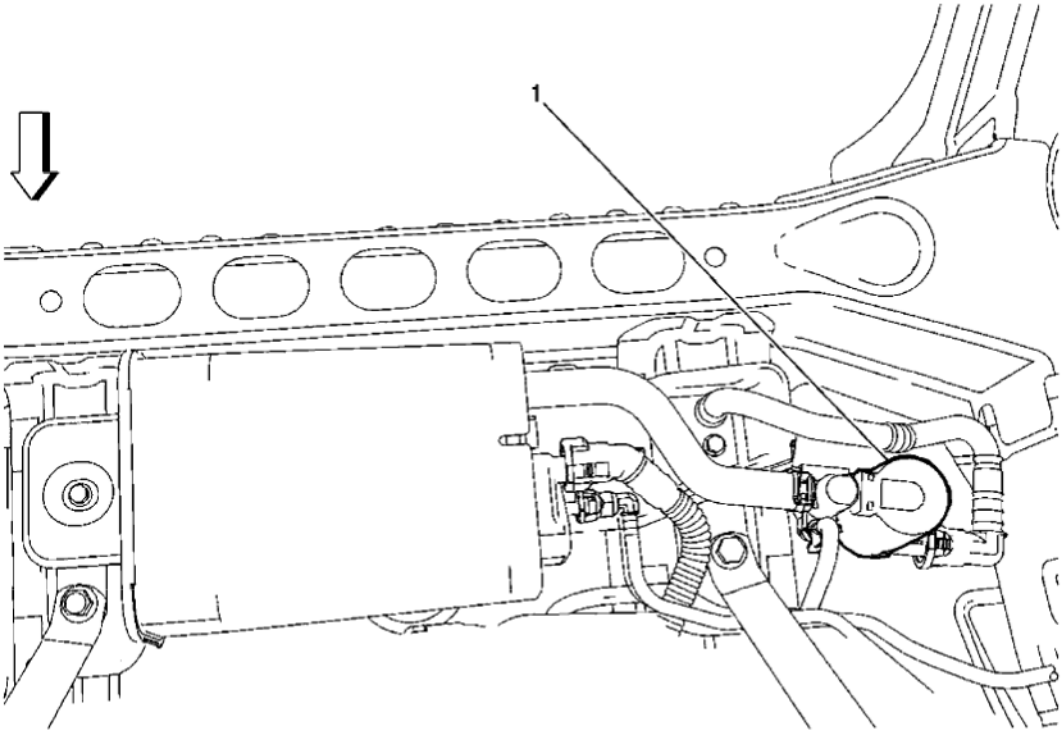


Fig. 12: Above Rear Differential
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Q13 Evaporative Emission (EVAP) Vent Solenoid Valve

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

WHEELS/VEHICLE UNDERBODY COMPONENT VIEWS

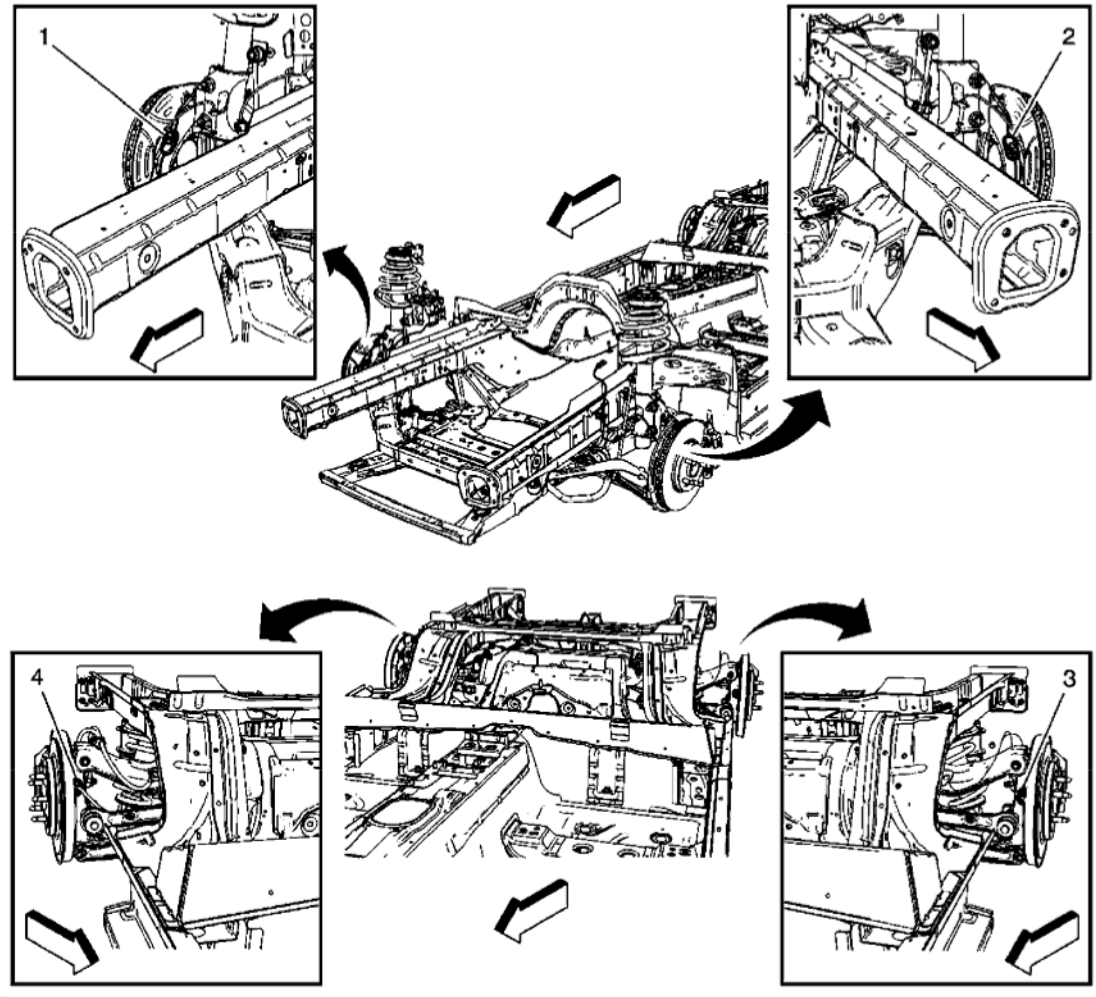


Fig. 1: Wheel Speed Sensors
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	B5RF Wheel Speed Sensor - Right Front
2	B5LF Wheel Speed Sensor - Left Front
3	B5LR Wheel Speed Sensor - Left Rear
4	B5RR Wheel Speed Sensor - Right Rear

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Camaro

DESCRIPTION AND OPERATION

ELECTRONIC PARK LOCK DESCRIPTION AND OPERATION

If the vehicle is equipped with automatic transmission and a floor mounted console gear shift, it has an electronic park lock system (EPL). The EPL system purpose is to prevent the ignition key from being turned to the OFF position when the transmission is in any position other than PARK and the vehicle may still be moving. The EPL system consists of an ignition lock cylinder solenoid, and a park position switch that is located in the A/T shift lock control switch. The ignition lock cylinder solenoid contains a pin that is spring loaded to mechanically prevent the ignition key cylinder from being turned to the lock position when the vehicle transmission is not in the PARK position. If vehicle power is lost, and/or the transmission is not in the Park position the operator will not be able to turn the ignition key to the lock position and will not be able to remove the ignition key from the column.

POWER MODE DESCRIPTION AND OPERATION

Serial Data Power Mode Master

Power to many of this vehicles circuits is controlled by the module that is designated the power mode master. This vehicles power mode master is the body control module (BCM). The ignition switch is a low current switch with multiple discrete ignition switch signals to the power mode master for determination of the power mode that will be sent over the serial data circuits to the other modules that need this information. The power mode master will also activate relays and other direct outputs of the power mode master as needed. The power mode master determines which power mode (Off, Accessory, Run, Crank Request) is required, and reports this information to other modules via serial data. Modules which have switched voltage inputs may operate in a default mode if the power mode serial data message does not match what the individual module can see from its own connections.

The power mode master receives ignition switch signals to identify the operators desired power mode. The Power Mode Parameters table below illustrates the correct state of these input parameters (circuits) in correspondence to the ignition switch position:

Power Mode Parameters

Ignition Switch Position	Power Mode Transmitted	Ign. Off / Run / Crank (Off / Run Crank Voltage Circuit)	Ignition Accessory / Run (Accessory Voltage Circuit)	Ignition Run / Crank (Ignition 1 Voltage Circuit)
Off Key Out	Off	Key Out/ACC	Inactive	Inactive
Off Key IN	Off	Key In/Off	Inactive	Inactive
Accessory	Accessory	Key Out/ACC	Active	Inactive
Run	Run	Run	Active	Active
Start	Crank Request	Crank	Inactive	Active

cardiagn.com

Relay Controlled Power Mode

The BCM uses the discrete ignition switch inputs Off/Run/Crank Voltage, Accessory Voltage, and Ignition 1 Voltage, to distinguish the correct power mode. The BCM, after determining the desired power mode, will activate the appropriate relays for that power mode.

The retained accessory power relay remains on for a timed period after the Ignition key is removed. Refer to **Retained Accessory Power Description and Operation** for more information on the retained accessory power function.

BCM Awake/Sleep States

The BCM is able to control or perform all of the BCM functions in the awake state. The BCM enters the sleep state when active control or normal monitoring of system functions has stopped and a time limit has passed. The BCM must detect certain wake-up inputs before entering the awake state. The BCM monitors for these inputs during the sleep state.

The BCM will enter the awake state if any of the following wake-up inputs are detected:

- Activity on the serial data line
- Detection of a battery reconnect.
- Any door open signal
- Headlamps ON.
- Key-in-ignition
- Ignition ON.
- Park lamps ON.
- Keyless entry or remote start message

The BCM will enter a sleep state when all of the following conditions exist:

- The ignition switch is OFF, key out.
- No activity exists on the serial data line.
- No outputs are commanded.
- No delay timers are actively counting.
- No wake-up inputs are present.

If all these conditions are met, the BCM will enter a low power or sleep condition.

RETAINED ACCESSORY POWER DESCRIPTION AND OPERATION

Retained Accessory Power

The body control module (BCM) monitors the ignition switch position, battery condition, and each door ajar/open switch status to determine whether the retained accessory power should be initiated or terminated. Retained accessory power is controlled by two different methods; relay control and serial data. Some modules

cardiagn.com

receive a retained accessory power message from the BCM over the serial data circuits. Serial data controlled retained accessory power is deactivated as required by their modules retained accessory power mode operation. Other subsystems are activated directly by the BCM through a relay. Components and systems that are active in retained accessory power are also activated anytime the ignition is any position other than OFF regardless of the door switch signals.

Relay Controlled Retained Accessory Power

The BCM keeps the relay energized during all power modes, except Off-Awake and Crank. The relay is also energized for approximately 10 minutes after shutting the ignition OFF and removing the key, providing no door is opened.

Relay controlled retained accessory power will end when one of the following conditions is met:

- The BCM receives an input from any door ajar or open switch indicating the opening of any door after the ignition key is out of the ignition.

NOTE: If the BCM is receiving any door ajar or open signal from those switches when the ignition key is turned OFF, retained accessory power will not initiate.

- The BCM internal timer for the retained accessory power expires after approximately 10 minutes.
- The BCM detects a decrease in battery capacity below a prescribed limit.

Systems powered by the accessory relay during the retained accessory power mode are as follows:

- Accessory power outlet center console compartment
- Cigar Lighter

Serial Data Controlled Retained Accessory Power

Retained accessory power systems controlled by serial data are as follows:

Radio

Radio retained accessory power activation / termination is the same as relay operation with one exception; the only door switch that will turn off the radio during retained accessory power is the driver door open switch.

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Camaro

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
DTC B1370-B1379, B1380-B1389, or B1440-B1443	B1370 01: Control Module Ignition On and Start Circuit Short to Battery B1370 04: Control Module Ignition On and Start Circuit Open B1380 01: Control Module Ignition Accessory Circuit Short to Battery B1380 04: Control Module Ignition Accessory Circuit Open B1441 01: Control Module Ignition Off, Run, and Start Circuit Short to Battery B1441 04: Control Module Ignition Off, Run, and Start Circuit Open
DTC B1445	B1445 02: Control Module Voltage Output Circuit Short to Ground
DTC B144B	B144B 02: RUN/CRNK Relay Circuit Short to Ground

DTC B1370-B1379, B1380-B1389, OR B1440-B1443

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC B1370 01

Control Module Ignition On and Start Circuit Short to Battery

DTC B1370 04

Control Module Ignition On and Start Circuit Open

DTC B1380 01

Control Module Ignition Accessory Circuit Short to Battery

DTC B1380 04

Control Module Ignition Accessory Circuit Open

cardiagn.com

DTC B1441 01

Control Module Ignition Off, Run, and Start Circuit Short to Battery

DTC B1441 04

Control Module Ignition Off, Run, and Start Circuit Open

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	B1370 04, B1380 04	B1370 04, B1380 04	-	-
Ignition Terminal 1	B1370 04, B1380 04	B1370 04, B1380 04	B1370 01	-
Ignition Terminal 3	B1370 04, B1380 04	B1380 04	B1380 01	-
Ignition Terminal 4	B1370 04, B1380 04, B1441 04	B1441 04	B1441 01	-
5 V REF	-	1	-	-
1. Power Mode Mismatch				

Circuit/System Description

The vehicle power mode master is the body control module (BCM). The ignition switch is a low current switch with multiple discrete circuits to the BCM. The BCM logic uses the ignition switch positions to identify the operator's desired power mode and activate specific discrete signals, and serial data messages for the operation of different subsystems as necessary. Other modules which have switched voltage inputs may operate in a default mode if the power mode master serial data message does not match what the individual module can detect from its own connections.

The power mode master will activate relays and other direct outputs of the power mode master as needed according to the calculated power mode. Some relays controlled by the BCM are switched ignition voltage outputs that are pass through circuits within the BCM directly from the ignition switch. If these circuits short to ground, the B+ circuit fuse to the ignition switch will open.

Conditions for Running the DTC

B1370 01, B1370 04

Ignition switch is in the RUN or CRANK positions.

B1380 01, B1380 04

Ignition switch is in the RUN or ACCESSORY positions.

cardiagn.com

B1441 01, B1441 04

Ignition switch is in the CRANK position.

Conditions for Setting the DTC

B1370 01

Ignition circuit is shorted to voltage.

B1370 04

- Ignition circuit is open.
- Ignition, accessory, or off/run/crank circuit shorted to ground.
- B+ circuit of the ignition switch is open or shorted to ground.
- Ignition relay control circuit open, including relay coil and ground.

B1380 01

Ignition, accessory circuit is shorted to voltage.

B1380 04

- Ignition, accessory circuit is open.
- Ignition, accessory, or off/run/crank circuit shorted to ground.
- B+ circuit of the ignition switch is open or shorted to ground.

B1441 01

Ignition, off/run/crank signal circuit is shorted to voltage.

B1441 04

Ignition, off/run/crank signal circuit is open.

Actions Taken When the DTC Sets

- The BCM operates in a fail-safe power mode dependent on the last valid power mode detected and the state of the engine run flag data on the serial data communications circuits.
- The other modules on the vehicle operate in a fail-safe power mode dependent on the last valid power mode transmitted by the BCM and the state of the engine run flag on the serial data communications circuits.

Conditions for Clearing the DTC

- The condition responsible for setting the DTC no longer exists.
- A history DTC will clear once 50 consecutive malfunction-free ignition cycles have occurred.

cardiagn.com

Reference Information

Schematic Reference

- Body Control System Schematics
- Power Distribution Schematics
- Power Moding Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Power Mode Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

With a scan tool, access Power Mode data display list and compare all parameters listed with the corresponding ignition key position. The Power Mode Parameters table below illustrates the correct state of these input parameters in correspondence to the S39 ignition switch position. The circuits which the individual parameters are related to are in parentheses.

Power Mode Parameters

Ignition Switch Position	5 V IGN (Ignition Switch, Terminal 4 and 6)	Accessory (Ignition Switch, Terminal 3)	Run/Crank (Ignition Switch, Terminal 1)
Off Key Out	Key Out/ACC	Inactive	Inactive
Off Key IN	Key In/Off	Inactive	Inactive
Accessory	Key Out/ACC	Active	Inactive
Run	Run	Active	Active
Start	Crank Request	Inactive	Active

Circuit/System Testing

cardiagn.com

1. Disconnect the harness connector at the S39 ignition switch.
2. Verify that a test lamp illuminates between B+ circuit terminal 2 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal and the B+ circuit fuse is open, test the ignition circuits listed below for a short to ground.

NOTE: **To help isolate a short to ground, it may be necessary to disconnect modules that are connected to the following circuits:**

- terminal 1
- terminal 3
- terminal 4
- terminal 6

3. Ignition ON, test for 4.8-5.2 V between the 5 V reference circuit terminal 6 and ground.
    - If less than 4.8 V, test the 5 V reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
    - If greater than 5.2 V, test the 5 V reference circuit for a short to voltage. If the circuit tests normal, replace the BCM.
4. Verify the scan tool ignition 5 V reference signal is less than 4.2 V.
    - If greater than 4.2 V, test the ignition signal circuit terminal 4 for a short to voltage. If the circuit tests normal, replace the BCM.
5. Install a 3 A fused jumper wire between the ignition signal circuit terminal 4 and the 5 V reference circuit terminal 6. Verify the scan tool Ignition Signal Voltage parameter is greater than 4.2 V.
    - If less than 4 V, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
6. Connect the harness connector at the S39 ignition switch.
7. Ignition OFF, key out, disconnect the X3 harness connector at the K9 BCM. Verify that a test lamp does not illuminate between the ignition circuit terminals listed below and ground:
    - terminal 5
    - terminal 6
    - terminal 15
    - terminal 22
    - If the test lamp illuminates, test the ignition circuits for a short to voltage. If the circuit tests normal, replace the S39 ignition switch.
8. Ignition in the ACCESSORY position, verify that a test lamp illuminates between the terminal 5 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for an open/high resistance. If the circuit tests normal, replace the S39 ignition switch.
9. Ignition in the CRANK position, verify that a test lamp illuminates between terminal 6 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for an open/high resistance. If the circuit

cardiagn.com

tests normal, replace the S39 ignition switch.

10. If all of the circuits test normal, replace the K9 BCM.

Component Testing

Ignition Switch

1. Ignition OFF, disconnect the harness connector at the S39 ignition switch.
2. Verify the resistance between the terminals listed below match for each S39 ignition switch position.
   - If not the specified value, replace the S39 ignition switch.

Resistance Test

Ignition Switch Position	Terminals 1 and 2	Terminals 2 and 3	Terminals 2 and 4	Terminals 2 and 6	Terminals 4 and 6
Off Key Out	Infinite	Infinite	Infinite	Infinite	Infinite
Off Key IN	Infinite	Infinite	< 5.0 ohms	Infinite	Infinite
Accessory	Infinite	< 5.0 ohms	Infinite	Infinite	Infinite
Run	< 5.0 ohms	< 5.0 ohms	Infinite	Infinite	< 5.0 ohms
Start	< 5.0 ohms	Infinite	Infinite	Infinite	1275-1325 ohms

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Ignition and Start Switch Replacement**
- **Control Module References** for BCM replacement, setup, and programming

DTC B1445

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC B1445 02

Control Module Voltage Output Circuit Short to Ground

Diagnostic Fault Information

	Short to	Open/High	Short to	Signal

cardiagn.com

Circuit	Ground	Resistance	Voltage	Performance
RAP/ACCY Relay Switch B+	1	1	1	-
RAP/ACCY Relay Control	B1445 02	1	1	-
RAP/ACCY Relay Ignition	1	1	1	-
RAP/ACCY Relay Ground	-	1	-	-
1. Retained Accessory Power Malfunction				

Circuit/System Description

The body control module (BCM) controls the wired accessory power components by applying voltage to the ignition voltage circuit at harness connector X4 terminal 12. Voltage is applied when the ignition switch is in the ACCESSORY or the ON position.

Conditions for Running the DTC

- The system voltage is between 9-16 V.
- The DTC can only set when the output is actively being requested by the module. Refer to Circuit/System Description for specific conditions.

Conditions for Setting the DTC

The DTC will set only when the module requests the output and there is a short to ground in the ignition voltage circuit.

Action Taken When the DTC Sets

The module output driver will be shut down and not supply voltage to the circuit.

Conditions for Clearing the DTC

- The current DTC will clear when the malfunction is no longer present.
- A history DTC clears when the module ignition cycle counter reaches the reset threshold of 50, without a repeat of the malfunction.

Reference Information

Schematic Reference

Power Distribution Schematics

Power Moding Schematics

Connector End View Reference

Component Connector End Views

cardiagn.com

Description and Operation

Retained Accessory Power Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the KR70 RAP/ACCY relay.
2. Test for less than 10 ohms between the ground control circuit terminal 86 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Verify that a test lamp illuminates between the B+ circuit terminal 30 and ground.
    - If the test does not illuminate, test the B+ circuit for short to ground or an open/high resistance.
4. Connect a test lamp between the control circuit terminal 85 and the ground circuit terminal 86.
5. Command the RAP/ACCY relay ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the command states.
    - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
    - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
6. Connect the RAP/ACCY relay. Disconnect the harness connector at the center console accessory power outlet.
7. Connect a test lamp between the ignition circuit terminal A and ground.
8. Command the RAP/ACCY relay ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the command states.
    - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, test or replace the KR70 RAP/ACCY relay.
    - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the KR70 RAP/ACCY relay.

Component Testing

1. Ignition OFF, disconnect the KR70 RAP/ACCY relay.
2. Test for 70-150 ohms between terminals control circuit terminal 85 and ground terminal 86.

cardiagn.com

- If not within the specified range, replace the KR70 RAP/ACCY relay.

3. Test for infinite resistance between the following terminals:
   - 30 and 86
   - 30 and 87
   - 30 and 85
   - 85 and 87
   - If not the specified value, replace the KR70 RAP/ACCY relay.
4. Install a 3 A fused jumper wire between relay terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
   - If greater than the specified range, replace the KR70 RAP/ACCY relay.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Relay Replacement (Attached to Wire Harness)** or **Relay Replacement (Within an Electrical Center)**
- **Control Module References** for BCM replacement, setup, and programming

DTC B144B

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptor

DTC B144B 02

RUN/CRNK Relay Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
RUN/CRNK Relay Control	B144B 02	1	2	-
1. No Start. 2. Vehicle will start and continue to run after the ignition key is removed.				

Circuit/System Description

The body control module (BCM) controls the RUN/CRNK relay through the control circuit by applying voltage

cardiagn.com

to the circuit. The ignition RUN/CRNK is energized when the ignition switch is in ON or START, or when a remote start is requested.

Conditions for Running the DTC

- The system voltage is between 9-16 V.
- The DTC can only run when the output is activated.

Conditions for Setting the DTC

The BCM detects a short to ground in the RUN/CRNK relay control circuit.

Action Taken When the DTC Sets

The module output driver will be shut down and not supply voltage to the RUN/CRNK relay control circuit.

Conditions for Clearing the DTC

- The current DTC will clear when the module request for the output is removed or the malfunction is no longer present.
- A history DTC clears when the module ignition cycle counter reaches the reset threshold of 50, without a repeat of the malfunction.

Diagnostic Aids

Short to voltage in the RUN/CRNK relay control circuit will cause the malfunction indicator lamp (MIL) to illuminate with the ignition key OFF, and the engine will remain running if started and the ignition key is removed.

Reference Information

Schematic Reference

- **Body Control System Schematics**
- **Power Distribution Schematics**

Connector End View Reference

Component Connector End Views

Description and Operation

Power Mode Description and Operation

Electrical Information Reference

- **Circuit Testing**

cardiagn.com

- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the KR73 RUN/CRNK relay.
2. Connect a test lamp between the relay control circuit terminal 85 and terminal 86.
3. Cycle the ignition ON and OFF. The test lamp should turn ON and OFF when changing S39 ignition switch positions.
    - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
    - If the test lamp is always OFF, test the control circuit for a short to ground or open/high resistance. If the circuit tests normal, replace the K9 BCM.
4. If all circuits test normal, test or replace the KR73 RUN/CRNK relay.

Component Testing

1. Ignition OFF, disconnect the KR73 RUN/CRNK relay.
2. Test for 70-150 ohms between terminals 85 and 86.
    - If the resistance is not within the specified range, replace the KR73 RUN/CRNK relay.
3. Test for infinite resistance between the following terminals:
    - 30 and 86
    - 30 and 87
    - 30 and 85
    - 85 and 87
    - If less than specified, replace the KR73 RUN/CRNK relay.
4. Install a 3 A fused jumper wire between relay terminal 86 and 12 V. Install a jumper wire between relay terminal 85 and 86. Measure for less than 5 ohms between terminals 87 and 85.
    - If greater than specified, replace the KR73 RUN/CRNK relay.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Relay Replacement (Attached to Wire Harness)** or **Relay Replacement (Within an Electrical Center)**
- **Control Module References** for BCM replacement, setup, and programming

cardiagn.com

SYMPTOMS - WIRING SYSTEMS

NOTE: The following steps must be completed before using the symptom tables.

1. Perform the **Diagnostic System Check - Vehicle** before using the symptom tables in order to verify that all of the following are true:
   - There are no DTCs set.
   - The control modules can communicate via the serial data links.
2. Review the system operation in order to familiarize yourself with the system functions. Refer to:
   - **Power Mode Description and Operation**
   - **Retained Accessory Power Description and Operation**

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the systems. Refer to **Checking Aftermarket Accessories**.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections**.

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- **Power Mode Mismatch**
- **Retained Accessory Power Malfunction**

IGNITION CAN/CANNOT BE TURNED OFF WITH TRANSMISSION IN ANY GEAR

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Accessory Voltage	2	2	-	-
Steering Column Key Cylinder				

cardiagn.com

Lock Solenoid Control	2	1	1	-
Park Position Switch Ground	-	2	-	-
1. Ignition key will not turn to OFF with vehicle in park. 2. Ignition key will turn to OFF with vehicle out of park.				

Circuit/System Description

If the vehicle is equipped with automatic transmission and a floor mounted console gear shift, it has an electronic park lock (EPL) system. The EPL system purpose is to prevent the ignition key from being turned to the OFF position when the transmission is in any position other than PARK and the vehicle may still be moving. The EPL system consists of an ignition lock cylinder solenoid, and a park position switch that is located in the A/T shift lock control switch. The ignition lock cylinder solenoid contains a pin that is spring loaded to mechanically prevent the ignition key cylinder from being turned to the lock position when it is not energized. The park position switch receives voltage from the body control module (BCM) when the ignition is turned ON. When the transmission shift selector is in PARK, the park position switch closes and energizes the ignition lock cylinder solenoid (actuator) retracting the pin, allowing the ignition switch to be turned OFF. If vehicle power is lost, and/or the transmission is not in the Park position the operator will not be able to turn the ignition key to the lock position and will not be able to remove the ignition key from the column.

Diagnostic Aids

Verify that the transmission shift selector indicator matches the position of the gear shift lever while selecting between the Park, Reverse, Drive and Low positions.

Reference Information

Schematic Reference

Ignition Lock Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Electronic Park Lock Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Circuit/System Verification

cardiagn.com

1. Ignition OFF, with the gear shift selector in the PARK position, turn the ignition to the ON position. The automatic transmission shift lock control solenoid should allow the ignition to be turned to the ON position.
2. Ignition ON, with the gear shift selector in any position except the PARK position, turn the ignition to the OFF and to the LOCK positions. The automatic transmission shift lock control solenoid should not allow the ignition to be turned to the LOCK position.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the B81B park position switch.
2. Test for less than 30 ohms between the ground circuit terminal 1 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition OFF, connect the harness connector at the B81B park position switch.
4. Disconnect the harness connector at the M93 ignition cylinder lock control actuator.
5. Ignition ON, verify that a test lamp illuminates between the ignition circuit terminal 1 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
6. With the gear shift selector in any position except the PARK position, verify that a test lamp does not illuminate between the ignition circuit terminal 1 and the control circuit terminal 2.
    - If the test lamp illuminates, test the control circuit for a short to ground. If the circuit tests normal, test or replace the B81B park position switch.
7. With the gear shift selector in the PARK position, verify that a test lamp illuminates between the ignition circuit terminal 1 and the control circuit terminal 2.
    - If the test lamp does not illuminate, test the control circuit for a short to voltage or open/high resistance. If the circuit tests normal, test or replace the B81B park position switch.
8. If all circuits test normal, test or replace the M93 ignition cylinder lock control actuator.

Component Testing

Park Switch

1. Ignition OFF, disconnect the harness connector at the B81B park position switch.
2. Test for infinite resistance between the control terminal 3 and the ground terminal 1 with the switch in the open position.
    - If not the specified value, replace the B81B park position switch.
3. Test for less than 2 ohms between the control terminal 3 and the ground terminal 1 with the switch in the closed position.
    - If greater than the specified value, replace the B81B park position switch.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

cardiagn.com

- **Ignition and Start Switch Replacement**
- **Control Module References** for the BCM replacement, setup, and programming

POWER MODE MISMATCH

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC B1370 01

Control Module Ignition On and Start Circuit Short to Battery

DTC B1370 04

Control Module Ignition On and Start Circuit Open

DTC B1380 01

Control Module Ignition Accessory Circuit Short to Battery

DTC B1380 04

Control Module Ignition Accessory Circuit Open

DTC B1441 01

Control Module Ignition Off, Run, and Start Circuit Short to Battery

DTC B1441 04

Control Module Ignition Off, Run, and Start Circuit Open

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	B1370 04, B1380 04	B1370 04, B1380 04	-	-
5 V REF	-	1	-	-
Ignition Terminal 1	B1370 04, B1380 04	B1370 04, B1380 04	B1370 01	-

cardiagn.com

Ignition Terminal 3	B1370 04, B1380 04	B1380 04	B1380 01	-
Signal Terminal 4	B1370 04, B1380 04, B1441 04	B1441 04	B1441 01	-
1. Power Mode Mismatch				

Circuit/System Description

The vehicle power mode master is the body control module (BCM). The ignition switch is a low current switch with multiple discrete circuits to the BCM. The BCM logic uses the ignition switch positions to identify the operator's desired power mode and activate specific discrete signals, and serial data messages for the operation of different subsystems as necessary. Other modules which have switched voltage inputs may operate in a default mode if the power mode master serial data message does not match what the individual module can detect from its own connections.

The power mode master will activate relays and other direct outputs of the power mode master as needed according to the calculated power mode. Some relays controlled by the BCM are switched ignition voltage outputs that are pass through circuits within the BCM directly from the ignition switch. If these circuits short to ground, the B+ circuit fuse to the ignition switch will open.

Conditions for Running the DTC

B1370 01, B1370 04

Ignition switch is in the RUN or CRANK positions.

B1380 01, B1380 04

Ignition switch is in the RUN or ACCESSORY positions.

B1441 01, B1441 04

Ignition switch is in the CRANK position.

Conditions for Setting the DTC

B1370 01

Ignition circuit is shorted to voltage.

B1370 04

- Ignition circuit is open.
- Ignition, accessory, or off/run/crank circuit shorted to ground.
- B+ circuit of the ignition switch is open or shorted to ground.
- Ignition relay control circuit open, including relay coil and ground.

cardiagn.com

B1380 01

Accessory circuit is shorted to voltage.

B1380 04

- Accessory circuit is open.
- Ignition, accessory, or off/run/crank circuit shorted to ground.
- B+ circuit of the ignition switch is open or shorted to ground.

B1441 01

Off/run/crank signal circuit is shorted to voltage.

B1441 04

Off/run/crank signal circuit is open.

Actions Taken When the DTC Sets

- The BCM operates in a fail-safe power mode dependent on the last valid power mode detected and the state of the engine run flag data on the serial data communications circuits.
- The other modules on the vehicle operate in a fail-safe power mode dependent on the last valid power mode transmitted by the BCM and the state of the engine run flag on the serial data communications circuits.

Conditions for Clearing the DTC

- The condition responsible for setting the DTC no longer exists.
- A history DTC will clear once 50 consecutive malfunction-free ignition cycles have occurred.

Reference Information

Schematic Reference

- **Body Control System Schematics**
- **Power Distribution Schematics**
- **Power Moding Schematics**

Connector End View Reference

Component Connector End Views

Description and Operation

Power Mode Description and Operation

cardiagn.com

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

With a scan tool, access Power Mode data display list and compare all parameters listed with the corresponding ignition key position. The Power Mode Parameters table below illustrates the correct state of these input parameters in correspondence to the S39 ignition switch position. The circuits which the individual parameters are related to are in parentheses.

Power Mode Parameters

Ignition Switch Position	5 V IGN (Ignition Switch, Terminal 4 and 6)	Accessory (Ignition Switch, Terminal 3)	Run/Crank (Ignition Switch, Terminal 1)
Off Key Out	Key Out/ACC	Inactive	Inactive
Off Key IN	Key In/Off	Inactive	Inactive
Accessory	Key Out/ACC	Active	Inactive
Run	Run	Active	Active
Start	Crank Request	Inactive	Active

Circuit/System Testing

1. Disconnect the harness connector at the S39 ignition switch.
2. Verify that a test lamp illuminates between B+ circuit terminal 2 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal and the B+ circuit fuse is open, test the ignition circuits listed below for a short to ground.

NOTE: **To help isolate a short to ground, it may be necessary to disconnect modules that are connected to the following circuits:**

- Terminal 1
- Terminal 3
- Terminal 4
- Terminal 6

cardiagn.com

3. Ignition ON, test for 4.8-5.2 V between the 5 V reference circuit terminal 6 and ground.
    - If less than 4.8 V, test the 5 V reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
    - If greater than 5.2 V, test the 5 V reference circuit for a short to voltage. If the circuit tests normal, replace the BCM.
4. Verify the scan tool ignition switch signal voltage is less than 4.2 V.
    - If greater than 4.2 V, test the ignition switch signal circuit terminal 4 for a short to voltage. If the circuit tests normal, replace the BCM.
5. Install a 3 A fused jumper wire between the ignition switch signal circuit terminal 4 and the 5 V reference circuit terminal 6. Verify the scan tool Ignition Switch Signal Voltage parameter is greater than 3 V.
    - If less than 3 V, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
6. Connect the harness connector at the S39 ignition switch.
7. Ignition OFF, key out, disconnect the X3 harness connector at the K9 BCM. Verify that a test lamp does not illuminate between the ignition circuit terminals listed below and ground:
    - Terminal 5
    - Terminal 6
    - Terminal 15
    - Terminal 22
    - If the test lamp illuminates, test the ignition circuits for a short to voltage. If the circuit tests normal, replace the S39 ignition switch.
8. Ignition in the ACCESSORY position, verify that a test lamp illuminates between the terminal 5 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for an open/high resistance. If the circuit tests normal, replace the S39 ignition switch.
9. Ignition in the CRANK position, verify that a test lamp illuminates between terminal 6 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for an open/high resistance. If the circuit tests normal, replace the S39 ignition switch.
10. If all of the circuits test normal, replace the K9 BCM.

Component Testing

Ignition Switch

1. Ignition OFF, disconnect the harness connector at the S39 ignition switch.
2. Verify the resistance between the terminals listed below match for each S39 ignition switch position.
    - If not the specified value, replace the S39 ignition switch.

Resistance Test

S39 Ignition Switch Position	Terminals 1 and 2	Terminals 2 and 3	Terminals 2 and 4	Terminals 2 and 6	Terminals 4 and 6
Off Key Out	Infinite	Infinite	Infinite	Infinite	Infinite

cardiagn.com

Off Key IN	Infinite	Infinite	< 5.0 ohms	Infinite	Infinite
Accessory	Infinite	< 5.0 ohms	Infinite	Infinite	Infinite
Run	< 5.0 ohms	< 5.0 ohms	Infinite	Infinite	< 5.0 ohms
Start	< 5.0 ohms	Infinite	Infinite	Infinite	1275-1325 ohms

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Ignition and Start Switch Replacement**
- **Control Module References** for BCM replacement, setup, and programming

RETAINED ACCESSORY POWER MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
RAP/ACCY Relay Switch B+	3	4	2	-
RAP/ACCY Relay Control	B1445 02	1	1	-
RAP/ACCY Relay Ignition	3	4	2	-
RAP/ACCY Relay Ground	-	1	-	-

1. All relay controlled retained power accessory functions inoperative.
2. Relay retained power accessory remains on past the timer limit after key out and will not turn off when a vehicle door is opened.
3. Partial relay controlled retained power accessory functions inoperative with open fuse.
4. Partial relay controlled retained power accessory functions inoperative with fuse OK.

Circuit/System Description

The retained accessory power system allows specific vehicle functions to operate after the ignition is turned OFF for a predetermined time. Relay retained accessory power is controlled by the body control module (BCM) using inputs from the door ajar switches to determine control of the relay when the ignition is turned OFF. Radio retained accessory power is controlled by a serial data message from the BCM using inputs from the driver door open switch. Refer to **Retained Accessory Power Description and Operation** for more detail on subsystems using retained accessory power.

cardiagn.com

Diagnostic Aids

The radio retained accessory power mode is a separate function and will still operate properly. The radio retained accessory power function is controlled by serial data and the specific module. These functions are not affected by the BCM retained accessory power relay circuits.

Reference Information

Schematic Reference

- **Power Distribution Schematics**
- **Power Moding Schematics**

Connector End View Reference

Component Connector End Views

Description and Operation

Retained Accessory Power Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

NOTE: Battery voltage must remain above 9.6 V for retained accessory power to operate properly.

Radio Retained Accessory Power

1. With all passenger doors closed, observe the courtesy lamps while opening and closing the driver door. The courtesy lamps should illuminate when the door is opened and turn off approximately 30 seconds after closing the door.
    - If the courtesy lamp operation is incorrect from the drivers door, refer to **Courtesy Lamps Malfunction** .
2. If courtesy lamp operation is correct, and the radio is the only retained accessory power concern, replace the radio.

cardiagn.com

Relay Retained Accessory Power

1. Ignition ON, observe the appropriate scan tool parameters listed below while opening and closing each vehicle door. The reading should change between Door Closed/Door Ajar.
    - Driver Door Ajar Switch
    - Left Rear Door Ajar Switch
    - Passenger Door Ajar Switch
    - Right Rear Door Ajar Switch
    - If any parameter does not change as specified, refer to **Door Ajar Indicator Malfunction** .
2. Command the scan tool Accessory/Retained Accessory Power Relay Command OFF. Attempt to operate any retained accessory power relay controlled component within 5 seconds. The component should not operate.
3. Command the scan tool Accessory/Retained Accessory Power Relay Command ON. Attempt to operate any retained accessory power relay controlled component within 5 seconds. The component should operate.
4. Ignition ON, all doors closed. Observe the scan tool parameter Accessory/Retained Accessory Power Relay Command. Ignition OFF, key removed, the reading should be ON for approximately 10 minutes then change to OFF.
    - If the parameter does not respond as specified, replace the K9 BCM.

Circuit/System Testing

1. Ignition OFF, disconnect the KR70 RAP/ACCY relay.
2. Test for less than 10 ohms between the ground control circuit terminal 86 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Verify that a test lamp illuminates between the B+ circuit terminal 30 and ground.
    - If the test does not illuminate, test the B+ circuit for short to ground or an open/high resistance.
4. Connect a test lamp between the control circuit terminal 85 and the ground circuit terminal 86.
5. Command the RAP/ACCY relay ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the command states.
    - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
    - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
6. Connect the RAP/ACCY relay. Disconnect the harness connector at the center console accessory power outlet.
7. Connect a test lamp between the ignition circuit terminal A and ground.
8. Command the RAP/ACCY relay ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the command states.
    - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, test or replace the KR70 RAP/ACCY relay.
    - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high

cardiagn.com

resistance. If the circuit tests normal, test or replace the KR70 RAP/ACCY relay.

Component Testing

1. Ignition OFF, disconnect the KR70 RAP/ACCY relay.
2. Test for 70-150 ohms between terminals control circuit terminal 85 and ground terminal 86.
    - If not within the specified range, replace the KR70 RAP/ACCY relay.
3. Test for infinite resistance between the following terminals:
    - 30 and 86
    - 30 and 87
    - 30 and 85
    - 85 and 87
    - If not the specified value, replace the KR70 RAP/ACCY relay.
4. Install a 2 A fused jumper wire between relay terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
    - If greater than the specified range, replace the KR70 RAP/ACCY relay.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Relay Replacement (Attached to Wire Harness)** or **Relay Replacement (Within an Electrical Center)**
- **Control Module References** for module replacement, setup, and programming

GENERAL ELECTRICAL DIAGNOSIS

Basic Knowledge Required

Without a basic knowledge of electricity, it will be difficult to use the diagnostic procedures contained in the service manual. You should understand the basic theory of electricity, and know the meaning of voltage (V), current (A), and resistance (ohms). You should also be able to read and understand a wiring diagram, as well as understand what happens in a circuit with an open or a shorted wire.

CHECKING AFTERMARKET ACCESSORIES

WARNING: Refer to SIR Warning .

CAUTION: The OBD II symbol is used on the circuit diagrams in order to alert the technician that the circuit is essential for proper OBD II emission control circuit operation. Any circuit which fails and causes the malfunction indicator lamp (MIL) to turn ON, or causes emissions-related component damage, is identified as an OBD II circuit.

cardiagn.com

Do not connect aftermarket accessories into the following circuits:

- SIR circuits, all such circuits are indicated on circuit diagrams with the SIR symbol.
- OBD II circuits, all such circuits are indicated on circuit diagrams with the OBD II symbol.

Always check for aftermarket accessories (non-OEM) as the first step in diagnosing electrical problems. If the vehicle is so equipped, disconnect the system to verify that these add-on accessories are not the cause of the problems.

Possible causes of vehicle problems related to aftermarket accessories include:

- Power feeds connected to points other than the battery
- Antenna location
- Transceiver wiring located too close to vehicle electronic modules or wiring
- Poor shielding or poor connectors on antenna feed line
- Check for recent service bulletins detailing installation guidelines for aftermarket accessories.

CIRCUIT TESTING

The Circuit Testing section contains the following diagnostic testing information. Using this information along with the diagnostic procedures will identify the cause of the electrical malfunction.

- **Using Connector Test Adapters**
- **Probing Electrical Connectors**
- **Troubleshooting with a Digital Multimeter**
- **Troubleshooting with a Test Lamp**
- **Using Fused Jumper Wires**
- **Measuring Voltage**
- **Measuring Voltage Drop**
- **Measuring Frequency**
- **Testing for Continuity**
- **Testing for Short to Ground**
- **Testing for a Short to Voltage**
- **Testing for Intermittent Conditions and Poor Connections**
- **Inducing Intermittent Fault Conditions**
- **Testing for Electrical Intermittents**
- **Scan Tool Snapshot Procedure**
- **Circuit Protection - Fuses**
- **Circuit Protection - Circuit Breakers**
- **Circuit Protection - Fusible Links**

BASIC DIGITAL MULTIMETER REQUIREMENTS

cardiagn.com

Digital Multimeter (DMM) Basic Requirements

Service information is validated using digital multimeters that meet or exceed the following requirements. Using a multimeter that does not meet these basic requirements may give inaccurate readings which could lead to an incorrect diagnosis.

Display and Settings

1. Four digits displayed
2. Voltage, amperage, resistance, frequency, diode test settings, and min-max function
3. Display positive and negative values

Voltage

1. Have at least 10 Mohms input impedance
2. Test a DC voltage range of 0.1-1000 V.
3. Test an AC voltage range of 0.1-1000 V.

Amperage

1. Test a DC amperage range of 0.1µA-10 A.
2. Test an AC amperage range of 0.1µA-10 A.

Resistance

Test a resistance range of 0.1 ohms-40 Mohms and displays infinite for a value greater than 40 Mohms (O.L. (Over-load))

Frequency

Test for a frequency range of 0.5 HZ-199 K HZ

Diode Test

1. Apply at least 1 mA when performing the diode bias test
2. Display the break over voltage drop (0-3 V) of a forward biased diode
3. Display infinite (O.L. (Over-load)) when a diode is reverse biased

Min-Max Readings

1. Can update at a 1 ms sample rate
2. Saves and displays minimum and maximum values

USING CONNECTOR TEST ADAPTERS

CAUTION: Do not insert test equipment probes (DMM etc.) into any connector or fuse

cardiagn.com

block terminal. The diameter of the test probes will deform most terminals. A deformed terminal will cause a poor connection, which will result in a system failure. Always use the EL-35616 GM-Approved Terminal Test Kit in order to front probe terminals. Do not use paper clips or other substitutes to probe terminals.
When using the EL-35616 GM-Approved Terminal Test Kit, ensure the terminal test adapter choice is the correct size for the connector terminal. Do not visually choose the terminal test adapter because some connector terminal cavities may appear larger than the actual terminal in the cavity. Using a larger terminal test adapter will damage the terminal. Refer to the EL-35616 GM-Approved Terminal Test Kit label on the inside of the EL-35616 GM-Approved Terminal Test Kit for the correct adapter along with the connector end view for terminal size.

PROBING ELECTRICAL CONNECTORS

NOTE: Always be sure to reinstall the connector position assurance (CPA) and terminal position assurance (TPA) when reconnecting connectors or replacing terminals.

Front probe

Disconnect the connector and probe the terminals from the mating side (front) of the connector.

CAUTION: Refer to Test Probe Caution .

NOTE: When probing female 0.64 terminals, it is important to use the correct adapter. There have been some revisions to the test adapter for 0.64 terminals. The proper adapter for 0.64 terminals is the EL-35616-64B which has a gold terminal and a black wire between the base and tip. Failure to use the proper test adapter may result in damage to the terminal being tested and improper diagnosis.

NOTE: The proper adapter for probing the terminals for fuses, relays, or diodes in an electrical center is EL-35616-35. Using any other tool or adapter may damage the terminal being tested.

Refer to the following table as a guide in selecting the correct test adapter for front probing connectors:

Test Adapter	Description
J-35616-2A	150 Male Probe Adapter (gray)
J-35616-3	150 Female Probe Adapter (gray)
J-35616-4A	280 Male Probe Adapter (purple)
J-35616-5	280 Female Probe Adapter (purple)

cardiagn.com

J-35616-6	100W Male (round) Probe Adapter (brown)
J-35616-7	100W Female (round) Probe Adapter (brown)
J-35616-8	Weather Pack Male Probe Adapter (orange)
J-35616-9	Weather Pack Female Probe Adapter (orange)
J-35616-10	100W Male (round) Probe Adapter (green)
J-35616-11	100W Female (round) Probe Adapter (green)
J-35616-12	130 Male Probe Adapter (blue)
J-35616-13	130 Female Probe Adapter (blue)
J-35616-14	150 Male Probe Adapter (green)
J-35616-16	100 Male Probe Adapter (lt green)
J-35616-17	100 Female Probe Adapter (lt green)
J-35616-18	220 Male Probe Adapter (black)
J-35616-19	220 Female Probe Adapter (black)
J-35616-21	950 Female Probe Adapter (red)
J-35616-22	950 Male Probe Adapter (red)
J-35616-31	500 Male Probe Adapter (orange)
J-35616-32	500 Female Probe Adapter (orange)
J-35616-33	160/180 Male Probe Adapter (yellow)
J-35616-34	160/180 Female Probe Adapter (yellow)
J-35616-35	280 Male Probe Adapter (violet)
J-35616-40	480 Male Probe Adapter (dk blue)
J-35616-41	480 Female Probe Adapter (dk blue)
J-35616-42	630 Male Probe Adapter (red)
J-35616-43	630 Female Probe Adapter (red)
J-35616-44	800 Male Probe Adapter (yellow)
J-35616-45	800 Female Probe Adapter (yellow)
J-35616-54	280 Male (round) Probe Adapter (tan)
J-35616-55	280 Female (round) Probe Adapter (tan)
J-35616-64B	0.64 Male Probe Adapter (lt blue)
J-35616-65B	0.64 Female Probe Adapter (lt blue)
J-35616-66	150 Male (round) Probe Adapter (yellow)
J-35616-67	150 Female (round) Probe Adapter (yellow)

Backprobe

NOTE:

- **Backprobe connector terminals only when specifically required in diagnostic procedures.**
- **Do not backprobe a sealed (Weather Pack®) connector, less than a 280 series Metri-Pack connector, a Micro-Pack connector, or a flat wire (dock and lock) connector.**
- **Backprobing can be a source of damage to connector terminals. Use care**

cardiagn.com

in order to avoid deforming the terminal, either by forcing the test probe too far into the cavity or by using too large of a test probe.

- **After backprobing any connector, inspect for terminal damage. If terminal damage is suspected, test for proper terminal contact.**

Do not disconnect the connector and probe the terminals from the harness side (back) of the connector.

TROUBLESHOOTING WITH A DIGITAL MULTIMETER

Special Tools

EL 39200: Digital Multimeter (DMM)

CAUTION: Refer to Test Probe Caution .

Digital Multimeter (DMM) Basic Requirements

Service information is validated using digital multimeters that meet or exceed the following requirements. Using a multimeter that does not meet these basic requirements may give inaccurate readings which could lead to an incorrect diagnosis.

Display and Settings

1. Four digits displayed
2. Voltage, amperage, resistance, frequency, diode test settings, and min-max function
3. Display positive and negative values

Voltage

1. Have at least 10 Mohms input impedance
2. Test a DC voltage range of 0.1-1000 V.
3. Test an AC voltage range of 0.1-1000 V.

Amperage

1. Test a DC amperage range of 0.1µA-10 A.
2. Test an AC amperage range of 0.1µA-10 A.

Resistance

Test a resistance range of 0.1 ohms-40 Mohms and displays infinite for a value greater than 40 Mohms (O.L. (Over-load))

Frequency

cardiagn.com

Test for a frequency range of 0.5 HZ-199 K HZ

Diode Test

1. Apply at least 1 mA when performing the diode bias test
2. Display the break over voltage drop (0-3 V) of a forward biased diode
3. Display infinite (O.L. (Over-load)) when a diode is reverse biased

Min-Max Readings

1. Can update at a 1 ms sample rate
2. Saves and displays minimum and maximum values

NOTE: Circuits which include any solid state control modules, such as the powertrain control module (PCM), should only be tested with a 10 Mohms or higher impedance digital multimeter such as the EL-39200.

The EL-39200 instruction manual is a good source of information and should be read thoroughly upon receipt of the DMM as well as kept on hand for future reference.

A DMM should be used instead of a test lamp in order to test for voltage in high impedance circuits. While a test lamp shows whether voltage is present if the impedance is low enough, a DMM indicates how much voltage is present. In other words, if there is not enough current, the test lamp will not illuminate even though voltage is present.

The ohmmeter function on a DMM shows how much resistance exists between 2 points along a circuit. Low resistance in a circuit means good continuity.

NOTE: Disconnect the power feed from the suspect circuit when measuring resistance with a DMM. This prevents incorrect readings. DMMs apply such a small voltage to measure resistance that the presence of voltages can upset a resistance reading.

Diodes and solid state components in a circuit can cause a DMM to display a false reading. To find out if a component is affecting a measurement take a reading once, then reverse the leads and take a second reading. If the readings differ the solid state component is affecting the measurement.

Following are examples of the various methods of connecting the DMM to the circuit to be tested:

- Probe both ends of the connector and either hold the leads in place while manipulating the connector or tape the leads to the harness for continuous monitoring while you perform other operations or test driving. Refer to **Probing Electrical Connectors**.
- Disconnect the harness at both ends of the suspected circuit where it connects either to a component or to other harnesses.
- If the system that is being diagnosed has a specified pinout or breakout box, it may be used in order to simplify connecting the DMM to the circuit or for testing multiple circuits quickly.

cardiagn.com

TROUBLESHOOTING WITH A TEST LAMP

Special Tools

EL-35616-200: Test Light - Probe Kit

For equivalent regional tools, refer to **Special Tools** .

CAUTION: Refer to Test Probe Caution .

A test lamp can simply and quickly test a low impedance circuit for voltage. A DMM should be used instead of a test lamp in order to test for voltage in high impedance circuits. While a test lamp shows whether voltage is present if the impedance is low enough, a DMM indicates how much voltage is present. In other words, if there is not enough current, the test lamp will not illuminate even though voltage is present.

The **EL-35616-200:** kit is Micro-Pack compatible and comprised of a 12-volt light bulb with an attached pair of leads.

To properly operate this tool use the following procedures.

When testing for voltage:

1. Attach one lead to ground.
2. Touch the other lead to various points along the circuit where voltage should be present.
3. When the bulb illuminates, there is voltage at the point being tested.

When testing for ground:

1. Attach one lead to battery positive voltage.
2. Touch the other lead to various points along the circuit where ground should be present.
3. When the bulb illuminates, there is ground at the point being tested.

USING FUSED JUMPER WIRES

Special Tools

EL 35616-20F: Fused Jumper Wire

For equivalent regional tools, refer to **Special Tools** .

NOTE: A fused jumper may not protect solid state components from being damaged.

cardiagn.com

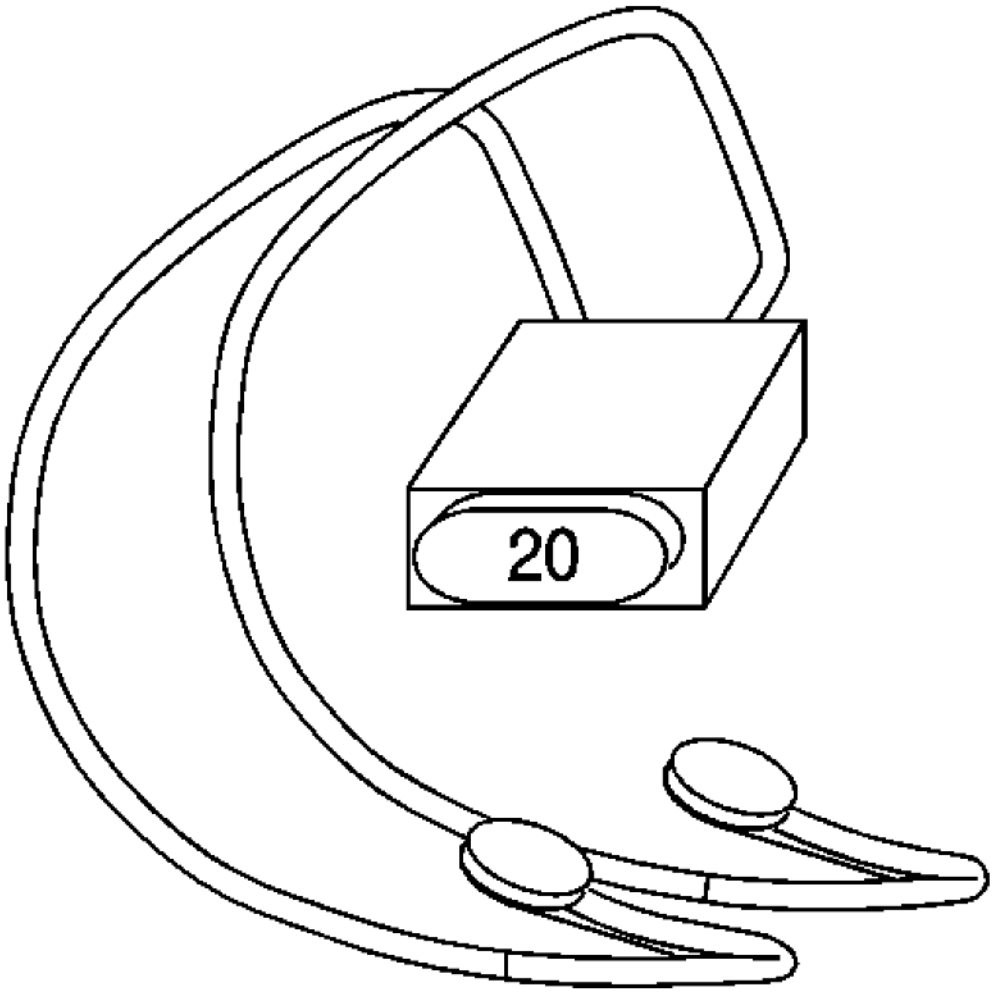


Fig. 1: Fused Jumper Wire
Courtesy of GENERAL MOTORS CORP.

The **EL 35616-20F:** Fused Jumper Wire includes small clamp connectors that provide adaptation to most connectors without damage. This fused jumper wire is supplied with a 20 A fuse which may not be suitable for some circuits. Do not use a fuse with a higher rating than the fuse that protects the circuit being tested.

MEASURING VOLTAGE

CAUTION: Refer to Test Probe Caution .

cardiagn.com

The following procedure measures the voltage at a selected point in a circuit.

1. Disconnect the electrical harness connector for the circuit being tested, if necessary.
2. Enable the circuit and/or system being tested. Use the following methods:
    - Turn ON the ignition, with the engine OFF.
    - Turn ON the engine.
    - Turn ON the circuit and/or system with a scan tool in Output Controls.
    - Turn ON the switch for the circuit and/or system being tested.
3. Select the V (AC) or V (DC) position on the DMM.
4. Connect the positive lead of the DMM to the point of the circuit to be tested.
5. Connect the negative lead of the DMM to a good ground.
6. The DMM displays the voltage measured at that point.

MEASURING VOLTAGE DROP

CAUTION: Refer to Test Probe Caution .

The following procedure determines the difference in voltage potential between 2 points.

cardiagn.com

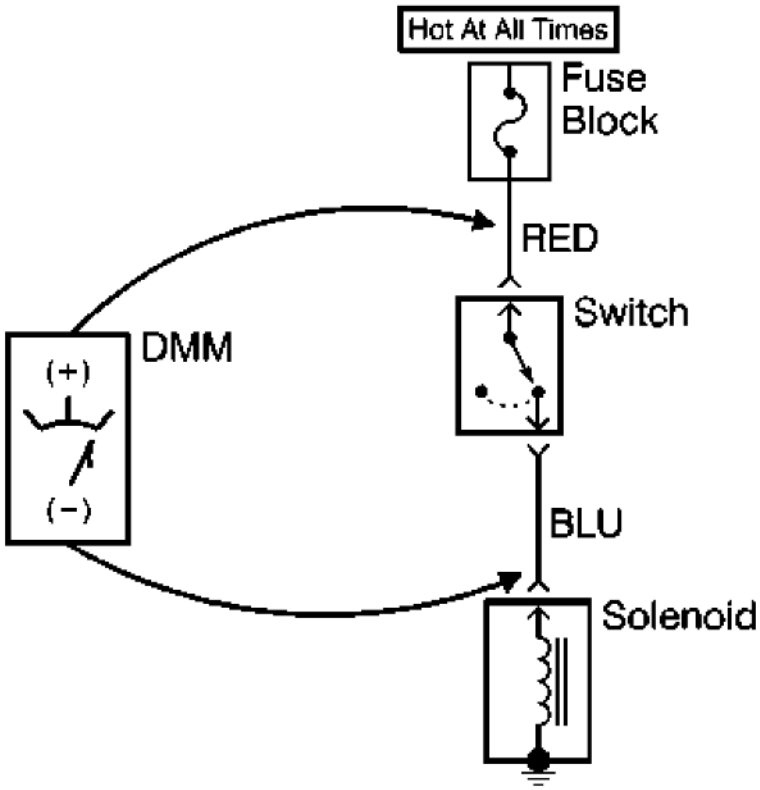


Fig. 2: Measuring Voltage Drop
Courtesy of GENERAL MOTORS CORP.

1. Set the rotary dial of the DMM to the V (DC) position.
2. Connect the positive lead of the DMM to one point of the circuit to be tested.
3. Connect the negative lead of the DMM to the other point of the circuit.
4. Operate the circuit.
5. The DMM displays the difference in voltage between the 2 points.

MEASURING FREQUENCY

CAUTION: Refer to Test Probe Caution .

The following procedure determines the frequency of a signal.

cardiagn.com

NOTE: Connecting the DMM to the circuit before pressing the Hz button will allow the DMM to autorange to an appropriate range.

1. Apply power to the circuit.
2. Set the rotary dial of the DMM to the V (AC) position.
3. Connect the positive lead of the DMM to the circuit to be tested.
4. Connect the negative lead of the DMM to a good ground.
5. Press the Hz button on the DMM.
6. The DMM will display the frequency measured.

TESTING FOR CONTINUITY

CAUTION: Refer to Test Probe Caution .

The following procedures verify good continuity in a circuit.

With a Digital Multimeter (DMM)

1. Set the rotary dial of the DMM to the ohms position.
2. Disconnect the power feed (i.e. fuse, control module) from the suspect circuit.
3. Disconnect the load.
4. Press the MIN MAX button on the DMM.
5. Connect one lead of the DMM to one end of the circuit to be tested.
6. Connect the other lead of the DMM to the other end of the circuit.
7. If the DMM displays low or no resistance, the circuit has good continuity.

With a Test Lamp

NOTE: Only use the test lamp procedure on low impedance power and ground circuits.

1. Remove the power feed (i.e. fuse, control module) from the suspect circuit.
2. Disconnect the load.
3. Connect one lead of the test lamp to one end of the circuit to be tested.
4. Connect the other lead of the test lamp to battery positive voltage.
5. Connect the other end of the circuit to ground.
6. If the test lamp illuminates (full intensity), then the circuit has good continuity.

TESTING FOR SHORT TO GROUND

CAUTION: Refer to Test Probe Caution .

cardiagn.com

The following procedures test for a short to ground in a circuit.

With a Digital Multimeter (DMM)

1. Remove the power feed (i.e. fuse, control module) from the suspect circuit.
2. Disconnect the load.
3. Set the rotary dial of the DMM to the ohms position.
4. Connect one lead of the DMM to one end of the circuit to be tested.
5. Connect the other lead of the DMM to a good ground.
6. If the DMM does NOT display infinite resistance (OL), there is a short to ground in the circuit.

With a Test Lamp

1. Remove the power feed (i.e. fuse, control module) from the suspect circuit.
2. Disconnect the load.
3. Connect one lead of the test lamp to battery positive voltage.
4. Connect the other lead of the test lamp to one end of the circuit to be tested.
5. If the test lamp illuminates, there is a short to ground in the circuit.

Fuse Powering Several Loads

1. Review the system schematic and locate the fuse that is open.
2. Open the first connector or switch leading from the fuse to each load.
3. Connect a DMM across the fuse terminals (be sure that the fuse is powered).
   - When the DMM displays voltage the short is in the wiring leading to the first connector or switch.
   - If the DMM does not display voltage refer to the next step.
4. Close each connector or switch until the DMM displays voltage in order to find which circuit is shorted.

TESTING FOR A SHORT TO VOLTAGE

CAUTION: Refer to Test Probe Caution .

The following procedure tests for a short to voltage in a circuit.

1. Remove the power feed (i.e. fuse, control module) from the suspect circuit.
2. Disconnect the load.
3. Set the rotary dial of the DMM to the V (DC) position.
4. Connect the positive lead of the DMM to one end of the circuit to be tested.
5. Connect the negative lead of the DMM to a good ground.

cardiagn.com

6. Turn ON the ignition and operate all accessories.
7. If the voltage measured is greater than 1 V, there is a short to voltage in the circuit.

TESTING FOR INTERMITTENT CONDITIONS AND POOR CONNECTIONS

Special Tools

EL-35616 Terminal Test Probe Kit

For equivalent regional tools, refer to **Special Tools** .

When the condition is not currently present, but is indicated in DTC history, the cause may be intermittent. An intermittent may also be the cause when there is a customer complaint, but the symptom cannot be duplicated. Refer to the Symptom Table of the system that is suspect of causing the condition before trying to locate an intermittent condition.

Most intermittent conditions are caused by faulty electrical connections or wiring. Inspect for the following items:

- Wiring broken inside the insulation
- Poor connection between the male and female terminal at a connector
- Poor terminal to wire connection-Some conditions which fall under this description are poor crimps, poor solder joints, crimping over the wire insulation rather than the wire itself, and corrosion in the wire to terminal contact area, etc.
- Pierced or damaged insulation can allow moisture to enter the wiring causing corrosion. The conductor can corrode inside the insulation, with little visible evidence. Look for swollen and stiff sections of wire in the suspect circuits.
- Wiring which has been pinched, cut, or its insulation rubbed through may cause an intermittent open or short as the bare area touches other wiring or parts of the vehicle.
- Wiring that comes in contact with hot or exhaust components
- Refer to **Inducing Intermittent Fault Conditions** in order to duplicate the conditions required, in order to verify the customer concern.
- Refer to **Testing for Electrical Intermittents** for test procedures to detect intermittent open, high resistance, short to ground, and short to voltage conditions.
- Refer to **Scan Tool Snapshot Procedure** for advanced intermittent diagnosis and Vehicle Data Recorder operation.

Testing for Terminal Fretting

Some intermittent conditions can be caused by wire terminal fretting corrosion. Fretting corrosion is a build-up of insulating, oxidized wear debris that can form when there is a small motion between electrical contacts. The oxidized wear debris can pile up enough at the electrical contact spots that the electrical resistance across the connection increases. Movement between the contacting surfaces as small as 10 to 100 microns can cause fretting. To put this in perspective, a sheet of paper is about 100 microns thick, so fretting motion is small and hard to see. Vibration and thermal expansion/contraction are the main sources that create fretting motion. Since

cardiagn.com

vehicles vibrate and can experience large temperature swings, they are a good source for fretting motion. Tin, copper, nickel, and iron surfaces are all susceptible to fretting corrosion. Fretting corrosion can be difficult to see but it looks like small, dark smudges on the terminals contact surface.

To correct a fretting condition disconnect the suspect connector and add Nyogel lubricant 760G (dielectric grease) to both sides of the connector terminals. Then reconnect the connector and wipe away any excess lubricant. This will correct the additional terminal contact resistance due to the terminal fretting corrosion.

Testing for Proper Terminal Contact

It is important to test terminal contact at the component and any inline connectors before replacing a suspect component. Mating terminals must be inspected to ensure good terminal contact. A poor connection between the male and female terminal at a connector may be the result of contamination or deformation.

Contamination may be caused by the connector halves being improperly connected. A missing or damaged connector seal, damage to the connector itself, or exposing the terminals to moisture and dirt can also cause contamination. Contamination, usually in the underhood or underbody connectors, leads to terminal corrosion, causing an open circuit or intermittently open circuit.

Deformation is caused by probing the mating side of a connector terminal without the proper adapter. Always use the EL-35616 when probing connectors. Other causes of terminal deformation are improperly joining the connector halves, or repeatedly separating and joining the connector halves. Deformation, usually to the female terminal contact tang, can result in poor terminal contact causing an open or intermittently open circuit.

Testing for Proper Terminal Contact in Bussed Electrical Centers

It is very important to use the correct test adapter when testing for proper terminal contact of fuses and relays in a bussed electrical center. Use EL-35616-35 to test for proper terminal contact. Failure to use EL-35616-35 can result in improper diagnosis of the bussed electrical center.

Follow the procedure below in order to test terminal contact:

1. Separate the connector halves.
2. Visually inspect the connector halves for contamination. Contamination may result in a white or green build-up within the connector body or between terminals. This causes high terminal resistance, intermittent contact, or an open circuit. An underhood or underbody connector that shows signs of contamination should be replaced in its entirety: terminals, seals, and connector body.
3. Using an equivalent male terminal / terminated lead, verify that the retention force is significantly different between a known good terminal and the suspect terminal. Replace the female terminal in question.

Flat Wire (Dock and Lock) Connectors

There are no serviceable parts for flat wire (dock and lock) connectors on the harness side or the component side.

Follow the procedure below in order to test terminal contact:

cardiagn.com

1. Remove the component in question.
2. Visually inspect each side of the connector for signs of contamination. Avoid touching either side of the connector as oil from your skin may be a source of contamination as well.
3. Visually inspect the terminal bearing surfaces of the flat wire circuits for splits, cracks, or other imperfections that could cause poor terminal contact. Visually inspect the component side connector to ensure that all of the terminals are uniform and free of damage or deformation.
4. Insert the appropriate adapter from the on the flat wire harness connector in order to test the circuit in question.

Control Module/Component Voltage and Grounds

Poor voltage or ground connections can cause widely varying symptoms.

- Test all control module voltage supply circuits. Many vehicles have multiple circuits supplying voltage to a control module. Other components in the system may have separate voltage supply circuits that may also need to be tested. Inspect connections at the module/component connectors, fuses, and any intermediate connections between the voltage source and the module/component. A test lamp or a DMM may indicate that voltage is present, but neither tests the ability of the circuit to carry sufficient current. Ensure that the circuit can carry the current necessary to operate the component. Refer to **Circuit Testing** and **Power Distribution Schematics** .
- Test all control module ground and system ground circuits. The control module may have multiple ground circuits. Other components in the system may have separate grounds that may also need to be tested. Inspect grounds for clean and tight connections at the grounding point. Inspect the connections at the component and in splice packs, where applicable. Ensure that the circuit can carry the current necessary to operate the component. Refer to **Circuit Testing** and **Ground Distribution Schematics** .

Temperature Sensitivity

- An intermittent condition may occur when a component/connection reaches normal operating temperature. The condition may occur only when the component/connection is cold, or only when the component/connection is hot.
- Freeze Frame, Failure Records, Snapshot, or Vehicle Data Recorder data may help with this type of intermittent condition, where applicable.
- If the intermittent is related to heat, review the data for a relationship with the following:
  - High ambient temperatures
  - Underhood/engine generated heat
  - Circuit generated heat due to a poor connection, or high electrical load
  - Higher than normal load conditions, towing, etc.
- If the intermittent is related to cold, review the data for the following:
  - Low ambient temperatures-In extremely low temperatures, ice may form in a connection or component. Inspect for water intrusion.
  - The condition only occurs on a cold start.
  - The condition goes away when the vehicle warms up.
- Information from the customer may help to determine if the trouble follows a pattern that is temperature

cardiagn.com

related.

- If temperature is suspected of causing an intermittent fault condition, attempt to duplicate the condition. Refer to **Inducing Intermittent Fault Conditions** in order to duplicate the conditions required.

Electromagnetic Interference and Electrical Noise

Some electrical components/circuits are sensitive to electromagnetic interference or other types of electrical noise. Inspect for the following conditions:

- A misrouted harness that is too close to high voltage/high current devices such as secondary ignition components, motors, generator etc.-These components may induce electrical noise on a circuit that could interfere with normal circuit operation.
- Electrical system interference caused by a malfunctioning relay, or a control module driven solenoid or switch-These conditions can cause a sharp electrical surge. Normally, the condition will occur when the malfunctioning component is operating.
- Improper installation of non-factory or aftermarket add on accessories such as lights, 2-way radios, amplifiers, electric motors, remote starters, alarm systems, cell phones, etc.-These accessories may lead to interference while in use, but do not fail when the accessories are not in use. Refer to **Checking Aftermarket Accessories**.
- Test for an open diode across the A/C compressor clutch and for other open diodes. Some relays may contain a clamping diode.
- The generator may be allowing AC noise into the electrical system.

Incorrect Control Module

- There are only a few situations where reprogramming a control module is appropriate:
  - A new service control module is installed.
  - A control module from another vehicle is installed.
  - Revised software/calibration files have been released for this vehicle.

NOTE: DO NOT re-program the control module with the SAME software/calibration files that are already present in the control module. This is not an effective repair for any type of concern.

- Verify that the control module contains the correct software/calibration. If incorrect programming is found, reprogram the control module with the most current software/calibration. Refer to **Control Module References** for replacement, setup, and programming.

INDUCING INTERMITTENT FAULT CONDITIONS

Special Tools

J-25070: Heat Gun

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Many intermittent open or shorted circuits are affected by harness/connector movement that is caused by vibration, engine torque, bumps/rough pavement, etc. In order to duplicate the customer's concern, it may be necessary to manipulate the wiring harness if the malfunction appears to be vibration related. Manipulation of a circuit can consist of a wide variety of actions, including:

- Wiggling the harness
- Disconnecting a connector and reconnecting
- Stressing the mechanical connection of a connector
- Pulling on the harness or wire in order to identify a separation/break inside the insulation
- Relocating a harness or wires

All these actions should be performed with some goal in mind. For instance, with a scan tool connected, wiggling the wires may uncover a faulty input to the control module. The snapshot option would be appropriate here. Refer to **Scan Tool Snapshot Procedure**. Another option is, with the component commanded ON and OFF by the scan tool, move related connectors and wiring and observe the component operation. With the engine running, move related connectors and wiring while monitoring engine operation. If harness or connector movement affects the data displayed, component/system operation, or engine operation, inspect and repair the harness/connections as necessary.

You may need to load the vehicle in order to duplicate the concern. This may require the use of weights, floor jacks, jackstands, frame machines, etc. In these cases you are attempting to duplicate the concern by manipulating the suspension or frame. This method is useful in finding harnesses that are too short and their connectors pull apart enough to cause a poor connection. A DMM set to Peak Min/Max mode and connected to the suspect circuit while testing can yield desirable results. Refer to **Testing for Electrical Intermittents**.

Certainly, using the senses of sight, smell, and hearing while manipulating the circuit can provide good results as well.

There may be instances where circuit manipulation alone will not meet the required criteria for the fault condition to appear. In such cases it may be necessary to expose the suspect circuit to other conditions while manipulating the harness. Such conditions would include high moisture conditions, along with exceptionally high or low temperatures. The following discusses how to expose the circuit to these kinds of conditions.

Salt Water Spray

Some compounds possess the ability to conduct electricity when dissolved in water such as ordinary salt. By mixing table salt with water in sufficient quantities, you can enhance the conductive properties of water so that any circuit which may be sensitive to moisture will more readily fail when liberally sprayed with this mixture.

Mixing 0.35L (12 oz) of water with approximately 1 tablespoon of salt will yield a salt solution of 5 percent. Fill a normal spray bottle with this mixture. This mixture is sufficient to enhance the water's own conductivity. This may cause the circuit to fail more easily when sprayed. Once the mixture is completed, spray the suspect area liberally with the solution. Then, while monitoring either a scan tool or DMM, manipulate the harness as discussed previously.

High Temperature Conditions

cardiagn.com

If the complaint tends to be heat related, you can simulate the condition using the **J-25070:** heat gun.

Using the heat gun, you can heat up the suspected area or component. Manipulate the harnesses under high temperature conditions while monitoring the scan tool or DMM to locate the fault condition.

The high temperature condition may be achieved simply by test driving the vehicle at normal operating temperature. If a heat gun is unavailable, consider this option to enhance your diagnosis. This option does not allow for the same control, however.

Low Temperature Conditions

Depending on the nature of the fault condition, placing a fan in front of the vehicle while the vehicle is in the shade can have the desired effect.

If this is unsuccessful, use local cooling treatments such as ice or a venturi type nozzle (one that provides hot or cold air). This type of tool is capable of producing air stream temperatures down to -18°C (0°F) from one end and +71°C (160°F) from the other. This is ideally suited for localized cooling needs.

Once the vehicle, component, or harness has been sufficiently cooled, manipulate the harness or components in an effort to duplicate the concern.

Duplicating Failure Conditions

- If none of the previous tests are successful, attempt to duplicate and/or capture the failure conditions.
- Freeze Frame/Failure Records data, where applicable, contains the conditions that were present when the DTC set.
    1. Review and record Freeze Frame/Failure Records data.
    2. Clear the DTCs using the scan tool.
    3. Turn the key to OFF and wait 15 seconds.
    4. Operate the vehicle under the same conditions that were noted in Freeze Frame/Failure Records data, as closely as possible. The vehicle must also be operating within the Conditions for Running the DTC. Refer to Conditions for Running the DTC in the supporting text if a DTC is being diagnosed.
    5. Monitor DTC Status for the DTC being tested. The scan tool will indicate Ran, when the enabling conditions have been satisfied long enough for the DTC to run. The scan tool will also indicate whether the DTC passed or failed.
- An alternate method is to drive the vehicle with the DMM connected to a suspected circuit. An abnormal reading on the DMM when the concern occurs, may help you locate the concern.

TESTING FOR ELECTRICAL INTERMITTENTS

Special Tools

EL-39200 Digital Multimeter

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Perform the following procedures while wiggling the harness from side to side. Continue this at convenient points (about 6 inches apart) while watching the test equipment.

- **Testing for Short to Ground**
- **Testing for Continuity**
- **Testing for a Short to Voltage**

If the fault is not identified, perform the procedure below using the MIN MAX feature on the EL-39200 DMM. This feature allows you to manipulate the circuit without having to watch the EL-39200. The EL-39200 will generate an audible tone when a change is detected.

NOTE: The EL-39200 must be used in order to perform the following procedure since the EL-39200 can monitor current, resistance or voltage while recording the minimum (MIN), and maximum (MAX) values measured.

1. Connect the EL-39200 to both sides of a suspected connector (still connected), or from one end of a suspected circuit to the other. Refer to **Troubleshooting with a Digital Multimeter** for information on connecting the EL-39200 to the circuit.
2. Set the rotary dial of the EL-39200 to the V (AC) or V (DC) position.
3. Press the range button of the EL-39200 in order to select the desired voltage range.
4. Press the MIN MAX button of the EL-39200. The EL-39200 displays 100 ms RECORD and emits an audible tone (beep).

NOTE: The 100 ms RECORD mode is the length of time an input must stay at a new value in order to record the full change.

5. Simulate the condition that is potentially causing the intermittent connection, either by wiggling the connections or the wiring, test driving, or performing other operations. Refer to **Inducing Intermittent Fault Conditions**.
6. Listen for the audible Min Max Alert which indicates that a new minimum or maximum value has been recorded.
7. Press the MIN MAX button once in order to display the MAX value and note the value.
8. Press the MIN MAX button again in order to display the MIN value and note the value.
9. Determine the difference between the MIN and MAX values.
    - If the variation between the recorded MIN and MAX voltage values is 1 V or greater an intermittent open or high resistance condition exists. Repair the condition as necessary.
    - If the variation between the recorded MIN and MAX voltage values is less than 1 V, an intermittent open or high resistance condition does not exist.

SCAN TOOL SNAPSHOT PROCEDURE

Using Snapshots in Global Diagnostic System (GDS)

Overview

cardiagn.com

A snapshot is a recording of what a control module on the vehicle was receiving for information while the snapshot is being made. A snapshot may be used to analyze the data during the time a vehicle condition is current. This allows you to concentrate on making the condition occur, rather than trying to view all the data in anticipation of the fault. To record a snapshot in GDS, select, Record Snapshot, from the options at the top right portion of any of the various pages that allow snapshots to be taken (e.g. Data Display, Control Functions, etc.). When you are finished recording, select, Stop Snapshot recording. The snapshot will now be available for replay.

Snapshot Replay

The Snapshot Replay function allows reviews of previously recorded vehicle snapshot data. This information can be used in analysis of vehicle problems and detection of trigger error conditions. The graph function can be used to compare parameters to see if a component is functioning properly. Recorded snapshots can be selected for viewing by the following three methods:

- Selecting a snapshot file from the Vehicle Home Page and clicking on the Review selection.
- Double clicking on the selected snapshot from the Vehicle Home Page.
- Entering the Tools selection from the Menu selection and selecting Snapshot replay. Next, open the Snapshot Manager. Double click on the snapshot file you wish to view or click on the Load Snapshot selection and select a snapshot file.

Regardless of selection method, a File Loaded pop-up window will be displayed from the Snapshot Replay screen. Select OK from the pop-up window.

Snapshot Play Functions

There are several snapshot play functions that are used to replay recorded snapshots

- The Play function is used to play the snapshot forward by clicking on this selection. A marker will move across the screen when this selection is used. All selections in this area turn grey when they are active.
- The Pause function is used to pause play of the snapshot. When this selection is clicked a second time the snapshot will start playing where it left off.
- The Stop function is used to stop playing the snapshot. The snapshot will start from the beginning, if Play is selected after using the Stop function.

Time Control

Time control is used to control the snapshot replay. This function allows selection of a specific time frame, display of different views, and control of display speed. The following functions can be selected directly under Time Control.

- The Bookmark selection allows you to add a specific comment in the current display and return to this point in the future. When this option is selected, a pop-up window is displayed. Enter a bookmark name and select OK.
- The Note Pad can be selected to add comments to the snapshot replay file at the current point of time. When this option is selected, a pop-up window is displayed. Enter a comment for the snapshot file and select OK.

cardiagn.com

- The Load Snapshot (blue folder) opens a snapshot file and makes it ready for further analysis. This function is also available by clicking on an available snapshot file from the Snapshot Manager.
- The Down Arrow displays all Time Control options when selected. Individual options can also be selected by clicking on the item you want.
- The Snapshot Display Speed can be controlled by selecting this option. Slow speeds of 1/8X, 1/4X, and 1/2X can be selected. The real time speed can also be selected at 1. Faster speeds of 2X, 4X, and 8X can also be obtained by using this selection.

View Selections

Each View Selection provides a different way of displaying vehicle data for analysis. The following functions can be selected under Available Views:

NOTE: The parameter name will be shown in the original language used for capture if no translation is available for the name.

- Parameter List View - Displays incoming information from the snapshot file. The current value of the parameters is displayed on the screen.
- Log View - Contains all the information from the snapshot file. All parameter values are listed in the order they were recorded. Specific parameters can be added or removed from a watchlist by clicking on the appropriate item.
- State View - Shows the values of all parameters in a specific time frame. These values can be used for comparison with the trigger view.
- Trigger View - Displays all system and user defined triggers. This function can be used when there is a combination of factors involved in a diagnostic problem. When a Trigger condition is met a caution triangle will be displayed on the screen.

Triggers:

- Load Triggers - Allows you to load a file containing trigger definitions.
- Save Triggers - Allows you to save the trigger to your computer's hard drive.
- Remove Trigger - Allows you to remove the current trigger. It will no longer be present.
- Edit Trigger - Displays a pop-up window where you can modify the limits and parameters contained within a trigger.
- Adds Trigger - Displays a pop-up window to configure a trigger.
- DTC View - After the Play function is selected and this option is selected this function opens the list of recorded DTCs.
- Line Graph View - Displays data that can be visualized against the time-axis. From this view, specific parameters can be selected for graphing by checking the box under Selected. At the bottom of the graph there are four functions Zoom In (increase size), Zoom Out (decrease size), Bookmarks, and Pause Scrolling. Each of these functions can be accessed by clicking on them.

CIRCUIT PROTECTION - FUSES

cardiagn.com

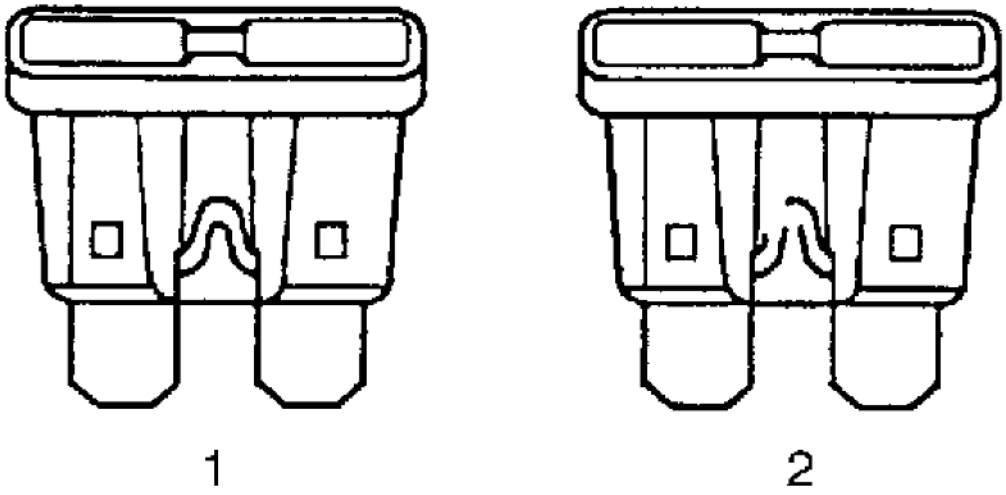


Fig. 3: Identifying Open Fuse Element
Courtesy of GENERAL MOTORS CORP.

The fuse is the most common method of an automotive wiring circuit protection. Whenever there is an excessive amount of current flowing through a circuit the fusible element will melt and create an open or incomplete circuit. Fuses are a one time protection device and must be replaced each time the circuit is overloaded. To determine if a fuse is open, remove the suspected fuse and examine the element in the fuse for an open (2). If not broken (1), also check for continuity using a DMM or a continuity tester. If the element is open or continuity is suspect, replace the fuse with one of equal current rating.

Fuse Types

Current Rating Amperes	Color
Auto Fuses, Mini Fuses	
2	Gray
3	Violet
5	Tan
7.5	Brown
10	Red
15	Blue
20	Yellow
25	White or Natural
30	Green
Maxi Fuses	
20	Yellow

cardiagn.com

30	Light Green
40	Orange or Amber
60	Blue
50	Red
J-Case Fuses	
20	Blue
30	Pink
40	Green
50	Red
60	Yellow

CIRCUIT PROTECTION - CIRCUIT BREAKERS

A circuit breaker is a protective device that is designed to open the circuit when a current load is in excess of the rated breaker capacity. If there is a short or other type of overload condition in the circuit, the excessive current will open the circuit between the circuit breaker terminals. Two types of circuit breakers are used.

Circuit Breaker

This type opens when excessive current passes through it for a period of time. It closes again after a few seconds, and if the cause of the high current is still present, it will open again. The circuit breaker will continue to cycle open and closed until the condition causing the high current is removed.

Positive Temperature Coefficient (PTC) Circuit Breaker

This type greatly increases its resistance when excessive current passes through it. The excessive current heats the PTC device, as the device heats its resistance increases. Eventually the resistance gets so high that the circuit is effectively open. Unlike the ordinary circuit breaker the PTC unit will not reset until the circuit is opened, by removing the voltage from its terminals. Once the voltage is removed the circuit breaker will re-close within a second or 2.

CIRCUIT PROTECTION - FUSIBLE LINKS

Fusible link is wire designed to melt and break continuity when excessive current is applied. It is often located between or near the battery and starter or electrical center. Use a continuity tester or a DMM at each end of the wire containing the fusible link in order to determine if it is broken. If broken, it must be replaced with fusible link of the same gauge size.

Repairing a Fusible Link

NOTE: Fusible links cut longer than 225 mm (approximately 9 in) will not provide sufficient overload protection.

WIRING REPAIRS

The Wiring Repairs section contains the following types of wiring repair information. Using these elements

cardiagn.com

together will make wiring repair faster and easier:

- **Testing for Intermittent Conditions and Poor Connections**
- **Flat Wire Repairs**
- **GMLAN Wiring Repairs**
- **High Temperature Wiring Repairs**
- **Heated Oxygen Sensor Wiring Repairs**
- **Splicing Copper Wire Using Splice Sleeves**
- **Splicing Twisted or Shielded Cable**
- **Splicing Inline Harness Diodes**
- **SIR/SRS Wiring Repairs**

REPAIRING DAMAGED WIRE INSULATION

If the conductive portion of the wire is not damaged, locate the problem and apply tape around the wire. If the damage is more extensive, replace the faulty segment of the wire. Refer to **Splicing Copper Wire Using Splice Sleeves** and follow the instruction to repair the wire.

Wire Size Conversion

Metric Wire Sizes (mm 2)	AWG Sizes
0.13	26
0.21	24
0.32	22
0.52	20
0.83	18
1.31	16
2.09	14
3.31	12
5.27	10
8.37	8
13.3	6
21.2	4
33.6	2
53.5	1/0

FLAT WIRE REPAIRS

The flat wire within the flex wiring harness is not serviceable. If an open or short exists within the flex wiring harness the complete harness must be replaced.

GMLAN WIRING REPAIRS

Special Tools

cardiagn.com

- **EL-38125-10:** Splice Sleeve Crimping Tool
- **J 38125-5:** Ultra Torch Special Tool
- DuraSeal splice sleeves
- A wire stripping tool

For equivalent regional tools, refer to **Special Tools** .

The DuraSeal splice sleeves have the following 2 critical features:

- A special heat shrink sleeve environmentally seals the splice. The heat shrink sleeve contains a sealing adhesive inside.
- A cross hatched (knurled) core crimp provides necessary contact integrity for the sensitive, low energy circuits.

The GM Local Area Network (GMLAN) System requires special wiring repair procedures due to the sensitive nature of the circuitry. Follow the specific procedures and instructions when working on GMLAN connectors and terminals.

GMLAN Repairs

NOTE: When making a repair to any GMLAN network, the original wire length after the repair must be the same length as before the repair. If the network is a twisted pair, the twist must be maintained after the repair is completed.

GMLAN has 2 types of networks, low speed and high speed. Low speed GMLAN has a single wire and works at slow speeds. High speed GMLAN has 2 wires in a twisted pair and works at higher speeds. For more information on GMLAN, refer to **Data Link Communications Description and Operation** .

GMLAN Connector Terminal Repair

NOTE: A terminated lead can be used to replace damaged connector terminals for both high speed and low speed GMLAN systems. When making a connector terminal repair on a GMLAN high speed system with twisted pair wires, do not untwist the wires more than necessary to make the repair.

If the individual terminals are damaged on any GMLAN connection, use the appropriate connector repair procedure in order to repair the terminal. Refer to **Connector Repairs** for the appropriate connector repair procedure.

GMLAN Wire Repair

NOTE: Refer to Wiring Repairs in order to determine the correct wire size for the circuit you are repairing. You must obtain this information in order to ensure circuit integrity.

cardiagn.com

If any wire except the pigtail is damaged, repair the wire by splicing in a new section of wire of the same gauge size (0.5 mm, 0.8 mm, 1.0 mm etc.). Use the DuraSeal splice sleeves and **EL-38125-10:** tool. Use the following wiring repair procedures in order to ensure the integrity of the DuraSeal splice sleeves.

Splice Sleeve Color	Crimp Tool Nest Color	Wire Gauge mm^2 / (AWG)
Salmon (Yellow-Pink) 12089189	Red (1)	0.035-0.8/(18-20)
Blue 12089190	Blue (2)	1-2/(14-16)
Yellow 12089191	Yellow (3)	3-5/(10-12)
Green 88988379	Red (1)	0.22-0.35/(22-26)

NOTE: **You must perform the following procedures in the listed order. Repeat the procedure if any wire strands are damaged. You must obtain a clean strip with all of the wire strands intact.**

1. Open the harness by removing any tape:
   - Use a sewing seam ripper, available from sewing supply stores, in order to cut open the harness in order to avoid wire insulation damage.
   - Use the DuraSeal splice sleeves on all types of insulation except tefzel and coaxial.
   - Do not use the crimp and DuraSeal splice sleeve to form a splice with more than 2 wires coming together.
2. Cut as little wire off the harness as possible. You may need the extra length of wire in order to change the location of a splice.

   Adjust splice locations so that each splice is at least 40 mm (1.5 in) away from the other splices, harness branches, or connectors.

3. Strip the insulation:
   - When adding a length of wire to the existing harness, use the same size wire as the original wire.
   - Perform one of the following items in order to find the correct wire size:
     - Find the wire on the schematic and convert to regional wiring gauge size.
     - If you are unsure of the wire size, begin with the largest opening in the wire stripper and work down until achieving a clean strip of the insulation.
   - Strip approximately 7.5 mm (0.313 in) of insulation from each wire to be spliced.
   - Do not nick or cut any of the strands. Inspect the stripped wire for nicks or cut strands.
   - If the wire is damaged, repeat this procedure after removing the damaged section.
4. Select the proper DuraSeal splice sleeve according to the wire size. Refer to the above table at the beginning of the repair procedure for the color coding of the DuraSeal splice sleeves and the crimp tool nests.

cardiagn.com

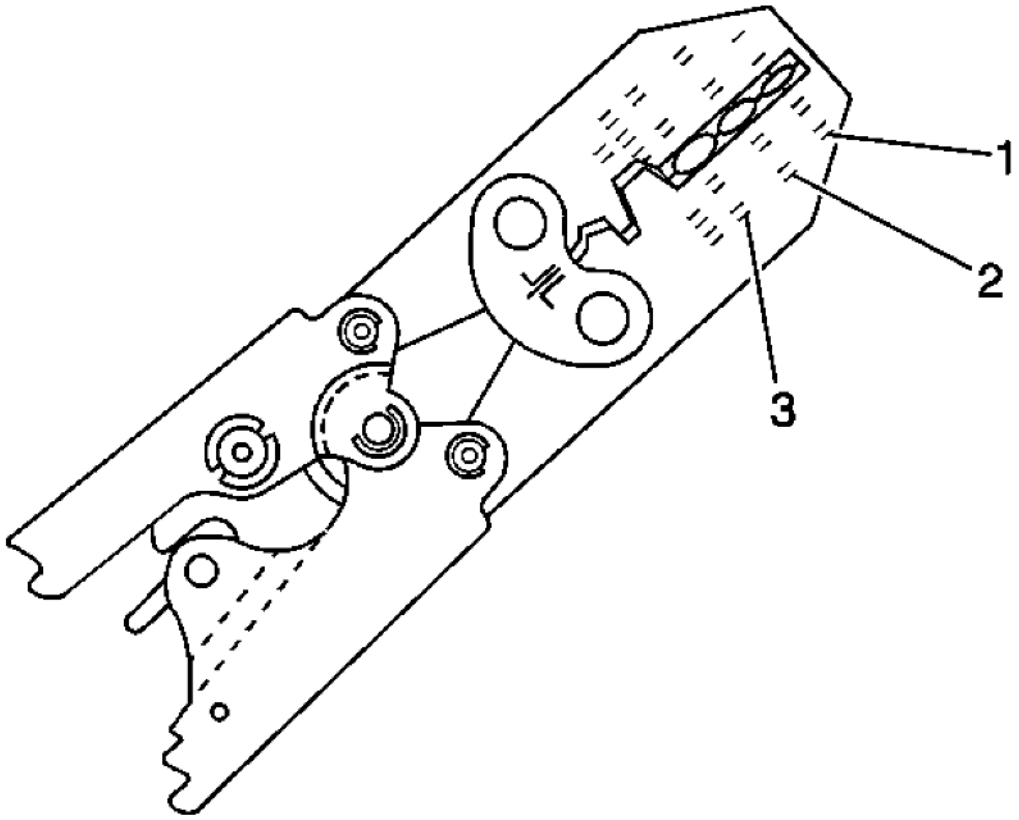


Fig. 4: Identifying Splice Crimp Tool Nests
Courtesy of GENERAL MOTORS CORP.

5. Use the **EL-38125-10:** tool in order to position the DuraSeal splice sleeve in the proper color nest of the splice sleeve crimp tool. The crimp tool has four nests, one for each color.

cardiagn.com

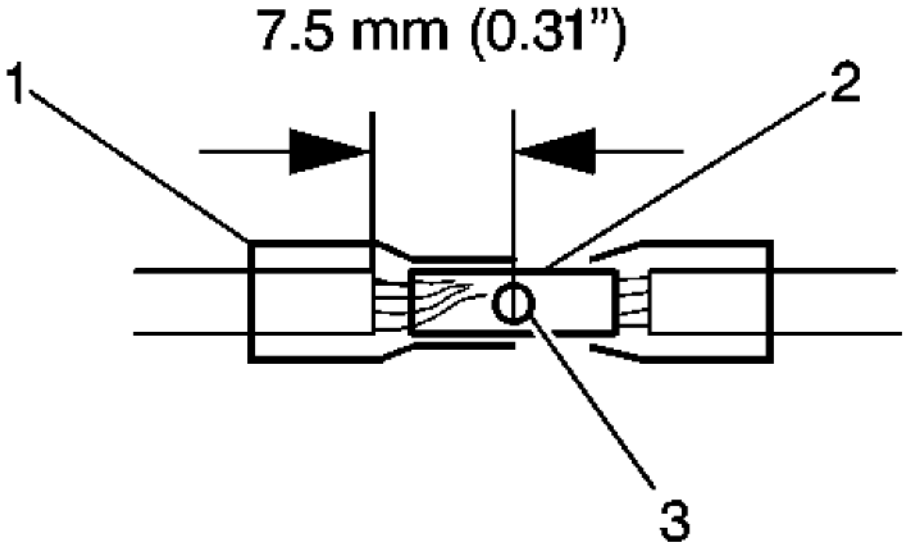


Fig. 5: Identifying Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

6. Place the DuraSeal splice sleeve in the nest. Ensure that the crimp falls midway between the end of the barrel and the stop. The sleeve has a stop (3) in the middle of the barrel (2) in order to prevent the wire (1) from going further. Close the hand crimper handles slightly in order to firmly hold the DuraSeal splice sleeve in the proper nest.



Fig. 6: Identifying Crimped Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

7. Insert the wire into the splice sleeve barrel until the wire hits the barrel stop.

cardiagn.com

8. Tightly close the handles of the crimp tool until the crimper handles open when released.

   The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Repeat steps 4 and 5 for the opposite end of the splice.



Fig. 7: Identifying Heated Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

9. Using the heat torch, apply heat to the crimped area of the barrel.
10. Start in the middle and gradually move the heat barrel to the open ends of the tubing:
    - The tubing will shrink completely as the heat is moved along the insulation.
    - A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

HIGH TEMPERATURE WIRING REPAIRS

Special Tools

- **EL-38125-10:** Splice Sleeve Crimping Tool
- **J 38125-5:** Ultra Torch
- DuraSeal splice sleeves, in order to repair the SIR/SRS wiring

For equivalent regional tools, refer to **Special Tools** .

High Temperature Wiring

Wiring that is exposed to high temperatures, 135°C (275°F) or higher, for prolonged periods of time may use materials i.e. wires, connectors, and shielding that has a higher heat rating than typical wiring. When making a repair in a high temperature area observe the following:

- Use high temperature bulk wire rated at 150°C (302°F) continuous temperature to replace any damaged wire.
- Replace any heat shielding that is removed.
- Cover any DuraSeal splice sleeves with SCT1 shrink tubing.

cardiagn.com

- After making a wiring repair, ensure that the location of the wiring is not moved closer to the heat source.

Identifying High Temperature Wiring

Wiring that is exposed to high temperature, 135°C (275°F) or higher, for prolonged periods of time need special considerations when making wiring repairs. Areas that may be exposed to higher temperatures can be identified by heat resistant materials that are being used in those areas. These materials may include heat reflective tape, moon tape, and high temperature shrink tubing. Also conduit and other protective coverings may be used. Because conduit or similar coverings are used throughout the vehicle regardless of the temperature, it may be necessary for the technician to determine if an area is exposed to excessive heat before making a wiring repair. Obvious areas of consideration would be any area located near the exhaust manifolds, catalytic converter, and exhaust pipes.

Items Required

- DuraSeal splice sleeves to crimp and seal connections
- High temperature SCT1 shrink tubing to protect the splice sleeves
- Terminated leads or pigtails
- The correct tools to remove the terminals from the connectors

Use high temperature bulk wire rated at 150°C (302°F) continuous temperature of the same or larger gauge size as the original wire when repair damage wire. Also replace any reflective tape that you remove during the repair.

High Temperature Wire Repair

NOTE: Refer to Wiring Repairs in order to determine the correct wire size for the circuit you are repairing. You must obtain this information in order to ensure circuit integrity.

If any wire except the pigtail is damaged, repair the wire by splicing in a new section of wire rated at 150°C (302°F) continuous temperature rating of the same gauge size (0.5 mm, 0.8 mm, 1.0 mm etc.). Use the DuraSeal splice sleeves and the **EL-38125-10:** tool and then encapsulate the splice sleeve using the high temperature SCT1 shrink tubing. Use the following wiring repair procedures in order to ensure the integrity of the sealed splice.

Splice Sleeve Color	Crimp Tool Nest Color	Wire Gauge mm^2 / (AWG)
Salmon (Yellow-Pink) 12089189	Red (1)	0.035-0.8/(18-20)
Blue 12089190	Blue (2)	1-2/(14-16)
Yellow 12089191	Yellow (3)	3-5/(10-12)
Green 88988379	Red (1)	0.22-0.35/(22-26)

cardiagn.com

NOTE: **You must perform the following procedures in the listed order. Repeat the procedure if any wire strands are damaged. You must obtain a clean strip with all of the wire strands intact.**

1. Open the harness by removing any tape:
   - Use a sewing seam ripper, available from sewing supply stores, in order to cut open the harness in order to avoid wire insulation damage.
   - Use the DuraSeal splice sleeves on all types of insulation except tefzel and coaxial.
   - Do not use the crimp and DuraSeal splice sleeve to form a splice with more than 2 wires coming together.
2. Cut as little wire off the harness as possible. You may need the extra length of wire in order to change the location of a splice.

   Adjust splice locations so that each splice is at least 40 mm (1.5 in) away from the other splices, harness branches, or connectors.

3. Strip the insulation:
   - When adding a length of wire to the existing harness, use the same size wire as the original wire.
   - Perform one of the following items in order to find the correct wire size:
     - Find the wire on the schematic and convert to regional wiring gauge size.
     - If you are unsure of the wire size, begin with the largest opening in the wire stripper and work down until achieving a clean strip of the insulation.
   - Strip approximately 7.5 mm (0.313 in) of insulation from each wire to be spliced.
   - Do not nick or cut any of the strands. Inspect the stripped wire for nicks or cut strands.
   - If the wire is damaged, repeat this procedure after removing the damaged section.
4. Slide a section of high temperature SCT1 shrink tubing down the length of wire to be spliced. Ensure that the shrink tubing will not interfere with the splice procedure.
5. Select the proper DuraSeal splice sleeve according to the wire size. Refer to the above table at the beginning of the repair procedure for the color coding of the DuraSeal splice sleeves and the crimp tool nests.

cardiagn.com

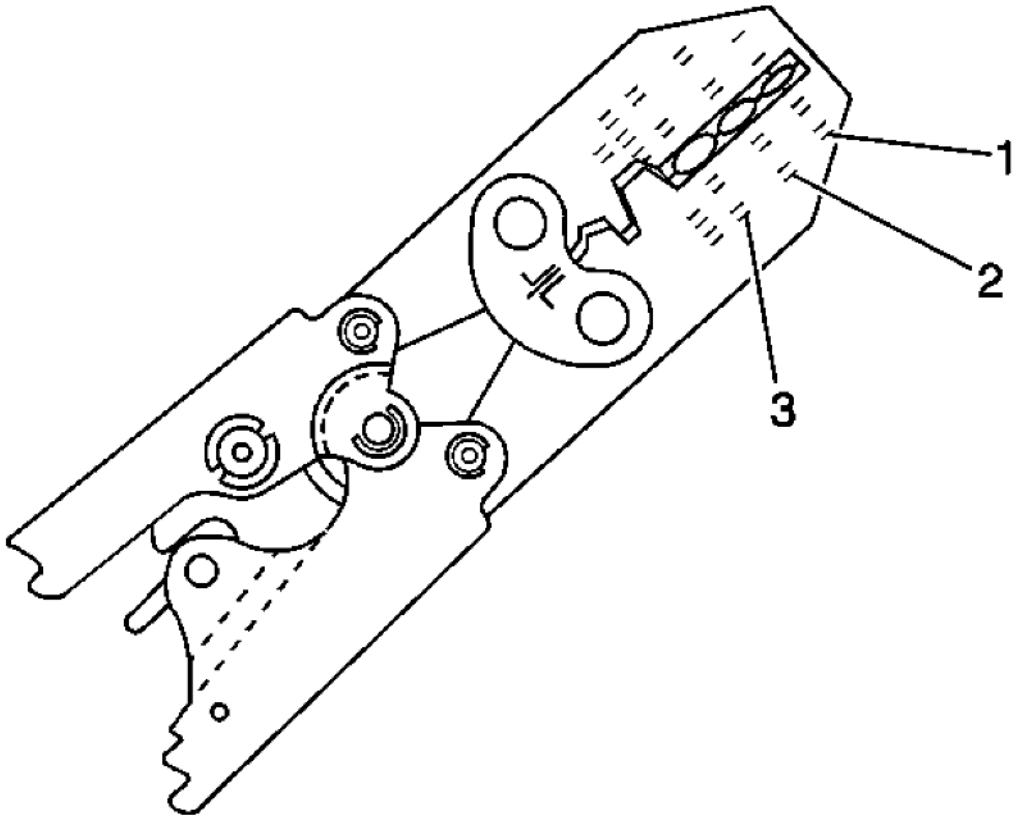


Fig. 8: Identifying Splice Crimp Tool Nests
Courtesy of GENERAL MOTORS CORP.

6. Use the **EL-38125-10:** tool in order to position the DuraSeal splice sleeve in the proper color nest of the splice sleeve crimp tool. The crimp tool has four nests, one for each color.

cardiagn.com

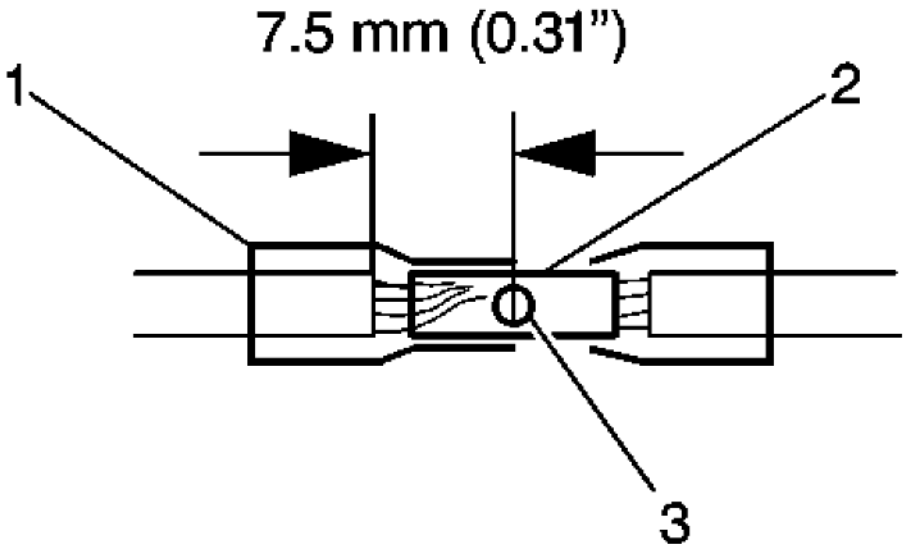


Fig. 9: Identifying Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

7. Place the DuraSeal splice sleeve in the nest. Ensure that the crimp falls midway between the end of the barrel and the stop. The sleeve has a stop (3) in the middle of the barrel (2) in order to prevent the wire (1) from going further. Close the hand crimper handles slightly in order to firmly hold the DuraSeal splice sleeve in the proper nest.



Fig. 10: Identifying Crimped Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

8. Insert the wire into the splice sleeve barrel until the wire hits the barrel stop.

cardiagn.com

9. Tightly close the handles of the crimp tool until the crimper handles open when released.

   The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Repeat steps 4 and 5 for the opposite end of the splice.



Fig. 11: Identifying Heated Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

10. Using the heat torch, apply heat to the crimped area of the barrel.
11. Start in the middle and gradually move the heat barrel to the open ends of the tubing:
    - The tubing will shrink completely as the heat is moved along the insulation.
    - A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

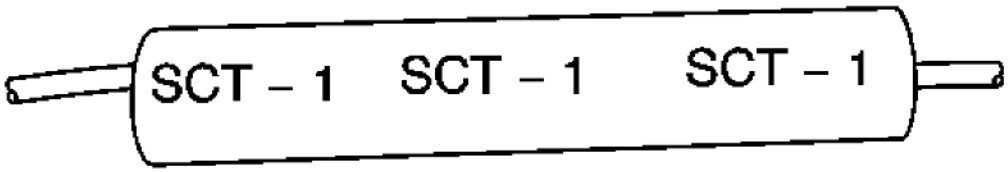


Fig. 12: View Of High Temperature SCT1 Shrink Tube
Courtesy of GENERAL MOTORS CORP.

12. Center the high temperature SCT1 shrink tube over the DuraSeal splice sleeve.
13. Using the heat torch, apply heat to the high temperature heat shrink tubing.
14. Gradually move the heat from the center to the open end of the tubing:
    - The tubing will shrink completely as the heat is moved along the insulation.
    - A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is

cardiagn.com

achieved.

15. Replace any reflective tape and clips that may have been remove during the repair.

HEATED OXYGEN SENSOR WIRING REPAIRS

CAUTION: Do not solder repairs under any circumstances as this could result in the air reference being obstructed.

If the heated oxygen sensor pigtail wiring, connector, or terminal is damaged the entire oxygen sensor assembly must be replaced. Do not attempt to repair the wiring, connector, or terminals. In order for the sensor to function properly it must have a clean air reference. This clean air reference is obtained by way of the oxygen sensor signal and heater wires. Any attempt to repair the wires, connectors or terminals could result in the obstruction of the air reference and degrade oxygen sensor performance.

The following guidelines should be used when servicing the heated oxygen sensor:

- Do not apply contact cleaner or other materials to the sensor or vehicle harness connectors. These materials may get into the sensor, causing poor performance. Also, the sensor pigtail and harness wires must not be damaged in such a way that the wires inside are exposed. This could provide a path for foreign materials to enter the sensor and cause performance problems.
- Neither the sensor nor vehicle lead wires should be bent sharply or kinked. Sharp bends, kinks, etc., could block the reference air path through the lead wire.
- Do not remove or defeat the oxygen sensor ground wire (where applicable). Vehicles that utilize the ground wire sensor may rely on this ground as the only ground contact to the sensor. Removal of the ground wire will also cause poor engine performance.
- To prevent damage due to water intrusion, be sure that the peripheral seal remains intact on the vehicle harness connector.

SPLICING COPPER WIRE USING SPLICE SLEEVES

Special Tools

- **EL-38125-10:** Splice Sleeve Crimping Tool
- **J 38125-5:** Ultra Torch
- DuraSeal splice sleeves, in order to repair the SIR/SRS wiring

For equivalent regional tools, refer to **Special Tools** .

NOTE: Use only DuraSeal splice sleeves. Other splice sleeves may not protect the splice from moisture or provide a good electrical connection.

Use DuraSeal splice sleeves to form a one-to-one splice on all types of insulation except tefzel and coaxial. Use DuraSeal splice sleeves where there is special requirements such as moisture sealing. Follow the instructions below in order to splice copper wire using DuraSeal splice sleeves.

cardiagn.com

Splice Sleeve Color	Crimp Tool Nest Color	Wire Gauge mm^2 / (AWG)
Salmon (Yellow-Pink) 12089189	Red (1)	0.35-0.8/(18-20)
Blue 12089190	Blue (2)	1-2/(14-16)
Yellow 12089191	Yellow (3)	3-5/(10-12)
Green 88988379	Red (1)	0.22-0.35/(22-26)

NOTE: **You must perform the following procedures in the listed order. Repeat the procedure if any wire strands are damaged. You must obtain a clean strip with all of the wire strands intact.**

1. Open the harness by removing any tape:
   - Use a sewing seam ripper, available from sewing supply stores, in order to cut open the harness in order to avoid wire insulation damage.
   - Use the DuraSeal splice sleeves on all types of insulation except tefzel and coaxial.
   - Do not use the crimp and DuraSeal splice sleeve to form a splice with more than 2 wires coming together.
2. Cut as little wire off the harness as possible. You may need the extra length of wire in order to change the location of a splice.

   Adjust splice locations so that each splice is at least 40 mm (1.5 in) away from the other splices, harness branches, or connectors.

3. Strip the insulation:
   - When adding a length of wire to the existing harness, use the same size wire as the original wire.
   - Perform one of the following items in order to find the correct wire size:
     - Find the wire on the schematic and convert to regional wiring gauge size.
     - If you are unsure of the wire size, begin with the largest opening in the wire stripper and work down until achieving a clean strip of the insulation.
   - Strip approximately 7.5 mm (0.313 in) of insulation from each wire to be spliced.
   - Do not nick or cut any of the strands. Inspect the stripped wire for nicks or cut strands.
   - If the wire is damaged, repeat this procedure after removing the damaged section.
4. Select the proper DuraSeal splice sleeve according to the wire size. Refer to the above table at the beginning of the repair procedure for the color coding of the DuraSeal splice sleeves and the crimp tool nests.

cardiagn.com

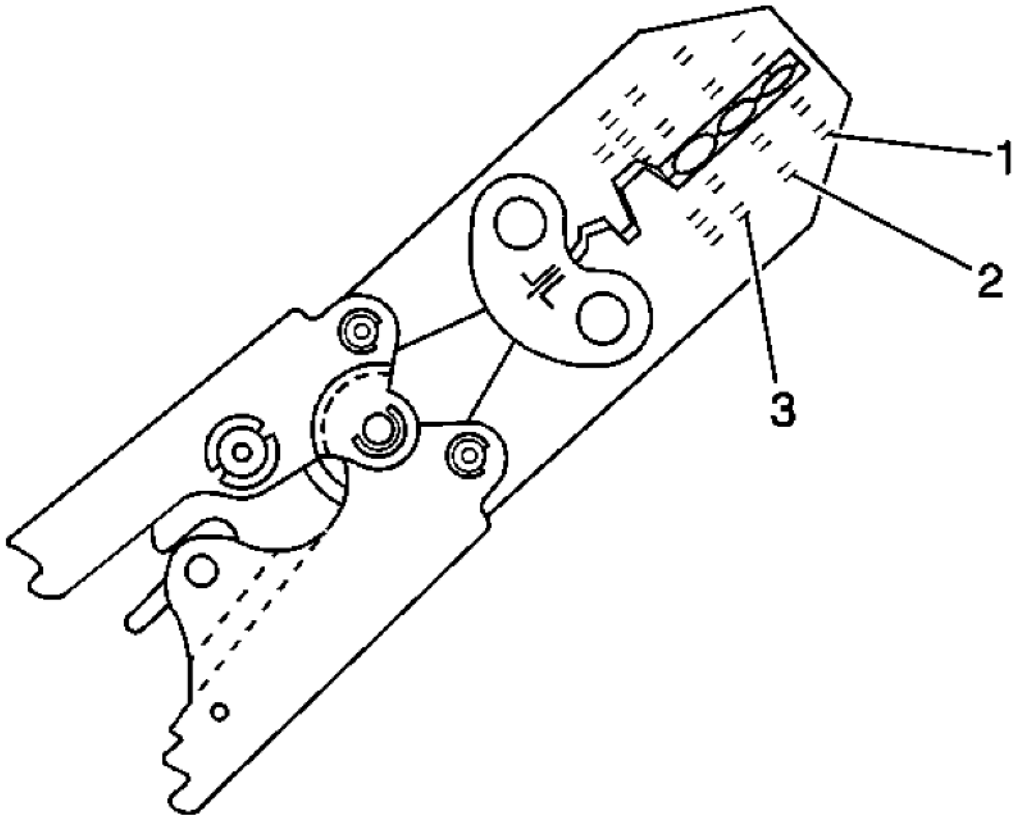


Fig. 13: Identifying Splice Crimp Tool Nests
Courtesy of GENERAL MOTORS CORP.

5. Use the **EL-38125-10:** tool in order to position the DuraSeal splice sleeve in the proper color nest of the splice sleeve crimp tool. The crimp tool has four nests, one for each color.

cardiagn.com

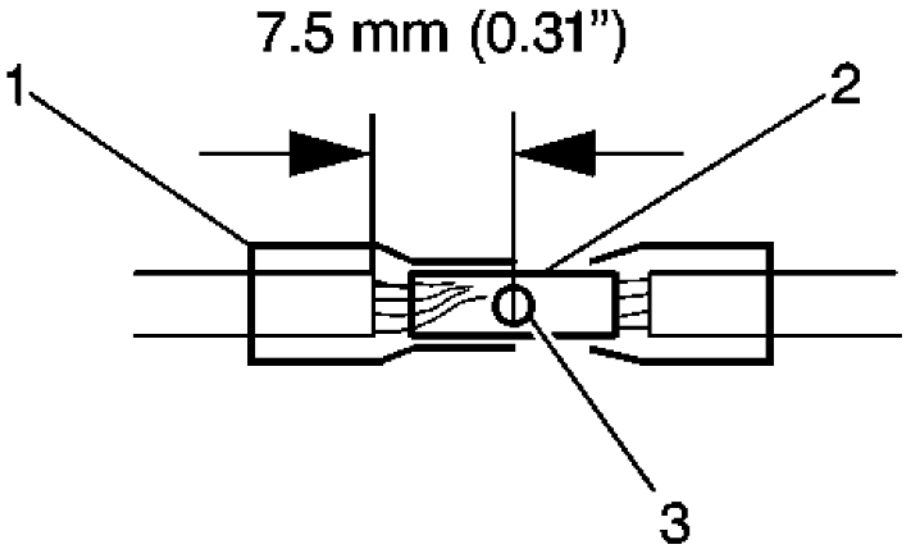


Fig. 14: Identifying Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

6. Place the DuraSeal splice sleeve in the nest. Ensure that the crimp falls midway between the end of the barrel and the stop. The sleeve has a stop (3) in the middle of the barrel (2) in order to prevent the wire (1) from going further. Close the hand crimper handles slightly in order to firmly hold the DuraSeal splice sleeve in the proper nest.



Fig. 15: Identifying Crimped Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

7. Insert the wire into the splice sleeve barrel until the wire hits the barrel stop.

cardiagn.com

8. Tightly close the handles of the crimp tool until the crimper handles open when released.

   The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Repeat steps 4 and 5 for the opposite end of the splice.



Fig. 16: Identifying Heated Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

9. Using the heat torch, apply heat to the crimped area of the barrel.
10. Start in the middle and gradually move the heat barrel to the open ends of the tubing:
    - The tubing will shrink completely as the heat is moved along the insulation.
    - A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

SPLICING TWISTED OR SHIELDED CABLE

Twisted/shielded cable is used in order to protect wiring from electrical noise. Two-conductor cable of this construction is used between the radio and the Delco-Bose® speaker/amplifier units and other applications where low level, sensitive signals must be carried. Follow the instructions below in order to repair the twisted/shielded cable.

cardiagn.com

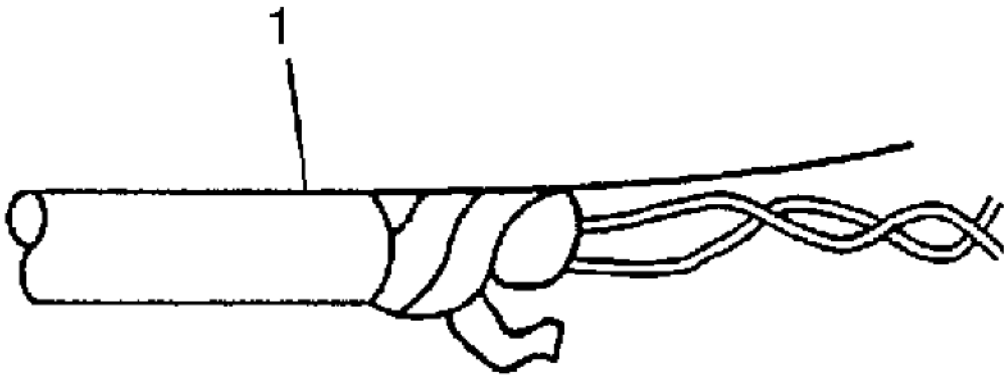


Fig. 17: View Of Outer Wiring Jacket
Courtesy of GENERAL MOTORS CORP.

1. Remove the outer jacket (1). Use care not to cut into the drain wire of the mylar tape.
2. Unwrap the tape. Do not remove the tape. Use the tape in order to rewrap the twisted conductors after the splice is made.



Fig. 18: Identifying Staggered Splices
Courtesy of GENERAL MOTORS CORP.

3. Prepare the splice. Untwist the conductors and follow the instructions for **Splicing Copper Wire Using Splice Sleeves**. Staggering the splices by 65 mm (2.5 in) is recommended.

cardiagn.com

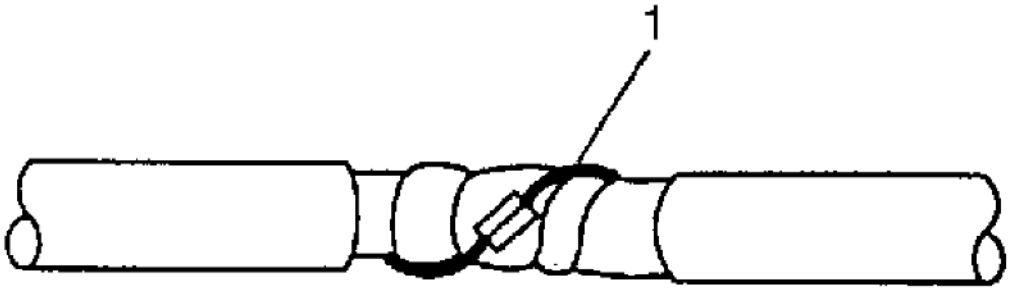


Fig. 19: Identifying Diode On Wire
Courtesy of GENERAL MOTORS CORP.

NOTE: Apply the mylar tape with the aluminum side inward. This ensures good electrical contact with the drain wire.

4. Re-assemble the cable.
   - Rewrap the conductors with the mylar tape. If the mylar tape is damaged, use 3M product AL-36FR to replace the damaged mylar tape.
   - Use caution not to wrap the drain wire in the tape (1).
   - Follow the splicing instructions for copper wire and splice the drain wire.
   - Wrap the drain wire around the conductors and tape with electrical tape to replace the outer insulation.



Fig. 20: View Of Repaired Wire Covered With Electrical Tape
Courtesy of GENERAL MOTORS CORP.

5. Tape over the entire cable. Use a winding motion when you apply the tape.

cardiagn.com

SPLICING INLINE HARNESS DIODES

Many vehicle electrical systems use a diode to isolate circuits and protect the components from voltage spikes. When installing a new diode use the following procedure.

1. Open the harness.
   - If the harness is taped, remove the tape.
   - To avoid wiring insulation damage, use a sewing ripper in order to cut open the harness.
   - If the harness has a black plastic conduit, pull out the diode.
2. If the diode is taped to the harness, remove all of the tape.
3. Check and record the current flow direction and orientation of diode.
4. Remove the inoperative diode from the harness with a suitable soldering tool.

NOTE: If the diode is located next to a connector terminal remove the terminal(s) from the connector to prevent damage from the soldering tool.

5. Carefully strip away a section of insulation next to the old soldered portion of the wire(s). Do not remove any more than is needed to attach the new diode.
6. Check current flow direction of the new diode, being sure to install the diode with correct bias. Reference the appropriate service manual wiring schematic to obtain the correct diode installation position.
7. Attach the new diode to the wire(s) using 60/40 rosin core solder. Before soldering attach some heat sinks (aluminum alligator clips) across the diode wire ends to protect the diode from excessive heat. Follow the manufacturer's instruction for the soldering equipment.
8. Reinstall terminal(s) into the connector body if previously removed.

NOTE: To prevent shorts to ground and water intrusion, completely cover all exposed wire and diode attachment points with tape.

9. Tape the diode to the harness or connector using electrical tape.

SIR/SRS WIRING REPAIRS

Special Tools

- **EL-38125-10:** Splice Sleeve Crimping Tool
- **J 38125-5:** Ultra Torch
- DuraSeal splice sleeves, in order to repair the SIR/SRS wiring

For equivalent regional tools, refer to **Special Tools** .

The DuraSeal splice sleeves have the following 2 critical features:

- A special heat shrink sleeve environmentally seals the splice. The heat shrink sleeve contains a sealing adhesive inside.

cardiagn.com

- A cross hatched (knurled) core crimp provides the necessary low resistance contact integrity for these sensitive, low energy circuits.

The Supplemental Inflatable Restraint (SIR) System/Supplemental Restraint System (SRS) requires special wiring repair procedures due to the sensitive nature of the circuitry. Follow the specific procedures and instructions when working with the SIR/SRS, and the wiring components, such as connectors and terminals.

SIR/SRS Connector Repair (Plastic Body and Terminal Metal Pin)

NOTE: Do not use the terminals in the kit in order to replace damaged SIR/SRS system terminals. Use either an SIR/SRS pigtail or a terminated lead from the SIR Repair Kit Tray.

The terminals in the SIR/SRS system are made with a special plating. This plating provides the necessary contact integrity for the sensitive, low energy circuits.

Pigtail repair packs are available for SIR/SRS connectors with eight or less terminals. Only the connector body is available for connectors with more than eight terminals. Terminated leads can be used to replace damaged terminals when replacing the connector body.

SIR/SRS Component Wire Pigtail Repair

NOTE: Do not make wire, connector, or terminal repairs on components with wire pigtails.

A wire pigtail is a wire or wires attached directly to the device, not by a connector. If a wiring pigtail is damaged, you must replace the entire component, with pigtail. The inflatable restraint steering wheel module coil is an example of a pigtail component.

SIR/SRS Wire Repair

NOTE: Refer to Wiring Repairs in order to determine the correct wire size for the circuit you are repairing. You must obtain this information in order to ensure circuit integrity.

If any wire except the pigtail is damaged, repair the wire by splicing in a new section of wire of the same gauge size (0.5 mm, 0.8 mm, 1.0 mm etc.). Use the DuraSeal splice sleeves and **EL-38125-10:** tool. Use the following wiring repair procedures in order to ensure the integrity of the DuraSeal splice sleeves.

Splice Sleeve Color	Crimp Tool Nest Color	Wire Gauge mm^2 / (AWG)
Salmon (Yellow-Pink) 12089189	Red (1)	0.035-0.8/(18-20)
Blue 12089190	Blue (2)	1-2/(14-16)
Yellow 12089191	Yellow (3)	3-5/(10-12)

cardiagn.com

Green 88988379	Red (1)	0.22-0.35/(22-26)

NOTE: **You must perform the following procedures in the listed order. Repeat the procedure if any wire strands are damaged. You must obtain a clean strip with all of the wire strands intact.**

1. Open the harness by removing any tape:
   - Use a sewing seam ripper, available from sewing supply stores, in order to cut open the harness in order to avoid wire insulation damage.
   - Use the DuraSeal splice sleeves on all types of insulation except tefzel and coaxial.
   - Do not use the crimp and DuraSeal splice sleeve to form a splice with more than 2 wires coming together.
2. Cut as little wire off the harness as possible. You may need the extra length of wire in order to change the location of a splice.

   Adjust splice locations so that each splice is at least 40 mm (1.5 in) away from the other splices, harness branches, or connectors.

3. Strip the insulation:
   - When adding a length of wire to the existing harness, use the same size wire as the original wire.
   - Perform one of the following items in order to find the correct wire size:
     - Find the wire on the schematic and convert to regional wiring gauge size.
     - If you are unsure of the wire size, begin with the largest opening in the wire stripper and work down until achieving a clean strip of the insulation.
   - Strip approximately 7.5 mm (0.313 in) of insulation from each wire to be spliced.
   - Do not nick or cut any of the strands. Inspect the stripped wire for nicks or cut strands.
   - If the wire is damaged, repeat this procedure after removing the damaged section.
4. Select the proper DuraSeal splice sleeve according to the wire size. Refer to the above table at the beginning of the repair procedure for the color coding of the DuraSeal splice sleeves and the crimp tool nests.

cardiagn.com

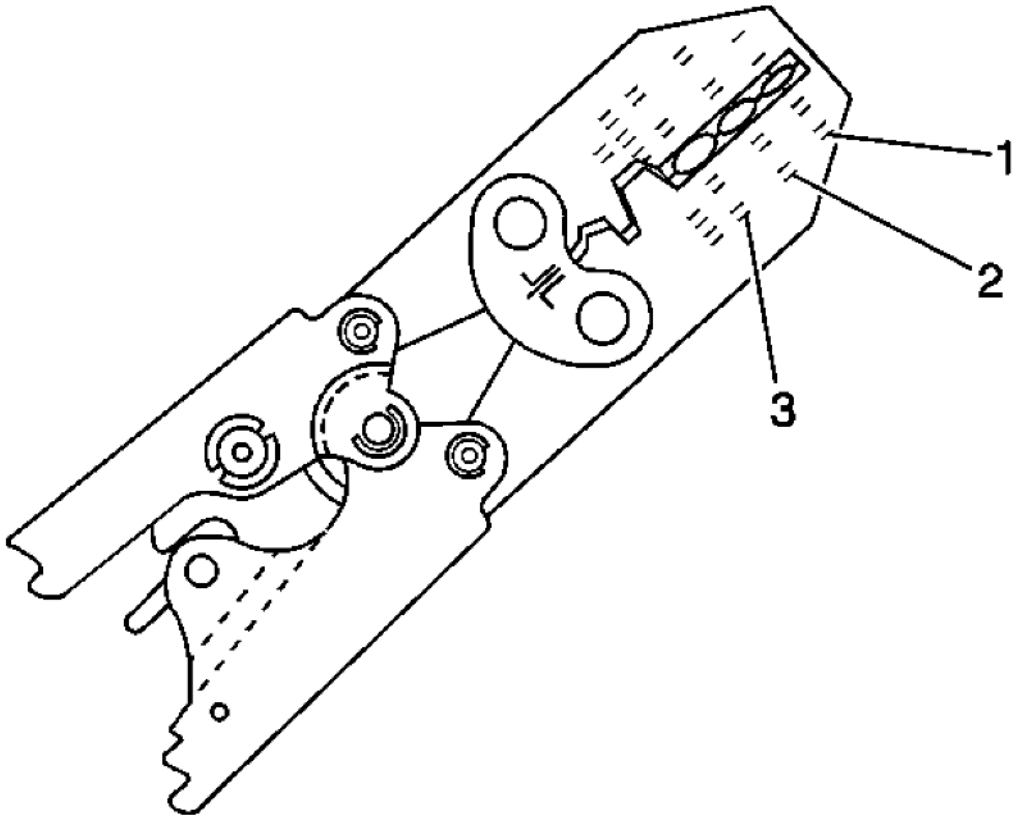


Fig. 21: Identifying Splice Crimp Tool Nests
Courtesy of GENERAL MOTORS CORP.

5. Use the **EL-38125-10:** tool in order to position the DuraSeal splice sleeve in the proper color nest of the splice sleeve crimp tool. The crimp tool has four nests, one for each color.

cardiagn.com

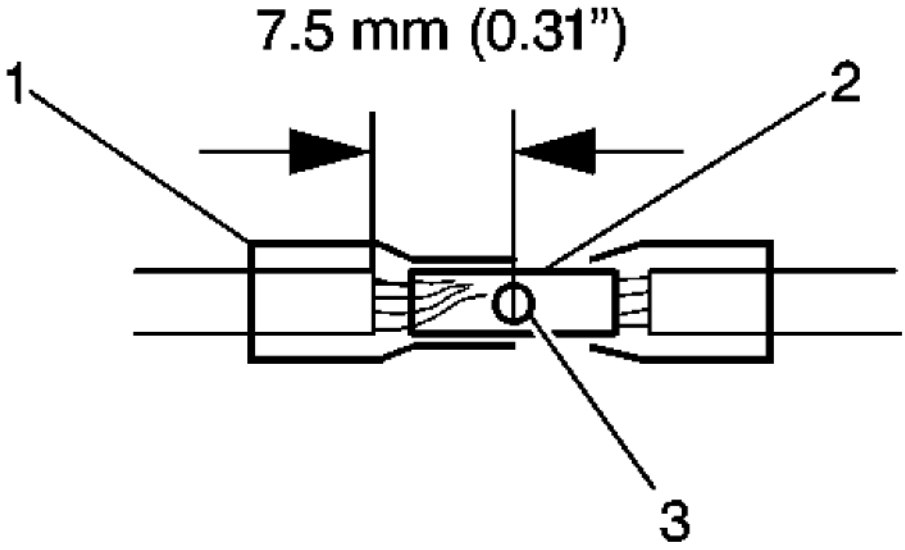


Fig. 22: Identifying Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

6. Place the DuraSeal splice sleeve in the nest. Ensure that the crimp falls midway between the end of the barrel and the stop. The sleeve has a stop (3) in the middle of the barrel (2) in order to prevent the wire (1) from going further. Close the hand crimper handles slightly in order to firmly hold the DuraSeal splice sleeve in the proper nest.



Fig. 23: Identifying Crimped Duraseal Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

7. Insert the wire into the splice sleeve barrel until the wire hits the barrel stop.

cardiagn.com

8. Tightly close the handles of the crimp tool until the crimper handles open when released.

   The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Repeat steps 4 and 5 for the opposite end of the splice.



Fig. 24: Identifying Heated Splice Sleeve
Courtesy of GENERAL MOTORS CORP.

9. Using the heat torch, apply heat to the crimped area of the barrel.
10. Start in the middle and gradually move the heat barrel to the open ends of the tubing:
    - The tubing will shrink completely as the heat is moved along the insulation.
    - A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

Connector Position Assurance (CPA)

The connector position assurance (CPA) is a small plastic insert that fits through the locking tabs of a connector. CPAs are used in all SIR System connectors and also in some connectors of other systems. The CPA ensures that the connector halves cannot vibrate apart. You must have the CPA in place in order to ensure good contact between the mating terminals of a connection.

Terminal Position Assurance (TPA)

The terminal position assurance (TPA) insert resembles the plastic combs used in the control module connectors. The TPA keeps the terminal securely seated in the connector body. Do not remove the TPA from the connector body unless you remove a terminal for replacement.

CONNECTOR REPAIRS

Connector Repairs contains a list of all connector repairs. The connector repairs are listed by the connector manufacturer and then by connector type. If the technician cannot identify the manufacturer of the connector, refer to Identifying Connectors below. Knowing the connector manufacturer will assist in finding the correct connector repair from the following list:

- **Connector Position Assurance Locks**

cardiagn.com

- **Terminal Position Assurance Locks**
- **Bosch Connectors (BSK)** or **Bosch Connectors (0.64)** or **Bosch Connectors (2.8 JPT)** or **Bosch Connectors (ECM)**
- **Delphi Connectors (Weather Pack)** or **Delphi Connectors (Push To Seat)** or **Delphi Connectors (Pull To Seat)** or **Delphi Connectors (Micro-Pack 100W)** or **Delphi Connectors (Micro .64)** or **Delphi Connectors (12-Way)**
- **Tyco/AMP Connectors (CM 42-Way)** or **Tyco/AMP Connectors (Sensor)** or **Tyco/AMP Connectors (0.25 Cap)** or **Tyco/AMP Connectors (43-Way)** or **Tyco/AMP Connectors (Door Module)** or **Tyco/AMP Connectors (102-Way Inline)** or **Tyco/AMP Connectors (Seat)** or **Tyco/AMP Connectors (SIR)**
- **Yazaki Connectors (2-Way)** or **Yazaki Connectors (16-Way)**
- **Repairing Connector Terminals**

Connector Anatomy

cardiagn.com

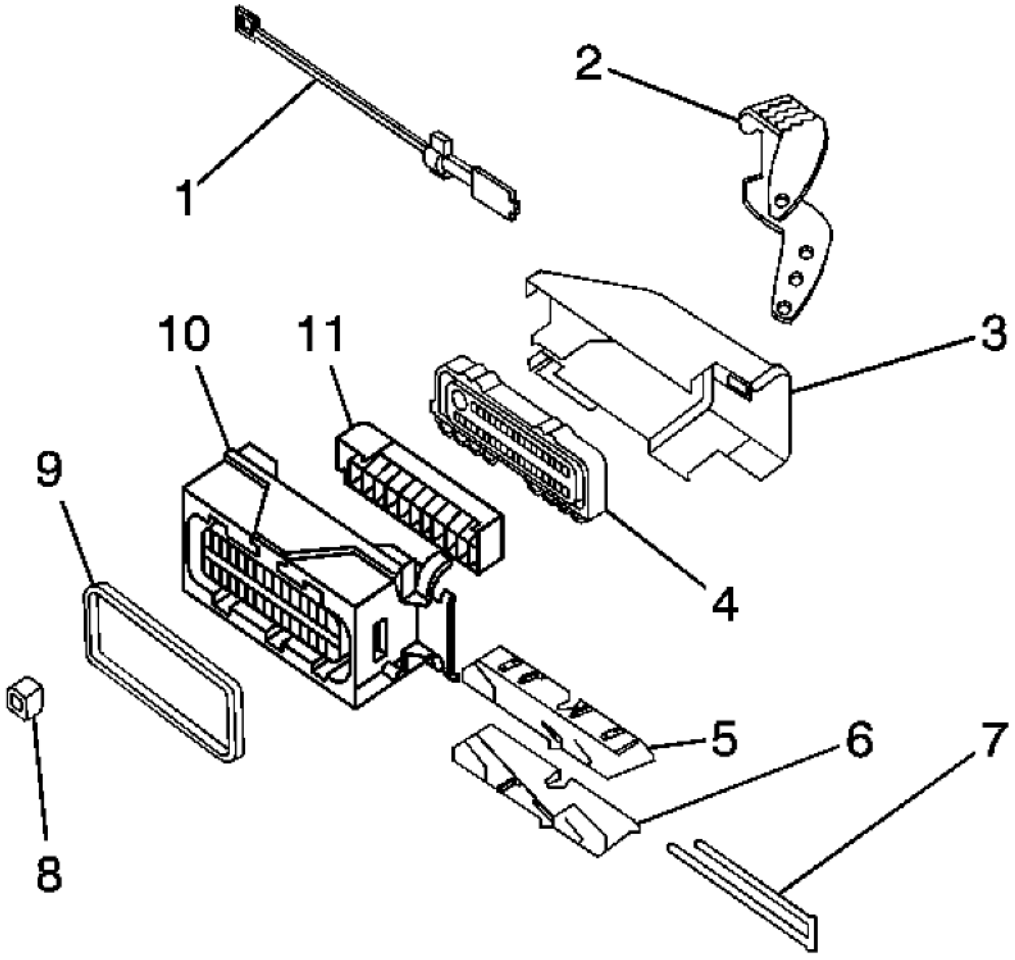


Fig. 25: Connector Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Connector Positive Assurance (CPA)
2	Assist Lever
3	Wiredress Cover
4	Seal Strain/Relief
5	Slide Left Hand
6	Slide Right Hand
7	Terminal Positive Assurance (TPA)
8	Terminal Positive Assurance (TPA)

cardiagn.com

9	Connector Seal
10	Connector Housing
11	Inner Connector

Identifying Connectors

Knowing the connector manufacturer is helpful when trying to locating the correct connector repair procedure. There are many different connector designs used on GM vehicles and it is sometimes difficult to identify the connector manufacturer. The information in this document should help with the identification of connector manufactures.

The following connector manufacturers make most of the connectors found in GM vehicles:

- AFL/EPC (Alcoa Fujikura Ltd./Engineered Plastics Components)
- Bosch
- Delphi
- FCI (Framatome Connectors International)
- JAE (Japan Aviation Electronics)
- JST (Japan Solderless Terminals)
- Kostel
- Molex
- Sumitomo
- Tyco/AMP
- Yazaki

Identifying the manufacturer of a connector is often difficult. When trying to determine the manufacturer of a connector, look for specific identifying marks that are unique to that connector supplier. Most of these identify marks are hard to find or see. Check the connector carefully and refer to the information below for pictures and descriptions of connector identification markings.

cardiagn.com

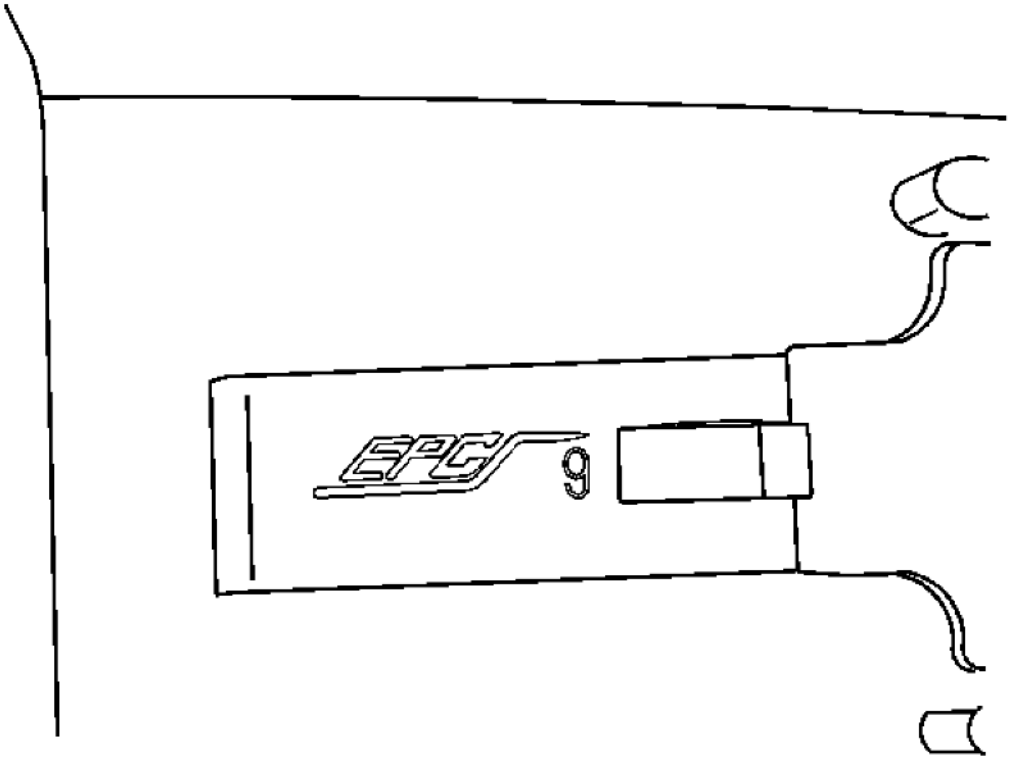


Fig. 26: View Of EPC Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- Most of AFLs connectors have EPC on their connector body. Some of the smaller connectors will not have any markings on them.

cardiagn.com

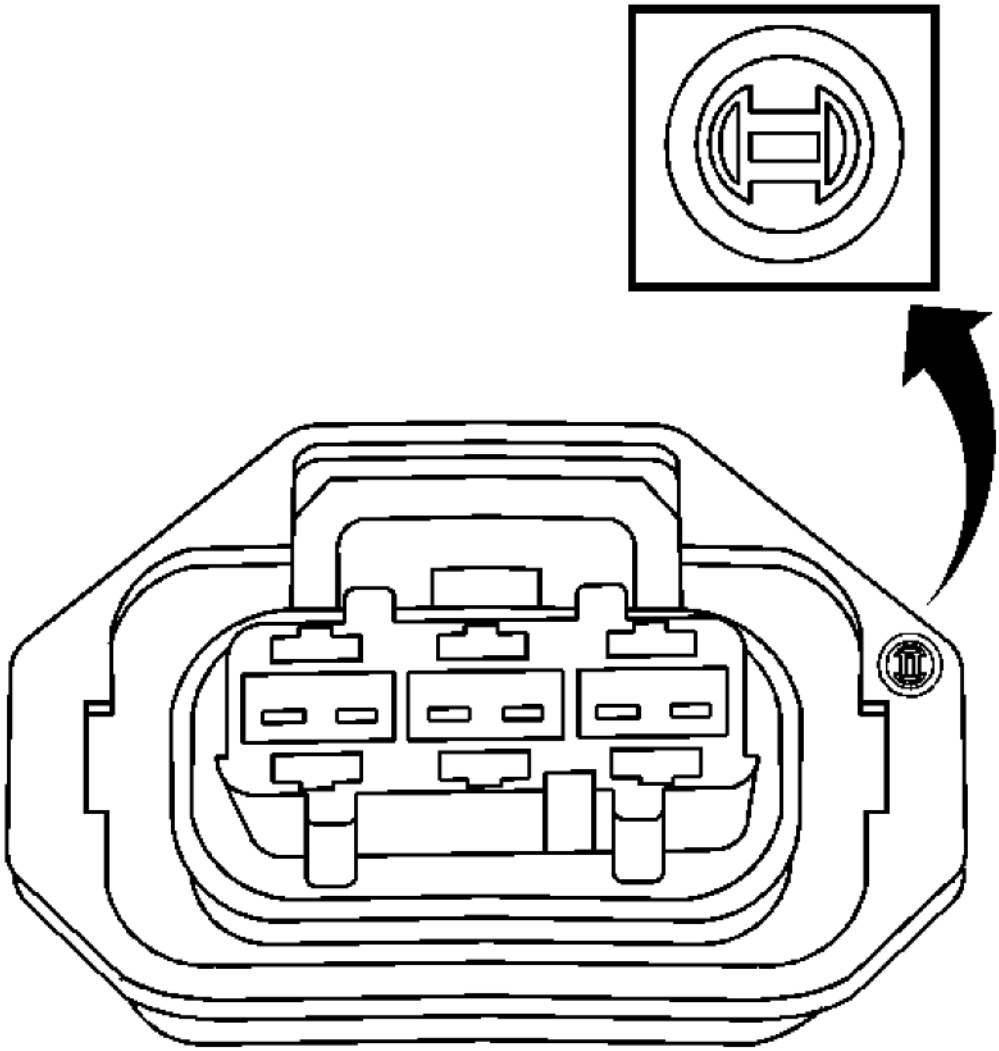


Fig. 27: View Of Bosch Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- In some cases Bosch will actually be printed on the connector. If Bosch does not appear on the connector, look for the Bosch logo. The Bosch logo is a circle with a blunted arrow inside. This logo can appear anywhere on the connector and is often very small.

cardiagn.com

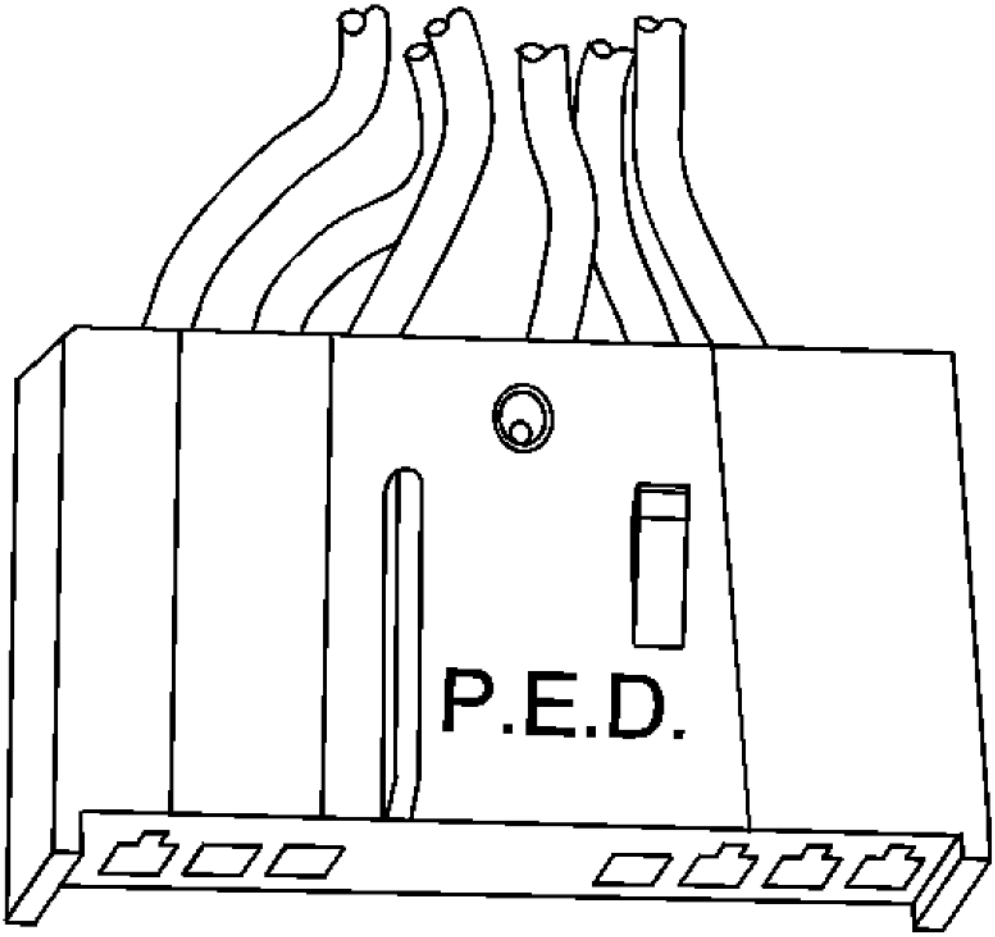


Fig. 28: View Of PED Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- In some cases Delphi will actually be printed on the connector. If Delphi is not printed on the connector, look for PED. In both cases there is no specific orientation for Delphi or PED and they can appear anywhere on the connector.

cardiagn.com

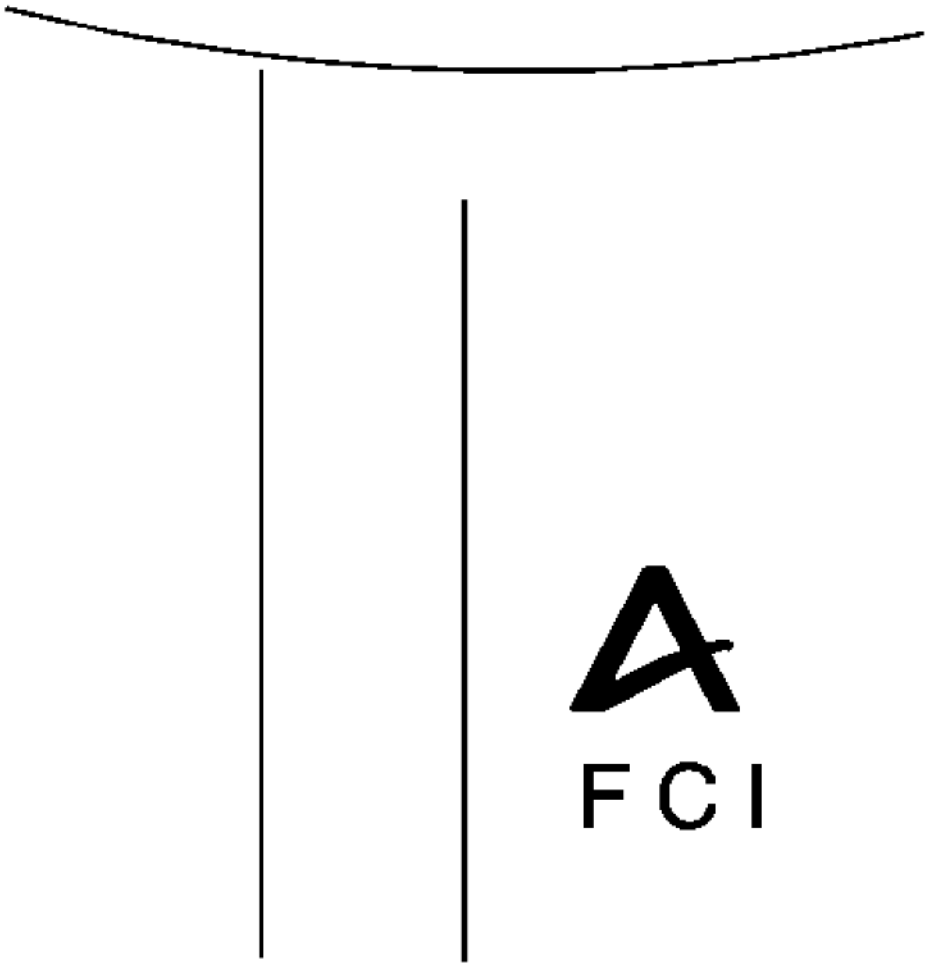


Fig. 29: View Of FCI Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- FCI connectors may have the FCI logo on their connectors. The logo is the letters FCI with an "A" above it.

cardiagn.com

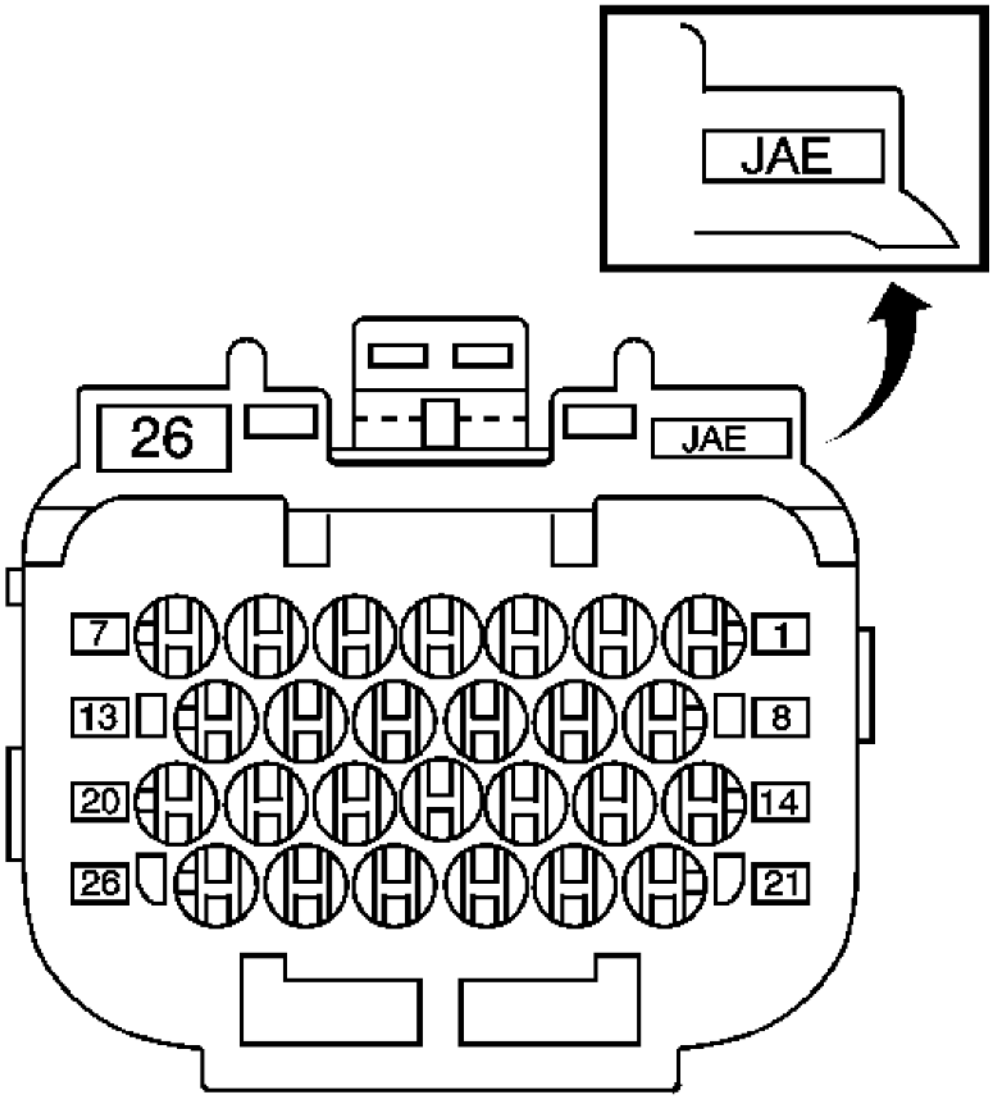


Fig. 30: View Of JAF Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- JAE connector have JAE in small letters on their connectors.

cardiagn.com

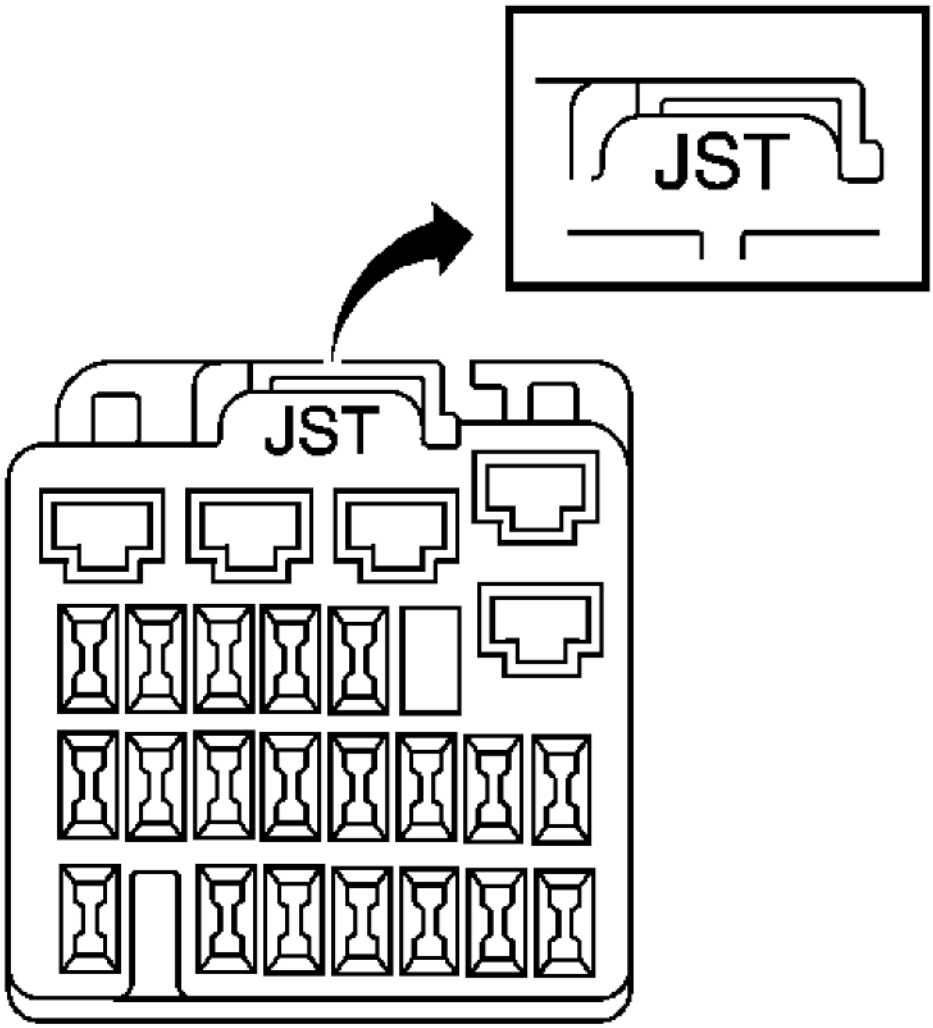


Fig. 31: View Of JST Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- JST connectors have JST in small letters on their connectors, similar to that above. The location of the logo will vary with the connector size and style.

cardiagn.com

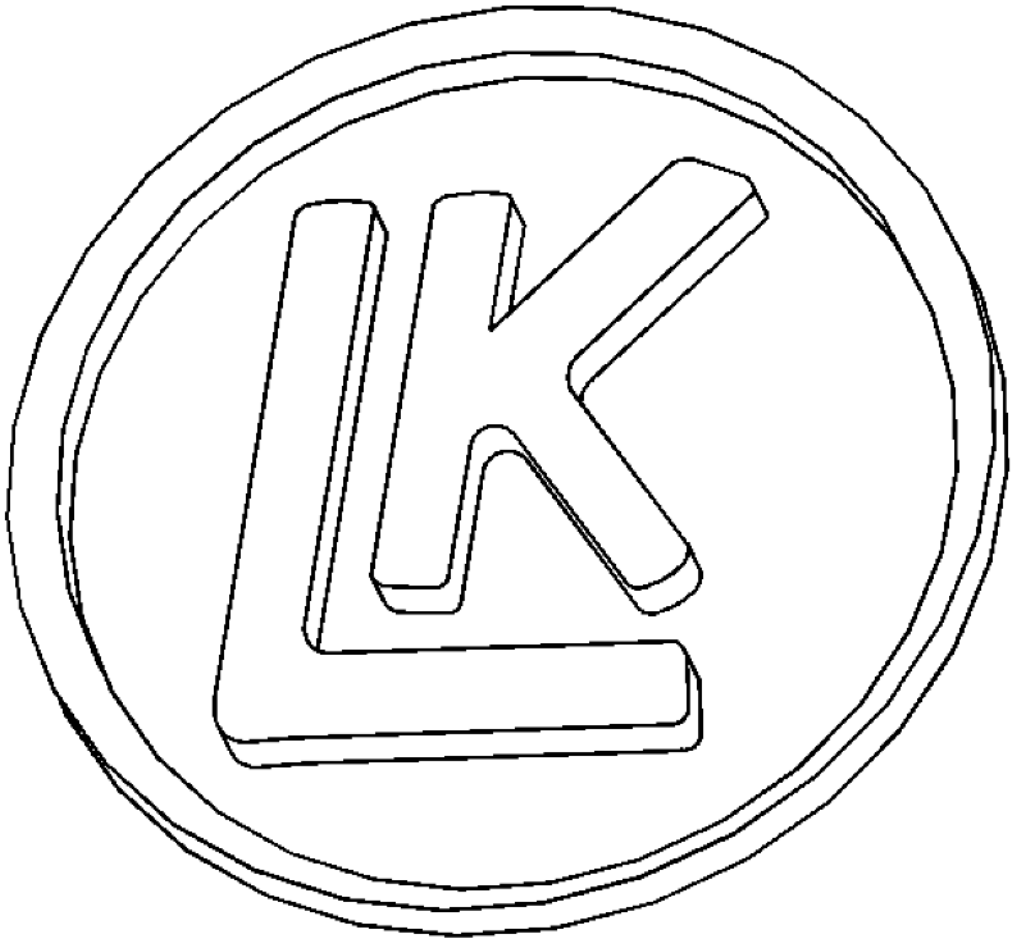


Fig. 32: View Of Kostel Connector Identifier
Courtesy of GENERAL MOTORS CORP.

- Kostel has an "LK" with a circle around it. These connector are usually used as a transmissions connection.

cardiagn.com

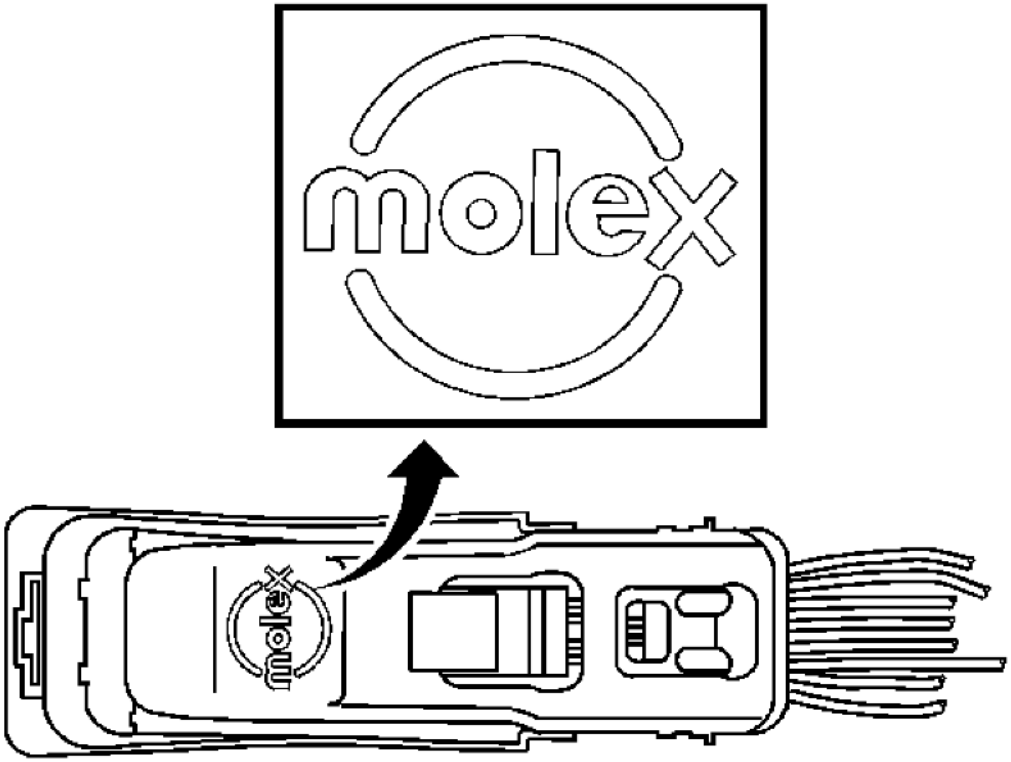


Fig. 33: View Of Molex Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

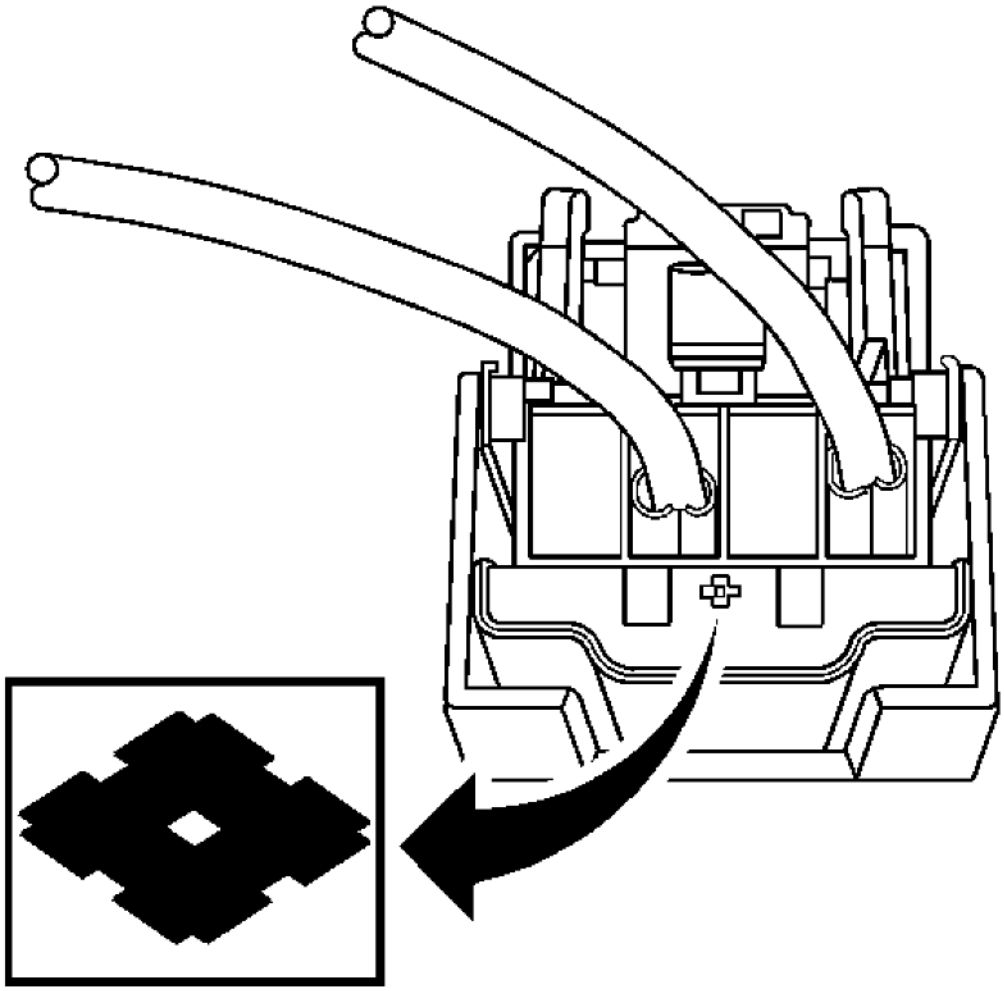


Fig. 34: View Of Sumitono Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- Most Molex connectors will have the Molex logo on the dresscover of the connector. In some cases the connectors may have MX followed by another letter. The third letter indicates where the connector was made. A connector with MXD is a Molex connector made in Detroit.

  Sumitomo has a unique symbol on their connector and possibly a part number. The symbol is similar to that of a diamond lying on its side, similar to that shown. The logo could appear anywhere but the most common place is at the wire side of the housing.

- Tyco/AMP has many different and unique connector designs. Some may or may not have identifiable marks on them.

cardiagn.com

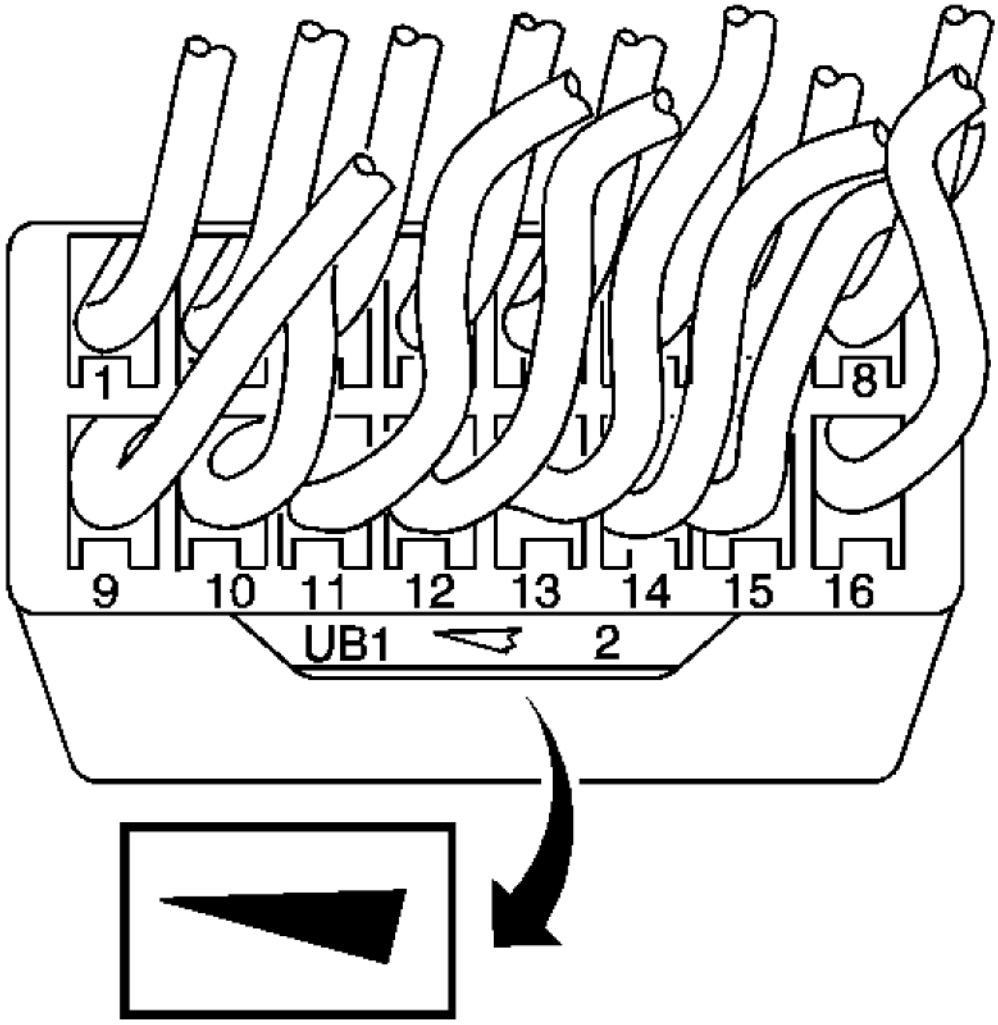


Fig. 35: View Of Yazaki Identification On Connector Body
Courtesy of GENERAL MOTORS CORP.

- Yazaki has a wedge or arrow shape, similar to that shown.

CONNECTOR POSITION ASSURANCE LOCKS

The connector position assurance (CPA) is a small plastic insert that fits through the locking tabs of the connector. CPAs are used in various connectors throughout the vehicle. CPAs are also used in all SIR system electrical connectors. The CPA ensures that the connector halves cannot vibrate apart. You must have the CPA in place in order to ensure good contact between the mating terminals, of the connector.

cardiagn.com

TERMINAL POSITION ASSURANCE LOCKS

The terminal position assurance (TPA) insert resembles the plastic combs used in the control module connectors. The TPA keeps the terminal securely seated in the connector body. Do not remove the TPA from the connector body unless you remove a terminal for replacement.

AFL/EPC CONNECTORS

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

Follow the steps below in order to remove terminals from the connector.

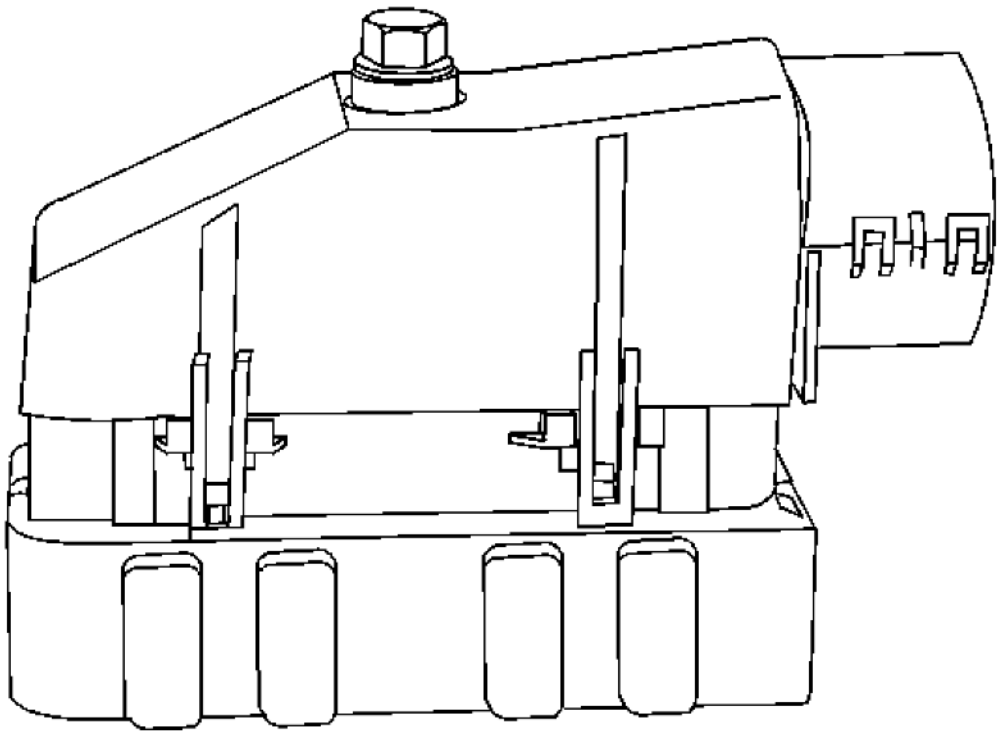


Fig. 36: View Of Bolt On Connector Cover
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

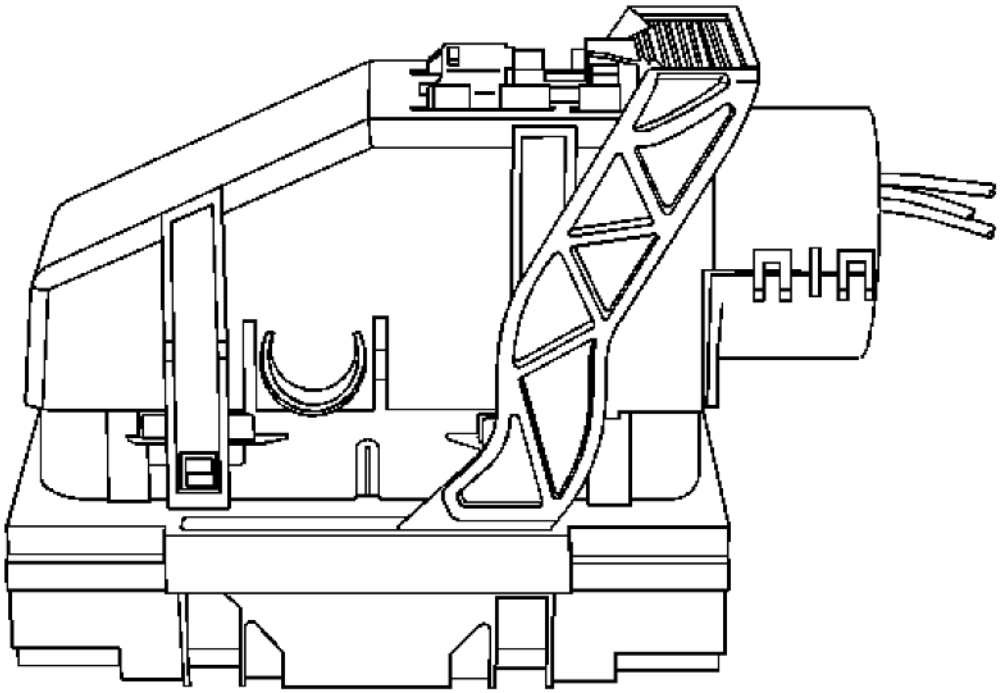


Fig. 37: Connector Position Assurance (CPA)
Courtesy of GENERAL MOTORS CORP.

1. For connectors with a bolt in the dress cover, turn the bolt counterclockwise to remove the connector from the component.
2. Locate the connector position assurance (CPA) on the top of the wire dress cover. Slide the CPA forward.

cardiagn.com

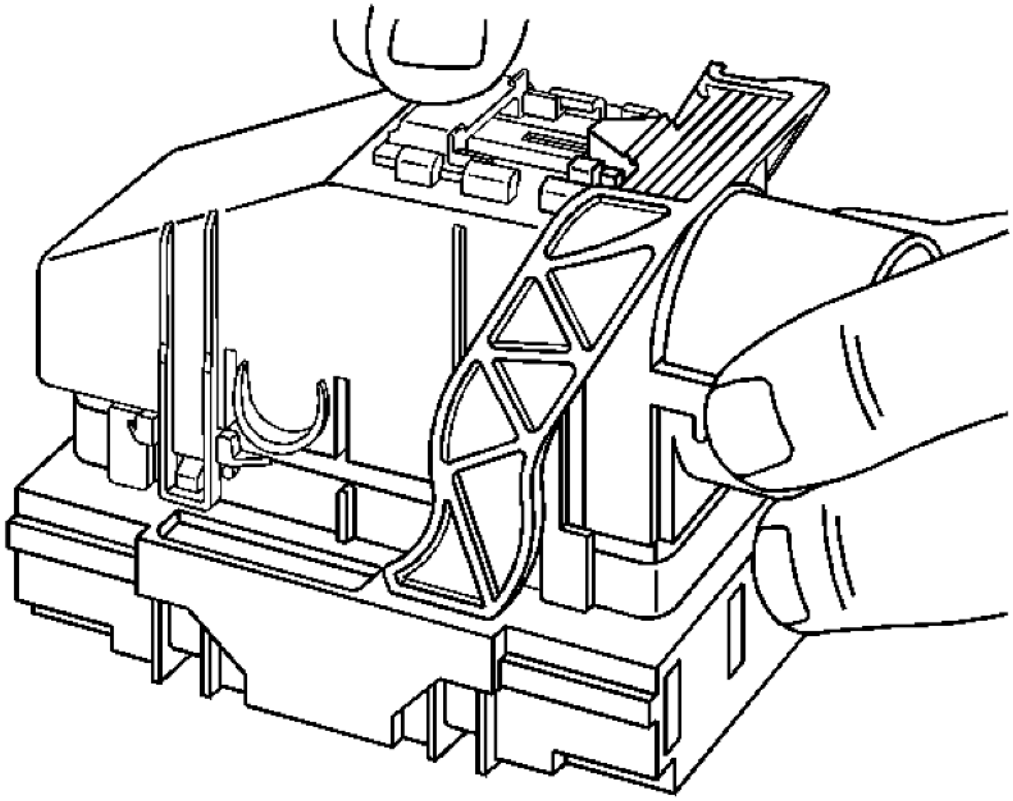


Fig. 38: Lever Lock & Lever Lock Release Tab
Courtesy of GENERAL MOTORS CORP.

3. Slide the lever lock forward while pressing down on the lever lock release tab.

cardiagn.com

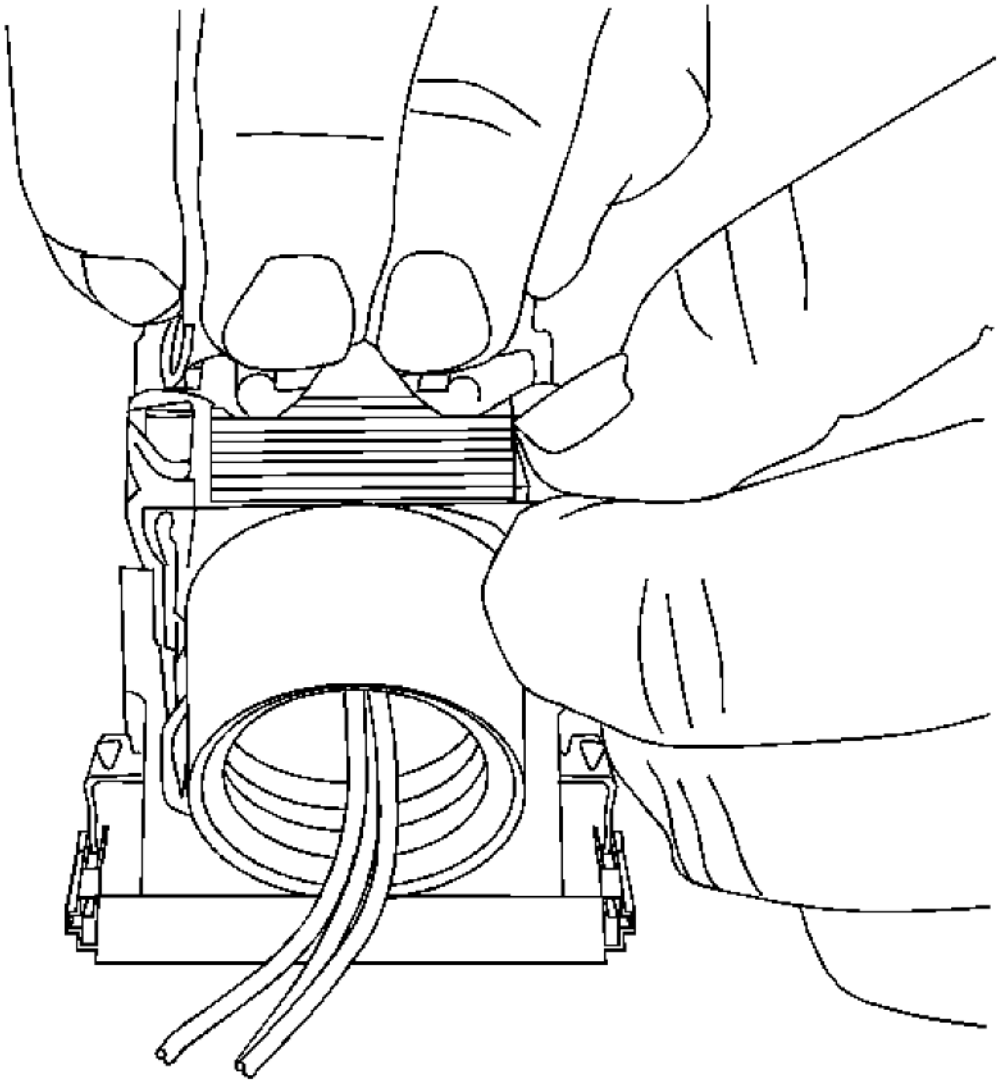


Fig. 39: Depressing Lever Lock Release Tab
Courtesy of GENERAL MOTORS CORP.

4. View showing depressing of the lever lock release tab.

cardiagn.com

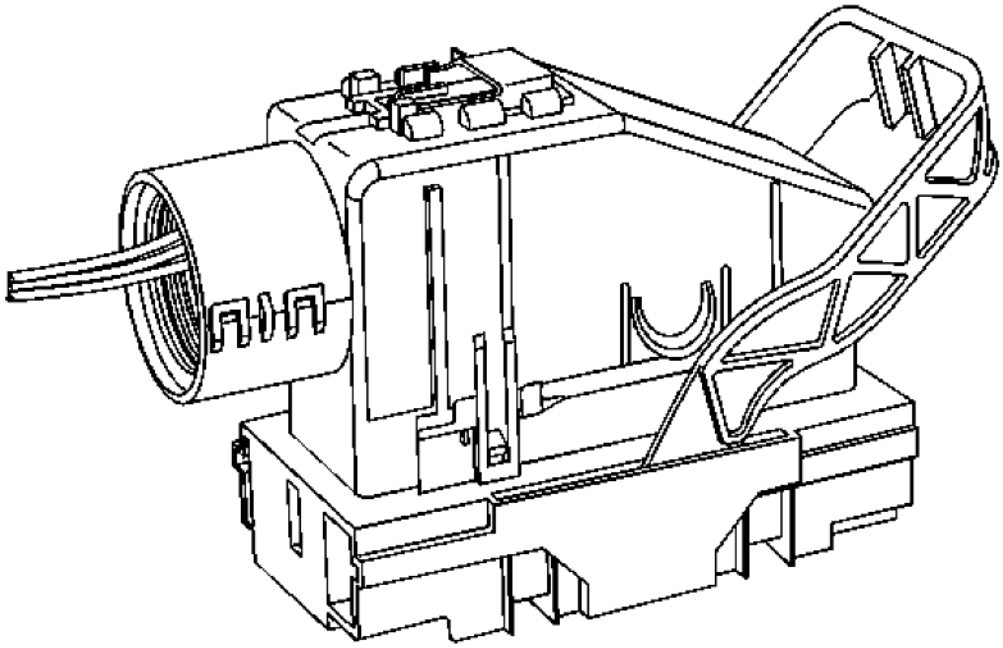


Fig. 40: Connector In Released Position
Courtesy of GENERAL MOTORS CORP.

5. View of connector in released position.
6. Disconnect the connector from the component.
7. Locate the dress cover locking tabs at the corners of the dress cover. Use a small flat-blade tool to release the locking tabs and remove the dress cover.

cardiagn.com

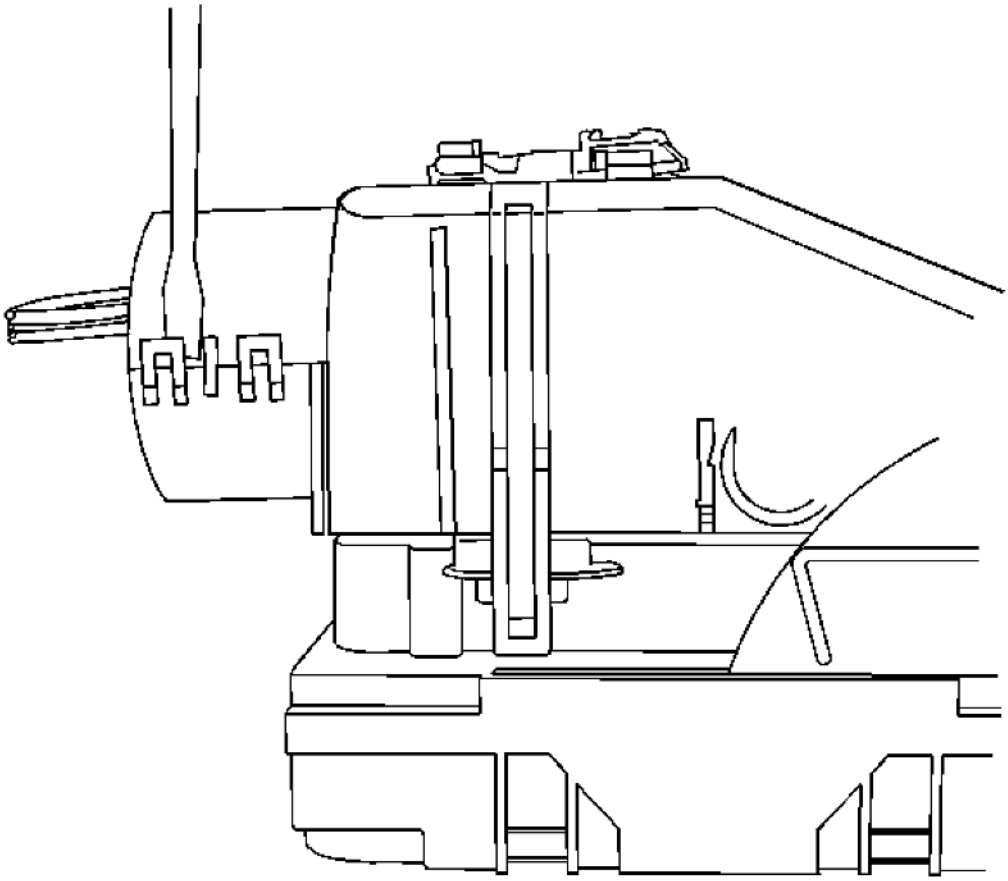


Fig. 41: Releasing Rear Lower Half Of Wiredress Cover
Courtesy of GENERAL MOTORS CORP.

8. Release the rear lower half of the wiredress cover.

cardiagn.com

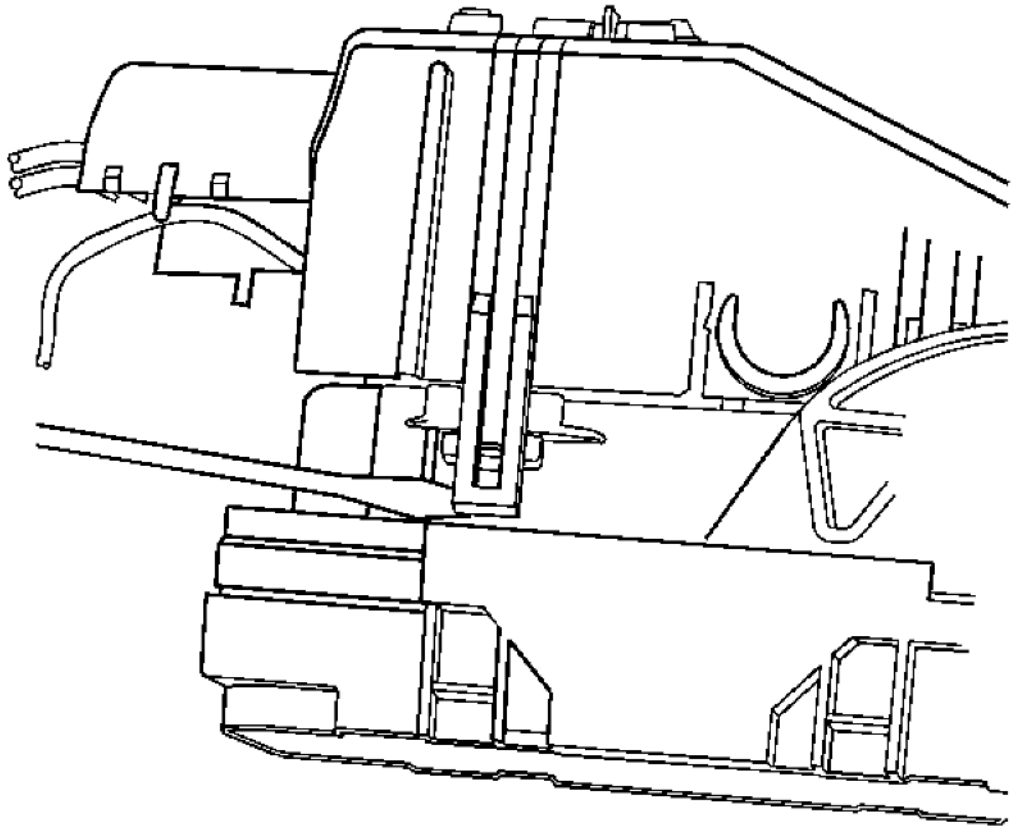


Fig. 42: Releasing Tabs Holding Wiredress Cover
Courtesy of GENERAL MOTORS CORP.

9. Release the tabs that are holding the wiredress cover to the connector body.
10. Remove the nose piece by inserting a small flat-blade tool into the slots on both ends of the connector body. Gently pry the nose piece out of the connector. EL-38125-216 can also be used to remove the nose piece.

cardiagn.com

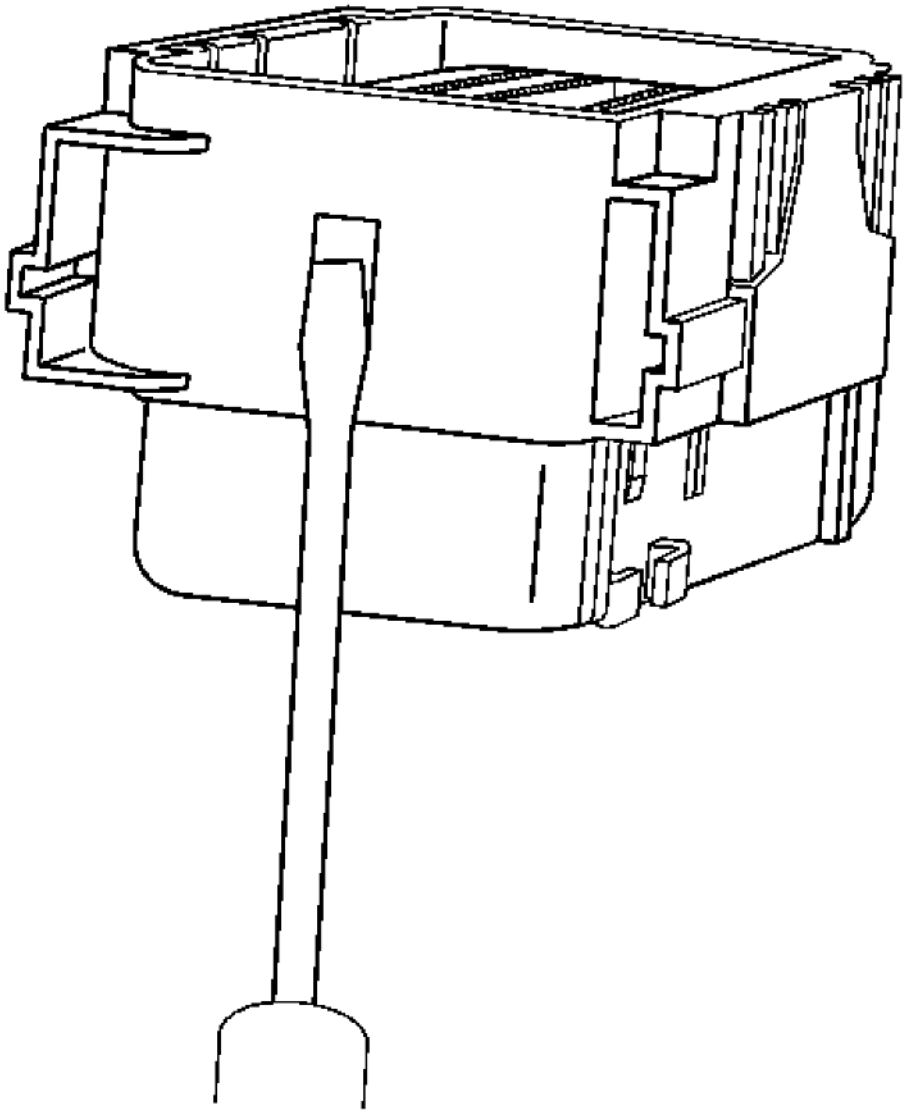


Fig. 43: Removing Nose Piece
Courtesy of GENERAL MOTORS CORP.

11. Use the EL-38125-12A tool to release the terminals by lifting the terminal retaining tabs on the inside of the connector.

cardiagn.com

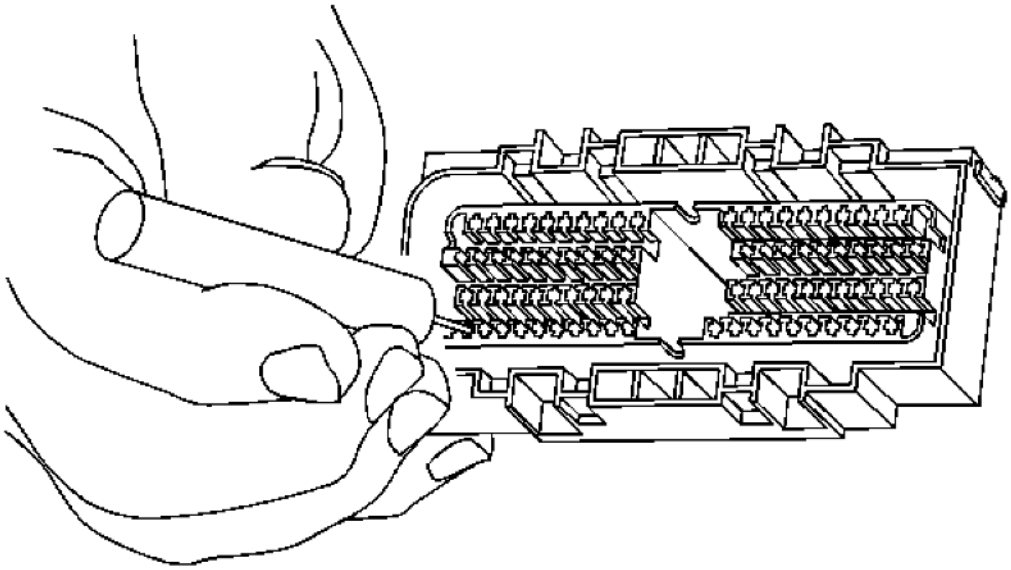


Fig. 44: Releasing Terminals
Courtesy of GENERAL MOTORS CORP.

12. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Repair Procedure

Use the appropriate terminal / terminated lead.

BOSCH CONNECTORS (BSK)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal Procedure

1. Disconnect the connector from the component.
2. Remove the wire dress cover, if necessary.
3. Push the wire side of the terminal that is being removed toward the connector and hold it in position.

cardiagn.com

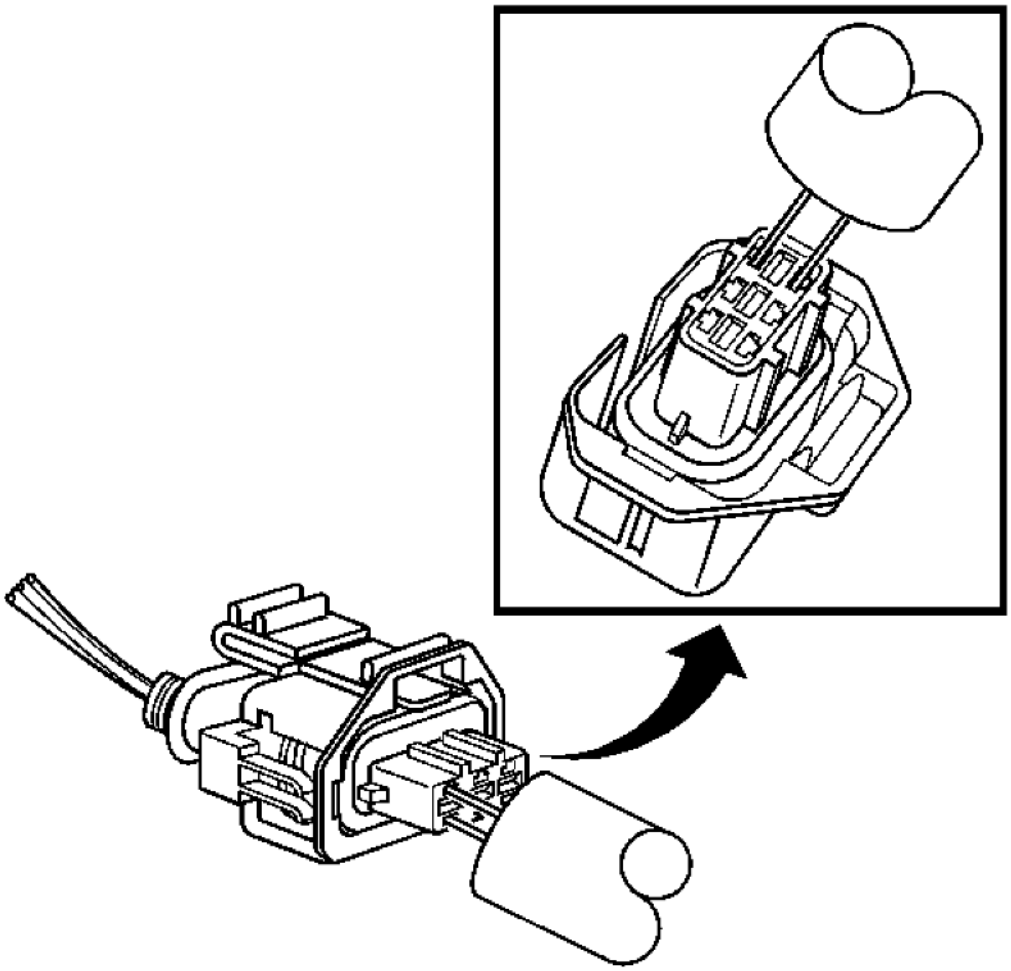


Fig. 45: View Of Bosch Connector Terminals (BSK)
Courtesy of GENERAL MOTORS CORP.

4. Insert the EL-38125-561 tool into the 2 cavities on each side of the terminal at the front of the connector and push until you feel the tool disengage the terminal retainers.
5. Carefully pull the terminal out of the connector. Always remember never use force when pulling a terminal out of a connector. If the terminal is difficult to remove, repeat the entire procedure.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.

cardiagn.com

4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

BOSCH CONNECTORS (0.64)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal Procedure

1. Locate the lever lock on the wire dress cover. While pressing the lock, pull the lever over and past the lock until the lever is at the end of its travel.
2. Disconnect the connector from the component.
3. Pull the rubber boot that covers the wires back to expose the end of the connector dress cover.
4. Place the connector locking lever in the center of the connector.

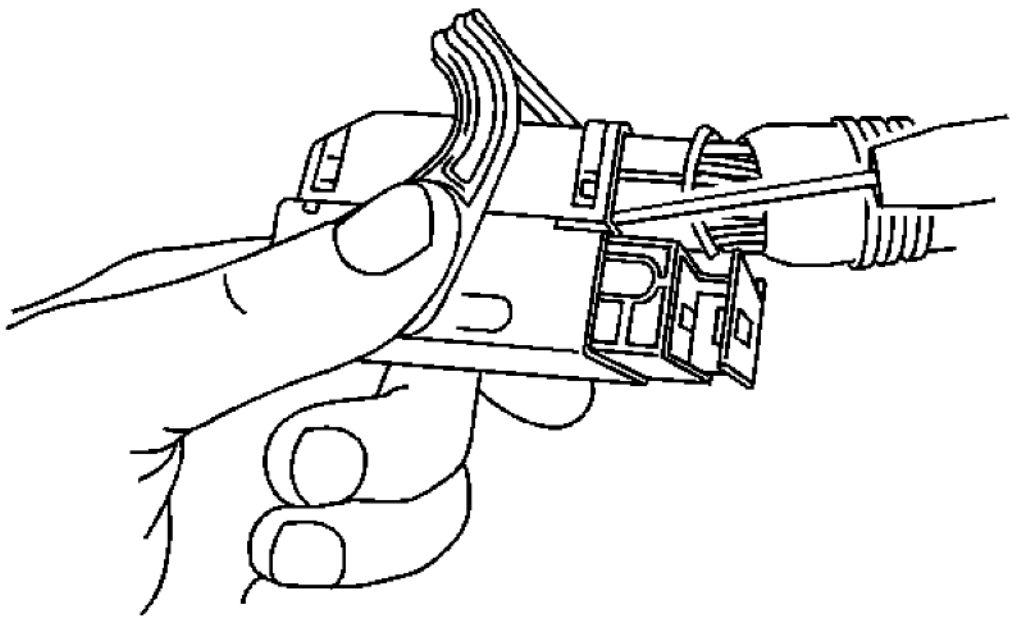


Fig. 46: Inserting Flat-Bladed Tool Between Cover & Connector Body
Courtesy of GENERAL MOTORS CORP.

5. Locate the 2 dress cover locking tabs that are on the wire end of the connector. Insert a small flat-bladed tool between the cover and connector body and pry up.

cardiagn.com

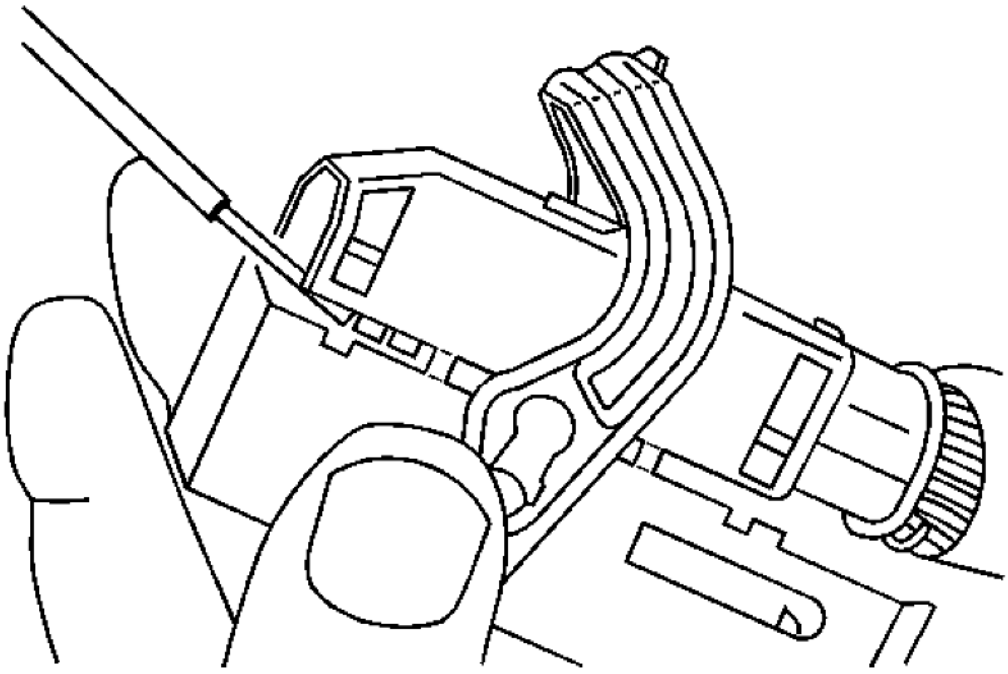


Fig. 47: Inserting Flat-Bladed Tool Between Cover & Connector End
Courtesy of GENERAL MOTORS CORP.

6. Locate the 2 dress cover locking tabs located on the opposite side of the connector. Insert a small flat-bladed tool between the cover at the connector end and pry up.
7. Remove the dress cover.
8. Cut the tie wrap on the wire bundle.

cardiagn.com

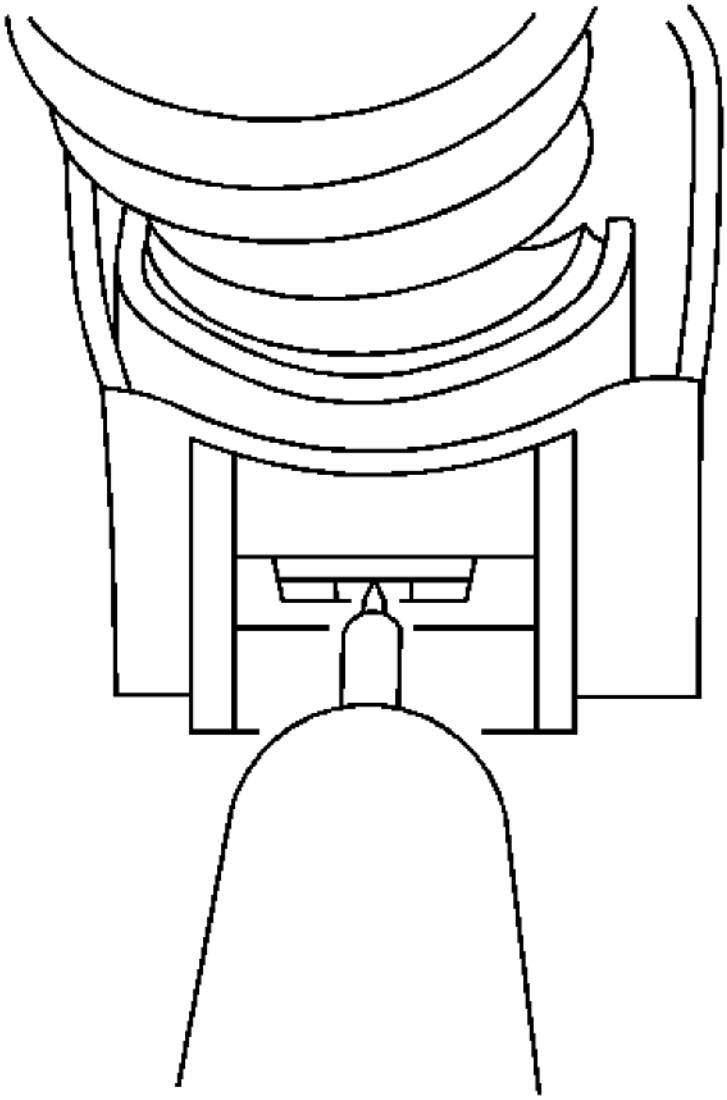


Fig. 48: Removing Terminal Position Assurance (TPA)
Courtesy of GENERAL MOTORS CORP.

9. Remove the terminal position assurance (TPA) by inserting a small flat-bladed tool into the small slot in the end of the slider and pushing on the TPA until it comes out of the connector. When the TPA exits the opposite side of the connector, gasp the TPA and pull it completely out of the connector.
10. Push the wire side of the terminal that is being removed toward the connector and hold it in position.

cardiagn.com

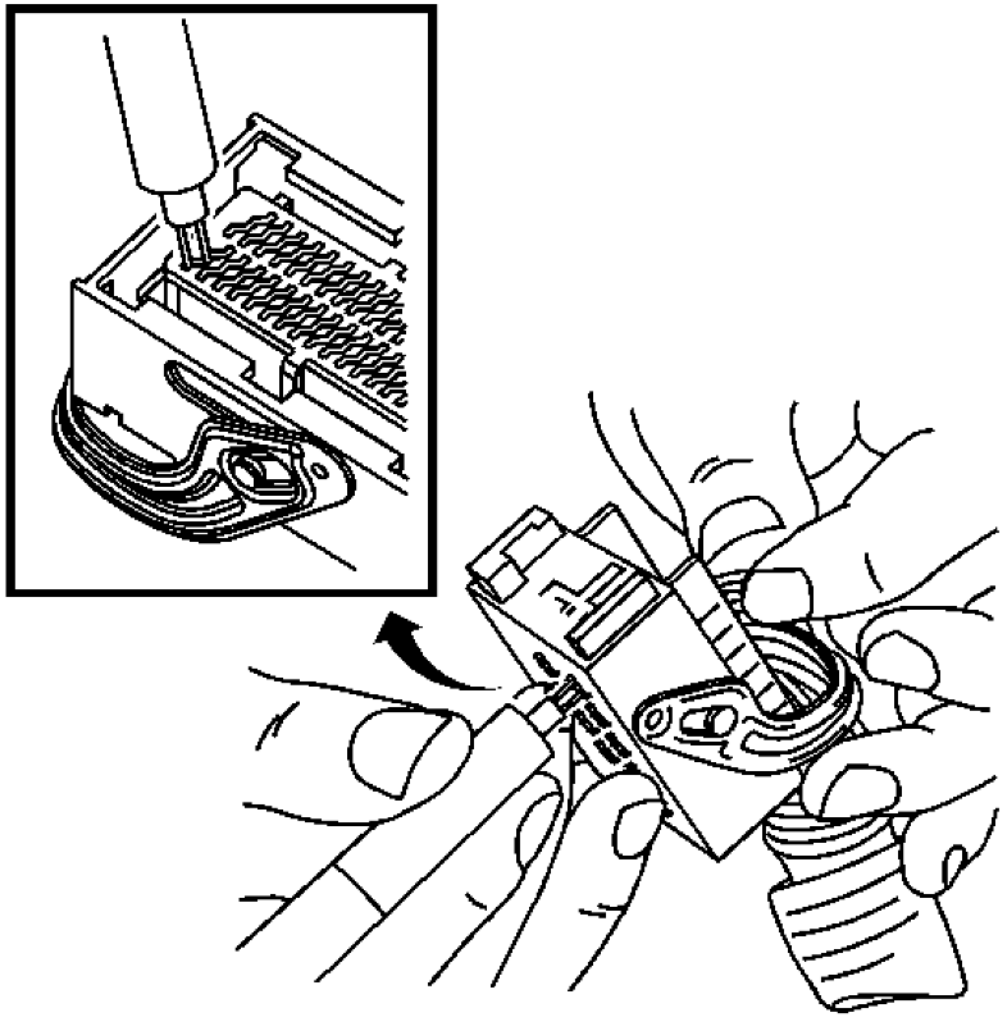


Fig. 49: Pulling Terminal Out Of Connector
Courtesy of GENERAL MOTORS CORP.

11. Insert the EL-38125-560 into the 2 triangular cavities on each side of the terminal at the front of the connector.
12. Carefully pull the terminal out of the connector. Always remember never use force when pulling a terminal out of a connector. If the terminal is difficult to remove, repeat the entire procedure.

Terminated Lead Repair

1. Remove the terminal.

cardiagn.com

2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

Terminal Replacement Procedure

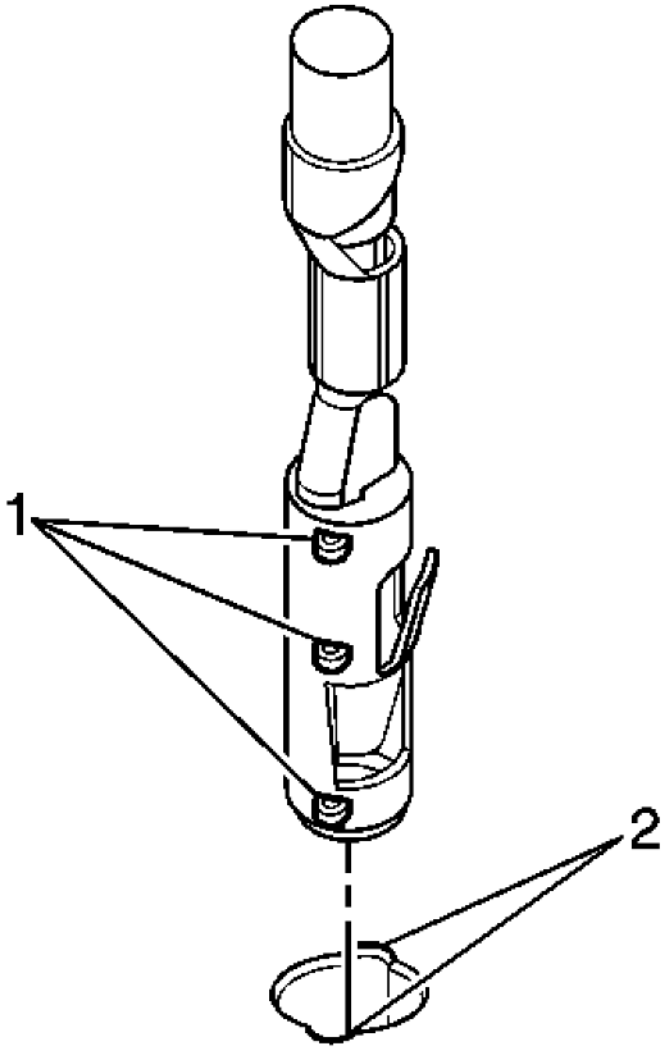


Fig. 50: Aligning Coding Lugs With Connector Coding Grooves
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

1. Prior to installation the terminal must be aligned so the (1) coding lugs align with the (2) coding grooves on the connector.
2. Once the terminal is aligned, slide the terminal into the cavity until the retainer has engaged in the cavity of the connector.
3. Slide the TPA in the connector body and seat it using a small flat bladed tool. The TPA is seated when it is flush with the contact housing.
4. Secure the wires to the connector body using a tie wrap and replace the dress cover and grommet.

BOSCH CONNECTORS (2.8 JPT)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal Procedure

1. Pull out the slider on the connector position assurance (CPA) until it is at the end of its travel.
2. Disconnect the connector from the component.
3. Remove the wire dress cover, if necessary.
4. Push the wire side of the terminal that is being removed toward the connector and hold it in position.

cardiagn.com

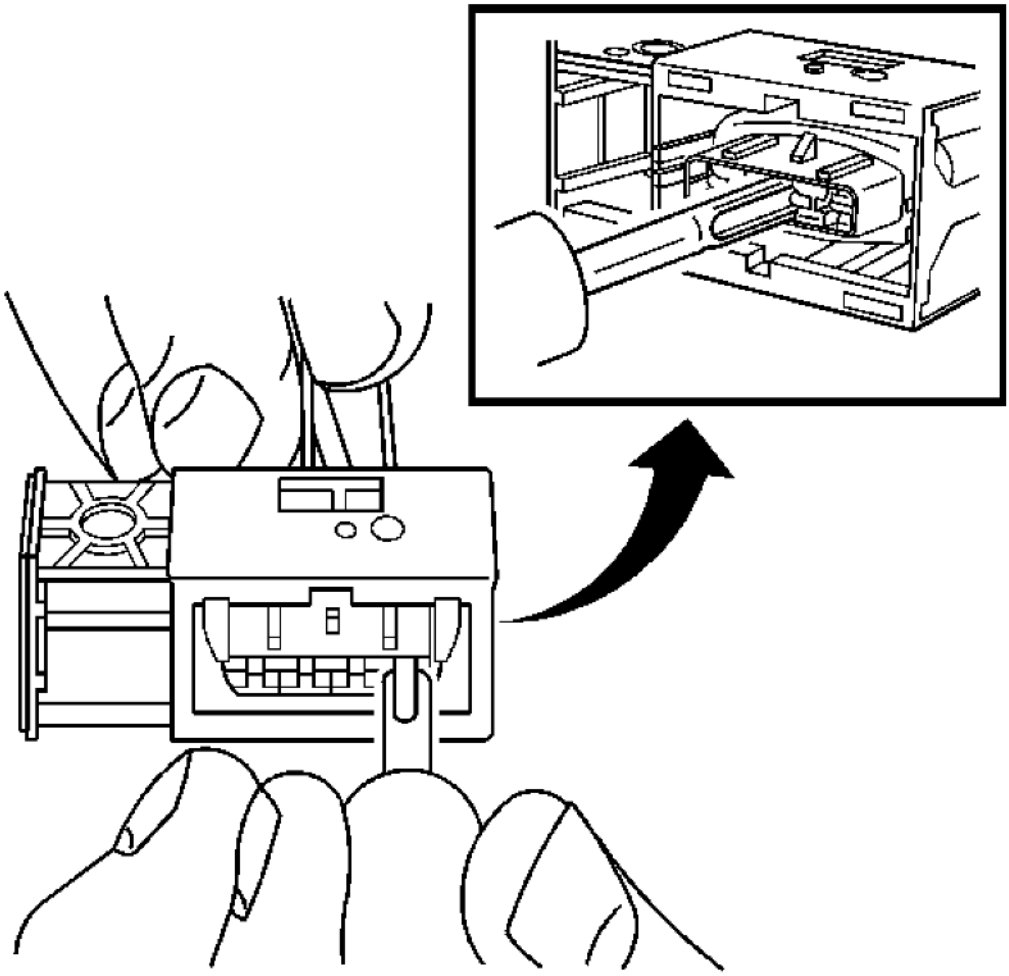


Fig. 51: View Of Bosch Connector Terminals (2.8 JPT)
Courtesy of GENERAL MOTORS CORP.

5. Insert the EL-38125-557 into the 2 cavities on each side of the terminal at the front of the connector and push until you feel the tool disengage the terminal retainers.
6. Carefully pull the terminal out of the connector. Always remember never use force when pulling a terminal out of a connector. If the terminal is difficult to remove, repeat the entire procedure.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.

cardiagn.com

4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

BOSCH CONNECTORS (ECM)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

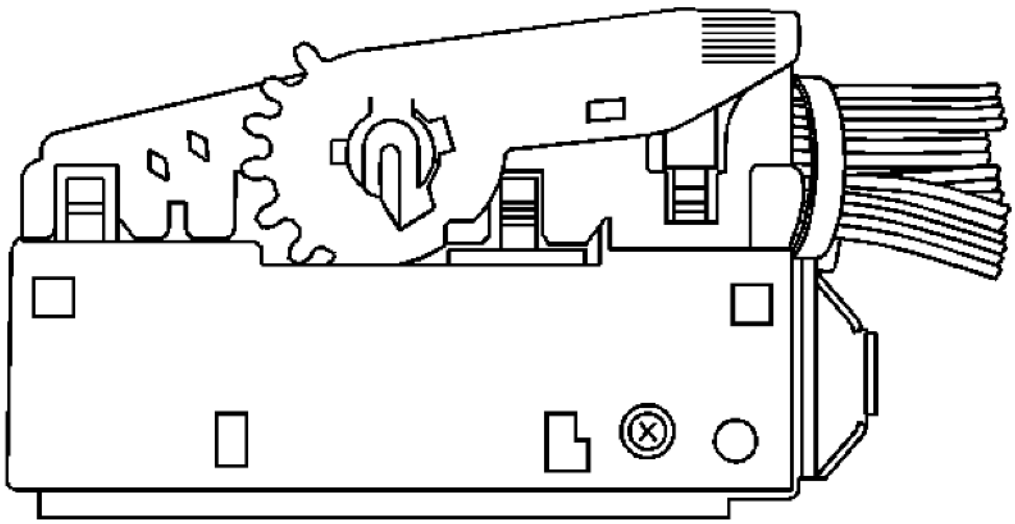


Fig. 52: Assist Lever
Courtesy of GENERAL MOTORS CORP.

1. Locate the assist lever on the top of the connector. Move the assist lever to the forward position.

cardiagn.com

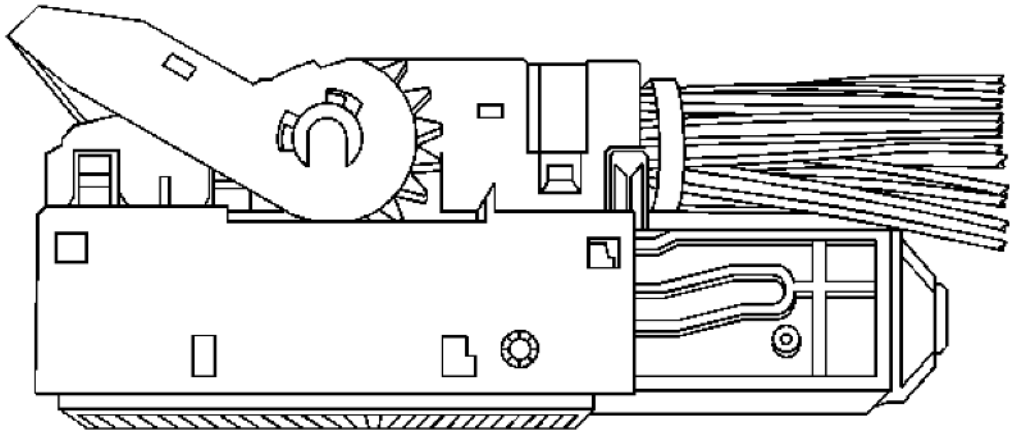


Fig. 53: View Of Assist Lever In Forward Position
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the connector from the component.

cardiagn.com

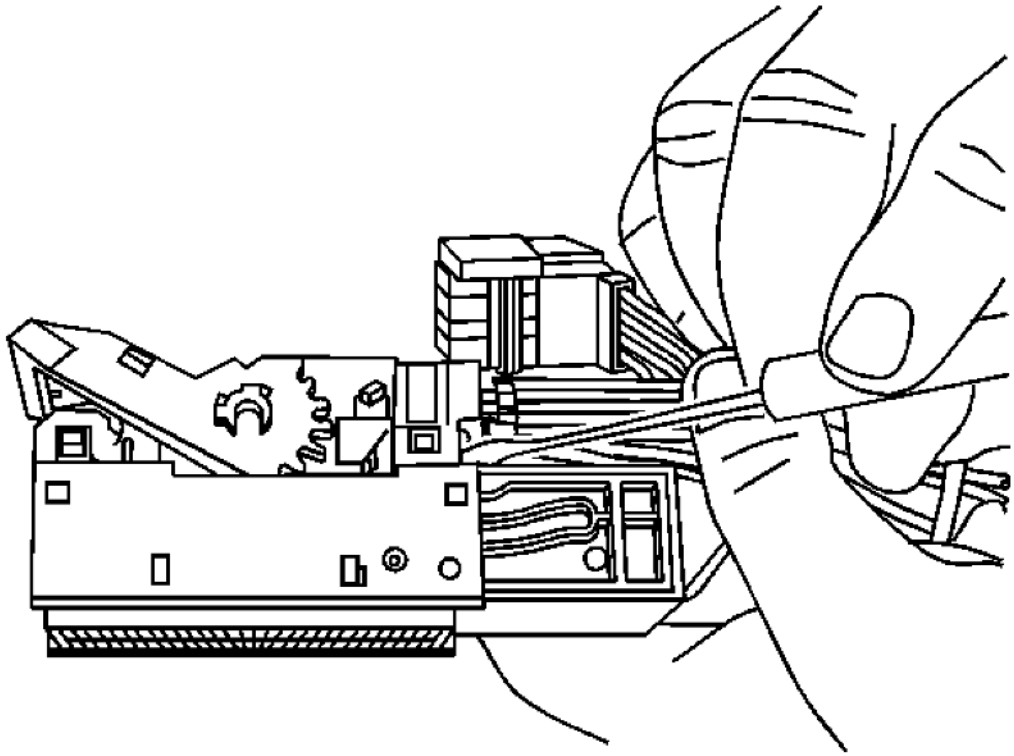


Fig. 54: Releasing Locking Tabs
Courtesy of GENERAL MOTORS CORP.

3. Locate the dress cover locking tabs at the corners of the connector. Use a small flat-blade tool to release the locking tabs and remove the dress cover.

cardiagn.com

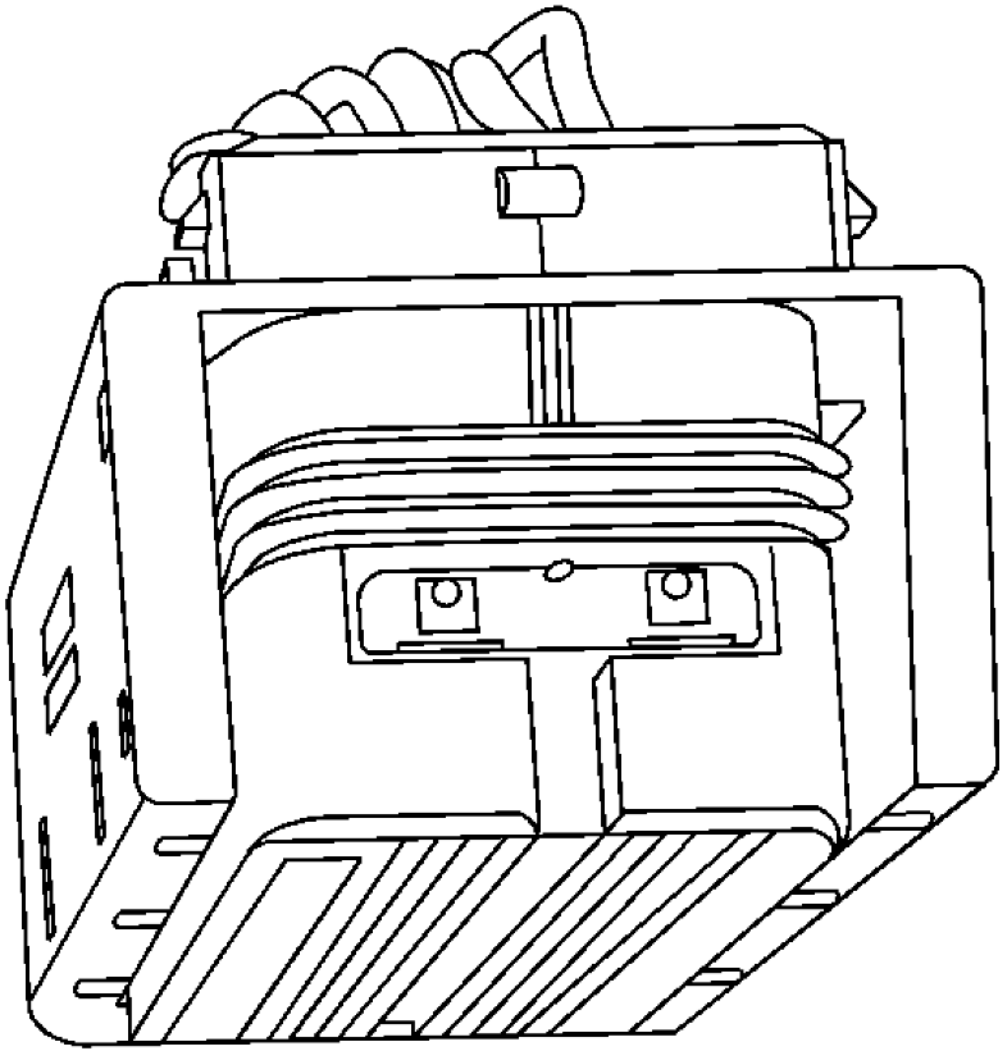


Fig. 55: View Of Terminal Positive Assurance (TPA) Connector
Courtesy of GENERAL MOTORS CORP.

4. The terminal positive assurance (TPA) is located in the front of the connector.

cardiagn.com

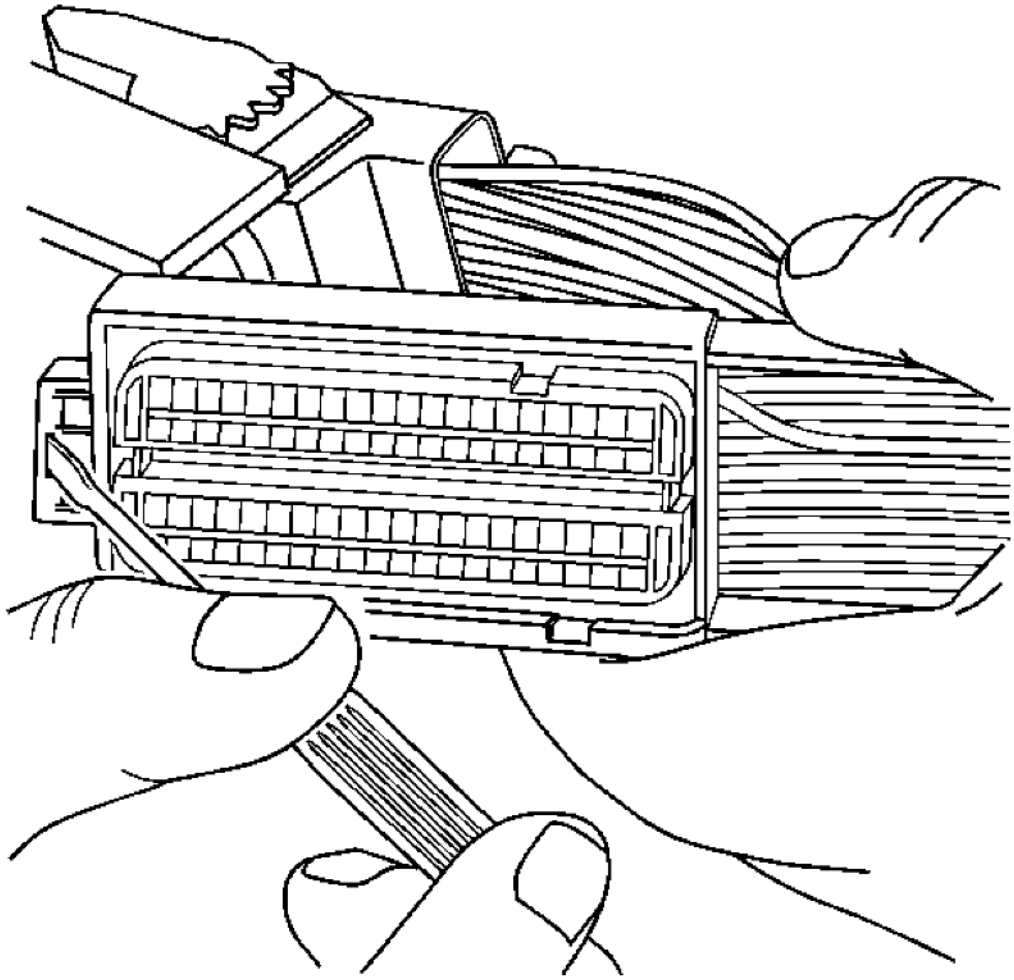


Fig. 56: Removing TPA From Connector
Courtesy of GENERAL MOTORS CORP.

5. Use a small flat-blade tool to remove TPA from the connector.

cardiagn.com

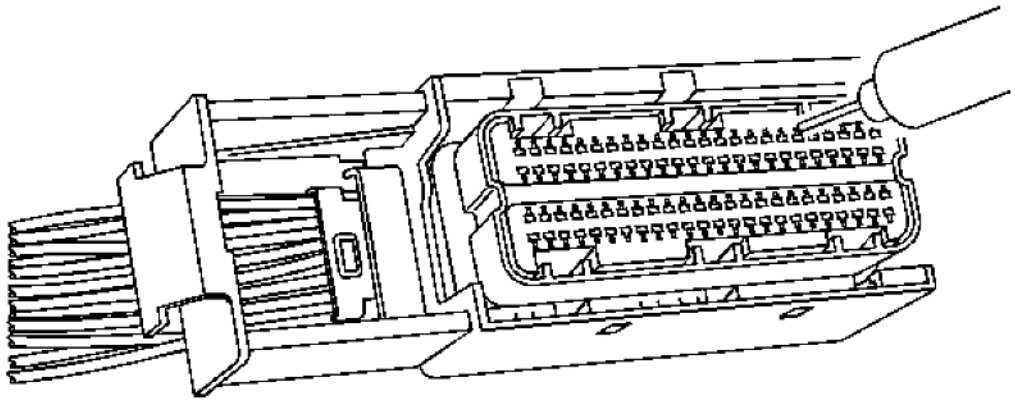


Fig. 57: Releasing Terminals
Courtesy of GENERAL MOTORS CORP.

6. Use the EL-38125-213 or the EL-38125-556 tool to release the terminals by inserting the tool into the terminal release cavity.
7. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminal Repair Procedure

The Micro-Pack 100W connectors have small terminals that are difficult to handle and hold when crimping. In order to aid the technician when crimping these terminals, a new crimping tool was developed. The J 38125-101 (W jaw) crimping tool was developed to crimp Micro-Pack 100W terminals. The J 38125-101 (W jaw) crimping tool has a terminal holding block that will hold the terminal in place while the terminal is being crimped. After the terminal is removed from the connector perform the following procedure in order to repair Micro-Pack 100 terminals.

1. Cut the wire as close to the terminal as possible.

NOTE: After cutting the damaged terminal from the wire, determine if the remaining wire is long enough to reach the connector without putting a strain on the wire. If the wire is not long enough, splice a small length of the same gauge wire to the existing wire, then crimp the new terminal on the added wire.

2. Strip 5 mm (3/16 in) of insulation from the wire.

cardiagn.com

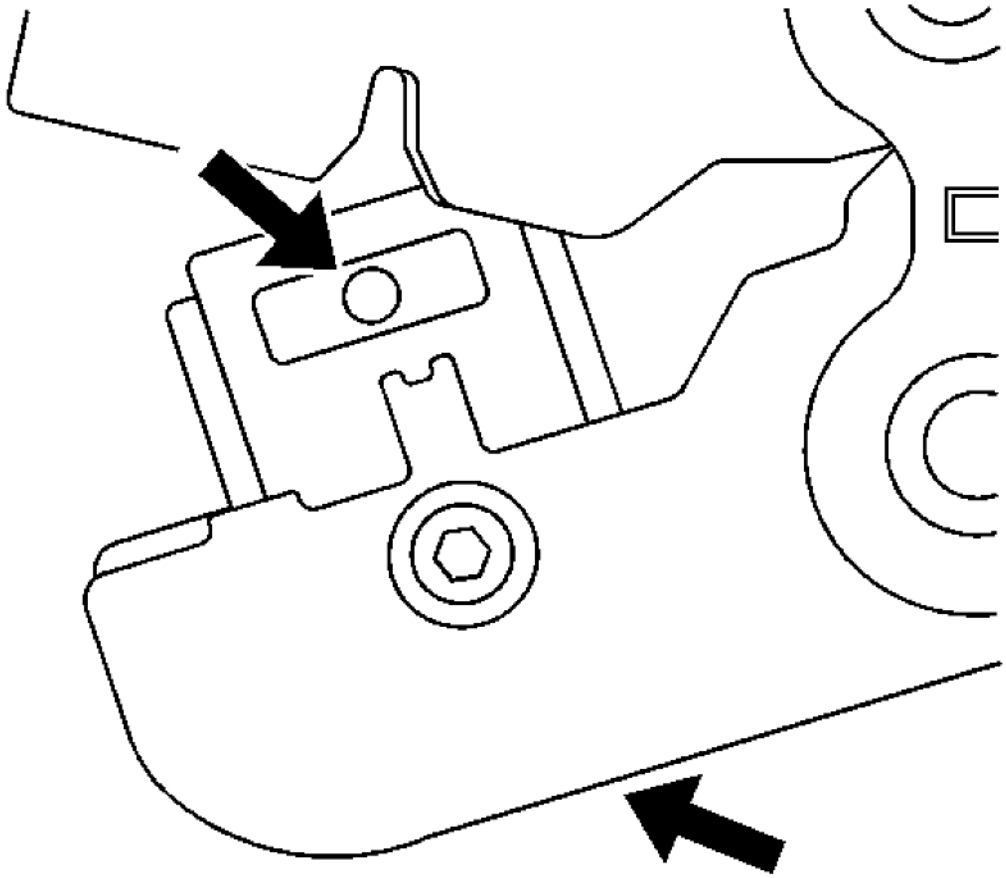


Fig. 58: View Of Crimping Tool Spring Loaded Locator
Courtesy of GENERAL MOTORS CORP.

3. Depress the spring loaded locator of the J 38125-101 (W jaw) crimping tool until the terminal holder is completely visible.

cardiagn.com

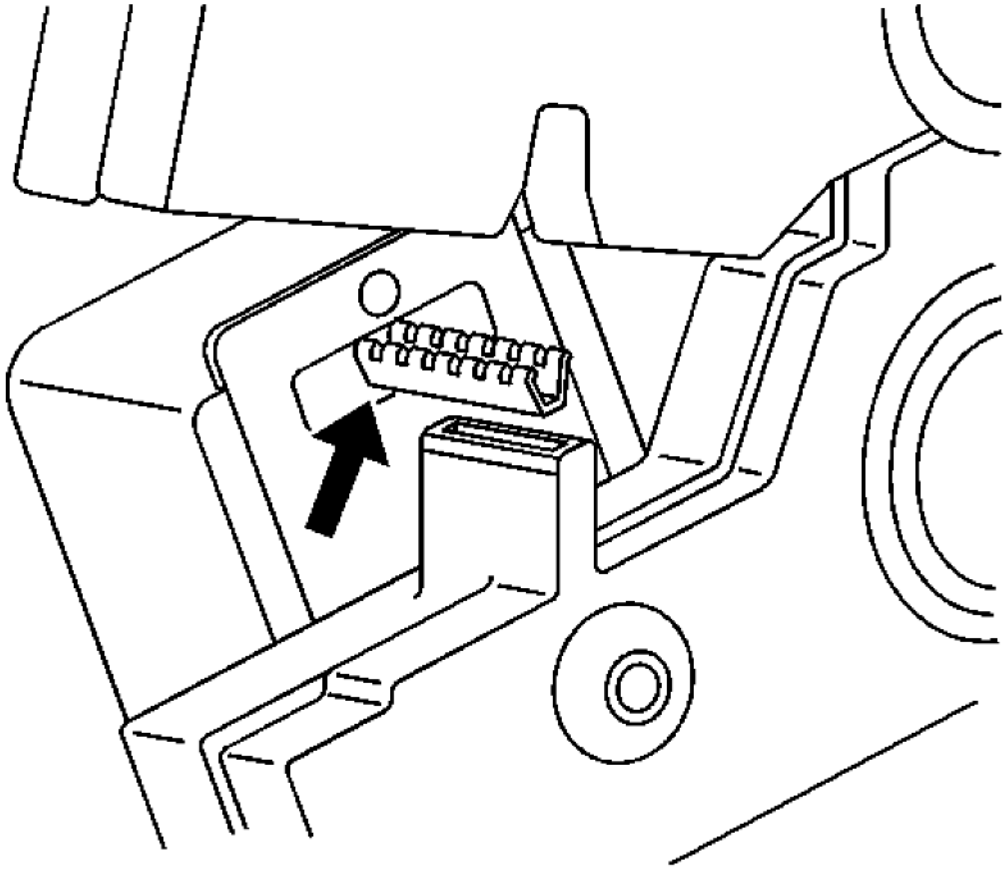


Fig. 59: Locating Terminal In Crimping Tool
Courtesy of GENERAL MOTORS CORP.

4. Insert the terminal into the crimp tool until the core wings are flush with the anvil on the crimp tool. Be sure that the wings are pointed toward the crimp tool former and release the spring locator. The locator will hold the terminal in place. Inspect the alignment of the terminal wings with the crimp tool former. If the terminal wings are wider than the crimp tool former, remove the terminal and bend the terminal wings in slightly.
5. Place stripped wire into terminal.
6. Crimp the new terminal to the wire. If a jam occurs, press the emergency release to open applicator.

Terminated Lead Repair

cardiagn.com

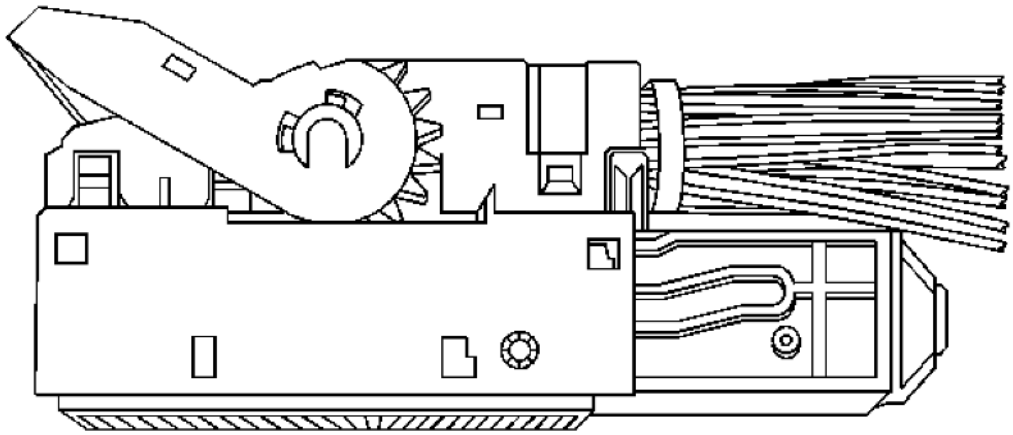


Fig. 60: View Of Assist Lever In Forward Position
Courtesy of GENERAL MOTORS CORP.

NOTE: **Ensure that the dress cover and connector body are both in the released position before reassembling. Failure to do so may cause damage to the connector and component.**

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

DELPHI CONNECTORS (WEATHER PACK)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

The following is the proper procedure for the repair of Weather Pack® Connectors.

cardiagn.com

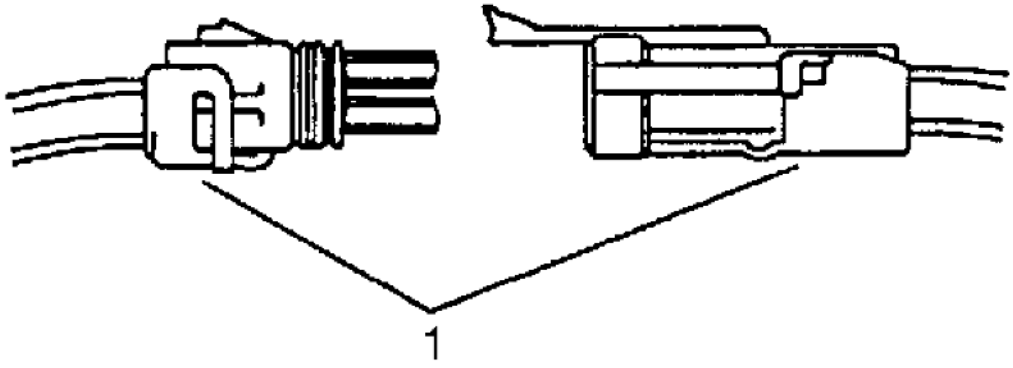


Fig. 61: View Of Connector Halves
Courtesy of GENERAL MOTORS CORP.

1. Separate the connector halves (1).
2. Open the secondary lock. A secondary lock aids in terminal retention and is usually molded to the connector (1).
3. Grasp the wire and push the terminal to the forward most position. Hold the wire in this position.

cardiagn.com

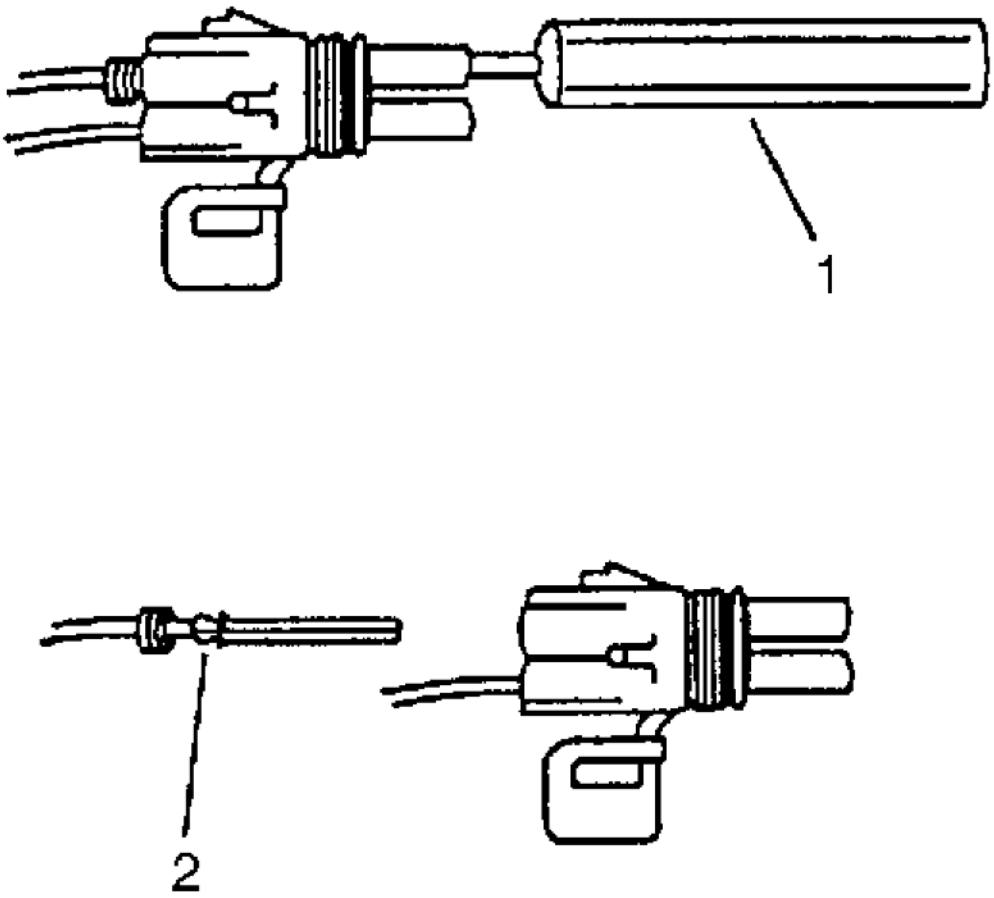


Fig. 62: Identifying Removal Tool & Terminal
Courtesy of GENERAL MOTORS CORP.

4. Insert the Weather Pack® terminal removal tool EL-38125-10A into the front (mating end) of the connector cavity until it rests on the cavity shoulder (1).
5. Gently pull on the wire to remove the terminal through the back of the connector (2).

NOTE: Never use force to remove a terminal from a connector.

6. Inspect the terminal and connector for damage. Repair as necessary. Refer to **Repairing Connector Terminals**.
7. Reform the lock tang (2) and reset terminal in connector body.
8. Close secondary locks and join connector halves.

cardiagn.com

9. Verify that circuit is complete and working satisfactorily.
10. Perform system check.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

DELPHI CONNECTORS (PUSH TO SEAT)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal

Follow the steps below in order to repair push to seat connectors.

1. Remove the terminal position assurance (TPA) device, the connector position assurance (CPA) device, and/or the secondary lock.

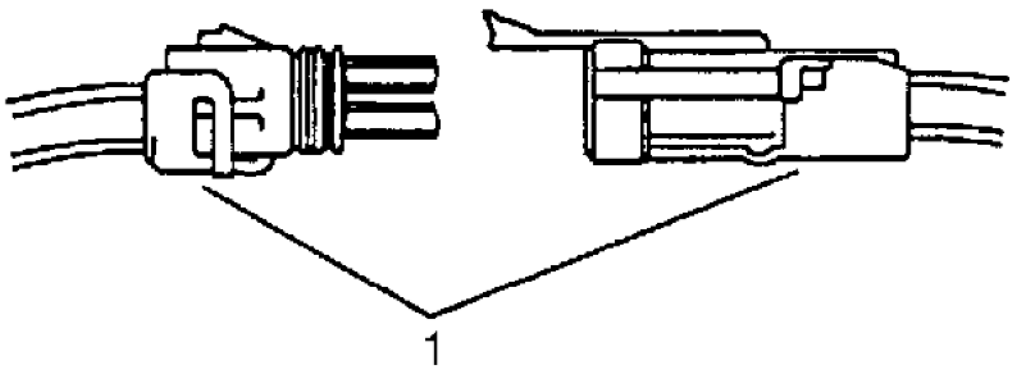


Fig. 63: View Of Connector Halves
Courtesy of GENERAL MOTORS CORP.

2. Separate the connector halves (1).

cardiagn.com

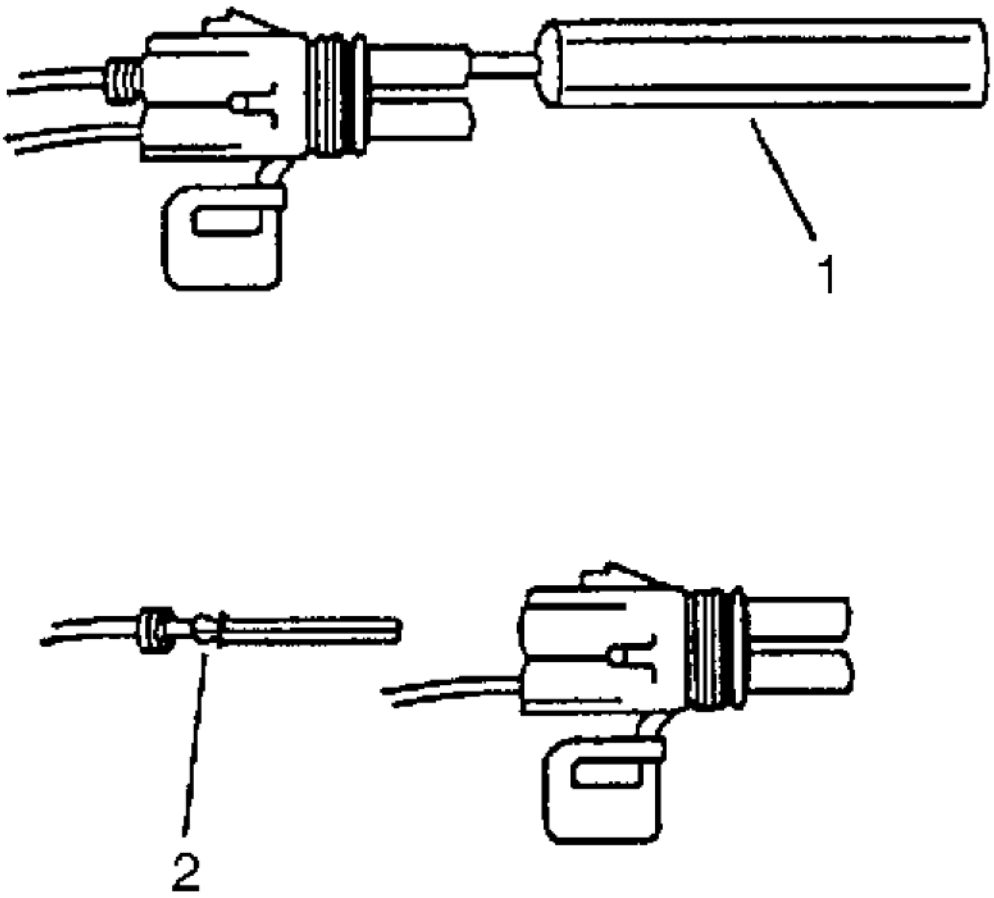


Fig. 64: Identifying Removal Tool & Terminal
Courtesy of GENERAL MOTORS CORP.

3. Use the proper pick or removal tool (1) in order to release the terminal.
4. Gently pull the cable and the terminal (2) out of the back of the connector.

cardiagn.com

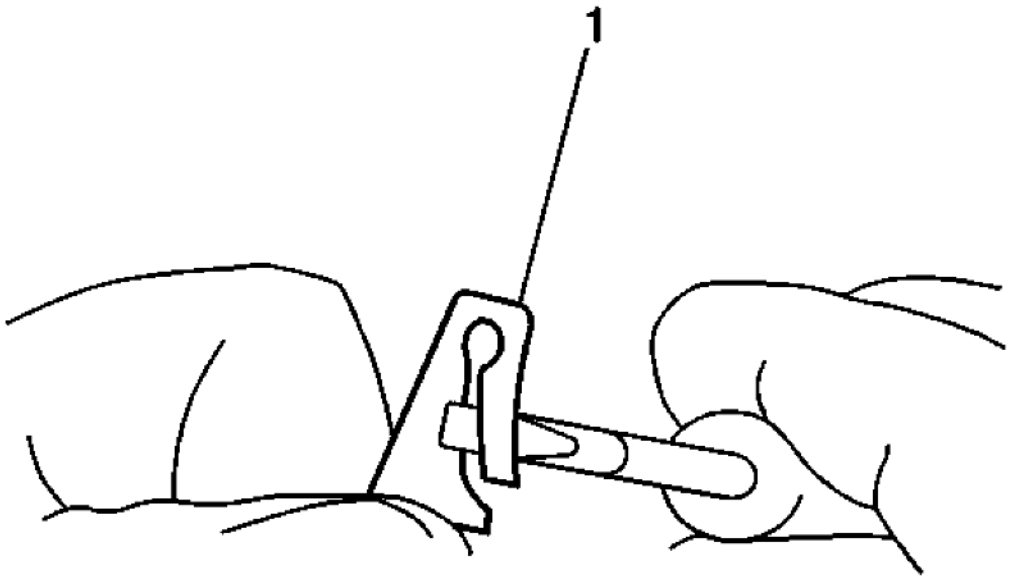


Fig. 65: Identifying Locking Device
Courtesy of GENERAL MOTORS CORP.

5. Re-form the locking device if you are going to reuse the terminal (1).
6. To repair the terminal, refer to Terminal Repair.

Reinstalling Terminal

1. In order to reuse a terminal or lead assembly, refer to **Wiring Repairs**.
2. Ensure that the cable seal is kept on the terminal side of the splice.
3. Insert the lead from the back until it catches.
4. Install the TPA, CPA, and/or the secondary locks.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

DELPHI CONNECTORS (PULL TO SEAT)

Special Tools

cardiagn.com

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal

If the terminal is visibly damaged or is suspected of having a faulty connection, the terminal should be replaced.

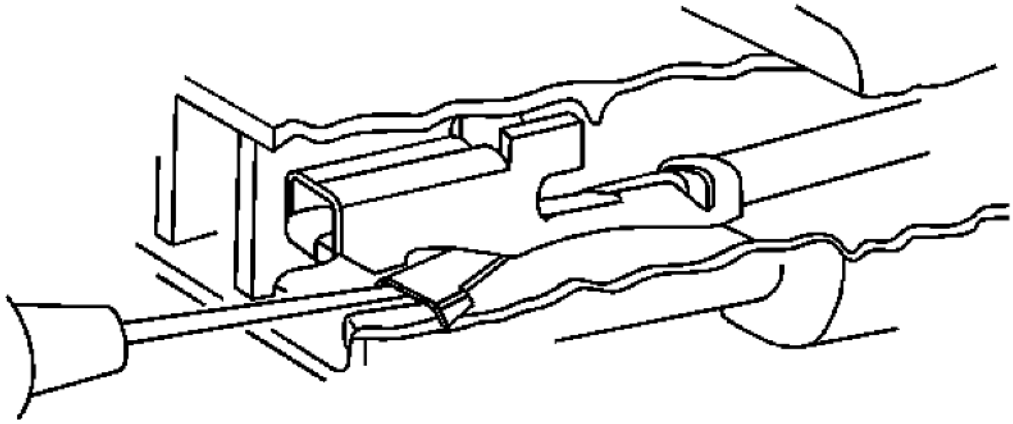


Fig. 66: Inserting Removal Tool
Courtesy of GENERAL MOTORS CORP.

Follow the steps below in order to repair pull-to-seat connectors:

1. Remove the connector position assurance (CPA) device and/or the secondary lock.
2. Disconnect the connector from the component or separate the connectors for in-line connectors.
3. Remove the terminal position assurance (TPA) device.
4. Insert the proper pick or removal tool into the front of the connector body.

NOTE: On connectors with more than one terminal the service loop may not be large enough to remove the terminal and crimp on a new one. If the terminal wire does not have a large enough service loop for removal, cut the wire 5 cm (2 in) behind the connector before removal.

5. Grasp the wire at the back of the connector body and gently push the terminal out the front of the connector body.

Terminal Repair

1. If the wire needed to be cut in order to remove the terminal, gently push a small length of the same size wire through the back of the connector cavity until there is enough wire exposed in order to crimp on a

cardiagn.com

new terminal. If the wire was not cut, cut the existing wire as close to the old terminal as possible.
2. Strip 5 mm (3/16 in) of insulation from the wire.
3. Crimp a new terminal to the wire.
4. Solder the crimp with rosin core solder.

Terminal Installation

1. Align the terminal and pull the wire from the back of the connector in order to seat the terminal.
2. If necessary, cut the new wire to proper length and splice with existing circuit. Refer to **Splicing Copper Wire Using Splice Sleeves**.
3. If the connector is outside of the passenger compartment, apply dielectric grease to the connector.
4. Install the TPA, CPA, and/or the secondary locks.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

DELPHI CONNECTORS (MICRO-PACK 100W)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal Procedure

There are 2 styles of Micro-Pack 100W connectors. These connectors are very similar but use different terminals and have some minor physical differences also.

cardiagn.com

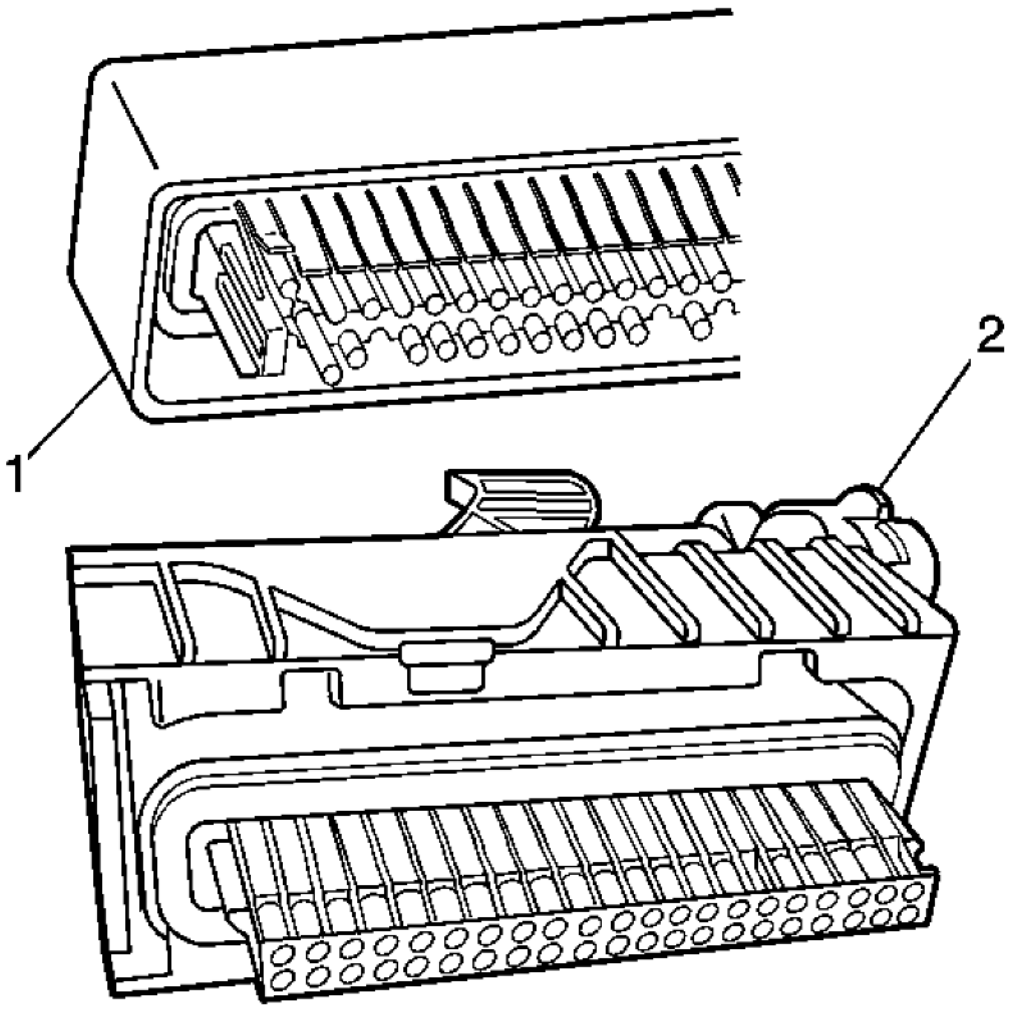


Fig. 67: Identifying Micro-Pack 100W First & Second Connector Designs
Courtesy of GENERAL MOTORS CORP.

The first connector design of the Micro-Pack 100W (1) has a white connector interface that holds the terminals. The second design of the Micro-Pack 100W (2) has a gray interface to hold the terminals. Also, the first design has terminal cavities that are further apart (3 mm centerline) and offset from the other row of terminal cavities in the connector. The second design has terminals cavities that are closer together (2.54 mm centerline) and aligned vertically. One other way to identify the second design is the thin strip of material that runs along the outside of the cavities.

cardiagn.com

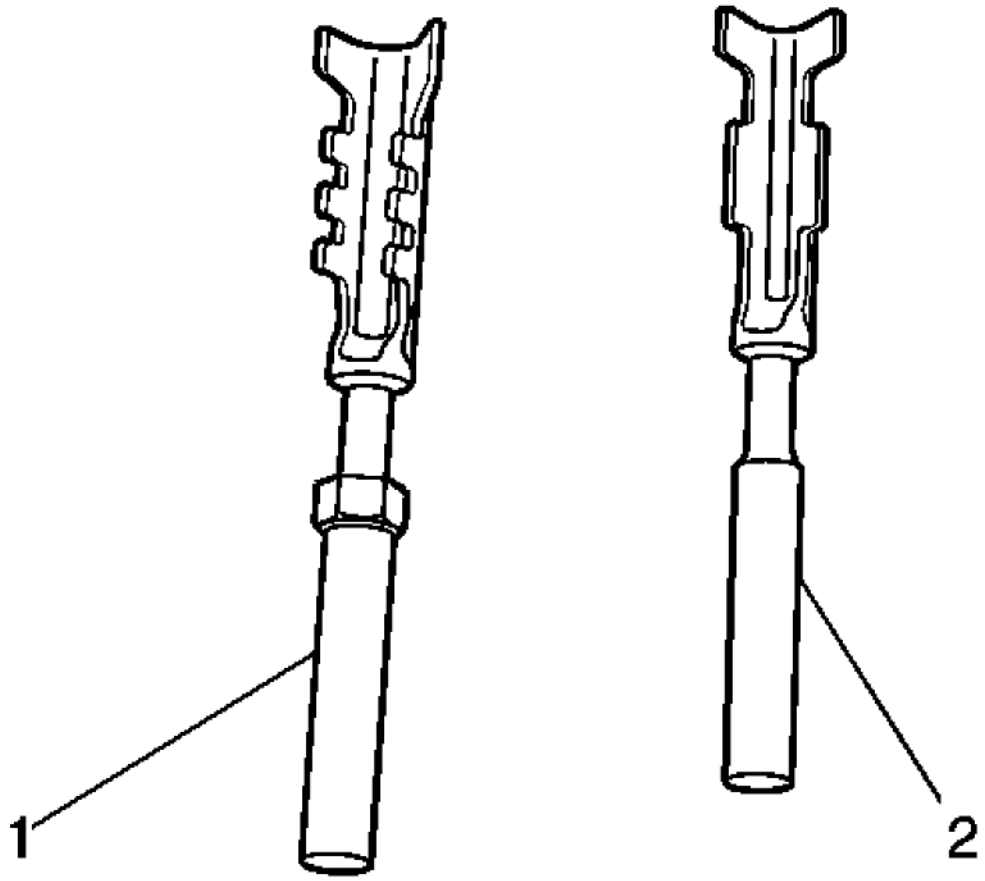


Fig. 68: Identifying Micro-Pack 100W Short & Long Terminals
Courtesy of GENERAL MOTORS CORP.

NOTE: **There are 2 styles of Micro-Pack 100W terminals which are very similar. Ensure that you have the correct terminal before crimping the new terminal to the wire. The first design connector uses the longer terminal (1) that has a raised area in front of the recess in the terminal. The second design connector uses the shorter terminal without the raised area.**

Follow the steps below in order to remove terminals from Micro-Pack 100W connectors. Some Micro-Pack 100W connector disassembly procedures will vary. Use this procedure as a guide.

1. Disconnect the connector from the component.

cardiagn.com

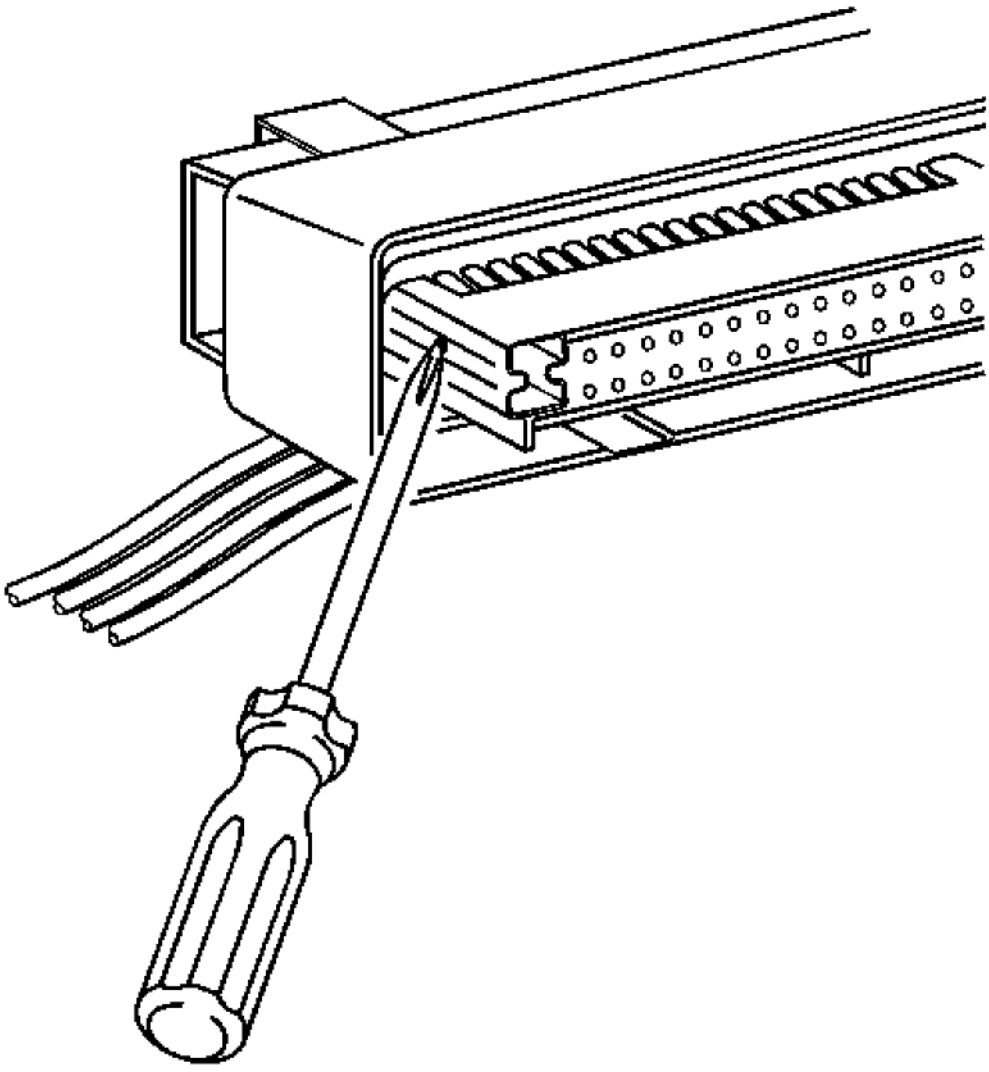


Fig. 69: Locating Nose Piece Locking Tabs
Courtesy of GENERAL MOTORS CORP.

2. Locate the nose piece locking tabs that are positioned on the side of the connector nose piece. The connector nose piece acts as a terminal positive assurance (TPA) and may be referred to as such.

cardiagn.com

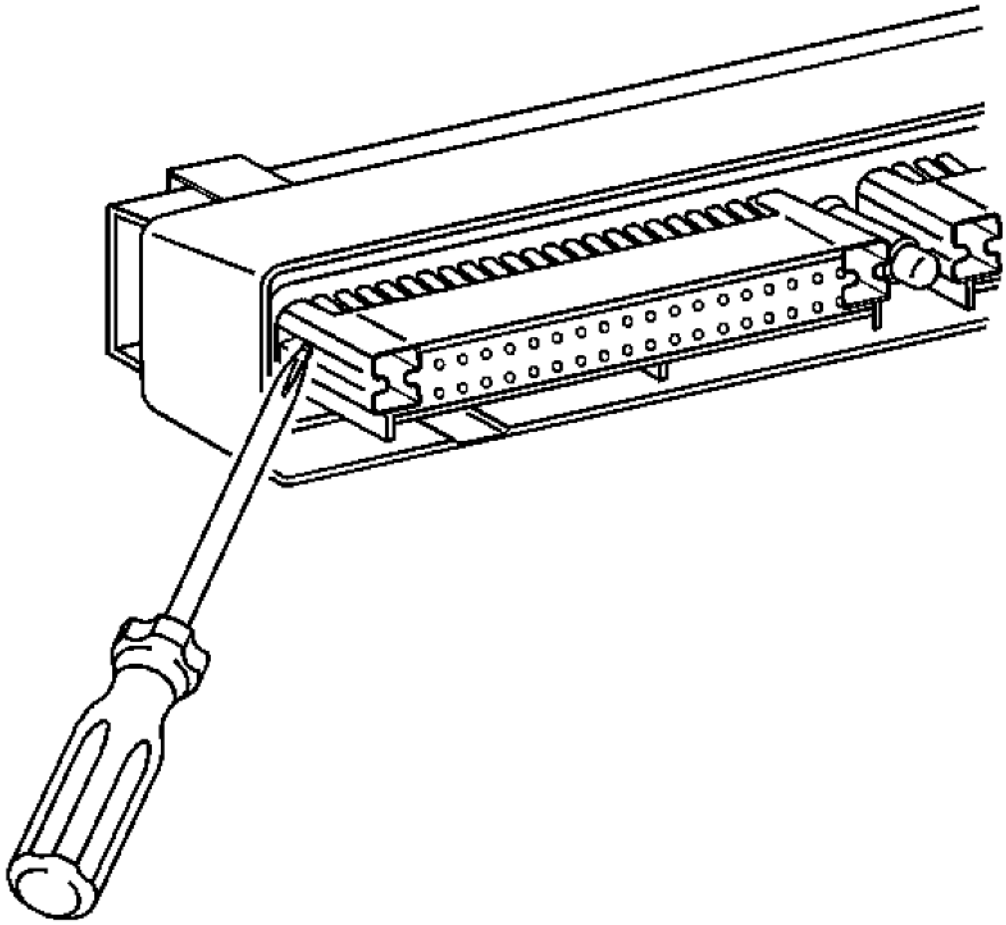


Fig. 70: Loosening Nose Piece Locking Tabs
Courtesy of GENERAL MOTORS CORP.

3. Use a small flat-blade tool to push in one of the locking tabs while gently pulling on the same side of the nose piece.
4. Repeat the procedure for the other locking tab and remove the nose piece.
5. Remove the wire dress cover. The following is a general procedure for wire dress cover removal. Use this procedure as a guide, some dress cover removal procedures may vary.

cardiagn.com

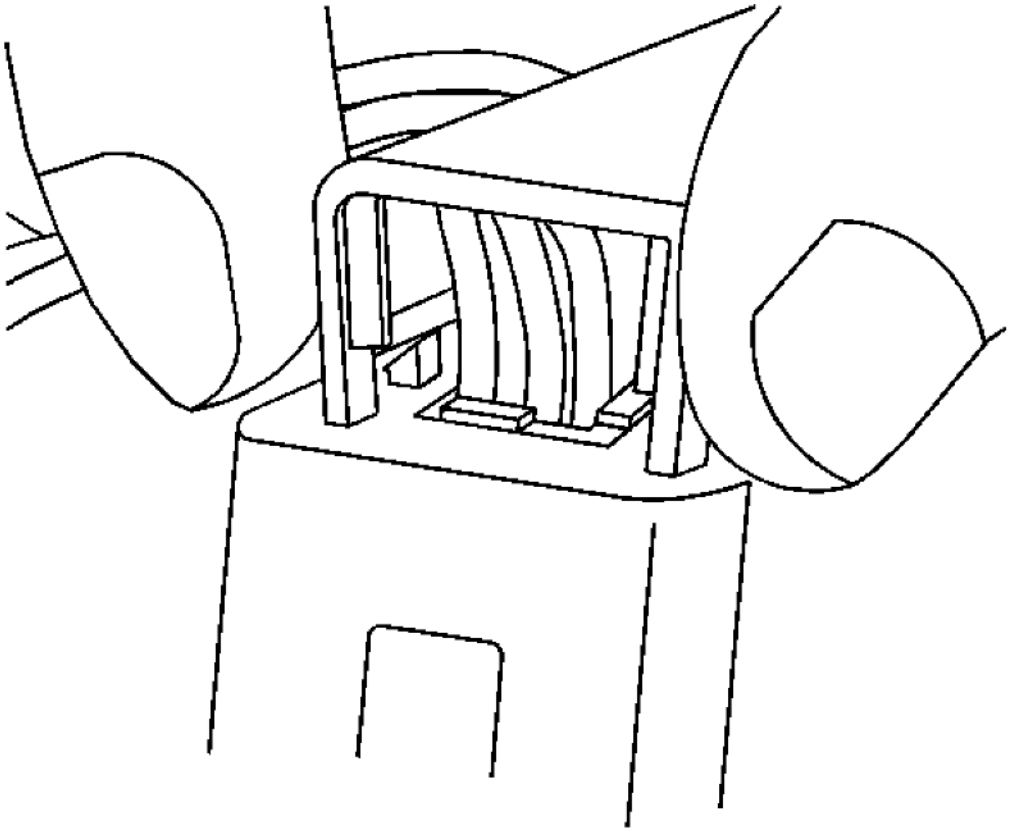


Fig. 71: Squeezing Cover Locking Legs
Courtesy of GENERAL MOTORS CORP.

6. Use fingers to squeeze the 2 locking legs of the cover.

cardiagn.com

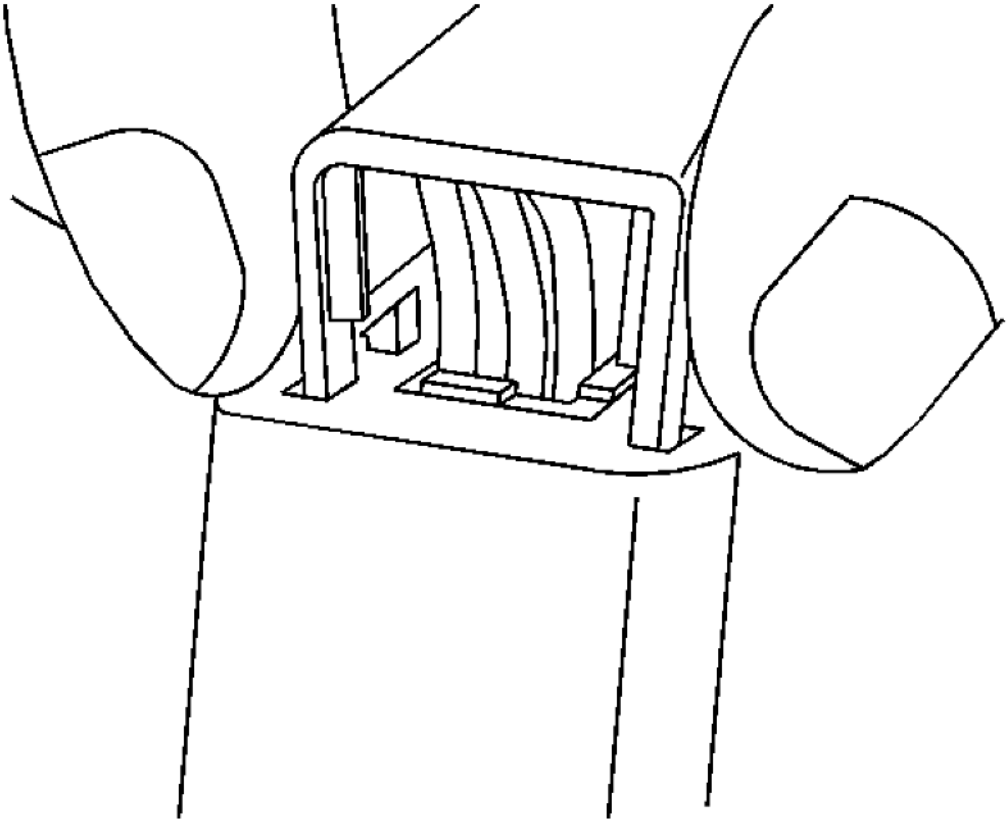


Fig. 72: Unseating Locking Leg
Courtesy of GENERAL MOTORS CORP.

7. Apply pressure and gently rock the cover until one locking leg is unseated.

cardiagn.com

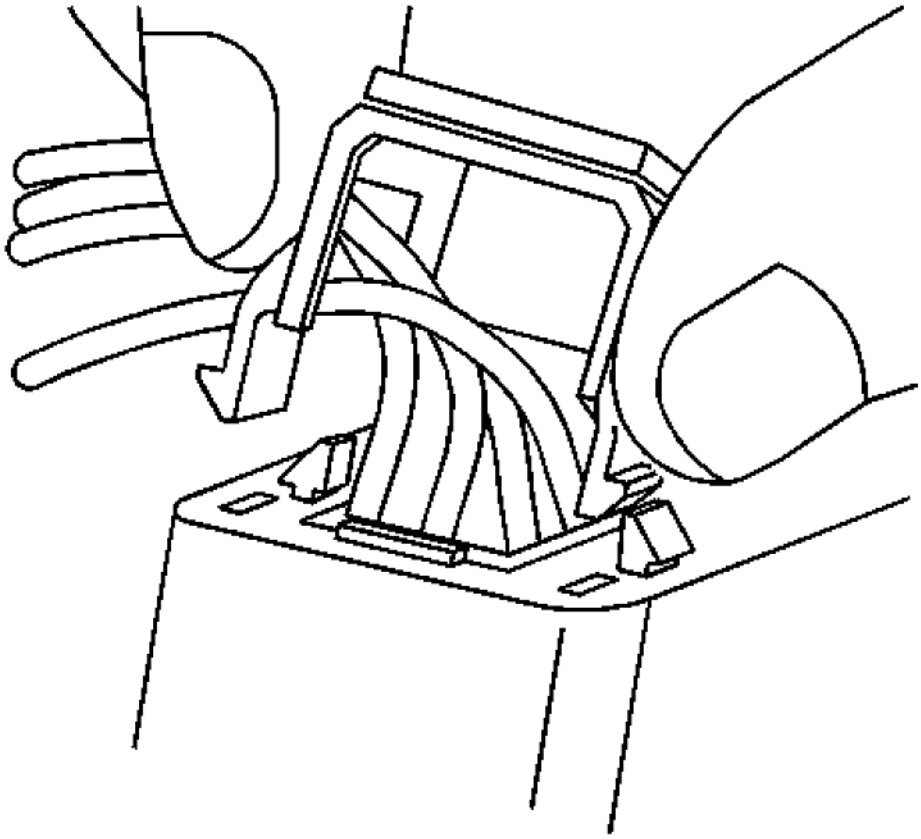


Fig. 73: Removing Cover
Courtesy of GENERAL MOTORS CORP.

8. Continue to apply pressure and rock the cover until the second locking leg is unseated. Repeat procedure for the other side of the dress cover and remove the cover.

cardiagn.com

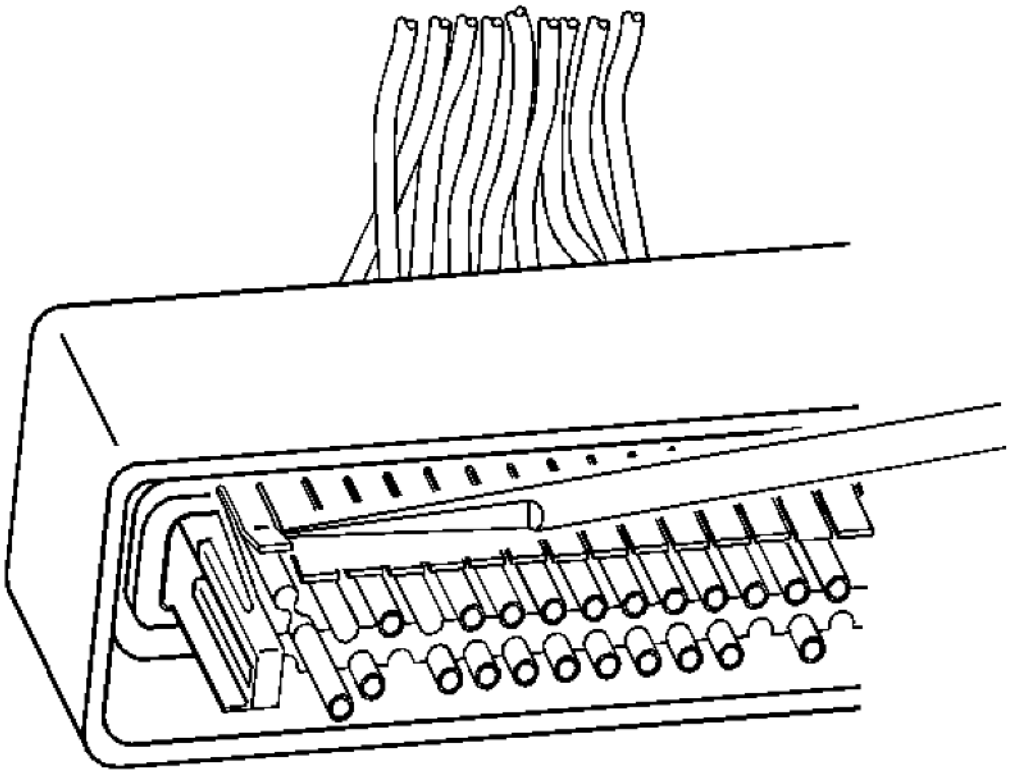


Fig. 74: Identifying Terminal Retaining Tab
Courtesy of GENERAL MOTORS CORP.

9. Use EL-38125-12A to gently lift the terminal retaining tab while gently pulling the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.
10. If the terminal is severely bent or damaged, it may be possible on some connectors to push the wire out of the front of the connector instead of pulling it through. This will prevent damage to the internal seals of the connector. Once the terminal is pushed out of the connector, cut the wire as close to the terminal as possible and pull the wire through the connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

Terminal Repair Procedure

cardiagn.com

The Micro-Pack 100W connectors have small terminals that are difficult to handle and hold when crimping. In order to aid the technician when crimping these terminals, a new crimping tool was developed. The J 38125-101 (W jaw) crimping tool was developed to crimp Micro-Pack 100W terminals. The J 38125-101 (W jaw) crimping tool has a terminal holding block that will hold the terminal in place while the terminal is being crimped. After the terminal is removed from the connector perform the following procedure in order to repair Micro-Pack 100 terminals.

1. Cut the wire as close to the terminal as possible.

NOTE: **After cutting the damaged terminal from the wire, determine if the remaining wire is long enough to reach the connector without putting a strain on the wire. If the wire is not long enough, splice a small length of the same gauge wire to the existing wire, then crimp the new terminal on the added wire.**

2. Strip 5 mm (3/16 in) of insulation from the wire.

cardiagn.com

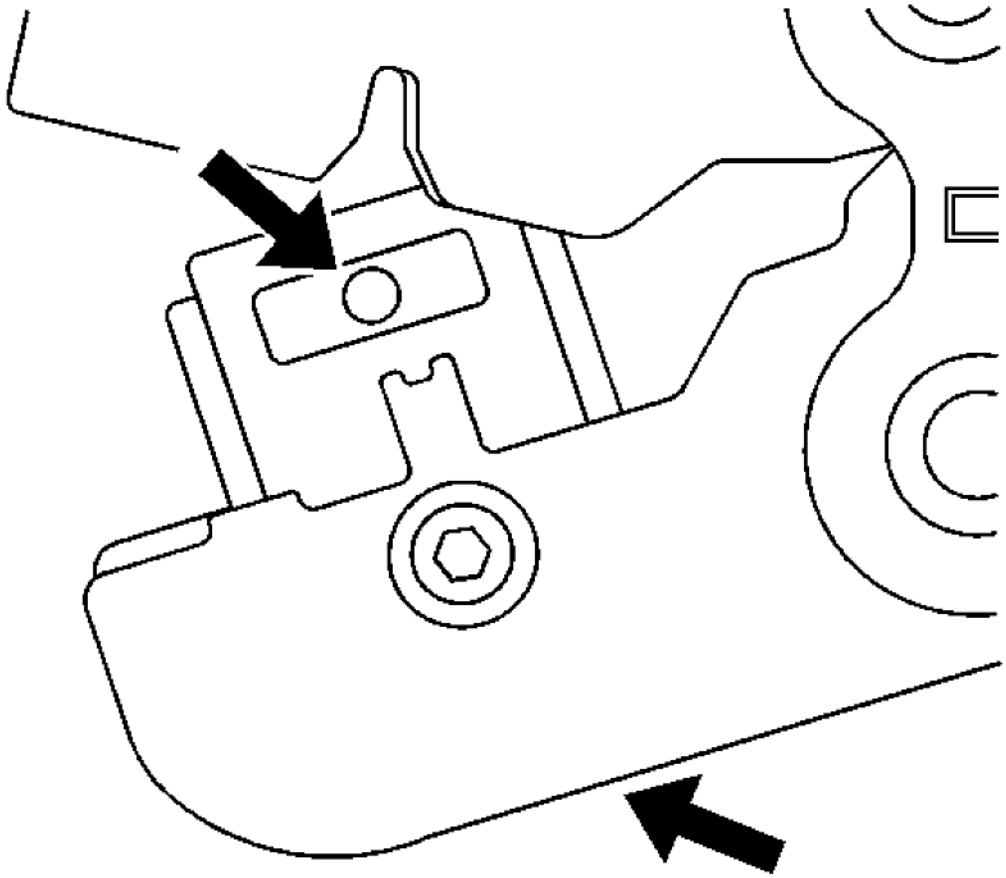


Fig. 75: Identifying Crimping Tool Spring Loaded Locator
Courtesy of GENERAL MOTORS CORP.

3. Depress the spring loaded locator of the J 38125-101 (W jaw) crimping tool until the terminal holder is completely visible.

cardiagn.com

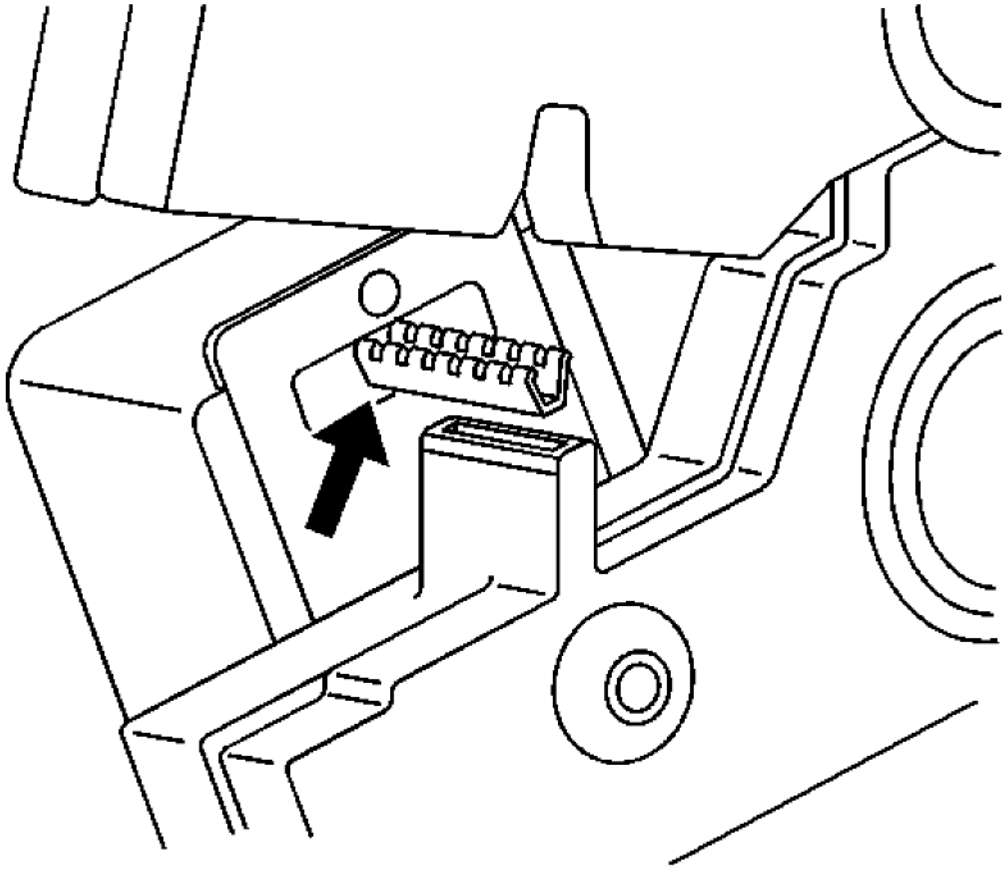


Fig. 76: Locating Terminal In Crimping Tool
Courtesy of GENERAL MOTORS CORP.

4. Insert the terminal into the crimp tool until the core wings are flush with the anvil on the crimp tool. Be sure that the wings are pointed toward the crimp tool former and release the spring locator. The locator will hold the terminal in place. Inspect the alignment of the terminal wings with the crimp tool former. If the terminal wings are wider than the crimp tool former, remove the terminal and bend the terminal wings in slightly.
5. Place stripped wire into terminal.
6. Crimp the new terminal to the wire. If a jam occurs, press the emergency release to open applicator.

Terminal Replacement Procedure

After the terminal is crimped to the wire perform the following procedure in order to replace Micro-Pack 100 terminals.

cardiagn.com

1. Slide the new terminal into the correct cavity at the back of the connector.
2. Push the terminal into the connector until it locks into place. The new terminal should be even with the other terminals. Ensure that the terminal is locked in place by gently pulling on the wire.
3. To assemble the connector, reverse the Terminal Removal Procedure.

DELPHI CONNECTORS (MICRO .64)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

Follow the steps below in order to remove terminals from Micro .64 connectors.

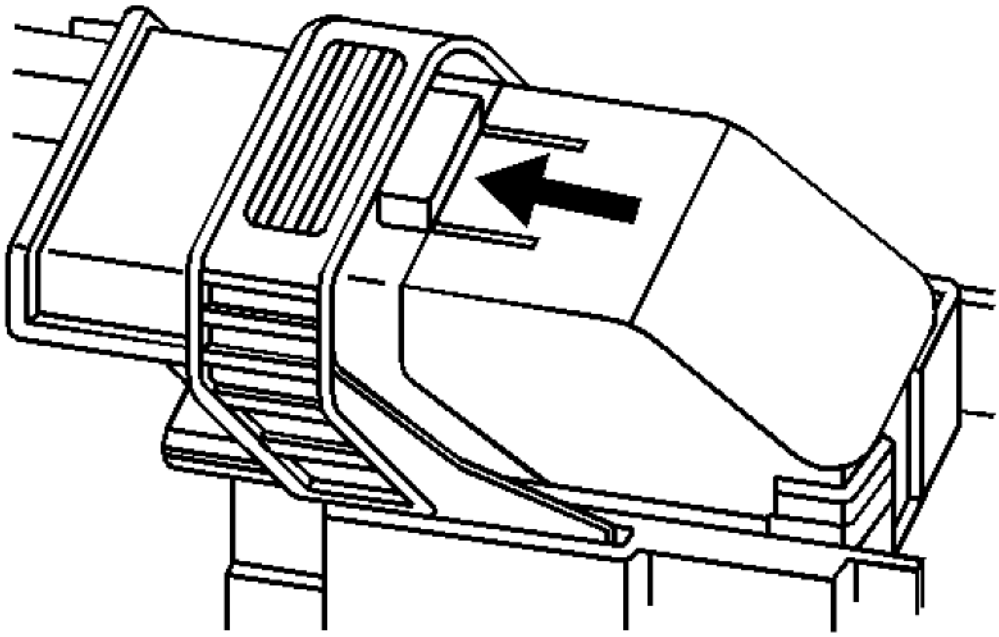


Fig. 77: Identifying Wire Dress Cover Lever Lock
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

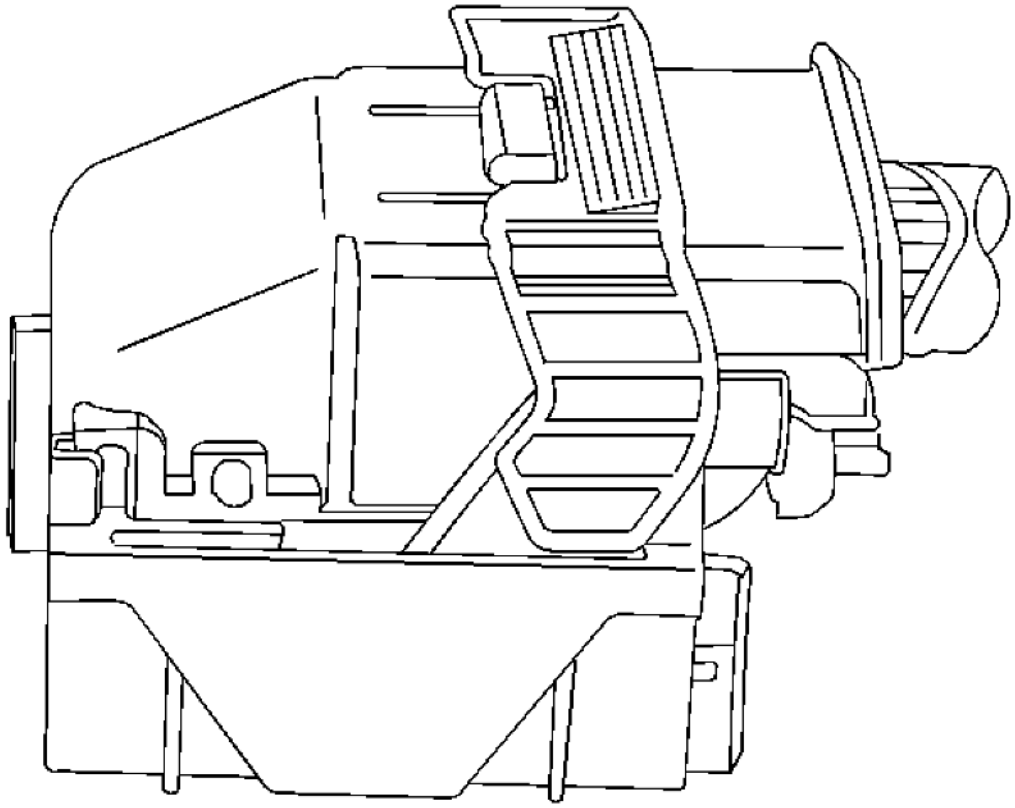


Fig. 78: View Of Typical Micro 64 Connector
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

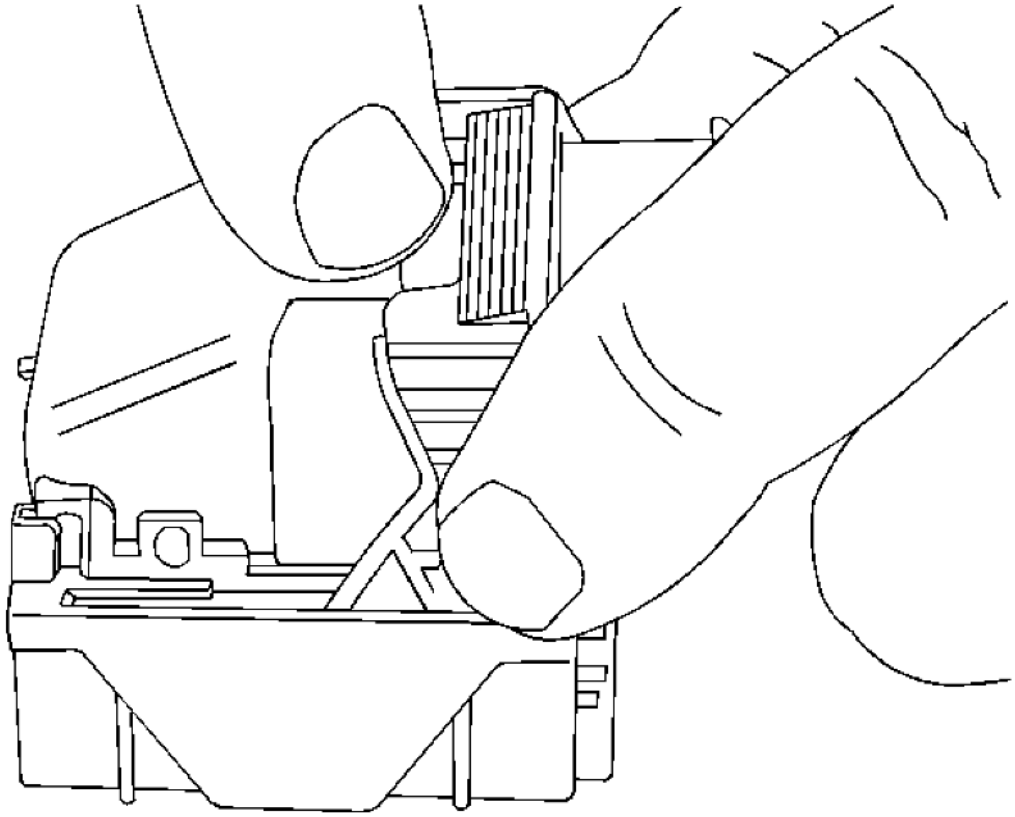


Fig. 79: Depressing Lock & Pulling Lever
Courtesy of GENERAL MOTORS CORP.

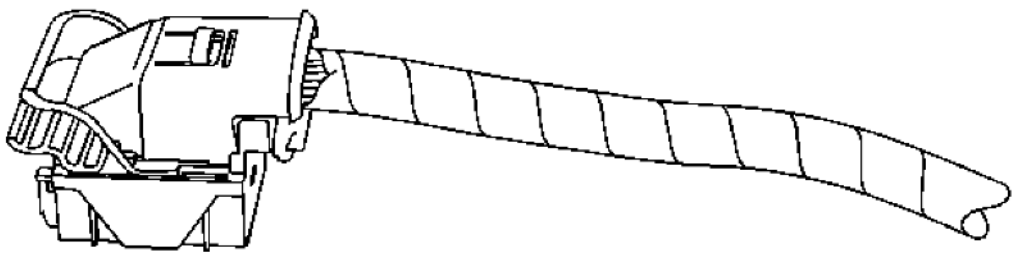


Fig. 80: View Of Connector When Released From Component

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

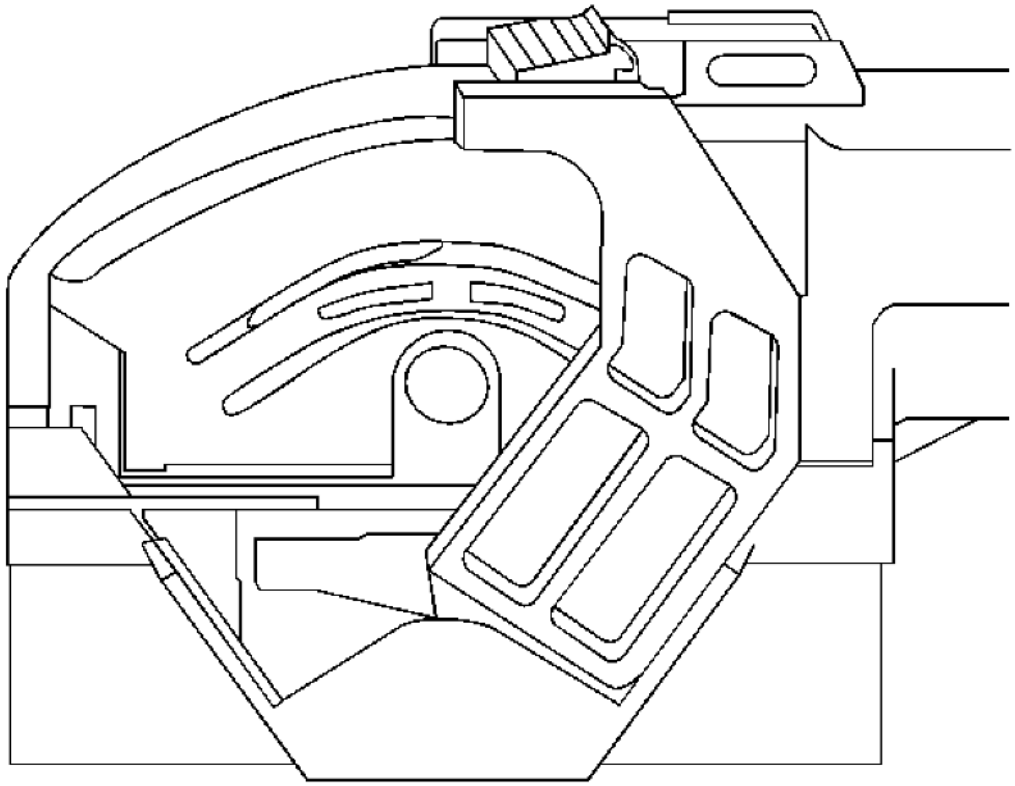


Fig. 81: View Of Another Type Of Micro 64 Connector
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

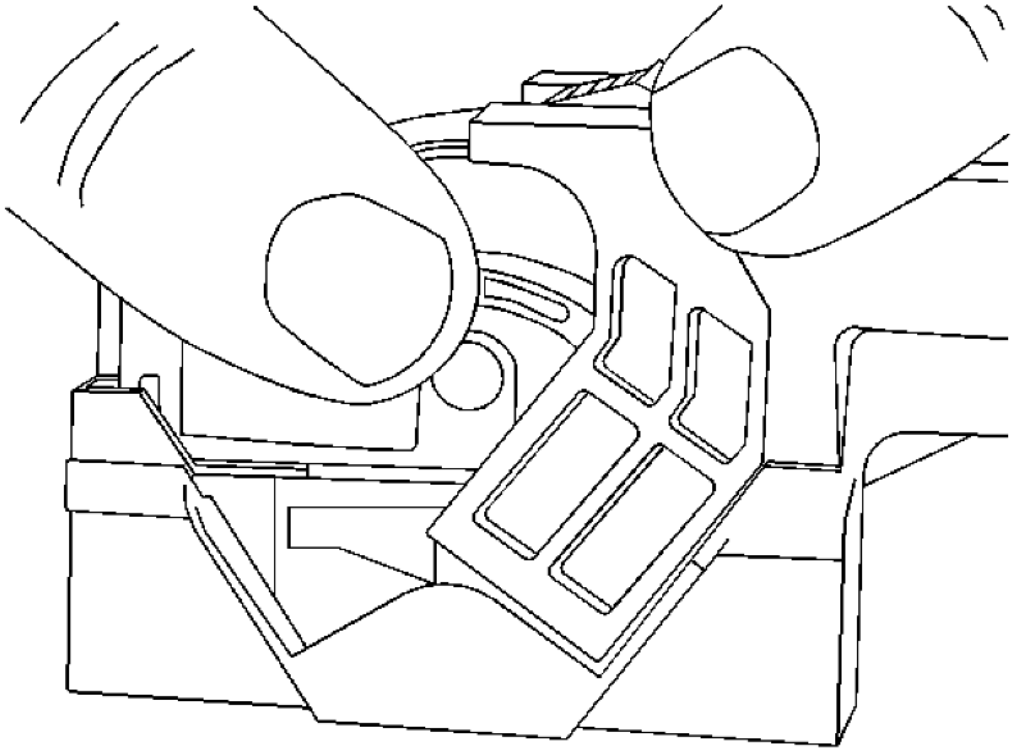


Fig. 82: Locating Locks On Both Sides Of Wire Dress Cover
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

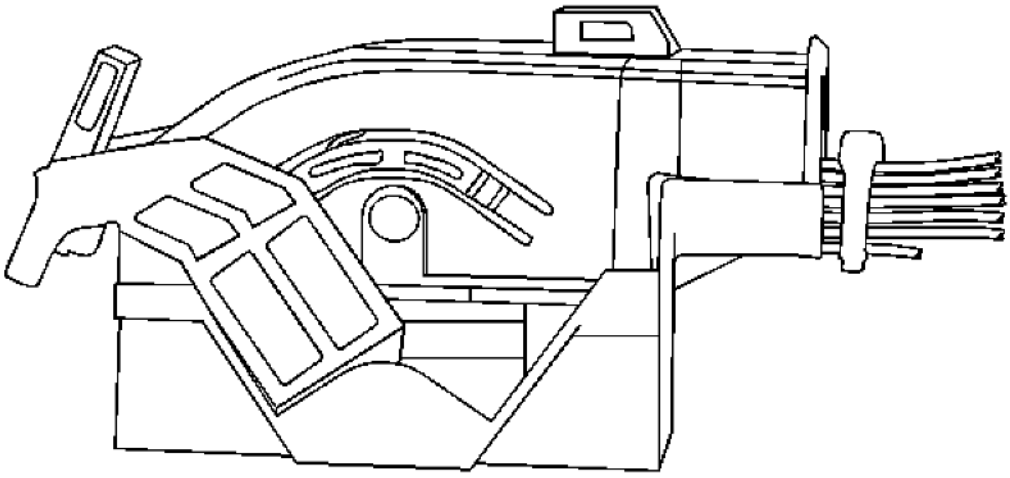


Fig. 83: View Of Connector When Released From Component
Courtesy of GENERAL MOTORS CORP.

1. Locate the lever lock on the wire dress cover. While depressing the lock, pull the lever over and past the lock. The lever lock may be located on the top or sides of the wire dress cover.

   View of a typical Micro 64 connector.

   Depress the lock and pull the lever over and past the lock.

   View of the connector when released from the component.

   View of another type of Micro 64 connector.

   Depress the locks that are located on both sides of the wire dress cover and pull the lever over and past the locks.

   View of the connector when released from the component.

2. Disconnect the connector from the component.

cardiagn.com

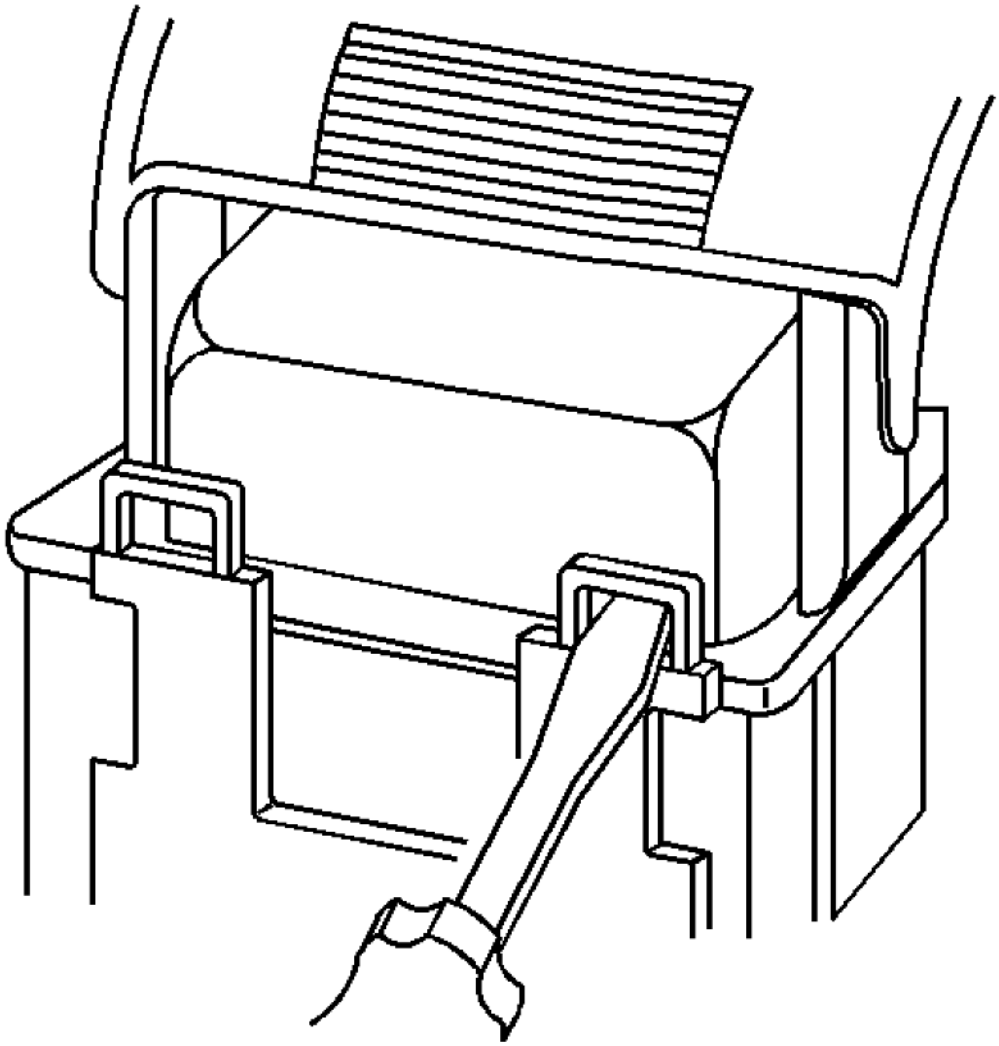


Fig. 84: Releasing Locking Tabs
Courtesy of GENERAL MOTORS CORP.

3. Locate the dress cover locking tabs at the front of the connector. Using a small flat-blade tool push down on one of the locking tabs and pull the cover up until the dress cover releases. Repeat this procedure for the other locking tab.
4. Once the front 2 locks are unlocked, lift the front of the dress cover and pull it forward.

cardiagn.com

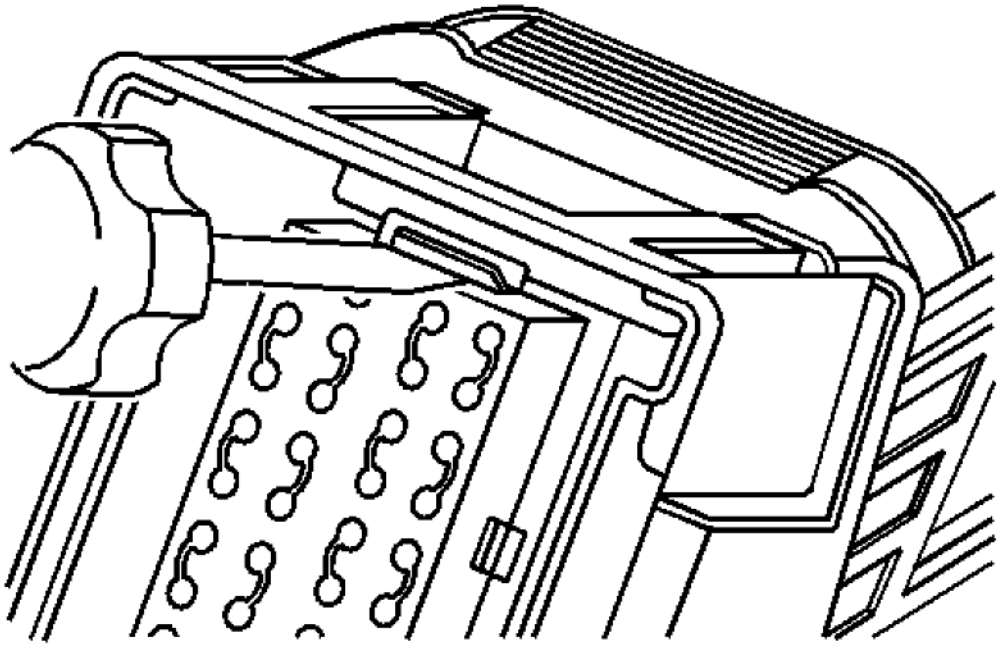


Fig. 85: Removing Terminal Position Assurance
Courtesy of GENERAL MOTORS CORP.

NOTE: Always use care when removing a terminal position assurance (TPA) in order to avoid damaging it.

5. Remove the TPA by inserting a small flat-blade tool into the small slot on the TPA and pushing down until the TPA releases. Gently pry the TPA out of the connector.

cardiagn.com

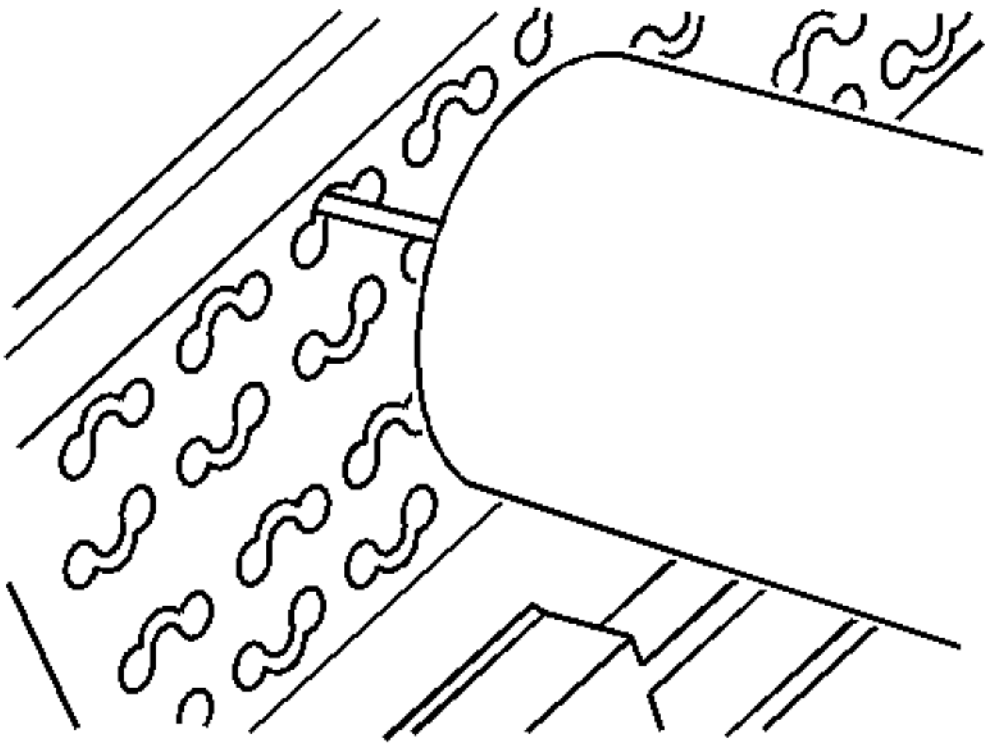


Fig. 86: Inserting Terminal Release Tool
Courtesy of GENERAL MOTORS CORP.

NOTE: Be careful not to angle or rock the EL-38125-21 tool when inserting it into the connector or the tool may break.

6. Insert the EL-38125-21 tool into the round canal between the terminals cavities at the front of the connector.

cardiagn.com

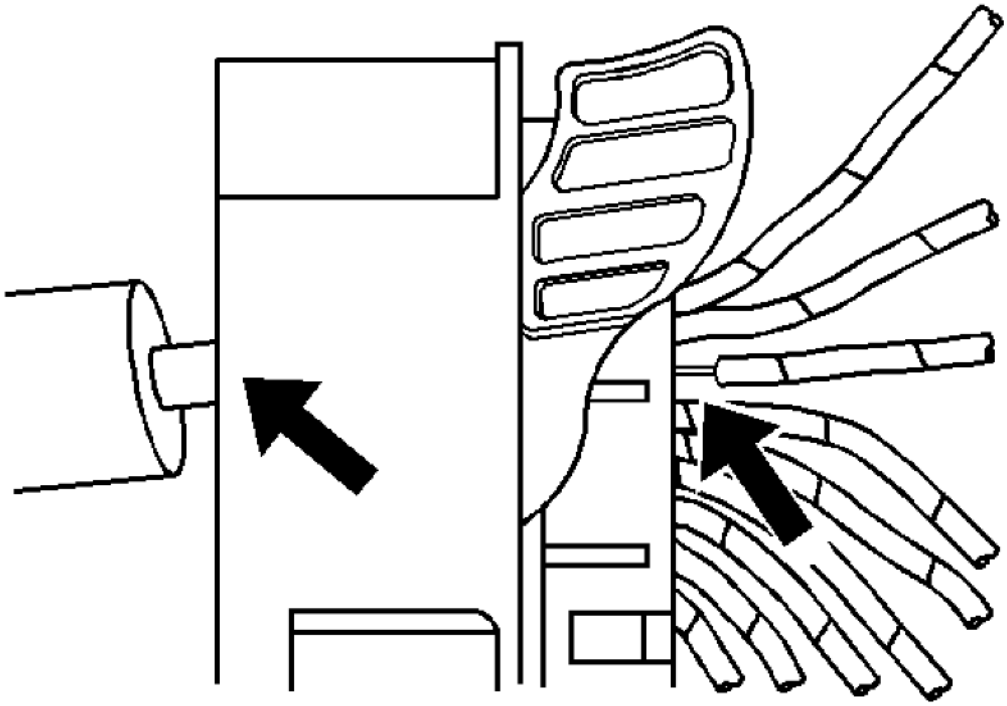


Fig. 87: Removing Wire From Back Of Connector
Courtesy of GENERAL MOTORS CORP.

7. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

DELPHI CONNECTORS (12-WAY)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

cardiagn.com

Follow the steps below in order to remove terminals from the connector.

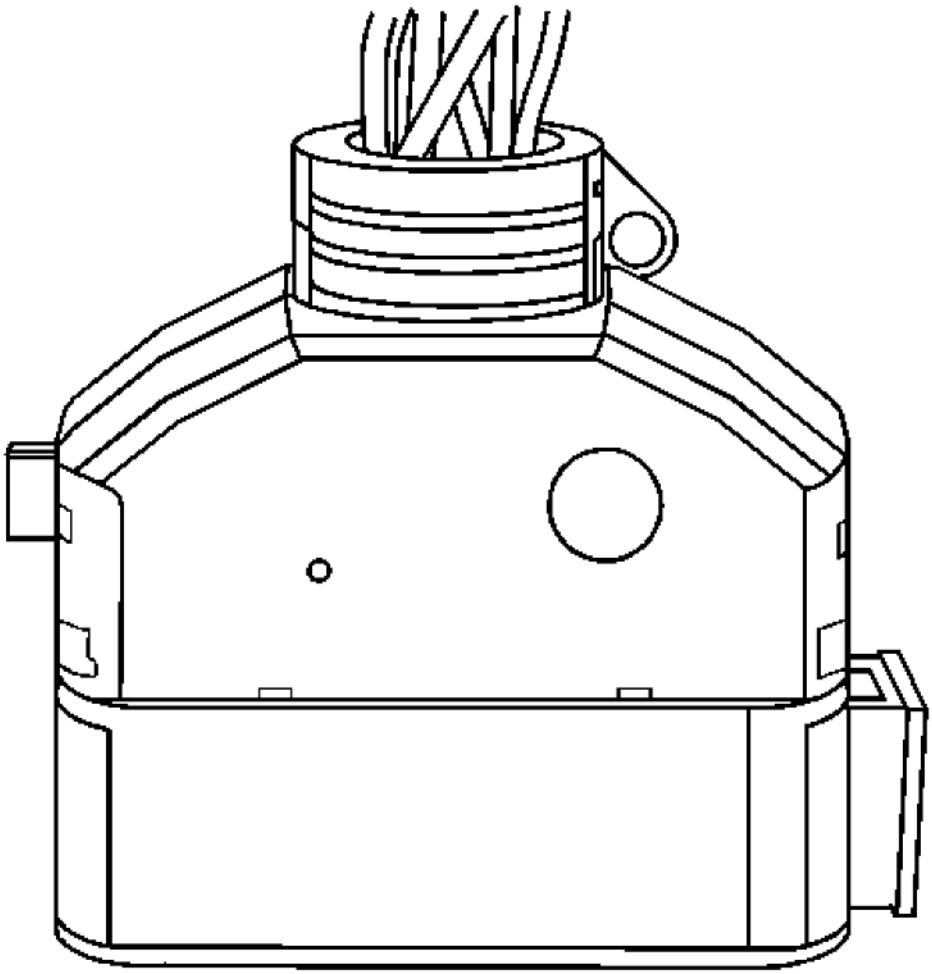


Fig. 88: Identifying Lever Lock
Courtesy of GENERAL MOTORS CORP.

1. Locate the lever lock on the wire dress cover. Remove the connector position assurance (CPA) and slide the lever lock away from the connector body.
2. Disconnect the connector from the component.

cardiagn.com

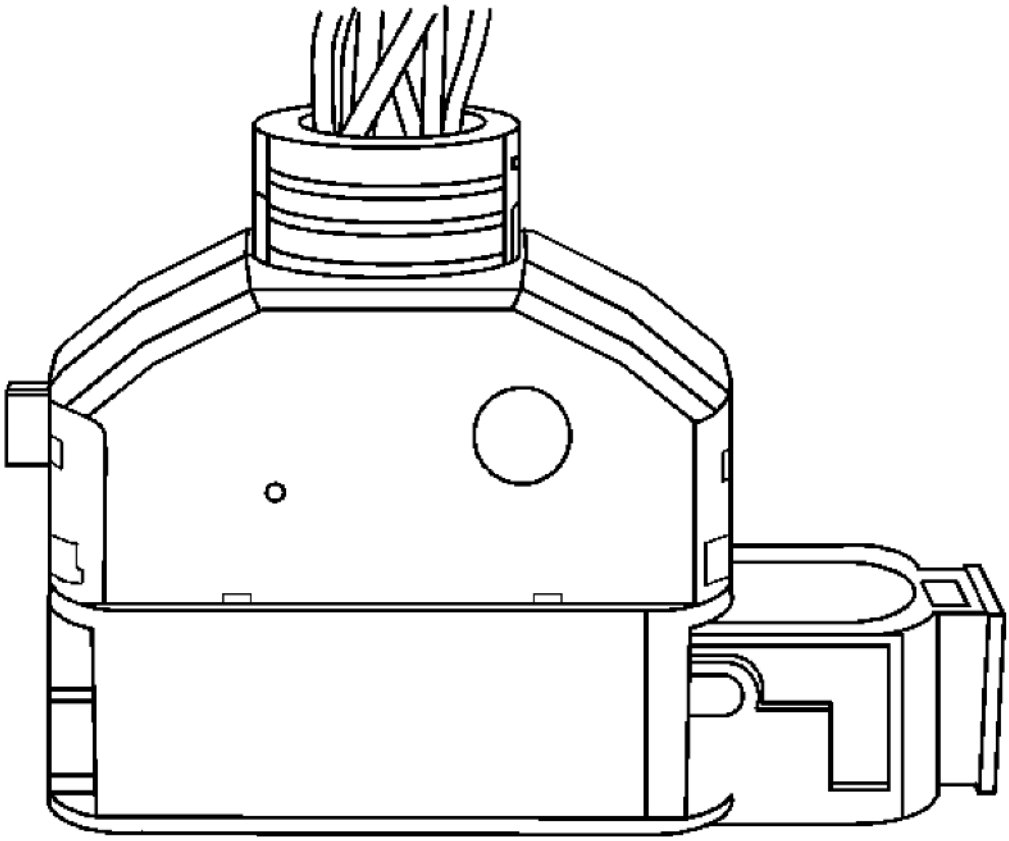


Fig. 89: Releasing Locking Tabs
Courtesy of GENERAL MOTORS CORP.

3. Locate the dress cover locking tabs on the dress cover of the connector. Using a small flat-blade tool release all of the locking tabs.

cardiagn.com

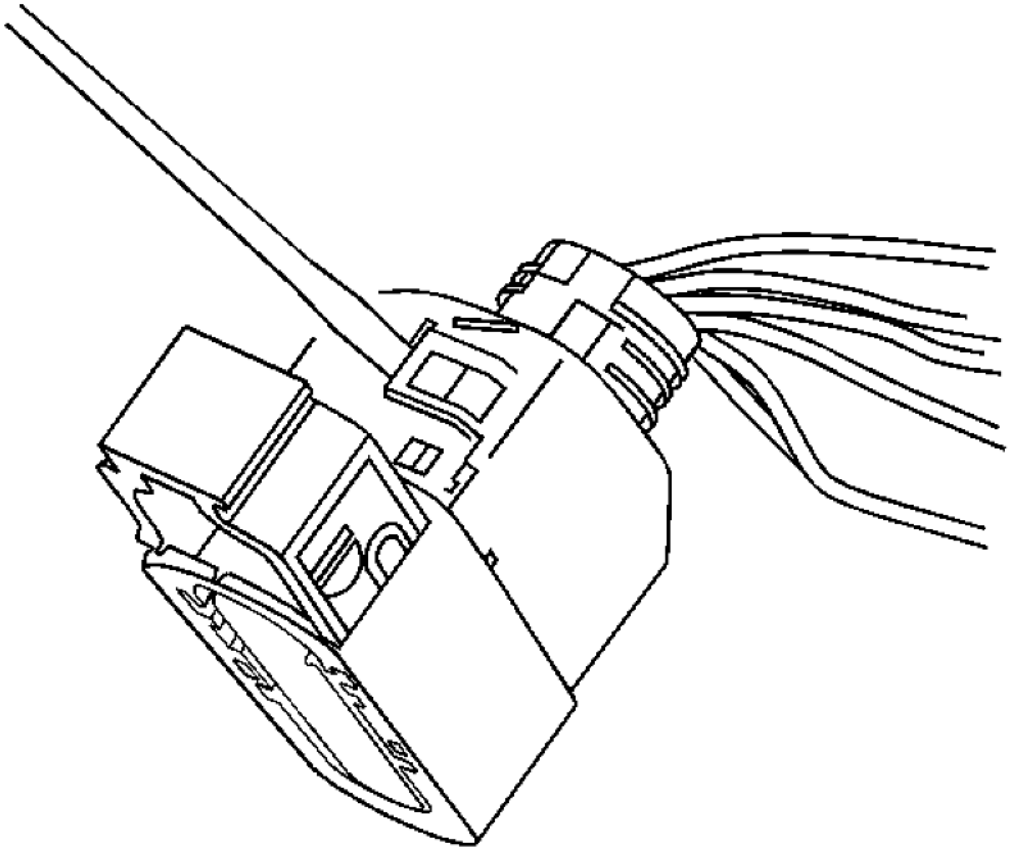


Fig. 90: Identifying Lower Wire Dress Cover Locking Tab
Courtesy of GENERAL MOTORS CORP.

4. Release the lower wire dress cover locking tab.

cardiagn.com

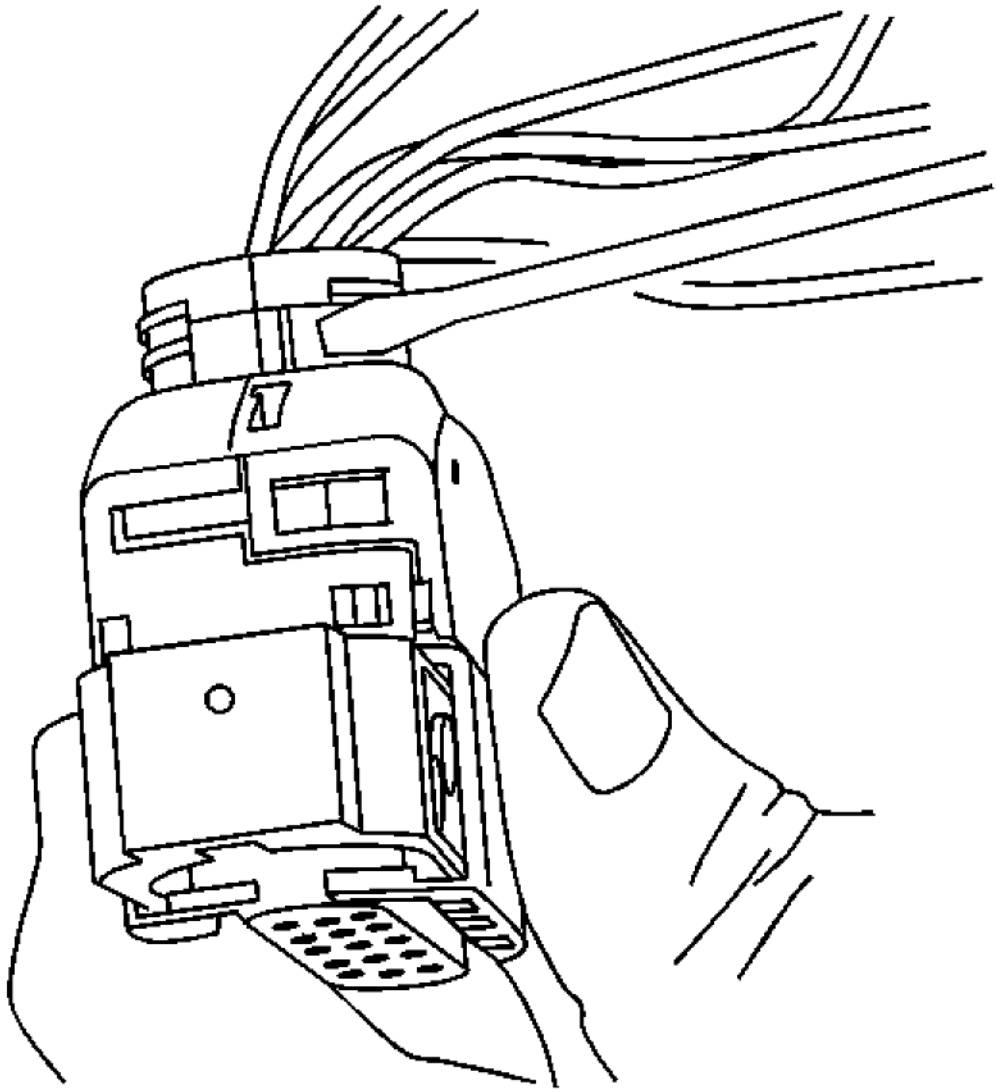


Fig. 91: Identifying Upper Wire Dress Cover Locking Tab
Courtesy of GENERAL MOTORS CORP.

5. Release the upper wire dress cover locking tab.
6. Once the locks are unlocked, lift the dress cover off.

cardiagn.com

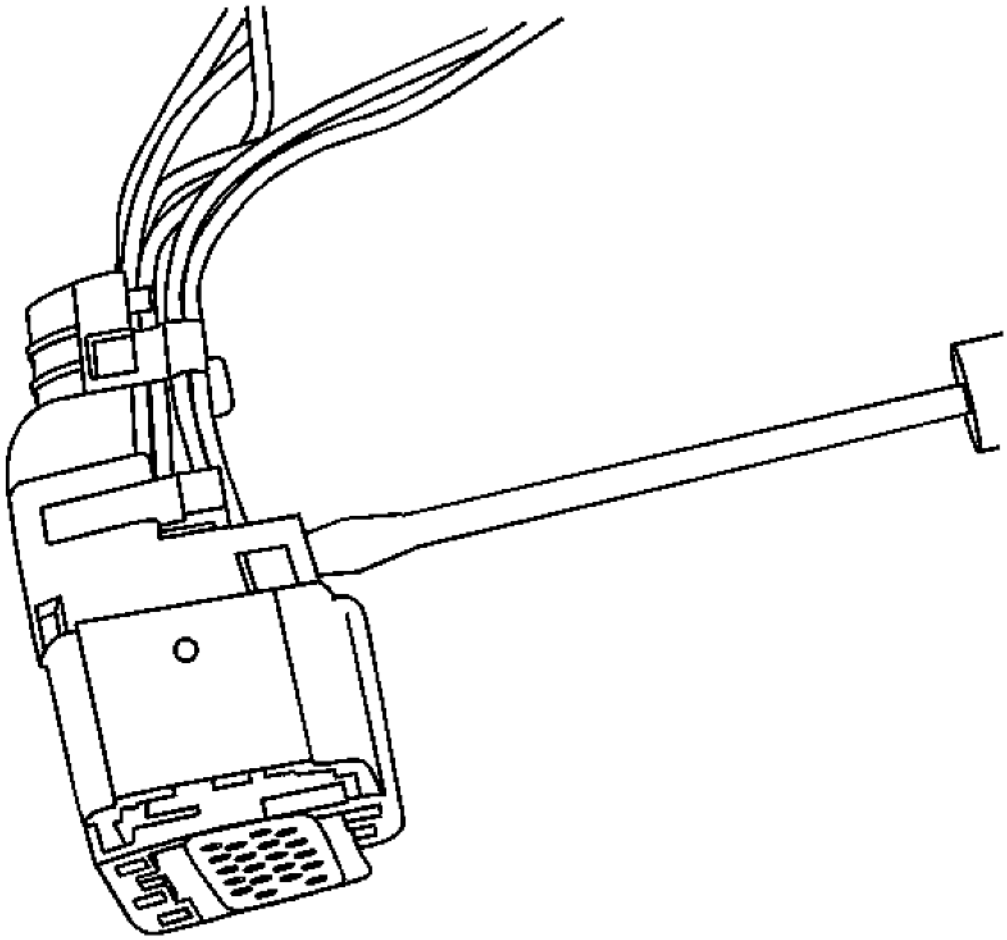


Fig. 92: Prying TPA Out Of Connector
Courtesy of GENERAL MOTORS CORP.

NOTE: Always use care when removing a terminal position assurance (TPA) in order to avoid damaging it.

7. Remove the TPA by inserting a small flat-blade tool into the locking tabs on both sides of the TPA. Gently pry the TPA out of the connector.

cardiagn.com

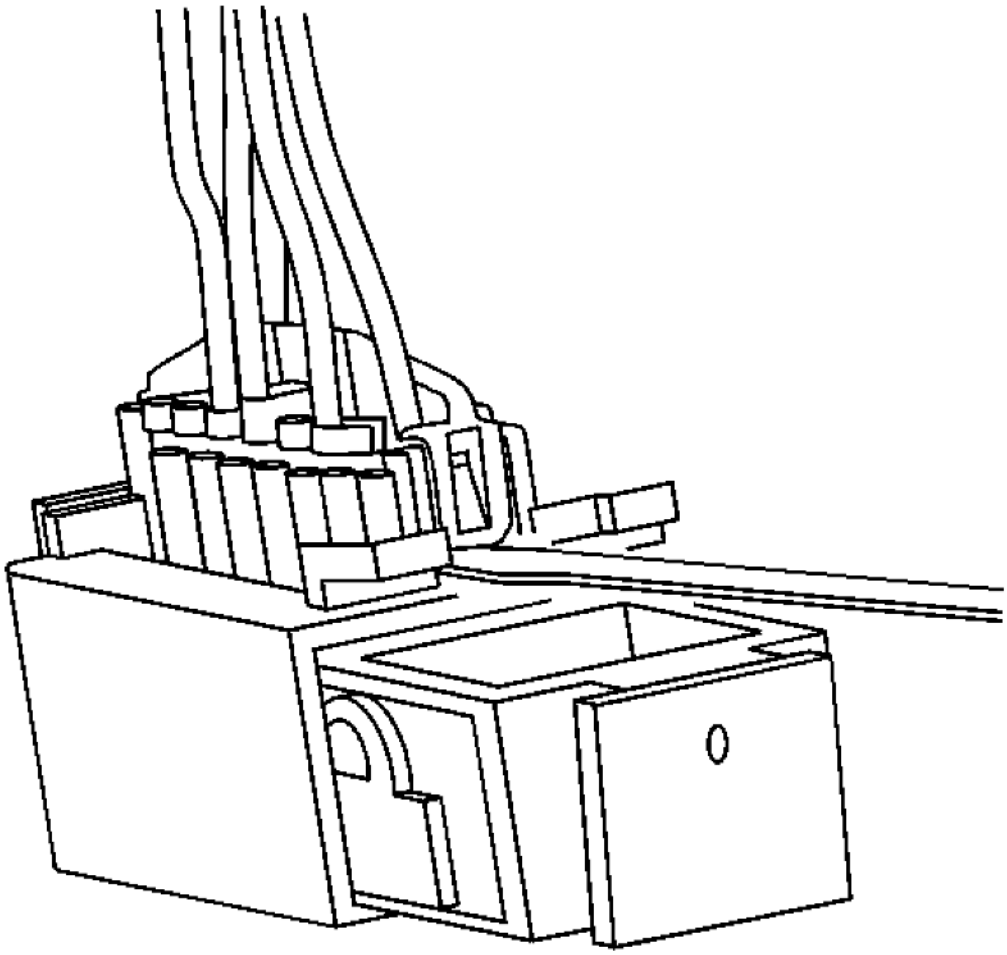


Fig. 93: Removing Nose Piece
Courtesy of GENERAL MOTORS CORP.

8. Remove the nose piece by inserting a small flat-blade tool into the locking tabs on both sides of the nose piece. Gently pry the nose piece out of the connector.

cardiagn.com

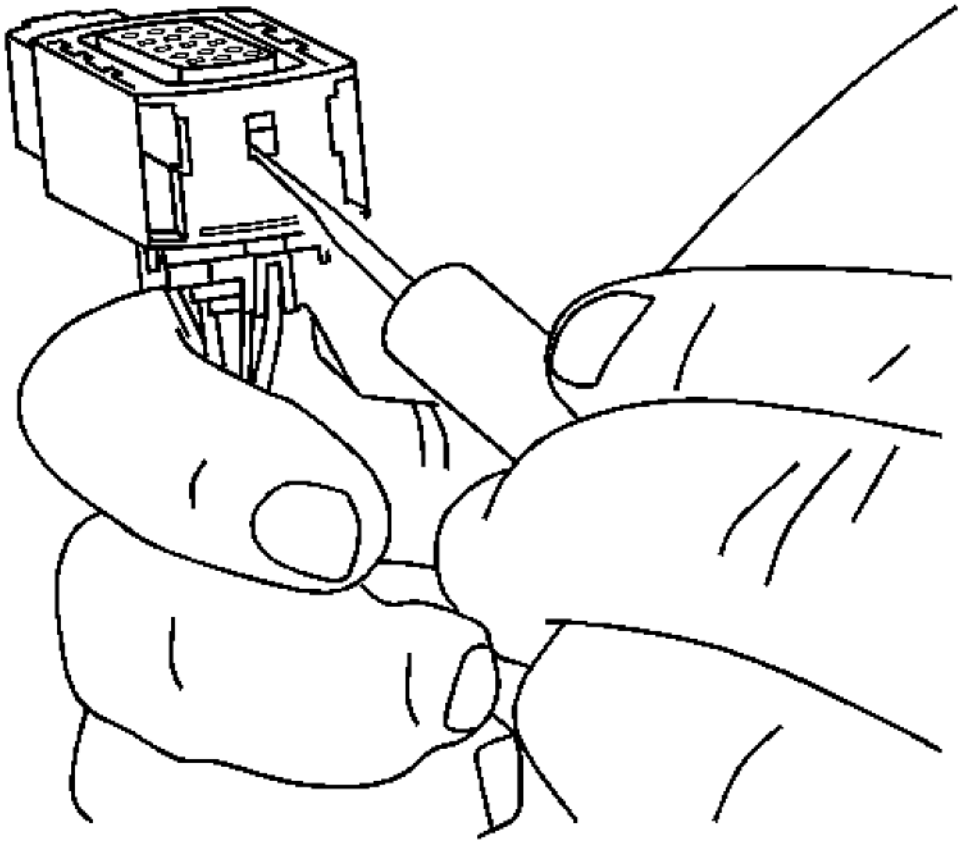


Fig. 94: Inserting J 38125-12A Into Terminal Release Cavity
Courtesy of GENERAL MOTORS CORP.

9. Insert the EL-38125-12A tool to release the terminals by inserting the tool into the terminal release cavity.

cardiagn.com

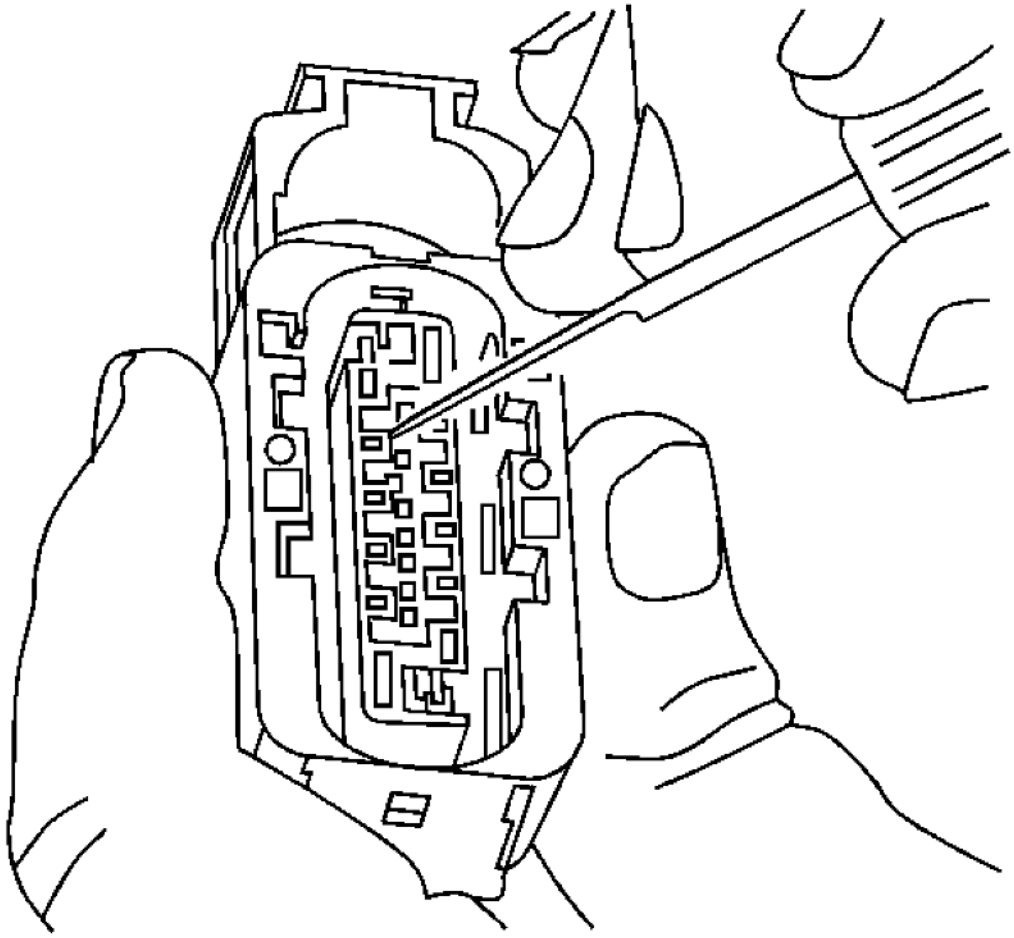


Fig. 95: Holding Removal Tool In Place
Courtesy of GENERAL MOTORS CORP.

10. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminal Repair Procedure

The Micro-Pack 100W connectors have small terminals that are difficult to handle and hold when crimping. In order to aid the technician when crimping these terminals, a new crimping tool was developed. The J 38125-101 (W jaw) crimping tool was developed to crimp Micro-Pack 100W terminals. The J 38125-101 (W jaw) crimping tool has a terminal holding block that will hold the terminal in place while the terminal is being crimped. After the terminal is removed from the connector perform the following procedure in order to repair Micro-Pack 100 terminals.

cardiagn.com

1. Cut the wire as close to the terminal as possible.

NOTE: **After cutting the damaged terminal from the wire, determine if the remaining wire is long enough to reach the connector without putting a strain on the wire. If the wire is not long enough, splice a small length of the same gauge wire to the existing wire, then crimp the new terminal on the added wire.**

2. Strip 5 mm (3/16 in) of insulation from the wire.

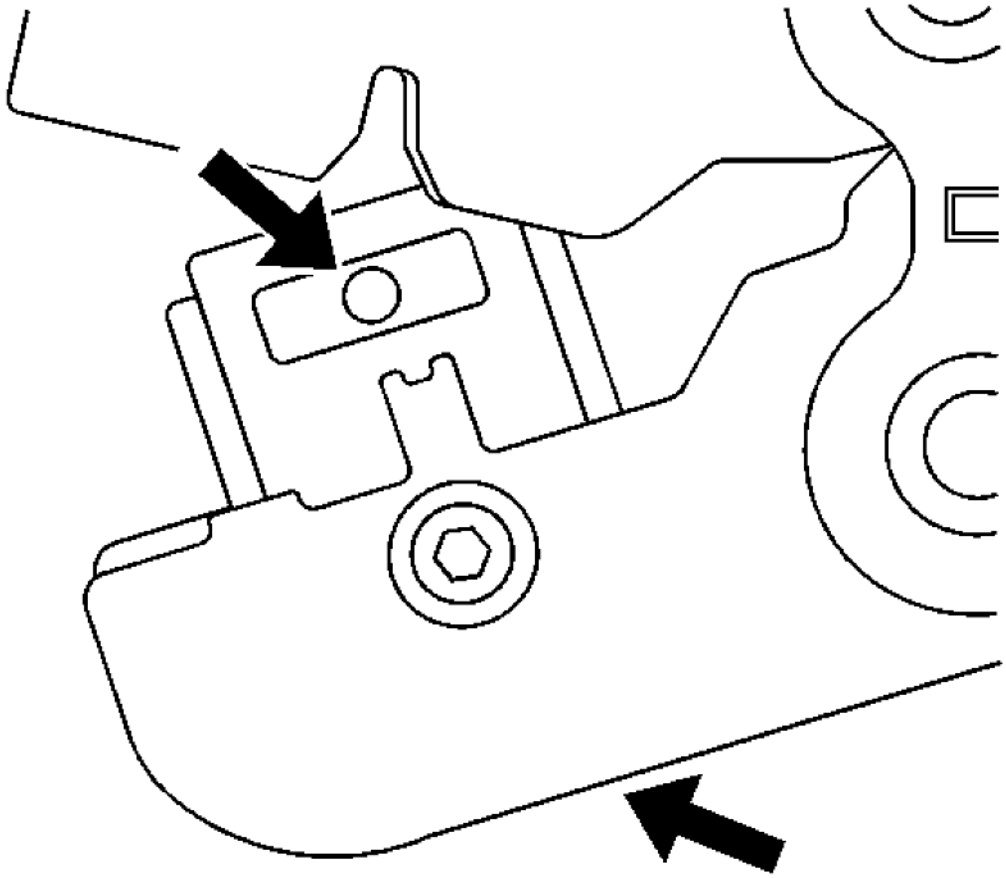


Fig. 96: Identifying Crimping Tool Spring Loaded Locator
Courtesy of GENERAL MOTORS CORP.

3. Depress the spring loaded locator of the J 38125-101 (W jaw) crimping tool until the terminal holder is completely visible.

cardiagn.com

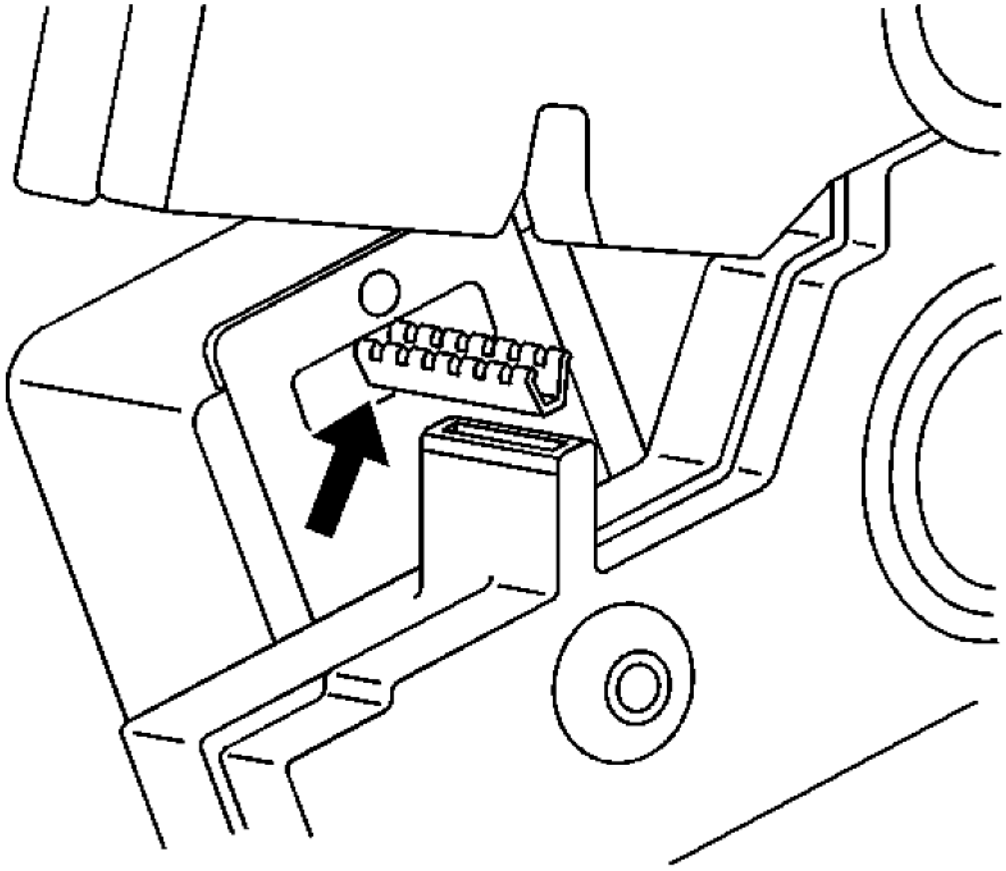


Fig. 97: Locating Terminal In Crimping Tool
Courtesy of GENERAL MOTORS CORP.

4. Insert the terminal into the crimp tool until the core wings are flush with the anvil on the crimp tool. Be sure that the wings are pointed toward the crimp tool former and release the spring locator. The locator will hold the terminal in place. Inspect the alignment of the terminal wings with the crimp tool former. If the terminal wings are wider than the crimp tool former, remove the terminal and bend the terminal wings in slightly.
5. Place stripped wire into terminal.
6. Crimp the new terminal to the wire. If a jam occurs, press the emergency release to open applicator.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.

cardiagn.com

3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

FCI CONNECTORS (LEVER LOCK)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

Follow the steps below in order to remove terminals from the connector.

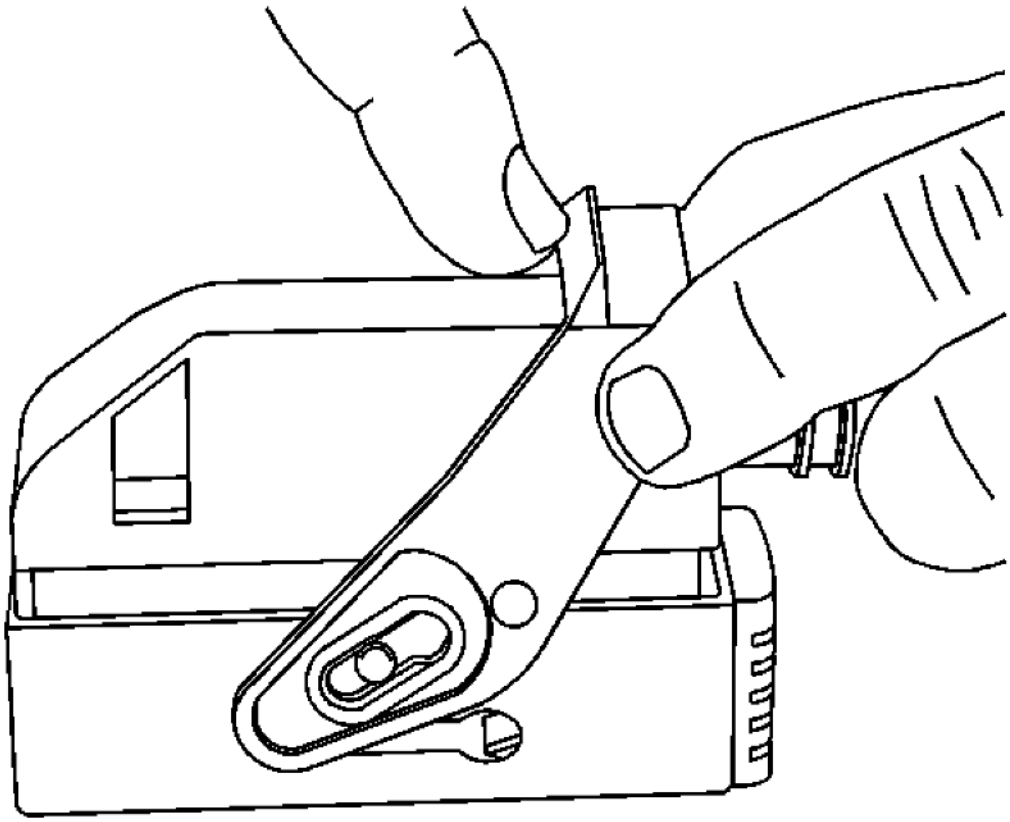


Fig. 98: Identifying Release Tab
Courtesy of GENERAL MOTORS CORP.

1. Slide the lever lock forward while pressing down on the lever lock release tab.

cardiagn.com

2. The release tab is located on the top of the wiredress cover.

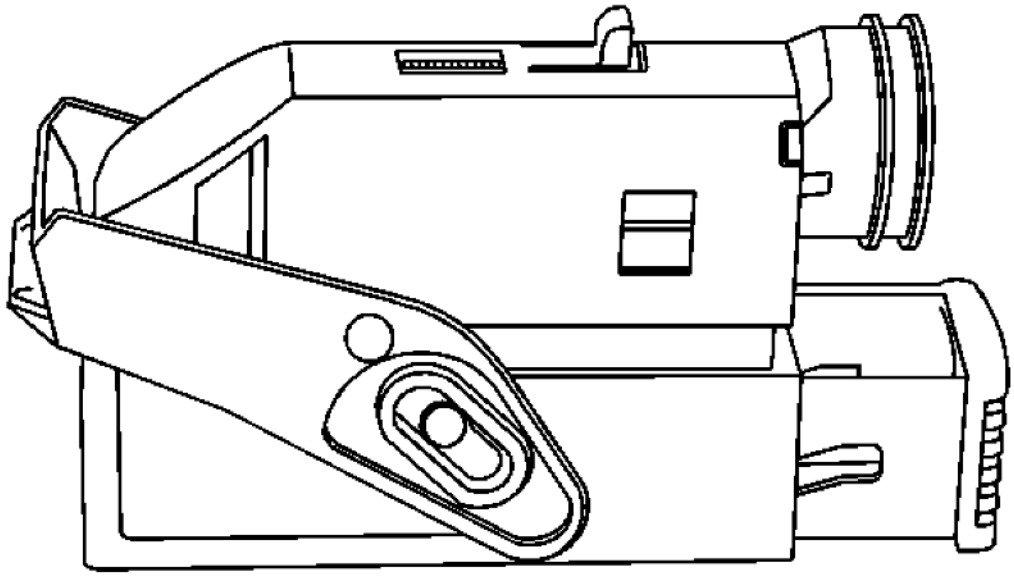


Fig. 99: View Of Connector In Released Position
Courtesy of GENERAL MOTORS CORP.

3. View of connector in released position.
4. Disconnect the connector from the component.
5. Locate the dress cover locking tabs at the corners of the dress cover. Use a small flat-blade tool to release the locking tabs and remove the dress cover.

cardiagn.com

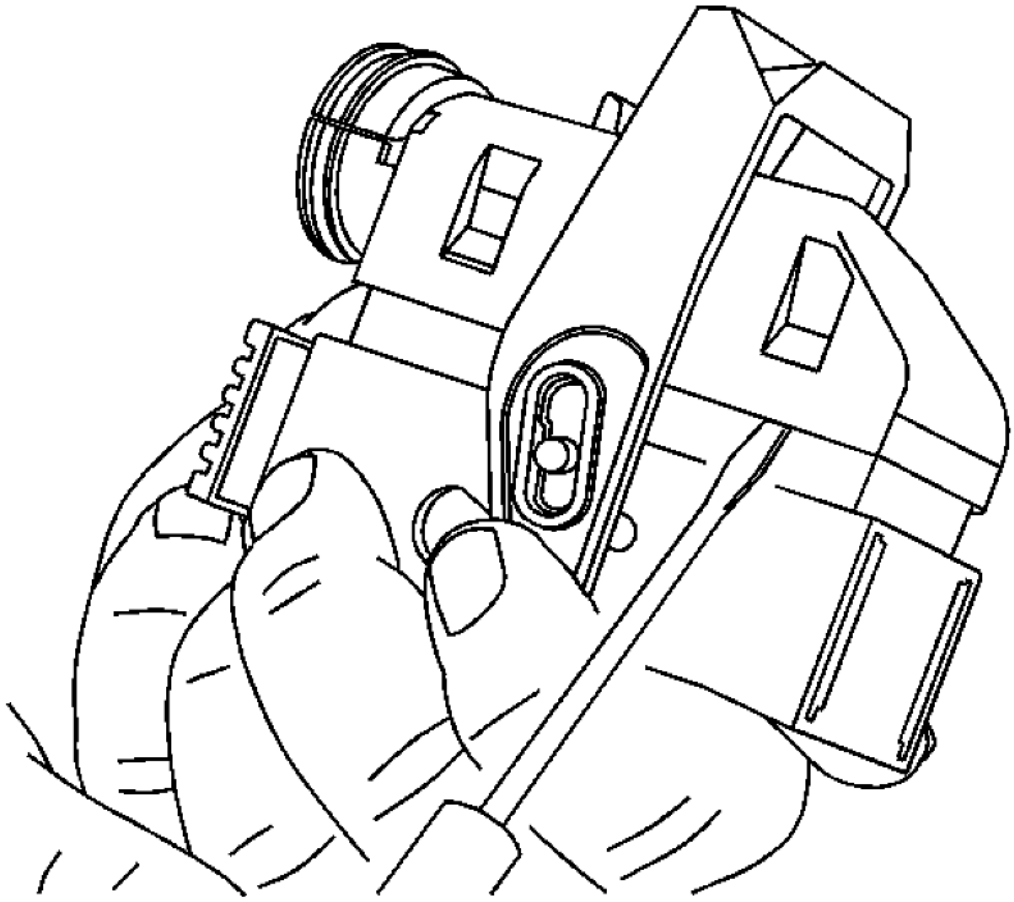


Fig. 100: Sliding Terminal Position Assurance Up One Notch
Courtesy of GENERAL MOTORS CORP.

6. Use a small flat-blade tool to slide the terminal position assurance (TPA) up one notch on both ends of the connector. The TPA is located underneath the wire dress cover.

cardiagn.com

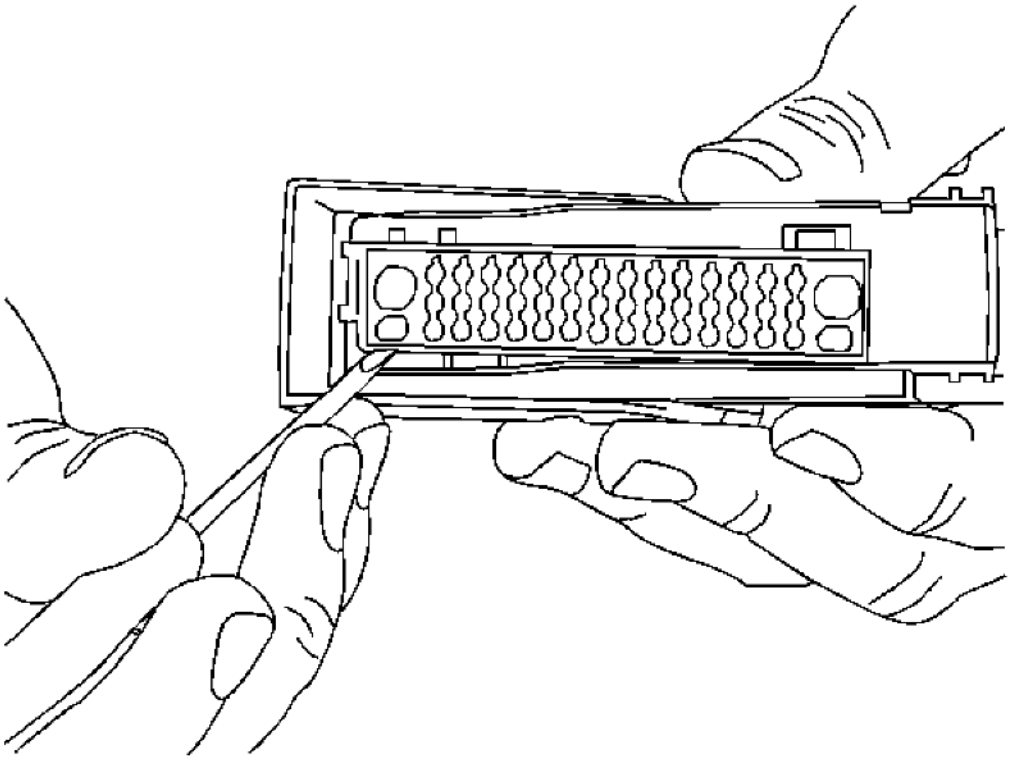


Fig. 101: Releasing Terminals
Courtesy of GENERAL MOTORS CORP.

For the larger terminals insert the EL-38125-556 tool to release the terminals by inserting the tool into the terminal release cavity. For the smaller terminals insert the EL-38125-560 tool to release the terminals by inserting the tool into the terminal release cavity.

cardiagn.com

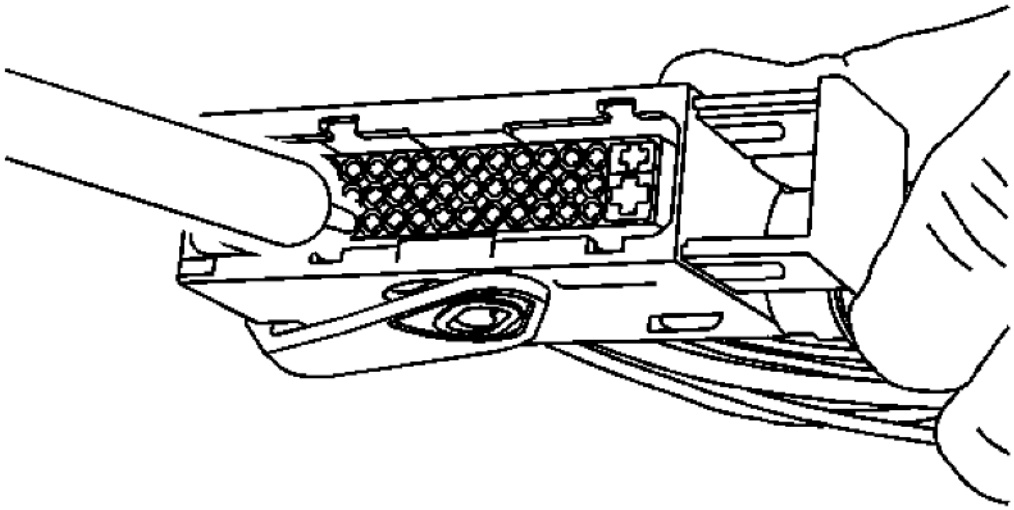


Fig. 102: Holding Removal Tool In Place
Courtesy of GENERAL MOTORS CORP.

7. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

JST CONNECTORS

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

cardiagn.com

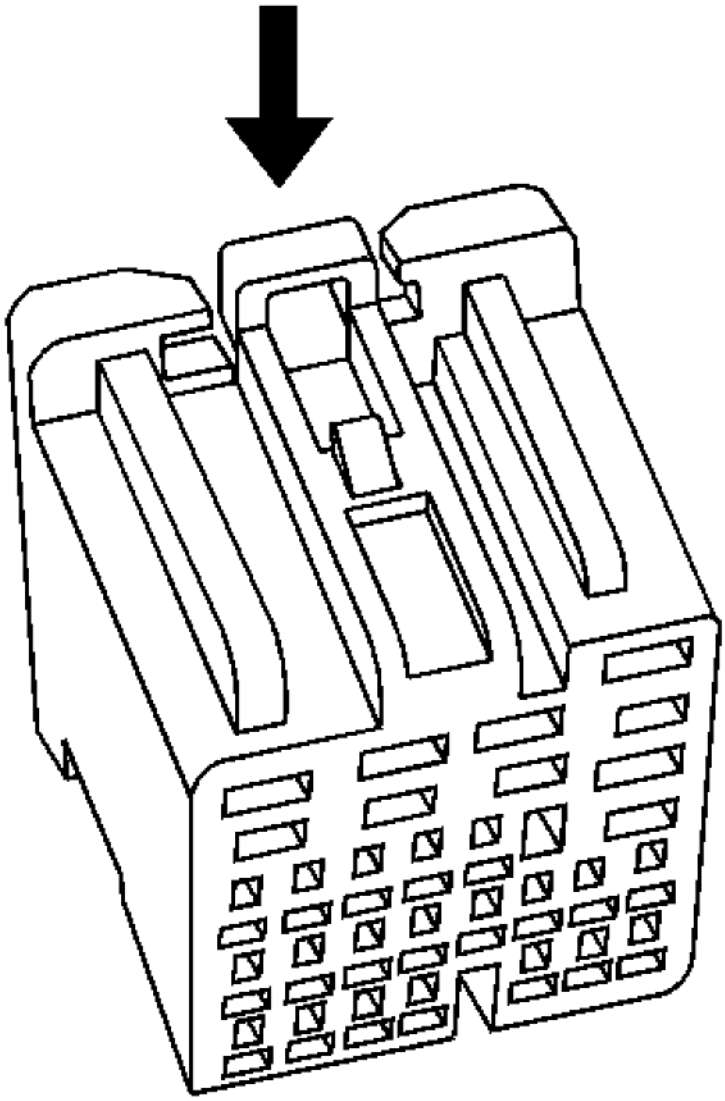


Fig. 103: Identifying Terminal Position Assurance (TPA)
Courtesy of GENERAL MOTORS CORP.

1. While depressing the lock, remove the connector from the component.

cardiagn.com

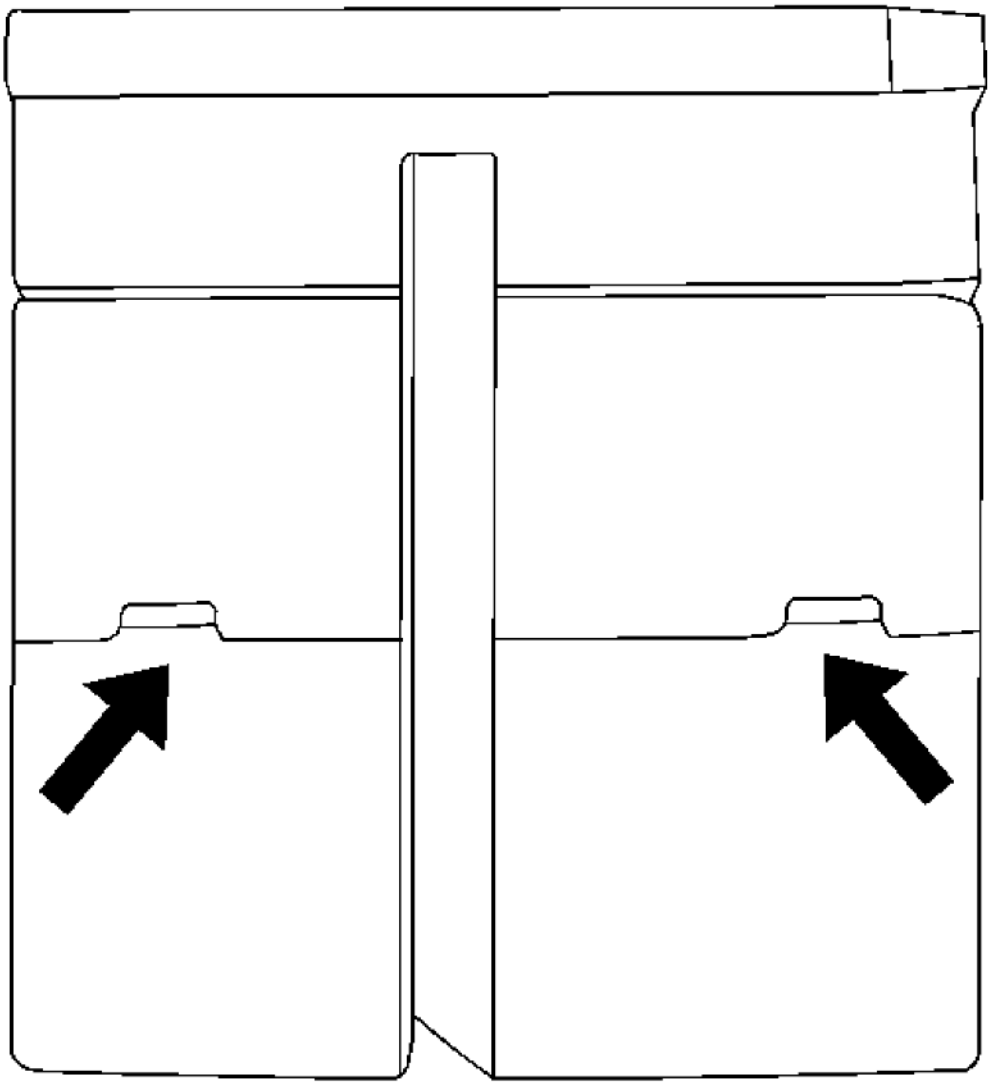


Fig. 104: Identifying TPA On Both Sides Of Connector
Courtesy of GENERAL MOTORS CORP.

2. Locate the two indents of the terminal position assurance (TPA) located on the bottom of the connector body.

cardiagn.com

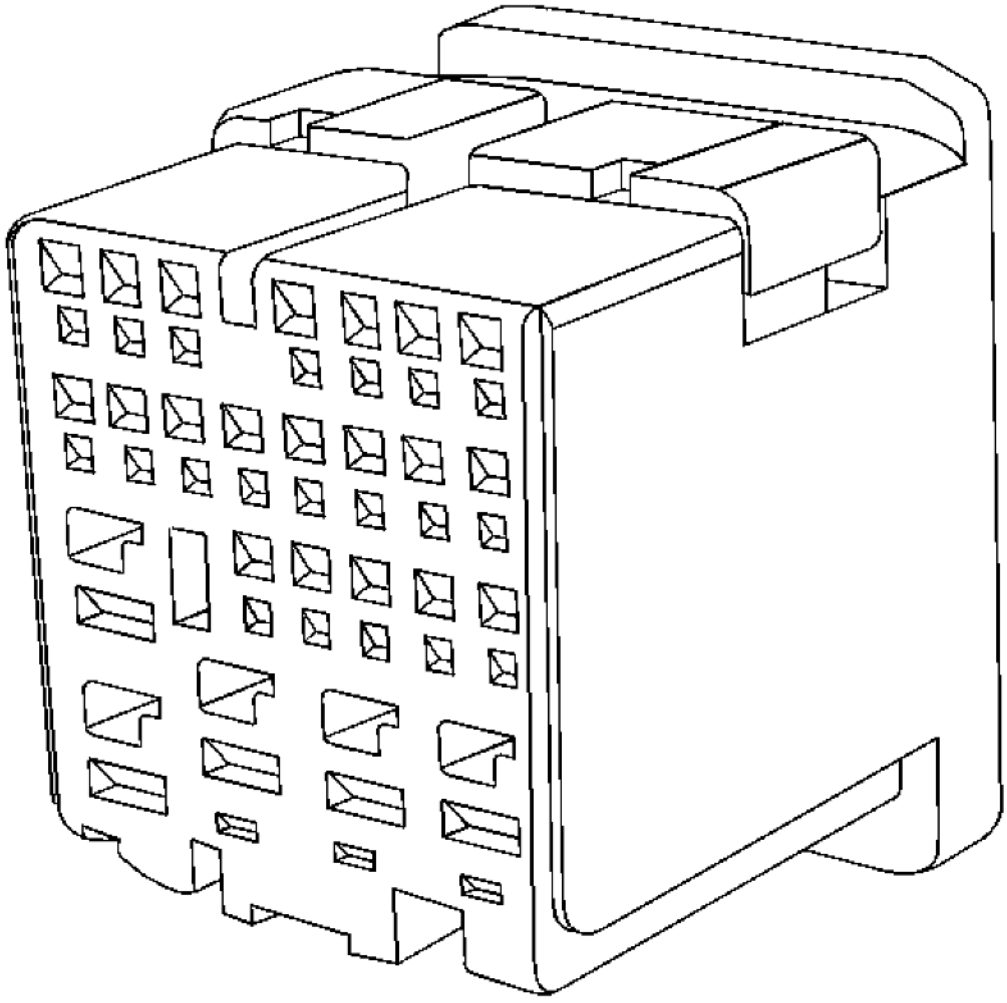


Fig. 105: Raising TPA On Both Sides Of Connector
Courtesy of GENERAL MOTORS CORP.

NOTE: The TPA cannot be removed from the connector while there are terminals present in the connector body.

3. Use a small flat-blade tool to very carefully raise the TPA on both sides of the connector.

cardiagn.com

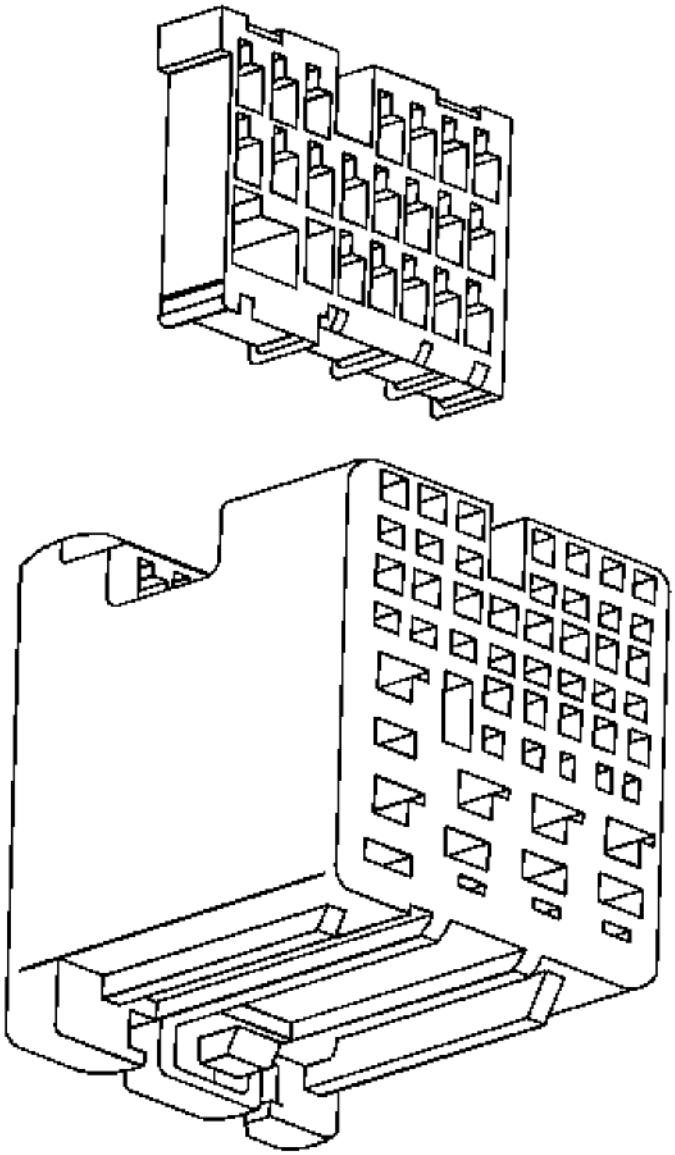


Fig. 106: View Of Terminal Position Assurance & Connector Body
Courtesy of GENERAL MOTORS CORP.

4. View of the TPA when removed from the connector body.

cardiagn.com

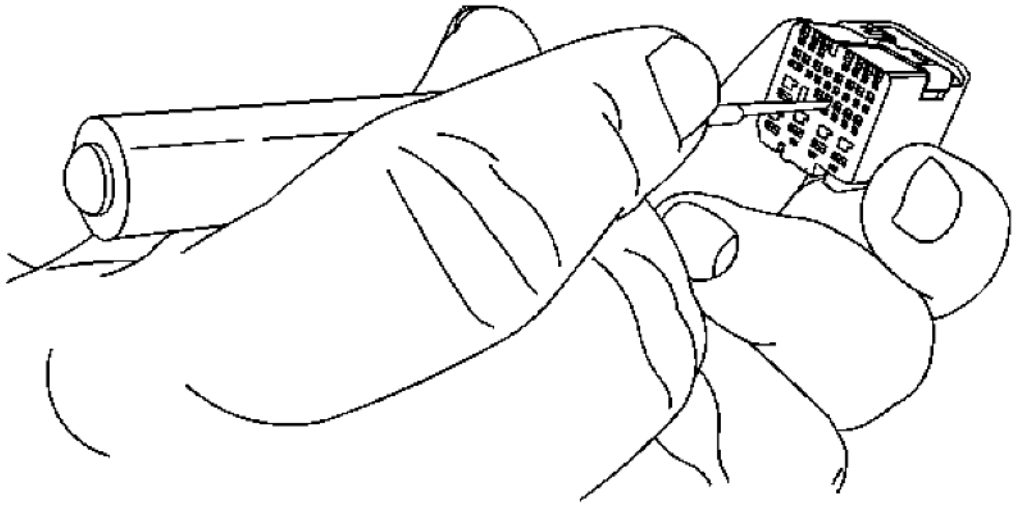


Fig. 107: Releasing Terminals
Courtesy of GENERAL MOTORS CORP.

5. Use the EL-38125-12A tool to release the terminals by inserting the tool into the left side of the terminal release cavity as shown in the graphic. Use the tool to move the terminal release to the right with a gentle prying motion.
6. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

KOSTAL CONNECTORS (GLOW PLUG CONTROL MODULE)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

cardiagn.com

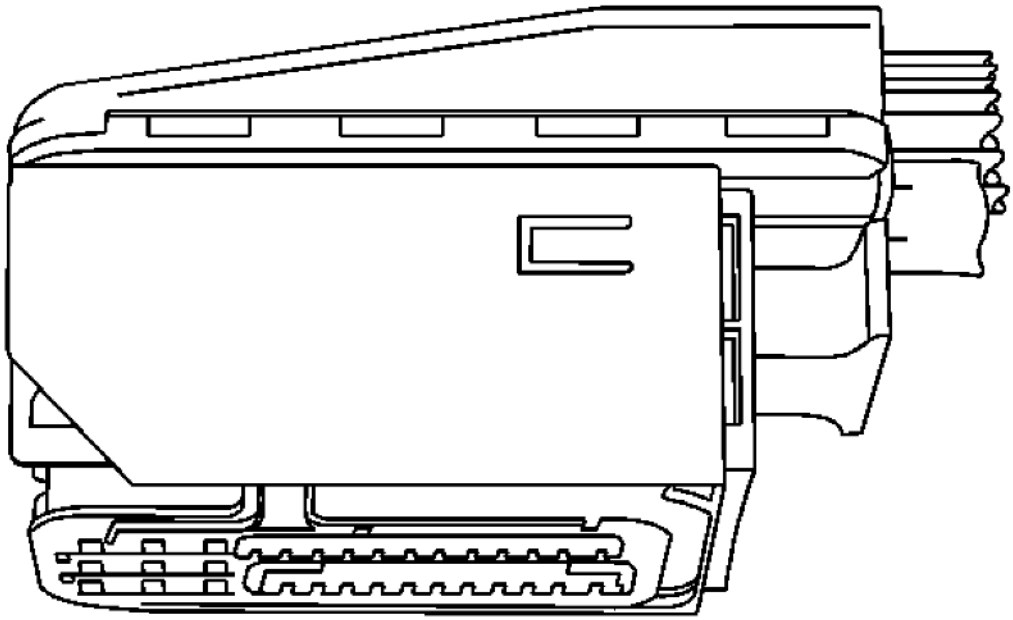


Fig. 108: View Of Typical Kostal Connector
Courtesy of GENERAL MOTORS CORP.

View of typical connector.

cardiagn.com

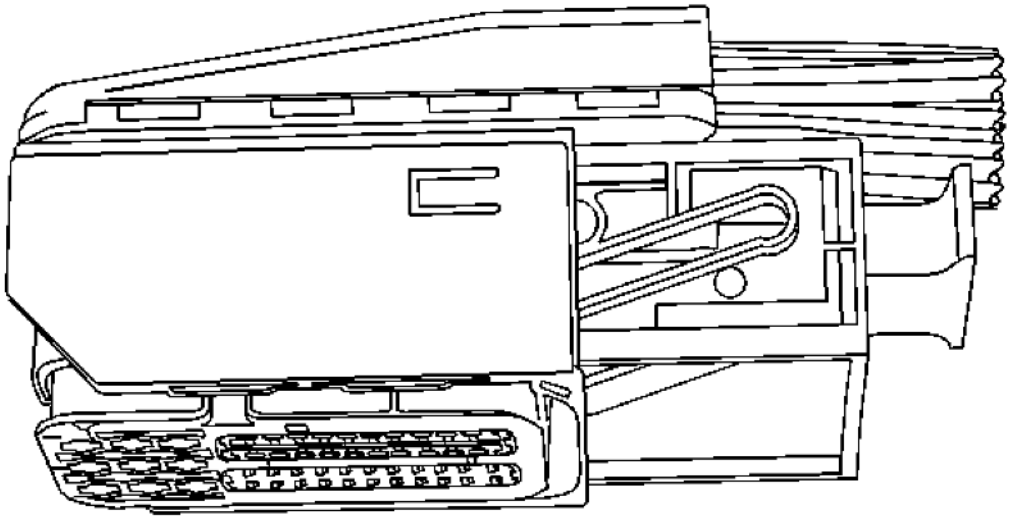


Fig. 109: View Of Connector In Released Position
Courtesy of GENERAL MOTORS CORP.

View of connector in released position.

1. Locate the assist lever at the back of the connector. Move the assist lever to the rear position.
2. Disconnect the connector from the component.

cardiagn.com

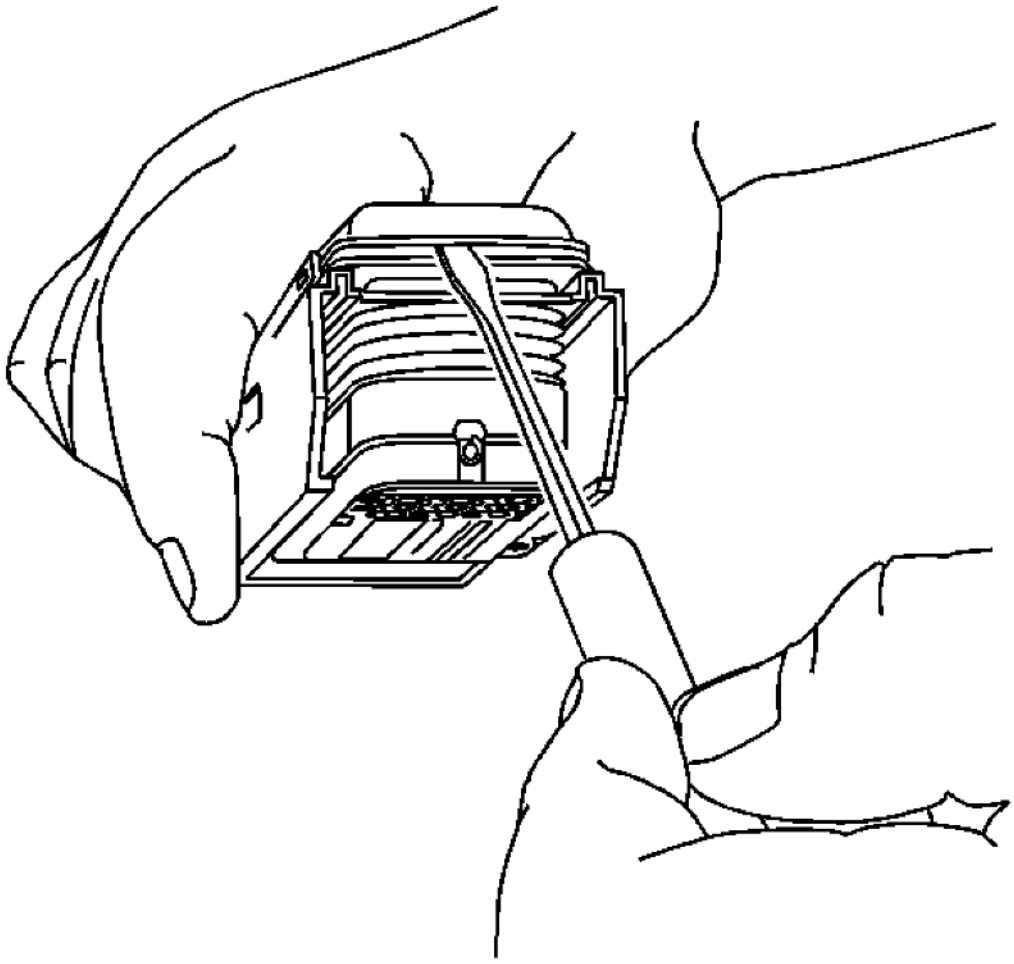


Fig. 110: Removing Dress Cover
Courtesy of GENERAL MOTORS CORP.

3. Use a small flat-blade tool to remove the dress cover.

cardiagn.com

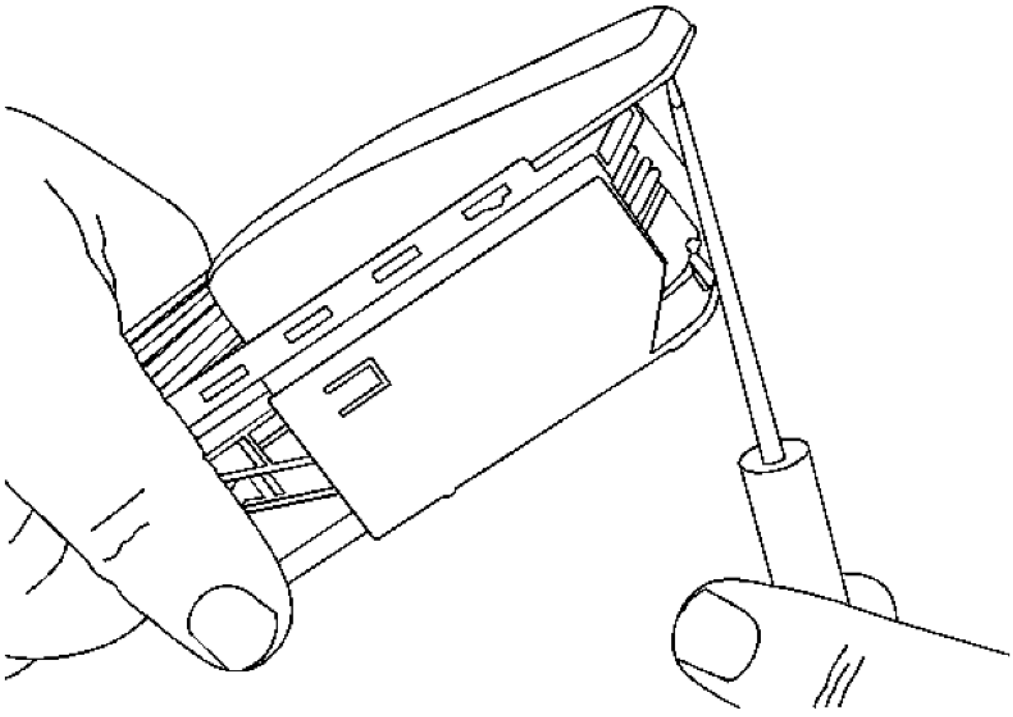


Fig. 111: Sliding Dress Cover Forward & Off Of Connector
Courtesy of GENERAL MOTORS CORP.

4. Slide the dress cover forward and off of the connector.

cardiagn.com

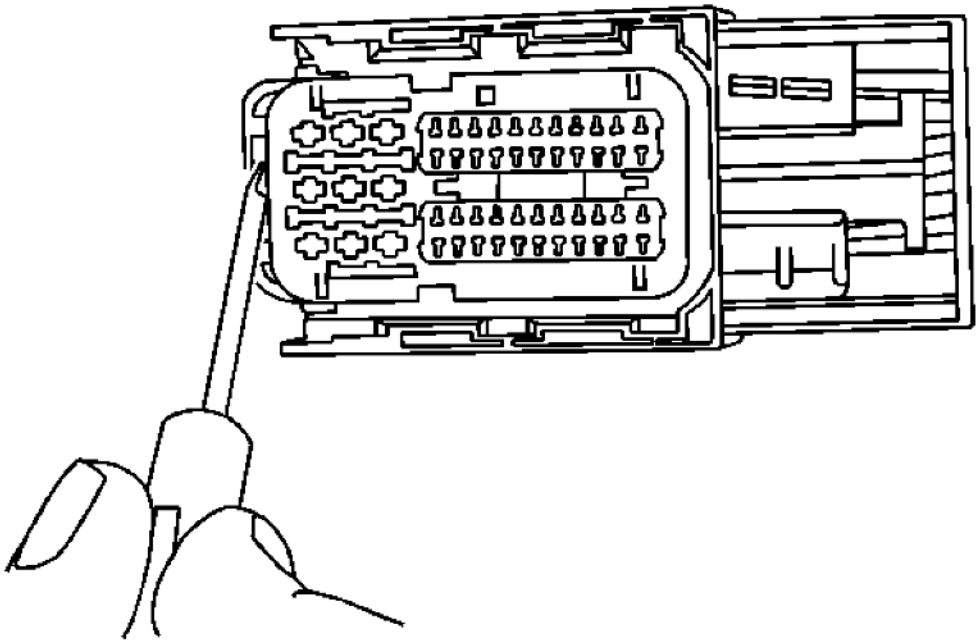


Fig. 112: Locating TPA In Front & Rear Of Connector
Courtesy of GENERAL MOTORS CORP.

5. The terminal positive assurance (TPA) is located in the front and rear of the connector.

NOTE: The front TPA cannot be removed from the connector. Only move it to the preset position.

6. Use a small flat-blade tool to move the front TPA to the preset position, outboard approximately 0.125 in. (3 mm).

cardiagn.com

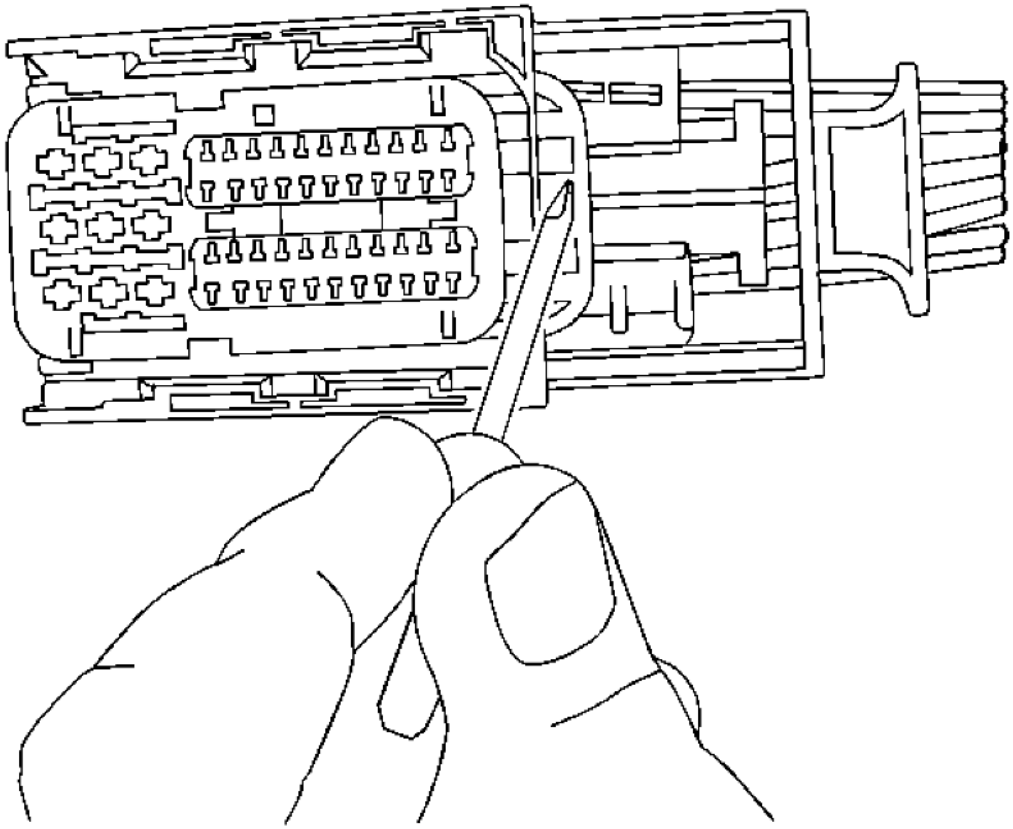


Fig. 113: Removing Rear TPA
Courtesy of GENERAL MOTORS CORP.

7. Use a small flat-blade tool to completely remove the rear TPA from the connector.

cardiagn.com

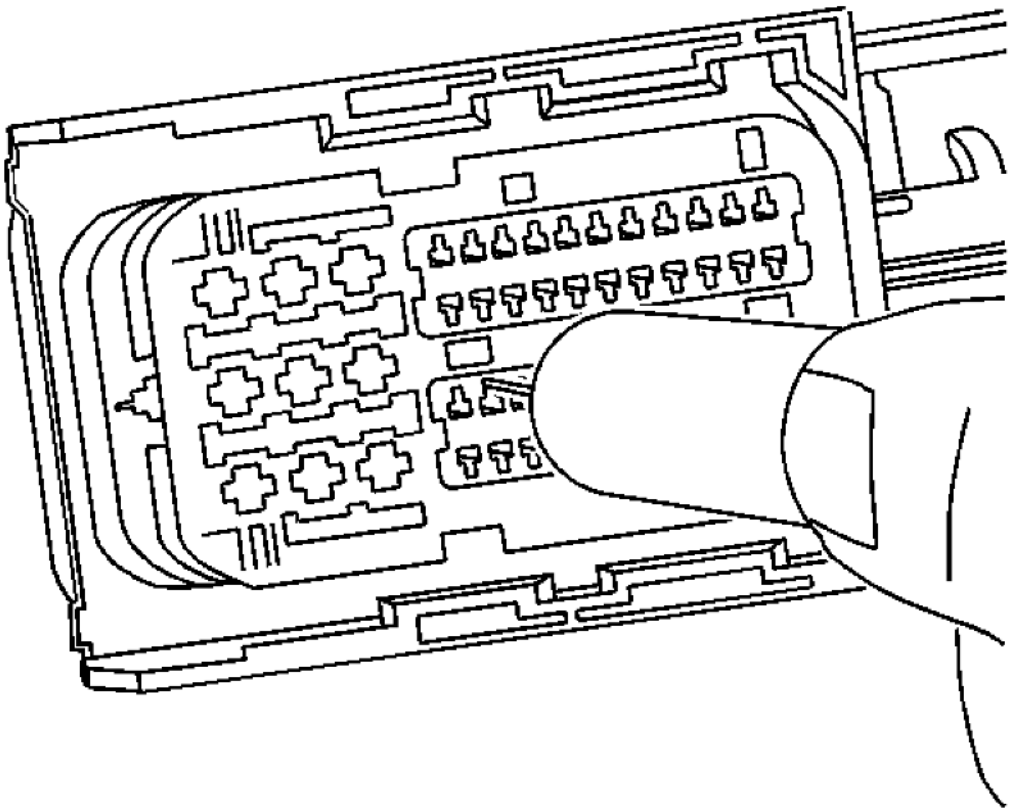


Fig. 114: Releasing Terminals
Courtesy of GENERAL MOTORS CORP.

8. Use the EL-38125-24 or the EL-38125-560 tool to release the terminals by inserting the tool into the terminal release cavity.
9. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

KOSTAL CONNECTORS (TRANSMISSION)

cardiagn.com

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

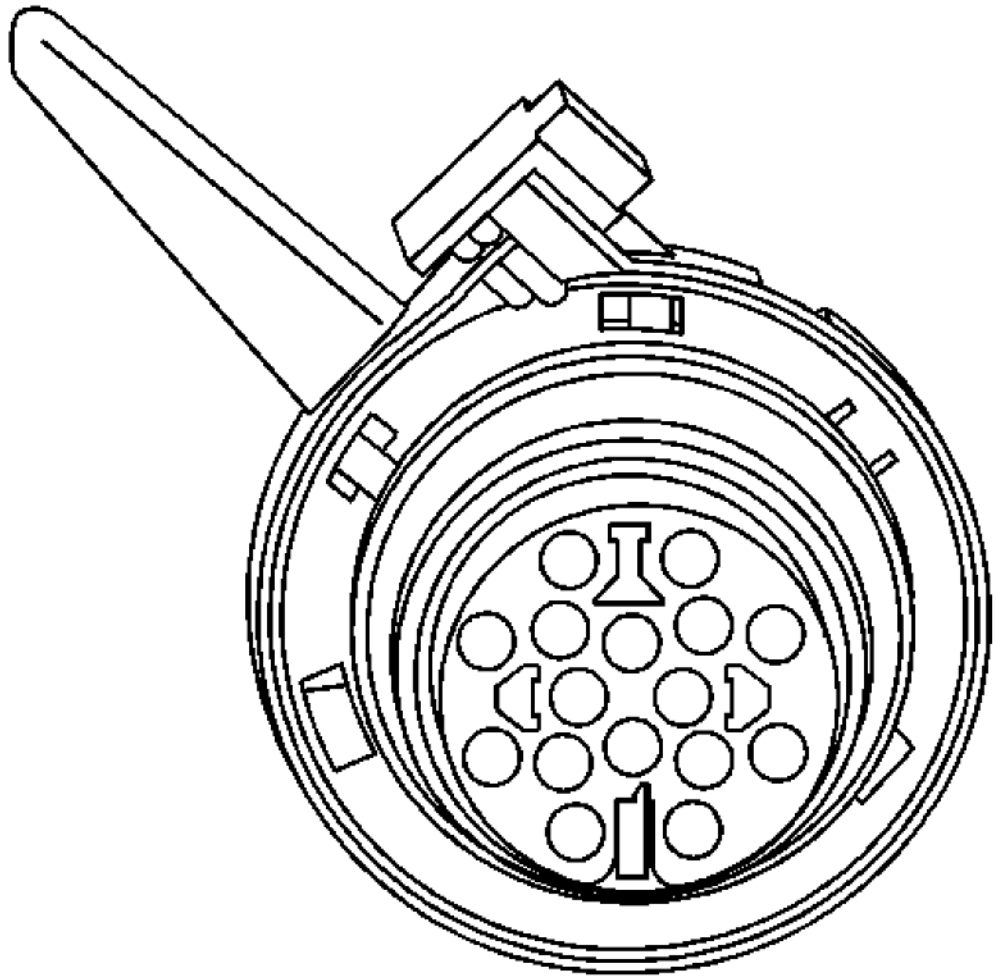


Fig. 115: View Of Connector & Lock
Courtesy of GENERAL MOTORS CORP.

1. While depressing the lock, twist and remove the connector from the component.

cardiagn.com

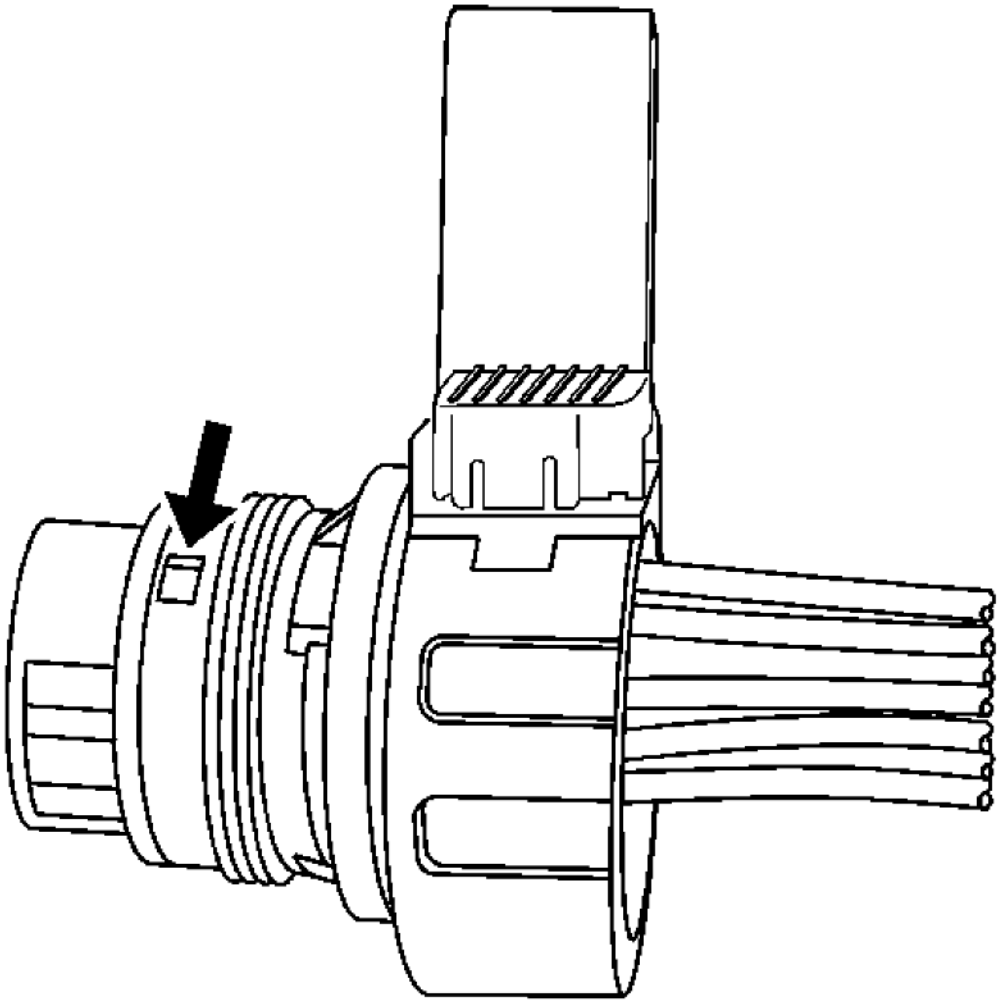


Fig. 116: View Of Terminal Position Assurance (TPA)
Courtesy of GENERAL MOTORS CORP.

2. Locate the terminal position assurance (TPA).

cardiagn.com

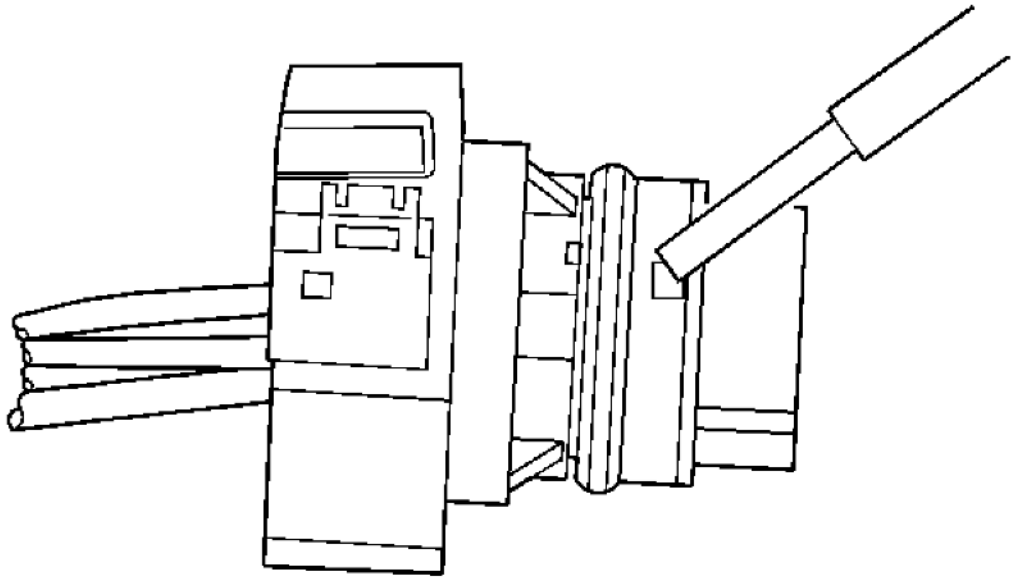


Fig. 117: Pushing TPA
Courtesy of GENERAL MOTORS CORP.

NOTE: The TPA cannot be removed from the connector while there are terminals present in the connector body.

3. Use a small flat-blade tool to push the TPA until it bottoms out.

cardiagn.com

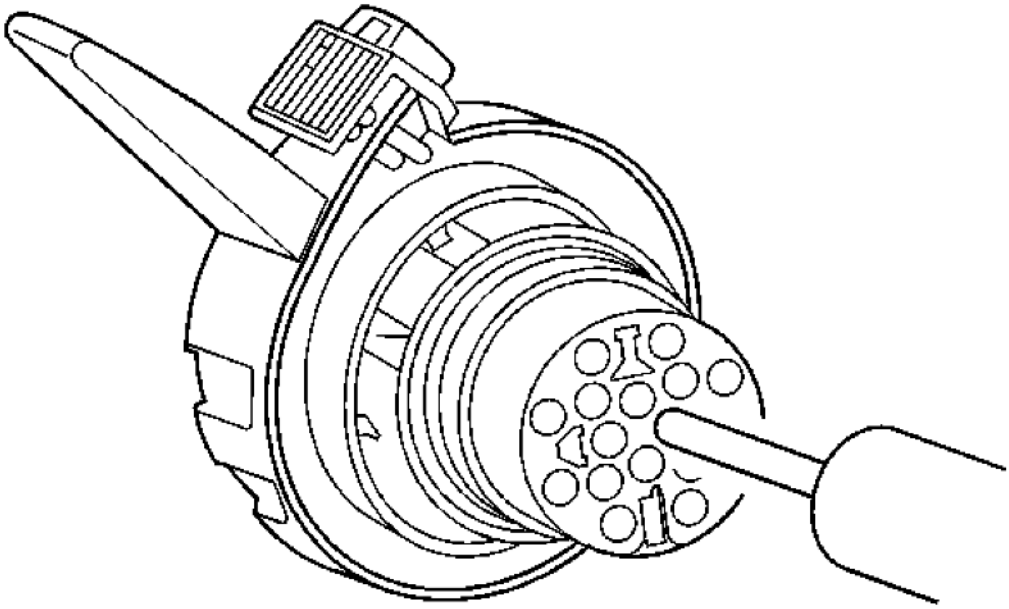


Fig. 118: Releasing Terminals
Courtesy of GENERAL MOTORS CORP.

4. Use the EL-38125-28 tool to release the terminals by inserting the tool into the terminal cavity as shown in the graphic.
5. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

Terminal Replacement Procedure

After the terminal is crimped to the wire, perform the following procedure in order to replace the terminal.

1. Slide the new terminal into the correct cavity at the back of the connector.
2. Push the terminal into the connector until it locks into place. The new terminal should be even with the other terminals. Ensure that the terminal is locked in place by gently pulling on the wire.

cardiagn.com

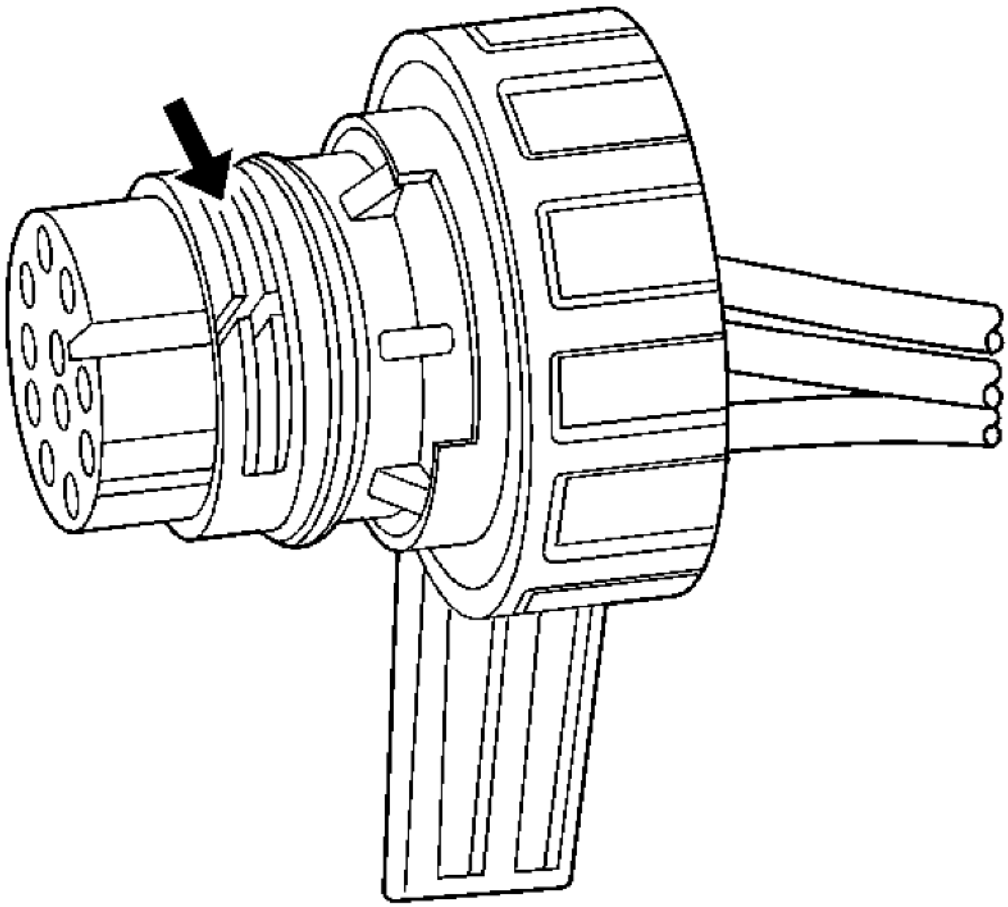


Fig. 119: Locating Terminal Position Assurance (TPA)
Courtesy of GENERAL MOTORS CORP.

3. Locate the terminal position assurance (TPA).

cardiagn.com

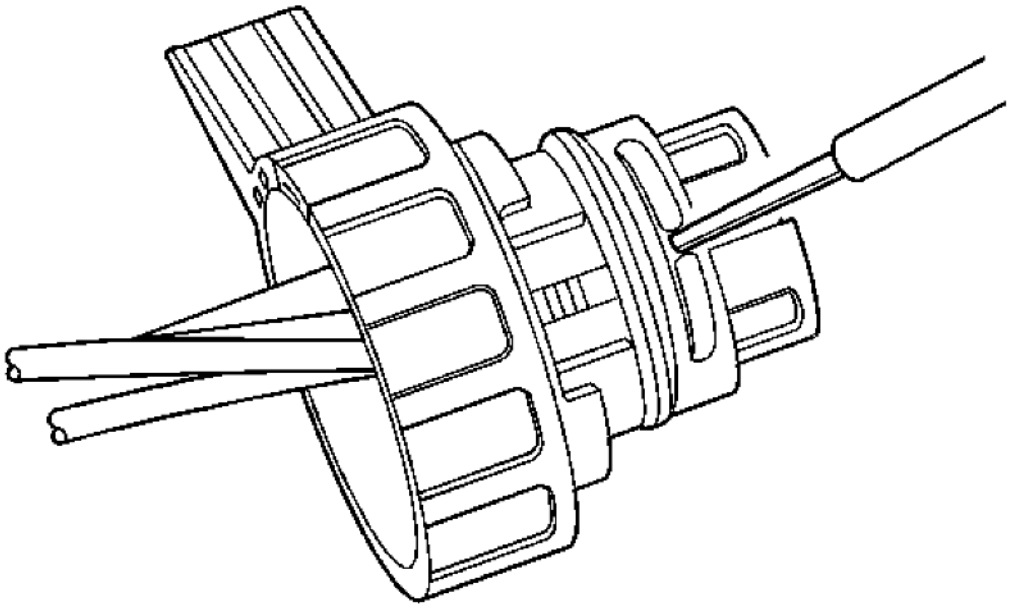


Fig. 120: View Of TPA & Flat-Bladed Tool
Courtesy of GENERAL MOTORS CORP.

4. Use a small flat-blade tool to push the TPA until it bottoms out.

cardiagn.com

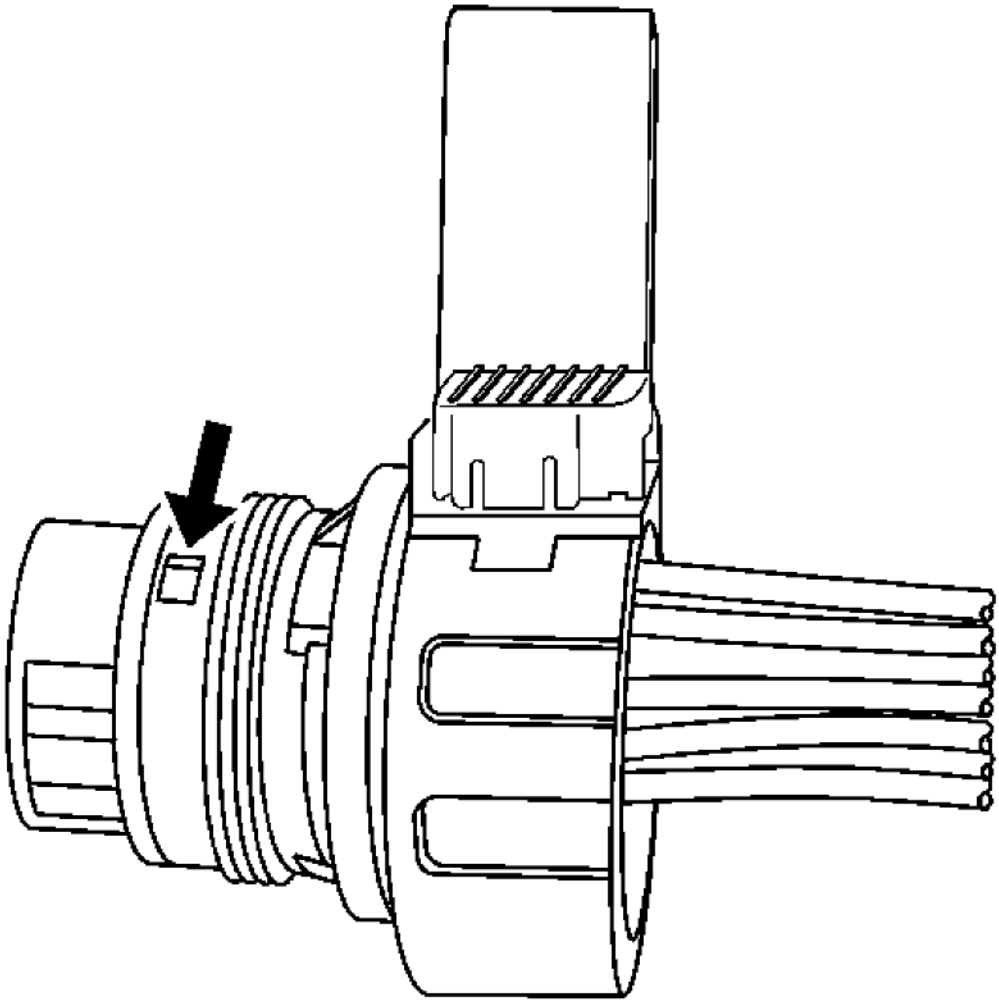


Fig. 121: View Of Terminal Position Assurance (TPA)
Courtesy of GENERAL MOTORS CORP.

5. Ensure the TPA is fully seated. The TPA should be centered and flush with the connector body when viewed.

MOLEX CONNECTORS

Special Tools

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Terminal Removal Procedure

1. Locate the connector position assurance (CPA) on the top of the wire dress cover. Slide the CPA forward.

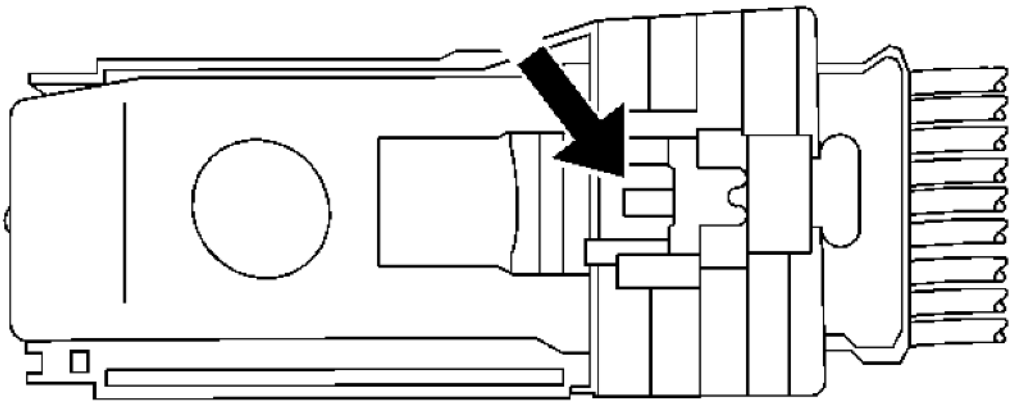


Fig. 122: Identifying Lever Lock Release Tab
Courtesy of GENERAL MOTORS CORP.

2. Slide the lever lock forward while pressing down on the lever lock release tab.

cardiagn.com

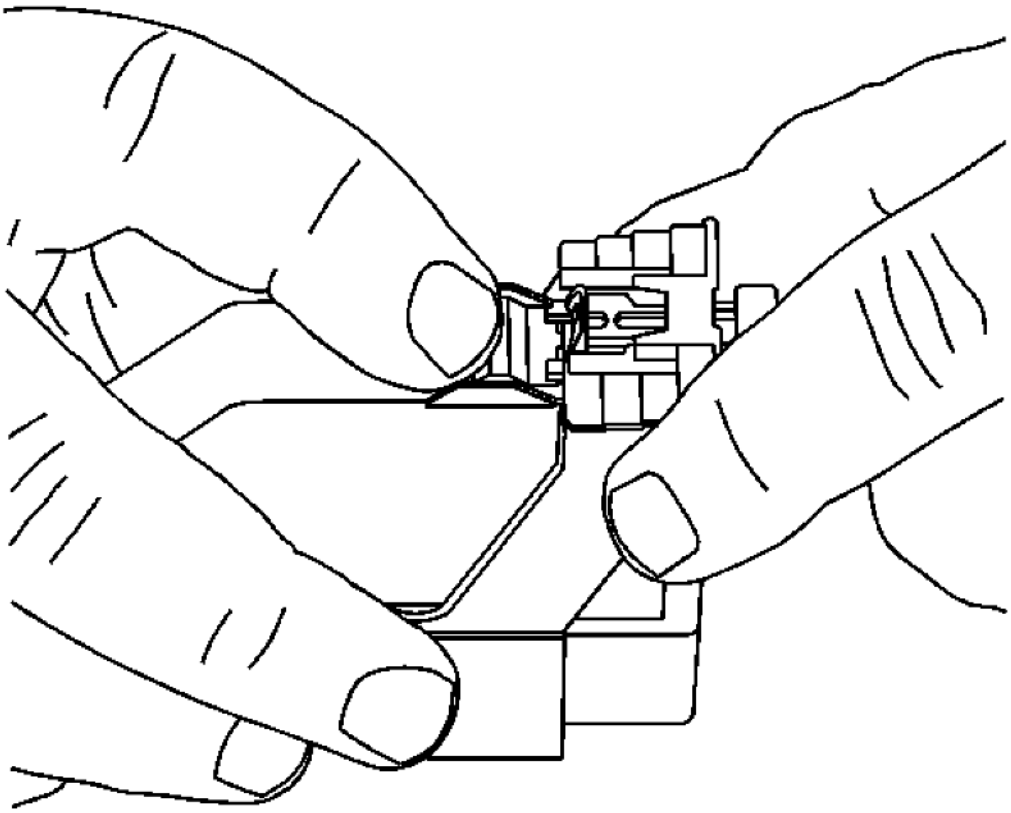


Fig. 123: View Of Lever In Full Forward Position
Courtesy of GENERAL MOTORS CORP.

3. The lever should be in the full forward position.

cardiagn.com

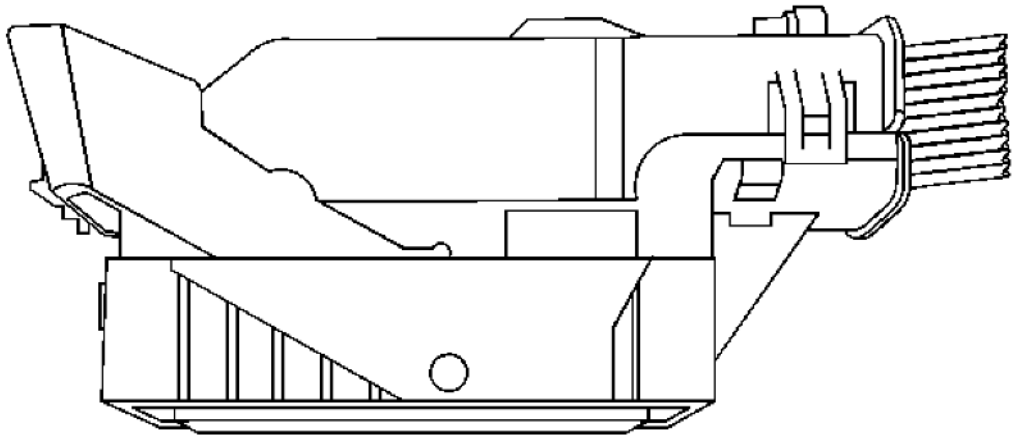


Fig. 124: View Of CPA Connector
Courtesy of GENERAL MOTORS CORP.

4. Disconnect the connector from the component.

cardiagn.com

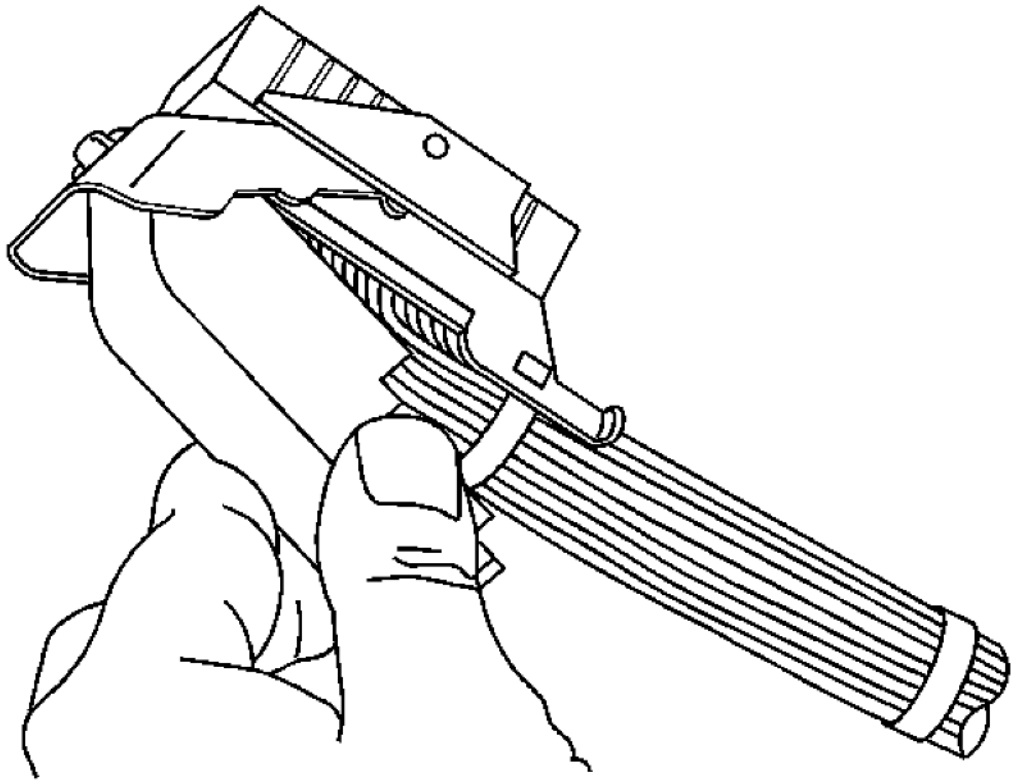


Fig. 125: Removing Dress Cover
Courtesy of GENERAL MOTORS CORP.

5. Remove the dress cover by using a flat bladed tool to release the dress cover locking tabs and lift up on the dress cover.
6. Cut the tie wrap that holds the wires to the connector body.

cardiagn.com

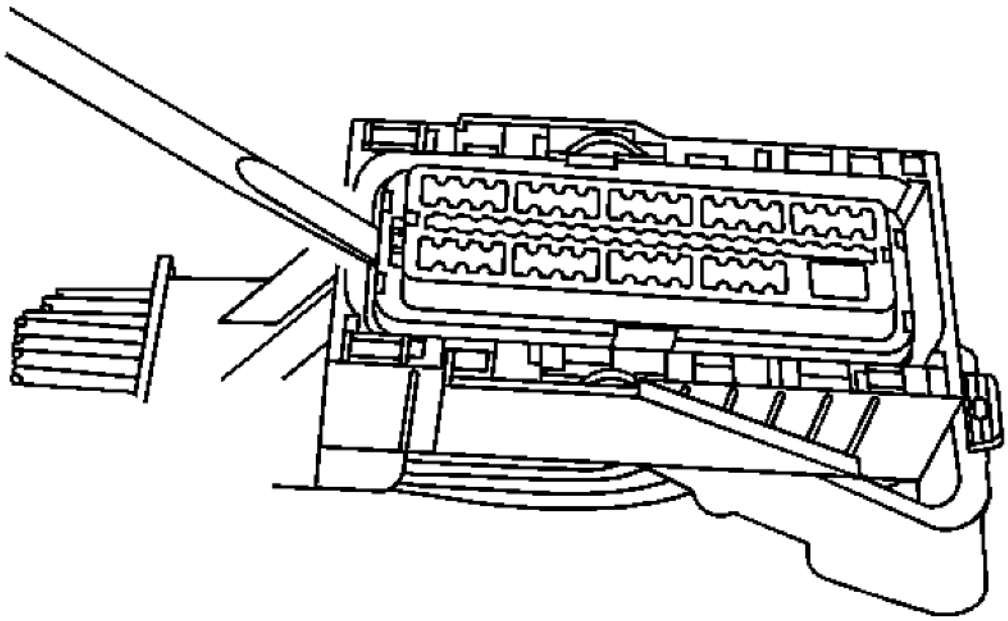


Fig. 126: Prying One Side Of Nose Piece
Courtesy of GENERAL MOTORS CORP.

7. Use a small flat-blade tool to pry one side of the nose piece up to the pre-stage position. When the nose piece is in the pre-staged position, the nose piece will be raised above the connector body the length of the step in the nose piece.

cardiagn.com

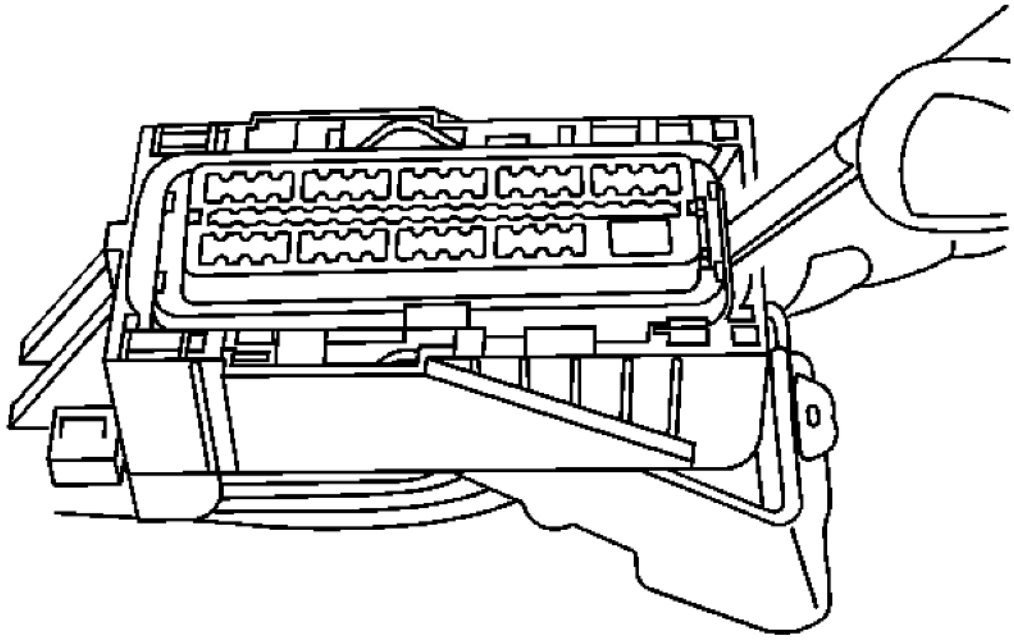


Fig. 127: Prying Side Of Nose Piece
Courtesy of GENERAL MOTORS CORP.

8. Use a small flat-blade tool to pry the other side of the piece to the pre-stage position. If the nose piece is higher than the first step in the nose piece, gently push down on the nose piece until it meets with resistance from the connector body, you should feel the nose piece click into position.

cardiagn.com

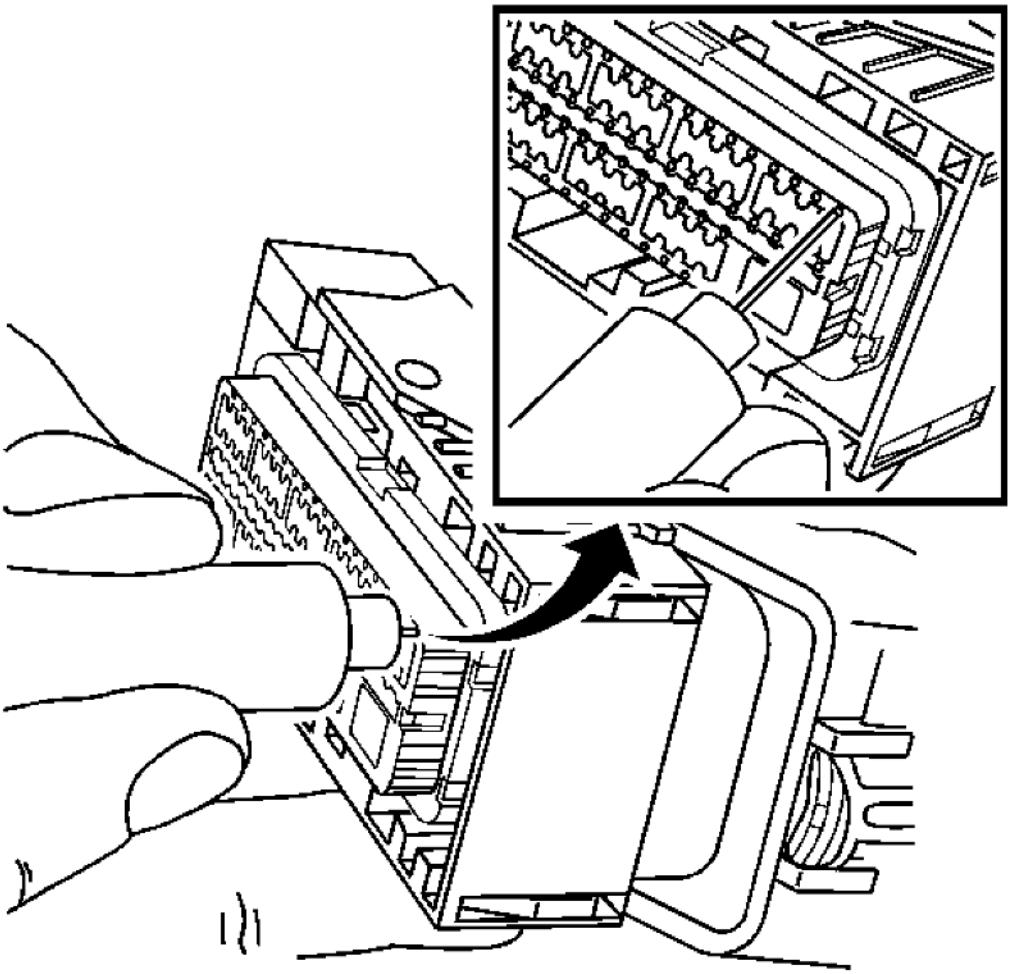


Fig. 128: Releasing Terminal
Courtesy of GENERAL MOTORS CORP.

9. Insert the EL-38125-213 into the small terminal release hole on the nose piece and gently pull on the back of the wire.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

cardiagn.com

Terminal Replacement Procedure

After the terminal is crimped to the wire, perform the following procedure in order to replace the terminal.

1. Slide the new terminal into the correct cavity at the back of the connector.
2. Push the terminal into the connector until it locks into place. The new terminal should be even with the other terminals. Insure that the terminal is locked in place by gently pulling on the wire.
3. To assemble the connector, reverse the connector disassembly procedure.

SUMITOMO CONNECTORS

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal Procedure

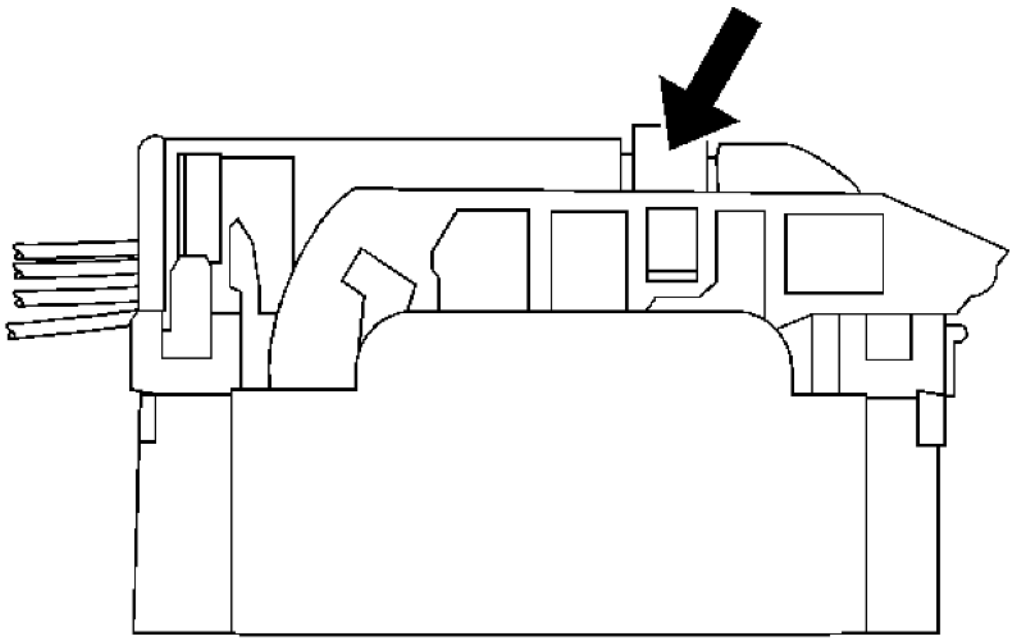


Fig. 129: Identifying Lever Lock
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

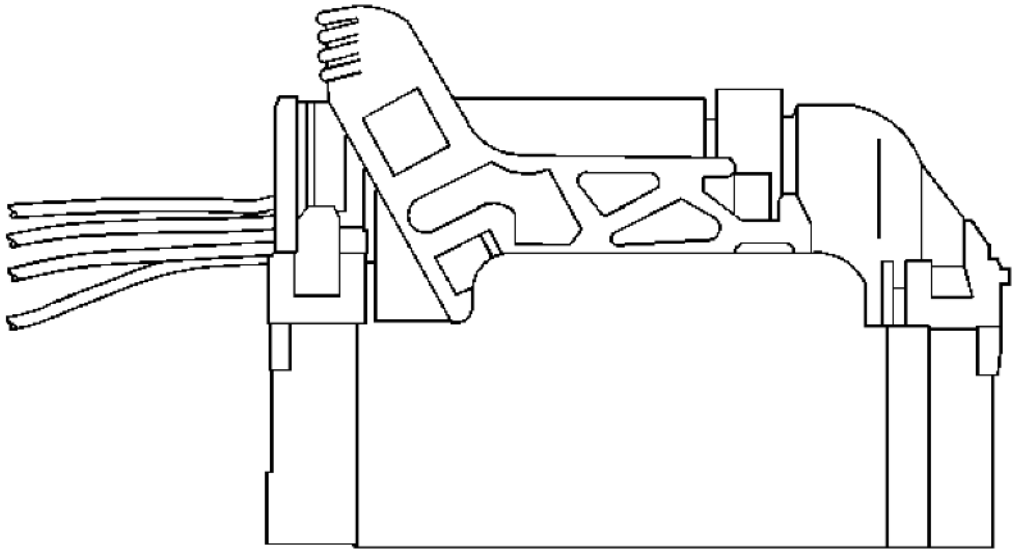


Fig. 130: View Of Lever Lock In Forward Position
Courtesy of GENERAL MOTORS CORP.

1. Slide the lever lock forward while pressing down on the lever lock release tab.
2. Disconnect the connector from the component.

cardiagn.com

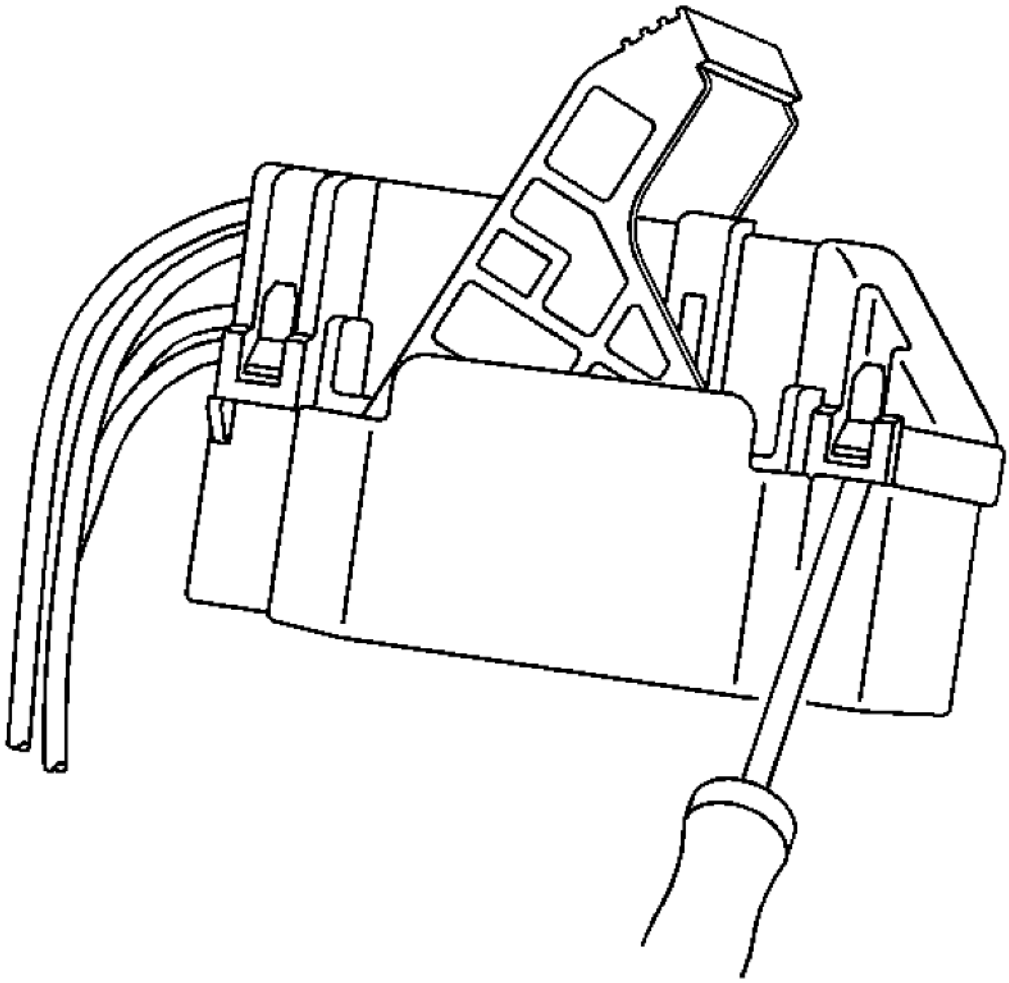


Fig. 131: Releasing Connector Locking Tabs
Courtesy of GENERAL MOTORS CORP.

3. Remove the dress cover by using a flat-blade tool to release the connector locking tabs and pulling off the dress cover.

cardiagn.com

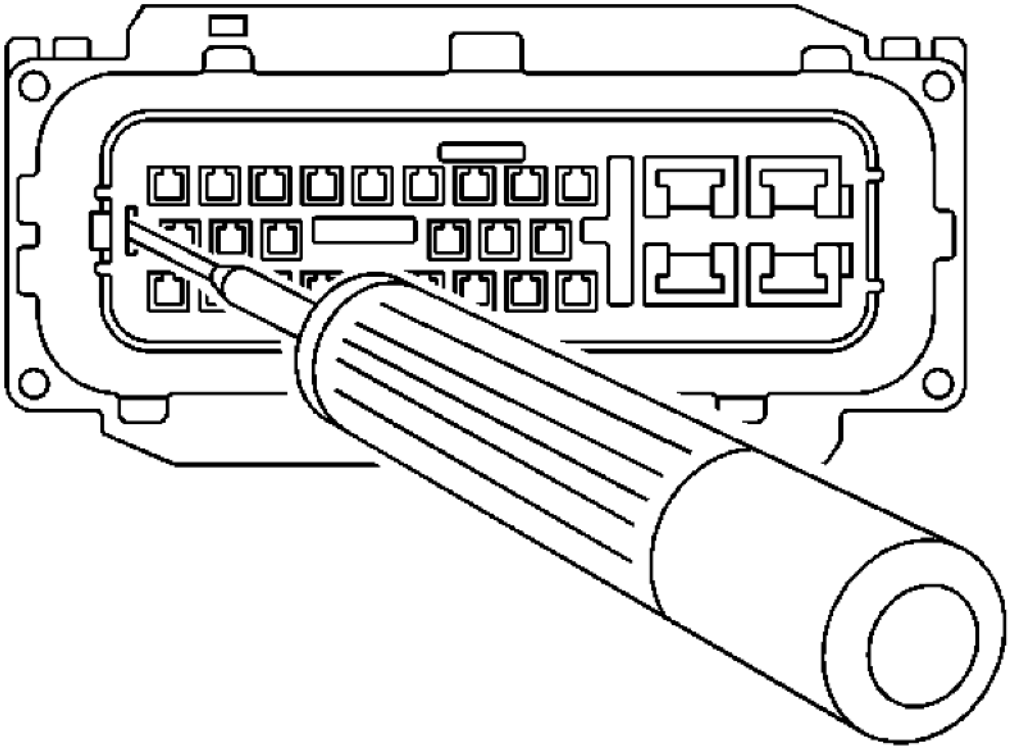


Fig. 132: Relieving Tension Of Nose Piece Retainers
Courtesy of GENERAL MOTORS CORP.

4. Relieve the tension on the nose piece retainers by inserting EL-38125-12A into the single retainer slot on the end of the nose piece and gently prying out the locking tab. Repeat the process for both of the nose piece locking tabs on the opposite side of the nose piece.

cardiagn.com

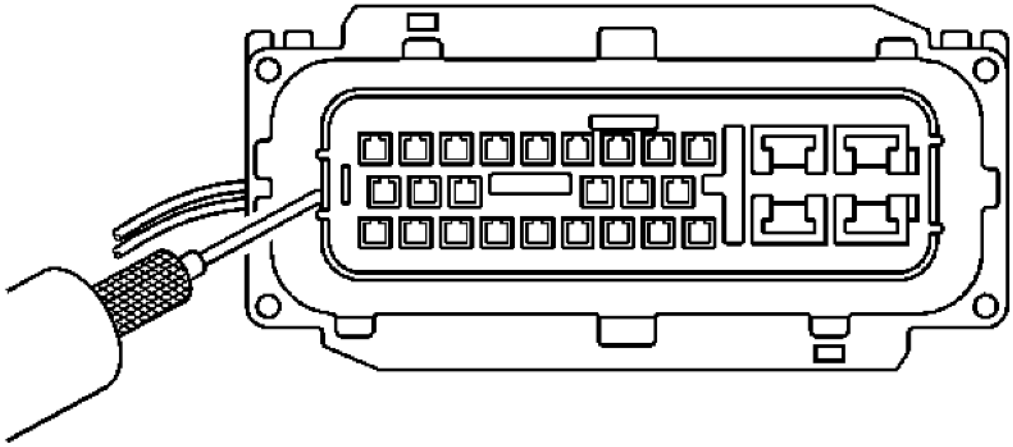
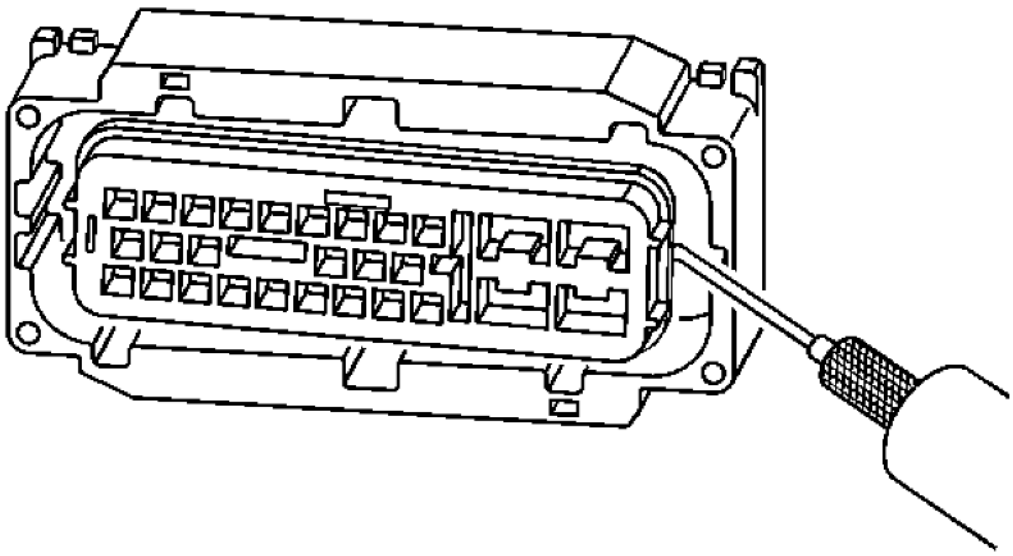


Fig. 133: Pulling Up Nose Piece
Courtesy of GENERAL MOTORS CORP.

5. Once the nose piece retainers are relaxed, use the EL-38125-552 to pull up the nose piece by hooking the tool under the nose piece and pulling up. The nose piece should raise slightly.



cardiagn.com

Fig. 134: Pulling Up Other End Of Nose Piece
Courtesy of GENERAL MOTORS CORP.

6. On the opposite side of the nose piece, use the EL-38125-552 pull up the nose piece by hooking the tool under the nose piece and pulling up. The nose piece should release completely. If the nose piece does not come off, repeat the procedure on the opposite side.

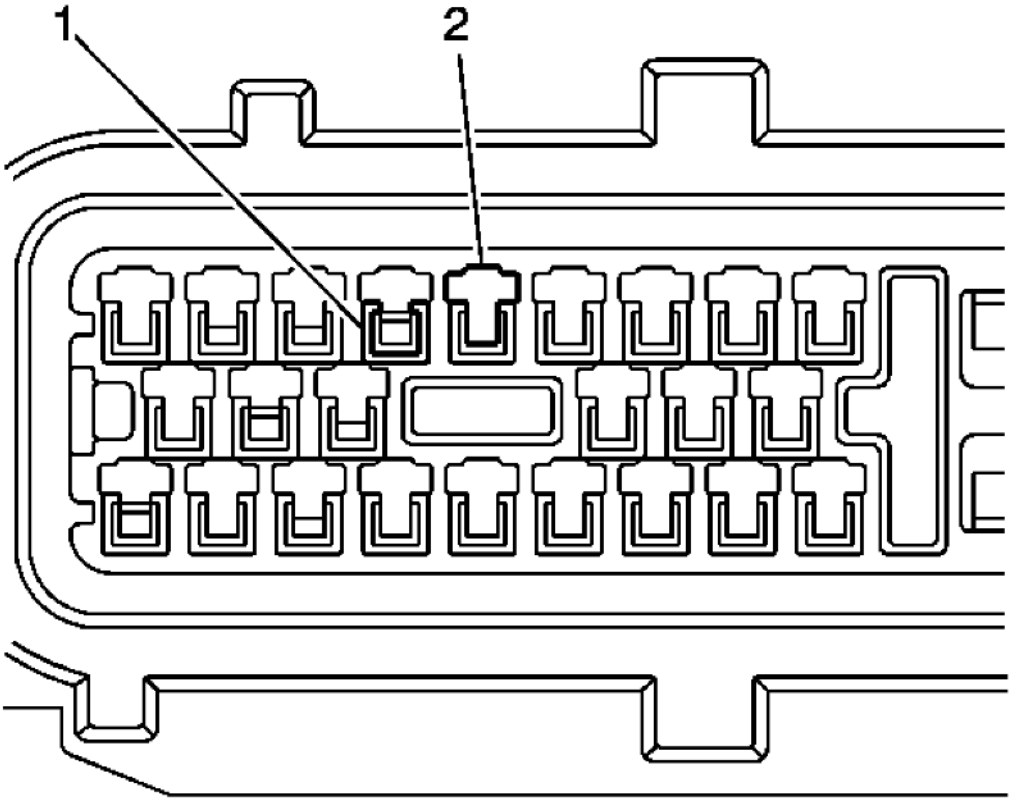


Fig. 135: Identifying Terminal & Entry Canal
Courtesy of GENERAL MOTORS CORP.

7. The illustration above identifies the entry canal where the terminal release tool will be inserted, and the terminal cavity.
   - Terminal (1)
   - Entry Canal (2)

cardiagn.com

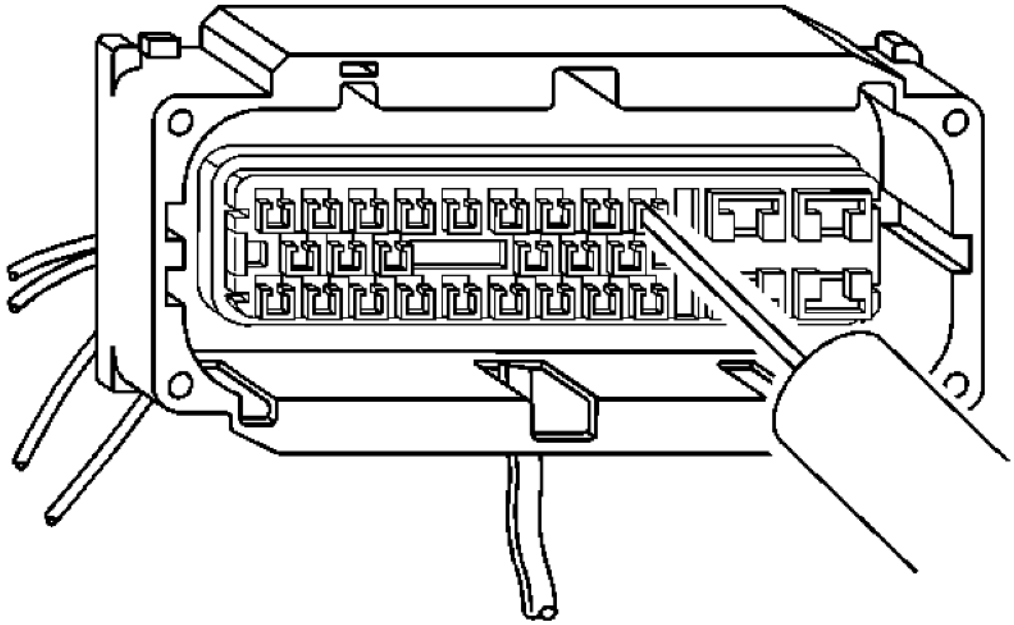


Fig. 136: Inserting Tool Into Entry Canal
Courtesy of GENERAL MOTORS CORP.

8. Insert the EL-38125-553 tool into the entry canal and pry up on the terminal retainer. The terminal retainer is a small plastic piece on the top of the terminal. The terminal retainer must be held up while the terminal is pulled out of the connector.

cardiagn.com

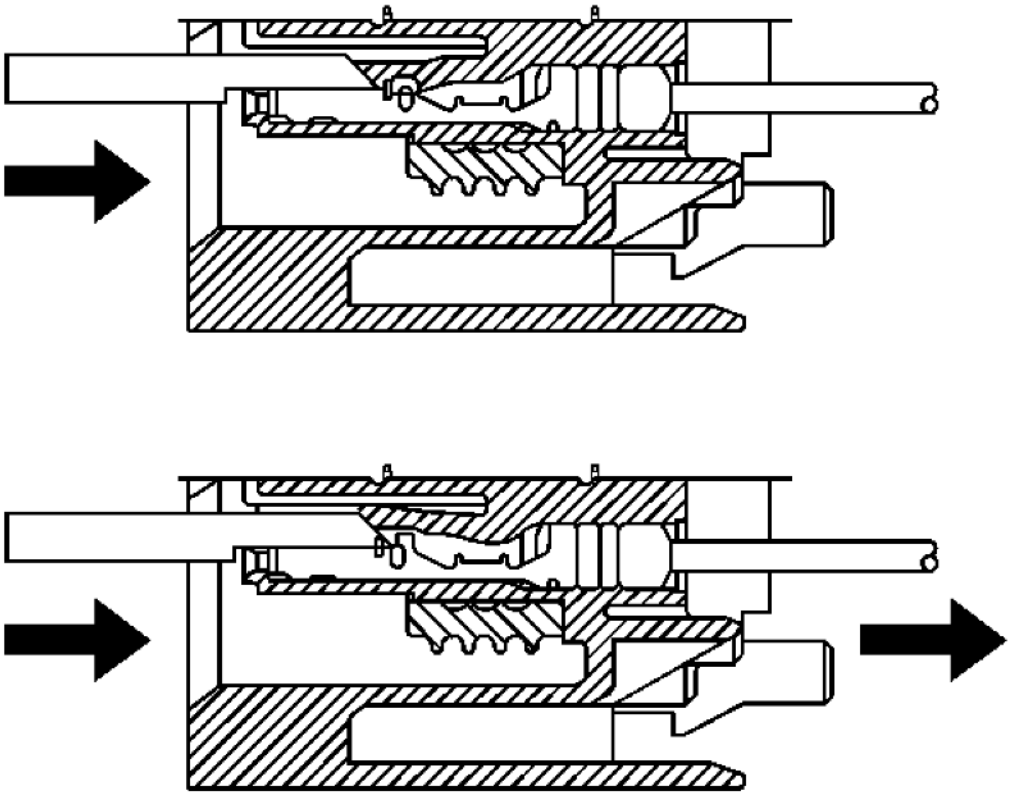


Fig. 137: Cutaway View Of Connector
Courtesy of GENERAL MOTORS CORP.

9. The illustration shows a cutaway view of the connector to aid the technician in releasing the terminal retainer.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

Terminal Replacement Procedure

After the terminal is crimped to the wire, perform the following procedure in order to replace the terminal.

1. Slide the new terminal into the correct cavity at the back of the connector.

cardiagn.com

2. Push the terminal into the connector until it locks into place. The new terminal should be even with the other terminals. Ensure that the terminal is locked in place by gently pulling on the wire.
3. To assemble the connector, reverse the connector disassembly procedure.

TYCO/AMP CONNECTORS (CM 42-WAY)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

1. Locate the connector position assurance (CPA) on the connector body and pull the CPA out. The CPA is on the wire harness side of connector.
2. Disconnect the connector from the component.

cardiagn.com

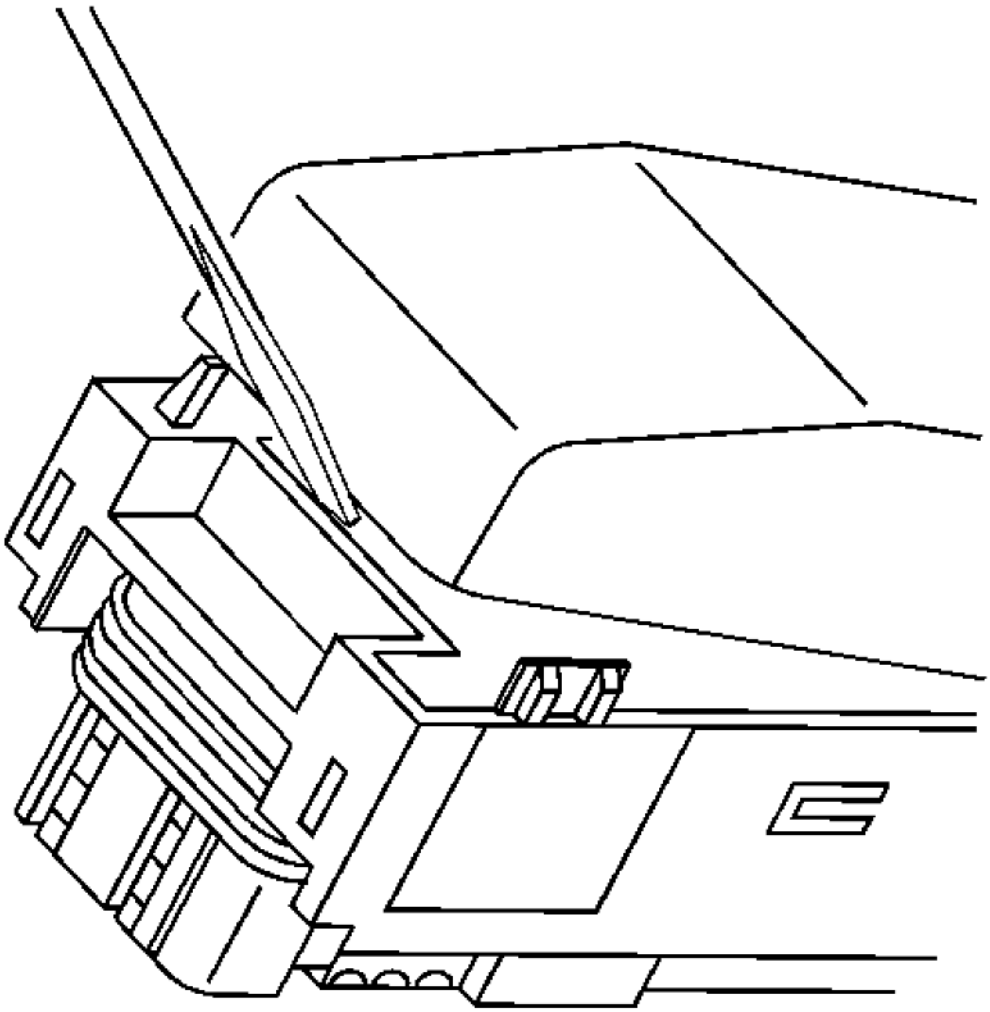


Fig. 138: Prying Off Dress Cover
Courtesy of GENERAL MOTORS CORP.

3. Use a small flat-bladed tool to gently pry off the dress cover by inserting the tool under the cover opposite the harness side and prying up.
4. Remove the cover.

cardiagn.com

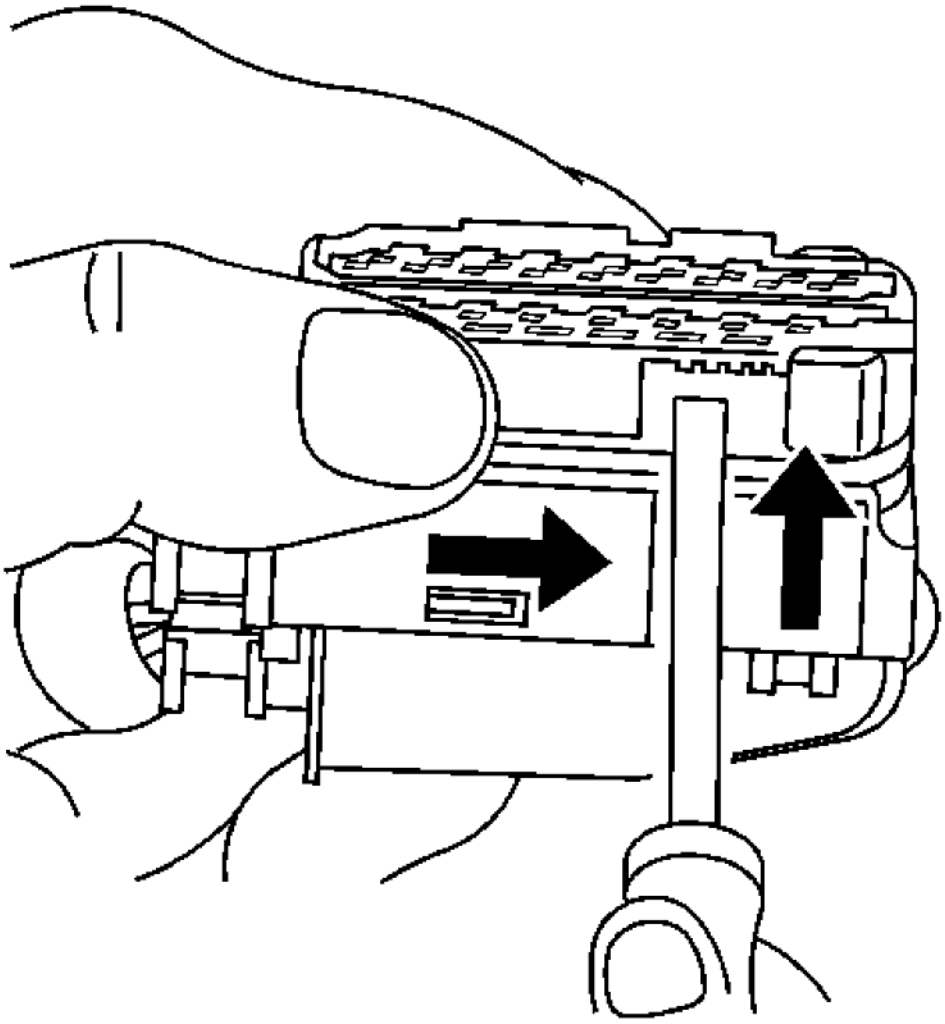


Fig. 139: View Of Terminal Position Assurance (TPA)
Courtesy of GENERAL MOTORS CORP.

5. Using a small flat-bladed tool, push on the side of the nose piece retainer while pushing the nose piece forward with your thumb. This will release the terminal position assurance (TPA).

cardiagn.com

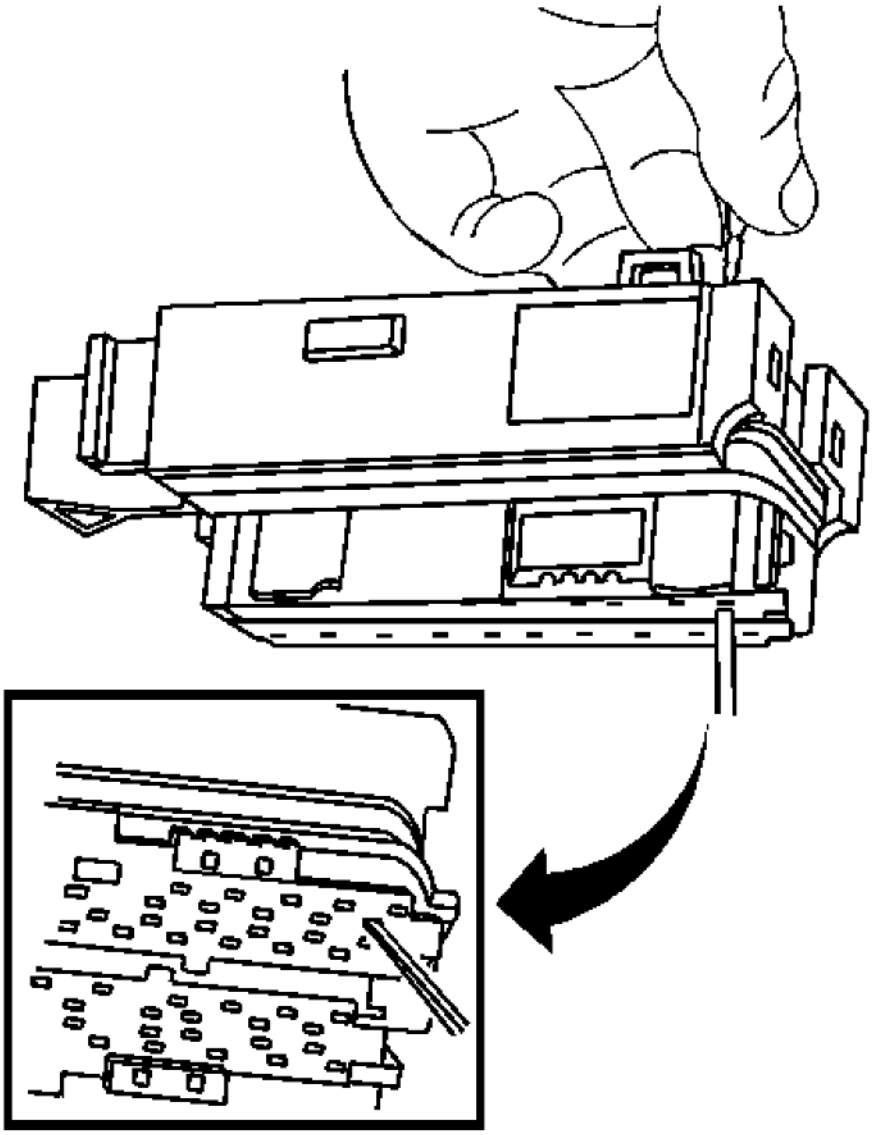


Fig. 140: Inserting Special Tool Into Terminal Release Cavity
Courtesy of GENERAL MOTORS CORP.

6. Insert the EL-38125-12A into the corresponding terminal release cavity. The release cavities are the 2 center rows of cavities on one half of the connector.

cardiagn.com

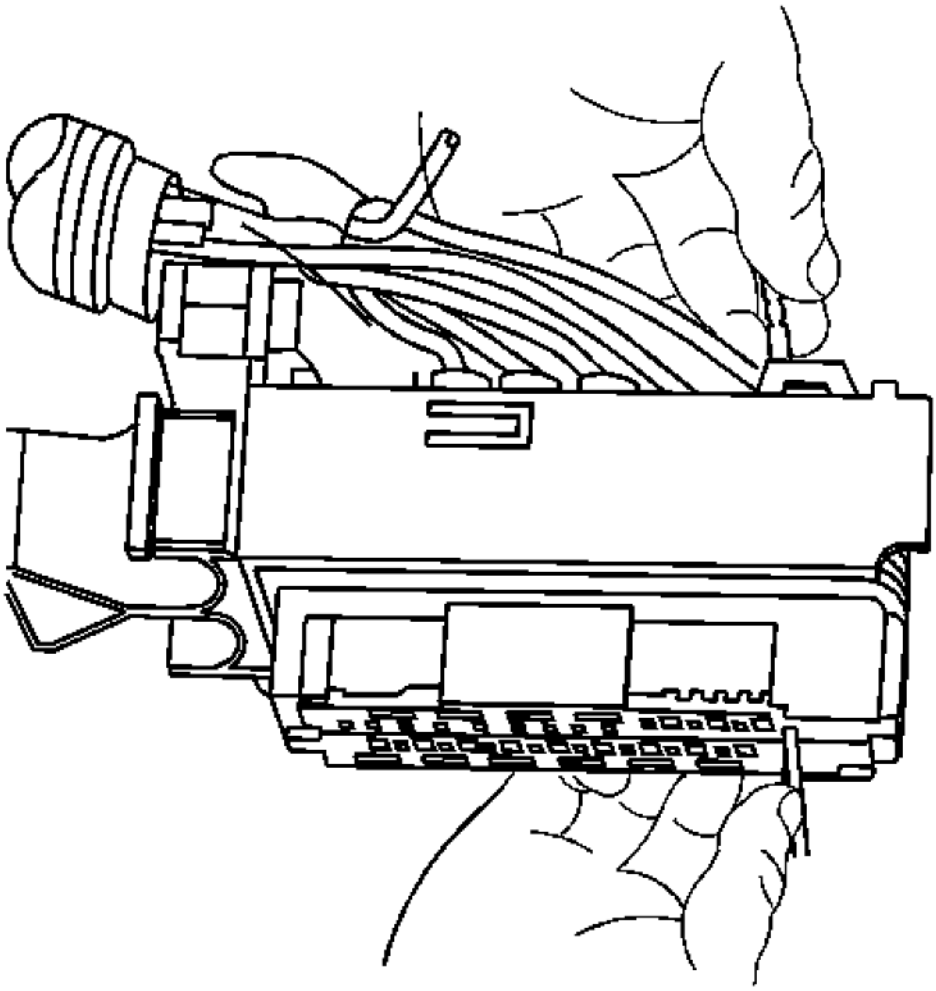


Fig. 141: Pulling Terminal Out Of Back Of Connector
Courtesy of GENERAL MOTORS CORP.

7. Pressing the EL-38125-12A tool in the release cavity of the terminal you are removing, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.

cardiagn.com

3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

TYCO/AMP CONNECTORS (SENSOR)

Special Tools

J-38125 Terminal Repair Kit

Terminal Removal Procedure

1. Disconnect the connector from the component.

cardiagn.com

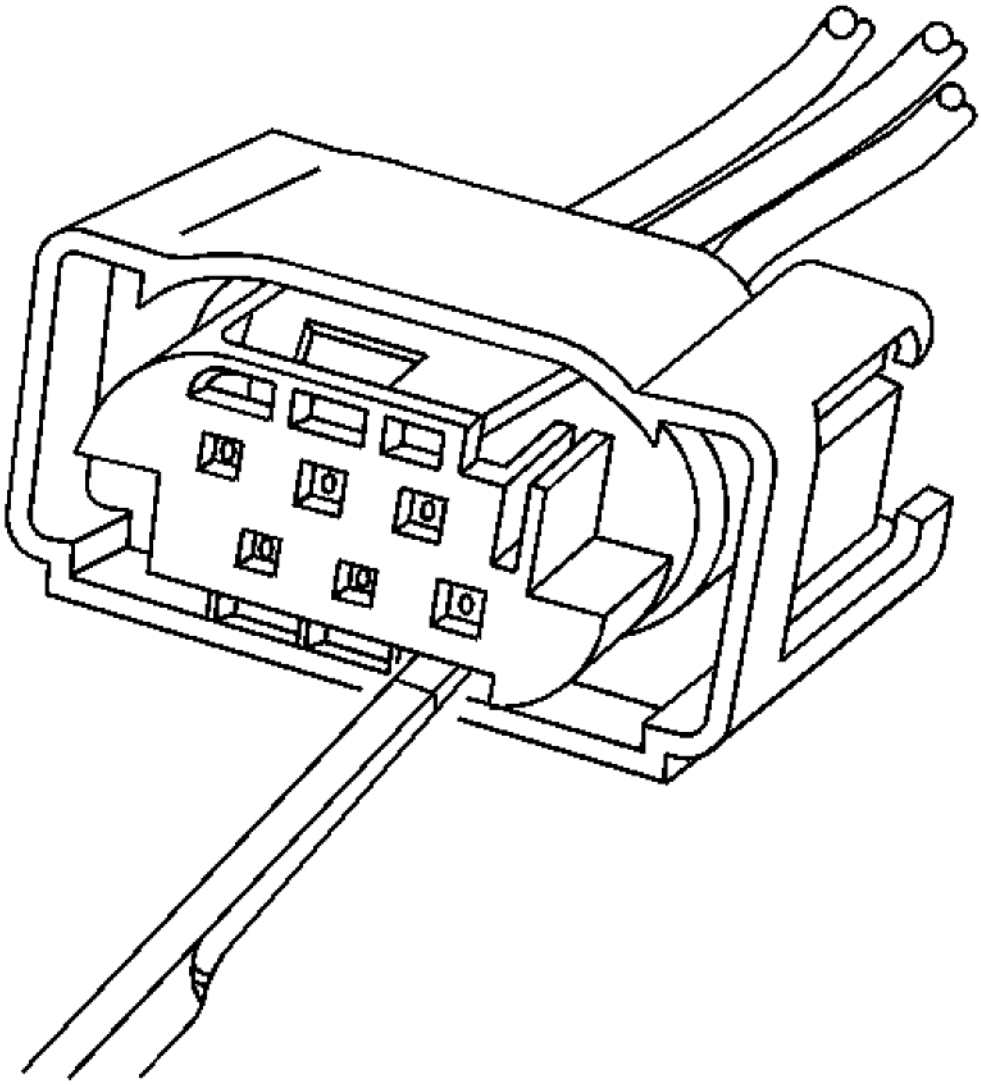


Fig. 142: Inserting Special Tool Into Lower Right Face Cavity
Courtesy of GENERAL MOTORS CORP.

2. Insert the EL-38125-11A tool into the cavity on the lower right hand face of the connector until the terminal release tang access panel slides over.

cardiagn.com

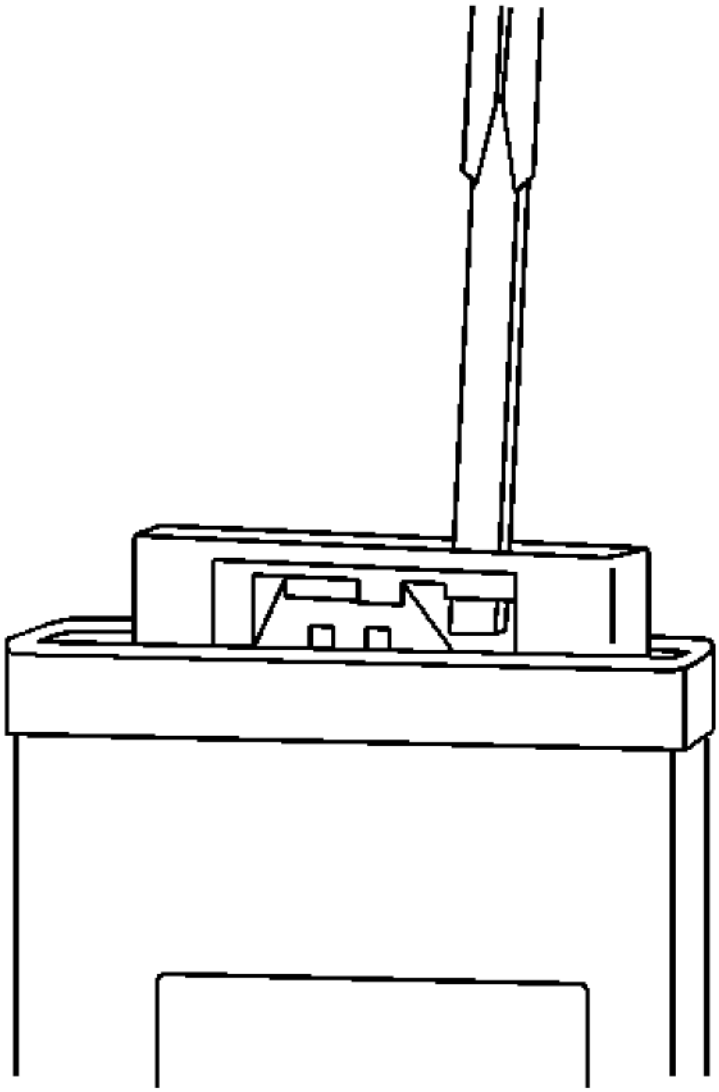


Fig. 143: Pushing Wire Side Of Terminal Toward Connector
Courtesy of GENERAL MOTORS CORP.

3. Ensure that the terminal release tang access panel is in the correct location to access the terminals.
4. Push the wire side of the terminal that is being removed toward the connector and hold it in position.

cardiagn.com

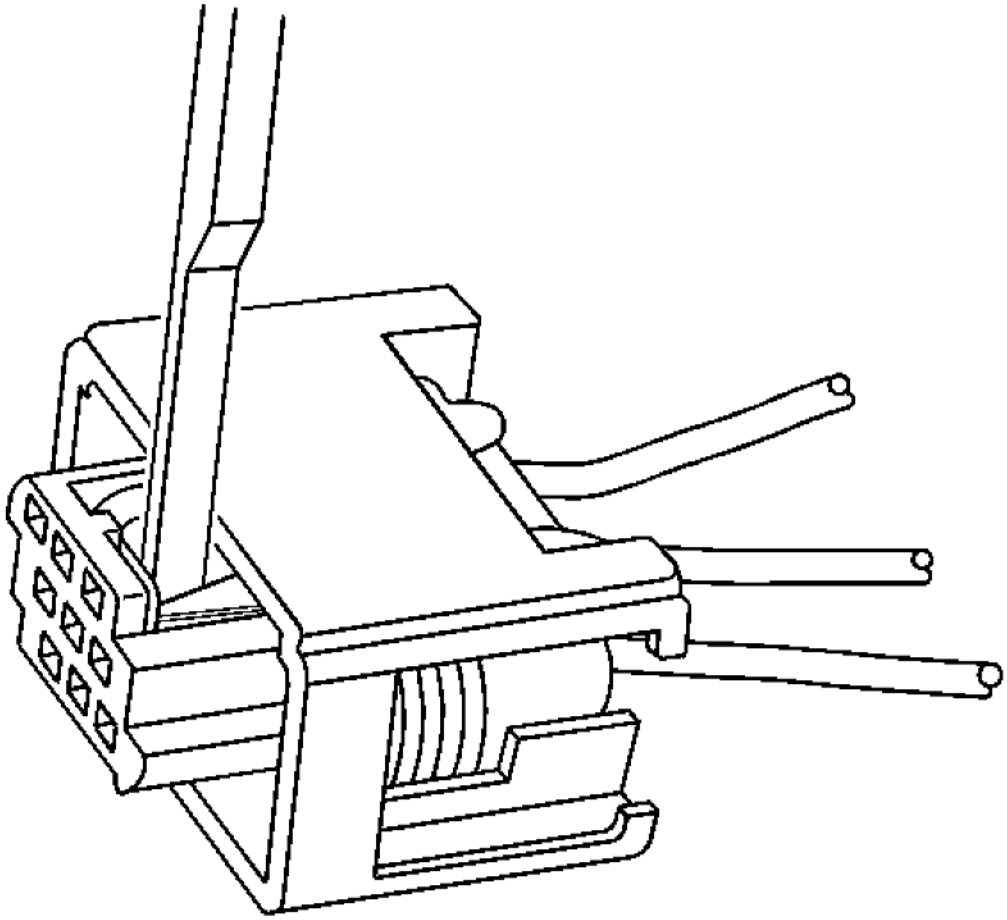


Fig. 144: Inserting Tool Into Terminal Release Tang Access Slot
Courtesy of GENERAL MOTORS CORP.

5. Insert the EL-38125-11A into the terminal release tang access slot located behind the access panel of the connector and press down on the terminal while carefully pulling the terminal out of the connector. Always remember never use force when pulling a terminal out of a connector. If the terminal is difficult to remove, repeat the entire procedure.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

cardiagn.com

TYCO/AMP CONNECTORS (0.25 CAP)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal Procedure

1. Disconnect the connector from the component by pressing down on the connector position assurance (CPA).

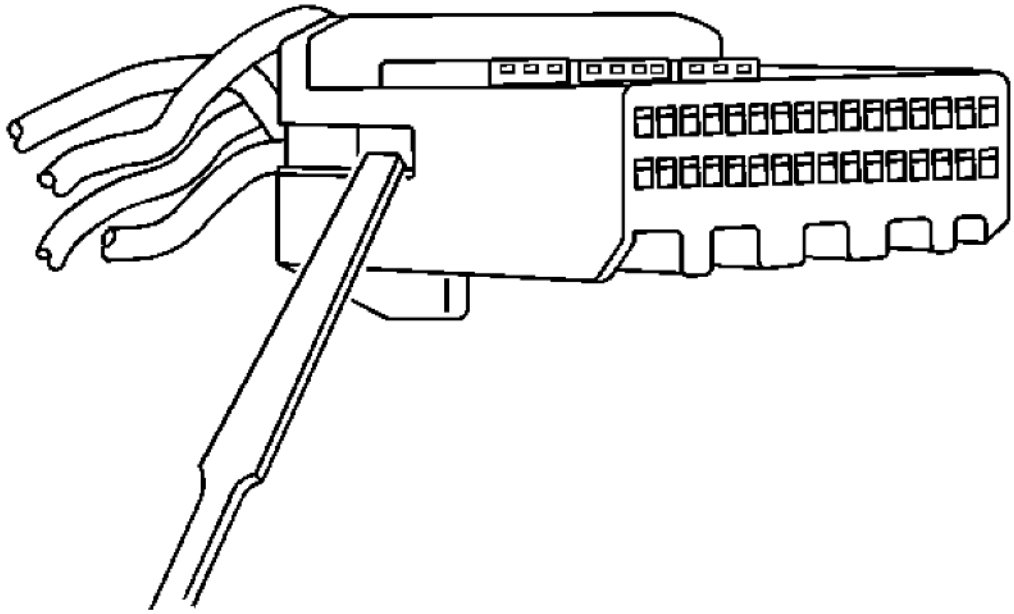


Fig. 145: Releasing TPA
Courtesy of GENERAL MOTORS CORP.

NOTE: The TPA on this connector cannot be removed unless the terminals are removed first. The TPA will come out of the connector body, but only slightly. When the TPA is slightly raised the terminals can be removed. Using excessive force to remove the TPA with the terminals still in the connector will damage the connector.

2. Use a small flat-bladed tool to release the terminal position assurance (TPA) by inserting the tool in the small recess on the side of the connector and pushing up until the TPA releases from the connector body. The TPA should raise just slightly. Do not try to remove the TPA.

cardiagn.com

3. Repeat the process for the other side of the connector.

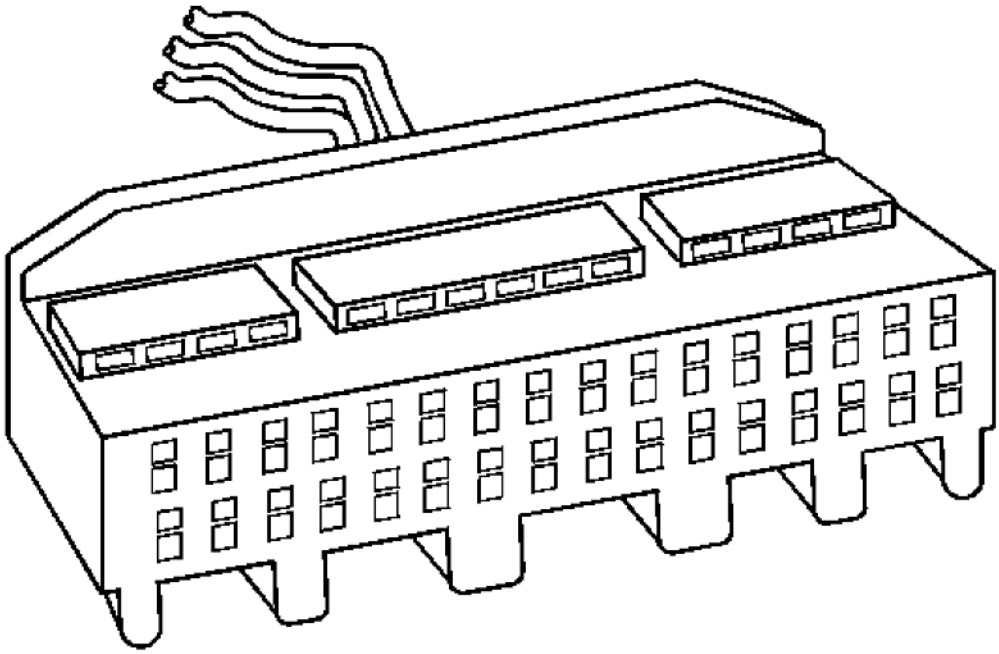


Fig. 146: View Of Terminal Position Assurance
Courtesy of GENERAL MOTORS CORP.

4. Ensure that the TPA is in the proper position to remove the terminals.

cardiagn.com

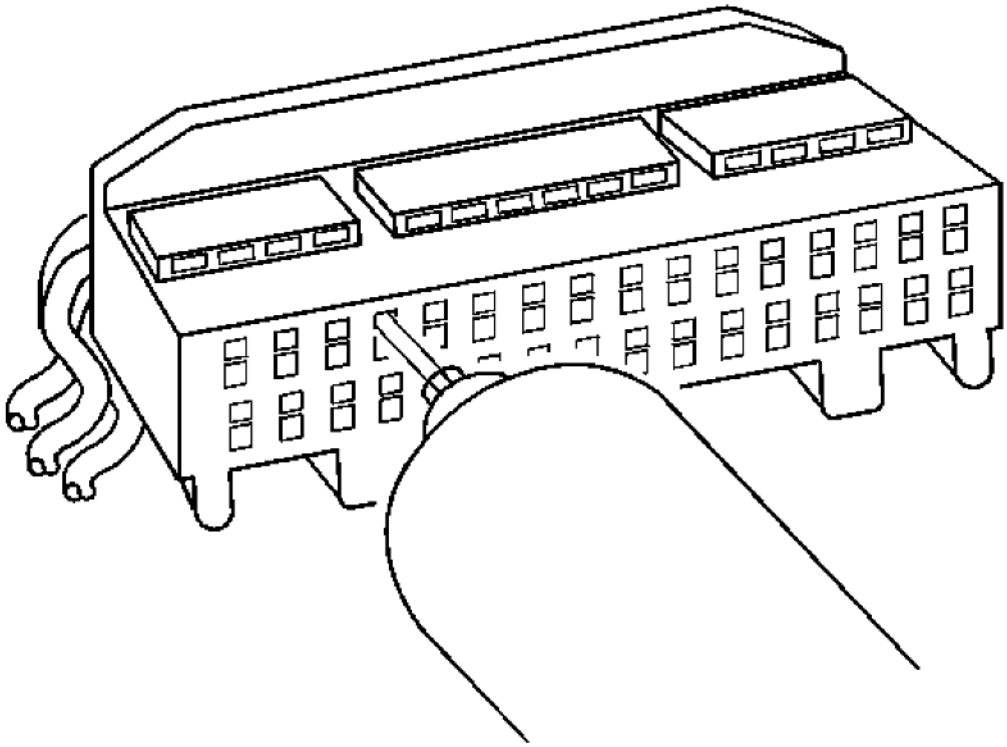


Fig. 147: Inserting Special Tool Into Release Cavity
Courtesy of GENERAL MOTORS CORP.

5. While pushing the terminal forward, insert the EL-38125-24 in the release cavity above the terminal you are removing, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

TYCO/AMP CONNECTORS (43-WAY)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Removal Procedure

Follow the steps below in order to remove terminals from the connector.

1. Locate the lever lock on the wire dress cover. Slide the lever lock away from the connector body.
2. Disconnect the connector from the component.
3. Locate the dress cover locking tabs on the dress cover of the connector. Using a small flat-blade tool release all of the locking tabs.
4. Once the locks are unlocked, lift the dress cover off.

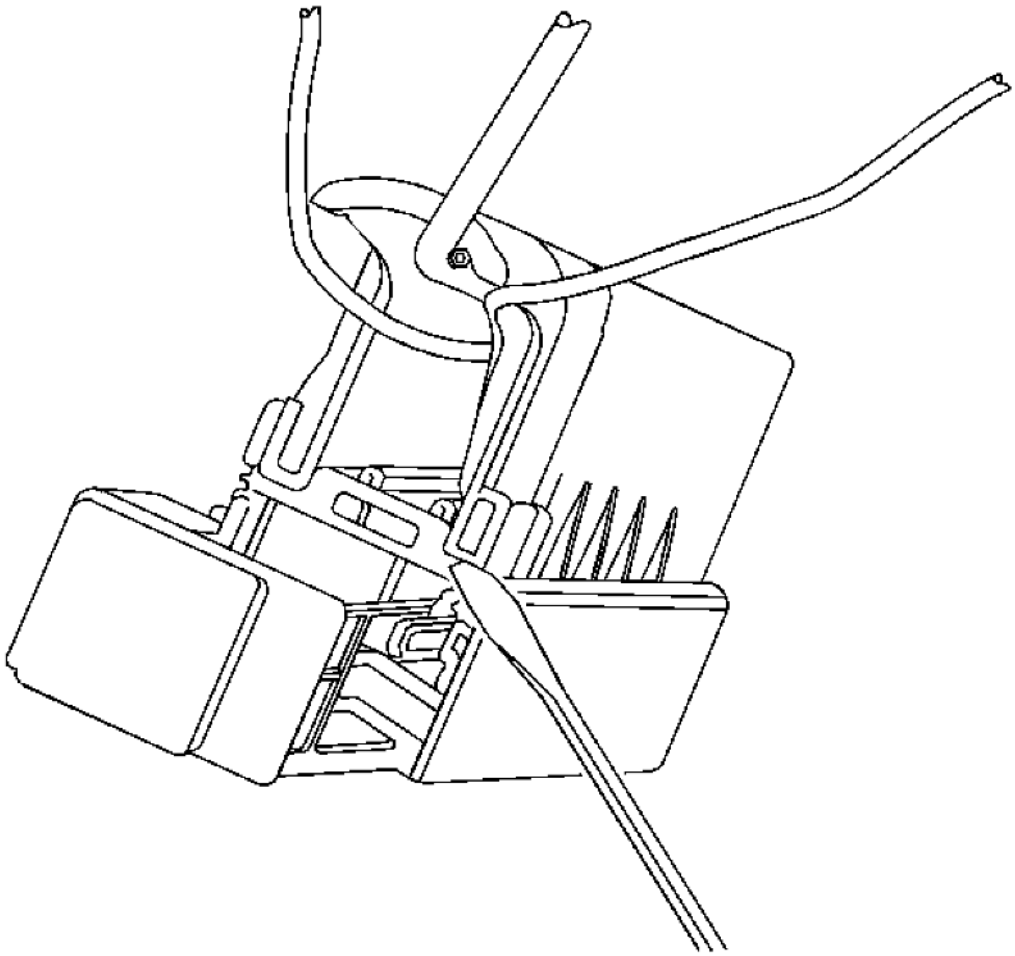


Fig. 148: Releasing TPA
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

NOTE: Always use care when removing a terminal position assurance (TPA) in order to avoid damaging it.

5. Release the TPA by inserting a small flat-blade tool into the blue locking tabs on both ends of the connector. Gently slide the TPA up to the released position on both ends.

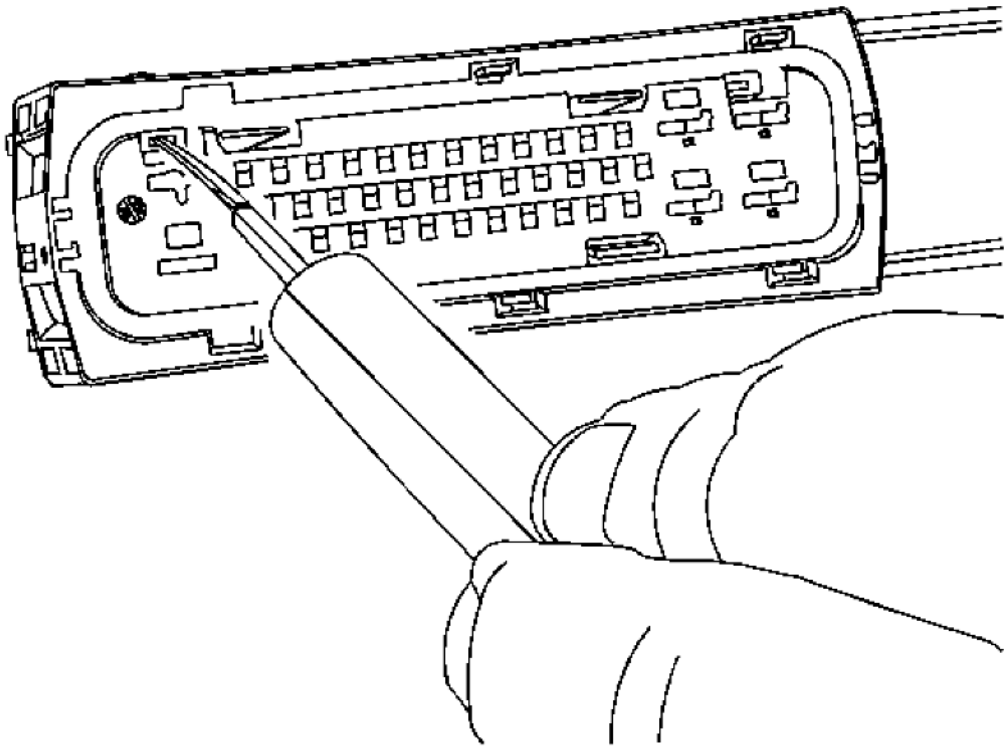


Fig. 149: Inserting Release Tool Into Terminal Release Cavity
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

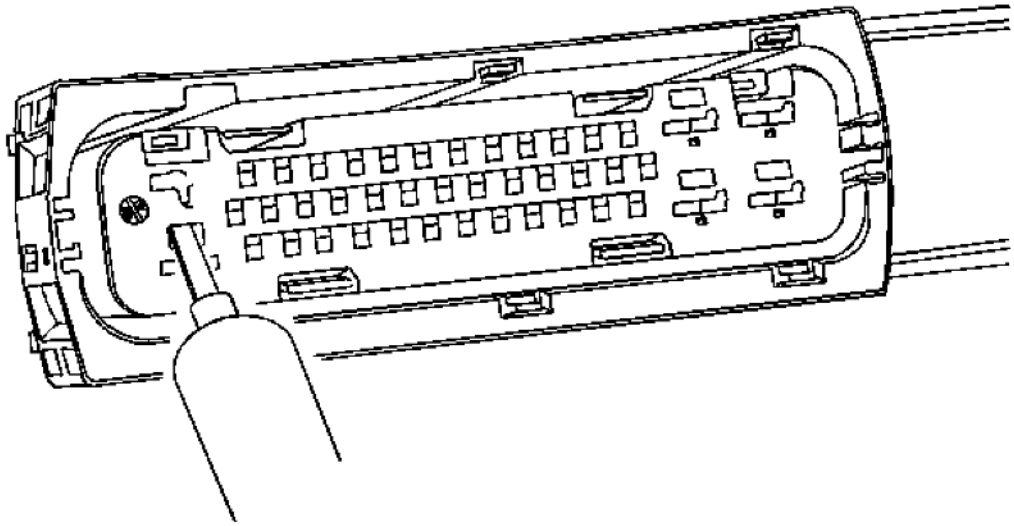


Fig. 150: View Of Release Tool Being Used For Larger Terminals
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

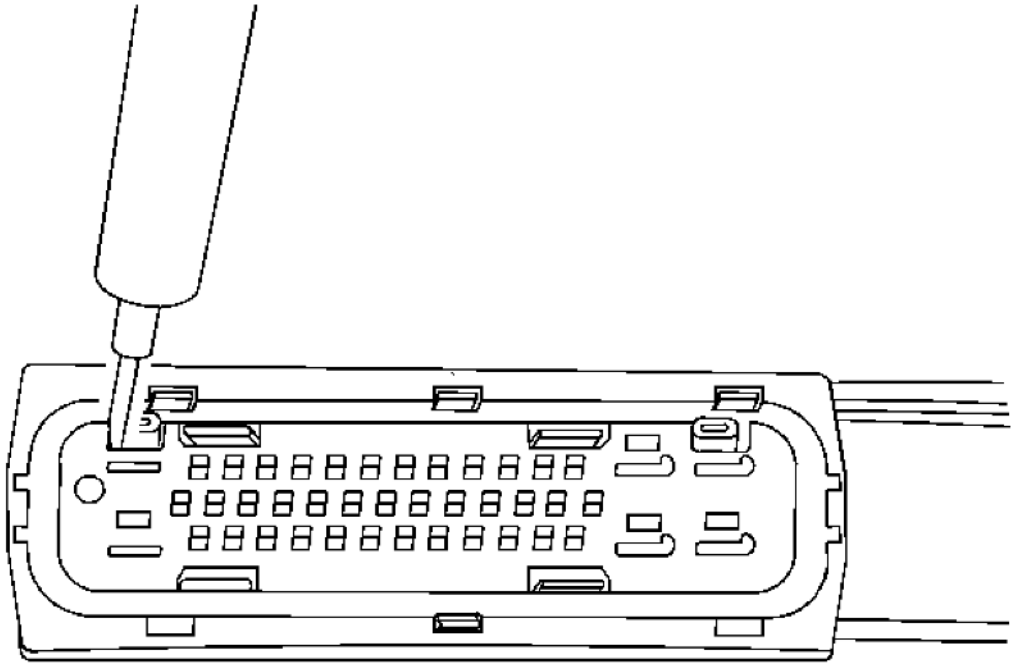


Fig. 151: View Of Release Tool Being Used For Larger Terminals
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

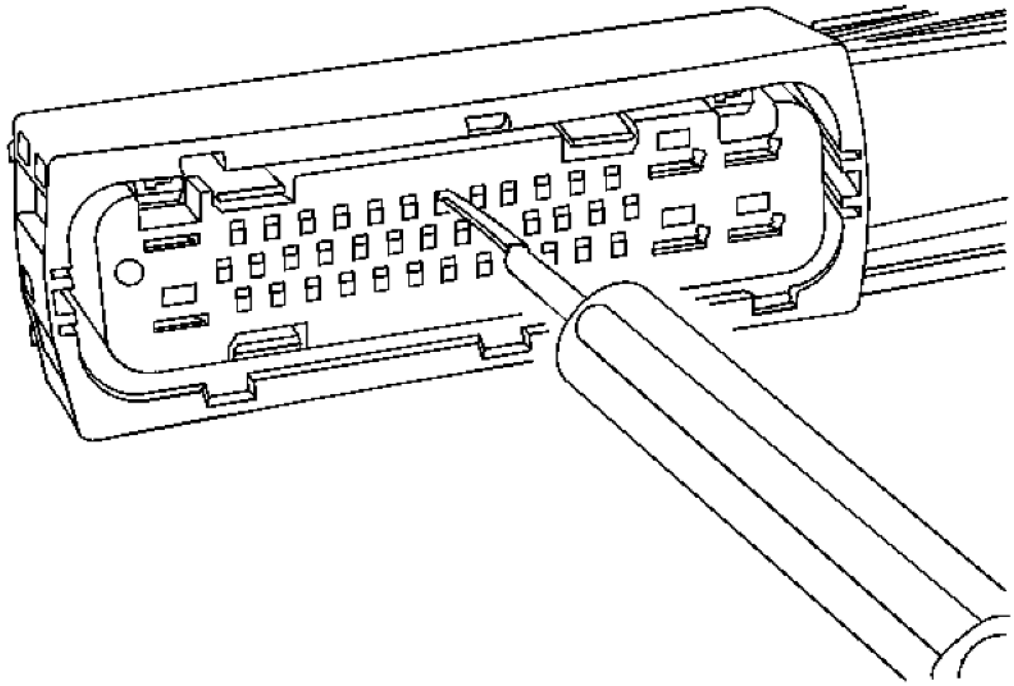


Fig. 152: View Of Release Tool Being Used For Smaller Terminals
Courtesy of GENERAL MOTORS CORP.

6. For the larger terminals insert the EL-38125-13A tool to release the terminals by inserting the tool into the terminal release cavity. For the smaller terminals insert the EL-38125-12A tool to release the terminals by inserting the tool into the terminal release cavity.

   View of the release tool being used for the larger terminals.

   View of the release tool being used for the larger terminals.

   View of the release tool being used for the smaller terminals.

7. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.

cardiagn.com

4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

TYCO/AMP CONNECTORS (DOOR MODULE)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

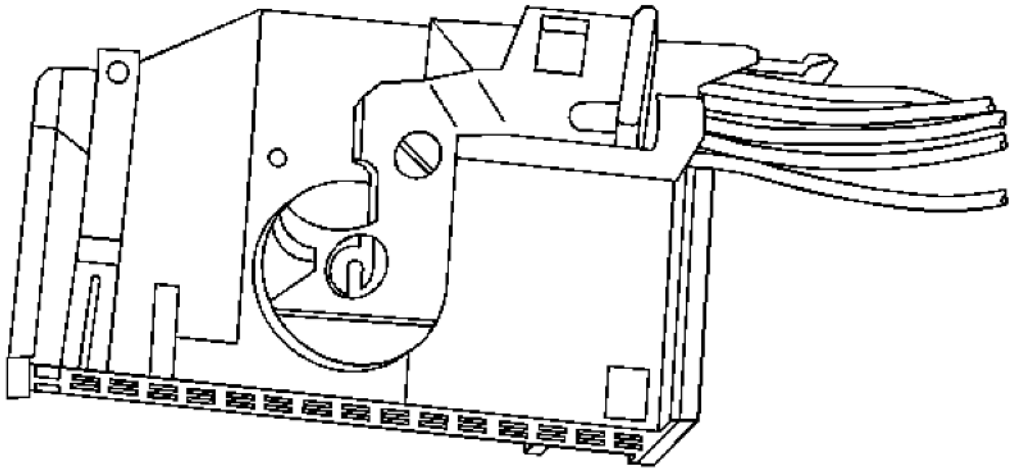


Fig. 153: Side View Of Tyco/AMP Connector
Courtesy of GENERAL MOTORS CORP.

Side view of connector.

cardiagn.com

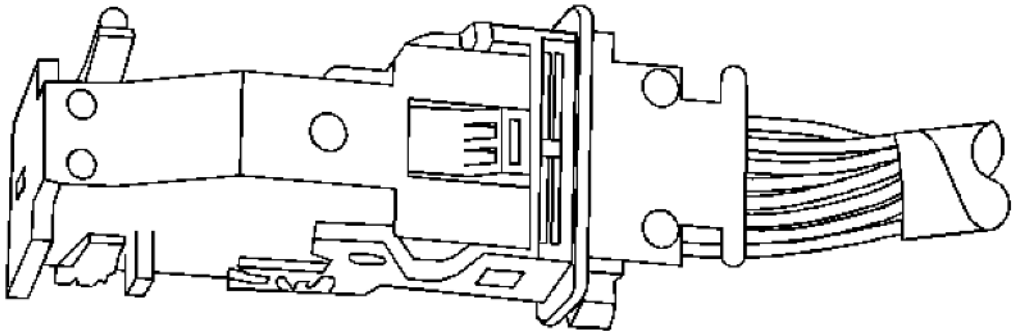


Fig. 154: Top View Of Tyco/AMP Connector
Courtesy of GENERAL MOTORS CORP.

View of top of connector.

1. Locate the assist lever and lock on the top of the connector.

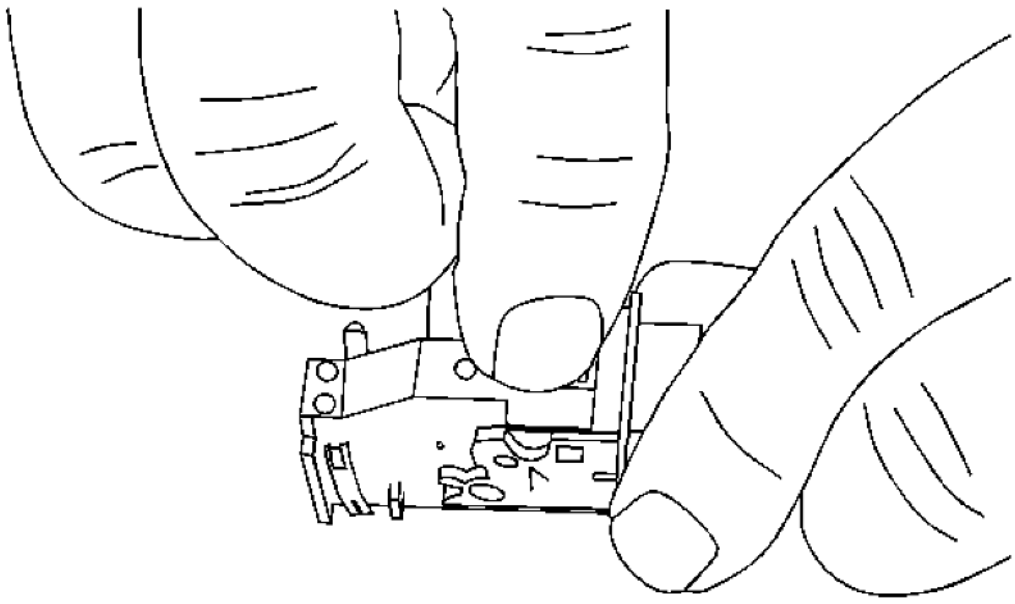


Fig. 155: Depressing Lock & Pulling Assist Lever

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

2. While depressing the lock, pull the lever over and past the lock.

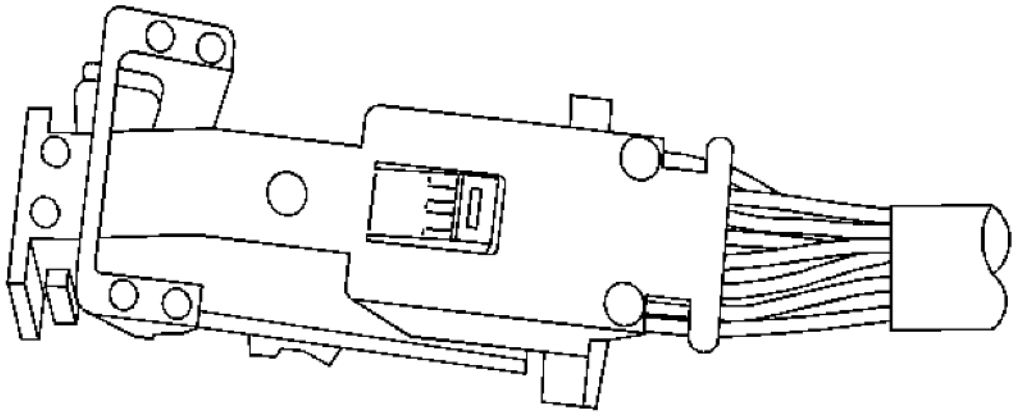


Fig. 156: View Of Component Connector
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the connector from the component.

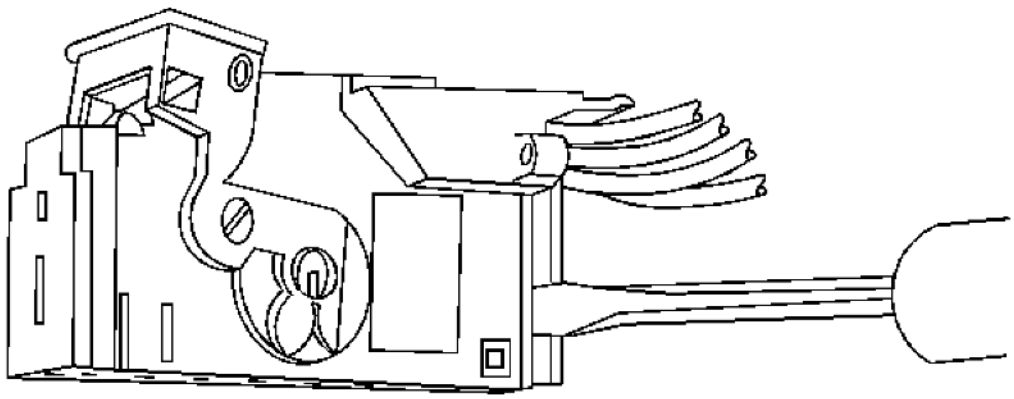


Fig. 157: Releasing Locking Tabs
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

4. Locate the dress cover locking tabs at the rear of the connector. Use a small flat-blade tool to release the locking tabs. Repeat this procedure for the other locking tab.

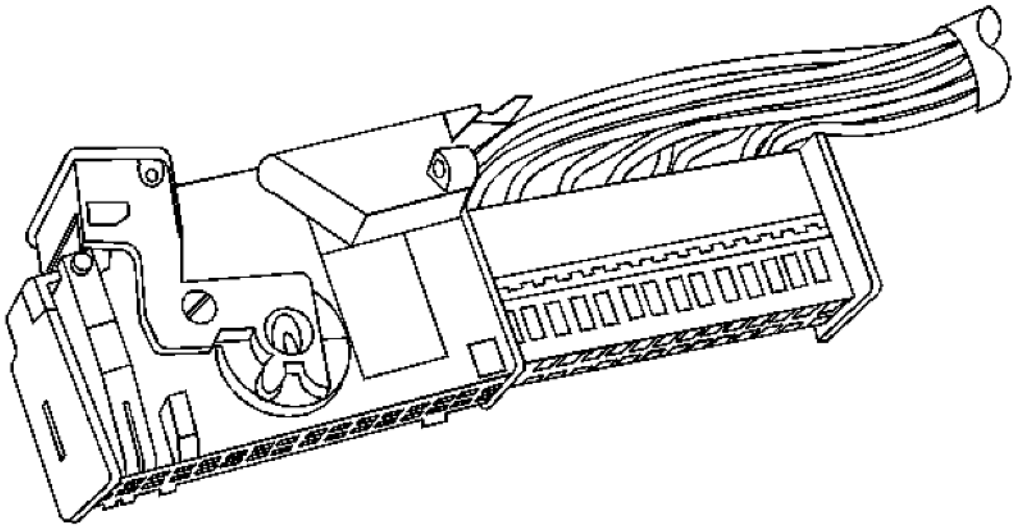


Fig. 158: Sliding Inner Connector Out Of Connector Housing
Courtesy of GENERAL MOTORS CORP.

5. Once the locking tabs are unlocked, slide the inner connector out of the rear of the connector housing.

cardiagn.com

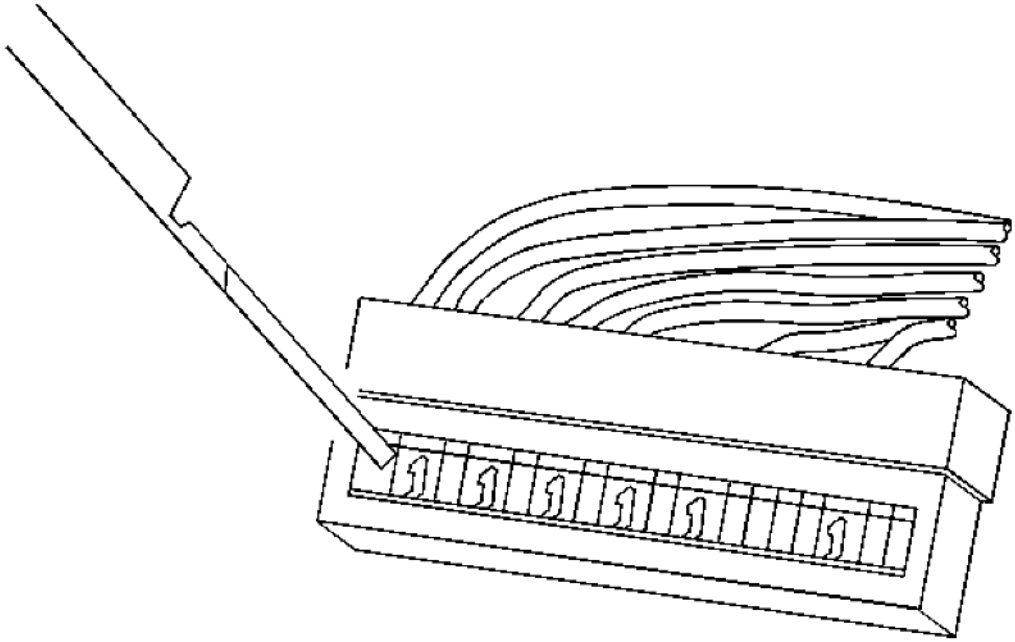


Fig. 159: Releasing Terminals
Courtesy of GENERAL MOTORS CORP.

6. Use the EL-38125-12A tool to release the terminals by pressing on the tang.
7. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

TYCO/AMP CONNECTORS (102-WAY INLINE)

Special Tools

For equivalent regional tools, refer to Special Tools **Special Tools** .

Removal Procedure

cardiagn.com

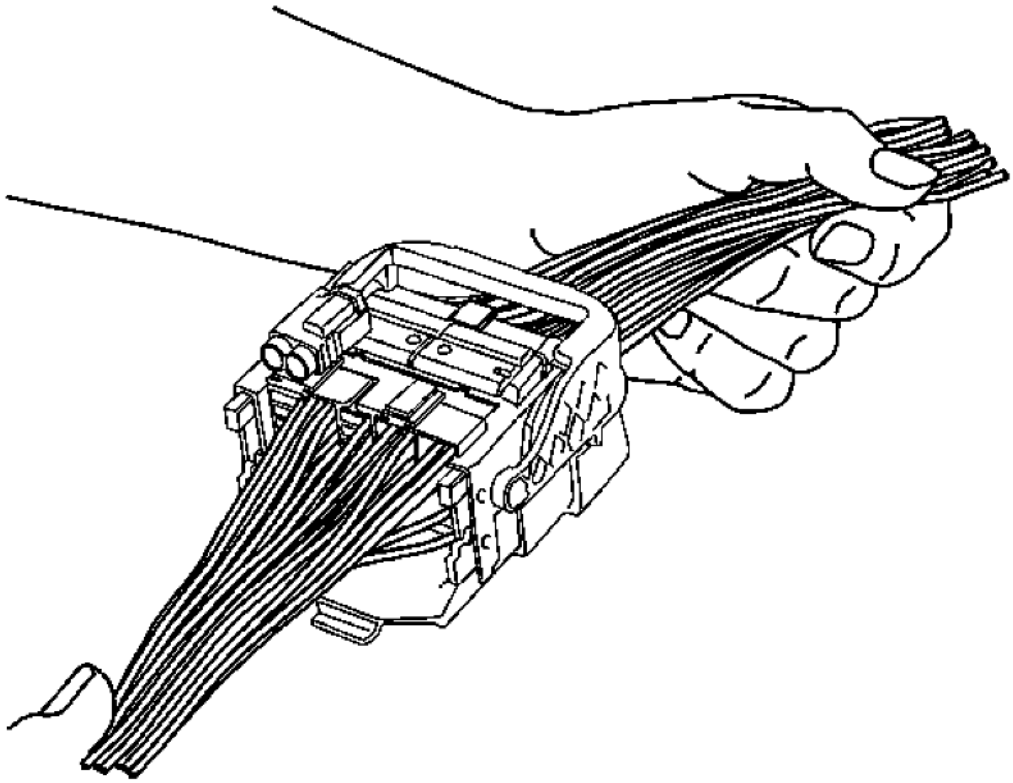


Fig. 160: View Of Typical Connector In Assembled Position
Courtesy of GENERAL MOTORS CORP.

View of a typical connector in the assembled position.

cardiagn.com

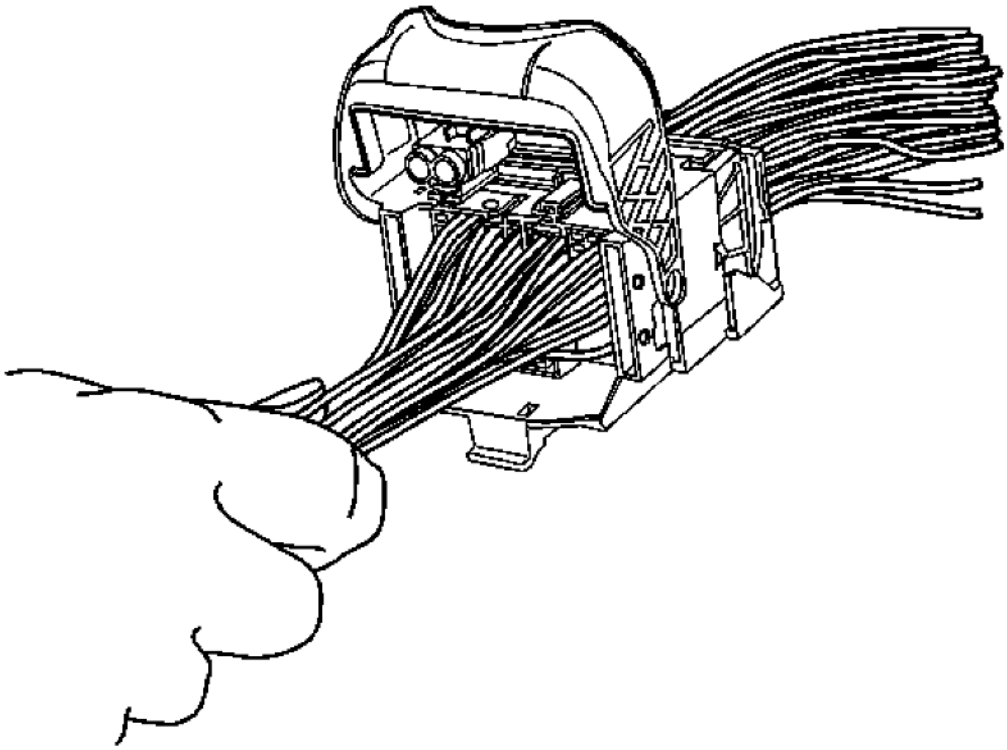


Fig. 161: View Of Locking Lever At 90 Degrees From Connector Body
Courtesy of GENERAL MOTORS CORP.

1. Pull the locking lever to the 90 degree position from the connector body.

cardiagn.com

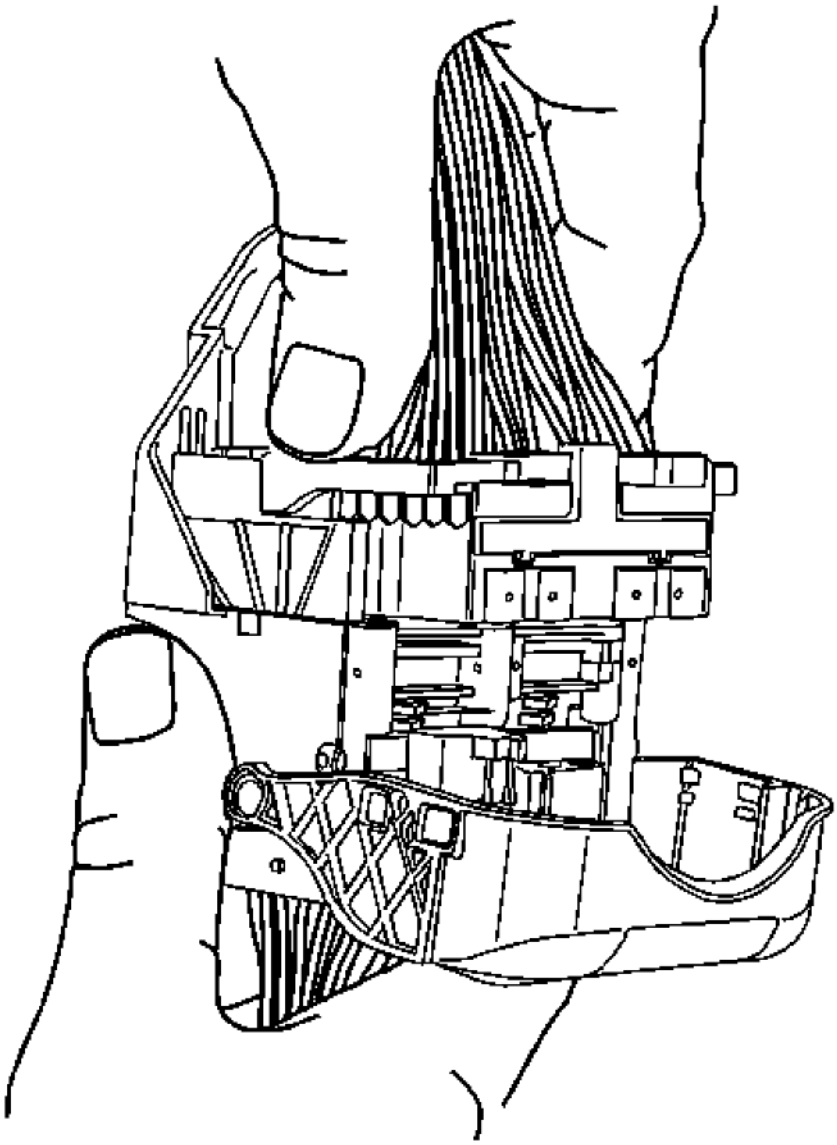


Fig. 162: Sliding Male Connector Body
Courtesy of GENERAL MOTORS CORP.

2. With the locking lever in the 90 degree position and the male connector body separated, it can be slid outward for removal.

cardiagn.com

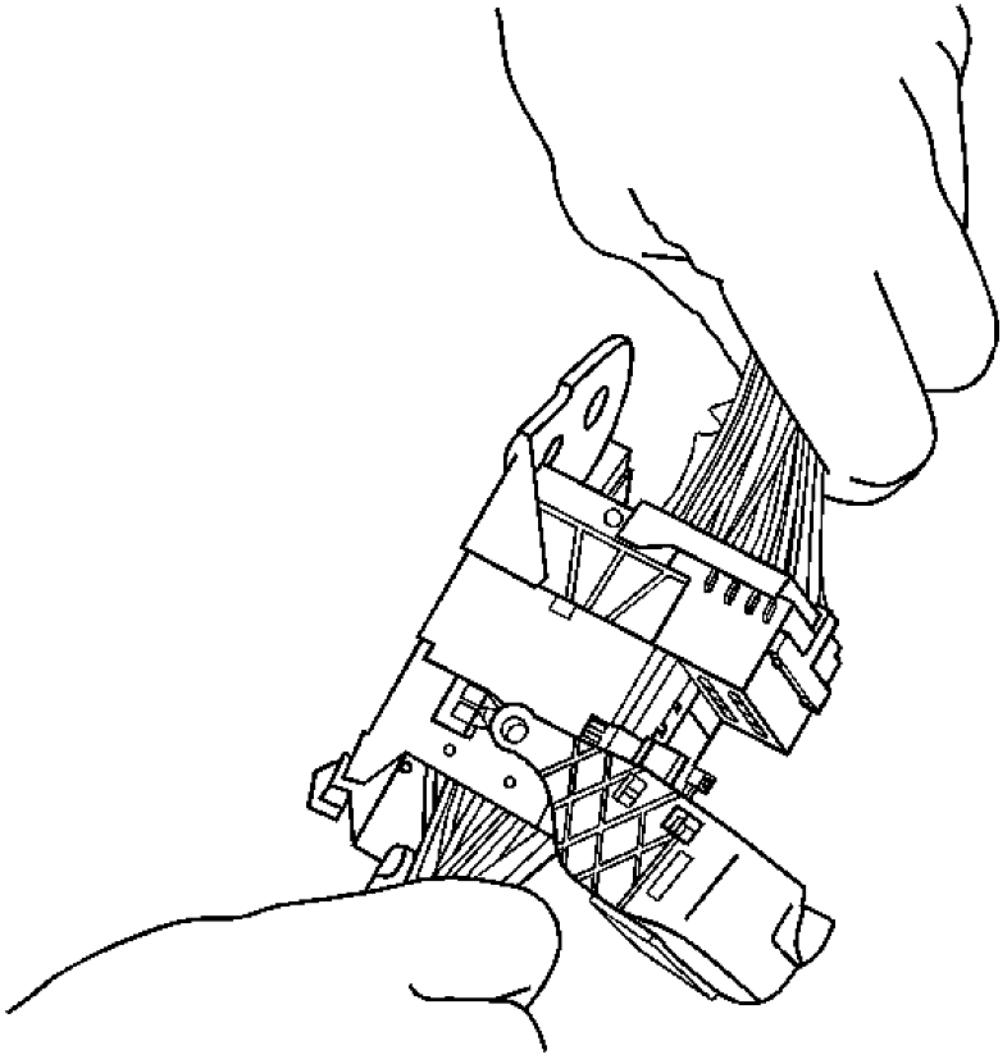


Fig. 163: Sliding Male Connector
Courtesy of GENERAL MOTORS CORP.

3. Slide the male connector body out away from the guide plates.

cardiagn.com

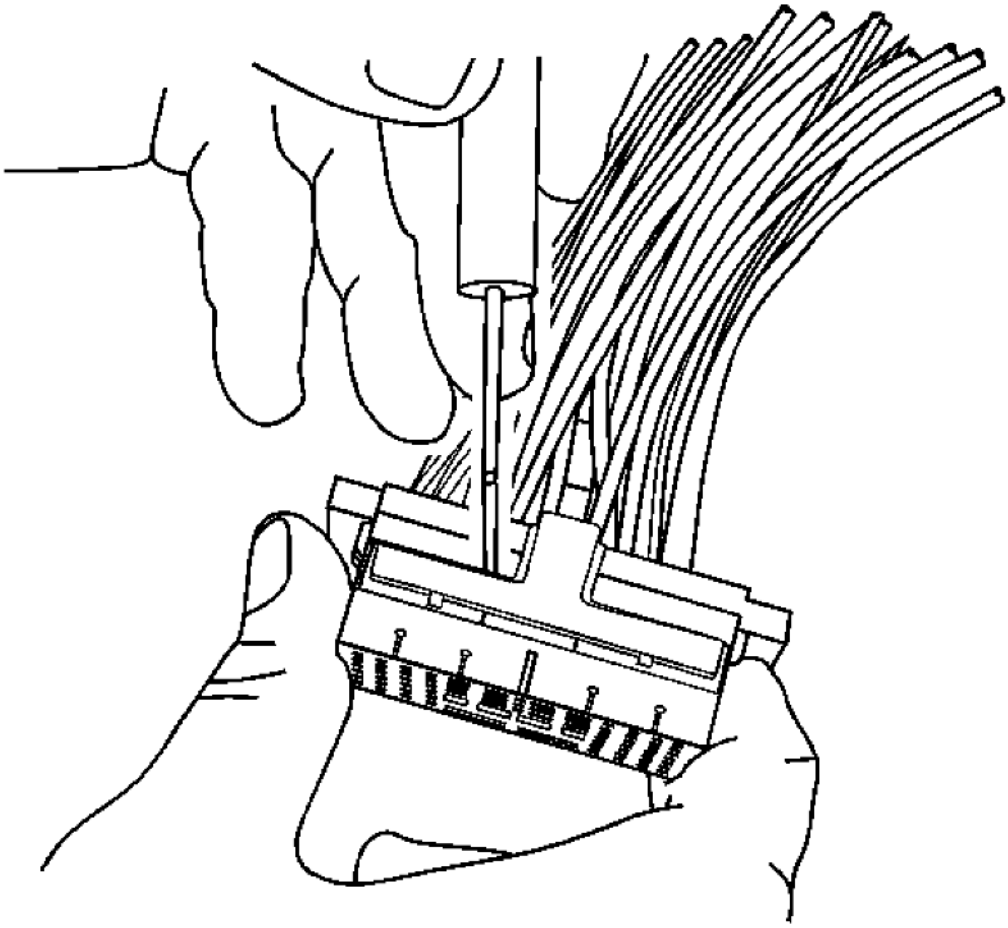


Fig. 164: Removing TPA From Connector Body
Courtesy of GENERAL MOTORS CORP.

NOTE: During assembly the TPA will not fully seat if any terminal is not fully seated.

4. Using terminal release tool J-38125-11A or equivalent, remove the TPA from the connector body.

cardiagn.com

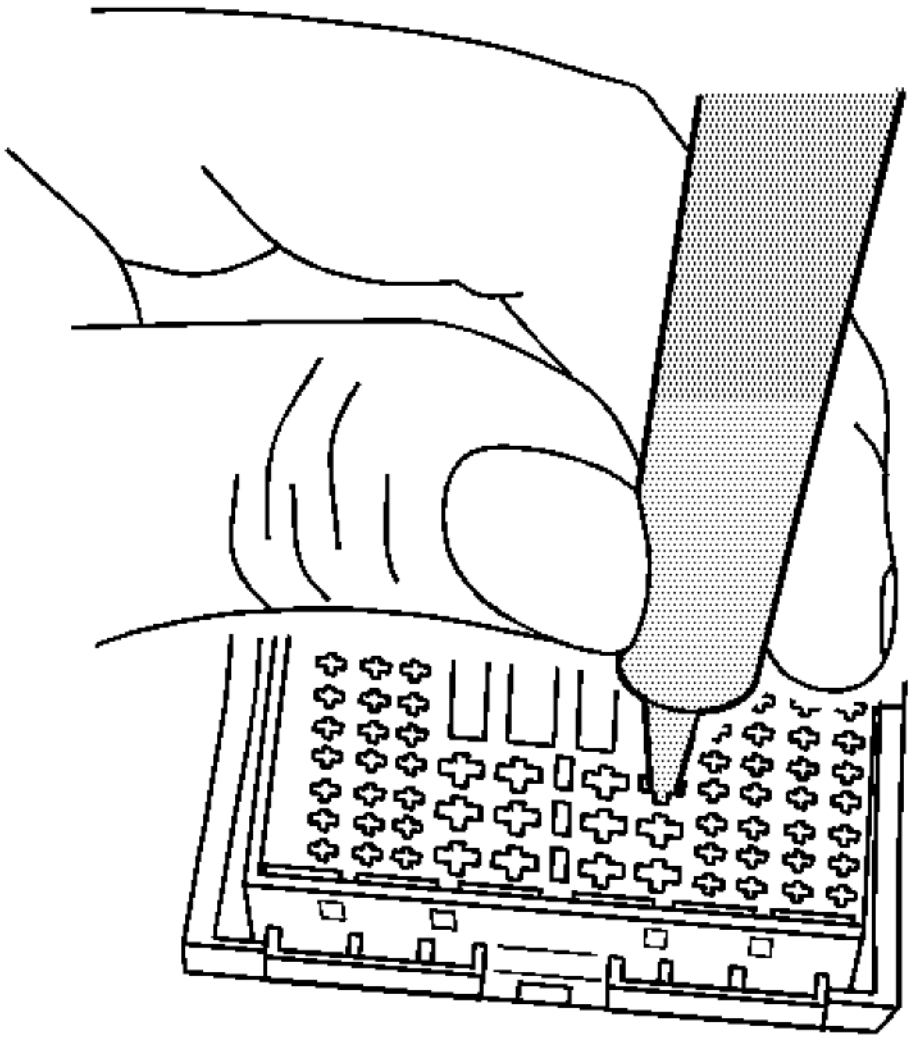


Fig. 165: Releasing Lock Tabs
Courtesy of GENERAL MOTORS CORP.

5. Using terminal release tool J 38125-566, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

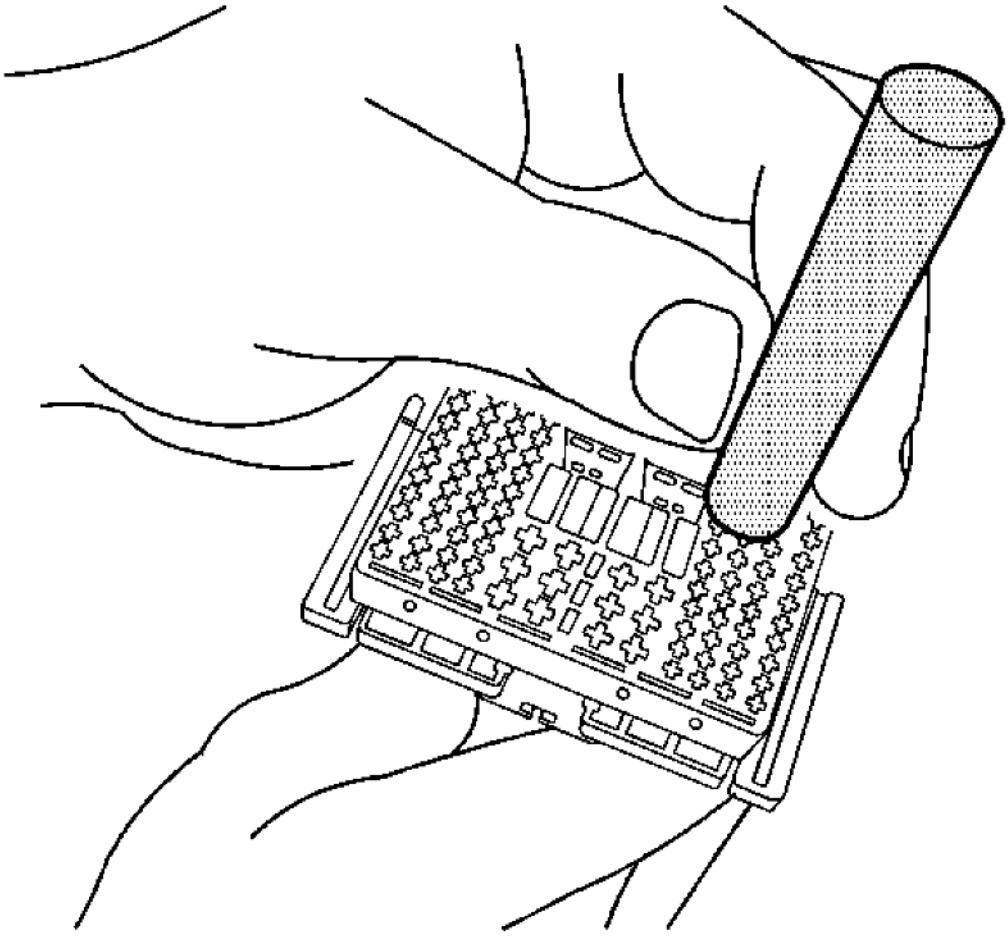


Fig. 166: Releasing Lock Tabs
Courtesy of GENERAL MOTORS CORP.

6. Using terminal release tool J 38125-560, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

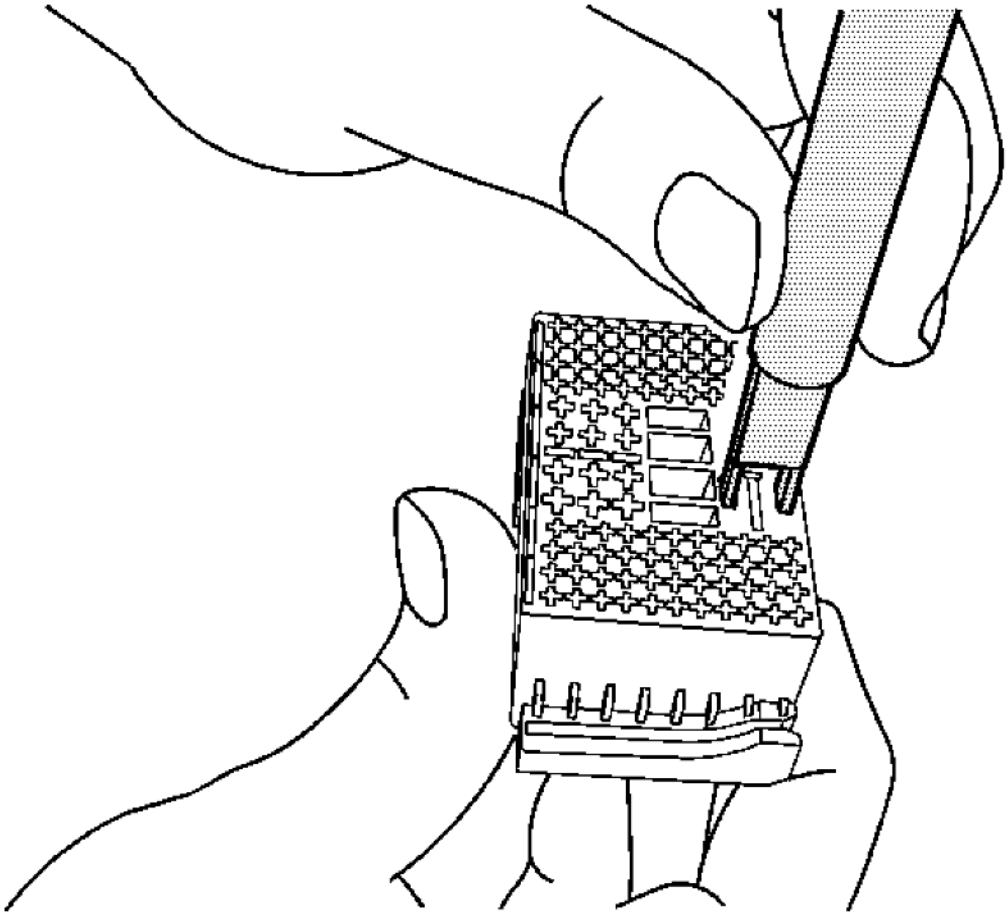


Fig. 167: Releasing Lock Tabs
Courtesy of GENERAL MOTORS CORP.

7. Using terminal release tool J 38125-221, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

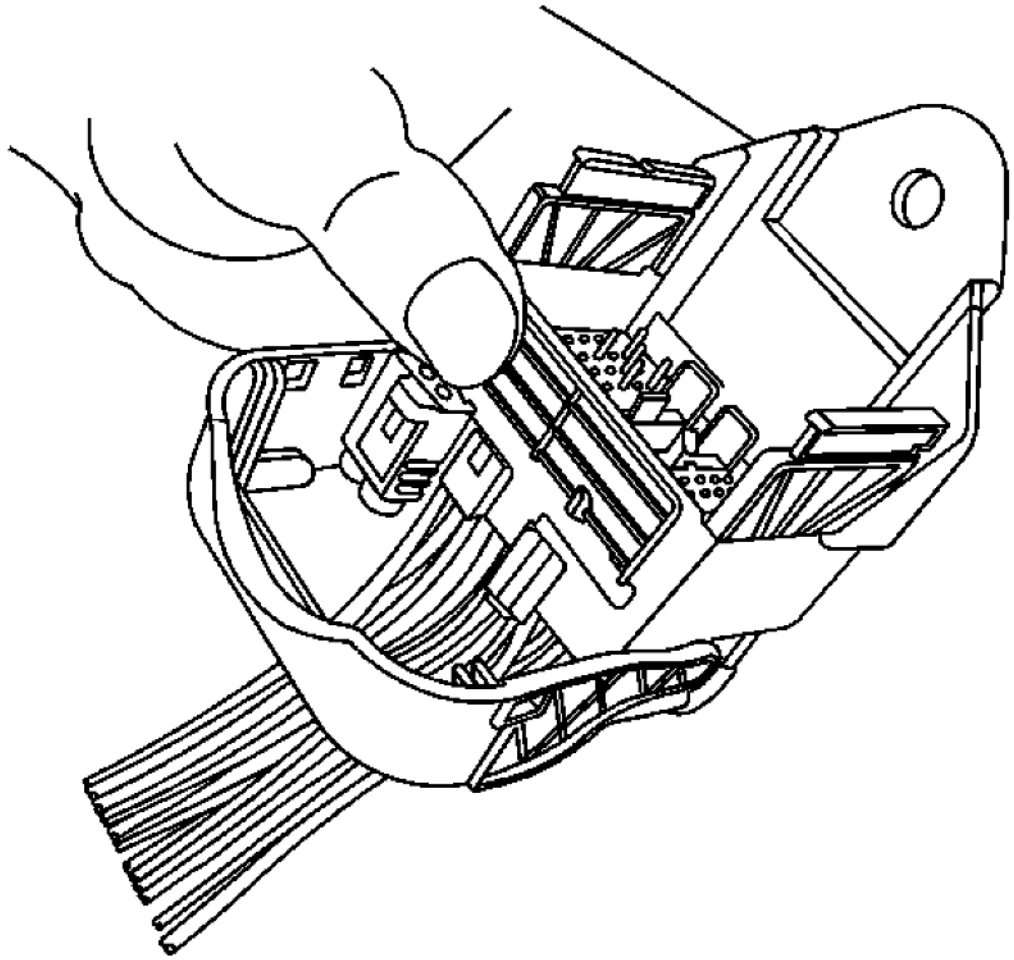


Fig. 168: View Of Female Connector Body
Courtesy of GENERAL MOTORS CORP.

8. The female connector body may have an additional connector hooked to the edge of the body. Use terminal release tool J-38125-11A or equivalent to release the locking tab and slide the connector off the female body.

cardiagn.com

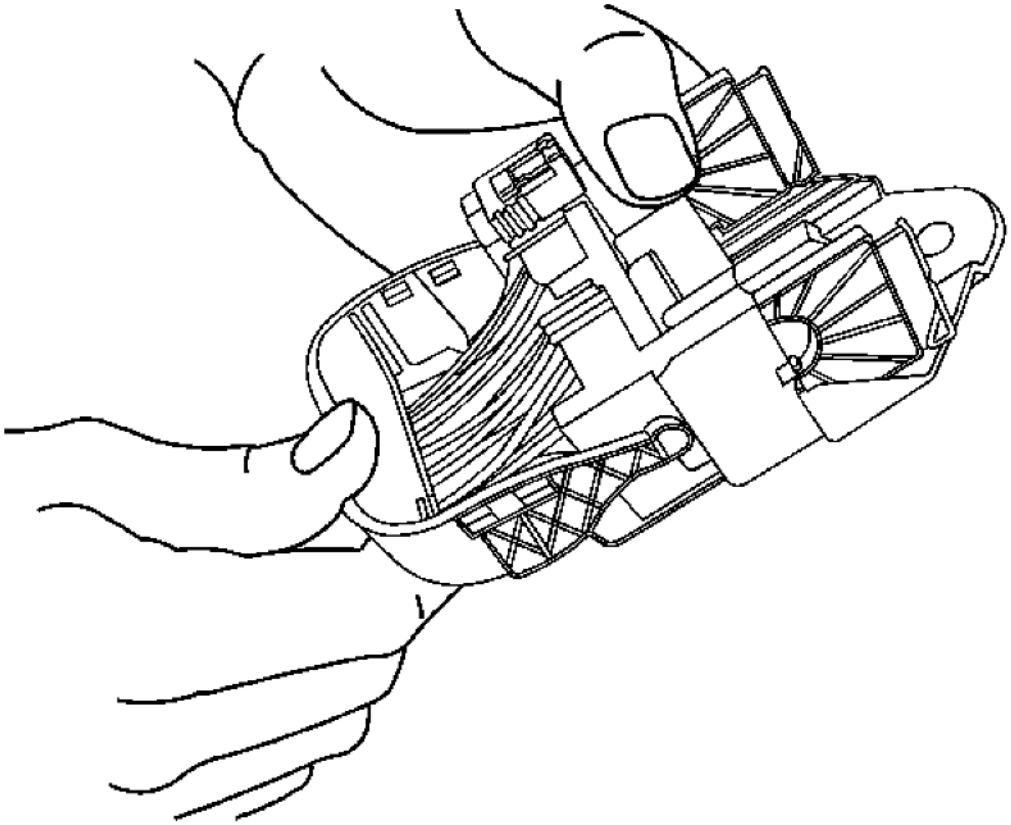


Fig. 169: Moving Locking Lever
Courtesy of GENERAL MOTORS CORP.

9. Move the locking lever 180 degrees from the connected position.

cardiagn.com

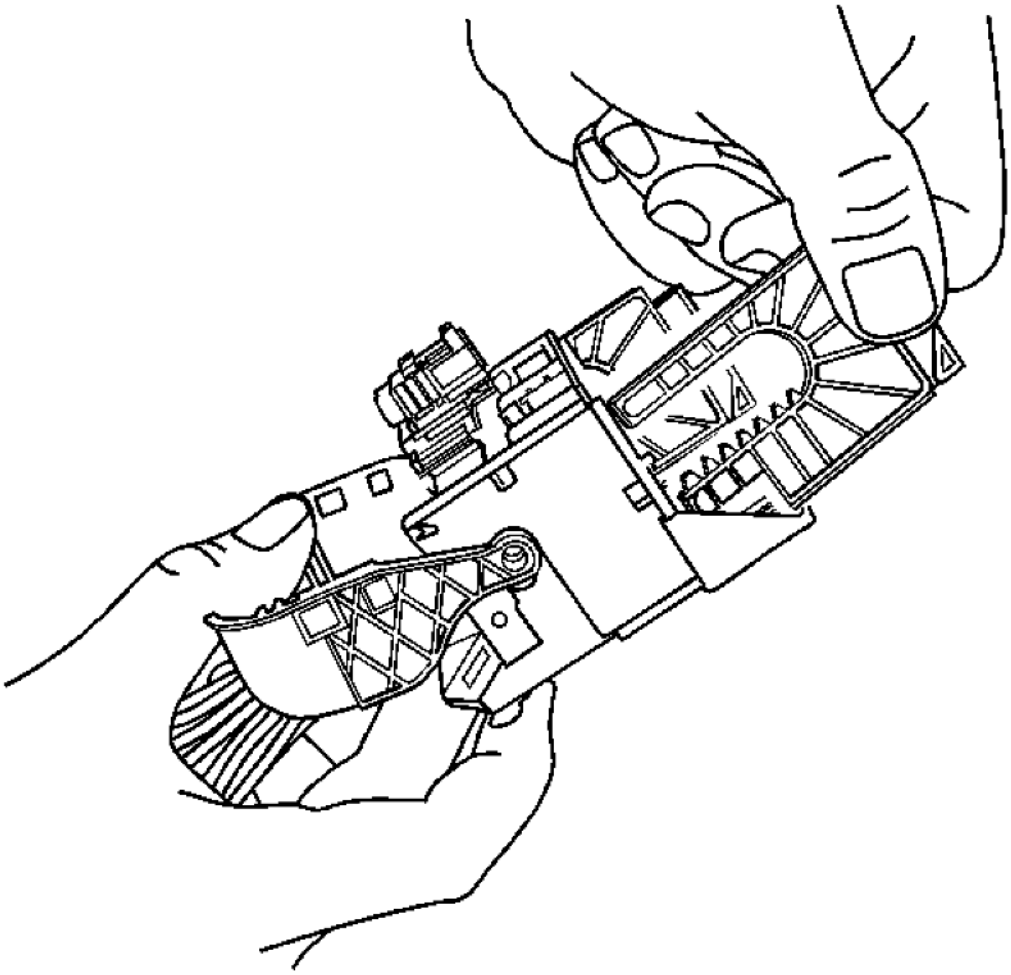


Fig. 170: Removing Guide Plates From Connector Body
Courtesy of GENERAL MOTORS CORP.

10. With the locking lever in the 180 degree position the guide plates can be removed from the connector body.

cardiagn.com

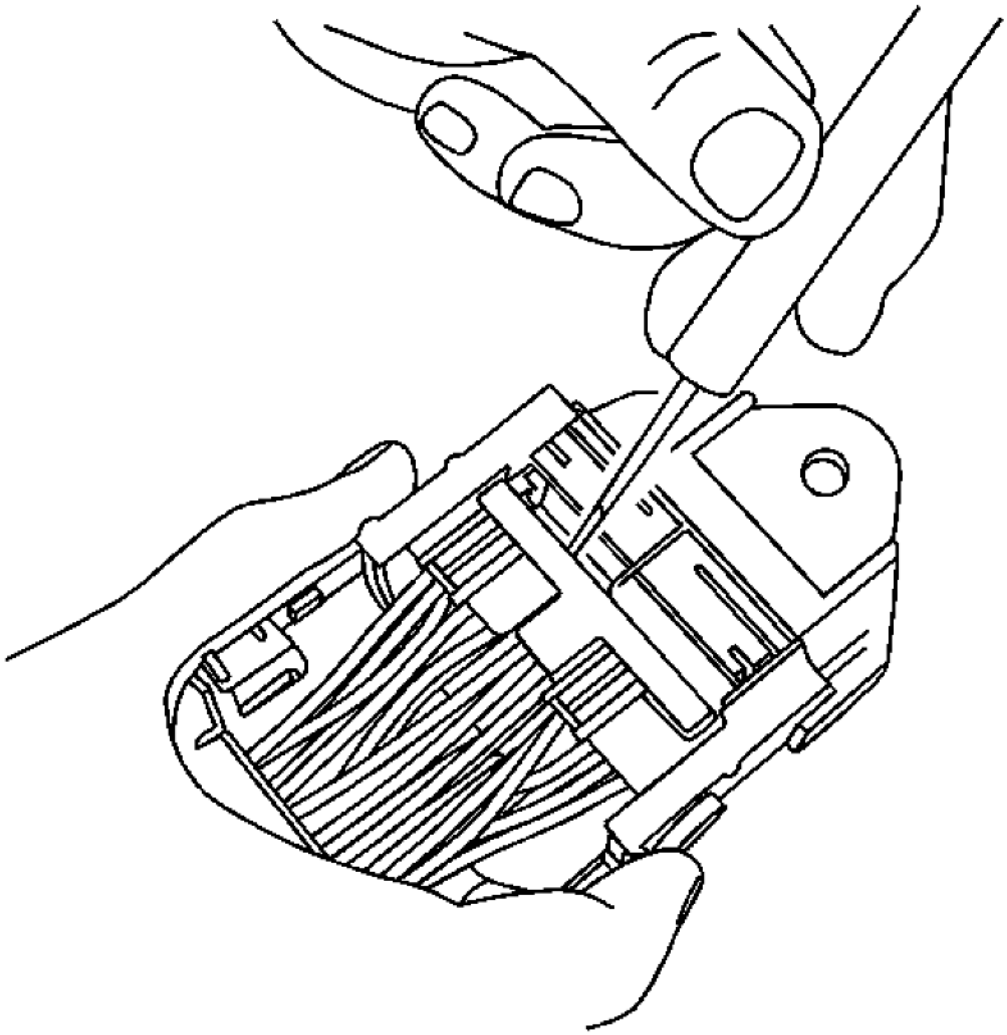


Fig. 171: Removing TPA
Courtesy of GENERAL MOTORS CORP.

NOTE: During assembly the TPA will not fully seat if any terminal is not fully seated.

11. Using terminal release tool J 38125-11A or equivalent, remove the TPA from the connector body.

cardiagn.com

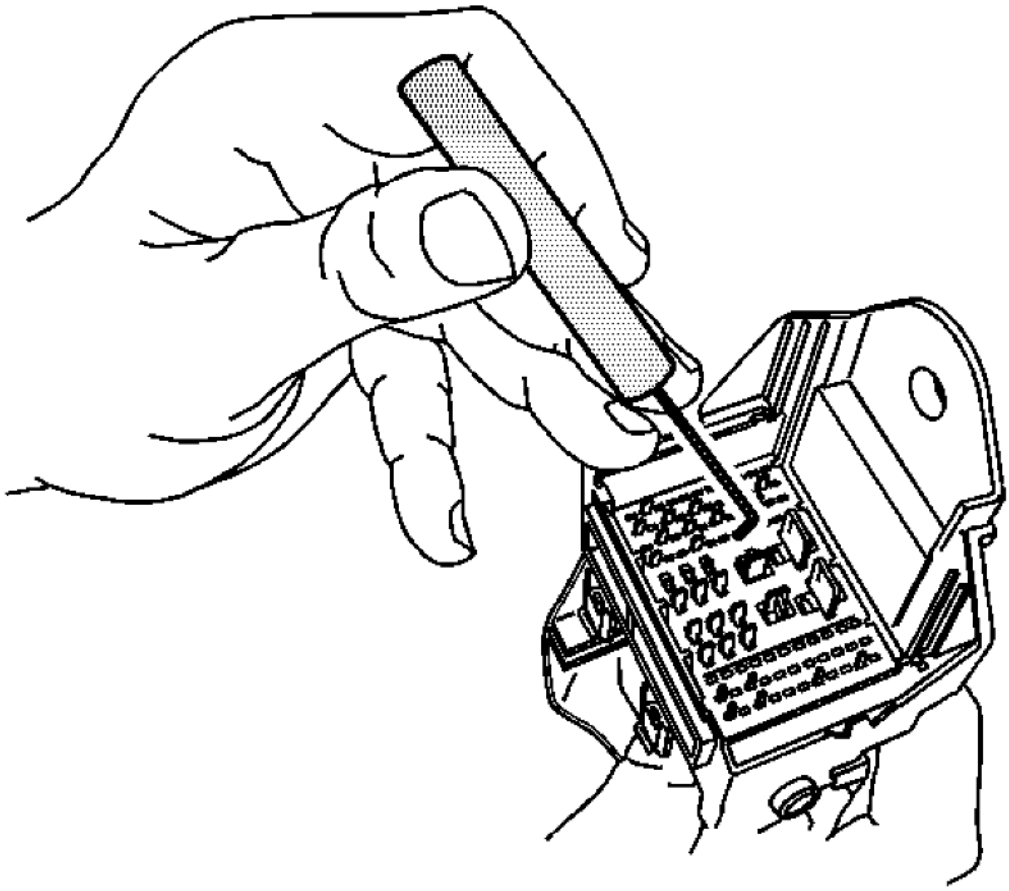


Fig. 172: Lifting Terminal Plate Past Terminals
Courtesy of GENERAL MOTORS CORP.

12. Using terminal release tool J 38125-216, lift the terminal plate past the terminals and out of the connector body cavity.

cardiagn.com

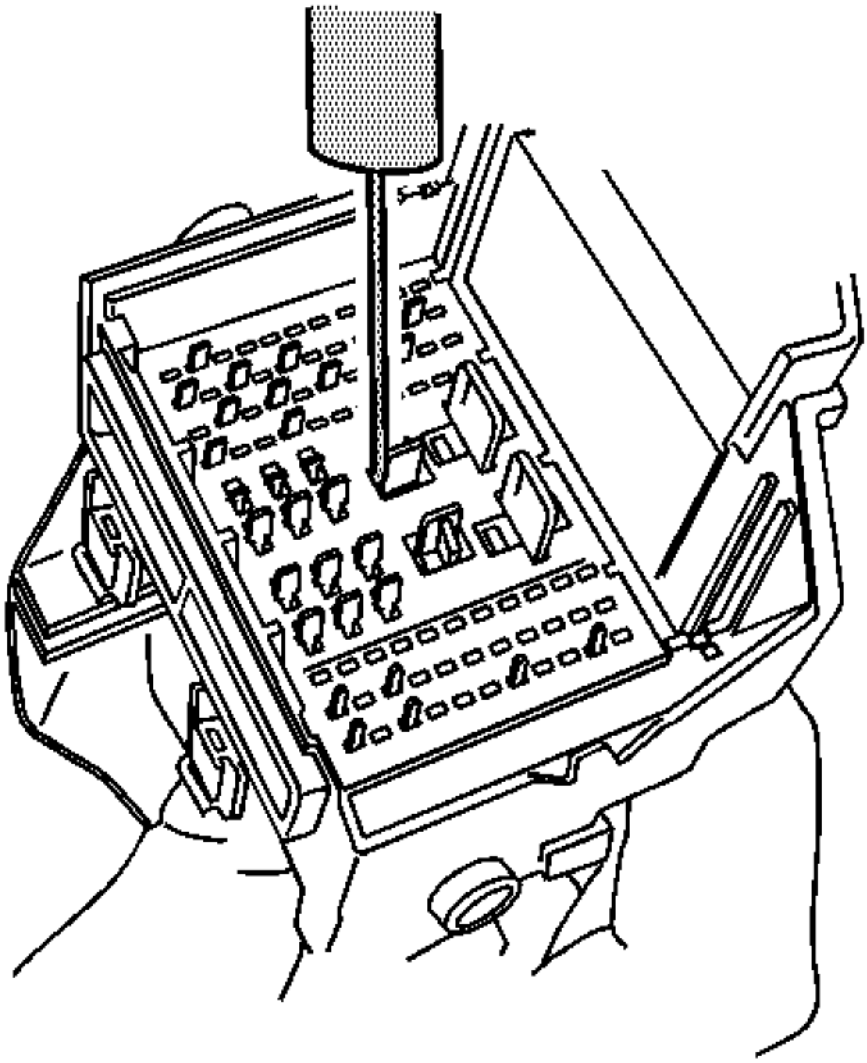


Fig. 173: View Of Terminal Plate
Courtesy of GENERAL MOTORS CORP.

13. Terminal plate will bind slightly on each corner.

cardiagn.com

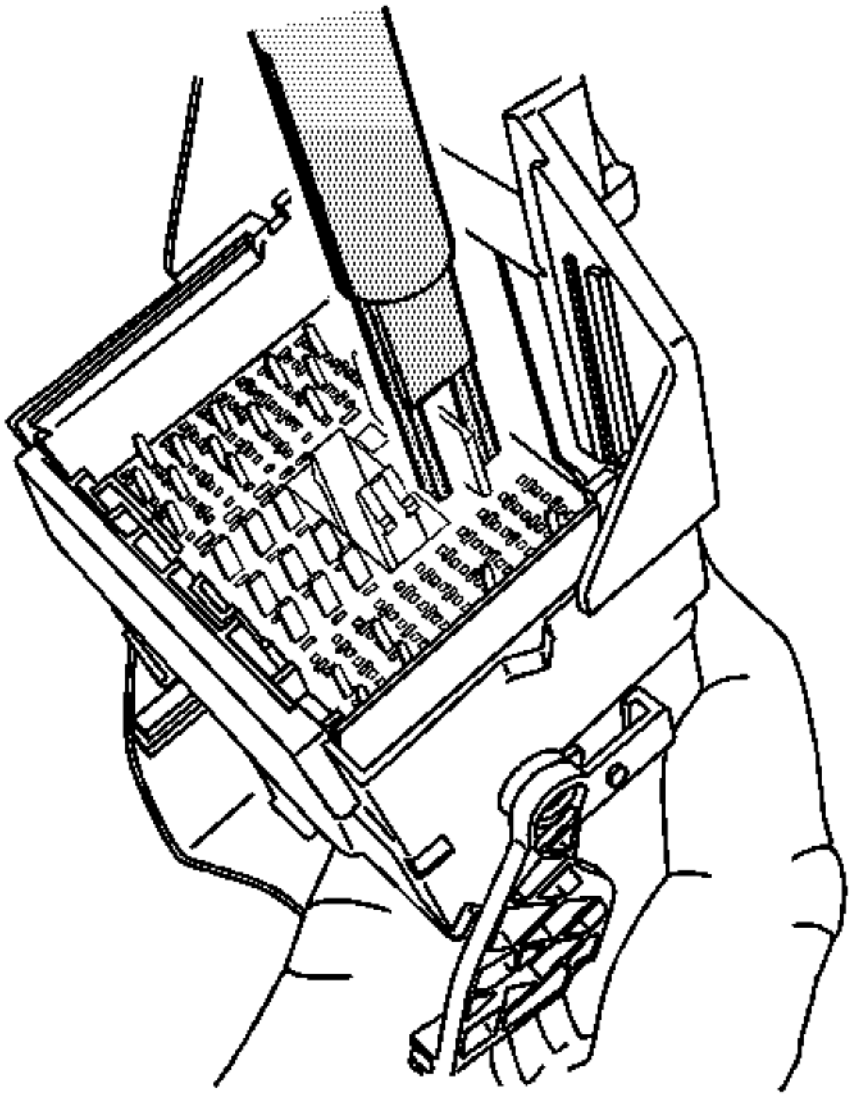


Fig. 174: Releasing Lock Tabs
Courtesy of GENERAL MOTORS CORP.

14. Using terminal release tool J 38125-221, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

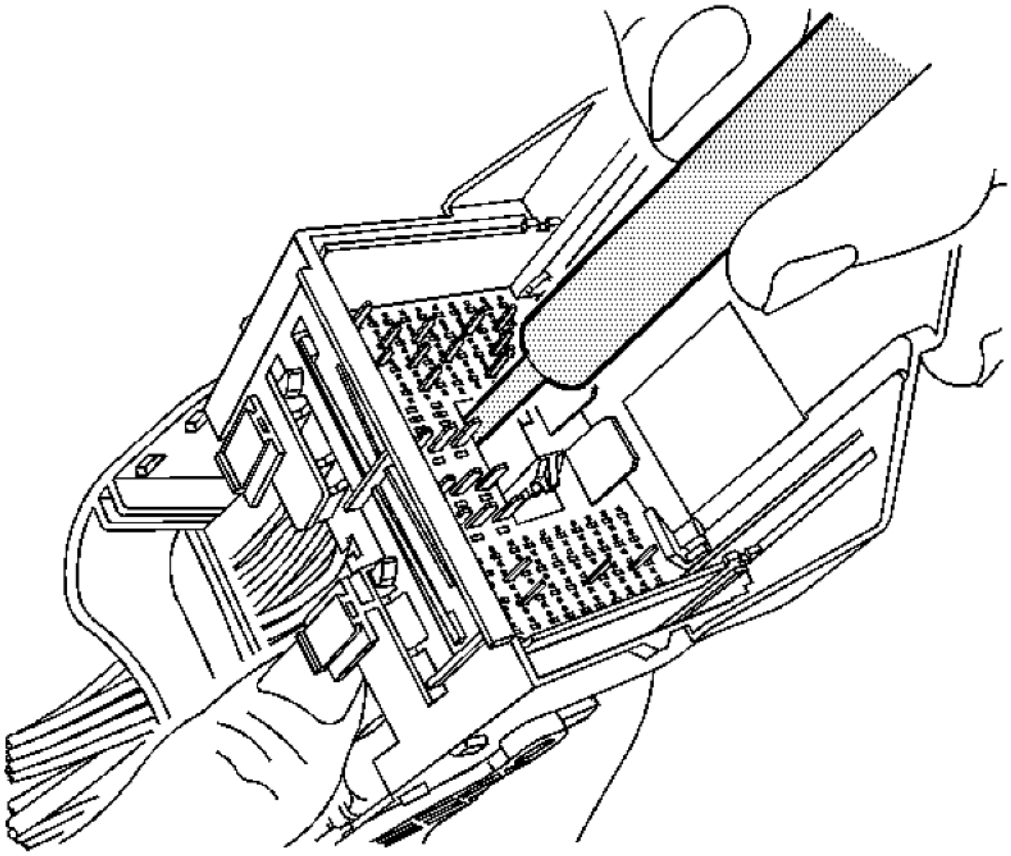


Fig. 175: Releasing Lock Tabs
Courtesy of GENERAL MOTORS CORP.

15. Using terminal release tool J 38125-212, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

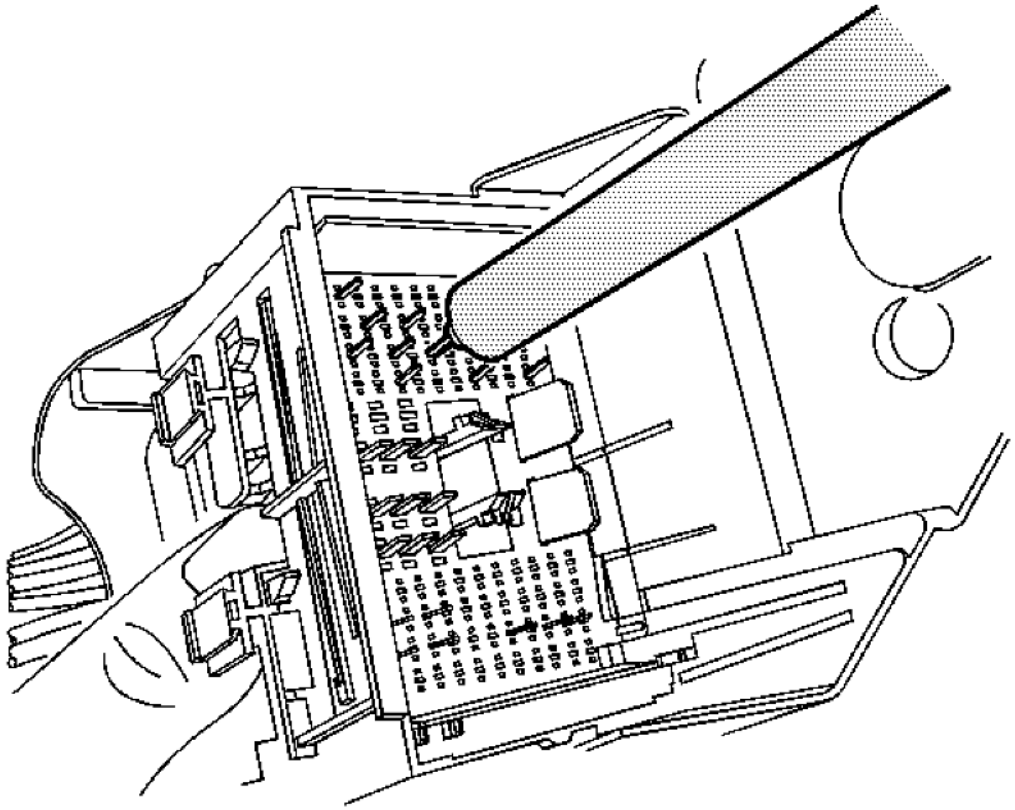


Fig. 176: Releasing Lock Tabs
Courtesy of GENERAL MOTORS CORP.

16. Using terminal release tool J 38125-560, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

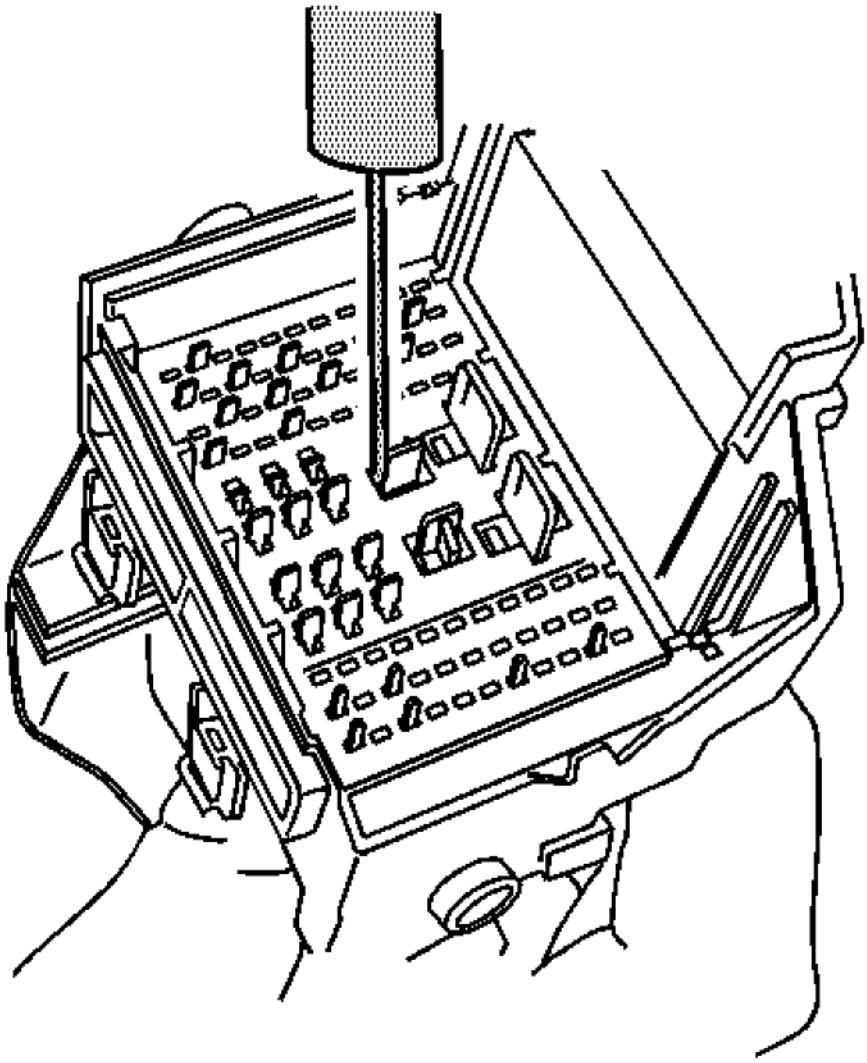


Fig. 177: View Of Terminal Plate
Courtesy of GENERAL MOTORS CORP.

17. Press the terminal plate back into the female connector to the preset position. The plate will bind slightly on each corner.

cardiagn.com

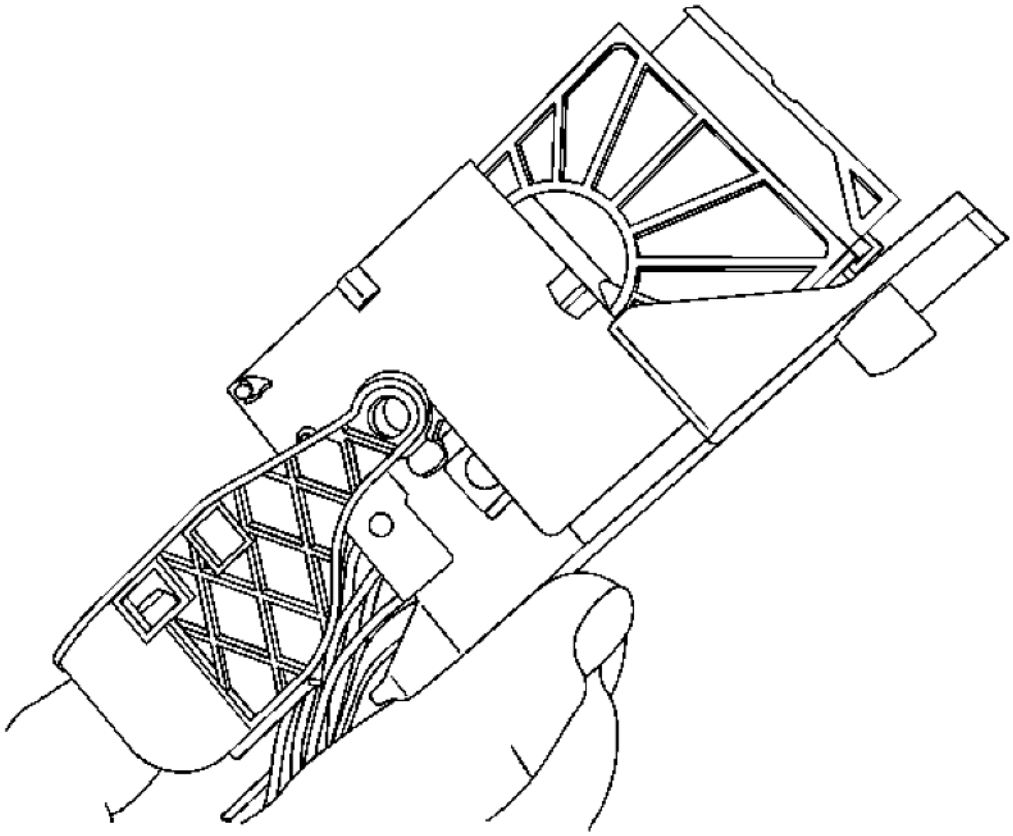


Fig. 178: Aligning Guide Plates To Mesh With Locking Lever Gears
Courtesy of GENERAL MOTORS CORP.

18. With the locking lever in the 180 degree position, align the guide plates to mesh with the gears on the locking lever.

cardiagn.com

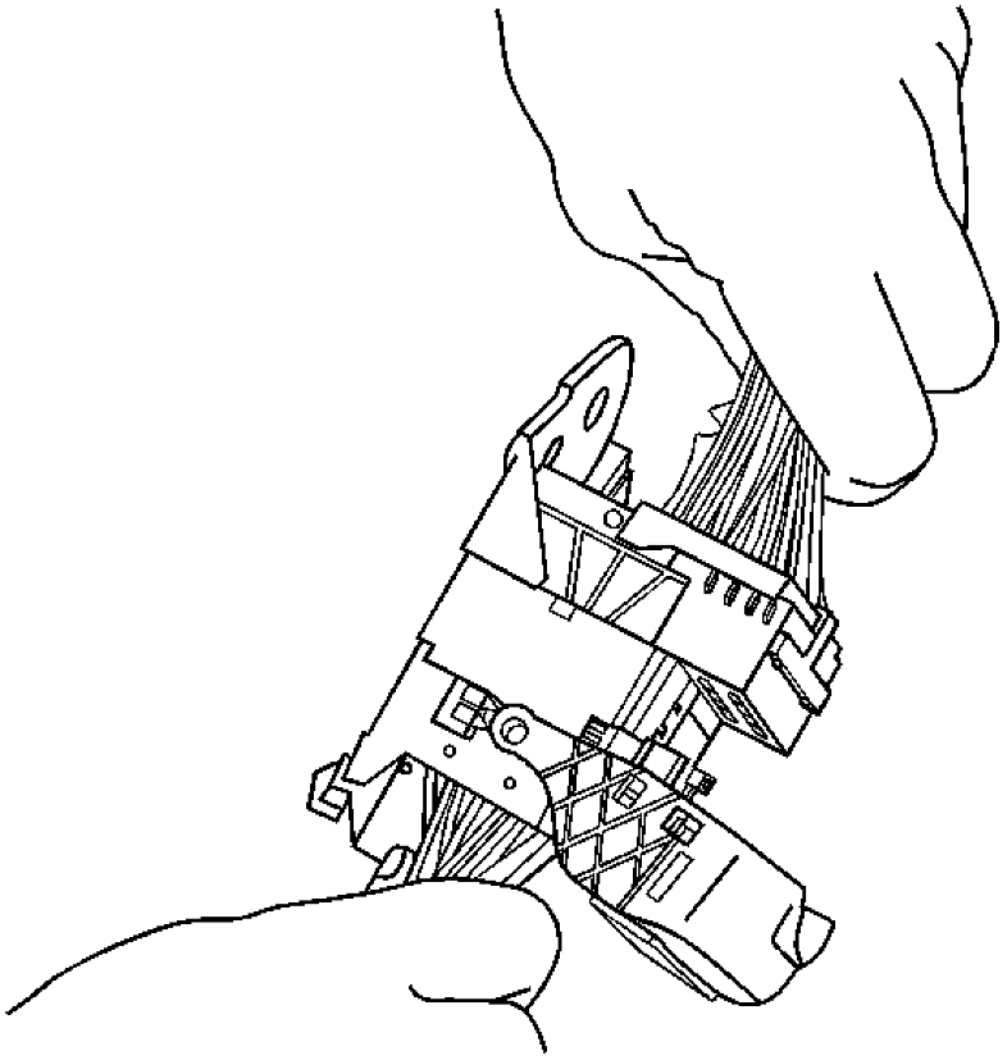


Fig. 179: Sliding Male Connector
Courtesy of GENERAL MOTORS CORP.

19. Slide the male connector body back inward toward the guide plates.

cardiagn.com

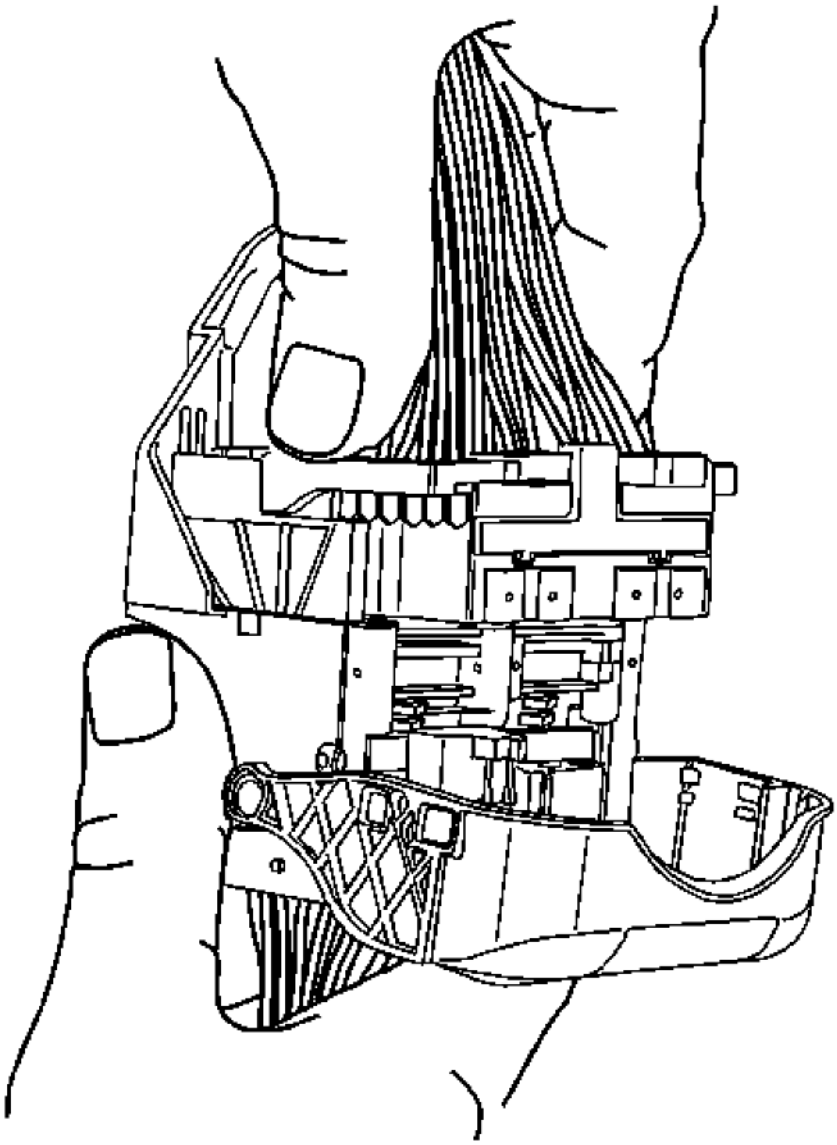


Fig. 180: Sliding Male Connector Body
Courtesy of GENERAL MOTORS CORP.

20. With the locking lever in the 90 degree position and the male connector body connected, it can be slid inward for assembly.

cardiagn.com

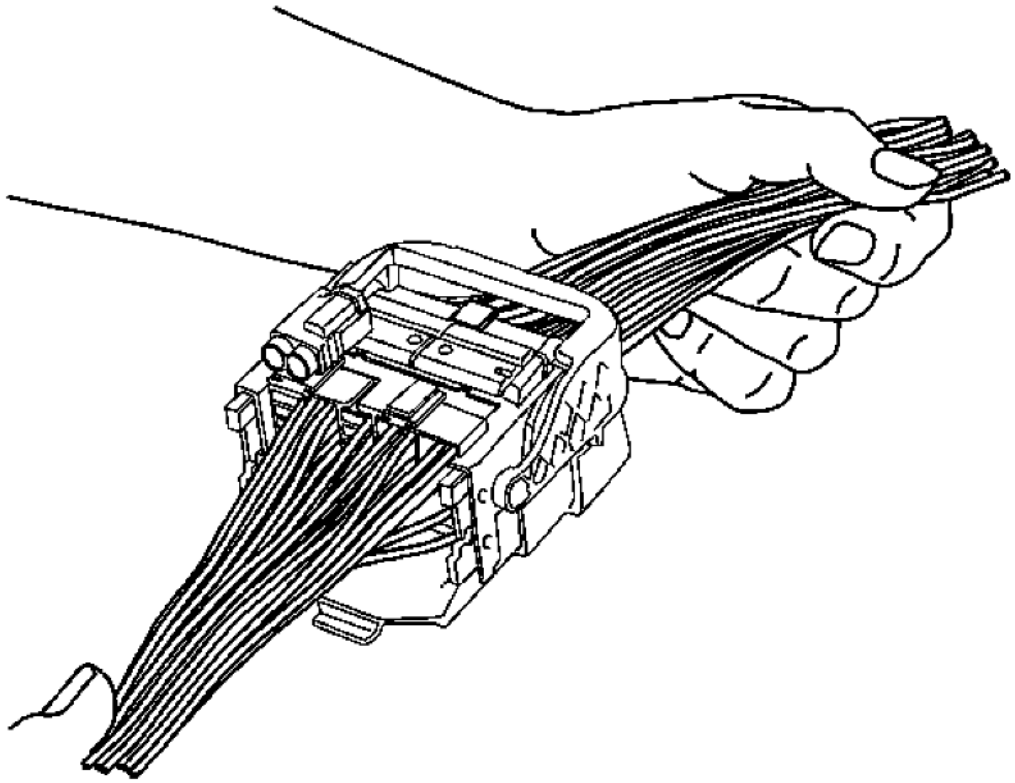


Fig. 181: View Of Typical Connector In Assembled Position
Courtesy of GENERAL MOTORS CORP.

21. Move the lever into the locked position or in the assembled position. This will pull the male connector down into the female connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

TYCO/AMP CONNECTORS (SEAT)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Removal Procedure

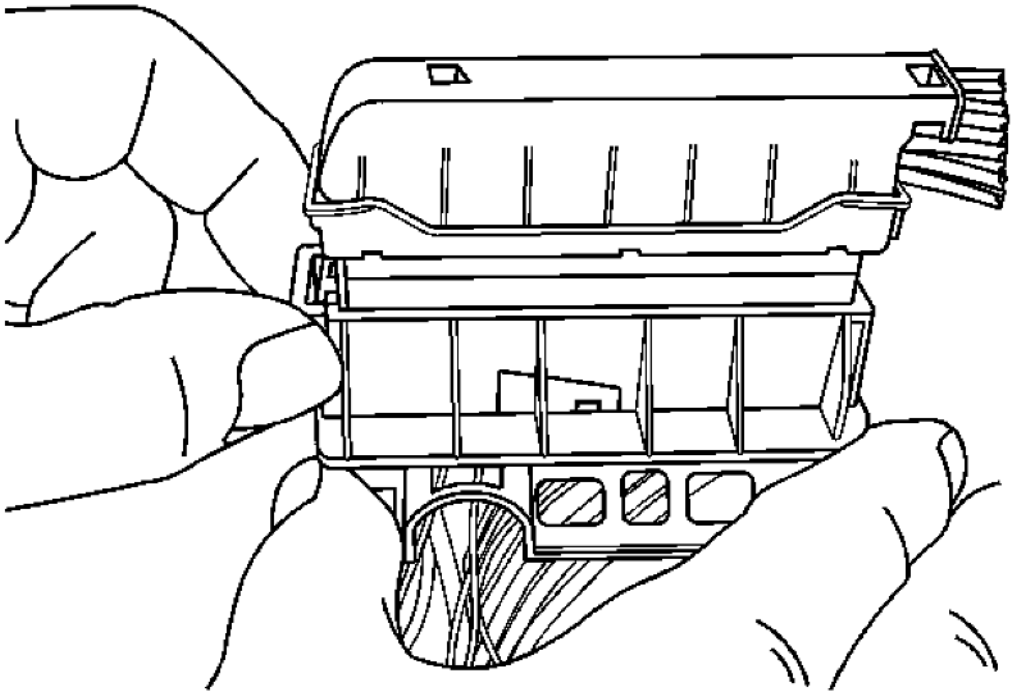


Fig. 182: Locating Locking Slide Lever
Courtesy of GENERAL MOTORS CORP.

1. Grasp the locking slide lever and pull outward from the end of the connector.

cardiagn.com

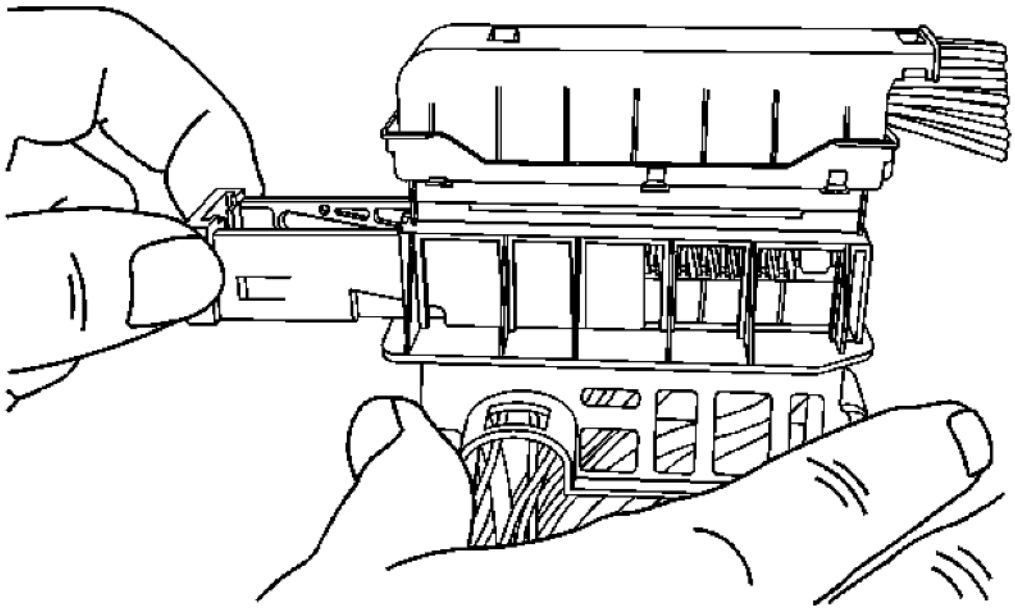


Fig. 183: Pulling Slide Lever Out Of Mating Connector
Courtesy of GENERAL MOTORS CORP.

2. As the slide lever is pulled out the mating connector is lifted from the seated position.

cardiagn.com

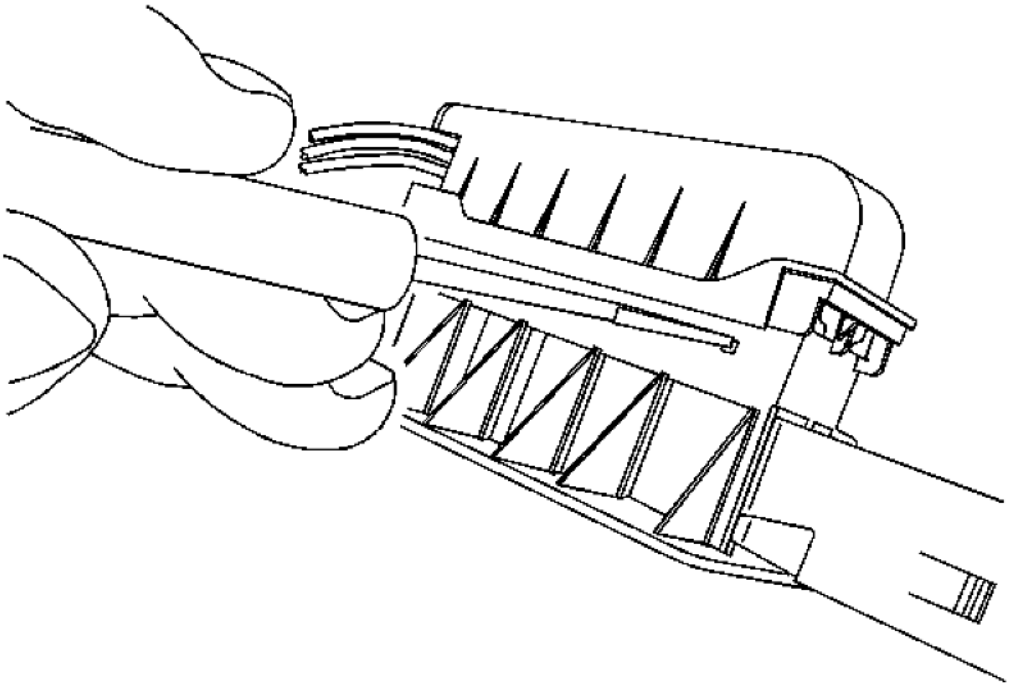


Fig. 184: Pushing TPA Tabs Into Connector Body
Courtesy of GENERAL MOTORS CORP.

NOTE: TPA is keyed and can only be inserted in one direction.

3. Using terminal release tool J-38125-11A or equivalent, push the TPA tabs into the connector body.

cardiagn.com

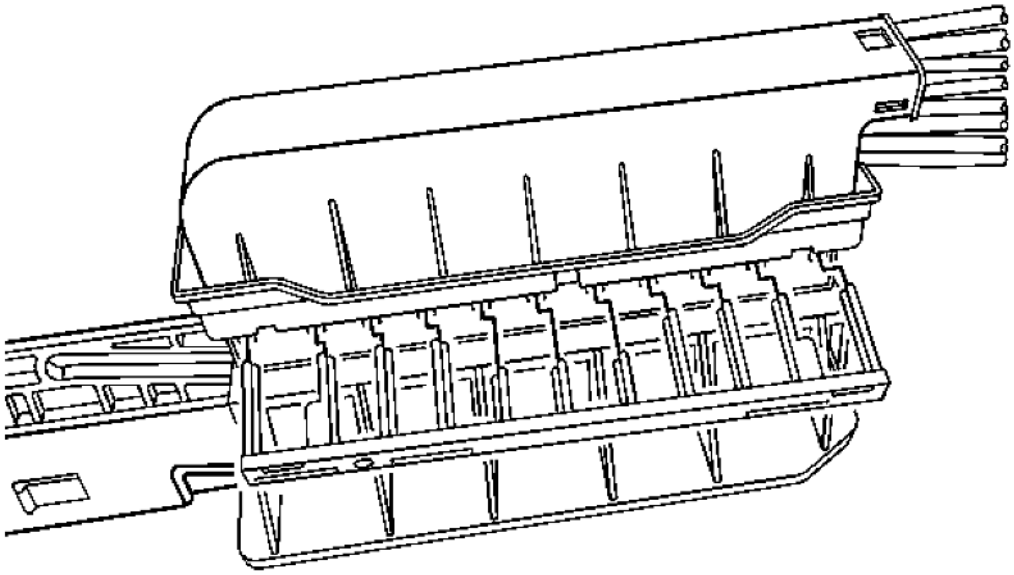


Fig. 185: Pulling TPA From Connector Body
Courtesy of GENERAL MOTORS CORP.

4. Pull the TPA from the connector body.

cardiagn.com

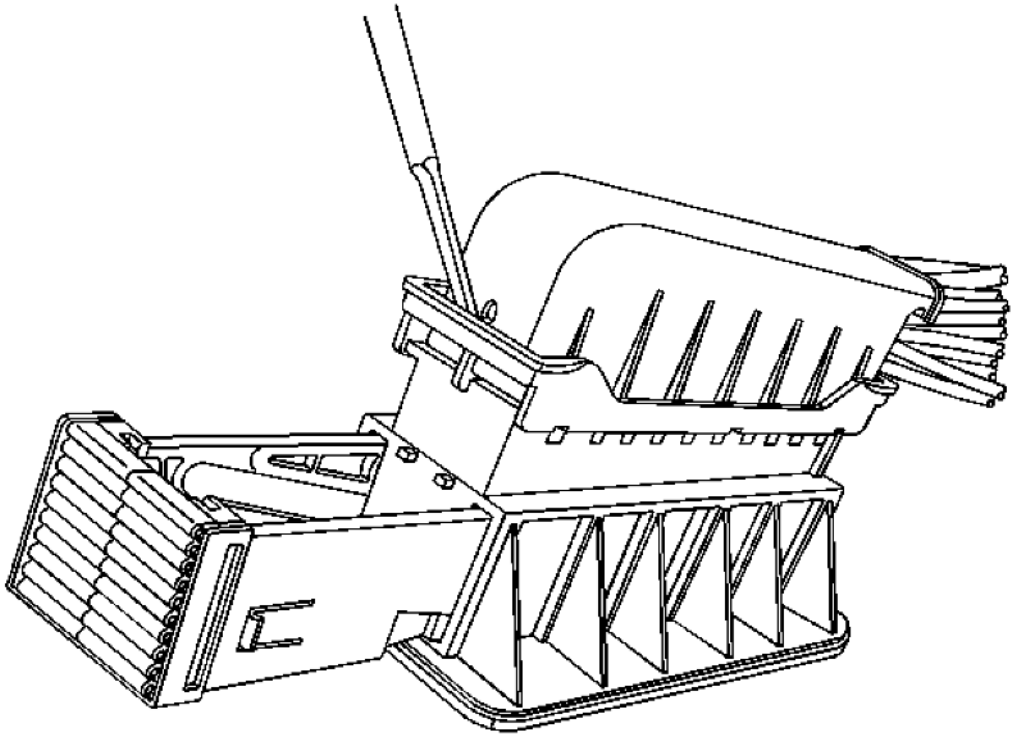


Fig. 186: Releasing Connector Wire Dress Cover Locking Tab
Courtesy of GENERAL MOTORS CORP.

5. Using terminal release tool J-38125-11A or equivalent, release the connector wire dress cover locking tab.

cardiagn.com

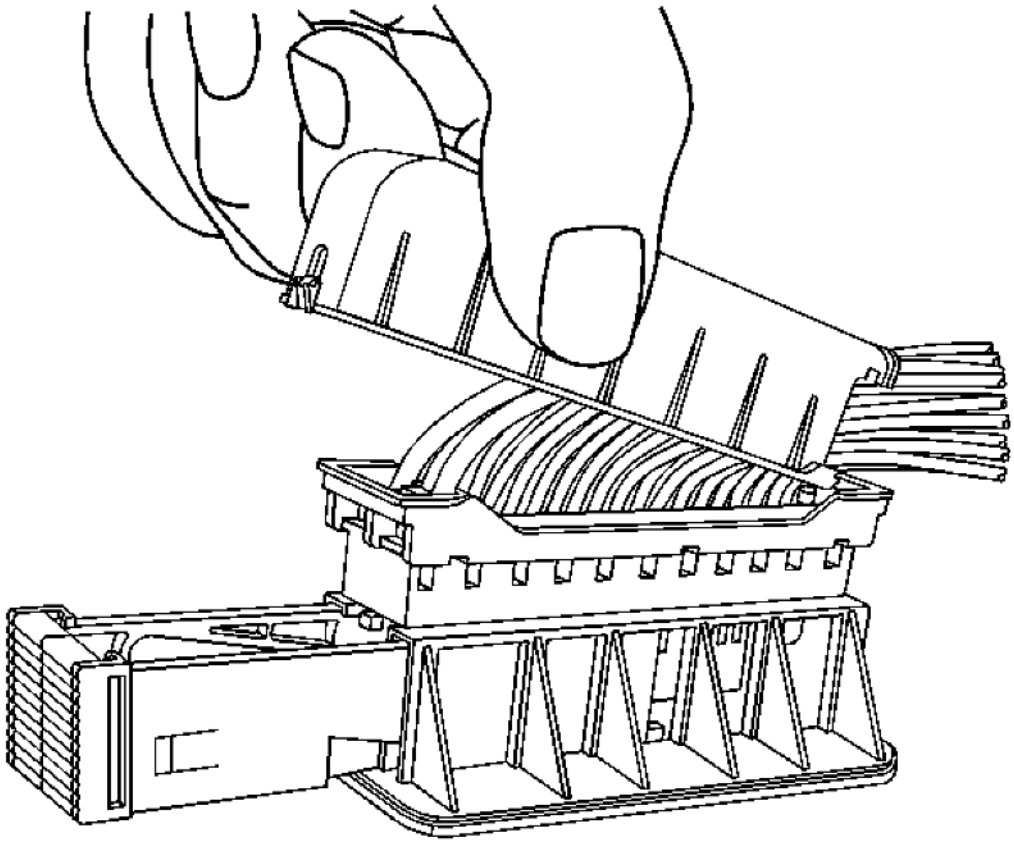


Fig. 187: Lifting Connector Wire Dress Cover From Connector Body
Courtesy of GENERAL MOTORS CORP.

6. With the lock tab released, lift the connector wire dress cover from the connector body.

cardiagn.com

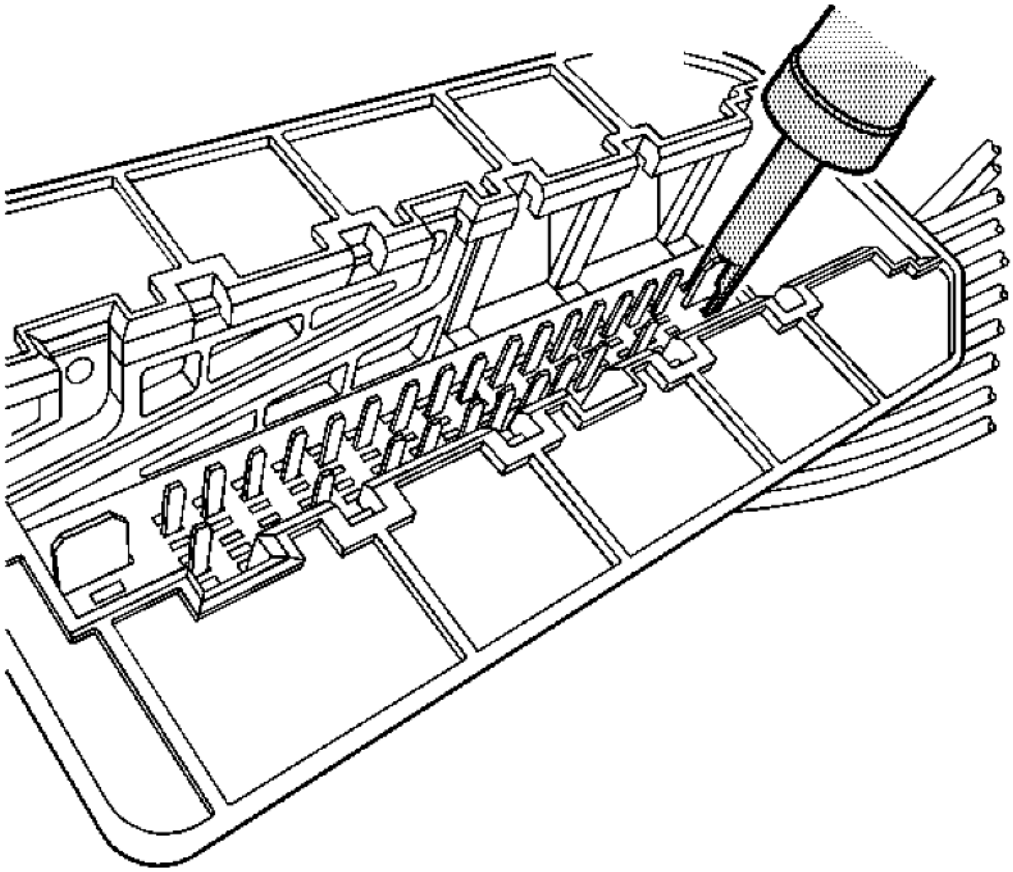


Fig. 188: Using Terminal Release Tool
Courtesy of GENERAL MOTORS CORP.

7. Using terminal release tool EL-38125-212, press the prongs into the holes each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

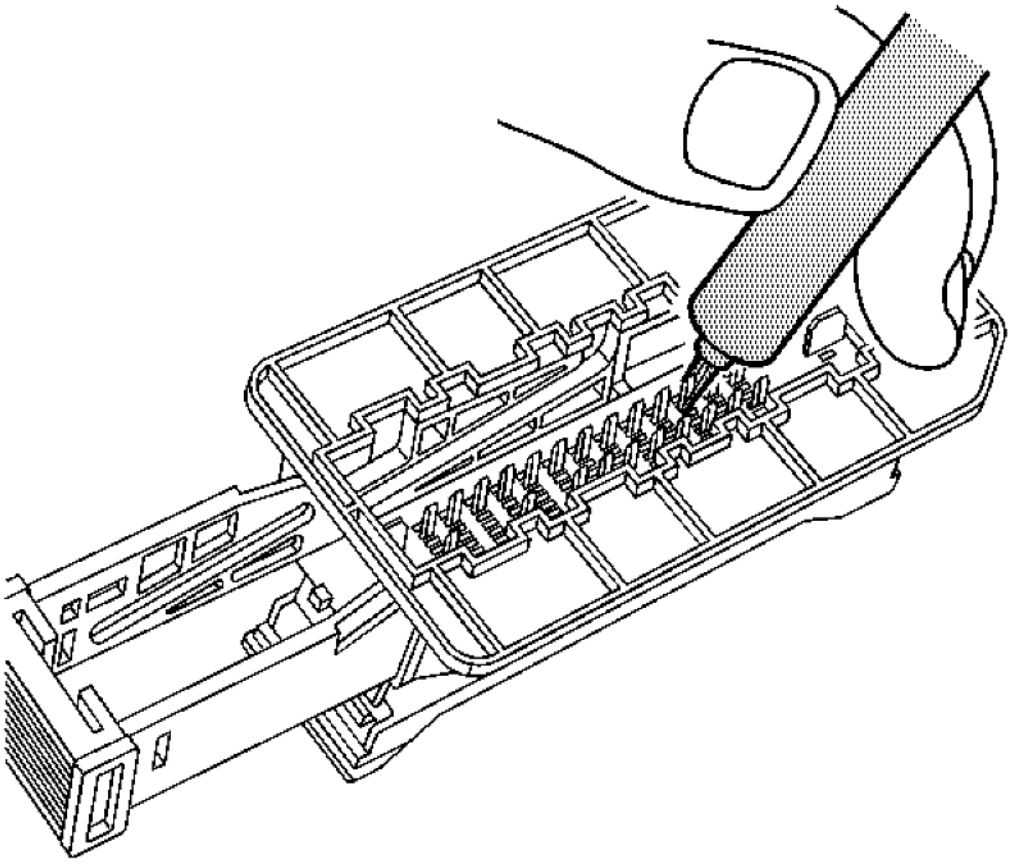


Fig. 189: Releasing Lock Tabs
Courtesy of GENERAL MOTORS CORP.

8. Using terminal release tool EL-38125-560, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

cardiagn.com

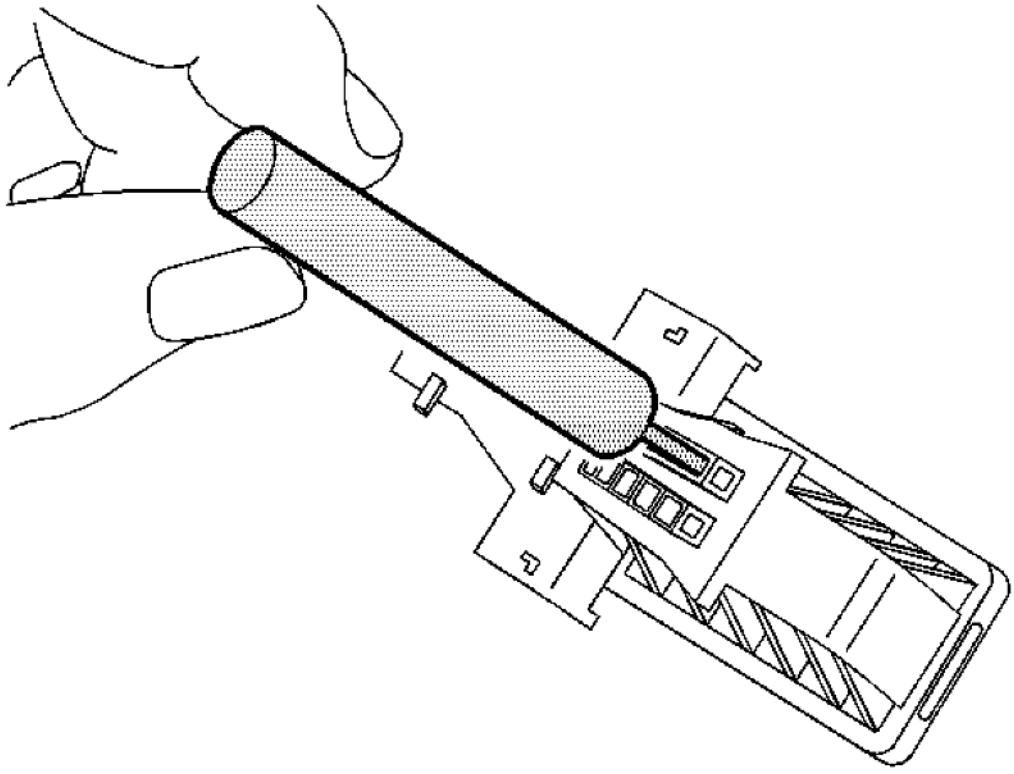


Fig. 190: Pressing Prongs Into Holes
Courtesy of GENERAL MOTORS CORP.

9. Using terminal release tool EL-38125-556, press the prongs into the holes on each side of the terminal to be removed to release the lock tabs and pull the terminal out of the connector body.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

TYCO/AMP CONNECTORS (SIR)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Removal Procedure

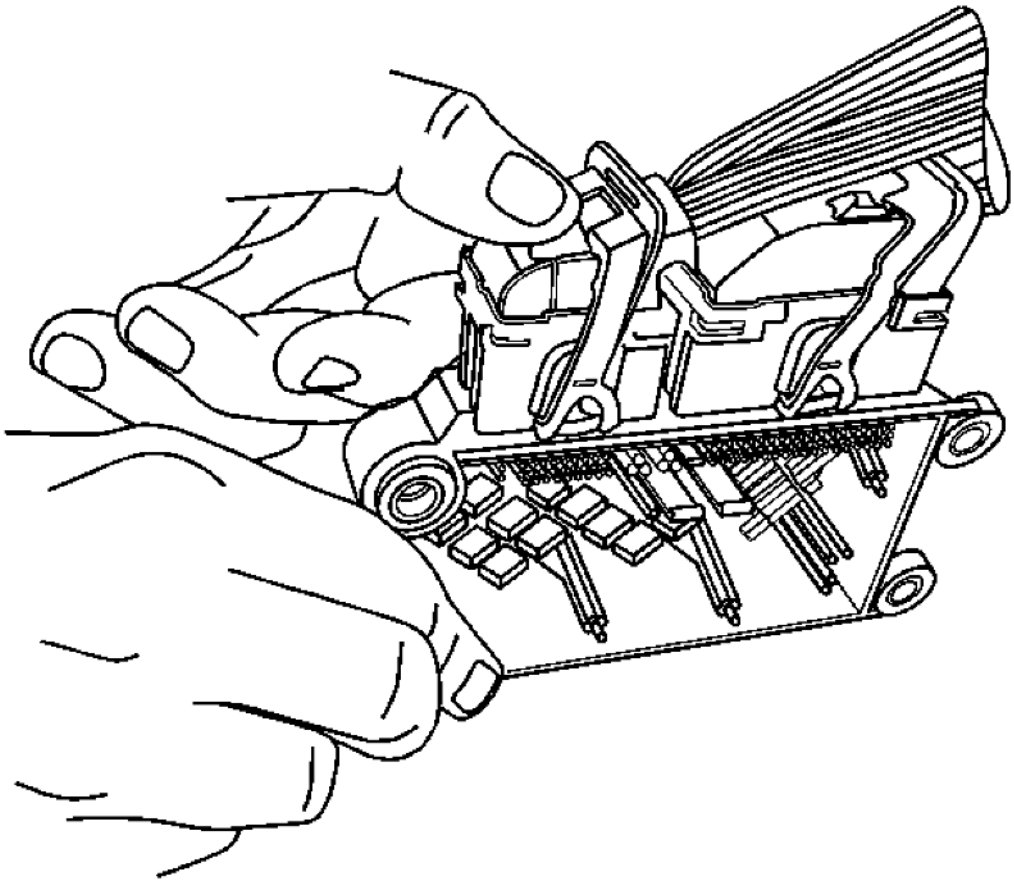


Fig. 191: Sliding Red CPA Away From Connector Lever
Courtesy of GENERAL MOTORS CORP.

1. Using your thumbs press down and slide the red CPA away from the connector lever.

cardiagn.com

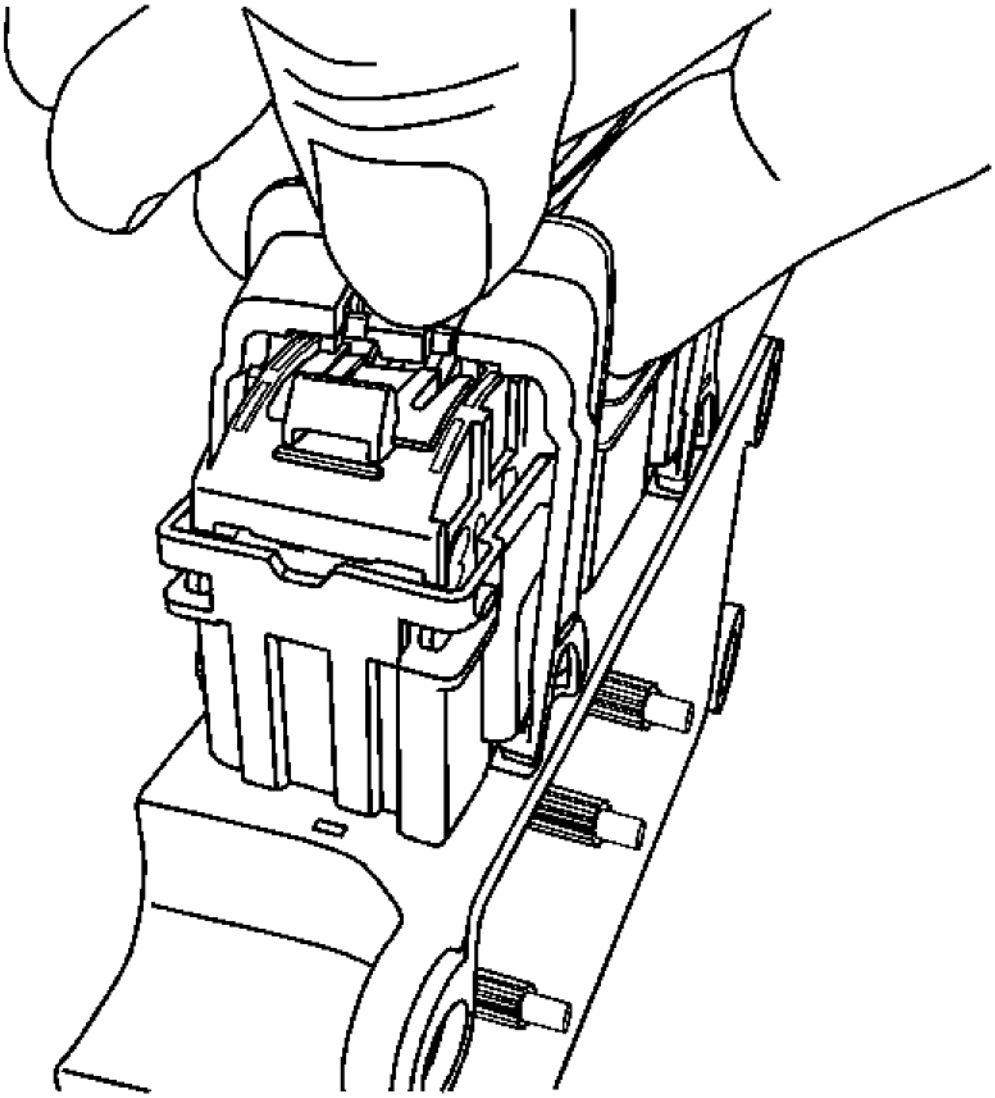


Fig. 192: Moving Lever To Released Position
Courtesy of GENERAL MOTORS CORP.

2. Using your thumb press down on the locking tab and move the lever to the released position.

cardiagn.com

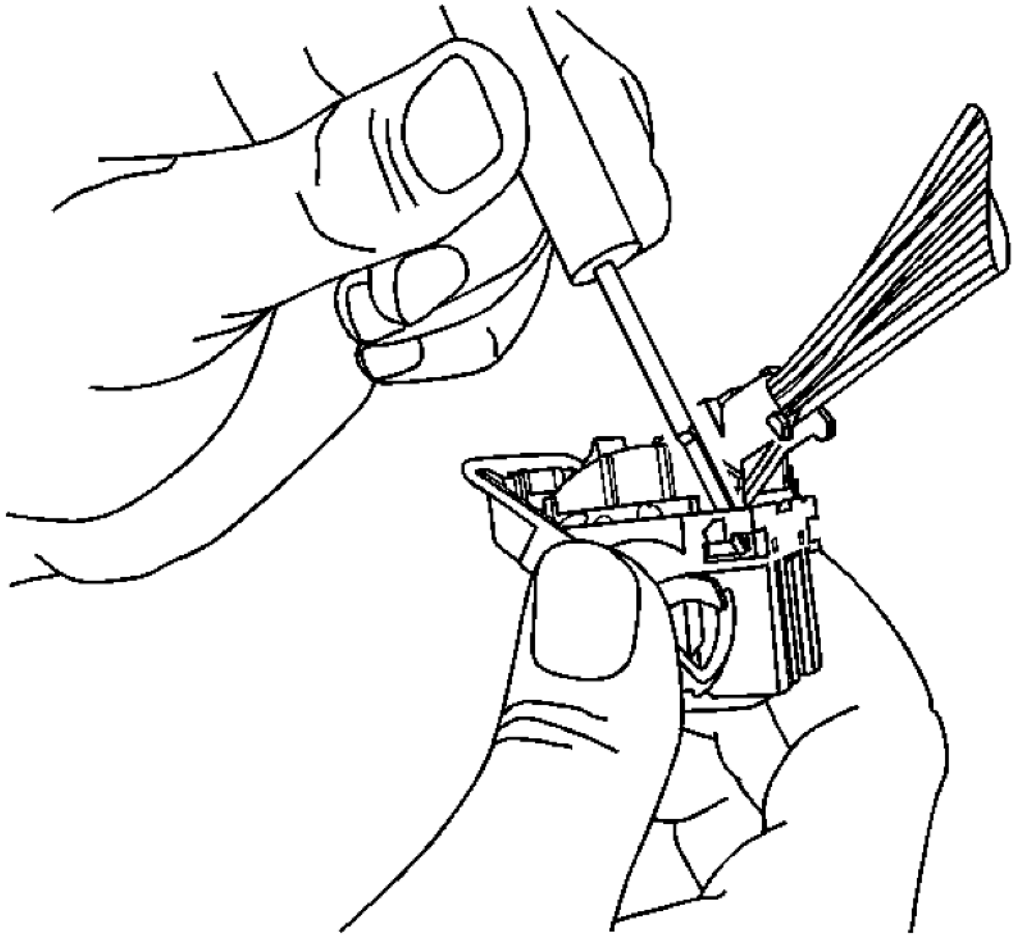


Fig. 193: Releasing Wire Dress Cover Locking Tabs
Courtesy of GENERAL MOTORS CORP.

3. Using terminal tool J-38125-11A or equivalent, release the wire dress cover locking tabs.

cardiagn.com

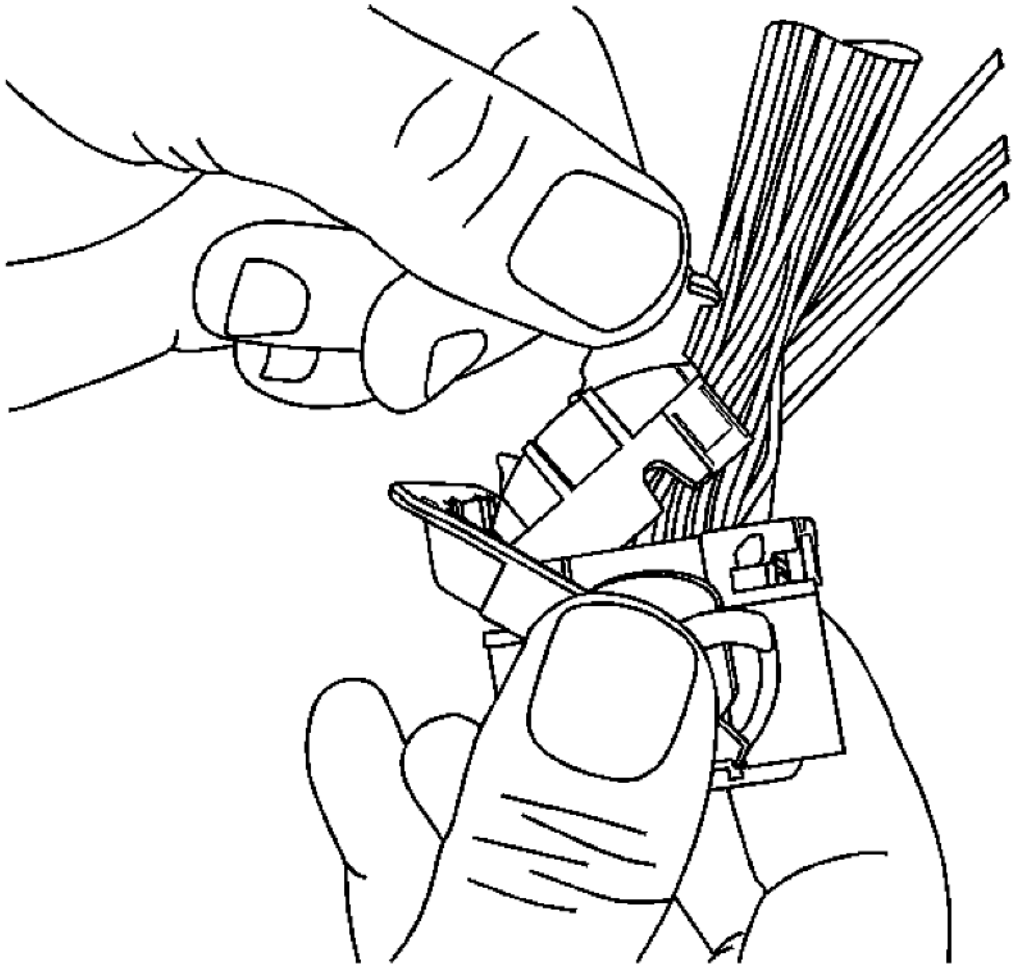


Fig. 194: Pivoting Connector Wire Dress Cover
Courtesy of GENERAL MOTORS CORP.

4. Pivot connector wire dress cover while removing from the connector body.

cardiagn.com

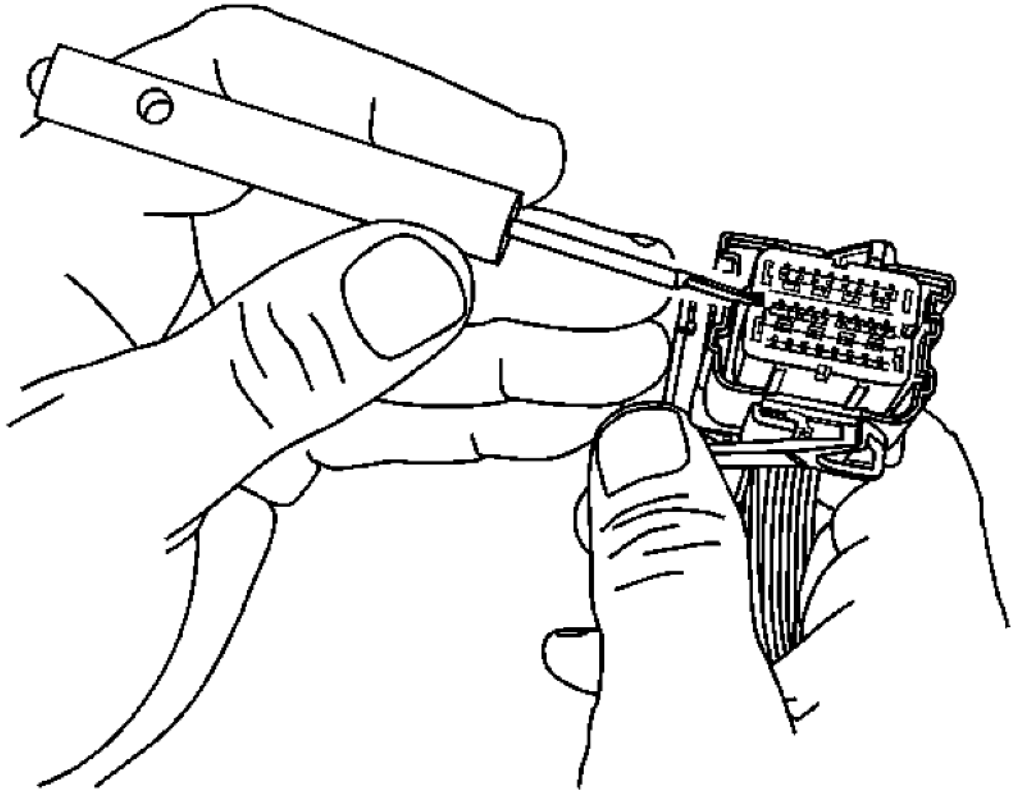


Fig. 195: Removing TPA
Courtesy of GENERAL MOTORS CORP.

5. Using terminal tool J-38125-11A or equivalent, remove the TPA by lifting straight off the connector body.

cardiagn.com

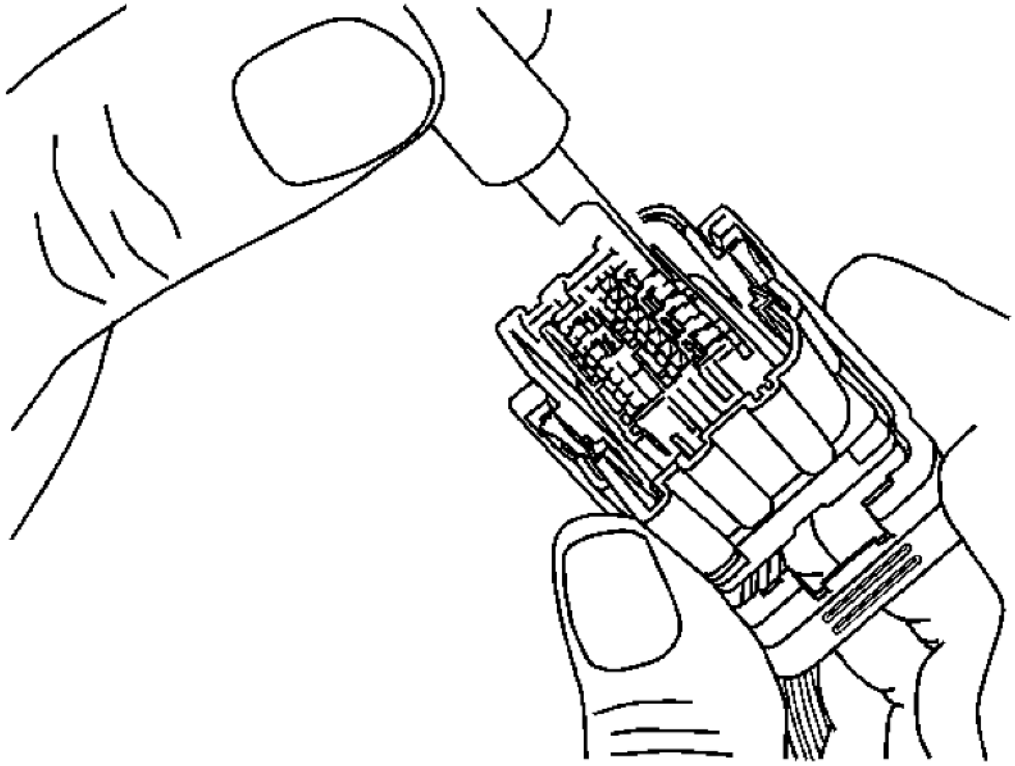


Fig. 196: Removing Rear Of Connector Body
Courtesy of GENERAL MOTORS CORP.

6. Using terminal release tool EL-38125-215A, place the tip of the tool on the outside edge next to the terminal and depress the lock tab and remove the rear of the connector body.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

YAZAKI CONNECTORS (2-WAY)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Terminal Removal Procedure

1. Disconnect the connector from the component.

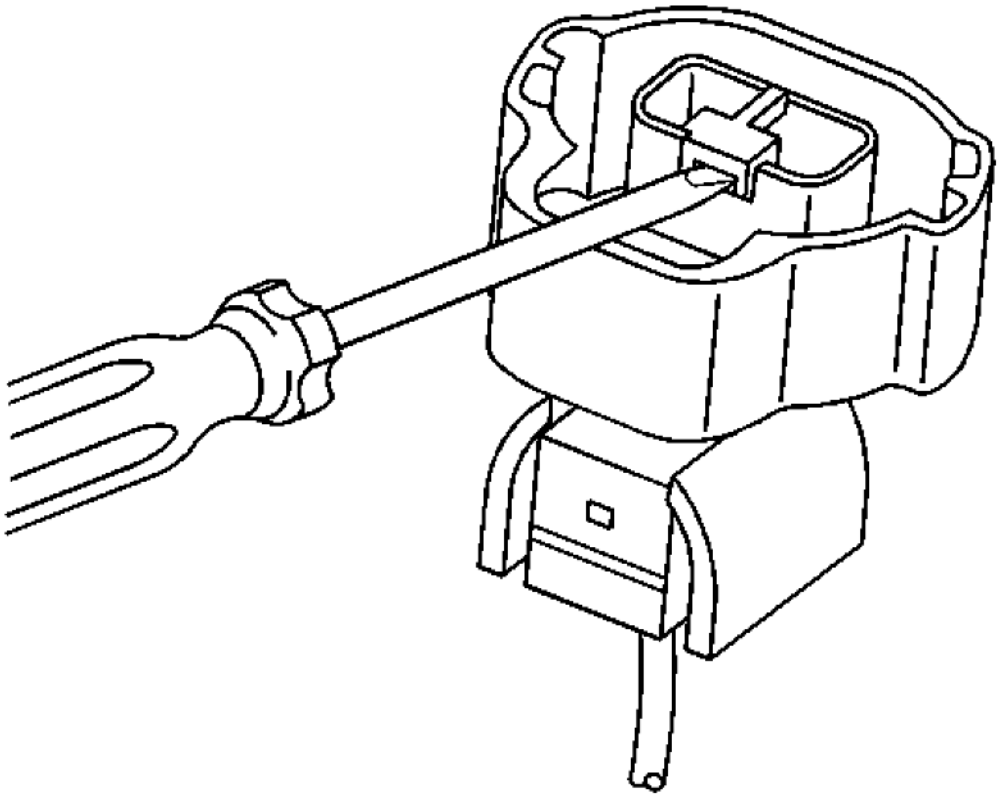


Fig. 197: Removing Terminal Position Assurance (Yazaki)
Courtesy of GENERAL MOTORS CORP.

2. Insert a small flat-blade tool in the slot below the front loaded terminal position assurance (TPA) and pry up.
3. Remove the TPA by pulling it out of the connector.
4. Push the wire side of the terminal that is being removed toward the connector and hold it in position.

cardiagn.com

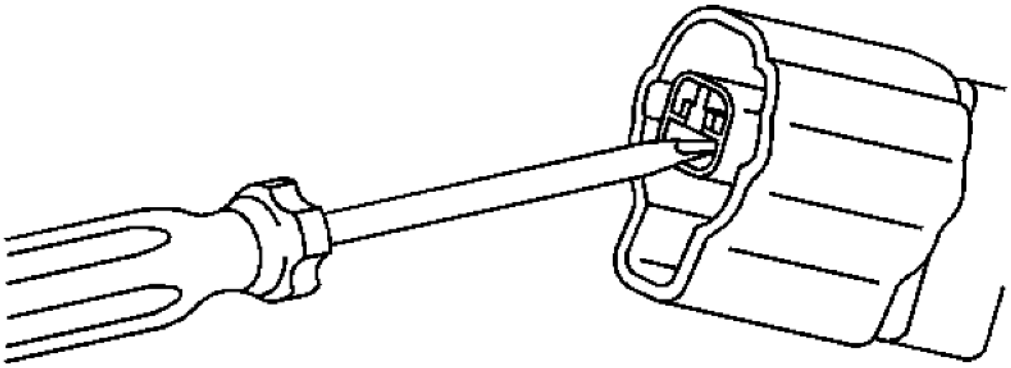


Fig. 198: Inserting Tool Into Terminal Cavity (Yakazi)
Courtesy of GENERAL MOTORS CORP.

5. Insert the EL 38125-553 on a slight upward angle into the cavity below the terminal to be removed. Ensure that the pointed on the end of the tool is facing the bottom of the terminal and it stays in contact with the terminal until it stops on the plastic terminal retainer.

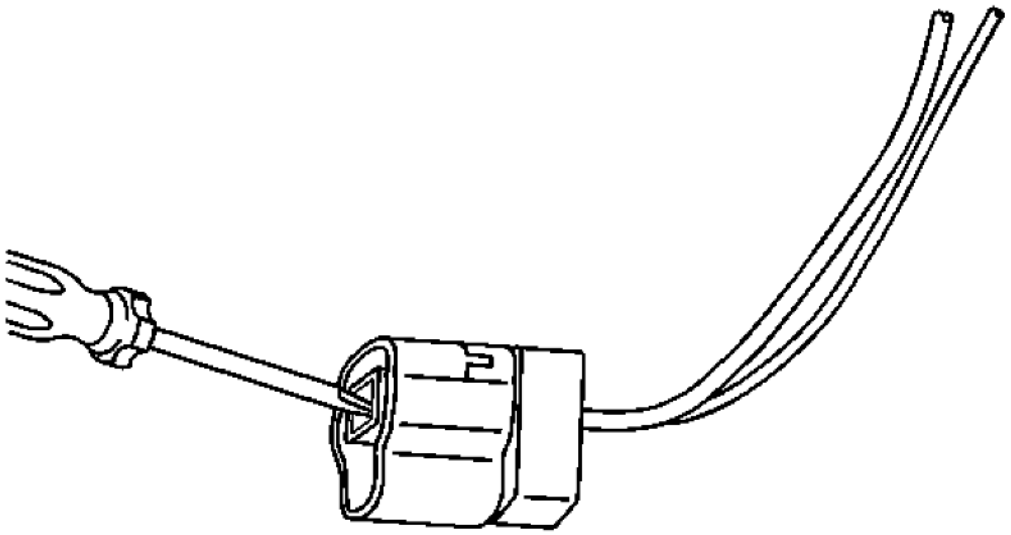


Fig. 199: Pulling Terminal Out Of Connector (Yakazi)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

6. Gently pry the plastic terminal retainer down and carefully pull the terminal out of the connector. Always remember never use force when pulling a terminal out of a connector. If the terminal is difficult to remove, repeat the entire procedure.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

YAZAKI CONNECTORS (16-WAY)

Special Tools

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

cardiagn.com

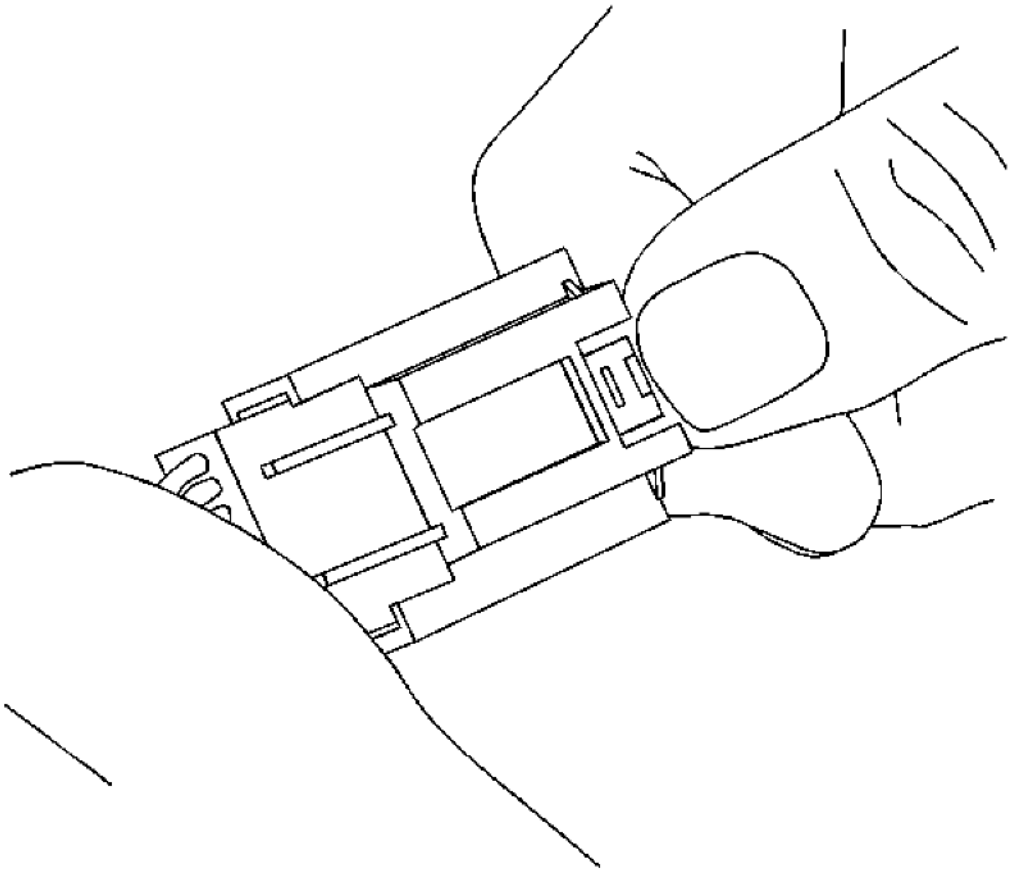


Fig. 200: Pulling Two Connector Halves Apart
Courtesy of GENERAL MOTORS CORP.

1. While depressing the lock, pull the two connector halves apart.

NOTE: The TPA is fragile and may break if not done carefully.

2. Use a small flat-blade tool to very carefully push the terminal position assurance (TPA) towards the face of the connector on both sides of the connector.

cardiagn.com

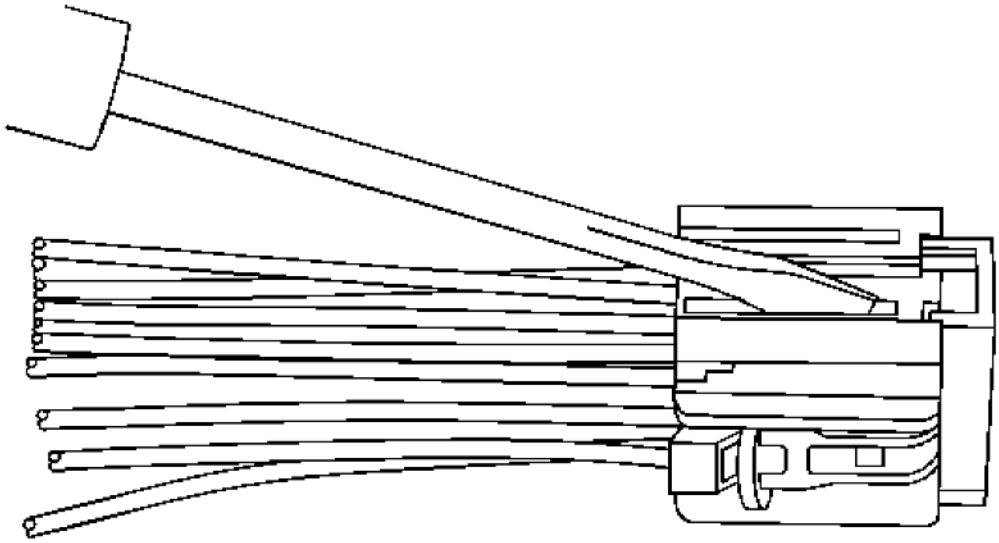


Fig. 201: View Of Male Connector Half & Female Terminals
Courtesy of GENERAL MOTORS CORP.

3. View of the male half of the connector with female terminals.

cardiagn.com

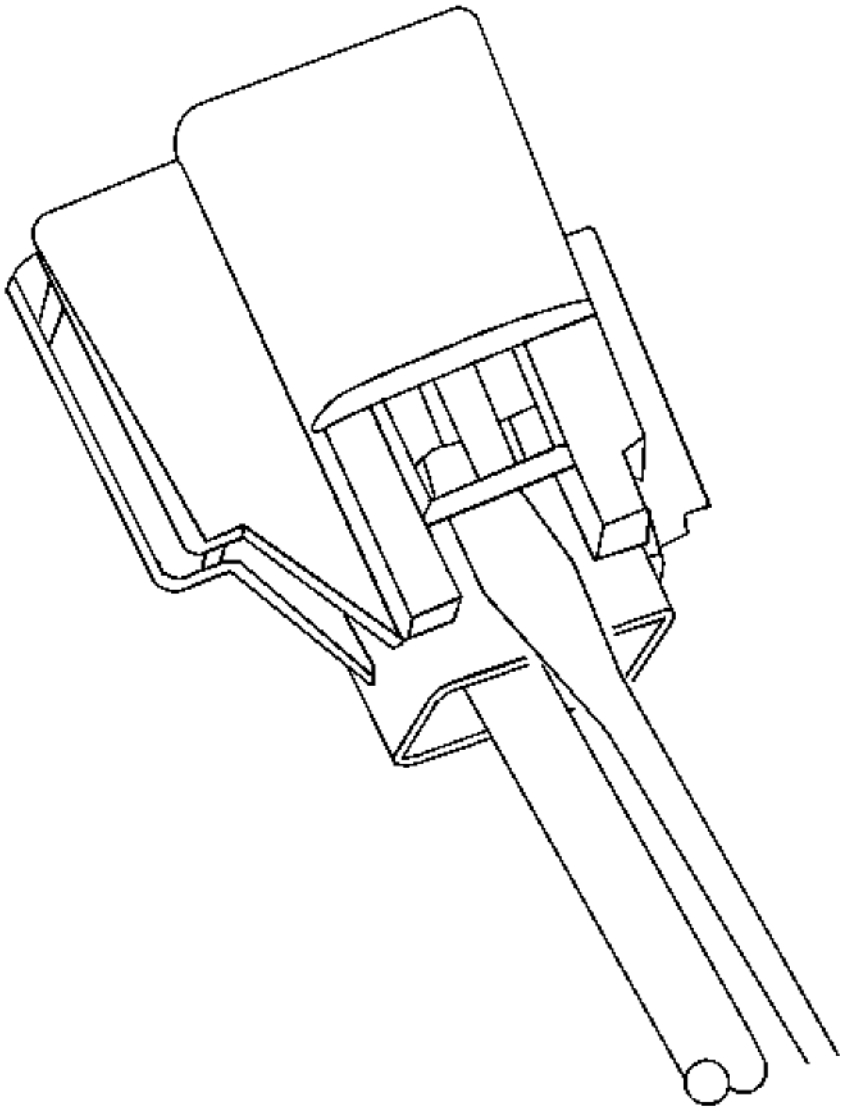


Fig. 202: View Of Female Half Of Connector With Male Terminals
Courtesy of GENERAL MOTORS CORP.

4. View of the female half of the connector with male terminals.
5. Use the EL 38125-215 tool to release the terminals by inserting the tool into the terminal release cavity.

cardiagn.com

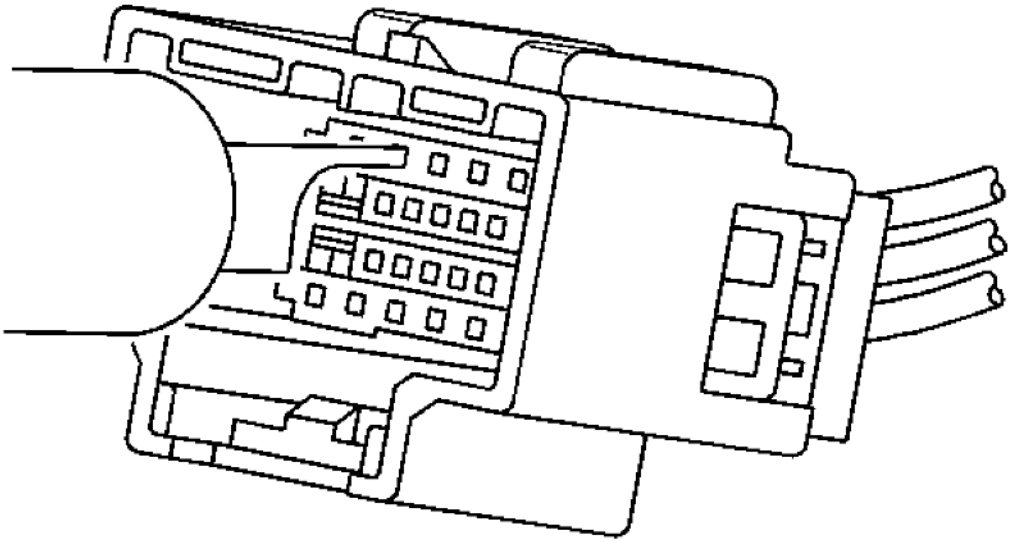
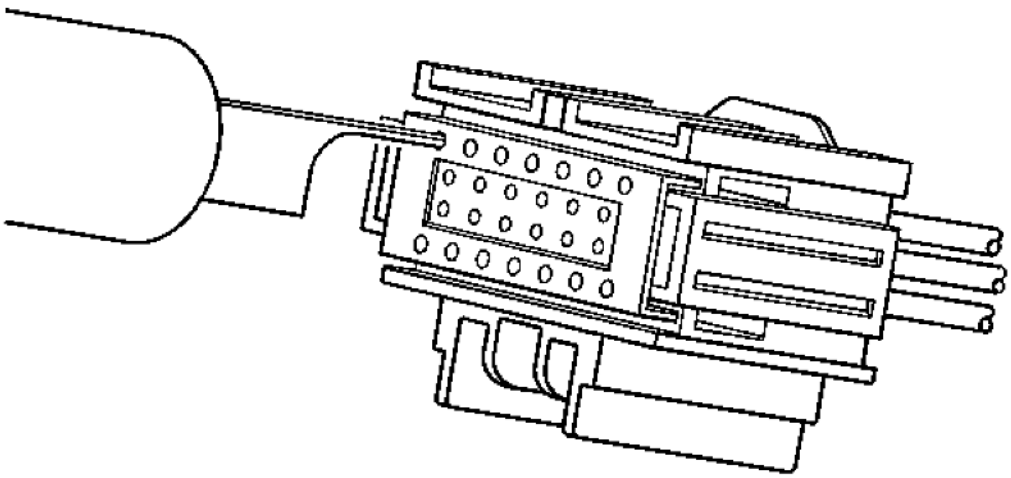


Fig. 203: Using Removal Tool On Female Half Of Connector
Courtesy of GENERAL MOTORS CORP.

6. View of the female half of the connector with male terminals.



cardiagn.com

Fig. 204: Using Removal Tool On Male Half Of Connector
Courtesy of GENERAL MOTORS CORP.

7. View of the male half of the connector with female terminals.
8. While holding the removal tool in place, gently pull the wire out of the back of the connector. Always remember never use force when pulling a terminal out of a connector.

Terminated Lead Repair

1. Remove the terminal.
2. Find the appropriate terminated lead.
3. Use the appropriate splice sleeves depending on the gauge size.
4. Refer to **Splicing Copper Wire Using Splice Sleeves**.

REPAIRING CONNECTOR TERMINALS

Special Tools

- **EL-38215-10:** Splice Sleeve Crimp Tool
- **EL-35616-D:** Terminal Test Probe Kit
- **J 38125-5:** Ultra Torch
- Terminal Release Tool Kit

For equivalent regional tools, refer to **Special Tools** .

Making a Repair with a Terminated Lead or Connector Assembly

1. If using a terminated lead, remove the terminal to be replaced with the appropriate terminal release tool. Refer to the Terminal Release Tool Kit.
2. Cut and strip the wire insulation away from the terminal leaving enough wire length to reassemble the harness and connector without causing binding or a pinch condition.
3. Crimp the splice sleeve to the terminated lead or connector assembly to the harness wire using the **EL-38215-10:** tool. Refer to **Splicing Copper Wire Using Splice Sleeves**.
4. Use the **J 38125-5:** torch to seal the splice.
5. Repeat steps 2-4 if a connector assembly is being used to repair the vehicle.
6. Reassemble the connector and harness.
7. Verify the repair.

IGNITION KEY CANNOT BE REMOVED FROM THE IGNITION LOCK CYLINDER

Step	Action	Yes	No
1	Did you review the Steering Wheel and Column Description and Operation and perform the necessary inspections?	Go to **Step 2**	Go to **Symptoms - Steering Wheel and Column**

cardiagn.com

2	Verify the ignition key cannot be removed from the ignition lock cylinder. Is the ignition key stuck in the lock cylinder?	Go to **Step 3**	System OK
3	Is the vehicle equipped with a manual transmission?	Go to **Step 8**	Go to **Step 4**
4	Turn the ignition key to the OFF position. Can the ignition key be turned to the OFF position and be removed?	Go to **Step 8**	Go to **Step 5**
5	Verify the adjustment of the shift control linkage. Refer to **Shift Control Linkage Adjustment** . Can the ignition key be turned to the OFF position and be removed?	System OK	Go to **Step 6**
6	Inspect for a faulty ignition lock cylinder. Is the ignition lock cylinder damaged?	Go to **Step 8**	Go to **Step 7**
7	Inspect the ignition/start switch housing. Is the housing worn, damaged or loose?	Go to **Step 9**	Go to **Step 10**
8	Replace the ignition lock cylinder. Refer to **Ignition Lock Cylinder Replacement** . Did you complete the repair?	Go to **Step 10**	-
9	Replace the ignition/start switch housing. Refer to **Ignition and Start Switch Housing Replacement** . Did you complete the repair?	Go to **Step 10**	-
10	Operate the system to verify the repair. Did you correct the condition?	System OK	-

IGNITION KEY CANNOT TURN OR STICKS IN ANY POSITION

Step	Action	Yes	No
1	Did you review the Steering Wheel and Column System Description and perform the necessary inspections?	Go to **Step 2**	Go to **Steering Wheel and Column Description and Operation**
2	Verify that the ignition key sticks or cannot turn in any position. Is the key functioning correctly?	System OK	Go to **Step 3**
3	Inspect for an incorrect, worn, or damaged ignition key. Is the ignition key incorrect, worn, or damaged?	Go to **Step 7**	Go to **Step 4**
4	Inspect for a faulty ignition lock cylinder. Is the ignition lock cylinder damaged?	Go to **Step 8**	Go to **Step 5**
5	Inspect the ignition and start switch assembly for damage. Is the ignition and start switch assembly damaged?	Go to **Step 9**	Go to **Step 6**
6	Inspect the ignition and start switch housing for looseness. Is the ignition and start switch housing loose?	Go to **Step 10**	Go to **Step 11**

cardiagn.com

7	Replace the ignition key. Did you complete the repair?	Go to **Step 11**	-
8	Replace the ignition lock cylinder. Refer to **Ignition Lock Cylinder Replacement** . Did you complete the repair?	Go to **Step 11**	-
9	Replace the ignition and start switch. Refer to **Ignition and Start Switch Replacement** . Did you complete the repair?	Go to **Step 11**	-
10	Tighten or replace the ignition and start switch housing. Refer to **Ignition and Start Switch Housing Replacement** Did you complete the repair?	Go to **Step 11**	-
11	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to **Step 2**

cardiagn.com

2010 ELECTRICAL

Wiring Systems And Power Management - Component Connector End Views - A10 Through B52D - Camaro

COMPONENT CONNECTOR END VIEWS - A10 THROUGH B52D

A10 INSIDE REARVIEW MIRROR

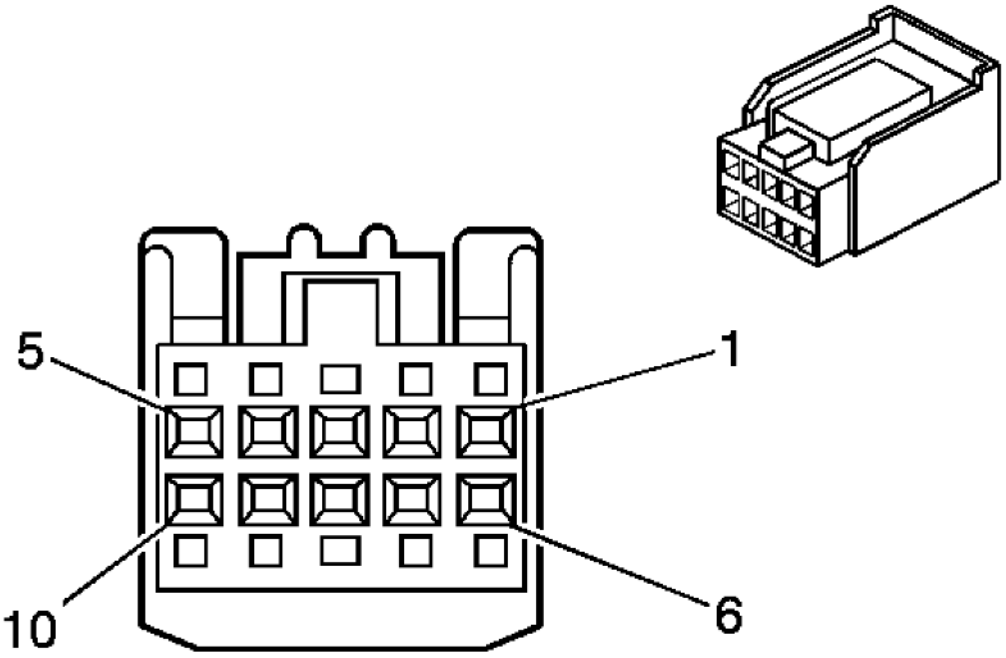


Fig. 1: A10 Inside Rearview Mirror
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13641322
- Service: 19177676
- Description: 10-Way F Kaizen 0.64 Series (BK)

Terminal Part Information

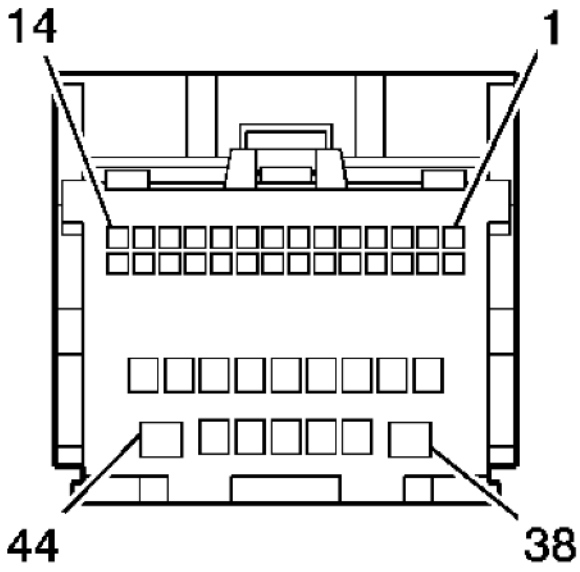
cardiagn.com

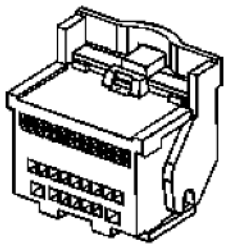
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

A10 Inside Rearview Mirror

Pin	Wire	Circuit	Function
1	0.35 L-GN	24	Backup Lamp Supply Voltage
2	0.35 PK	339	Ignition Voltage
3	0.35 D-GN/WH	2514	Keypad Signal (UE1)
4	0.35 L-GN/BK	2515	Keypad Supply Voltage (UE1)
5	0.35 BK	1550	Ground
6	0.35 YE/BK	2516	Keypad Green LED Signal (UE1)
7	0.35 BN/WH	2517	Keypad Red LED Signal (UE1)
8	0.35 PK	1691	Low Reference
9	0.35 GY	1690	Automatic Day/Night Mirror Signal
10	-	-	Not Used

A11 RADIO





cardiagn.com

Fig. 2: A11 Radio
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13589609
- Service: 88988902
- Description: 44-Way F GT 150/280 64 Series (BK)

Terminal Part Information

- Pins: 2, 3, 6, 10, 11, 13, 16, 17, 20, 23, 24, 27, 28
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

- Pins: 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 43
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: Pins 29, 30, 31, 32, 33, 34, 37, 39, 40, 41, 42, 43 - E/C
- Core/Insulation Crimp: Pins 31, 32, 33, 34, 39, 40, 41, 42 - C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: 38, 44
- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

A11 Radio

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.35 YE	7459	Serial Data
3	0.35 BARE	7460	Drain Wire
4-5	-	-	Not Used
6	0.35 L-BU/BK	659	Cellular Telephone Voice Signal (-)
7-9	-	-	Not Used
10	0.35 TN/WH	3378	Auxiliary Audio Jack Right (+)
11	0.35 PK	2060	Auxiliary Detection Signal
12	-	-	Not Used

cardiagn.com

13	0.35 L-GN	3291	Center Stack Wake - Up Signal
14-15	-	-	Not Used
16	0.35 TN	7458	Serial Data
17	0.35 BARE	3375	Drain Wire
18-19	-	-	Not Used
20	0.35 D-BU	658	Cellular Telephone Voice Signal (+)
21-22	-	-	Not Used
23	0.35 D-GN/WH	3376	Auxiliary Audio Common Signal
24	0.35 YE	3377	Auxiliary Audio Jack Left (+)
25-26	-	-	Not Used
27	0.35 PK	3290	Center Stack Reset Signal
28	0.35 D-GN	5060	Low Speed GMLAN Serial Data
29	0.35 BARE	2011	Drain Wire (UQA)
30	0.35 BARE	2099	Drain Wire (UQA)
31	0.8 D-GN	117	Right Front Speaker Output (-) (UQ3)
	0.35 OG/BK	1546	Right Front Low Level Audio Signal (-) (UQA)
32	0.8 GY	118	Left Front Speaker Output (-) (UQ3)
	0.35 D-GN	1947	Left Front Low Level Audio Signal (-) (UQA)
33	0.8 L-BU	115	Right Rear Speaker Output (-) (UQ3)
	0.35 TN	1946	Right Rear Low Level Audio Signal (-) (UQA)
34	0.8 YE	116	Left Rear Speaker Output (-) (UQ3)
	0.35 BN	1999	Left Rear Low Level Audio Signal (-) (UQA)
35-36	-	-	Not Used
37	0.35 OG	6978	Amplifier Control (UQA)
38	1 BK	1750	Ground
39	0.8 L-GN	200	Right Front Speaker Output (+) (UQ3)
	0.35 L-GN/WH	512	Right Front Low Level Audio Signal (+) (UQA)
40	0.8 TN	201	Left Front Speaker Output (+) (UQ3)
	0.35 TN	511	Left Front Low Level Audio Signal (+) (UQA)
41	0.8 D-BU	46	Right Rear Speaker Output (+) (UQ3)
	0.35 D-BU	546	Right Rear Low Level Audio Signal (+) (UQA)
42	0.8 BN	199	Left Rear Speaker Output (+) (UQ3)
	0.35 BN/WH	599	Left Rear Low Level Audio Signal (+) (UQA)
43	0.35 WH	7066	Remote Enable (UQA)

cardiagn.com

44	1 RD/WH	340	Battery Positive Voltage

A20 RADIO/HVAC CONTROLS

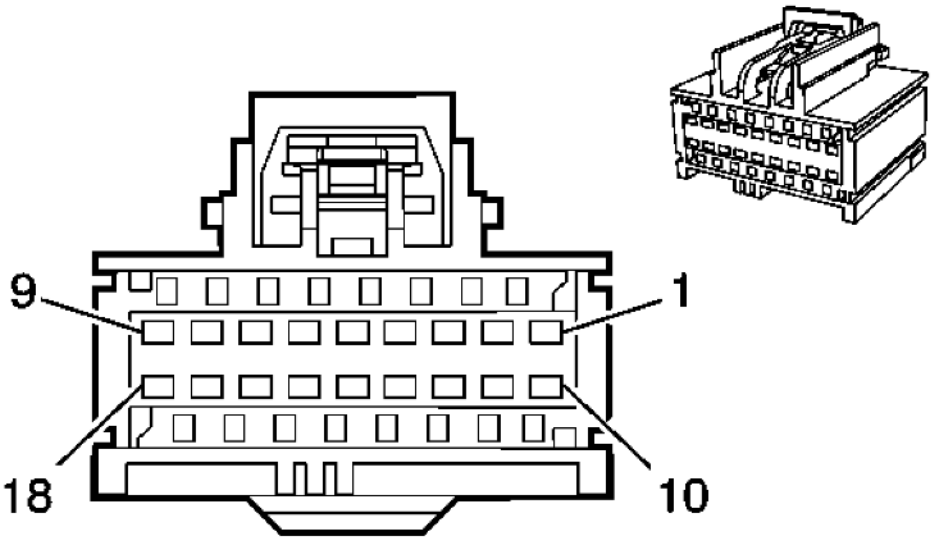


Fig. 3: A20 Radio/HVAC Controls
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13607274
- Service: 13317844
- Description: 18-Way F Kaizen 64 Series (NA)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

cardiagn.com

A20 Radio/HVAC Controls

Pin	Wire	Circuit	Function
1	0.35 TN	7458	Serial Data
2	0.35 YE	7459	Serial Data
3	0.35 BARE	7460	Drain Wire
4	0.35 L-GN	3291	Center Stack Wake - Up Signal
5-7	-	-	Not Used
8	0.35 YE	7531	Linear Interconnect Network 9
9	-	-	Not Used
10	0.5 RD/WH	3240	Battery Positive Voltage
11	-	-	Not Used
12	0.35 PK/BK	780	Driver Door Lock Switch Lock Signal
13	0.35 OG/BK	781	Driver Door Lock Switch Unlock Signal
14	-	-	Not Used
15	0.35 PK	3290	Center Stack Reset Signal
16	0.35 WH	111	Hazard Switch Signal
17	0.5 BK	1650	Ground
18	-	-	Not Used

A23D DOOR LATCH ASSEMBLY - DRIVER

cardiagn.com

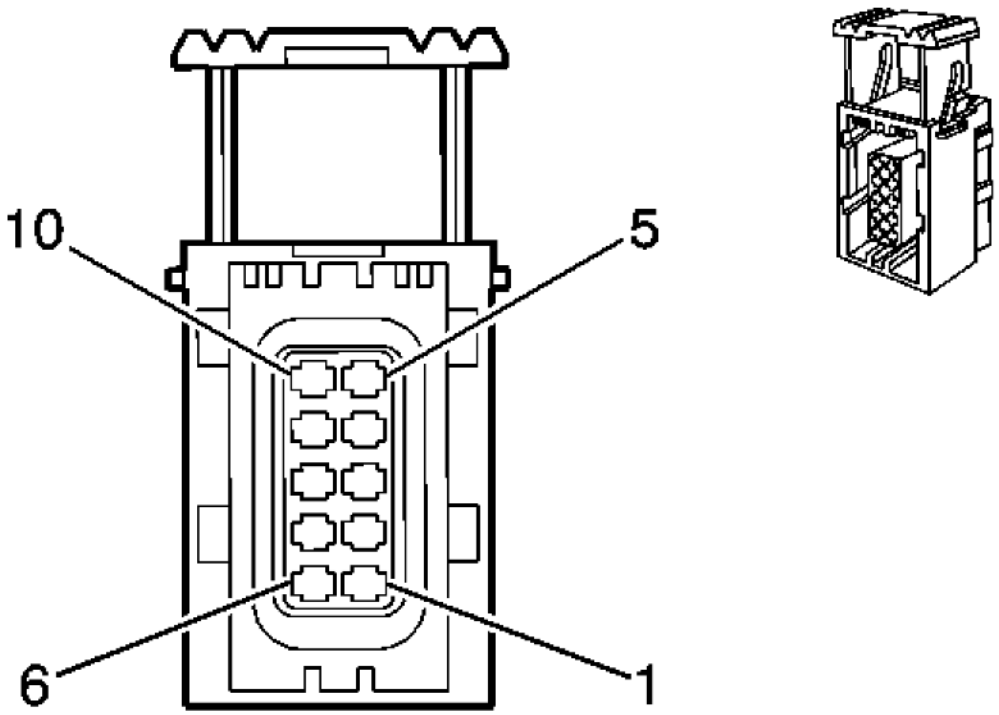


Fig. 4: A23D Door Latch Assembly - Driver
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 10768367
- Service: 88952463
- Description: 10-Way F Sealed (BK)

Terminal Part Information

- Pins: 2, 3
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

cardiagn.com

- Pins: 4, 6, 8
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

A23D Door Latch Assembly - Driver

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.8 TN	294	Door Lock Actuator Lock Control
3	0.8 GY	5911	Driver Door Lock Motor Unlock Control
4	0.35 D-GN	3270	Driver Door Lock Status Signal
5	-	-	Not Used
6	0.35 GY/BK	745	Left Front Door Ajar Switch Signal
7	-	-	Not Used
8	0.35 BK	850	Ground
9-10	-	-	Not Used

A23P DOOR LATCH ASSEMBLY - PASSENGER

cardiagn.com

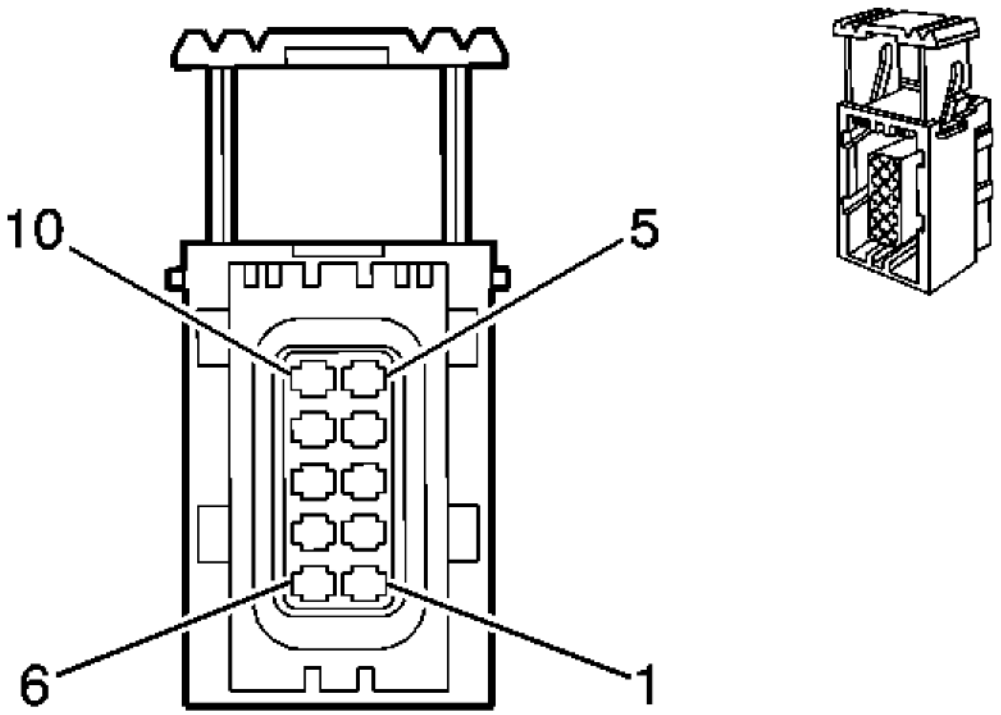


Fig. 5: A23P Door Latch Assembly - Passenger
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Door
- OEM: 10768367
- Service: 88952463
- Description: 10-Way F Sealed (BK)

Terminal Part Information

- Pins: 1, 3
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

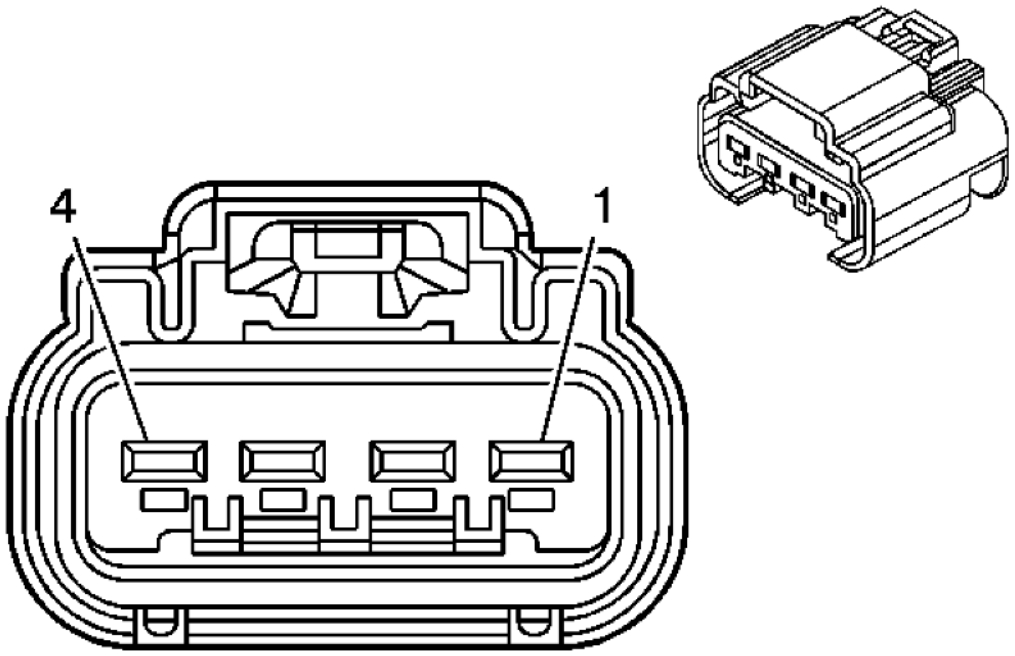
cardiagn.com

- Pins: 7, 8
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

A23P Door Latch Assembly - Passenger

Pin	Wire	Circuit	Function
1	0.35 TN/WH	746	Right Front Door Ajar Switch Signal
2	-	-	Not Used
3	0.35 BK	2350	Ground
4-6	-	-	Not Used
7	0.8 TN	294	Door Lock Actuator Lock Control
8	0.8 GY	295	Passenger Door Unlock Actuator Lock Control
9-10	-	-	Not Used

A7 FUEL PUMP AND LEVEL SENSOR ASSEMBLY



cardiagn.com

Fig. 6: A7 Fuel Pump and Level Sensor Assembly
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 13527865
- Service: Service by Harness - See Part Catalog
- Description: 4-Way F GT 280 Series, Sealed (NA)

Terminal Part Information

- Pins: 1, 2
- Terminal/Tray: 15304720/19
- Core/Insulation Crimp: 4/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: 3, 4
- Terminal/Tray: 15304719/19
- Core/Insulation Crimp: E/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

A7 Fuel Pump and Level Sensor Assembly

Pin	Wire	Circuit	Function
1	2 RD	120	Fuel Pump Supply Voltage (Early Production)
	2 GY	120	Fuel Pump Supply Voltage (Late Production)
2	2 BK	1580	Low Reference (Early Production)
	2 PK	1580	Low Reference (Late Production)
3	0.5 BN/WH	6281	Low Reference
4	0.5 WH	1936	Fuel Level Sensor Signal (Early Production)
	0.5 D-BU	1936	Fuel Level Sensor Signal (Late Production)

A9A OUTSIDE REARVIEW MIRROR - DRIVER

cardiagn.com

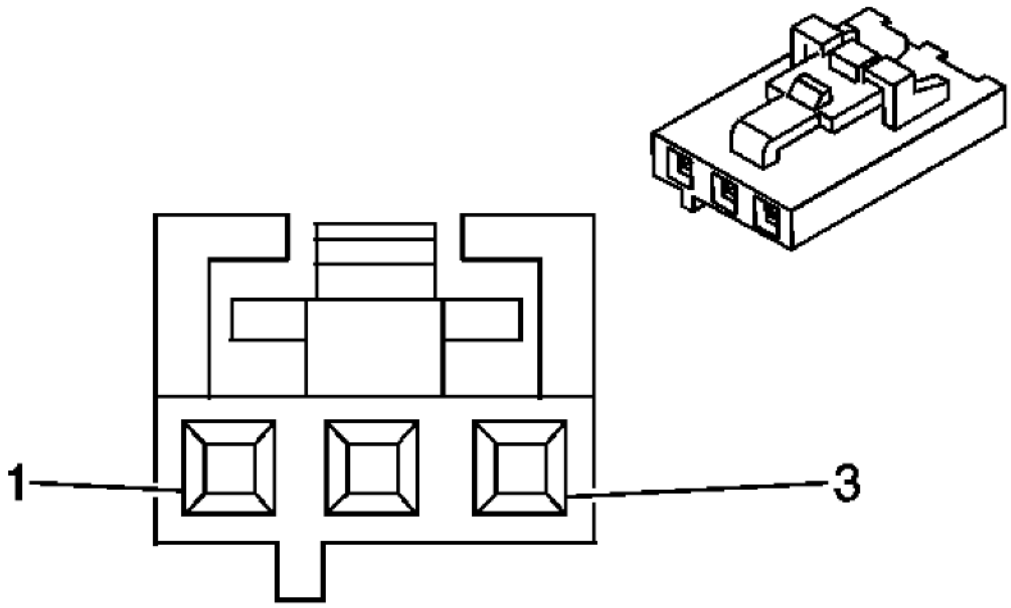


Fig. 7: A9A Outside Rearview Mirror - Driver
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Driver
- OEM: 50-57-9403
- Service: 21019417
- Description: 3-Way F SL Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 50-57-9403
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

A9A Outside Rearview Mirror - Driver

Pin	Wire	Circuit	Function
1	0.5 WH	81	Driver Mirror Motor Right Control
2	0.5 GY	329	Driver Mirror Motor Left/Up Control
3	0.5 YE	89	Driver Mirror Motor Down Control

cardiagn.com

A9B OUTSIDE REARVIEW MIRROR - PASSENGER

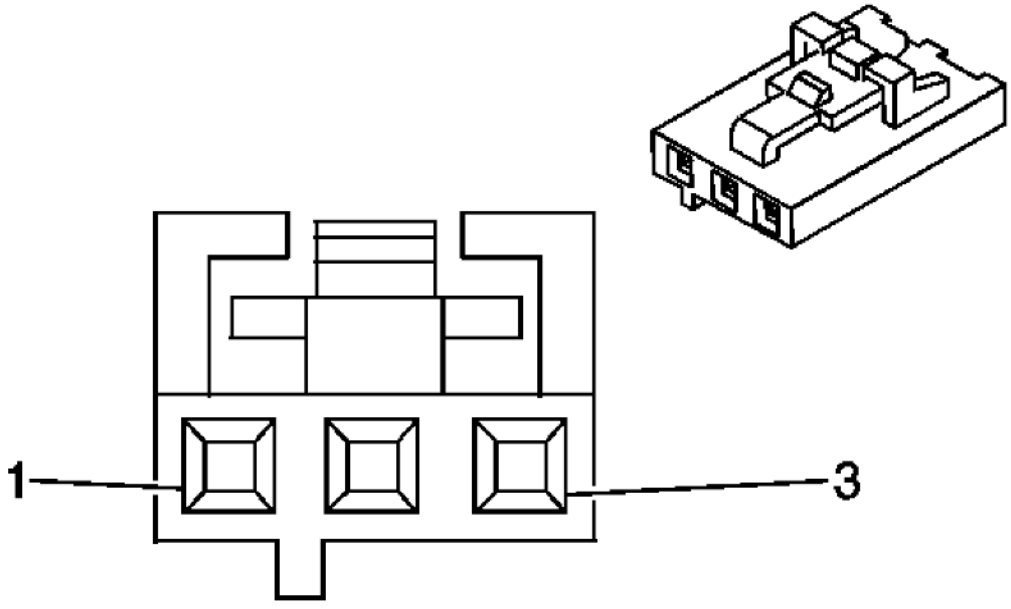


Fig. 8: A9B Outside Rearview Mirror - Passenger
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Passenger
- OEM: 50-57-9403
- Service: 21019417
- Description: 3-Way F SL Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 50-57-9403
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

A9B Outside Rearview Mirror - Passenger

Pin	Wire	Circuit	Function
1	0.5 OG/WH	881	Passenger Mirror Motor Right Control
2	0.5 TN/WH	330	Passenger Mirror Motor Left/Up Control

cardiagn.com

3	0.5 BN/WH	889	Passenger Mirror Motor Down Control

B1 A/C REFRIGERANT PRESSURE SENSOR

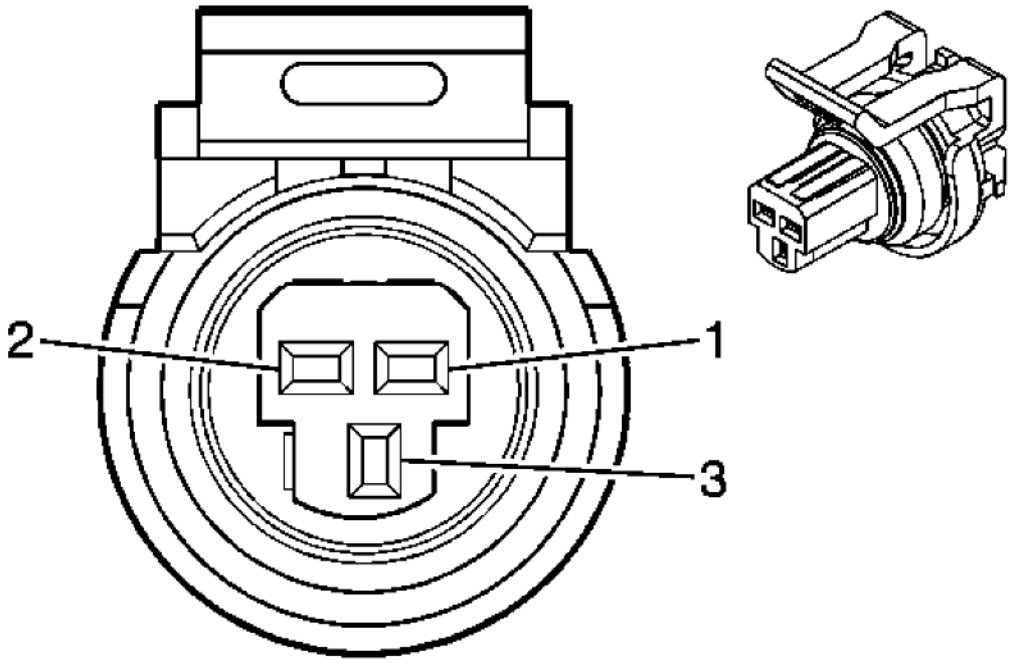


Fig. 9: B1 A/C Refrigerant Pressure Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13602480
- Service: 8898301
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

B1 A/C Refrigerant Pressure Sensor

Pin	Wire	Circuit	Function
1	0.5 TN	5514	Low Reference
2	0.5 GY	2700	5-Volt Reference 1
3	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal

B101 IMMOBILIZER ANTENNA

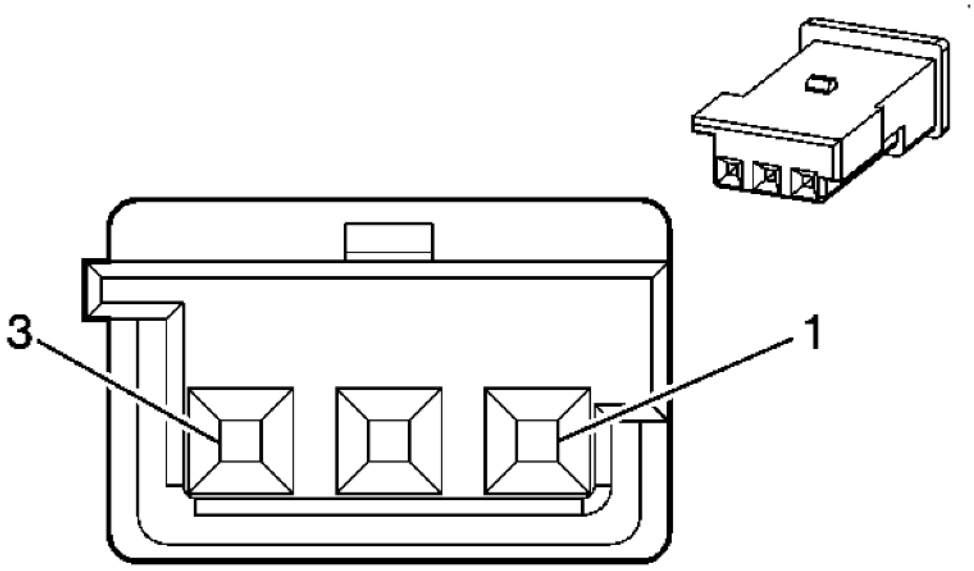


Fig. 10: B101 Immobilizer Antenna
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13604026
- Service: 13316117
- Description: 3-Way F Micro Quadlok Series (PU)

Terminal Part Information

- Terminal/Tray: 928999-5/15

cardiagn.com

- Core/Insulation Crimp: H/H
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

B101 Immobilizer Antenna

Pin	Wire	Circuit	Function
1	0.35 D-GN/WH	3277	Low Reference
2	0.35 L-BU	7533	Linear Interconnect Network 11
3	0.35 D-GN	3166	Battery Positive Voltage

B107 ACCELERATOR PEDAL POSITION SENSOR

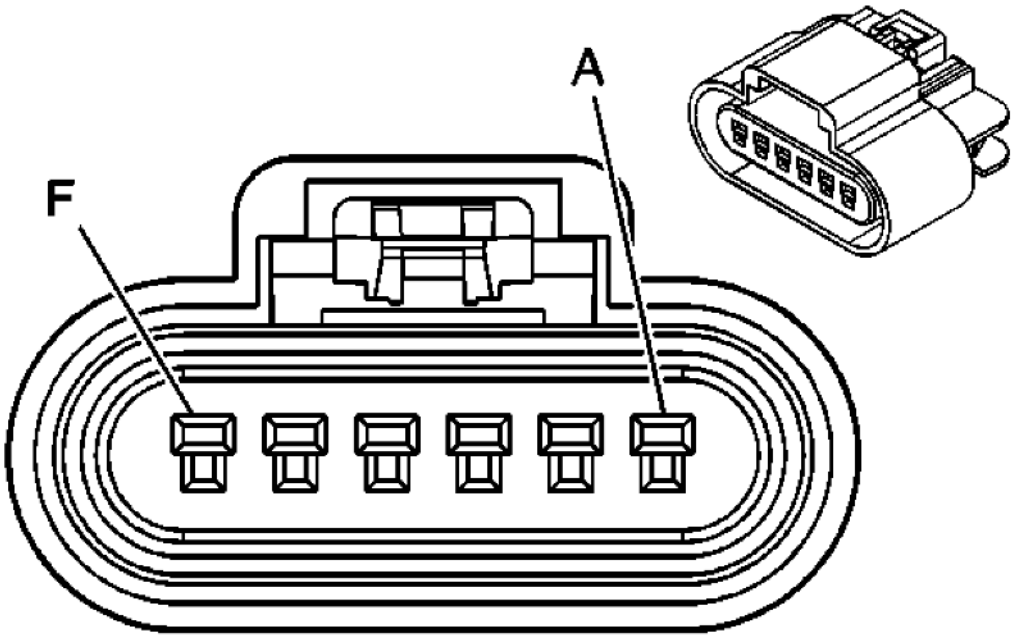


Fig. 11: B107 Accelerator Pedal Position Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15397577
- Service: 88988944

cardiagn.com

- Description: 6-Way F GT 150 Series, Sealed (BK)

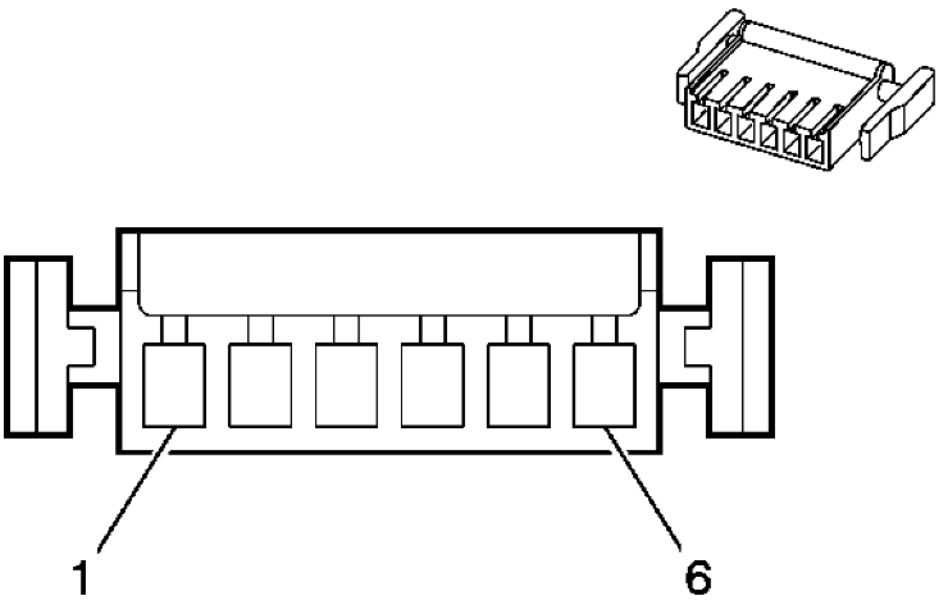
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B107 Accelerator Pedal Position Sensor

Pin	Wire	Circuit	Function
A	0.35 PU	1272	Low Reference
B	0.35 L-BU	1162	APP Sensor 2 Signal
C	0.35 TN	1274	5-Volt Reference 3 (LLT)
			5-Volt Reference 1 (L99/LS3)
D	0.35 BN	1271	Low Reference
E	0.35 D-BU	1161	APP Sensor 1 Signal
F	0.35 WH/BK	1164	5-Volt Reference 2

B10 AMBIENT LIGHT SENSOR



cardiagn.com

Fig. 12: B10 Ambient Light Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15344190
- Service: 24419225
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 5 - H/H
- Core/Insulation Crimp: Pin 6 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

B10 Ambient Light Sensor

Pin	Wire	Circuit	Function
1	0.35 GY	728	Security Indicator Control
2-4	-	-	Not Used
5	0.35 WH	278	Ambient Light Sensor Signal
6	0.5 BK	1650	Ground

B115 VEHICLE SPEED SENSOR (MV5)

cardiagn.com

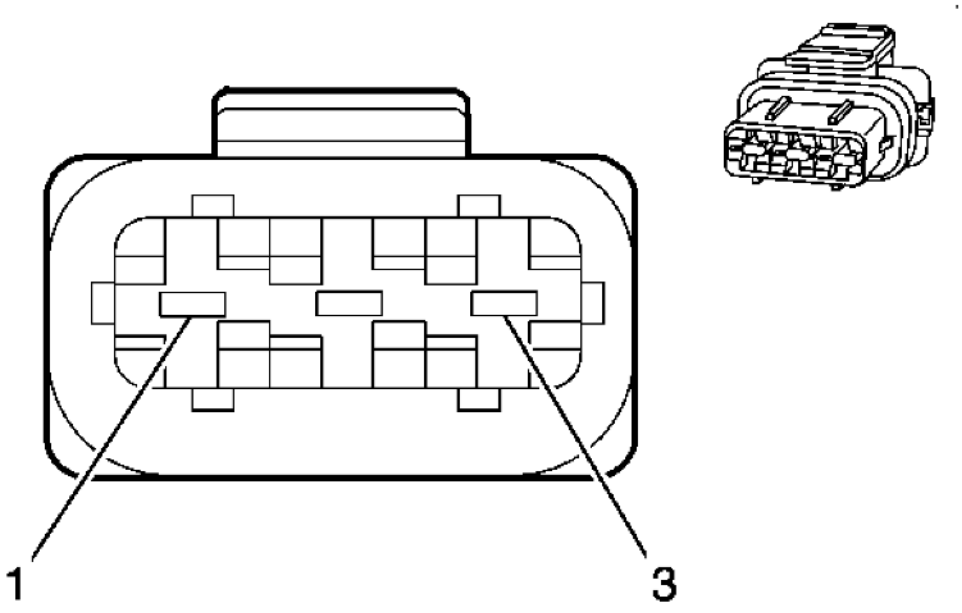


Fig. 13: B115 Vehicle Speed Sensor (MV5)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12185331
- Service: 15306391
- Description: 3-Way F 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 4-964286-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

B115 Vehicle Speed Sensor (MV5)

Pin	Wire	Circuit	Function
1	0.5 GY/BK	6355	VSS Signal High
2	0.5 BK/WH	451	Ground

cardiagn.com

3	0.5 PK	239	Ignition Voltage

B115 VEHICLE SPEED SENSOR (M10)

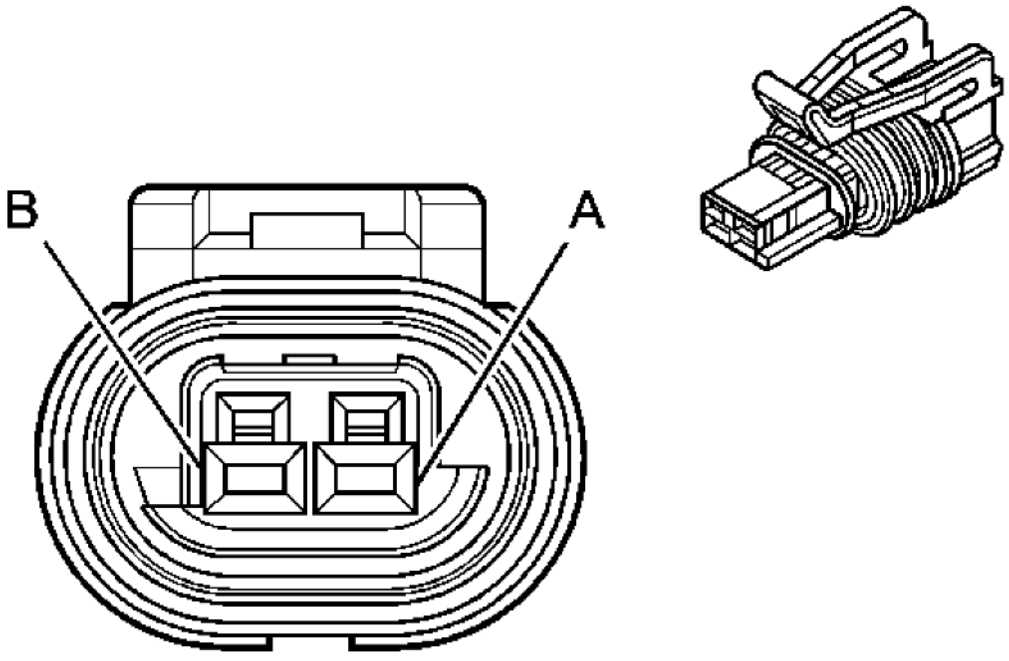


Fig. 14: B115 Vehicle Speed Sensor (M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15449028
- Service: 88987993
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

B115 Vehicle Speed Sensor (M10)

Pin	Wire	Circuit	Function
A	0.5 PU/WH	6356	VSS Signal Low
B	0.5 GY/BK	6355	VSS Signal High

B119 MULTI-AXIS ACCELERATION SENSOR

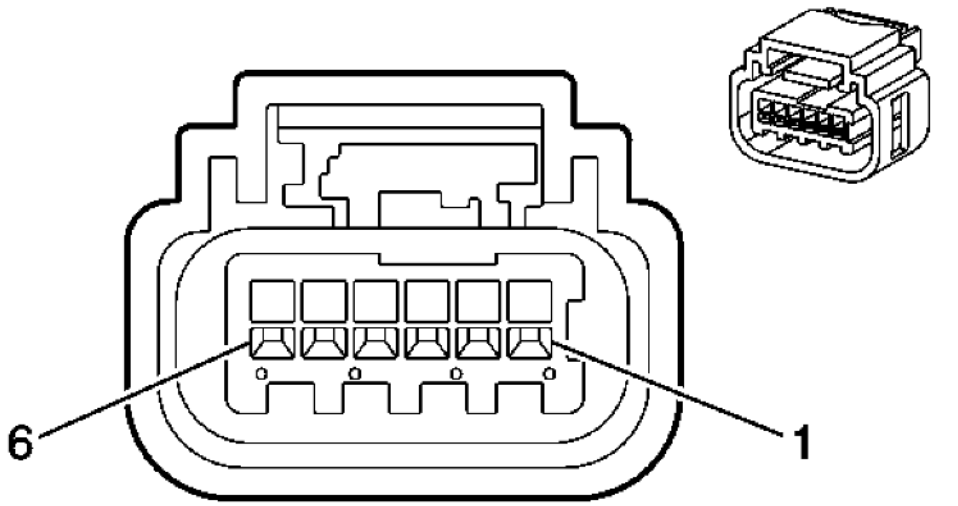


Fig. 15: B119 Multi-Axis Acceleration Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13654947
- Service: 19178521
- Description: 6-Way F 0.64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B119 Multi-Axis Acceleration Sensor

Pin	Wire	Circuit	Function
1	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
2	-	-	Not Available
3	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
4	-	-	Not Available
5	0.35 D-GN	2087	12-Volt Reference
6	0.5 BK	850	Ground

B150 FUEL TANK PRESSURE SENSOR

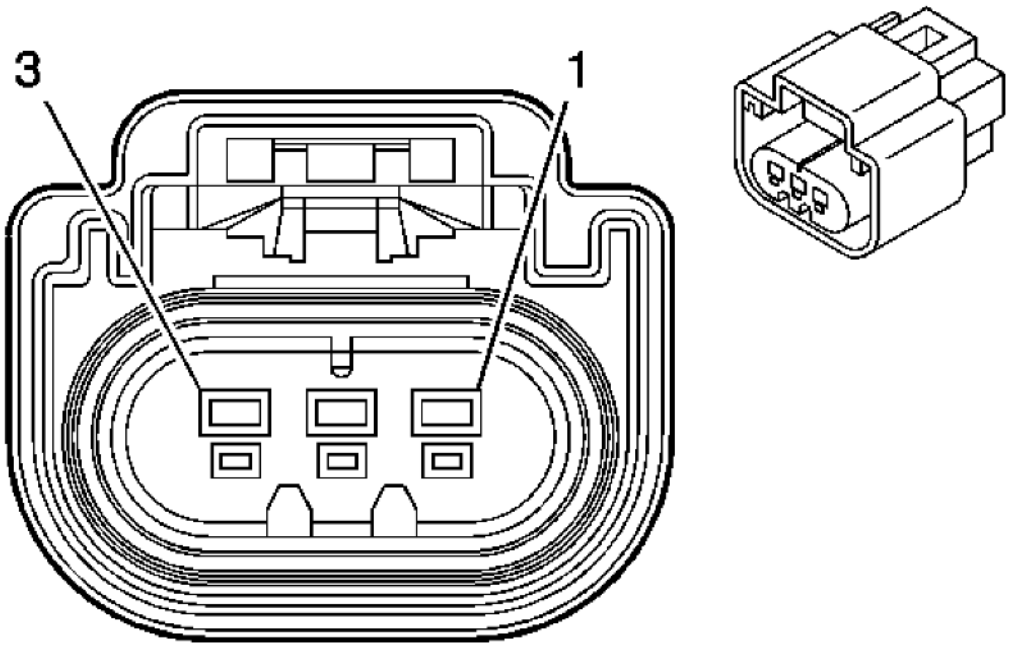


Fig. 16: B150 Fuel Tank Pressure Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank

cardiagn.com

- OEM: 13511996
- Service: Service by Harness - See Part Catalog
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B150 Fuel Tank Pressure Sensor

Pin	Wire	Circuit	Function
1	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal
2	0.5 BN/WH	6281	Low Reference
3	0.5 OG	2709	5-Volt Reference 1 (Early Production)
	0.5 GY	2709	5-Volt Reference 1 (Late Production)

B16 BACKUP LAMP SWITCH (MV5)

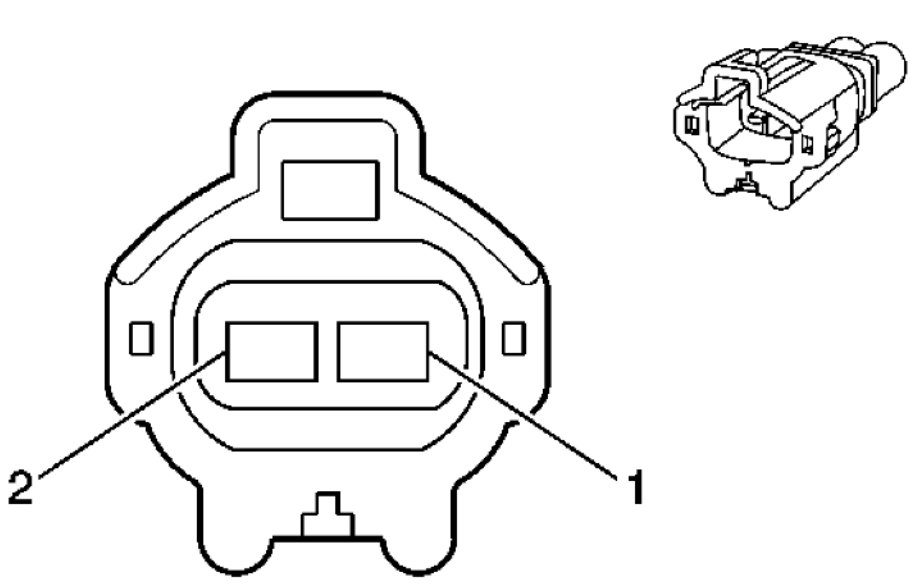


Fig. 17: B16 Backup Lamp Switch (MV5)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13655976
- Service: 13505906
- Description: 2-Way M 090 II Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4025/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-19 (BK)

B16 Backup Lamp Switch (MV5)

Pin	Wire	Circuit	Function
1	0.35 L-GN	5007	Backup Lamp Switch Signal
2	0.35 BK/WH	451	Ground

B16 BACKUP LAMP SWITCH (M10)

cardiagn.com

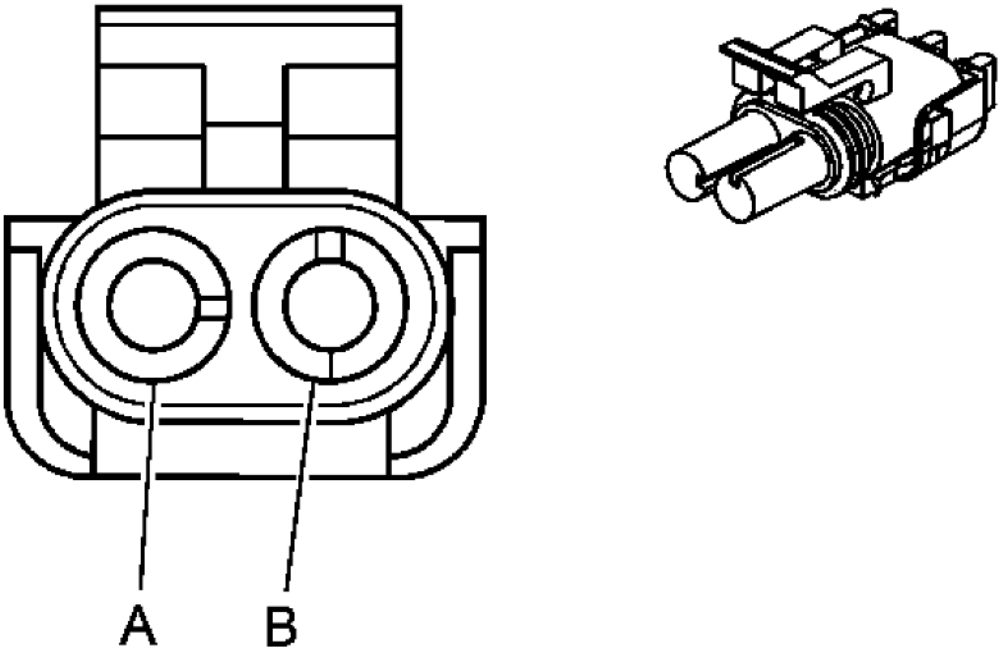


Fig. 18: B16 Backup Lamp Switch (M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12015792
- Service: 12126452
- Description: 2-Way F Weather Pack Series (BK)

Terminal Part Information

- Terminal/Tray: 12089188/3
- Core/Insulation Crimp: Pin A - See Terminal Repair Kit
- Core/Insulation Crimp: Pin B - E/5
- Release Tool: 12014012-1
- Test Probe: J-35616-8 (OG)

B16 Backup Lamp Switch (M10)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 L-GN	5007	Backup Lamp Switch Signal
B	0.5 BK/WH	451	Ground

B173 MANUAL TRANSMISSION FLUID TEMPERATURE SENSOR (MV5 OR M10)

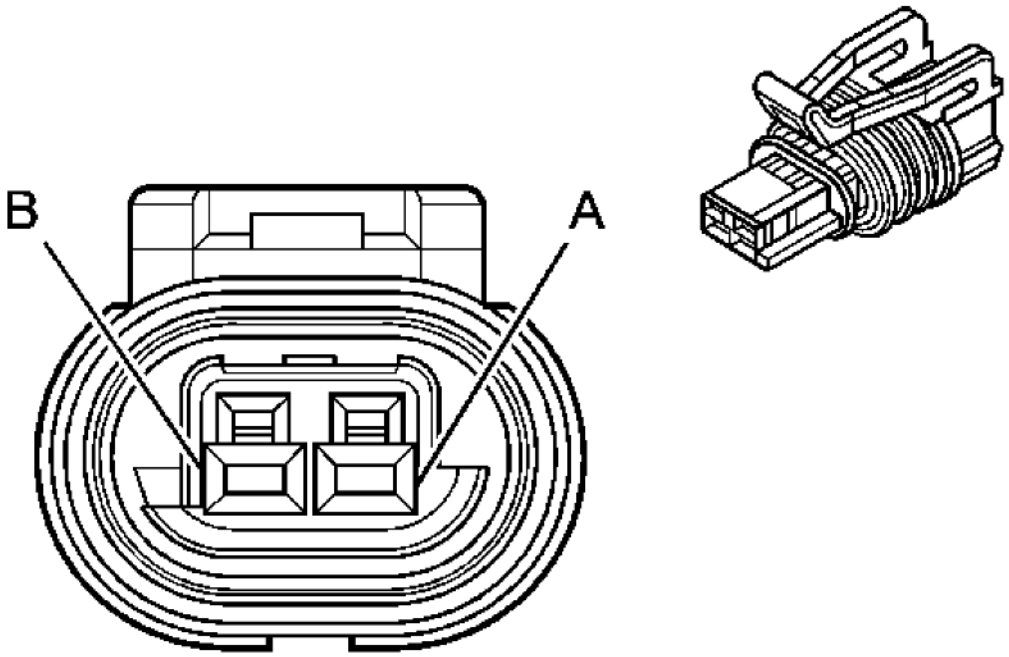


Fig. 19: B173 Manual Transmission Fluid Temperature Sensor (MV5 or M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15449028
- Service: 88987993
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247

cardiagn.com

- Test Probe: J-35616-2A (GY)

B173 Manual Transmission Fluid Temperature Sensor (MV5 or M10)

Pin	Wire	Circuit	Function
A	0.5 BK	2755	Low Reference (MV5)
	0.5 OG/BK	586	Low Reference (M10)
B	0.35 TN/WH	585	Transmission Fluid Temperature Sensor Signal (MV5)
	0.5 TN/WH	585	Transmission Fluid Temperature Sensor Signal (M10)

B18 BATTERY CURRENT SENSOR

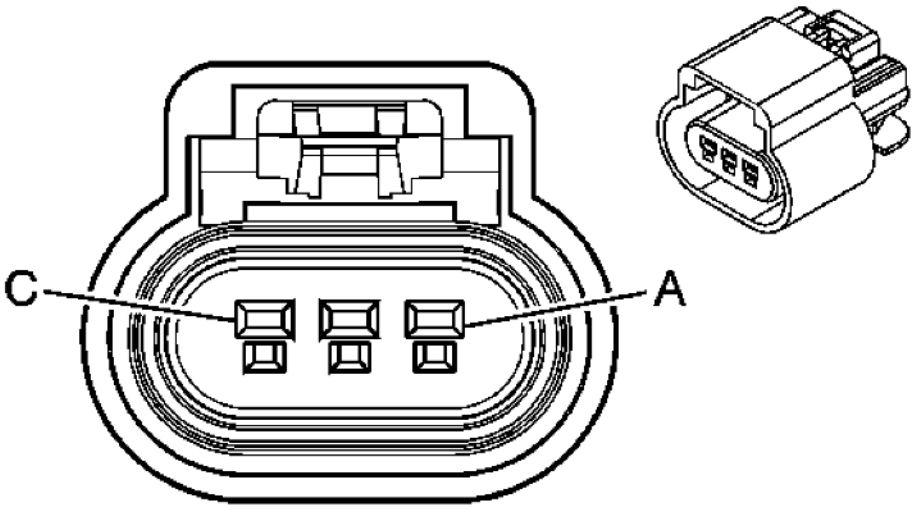


Fig. 20: B18 Battery Current Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15326808

cardiagn.com

- Service: 19177527
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B18 Battery Current Sensor

Pin	Wire	Circuit	Function
A	0.5 PK	5076	Current Sensor Voltage
B	0.5 BN	5077	Low Reference
C	0.5 WH	5075	Current Sensor Signal

B19B BRAKE BOOSTER VACUUM SENSOR (L99)

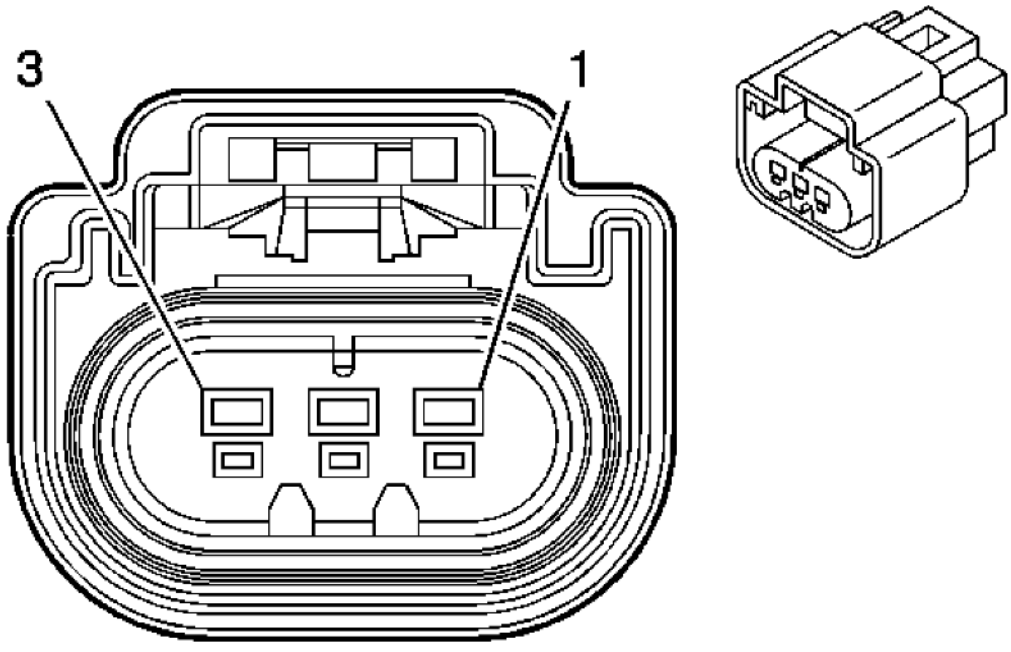


Fig. 21: B19B Brake Booster Vacuum Sensor (L99)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 13511996
- Service: 19149288
- Description: 3-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B19B Brake Booster Vacuum Sensor (L99)

Pin	Wire	Circuit	Function
1	0.5 OG	6030	Brake Booster Vacuum Sensor Signal
2	0.5 YE/BK	6032	Low Reference
3	0.5 GY	6031	5-Volt Reference 2

B20 BRAKE FLUID LEVEL SWITCH

cardiagn.com

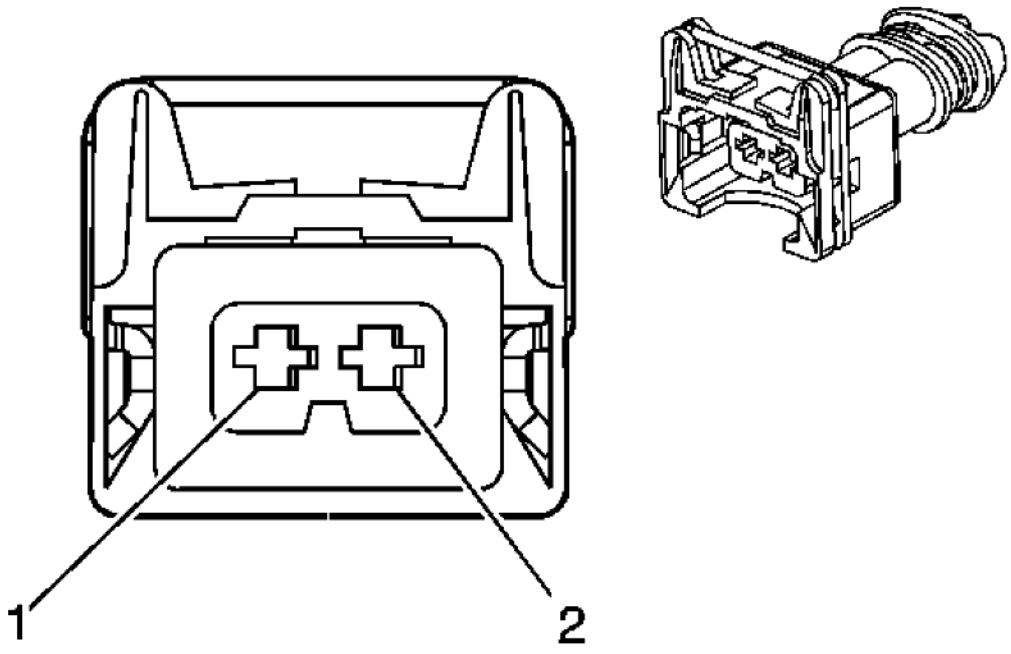


Fig. 22: B20 Brake Fluid Level Switch
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 12196895
- Service: 13505904
- Description: 2-Way F 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 60012941/21
- Core/Insulation Crimp: C/1
- Release Tool: J-38125-557
- Test Probe: J-35616-4A (PU)

B20 Brake Fluid Level Switch

Pin	Wire	Circuit	Function
1	0.5 PU	333	Brake Fluid Level Sensor Signal
2	0.5 BK	1050	Ground

cardiagn.com

B22 BRAKE PEDAL POSITION SENSOR

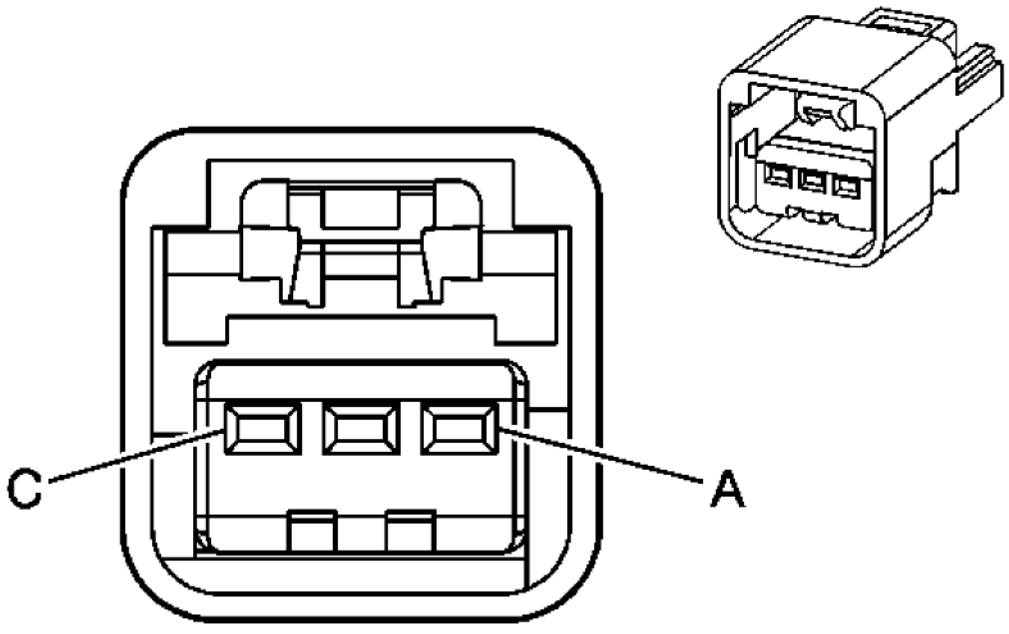


Fig. 23: B22 Brake Pedal Position Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15332132
- Service: 88953364
- Description: 3-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B22 Brake Pedal Position Sensor

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 GY	5381	5-Volt Reference
B	0.35 YE	5361	Brake Pedal Position Sensor Signal
C	0.35 L-BU/BK	853	Low Reference

B23 CAMSHAFT POSITION SENSOR (L99/LS3)

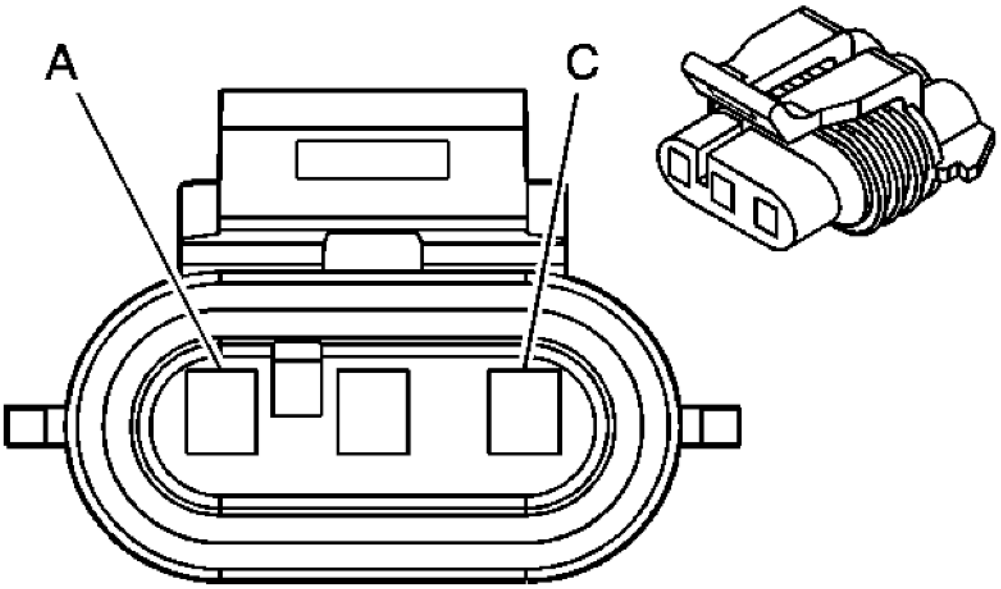


Fig. 24: B23 Camshaft Position Sensor (L99/LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Camshaft Position (CMP) Sensor and Camshaft Position (CMP) Actuator Solenoid Valve
- OEM: 12059595
- Service: 88986451
- Description: 3-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool/Test Probe: 12094429/J-35616-14 (GN)

cardiagn.com

B23 Camshaft Position Sensor (L99/LS3)

Pin	Wire	Circuit	Function
A	0.5 D-BU	6259	5-Volt Reference 1
B	0.5 BN	6266	Low Reference
C	0.5 D-BU/WH	6265	Camshaft Position Signal

B23A CAMSHAFT POSITION SENSOR - BANK 1 EXHAUST (LLT)

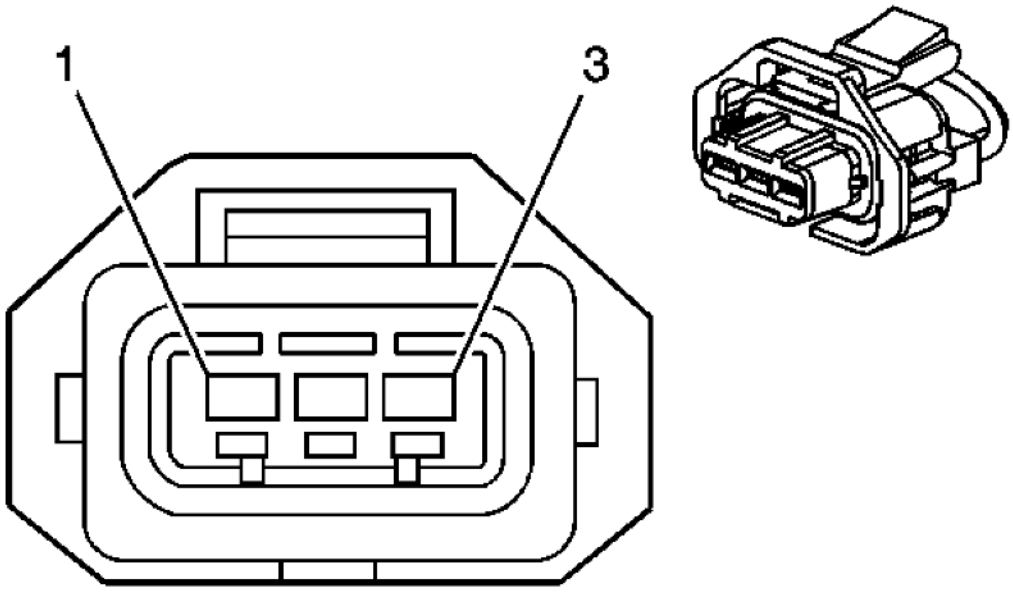


Fig. 25: B23A Camshaft Position Sensor - Bank 1 Exhaust (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339753
- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561

cardiagn.com

- Test Probe: J-35616-35 (VT)

B23A Camshaft Position Sensor - Bank 1 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 D-GN	5273	Camshaft Position (CMP) Sensor - Exhaust Bank 1 Signal
3	0.5 GY	705	5-Volt Reference 2

B23B CAMSHAFT POSITION SENSOR - BANK 1 INTAKE (LLT)

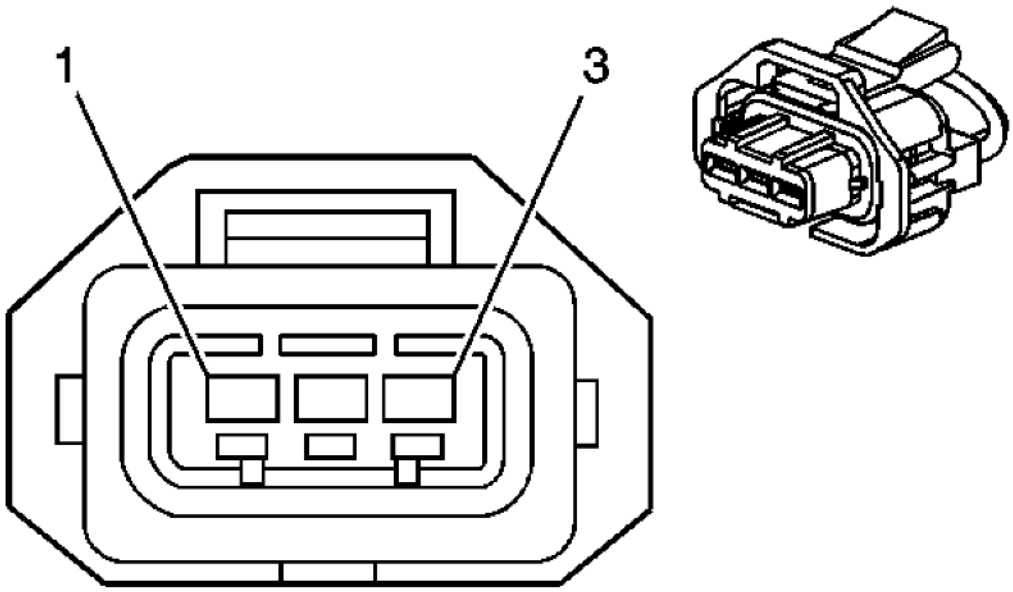


Fig. 26: B23B Camshaft Position Sensor - Bank 1 Intake (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339753
- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B23B Camshaft Position Sensor - Bank 1 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 OG	5275	Camshaft Position (CMP) Sensor - Intake Bank 1 Signal
3	0.5 GY	705	5-Volt Reference 2

B23C CAMSHAFT POSITION SENSOR - BANK 2 EXHAUST (LLT)

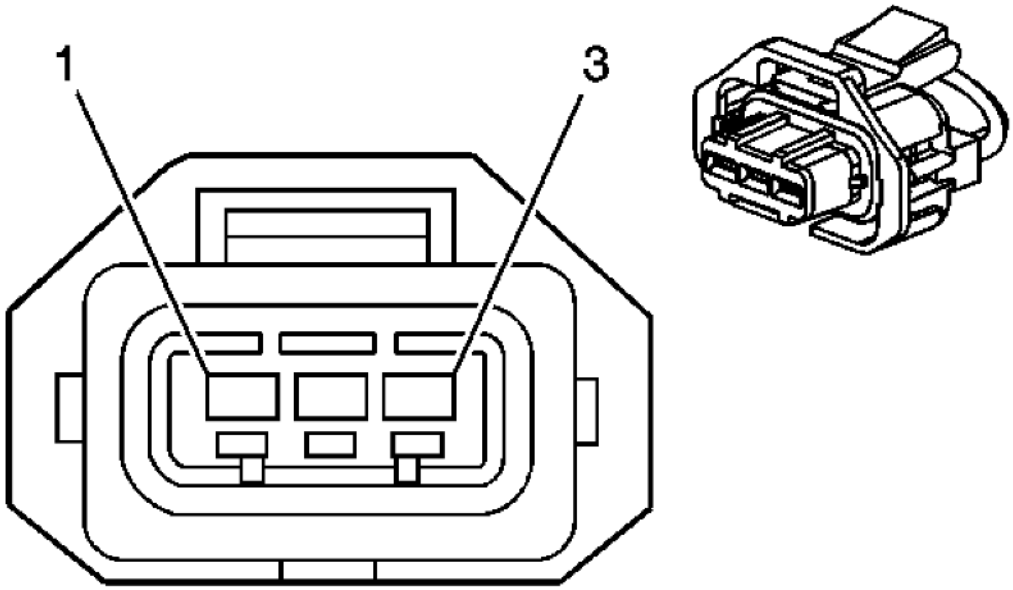


Fig. 27: B23C Camshaft Position Sensor - Bank 2 Exhaust (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339753

cardiagn.com

- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B23C Camshaft Position Sensor - Bank 2 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 PU	5274	Camshaft Position (CMP) Sensor - Exhaust Bank 2 Signal
3	0.5 GY	705	5-Volt Reference 2

B23D CAMSHAFT POSITION SENSOR - BANK 2 INTAKE (LLT)

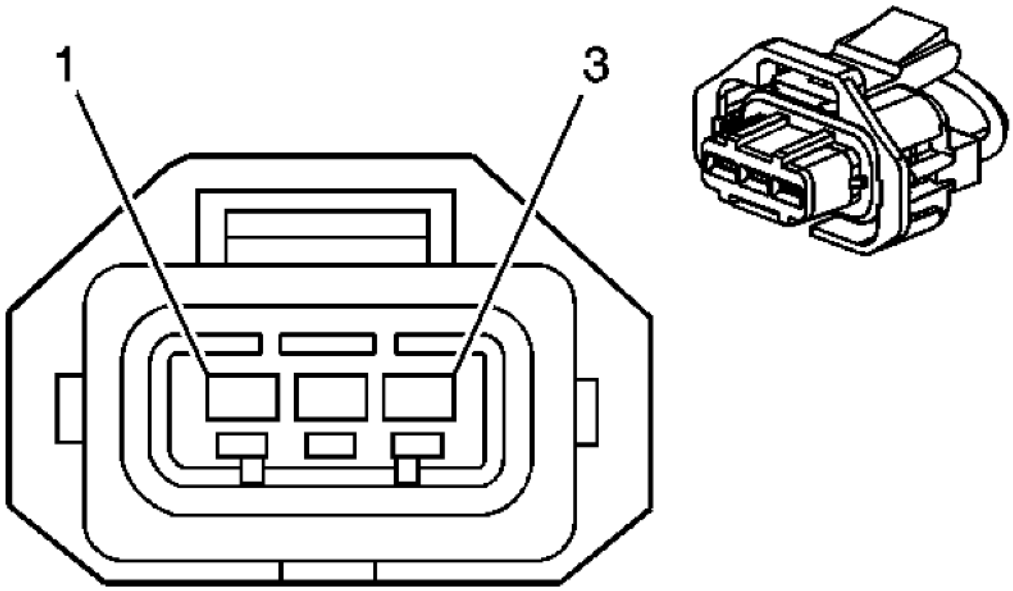


Fig. 28: B23D Camshaft Position Sensor - Bank 2 Intake (LLT)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15339753
- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B23D Camshaft Position Sensor - Bank 2 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 YE	5276	Camshaft Position (CMP) Sensor - Intake Bank 2 Signal
3	0.5 GY	705	5-Volt Reference 2

B24 CELLULAR PHONE MICROPHONE (UE1)

cardiagn.com

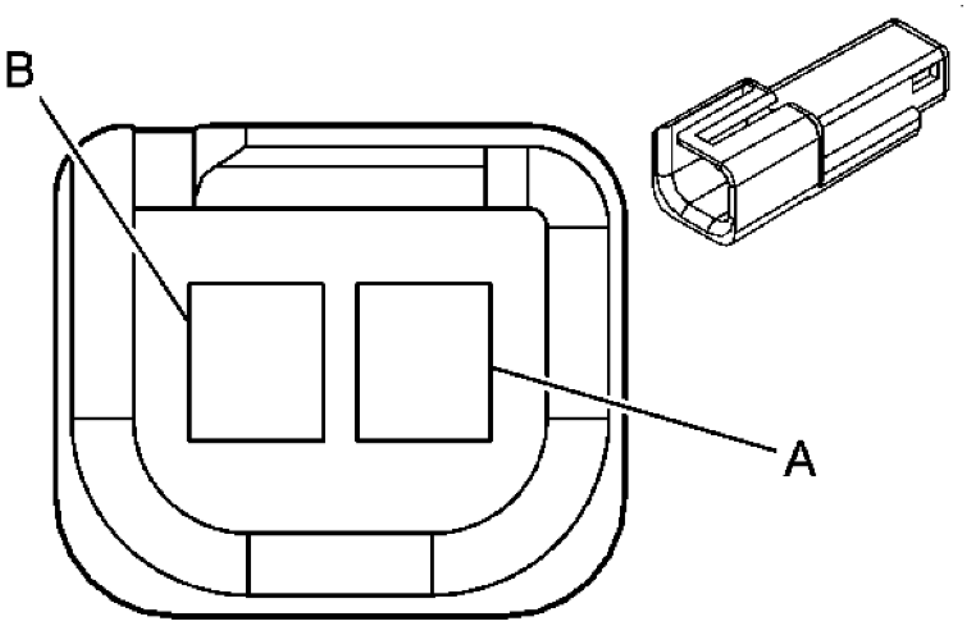


Fig. 29: B24 Cellular Phone Microphone (UE1)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 12047663
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B24 Cellular Phone Microphone (UE1)

Pin	Wire	Circuit	Function
A	0.35 BARE	654	Cellular Microphone Signal
B	0.35 GY	655	Cellular Microphone Signal

cardiagn.com

B25B CLUTCH PEDAL POSITION SENSOR (MV5 OR M10)

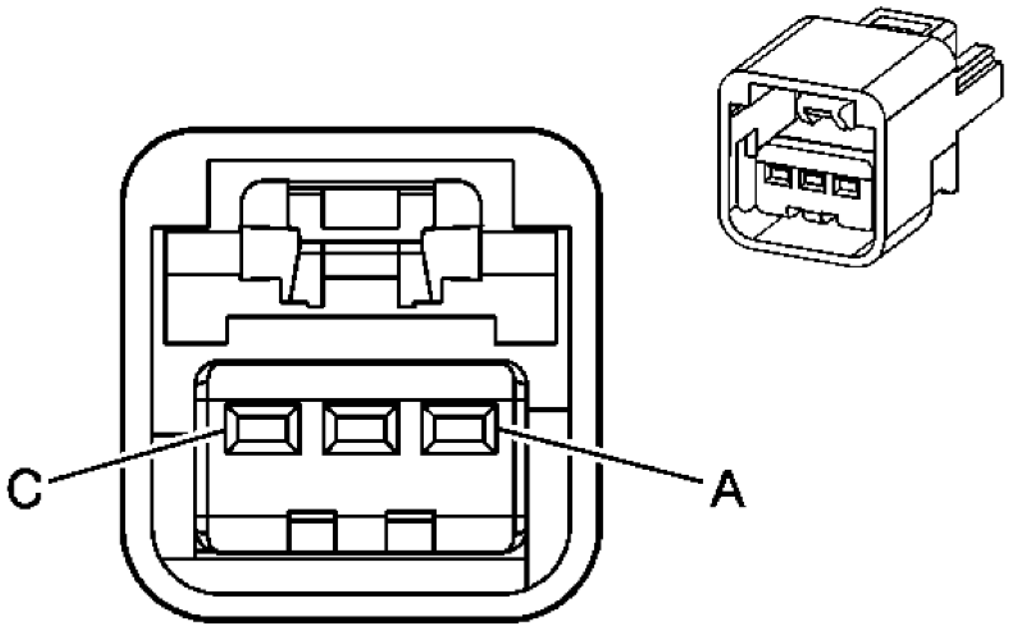


Fig. 30: B25B Clutch Pedal Position Sensor (MV5 or M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15332132
- Service: 88953364
- Description: 3-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B25B Clutch Pedal Position Sensor (MV5 or M10)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 TN	6109	5-Volt Reference 1 (MV5)
			5-Volt Reference 2 (M10)
B	0.35 YE	6111	Clutch Pedal Position Sensor Signal
C	0.35 WH	6110	Low Reference

B26 CRANKSHAFT POSITION SENSOR (L99 OR LS3)

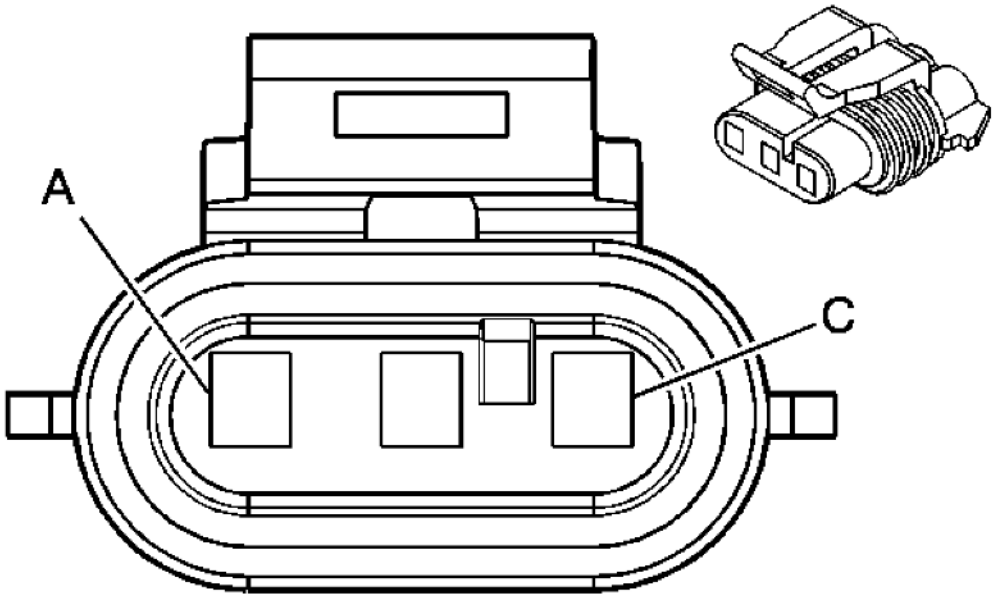


Fig. 31: B26 Crankshaft Position Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12129946
- Service: 88987997
- Description: 3-Way F Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B26 Crankshaft Position Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 WH/BK	6271	Crankshaft Position Sensor Signal
B	0.5 GY/BK	6272	Low Reference
C	0.5 PU/WH	6270	5-Volt Reference 2

B26 CRANKSHAFT POSITION SENSOR (LLT)

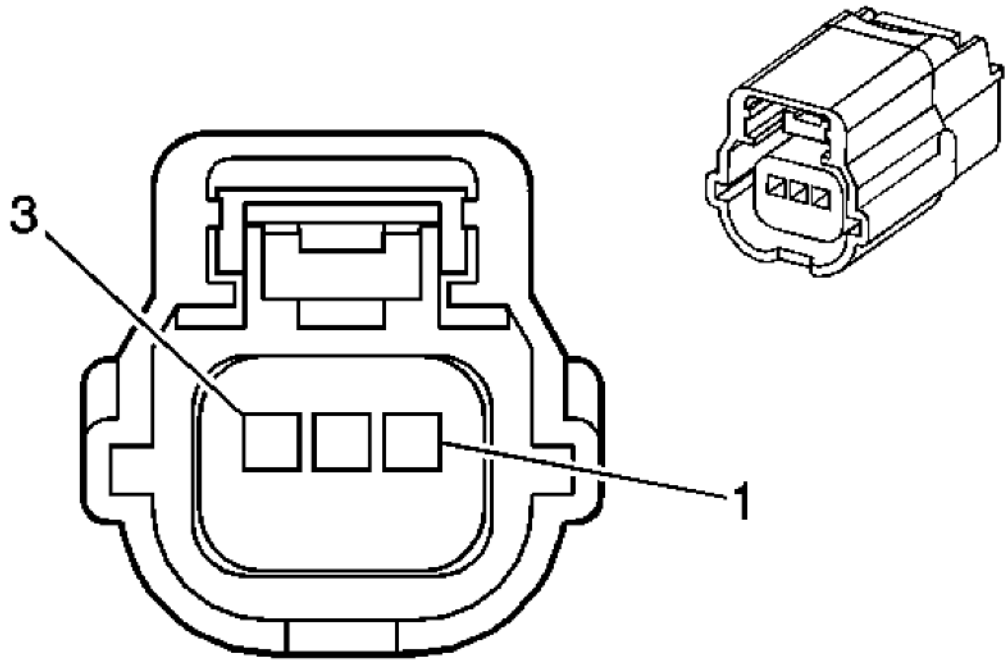


Fig. 32: B26 Crankshaft Position Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13599025
- Service: 19206250

cardiagn.com

- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03GF-M064/27
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B26 Crankshaft Position Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	452	Low Reference
2	0.5 YE	573	CKP Sensor Signal
3	0.5 GY	605	5-Volt Reference 3

B34 ENGINE COOLANT TEMPERATURE SENSOR (L99 OR LS3)

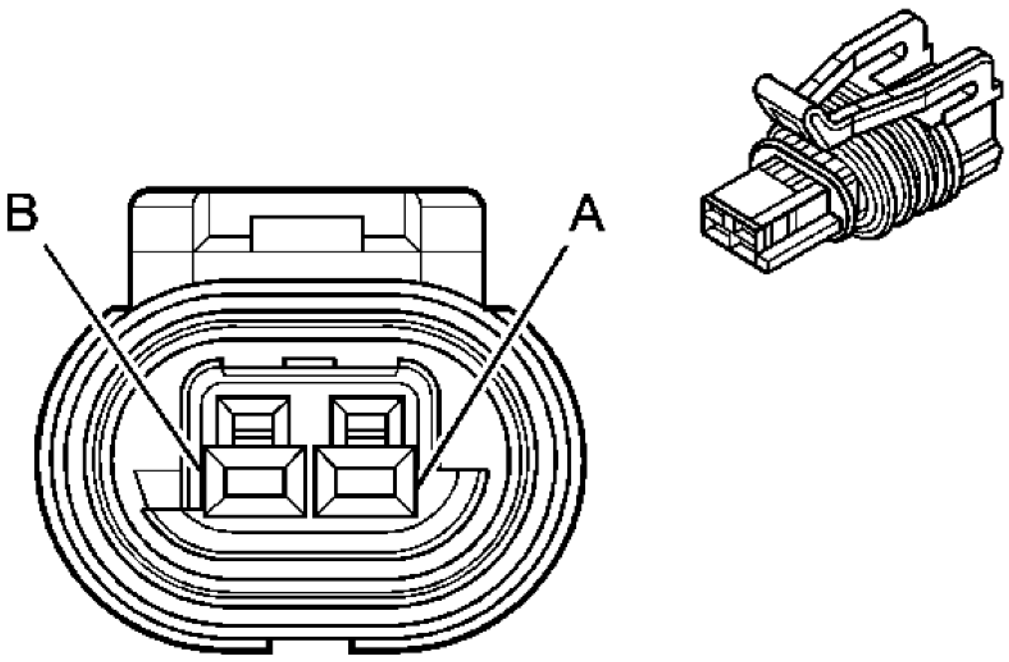


Fig. 33: B34 Engine Coolant Temperature Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15449028
- Service: 88987993
- Description: 2-Way F GT 150 Series, Sealed (BK)

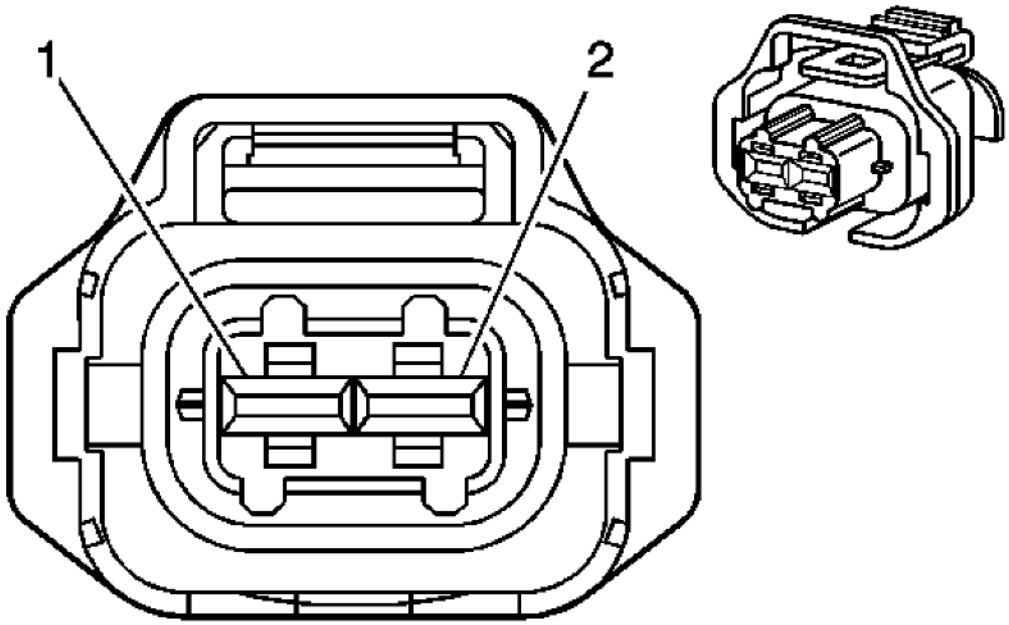
Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B34 Engine Coolant Temperature Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	2761	Low Reference
B	0.5 YE	410	ECT Sensor Signal

B34 ENGINE COOLANT TEMPERATURE SENSOR (LLT)



cardiagn.com

Fig. 34: B34 Engine Coolant Temperature Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339756
- Service: 88988963
- Description: 2-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498054/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B34 Engine Coolant Temperature Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 YE	410	ECT Sensor Signal
2	0.5 TN	476	Low Reference

B35C ENGINE OIL LEVEL AND TEMPERATURE SENSOR (L99 OR LS3)

cardiagn.com

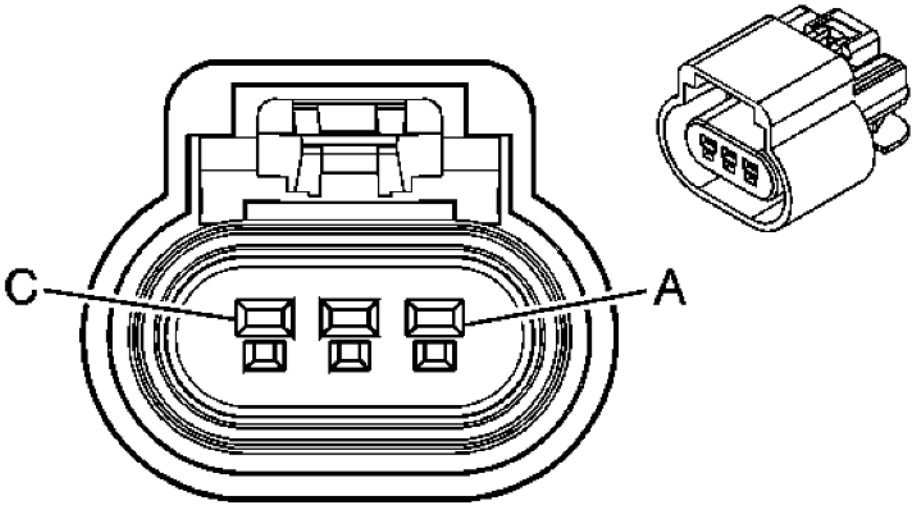


Fig. 35: B35C Engine Oil Level and Temperature Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13519047
- Service: 19153104
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B35C Engine Oil Level and Temperature Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 BN	1174	Oil Level Switch Signal
B	-	-	Not Used (M10)

cardiagn.com

	0.5 BN/L-BU	357	Oil Temperature Sensor Signal (MYC)
C	0.5 BK/WH	451	Ground

B37B ENGINE OIL PRESSURE SENSOR (L99 OR LS3)

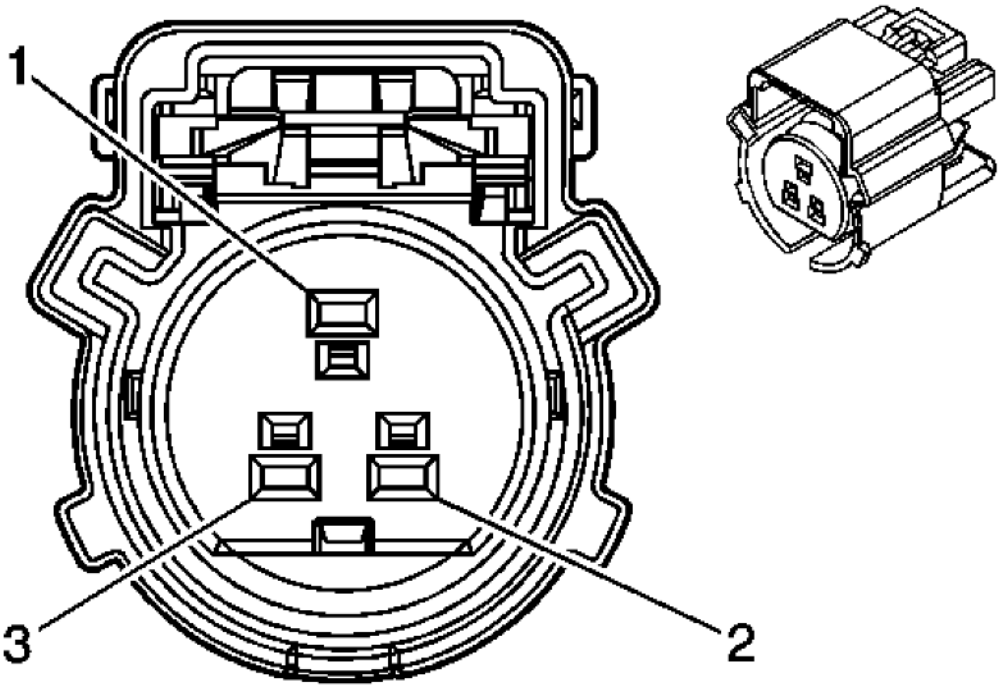


Fig. 36: B37B Engine Oil Pressure Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13589761
- Service: 19207215
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B37B Engine Oil Pressure Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
1	0.5 TN/WH	331	Oil Pressure Sensor Signal
2	0.5 GY	2705	5-Volt Reference 1
3	0.5 BK	2755	Low Reference

B37B ENGINE OIL PRESSURE SENSOR (LLT)

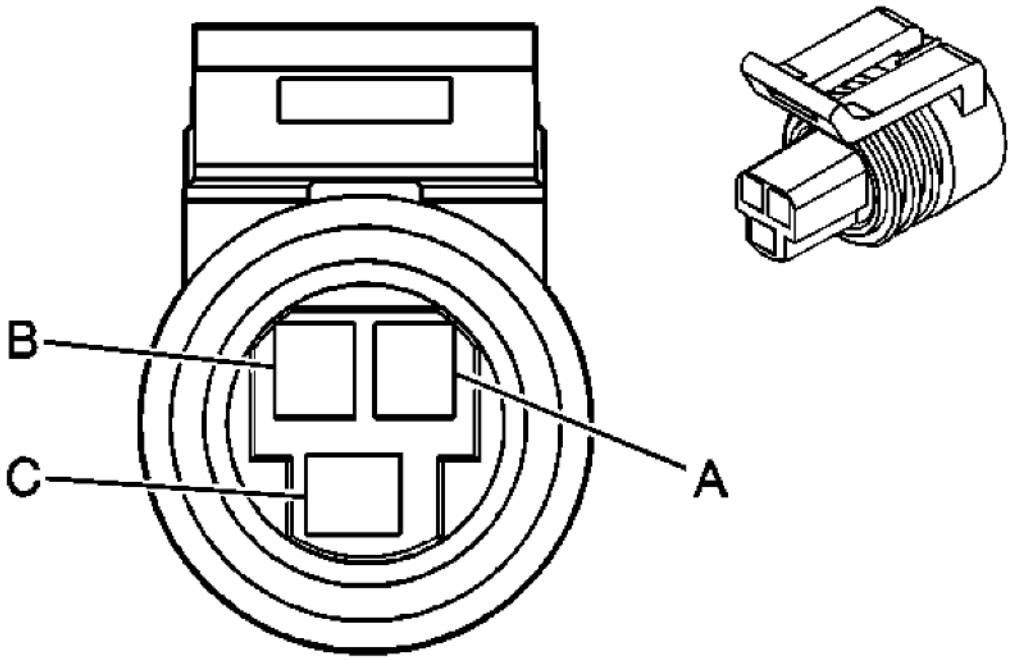


Fig. 37: B37B Engine Oil Pressure Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12065287
- Service: 88988301

cardiagn.com

- Description: 3-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12103881/2
- Core/Insulation Crimp: E/C
- Release Tool: 12180559-1
- Test Probe: J-35616-14 (GN)

B37B Engine Oil Pressure Sensor (LLT)

Pin	Wire	Circuit	Function
A	0.5 BK	2755	Low Reference
B	0.5 GY	2705	5-Volt Reference 1
C	0.5 TN/WH	331	Oil Pressure Sensor Signal

B39 A/C EVAPORATOR TEMPERATURE SENSOR

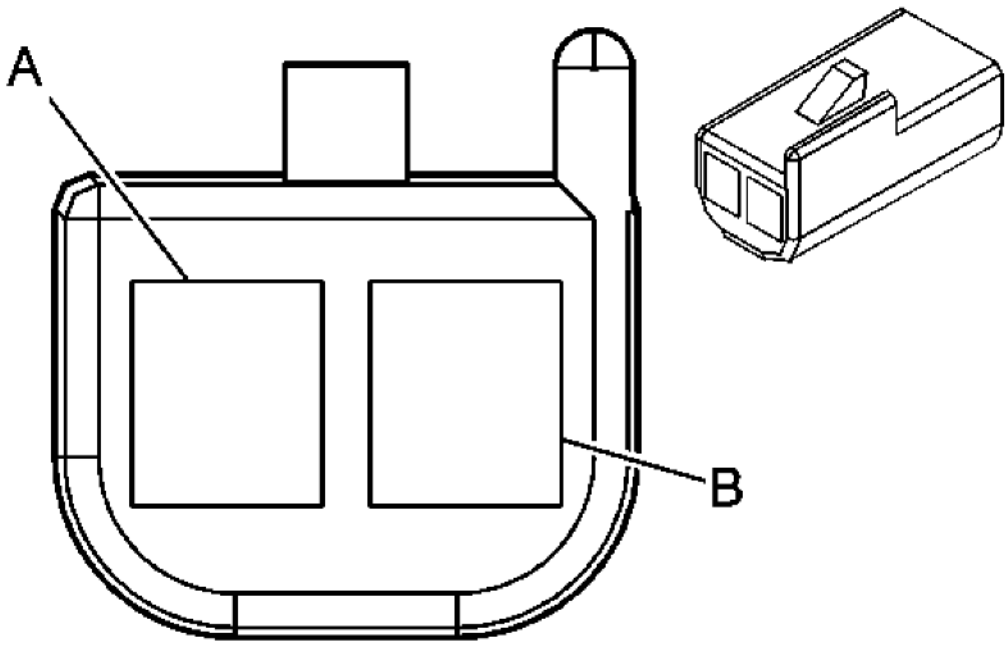


Fig. 38: B39 A/C Evaporator Temperature Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: HVAC
- OEM: 12047662
- Service: 12085535
- Description: 2-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 15326030/2
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B39 A/C Evaporator Temperature Sensor

Pin	Wire	Circuit	Function
A	0.35 GY	6137	EVAP Core Temperature Sensor Signal
B	0.35 TN	407	Low Reference

B46B FUEL LEVEL SENSOR - SECONDARY

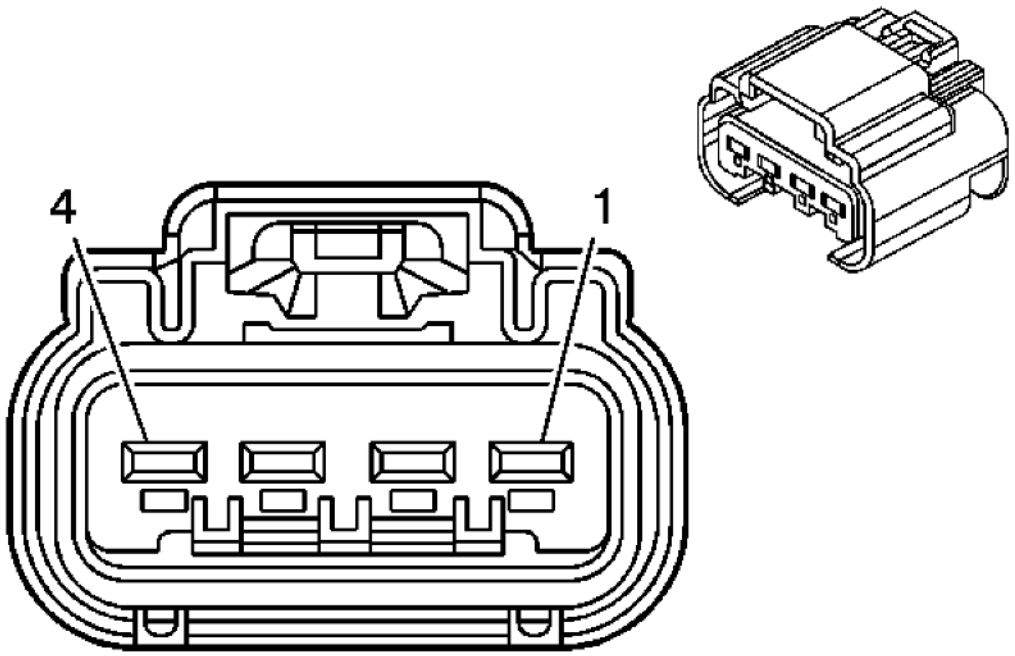


Fig. 39: B46B Fuel Level Sensor - Secondary

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 13527865
- Service: Service by Harness - See Part Catalog
- Description: 4-Way F GT 280 Series, Sealed (NA)

Terminal Part Information

- Terminal/Tray: 15304719/19
- Core/Insulation Crimp: E/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

B46B Fuel Level Sensor - Secondary

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.5 BN/WH	6281	Low Reference
4	0.5 YE	1937	Fuel Level Sensor Signal - Secondary (Early Production)
	0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary Late Production)

B47 FUEL PRESSURE SENSOR

cardiagn.com

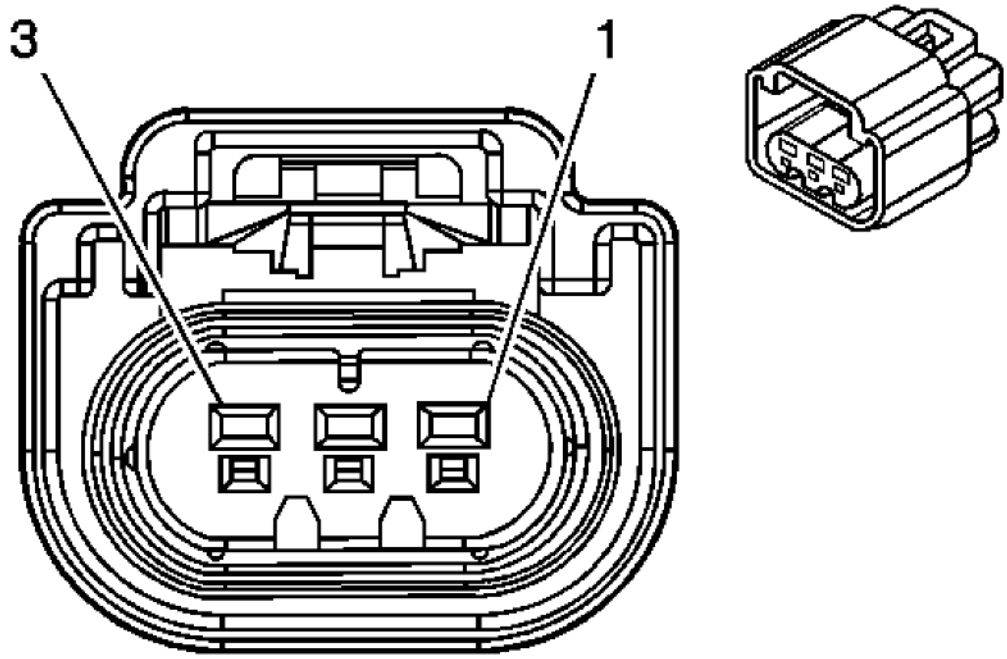


Fig. 40: B47 Fuel Pressure Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 13511131
- Service: 19168035
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B47 Fuel Pressure Sensor

Pin	Wire	Circuit	Function
	0.5 GY	7446	Fuel Pressure Sensor Signal (Early

cardiagn.com

1			Production)
	0.5 PU	7446	Fuel Pressure Sensor Signal (Late Production)
2	0.5 BN	7447	Low Reference (Early Production)
	0.5 GY	7447	Low Reference (Late Production)
3	0.5 OG	7445	5-Volt Reference (Early Production)
	0.5 BN	7445	5-Volt Reference (Late Production)

B47B FUEL RAIL PRESSURE SENSOR (LLT)

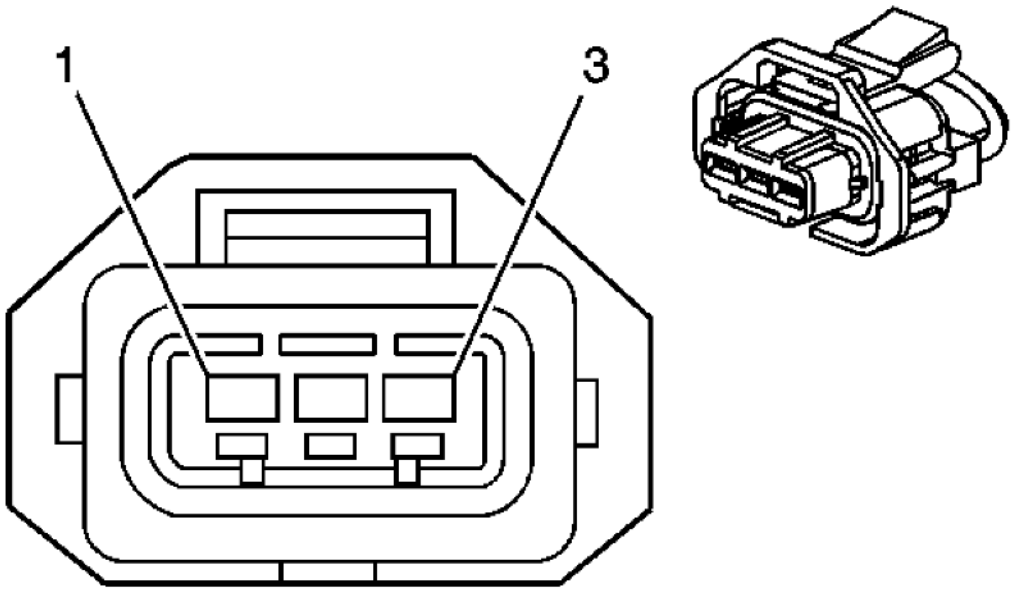


Fig. 41: B47B Fuel Rail Pressure Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403966
- Service: Service by harness - See Part Catalog
- Description: 3-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by harness - See Part Catalog

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

B47B Fuel Rail Pressure Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 L-BU	808	Low Reference
2	0.5 BK	2918	FRP Sensor Signal
3	0.5 WH	598	5-Volt Reference 1

B52C HEATED OXYGEN SENSOR - BANK 1 SENSOR 1 (L99 OR LS3)

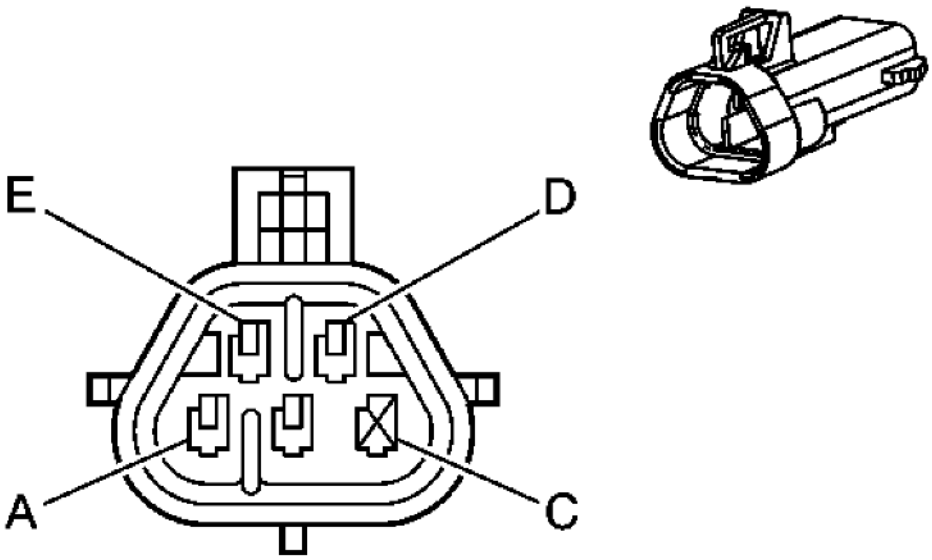


Fig. 42: B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12092839
- Service: 88987991

cardiagn.com

- Description: 5-Way M Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	1664	HO2S Low Signal - Bank 1 Sensor 1
B	0.5 PU/WH	1665	HO2S High Signal Bank 1 Sensor 1
C	-	-	Not Used
D	0.5 PK/BK	5293	Ignition Voltage
E	0.5 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1

B52C HEATED OXYGEN SENSOR - BANK 1 SENSOR 1 (LLT)

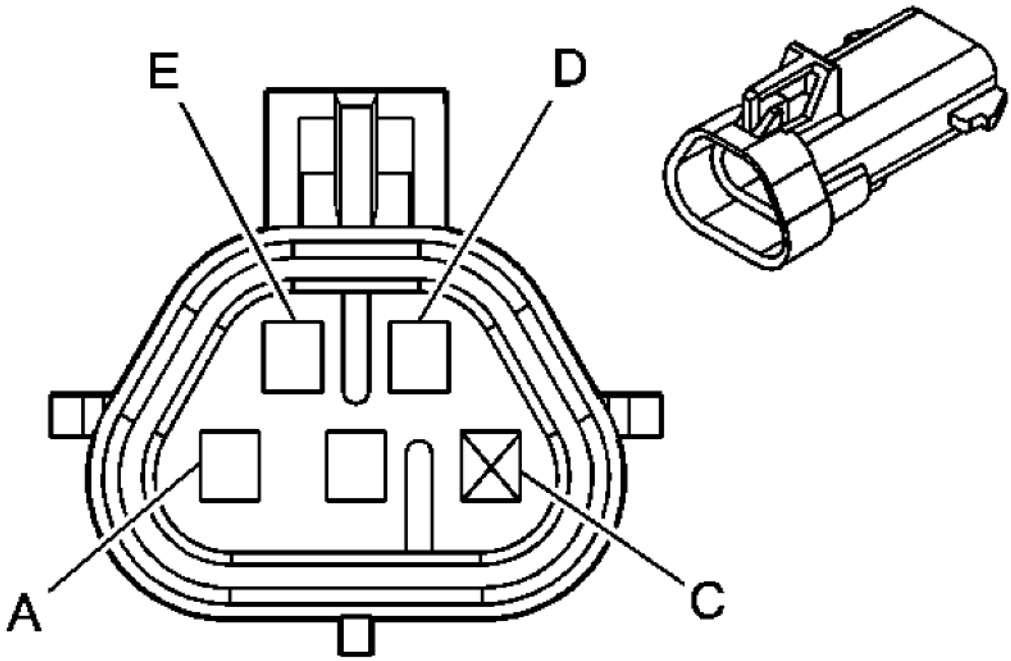


Fig. 43: B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (LLT)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12092840
- Service: 15306311
- Description: 5-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12177150/4
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (LLT)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	3111	HO2S Low Signal Bank 1 Sensor 1
B	0.5 PU/WH	3110	HO2S High SignalBank 1 Sensor 1
C	-	-	Not Used
D	0.8 PK/BK	5293	Ignition Voltage
E	0.8 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1

B52D HEATED OXYGEN SENSOR - BANK 1 SENSOR 2 (L99 OR LS3)

cardiagn.com

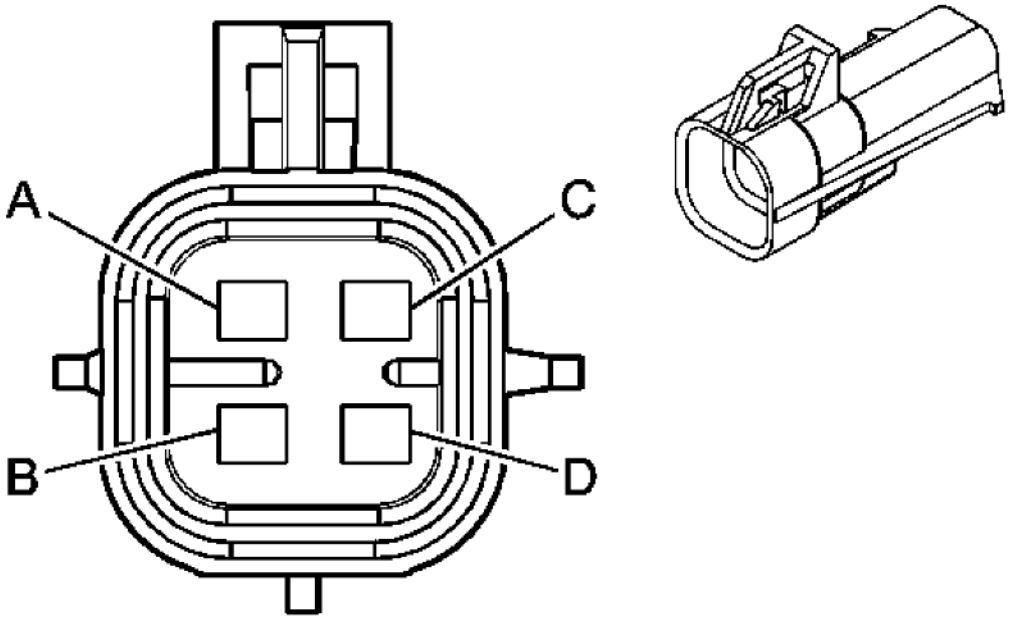


Fig. 44: B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15326423
- Service: 15326423
- Description: 4-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	1669	HO2S Low Signal Bank 1 Sensor 2
B	0.5 PU/WH	1668	HO2S High Signal Bank 1 Sensor 2

cardiagn.com

C	0.5 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2
D	0.5 PK/BK	5294	Ignition Voltage

B52D HEATED OXYGEN SENSOR - BANK 1 SENSOR 2 (LLT)

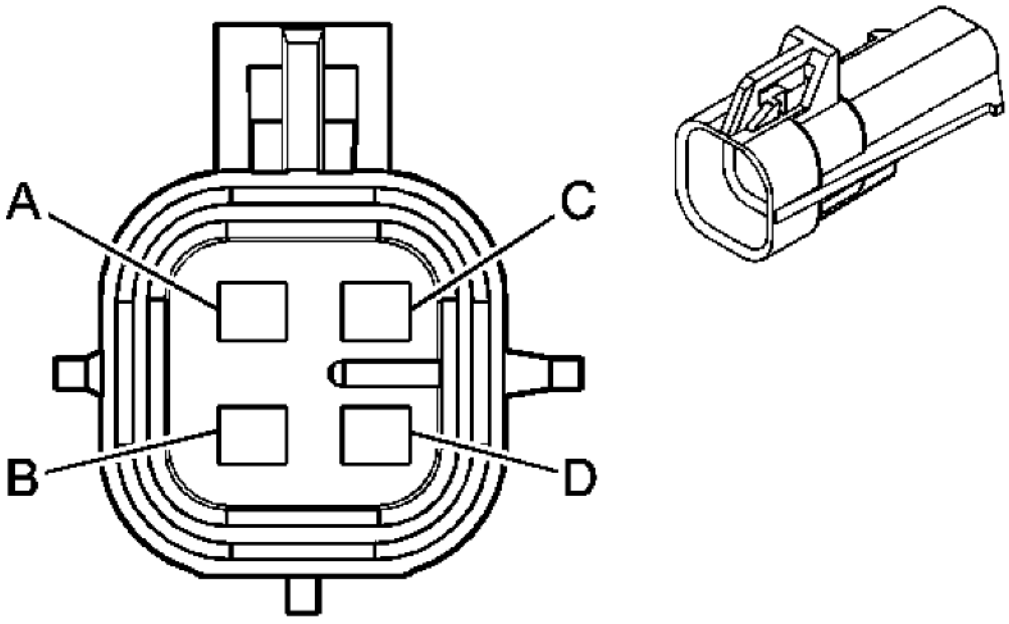


Fig. 45: B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12160825
- Service: 15305801
- Description: 4-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

cardiagn.com

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (LLT)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	3121	HO2S Low Signal Bank 1 Sensor 2
B	0.5 PU	3120	HO2S High Signal Bank 1 Sensor 2
C	0.8 PK/BK	5294	Ignition Voltage
D	0.8 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2

B52E HEATED OXYGEN SENSOR - BANK 2 SENSOR 1 (L99 OR LS3)

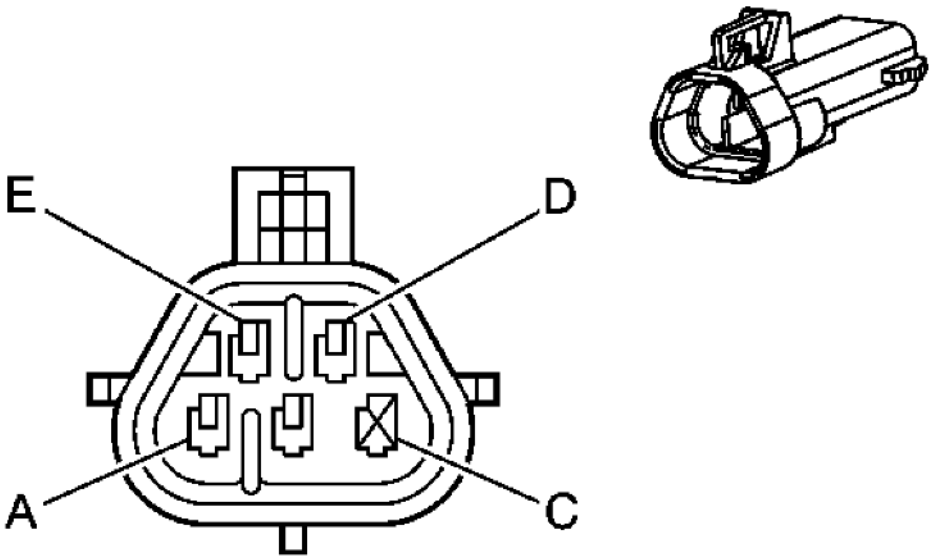


Fig. 46: B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12092839
- Service: 88987991
- Description: 5-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	1667	HO2S Low Signal Bank 2 Sensor 1
B	0.5 PU	1666	HO2S High Signal Bank 2 Sensor 1
C	-	-	Not Used
D	0.5 PK/BK	5293	Ignition Voltage
E	0.5 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1

B52E HEATED OXYGEN SENSOR - BANK 2 SENSOR 1 (LLT)

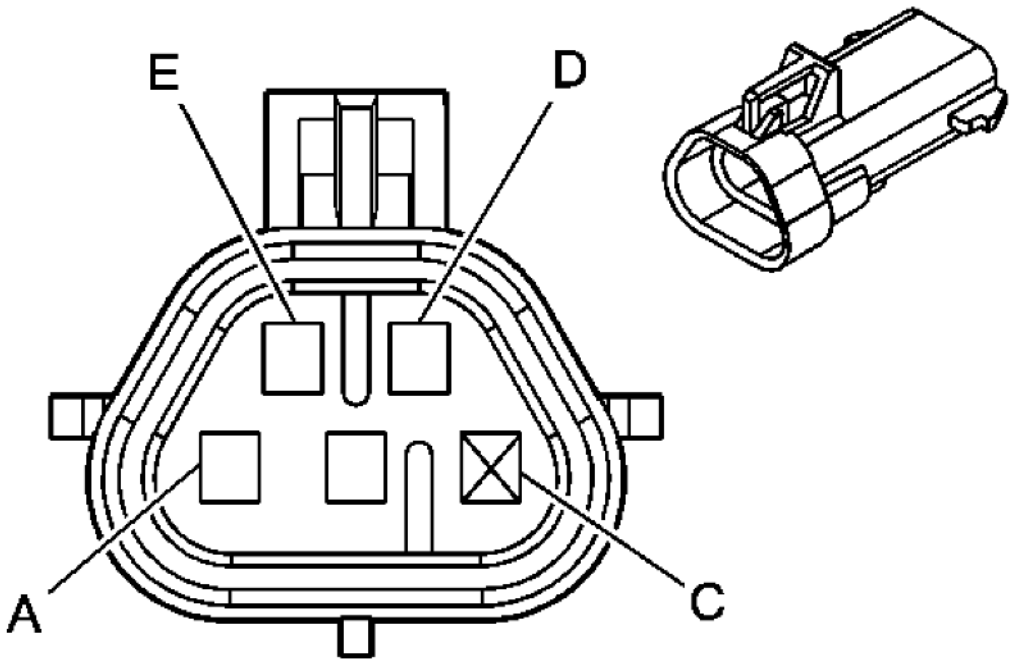


Fig. 47: B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 12092840
- Service: 15306311
- Description: 5-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12177150/4
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (LLT)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	3211	HO2S Low Signal Bank 2 Sensor 1
B	0.5 PU/WH	3210	HO2S High Signal Bank 2 Sensor 1
C	-	-	Not Used
D	0.8 PK/BK	5293	Ignition Voltage
E	0.8 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1

B52F HEATED OXYGEN SENSOR - BANK 2 SENSOR 2 (L99 OR LS3)

cardiagn.com

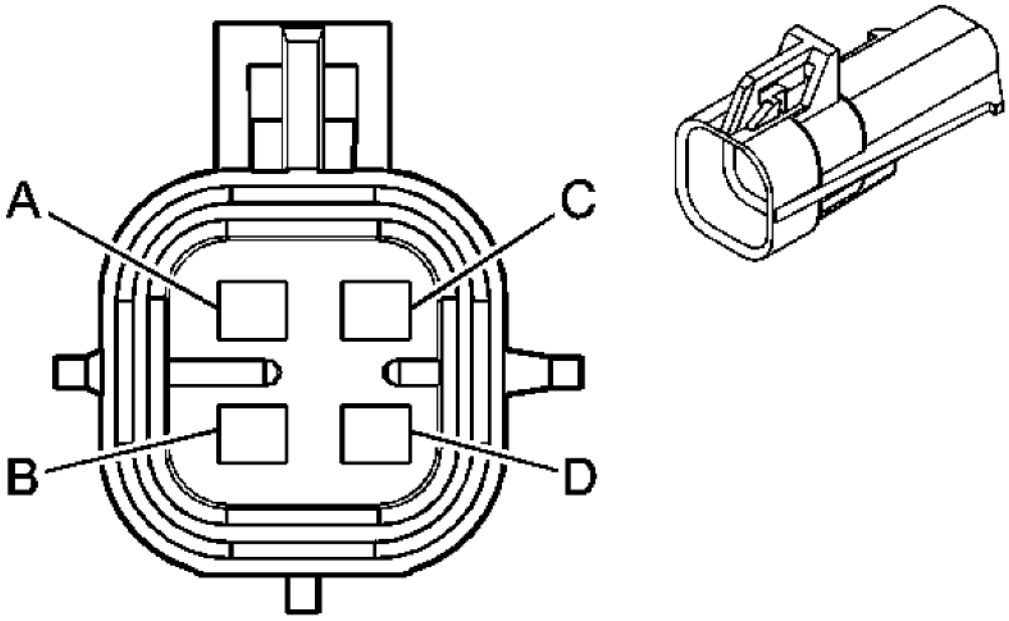


Fig. 48: B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15326423
- Service: 15326423
- Description: 4-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	1671	HO2S Low Signal Bank 2 Sensor 2
B	0.5 PU	1670	HO2S High Signal Bank 2 Sensor 2

cardiagn.com

C	0.5 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
D	0.5 PK/BK	5294	Ignition Voltage

B52F HEATED OXYGEN SENSOR - BANK 2 SENSOR 2 (LLT WITH MV5)

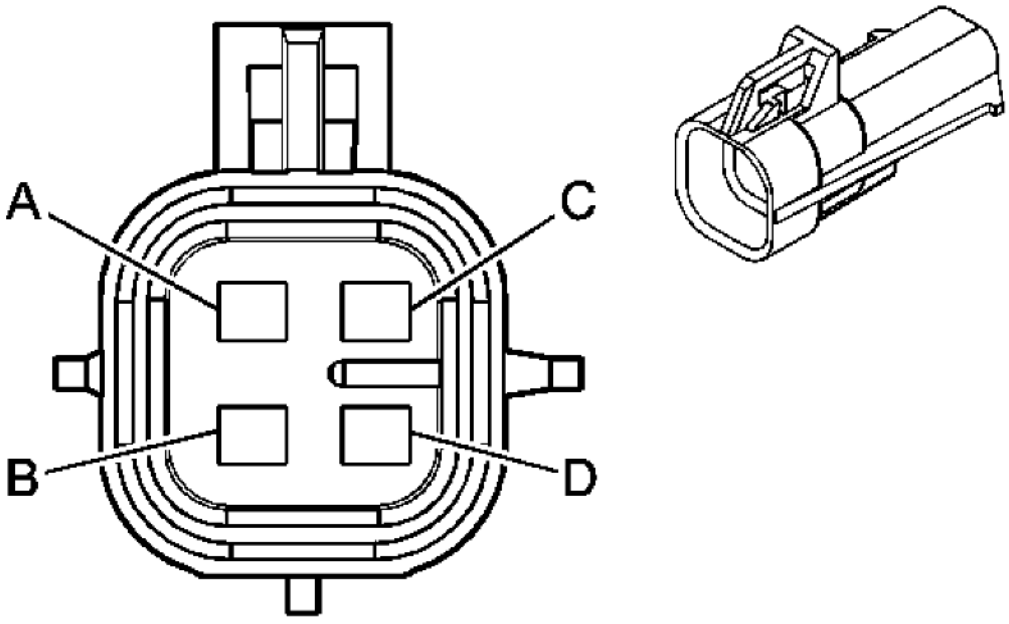


Fig. 49: B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MV5)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12160825
- Service: 15305801
- Description: 4-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

cardiagn.com

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MV5)

Pin	Wire	Circuit	Function
A	0.5 TN	3221	HO2S Low Signal Bank 2 Sensor 2
B	0.5 PU	3220	HO2S High Signal Bank 2 Sensor 2
C	0.8 PK/BK	5294	Ignition Voltage
D	0.8 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2

B52F HEATED OXYGEN SENSOR - BANK 2 SENSOR 2 (LLT WITH MYB)

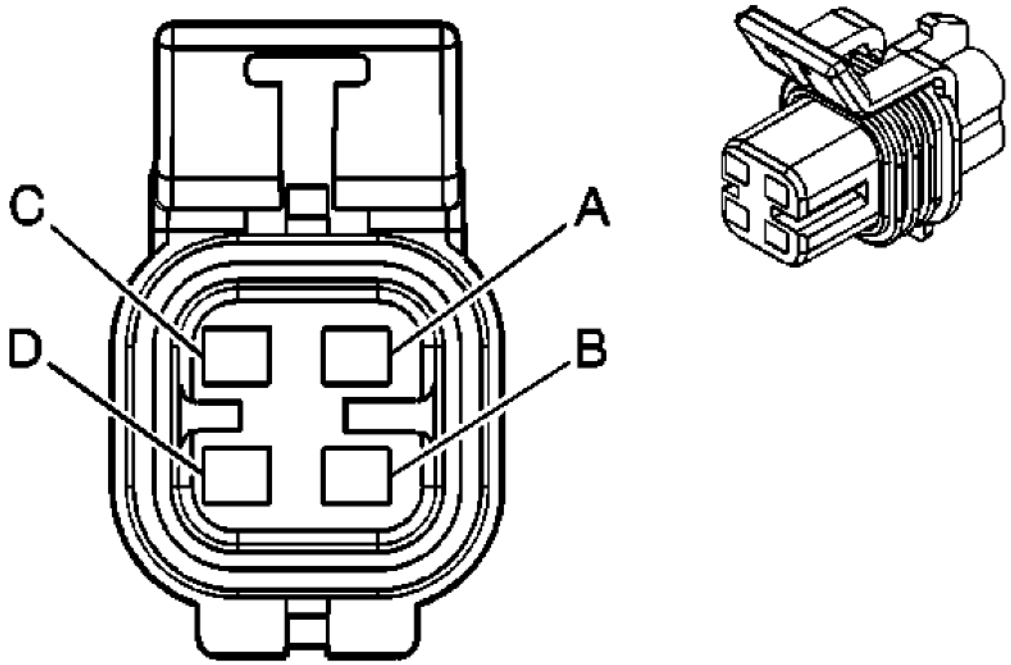


Fig. 50: B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MYB)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12176897
- Service: 15305960
- Description: 4-Way F Metri-Pack 150 Sealed (L-GY)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MYB)

Pin	Wire	Circuit	Function
A	0.5 TN	3221	HO2S Low Signal Bank 2 Sensor 2
B	0.5 PU	3220	HO2S High Signal Bank 2 Sensor 2
C	0.8 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
D	0.8 PK/BK	5294	Ignition Voltage

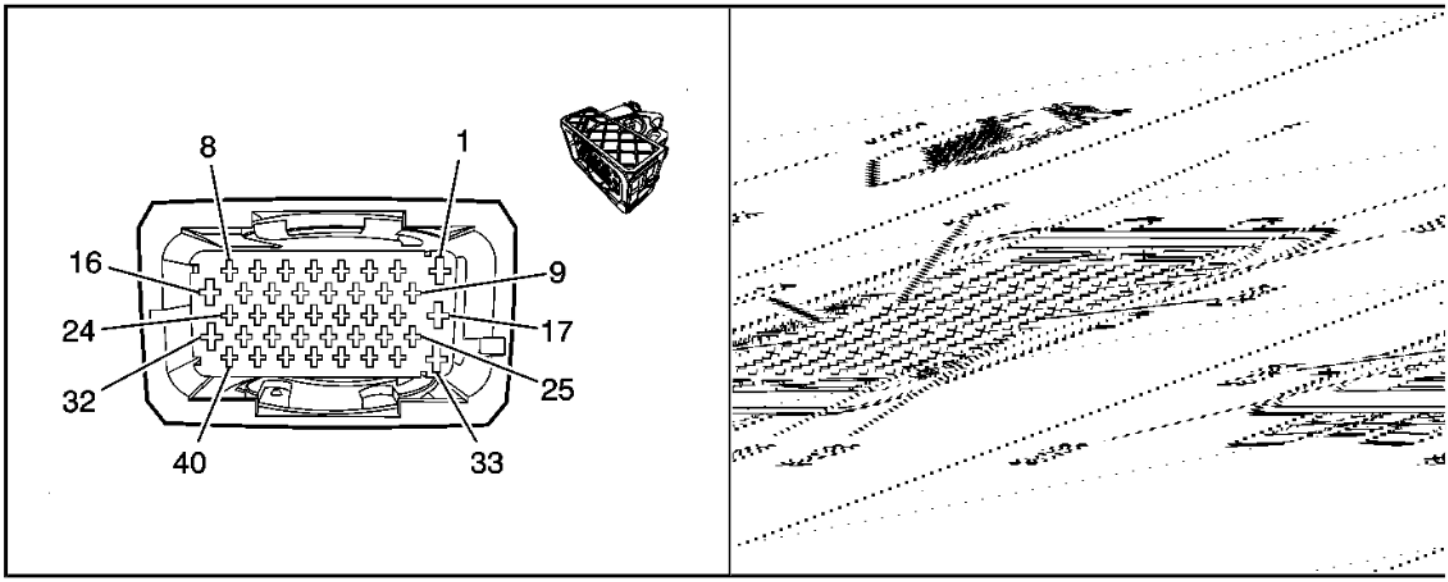
cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Inline Harness Connector End Views - Camaro

INLINE HARNESS CONNECTOR END VIEWS

X102 ENGINE HARNESS TO FORWARD LAMP HARNESS



Connector Part Information

- Harness: Engine
- OEM: 13603185
- Service: 13317815
- Description: 40-Way F 1.5/2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 2, 3, 4, 5, 6, 7, 29, 30, 31
- Terminal/Tray: 15327885/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pin: 1
- Terminal/Tray: 4-964286-1/16
- Core/Insulation Crimp: E/1

Connector Part Information

- Harness: Forward Lamp
- OEM: 13603205
- Service: 13317819
- Description: 40-Way M 1.5/2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 29, 30, 31, 34, 35
- Terminal/Tray: 10725381/Pending

cardiagn.com

- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 8, 9, 10, 11, 12, 13, 14, 15, 19, 20, 21, 22, 34
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Pins: 18, 23, 24, 25, 35
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pin: 1
- Terminal/Tray: 1-962915-3/15
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-36
- Test Probe: J-35616-5 (PU)

X102 Engine Harness to Forward Lamp Harness

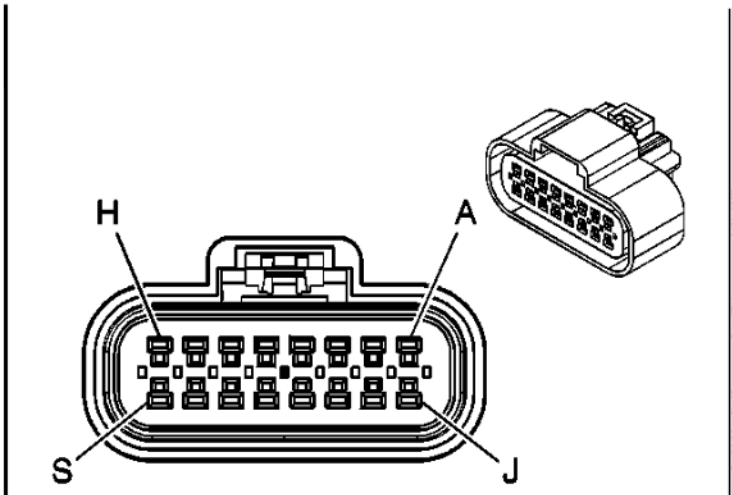
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	0.8 RD/WH	440	Battery Positive Voltage	1	0.8 RD/WH	440	Battery Positive Voltage
2	0.5 D-BU	1161	APP Sensor 1 Signal	2	0.5 D-BU	1161	APP Sensor 1 Signal
3	0.5 WH/BK	1164	5-Volt Reference 2	3	0.5 WH/BK	1164	5-Volt Reference 2
4	0.5 BN	1271	Low Reference	4	0.5 BN	1271	Low Reference
5	0.5 L-BU	1162	APP Sensor 2 Signal	5	0.5 L-BU	1162	APP Sensor 2 Signal
6	0.5 TN	1274	5-Volt Reference 3 (LLT)	6	0.5 TN	1274	5-Volt Reference 3 (LLT)
			5-Volt Reference 1 (L99/LS3)				5-Volt Reference 1 (L99/LS3)
7	0.5 PU	1272	Low Reference	7	0.5 PU	1272	Low Reference
8	0.5 L-BU/WH	6311	Brake Pedal Switch Signal	8	0.5 L-BU/WH	6311	Brake Pedal Switch Signal
9	0.5 BN/WH	419	MIL Control	9	0.5 BN/WH	419	MIL Control
10	0.5 D-GN/WH	465	Fuel Pump Relay Control	10	0.35 D-GN/WH	465	Fuel Pump Relay Control
11	0.5 WH	1310	EVAP Canister Vent Solenoid Control	11	0.5 WH	1310	EVAP Canister Vent Solenoid Control
12	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal	12	0.35 D-GN	890	Fuel Tank Pressure Sensor Signal
13	0.5 GY	2709	5-Volt Reference 1	13	0.35 GY	2709	5-Volt Reference 1
14	0.5 D-BU	1936	Fuel Level Sensor	14	0.35 D-BU	1936	Fuel Level Sensor

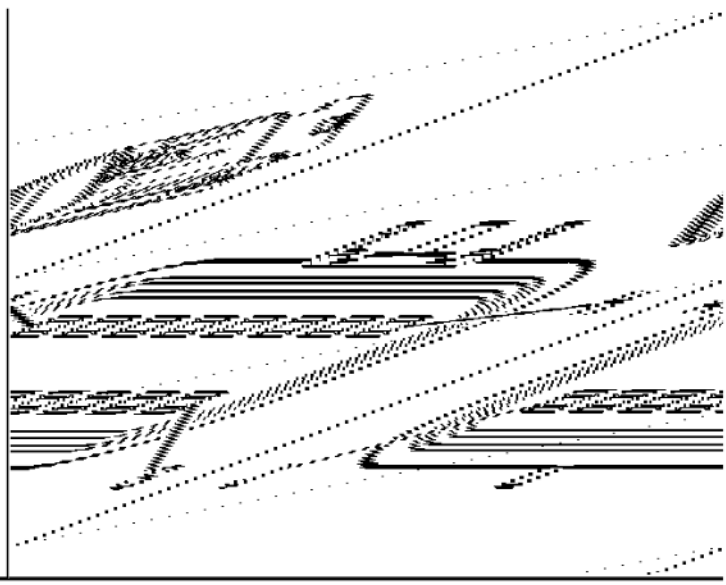
cardiagn.com

			Signal				Signal
15	0.5 BN/WH	6281	Low Reference	15	0.35 BN/WH	6281	Low Reference
16-17	-	-	Not Used	16-17	-	-	Not Used
18	0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary	18	0.35 L-BU	1937	Fuel Level Sensor Signal - Secondary
19	0.5 GY	2700	5-Volt Reference 3 (LLT)	19	0.5 GY	2700	5-Volt Reference 3 (LLT)
			5-Volt Reference 1 (L99/LS3)				5-Volt Reference 1 (L99/LS3)
20	0.5 TN	5514	Low Reference	20	0.5 TN	5514	Low Reference
21	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal	21	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal
22	0.35 D-BU	5985	Serial Data Wake-Up Signal	22	0.35 D-BU	5985	Serial Data Wake-Up Signal
23-28	-	-	Not Used	23-28	-	-	Not Used
29	0.5 TN	6109	5-Volt Reference 2 (M10)	29	0.5 TN	6109	5-Volt Reference 2 (M10)
	0.5 GY	2709	5-Volt Reference 1 (MV5)				5-Volt Reference 1 (MV5)
30	0.5 WH	6110	Low Reference (M10)	30	0.5 WH	6110	Low Reference
	0.5 BN/WH	6281	Low Reference (MV5)				
31	0.5 YE	6111	Clutch Pedal Position Sensor Signal (M10 or MV5)	31	0.5 YE	6111	Clutch Pedal Position Sensor Signal (M10 or MV5)
32-33	-	-	Not Used	32-33	-	-	Not Used
34	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus+	34	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
35	0.5 TN	2501	High Speed GMLAN Serial Data Bus -	35	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
36-40	-	-	Not Used	36-40	-	-	Not Used

X103 FORWARD LAMP HARNESS TO BODY EXTENSION HARNESS

cardiagn.com





Connector Part Information

- Harness: Forward Lamp
- OEM: 15326863
- Service: 19180282
- Description: 16-Way F GT 150 Sealed 4.0 (BK)

Terminal Part Information

- Pins: A, B, D, E, F, J, K, L, M, N, P, R
- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins: A, B, E, F, J, K, L, M, N, P, R : E/A
- Core/Insulation Crimp: Pin: D : 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Connector Part Information

- Harness: Body Extension
- OEM: 15326868
- Service: 15306364
- Description: 16-Way M 150 Series, Sealed (BK)

Terminal Part Information

- Pins: A, B, D, E, F, J, K, L, M, N, P, R
- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: Pin: D : E/1
- Core/Insulation Crimp: Pin: A, B, E, F, J, K, L, M, N, P, R : E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

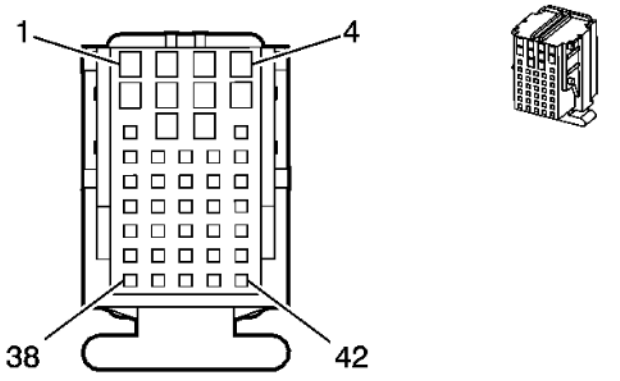
X103 Forward Lamp Harness to Body Extension Harness

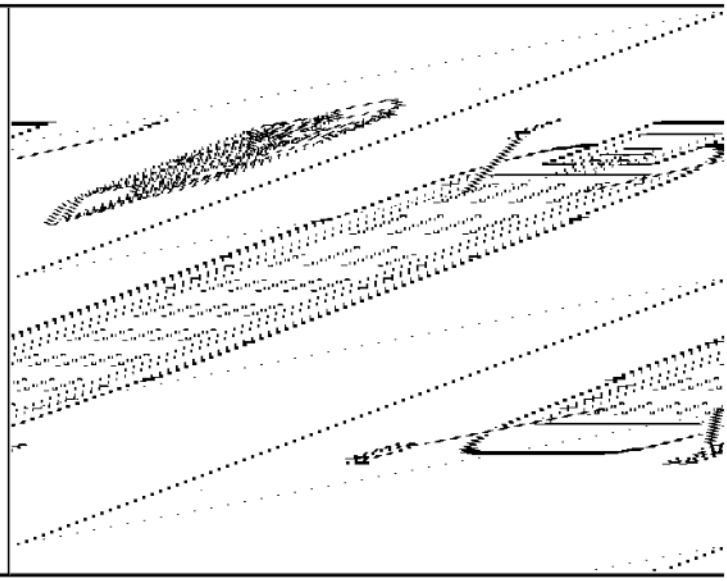
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 BN	882	Right Rear Wheel Speed Sensor Signal	A	0.5 BN	882	Right Rear Wheel Speed Sensor Signal
B	0.5 TN	884	Left Rear Wheel Speed Sensor Signal	B	0.5 TN	884	Left Rear Wheel Speed Sensor Signal
C	-	-	Not Used	C	-	-	Not Used
D	0.8 RD/WH	440	Battery Positive Voltage	D	0.8 RD/WH	440	Battery Positive Voltage
			Fuel Level Sensor				Fuel Level Sensor

cardiagn.com

E	0.35 L-BU	1937	Signal - Secondary	E	0.35 L-BU	1937	Signal - Secondary
F	0.35 D-GN/WH	465	Fuel Pump Relay Control	F	0.35 D-GN/WH	465	Fuel Pump Relay Control
G-H	-	-	Not Used	G-H	-	-	Not Used
J	0.5 WH	883	Low Reference	J	0.5 WH	883	Low Reference
K	0.5 OG	885	Low Reference	K	0.5 OG	885	Low Reference
L	0.5 WH	1310	EVAP Canister Vent Solenoid Control	L	0.5 WH	1310	EVAP Canister Vent Solenoid Control
M	0.35 D-GN	890	Fuel Tank Pressure Sensor Signal	M	0.35 D-GN	890	Fuel Tank Pressure Sensor Signal
N	0.35 GY	2709	5-Volt Reference 1	N	0.35 GY	2709	5-Volt Reference 1
P	0.35 D-BU	1936	Fuel Level Sensor Signal	P	0.35 D-BU	1936	Fuel Level Sensor Signal
R	0.35 BN/WH	6281	Low Reference	R	0.35 BN/WH	6281	Low Reference
S	-	-	Not Used	S	-	-	Not Used

X104 FORWARD LAMP HARNESS TO INSTRUMENT PANEL HARNESS





Connector Part Information

- Harness: Forward Lamp
- OEM: 15458508
- Service: Pending
- Description: 42-Way F 1.2 MTII 2.8 Series, Sealed (BK)

Connector Part Information

- Harness: Instrument Panel
- OEM: 13606818
- Service: Pending
- Description: 42-Way M 1.6 MTII 2.8 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Pins: 12, 13, 14, 15, 16, 17, 27
- Terminal/Tray: 15368843/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 1, 2, 3, 5, 8
- Terminal/Tray: 4-964286-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 18, 19, 20, 21, 22, 23, 29, 30, 31, 34, 26, 28, 32, 33, 36, 37, 38, 39, 40
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Pin: 9
- Terminal/Tray: 4-964274-1/25
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

Terminal Part Information

- Pins: 9, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 29, 30, 31, 34, 26, 27, 28, 32, 33, 36, 37, 38, 39, 40
- Terminal/Tray: 10726556/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 2, 3, 5, 8, 1
- Terminal/Tray: 1-962915-3/15
- Core/Insulation Crimp: Pins: 2, 3, 5, 8 : E/1
- Core/Insulation Crimp: Pin: 1 : See Terminal Repair Kit
- Release Tool: J-38125-36
- Test Probe: J-35616-5 (PU)

X104 Forward Lamp Harness to Instrument Panel Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	0.35 L-BU	5986	Serial Data Communication Enable	1	0.35 L-BU	5986	Serial Data Communication Enable
2	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage	2	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage
3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage	3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage
4	-	-	Not Used	4	-	-	Not Used
5	0.8 TN/WH	312	Right Headlamp Low Beam Supply Voltage (T4A)	5	0.8 D-BU	7539	Right Headlamp Low Beam Supply Voltage (T4A)
	0.5 D-BU	7539	DRL Control (T4F)				DRL Control (T4F)
6-7	-	-	Not Used	6-7	-	-	Not Used
			Left Headlamp Low				Left Headlamp Low

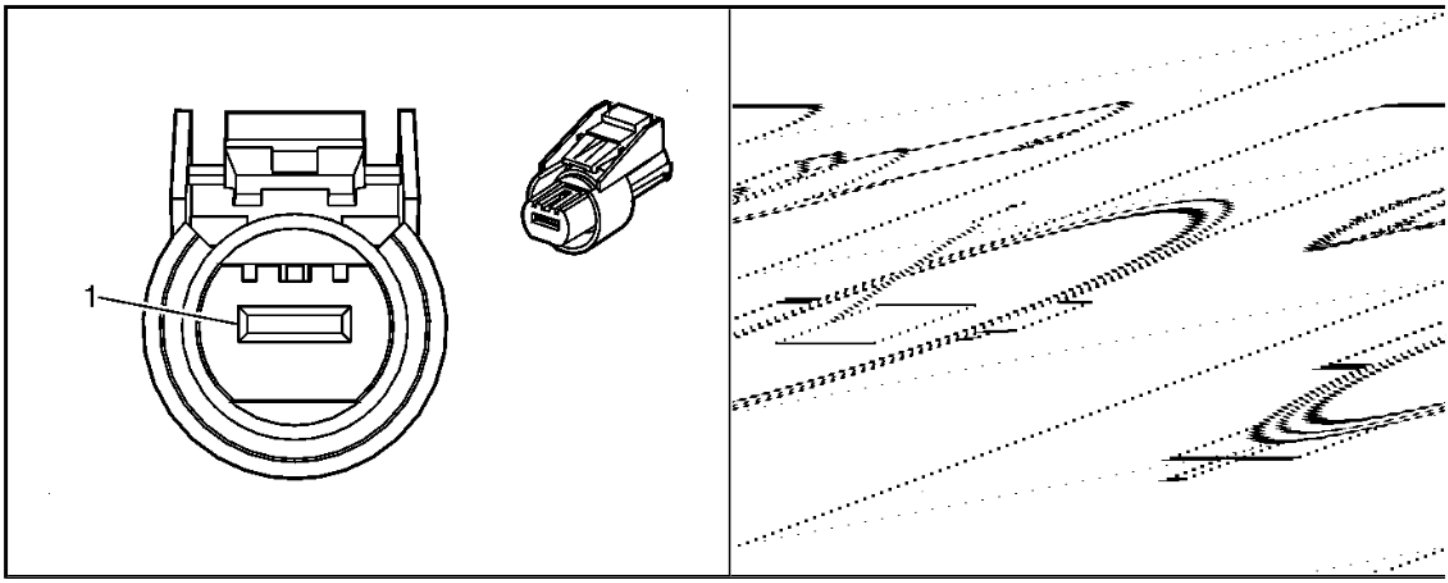
cardiagn.com

8	0.5 YE	712	Beam Supply Voltage (T4A)	8	0.8 L-BU	7538	Beam Supply Voltage (T4A)
	0.5 L-BU	7538	DRL Control (T4F)				DRL Control (T4F)
9	0.5 L-BU/WH	6311	Brake Pedal Switch Signal	9	0.35 L-BU/WH	6311	Brake Pedal Switch Signal
10-11	-	-	Not Used	10-11	-	-	Not Used
12	0.5 D-GN	2087	Steering Wheel Position Sensor 5-Volt Reference	12	0.5 D-GN	2087	Steering Wheel Position Sensor 5-Volt Reference
13	0.5 D-GN/WH	636	Ambient Air Temperature Sensor Signal	13	0.35 D-GN/WH	636	Ambient Air Temperature Sensor Signal
14	0.5 YE	61	Low Reference	14	0.35 YE	61	Low Reference
15	0.5 BN/WH	419	MIL Control	15	0.35 BN/WH	419	MIL Control
16	0.5 PU	709	Left Park Lamp Supply Voltage	16	0.5 PU	709	Left Park Lamp Supply Voltage
17	0.5 BN/WH	309	Right Park Lamp Supply Voltage	17	0.5 BN/WH	309	Right Park Lamp Supply Voltage
18	0.5 D-BU	1161	APP Sensor 1 Signal	18	0.35 D-BU	1161	APP Sensor 1 Signal
19	0.5 WH/BK	1164	5-Volt Reference 2	19	0.35 WH/BK	1164	5-Volt Reference 2
20	0.5 BN	1271	Low Reference	20	0.35 BN	1271	Low Reference
21	0.5 L-BU	1162	APP Sensor 2 Signal	21	0.35 L-BU	1162	APP Sensor 2 Signal
22	0.5 TN	1274	5-Volt Reference 3 (LLT)	22	0.35 TN	1274	5-Volt Reference 3 (LLT)
			5-Volt Reference 1 (L99/LS3)				5-Volt Reference 1 (L99/LS3)
23	0.5 PU	1272	Low Reference	23	0.35 PU	1272	Low Reference
24-25	-	-	Not Used	24-25	-	-	Not Used
26	0.35 D-BU	5985	Serial Data Wake-Up Signal	26	0.35 D-BU	5985	Serial Data Wake-Up Signal
27	0.5 PK/BK	109	Hood Ajar Switch Signal	27	0.35 PK/BK	109	Hood Ajar Switch Signal
28	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)	28	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
29	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)	29	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
30	0.5 TN	6109	5-Volt Reference 1 (MV5)	30	0.35 TN	6109	5-Volt Reference 1 (MV5)
			5-Volt Reference 2 (M10)				5-Volt Reference 2 (M10)
31	0.5 WH	6110	Low Reference (MV5 or M10)	31	0.35 WH	6110	Low Reference (MV5 or M10)

cardiagn.com

32	0.5 YE	6111	Clutch Pedal Position Sensor Signal (MV5 or M10)	32	0.35 YE	6111	Clutch Pedal Position Sensor Signal (MV5 or M10)
33	0.35 YE	354	Front End Sensor - Left - Signal	33	0.35 YE	354	Front End Sensor - Left - Signal
34	0.35 TN/OG	5045	Low Reference	34	0.35 TN/OG	5045	Low Reference
35	-	-	Not Used	35	-	-	Not Used
36	0.35 D-GN	1409	Front End Sensor - Right - Signal	36	0.35 D-GN	1409	Front End Sensor - Right - Signal
37	0.35 GY	5600	Low Reference	37	0.35 GY	5600	Low Reference
38	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+	38	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
39	0.35 TN	2501	High Speed GMLAN Serial Data Bus -	39	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
40	0.35 YE	196	Windshield Wiper Motor Park Switch Signal	40	0.35 YE	196	Windshield Wiper Motor Park Switch Signal
41-42	-	-	Not Used	41-42	-	-	Not Used

X105 FORWARD LAMP HARNESS TO INSTRUMENT PANEL HARNESS



Connector Part Information

- Harness: Forward Lamp
- OEM: 15326120
- Service: 15326120
- Description: 1-Way F Metri-Pack 800 Series,

Connector Part Information

- Harness: Instrument Panel
- OEM: 15326119
- Service: 89046877
- Description: 1-Way M Metri-Pack 800 Series,

cardiagn.com

Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15336748/20
- Core/Insulation Crimp: G/F/3
- Release Tool: 12150860
- Test Probe: J-35616-44 (YE)

Sealed (BK)

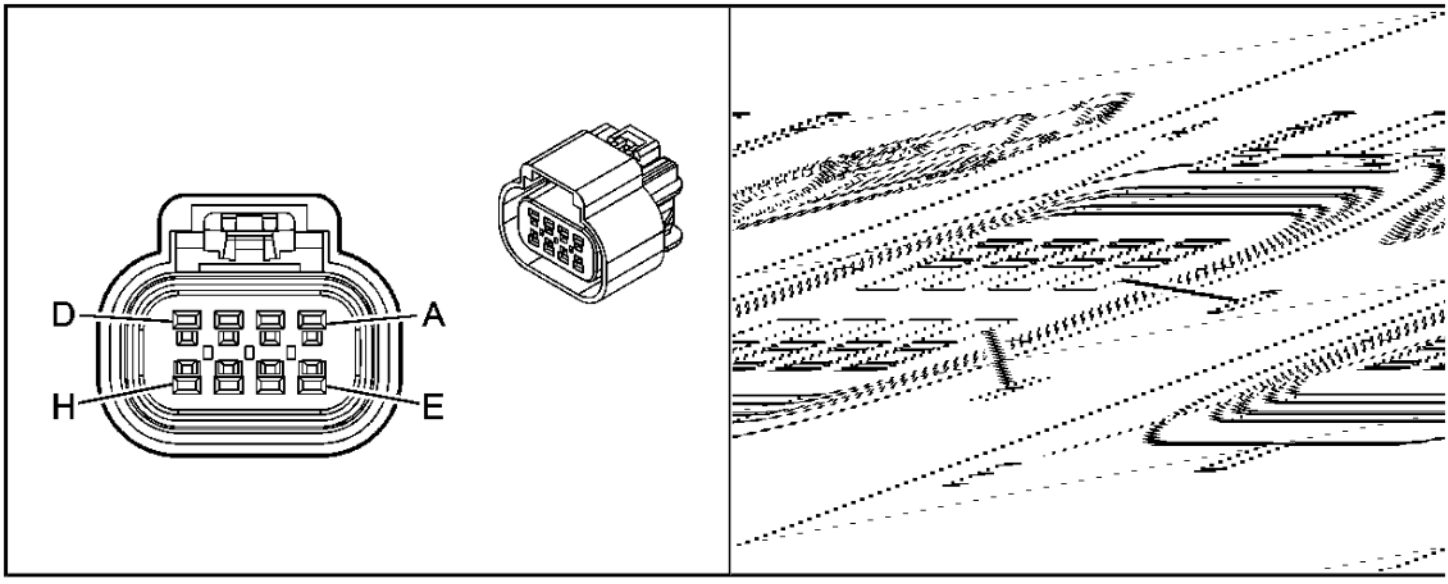
Terminal Part Information

- Terminal/Tray: 12129349/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

X105 Forward Lamp Harness to Instrument Panel Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	5 RD/BK	542	Battery Positive Voltage	1	5 RD/BK	542	Battery Positive Voltage

X108 FORWARD LAMP HARNESS TO FOG LAMP HARNESS



Connector Part Information

- Harness: Forward Lamp
- OEM: 15326835
- Service: 15326835
- Description: 8-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Pins: A, C, E, F, H, D
- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins: A, C, E, F, H :

Connector Part Information

- Harness: Fog Lamp
- OEM: 15326840
- Service: 15326840
- Description: 8-Way M GT 150 Sealed 4.0 (BK)

Terminal Part Information

- Pins: D, H, A, C, E, F, H
- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: Pins: D, H : E/1

cardiagn.com

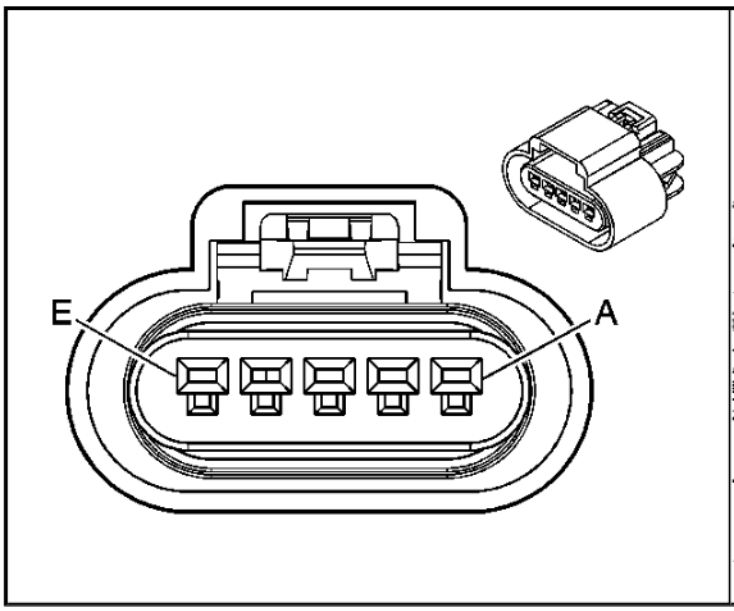
E/A
- Core/Insulation Crimp: Pins: D : 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

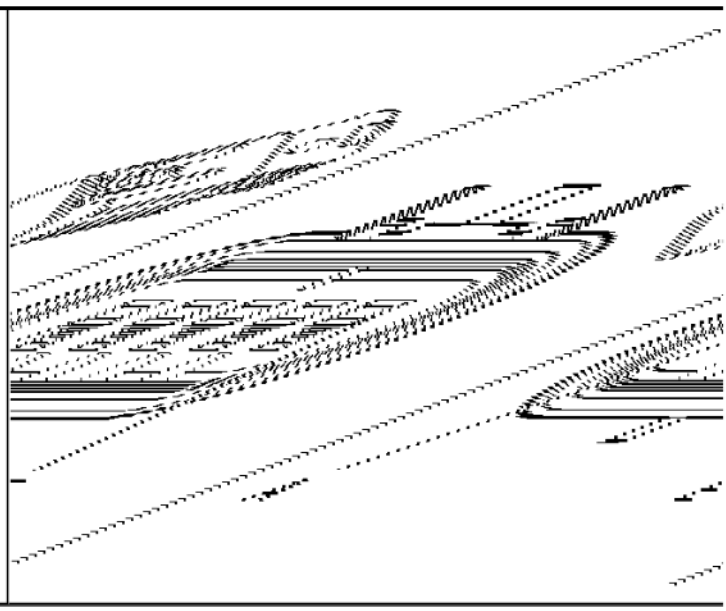
- Core/Insulation Crimp: Pins: A, C, E, F, H : E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

X108 Forward Lamp Harness to Fog Lamp Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 PU	709	Left Park Lamp Supply Voltage	A	0.5 PU	709	Left Park Lamp Supply Voltage
B	-	-	Not Used	B	-	-	Not Used
C	0.5 PU	2234	Front Fog Lamp Supply Voltage (T3U)	C	0.5 PU	2234	Front Fog Lamp Supply Voltage (T3U)
	0.5 L-BU	7538	DRL Control (T4F)		0.5 L-BU	7538	DRL Control (T4F)
D	0.8 BK	1050	Ground	D	0.8 BK	1050	Ground
E	0.5 BN/WH	309	Right Park Lamp Supply Voltage	E	0.5 BN/WH	309	Right Park Lamp Supply Voltage
F	0.5 PU	2234	Front Fog Lamp Supply Voltage (T3U)	F	0.5 PU	2234	Front Fog Lamp Supply Voltage (T3U)
	0.5 D-BU	7539	DRL Control (T4F)		0.5 D-BU	7539	DRL Control (T4F)
G	-	-	Not Used	G	-	-	Not Used
H	0.5 BK	1150	Ground	H	0.8 BK	1150	Ground

X109 ENGINE HARNESS TO CAMSHAFT POSTION SENSOR AND CAMSHAFT POSITION ACTUATOR SOLENOID VALVE HARNESS (L99)





Connector Part Information	Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 13519051
- Service: 19151498
- Description: 5-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Harness: Camshaft Postion (CMP) Sensor and Camshaft Position (CMP) Actuator Solenoid Valve
- OEM: 15326827
- Service: 13504593
- Description: 5-Way M GT 150 Series, Sealed (BK)

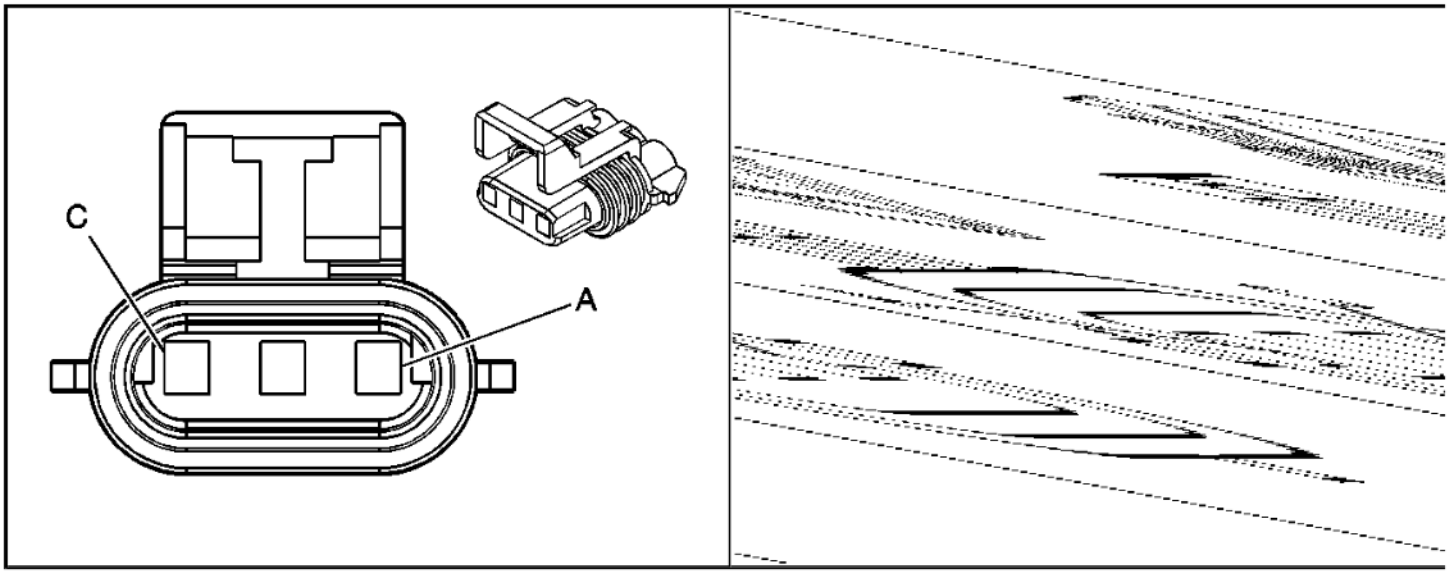
Terminal Part Information

- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

X109 Engine Harness to Camshaft Postion Sensor and Camshaft Position Actuator Solenoid Valve Harness (L99)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 D-BU	6259	5-Volt Reference 1	A	0.5 D-BU	6259	5-Volt Reference 1
B	0.5 BN	6266	Low Reference	B	0.5 BN	6266	Low Reference
C	0.5 D-BU/WH	6265	Camshaft Position Signal	C	0.5 D-BU/WH	6265	Camshaft Position Signal
D	0.5 PU	5284	CMP Actuator Solenoid Control	D	0.5 TN	5284	CMP Actuator Solenoid Control
E	0.5 TN	2199	Low Reference	E	0.5 PU	2199	Low Reference

X109 ENGINE HARNESS TO CAMSHAFT POSTION SENSOR HARNESS (LS3)



cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 12110293
- Service: 12117025
- Description: 3-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Connector Part Information

- Harness: Camshaft Postion Sensor
- OEM: 12129615
- Service: 15305889
- Description: 3-Way M Metri-Pack 150 Series, Sealed (BK)

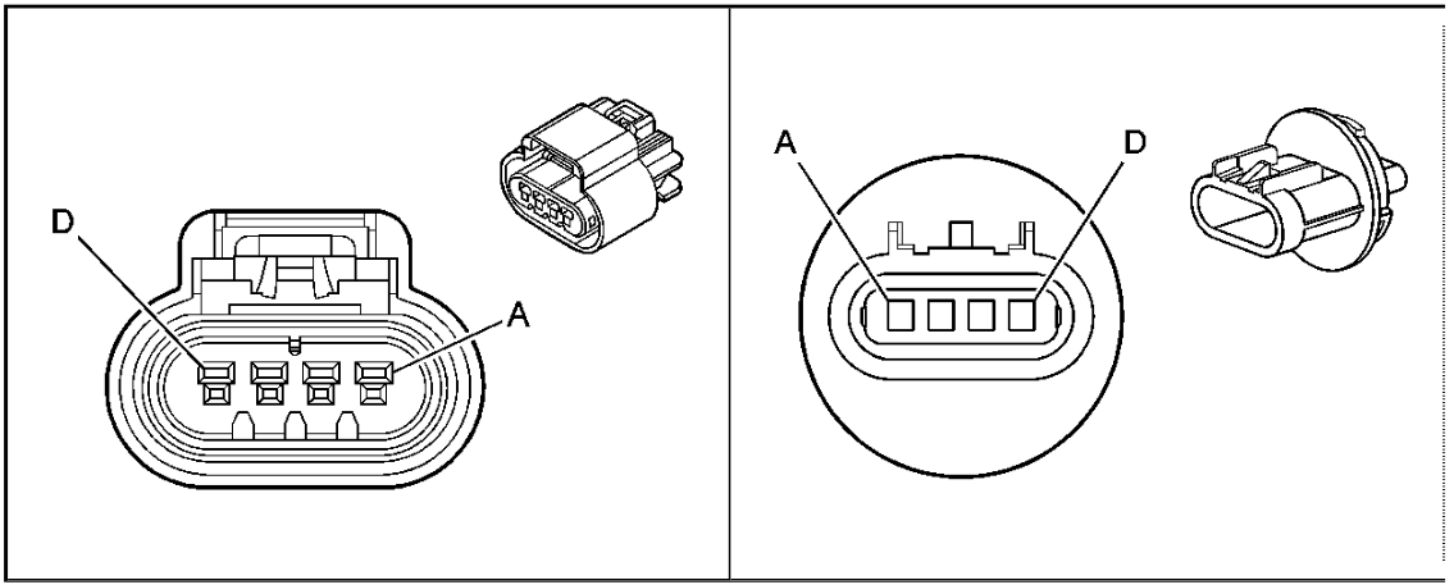
Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

X109 Engine Harness to Camshaft Postion Sensor Harness (LS3)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 D-BU	6259	5-Volt Reference 1	A	0.5 D-BU	6259	5-Volt Reference 1
B	0.5 BN	6266	Low Reference	B	0.5 BN	6266	Low Reference
C	0.5 D-BU/WH	6265	Camshaft Position Signal	C	0.5 D-BU/WH	6265	Camshaft Position Signal

X110 FORWARD LAMP HARNESS TO LEFT HEADLAMP HARNESS (T4F)



Connector Part Information

- Harness: Forward Lamp
- OEM: 15487756

Connector Part Information

- Harness: Left Headlamp
- OEM: 15369319

cardiagn.com

- Service: 19180287
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Pins: C, D, A, B
- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins: C, D : E/A
- Core/Insulation Crimp: Pins: A, B : 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Service: Service by Component Assembly - See Part Catalog
- Description: 4-Way M GT 150 Series, Sealed (BK)

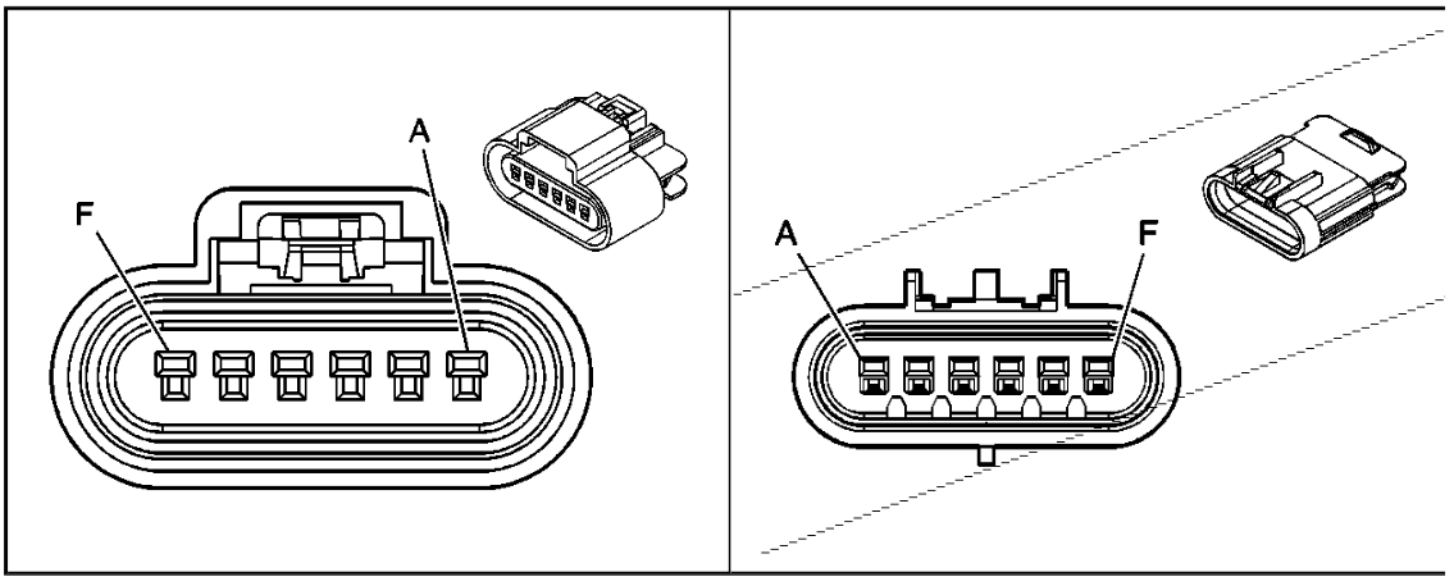
Terminal Part Information

- Terminal/Tray: Service by Component Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

X110 Forward Lamp Harness to Left Headlamp Harness (T4F)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	1 BK	1150	Ground	A	BK	1150	Ground
B	1 YE	712	Left Headlamp Low Beam Supply Voltage	B	RD	712	Left Headlamp Low Beam Supply Voltage
C	0.5 D-GN/WH	711	Left Headlamp High Beam Supply Voltage	C	L-GN	711	Left Headlamp High Beam Supply Voltage
D	0.5 PU	709	Left Park Lamp Supply Voltage	D	D-BU	709	Left Park Lamp Supply Voltage

X111 ENGINE HARNESS TO THROTTLE BODY JUMPER HARNESS (LLT)



Connector Part Information

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 15397577
- Service: 88988944
- Description: 6-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: Pins A, B - 2/1
- Core/Insulation Crimp: Pins C, D, E, F - E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Harness: Throttle Body Jumper
- OEM: 15326833
- Service: 15326833
- Description: 6-Way M GT 150 Series, Sealed (BK)

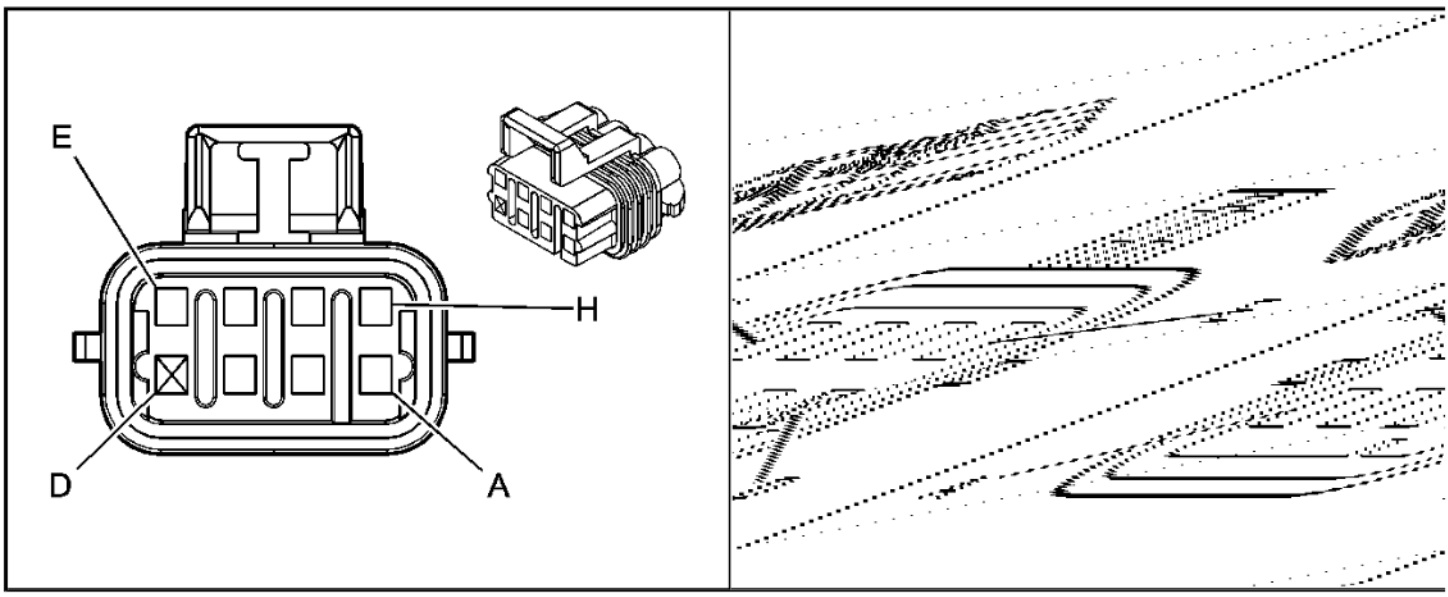
Terminal Part Information

- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: Pins A, B - E/1
- Core/Insulation Crimp: Pins C, D, E, F - E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

X111 Engine Harness to Throttle Body Jumper Harness (LLT)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.8 BN	582	TAC Motor Control - 2	A	0.8 BN	582	TAC Motor Control - 2
B	0.8 YE	581	TAC Motor Control - 1	B	0.8 YE	581	TAC Motor Control - 1
C	0.5 TN	2752	Low Reference	C	0.5 TN	2752	Low Reference
D	0.5 D-GN	485	TP Sensor 1 Signal	D	0.5 D-GN	485	TP Sensor 1 Signal
E	0.5 GY	2701	5-Volt Reference 3	E	0.5 GY	2701	5-Volt Reference 3
F	0.5 PU	486	TP Sensor 2 Signal	F	0.5 PU	486	TP Sensor 2 Signal

X112 ENGINE HARNESS TO COILS (EVEN) HARNESS (L99 OR LS3)



Connector Part Information

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 12047938
- Service: 12102754
- Description: 8-Way F Metri-Pack 150 Series, Sealed (L-GY)

Terminal Part Information

- Pins: B, C, E, F, G
- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

- Pins: A, H
- Terminal/Tray: 12160223/3
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

- Harness: Coils (Even)
- OEM: 15496016
- Service: Service by Harness - See Part Catalog
- Description: 8-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

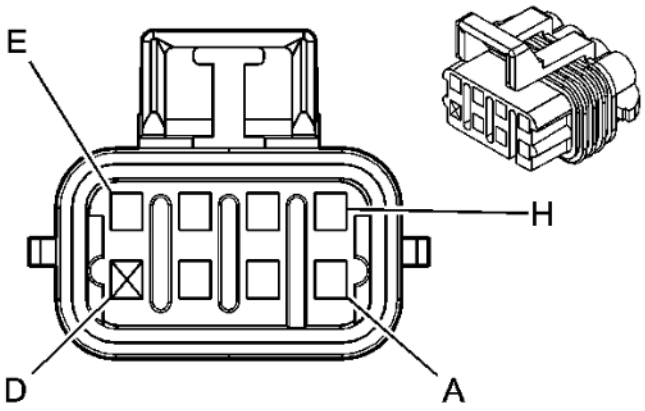
- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

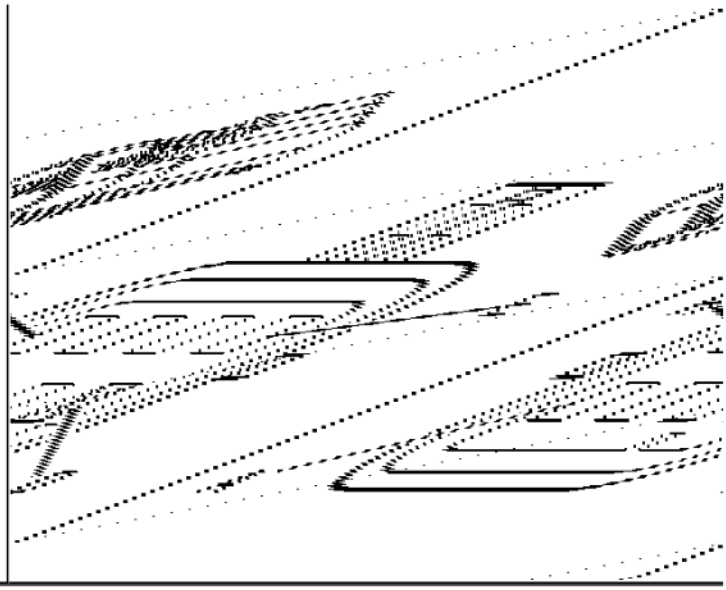
X112 Engine Harness to Coils (Even) Harness (L99 or LS3)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.8 BK	350	Ground	A	0.8 BK	151	Ground
B	0.5 OG/WH	2122	IC 2 Control	B	0.5 RD	2127	IC 2 Control
C	0.5 D-GN/WH	2124	IC 4 Control	C	0.5 D-GN	2125	IC 4 Control
D	-	-	Not Available	D	-	-	Not Available
E	0.5 BN/WH	2130	Low Reference	E	0.5 BN	2129	Low Reference
F	0.5 L-BU/WH	2126	IC 6 Control	F	0.5 L-BU	2123	IC 6 Control
G	0.5 PU/WH	2128	IC 8 Control	G	0.5 PU	2121	IC 8 Control
H	0.8 PK/BK	5292	Ignition Voltage	H	0.8 PK	39	Ignition Voltage

X113 ENGINE HARNESS TO COILS (ODD) HARNESS (L99 OR LS3)

cardiagn.com





Connector Part Information

- Harness: Engine
- OEM: 12047938
- Service: 12102754
- Description: 8-Way F Metri-Pack 150 Series, Sealed (L-GY)

Terminal Part Information

- Pins: B, C, E, F, G
- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

- Pins: A, H
- Terminal/Tray: 12160223/3
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15496016
- Service: Service by Harness - See Part Catalog
- Description: 8-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

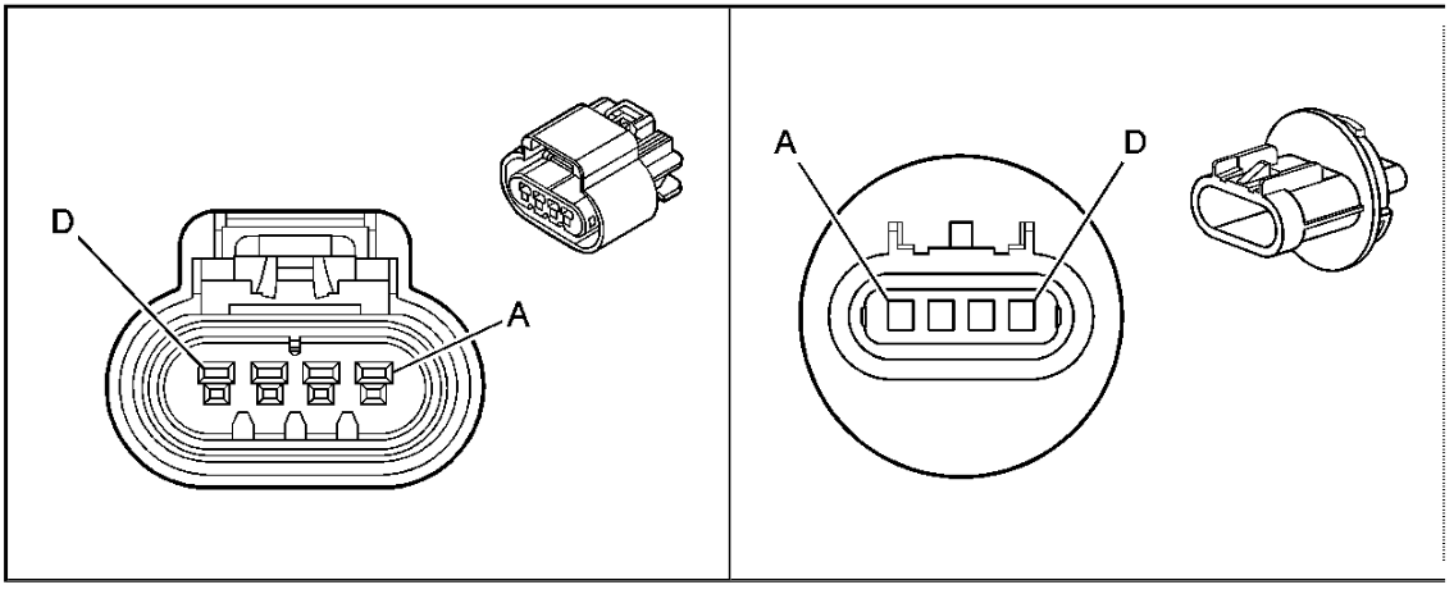
X113 Engine Harness to Coils (Odd) Harness (L99 or LS3)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.8 BK	250	Ground	A	0.8 BK	151	Ground
B	0.5 OG	2127	IC 7 Control	B	0.5 RD	2127	IC 7 Control

cardiagn.com

C	0.5 D-GN	2125	IC 5 Control	C	0.5 D-GN	2125	IC 5 Control
D	-	-	Not Available	D	-	-	Not Available
E	0.5 BN	2129	Low Reference	E	0.5 BN	2129	Low Reference
F	0.5 L-BU	2123	IC 3 Control	F	0.5 L-BU	2123	IC 3 Control
G	0.5 PU	2121	IC 1 Control	G	0.5 PU	2121	IC 1 Control
H	0.8 PK/BK	5291	Ignition Voltage	H	0.8 PK	39	Ignition Voltage

X120 FORWARD LAMP HARNESS TO RIGHT HEADLAMP HARNESS (T4F)



Connector Part Information

- Harness: Forward Lamp
- OEM: 15487756
- Service: 19180287
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Pins: C, D, A, B
- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins: C, D : E/A
- Core/Insulation Crimp: Pins: A, B : 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Connector Part Information

- Harness: Right Headlamp
- OEM: 15369319
- Service: Service by Component Assembly - See Part Catalog
- Description: 4-Way M GT 150 Series, Sealed (BK)

Terminal Part Information

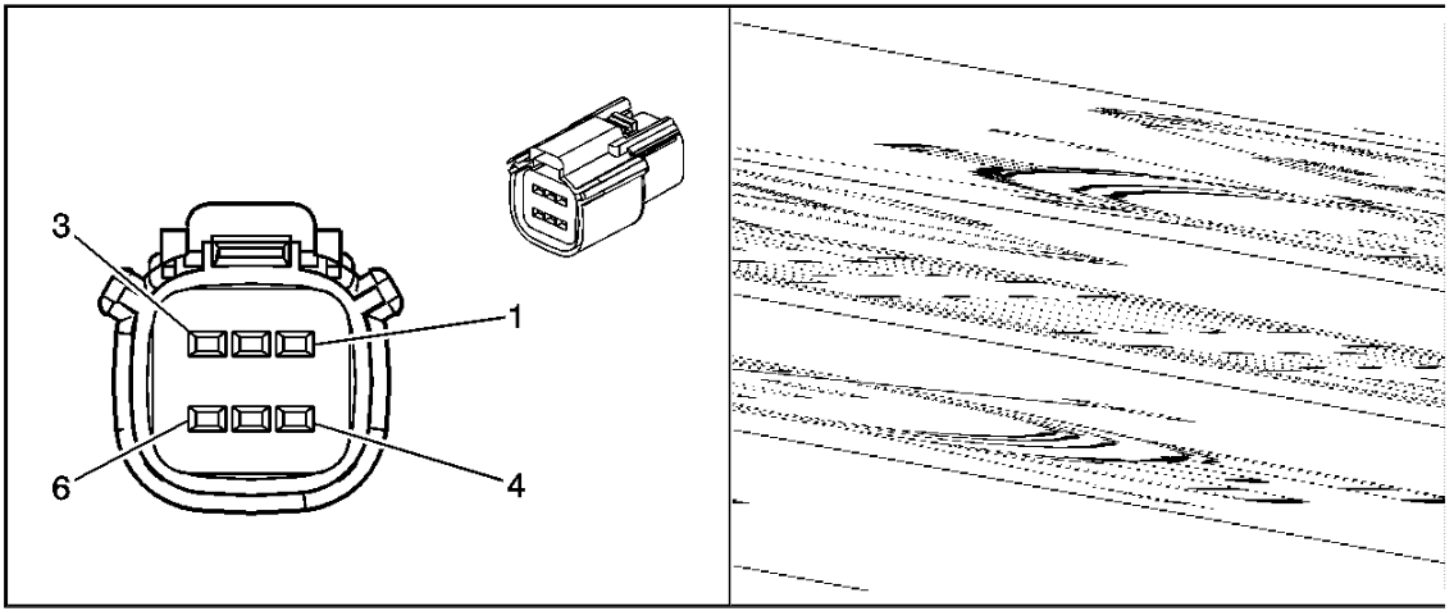
- Terminal/Tray: Service by Component Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

X120 Forward Lamp Harness to Right Headlamp Harness (T4F)

cardiagn.com

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	1 BK	1050	Ground	A	BK	1050	Ground
B	1 TN/WH	312	Right Headlamp Low Beam Supply Voltage	B	RD	312	Right Headlamp Low Beam Supply Voltage
C	0.5 L-GN/BK	311	Right Headlamp High Beam Supply Voltage	C	L-GN	311	Right Headlamp High Beam Supply Voltage
D	0.5 BN/WH	309	Right Park Lamp Supply Voltage	D	D-BU	309	Right Park Lamp Supply Voltage

X160 ENGINE HARNESS TO INJECTORS (EVEN) HARNESS (LLT)



Connector Part Information

- Harness: Engine
- OEM: 13609714
- Service: 19178087
- Description: 6-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 13569881/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

Connector Part Information

- Harness: Injectors (Even)
- OEM: 33482-0601
- Service: Service by Harness - See Part Catalog
- Description: 6-Way M MX150 Series, Sealed (BK)

Terminal Part Information

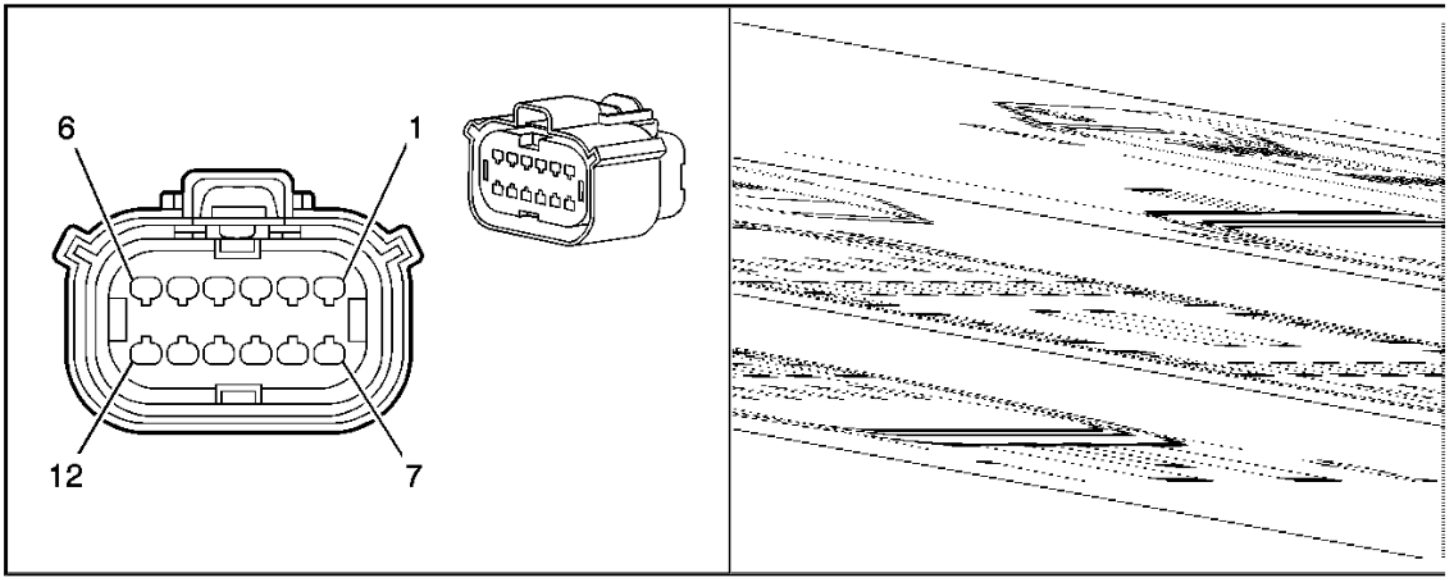
- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

cardiagn.com

X160 Engine Harness to Injectors (Even) Harness (LLT)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	1 D-BU	4802	Fuel Injector 2 Low Control	1	BN	4802	Fuel Injector 2 Low Control
2	1 D-BU/WH	4902	Fuel Injector 2 High Control	2	BK	4902	Fuel Injector 2 High Control
3	1 L-BU	4804	Fuel Injector 4 Low Control	3	BN	4804	Fuel Injector 4 Low Control
4	1 L-BU/WH	4904	Fuel Injector 4 High Control	4	BK	4904	Fuel Injector 4 High Control
5	1 PU	4806	Fuel Injector 6 Low Control	5	BN	4806	Fuel Injector 6 Low Control
6	1 PU/WH	4906	Fuel Injector 6 High Control	6	BK	4906	Fuel Injector 6 High Control

X161 ENGINE HARNESS TO INJECTORS (ODD) HARNESS (LLT)



Connector Part Information

- Harness: Engine
- OEM: 13609715
- Service: 19178148
- Description: 12-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Pins: 2, 3, 4, 8, 9, 10

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 33482-1216
- Service: Service by Harness - See Part Catalog
- Description: 12-Way M MX150 Series, Sealed (BK)

cardiagn.com

- Terminal/Tray: 13569881/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 5, 11, 12
- Terminal/Tray: 33012-3002/26
- Core/Insulation Crimp: E/2
- Release Tool: J-38125-217
- Test Probe: J-35616-14 (GN)

Terminal Part Information

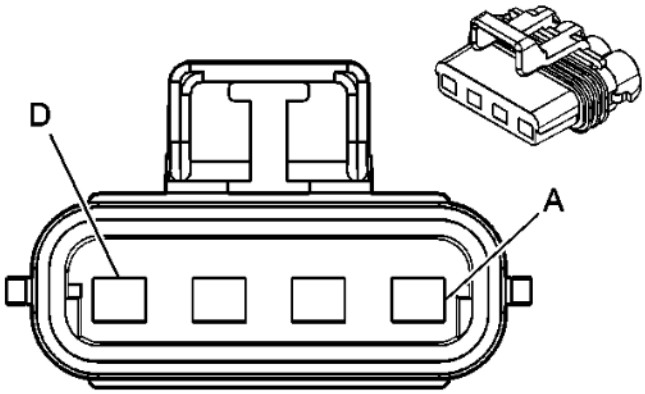
- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

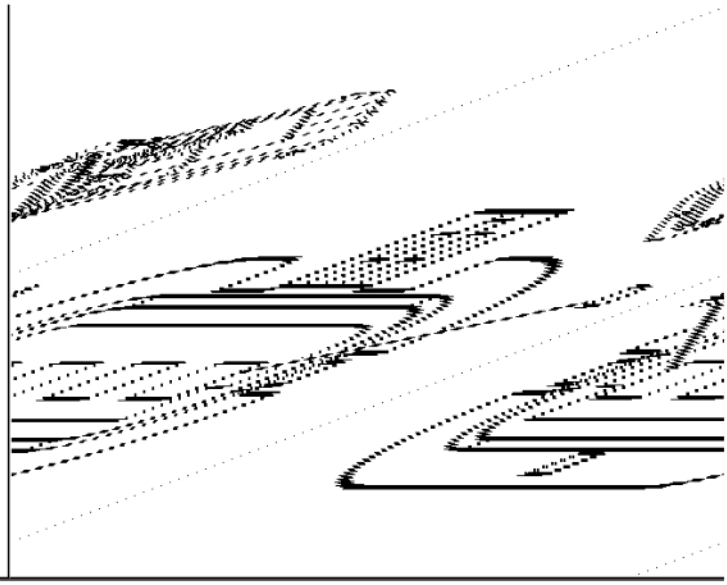
X161 Engine Harness to Injectors (Odd) Harness (LLT)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	-	-	Not Available	1	-	-	Not Available
2	1 BN	4801	Fuel Injector 1 Low Control	2	BN	4801	Fuel Injector 1 Low Control
3	1 D-GN	4803	Fuel Injector 3 Low Control	3	BN	4803	Fuel Injector 3 Low Control
4	1 L-GN	4805	Fuel Injector 5 Low Control	4	BN	4805	Fuel Injector 5 Low Control
5	0.5 TN	808	Low Reference	5	L-BU	808	Low Reference
6-7	-	-	Not Available	6-7	-	-	Not Available
8	1 BN/WH	4901	Fuel Injector 1 High Control	8	BK	4901	Fuel Injector 1 High Control
9	1 D-GN/WH	4903	Fuel Injector 3 High Control	9	BK	4903	Fuel Injector 3 High Control
10	1 L-GN/WH	4905	Fuel Injector 5 High Control	10	BK	4905	Fuel Injector 5 High Control
11	0.5 GY	598	5-Volt Reference 1	11	WH	598	5-Volt Reference 1
12	0.5 YE	2918	FRP Sensor Signal	12	BK	2918	FRP Sensor Signal

X162 FORWARD LAMP HARNESS TO COOLING FAN HARNESS

cardiagn.com





Connector Part Information

- Harness: Forward Lamp
- OEM: 12129565
- Service: 15306069
- Description: 4-Way F Metri-Pack 280 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12077413/4
- Core/Insulation Crimp: F/5
- Release Tool: 12094430
- Test Probe: J-35616-4A (PU)

Connector Part Information

- Harness: Cooling Fan
- OEM: 12129600 (Early Production) 12191399 (Late Production)
- Service: 15306162 (Early Production) 15305995 (Late Production)
- Description: 4-Way M Metri-Pack 280 Series, Sealed (D-GY)

Terminal Part Information

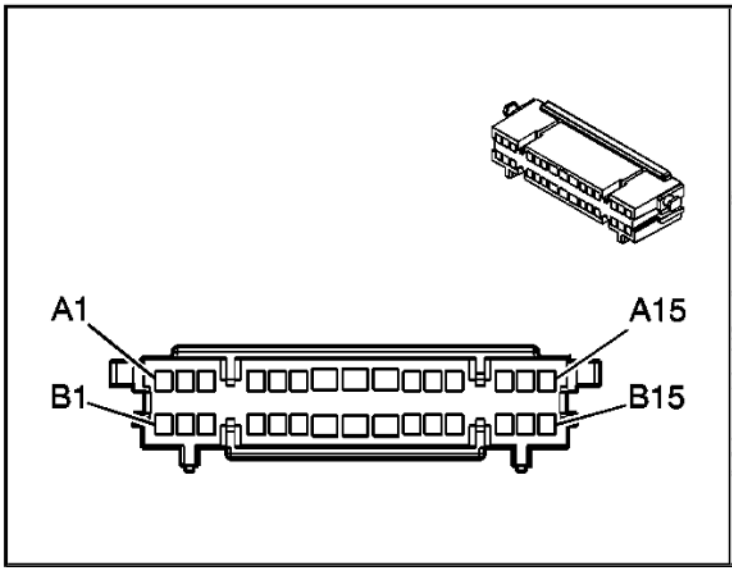
- Terminal/Tray: Service by Component Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

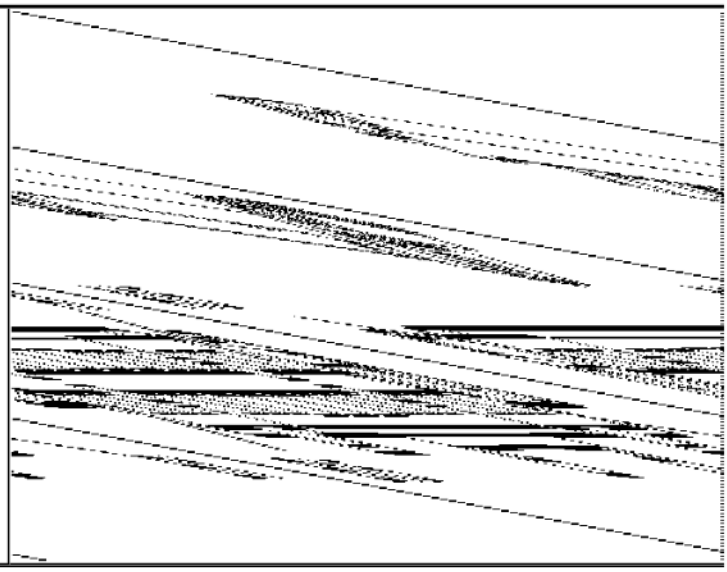
X162 Forward Lamp Harness to Cooling Fan Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	3 L-BU	409	Cooling Fan Motor - Right Supply Voltage	A	4 RD	409	Cooling Fan Motor - Right Supply Voltage
B	3 WH	504	Low Reference	B	4 BK	504	Low Reference
C	3 GY	532	Cooling Fan Motor - Left Supply Voltage	C	4 RD	532	Cooling Fan Motor - Left Supply Voltage
D	3 BK	1150	Ground	D	4 BK	1150	Ground

X204 INSTRUMENT PANEL HARNESS TO ROOF HARNESS

cardiagn.com





Connector Part Information

- Harness: Instrument Panel
- OEM: 15304908
- Service: 15304908
- Description: 30-Way F GT 150 280 (BK)

Terminal Part Information

- Pins: A1, A2, A3, A4, A5, A6, A11, A10, A13, A14, A15, B1, B2, B3, B5, B6, B10, B12, B13, B14, B15
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: A7, A8, B7, B8, A9
- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: Pin: A7 : 2/A
- Core/Insulation Crimp: Pins: A8, B7, B8, : E/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

Connector Part Information

- Harness: Roof
- OEM: 15326762
- Service: 15326762
- Description: 30-Way M GT 150 280 Series (BK)

Terminal Part Information

- Pins: A1, A2, A3, A4, A5, A6, A11, A10, A13, A14, A15, B1, B2, B3, B5, B6, B10, B12, B13, B14, B15
- Terminal/Tray: 15304702/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

- Pins: B7, B8
- Terminal/Tray: 15304722/8
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

- Pins: A7, A8
- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: Pin: A7 : 2/A
- Core/Insulation Crimp: Pins: A8 : See

cardiagn.com

Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

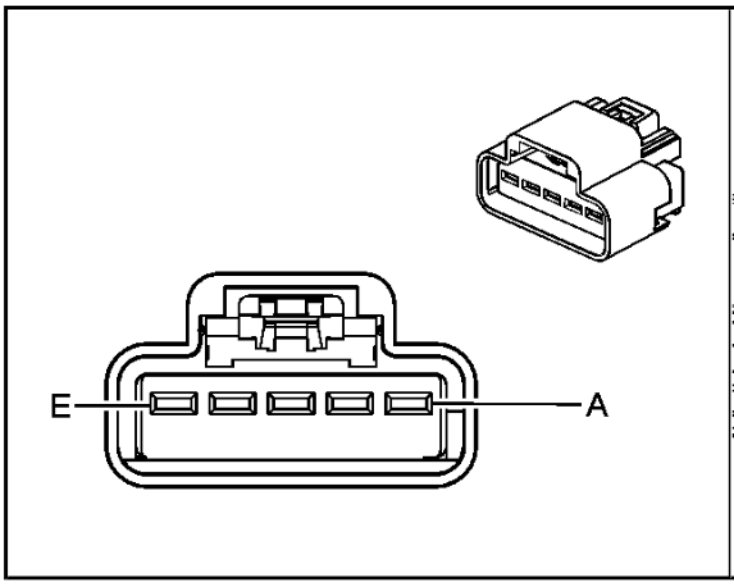
X204 Instrument Panel Harness to Roof Harness

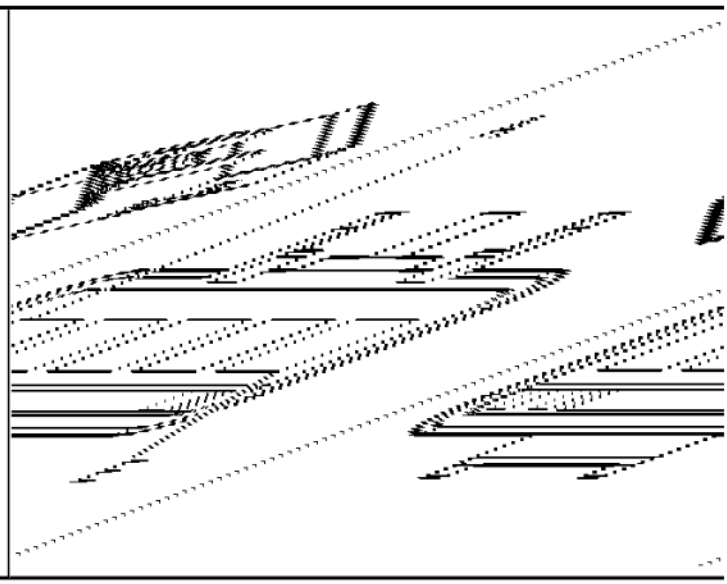
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A1	0.35 L-BU	5027	Sunroof Switch Data 1 (CF5)	A1	0.35 L-BU	5027	Sunroof Switch Data 1 (CF5)
A2	0.35 D-BU	128	Low Reference (CF5)	A2	0.35 D-BU	128	Low Reference (CF5)
A3	0.35 D-GN/WH	2514	Keypad Signal (UE1)	A3	0.35 D-GN/WH	2514	Keypad Signal (UE1)
A4	0.35 L-GN/BK	2515	Keypad Supply Voltage (UE1)	A4	0.35 L-GN/BK	2515	Keypad Supply Voltage (UE1)
A5	0.35 YE/BK	2516	Keypad Green LED Signal (UE1)	A5	0.35 YE/BK	2516	Keypad Green LED Signal (UE1)
A6	0.35 BN/WH	2517	Keypad Red LED Signal (UE1)	A6	0.35 BN/WH	2517	Keypad Red LED Signal (UE1)
A7	1 BK	1550	Ground	A7	1 BK	1550	Ground
A8	0.35 PK	339	Ignition Voltage	A8	0.35 PK	339	Ignition Voltage
					0.35 PK	339	Ignition Voltage
A9	0.5 WH	5937	Convertible Top Header Latch Switch Signal (without CF5)	A9	-	-	Not Used
A10	0.35 PU	328	Interior lamp Defeat Switch Signal	A10	0.35 PU	328	Interior lamp Defeat Switch Signal
A11	0.35 WH	156	Courtesy Lamp Switch Signal	A11	0.35 WH	156	Courtesy Lamp Switch Signal
A12	-	-	Not Used	A12	-	-	Not Used
A13	0.35 RD/WH	3140	Battery Positive Voltage (UG1)	A13	0.35 RD/WH	3140	Battery Positive Voltage (UG1)
A14	0.35 GY	655	Cellular Microphone Signal	A14	0.35 GY	655	Cellular Microphone Signal
A15	0.35 BARE	654	Cellular Microphone Signal	A15	0.35 BARE	654	Cellular Microphone Signal
B1	0.35 YE	6817	LED Backlight Dimming Control	B1	0.35 YE	6817	LED Backlight Dimming Control (CF5)
B2	0.35 GY	1690	Automatic Day/Night Mirror Signal (DBX/DD8)	B2	0.35 GY	1690	Automatic Day/Night Mirror Signal
B3	0.35 PK	1691	Low Reference (DBX/DD8)	B3	0.35 PK	1691	Low Reference
B4	0.35	3248	Convertible Top Close Switch Signal (without	B4	-	-	Not Used

cardiagn.com

	BN/BK		CF5)				
B5	0.35 L-GN	24	Backup Lamp Supply Voltage (DBX/DD8)	B5	0.35 L-GN	24	Backup Lamp Supply Voltage
B6	0.35 D-BU	2307	Passenger Air Bag On Indicator Control	B6	0.35 D-BU	2307	Passenger Air Bag On Indicator Control
B7	0.5 GY	157	Courtesy Lamp Control	B7	0.5 GY	157	Courtesy Lamp Control
B8	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control	B8	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control
B9	0.35 PU	5936	Convertible Top Open Switch Signal (without CF5)	B9	-	-	Not Used
B10	0.35 PU	5234	Front Passenger Seat Belt Indicator Control	B10	0.35 PU	5234	Front Passenger Seat Belt Indicator Control
B11	-	-	Not Used	B11	-	-	Not Used
B12	0.35 GY	3273	RCDLR Ground (BTV)	B12	0.35 GY	3273	RCDLR Ground (BTV)
B13	0.35 L-BU/WH	3275	RCDLR Data Transmit (BTV)	B13	0.35 L-BU/WH	3275	RCDLR Data Transmit (BTV)
B14	0.35 L-GN	3274	RCDLR Data Receive (BTV)	B14	0.35 L-GN	3274	RCDLR Data Receive (BTV)
B15	0.35 PK/WH	3272	RCDLR Power (BTV)	B15	0.35 PK/WH	3272	RCDLR Power (BTV)

X206 INSTRUMENT PANEL HARNESS TO SUNROOF HARNESS (CF5)





Connector Part Information	Connector Part Information

cardiagn.com

- Harness: Instrument Panel
- OEM: 15326893
- Service: 89046647
- Description: 5-Way F GT 280 Series (BK)

Terminal Part Information

- Pins: B, C, D
- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: A, E
- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Harness: Sunroof
- OEM: 15326897
- Service: 88987846
- Description: 5-Way M GT 280 Series (BK)

Terminal Part Information

- Pins: B, C, D
- Terminal/Tray: 15304722/8
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

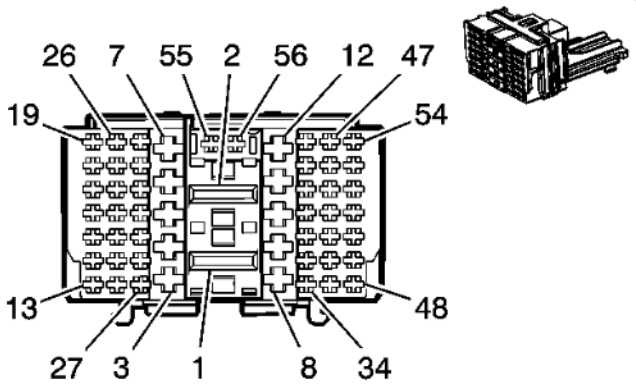
- Pins: A, E
- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: A/D
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

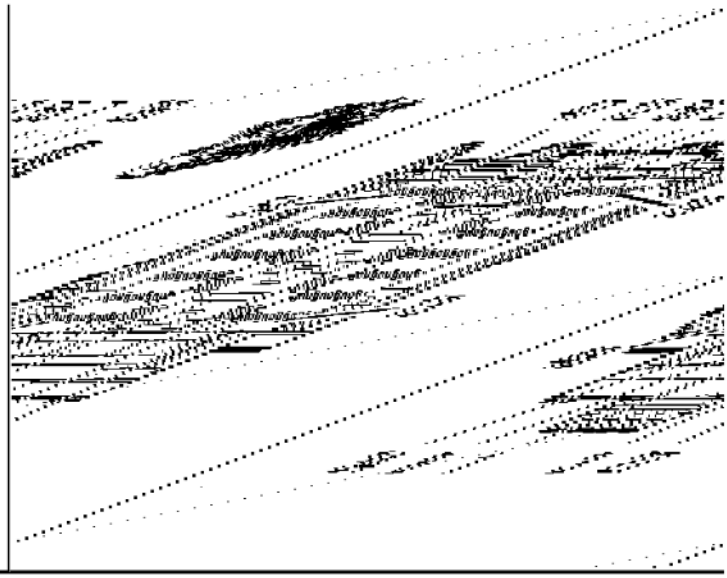
X206 Instrument Panel Harness to Sunroof Harness (CF5)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	3 RD/WH	3540	Battery Positive Voltage	A	3 RD/WH	3540	Battery Positive Voltage
B	0.35 BN	6132	Linear Interconnect Network 1	B	0.35 BN	6132	Linear Interconnect Network 1
C	0.35 D-BU	128	Low Reference	C	0.35 D-BU	128	Low Reference
D	0.35 L-BU	5027	Sunroof Switch Data 1	D	0.35 L-BU	5027	Sunroof Switch Data 1
E	3 BK	1450	Ground	E	3 BK	1450	Ground

X207 INSTRUMENT PANEL HARNESS TO BODY HARNESS

cardiagn.com





Connector Part Information

- Harness: Instrument Panel
- OEM: 13697719
- Service: 13505901
- Description: 56-Way F (BK)

Terminal Part Information

- Pins: 1, 2
- Terminal/Tray: 962928-1/25
- Core/Insulation Crimp: B/G
- Release Tool: J-38125-221
- Release Tool/Test Probe: J-38125-221/J-35616-22 (RD)

- Pins: 3, 11, 12
- Terminal/Tray: 2-964284-1/25
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pin: 7
- Terminal/Tray: 4-965999-1/25
- Core/Insulation Crimp: 4/A
- Release Tool: J-38125-36

Connector Part Information

- Harness: Body
- OEM: 13697716
- Service: 13505900
- Description: 56-Way M 1.6 2.8 9.5 Series (BK)

Terminal Part Information

- Pins: 1, 2, 3, 7, 11, 12
- Terminal/Tray: 13548691/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 23, 24, 34, 35, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 29, 30, 31, 26, 27, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54, 56
- Terminal/Tray: 964265-2/28

cardiagn.com

- Test Probe: J-35616-35 (VT)
- Pins: 15, 16, 17, 18, 19, 22, 23, 24, 34, 35, 27, 56, 13, 14, 20, 21, 25, 29, 30, 31, 26, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: Pins: 15, 16, 17, 18, 19, 22, 23, 24, 34, 35, 27, 56 : E/1
- Core/Insulation Crimp: Pins: 13, 14, 20, 21, 25, 29, 30, 31, 26, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54 : See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)
- Core/Insulation Crimp: Pins: 23, 24, 34, 35 : E/C
- Core/Insulation Crimp: Pins: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 29, 30, 31, 26, 27, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54, 56 : E/2
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

X207 Instrument Panel Harness to Body Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	3 RD/WH	5040	Battery Positive Voltage	1	3 RD/WH	5040	Battery Positive Voltage
2	3 RD/WH	1440	Battery Positive Voltage	2	3 RD/WH	1440	Battery Positive Voltage
3	1 GY	5911	Driver Door Lock Motor Unlock Control	3	1 GY	5911	Driver Door Lock Motor Unlock Control
4-6	-	-	Not Used	4-6	-	-	Not Used
7	2 GY	295	Door Lock Actuator Unlock Control	7	1 GY	295	Door Lock Actuator Unlock Control
8-10	-	-	Not Used	8-10	-	-	Not Used
11	0.8 YE	116	Left Rear Speaker Output (-) (UQ3)	11	0.8 YE	116	Left Rear Speaker Output (-) (UQ3)
12	0.8 BN	199	Left Rear Speaker Output (+) (UQ3)	12	0.8 BN	199	Left Rear Speaker Output (+) (UQ3)
13	0.35 L-BU	1134	Park Brake Switch Signal	13	0.5 L-BU	1134	Park Brake Switch Signal
14	0.35 D-GN	2087	Steering Wheel Position Sensor 5-Volt Reference	14	0.35 D-GN	2087	Steering Wheel Position Sensor 5-Volt Reference
15	0.5 RD/WH	2340	Battery Positive Voltage	15	0.35 RD/WH	2340	Battery Positive Voltage
16	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control	16	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control
17	0.5 L-GN	24	Backup Lamp Supply Voltage	17	0.5 L-GN	24	Backup Lamp Supply Voltage

cardiagn.com

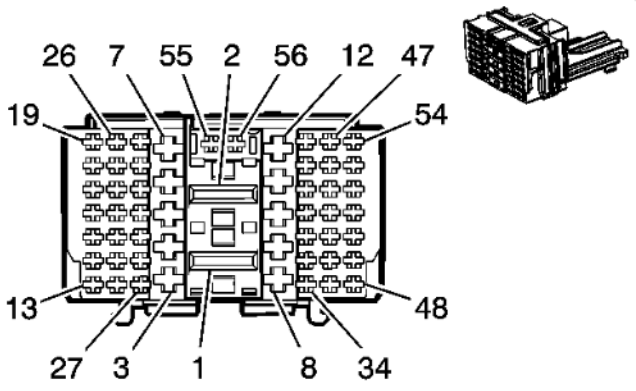
18	0.5 OG/BK	737	Rear Compartment Lamp Control	18	0.5 OG/BK	737	Rear Compartment Lamp Control
19	0.5 YE	6817	LED Backlight Dimming Control	19	0.35 YE	6817	LED Backlight Dimming Control
20	0.35 D-GN	6134	Linear Interconnect Network 3	20	0.35 D-GN	6134	Linear Interconnect Network 3
21	0.35 D-BU	6189	Rear Compartment Lid Release Switch	21	0.35 D-BU	6189	Rear Compartment Lid Release Switch
22	0.5 L-BU	6795	Rear Compartment Lid Release Control 2	22	0.5 L-BU	6795	Rear Compartment Lid Release Control 2
23	0.8 YE	1860	Front Center Speaker Output (+) (UQA)	23	0.8 YE	1860	Front Center Speaker Output (+) (UQA)
24	0.8 L-BU	1960	Front Center Speaker Output (-) (UQA)	24	0.8 L-BU	1960	Front Center Speaker Output (-) (UQA)
25	0.35 D-GN	1409	Front End Sensor - Right - Signal	25	0.35 D-GN	1409	Front End Sensor - Right - Signal
26	0.35 GY	5600	Low Reference	26	0.35 GY	5600	Low Reference
27	0.5 BK	2550	Ground	27	0.5 BK	2550	Ground
28	-	-	Not Used	28	-	-	Not Used
29	0.35 RD/WH	3140	Battery Positive Voltage (UG1)	29	0.35 RD/WH	3140	Battery Positive Voltage (UG1)
30	0.35 D-GN	3270	Driver Door Lock Status Signal	30	0.35 D-GN	3270	Driver Door Lock Status Signal
31	0.35 D-BU	2307	Passenger Air Bag On Indicator Control	31	0.35 D-BU	2307	Passenger Air Bag On Indicator Control
32	0.35 YE	354	Front End Sensor - Left - Signal	32	0.35 YE	354	Front End Sensor - Left - Signal
33	0.35 TN/OG	5045	Low Reference	33	0.35 TN/OG	5045	Low Reference
34	0.8 GY	118	Left Front Speaker Output (-) (UQ3)	34	0.8 GY	118	Left Front Speaker Output (-) (UQ3)
35	0.8 TN	201	Left Front Speaker Output (+) (UQ3)	35	0.8 TN	201	Left Front Speaker Output (+) (UQ3)
36	0.35 PK	1691	Low Reference (DBX/DD8)	36	0.35 PK	1691	Low Reference
37	0.35 PU	5234	Front Passenger Seat Belt Indicator Control	37	0.35 PU	5234	Front Passenger Seat Belt Indicator Control
38	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control	38	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control
39	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)	39	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
40	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)	40	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
41	0.35	2099	Drain Wire (UQA)	41	0.35	2099	Drain Wire (UQA)

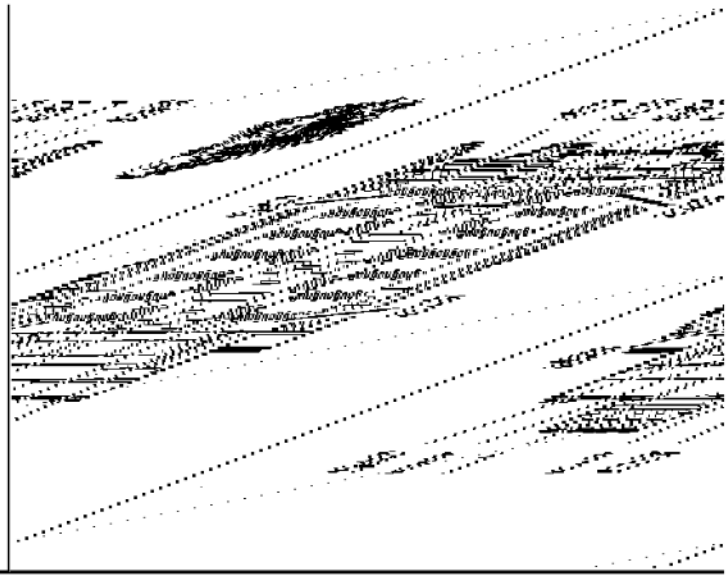
cardiagn.com

	BARE				BARE		
42	0.35 D-BU	546	Right Rear Low Level Audio Signal (+) (UQA)	42	0.35 D-BU	546	Right Rear Low Level Audio Signal (+) (UQA)
43	0.35 BN	1999	Left Rear Low Level Audio Signal (-) (UQA)	43	0.35 BN	1999	Left Rear Low Level Audio Signal (-) (UQA)
44	0.35 GY	1690	Automatic Day/Night Mirror Signal (DBX/DD8)	44	0.35 GY	1690	Automatic Day/Night Mirror Signal
45	-	-	Not Used	45	-	-	Not Used
46	0.35 L-GN/WH	512	Right Front Low Level Audio Signal (+) (UQA)	46	0.35 L-GN/WH	512	Right Front Low Level Audio Signal (+) (UQA)
47	0.35 D-GN	1947	Left Front Low Level Audio Signal (-) (UQA)	47	0.35 D-GN	1947	Left Front Low Level Audio Signal (-) (UQA)
48	0.35 L-BU	5986	Serial Data Communication Enable	48	0.35 L-BU	5986	Serial Data Communication Enable
49	0.35 BN/WH	599	Left Rear Low Level Audio Signal (+) (UQA)	49	0.35 BN/WH	599	Left Rear Low Level Audio Signal (+) (UQA)
50	0.35 TN	1946	Right Rear Low Level Audio Signal (-) (UQA)	50	0.35 TN	1946	Right Rear Low Level Audio Signal (-) (UQA)
51	0.35 D-GN	5060	Low Speed GMLAN Serial Data	51	0.35 D-GN	5060	Low Speed GMLAN Serial Data
52	0.35 OG/BK	1546	Front Low Level Audio Signal (-) (UQA)	52	0.35 OG/BK	1546	Front Low Level Audio Signal (-) (UQA)
53	0.35 TN	511	Left Front Low Level Audio Signal (+) (UQA)	53	0.35 TN	511	Left Front Low Level Audio Signal (+) (UQA)
54	0.35 BARE	2011	Drain Wire (UQA)	54	0.35 BARE	2011	Drain Wire (UQA)
55	-	-	Not Used	55	-	-	Not Used
56	0.5 RD/WH	4440	Battery Positive Voltage	56	0.5 RD/WH	4440	Battery Positive Voltage

X208 INSTRUMENT PANEL HARNESS TO BODY HARNESS

cardiagn.com





Connector Part Information

- Harness: Instrument Panel
- OEM: 13697719
- Service: 13505901
- Description: 56-Way F (BK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: 15327789/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pin: 2
- Terminal/Tray: 962928-1/25
- Core/Insulation Crimp: B/G
- Release Tool: J-38125-221
- Test Probe: J-35616-22 (RD)

- Pins: 3, 4, 9, 11, 12
- Terminal/Tray: 2-964284-1/25
- Core/Insulation Crimp: E/A
- Release Tool/Test Probe: J-38125-36/J-35616-35 (VT)

Connector Part Information

- Harness: Body
- OEM: 13697716
- Service: 13505900
- Description: 56-Way M 1.6 2.8 9.5 Series (BK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: 13548690/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 2, 3, 4, 7, 8, 9, 11, 12
- Terminal/Tray: Pending

cardiagn.com

- Pin: 7
- Terminal/Tray: 4-965999-1/25
- Core/Insulation Crimp: 4/A
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pin: 8
- Terminal/Tray: 12198192/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 13, 14, 15, 16, 17, 18, 19, 24, 25, 27, 28, 30, 31, 32, 33, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 54, 55, 56
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: Pins: 13, 14, 15, 18, 19, 30, 31, 39, 40, 56, 55 : E/1
- Core/Insulation Crimp: Pins: 16, 17, 24, 25, 27, 28, 32, 33, 37, 38, 41, 42, 43, 44, 45, 46, 47, 54 : See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 13, 14, 15, 16, 17, 18, 19, 24, 25, 27, 28, 30, 31, 32, 33, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 54, 56, 45, 55
- Terminal/Tray: 964265-2/28
- Core/Insulation Crimp: Pins: 30, 31 : E/C
- Core/Insulation Crimp: Pins: 13, 14, 15, 16, 17, 18, 19, 24, 25, 27, 28, 32, 33, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 54, 56, 45, 55 : E/2
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

X208 Instrument Panel Harness to Body Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	10 RD/BK	1542	Battery Positive Voltage	1	10 RD/BK	1542	Battery Positive Voltage
2	3 RD/WH	3540	Battery Positive Voltage (CF5)	2	3 RD/WH	3540	Battery Positive Voltage
3	1 RD/WH	340	Battery Positive Voltage	3	1 RD/WH	340	Battery Positive Voltage
4	0.5 BN/GY	6995	Marker Lamps Control	4	0.5 BN/GY	6995	Marker Lamps Control
5-6	-	-	Not Used	5-6	-	-	Not Used
7	2 TN	294	Door Lock Actuator Lock Control	7	2 TN	294	Door Lock Actuator Lock Control
8	3 RD/WH	3440	Battery Positive Voltage	8	0.8 RD/WH	3440	Battery Positive Voltage
9	0.5 BN/L-BU	6993	Marker Lamps Control	9	0.5 BN/L-BU	6993	Marker Lamps Control
10	-	-	Not Used	10	-	-	Not Used
			Right Rear Speaker				Right Rear Speaker

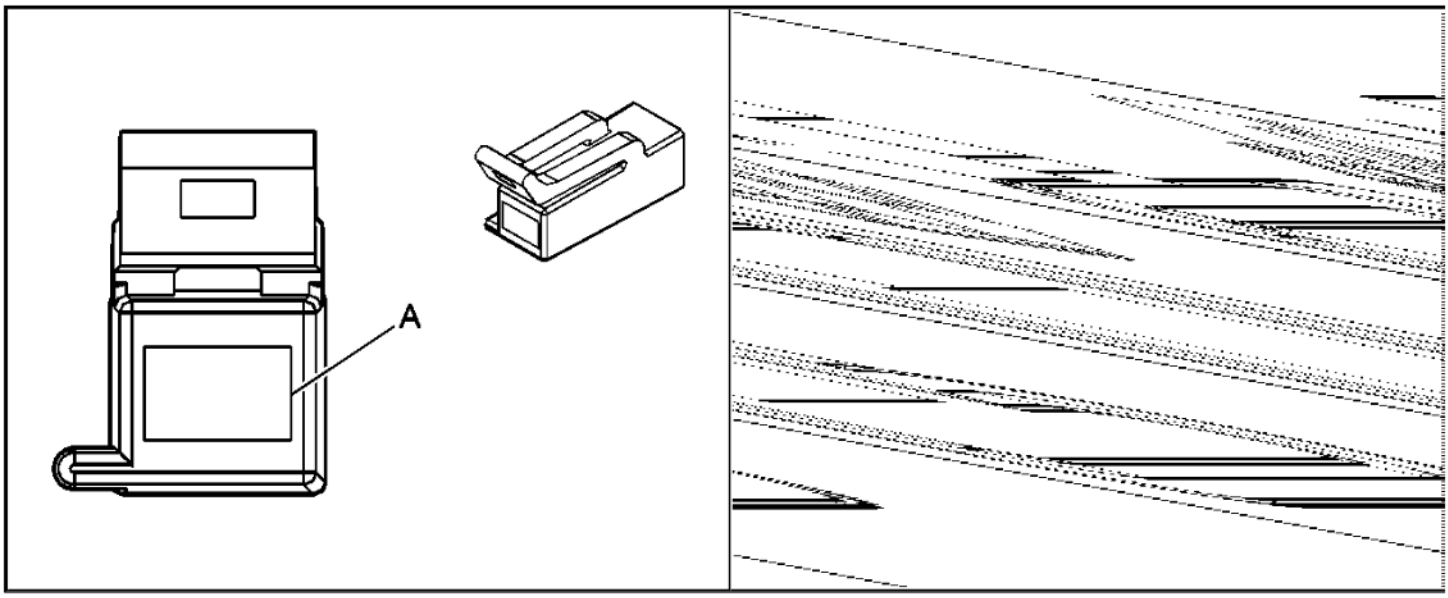
cardiagn.com

11	0.8 D-BU	46	Output (+) (UQ3)	11	0.8 D-BU	46	Output (+) (UQ3)
12	0.8 L-BU	115	Right Rear Speaker Output (-) (UQ3)	12	0.8 L-BU	115	Right Rear Speaker Output (-) (UQ3)
13	0.5 WH	5075	Current Sensor Signal	13	0.5 WH	5075	Current Sensor Signal
14	0.5 PK	5076	Current Sensor Voltage	14	0.5 PK	5076	Current Sensor Voltage
15	0.5 BN	5077	Low Reference	15	0.5 BN	5077	Low Reference
16	0.35 TN	28	Horn Relay Control	16	0.35 TN	28	Horn Relay Control
17	0.35 PK/WH	1970	Headlamp Low Beam Relay Control	17	0.35 PK/WH	1970	Headlamp Low Beam Relay Control
18	0.5 TN/WH	1969	Headlamp High Beam Relay Control	18	0.5 TN/WH	1969	Headlamp High Beam Relay Control
19	0.5 D-GN/YE	6846	Rear License Lamp Control	19	0.5 D-GN/YE	6846	Rear License Lamp Control
20-23	-	-	Not Used	20-23	-	-	Not Used
24	0.35 PK	139	Ignition 1 Voltage	24	0.35 PK	139	Ignition 1 Voltage
25	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal	25	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal
26	-	-	Not Used	26	-	-	Not Used
27	0.35 TN	860	Front Windshield Wiper Switch High Signal	27	0.35 TN	860	Front Windshield Wiper Switch High Signal
28	0.35 GY	91	Wiper Relay Control	28	0.35 GY	91	Wiper Relay Control
29	-	-	Not Used	29	-	-	Not Used
30	0.8 D-GN	117	Right Front Speaker Output (-) (UQ3)	30	0.8 D-GN	117	Right Front Speaker Output (-) (UQ3)
31	0.8 L-GN	200	Right Front Speaker Output (+) (UQ3)	31	0.8 L-GN	200	Right Front Speaker Output (+) (UQ3)
32	0.35 PU	7558	Accent Lamps Control	32	0.35 PU	7558	Accent Lamps Control (SRK or SRM)
33	0.35 OG	2268	Washer Fluid Pump Relay Control	33	0.35 OG	2268	Washer Fluid Pump Relay Control
34-36	-	-	Not Used	34-36	-	-	Not Used
37	0.35 TN	2501	High Speed GMLAN Serial Data Bus -	37	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
38	0.35 D-GN/WH	1317	Fog Lamp Relay Control	38	0.35 D-GN/WH	1317	Fog Lamp Relay Control
39-40	-	-	Not Used	39-40	-	-	Not Used
41	0.35 PK	339	Ignition Voltage	41	0.5 PK	339	Ignition Voltage
42	0.35 WH	193	Rear Defog Relay Control	42	0.35 WH	193	Rear Defog Relay Control
43	0.35 OG	6978	Amplifier Control (UQA)	43	0.35 OG	6978	Amplifier Control (UQA)

cardiagn.com

44	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+	44	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
45	0.35 WH	7066	Remote Enable (UQA)	45	0.35 WH	7066	Remote Enable (UQA)
46	0.35 PK	539	Ignition Voltage	46	0.35 PK	539	Ignition Voltage
47	0.35 YE	5199	Ignition Voltage	47	0.35 YE	5199	Ignition Voltage
48-49	-	-	Not Used	48-53	-	-	Not Used
50	0.5 WH	5937	Convertible Top Header Latch Switch Signal (without CF5)	50	-	-	Not Used
51	0.35 GY	6135	Linear Interconnect Network 4 (without CF5)	51	-	-	Not Used
52	0.5 TN/BK	3248	Convertible Top Close Switch Signal (without CF5)	52	-	-	Not Used
53	0.35 PU	5936	Convertible Top Open Switch Signal (without CF5)	53	-	-	Not Used
54	0.35 RD/WH	2040	Battery Positive Voltage	54	0.35 RD/WH	2040	Battery Positive Voltage
55	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage	55	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage
56	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage	56	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage

X209 BODY EXTENSION HARNESS TO BODY HARNESS



Connector Part Information	Connector Part Information

cardiagn.com

- Harness: Body Extension
- OEM: 12059884
- Service: 12102750
- Description: 1-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12084595/2
- Core/Insulation Crimp: B/G
- Release Tool: 12094430
- Test Probe: J-35616-40 (BU)

- Harness: Body
- OEM: 13705942
- Service: 12101893
- Description: 1-Way M Metri-Pack 480 Series (BK)

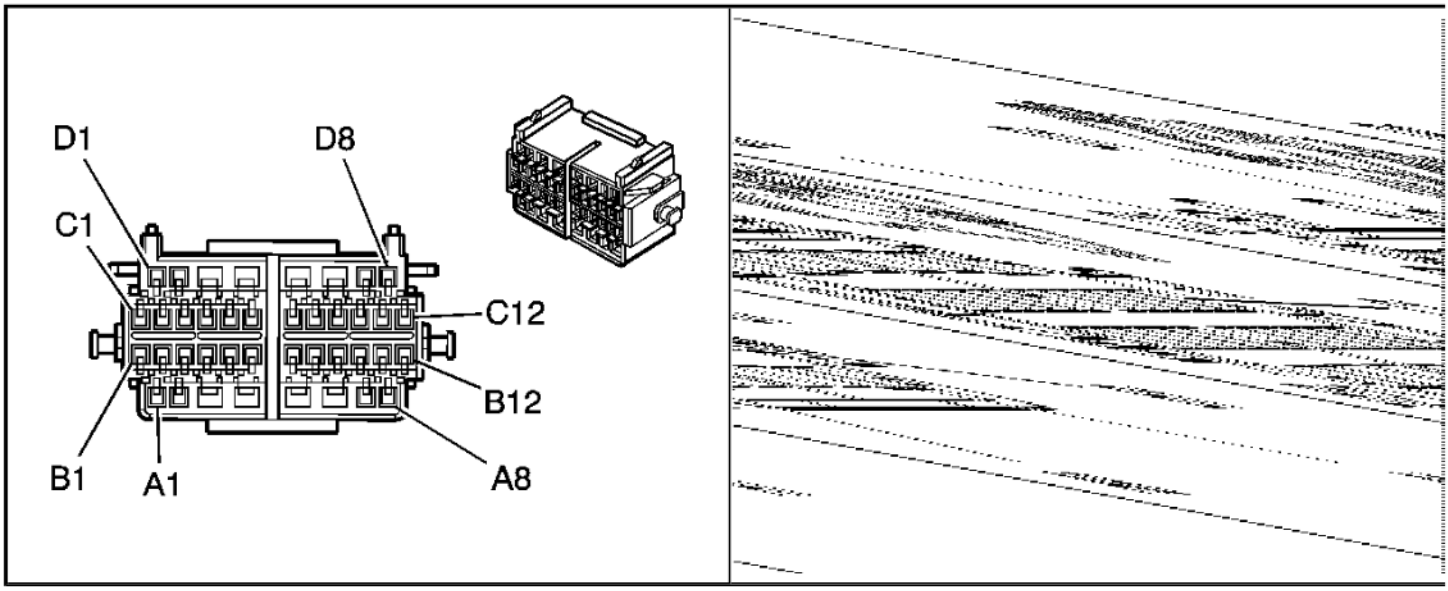
Terminal Part Information

- Terminal/Tray: 12033820/2
- Core/Insulation Crimp: B/G
- Release Tool: 12094430
- Test Probe: J-35616-40 (BU)

X209 Body Extension Harness to Body Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	5 PU	293	Rear Defog Element Supply Voltage	A	5 PU	293	Rear Defog Element Supply Voltage

X210 BODY EXTENSION HARNESS TO BODY HARNESS



Connector Part Information

- Harness: Body Extension
- OEM: 15448129
- Service: 89046969
- Description: 40-Way F GT 150 280 Series (BK)

Connector Part Information

- Harness: Body
- OEM: 15475869
- Service: 88988307
- Description: 40-Way M GT 150 280 Series (BK)

cardiagn.com

Terminal Part Information

- Pins: C1, A1, A2, A7, A8, B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, C2, C3, C4, C5, C6, C7, C8, C10, C11, C12, C9
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: A4, A5, D5
- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: A3, A6, D6
- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

Terminal Part Information

- Pins: C1, A1, A2, A7, A8, C2, C3, C8, D1, B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, C4, C5, C6, C7, C10, C11, C12, D2, C9
- Terminal/Tray: 15304702/19
- Core/Insulation Crimp: Pins: C1, A1, A2, A7, A8, C2, C3, C8, : E/4
- Core/Insulation Crimp: Pins: B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, C4, C5, C6, C7, C10, C11, C12, D2, C9 : E/C
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

- Pins: A4, A5, D5, A3, D6
- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: Pins: A4, A5, D5 : 2/A
- Core/Insulation Crimp: Pins: A3, D6 : A/D
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

X210 Body Extension Harness to Body Harness

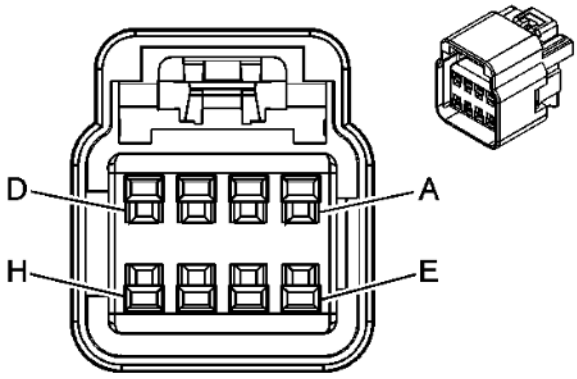
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A1	0.5 TN	884	Left Rear Wheel Speed Sensor Signal	A1	0.5 TN	884	Left Rear Wheel Speed Sensor Signal
A2	0.5 OG	885	Low Reference	A2	0.5 OG	885	Low Reference
A3	3 RD/WH	1240	Battery Positive Voltage	A3	3 RD/WH	1240	Battery Positive Voltage
A4	1 RD/WH	5140	Battery Positive Voltage	A4	1 RD/WH	5140	Battery Positive Voltage
A5	0.8 RD/WH	3440	Battery Positive Voltage	A5	0.8 RD/WH	3440	Battery Positive Voltage
A6	3 RD/WH	1340	Battery Positive Voltage	A6	-	-	Not Used
A7	0.5 BN	882	Right Rear Wheel Speed Sensor Signal	A7	0.5 BN	882	Right Rear Wheel Speed Sensor Signal
A8	0.5 WH	883	Low Reference	A8	0.5 WH	883	Low Reference
B1	0.35 D-GN	890	Fuel Tank Pressure Sensor Signal	B1	0.35 D-GN	890	Fuel Tank Pressure Sensor Signal
B2	0.35 GY	2709	5-Volt Reference 1	B2	0.35 GY	2709	5-Volt Reference 1
			Fuel Level Sensor				Fuel Level Sensor

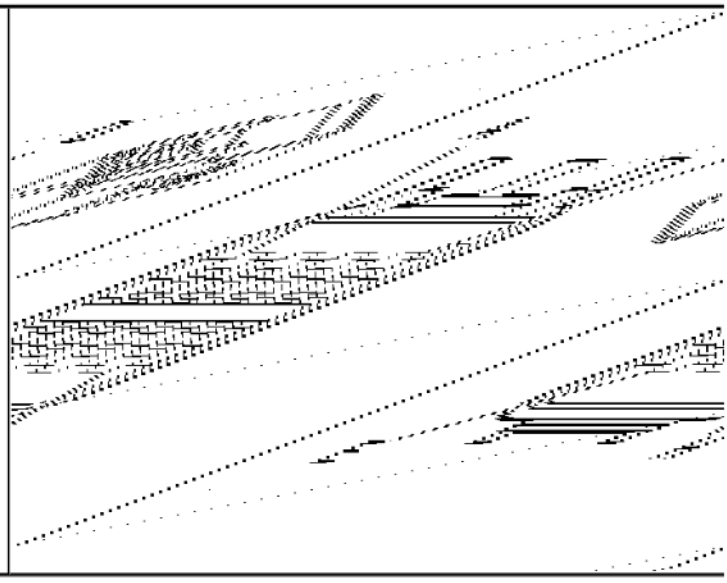
cardiagn.com

B3	0.35 D-BU	1936	Signal	B3	0.35 D-BU	1936	Signal
B4	0.35 BN/WH	6281	Low Reference	B4	0.35 BN/WH	6281	Low Reference
B5	0.35 L-BU	1937	Fuel Level Sensor Signal - Secondary	B5	0.35 L-BU	1937	Fuel Level Sensor Signal - Secondary
B6	0.5 WH	1310	EVAP Canister Vent Solenoid Control	B6	0.35 WH	1310	EVAP Canister Vent Solenoid Control
B7	0.35 D-GN/WH	465	Fuel Pump Relay Control	B7	0.35 D-GN/WH	465	Fuel Pump Relay Control
B8	0.35 TN	28	Horn Relay Control	B8	0.35 TN	28	Horn Relay Control
B9	0.35 OG	2267	Mirror Heating Element Supply Voltage	B9	0.35 OG	2267	Mirror Heating Element Supply Voltage
B10	0.35 WH	193	Rear Defog Relay Control	B10	0.35 WH	193	Rear Defog Relay Control
B11	0.35 PK/WH	1970	Headlamp Low Beam Relay Control	B11	0.35 PK/WH	1970	Headlamp Low Beam Relay Control
B12	0.35 D-GN/WH	1317	Fog Lamp Relay Control	B12	0.35 D-GN/WH	1317	Fog Lamp Relay Control
C1	0.5 TN/WH	1969	Headlamp High Beam Relay Control	C1	0.5 TN/WH	1969	Headlamp High Beam Relay Control
C2	0.5 RD/WH	2440	Battery Positive Voltage	C2	0.5 RD/WH	2440	Battery Positive Voltage
C3	0.5 RD/WH	1940	Battery Positive Voltage	C3	0.5 RD/WH	1940	Battery Positive Voltage
C4	0.35 PK	1139	Ignition Voltage	C4	0.35 PK	1139	Ignition Voltage
C5	0.35 PK	139	Ignition Voltage	C5	0.35 PK	139	Ignition Voltage
C6	0.35 YE	5199	Ignition Voltage	C6	0.35 YE	5199	Ignition Voltage
C7	0.35 PK	539	Ignition Voltage	C7	0.35 PK	539	Ignition Voltage
C8	0.5 PK	339	Ignition Voltage	C8	0.5 PK	339	Ignition Voltage
C9	0.35 PK	239	Ignition Voltage	C9	0.35 PK	239	Ignition Voltage
C10	0.35 TN	860	Front Windshield Wiper Switch High Signal	C10	0.35 TN	860	Front Windshield Wiper Switch High Signal
C11	0.35 GY	91	Wiper Relay Control	C11	0.35 GY	91	Wiper Relay Control
C12	0.35 OG	2268	Washer Fluid Pump Relay Control	C12	0.35 OG	2268	Washer Fluid Pump Relay Control
D1-D4	-	-	Not Used	D1-D4	-	-	Not Used
D5	0.8 RD/WH	440	Battery Positive Voltage	D5	0.8 RD/WH	440	Battery Positive Voltage
D6	3 RD/WH	3540	Battery Positive Voltage	D6	3 RD/WH	3540	Battery Positive Voltage
D7-D8	-	-	Not Used	D7-D8	-	-	Not Used

cardiagn.com

X211 INSTRUMENT PANEL HARNESS TO CONSOLE CAP HARNESS





Connector Part Information

- Harness: Instrument Panel
- OEM: 15332145
- Service: 15306407
- Description: 8-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: Pins: A, D, H : C/A
- Core/Insulation Crimp: Pins: B, C, E, F, G : E/C
- Release Tool: 15315247
- Release Tool: J-35616-2A (GY)

Connector Part Information

- Harness: Console Cap
- OEM: 15332150
- Service: 88986250
- Description: 8-Way M GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304702/19
- Core/Insulation Crimp: Pins: A, D : 2/4
- Core/Insulation Crimp: Pins: C, F : E/4
- Core/Insulation Crimp: Pins: B, E, G, H : E/C
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

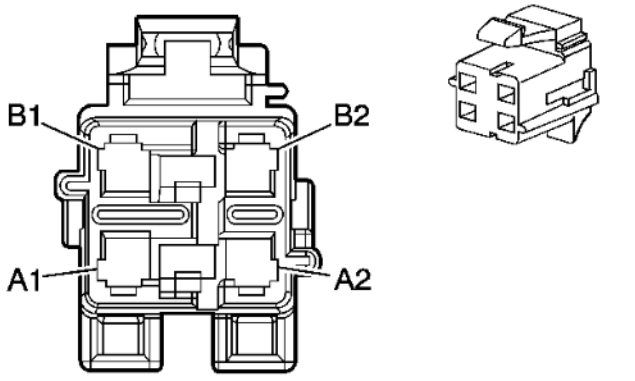
X211 Instrument Panel Harness to Console Cap Harness

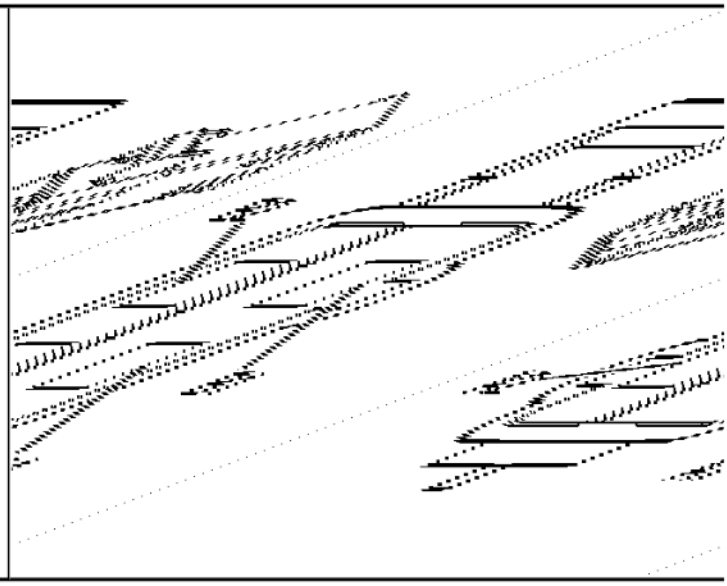
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	1 D-GN	1001	RAP 1 Fuse Supply Voltage	A	1 D-GN	1001	RAP 1 Fuse Supply Voltage
B	0.35 D-GN	5060	Low Speed GMLAN Serial Data SRK/SRM)	B	0.35 D-GN	5060	Low Speed GMLAN Serial Data (UMQ)
C	0.5 RD/WH	2840	Battery Positive Voltage (UMQ)	C	0.5 RD/WH	2840	Battery Positive Voltage (UMQ)
D	1 BK	1450	Ground	D	1 BK	1450	Ground
			Traction Control				Traction Control

cardiagn.com

E	0.35 L-BU	1788	Switch Signal	E	0.35 L-BU	1788	Switch Signal
F	0.5 BK	1650	Ground (SRK/SRM)	F	0.5 BK	1650	Ground (UMQ)
G	0.35 YE	6817	LED Backlight Dimming Control	G	0.35 YE	6817	LED Backlight Dimming Control
H	0.8 BK	1550	Ground	H	0.35 BK	1550	Ground

X253 INSTRUMENT PANEL HARNESS TO BODY HARNESS





Connector Part Information

- Harness: Instrument Panel
- OEM: 15479525
- Service: 19149302
- Description: 4-Way F Metri-Pack 280 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: E/C
- Release Tool: 12094430
- Test Probe: J-35616-4A (PU)

Connector Part Information

- Harness: Body
- OEM: 15336476
- Service: 88987998
- Description: 4-Way M Metri-Pack 280 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: E/A
- Release Tool: 12094430
- Test Probe: J-35616-5 (PU)

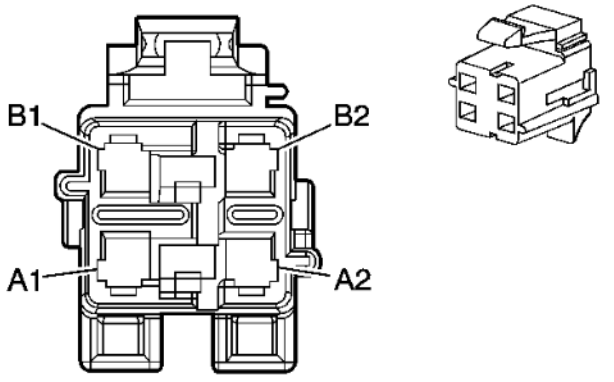
X253 Instrument Panel Harness to Body Harness

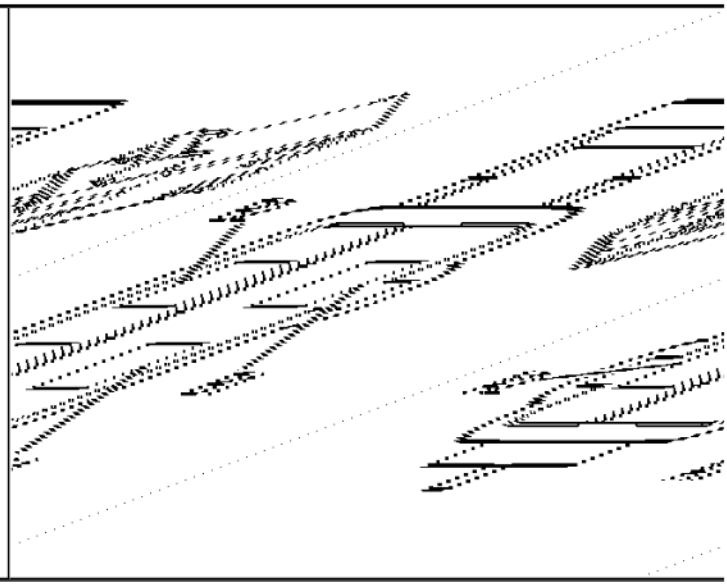
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A1	0.35 PK	3022	Steering Wheel Module - Stage2 - Low	A1	0.35 PK	3022	Steering Wheel Module - Stage2 - Low

cardiagn.com

			Control				Control
A2	0.35 WH	3023	Steering Wheel Module - Stage2 - High Control	A2	0.35 WH	3023	Steering Wheel Module - Stage2 - High Control
B1	0.35 BN	3020	Steering Wheel Module - Stage1 - Low Control	B1	0.35 BN	3020	Steering Wheel Module - Stage1 - Low Control
B2	0.35 TN	3021	Steering Wheel Module - Stage1 - High Control	B2	0.35 TN	3021	Steering Wheel Module - Stage1 - High Control

X254 INSTRUMENT PANEL HARNESS TO BODY HARNESS





Connector Part Information

- Harness: Instrument Panel
- OEM: 15479525
- Service: 19149302
- Description: 4-Way F Metri-Pack 280 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: E/C
- Release Tool: 12094430
- Test Probe: J-35616-4A (PU)

Connector Part Information

- Harness: Body
- OEM: 15336476
- Service: 88987998
- Description: 4-Way M Metri-Pack 280 Series (YE)

Terminal Part Information

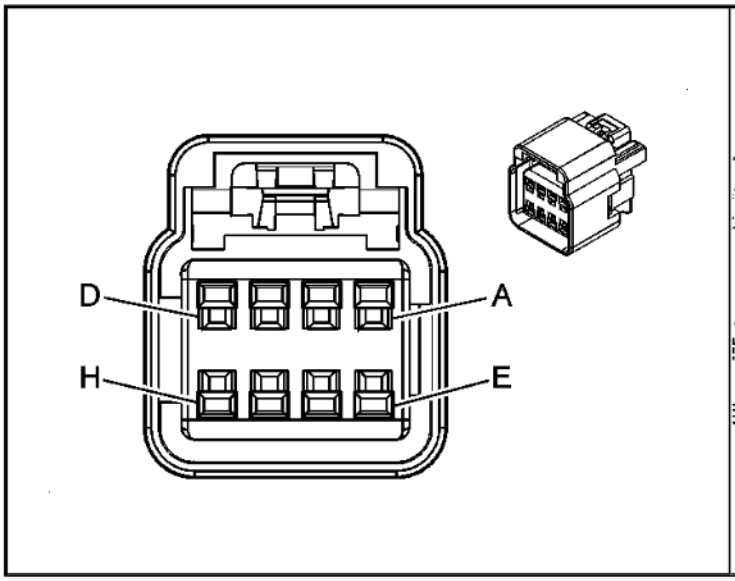
- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: E/A
- Release Tool: 12094430
- Test Probe: J-35616-5 (PU)

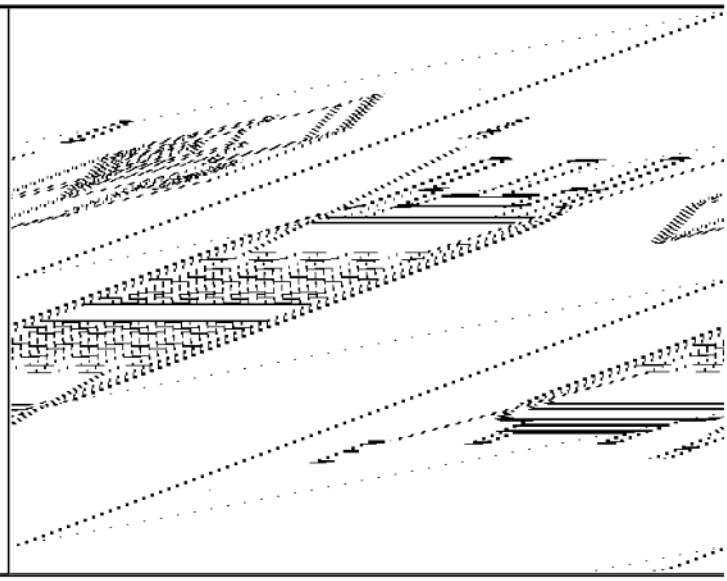
cardiagn.com

X254 Instrument Panel Harness to Body Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A1	0.35 YE	3025	I/P Module - Stage 1 - High Control	A1	0.35 YE	3025	I/P Module - Stage 1 - High Control
A2	0.35 OG	3024	I/P Module - Stage 1 - Low Control	A2	0.35 OG	3024	I/P Module - Stage 1 - Low Control
B1	0.35 GY	3027	I/P Module - Stage 2 - High Control	B1	0.35 GY	3027	I/P Module - Stage 2 - High Control
B2	0.35 PU	3026	I/P Module - Stage 2 - Low Control	B2	0.35 PU	3026	I/P Module - Stage 2 - Low Control

X301 INSTRUMENT PANEL HARNESS TO AUTOMATIC TRANSMISSION SHIFT LEVER JUMPER HARNESS (MYB OR MYC)





Connector Part Information

- Harness: Instrument Panel
- OEM: 15332145
- Service: 15306407
- Description: 8-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Connector Part Information

- Harness: Automatic Transmission Shift Lever Jumper
- OEM: 15332150
- Service: 88986250
- Description: 8-Way M GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304702/19
- Core/Insulation Crimp: Pins: A, E - E/4
- Core/Insulation Crimp: Pins: C, G - E/C
- Release Tool: 15315247

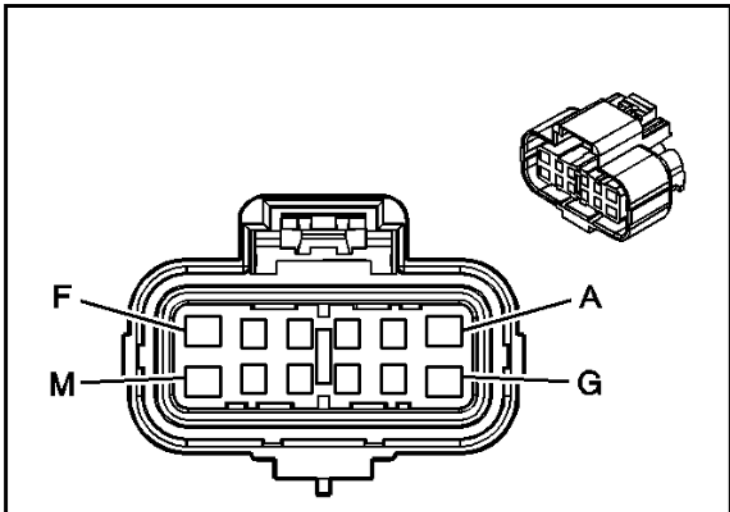
cardiagn.com

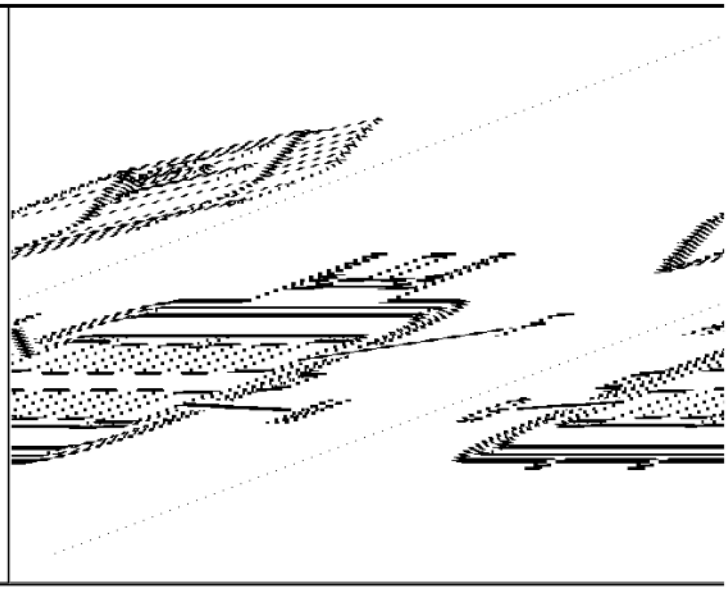
- Test Probe: J-35616-3 (GY)

X301 Instrument Panel Harness to Automatic Transmission Shift Lever Jumper Harness (MYB or MYC)

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 BK	1550	Ground	A	0.5 BK	1550	Ground
B	-	-	Not Used	B	-	-	Not Used
C	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control	C	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control
D	-	-	Not Used	D	-	-	Not Used
E	0.5 YE	6817	LED Backlight Dimming Control	E	0.5 YE	6817	LED Backlight Dimming Control
F	-	-	Not Used	F	-	-	Not Used
G	0.35 PU/WH	5905	Key Capture/Column Lock Shift Position Signal	G	0.35 PU/WH	5905	Key Capture/Column Lock Shift Position Signal
H	-	-	Not Used	H	-	-	Not Used

X302 INSTRUMENT PANEL HARNESS TO CONSOLE HARNESS





Connector Part Information

- Harness: Instrument Panel
- OEM: 15336205
- Service: 88986267

Connector Part Information

- Harness: Console
- OEM: 15336209
- Service: 88986259

cardiagn.com

- Description: 12-Way F GT Mixed (BK)

Terminal Part Information

- Pins: C, B, D, H, J, K, L
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: Pins: C : C/A
- Core/Insulation Crimp: Pins: B, D, H, J, K, L : E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: A, F, G
- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: Pins: A, F : 2/A
- Core/Insulation Crimp: Pin: G : E/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Description: 12-Way M GT Mixed (BK)

Terminal Part Information

- Pins: B, C, D, H, J, K, L
- Terminal/Tray: 15304702/19
- Core/Insulation Crimp: Pins: B, C : E/4
- Core/Insulation Crimp: Pins: D, H, J, K, L : E/C
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

- Pin: G
- Terminal/Tray: 15304722/8
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

- Pins: A, F
- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

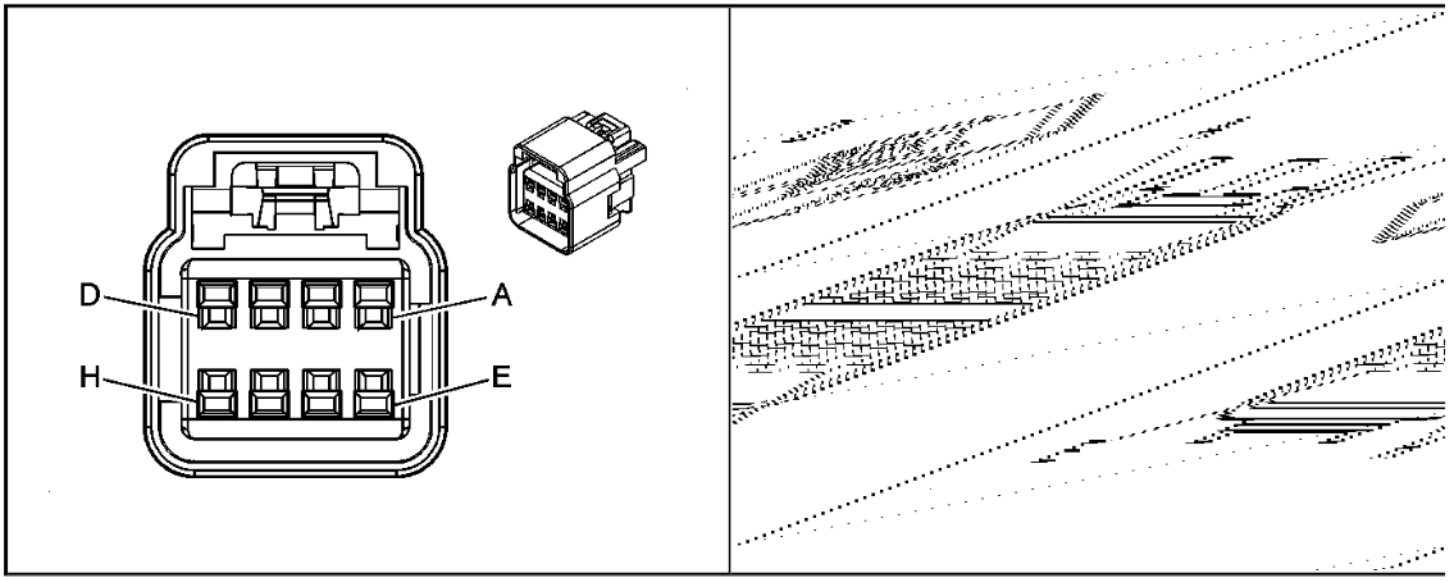
X302 Instrument Panel Harness to Console Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	1 D-GN	801	RAP 2 Fuse Supply Voltage	A	1 D-GN/WH	801	RAP 2 Fuse Supply Voltage
B	0.35 D-GN	5060	Low Speed GMLAN Serial Data (USR)	B	0.5 D-GN	5060	Low Speed GMLAN Serial Data (USR)
C	0.8 BK	1750	Ground (USR)	C	0.5 BK	1750	Ground (USR)
D	0.35 PK	2060	Auxiliary Detection Signal	D	0.35 PK	2060	Auxiliary Detection Signal (without USR)
E	-	-	Not Used	E	-	-	Not Used
F	1 BK	1450	Ground	F	1 BK	1450	Ground
G	0.5 RD/WH	3240	Battery Positive Voltage	G	0.5 RD/WH	3240	Battery Positive Voltage (USR)
H	0.35 D-GN/WH	3376	Auxiliary Audio Common Signal	H	0.35 D-BU	5843	Auxiliary Audio Common Signal (without USR)
					0.35 D-GN/WH	3376	Auxiliary Audio Common Signal (USR)

cardiagn.com

J	0.35 YE	3377	Auxiliary Audio Jack Left (+)	J	0.35 L-GN	5839	Left Auxiliary Audio Signal (2) (without USR)
					0.35 YE	3377	Auxiliary Audio Jack Left (+) (USR)
K	0.35 TN/WH	3378	Auxiliary Audio Jack Right (+)	K	0.35 D-GN/WH	5841	Right Auxiliary Audio Signal (2) (without USR)
					0.35 TN/WH	3378	Auxiliary Audio Jack Right (+) (USR)
L	0.35 BARE	3375	Drain Wire	L	0.35 BARE	5842	Drain Wire (without USR)
					0.35 BARE	3375	Drain Wire (USR)
M	-	-	Not Used	M	-	-	Not Used

X304 REAR WINDOW TRIM HARNESS TO BODY HARNESS



Connector Part Information

- Harness: Rear Window Trim
- OEM: 15332145
- Service: 15306407
- Description: 8-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C

Connector Part Information

- Harness: Body
- OEM: 15332150
- Service: 88986250
- Description: 8-Way M GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304702/19
- Core/Insulation Crimp: Pins: A, B : E/4
- Core/Insulation Crimp: Pins: C, D, E, F : E/C

cardiagn.com

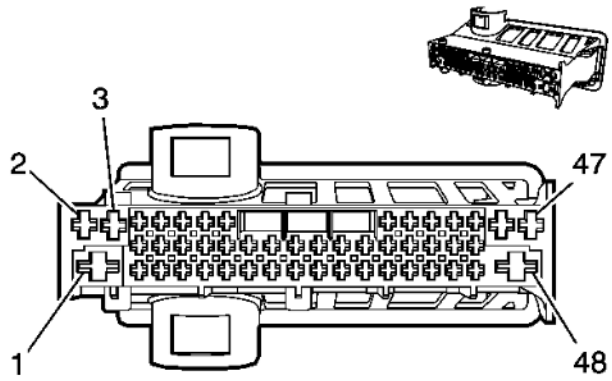
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

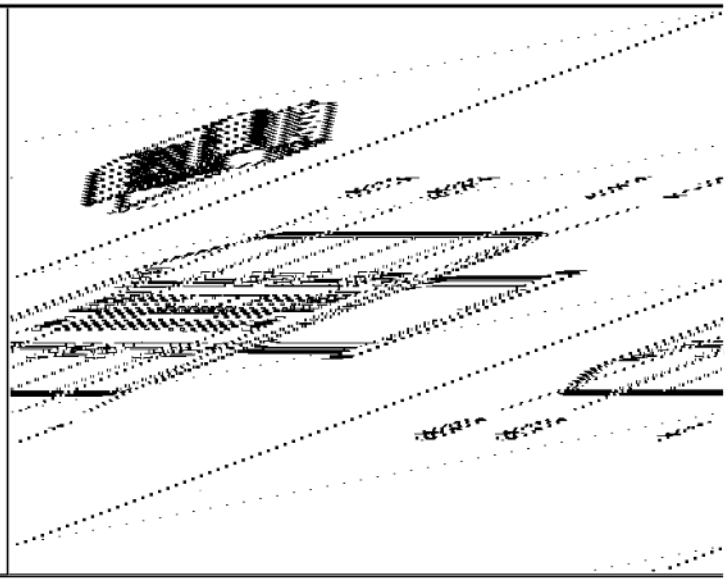
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

X304 Rear Window Trim Harness to Body Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control	A	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control
B	0.5 BK	2350	Ground	B	0.5 BK	2350	Ground
C-H	-	-	Not Used	C-H	-	-	Not Used

X306 BODY HARNESS TO PASSENGER SEAT HARNESS





Connector Part Information

- Harness: Body
- OEM: 13592486
- Service: 13316172
- Description: 48-Way F 1.6 2.8 6.3 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 20, 22
- Terminal/Tray: 10725421/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending

Connector Part Information

- Harness: Passenger Seat
- OEM: 1719636-1
- Service: Service by Harness - See Part Catalog
- Description: 48-Way M 1.6 2.8 6.3 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 48
- Terminal/Tray: Service by Harness - See Part

cardiagn.com

- Test Probe: Pending

- Pins: 10, 11, 7, 8, 19, 21, 25, 41, 42, 44
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: Pins: 10, 11 : E/1
- Core/Insulation Crimp: Pins: 7, 8, 19, 21, 25, 41, 42, 44 : See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Pins: 1, 48
- Terminal/Tray: 964328-1/25
- Core/Insulation Crimp: 4/B
- Release Tool: J-38125-36
- Test Probe: J-35616-42 (RD)

Catalog

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

- Pins: 7, 8, 10, 11, 19, 20, 21, 22, 25, 41, 42, 44
- Terminal/Tray: 964265-2/28
- Core/Insulation Crimp: Pins: 7, 8, 19, 20, 21, 22, 25, 41, 42, 44: E/2
- Core/Insulation Crimp: Pins: 10, 11: E/C
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

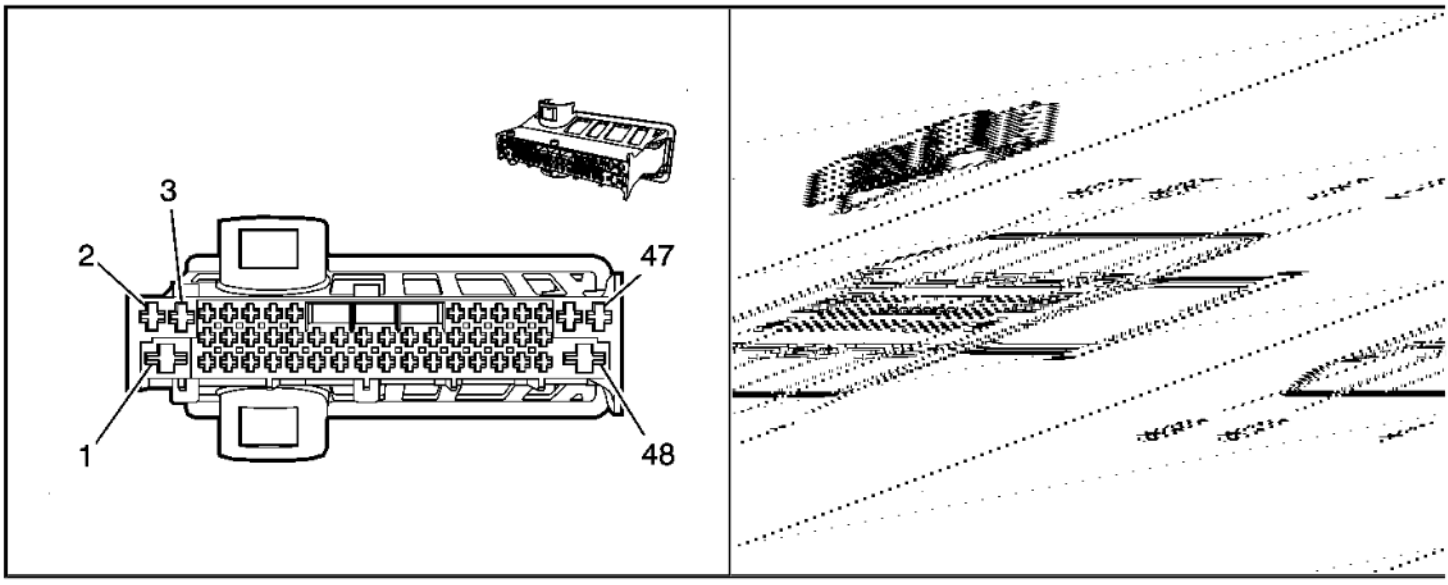
X306 Body Harness to Passenger Seat Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	3 RD/WH	1440	Battery Positive Voltage	1	3 RD/WH	1440	Battery Positive Voltage
2-6	-	-	Not Used	2-6	-	-	Not Used
7	0.35 PK	2435	Low Reference	7	0.35 PK	2435	Low Reference (KA1)
8	0.35 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal	8	0.35 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal (KA1)
9	-	-	Not Used	9	-	-	Not Used
10	0.8 D-BU	2479	Passenger Heated Seat Element Supply Voltage	10	0.8 D-BU	2479	Passenger Heated Seat Element Supply Voltage (KA1)
11	0.8 L-BU	2433	Passenger Heated Seat Back Element Control	11	0.8 L-BU	2433	Passenger Heated Seat Back Element Control (KA1)
12-18	-	-	Not Used	12-18	-	-	Not Used
19	0.35 L-BU	5056	Seat Position Sensor - Right - Signal	19	0.35 L-BU	5056	Seat Position Sensor - Right - Signal
20	0.35 TN/WH	2135	Side Impact Module - Right Front - High Control	20	0.35 TN/WH	2135	Side Impact Module - Right Front - High Control
21	0.35 L-BU	1361	Low Reference	21	0.35 L-BU	1361	Low Reference
22	0.35 L-GN	2136	Side Impact Module - Right Front - Low Control	22	0.35 L-GN	2136	Side Impact Module - Right Front - Low Control

cardiagn.com

23-24	-	-	Not Used	23-24	-	-	Not Used
25	0.35 OG	1362	Seat Belt Switch - Right - Signal	25	0.35 OG	1362	Seat Belt Switch - Right - Signal
26-40	-	-	Not Used	26-40	-	-	Not Used
41	0.35 RD/WH	2040	Battery Positive Voltage	41	0.35 RD/WH	2040	Battery Positive Voltage
42	0.35 D-GN	5060	Low Speed GMLAN Serial Data	42	0.35 D-GN	5060	Low Speed GMLAN Serial Data
43	-	-	Not Used	43	-	-	Not Used
44	0.35 BK	2450	Ground	44	0.35 BK	2450	Ground
45-47	-	-	Not Used	45-47	-	-	Not Used
48	3 BK	850	Ground	48	3 BK	850	Ground

X307 BODY HARNESS TO DRIVER SEAT HARNESS



Connector Part Information

- Harness: Body
- OEM: 13592486
- Service: 13316172
- Description: 48-Way F 1.6 2.8 6.3 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 20, 22
- Terminal/Tray: 10725421/Pending

Connector Part Information

- Harness: Driver Seat
- OEM: 1719636-1
- Service: Service by Harness - See Part Catalog
- Description: 48-Way M 1.6 2.8 6.3 Timer Series, Sealed (BK)

cardiagn.com

- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 10, 11, 5, 7, 8, 19, 21, 25
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: Pins: 10, 11 : E/1
- Core/Insulation Crimp: Pins: 5, 7, 8, 19, 21, 25 : See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Pins: 2, 46
- Terminal/Tray: 4-965999-1/25
- Core/Insulation Crimp: Pins: 2 : C/A
- Core/Insulation Crimp: Pins: 46 : 4/A
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 1, 48
- Terminal/Tray: 964328-1/25
- Core/Insulation Crimp: 4/B
- Release Tool: J-38125-36
- Test Probe: J-35616-42 (RD)

Terminal Part Information

- Pins: 1, 2, 46, 48
- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

- Pins: 5, 7, 8, 10, 11, 19, 20, 21, 22, 25
- Terminal/Tray: 964265-2/28
- Core/Insulation Crimp: Pins: 5, 7, 8, 19, 20, 21, 22, 25: E/2
- Core/Insulation Crimp: Pins: 10, 11: E/C
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

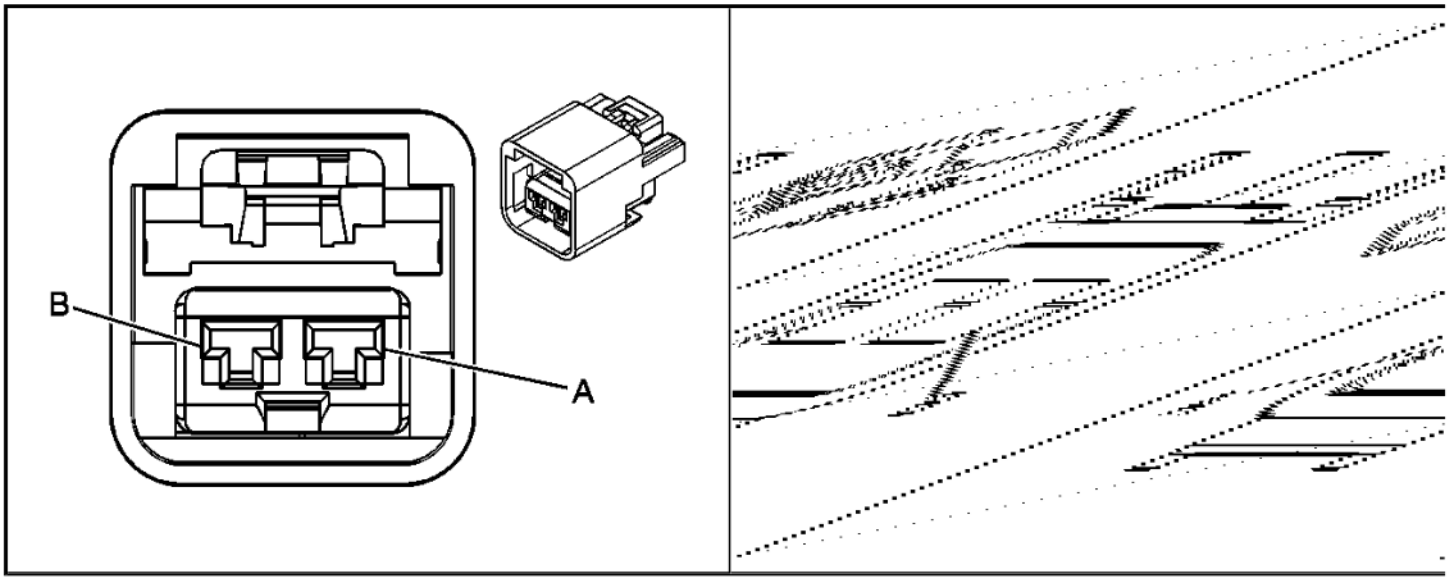
X307 Body Harness to Driver Seat Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	3 RD/WH	5040	Battery Positive Voltage	1	3 RD/WH	5040	Battery Positive Voltage
2	1 RD/WH	5140	Battery Positive Voltage	2	1 RD/WH	5140	Battery Positive Voltage (KA1)
3-4	-	-	Not Used	3-4	-	-	Not Used
5	0.35 D-GN	5060	Low Speed GMLAN Serial Data	5	0.35 D-GN	5060	Low Speed GMLAN Serial Data (KA1)
6	-	-	Not Used	6	-	-	Not Used
7	0.35 PK	2435	Low Reference	7	0.35 PK	2435	Low Reference (KA1)
8	0.35 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal	8	0.35 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal (KA1)
9	-	-	Not Used	9	-	-	Not Used
			Passenger Heated Seat				Passenger Heated Seat

cardiagn.com

10	0.8 D-BU	2479	Element Supply Voltage	10	0.8 D-BU	2479	Element Supply Voltage (KA1)
11	0.8 L-BU	2433	Passenger Heated Seat Back Element Control	11	0.8 L-BU	2433	Passenger Heated Seat Back Element Control (KA1)
12-18	-	-	Not Used	12-18	-	-	Not Used
19	0.35 L-GN	5055	Seat Position Sensor - Left - Signal	19	0.35 L-GN	5055	Seat Position Sensor - Left - Signal
20	0.35 BN	2137	Side Impact Module - Left Front - High Control	20	0.35 BN	2137	Side Impact Module - Left Front - High Control
21	0.35 D-BU	1363	Low Reference	21	0.35 D-BU	1363	Low Reference
22	0.35 YE/BK	2138	Side Impact Module - Left Front - Low Control	22	0.35 YE/BK	2138	Side Impact Module - Left Front - Low Control
23-24	-	-	Not Used	23-24	-	-	Not Used
25	0.35 TN/WH	238	Seat Belt Switch - Left	25	0.35 TN/WH	238	Seat Belt Switch - Left
26-45	-	-	Not Used	26-45	-	-	Not Used
46	2 BK	850	Ground	46	2 BK	850	Ground (KA1)
47	-	-	Not Used	47	-	-	Not Used
48	3 BK	850	Ground	48	3 BK	850	Ground

X308 DRIVER SEAT BACK HARNESS TO THE DRIVER SEAT HARNESS



Connector Part Information	Connector Part Information
• Harness: Driver Seat Back	• Harness: Driver Seat

cardiagn.com

- OEM: 15326870
- Service: 88953160
- Description: 2-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- OEM: 15326874
- Service: 15306379
- Description: 2-Way M GT 280 Series (BK)

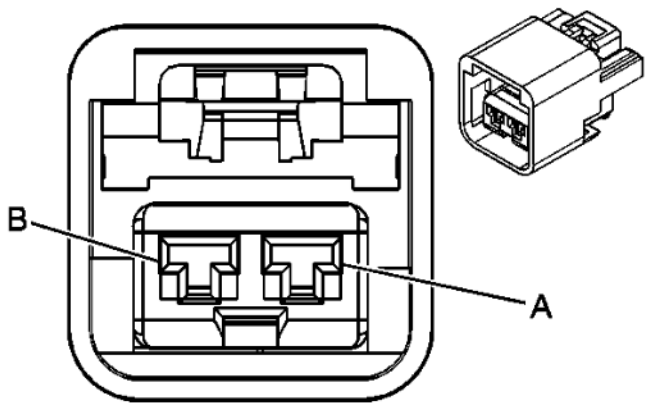
Terminal Part Information

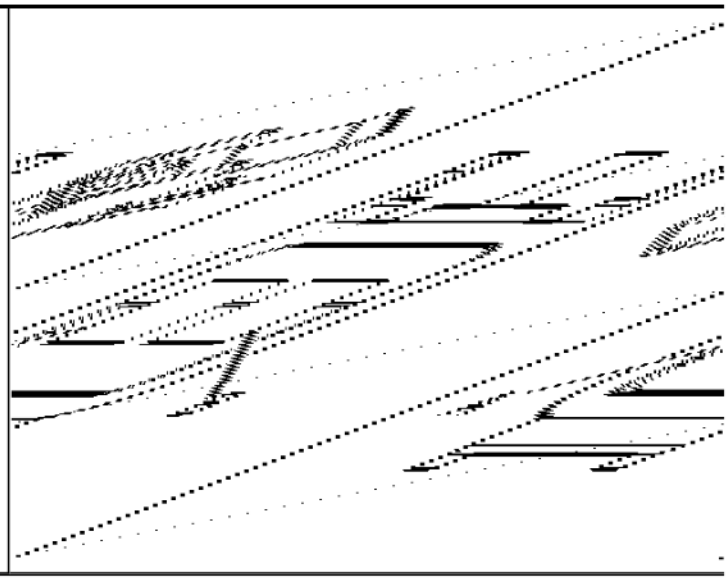
- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: A/D
- Release Tool: 15315247
- Test Probe: 15315247

X308 Driver Seat Back Harness to the Driver Seat Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control	A	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
B	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control	B	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control

X309 PASSENGER SEAT BACK HARNESS TO THE PASSENGER SEAT HARNESS





Connector Part Information

- Harness: Passenger Seat Back
- OEM: 15326870
- Service: 88953160
- Description: 2-Way F GT 280 Series (BK)

Connector Part Information

- Harness: Passenger Seat
- OEM: 15326874
- Service: 15306379
- Description: 2-Way M GT 280 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

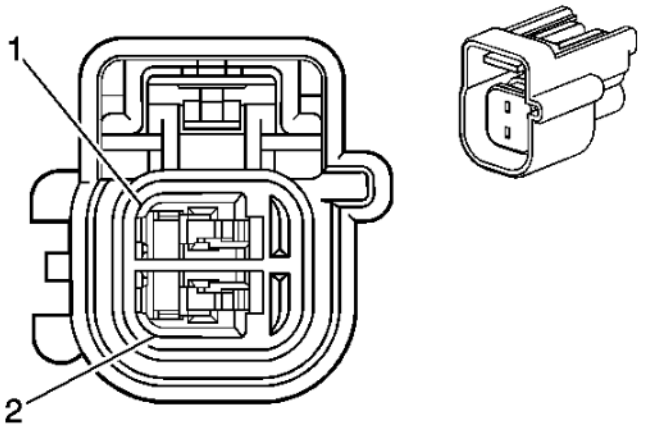
Terminal Part Information

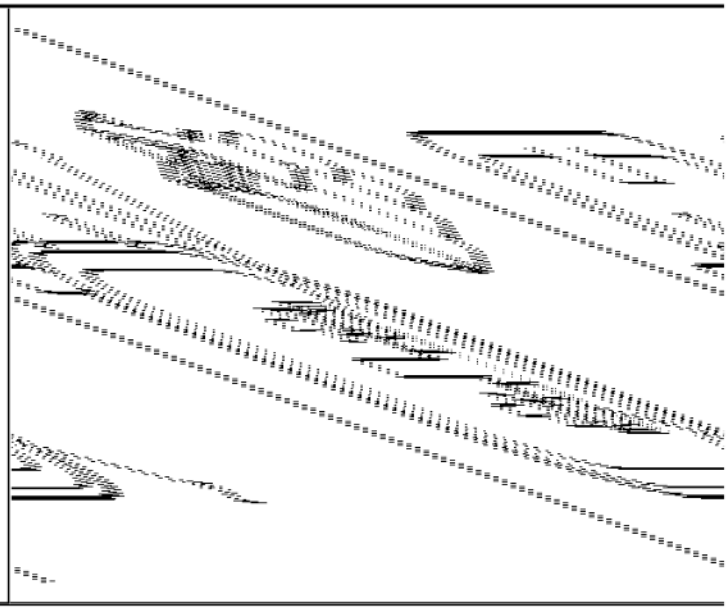
- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: A/D
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

X309 Passenger Seat Back Harness to the Passenger Seat Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	3 D-BU/YE	77	Passenger Seat Recline Motor Rearward Control	A	3 D-BU/YE	77	Passenger Seat Recline Motor Rearward Control
B	3 D-GN/YE	76	Passenger Seat Recline Motor Forward Control	B	3 D-GN/YE	76	Passenger Seat Recline Motor Forward Control

X315 SIDE AIR BAG - LEFT JUMPER HARNESS TO THE DRIVER SEAT HARNESS





Connector Part Information

- Harness: Inflatable Restraint Side Impact Module - Left Jumper
- OEM: E-2239
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 1.5 Series, Sealed (YE)

Connector Part Information

- Harness: Driver Seat
- OEM: E-2238
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series, Sealed (YE)

Terminal Part Information

Terminal Part Information

cardiagn.com

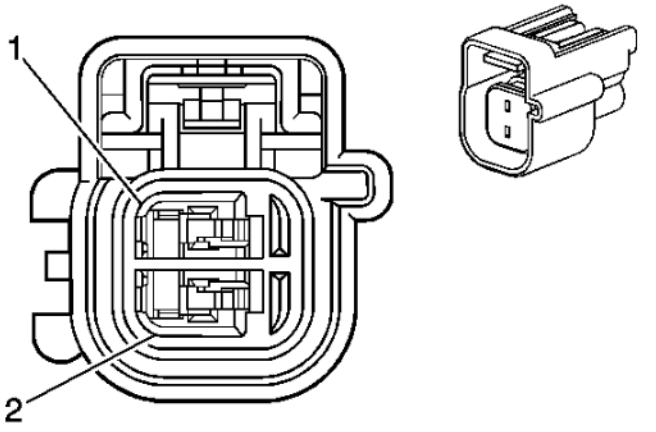
- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

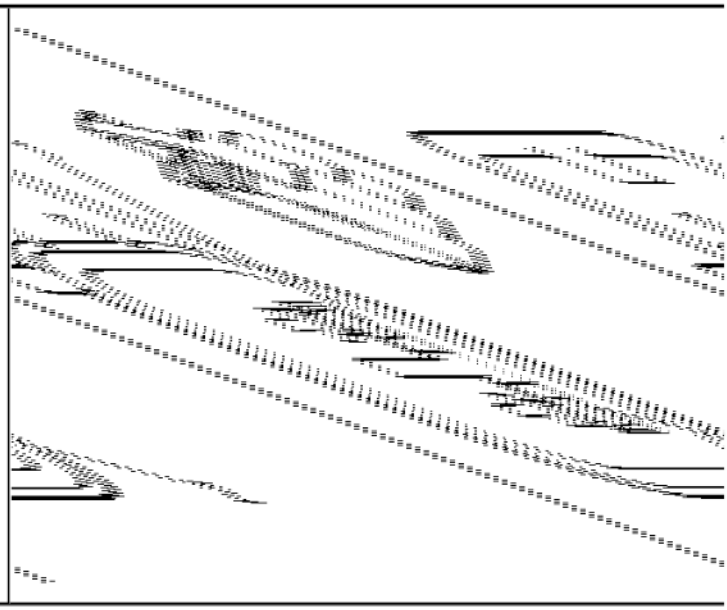
- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

X315 Side Air Bag - Left Jumper Harness to the Driver Seat Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	0.35 BN	2137	Side Impact Module - LF - High Control	1	0.35 BN	2137	Side Impact Module - LF - High Control
2	0.35 YE/BK	2138	Side Impact Module - LF - Low Control	2	0.35 YE/BK	2138	Side Impact Module - LF - Low Control

X316 SIDE AIR BAG - RIGHT JUMPER HARNESS TO THE PASSENGER SEAT HARNESS





Connector Part Information

- Harness: Inflatable Restraint Side Impact Module - Right Jumper
- OEM: E-2239
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 1.5 Series, Sealed (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector

Connector Part Information

- Harness: Passenger Seat
- OEM: E-2238
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series, Sealed (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector

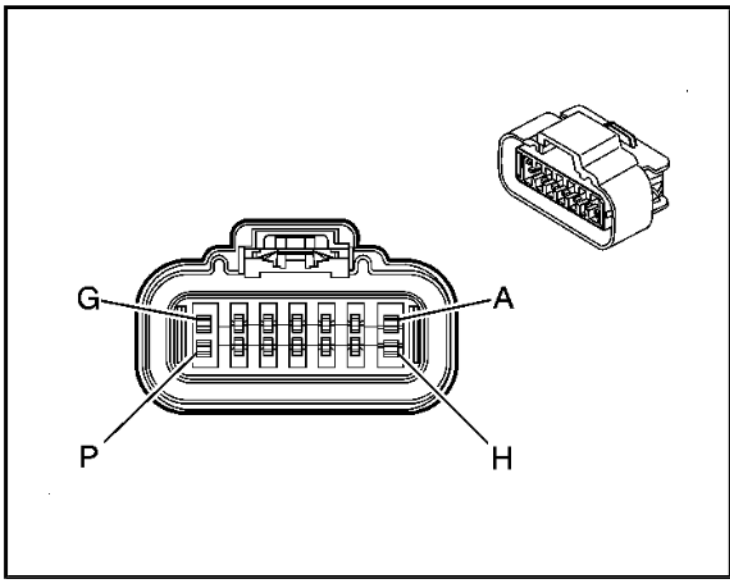
cardiagn.com

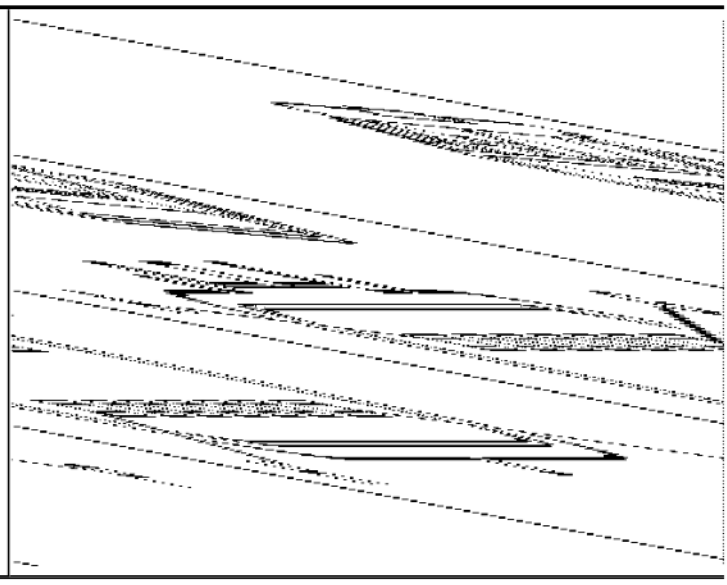
Assembly - See Part Catalog • Core/Insulation Crimp: Not Available • Release Tool: Not Available • Test Probe: Not Available	Assembly - See Part Catalog • Core/Insulation Crimp: Not Available • Release Tool: Not Available • Test Probe: Not Available

X316 Side Air Bag - Right Jumper Harness to the Passenger Seat Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	0.35 TN/WH	2135	Side Impact Module - RF - High Control	1	0.35 TN/WH	2135	Side Impact Module - RF - High Control
2	0.35 L-BU	2136	Side Impact Module - RF - Low Control	2	0.35 L-GN	2136	Side Impact Module - RF - Low Control

X350 BODY HARNESS TO FUEL TANK HARNESS





Connector Part Information

- Harness: Body
- OEM: 15336037
- Service: 19179461
- Description: 14-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Pins: B, C, D, E, F, J, K, L, M, N
- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247

Connector Part Information

- Harness: Fuel Tank
- OEM: 15422562
- Service: 88987613
- Description: 14-Way F GT 150, 280 Series, Sealed (BK)

Terminal Part Information

- Pins: B, C, D, E, F, J, K, L, M, N

cardiagn.com

- Test Probe: J-35616-2A (GY)

- Pin: P
- Terminal/Tray: 15304719/19
- Core/Insulation Crimp: E/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pin: A
- Terminal/Tray: 15304720/19
- Core/Insulation Crimp: 4/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pin: H
- Terminal/Tray: 15392777/23
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

- Pin: P
- Terminal/Tray: 15304731/19
- Core/Insulation Crimp: E/5
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

- Pins: A,H
- Terminal/Tray: 15304732/8
- Core/Insulation Crimp: A/5
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

X350 Body Harness to Fuel Tank Harness

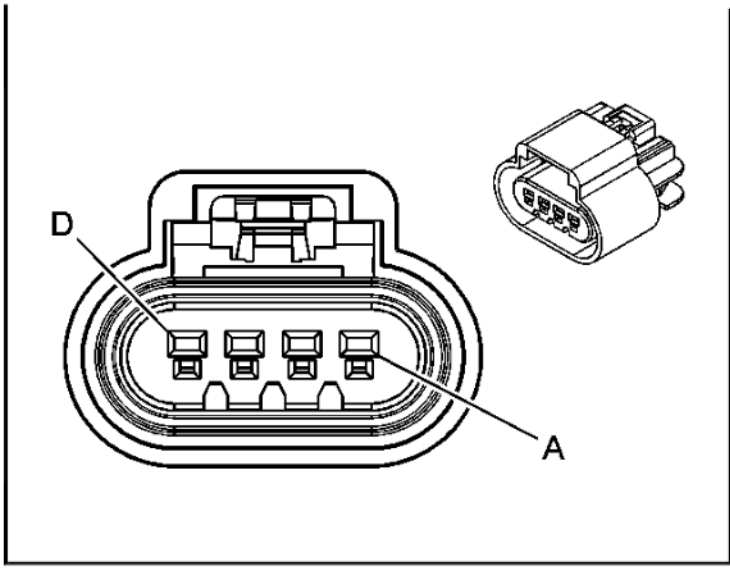
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	2 GY	120	Fuel Pump Supply Voltage	A	2 RD	120	Fuel Pump Supply Voltage (Early Production)
					2 GY	120	Fuel Pump Supply Voltage (Late Production)
B	0.35 GY	2709	5-Volt Reference 1	B	0.5 OG	2709	5-Volt Reference 1 (Early Production)
					0.5 GY	2709	5-Volt Reference 1 (Late Production)
C	0.35 D-GN	890	Fuel Tank Pressure Sensor Signal	C	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal
D	0.35 BN	7445	5-Volt Reference	D	0.5 OG	7445	5-Volt Reference (Early Production)
					0.5 BN	7445	5-Volt Reference (Late Production)
E	0.35 D-BU	1936	Fuel Level Sensor	E	0.5 WH	1936	Fuel Level Sensor Signal (Early Production)

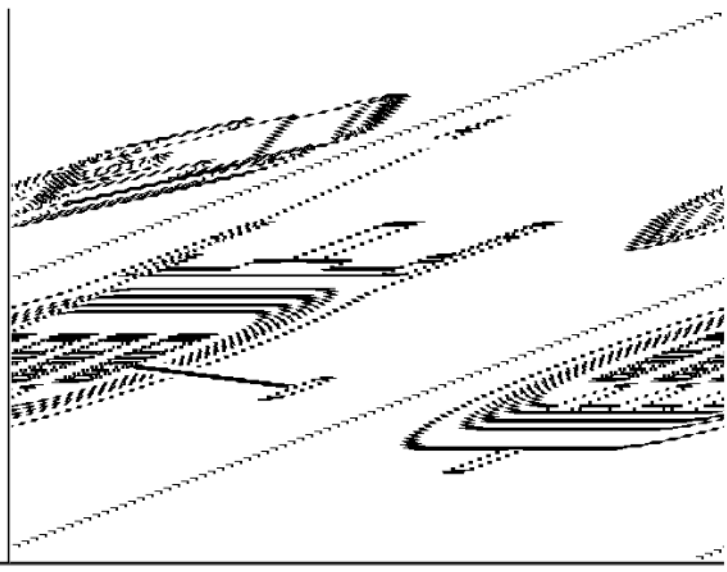
cardiagn.com

			Signal		0.5 D-BU	1936	Fuel Level Sensor Signal (Late Production)
F	0.35 L-BU	1937	Fuel Level Sensor Signal - Secondary	F	0.5 YE	1937	Fuel Level Sensor Signal - Secondary (Early Production)
					0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary (Late Production)
G	-	-	Not Used	G	-	-	Not Used
H	2 PK	1580	Low Reference	H	2 BK	1580	Low Reference (Early Production)
					2 PK	1580	Low Reference (Late Production)
J	0.5 BK	7444	Drain Wire	J	0.5 BK	7444	Drain Wire (Late Production)
K	0.35 PU	7446	Fuel Pressure Sensor Signal	K	0.5 GY	7446	Fuel Pressure Sensor Signal (Early Production)
					0.5 PU	7446	Fuel Pressure Sensor Signal (Late Production)
L	0.35 GY	7447	Low Reference	L	0.5 BN	7447	Low Reference (Early Production)
					0.5 GY	7447	Low Reference (Late Production)
M	0.35 WH	1310	EVAP Canister Vent Solenoid Control	M	0.5 BN	1310	EVAP Canister Vent Solenoid Control (Early Production)
					0.5 WH	1310	EVAP Canister Vent Solenoid Control (Late Production)
N	0.5 RD/WH	2440	Battery Positive Voltage	N	0.5 RD	2440	Battery Positive Voltage
					0.5 RD/WH	2440	Battery Positive Voltage
P	0.35 BN/WH	6281	Low Reference	P	0.5 BK	6281	Low Reference (Early Production)
					0.5 BN/WH	6281	Low Reference (Late Production)

X360 REAR AXLE HARNESS TO BODY HARNESS

cardiagn.com





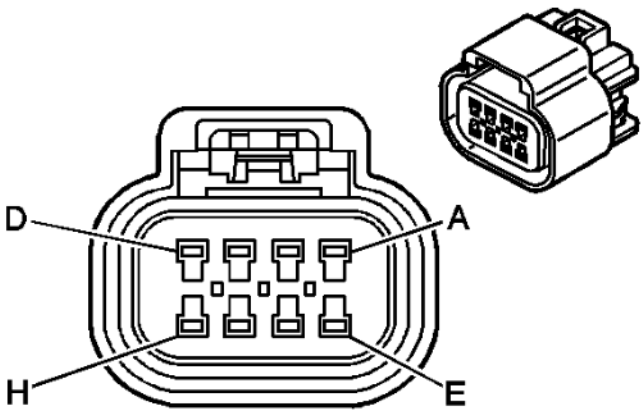
Connector Part Information	Connector Part Information
• Harness: Rear Axle • OEM: 15326815 • Service: 15306396 • Description: 4-Way F GT 150 Sealed 4.0 (BK)	• Harness: Body • OEM: 15326820 • Service: 15326820 • Description: 4-Way M GT 150 Series, Sealed (BK)
Terminal Part Information	**Terminal Part Information**
• Terminal/Tray: 12191819/8 • Core/Insulation Crimp: 2/1 • Release Tool: 15315247 • Test Probe: J-35616-2A (GY)	• Terminal/Tray: 15326269/19 • Core/Insulation Crimp: E/4 • Release Tool: 15315247 • Test Probe: J-35616-3 (GY)

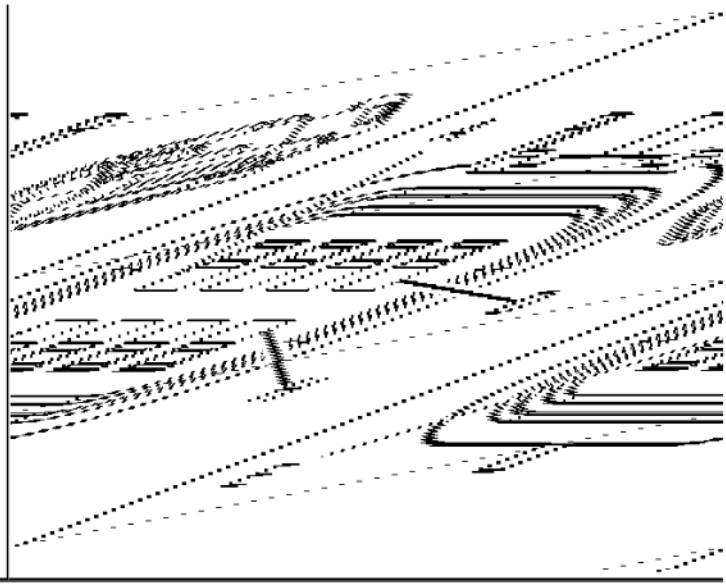
X360 Rear Axle Harness to Body Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.8 WH	883	Low Reference	A	0.5 WH	883	Low Reference
B	0.8 BN	882	Right Rear Wheel Speed Sensor Signal	B	0.5 BN	882	Right Rear Wheel Speed Sensor Signal
C	0.8 OG	885	Low Reference	C	0.5 OG	885	Low Reference
D	0.8 TN	884	Left Rear Wheel Speed Sensor Signal	D	0.5 TN	884	Left Rear Wheel Speed Sensor Signal

X400 BODY HARNESS TO REAR FASCIA LEFT HARNESS

cardiagn.com





Connector Part Information

- Harness: Body
- OEM: 15326836
- Service: 88986255
- Description: 8-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Connector Part Information

- Harness: Rear Fascia Left
- OEM: 15326840
- Service: Service by Harness - See Part Catalog
- Description: 8-Way M GT 150 Sealed 4.0 (BK)

Terminal Part Information

- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

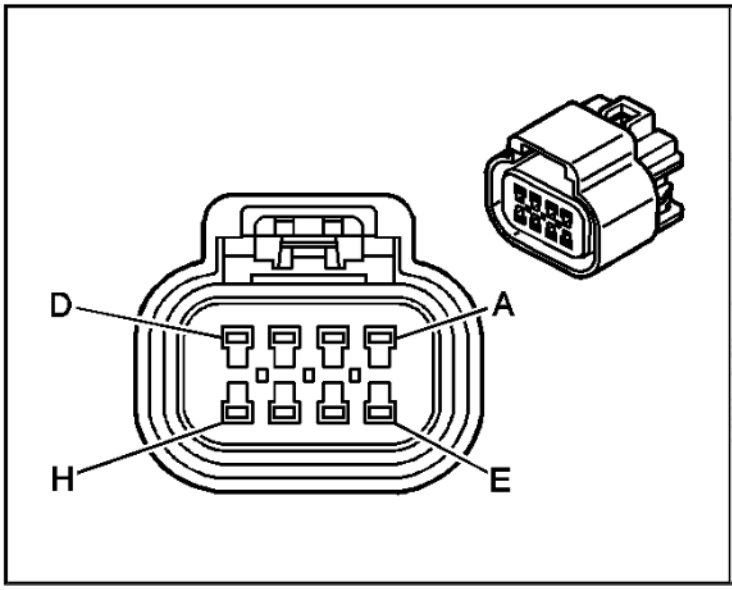
X400 Body Harness to Rear Fascia Left Harness

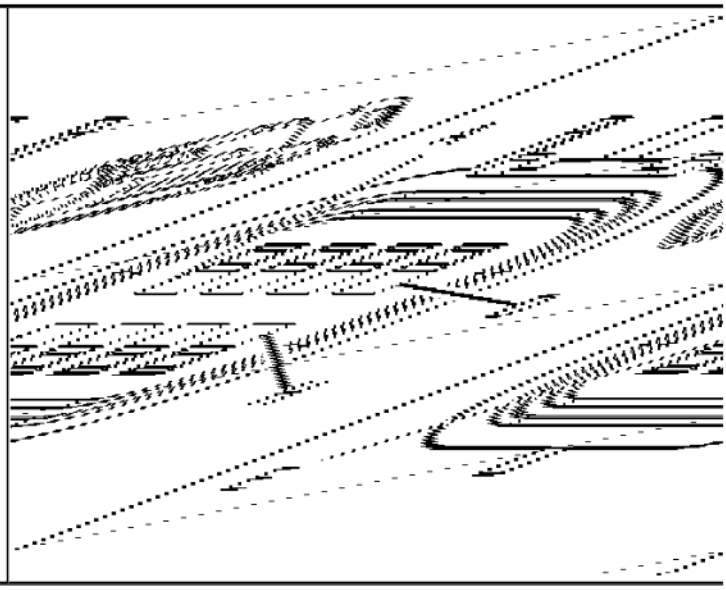
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 D-GN/YE	6846	Rear License Lamp Control	A	0.5 D-GN/YE	6846	Rear License Lamp Control
B	0.35 GY	2379	Low Reference (UD7)	B	0.35 GY	2379	Low Reference (UD7)
C	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage	C	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage
D	-	-	Not Used	D	-	-	Not Used
E	0.35 D-BU	2374	Object Sensor Supply Voltage (UD7)	E	0.35 D-BU	2374	Object Sensor Supply Voltage (UD7)
F	-	-	Not Used	F	-	-	Not Used
	0.5 BN/L-		Left Park Lamp				Left Park Lamp

cardiagn.com

G	BU	6993	Supply Voltage	G	0.5 PU	709	Supply Voltage
H	0.5 L-GN	24	Backup Lamp Supply Voltage	H	0.5 L-GN	24	Backup Lamp Supply Voltage

X401 BODY HARNESS TO REAR FASCIA RIGHT HARNESS





Connector Part Information

- Harness: Body
- OEM: 15326836
- Service: 88986255
- Description: 8-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins: A, B, C, F, G, H : E/A
- Core/Insulation Crimp: Pins: D, E : 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Connector Part Information

- Harness: Rear Fascia Right
- OEM: 15326840
- Service: Service by Harness - See Part Catalog
- Description: 8-Way M GT 150 Sealed 4.0 (BK)

Terminal Part Information

- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: Pins: D, E : E/1
- Core/Insulation Crimp: Pins: A, B, C, F, G, H : E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

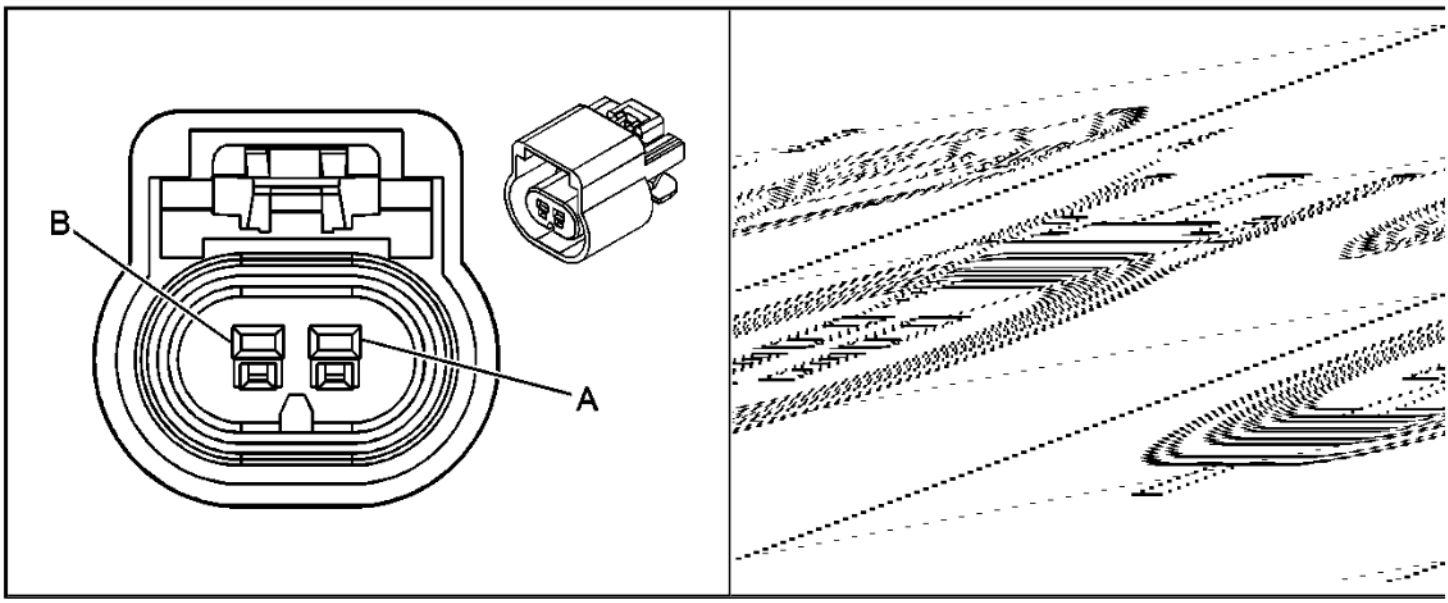
X401 Body Harness to Rear Fascia Right Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.35 YE	2375	Left Rear Corner Object Sensor Signal	A	0.35 YE	2375	Left Rear Corner Object Sensor Signal

cardiagn.com

			(UD7)				(UD7)
B	0.5 BN/GY	6995	Right Park Lamp Supply Voltage	B	0.5 BN/WH	309	Right Park Lamp Supply Voltage
C	0.35 OG	2376	Left Rear Middle Object Sensor Signal (UD7)	C	0.35 OG	2376	Left Rear Middle Object Sensor Signal (UD7)
D	1 BK	2550	Ground	D	1 BK	2550	Ground
E	1 BK	550	Ground	E	1 BK	550	Ground
F	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage	F	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage
G	0.35 PU	2378	Right Rear Corner Object Sensor Signal (UD7)	G	0.35 PU	2378	Right Rear Corner Object Sensor Signal (UD7)
H	0.35 D-GN	2377	Right Rear Middle Object Sensor Signal (UD7)	H	0.35 D-GN	2377	Right Rear Middle Object Sensor Signal (UD7)

X402 LICENSE LAMP HARNESS TO REAR FASCIA HARNESS



Connector Part Information

- Harness: License Lamp
- OEM: 13510085
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F GT 150 Series, Sealed (BK)

Connector Part Information

- Harness: Rear Fascia
- OEM: 13510099
- Service: 19151499
- Description: 2-Way M GT 150 Series, Sealed (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

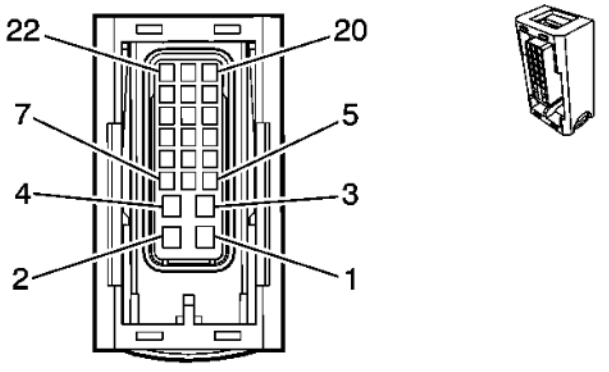
Terminal Part Information

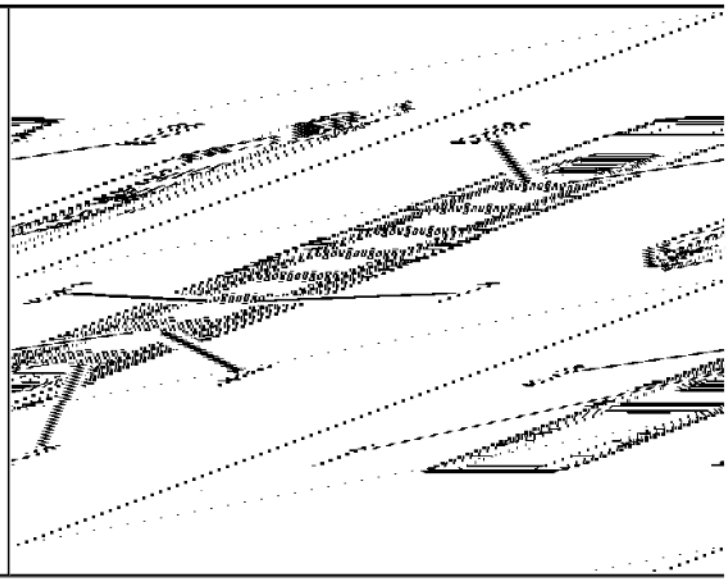
- Terminal/Tray: 15326269/19
- Core/Insulation Crimp: Pin: A : E/1
- Core/Insulation Crimp: Pin: B : E/4
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

X402 License Lamp Harness to Rear Fascia Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.8 BK	2550	Ground	A	0.8 BK	2550	Ground
B	0.5 BN	6846	Rear License Lamp Control	B	0.5 D-GN/YE	6846	Rear License Lamp Control

X500 BODY HARNESS TO DRIVER DOOR HARNESS





Connector Part Information

- Harness: Body
- OEM: 10763183
- Service: 13505899
- Description: 22-Way F 1.5 2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 2

Connector Part Information

- Harness: Driver Door
- OEM: 10763193
- Service: Service by Harness - See Part Catalog
- Description: 22-Way M 1.5 2.8 Series, Sealed (BK)

cardiagn.com

- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: A/D
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

- Pins: 3, 4, 17, 19
- Terminal/Tray: Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 5, 6, 12, 14, 15, 16, 18, 20, 21, 22
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Pins: 7, 8, 9, 10, 11, 13
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

X500 Body Harness to Driver Door Harness

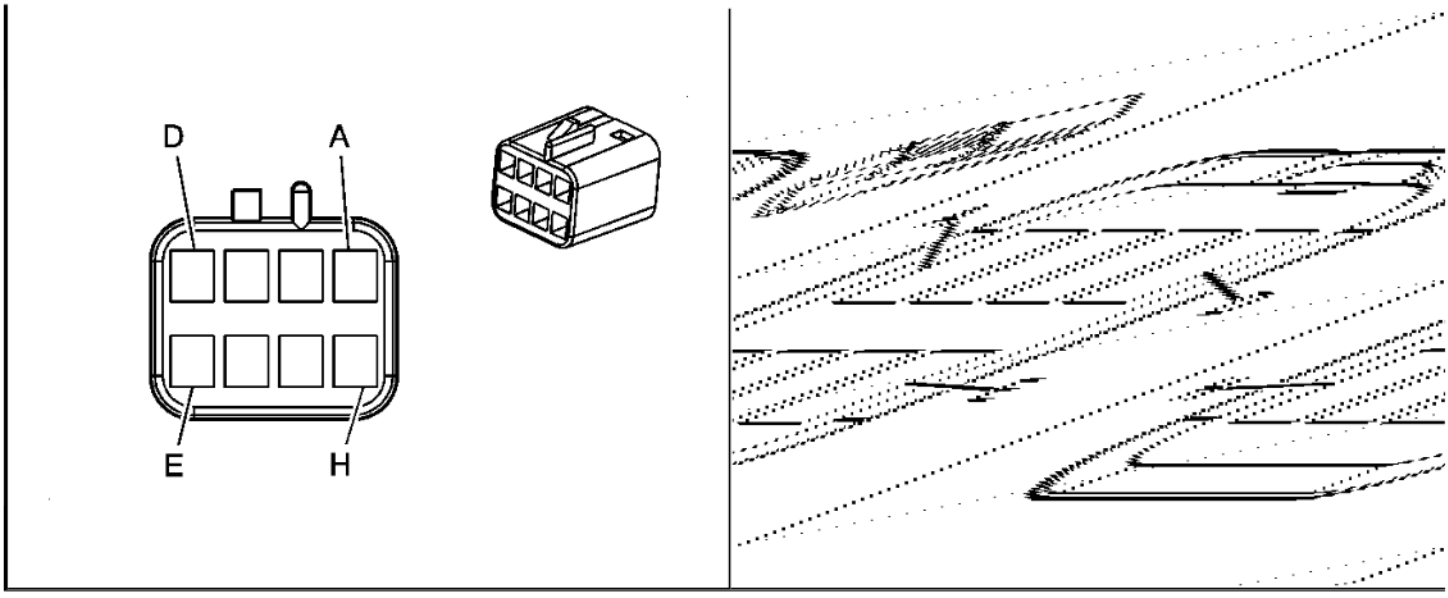
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	-	-	Not Used	1	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage
2	3 RD/WH	1240	Battery Positive Voltage	2	3 RD/WH	1240	Battery Positive Voltage
3	3 BK	850	Ground	3	3 BK	850	Ground
4	0.35 D-GN	3270	Driver Door Lock Status Signal	4	0.35 D-GN	3270	Driver Door Lock Status Signal
5	0.35 OG	2267	Mirror Heating Element Supply Voltage	5	0.35 OG	2267	Mirror Heating Element Supply Voltage
6	0.35 PU	7558	Accent Lamps Control	6	0.35 PU	7558	Accent Lamps Control
7	0.5 OG/WH	881	Passenger Mirror Motor Right Control	7	0.5 OG/WH	881	Passenger Mirror Motor Right Control
8	0.5 PU/WH	889	Passenger Mirror Motor Down Control	8	0.5 PU/WH	889	Passenger Mirror Motor Down Control
9	0.5	330	Passenger Mirror	9	0.5 TN	329	Passenger Mirror

cardiagn.com

	TN/WH		Motor Left/Up Control				Motor Left/Up Control
10	0.8 GY	118	Left Front Speaker Output (-)	10	0.8 GY	118	Left Front Speaker Output (-)
11	0.5 RD/WH	1940	Battery Positive Voltage	11	0.5 RD/WH	1940	Battery Positive Voltage
12	0.35 PK	1691	Low Reference	12	0.35 PK	1691	Low Reference
13	0.8 TN	201	Left Front Speaker Output (+)	13	0.8 TN	201	Left Front Speaker Output (+)
14	0.35 GY	1690	Automatic Day/Night Mirror Signal	14	0.35 GY	1690	Automatic Day/Night Mirror Signal
15	0.35 D-BU	6189	Rear Compartment Lid Release Switch	15	0.35 D-BU	6189	Rear Compartment Lid Release Switch
16	0.35 D-GN	6134	Linear Interconnect Network 3	16	0.35 D-GN	6134	Linear Interconnect Network 3
17	1 GY	5911	Driver Door Lock Motor Unlock Control	17	0.8 GY	5911	Driver Door Lock Motor Unlock Control
18	0.35 PU	2765	Power Window Switch Right Front Express Signal	18	0.35 PU	2765	Power Window Switch Right Front Express Signal
19	1 TN	294	Door Lock Actuator Lock Control	19	0.8 TN	294	Door Lock Actuator Lock Control
20	0.35 TN	167	Power Window Master Switch Right Front Down Signal	20	0.35 TN	167	Power Window Master Switch Right Front Down Signal
21	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal	21	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal
22	0.35 YE	6817	LED Backlight Dimming Control	22	0.35 YE	6817	LED Backlight Dimming Control

X502 OUTSIDE REARVIEW MIRROR - DRIVER HARNESS TO DRIVER DOOR HARNESS

cardiagn.com



Connector Part Information

- Harness Type: Outside Rearview Mirror - Driver
- OEM Connector: 12065398
- Service Connector: 12101822
- Description: 8-Way F Metri-Pack 150 Series (NA)

Terminal Part Information

- Terminal/Tray: 15326030/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Connector Part Information

- Harness Type: Driver Door
- OEM Connector: 12045688
- Service Connector: 12101827
- Description: 8-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

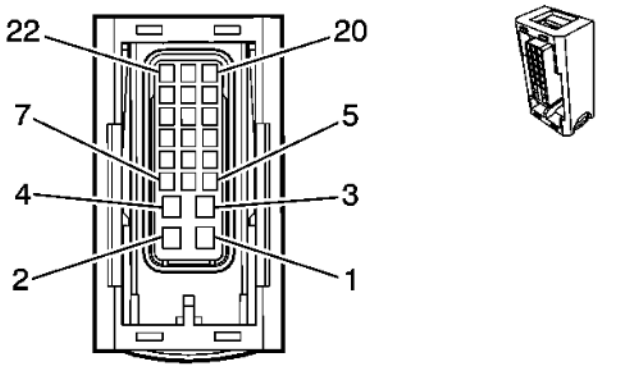
X502 Outside Rearview Mirror - Driver Harness to Driver Door Harness

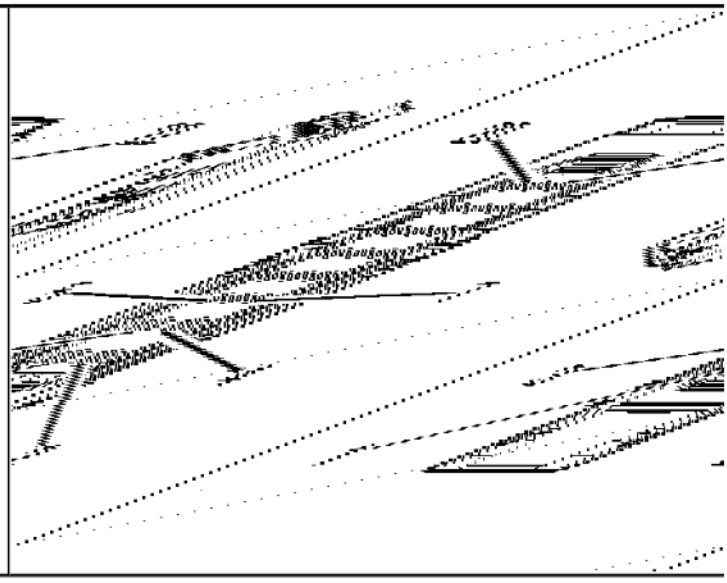
Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 BN	1691	Low Reference	A	0.35 PK	1691	Low Reference
B	0.5 BN/BK	1690	Automatic Day/Night Mirror Signal	B	0.35 GY	1690	Automatic Day/Night Mirror Signal
C	0.5 BK	2267	Mirror Heating Element Supply Voltage	C	0.35 OG	2267	Mirror Heating Element Supply Voltage
D	0.5BK/WH	850	Ground	D	0.35 BK	850	Ground
E	0.35 WH	81	Driver Mirror Motor Right Control	E	0.5 WH	81	Driver Mirror Motor Right Control
F	0.35 YE	89	Driver Mirror Motor	F	0.5 L-GN	89	Driver Mirror Motor

cardiagn.com

			Down Control				Down Control
G	0.35 GY	329	Driver Mirror Motor Supply Voltage	G	0.5 TN	329	Driver Mirror Motor Supply Voltage
H	0.35 BU	1314	Left Front Turn Signal Lamp Supply Voltage	H	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage

X600 BODY HARNESS TO PASSENGER DOOR HARNESS





Connector Part Information

- Harness: Body
- OEM: 10763183
- Service: 13505899
- Description: 22-Way F 1.5 2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 2
- Terminal/Tray: 15304724/8
- Core/Insulation Crimp: A/D
- Release Tool: 15315247
- Test Probe: J-35616-5 (PU)

- Pins: 3, 4, 17, 19
- Terminal/Tray: Pending
- Core/Insulation Crimp: Pending

Connector Part Information

- Harness: Passenger Door
- OEM: 10763193
- Service: Service by Harness - See Part Catalog
- Description: 22-Way M 1.5 2.8 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Release Tool: Pending
- Test Probe: Pending

- Pins: 5, 6, 11, 12, 14, 16, 18
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Pins: 7, 8, 9, 10, 13, 17
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

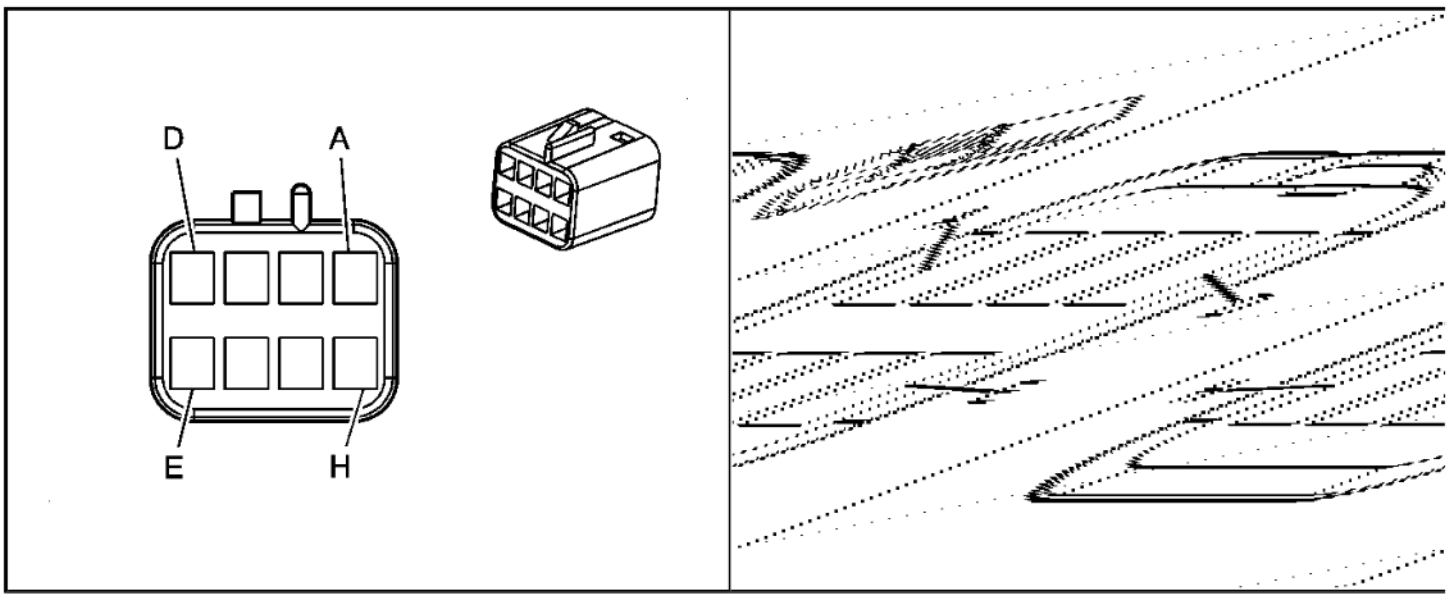
X600 Body Harness to Passenger Door Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
1	3 RD/WH	5040	Battery Positive Voltage	1	-	-	Not Used
2	3 RD/WH	1240	Battery Positive Voltage	2	3 RD/WH	1240	Battery Positive Voltage
3	3 BK	2350	Ground	3	3 BK	2350	Ground
4	-	-	Not Used	4	-	-	Not Used
5	0.35 OG	2267	Mirror Heating Element Supply Voltage	5	0.35 OG	2267	Mirror Heating Element Supply Voltage
6	0.35 PU	7558	Accent Lamps Control	6	0.35 PU	7558	Accent Lamps Control
7	0.5 OG/WH	881	Passenger Mirror Motor Right Control	7	0.5 OG/WH	881	Passenger Mirror Motor Right Control
8	0.5 PU/WH	889	Passenger Mirror Motor Down Control	8	0.5 PU/WH	889	Passenger Mirror Motor Down Control
9	0.5 TN/WH	330	Passenger Mirror Motor Left/Up Control	9	0.5 TN/WH	330	Passenger Mirror Motor Left/Up Control
10	0.8 D-GN	117	Right Front Speaker Output (-)	10	0.8 D-GN	117	Right Front Speaker Output (-)
11	0.35 PU	2765	Power Window Switch Right Front Express Signal	11	0.35 PU	2765	Power Window Switch Right Front Express Signal
12	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal	12	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal
13	0.8 L-GN	200	Right Front Speaker	13	0.8 L-GN	200	Right Front Speaker

cardiagn.com

			Output (+)				Output (+)
14	0.35 TN	167	Power Window Master Switch Right Front Down Signal	14	0.35 TN	167	Power Window Master Switch Right Front Down Signal
15	-	-	Not Used	15	-	-	Not Used
16	0.35 D-GN	6134	Linear Interconnect Network 3	16	0.35 D-GN	6134	Linear Interconnect Network 3
17	-	-	Not Used	17	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage
18	0.35 YE	6817	LED Backlight Dimming Control	18	0.35 YE	6817	LED Backlight Dimming Control
19	1 GY	295	Door Lock Actuator Unlock Control	19	0.8 GY	295	Door Lock Actuator Unlock Control
20	1 TN	294	Door Lock Actuator Lock Control	20	0.8 TN	294	Door Lock Actuator Lock Control
21-22	-	-	Not Used	21-22	-	-	Not Used

X602 OUTSIDE REARVIEW MIRROR - PASSENGER HARNESS TO PASSENGER DOOR HARNESS



Connector Part Information

- Harness Type: Outside Rearview Mirror - Driver
- OEM Connector: 12065398
- Service Connector: 12101822
- Description: 8-Way F Metri-Pack 150 Series

Connector Part Information

- Harness Type: Driver Door
- OEM Connector: 12045688
- Service Connector: 12101827
- Description: 8-Way M Metri-Pack 150 Series

cardiagn.com

(NA)

Terminal Part Information

- Terminal/Tray: 15326030/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

(BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

X602 Outside Rearview Mirror - Passenger Harness to Passenger Door Harness

Pin	Wire	Circuit	Function	Pin	Wire	Circuit	Function
A	0.5 BK	2267	Mirror Heating Element Supply Voltage	A	0.35 OG	2267	Mirror Heating Element Supply Voltage
B	0.5BK/WH	2350	Ground	B	0.35 BK	2350	Ground
C	0.35 OG/WH	881	Passenger Mirror Motor Right Control	C	0.5 OG/WH	881	Passenger Mirror Motor Right Control
D	0.35 BN/WH	889	Passenger Mirror Motor Down Control	D	0.5 PU/WH	889	Passenger Mirror Motor Down Control
E	0.35 TN/WH	330	Passenger Mirror Motor Supply Voltage	E	0.5 TN/WH	330	Passenger Mirror Motor Supply Voltage
F	-	-	Not Used	F	-	-	Not Used
G	-	-	Not Used	G	0.5 TN	329	Driver Mirror Motor Supply Voltage
H	0.5 BU	1315	Right Front Turn Signal Lamp Supply Voltage	H	0.5 L-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Camaro

REPAIR INSTRUCTIONS

RELAY REPLACEMENT (ATTACHED TO WIRE HARNESS)

Removal Procedure

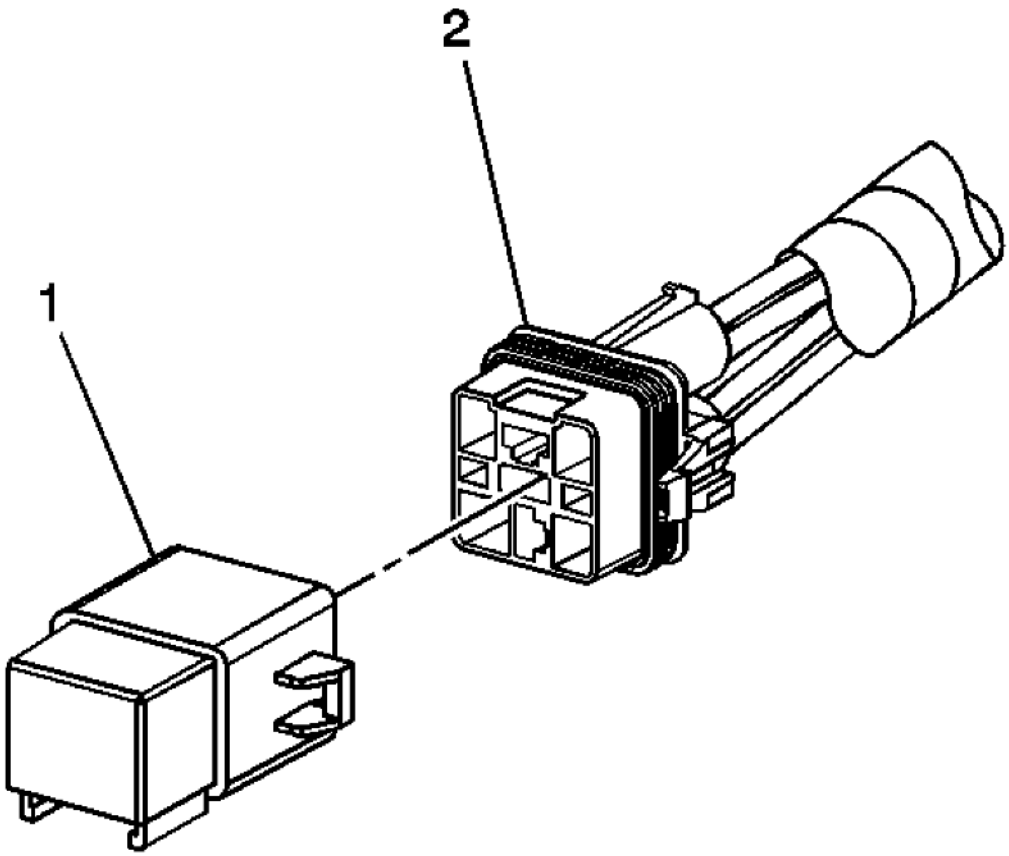


Fig. 1: Identifying Relay & Wire Harness Connector
Courtesy of GENERAL MOTORS CORP.

1. Locate the relay. Refer to the **Master Electrical Component List** to locate the relay in the vehicle.
2. Remove any fasteners which hold the relay in place.
3. Remove any connector position assurance (CPA) devices or secondary locks.

cardiagn.com

NOTE: **Use care when removing a relay in a wiring harness when the relay is secured by fasteners or tape.**

4. Separate the relay (1) from the wire harness connector (2).

Installation Procedure

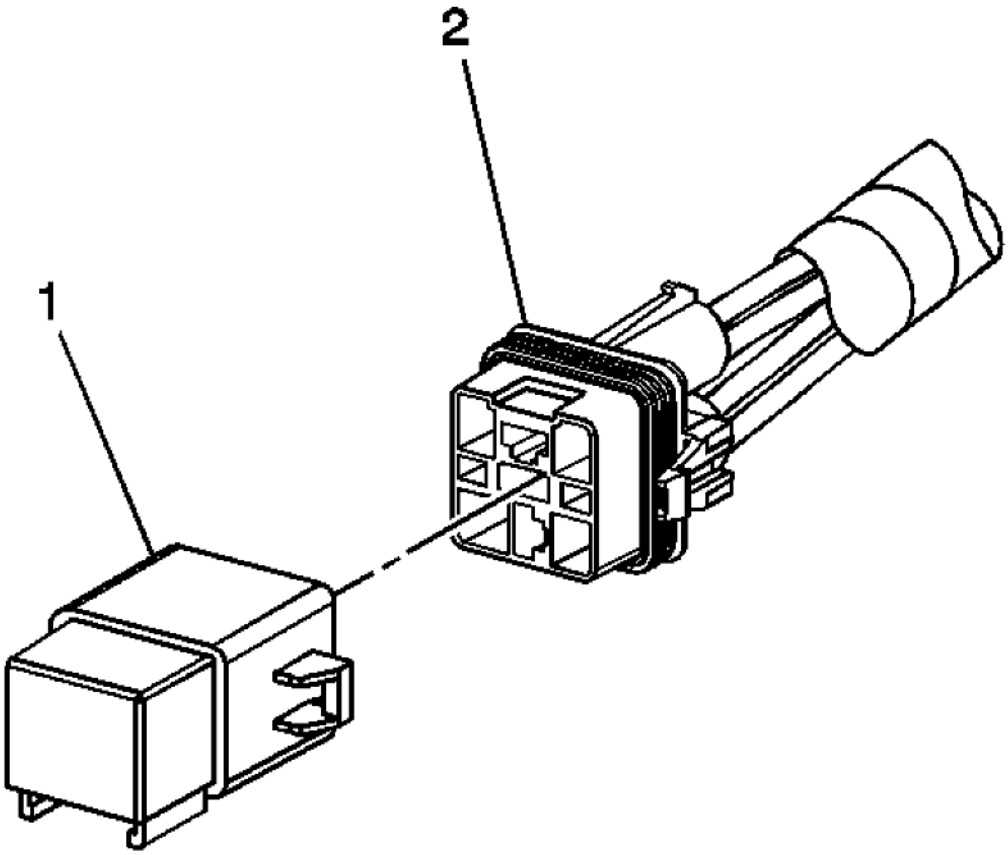


Fig. 2: Identifying Relay & Wire Harness Connector
Courtesy of GENERAL MOTORS CORP.

1. Connect the relay (1) to the wire harness connector (2).
2. Install any connector position assurance (CPA) devices or secondary locks.
3. Install the relay using any fasteners or tape that originally held the relay in place.

RELAY REPLACEMENT (WITHIN AN ELECTRICAL CENTER)

cardiagn.com

Special Tools

EL 43244 Relay Puller Pliers

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

1. Remove the electrical center cover.
2. Locate the relay. Refer to **Electrical Center Identification Views** to locate the electrical center where the relay exists.

NOTE:

- **Always note the orientation of the relay.**
- **If equipped with a notch style relay; observe the location of the notch on the old relay to verify the new relay is installed with the notch in the same location.**
- **Ensure that the electrical center is secure, as not to put added stress on the wires or terminals.**

cardiagn.com

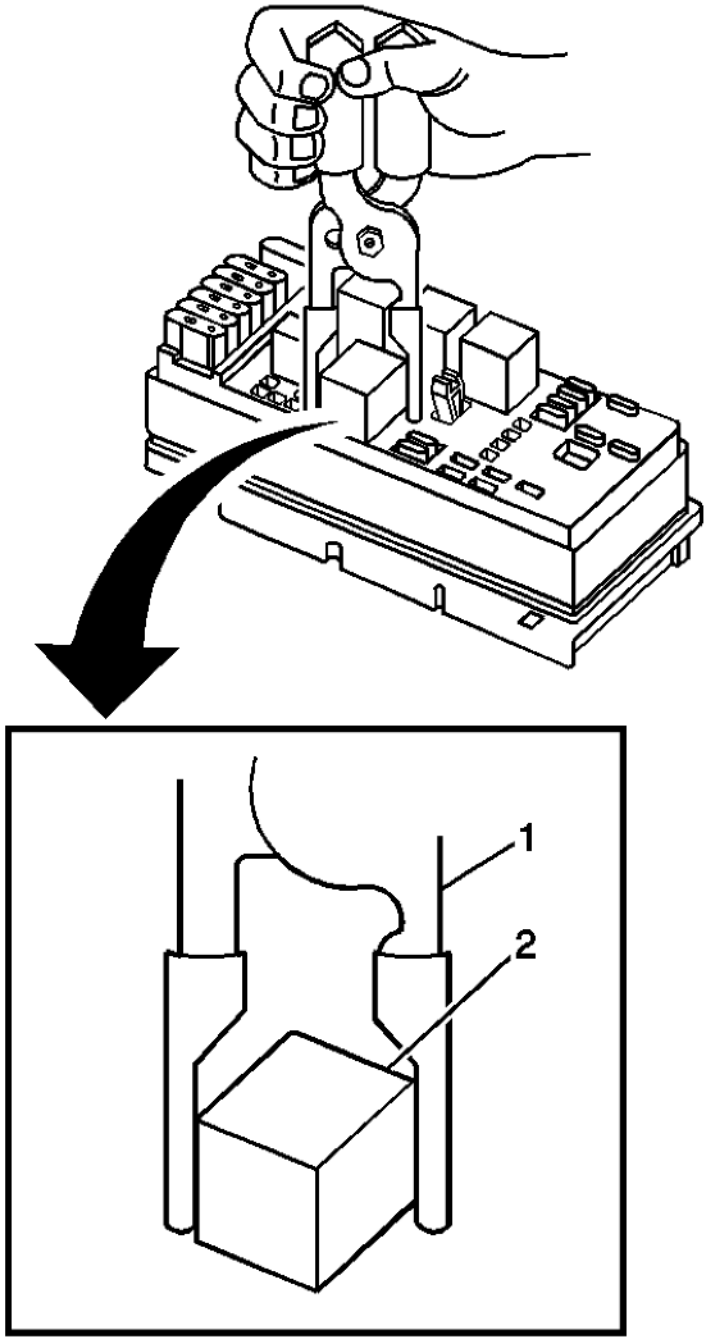


Fig. 3: Removing/Installing Relay Using Special Tool
Courtesy of GENERAL MOTORS CORP.

3. Using the EL 43244 (1) position the tool on opposing corners of the relay (2).

cardiagn.com

CAUTION: Use EL-43244 to pull the relay straight out from the electrical center terminals. The use of pliers or a flat bladed tool could damage the electrical center.

4. Remove the relay (2) from the electrical center.

Installation Procedure

cardiagn.com

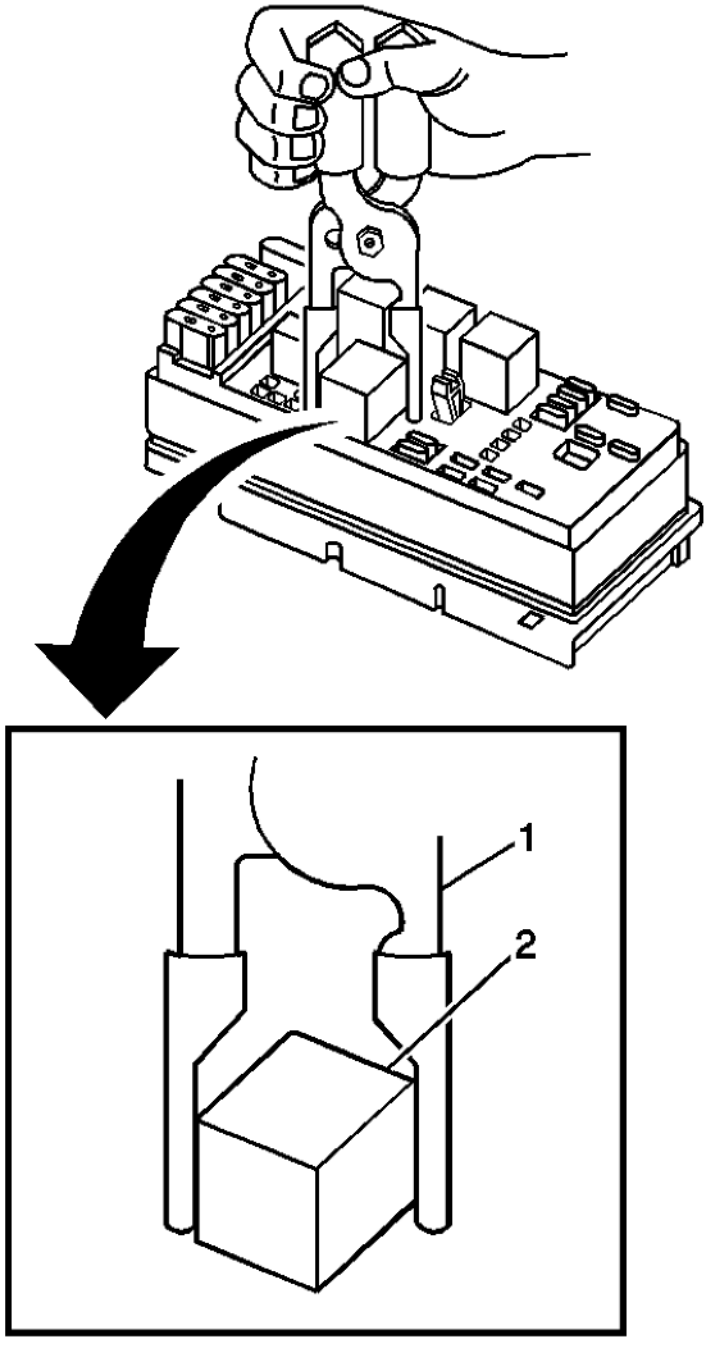


Fig. 4: Removing/Installing Relay Using Special Tool
Courtesy of GENERAL MOTORS CORP.

1. Install the relay (2) in the same position as removed.
2. Install the electrical center cover.

cardiagn.com

GROUND REPAIR

Electrical Grounds

Proper electrical system function relies on secure, positive, corrosion-free ground connections. Loose, stripped, or corroded connections increase the possibility of improper system function and loss of module communication. These conditions may also lead to unnecessary repairs and component replacements.

In general, electrical ground connections are accomplished using one, or a combination of, three attachment methods:

- Welded M6 stud and nut
- Welded M6 nut and bolt
- Welded M8 nut and bolt

CAUTION: Use GM approved replacement fasteners with conductive finish for electrical ground repair.

Determine which attachment method is used, and carry out the appropriate repair.

M6 Weld Stud Replacement

1. Select a location adjacent the damaged or missing M6 ground stud having 20 mm (0.79 in) clearance behind the panel surface and 20 mm (0.79 in) clearance surrounding the M6 rivet stud flange.
2. Using GM approved residue-free solvent or equivalent, remove any grease from the repair site and allow to dry.

NOTE: Ensure 20 mm (0.79 in) clearance is maintained behind the panel to be drilled.

3. Drill a 10 mm (0.40 in) diameter hole through the panel.
4. Carefully remove paint and primer from the area surrounding the rivet stud flange until bare metal is visible.

CAUTION: Use GM approved replacement fasteners with conductive finish for electrical ground repair.

5. Select a replacement conductive M6 rivet stud. Refer to GM parts catalog for the correct part number and application.
6. Using a rivet stud installer, install the replacement conductive M6 rivet stud.
7. Ensure the new rivet stud is securely fastened, with no detectable movement.

NOTE: The rivet stud and surrounding panel area must be properly refinished prior to the installation of the ground terminal and nut to maintain positive

cardiagn.com

electrical grounding.

8. Completely wrap the threads of the rivet stud with painters tape or equivalent.
9. Refinish the repair area using an anti-corrosion primer. Refer to **Anti-Corrosion Treatment and Repair** .
10. Allow the refinished repair area to cure sufficiently before removing the protective material applied to the rivet stud threads.
11. Remove the painters tape or equivalent from the rivet stud threads.
12. Using GM approved residue-free solvent or equivalent, thoroughly clean the rivet stud threads to remove any adhesive and allow to dry.
13. Carefully remove any corrosion from the electrical ground wire terminal. Refer to **Testing for Intermittent Conditions and Poor Connections** .
14. Using a small brush, apply Dielectric Lubricant GM P/N 12377900 (Canadian P/N 10953529) to the new conductive M6 rivet stud threads.
15. Install the ground terminal to the new rivet stud.
16. Select a new, conductive M6 nut. Refer to GM parts catalog for the correct part number and application.

CAUTION: Refer to Fastener Caution .

17. Install the M6 nut and tighten to 8 N.m (71 lb in).
18. Check for proper system operation.

M6 Weld Nut

CAUTION: Use GM approved replacement fasteners with conductive finish for electrical ground repair.

1. If the M6 weld nut at the electrical ground location is damaged or stripped, a new, conductive self-threading M7 bolt may be used to secure the ground terminal. Refer to GM parts catalog for the correct part number and application.
2. Using GM approved residue-free solvent or equivalent, remove any grease from the surface surrounding the weld nut and allow to dry.
3. Remove any loose metal particles from the damaged or stripped weld nut with a stiff brush.
4. Using a small brush, apply Dielectric Lubricant GM P/N 12377900 (Canadian P/N 10953529) to the new, conductive, self-threading M7 bolt threads.
5. Carefully remove any corrosion from the electrical ground terminal. Refer to **Testing for Intermittent Conditions and Poor Connections** .
6. Install the electrical ground terminal to the new, conductive M7 bolt.

CAUTION: Refer to Fastener Caution .

cardiagn.com

7. Install the M7 bolt and tighten to 9 N.m (80 lb in).
8. Check for proper system operation.

M6 Weld Nut (Alternative Repair)

CAUTION: Use GM approved replacement fasteners with conductive finish for electrical ground repair.

1. If the electrical ground location is accessible from both sides of the panel, a conductive M6 bolt and a conductive M6 nut may be used to secure the electrical ground terminal. Refer to GM parts catalog for the correct part number and application.
2. Select a location adjacent the damaged M6 weld nut having 20 mm (0.79) clearance behind the panel surface and 20 mm (0.79) clearance surrounding the new electrical ground site.
3. Using GM approved residue-free solvent or equivalent, remove any grease from the surface surrounding the ground location and allow to dry.

NOTE: Ensure 20 mm (0.79 in) clearance is maintained behind the panel to be drilled.

4. Drill a 10 mm (0.40 in) diameter hole through the panel.
5. Carefully remove paint and primer from the area surrounding the new ground site until bare metal is visible.
6. Using a small brush, apply Dielectric Lubricant GM P/N 12377900 (Canadian P/N 10953529) to the new, conductive M6 bolt threads.
7. Carefully remove any corrosion from the electrical ground terminal. Refer to **Testing for Intermittent Conditions and Poor Connections** .
8. Install the electrical ground terminal and new, conductive M6 bolt to the ground location.

CAUTION: Refer to Fastener Caution .

9. Install the conductive M6 nut and tighten to 8 N.m (71 lb in).

NOTE: The repair area must be properly refinished to maintain positive electrical grounding.

10. Refinish the repair area using an anti-corrosion primer. Refer to **Anti-Corrosion Treatment and Repair** .
11. Check for proper system operation.

M8 Weld Nut

cardiagn.com

CAUTION: Use GM approved replacement fasteners with conductive finish for electrical ground repair.

1. If the M8 weld nut electrical ground location is accessible from both sides of the panel, a conductive M8 bolt and a conductive M8 nut may be used to secure the ground terminal. Refer to GM parts catalog for the correct part numbers and application.
2. Select a location adjacent to M8 weld nut having 20 mm (0.79 in) clearance behind the panel surface and 20 mm (0.79 in) clearance surrounding the new electrical ground site.
3. Using GM approved residue-free solvent or equivalent, remove any grease from the surface surrounding the ground location and allow to dry.

NOTE: Ensure 20 mm (0.79 in) clearance is maintained behind the panel to be drilled.

4. Drill a 10 mm (0.40 in) diameter hole through the panel.
5. Carefully remove paint and primer from the area surrounding the new ground site until bare metal is visible.
6. Using a small brush, apply Dielectric Lubricant GM P/N 12377900 (Canadian P/N 10953529) to the new, conductive M8 bolt threads.
7. Carefully remove any corrosion from the electrical ground terminal. Refer to **Testing for Intermittent Conditions and Poor Connections** .
8. Install the electrical ground terminal and new, conductive M8 bolt to the ground location.

CAUTION: Refer to Fastener Caution .

9. Install the conductive M8 nut and tighten to 22 N.m (16 lb ft).

NOTE: The repair area must be properly refinished to maintain positive electrical grounding.

10. Refinish the repair area using an anti-corrosion primer. Refer to **Anti-Corrosion Treatment and Repair** .
11. Check for proper system operation.

M8 Weld Nut (Alternative Repair)

CAUTION: Use GM approved replacement fasteners with conductive finish for electrical ground repair.

1. If the M8 weld nut electrical ground location is not accessible from both sides of the panel, a conductive M6 rivet stud and a conductive M6 nut may be used to secure the ground terminal. Refer to GM parts catalog for the correct part numbers and application.

cardiagn.com

2. Select a location adjacent the damaged M8 weld nut having 20 mm (0.79 in) clearance behind the panel surface and 20 mm (0.79 in) clearance surrounding the new, conductive M6 rivet stud flange.
3. Using GM approved residue-free solvent or equivalent, remove any grease from the repair site and allow to dry.

NOTE: Ensure 20 mm (0.79 in) clearance is maintained behind the panel to be drilled.

4. Drill a 10 mm (0.40 in) diameter hole through the panel.
5. Carefully remove paint and primer from the area surrounding the rivet stud flange until bare metal is visible.
6. Using a rivet stud installer, install the replacement conductive M6 rivet stud.
7. Ensure the new rivet stud is securely fastened, with no detectable movement.

NOTE: The rivet stud and surrounding panel area must be properly refinished prior to the installation of the ground terminal and nut to maintain positive electrical grounding.

8. Completely wrap the threads of the rivet stud with painters tape or equivalent.
9. Refinish the repair area using an anti-corrosion primer. Refer to **Anti-Corrosion Treatment and Repair** .
10. Allow the refinished repair area to cure sufficiently before removing the protective material applied to the rivet stud threads.
11. Remove the painters tape or equivalent from the rivet stud threads.
12. Using GM approved residue-free solvent or equivalent, thoroughly clean the rivet stud threads to remove any adhesive and allow to dry.
13. Carefully remove any corrosion from the electrical ground wire terminal. Refer to **Testing for Intermittent Conditions and Poor Connections** .
14. Using a small brush, apply Dielectric Lubricant GM P/N 12377900 (Canadian P/N 10953529) to the new conductive M6 rivet stud threads.
15. Install the ground terminal to the new, conductive M6 rivet stud.

CAUTION: Refer to Fastener Caution .

16. Install the conductive M6 nut and tighten to 8 N.m (71 lb in).
17. Check for proper system operation.

ACCESSORY WIRING JUNCTION BLOCK RETAINER REPLACEMENT

cardiagn.com

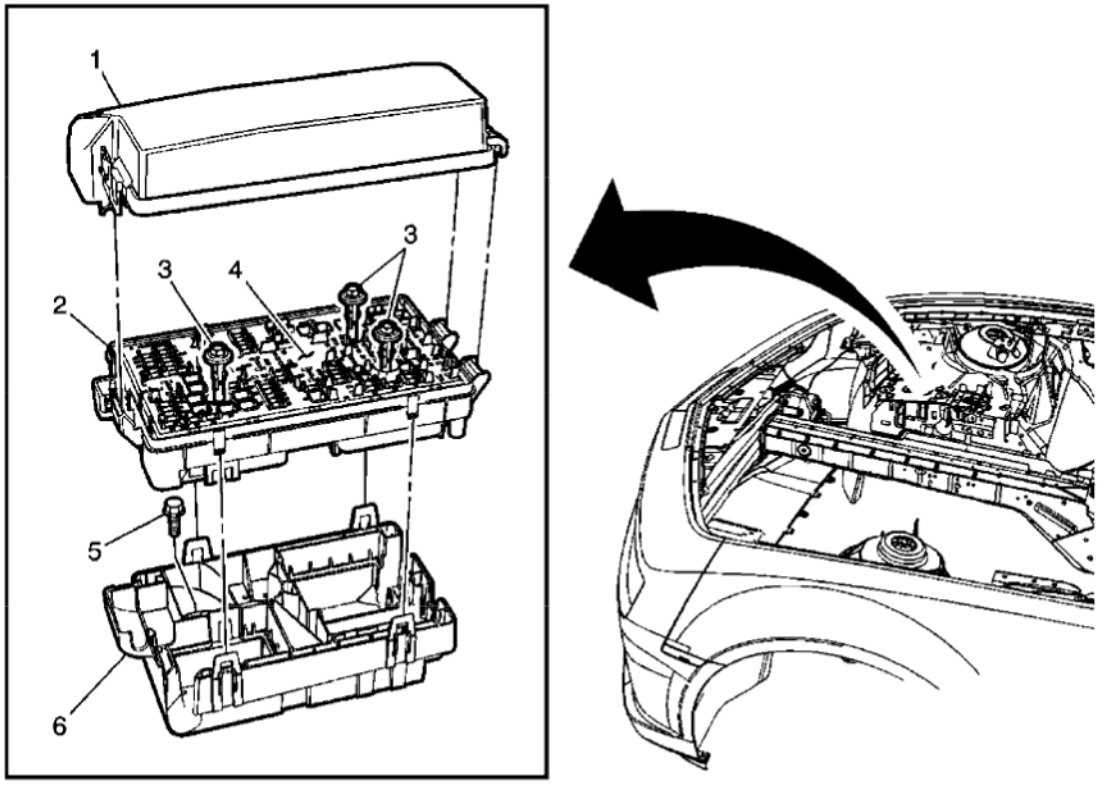


Fig. 5: Accessory Wiring Junction Block Retainer
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Disconnect the battery. Refer to **Battery Negative Cable Disconnection and Connection** .	
1	Accessory Wiring Junction Block Cover **Procedure:** Remove the accessory wiring junction block cover by pushing in on the 3 retainer tabs located on the ends of the cover and lift. To reinstall, fit together the retainer tabs located on the ends of the cover and push down on the cover until the tabs on the ends of the cover lock into place.
2	Battery Cable Nut **CAUTION:** **Refer to Fastener Caution .** **Procedure:** Disconnect the battery positive cable from the junction block by removing the nut. **Tighten:** 7 N.m (62 lb in)

cardiagn.com

3	Accessory Wiring Junction Block Harness Connector Bolt (Qty: 3) **Procedure:** Remove the accessory wiring harness from the accessory wiring junction block retainer. **Tighten:** 10 N.m (89 lb in)
4	Accessory Wiring Junction Block Retainer **Procedure:** Remove the accessory wiring junction block retainer by pushing in on the 4 retainer tabs located on the sides of the retainer and lift. To reinstall, fit together the retainer tabs located on the sides of the retainer and push down on the retainer until the tabs on the sides of the cover lock into place.
5	Accessory Wiring Junction Block Retainer Base Bolt **Tighten:** 20 N.m (15 lb ft)
6	Accessory Wiring Junction Block Retainer Base **Procedure:** Position the junction block retainer base alignment tab to the bracket first, then install the bolt.

IGNITION LOCK CYLINDER REPLACEMENT

Removal Procedure

1. Disconnect the battery negative cable. Refer to **Battery Negative Cable Disconnection and Connection** .
2. Remove the steering column shroud. Refer to **Steering Column Shroud Replacement** .
3. Insert the key into the ignition lock cylinder and turn the key to the RUN position.

cardiagn.com

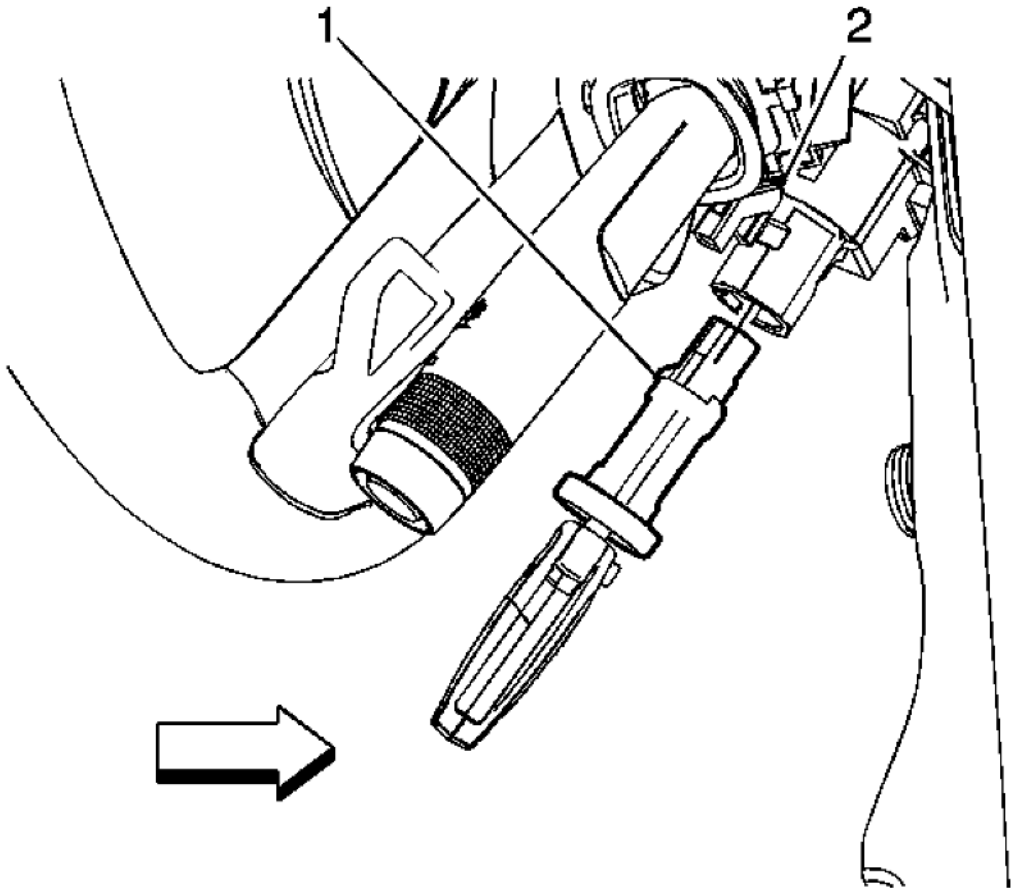


Fig. 6: Ignition Lock Cylinder & Lock Housing Access Hole
Courtesy of GENERAL MOTORS CORP.

4. Depress the retainer through the lock housing access hole (2) with a small Allen wrench or similar pick-type tool.
5. Remove the ignition lock cylinder (1) from the ignition and start switch housing.

Installation Procedure

1. If you are installing a new ignition lock cylinder, code the lock cylinder. Refer to **Lock Cylinder Coding - Ignition** .

cardiagn.com

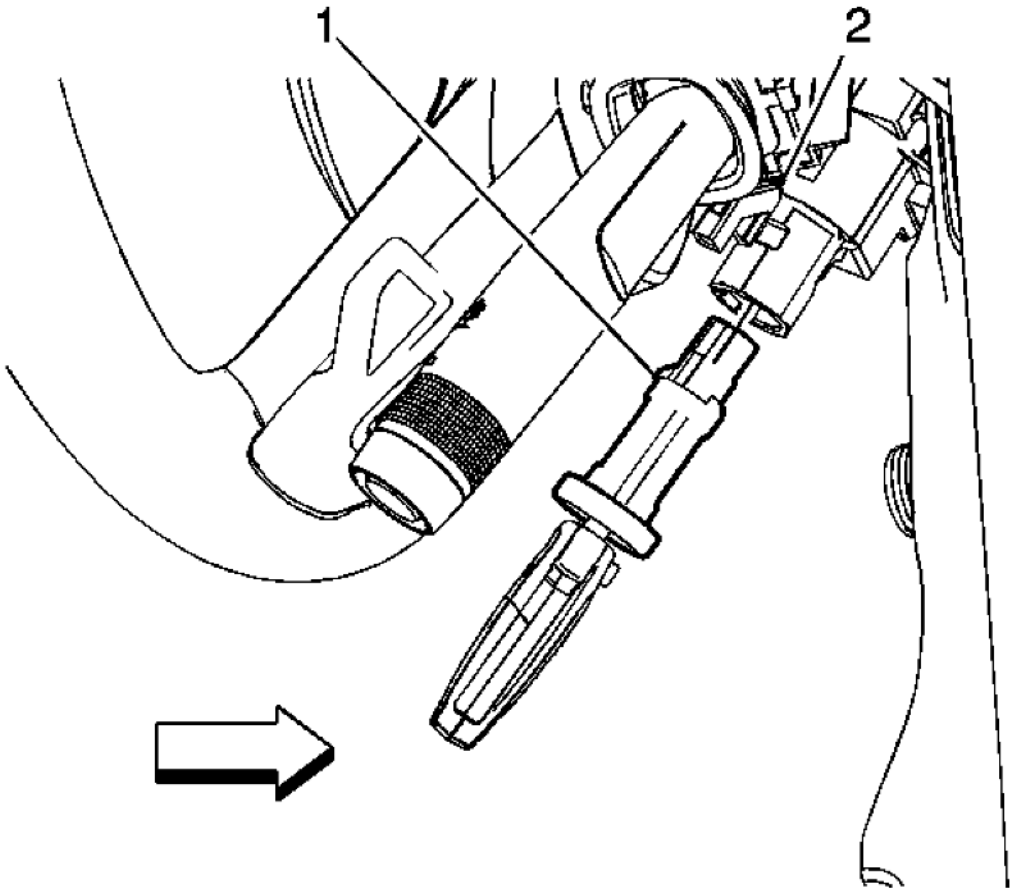


Fig. 7: Ignition Lock Cylinder & Lock Housing Access Hole
Courtesy of GENERAL MOTORS CORP.

2. Turn the key to the RUN position and insert ignition lock cylinder (1) into the ignition and start switch housing.
3. Turn the key to the LOCK position and remove the key from the ignition lock cylinder.
4. Install the steering column shroud. Refer to **Steering Column Shroud Replacement** .
5. Connect the battery negative cable. Refer to **Battery Negative Cable Disconnection and Connection** .

IGNITION AND START SWITCH REPLACEMENT

cardiagn.com

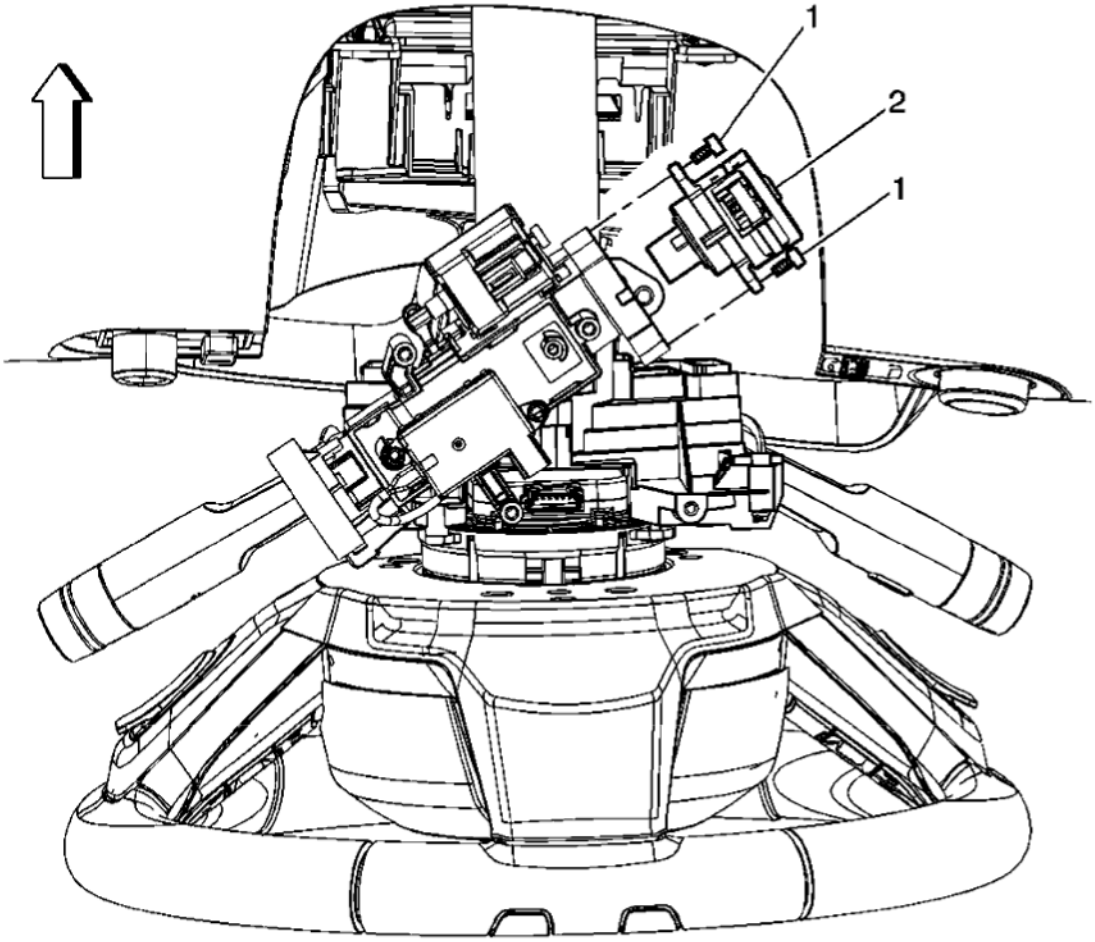


Fig. 8: Ignition & Start Switch
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure 1. Disconnect the battery negative cable. Refer to **Battery Negative Cable Disconnection and Connection** . 2. Disable the supplemental inflatable restraint (SIR) system. Refer to **SIR Disabling and Enabling** . 3. Remove the steering column shroud. Refer to **Steering Column Shroud Replacement** .	
1	Ignition and Start Switch Bolt (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 2 N.m (18 lb in)
	Ignition and Start Switch

cardiagn.com

2	**Procedure:** Disconnect the ignition switch electrical connector.

IGNITION AND START SWITCH HOUSING REPLACEMENT

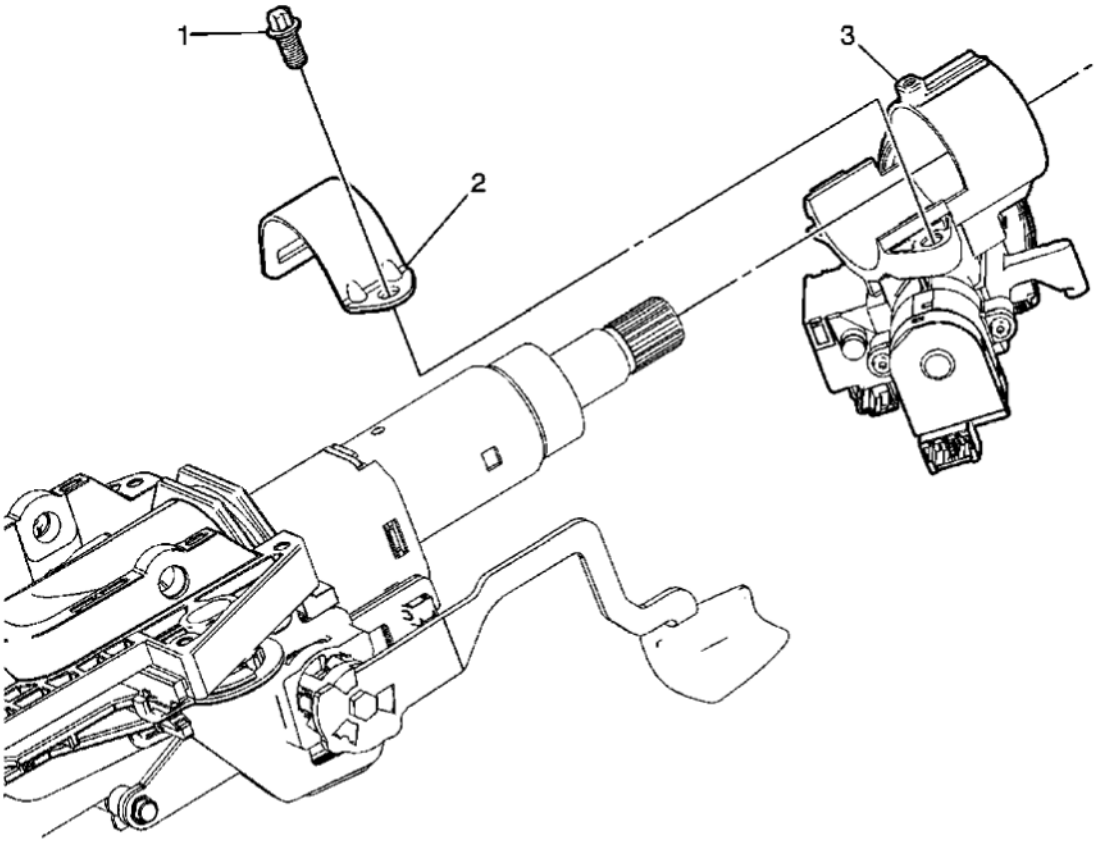


Fig. 9: Ignition & Start Switch Housing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Remove the turn signal switch bracket. Refer to **Turn Signal Switch Bracket Replacement** .	
1	Ignition and Start Switch Housing Bolt **CAUTION:** **Refer to Fastener Caution .** **Tighten:** 8 N.m (71 lb in)
2	Ignition and Start Switch Housing Strap
	Ignition and Start Switch Housing

cardiagn.com

3	**Procedure** 1. Disconnect any electrical connectors as needed. 2. Transfer any parts as needed.

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Camaro

SCHEMATIC AND ROUTING DIAGRAMS

HARNESS ROUTING VIEWS

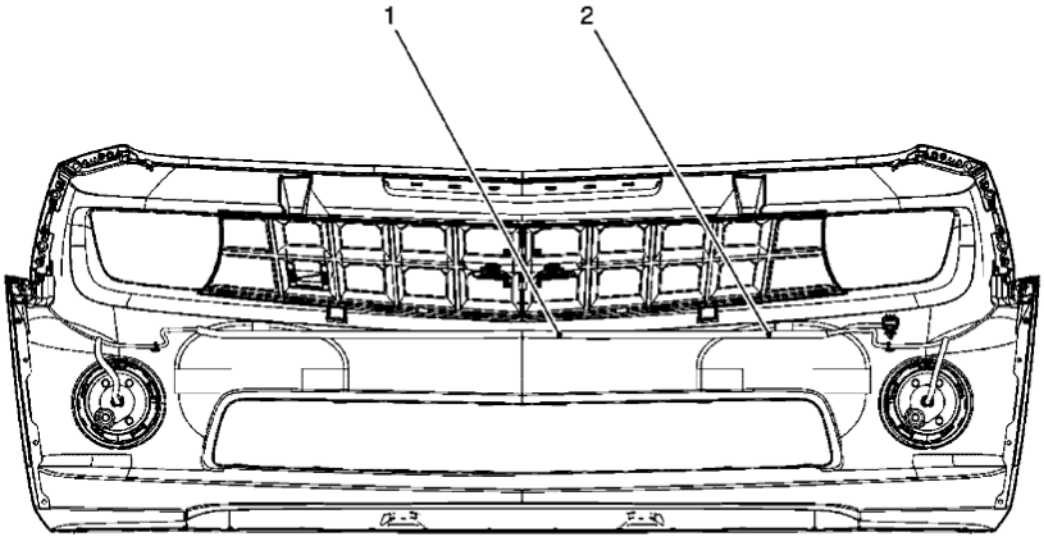


Fig. 1: Fog Lamp Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J102
2	J101

cardiagn.com

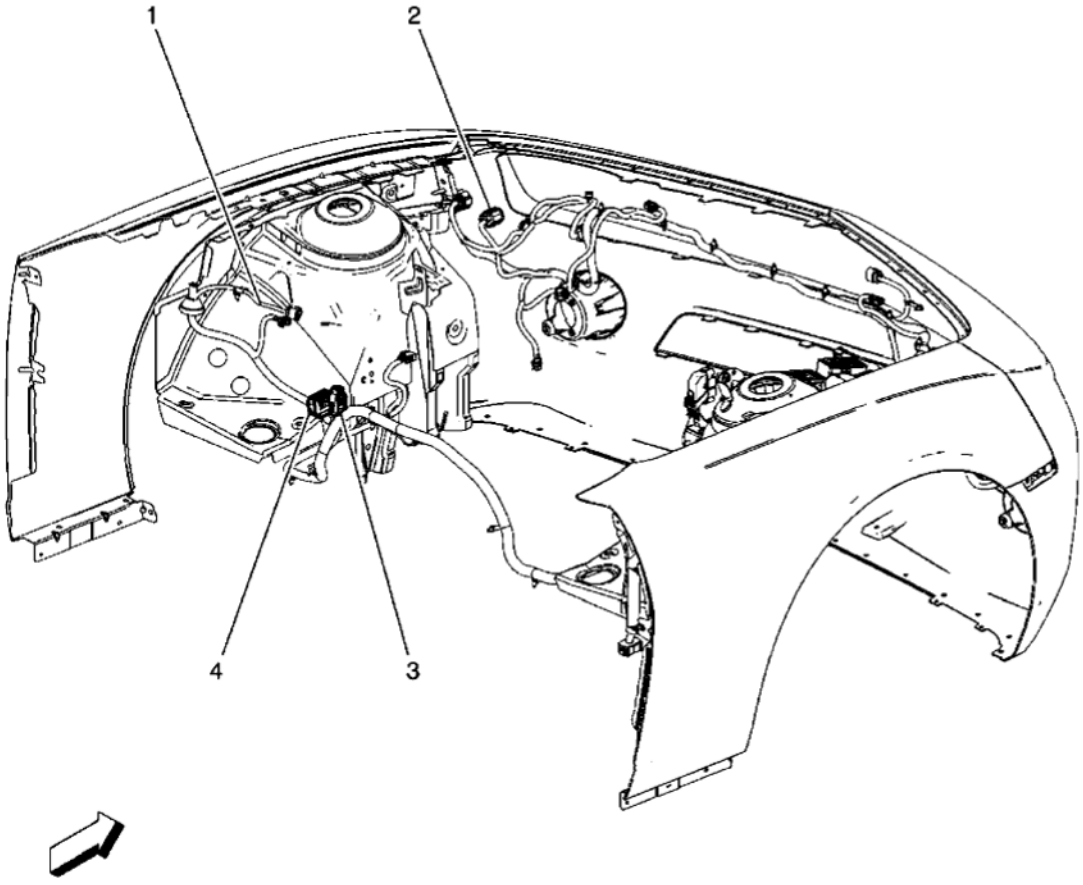


Fig. 2: Forward Lamp Harness Routing - Left
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J107
2	X110 (T4F)
3	X105
4	X104

cardiagn.com

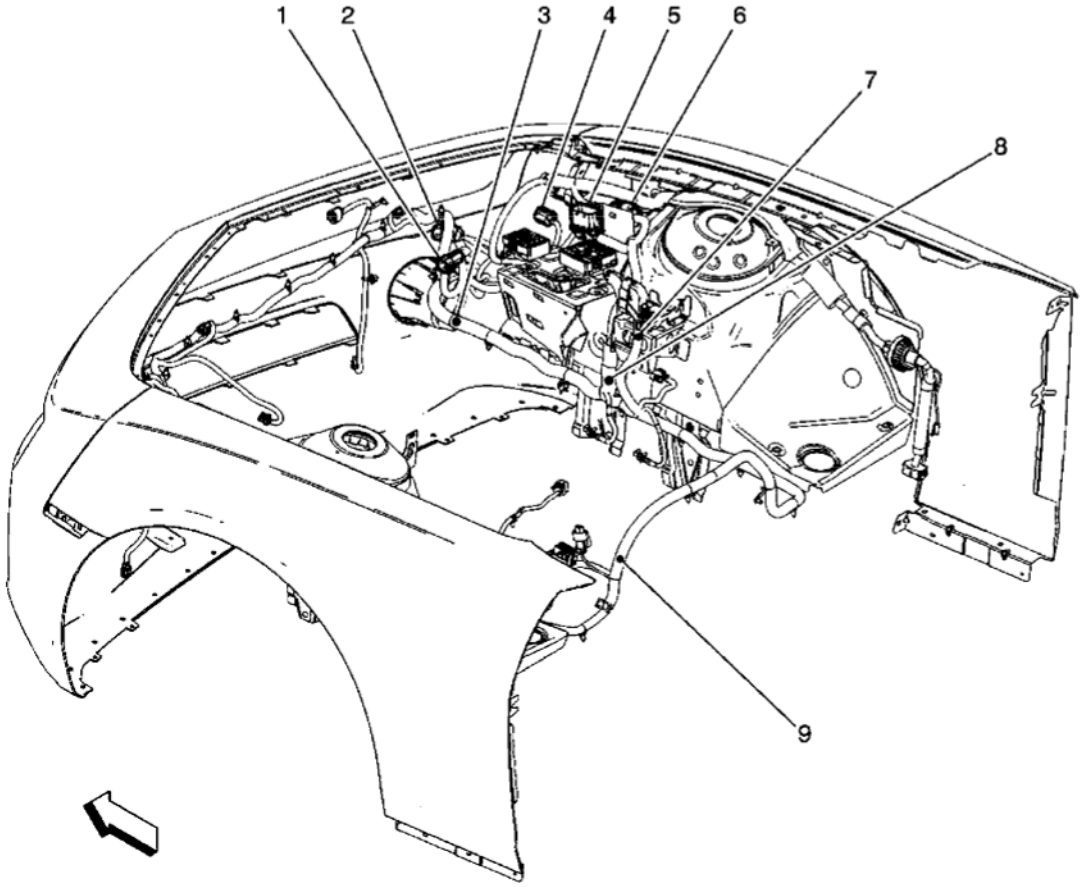


Fig. 3: Forward Lamp Harness Routing - Right
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X162
2	X108
3	J103
4	X120 (T4F)
5	X102
6	X103
7	J104
8	J105
9	J106 (T4A)

cardiagn.com

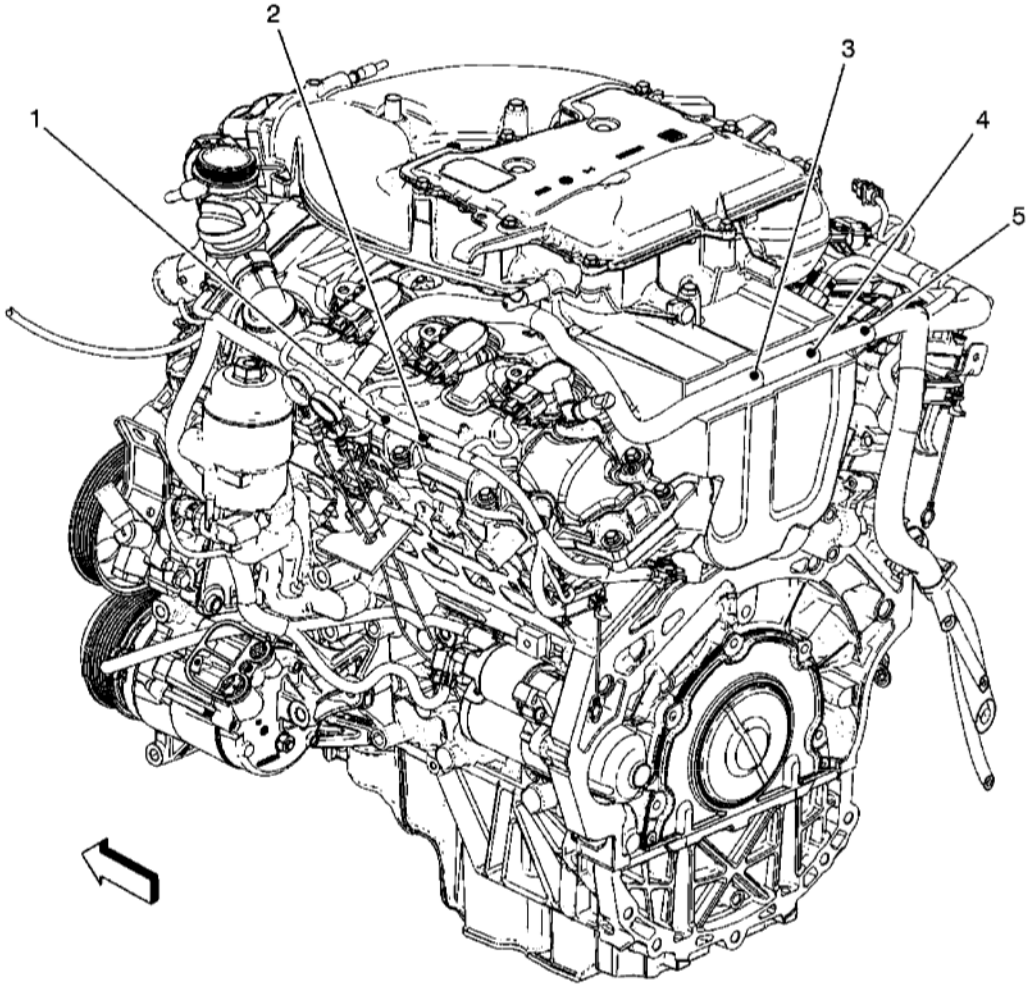


Fig. 4: Engine Harness Routing - Left Rear (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J122
2	J123
3	J121
4	J120
5	J119

cardiagn.com

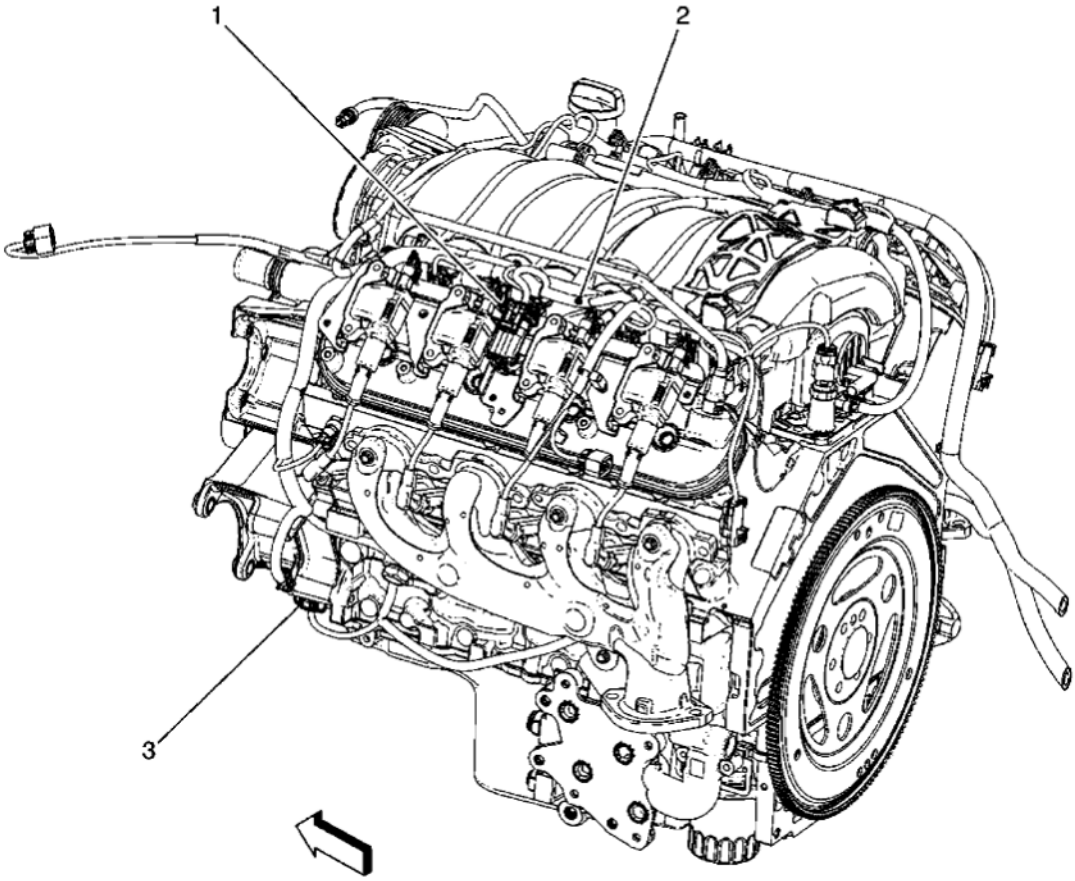


Fig. 5: Engine Harness Routing - Left Rear (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X113
2	J113
3	X109

cardiagn.com

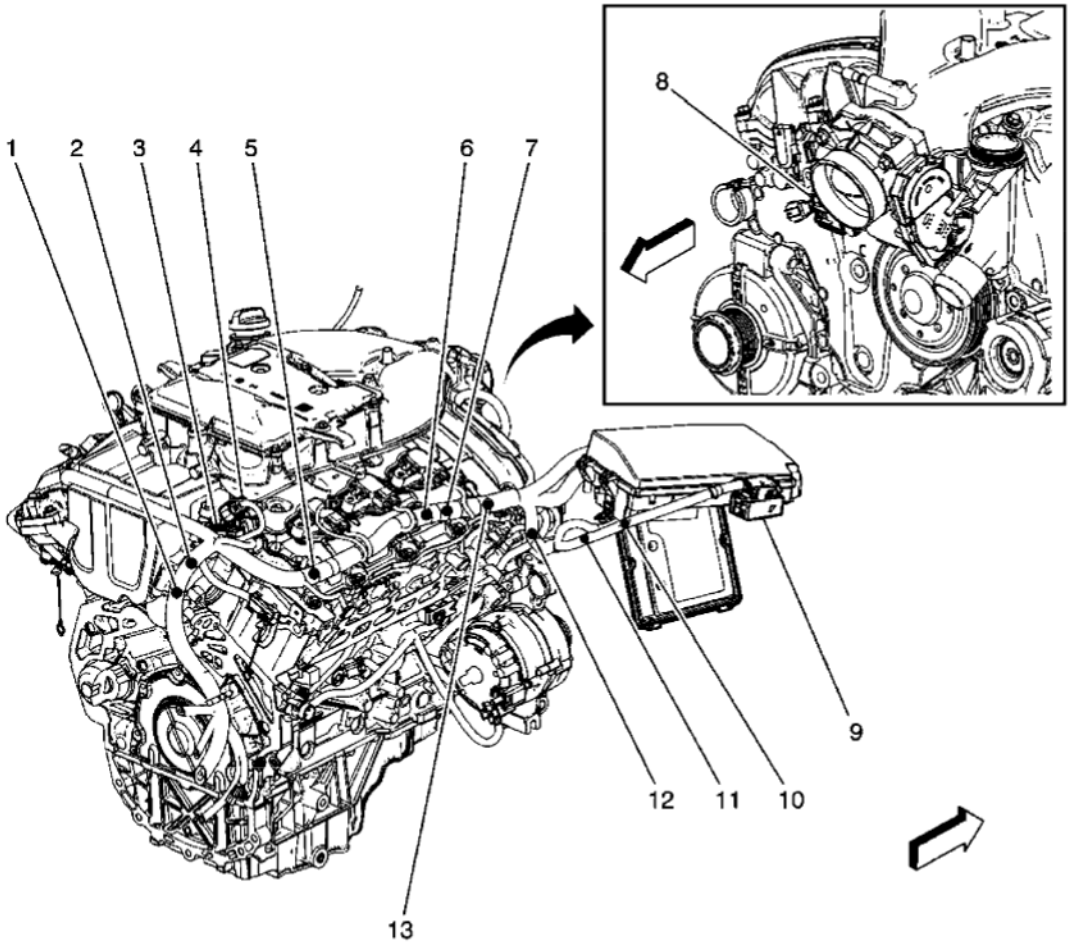


Fig. 6: Engine Harness Routing - Right Side (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J116
2	J115
3	X161
4	X160
5	J114 (MV5)
6	J113
7	J112
8	X111
9	X102
10	J108 (MV5)
11	J109 (MV5)

cardiagn.com

12	J110
13	J111 (MYB)

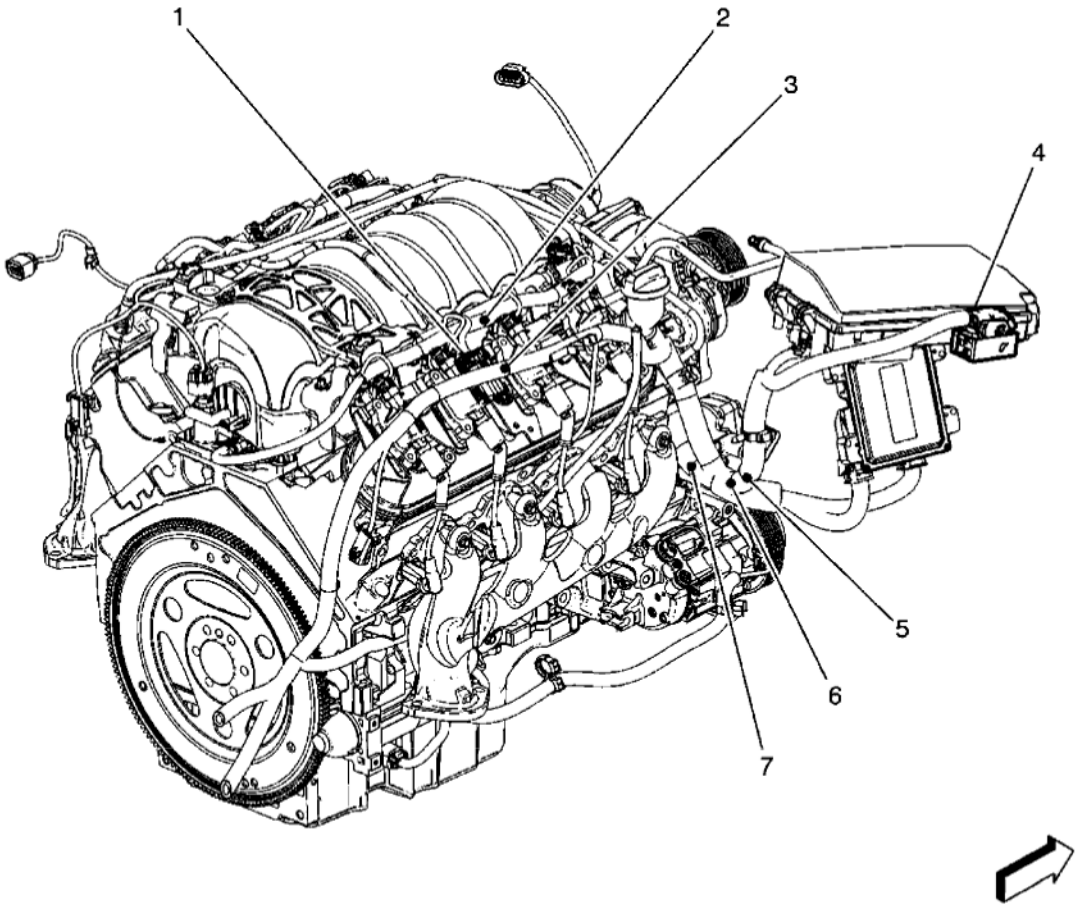


Fig. 7: Engine Harness Routing - Right Side (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X112
2	J123
3	J129
4	X102
5	J111 (MYC)
6	J116
7	J126

cardiagn.com

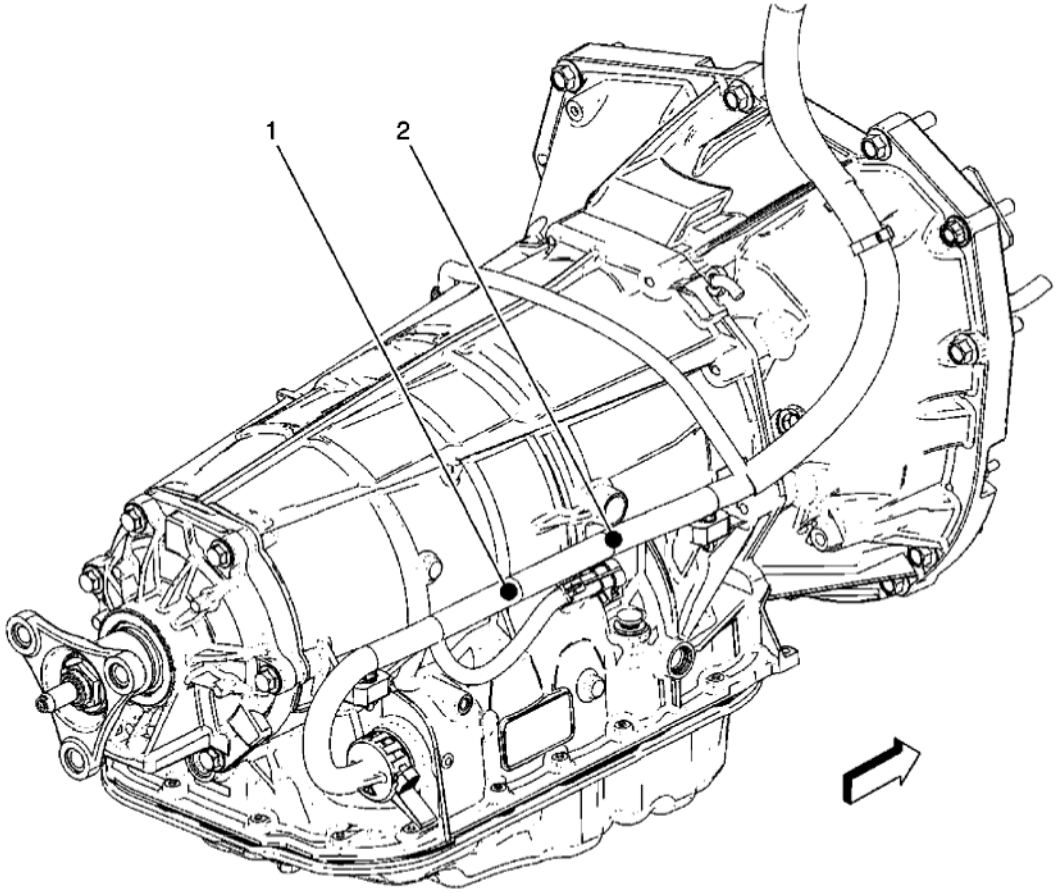


Fig. 8: Transmission Harness Routing - Right Rear (MYB)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J118
2	J117

cardiagn.com

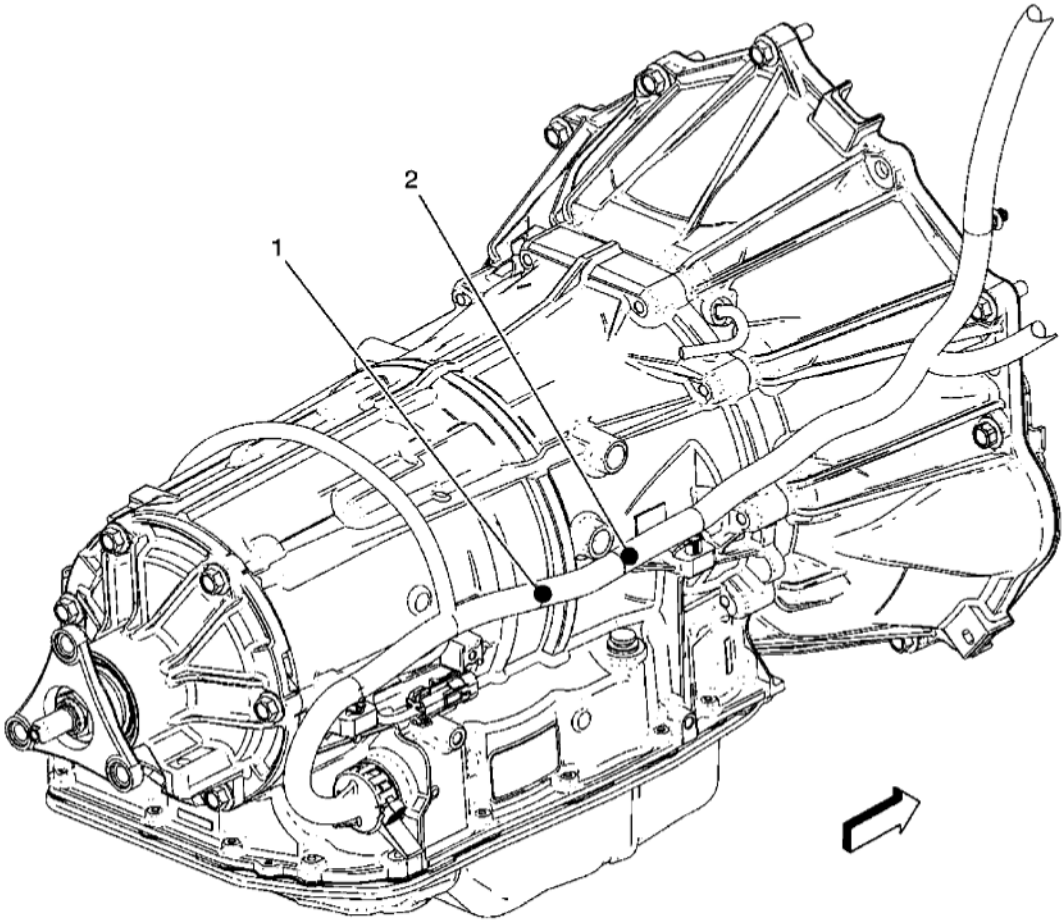


Fig. 9: Transmission Harness Routing - Right Rear (MYC)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J117
2	J118

cardiagn.com

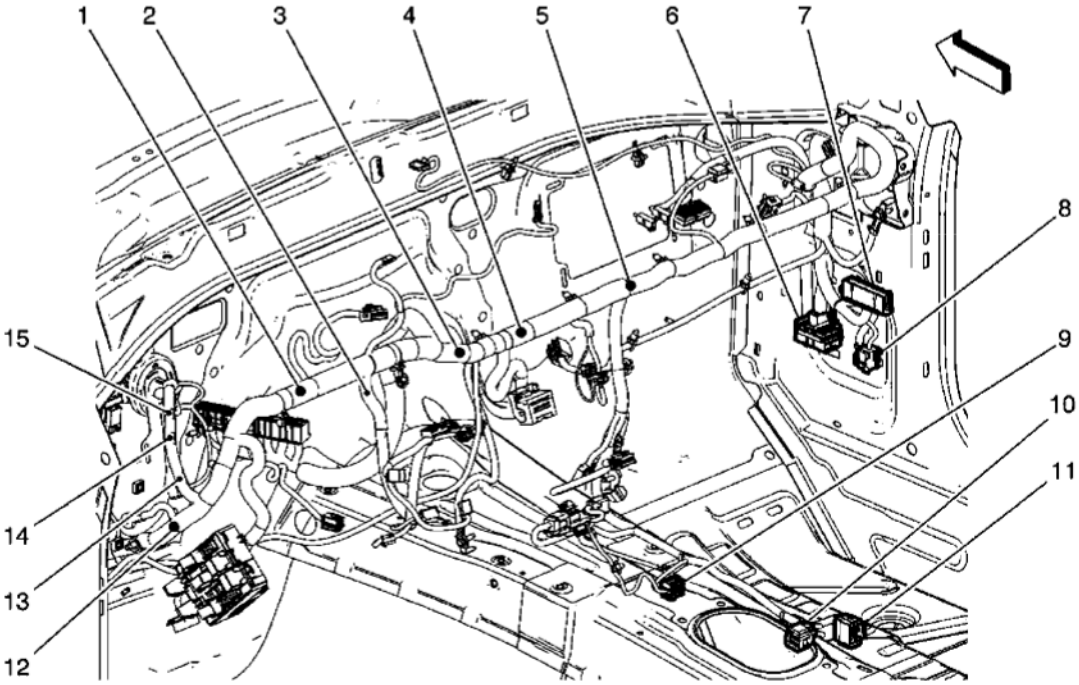


Fig. 10: Instrument Panel Harness Routing - Top Left Overhead
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J205 (DBX)
2	J206
3	J207
4	J208
5	J209 (SRK or SRM)
6	X208
7	X204
8	X254
9	X211
10	X301 (MYB or MYC)
11	X302
12	J201
13	J202
14	J203
15	J204

cardiagn.com

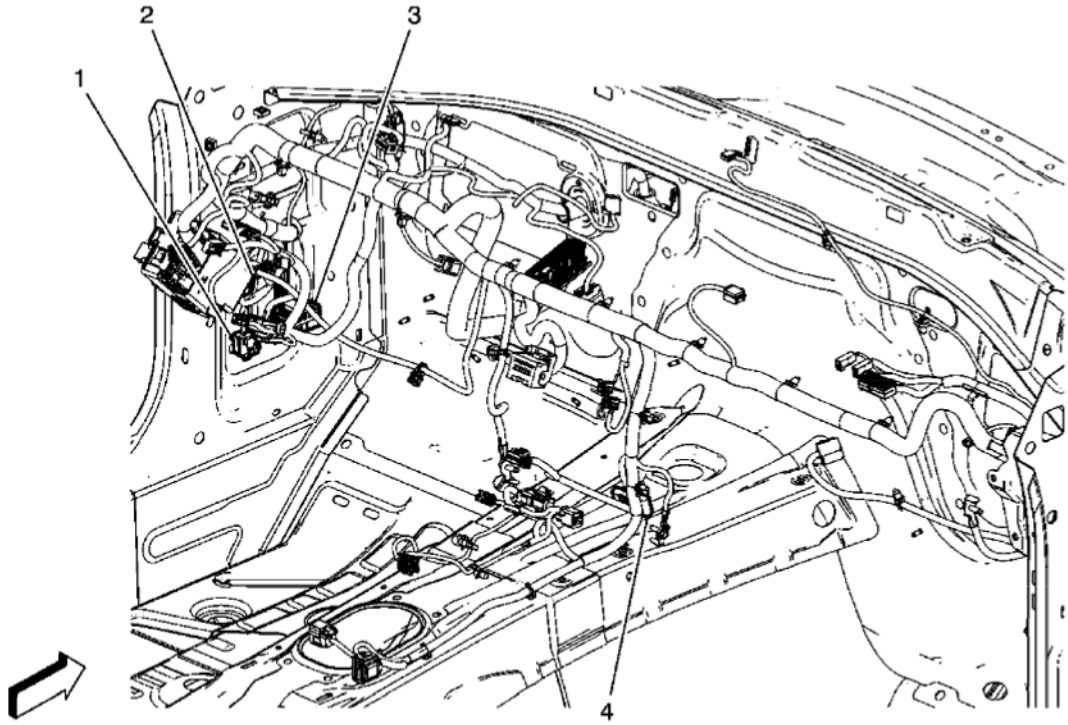


Fig. 11: Instrument Panel Harness Routing - Top Right Overhead
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X253
2	X206 (CF5)
3	X207
4	JX200

cardiagn.com

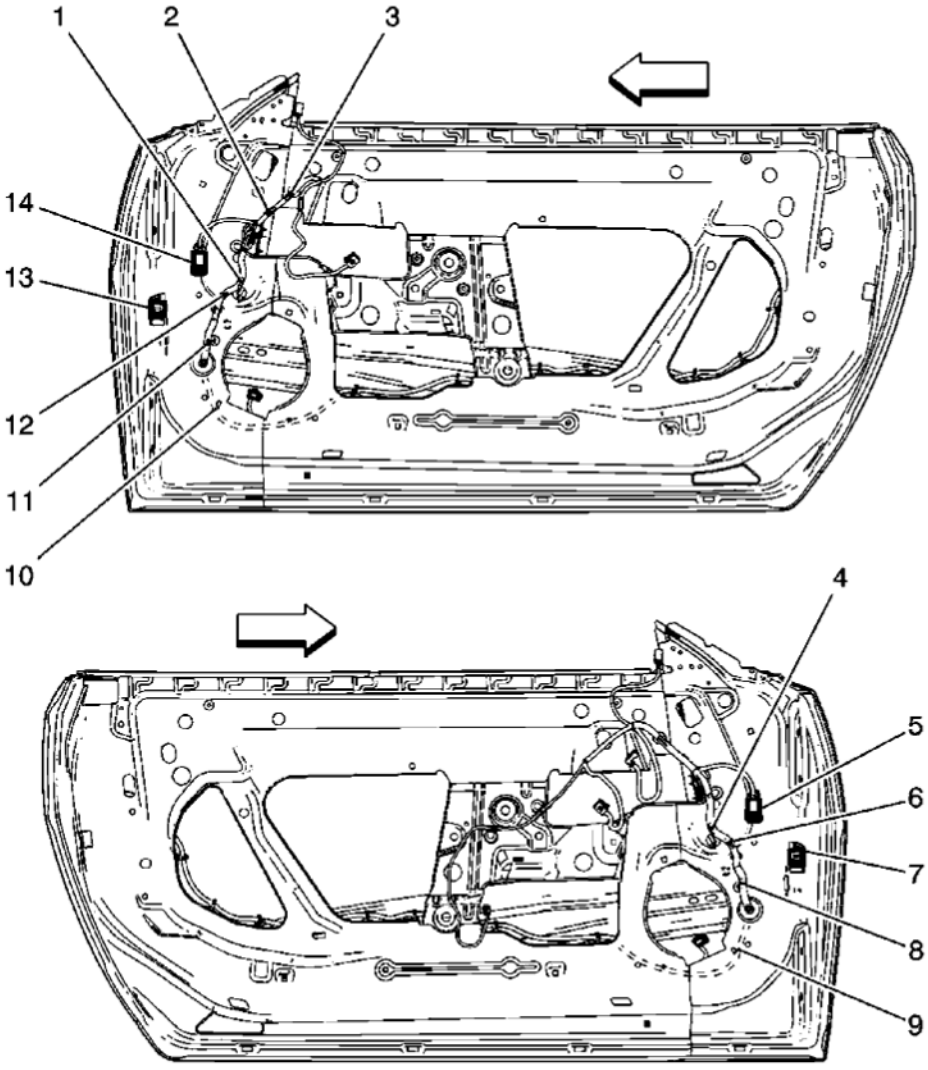


Fig. 12: Doors Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J604
2	J605
3	J602
4	J503
5	X502
6	J502
7	X500
8	J501
9	J500

cardiagn.com

10	J600
11	J601
12	J603
13	X600
14	X602

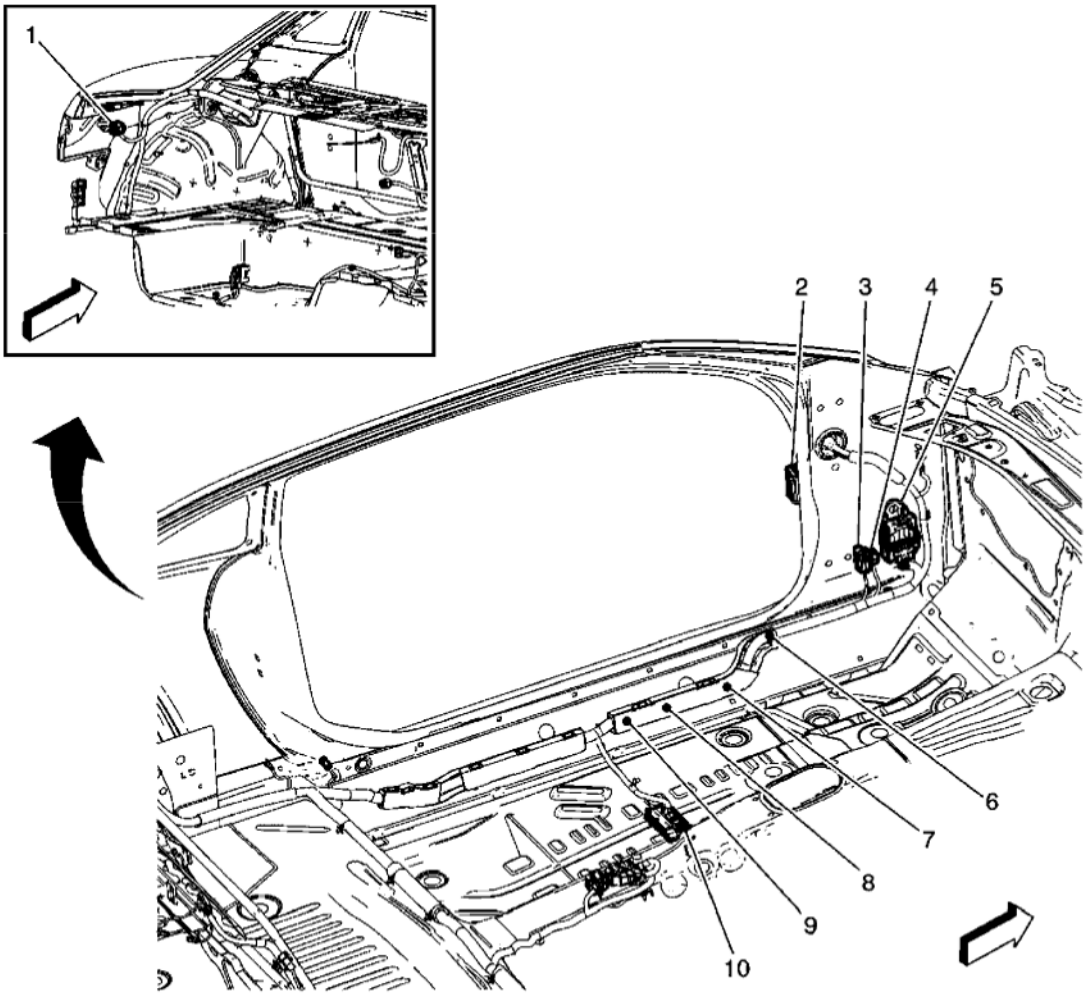


Fig. 13: Body Harness Routing - Left Passenger and Rear Compartments
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X400
2	X500
3	X253
4	X251
5	X207

cardiagn.com

6	J301
7	J302
8	J303
9	J304
10	X307

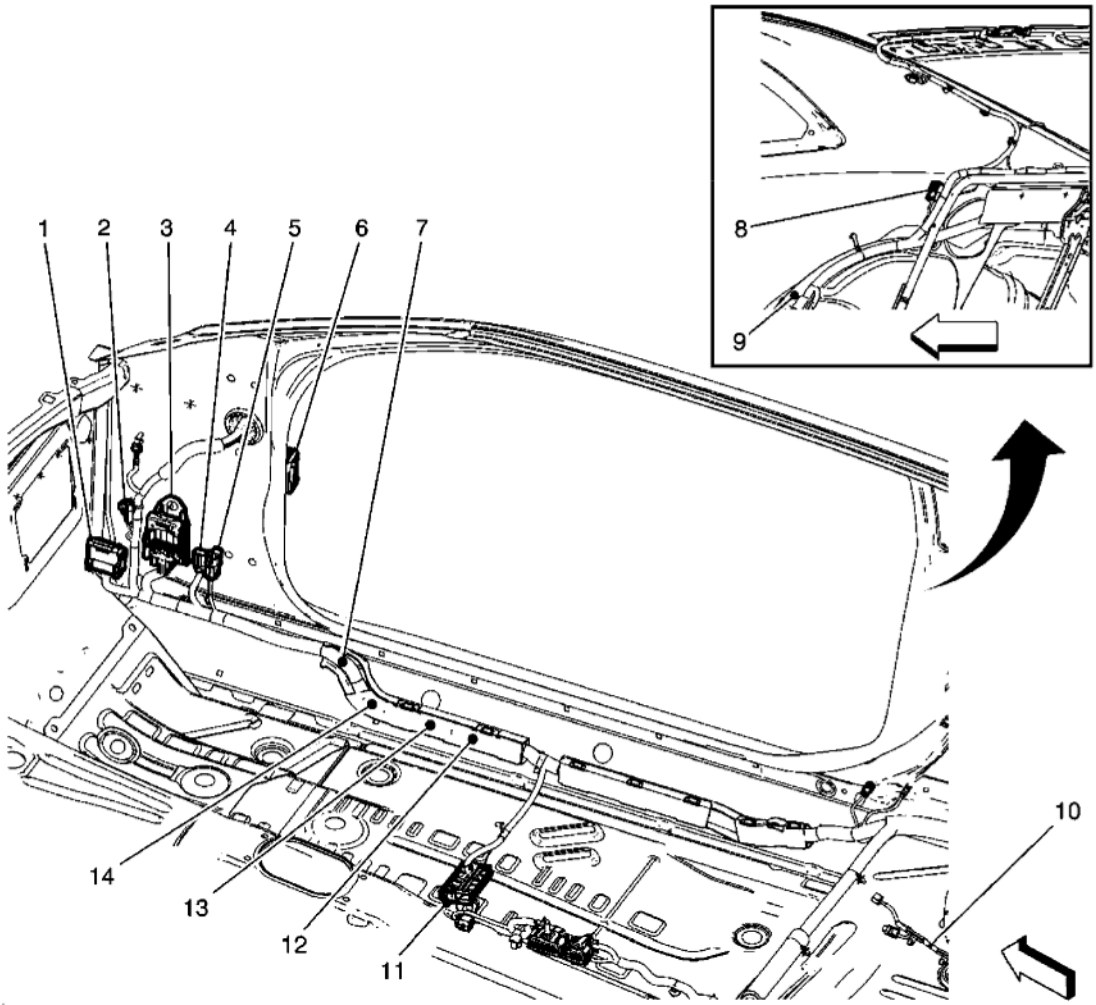


Fig. 14: Body Harness Routing - Right Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X210
2	X209
3	X208
4	X256 (UE1 or U2K)
5	X254

cardiagn.com

6	X600
7	J305
8	X304
9	J310
10	J309
11	X306
12	J308
13	J307
14	J306

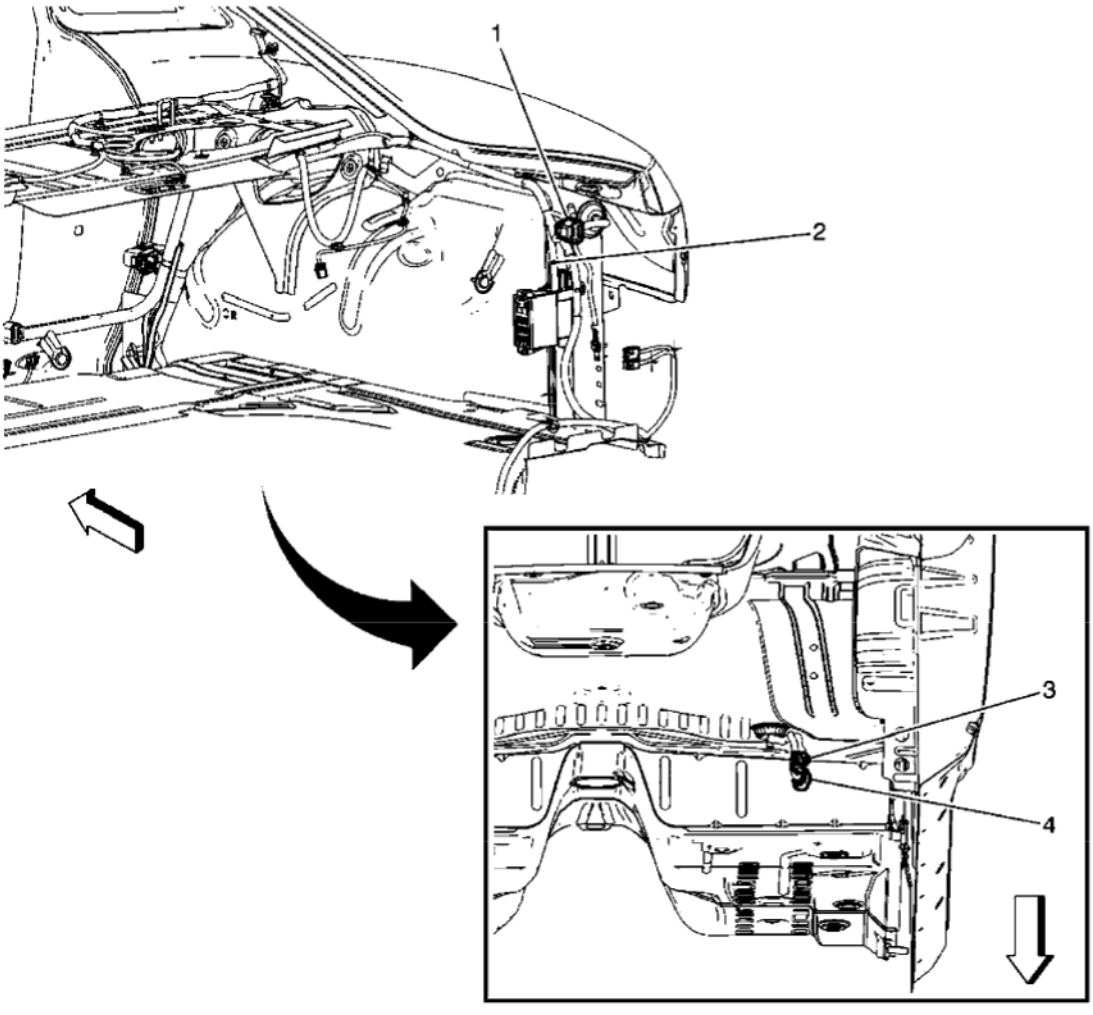


Fig. 15: Body Harness Routing - Right Rear Compartment and Underbody
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X401

cardiagn.com

2	J409
3	X360
4	X350

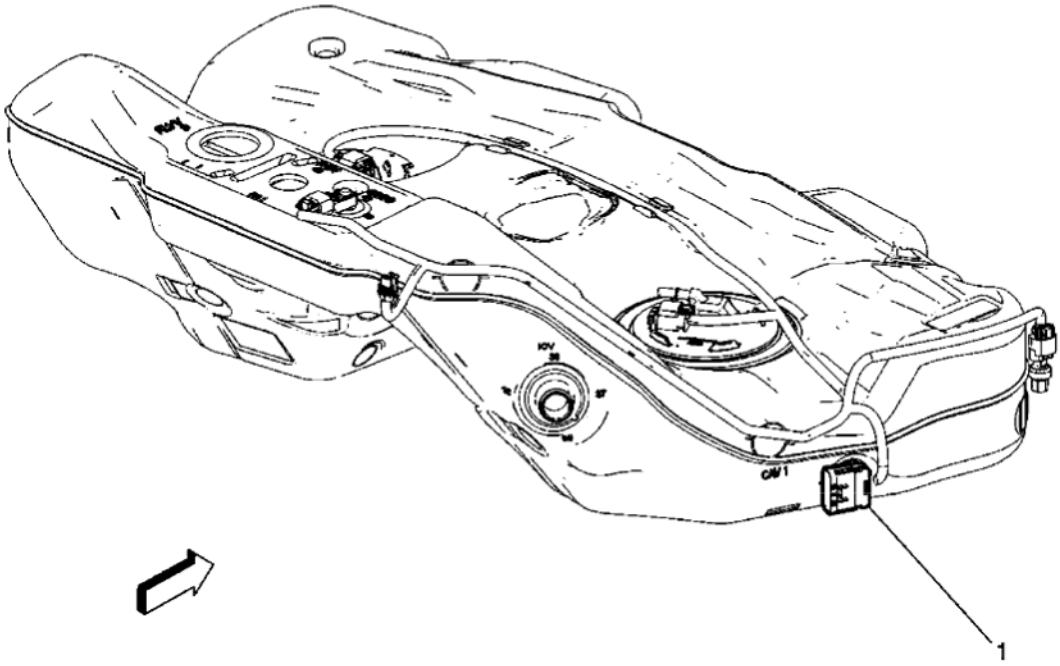


Fig. 16: Fuel Tank Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X350

cardiagn.com

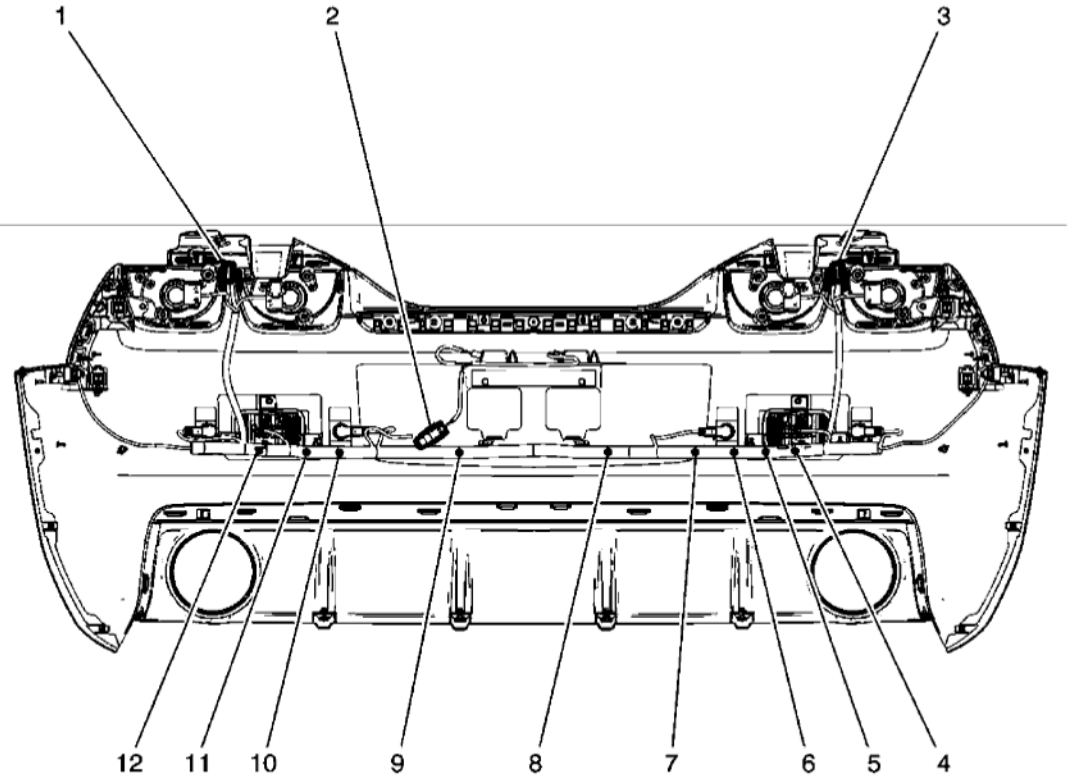


Fig. 17: Rear Fascia Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X401
2	X402
3	X400
4	J400
5	J401
6	J402
7	J403
8	J404 (UD7)
9	J405 (UD7)
10	J406
11	J407
12	J408

cardiagn.com

ELECTRICAL SCHEMATIC SYMBOLS

Voltage Indicators

Symbol	Description
	Battery Voltage
	Ignition Switch - Off Position
	Ignition Switch - Accessory Position
	Ignition Switch - Run Position

cardiagn.com

	
	Ignition Switch - Start Position

General Icons

Symbol	Description
	Master Component List Icon This icon is used on the schematic to link to the Master Electrical Component List.
	Description and Operation Icon This icon is used on the schematic to link to the Description and Operation of that particular system.

cardiagn.com

	
	Computer Programming Icon This icon is used on the schematic to link to Control Module References, which identifies which components need programming upon replacement.
	Next Schematic Page Icon This icon is used on the schematic to navigate to the next schematic in the subsystem.
	Previous Schematic Page Icon This icon is used on the schematic to navigate to the previous schematic in the subsystem.

cardiagn.com

	
	Supplemental Inflatable Restraint (SIR) or Supplemental Restraint System (SRS) Icon This icon is used to alert the technician that the system contains SIR/SRS components that require certain precautions before servicing.
	Information Icon This icon is used to alert the technician that there is additional information that will aid in servicing a system.
	Danger - High Voltage Icon This icon is used to alert the technician that a component/system contains 300 volt circuits.

cardiagn.com

	
	High Voltage Icon This icon is used to alert the technician that a component/system contains voltage greater than 42 volts but less than 300 volts.
	Caution Icon This icon is used to advise the technician to use caution when servicing this component.
	Functional Serial Data Communication This icon is used to show the technician that the serial data circuit detail is shown incomplete. It also provides an active link to the Data Communication Schematics were the circuit is shown complete.

cardiagn.com

Switch Position Icons

Symbol	Description
↑ ^ △	Generic Up Arrows
↓ v ▽	Generic Down Arrows
	Generic Left Arrows

cardiagn.com

	
	Generic Right Arrows
	Generic Express Down Arrows

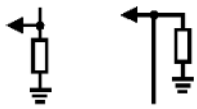
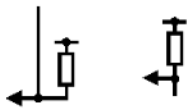
cardiagn.com

	On/Off Icon
	Generic Lock Icon
	Generic Unlock Icon
	Generic Window Switch Positions - 4 Door

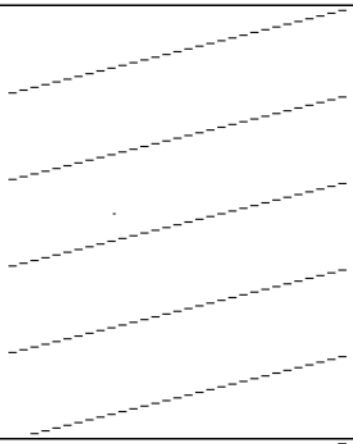
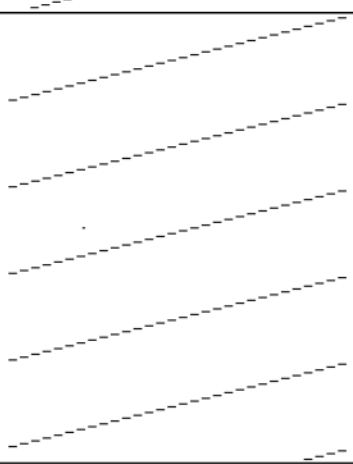
cardiagn.com

		Generic Window Switch Positions - 2 Door

Module Circuit Function Icons

Symbol	Description
	I/O Pull-Down Resistors (-)
	I/O Pull-Up Resistors (+)
	I/O High-Side Drive Switch (+)

cardiagn.com

	I/O Low-Side Drive Switch (+)
	I/O Bidirectional Switch (+/-)
	Pulse-Width Modulation Symbol
	Battery Voltage

cardiagn.com

IGN	Ignition Voltage
5V	Voltage Reference
5V AC	A/C Voltage
	Low Reference

cardiagn.com

	Ground
	Serial Data
	Antenna Signal - In
	Antenna Signal - Out

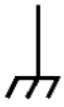
cardiagn.com

	Brake Apply

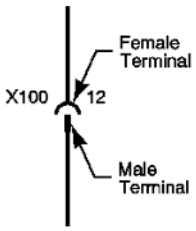
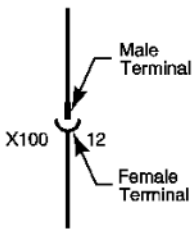
Harness Components

Symbol	Description
	Fuse
	Fuse Supplied by a Relay

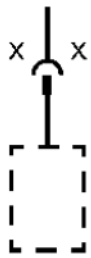
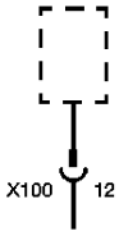
cardiagn.com

	Circuit Breaker
	Fusible Link
	Ground

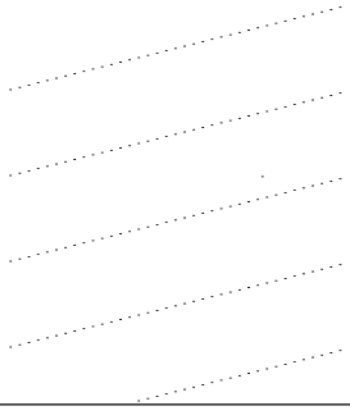
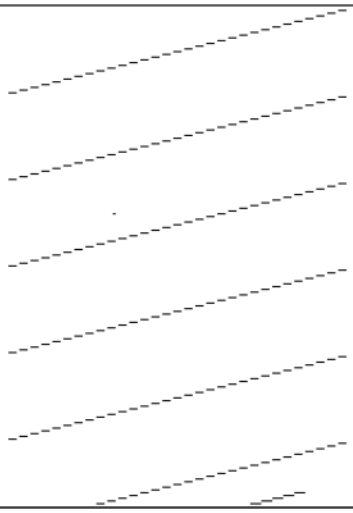
cardiagn.com

	Case Ground
	Inline Harness Connector
	Inline Harness Connector
	Pigtail Connection

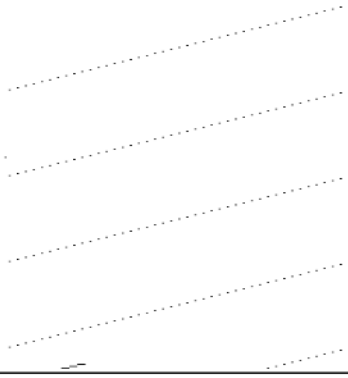
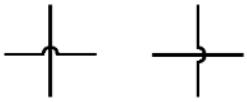
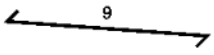
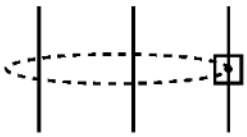
cardiagn.com

	
	Pigtail Connection
	Provisional or Diagnostic Connector
	Blunt Cut Wire

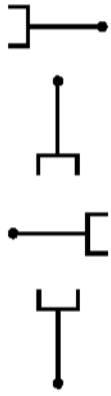
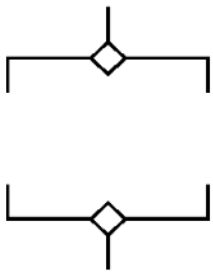
cardiagn.com

	
	Incomplete Physical Splice
	Complete Physical Splice - 2 Wires
	Complete Physical Splice - 3 or more wires

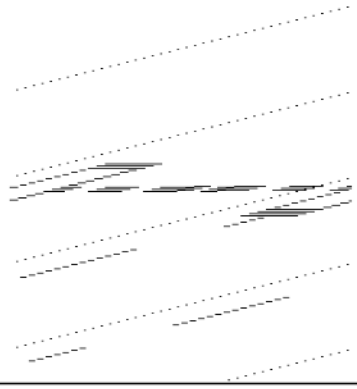
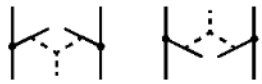
cardiagn.com

	
	Wire Crosses
	Twisted Wires
	Shield

cardiagn.com

	Circuit References
	Circuit Continuation Arrowheads
	Option Breakpoint

cardiagn.com

	Ground Circuit Connection
	Connector Shorting Clip

Component Parts

Symbol	Description
	Partial Component When a component is represented in a dashed box, the component or its wiring is not shown in its entirety.
	Entire Component When a component is represented in a solid box the component or its wiring is shown in its entirety.

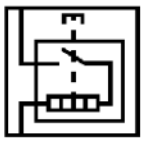
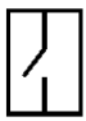
cardiagn.com

	Connector Directly Attached to Component
	Pigtail Connector

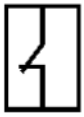
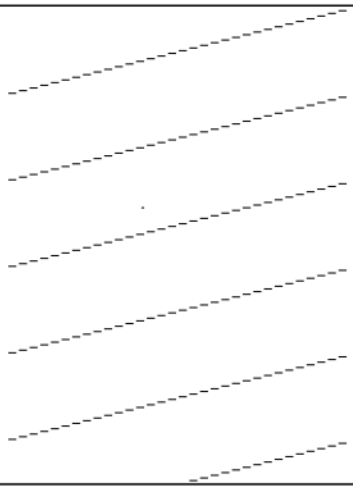
Switches and Relays

Symbol	Description

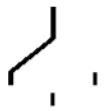
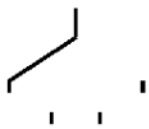
cardiagn.com

	Accessory Power Outlet
	Cigar Lighter
	Switch - 2 Position Normally Open
	Switch - 2 Position Normally Closed

cardiagn.com

	
	Switch - Rocker
	Switch - Contact Plate (1 Wire)
	Switch - Contact Plate (2 Wire)

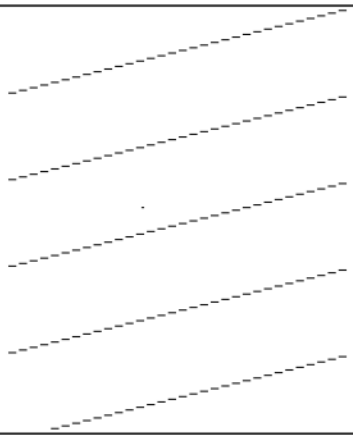
cardiagn.com

	Switch - 3 Position
	Switch - 4 Position
	Switch - 5 Position

cardiagn.com

	Switch - 6 Position
	Switch Actuator - Push (Momentary)
	Switch Actuator - Push (Latching)

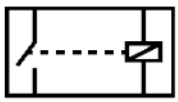
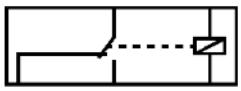
cardiagn.com

	Switch Actuator - Pull (Momentary)
	Switch Actuator - Pull (Latching)
	Switch Actuator - Rotate (Momentary)
	Switch Actuator - Rotate (Latching)

cardiagn.com

	
	Switch Actuator - Slide (Momentary)
	Switch Actuator - Slide (Latching)
	Switch Actuator - Pressure (Momentary)

cardiagn.com

	Switch Actuator - Temperature (Momentary)
	Switch Actuator - Volume (Latching)
	4-Pin Single Pole/Throw Relay - Normally Open
	5-Pin Relay - Normally Closed

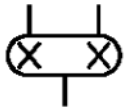
Devices and Sensors

Symbol	Description

cardiagn.com

	Battery
	Battery Assembly - Hybrid
	Single Filament Light Bulb
	Double Filament Light Bulb

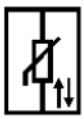
cardiagn.com

	
	Light Emitting Diode (LED)
	Photo Sensor
	Gauge

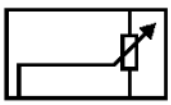
cardiagn.com

	
	Diode
	Capacitor
	Resistor

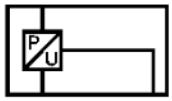
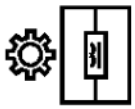
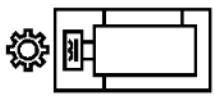
cardiagn.com

	Variable Resistor
	Variable Resistor - NTC
	Breakable Wire

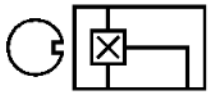
cardiagn.com

	Heating Element
	Position Sensor
	Pressure Sensor

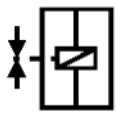
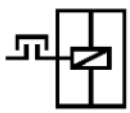
cardiagn.com

	
	Knock Sensor
	Inductive Type Sensor - 2-Wire
	Inductive Type Sensor - 3-Wire

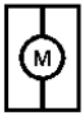
cardiagn.com

	Hall Effect Sensor - 2-Wire
	Hall Effect Sensor - 3-Wire
	Oxygen Sensor - 2-Wire
	Heated Oxygen Sensor - 4-Wire

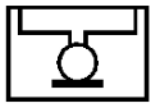
cardiagn.com

	Solenoid - Actuator
	Solenoid - Valve
	Clutch
	Motor

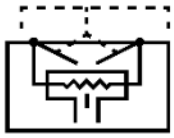
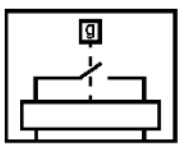
cardiagn.com

	
	Motor with PTC
	Antenna
	Speaker

cardiagn.com

	
	Horn
	Microphone
	Airbag

cardiagn.com

	
	SIR Coil
	SIR Impact Sensor

VEHICLE ZONING STRATEGY

All grounds, in-line connectors, pass-through grommets, and splices have identifying numbers that correspond to where they are located in the vehicle. The following table explains the numbering system.

cardiagn.com

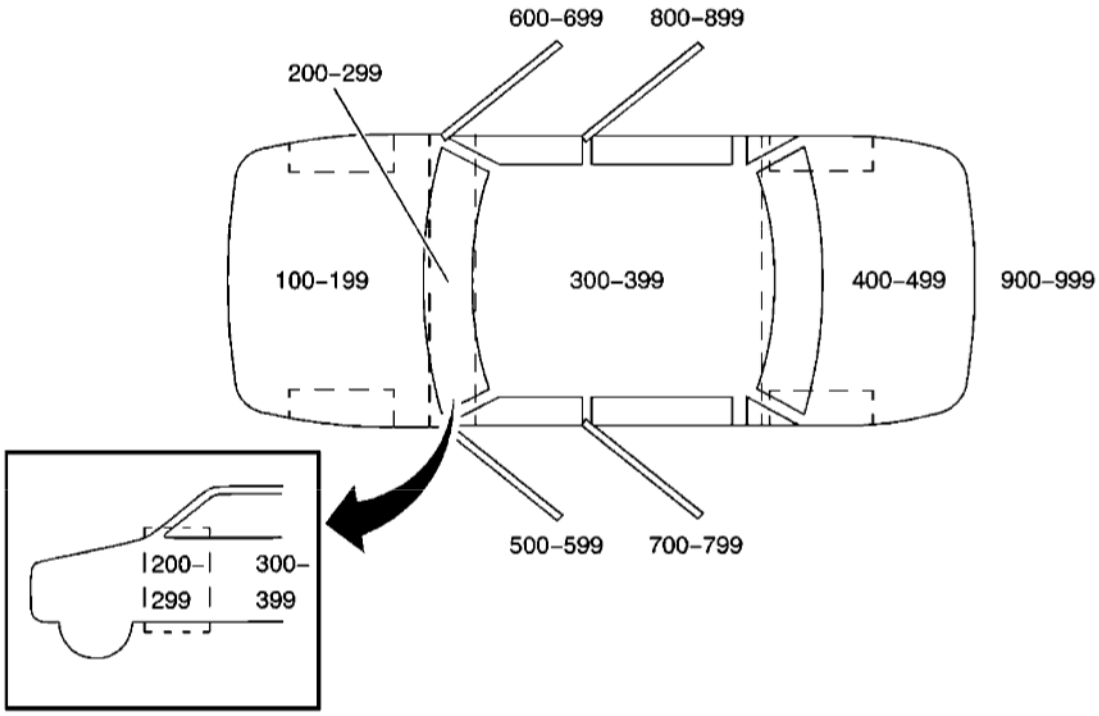


Fig. 18: Passenger Car Zoning View
Courtesy of GENERAL MOTORS CORP.

Callout Numbers	Zone Description
100-199	Engine compartment- All forward of the dash panel Note: 001-099 are additional for the engine compartment - ONLY to be used if all 100-199 items are used
200-299	Within the instrument panel area
300-399	Passenger compartment - From the instrument panel to the rear wheelhouse
400-499	Luggage compartment - From the rear wheelhouse to the rear of the vehicle
500-599	Within the left front door
600-699	Within the right front door
700-799	Within the left rear door
800-899	Within the right rear door
900-999	Within the luggage compartment lid or hatch

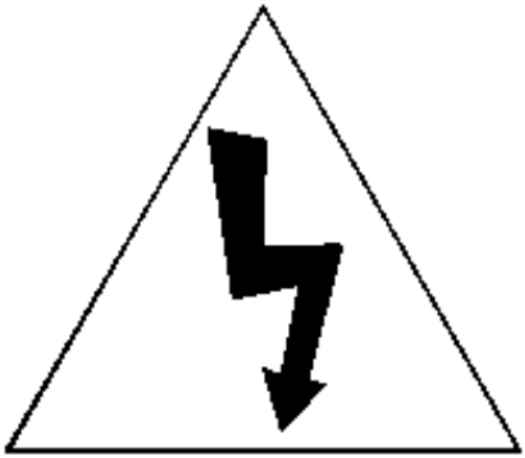
MASTER ELECTRICAL SCHEMATIC ICONS

Icon	Icon Definition
	WARNING: **When performing service on or near the SIR**

cardiagn.com



components or the SIR wiring, the SIR system must be disabled. Refer to SIR Disabling and Enabling. Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unnecessary SIR system repairs.

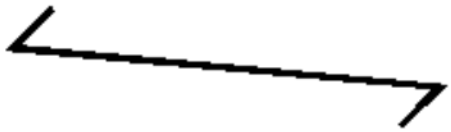


WARNING:

The high intensity discharge system produces high voltage and current. To reduce the risk of severe shocks and burns:

- **Never open the high intensity discharge system ballast or the arc tube assembly starter.**
- **Never probe between the high intensity discharge system ballast output connector and the arc tube assembly.**

cardiagn.com

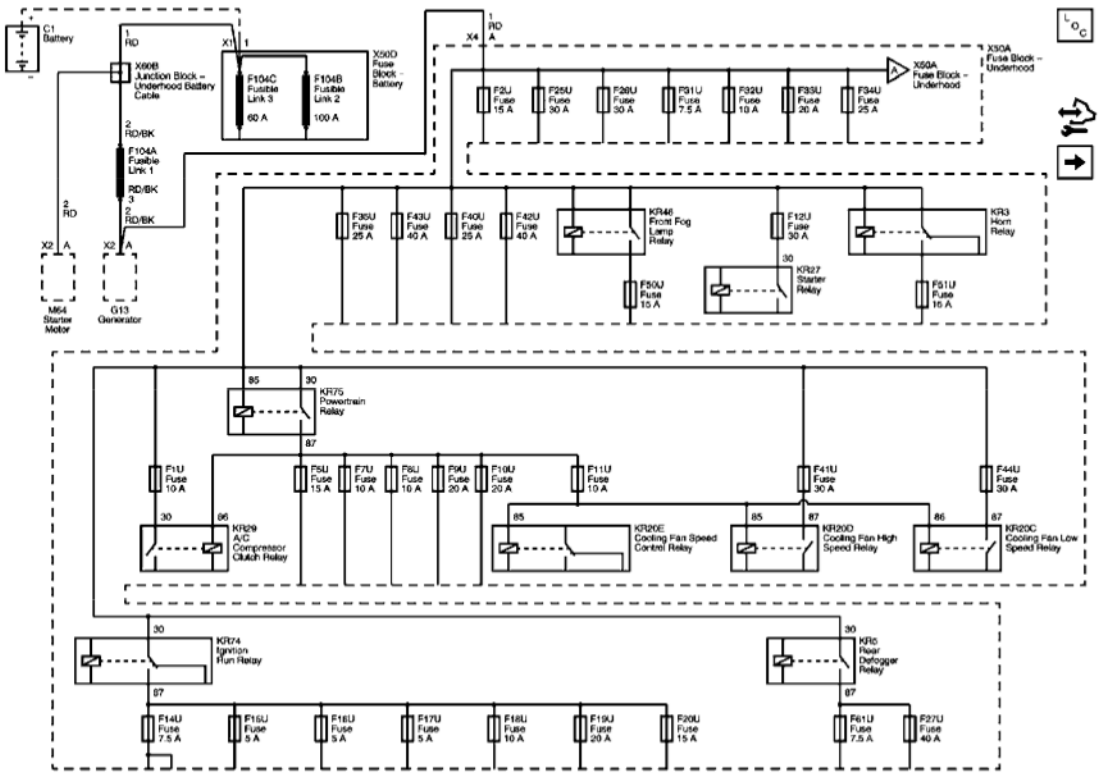


NOTE:

Twisted wires provide an effective shield that helps protect sensitive electronic components from electrical interference.
In order to prevent electrical interference from degrading the performance of the connected components, you must maintain the proper specification when making any repairs to the twisted wires shown :

- **The wires must be twisted a minimum of 10 turns per 31 cm (12 in) as measured anywhere along the length of the wires.**
- **The outside diameter of the twisted wires must not exceed 6.0 mm (0.25 in).**

POWER DISTRIBUTION SCHEMATICS



cardiagn.com

Fig. 19: Fuse Block - Underhood Bussing (1 of 2)
Courtesy of GENERAL MOTORS CORP.

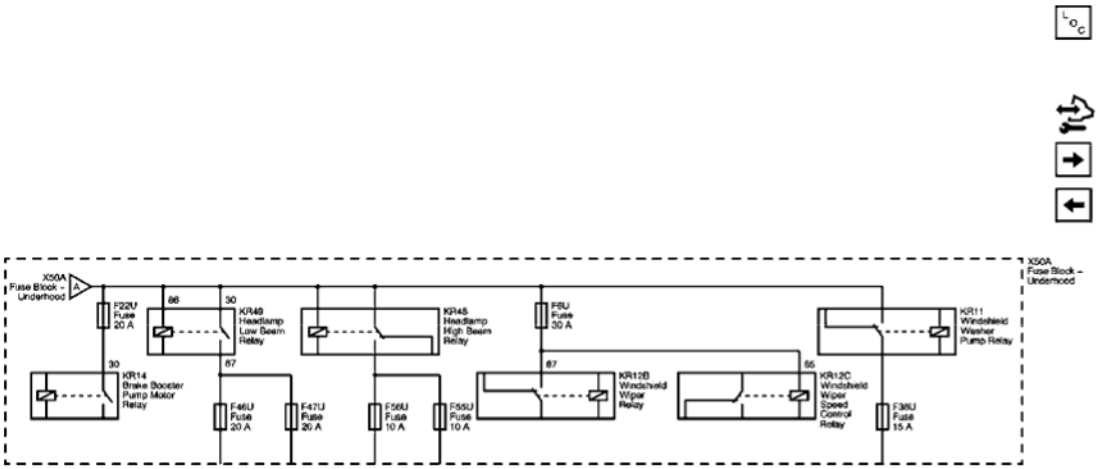
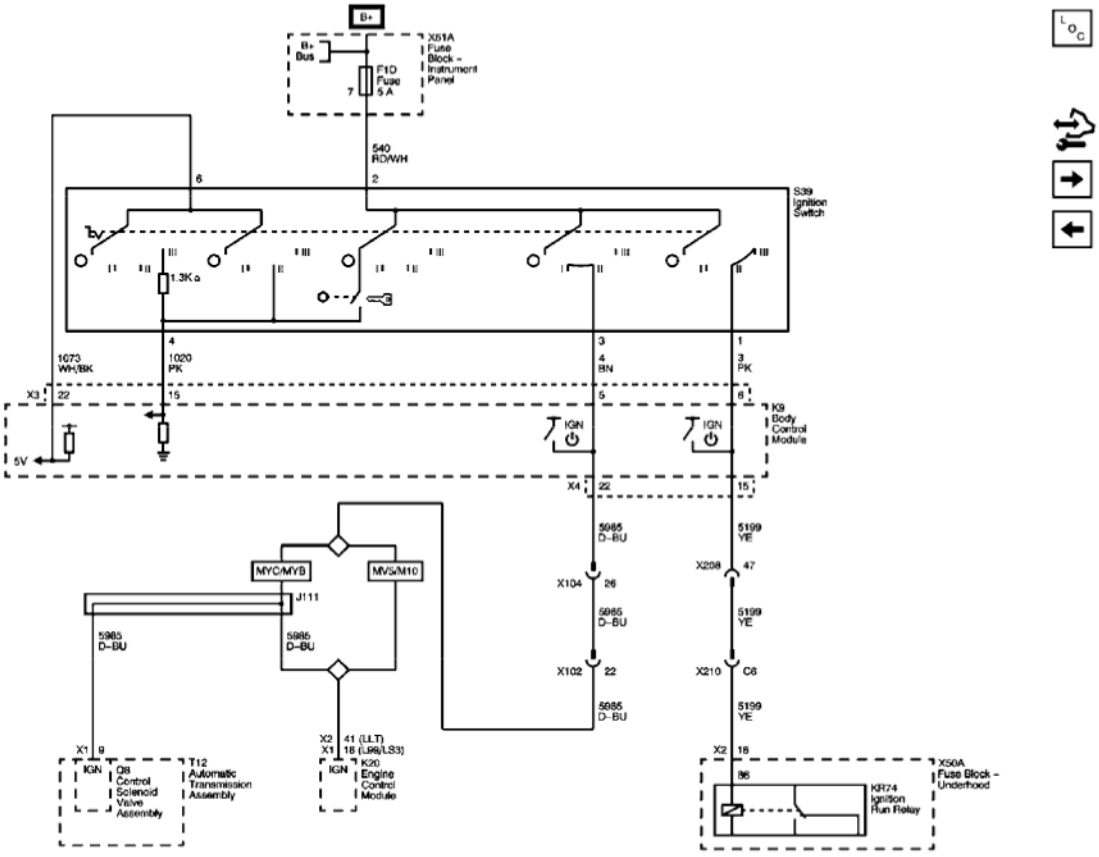


Fig. 20: Fuse Block - Underhood Bussing (2 of 2)
Courtesy of GENERAL MOTORS CORP.



cardiagn.com

Fig. 21: Ignition Switch
Courtesy of GENERAL MOTORS CORP.

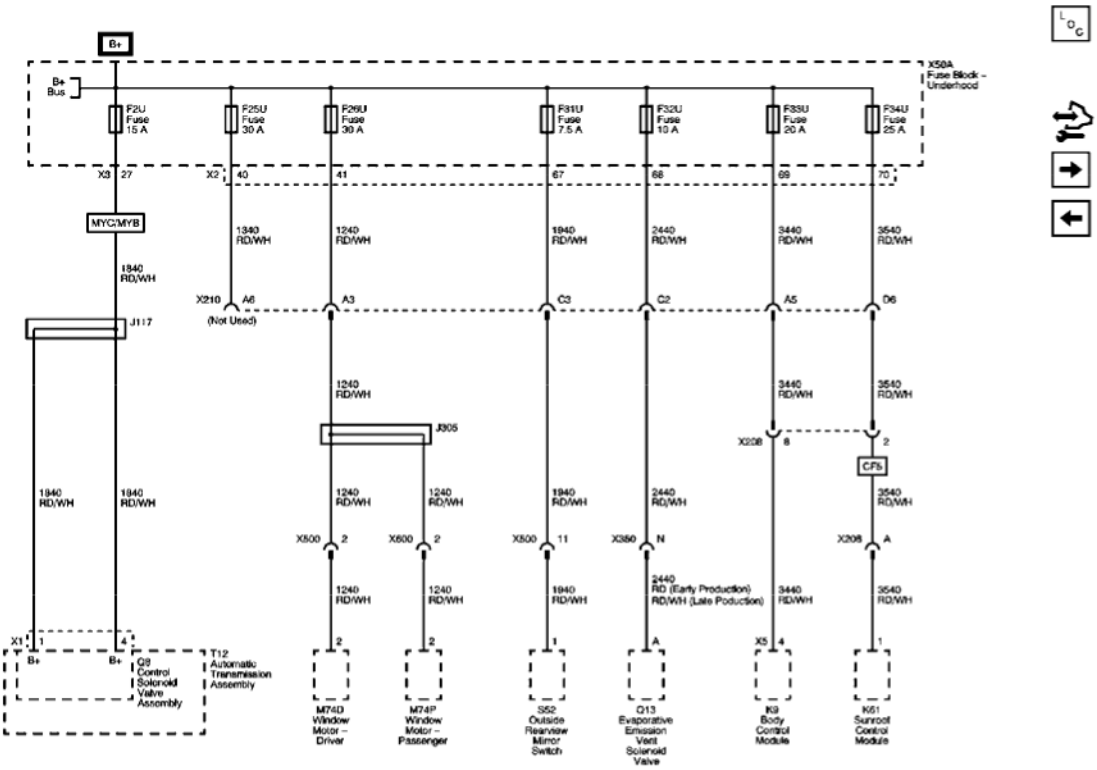


Fig. 22: Fuse Block - Underhood - TCM BATT Fuse 2, POWER WINDOW REAR Fuse 25, POWER WINDOW FRONT Fuse 26, MIR EWL FR Fuse 31, CANNISTER VENT Fuse 32, BCM 6 Fuse 33, and SUNROOF Fuse 34
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

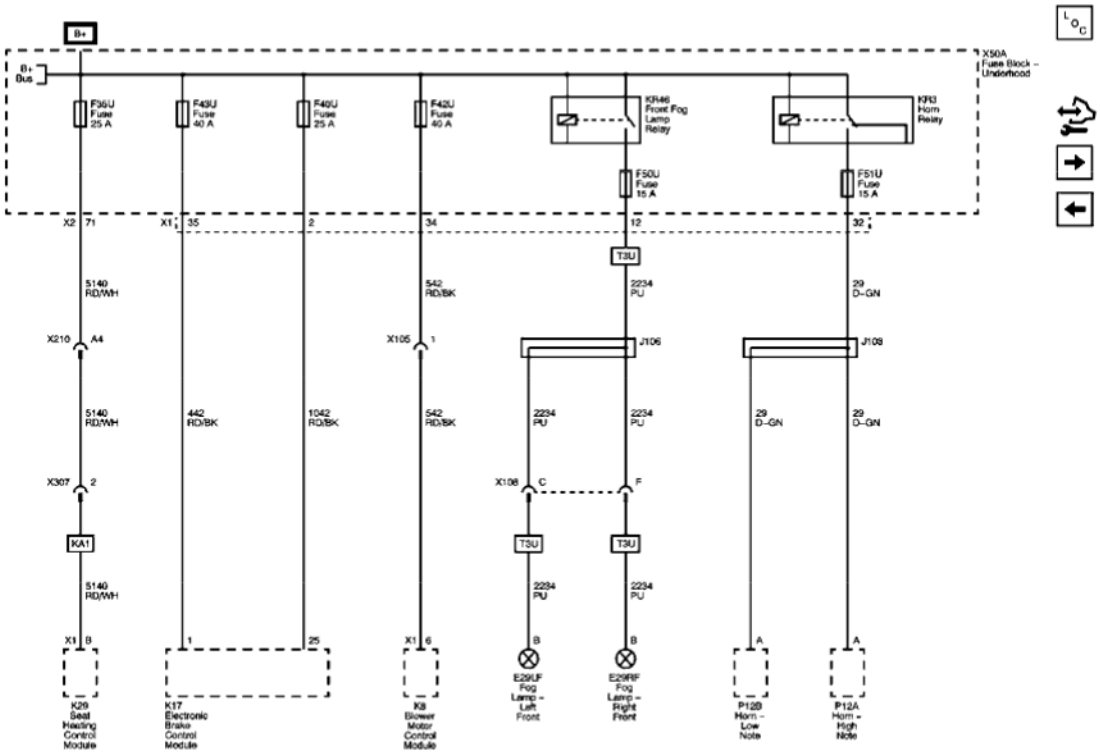
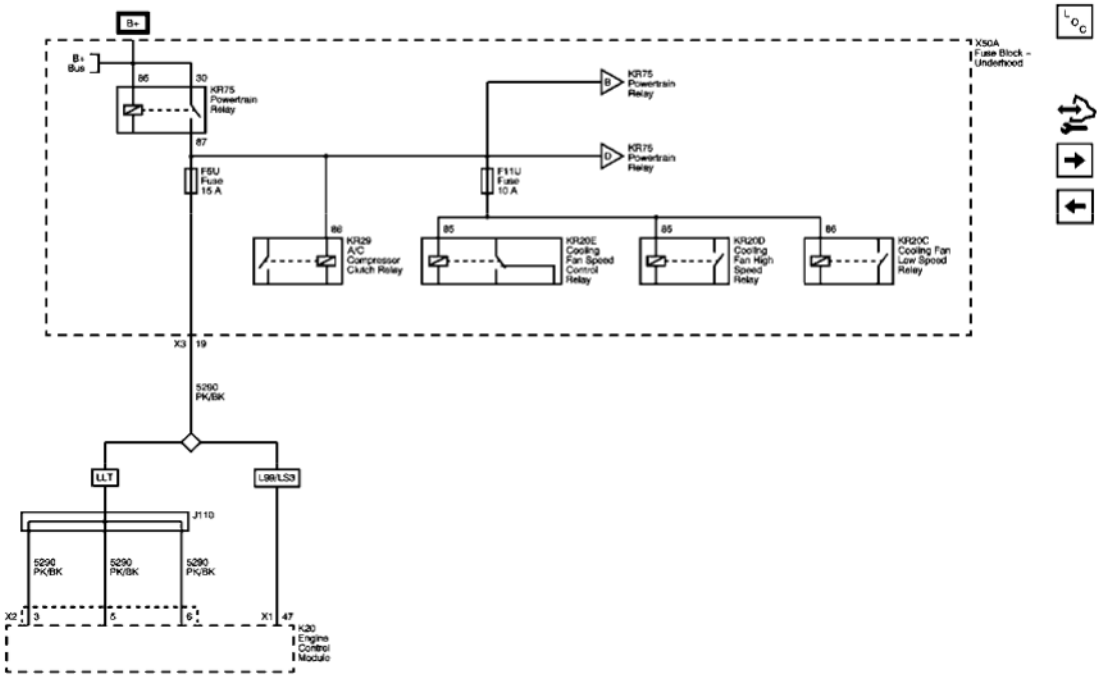


Fig. 23: Fuse Block - Underhood - SEAT HEAT FRT Fuse 35, ABS PUMP Fuse 43, ABS VALVE Fuse 40, HTD WASH Fuse 42, FRONT FOG LAMP Fuse 50, and HORN Fuse 51
Courtesy of GENERAL MOTORS CORP.



cardiagn.com

Fig. 24: Fuse Block - Underhood - PWR/TRN Relay K26, ECM Fuse 5, and COOL FAN RLY Fuse 11
Courtesy of GENERAL MOTORS CORP.

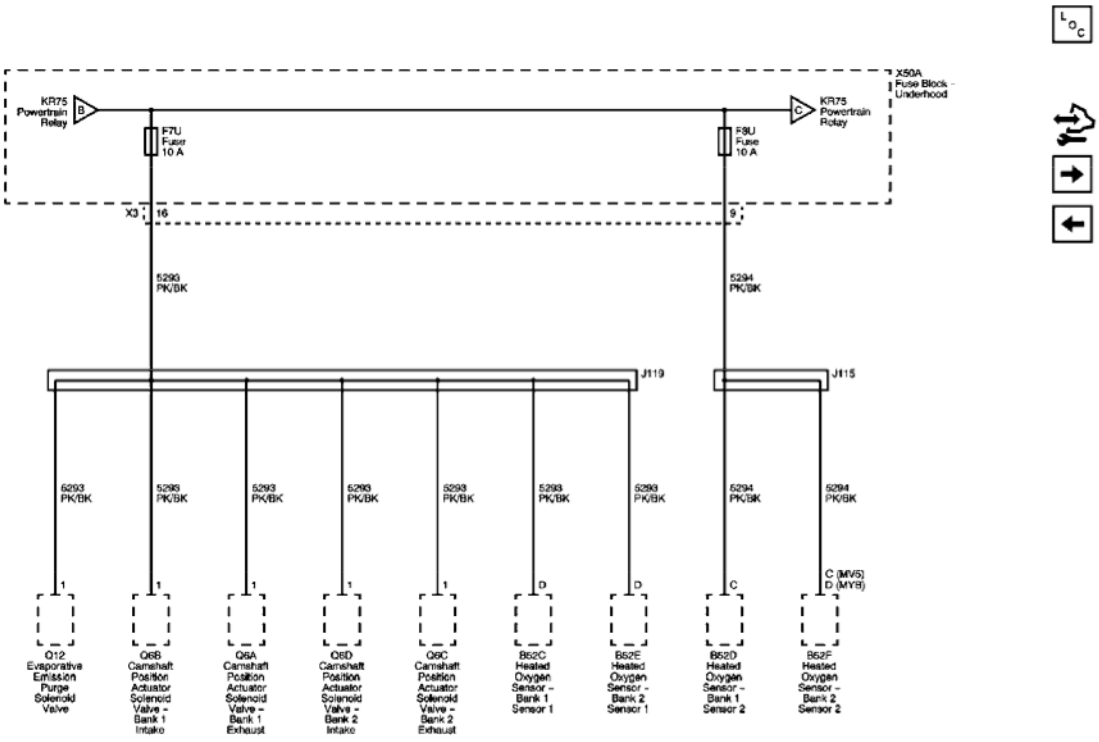


Fig. 25: Fuse Block - Underhood - 02 PRE Fuse 7, and 02 POST Fuse 8 (LLT)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

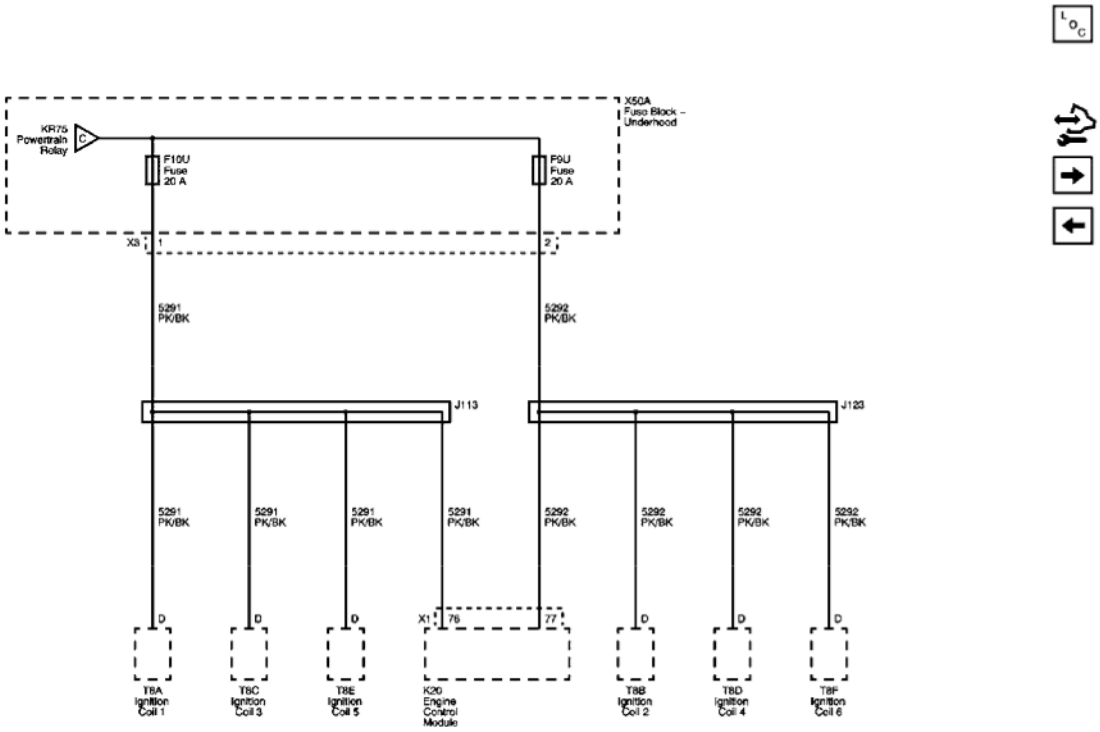


Fig. 26: Fuse Block - Underhood - INJ ODD Fuse 10, and INJ EVEN Fuse 9 (LLT)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

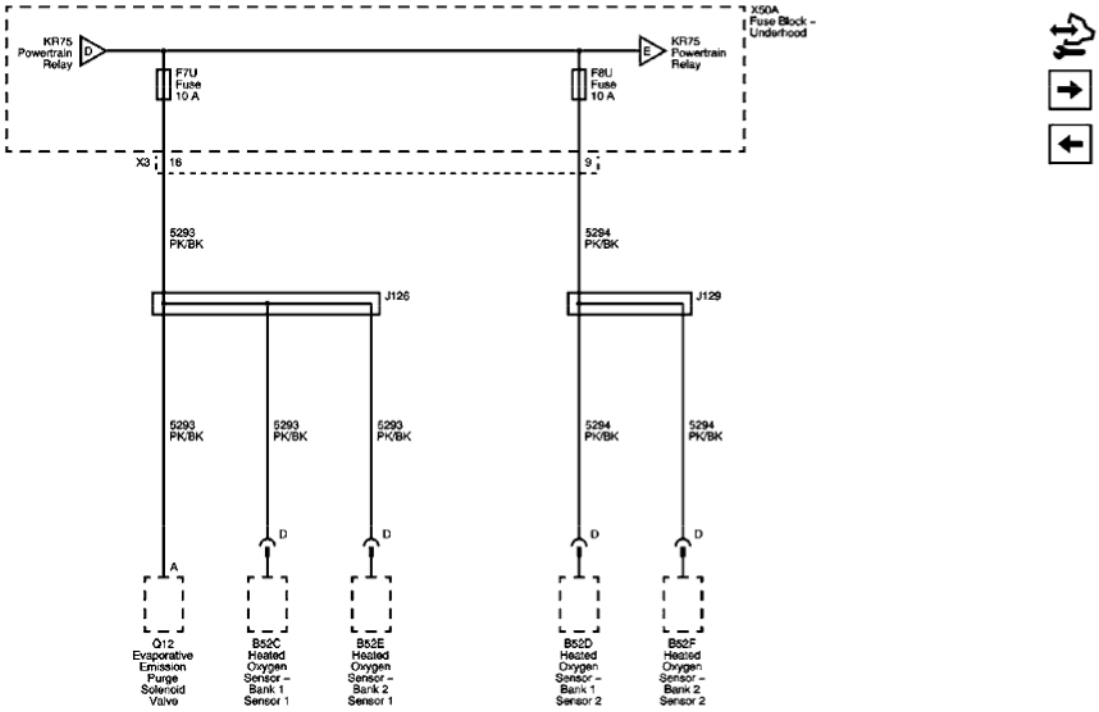


Fig. 27: Fuse Block - Underhood - 02 PRE Fuse 7, and 02 POST Fuse 8 (L99/LS3)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

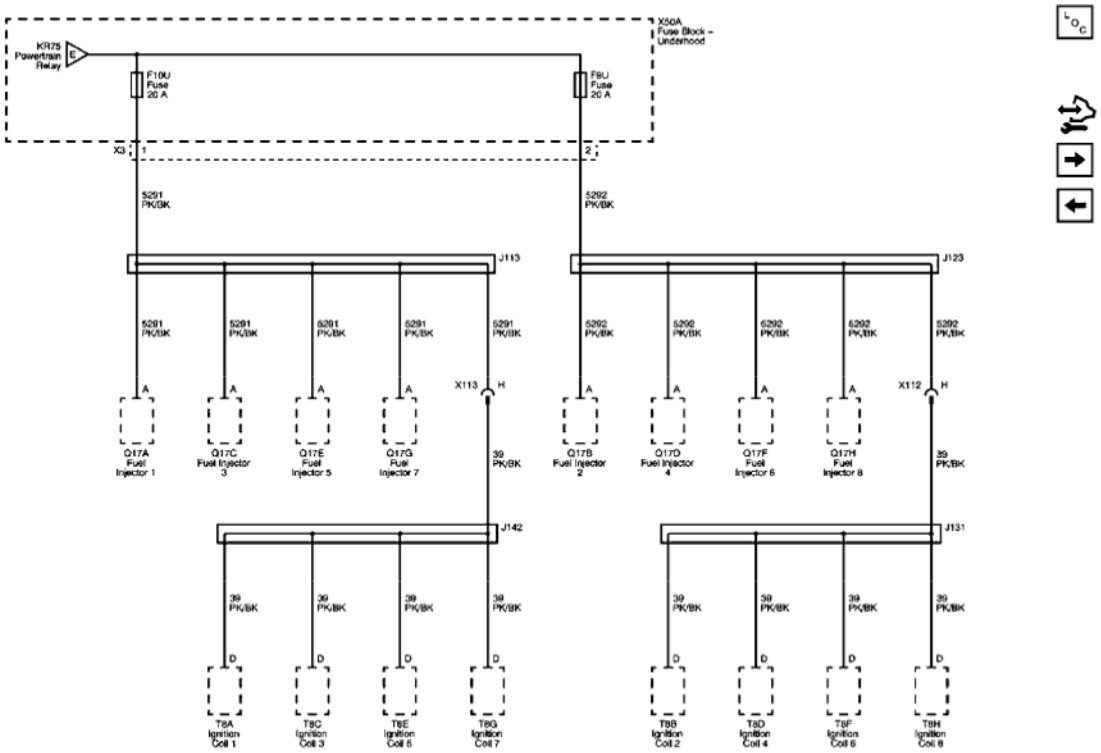


Fig. 28: Fuse Block - Underhood - INJ ODD Fuse 10, and INJ EVEN Fuse 9 (L99/LS3)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

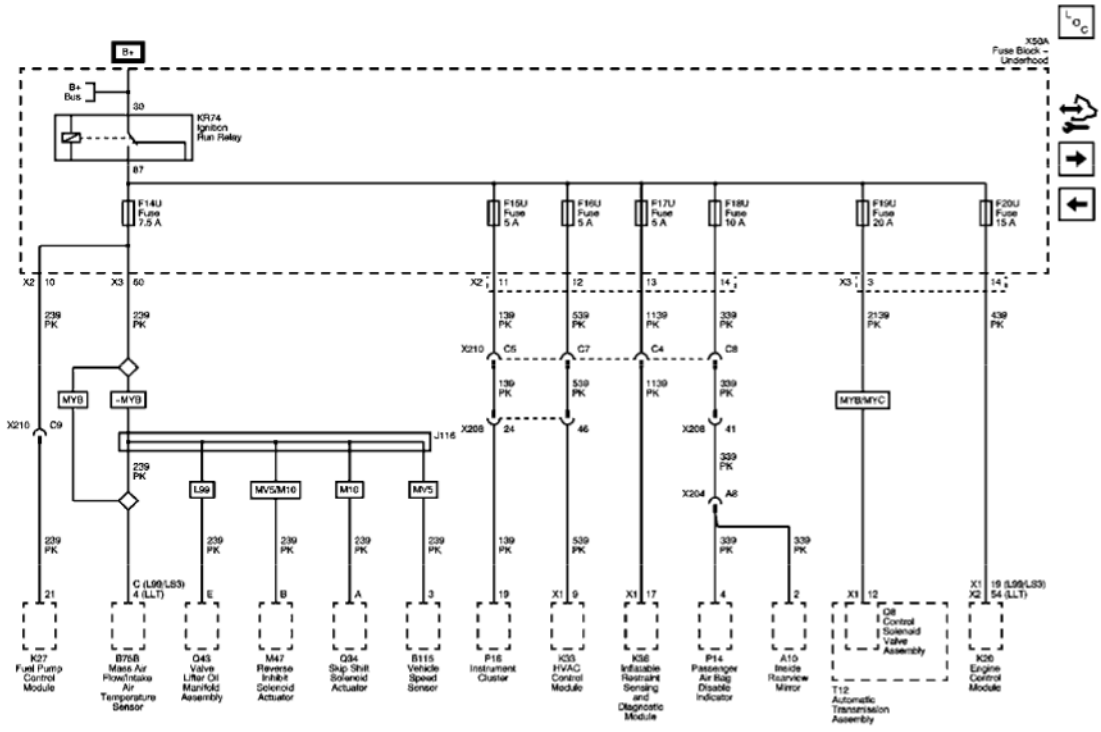


Fig. 29: Fuse Block - Underhood - RUN/CRNK Relay K50, MAF/CCC Fuse 13, IGN Fuse 15, RUN/CRNK IP Fuse 16, SDM/IGN Fuse 17, RUN/CRNK BODY Fuse 18, and TCM/IGN Fuse 20
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

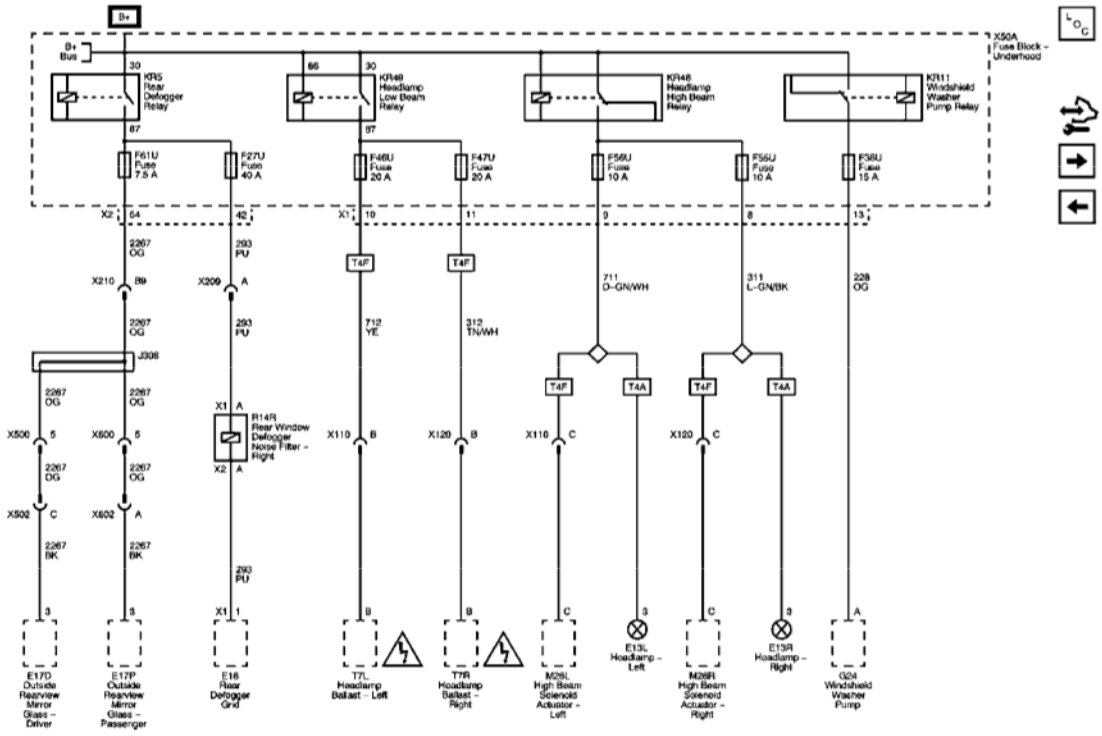


Fig. 30: Fuse Block - Underhood - BCM (RVC) Fuse 61, REAR DEFOG Fuse 27, LO BEAM - LT Fuse 46, LO BEAM - RT Fuse 47, HI BEAM - LT Fuse 56, HI BEAM - RT Fuse 55, and WSW PUMP FRT Fuse 38

Courtesy of GENERAL MOTORS CORP.

cardiagn.com

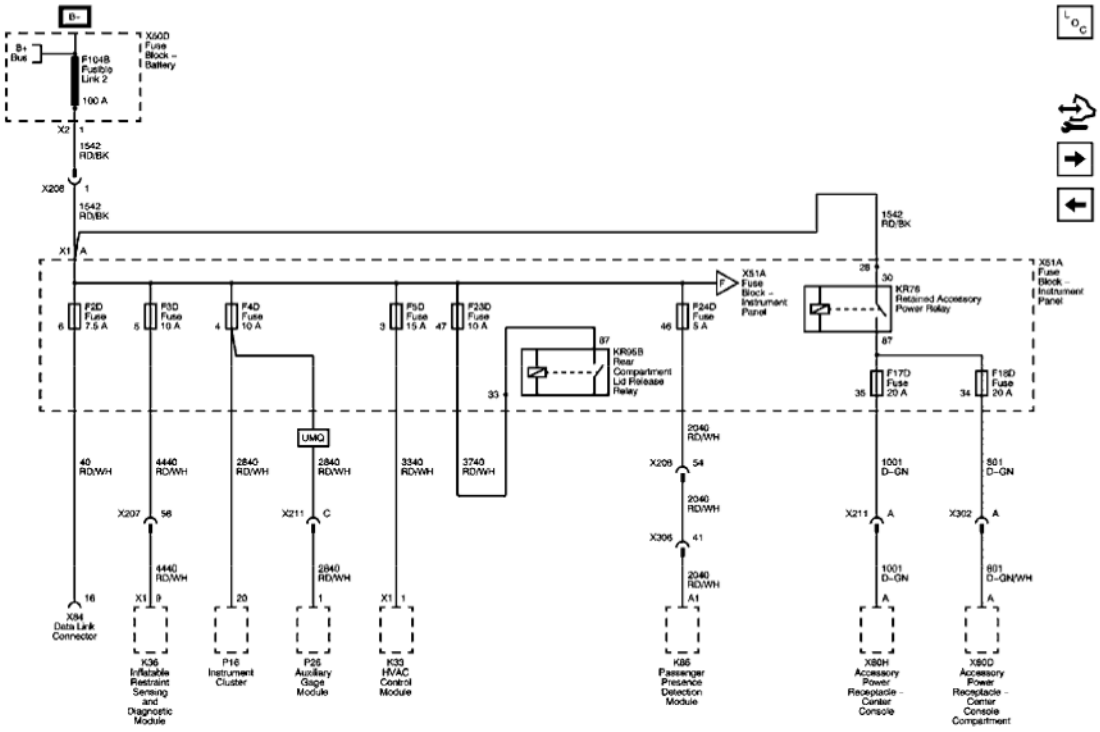
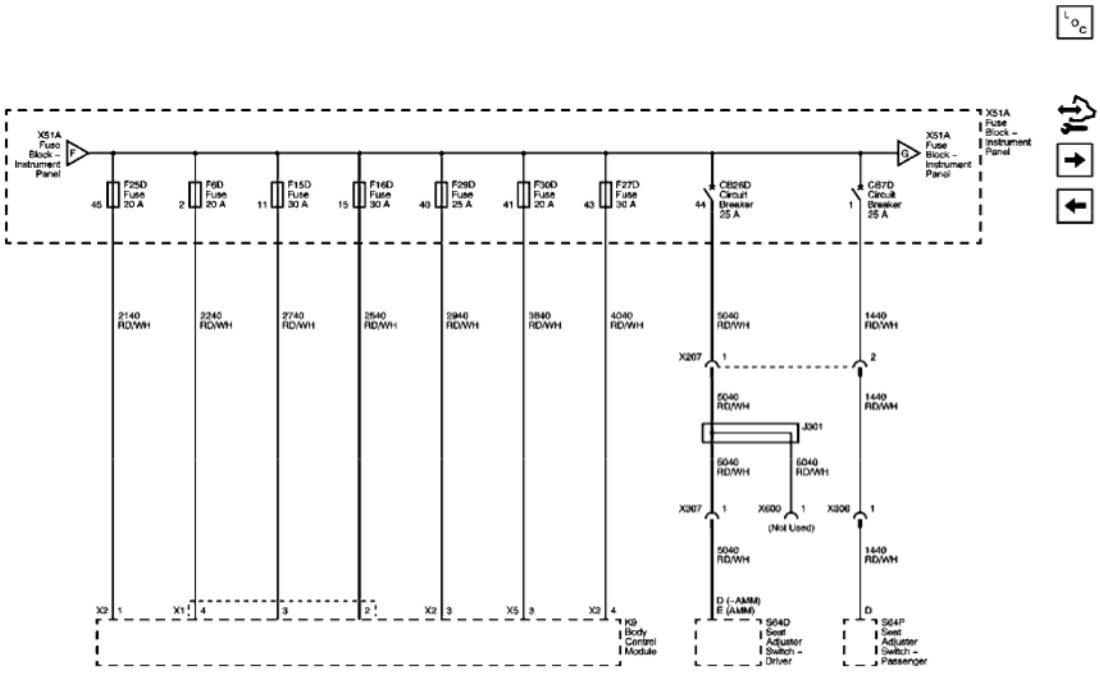


Fig. 31: Fuse Block - I/P - DLC Fuse 2, AIR BAG Fuse 3, CLUSTER Fuse 4, HVAC CNTRL Fuse 5, TRUNK Fuse 23, AOS Fuse 24, APO 1 Fuse 17, and APO 2 Fuse 18
Courtesy of GENERAL MOTORS CORP.



cardiagn.com

Fig. 32: Fuse Block - I/P - BCM_1 Fuse 25, BCM_2 Fuse 6, BCM_3 Fuse 15, BCM_4 Fuse 16, BCM_5 Fuse 29, BCM_7 Fuse 30, BCM_8 Fuse 27, and LF_SEAT, RF_SEAT Circuit Breakers
Courtesy of GENERAL MOTORS CORP.

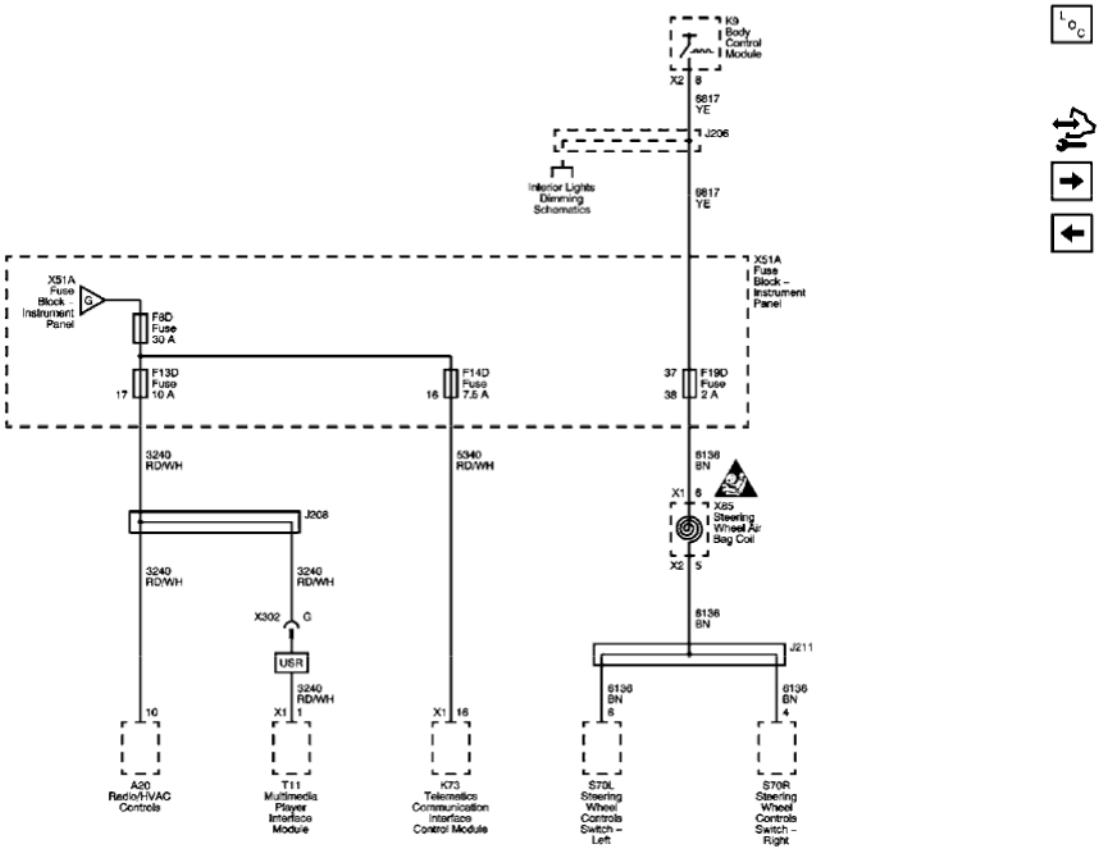


Fig. 33: Fuse Block - I/P - LOGISTIC MODE Fuse 8, ONSTAR Fuse 14, and SWC BKUP Fuse 19
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

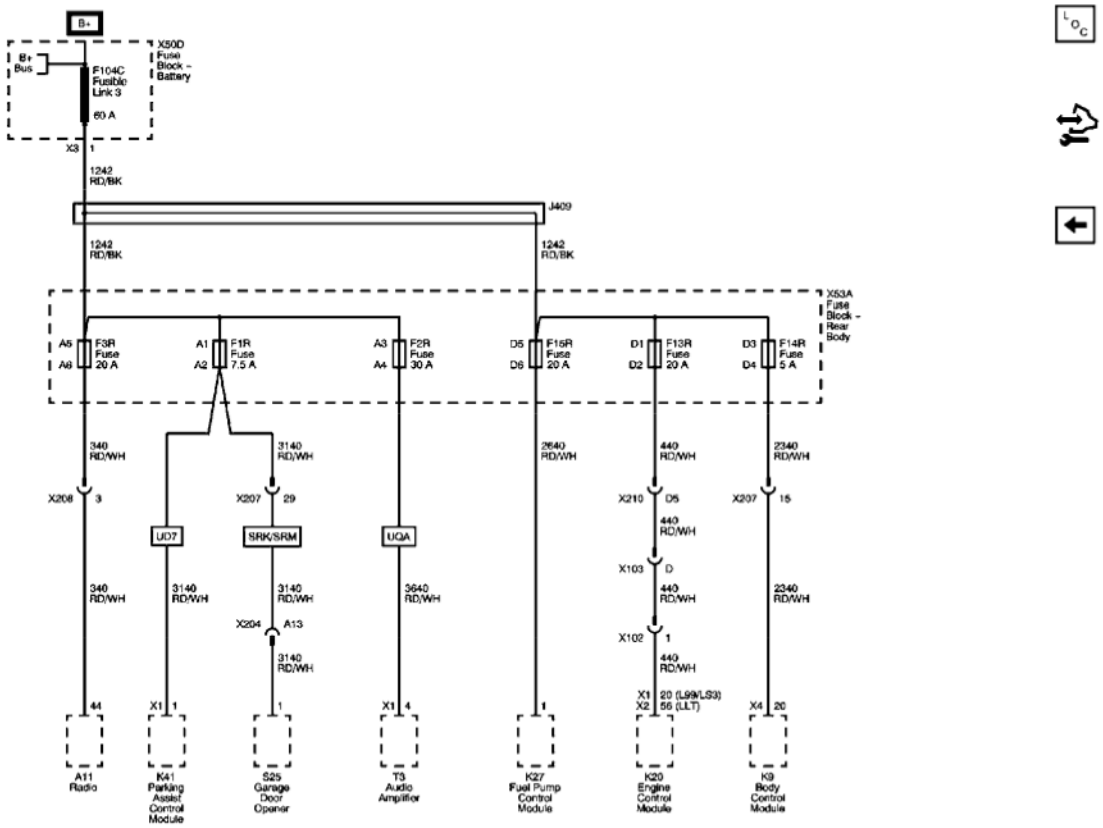


Fig. 34: Fuse Block - Rear - UGDO/UPA Fuse 1, AMP Fuse 2, RADIO Fuse 3, ECM BATTERY Fuse 13, BATTERY RVC Fuse 14, and CCM/FUEL PMP Fuse 15
Courtesy of GENERAL MOTORS CORP.

POWER MODING SCHEMATICS

cardiagn.com

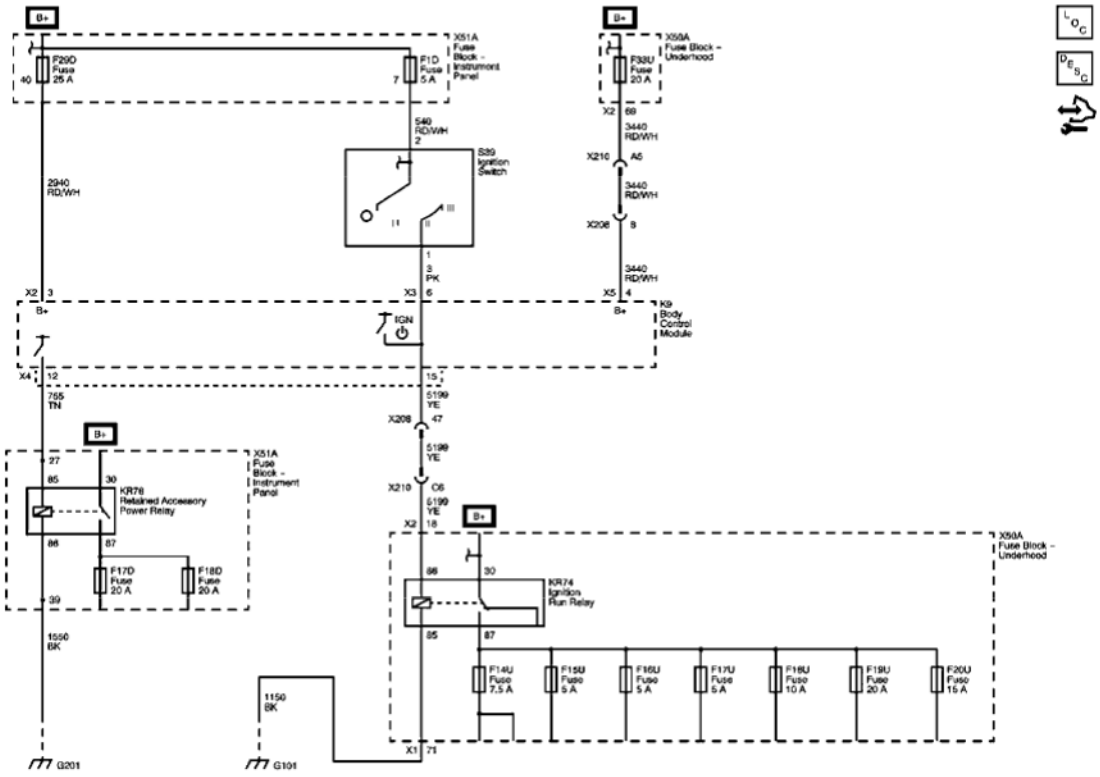


Fig. 35: Power Moding
Courtesy of GENERAL MOTORS CORP.

IGNITION LOCK SCHEMATICS

cardiagn.com

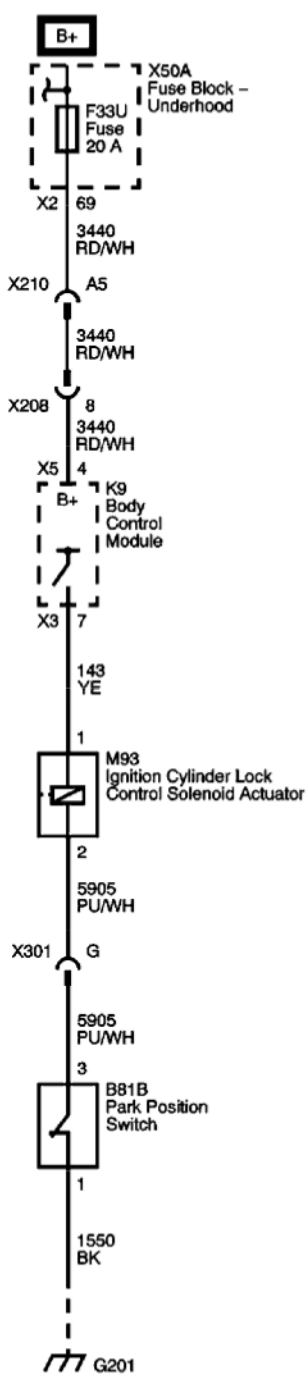




Fig. 36: Ignition Lock
Courtesy of GENERAL MOTORS CORP.

GROUND DISTRIBUTION SCHEMATICS

cardiagn.com

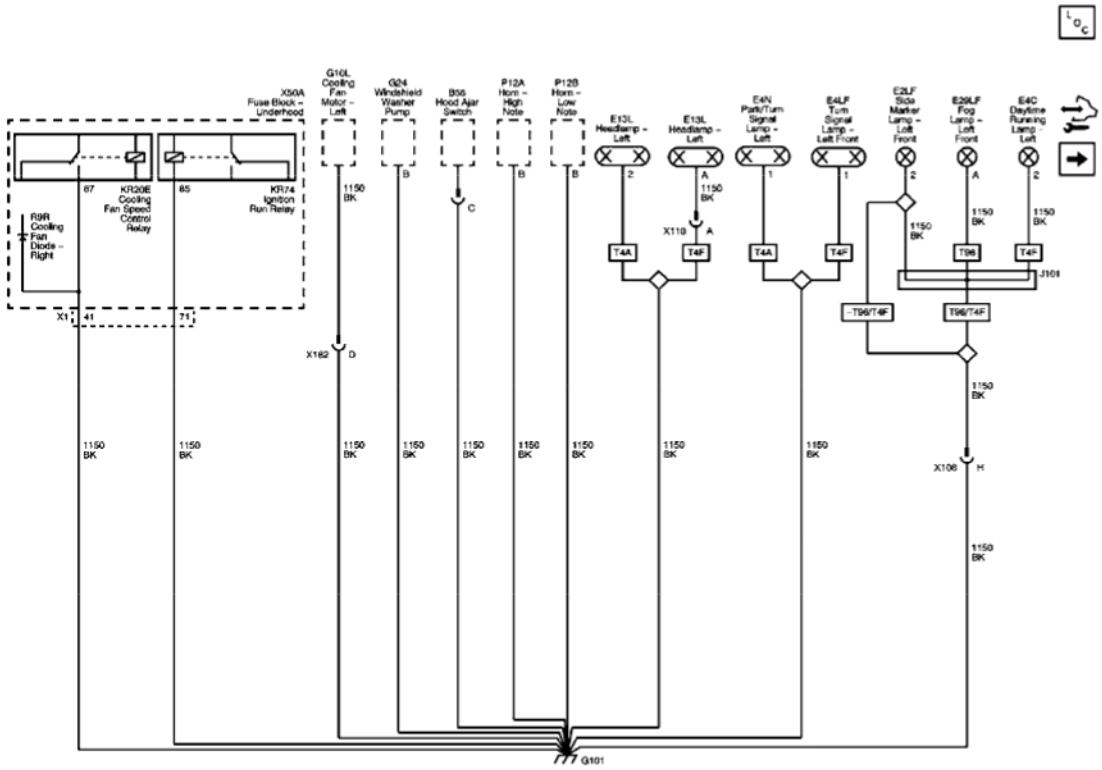


Fig. 37: G101
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

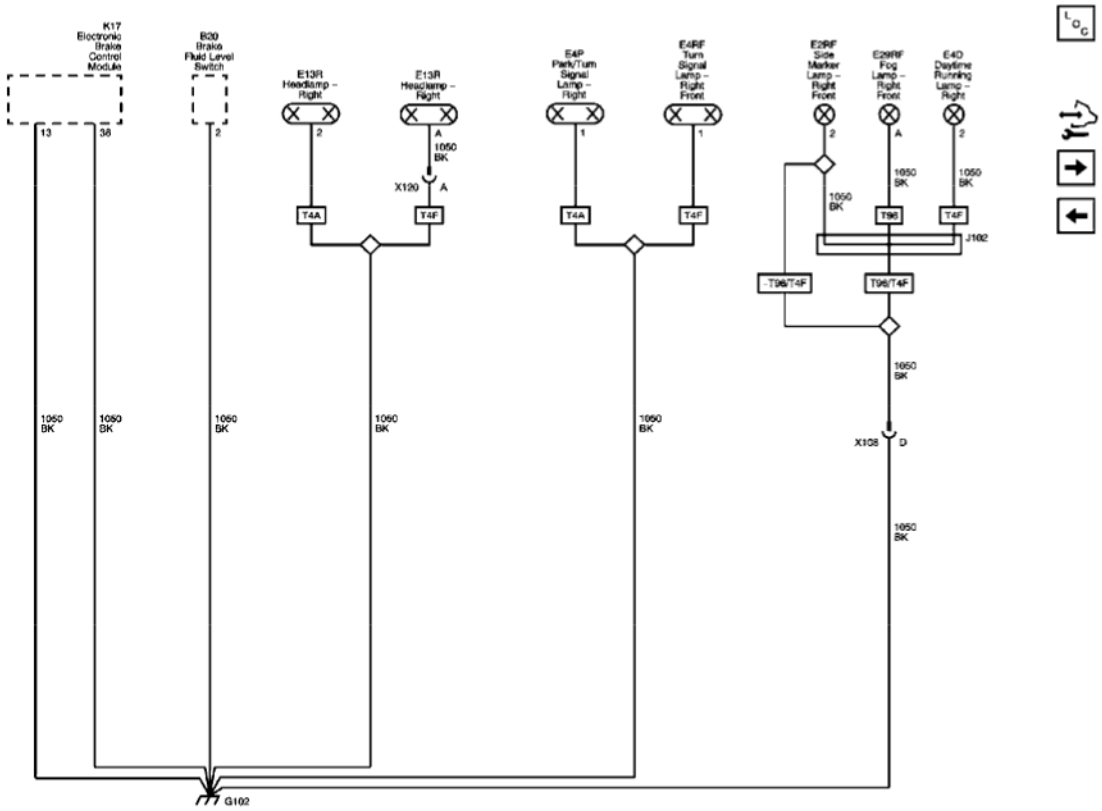


Fig. 38: G102
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

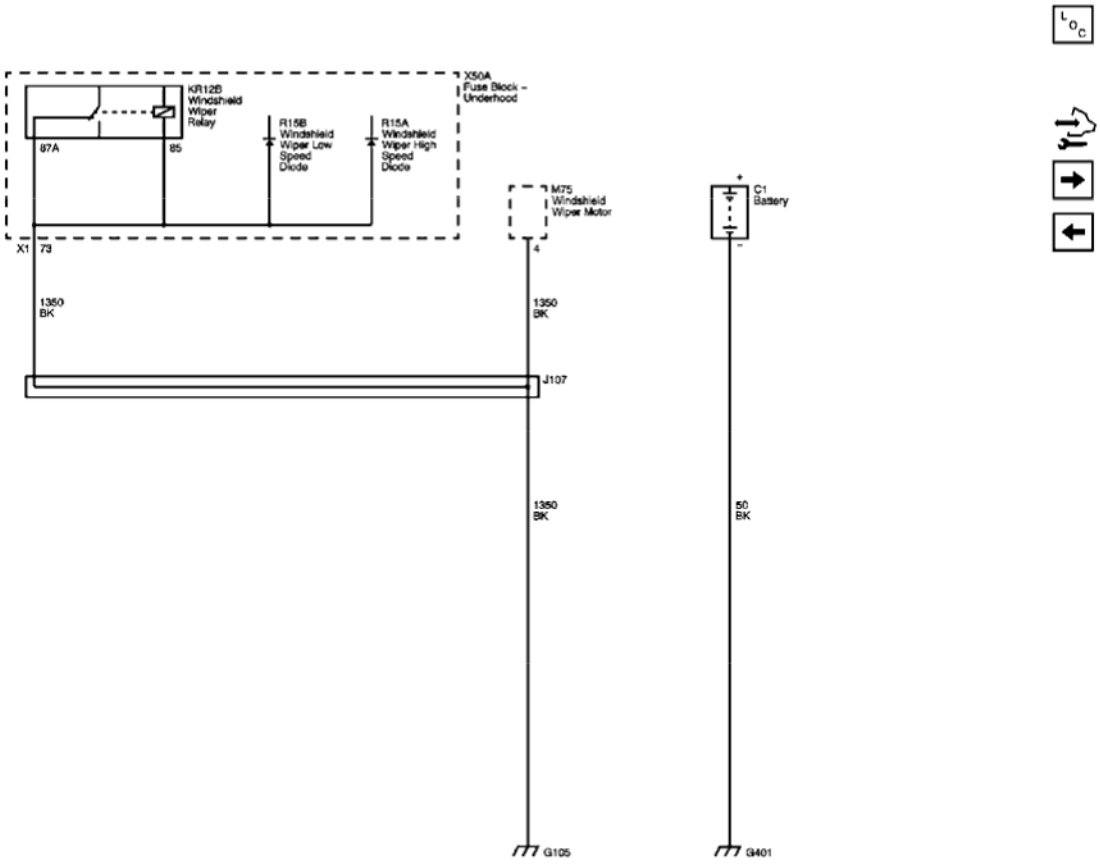


Fig. 39: G103, G105 and G401
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

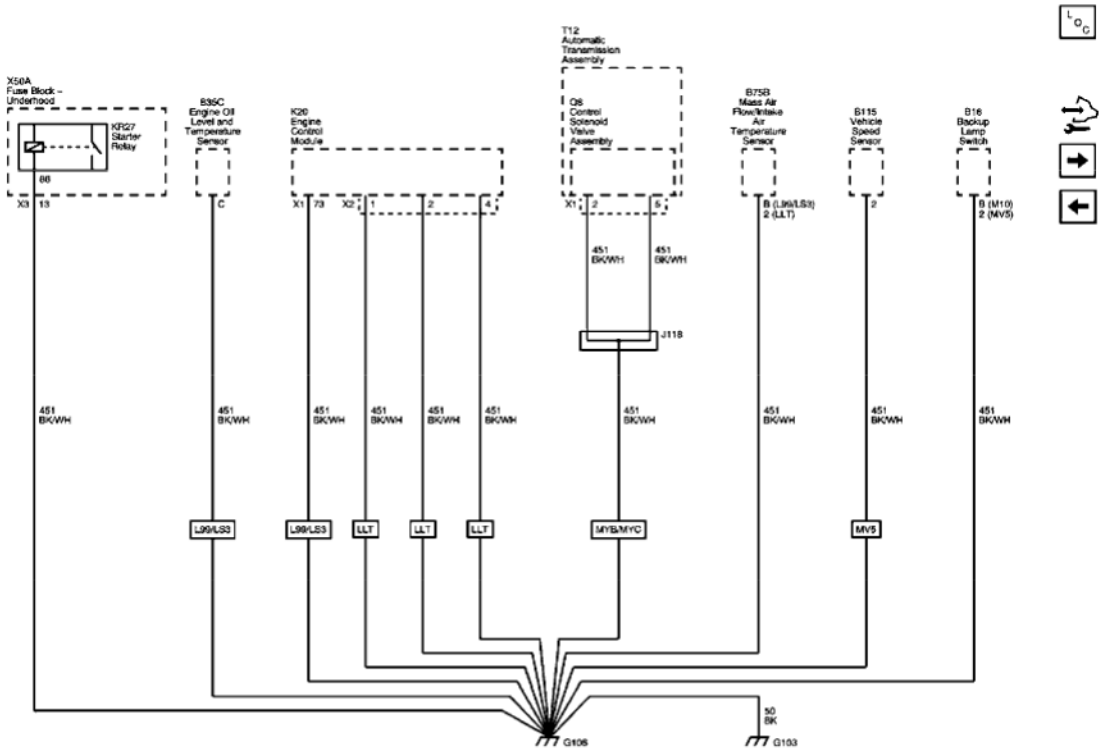


Fig. 40: G103 and G106
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

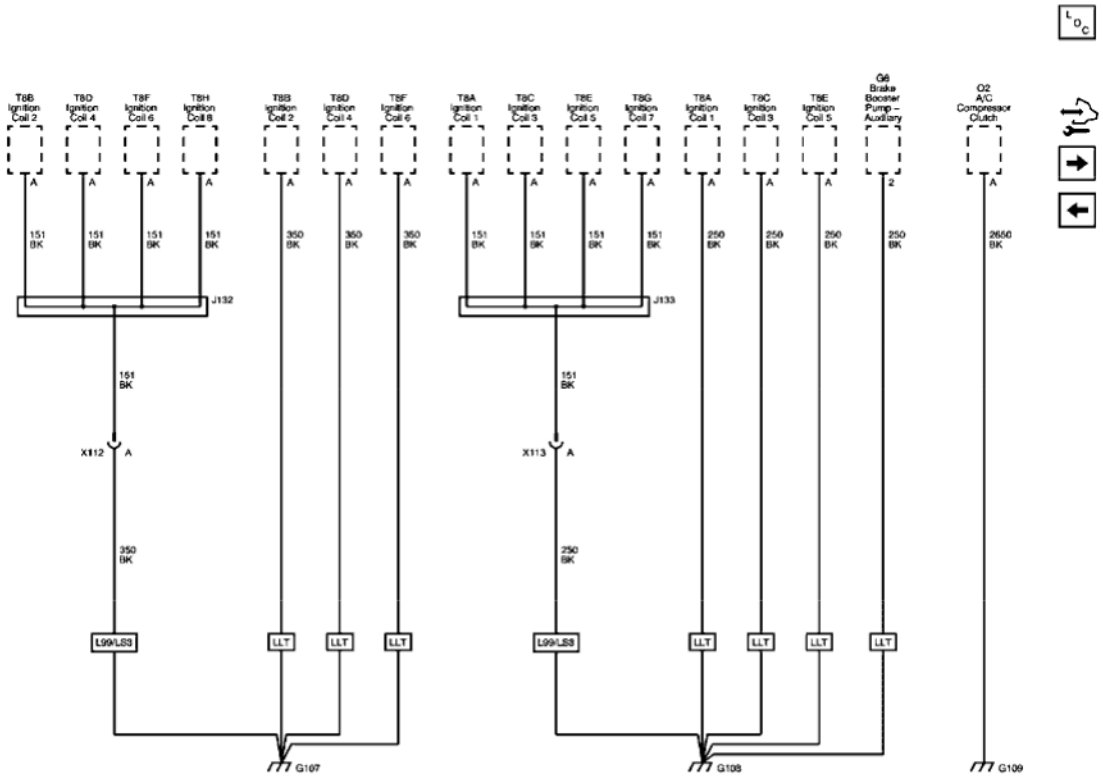


Fig. 41: G107 and G108
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

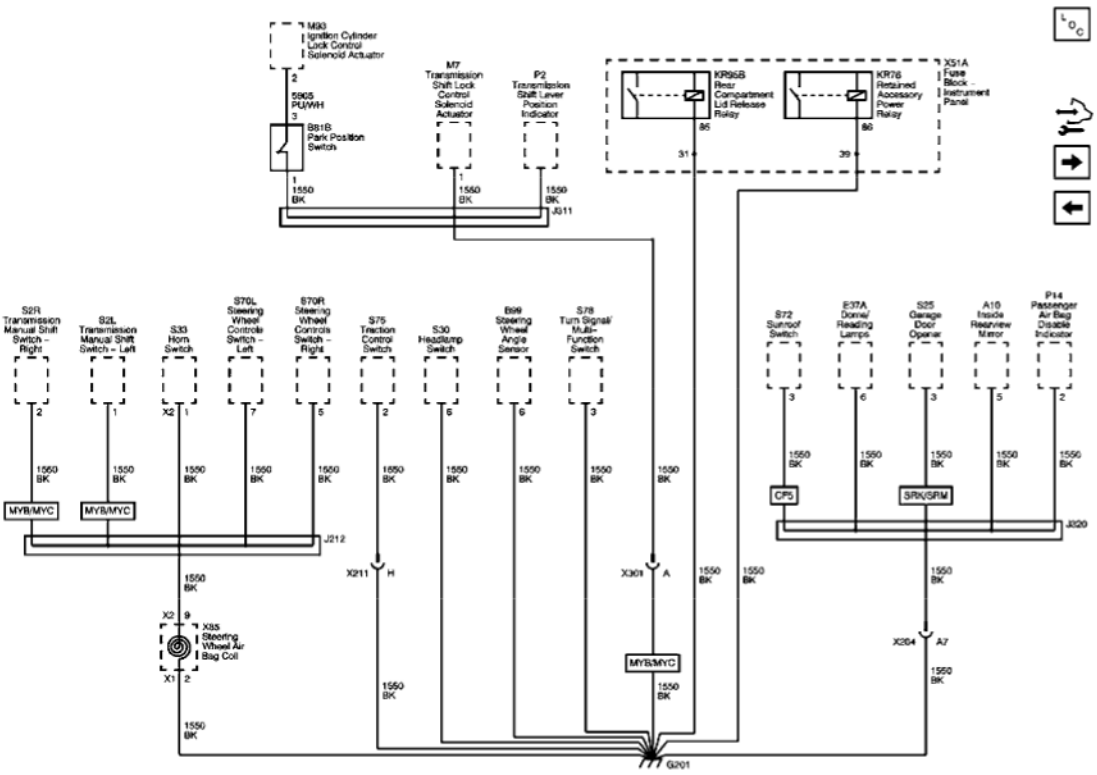


Fig. 42: G201
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

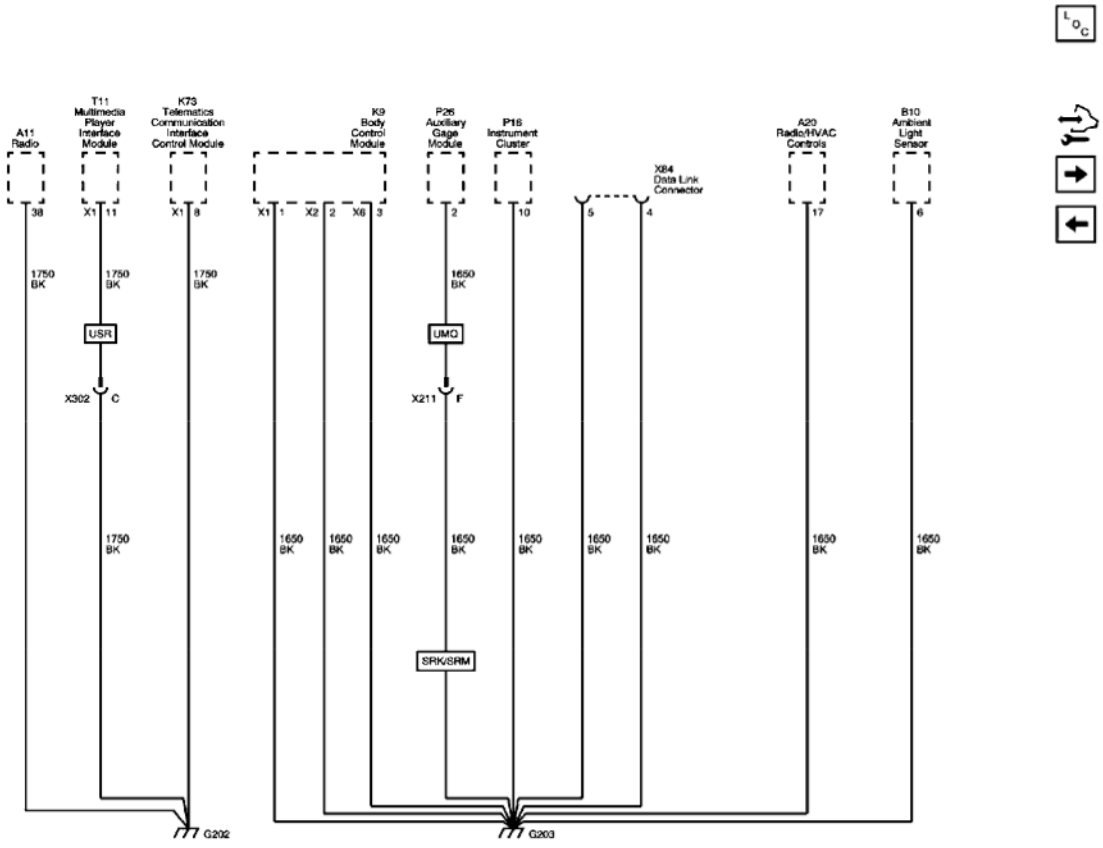


Fig. 43: G202 and G203
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

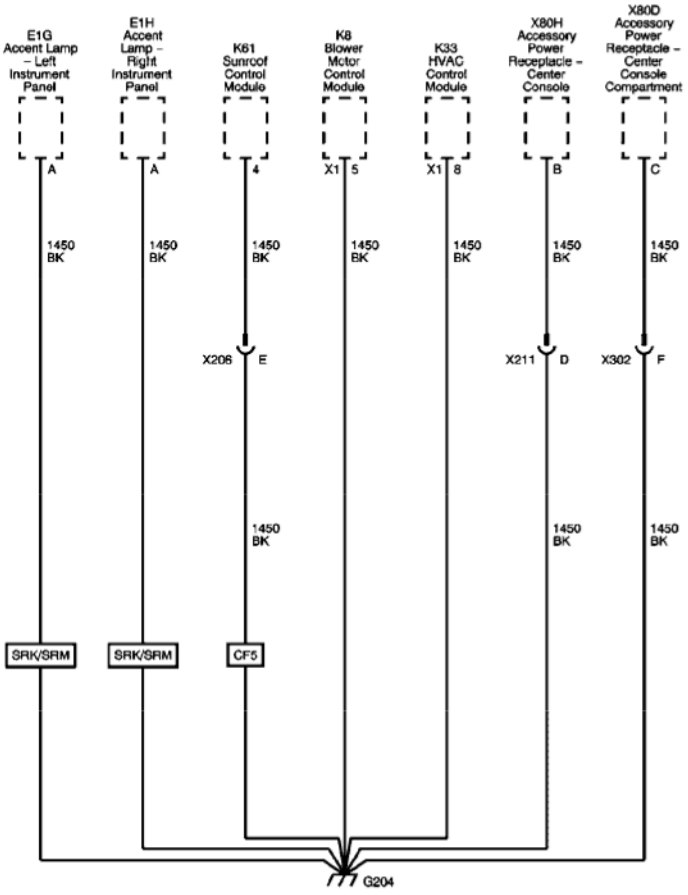


Fig. 44: G204
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

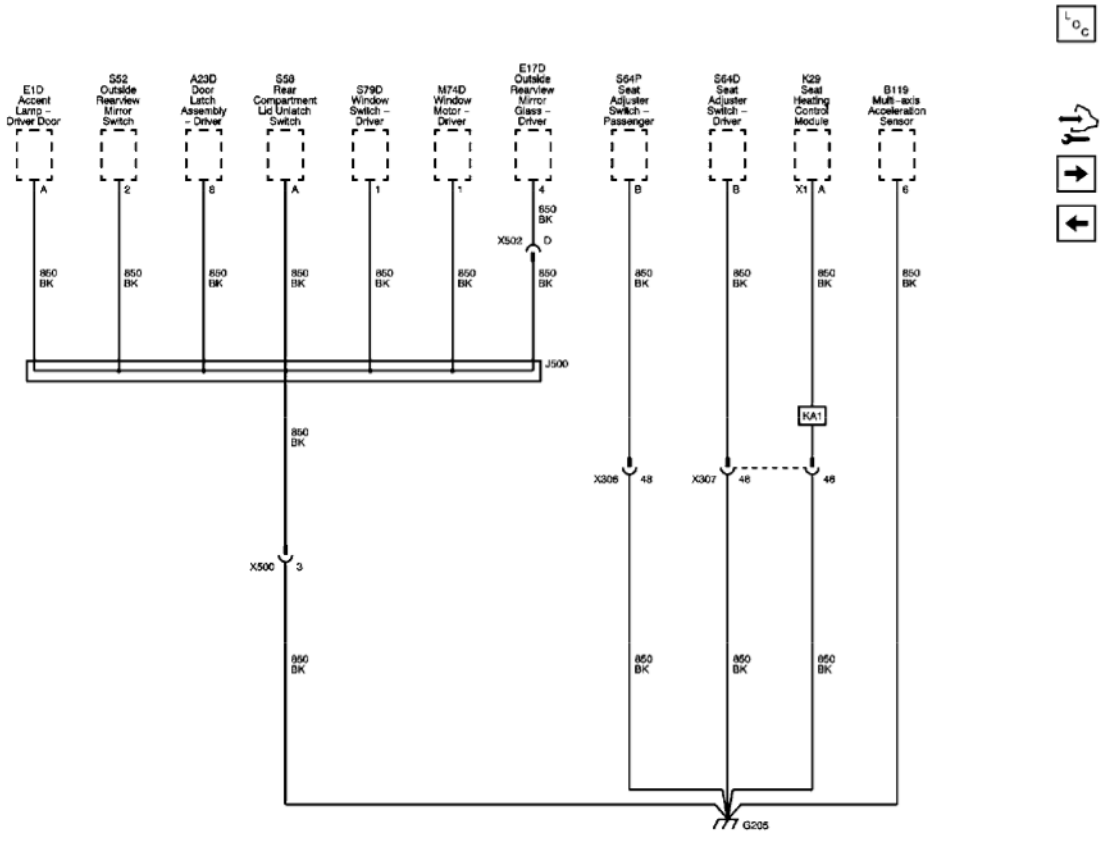


Fig. 45: G205
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

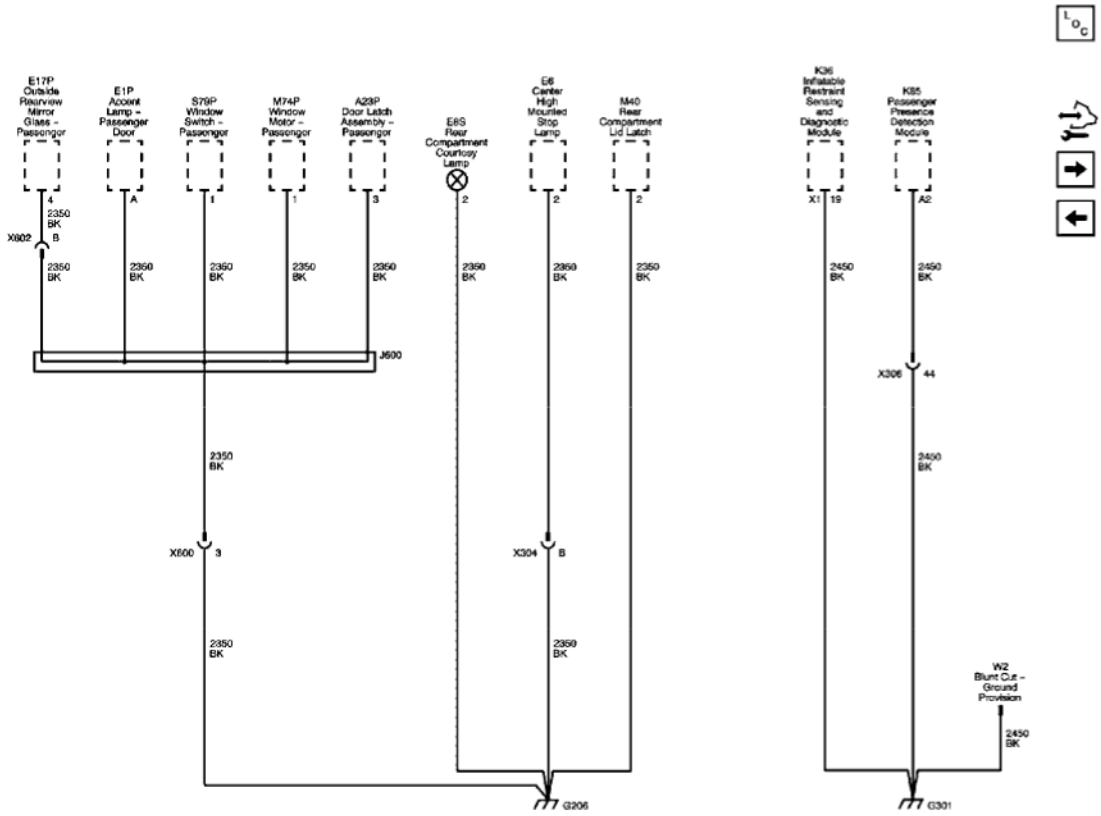


Fig. 46: G206 and G301
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

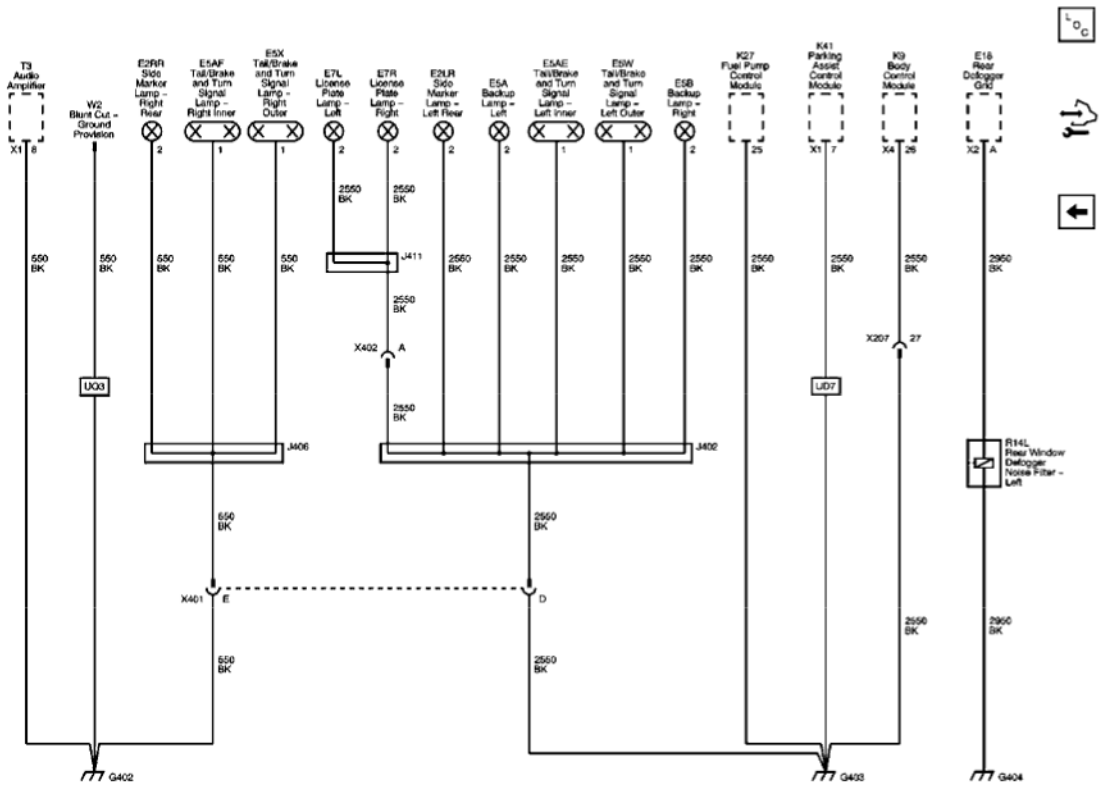


Fig. 47: G402, G403 and G404
Courtesy of GENERAL MOTORS CORP.

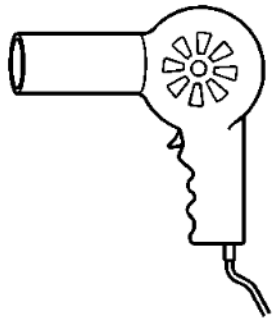
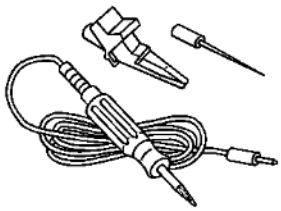
cardiagn.com

2010 ELECTRICAL

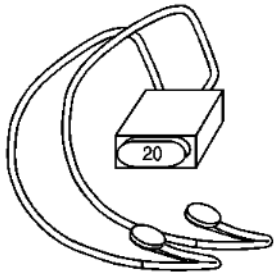
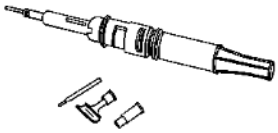
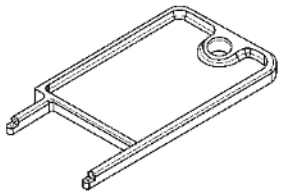
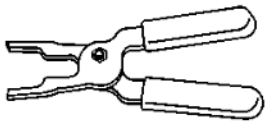
Wiring Systems and Power Management - Camaro

SPECIAL TOOLS AND EQUIPMENT

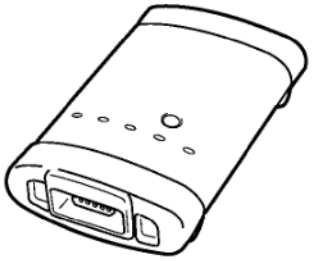
SPECIAL TOOLS

Illustration	Tool Number / Description
	EL-25070 Heat Gun 500-700 F
	EL-35616-D Terminal Test Probe Kit
	EL-35616-200 Test Light - Probe Kit
	EL-35616-20F Fused Jumper Wire

cardiagn.com

	
	EL-38125-5 Ultra Torch
	EL-39200 Digital Multimeter
	EL-42759 Ignition Switch Connector Release Tool
	EL-43244 Relay Puller Pliers

cardiagn.com

	EL-47955 J-2534 Multi Diagnostic Interface MDI

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Camaro

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	Specification	
	Metric	English
Accessory Wiring Junction Block Cover Retainer Tab	7 N.m	62 lb in
Accessory Wiring Junction Block Harness Connector Bolt	10 N.m	89 lb in
Accessory Wiring Junction Block Retainer Base Bolt	20 N.m	15 lb ft
Battery Cable Nut	7 N.m	62 lb in
Ignition and Start Switch Bolt	2 N.m	18 lb in
Ignition and Start Switch Housing Bolt	8 N.m	71 lb in

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

SPLICE PACK CONNECTOR END VIEWS

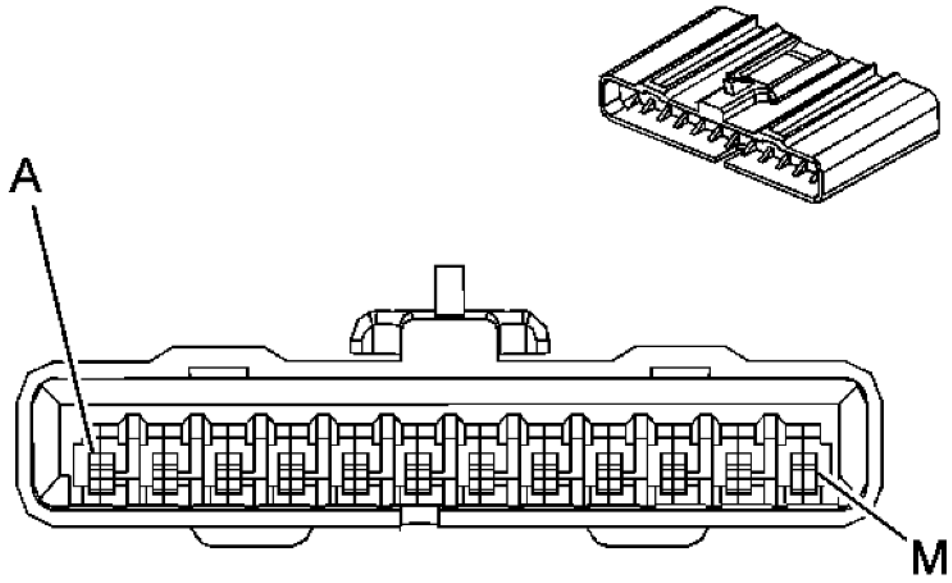


Fig. 1: JX200 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12176461
- Service: 15305914
- Description: 12-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247

cardiagn.com

- Test Probe: J-35616-2A (GY)

JX200

Pin	Wire	Circuit	Function
A	0.35 D-GN	5060	Low Speed GMLAN Serial Data
B	0.35 D-GN	5060	Low Speed GMLAN Serial Data
C	0.35 D-GN	5060	Low Speed GMLAN Serial Data (UMQ or UXQ)
D	-	-	Not Used
E	0.35 D-GN	5060	Low Speed GMLAN Serial Data
F	-	-	Not Used
G	0.35 D-GN	5060	Low Speed GMLAN Serial Data
H	-	-	Not Used
J	0.35 D-GN	5060	Low Speed GMLAN Serial Data
K	0.35 D-GN	5060	Low Speed GMLAN Serial Data
L	0.35 D-GN	5060	Low Speed GMLAN Serial Data
M	0.35 D-GN	5060	Low Speed GMLAN Serial Data

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Connector End Views - Index - Camaro

COMPONENT CONNECTOR END VIEWS - INDEX

NOTE: **Use the following tables to locate the connector end view for the desired component. These are in alphabetical sequence as supplied by the manufacturer. Connector end views are identified by manufacturer using an alpha/numeric naming convention, starting with A10 and ending with X85. In system testing, component connector may be identified using the alpha/numeric convention or using the actual component name. Example: Q17B is the connector identifier for fuel injector 2.**

COMPONENT CONNECTOR END VIEWS - A10 THROUGH B52F

COMPONENT CONNECTOR END VIEWS - A10 THROUGH B52F

Description
A10 Inside Rearview Mirror
A11 Radio
A20 Radio/HVAC Controls
A23D Door Latch Assembly - Driver
A23P Door Latch Assembly - Passenger
A7 Fuel Pump and Level Sensor Assembly
A9A Outside Rearview Mirror - Driver
A9B Outside Rearview Mirror - Passenger
B1 A/C Refrigerant Pressure Sensor
B101 Immobilizer Antenna
B107 Accelerator Pedal Position Sensor
B10 Ambient Light Sensor
B115 Vehicle Speed Sensor (MV5)
B115 Vehicle Speed Sensor (M10)
B119 Multi-Axis Acceleration Sensor
B150 Fuel Tank Pressure Sensor
B16 Backup Lamp Switch (MV5)
B16 Backup Lamp Switch (M10)
B173 Manual Transmission Fluid Temperature Sensor (MV5 or M10)
B18 Battery Current Sensor
B19B Brake Booster Vacuum Sensor (L99)
B20 Brake Fluid Level Switch
B22 Brake Pedal Position Sensor
B23 Camshaft Position Sensor (L99/LS3)
B23A Camshaft Position Sensor - Bank 1 Exhaust (LLT)

cardiagn.com

B23B Camshaft Position Sensor - Bank 1 Intake (LLT)
B23C Camshaft Position Sensor - Bank 2 Exhaust (LLT)
B23D Camshaft Position Sensor - Bank 2 Intake (LLT)
B24 Cellular Phone Microphone (UE1)
B25B Clutch Pedal Position Sensor (MV5 or M10)
B26 Crankshaft Position Sensor (L99 or LS3)
B26 Crankshaft Position Sensor (LLT)
B34 Engine Coolant Temperature Sensor (L99 or LS3)
B34 Engine Coolant Temperature Sensor (LLT)
B35C Engine Oil Level and Temperature Sensor (L99 or LS3)
B37B Engine Oil Pressure Sensor (L99 or LS3)
B37B Engine Oil Pressure Sensor (LLT)
B39 A/C Evaporator Temperature Sensor
B46B Fuel Level Sensor - Secondary
B47 Fuel Pressure Sensor
B47B Fuel Rail Pressure Sensor (LLT)
B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L99 or LS3)
B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (LLT)
B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L99 or LS3)
B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (LLT)
B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L99 or LS3)
B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (LLT)
B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L99 or LS3)
B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MV5)
B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MYB)

COMPONENT CONNECTOR END VIEWS - B55 THROUGH E4C

COMPONENT CONNECTOR END VIEWS - B55 THROUGH E4C

Description
B55 Hood Ajar Switch
B59L Front Impact Sensor - Left
B59R Front Impact Sensor - Right
B5LF Wheel Speed Sensor - Left Front
B5LR Wheel Speed Sensor - Left Rear
B5RF Wheel Speed Sensor - Right Front
B5RR Wheel Speed Sensor - Right Rear
B62D Seat Position Sensor - Driver
B62P Seat Position Sensor - Passenger
B63L Side Impact Sensor - Left
B63R Side Impact Sensor - Right

cardiagn.com

B68A Knock Sensor 1
B68B Knock Sensor 2
B74 Manifold Absolute Pressure Sensor (L99 or LS3)
B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3)
B75B Mass Air Flow/Intake Air Temperature Sensor (LLT)
B78E Rear Object Sensor - Left Middle (UD7)
B78F Rear Object Sensor - Right Middle (UD7)
B78G Rear Object Sensor - Left Outer (UD7)
B78H Rear Object Sensor - Right Outer (UD7)
B80 Park Brake Switch
B88D Seat Belt Switch - Driver
B88P Seat Belt Switch - Passenger
B9 Ambient Air Temperature Sensor
B99 Steering Wheel Angle Sensor
C1 Battery +
C1 Battery -
C3 Telematics Communication Interface Control Module Battery (UE1)
E1D Accent Lamp - Driver Door (SRK/SRM)
E13L Headlamp - Left (T4A)
E13R Headlamp - Right (T4A)
E14A Seat Heating Element - Driver Back (KA1)
E14B Seat Heating Element - Driver Cushion (KA1)
E14C Seat Heating Element - Passenger Back (KA1)
E14D Seat Heating Element - Passenger Cushion (KA1)
E18 Rear Defogger Grid X1
E18 Rear Defogger Grid X2
E1G Accent Lamp - Left I/P (SRK or SRM)
E1H Accent Lamp - Right I/P (SRK or SRM)
E1P Accent Lamp - Passenger Door (SRK/SRM)
E17D Outside Rearview Mirror Glass - Driver
E17P Outside Rearview Mirror Glass - Passenger
E29LF Fog Lamp - Left Front (T3U)
E29RF Fog Lamp - Right Front (T3U)
E2LF Side Marker Lamp - Left Front
E2LR Side Marker Lamp - Left Rear
E2RF Side Marker Lamp - Right Front
E2RR Side Marker Lamp - Right Rear
E37A Dome/Reading Lamps
E4C Daytime Running Lamp - Left (T4F)

COMPONENT CONNECTOR END VIEWS - E4D THROUGH K77

cardiagn.com

COMPONENT CONNECTOR END VIEWS - E4D THROUGH K77

Description
E4D Daytime Running Lamp - Right (T4F)
E4LF Turn Signal Lamp - Left Front (T4F)
E4N Park/Turn Signal Lamp - Left (T4A)
E4P Park/Turn Signal Lamp - Right (T4A)
E4RF Turn Signal Lamp - Right Front (T4F)
E5A Backup Lamp - Left
E5AE Tail/Stop and Turn Signal Lamp - Left Inner
E5AF Tail/Stop and Turn Signal Lamp - Right Inner
E5B Backup Lamp - Right
E5W Tail/Stop and Turn Signal Lamp - Left Outer
E5X Tail/Stop and Turn Signal Lamp - Right Outer
E6 Center High Mounted Stop Lamp
E7L License Plate Lamp - Left
E7R License Plate Lamp - Right
E8S Rear Compartment Courtesy Lamp
F105 Passenger Instrument Panel Air Bag
F105L Roof Rail Air Bag - Left
F105R Roof Rail Air Bag - Right
F106L Side Air Bag - Left
F106R Side Air Bag - Right
F107 Steering Wheel Air Bag X1
F107 Steering Wheel Air Bag X2
F112D Seat Belt Retractor Pretensioner - Driver
F112P Seat Belt Retractor Pretensioner - Passenger
G10R Cooling Fan Motor - Right
G13 Generator X1 (L99 or LS3)
G13 Generator X1 (LLT)
G13 Generator X2
G18 High Pressure Fuel Pump (LLT)
G24 Windshield Washer Pump
G6 Brake Booster Pump - Auxiliary (LLT)
K17 Electronic Brake Control Module (EBCM)
K20 Engine Control Module X1 (L99 or LS3)
K20 Engine Control Module X1 (LLT)
K20 Engine Control Module X2 (L99 or LS3)
K20 Engine Control Module X2 (LLT)
K27 Fuel Pump Control Module
K29 Seat Heating Control Module X1 (KA1)
K29 Seat Heating Control Module X2 (KA1)

cardiagn.com

K29 Seat Heating Control Module X3 (KA1)
K33 HVAC Control Module X1
K33 HVAC Control Module X2
K36 Inflatable Restraint Sensing and Diagnostic Module X1
K36 Inflatable Restraint Sensing and Diagnostic Module X2
K41 Object Alarm Control Module X1 (UD7)
K41 Object Alarm Control Module X2 (UD7)
K61 Sunroof Control Module (CF5)
K73 Telematics Communication Interface Control Module X1 (UE1)
K73 Telematics Communication Interface Control Module X2 (UE1)
K77 Remote Control Door Lock Receiver

COMPONENT CONNECTOR END VIEWS - K8 THROUGH Q17A

COMPONENT CONNECTOR END VIEWS - K8 THROUGH Q17A

Description
K8 Blower Motor Control Module X1
K8 Blower Motor Control Module X2
K85 Passenger Presence Detection Module X1
K85 Passenger Presence Detection Module X2
K9 Body Control Module X1
K9 Body Control Module X2
K9 Body Control Module X3
K9 Body Control Module X4
K9 Body Control Module X5
K9 Body Control Module X6
K9 Body Control Module X7
M37 Mode Door Actuator
M40 Rear Compartment Lid Latch
M46 Air Recirculation Door Motor
M47 Reverse Inhibit Solenoid Actuator (M10)
M50D Seat Front Vertical Motor - Driver (AMM)
M51D Seat Horizontal Motor - Driver (AMM)
M55D Seat Rear Vertical Motor - Driver (AMM)
M56D Seat Recline Motor - Driver
M56P Seat Recline Motor - Passenger
M6 Air Temperature Door Actuator
M64 Starter Motor X1
M64 Starter Motor X2
M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC)
M74D Window Motor - Driver

cardiagn.com

M74P Window Motor - Passenger
M75 Windshield Wiper Motor
M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC)
P12A Horn - High Note
P12B Horn - Low Note
P14 Passenger Air Bag Disable Indicator
P16 Instrument Cluster
P19A Speaker - Center Instrument Panel (UQA)
P19G Speaker - Left Front (UQA)
P19G Speaker - Left Front (UQ3)
P19H Speaker - Left Front Tweeter
P19K Speaker - Left Rear (UQA)
P19K Speaker - Left Rear (UQ3)
P19U Speaker - Right Front (UQA)
P19U Speaker - Right Front (UQ3)
P19V Speaker - Right Front Tweeter
P19X Speaker - Right Rear (UQA)
P19X Speaker - Right Rear (UQ3)
P2 Transmission Shift Lever Position Indicator (MYB or MYC)
P26 Auxiliary Gage Module (UMQ)
Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3)
Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT)
Q13 Evaporative Emission (EVAP) Vent Solenoid Valve
Q17A Fuel Injector 1 (L99 or LS3)
Q17A Fuel Injector 1 (LLT)

COMPONENT CONNECTOR END VIEWS - Q17B THROUGH T3

COMPONENT CONNECTOR END VIEWS - Q17B THROUGH T3

Description
Q17B Fuel Injector 2 (L99 or LS3)
Q17B Fuel Injector 2 (LLT)
Q17C Fuel Injector 3 (L99 or LS3)
Q17C Fuel Injector 3 (LLT)
Q17D Fuel Injector 4 (L99 or LS3)
Q17D Fuel Injector 4 (LLT)
Q17E Fuel Injector 5 (L99 or LS3)
Q17E Fuel Injector 5 (LLT)
Q17F Fuel Injector 6 (L99 or LS3)
Q17F Fuel Injector 6 (LLT)
Q17G Fuel Injector 7 (L99 or LS3)

cardiagn.com

Q17H Fuel Injector 8 (L99 or LS3)
Q2 A/C Compressor Clutch
Q34 Skip Shift Solenoid Actuator (M10)
Q38 Throttle Body (L99 or LS3)
Q38 Throttle Body (LLT)
Q43 Valve Lifter Oil Manifold Assembly (L99)
Q6 Camshaft Position Actuator Solenoid Valve (L99)
Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust (LLT)
Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake (LLT)
Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust (LLT)
Q6D Camshaft Position Actuator Solenoid Valve - Bank 2 Intake (LLT)
Q8 Control Solenoid Valve Assembly X1 (MYB or MYC)
Q8 Control Solenoid Valve Assembly X2 (MYB or MYC)
Q8 Control Solenoid Valve Assembly X3 (MYB or MYC)
R14R Rear Window Defogger Noise Filter - Right X1
R14R Rear Window Defogger Noise Filter - Right X2
R6 Data Link Resistor
S25 Garage Door Opener (UG1)
S2L Transmission Manual Shift Switch - Left (MYB or MYC)
S2R Transmission Manual Shift Switch - Right (MYB or MYC)
S30 Headlamp Switch
S39 Ignition Switch
S52 Outside Rearview Mirror Switch
S58 Rear Compartment Lid Unlatch Switch
S64D Seat Adjuster Switch - Driver (AH3)
S64D Seat Adjuster Switch - Driver (AMM)
S64P Seat Adjuster Switch - Passenger
S70L Steering Wheel Controls Switch - Left
S70R Steering Wheel Controls Switch - Right (NZL)
S72 Sunroof Switch (CF5)
S75 Traction Control Switch
S78 Turn Signal/Multifunction Switch
S79D Window Switch - Driver
S79P Window Switch - Passenger
S82 Windshield Wiper/Washer Switch
T11 Multimedia Player Interface Module X1 (USR)
T3 Audio Amplifier X1 (UQA)
T3 Audio Amplifier X2 (UQA)
T3 Audio Amplifier X3 (UQA)

COMPONENT CONNECTOR END VIEWS - T8A THROUGH X85

cardiagn.com

COMPONENT CONNECTOR END VIEWS - T8A THROUGH X85

Description
T8A Ignition Coil 1 (L99 or LS3)
T8A Ignition Coil 1 (LLT)
T8B Ignition Coil 2 (L99 or LS3)
T8B Ignition Coil 2 (LLT)
T8C Ignition Coil 3 (L99 or LS3)
T8C Ignition Coil 3 (LLT)
T8D Ignition Coil 4 (L99 or LS3)
T8D Ignition Coil 4 (LLT)
T8E Ignition Coil 5 (L99 or LS3)
T8E Ignition Coil 5 (LLT)
T8F Ignition Coil 6 (L99 or LS3)
T8F Ignition Coil 6 (LLT)
T8G Ignition Coil 7 (L99 or LS3)
T8H Ignition Coil 8 (L99 or LS3)
X80D Accessory Power Receptacle - Center Console Compartment
X80H Accessory Power Receptacle - Center Console
X83 Auxiliary Audio Input (USR)
X84 Data Link Connector
X85 Steering Wheel Air Bag Coil X1
X85 Steering Wheel Air Bag Coil X2
X85 Steering Wheel Air Bag Coil X3

cardiagn.com

2010 ELECTRICAL

Wiring Systems And Power Management - Component Connector End Views - A10 Through B52D - Camaro

COMPONENT CONNECTOR END VIEWS - A10 THROUGH B52D

A10 INSIDE REARVIEW MIRROR

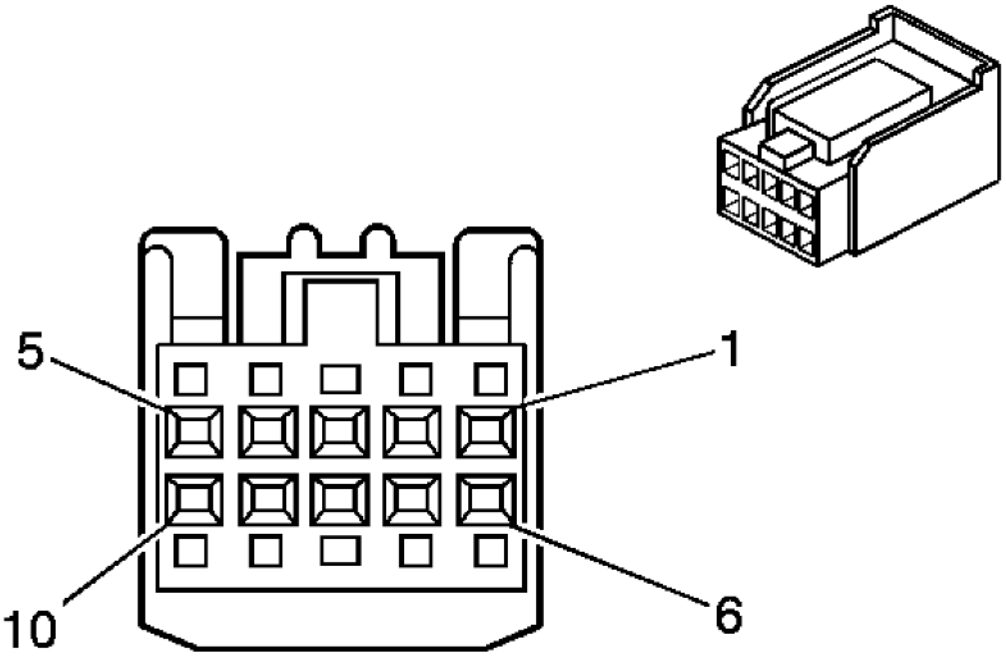


Fig. 1: A10 Inside Rearview Mirror
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13641322
- Service: 19177676
- Description: 10-Way F Kaizen 0.64 Series (BK)

Terminal Part Information

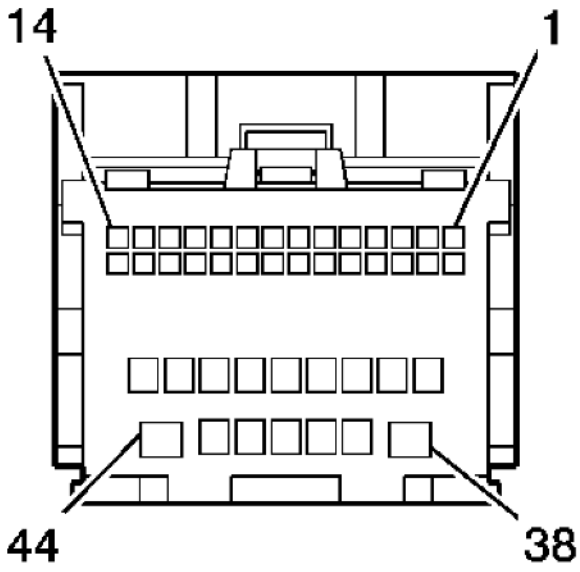
cardiagn.com

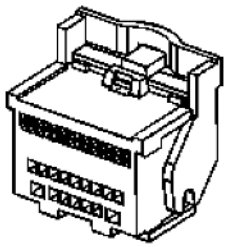
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

A10 Inside Rearview Mirror

Pin	Wire	Circuit	Function
1	0.35 L-GN	24	Backup Lamp Supply Voltage
2	0.35 PK	339	Ignition Voltage
3	0.35 D-GN/WH	2514	Keypad Signal (UE1)
4	0.35 L-GN/BK	2515	Keypad Supply Voltage (UE1)
5	0.35 BK	1550	Ground
6	0.35 YE/BK	2516	Keypad Green LED Signal (UE1)
7	0.35 BN/WH	2517	Keypad Red LED Signal (UE1)
8	0.35 PK	1691	Low Reference
9	0.35 GY	1690	Automatic Day/Night Mirror Signal
10	-	-	Not Used

A11 RADIO





cardiagn.com

Fig. 2: A11 Radio
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13589609
- Service: 88988902
- Description: 44-Way F GT 150/280 64 Series (BK)

Terminal Part Information

- Pins: 2, 3, 6, 10, 11, 13, 16, 17, 20, 23, 24, 27, 28
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

- Pins: 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 43
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: Pins 29, 30, 31, 32, 33, 34, 37, 39, 40, 41, 42, 43 - E/C
- Core/Insulation Crimp: Pins 31, 32, 33, 34, 39, 40, 41, 42 - C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: 38, 44
- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

A11 Radio

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.35 YE	7459	Serial Data
3	0.35 BARE	7460	Drain Wire
4-5	-	-	Not Used
6	0.35 L-BU/BK	659	Cellular Telephone Voice Signal (-)
7-9	-	-	Not Used
10	0.35 TN/WH	3378	Auxiliary Audio Jack Right (+)
11	0.35 PK	2060	Auxiliary Detection Signal
12	-	-	Not Used

cardiagn.com

13	0.35 L-GN	3291	Center Stack Wake - Up Signal
14-15	-	-	Not Used
16	0.35 TN	7458	Serial Data
17	0.35 BARE	3375	Drain Wire
18-19	-	-	Not Used
20	0.35 D-BU	658	Cellular Telephone Voice Signal (+)
21-22	-	-	Not Used
23	0.35 D-GN/WH	3376	Auxiliary Audio Common Signal
24	0.35 YE	3377	Auxiliary Audio Jack Left (+)
25-26	-	-	Not Used
27	0.35 PK	3290	Center Stack Reset Signal
28	0.35 D-GN	5060	Low Speed GMLAN Serial Data
29	0.35 BARE	2011	Drain Wire (UQA)
30	0.35 BARE	2099	Drain Wire (UQA)
31	0.8 D-GN	117	Right Front Speaker Output (-) (UQ3)
	0.35 OG/BK	1546	Right Front Low Level Audio Signal (-) (UQA)
32	0.8 GY	118	Left Front Speaker Output (-) (UQ3)
	0.35 D-GN	1947	Left Front Low Level Audio Signal (-) (UQA)
33	0.8 L-BU	115	Right Rear Speaker Output (-) (UQ3)
	0.35 TN	1946	Right Rear Low Level Audio Signal (-) (UQA)
34	0.8 YE	116	Left Rear Speaker Output (-) (UQ3)
	0.35 BN	1999	Left Rear Low Level Audio Signal (-) (UQA)
35-36	-	-	Not Used
37	0.35 OG	6978	Amplifier Control (UQA)
38	1 BK	1750	Ground
39	0.8 L-GN	200	Right Front Speaker Output (+) (UQ3)
	0.35 L-GN/WH	512	Right Front Low Level Audio Signal (+) (UQA)
40	0.8 TN	201	Left Front Speaker Output (+) (UQ3)
	0.35 TN	511	Left Front Low Level Audio Signal (+) (UQA)
41	0.8 D-BU	46	Right Rear Speaker Output (+) (UQ3)
	0.35 D-BU	546	Right Rear Low Level Audio Signal (+) (UQA)
42	0.8 BN	199	Left Rear Speaker Output (+) (UQ3)
	0.35 BN/WH	599	Left Rear Low Level Audio Signal (+) (UQA)
43	0.35 WH	7066	Remote Enable (UQA)

cardiagn.com

44	1 RD/WH	340	Battery Positive Voltage

A20 RADIO/HVAC CONTROLS

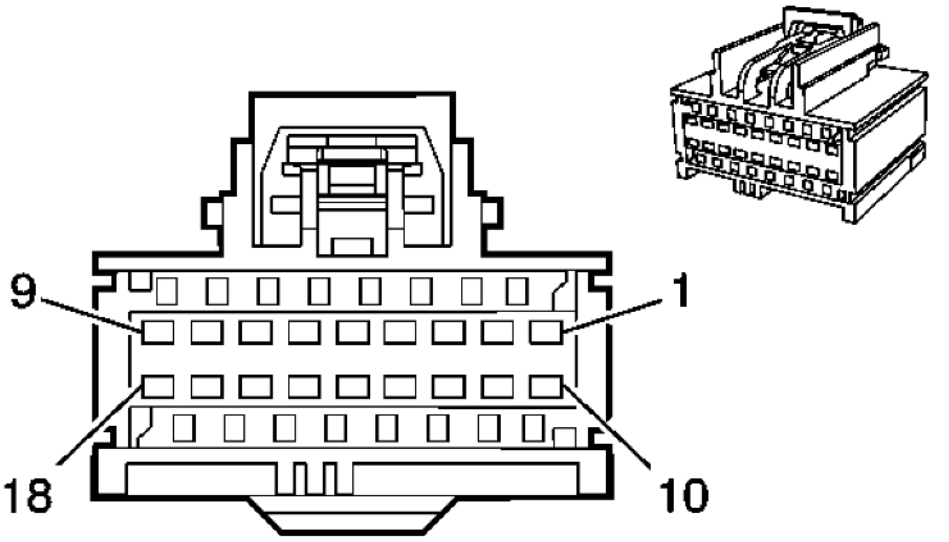


Fig. 3: A20 Radio/HVAC Controls
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13607274
- Service: 13317844
- Description: 18-Way F Kaizen 64 Series (NA)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

cardiagn.com

A20 Radio/HVAC Controls

Pin	Wire	Circuit	Function
1	0.35 TN	7458	Serial Data
2	0.35 YE	7459	Serial Data
3	0.35 BARE	7460	Drain Wire
4	0.35 L-GN	3291	Center Stack Wake - Up Signal
5-7	-	-	Not Used
8	0.35 YE	7531	Linear Interconnect Network 9
9	-	-	Not Used
10	0.5 RD/WH	3240	Battery Positive Voltage
11	-	-	Not Used
12	0.35 PK/BK	780	Driver Door Lock Switch Lock Signal
13	0.35 OG/BK	781	Driver Door Lock Switch Unlock Signal
14	-	-	Not Used
15	0.35 PK	3290	Center Stack Reset Signal
16	0.35 WH	111	Hazard Switch Signal
17	0.5 BK	1650	Ground
18	-	-	Not Used

A23D DOOR LATCH ASSEMBLY - DRIVER

cardiagn.com

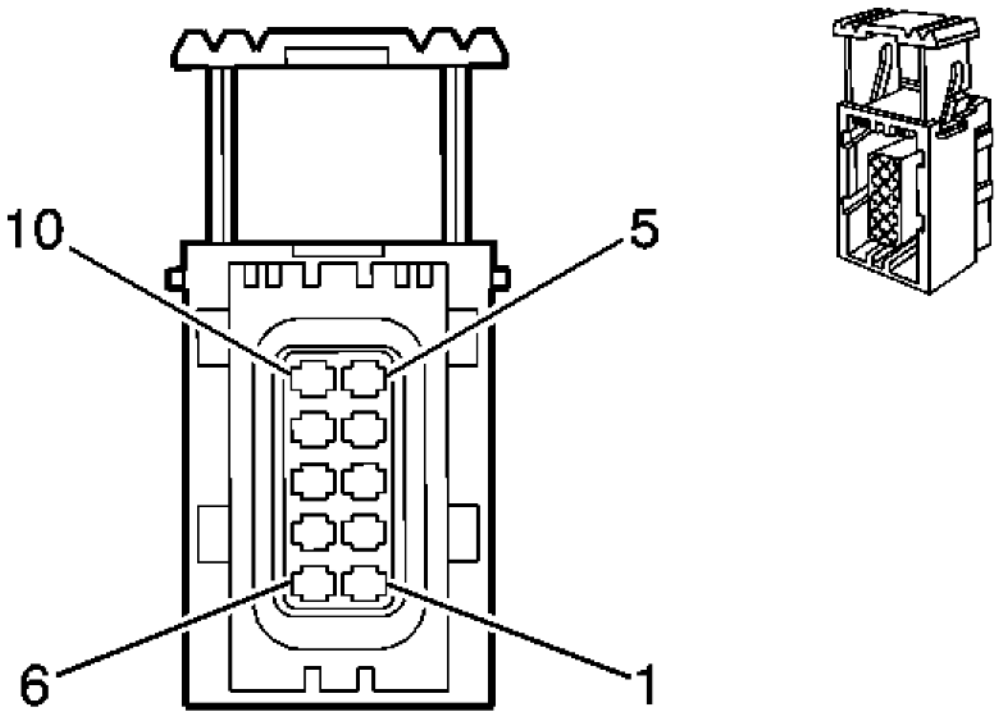


Fig. 4: A23D Door Latch Assembly - Driver
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 10768367
- Service: 88952463
- Description: 10-Way F Sealed (BK)

Terminal Part Information

- Pins: 2, 3
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

cardiagn.com

- Pins: 4, 6, 8
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

A23D Door Latch Assembly - Driver

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.8 TN	294	Door Lock Actuator Lock Control
3	0.8 GY	5911	Driver Door Lock Motor Unlock Control
4	0.35 D-GN	3270	Driver Door Lock Status Signal
5	-	-	Not Used
6	0.35 GY/BK	745	Left Front Door Ajar Switch Signal
7	-	-	Not Used
8	0.35 BK	850	Ground
9-10	-	-	Not Used

A23P DOOR LATCH ASSEMBLY - PASSENGER

cardiagn.com

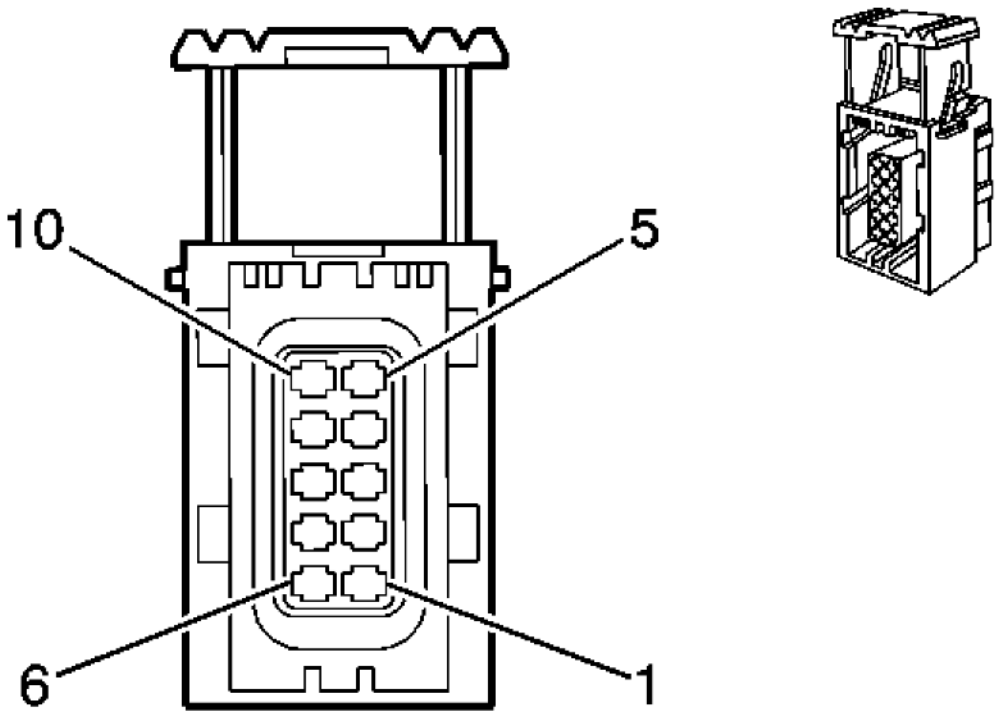


Fig. 5: A23P Door Latch Assembly - Passenger
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Door
- OEM: 10768367
- Service: 88952463
- Description: 10-Way F Sealed (BK)

Terminal Part Information

- Pins: 1, 3
- Terminal/Tray: 4-969005-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

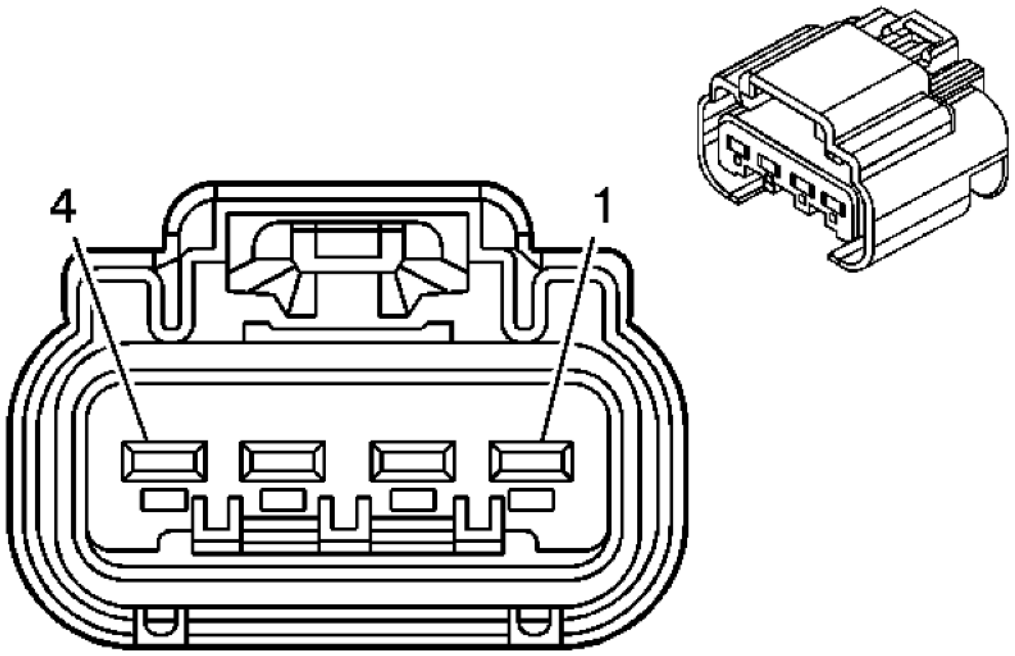
cardiagn.com

- Pins: 7, 8
- Terminal/Tray: 964274-2/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

A23P Door Latch Assembly - Passenger

Pin	Wire	Circuit	Function
1	0.35 TN/WH	746	Right Front Door Ajar Switch Signal
2	-	-	Not Used
3	0.35 BK	2350	Ground
4-6	-	-	Not Used
7	0.8 TN	294	Door Lock Actuator Lock Control
8	0.8 GY	295	Passenger Door Unlock Actuator Lock Control
9-10	-	-	Not Used

A7 FUEL PUMP AND LEVEL SENSOR ASSEMBLY



cardiagn.com

Fig. 6: A7 Fuel Pump and Level Sensor Assembly
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 13527865
- Service: Service by Harness - See Part Catalog
- Description: 4-Way F GT 280 Series, Sealed (NA)

Terminal Part Information

- Pins: 1, 2
- Terminal/Tray: 15304720/19
- Core/Insulation Crimp: 4/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: 3, 4
- Terminal/Tray: 15304719/19
- Core/Insulation Crimp: E/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

A7 Fuel Pump and Level Sensor Assembly

Pin	Wire	Circuit	Function
1	2 RD	120	Fuel Pump Supply Voltage (Early Production)
	2 GY	120	Fuel Pump Supply Voltage (Late Production)
2	2 BK	1580	Low Reference (Early Production)
	2 PK	1580	Low Reference (Late Production)
3	0.5 BN/WH	6281	Low Reference
4	0.5 WH	1936	Fuel Level Sensor Signal (Early Production)
	0.5 D-BU	1936	Fuel Level Sensor Signal (Late Production)

A9A OUTSIDE REARVIEW MIRROR - DRIVER

cardiagn.com

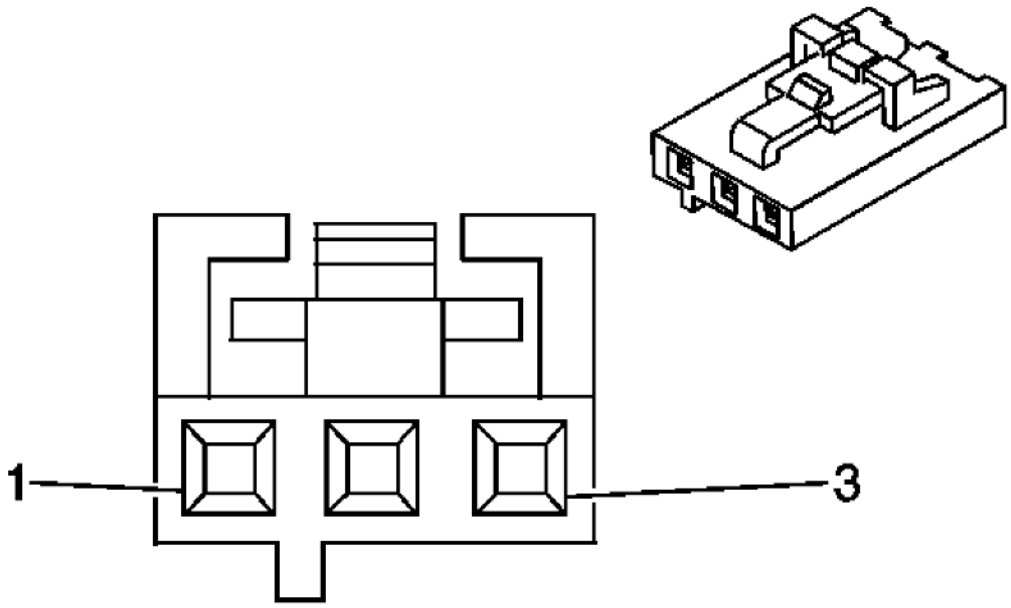


Fig. 7: A9A Outside Rearview Mirror - Driver
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Driver
- OEM: 50-57-9403
- Service: 21019417
- Description: 3-Way F SL Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 50-57-9403
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

A9A Outside Rearview Mirror - Driver

Pin	Wire	Circuit	Function
1	0.5 WH	81	Driver Mirror Motor Right Control
2	0.5 GY	329	Driver Mirror Motor Left/Up Control
3	0.5 YE	89	Driver Mirror Motor Down Control

cardiagn.com

A9B OUTSIDE REARVIEW MIRROR - PASSENGER

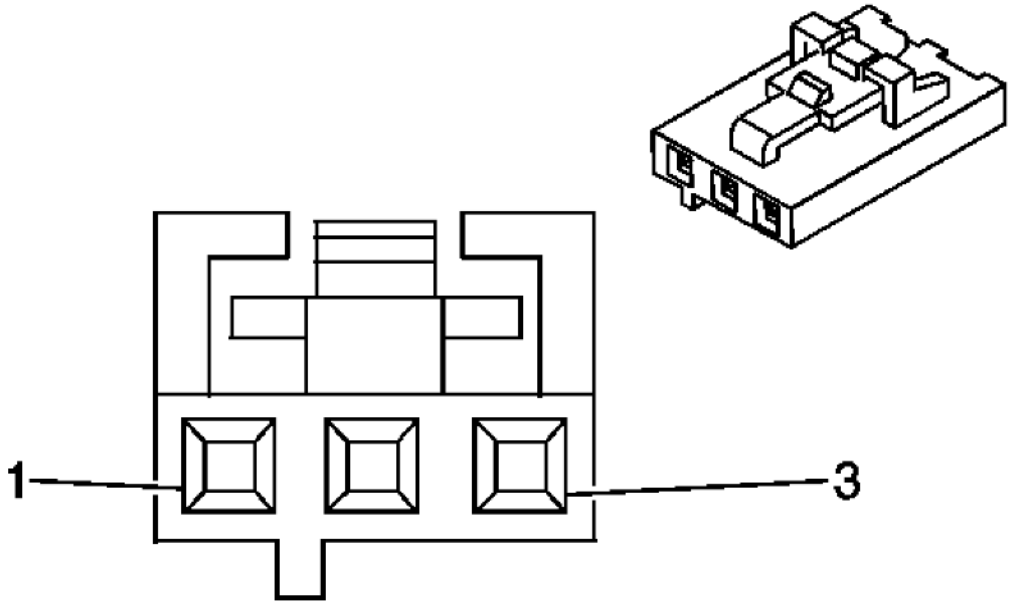


Fig. 8: A9B Outside Rearview Mirror - Passenger
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Passenger
- OEM: 50-57-9403
- Service: 21019417
- Description: 3-Way F SL Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 50-57-9403
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

A9B Outside Rearview Mirror - Passenger

Pin	Wire	Circuit	Function
1	0.5 OG/WH	881	Passenger Mirror Motor Right Control
2	0.5 TN/WH	330	Passenger Mirror Motor Left/Up Control

cardiagn.com

3	0.5 BN/WH	889	Passenger Mirror Motor Down Control

B1 A/C REFRIGERANT PRESSURE SENSOR

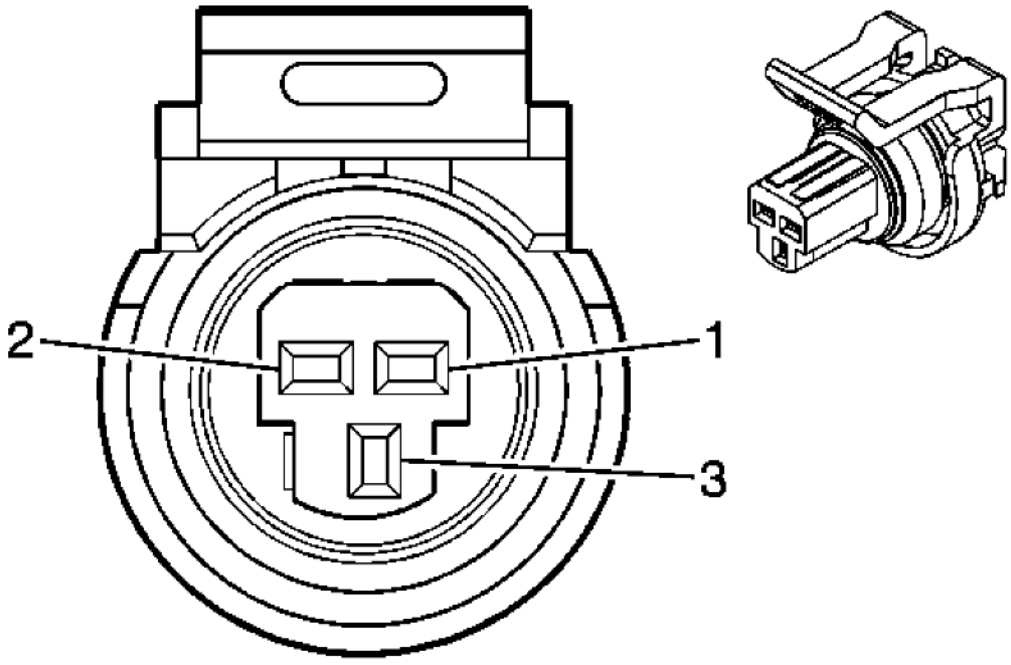


Fig. 9: B1 A/C Refrigerant Pressure Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13602480
- Service: 8898301
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

B1 A/C Refrigerant Pressure Sensor

Pin	Wire	Circuit	Function
1	0.5 TN	5514	Low Reference
2	0.5 GY	2700	5-Volt Reference 1
3	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal

B101 IMMOBILIZER ANTENNA

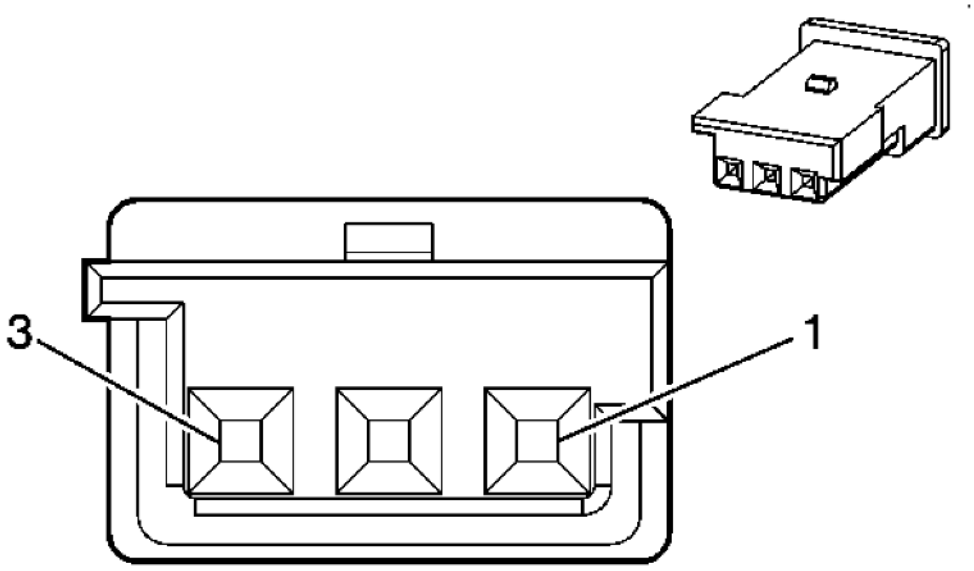


Fig. 10: B101 Immobilizer Antenna
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13604026
- Service: 13316117
- Description: 3-Way F Micro Quadlok Series (PU)

Terminal Part Information

- Terminal/Tray: 928999-5/15

cardiagn.com

- Core/Insulation Crimp: H/H
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

B101 Immobilizer Antenna

Pin	Wire	Circuit	Function
1	0.35 D-GN/WH	3277	Low Reference
2	0.35 L-BU	7533	Linear Interconnect Network 11
3	0.35 D-GN	3166	Battery Positive Voltage

B107 ACCELERATOR PEDAL POSITION SENSOR

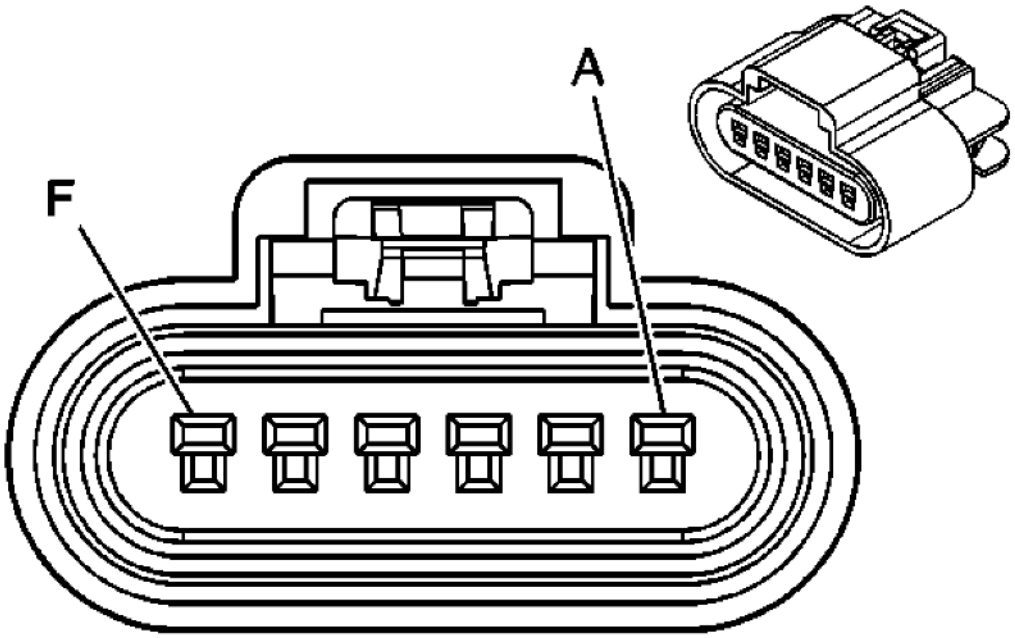


Fig. 11: B107 Accelerator Pedal Position Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15397577
- Service: 88988944

cardiagn.com

- Description: 6-Way F GT 150 Series, Sealed (BK)

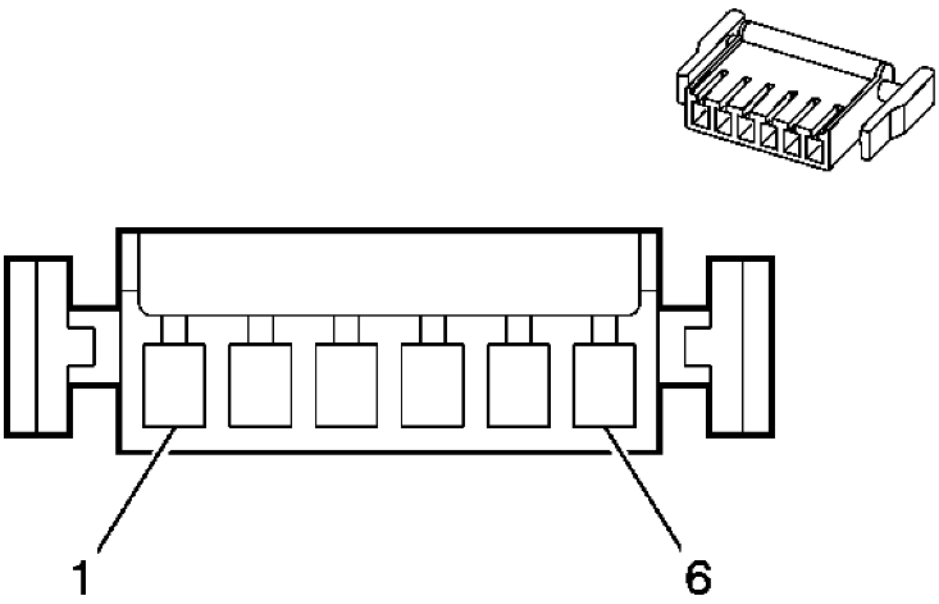
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B107 Accelerator Pedal Position Sensor

Pin	Wire	Circuit	Function
A	0.35 PU	1272	Low Reference
B	0.35 L-BU	1162	APP Sensor 2 Signal
C	0.35 TN	1274	5-Volt Reference 3 (LLT)
			5-Volt Reference 1 (L99/LS3)
D	0.35 BN	1271	Low Reference
E	0.35 D-BU	1161	APP Sensor 1 Signal
F	0.35 WH/BK	1164	5-Volt Reference 2

B10 AMBIENT LIGHT SENSOR



cardiagn.com

Fig. 12: B10 Ambient Light Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15344190
- Service: 24419225
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 5 - H/H
- Core/Insulation Crimp: Pin 6 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

B10 Ambient Light Sensor

Pin	Wire	Circuit	Function
1	0.35 GY	728	Security Indicator Control
2-4	-	-	Not Used
5	0.35 WH	278	Ambient Light Sensor Signal
6	0.5 BK	1650	Ground

B115 VEHICLE SPEED SENSOR (MV5)

cardiagn.com

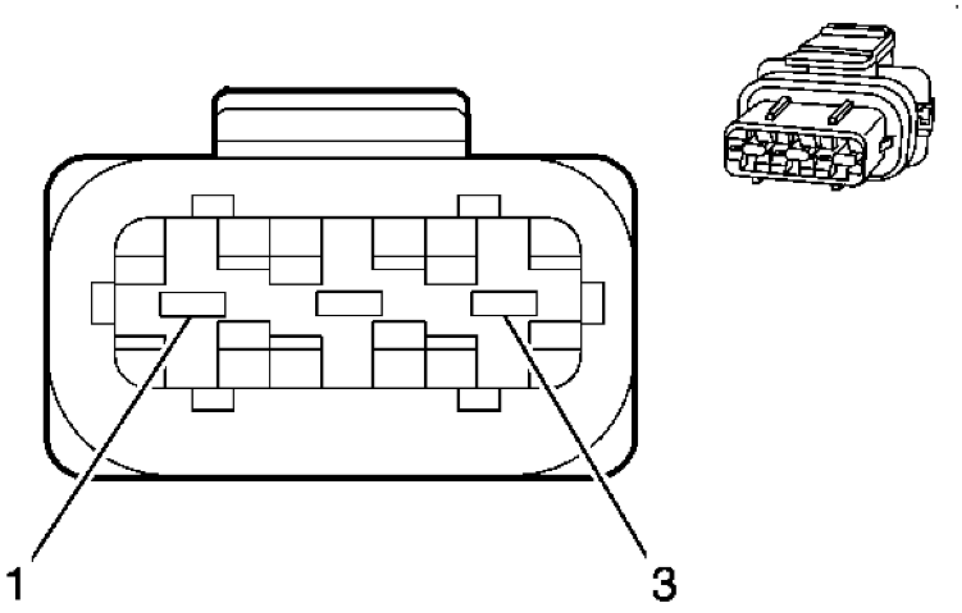


Fig. 13: B115 Vehicle Speed Sensor (MV5)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12185331
- Service: 15306391
- Description: 3-Way F 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 4-964286-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

B115 Vehicle Speed Sensor (MV5)

Pin	Wire	Circuit	Function
1	0.5 GY/BK	6355	VSS Signal High
2	0.5 BK/WH	451	Ground

cardiagn.com

3	0.5 PK	239	Ignition Voltage

B115 VEHICLE SPEED SENSOR (M10)

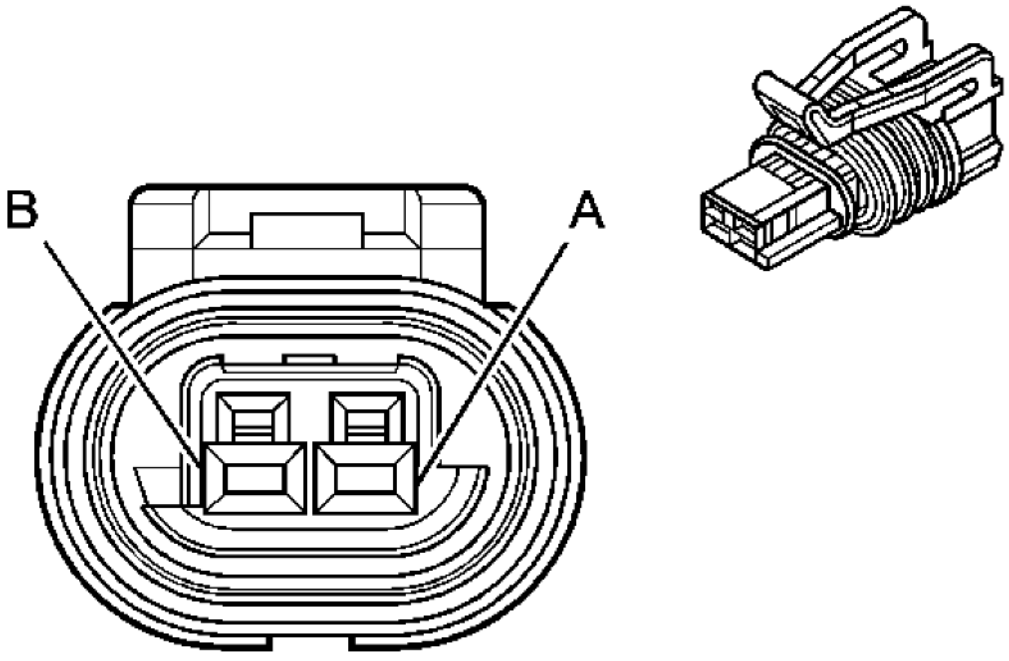


Fig. 14: B115 Vehicle Speed Sensor (M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15449028
- Service: 88987993
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

B115 Vehicle Speed Sensor (M10)

Pin	Wire	Circuit	Function
A	0.5 PU/WH	6356	VSS Signal Low
B	0.5 GY/BK	6355	VSS Signal High

B119 MULTI-AXIS ACCELERATION SENSOR

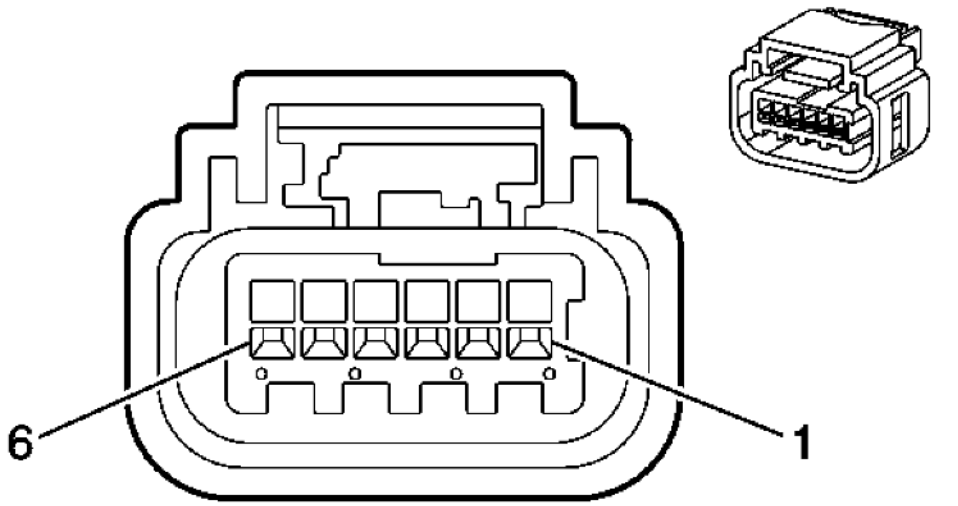


Fig. 15: B119 Multi-Axis Acceleration Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13654947
- Service: 19178521
- Description: 6-Way F 0.64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B119 Multi-Axis Acceleration Sensor

Pin	Wire	Circuit	Function
1	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
2	-	-	Not Available
3	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
4	-	-	Not Available
5	0.35 D-GN	2087	12-Volt Reference
6	0.5 BK	850	Ground

B150 FUEL TANK PRESSURE SENSOR

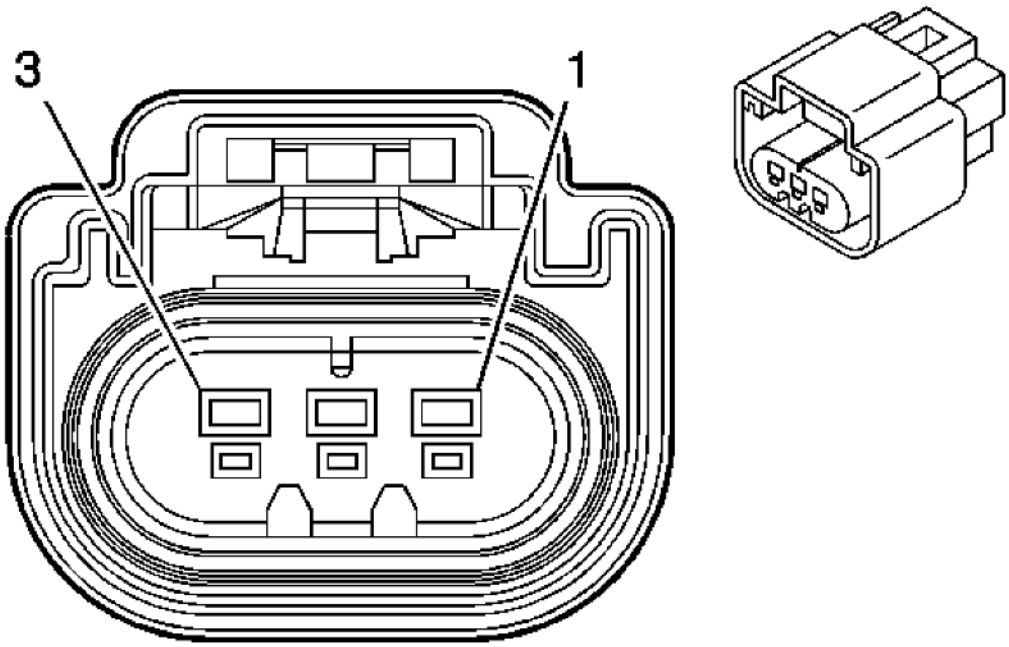


Fig. 16: B150 Fuel Tank Pressure Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank

cardiagn.com

- OEM: 13511996
- Service: Service by Harness - See Part Catalog
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B150 Fuel Tank Pressure Sensor

Pin	Wire	Circuit	Function
1	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal
2	0.5 BN/WH	6281	Low Reference
3	0.5 OG	2709	5-Volt Reference 1 (Early Production)
	0.5 GY	2709	5-Volt Reference 1 (Late Production)

B16 BACKUP LAMP SWITCH (MV5)

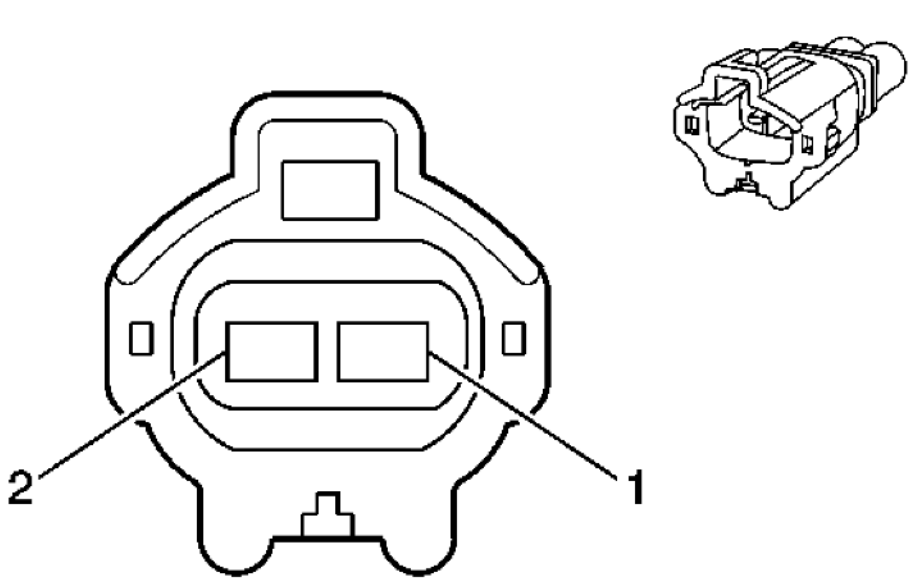


Fig. 17: B16 Backup Lamp Switch (MV5)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13655976
- Service: 13505906
- Description: 2-Way M 090 II Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4025/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-19 (BK)

B16 Backup Lamp Switch (MV5)

Pin	Wire	Circuit	Function
1	0.35 L-GN	5007	Backup Lamp Switch Signal
2	0.35 BK/WH	451	Ground

B16 BACKUP LAMP SWITCH (M10)

cardiagn.com

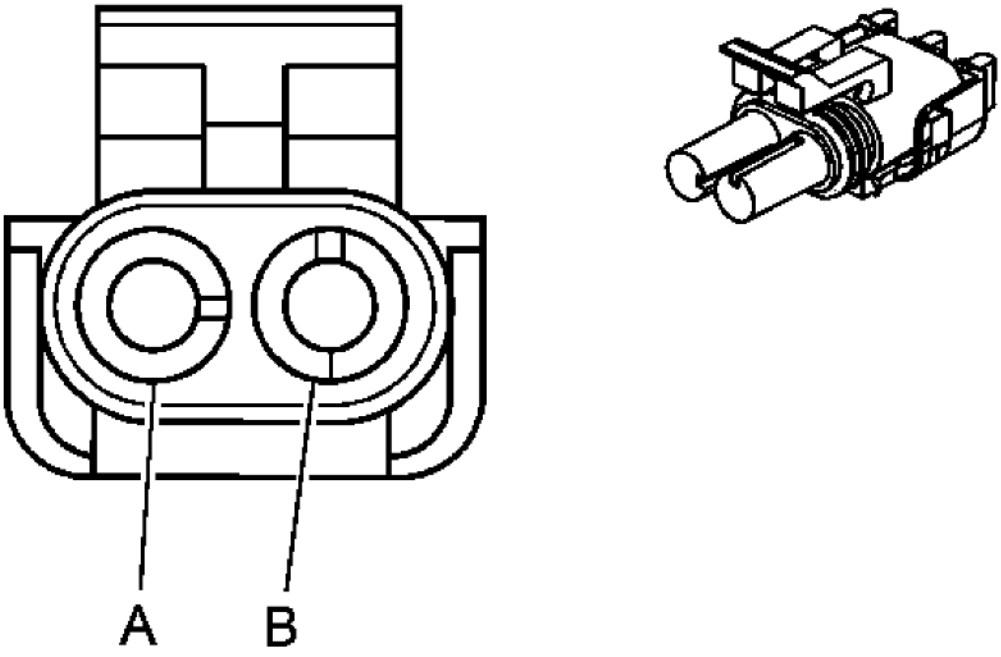


Fig. 18: B16 Backup Lamp Switch (M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12015792
- Service: 12126452
- Description: 2-Way F Weather Pack Series (BK)

Terminal Part Information

- Terminal/Tray: 12089188/3
- Core/Insulation Crimp: Pin A - See Terminal Repair Kit
- Core/Insulation Crimp: Pin B - E/5
- Release Tool: 12014012-1
- Test Probe: J-35616-8 (OG)

B16 Backup Lamp Switch (M10)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 L-GN	5007	Backup Lamp Switch Signal
B	0.5 BK/WH	451	Ground

B173 MANUAL TRANSMISSION FLUID TEMPERATURE SENSOR (MV5 OR M10)

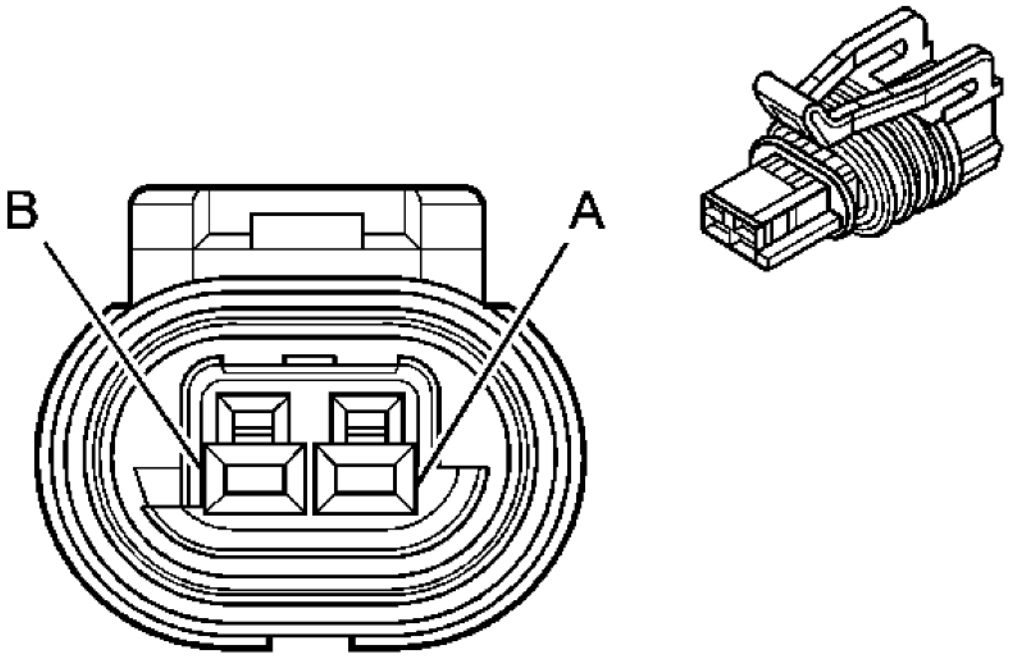


Fig. 19: B173 Manual Transmission Fluid Temperature Sensor (MV5 or M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15449028
- Service: 88987993
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247

cardiagn.com

- Test Probe: J-35616-2A (GY)

B173 Manual Transmission Fluid Temperature Sensor (MV5 or M10)

Pin	Wire	Circuit	Function
A	0.5 BK	2755	Low Reference (MV5)
	0.5 OG/BK	586	Low Reference (M10)
B	0.35 TN/WH	585	Transmission Fluid Temperature Sensor Signal (MV5)
	0.5 TN/WH	585	Transmission Fluid Temperature Sensor Signal (M10)

B18 BATTERY CURRENT SENSOR

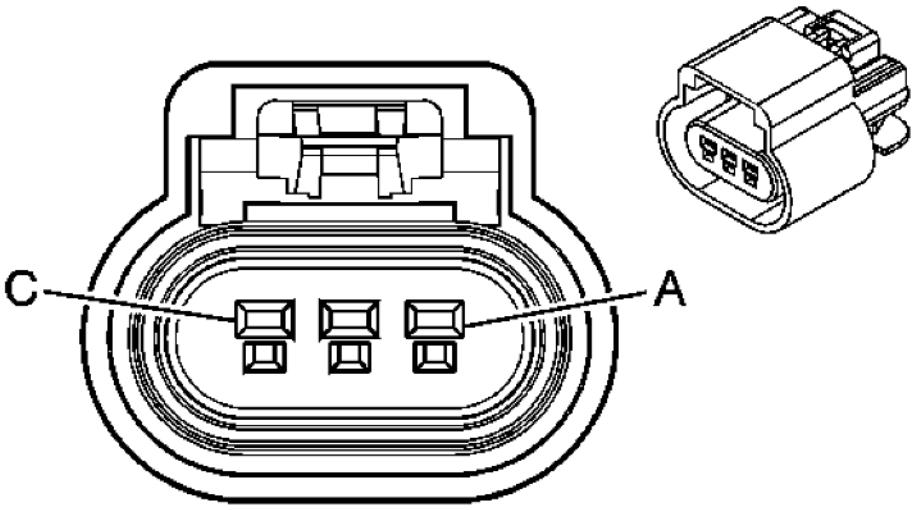


Fig. 20: B18 Battery Current Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15326808

cardiagn.com

- Service: 19177527
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B18 Battery Current Sensor

Pin	Wire	Circuit	Function
A	0.5 PK	5076	Current Sensor Voltage
B	0.5 BN	5077	Low Reference
C	0.5 WH	5075	Current Sensor Signal

B19B BRAKE BOOSTER VACUUM SENSOR (L99)

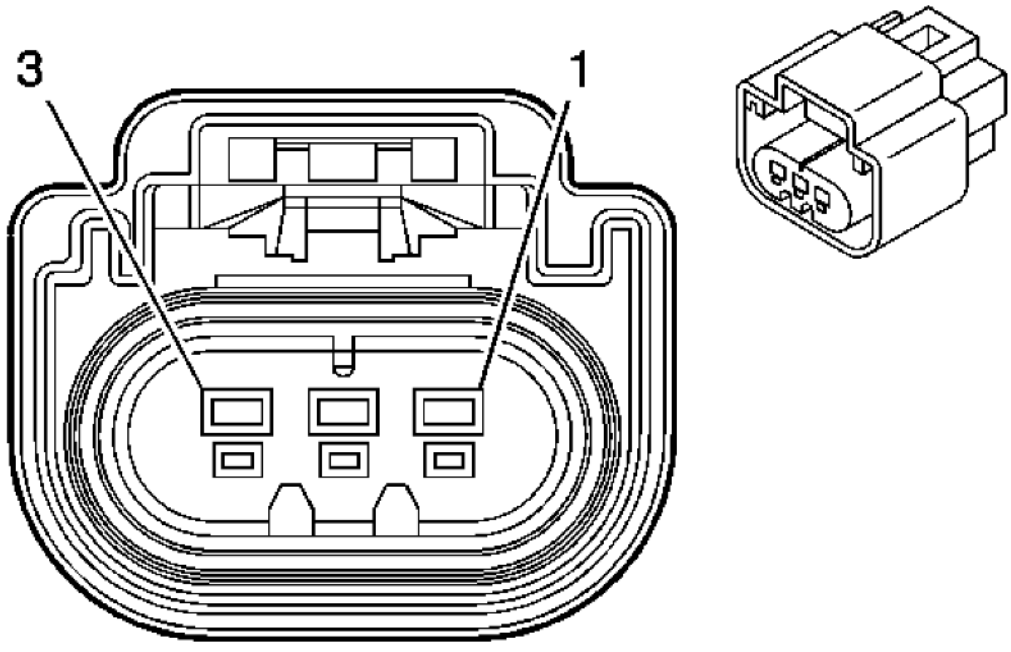


Fig. 21: B19B Brake Booster Vacuum Sensor (L99)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 13511996
- Service: 19149288
- Description: 3-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B19B Brake Booster Vacuum Sensor (L99)

Pin	Wire	Circuit	Function
1	0.5 OG	6030	Brake Booster Vacuum Sensor Signal
2	0.5 YE/BK	6032	Low Reference
3	0.5 GY	6031	5-Volt Reference 2

B20 BRAKE FLUID LEVEL SWITCH

cardiagn.com

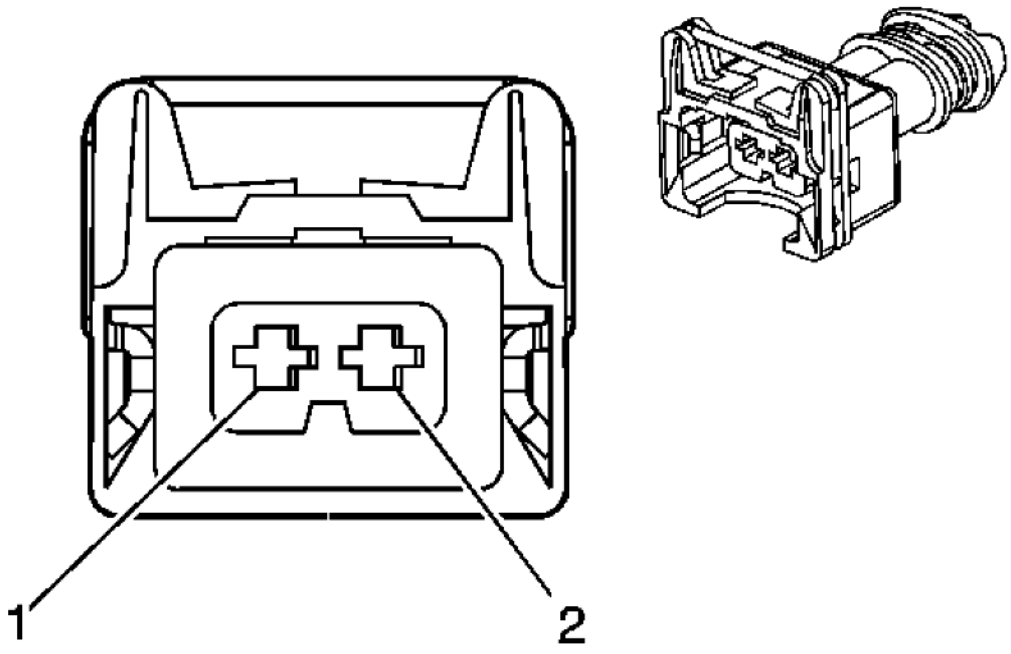


Fig. 22: B20 Brake Fluid Level Switch
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 12196895
- Service: 13505904
- Description: 2-Way F 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 60012941/21
- Core/Insulation Crimp: C/1
- Release Tool: J-38125-557
- Test Probe: J-35616-4A (PU)

B20 Brake Fluid Level Switch

Pin	Wire	Circuit	Function
1	0.5 PU	333	Brake Fluid Level Sensor Signal
2	0.5 BK	1050	Ground

cardiagn.com

B22 BRAKE PEDAL POSITION SENSOR

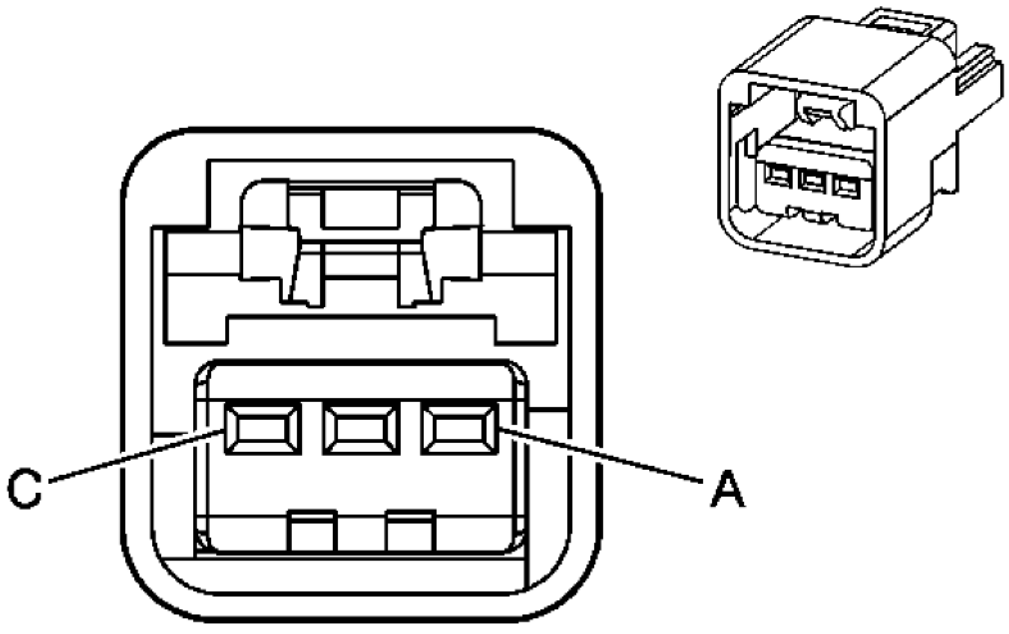


Fig. 23: B22 Brake Pedal Position Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15332132
- Service: 88953364
- Description: 3-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B22 Brake Pedal Position Sensor

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 GY	5381	5-Volt Reference
B	0.35 YE	5361	Brake Pedal Position Sensor Signal
C	0.35 L-BU/BK	853	Low Reference

B23 CAMSHAFT POSITION SENSOR (L99/LS3)

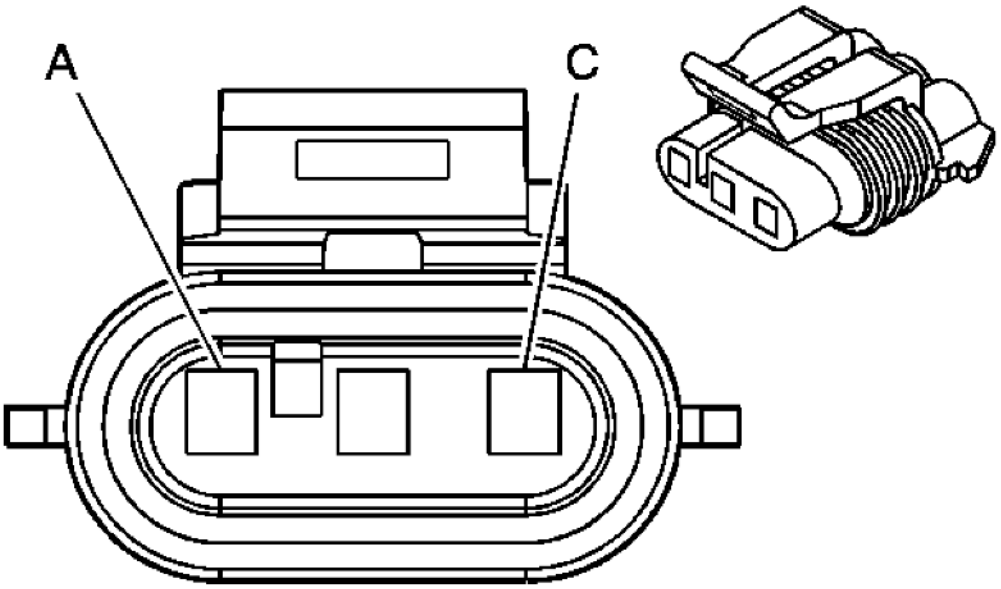


Fig. 24: B23 Camshaft Position Sensor (L99/LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Camshaft Position (CMP) Sensor and Camshaft Position (CMP) Actuator Solenoid Valve
- OEM: 12059595
- Service: 88986451
- Description: 3-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool/Test Probe: 12094429/J-35616-14 (GN)

cardiagn.com

B23 Camshaft Position Sensor (L99/LS3)

Pin	Wire	Circuit	Function
A	0.5 D-BU	6259	5-Volt Reference 1
B	0.5 BN	6266	Low Reference
C	0.5 D-BU/WH	6265	Camshaft Position Signal

B23A CAMSHAFT POSITION SENSOR - BANK 1 EXHAUST (LLT)

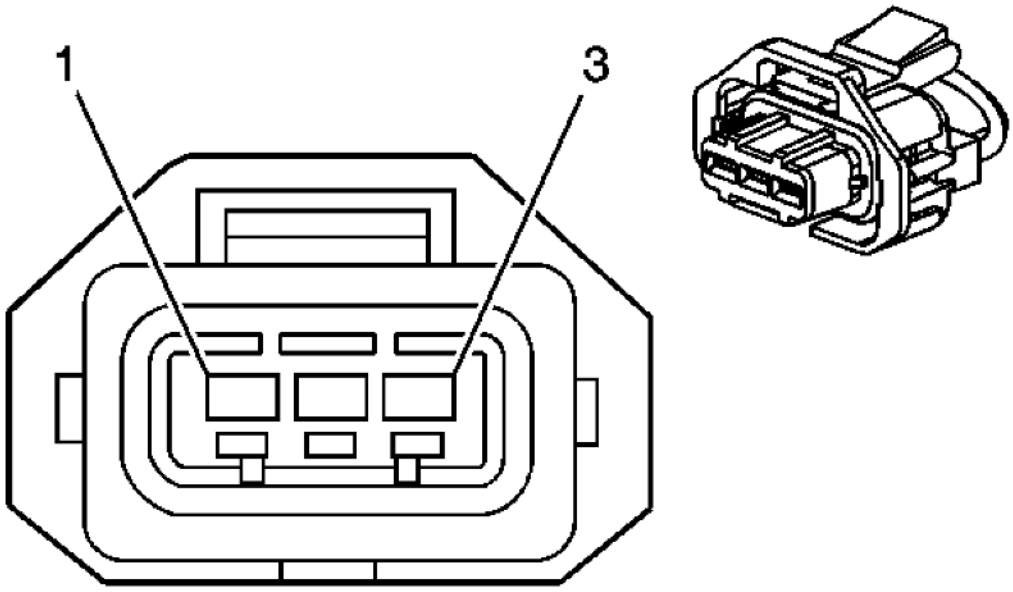


Fig. 25: B23A Camshaft Position Sensor - Bank 1 Exhaust (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339753
- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561

cardiagn.com

- Test Probe: J-35616-35 (VT)

B23A Camshaft Position Sensor - Bank 1 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 D-GN	5273	Camshaft Position (CMP) Sensor - Exhaust Bank 1 Signal
3	0.5 GY	705	5-Volt Reference 2

B23B CAMSHAFT POSITION SENSOR - BANK 1 INTAKE (LLT)

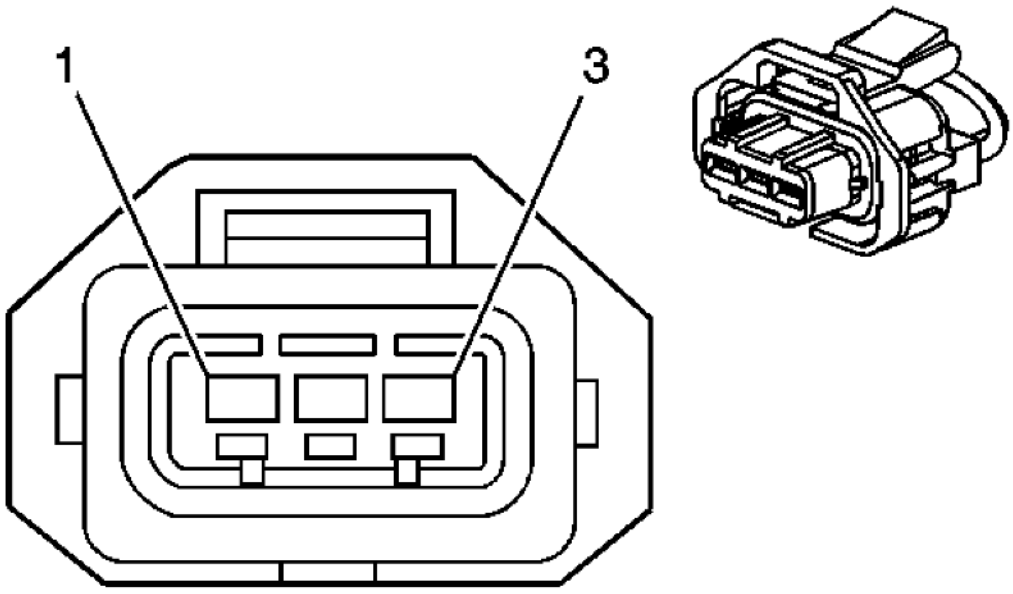


Fig. 26: B23B Camshaft Position Sensor - Bank 1 Intake (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339753
- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B23B Camshaft Position Sensor - Bank 1 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 OG	5275	Camshaft Position (CMP) Sensor - Intake Bank 1 Signal
3	0.5 GY	705	5-Volt Reference 2

B23C CAMSHAFT POSITION SENSOR - BANK 2 EXHAUST (LLT)

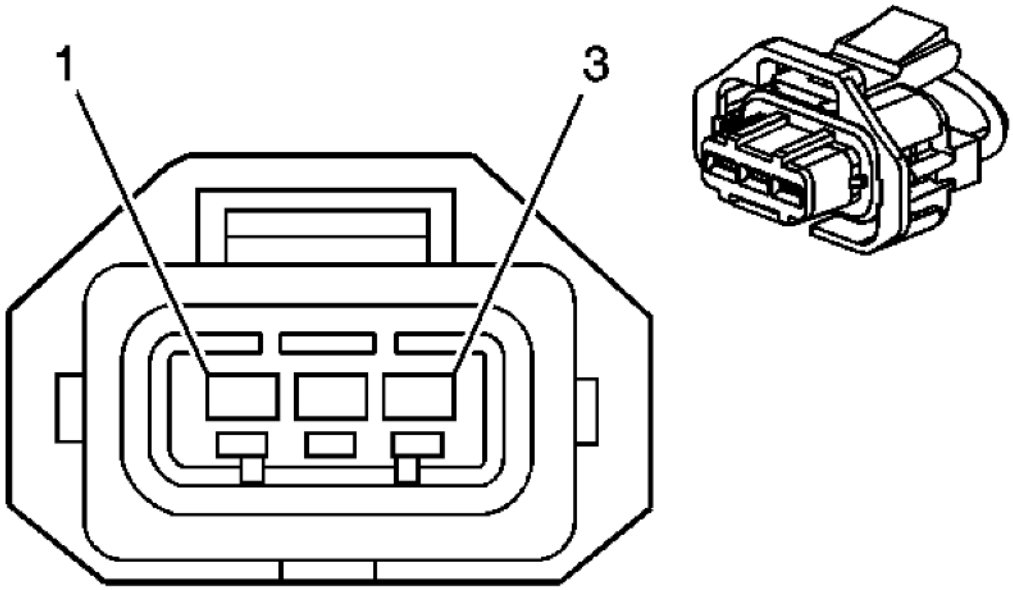


Fig. 27: B23C Camshaft Position Sensor - Bank 2 Exhaust (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339753

cardiagn.com

- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B23C Camshaft Position Sensor - Bank 2 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 PU	5274	Camshaft Position (CMP) Sensor - Exhaust Bank 2 Signal
3	0.5 GY	705	5-Volt Reference 2

B23D CAMSHAFT POSITION SENSOR - BANK 2 INTAKE (LLT)

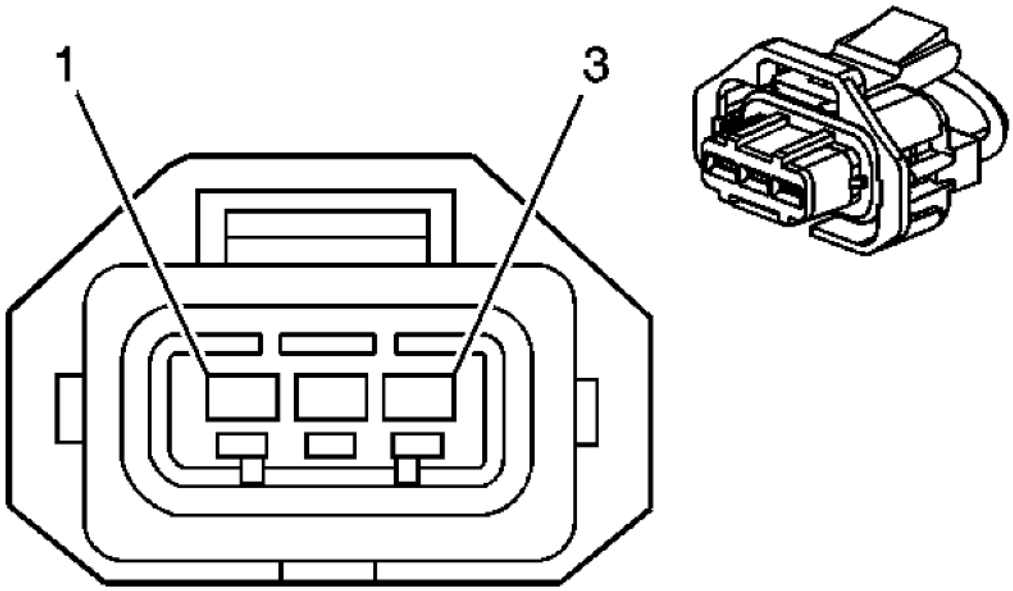


Fig. 28: B23D Camshaft Position Sensor - Bank 2 Intake (LLT)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15339753
- Service: 88988595
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B23D Camshaft Position Sensor - Bank 2 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	552	Low Reference
2	0.5 YE	5276	Camshaft Position (CMP) Sensor - Intake Bank 2 Signal
3	0.5 GY	705	5-Volt Reference 2

B24 CELLULAR PHONE MICROPHONE (UE1)

cardiagn.com

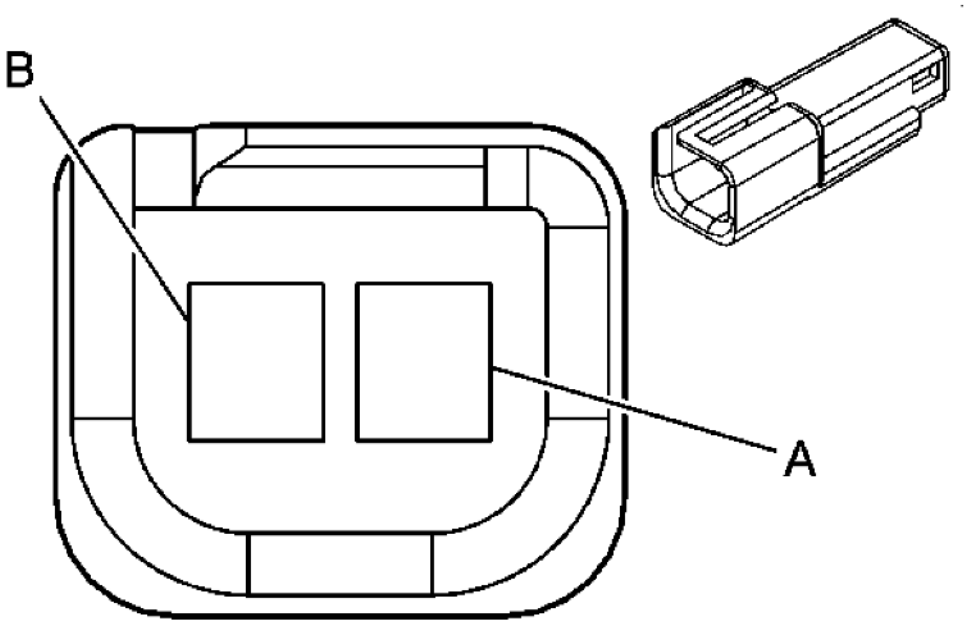


Fig. 29: B24 Cellular Phone Microphone (UE1)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 12047663
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B24 Cellular Phone Microphone (UE1)

Pin	Wire	Circuit	Function
A	0.35 BARE	654	Cellular Microphone Signal
B	0.35 GY	655	Cellular Microphone Signal

cardiagn.com

B25B CLUTCH PEDAL POSITION SENSOR (MV5 OR M10)

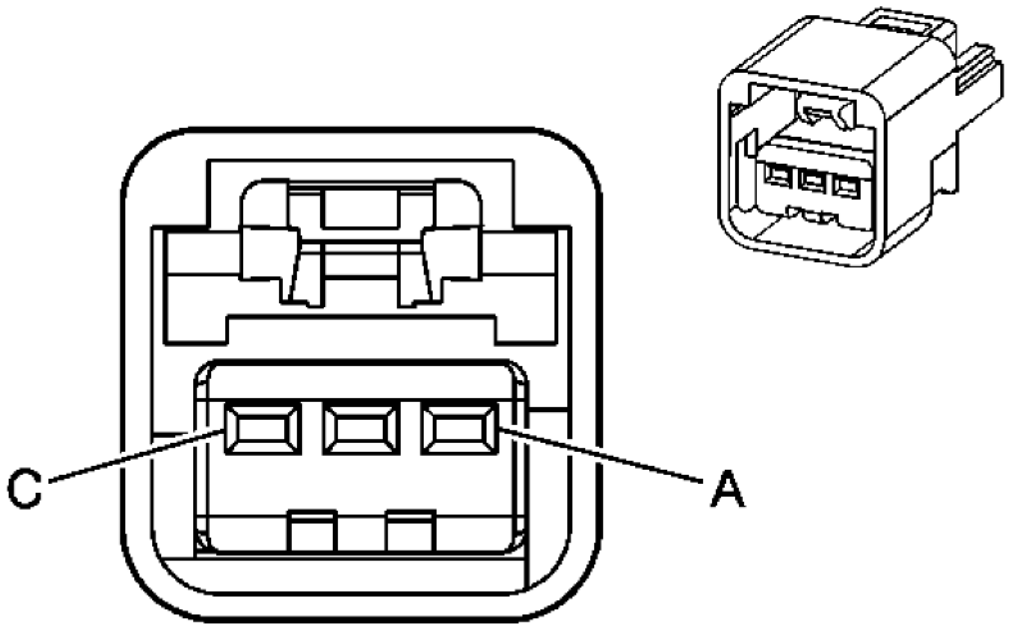


Fig. 30: B25B Clutch Pedal Position Sensor (MV5 or M10)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15332132
- Service: 88953364
- Description: 3-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B25B Clutch Pedal Position Sensor (MV5 or M10)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 TN	6109	5-Volt Reference 1 (MV5)
			5-Volt Reference 2 (M10)
B	0.35 YE	6111	Clutch Pedal Position Sensor Signal
C	0.35 WH	6110	Low Reference

B26 CRANKSHAFT POSITION SENSOR (L99 OR LS3)

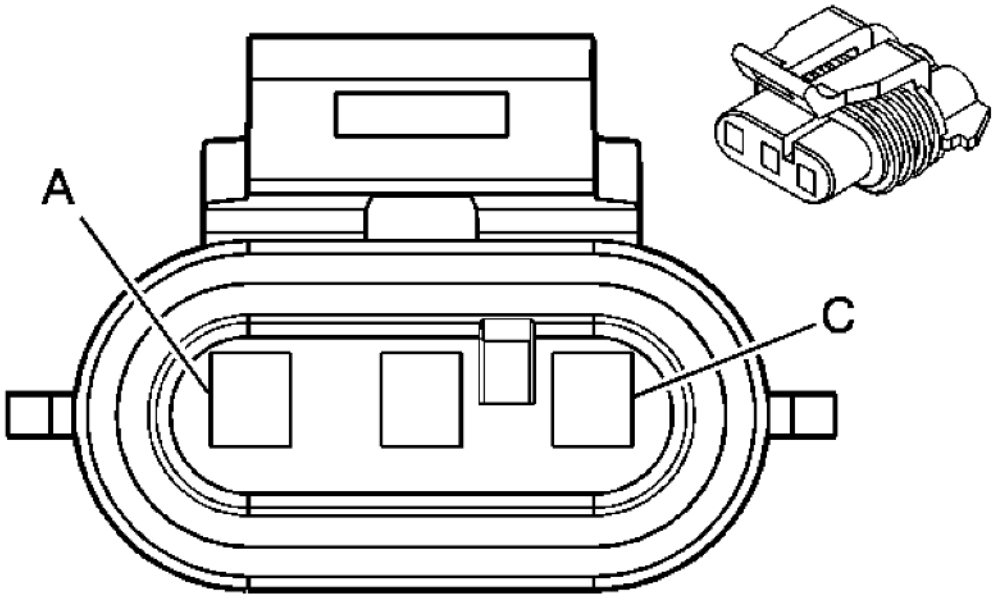


Fig. 31: B26 Crankshaft Position Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12129946
- Service: 88987997
- Description: 3-Way F Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B26 Crankshaft Position Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 WH/BK	6271	Crankshaft Position Sensor Signal
B	0.5 GY/BK	6272	Low Reference
C	0.5 PU/WH	6270	5-Volt Reference 2

B26 CRANKSHAFT POSITION SENSOR (LLT)

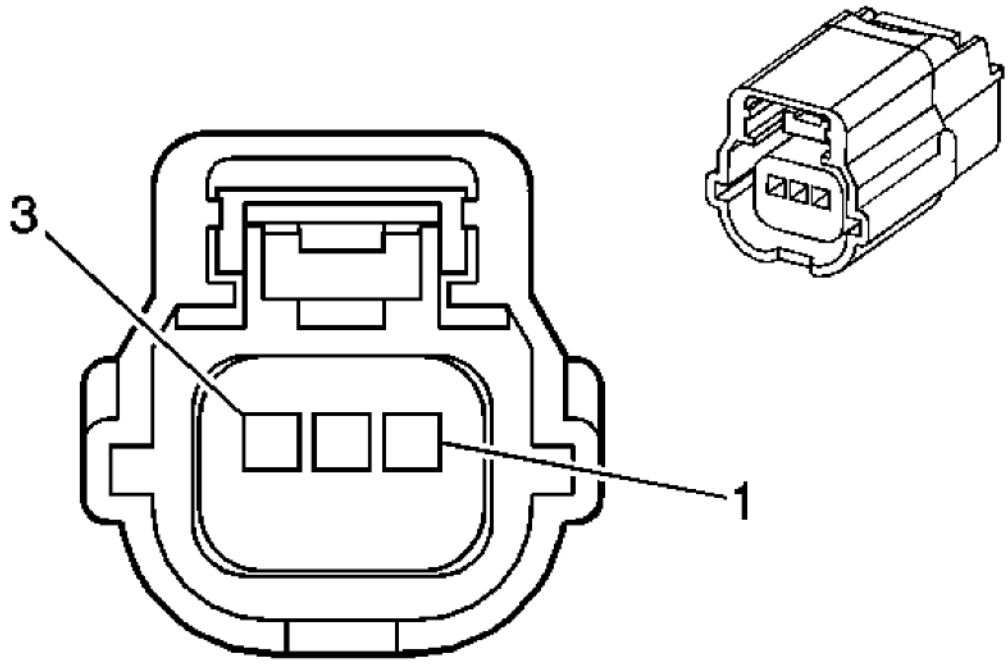


Fig. 32: B26 Crankshaft Position Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13599025
- Service: 19206250

cardiagn.com

- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03GF-M064/27
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B26 Crankshaft Position Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	452	Low Reference
2	0.5 YE	573	CKP Sensor Signal
3	0.5 GY	605	5-Volt Reference 3

B34 ENGINE COOLANT TEMPERATURE SENSOR (L99 OR LS3)

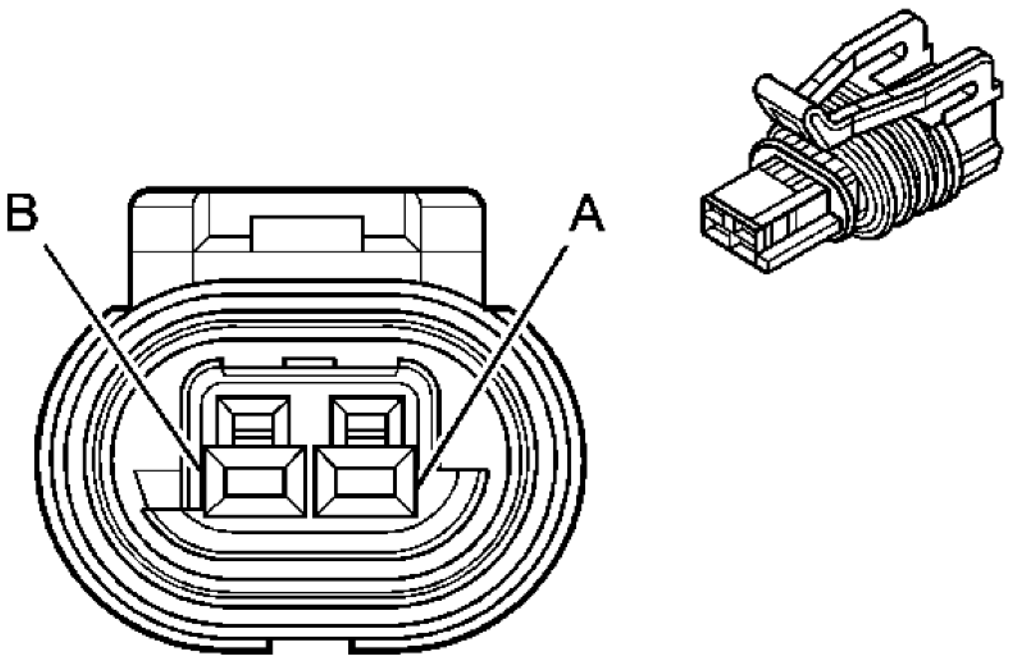


Fig. 33: B34 Engine Coolant Temperature Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15449028
- Service: 88987993
- Description: 2-Way F GT 150 Series, Sealed (BK)

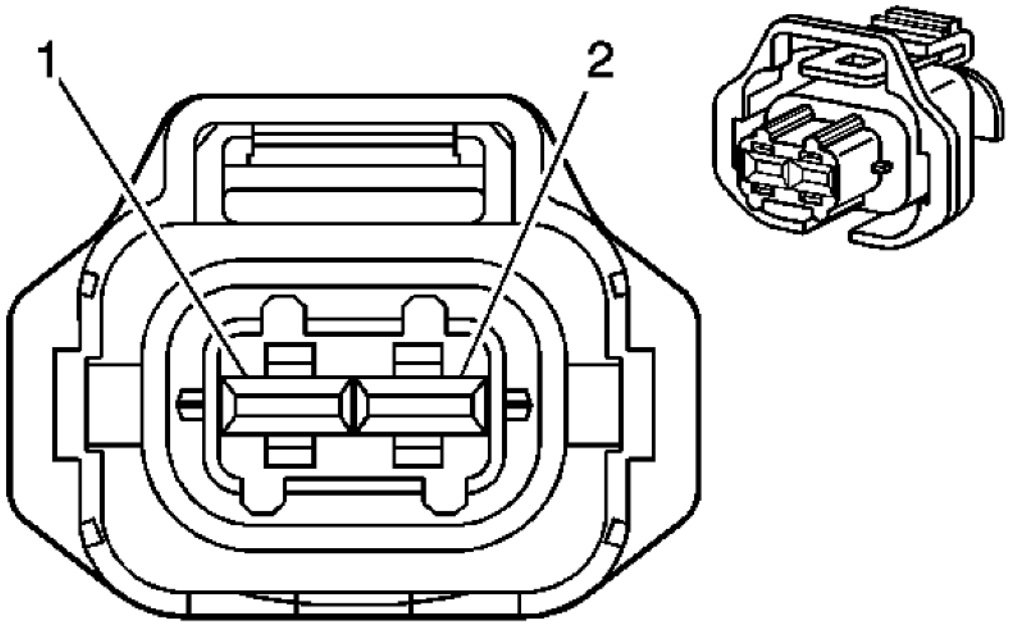
Terminal Part Information

- Terminal/Tray: 15326267/19
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B34 Engine Coolant Temperature Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	2761	Low Reference
B	0.5 YE	410	ECT Sensor Signal

B34 ENGINE COOLANT TEMPERATURE SENSOR (LLT)



cardiagn.com

Fig. 34: B34 Engine Coolant Temperature Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339756
- Service: 88988963
- Description: 2-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498054/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B34 Engine Coolant Temperature Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 YE	410	ECT Sensor Signal
2	0.5 TN	476	Low Reference

B35C ENGINE OIL LEVEL AND TEMPERATURE SENSOR (L99 OR LS3)

cardiagn.com

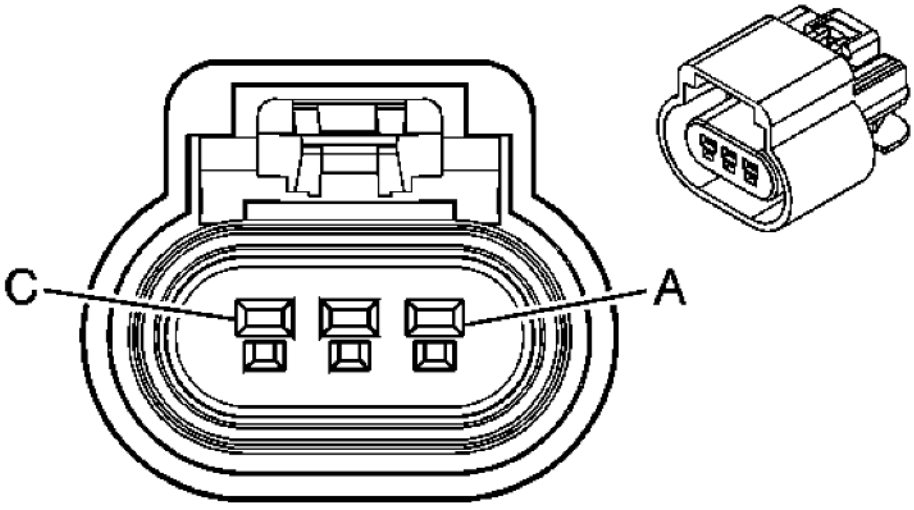


Fig. 35: B35C Engine Oil Level and Temperature Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13519047
- Service: 19153104
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B35C Engine Oil Level and Temperature Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 BN	1174	Oil Level Switch Signal
B	-	-	Not Used (M10)

cardiagn.com

	0.5 BN/L-BU	357	Oil Temperature Sensor Signal (MYC)
C	0.5 BK/WH	451	Ground

B37B ENGINE OIL PRESSURE SENSOR (L99 OR LS3)

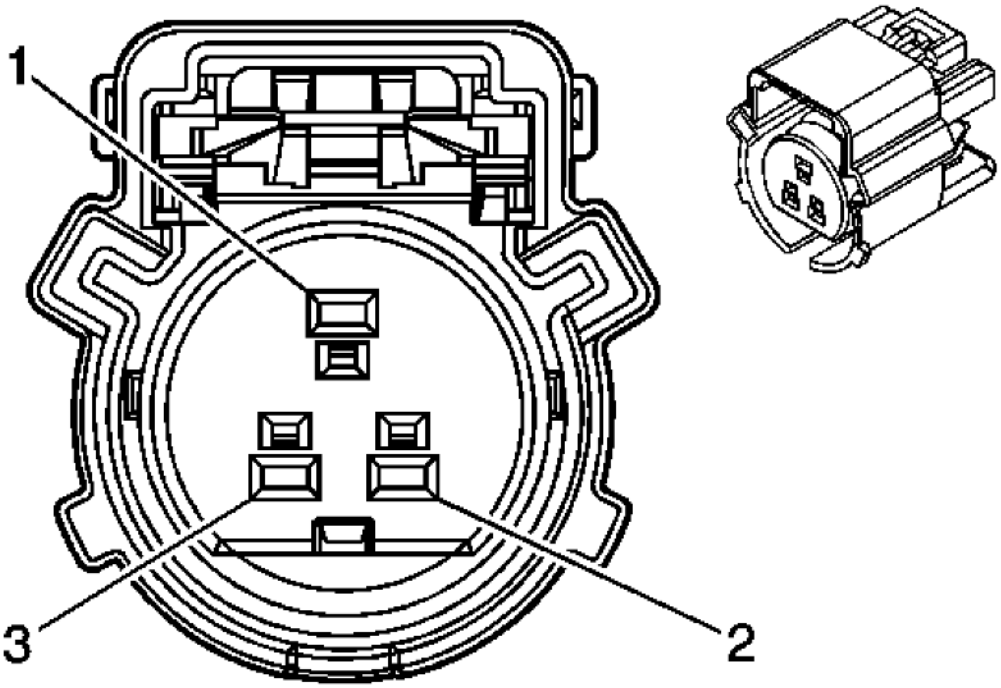


Fig. 36: B37B Engine Oil Pressure Sensor (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13589761
- Service: 19207215
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B37B Engine Oil Pressure Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
1	0.5 TN/WH	331	Oil Pressure Sensor Signal
2	0.5 GY	2705	5-Volt Reference 1
3	0.5 BK	2755	Low Reference

B37B ENGINE OIL PRESSURE SENSOR (LLT)

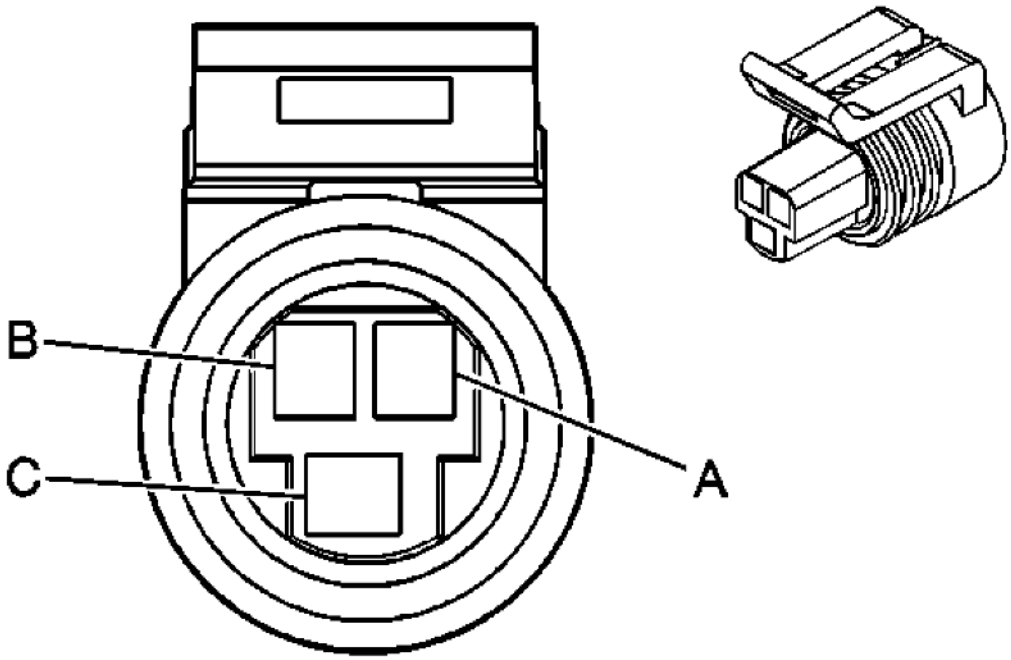


Fig. 37: B37B Engine Oil Pressure Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12065287
- Service: 88988301

cardiagn.com

- Description: 3-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12103881/2
- Core/Insulation Crimp: E/C
- Release Tool: 12180559-1
- Test Probe: J-35616-14 (GN)

B37B Engine Oil Pressure Sensor (LLT)

Pin	Wire	Circuit	Function
A	0.5 BK	2755	Low Reference
B	0.5 GY	2705	5-Volt Reference 1
C	0.5 TN/WH	331	Oil Pressure Sensor Signal

B39 A/C EVAPORATOR TEMPERATURE SENSOR

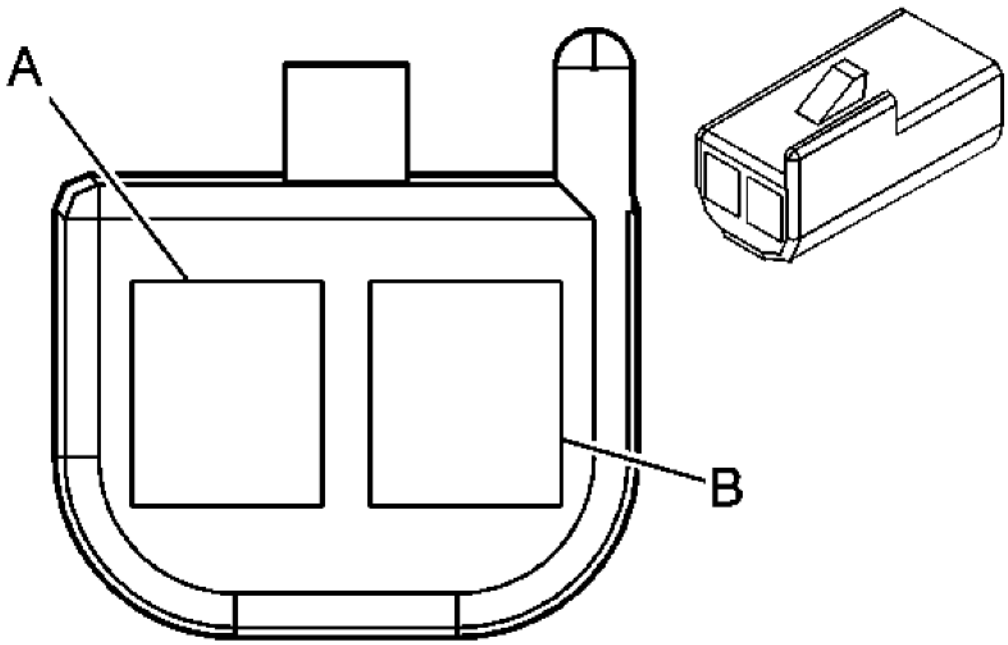


Fig. 38: B39 A/C Evaporator Temperature Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: HVAC
- OEM: 12047662
- Service: 12085535
- Description: 2-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 15326030/2
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B39 A/C Evaporator Temperature Sensor

Pin	Wire	Circuit	Function
A	0.35 GY	6137	EVAP Core Temperature Sensor Signal
B	0.35 TN	407	Low Reference

B46B FUEL LEVEL SENSOR - SECONDARY

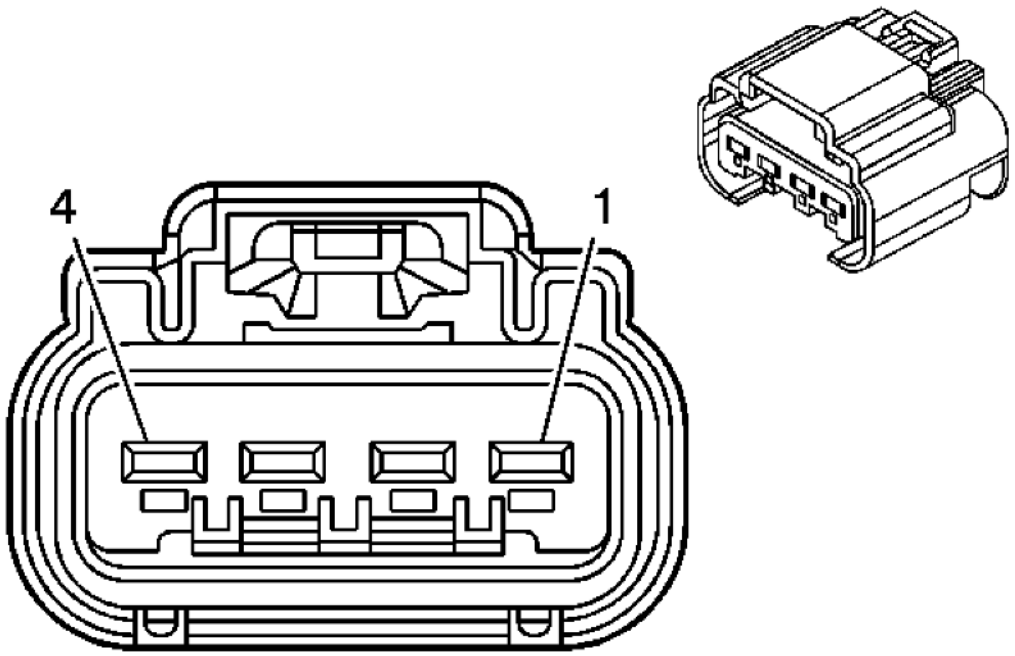


Fig. 39: B46B Fuel Level Sensor - Secondary

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 13527865
- Service: Service by Harness - See Part Catalog
- Description: 4-Way F GT 280 Series, Sealed (NA)

Terminal Part Information

- Terminal/Tray: 15304719/19
- Core/Insulation Crimp: E/5
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

B46B Fuel Level Sensor - Secondary

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.5 BN/WH	6281	Low Reference
4	0.5 YE	1937	Fuel Level Sensor Signal - Secondary (Early Production)
	0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary Late Production)

B47 FUEL PRESSURE SENSOR

cardiagn.com

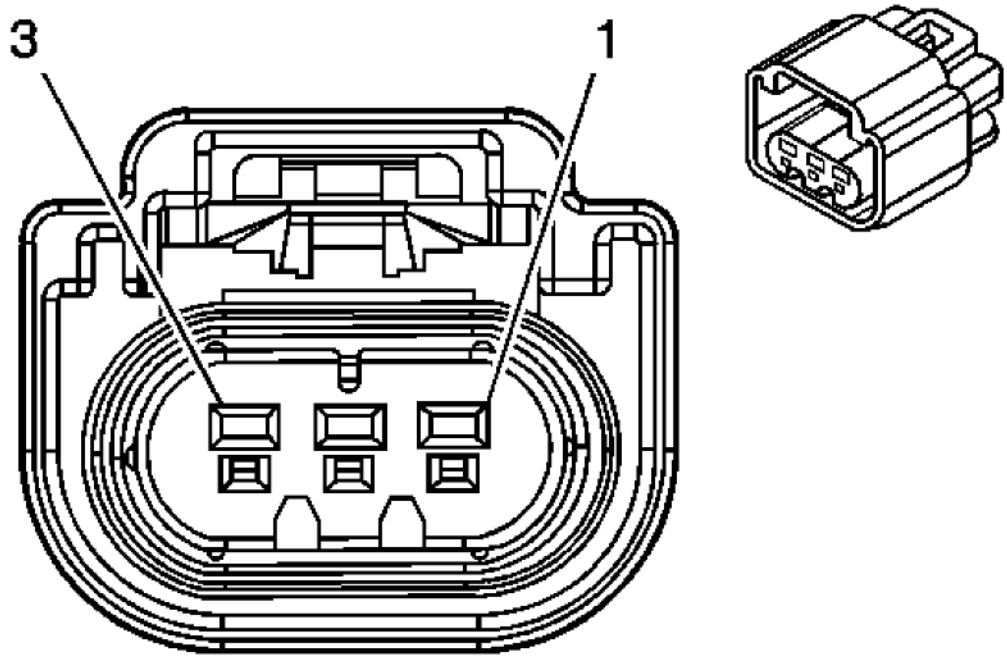


Fig. 40: B47 Fuel Pressure Sensor
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 13511131
- Service: 19168035
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B47 Fuel Pressure Sensor

Pin	Wire	Circuit	Function
	0.5 GY	7446	Fuel Pressure Sensor Signal (Early

cardiagn.com

1			Production)
	0.5 PU	7446	Fuel Pressure Sensor Signal (Late Production)
2	0.5 BN	7447	Low Reference (Early Production)
	0.5 GY	7447	Low Reference (Late Production)
3	0.5 OG	7445	5-Volt Reference (Early Production)
	0.5 BN	7445	5-Volt Reference (Late Production)

B47B FUEL RAIL PRESSURE SENSOR (LLT)

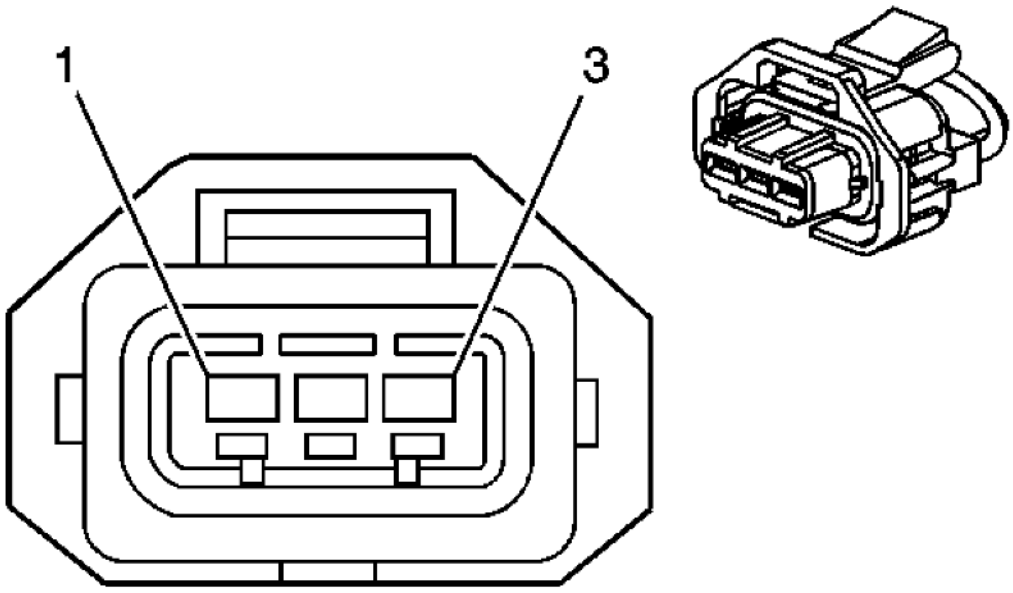


Fig. 41: B47B Fuel Rail Pressure Sensor (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403966
- Service: Service by harness - See Part Catalog
- Description: 3-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by harness - See Part Catalog

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

B47B Fuel Rail Pressure Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 L-BU	808	Low Reference
2	0.5 BK	2918	FRP Sensor Signal
3	0.5 WH	598	5-Volt Reference 1

B52C HEATED OXYGEN SENSOR - BANK 1 SENSOR 1 (L99 OR LS3)

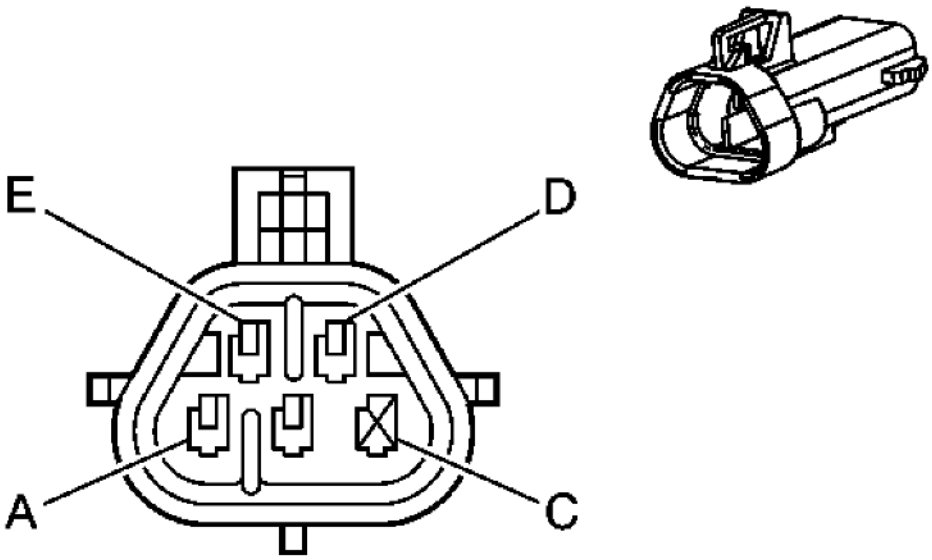


Fig. 42: B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12092839
- Service: 88987991

cardiagn.com

- Description: 5-Way M Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	1664	HO2S Low Signal - Bank 1 Sensor 1
B	0.5 PU/WH	1665	HO2S High Signal Bank 1 Sensor 1
C	-	-	Not Used
D	0.5 PK/BK	5293	Ignition Voltage
E	0.5 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1

B52C HEATED OXYGEN SENSOR - BANK 1 SENSOR 1 (LLT)

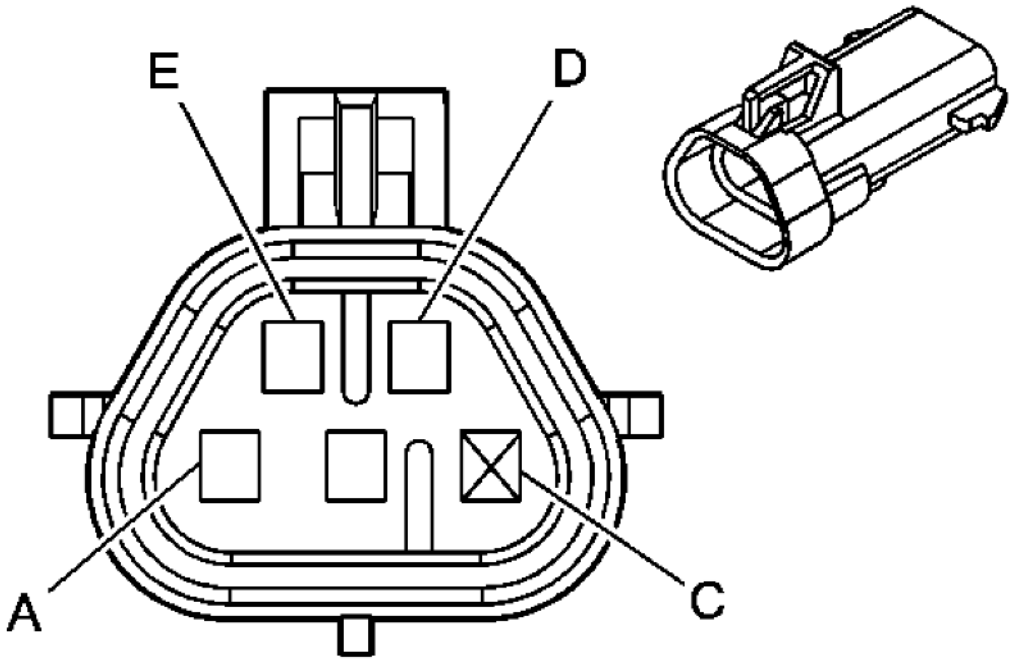


Fig. 43: B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (LLT)

cardiagn.com

Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12092840
- Service: 15306311
- Description: 5-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12177150/4
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (LLT)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	3111	HO2S Low Signal Bank 1 Sensor 1
B	0.5 PU/WH	3110	HO2S High SignalBank 1 Sensor 1
C	-	-	Not Used
D	0.8 PK/BK	5293	Ignition Voltage
E	0.8 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1

B52D HEATED OXYGEN SENSOR - BANK 1 SENSOR 2 (L99 OR LS3)

cardiagn.com

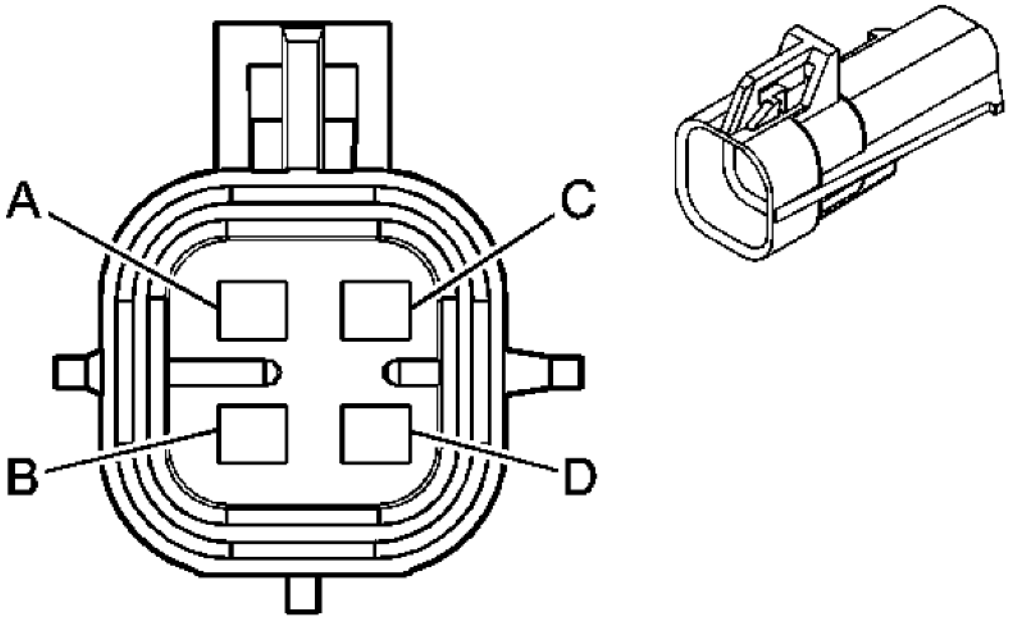


Fig. 44: B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15326423
- Service: 15326423
- Description: 4-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	1669	HO2S Low Signal Bank 1 Sensor 2
B	0.5 PU/WH	1668	HO2S High Signal Bank 1 Sensor 2

cardiagn.com

C	0.5 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2
D	0.5 PK/BK	5294	Ignition Voltage

B52D HEATED OXYGEN SENSOR - BANK 1 SENSOR 2 (LLT)

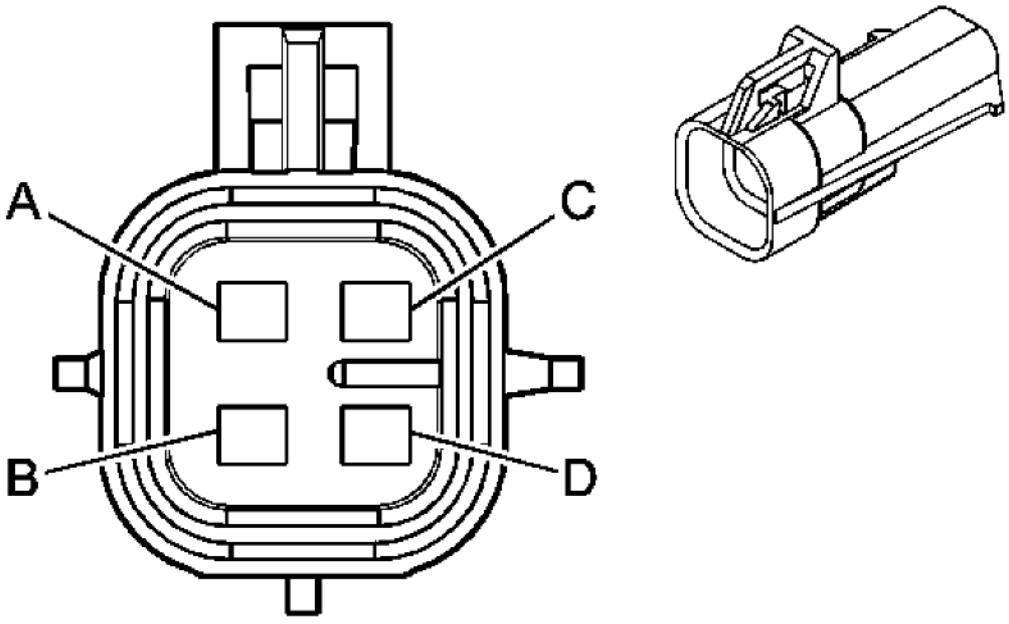


Fig. 45: B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12160825
- Service: 15305801
- Description: 4-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

cardiagn.com

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (LLT)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	3121	HO2S Low Signal Bank 1 Sensor 2
B	0.5 PU	3120	HO2S High Signal Bank 1 Sensor 2
C	0.8 PK/BK	5294	Ignition Voltage
D	0.8 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2

B52E HEATED OXYGEN SENSOR - BANK 2 SENSOR 1 (L99 OR LS3)

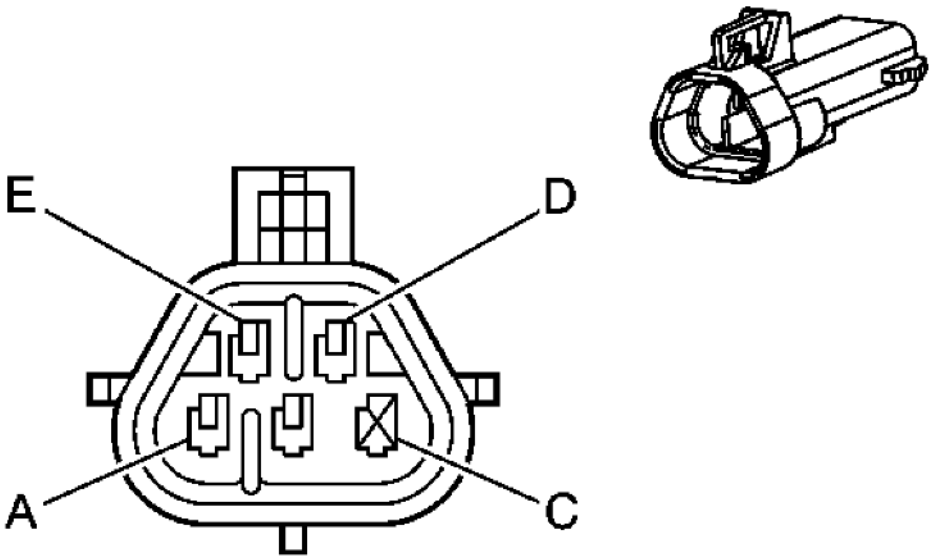


Fig. 46: B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12092839
- Service: 88987991
- Description: 5-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	1667	HO2S Low Signal Bank 2 Sensor 1
B	0.5 PU	1666	HO2S High Signal Bank 2 Sensor 1
C	-	-	Not Used
D	0.5 PK/BK	5293	Ignition Voltage
E	0.5 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1

B52E HEATED OXYGEN SENSOR - BANK 2 SENSOR 1 (LLT)

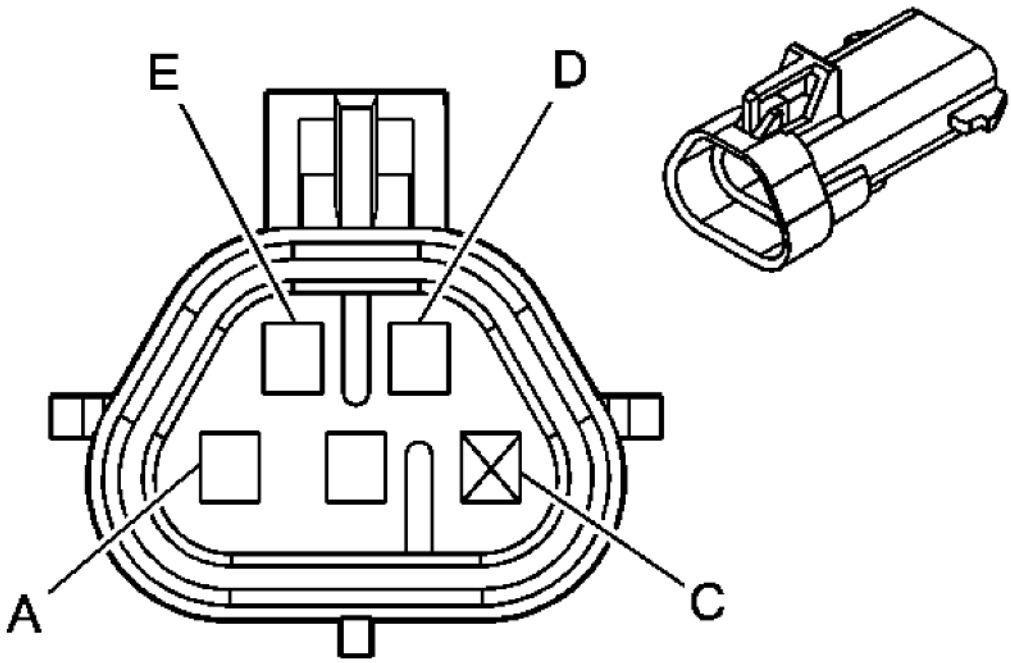


Fig. 47: B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (LLT)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 12092840
- Service: 15306311
- Description: 5-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12177150/4
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (LLT)

Pin	Wire	Circuit	Function
A	0.5 TN/WH	3211	HO2S Low Signal Bank 2 Sensor 1
B	0.5 PU/WH	3210	HO2S High Signal Bank 2 Sensor 1
C	-	-	Not Used
D	0.8 PK/BK	5293	Ignition Voltage
E	0.8 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1

B52F HEATED OXYGEN SENSOR - BANK 2 SENSOR 2 (L99 OR LS3)

cardiagn.com

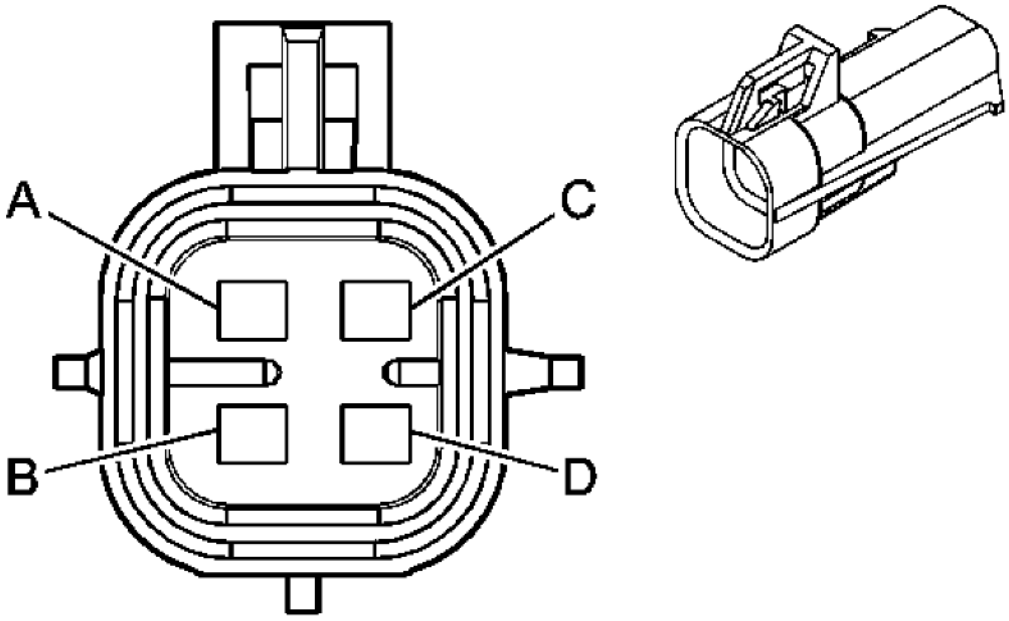


Fig. 48: B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15326423
- Service: 15326423
- Description: 4-Way M Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 TN	1671	HO2S Low Signal Bank 2 Sensor 2
B	0.5 PU	1670	HO2S High Signal Bank 2 Sensor 2

cardiagn.com

C	0.5 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
D	0.5 PK/BK	5294	Ignition Voltage

B52F HEATED OXYGEN SENSOR - BANK 2 SENSOR 2 (LLT WITH MV5)

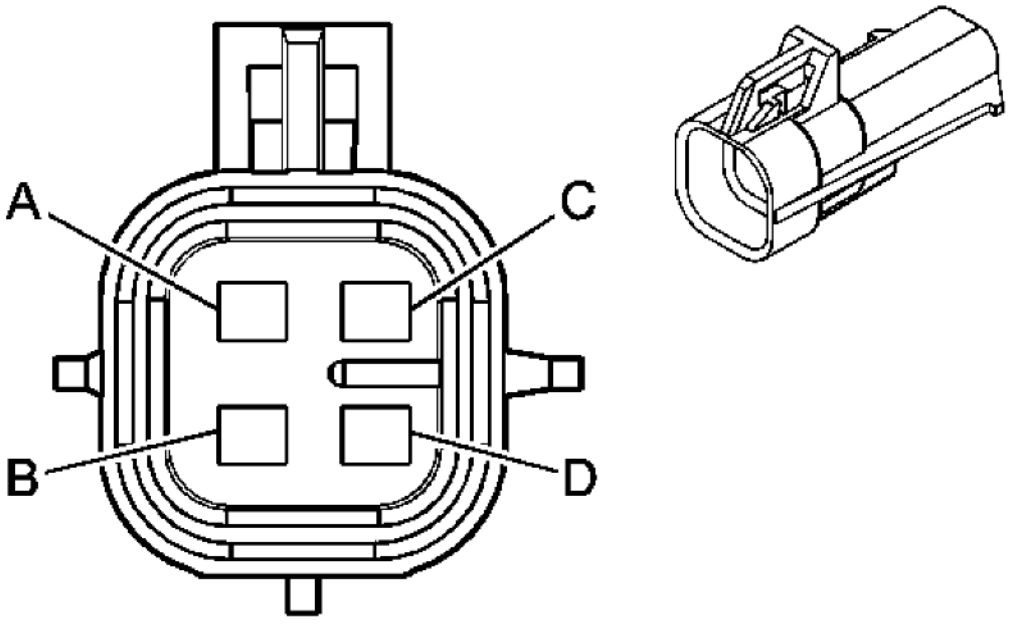


Fig. 49: B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MV5)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12160825
- Service: 15305801
- Description: 4-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12045773/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

cardiagn.com

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MV5)

Pin	Wire	Circuit	Function
A	0.5 TN	3221	HO2S Low Signal Bank 2 Sensor 2
B	0.5 PU	3220	HO2S High Signal Bank 2 Sensor 2
C	0.8 PK/BK	5294	Ignition Voltage
D	0.8 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2

B52F HEATED OXYGEN SENSOR - BANK 2 SENSOR 2 (LLT WITH MYB)

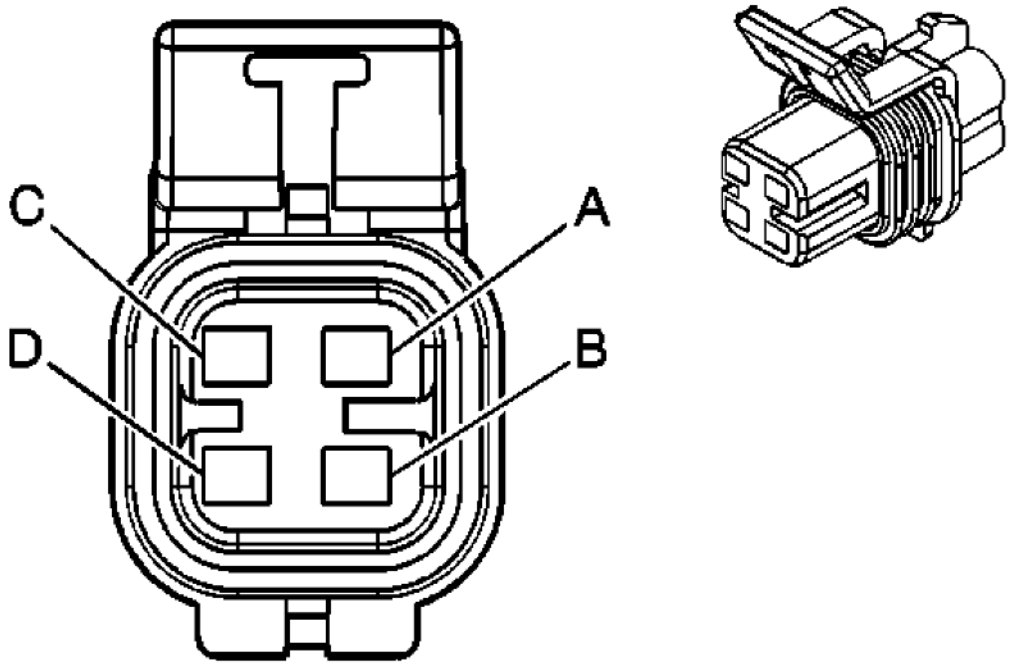


Fig. 50: B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MYB)
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12176897
- Service: 15305960
- Description: 4-Way F Metri-Pack 150 Sealed (L-GY)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (LLT with MYB)

Pin	Wire	Circuit	Function
A	0.5 TN	3221	HO2S Low Signal Bank 2 Sensor 2
B	0.5 PU	3220	HO2S High Signal Bank 2 Sensor 2
C	0.8 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
D	0.8 PK/BK	5294	Ignition Voltage

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

B55 HOOD AJAR SWITCH

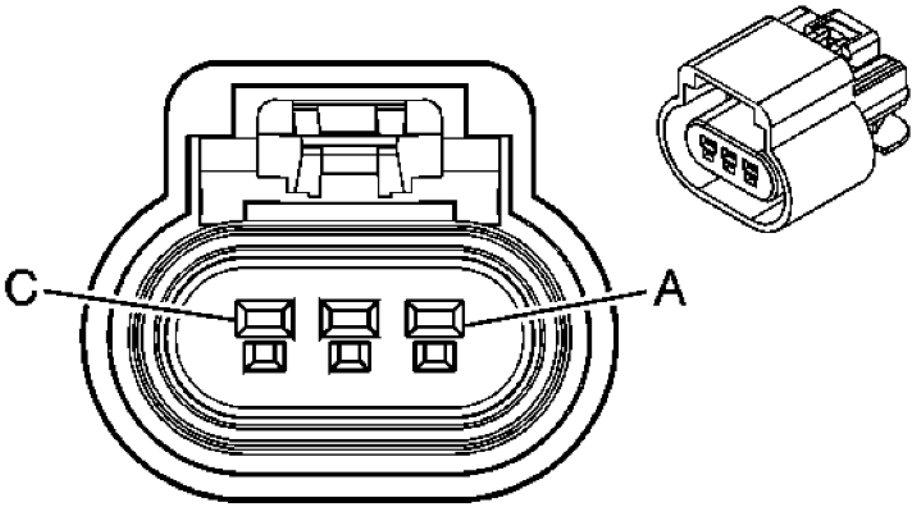


Fig. 1: B55 Hood Ajar Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13519047
- Service: 19153104
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B55 Hood Ajar Switch

Pin	Wire	Circuit	Function
A	-	-	Not Used
B	0.5 PK/BK	109	Hood Ajar Switch Signal
C	0.5 BK	1150	Ground

B59L FRONT IMPACT SENSOR - LEFT

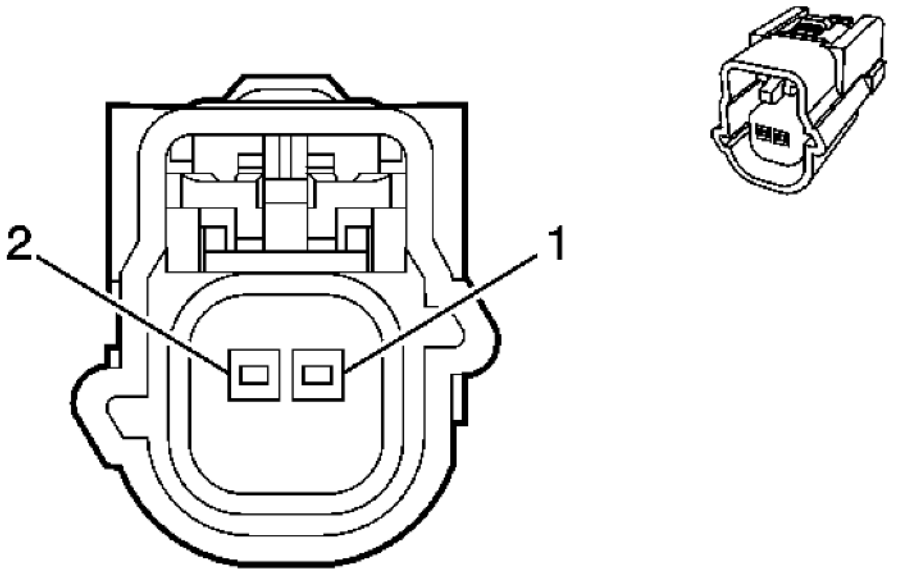


Fig. 2: B59L Front Impact Sensor - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13610095
- Service: 13314084

cardiagn.com

- Description: 2-Way F Kaizen 0.64 Series, Sealed (D-GY)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B59L Front Impact Sensor - Left

Pin	Wire	Circuit	Function
1	0.35 YE	354	Front End Sensor - Left - Signal
2	0.35 TN/OG	5045	Low Reference

B59R FRONT IMPACT SENSOR - RIGHT

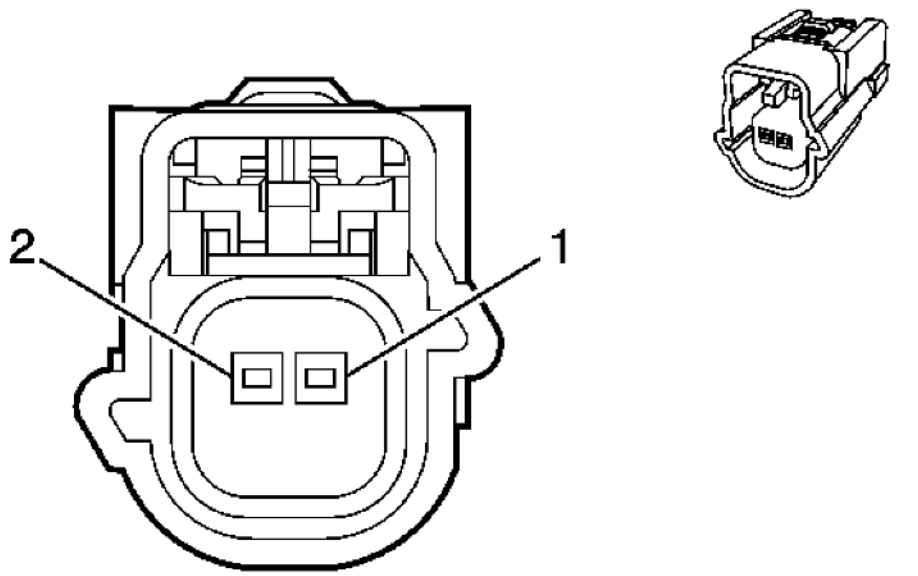


Fig. 3: B59R Front Impact Sensor - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Forward Lamp
- OEM: 13610095
- Service: 13314084
- Description: 2-Way F Kaizen 0.64 Series, Sealed (D-GY)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B59R Front Impact Sensor - Right

Pin	Wire	Circuit	Function
1	0.35 D-GN	1409	Front End Sensor - Right - Signal
2	0.35 GY	5600	Low Reference

B5LF WHEEL SPEED SENSOR - LEFT FRONT

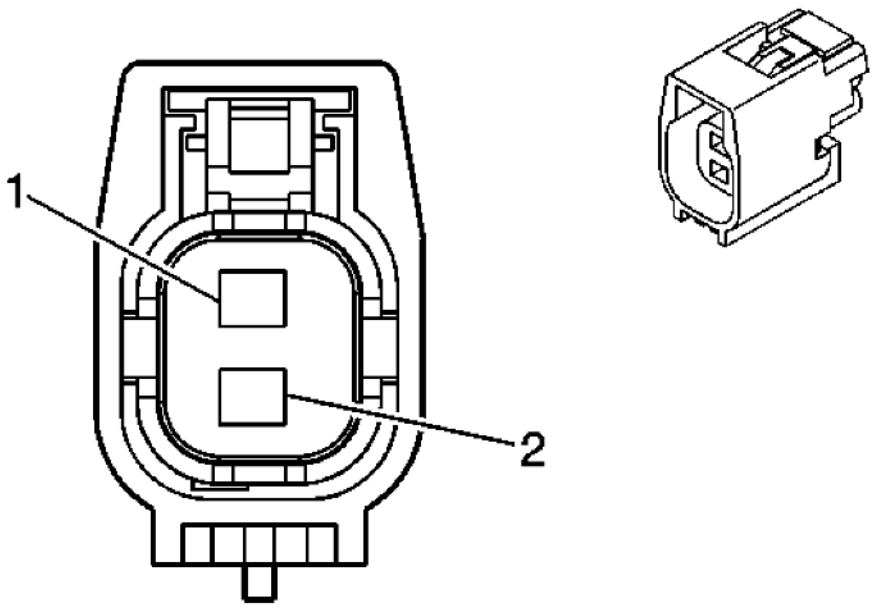


Fig. 4: B5LF Wheel Speed Sensor - Left Front Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Forward Lamp
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

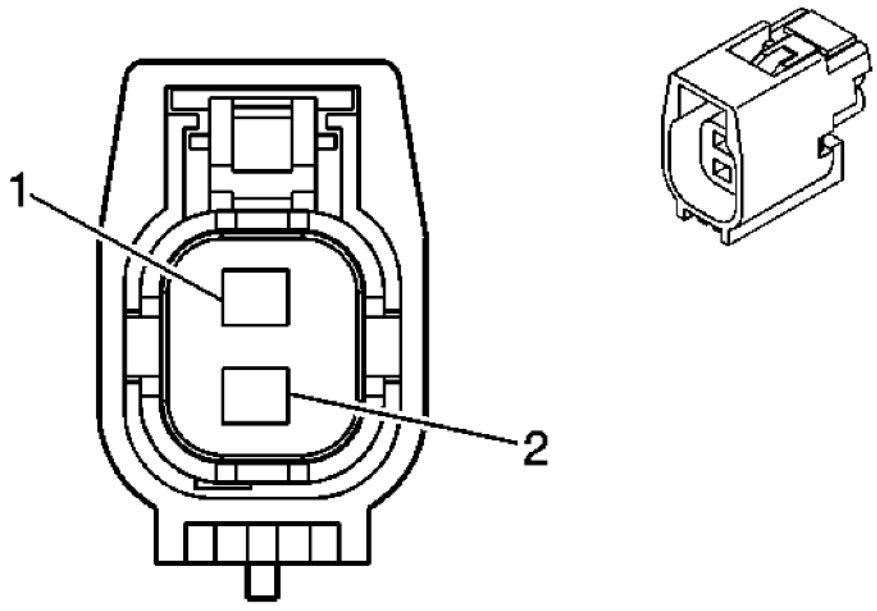
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5LF Wheel Speed Sensor - Left Front

Pin	Wire	Circuit	Function
1	0.5 L-BU	830	Left Front Wheel Speed Sensor Signal
2	0.5 YE	873	Low Reference

B5LR WHEEL SPEED SENSOR - LEFT REAR



cardiagn.com

Fig. 5: B5LR Wheel Speed Sensor - Left Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Axle
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5LR Wheel Speed Sensor - Left Rear

Pin	Wire	Circuit	Function
1	0.8 TN	884	Left Rear Wheel Speed Sensor Signal
2	0.8 OG	885	Low Reference

B5RF WHEEL SPEED SENSOR - RIGHT FRONT

cardiagn.com

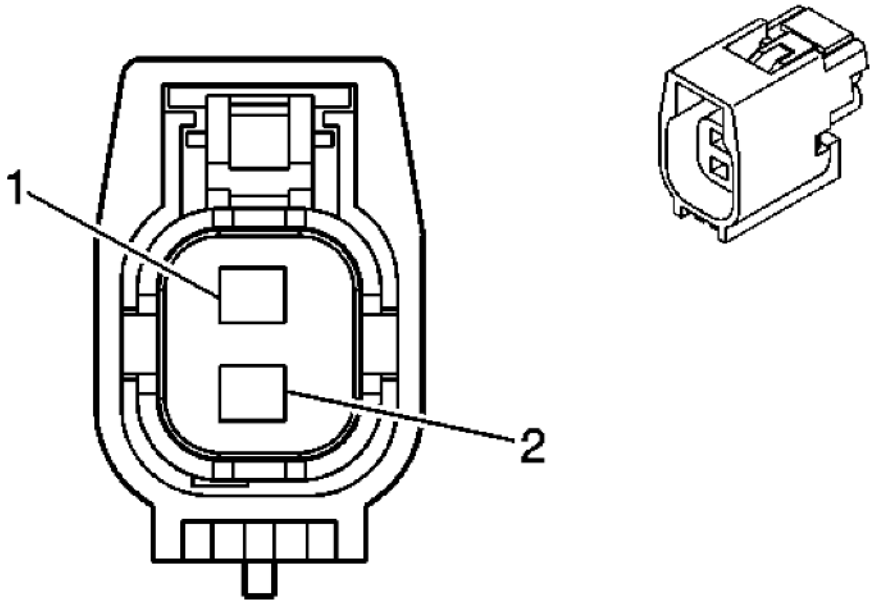


Fig. 6: B5RF Wheel Speed Sensor - Right Front Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5RF Wheel Speed Sensor - Right Front

Pin	Wire	Circuit	Function
1	0.5 D-GN	872	Right Front Wheel Speed Sensor Signal
2	0.5 TN	833	Low Reference

cardiagn.com

B5RR WHEEL SPEED SENSOR - RIGHT REAR

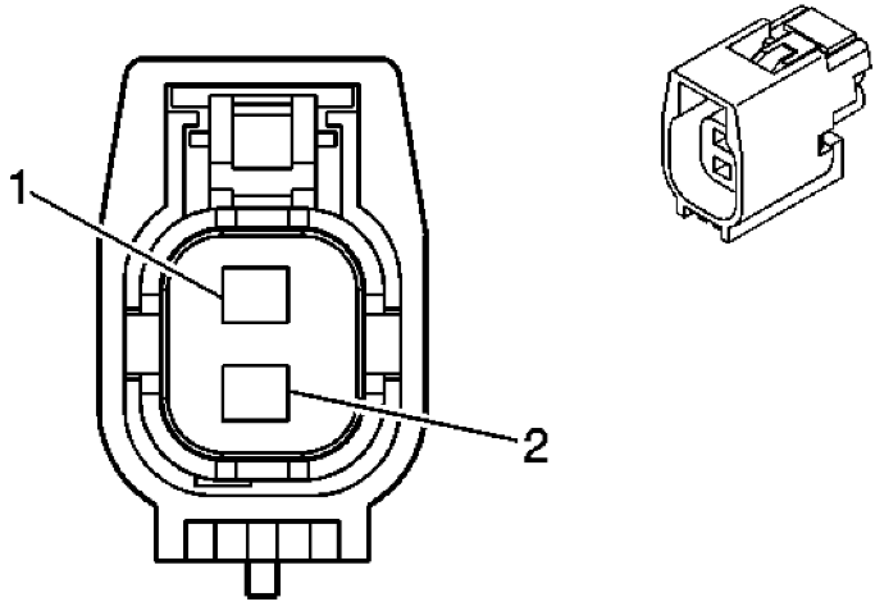


Fig. 7: B5RR Wheel Speed Sensor - Right Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Axle
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5RR Wheel Speed Sensor - Right Rear

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 BN	882	Right Rear Wheel Speed Sensor Signal
2	0.8 WH	883	Low Reference

B62D SEAT POSITION SENSOR - DRIVER

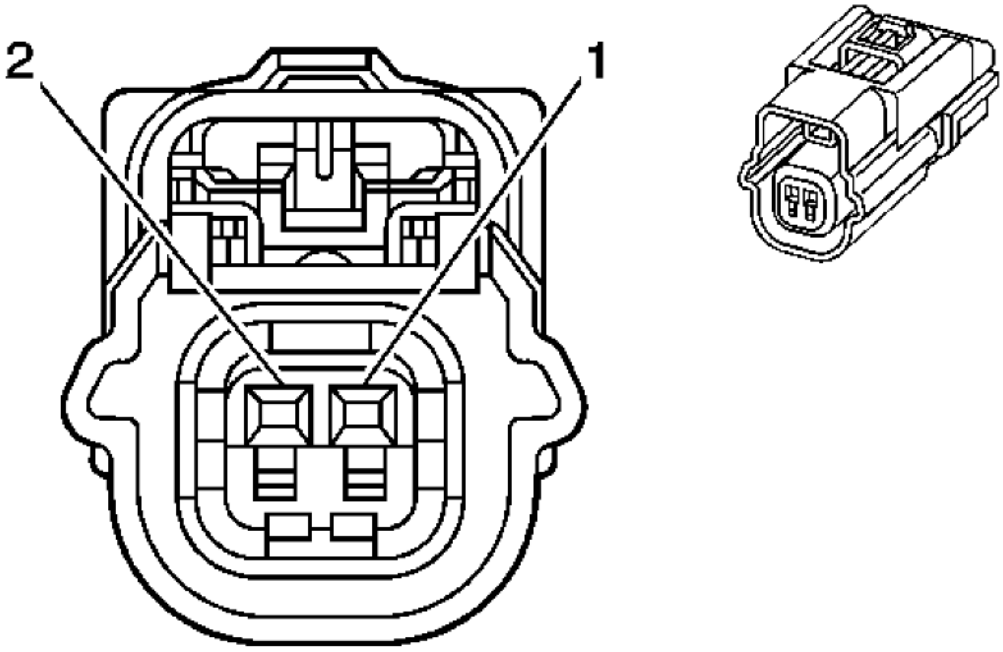


Fig. 8: B62D Seat Position Sensor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 54390239
- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

B62D Seat Position Sensor - Driver

Pin	Wire	Circuit	Function
1	0.35 D-BU	1363	Low Reference
2	0.35 L-GN	5055	Seat Position Sensor- Left - Signal

B62P SEAT POSITION SENSOR - PASSENGER

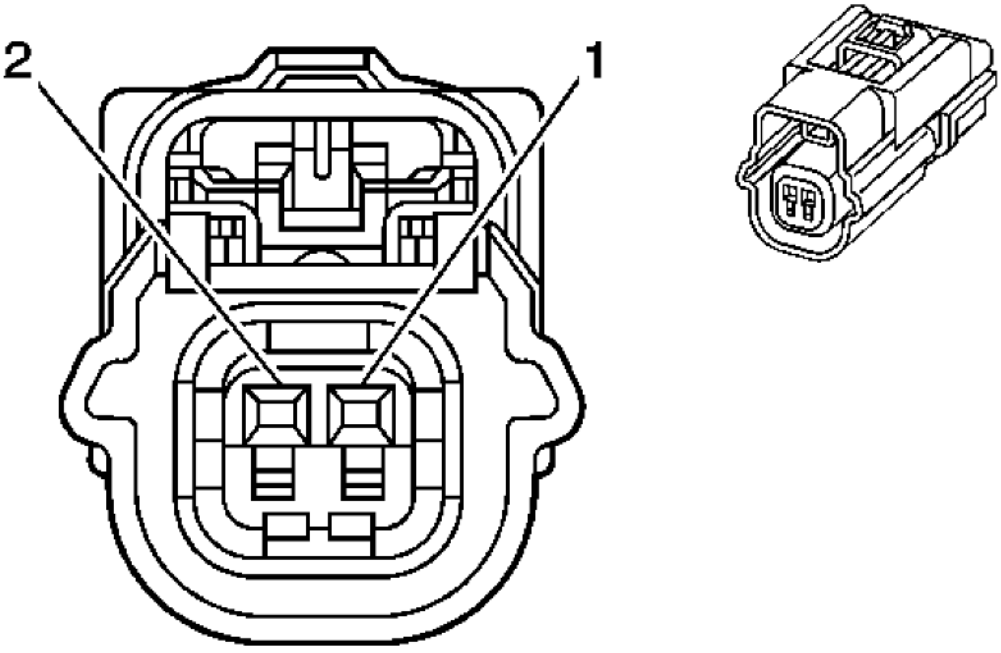


Fig. 9: B62P Seat Position Sensor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 54390239
- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B62P Seat Position Sensor - Passenger

Pin	Wire	Circuit	Function
1	0.35 L-BU	1361	Low Reference
2	0.35 L-BU	5056	Seat Position Sensor- Right - Signal

B63L SIDE IMPACT SENSOR - LEFT

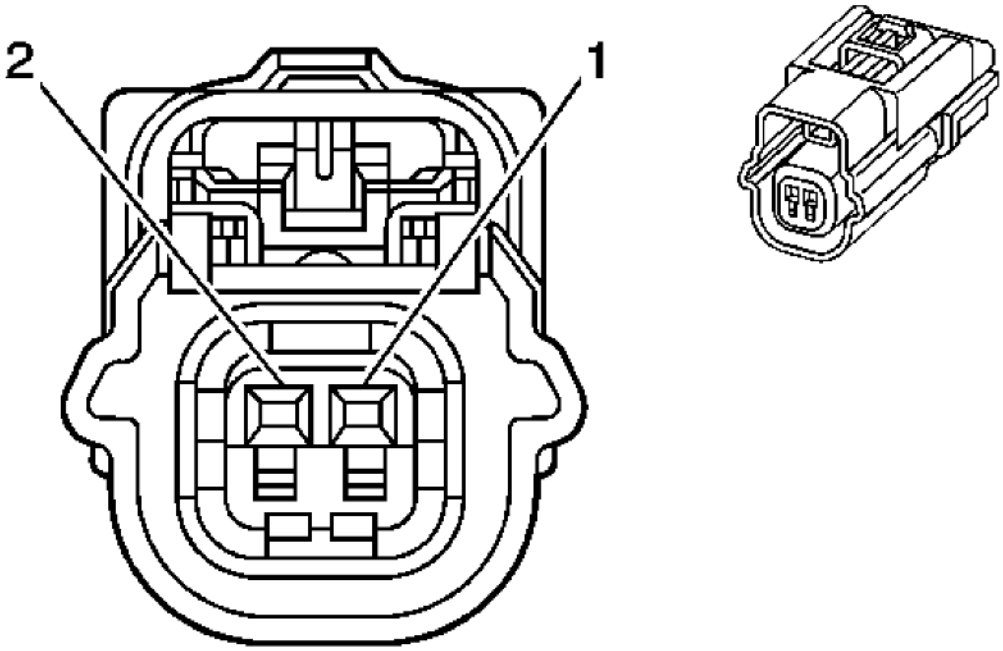


Fig. 10: B63L Side Impact Sensor - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13528494

cardiagn.com

- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B63L Side Impact Sensor - Left

Pin	Wire	Circuit	Function
1	0.35 WH	2132	Side Impact Sensing Module - Left - Signal
2	0.35 PU/WH	6628	Low Reference

B63R SIDE IMPACT SENSOR - RIGHT

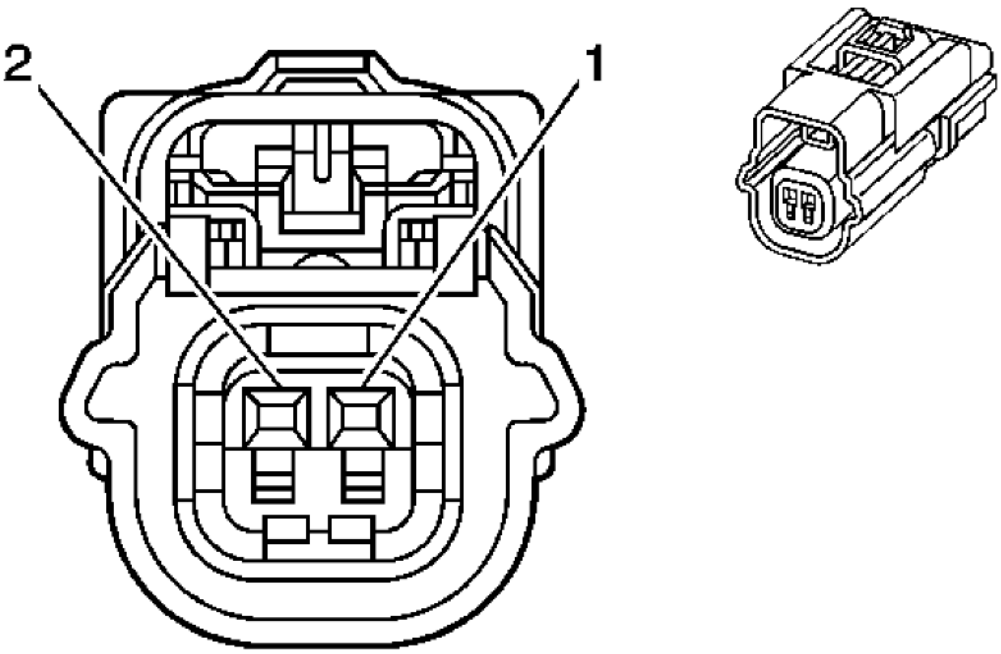


Fig. 11: B63R Side Impact Sensor - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 13528494
- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

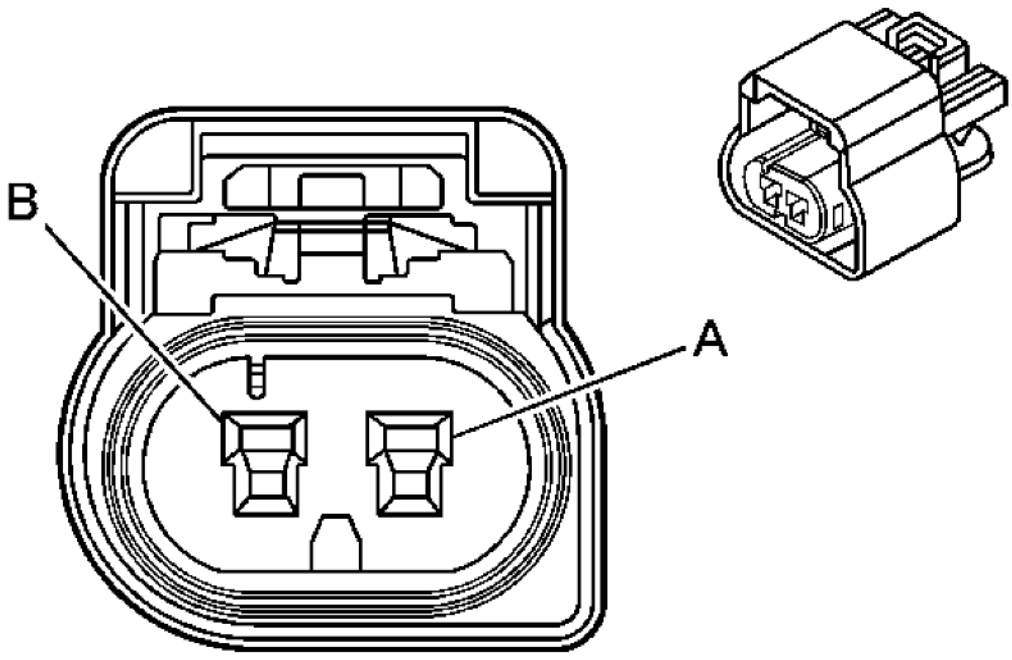
Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B63R Side Impact Sensor - Right

Pin	Wire	Circuit	Function
1	0.35 D-GN	2134	Side Impact Sensing Module - Right - Signal
2	0.35 WH/BK	6629	Low Reference

B68A KNOCK SENSOR 1



cardiagn.com

Fig. 12: B68A Knock Sensor 1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15374222
- Service: 88986864
- Description: 2-Way F GT 150 Sealed (NA)

Terminal Part Information

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B68A Knock Sensor 1

Pin	Wire	Circuit	Function
A	0.5 D-BU	496	Knock Sensor (KS) 1 Signal
B	0.5 GY	1716	Knock Sensor (KS) 1 Signal

B68B KNOCK SENSOR 2

cardiagn.com

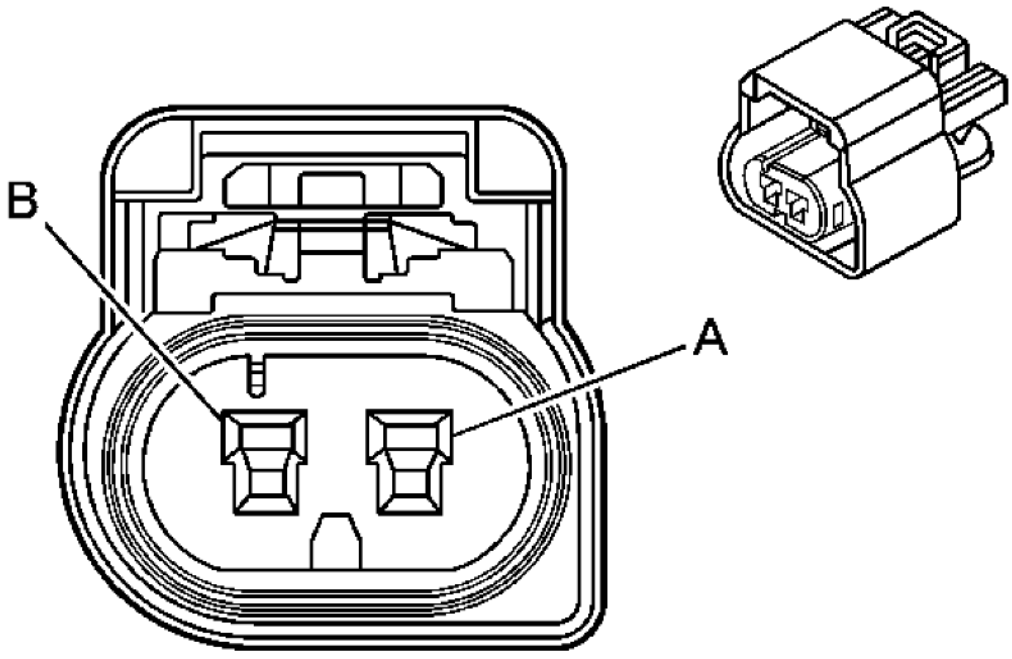


Fig. 13: B68B Knock Sensor 2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15374222
- Service: 88986864
- Description: 2-Way F GT 150 Sealed (NA)

Terminal Part Information

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B68B Knock Sensor 2

Pin	Wire	Circuit	Function
A	0.5 L-BU	1876	Knock Sensor (KS) 2 Signal

cardiagn.com

B	0.5 GY	2303	Knock Sensor (KS) 2 Signal

B74 MANIFOLD ABSOLUTE PRESSURE SENSOR (L99 OR LS3)

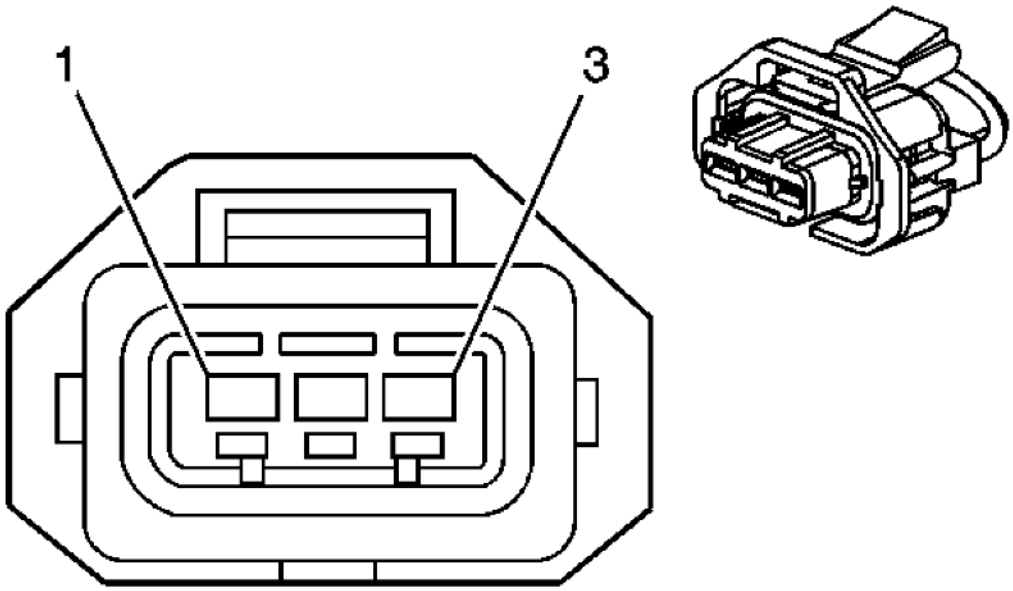


Fig. 14: B74 Manifold Absolute Pressure Sensor (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15365614
- Service: 88988583
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B74 Manifold Absolute Pressure Sensor (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 GY	2704	5-Volt Reference 1
2	0.5 OG/BK	469	Low Reference
3	0.5 L-GN	432	MAP Sensor Signal

B75B MASS AIR FLOW/INTAKE AIR TEMPERATURE SENSOR (L99 OR LS3)

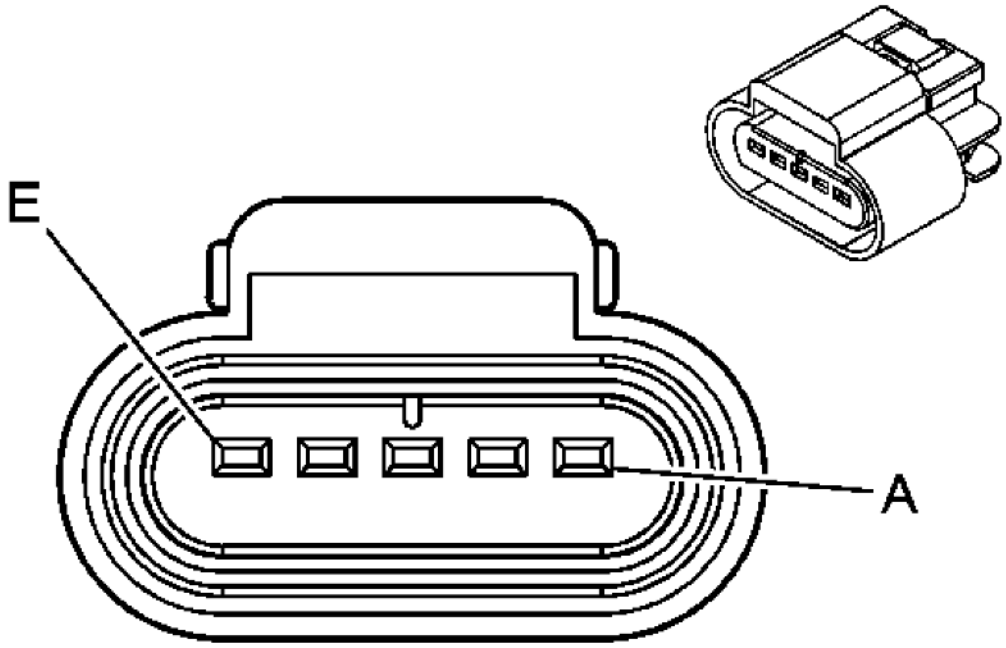


Fig. 15: B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13519912
- Service: 19207214
- Description: 5-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 YE	492	MAF Sensor Signal
B	0.5 BK/WH	451	Ground
C	0.5 PK	239	Ignition Voltage
D	0.5 TN	2760	Low Reference
E	0.5 L-BU	6289	Intake Air Temperature Sensor Signal

B75B MASS AIR FLOW/INTAKE AIR TEMPERATURE SENSOR (LLT)

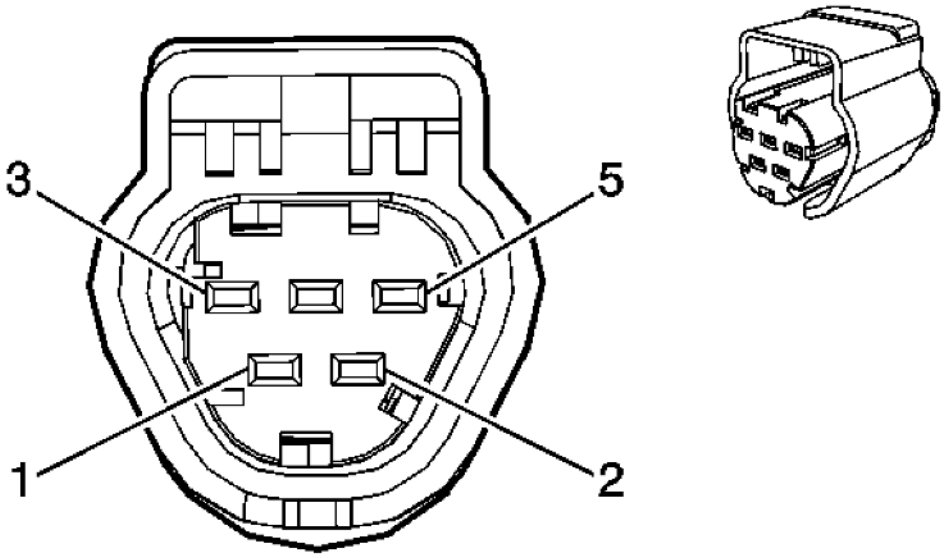


Fig. 16: B75B Mass Air Flow/Intake Air Temperature Sensor (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13610794

cardiagn.com

- Service: 13505905
- Description: 5-Way F 090 II Series, Sealed (BK)

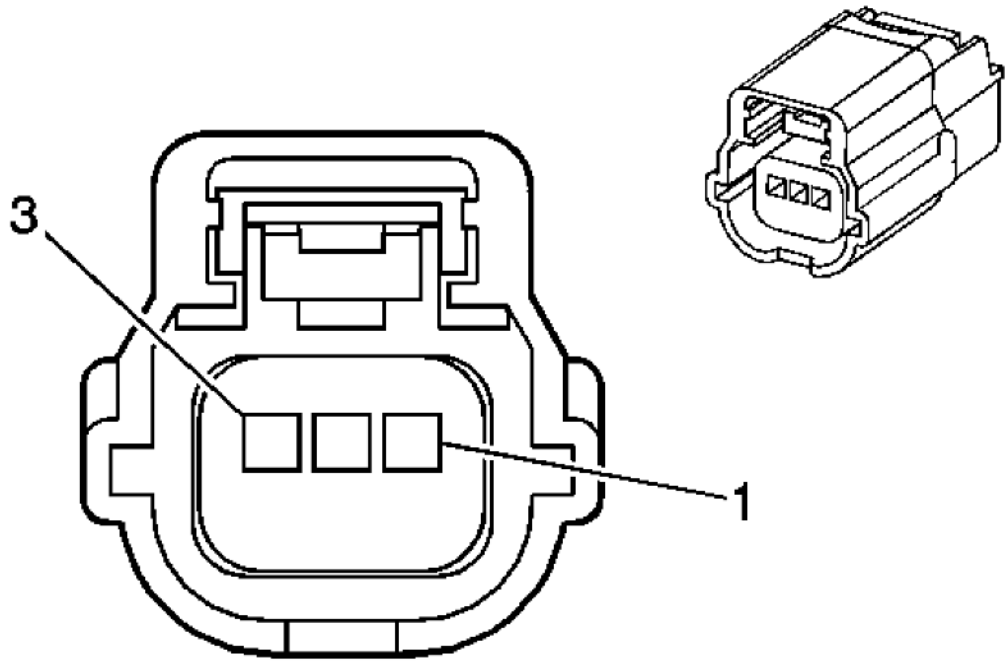
Terminal Part Information

- Terminal/Tray: 13610487/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

B75B Mass Air Flow/Intake Air Temperature Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	2760	Low Reference
2	0.5 BK/WH	451	Ground
3	0.5 L-BU	6289	Intake Air Temperature Sensor Signal
4	0.5 PK	239	Ignition Voltage
5	0.5 YE	492	MAF Sensor Signal

B78E REAR OBJECT SENSOR - LEFT MIDDLE (UD7)



cardiagn.com

Fig. 17: B78E Rear Object Sensor - Left Middle (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B78E Rear Object Sensor - Left Middle (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage
2	0.35 GY	2379	Low Reference
3	0.35 OG	2376	Left Rear Middle Object Sensor Signal

B78F REAR OBJECT SENSOR - RIGHT MIDDLE (UD7)

cardiagn.com

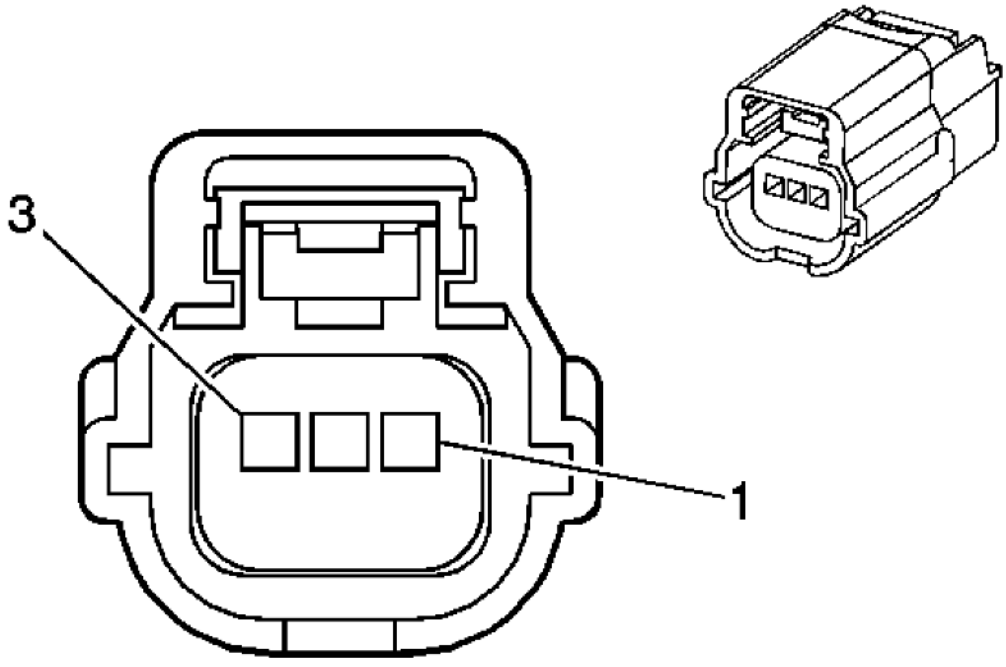


Fig. 18: B78F Rear Object Sensor - Right Middle (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B78F Rear Object Sensor - Right Middle (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage

cardiagn.com

2	0.35 GY	2379	Low Reference
3	0.35 D-GN	2377	Right Rear Middle Object Sensor Signal

B78G REAR OBJECT SENSOR - LEFT OUTER (UD7)

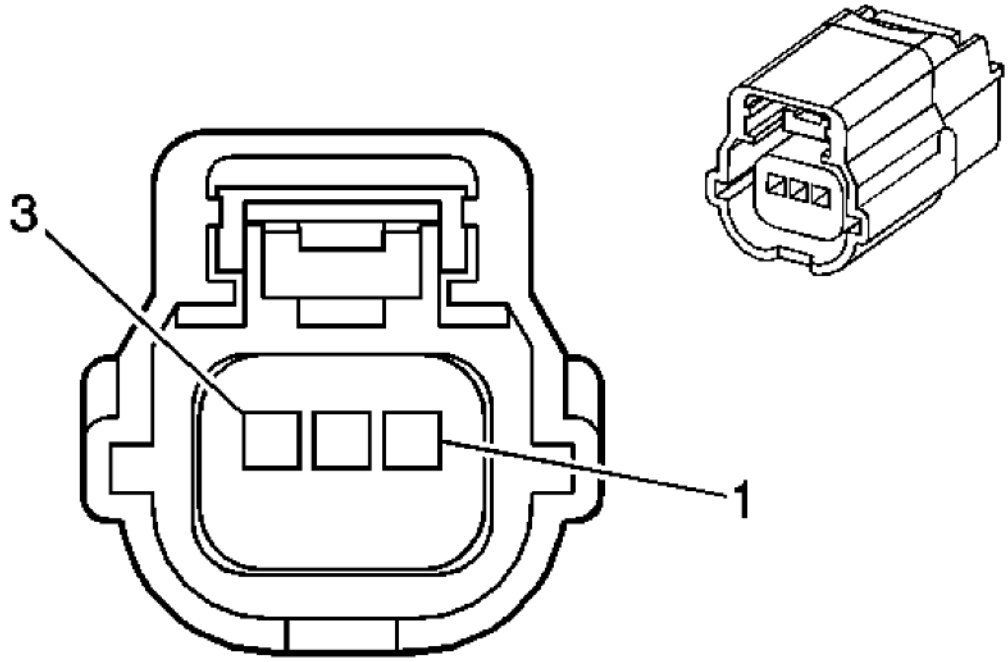


Fig. 19: B78G Rear Object Sensor - Left Outer (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

B78G Rear Object Sensor - Left Outer (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage
2	0.35 GY	2379	Low Reference
3	0.35 YE	2375	Left Rear Corner Object Sensor Signal

B78H REAR OBJECT SENSOR - RIGHT OUTER (UD7)

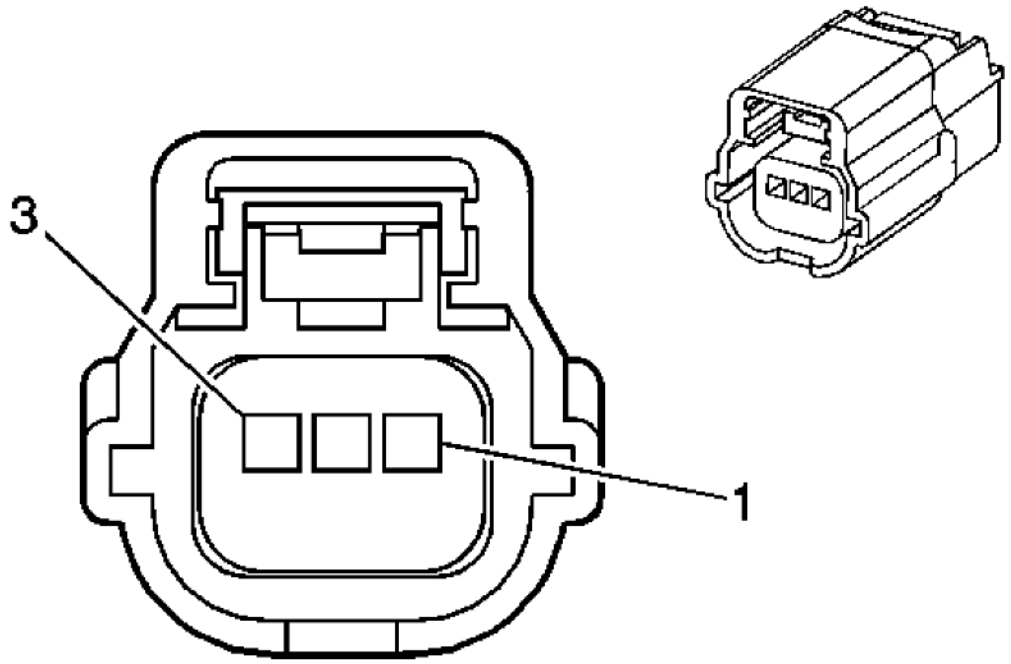


Fig. 20: B78H Rear Object Sensor - Right Outer (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B78H Rear Object Sensor - Right Outer (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage
2	0.35 GY	2379	Low Reference
3	0.35 PU	2378	Right Rear Corner Object Sensor Signal

B80 PARK BRAKE SWITCH

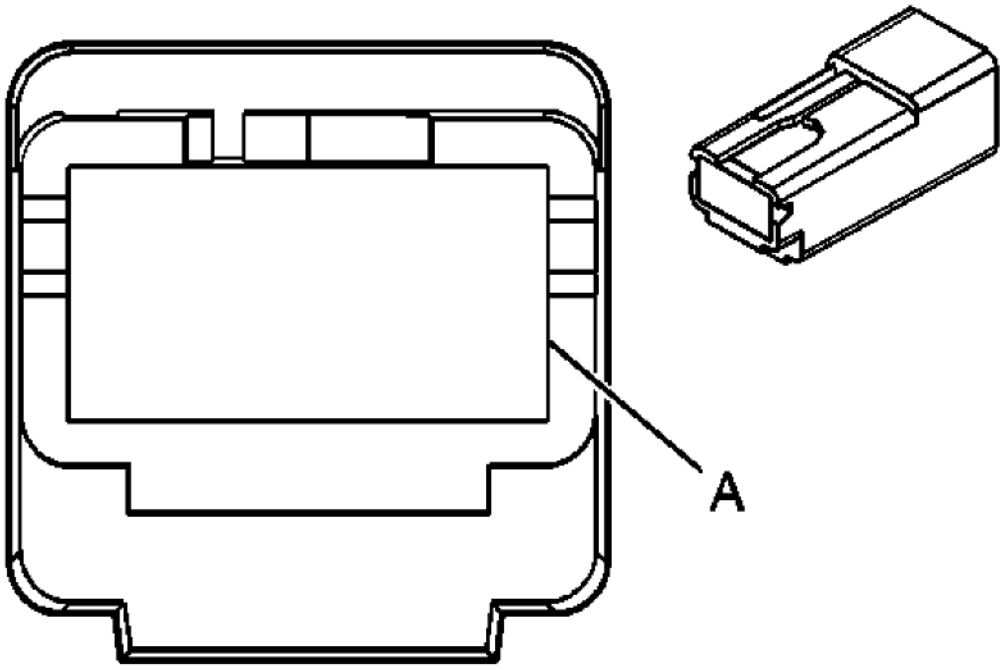


Fig. 21: B80 Park Brake Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Body
- OEM: 12092133
- Service: 12167133
- Description: 1-Way F Metri-Pack 630 Series Self Lock (BK)

Terminal Part Information

- Terminal/Tray: 12103325/3
- Core/Insulation Crimp: E/A
- Release Tool: 12094430
- Test Probe: J-35616-42 (RD)

B80 Park Brake Switch

Pin	Wire	Circuit	Function
A	0.5 L-BU	1134	Park Brake Switch Signal

B88D SEAT BELT SWITCH - DRIVER

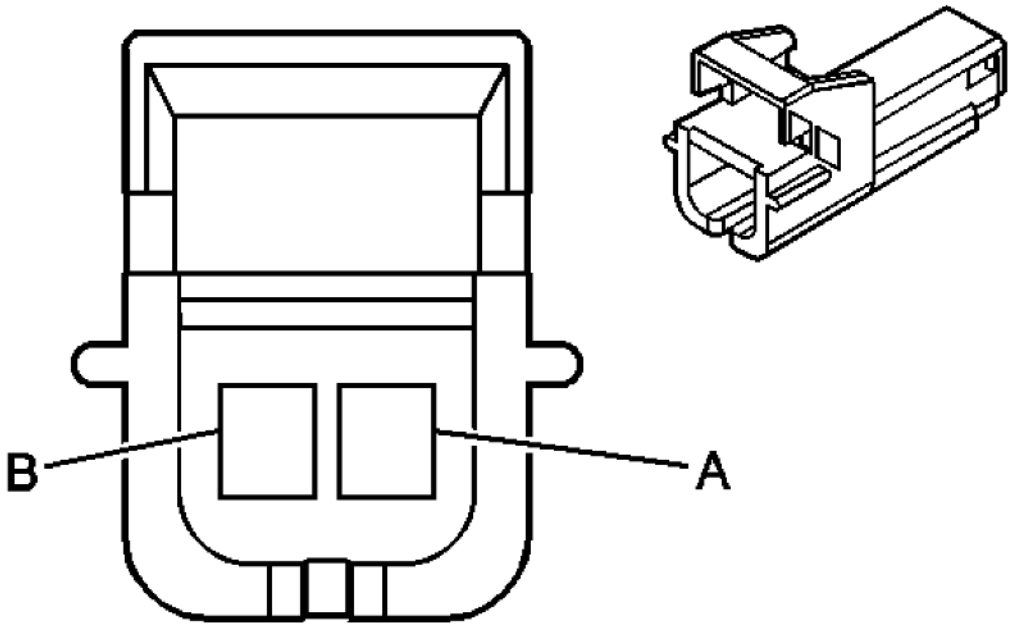


Fig. 22: B88D Seat Belt Switch - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Driver Seat
- OEM: 12052833
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (BK)

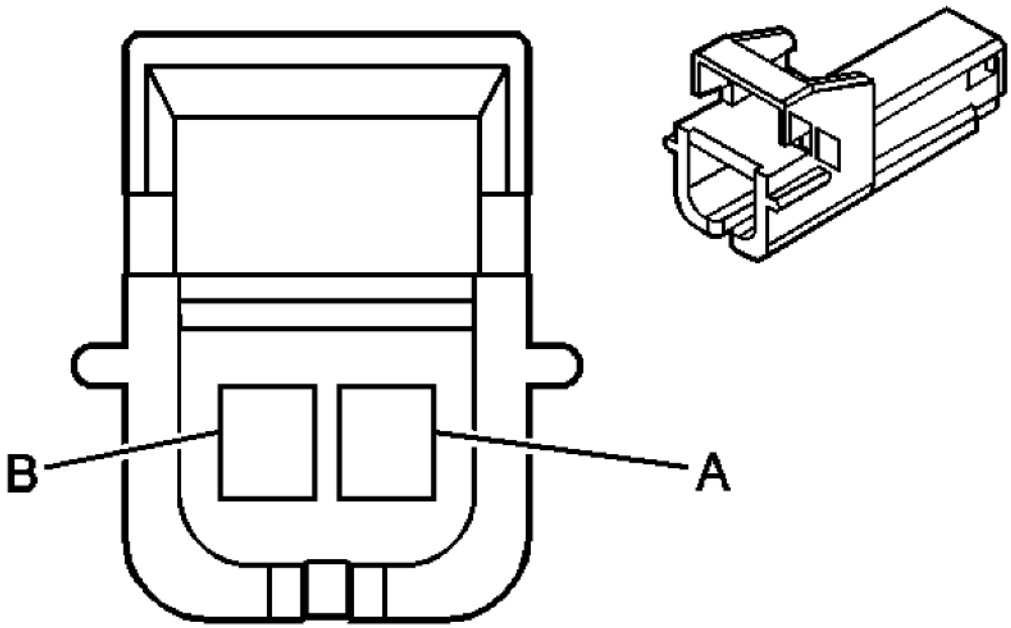
Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B88D Seat Belt Switch - Driver

Pin	Wire	Circuit	Function
A	0.35 TN/WH	238	Seat Belt Switch - Left - Signal
B	0.35 D-BU	1363	Low Reference

B88P SEAT BELT SWITCH - PASSENGER



cardiagn.com

Fig. 23: B88P Seat Belt Switch - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 12052833
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B88P Seat Belt Switch - Passenger

Pin	Wire	Circuit	Function
A	0.35 OG	1362	Seat Belt Switch - Right - Signal
B	0.35 L-BU	1361	Low Reference

B9 AMBIENT AIR TEMPERATURE SENSOR

cardiagn.com

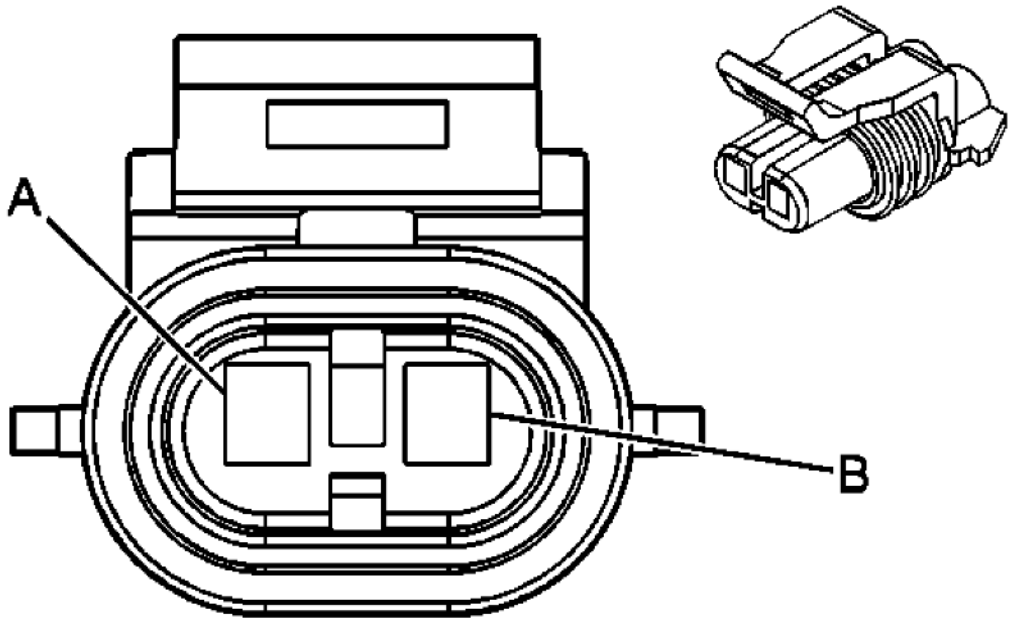


Fig. 24: B9 Ambient Air Temperature Sensor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Foward Lamp
- OEM: 13543521
- Service: 12101856
- Description: 2-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B9 Ambient Air Temperature Sensor

Pin	Wire	Circuit	Function
A	0.5 D-GN/WH	636	Ambient Air Temperature Sensor Signal
B	0.5 YE	61	Low Reference

cardiagn.com

B99 STEERING WHEEL ANGLE SENSOR

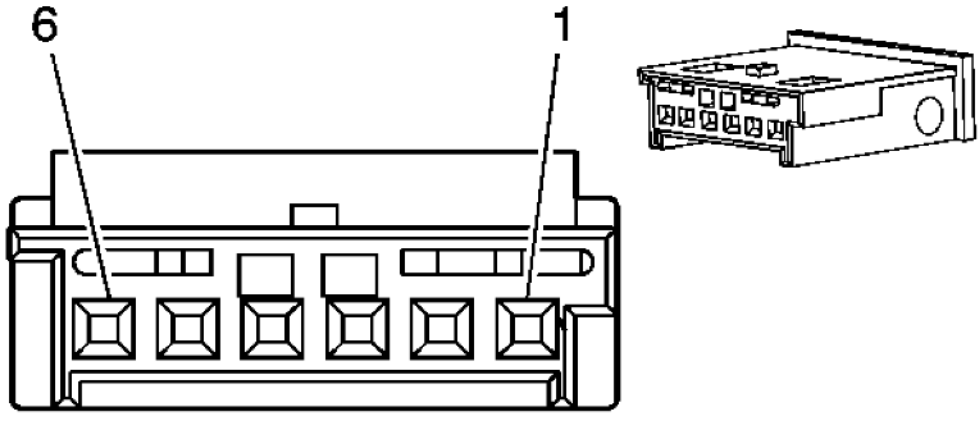


Fig. 25: B99 Steering Wheel Angle Sensor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 10820415
- Service: 19151551
- Description: 6-Way F MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 2, 3, 4, 5 - H/H
- Core/Insulation Crimp: Pin 6 - K/K
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

B99 Steering Wheel Angle Sensor

cardiagn.com

Pin	Wire	Circuit	Function
1	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
2	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
3	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
4	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
5	0.35 D-GN	2087	12-Volt Reference
6	0.8 BK	1550	Ground

C1 BATTERY +

Connector Part Information

- Terminal: K523C085
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

C1 Battery +

Pin	Wire	Circuit	Function
+	50 RD	1	Battery Positive Voltage

C1 BATTERY -

Connector Part Information

- Terminal: K3125085
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

C1 Battery -

Pin	Wire	Circuit	Function
-	50 BK	50	Ground

C3 TELEMATICS COMMUNICATION INTERFACE CONTROL MODULE BATTERY (UE1)

cardiagn.com

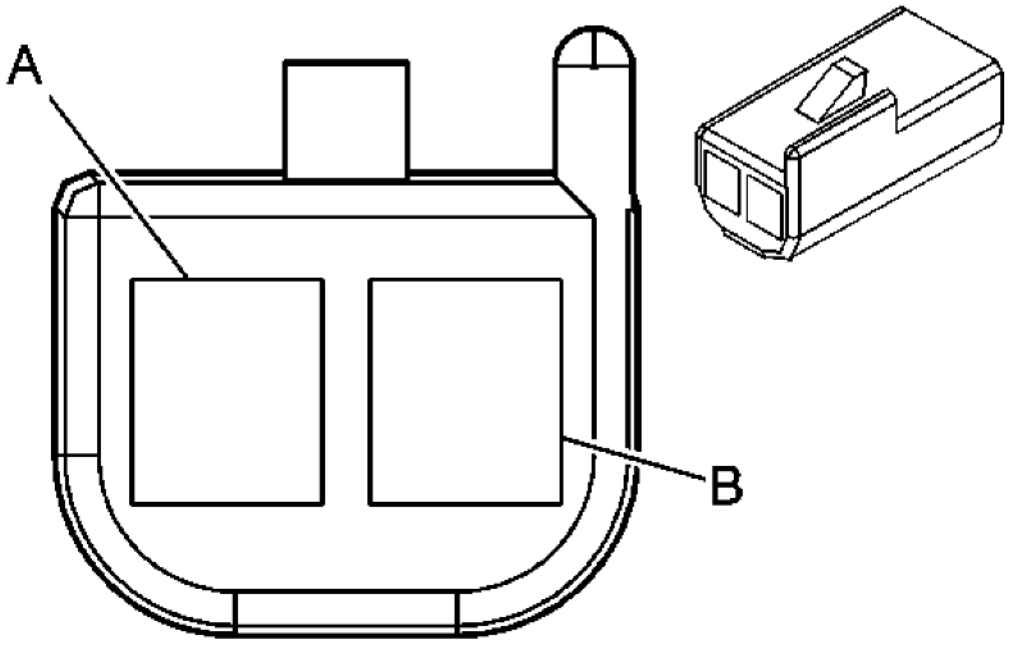


Fig. 26: C3 Telematics Communication Interface Control Module Battery (UE1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12047662
- Service: 12085535
- Description: 2-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12064971/5
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

C3 Telematics Communication Interface Control Module Battery (UE1)

Pin	Wire	Circuit	Function
A	0.35 RD/WH	5235	OnStar Backup Battery (+)
B	0.35 GY/BK	5167	OnStar Backup Battery (-)

cardiagn.com

E1D ACCENT LAMP - DRIVER DOOR (SRK/SRM)

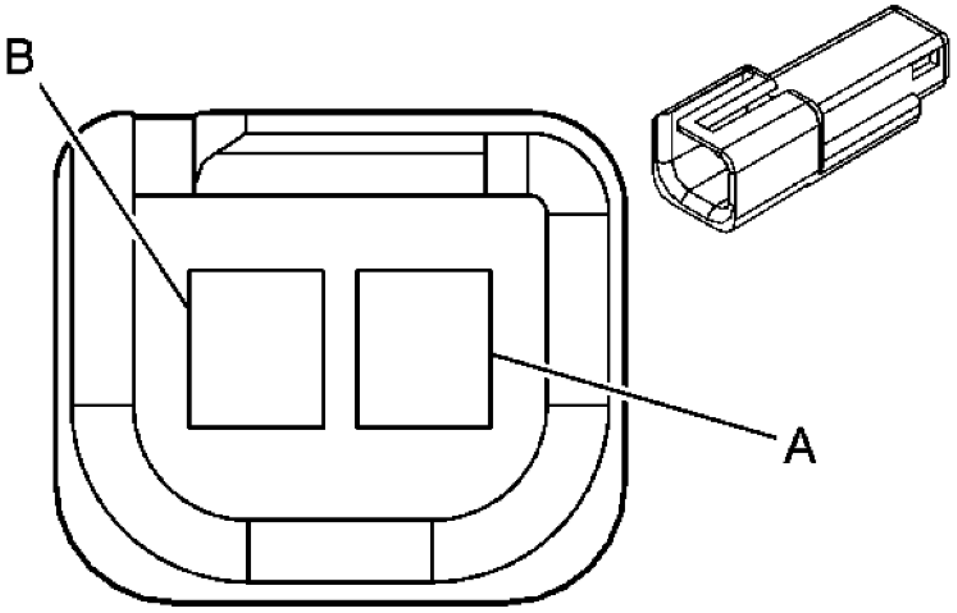


Fig. 27: E1D Accent Lamp - Driver Door (SRK/SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 12047663
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

E1D Accent Lamp - Driver Door (SRK/SRM)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 BK	850	Ground
B	0.35 PU	7558	Accent Lamps Control

E13L HEADLAMP - LEFT (T4A)

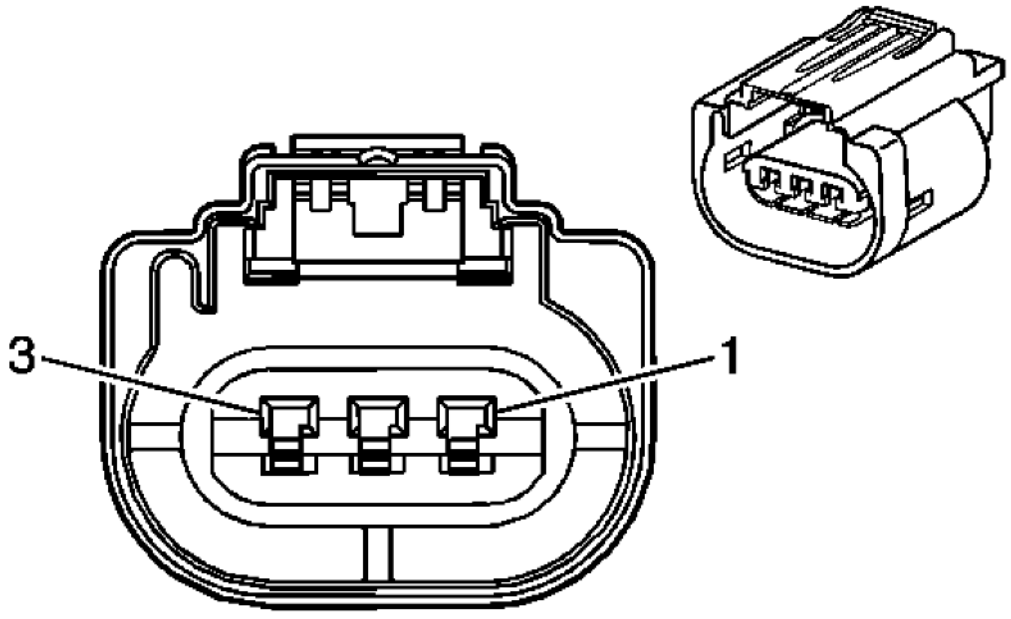


Fig. 28: E13L Headlamp - Left (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 10867142
- Service: 88988364
- Description: 3-Way F Lamp Socket, Sealed (D-GN)

Terminal Part Information

- Pins: 1
- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430

cardiagn.com

- Test Probe: J-35616-2A (GY)

- Pins: 2, 3
- Terminal/Tray: 7116-4103-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E13L Headlamp - Left (T4A)

Pin	Wire	Circuit	Function
1	0.5 YE	712	Left Headlamp Low Beam Supply Voltage
2	0.8 BK	1150	Ground
3	0.8 D-GN/WH	711	Left Headlamp High Beam Supply Voltage

E13R HEADLAMP - RIGHT (T4A)

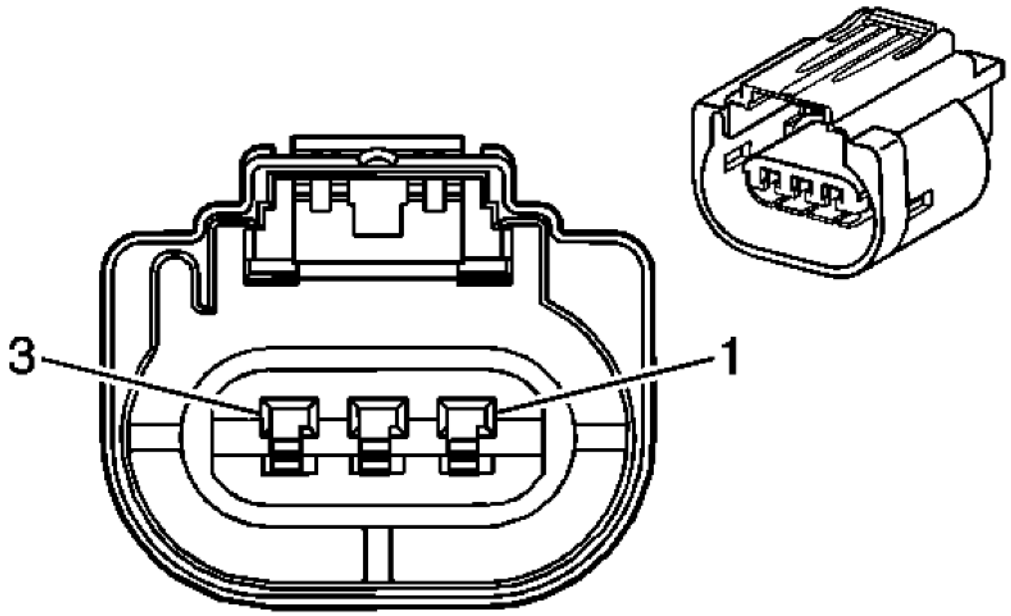


Fig. 29: E13R Headlamp - Right (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Forward Lamp
- OEM: 10867142
- Service: 88988364
- Description: 3-Way F Lamp Socket, Sealed (D-GN)

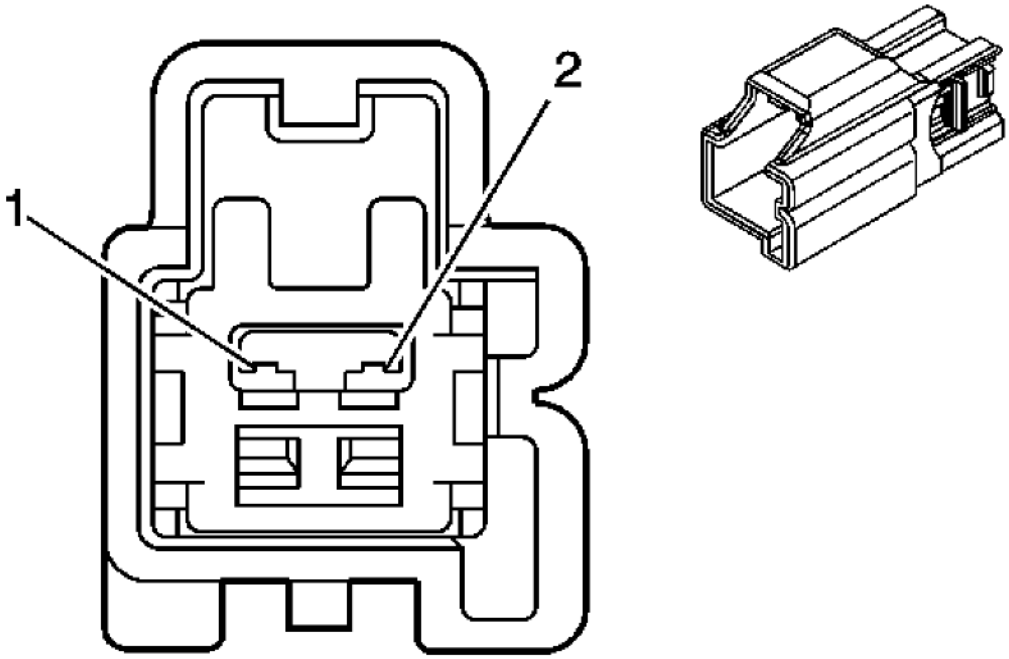
Terminal Part Information

- Terminal/Tray: 7116-4103-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E13R Headlamp - Right (T4A)

Pin	Wire	Circuit	Function
1	0.8 TN/WH	312	Right Headlamp Low Beam Supply Voltage
2	0.8 BK	1050	Ground
3	0.8 L-GN/BK	311	Right Headlamp High Beam Supply Voltage

E14A SEAT HEATING ELEMENT - DRIVER BACK (KA1)



cardiagn.com

Fig. 30: E14A Seat Heating Element - Driver Back (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 7282-6443-40
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4101-08/9
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14A Seat Heating Element - Driver Back (KA1)

Pin	Wire	Circuit	Function
1	0.8 L-BU	2424	Driver Heated Seat Back Element Control
2	0.8 PK	2078	Heated Seat Cushion Element Control

E14B SEAT HEATING ELEMENT - DRIVER CUSHION (KA1)

cardiagn.com

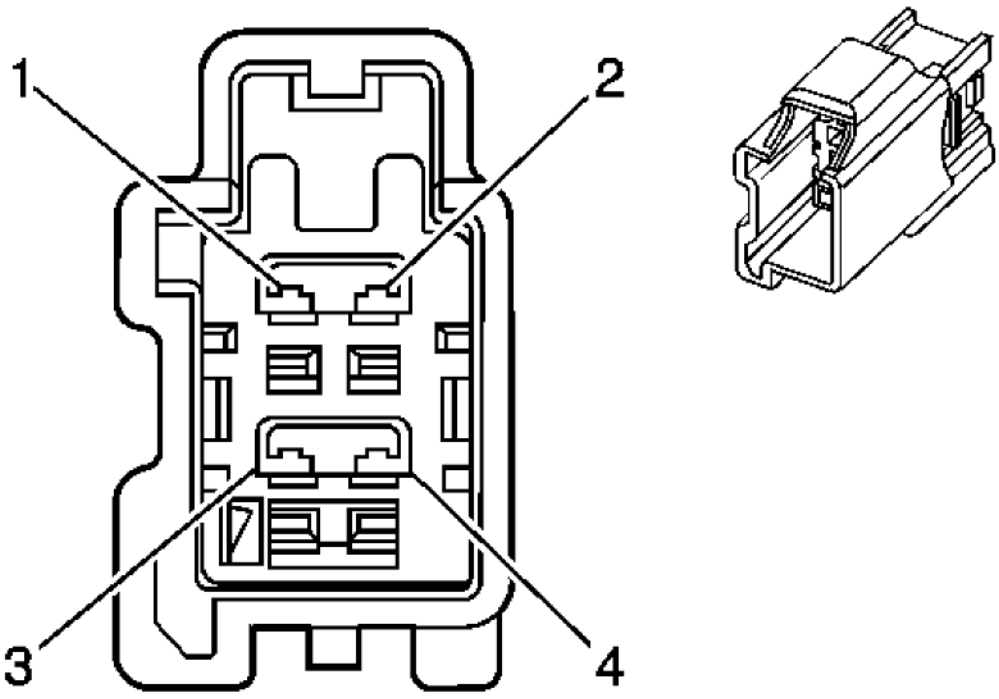


Fig. 31: E14B Seat Heating Element - Driver Cushion (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 7282-6449-40
- Service: Service by Harness - See Part Catalog
- Description: 4-Way M Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4100-08/9
- Core/Insulation Crimp: Pins - 1, 2 - E/C
- Core/Insulation Crimp: Pins - 3, 4 - E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14B Seat Heating Element - Driver Cushion (KA1)

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 PK	2080	Low Reference
2	0.5 GY	2079	Heated Seat Cushion Temperature Sensor Signal
3	0.8 D-BU	2077	Heated Seat Cushion Element Supply Voltage
4	0.8 PK	2078	Heated Seat Cushion Element Control

E14C SEAT HEATING ELEMENT - PASSENGER BACK (KA1)

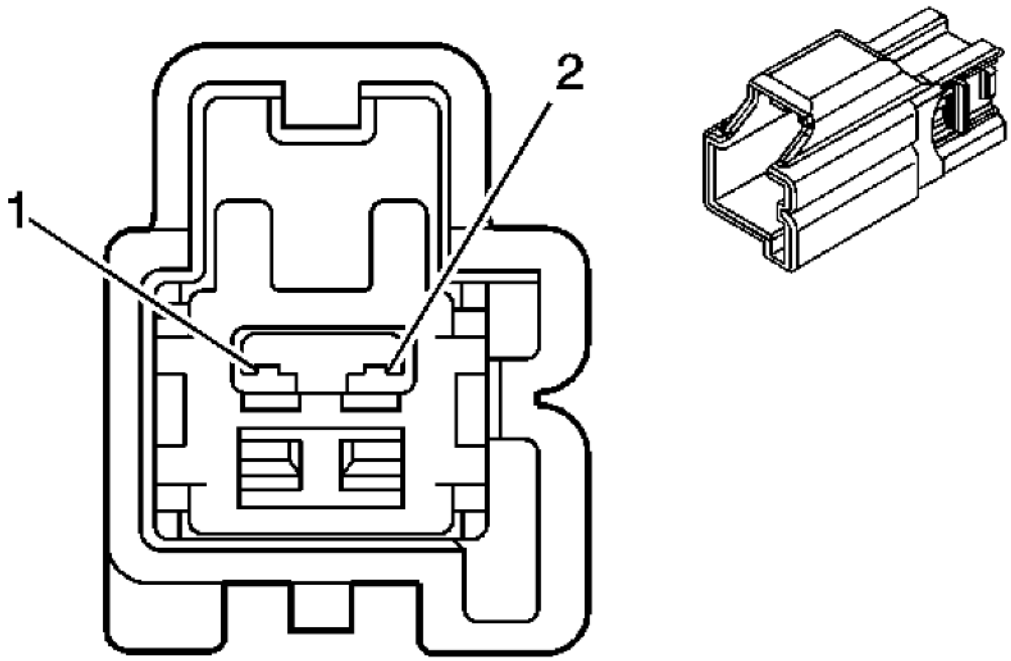


Fig. 32: E14C Seat Heating Element - Passenger Back (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 7282-6443-40
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (L-GY)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 7114-4101-08/9
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14C Seat Heating Element - Passenger Back (KA1)

Pin	Wire	Circuit	Function
1	0.8 L-BU	2433	Passenger Heated Seat Back Element Control
2	0.8 PK	2480	Passenger Heated Seat Cushion Element Control

E14D SEAT HEATING ELEMENT - PASSENGER CUSHION (KA1)

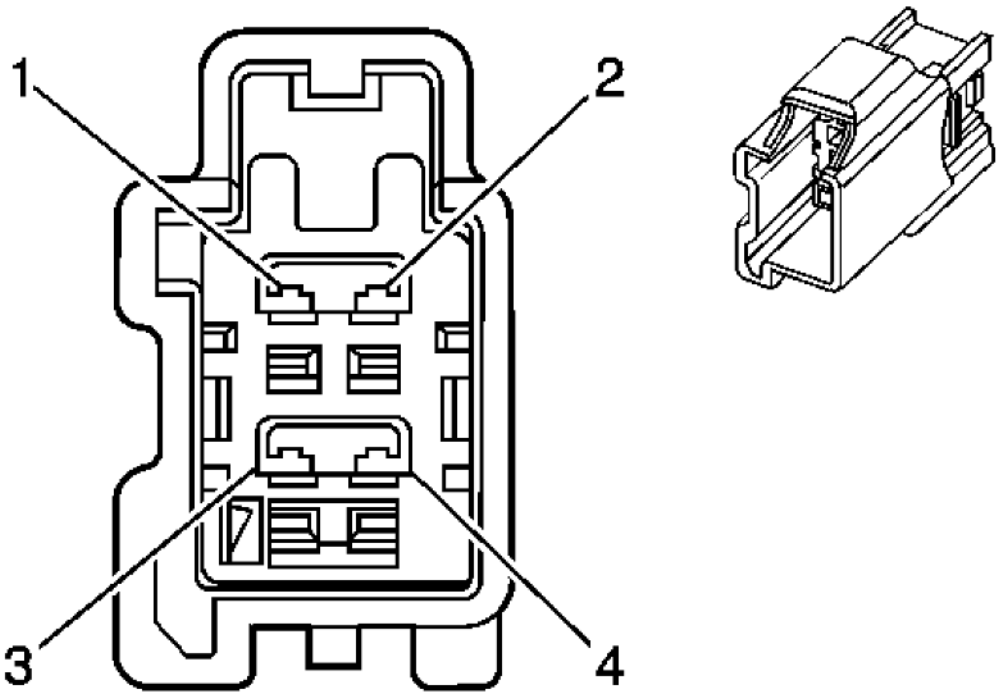


Fig. 33: E14D Seat Heating Element - Passenger Cushion (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Driver Seat
- OEM: 7282-6449-40
- Service: Service by Harness - See Part Catalog
- Description: 4-Way M Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4100-08/9
- Core/Insulation Crimp: Pins - 1, 2 - E/C
- Core/Insulation Crimp: Pins - 3, 4 - E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14D Seat Heating Element - Passenger Cushion (KA1)

Pin	Wire	Circuit	Function
1	0.5 PK	2435	Low Reference
2	0.5 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal
3	0.8 D-BU	2479	Passenger Heated Seat Element Supply Voltage
4	0.8 PK	2480	Passenger Heated Seat Cushion Element Control

E18 REAR DEFOGGER GRID X1

cardiagn.com

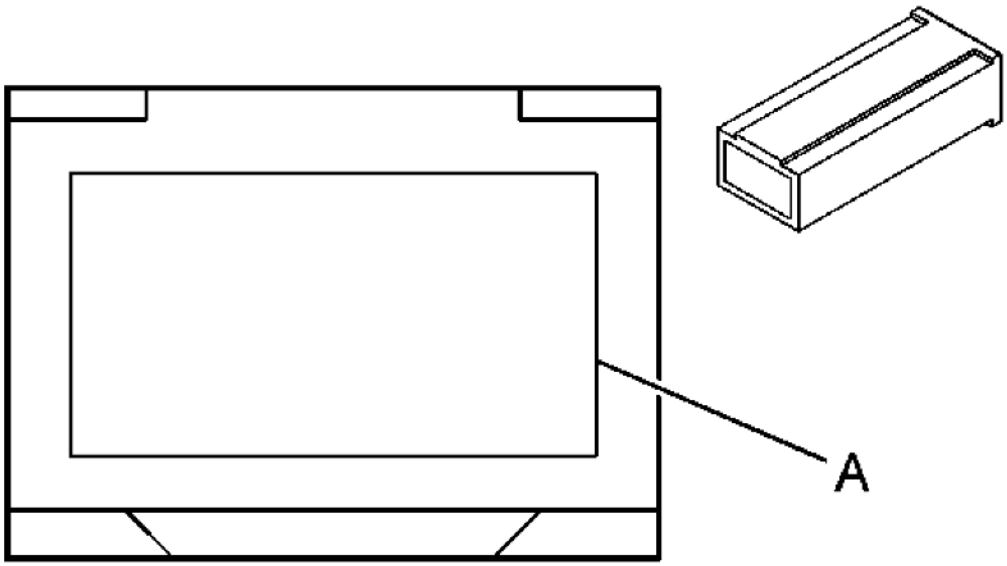


Fig. 34: E18 Rear Defogger Grid X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Not Available

E18 Rear Defogger Grid X1

Pin	Wire	Circuit	Function
A	5 PU	293	Rear Defog Element Supply Voltage

E18 REAR DEFOGGER GRID X2

cardiagn.com

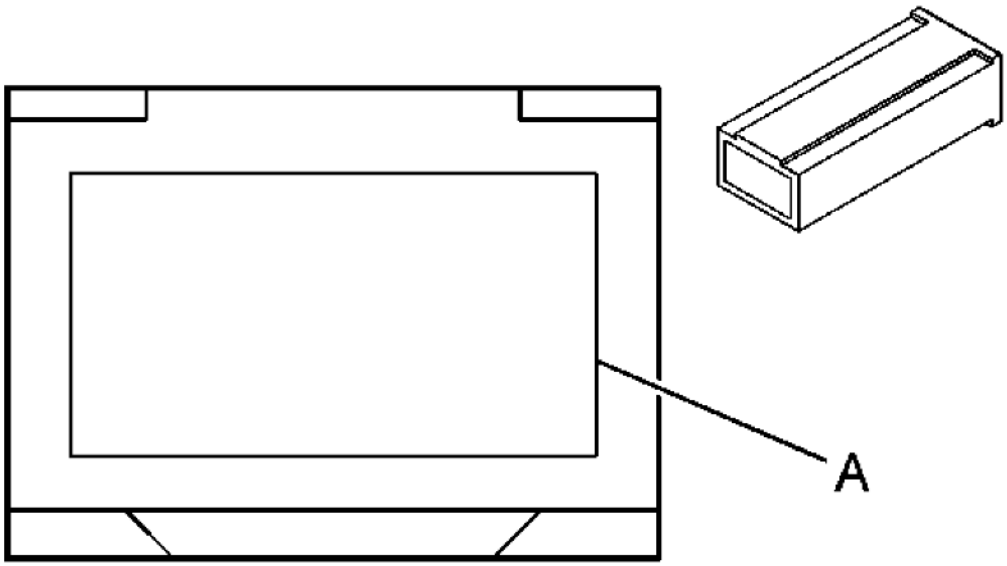


Fig. 35: E18 Rear Defogger Grid X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

E18 Rear Defogger Grid X2

Pin	Wire	Circuit	Function
A	5 BK	2950	Ground

E1G ACCENT LAMP - LEFT I/P (SRK OR SRM)

cardiagn.com

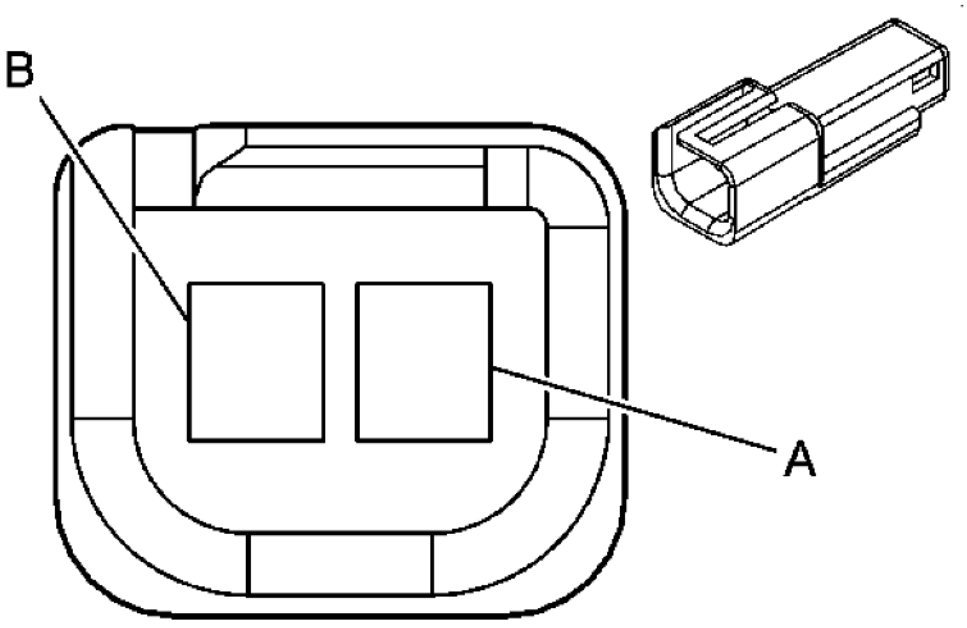


Fig. 36: E1G Accent Lamp - Left I/P (SRK or SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12089868
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: Pin A - E/A
- Core/Insulation Crimp: Pin B - E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

E1G Accent Lamp - Left I/P (SRK or SRM)

Pin	Wire	Circuit	Function
A	0.8 BK	1450	Ground

cardiagn.com

B	0.35 PU	7558	Accent Lamps Control

E1H ACCENT LAMP - RIGHT I/P (SRK OR SRM)

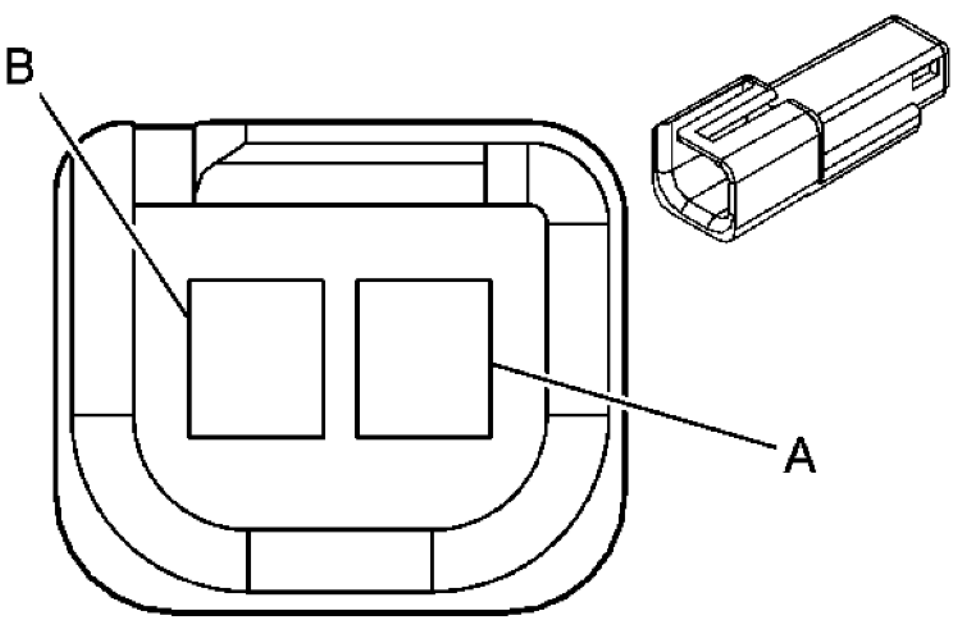


Fig. 37: E1H Accent Lamp - Right I/P (SRK or SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12089868
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: Pin A - E/A
- Core/Insulation Crimp: Pin B - E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

cardiagn.com

E1H Accent Lamp - Right I/P (SRK or SRM)

Pin	Wire	Circuit	Function
A	0.8 BK	1450	Ground
B	0.35 PU	7558	Accent Lamps Control

E1P ACCENT LAMP - PASSENGER DOOR (SRK/SRM)

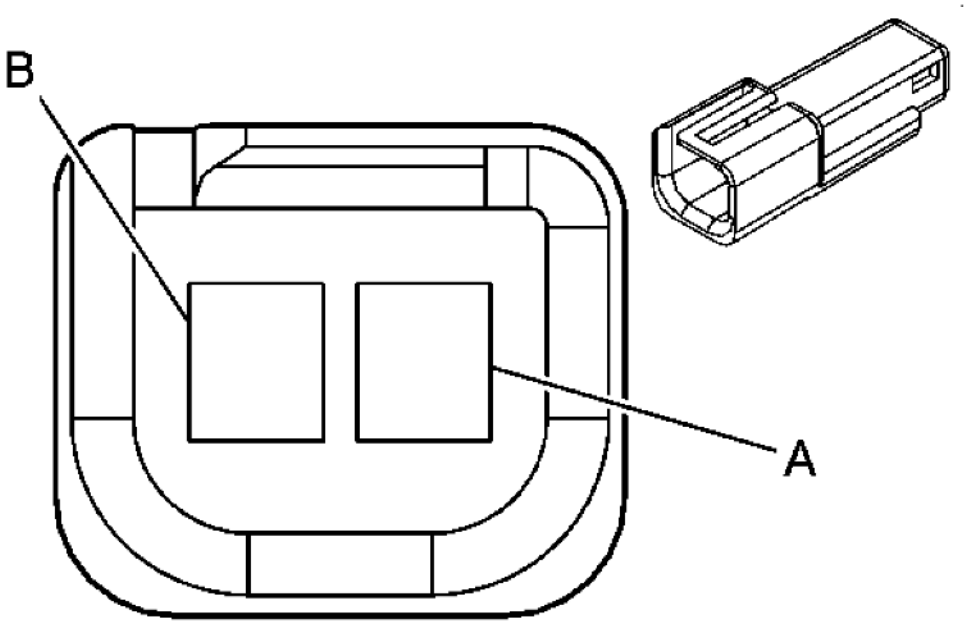


Fig. 38: E1P Accent Lamp - Passenger Door (SRK/SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 12047663
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

E1P Accent Lamp - Passenger Door (SRK/SRM)

Pin	Wire	Circuit	Function
A	0.35 BK	2350	Ground
B	0.35 PU	7558	Accent Lamps Control

E17D OUTSIDE REARVIEW MIRROR GLASS - DRIVER

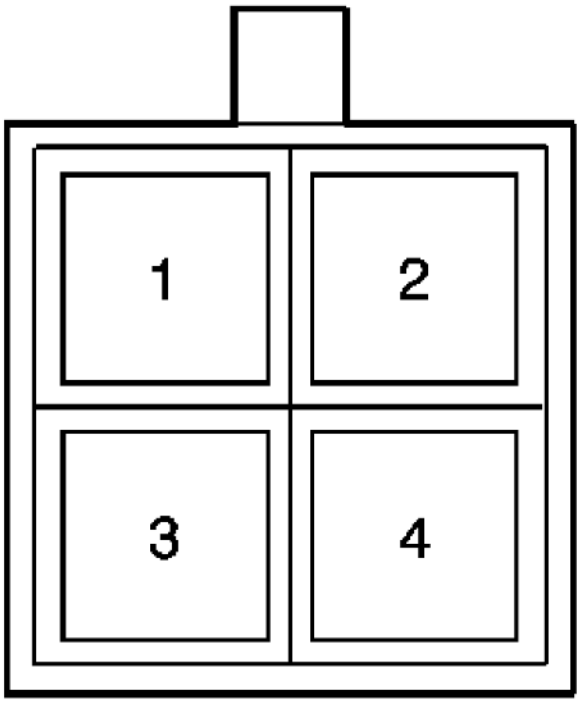


Fig. 39: E17D Outside Rearview Mirror Glass - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Driver
- OEM: MHFS 104W

cardiagn.com

- Service: Not Available
- Description: 4-Way F (WH)

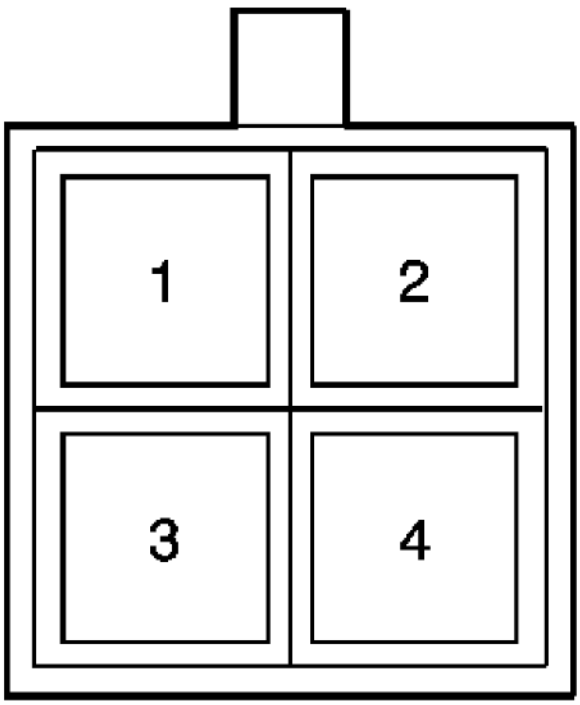
Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

E17D Outside Rearview Mirror Glass - Driver

Pin	Wire	Circuit	Function
1	0.35 BN/BK	1690	Automatic Day/Night Mirror Signal
2	0.35 BN	1691	Low Reference
3	0.35 BK	850	Ground
4	0.35 BK	2267	Mirror Heating Element Supply Voltage

E17P OUTSIDE REARVIEW MIRROR GLASS - PASSENGER



cardiagn.com

Fig. 40: E17P Outside Rearview Mirror Glass - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Passenger
- OEM: MHFS 104W
- Service: Not Available
- Description: 4-Way F (WH)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

E17P Outside Rearview Mirror Glass - Passenger

Pin	Wire	Circuit	Function
1	0.35 BK	2267	Mirror Heating Element Supply Voltage
2	0.35 BK	2350	Ground
3-4	-	-	Not Used

E29LF FOG LAMP - LEFT FRONT (T3U)

cardiagn.com

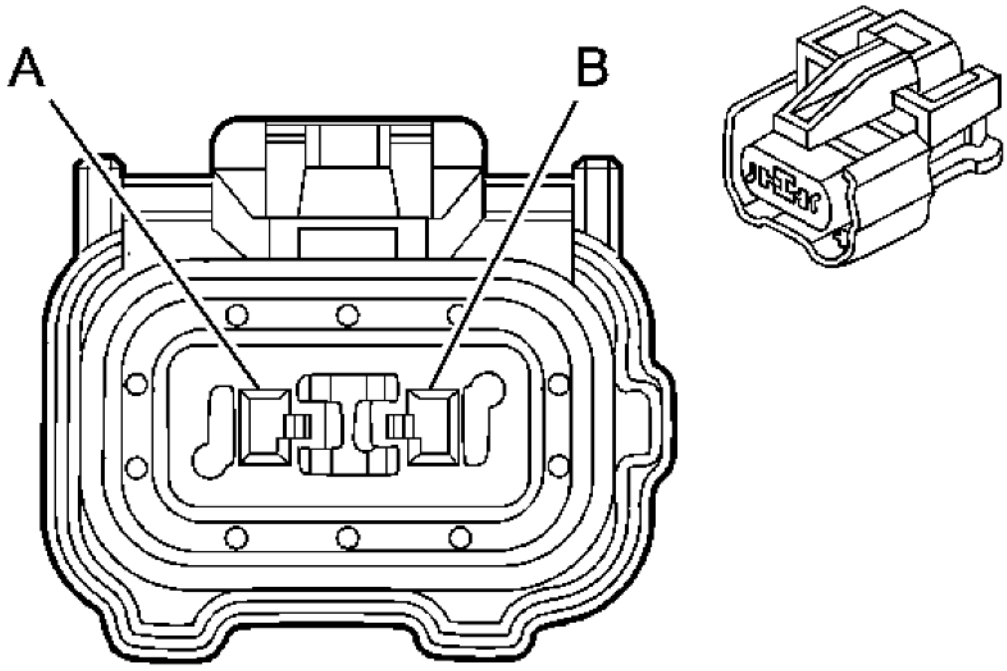


Fig. 41: E29LF Fog Lamp - Left Front (T3U) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13513272
- Service: 19153187
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15496531/8
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-29
- Test Probe: J-35616-2A (GY)

E29LF Fog Lamp - Left Front (T3U)

Pin	Wire	Circuit	Function
A	0.5 BK	1150	Ground

cardiagn.com

B	0.5 PU	2234	Front Fog Lamp Supply Voltage

E29RF FOG LAMP - RIGHT FRONT (T3U)

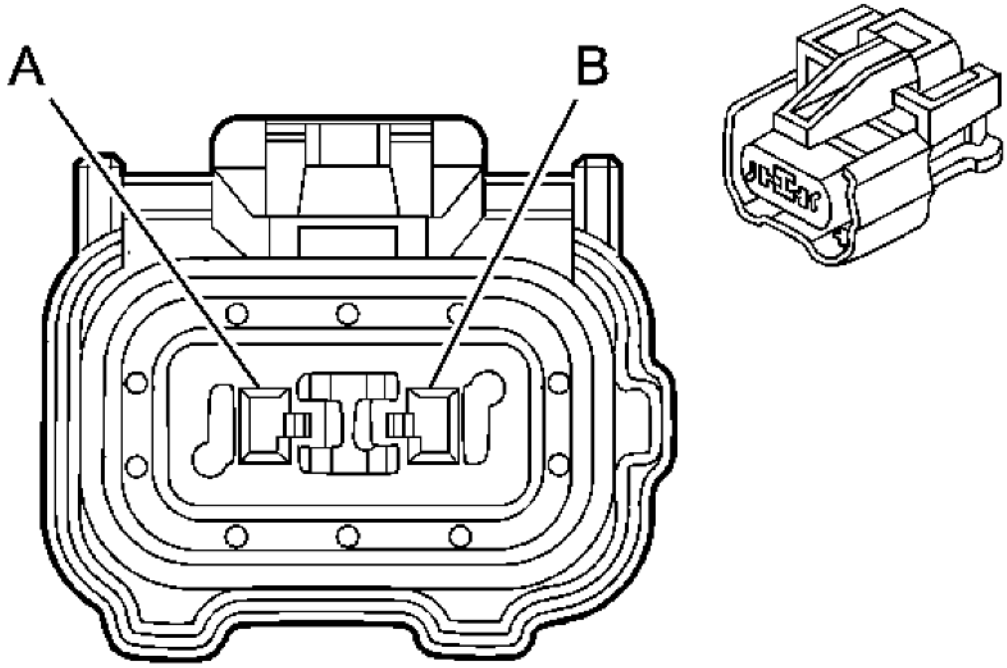


Fig. 42: E29RF Fog Lamp - Right Front (T3U) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13513272
- Service: 19153187
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15496531/8
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-29
- Test Probe: J-35616-2A (GY)

cardiagn.com

E29RF Fog Lamp - Right Front (T3U)

Pin	Wire	Circuit	Function
A	0.5 BK	1050	Ground
B	0.5 PU	2234	Front Fog Lamp Supply Voltage

E2LF SIDE MARKER LAMP - LEFT FRONT

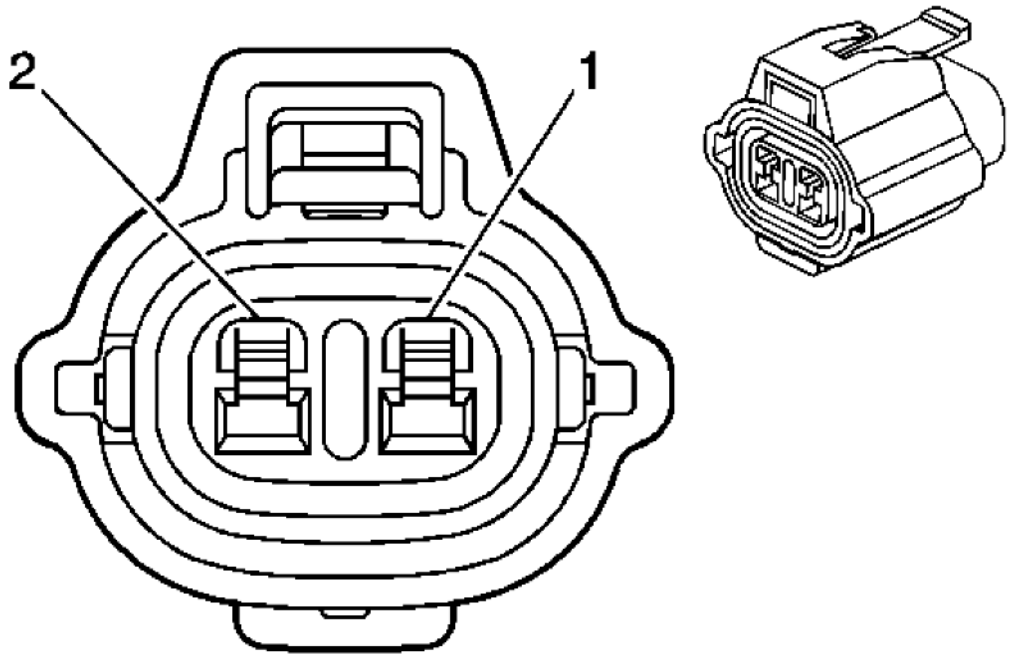


Fig. 43: E2LF Side Marker Lamp - Left Front Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

Terminal Part Information

- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2LF Side Marker Lamp - Left Front

Pin	Wire	Circuit	Function
1	0.5 PU	709	Left Park Lamp Supply Voltage
2	0.5 BK	1150	Ground

E2LR SIDE MARKER LAMP - LEFT REAR

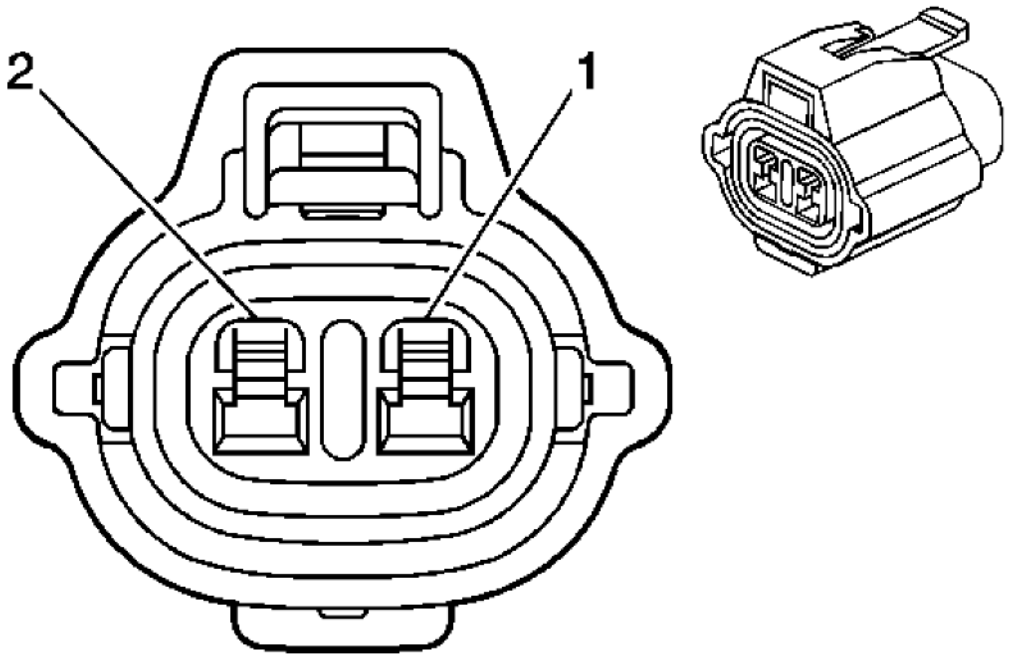


Fig. 44: E2LR Side Marker Lamp - Left Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2LR Side Marker Lamp - Left Rear

Pin	Wire	Circuit	Function
1	0.5 PU	709	Left Park Lamp Supply Voltage
2	0.5 BK	2550	Ground

E2RF SIDE MARKER LAMP - RIGHT FRONT

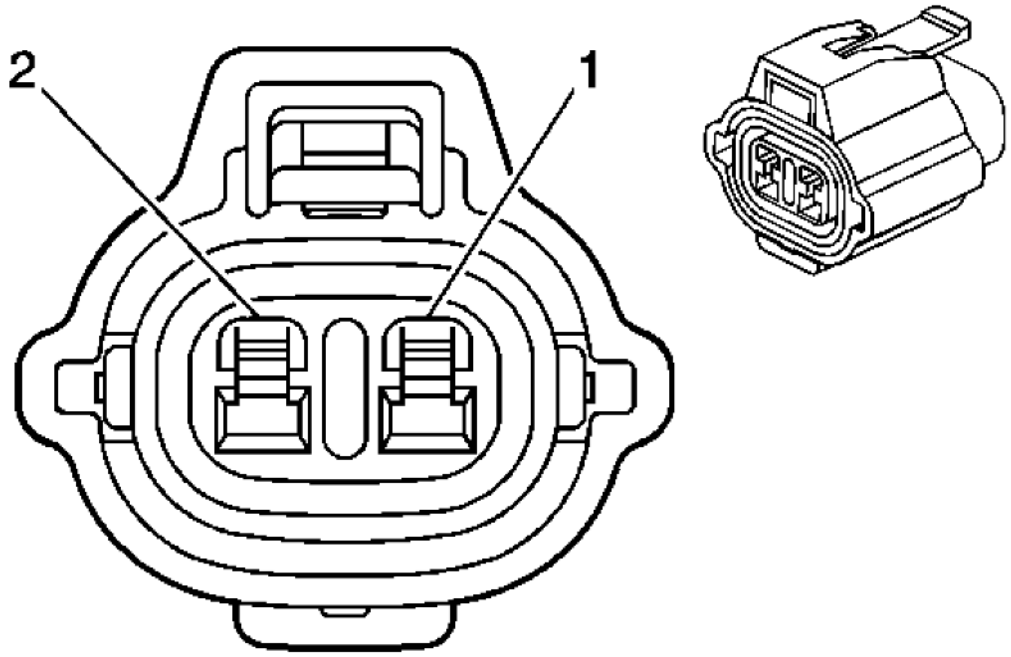


Fig. 45: E2RF Side Marker Lamp - Right Front Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp

cardiagn.com

- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

Terminal Part Information

- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2RF Side Marker Lamp - Right Front

Pin	Wire	Circuit	Function
1	0.5 BN/WH	309	Right Park Lamp Supply Voltage
2	0.5 BK	1050	Ground

E2RR SIDE MARKER LAMP - RIGHT REAR

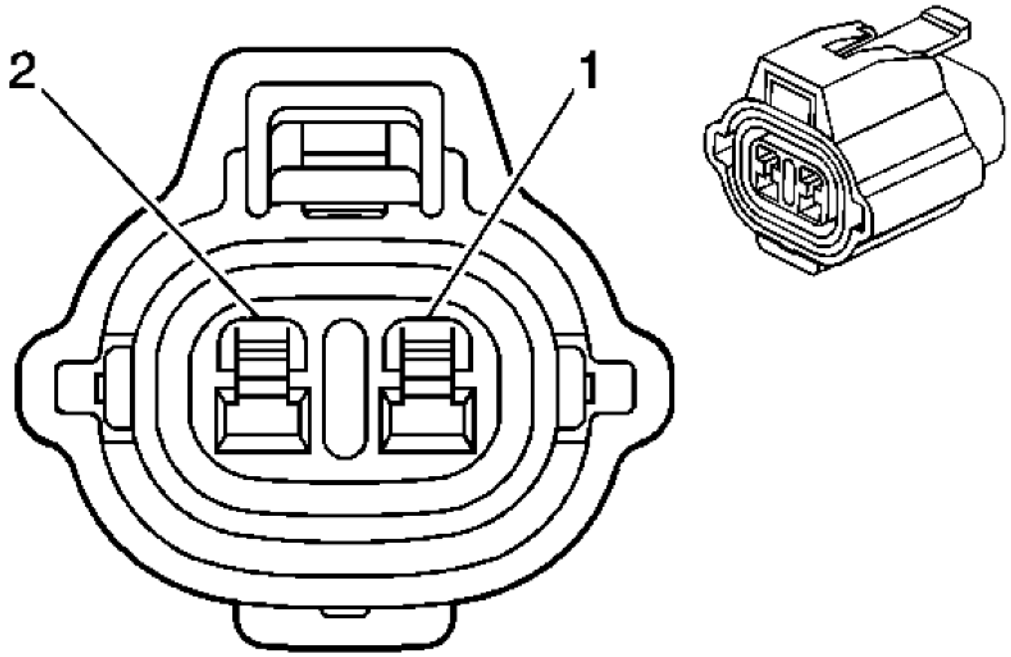


Fig. 46: E2RR Side Marker Lamp - Right Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Rear Fascia
- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

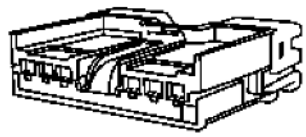
Terminal Part Information

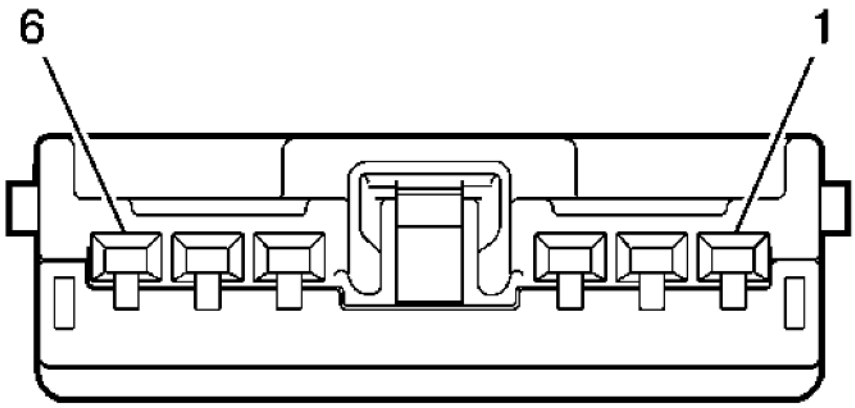
- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2RR Side Marker Lamp - Right Rear

Pin	Wire	Circuit	Function
1	0.5 BN/WH	309	Right Park Lamp Supply Voltage
2	0.5 BK	550	Ground

E37A DOME/READING LAMPS





cardiagn.com

Fig. 47: E37A Dome/Reading Lamps Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13641551
- Service: 19115647
- Description: 6-Way F 1.5 Series (BK)

Terminal Part Information

- Terminal/Tray: 8240-0127/22
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

E37A Dome/Reading Lamps

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.5 GY	157	Courtesy Lamp Control
3	-	-	Not Used
4	0.35 PU	328	Interior lamp Defeat Switch Signal
5	0.35 WH	156	Courtesy Lamp Switch Signal
6	0.35 BK	1550	Ground

E4C DAYTIME RUNNING LAMP - LEFT (T4F)

cardiagn.com

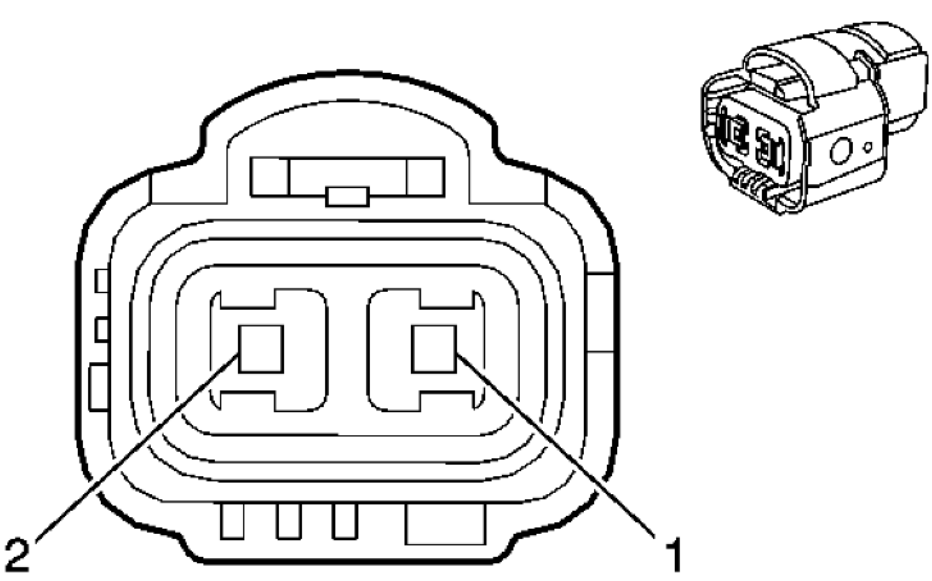


Fig. 48: E4C Daytime Running Lamp - Left (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13693815
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 13648599/See Terminal Repair Kit
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: See Terminal Repair Kit
- Test Probe: See Terminal Repair Kit

E4C Daytime Running Lamp - Left (T4F)

Pin	Wire	Circuit	Function
1	0.5 L-BU	7538	DRL Control
2	0.5 BK	1150	Ground

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

E4D DAYTIME RUNNING LAMP - RIGHT (T4F)

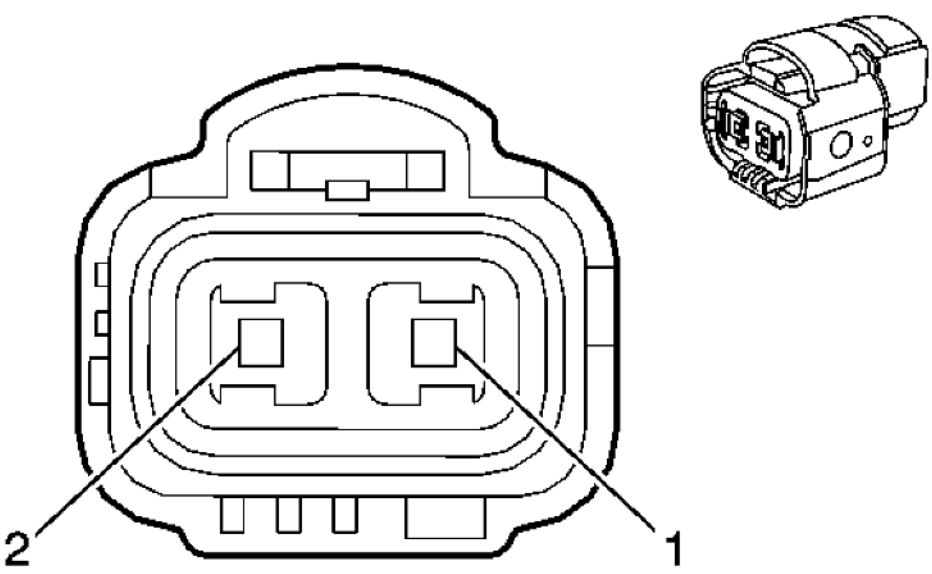


Fig. 1: E4D Daytime Running Lamp - Right (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13693815
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 13648599/See Terminal Repair Kit

cardiagn.com

- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: See Terminal Repair Kit
- Test Probe: See Terminal Repair Kit

E4D Daytime Running Lamp - Right (T4F)

Pin	Wire	Circuit	Function
1	0.5 D-BU	7539	DRL Control
2	0.5 BK	1050	Ground

E4LF TURN SIGNAL LAMP - LEFT FRONT (T4F)

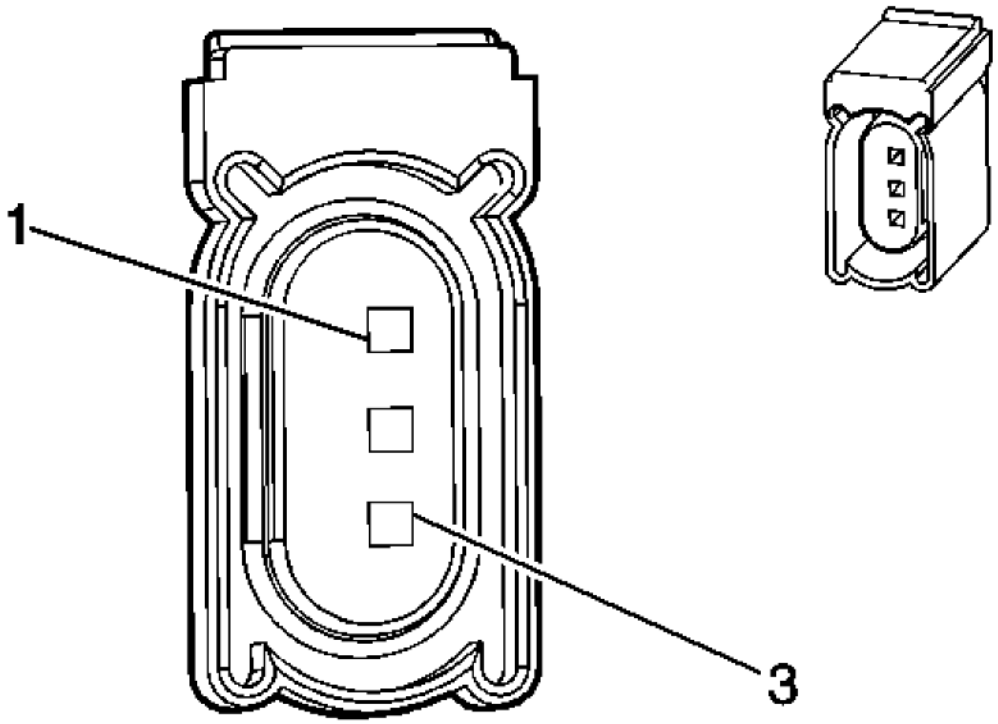


Fig. 2: E4LF Turn Signal Lamp - Left Front (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp

cardiagn.com

- OEM: 13539910
- Service: 88988383
- Description: 3-Way F Base 3, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4LF Turn Signal Lamp - Left Front (T4F)

Pin	Wire	Circuit	Function
1	0.5 BK	1150	Ground
2	-	-	Not Available
3	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage

E4N PARK/TURN SIGNAL LAMP - LEFT (T4A)

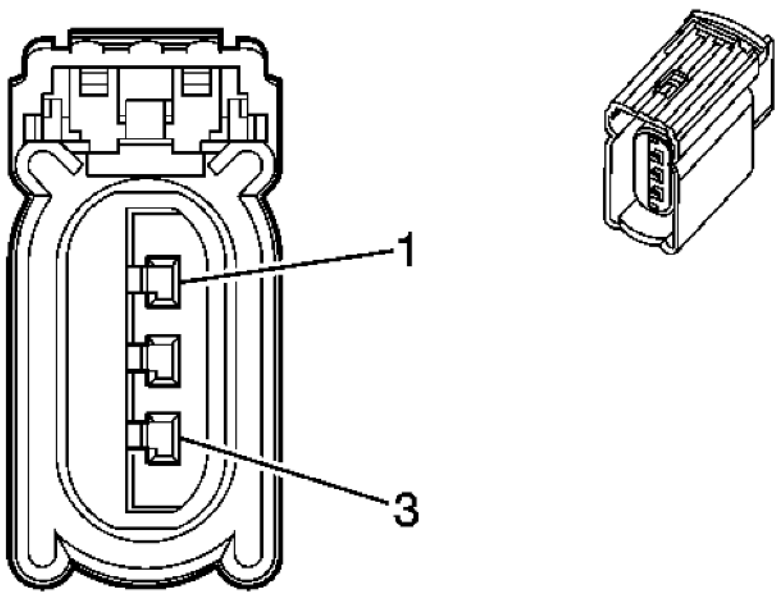


Fig. 3: E4N Park/Turn Signal Lamp - Left (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Forward Lamp
- OEM: 15466016
- Service: 88988599
- Description: 3-Way F Receptacle 1.5, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4N Park/Turn Signal Lamp - Left (T4A)

Pin	Wire	Circuit	Function
1	0.5 BK	1150	Ground
2	0.5 PU	709	Left Park Lamp Supply Voltage
3	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage

E4P PARK/TURN SIGNAL LAMP - RIGHT (T4A)

cardiagn.com

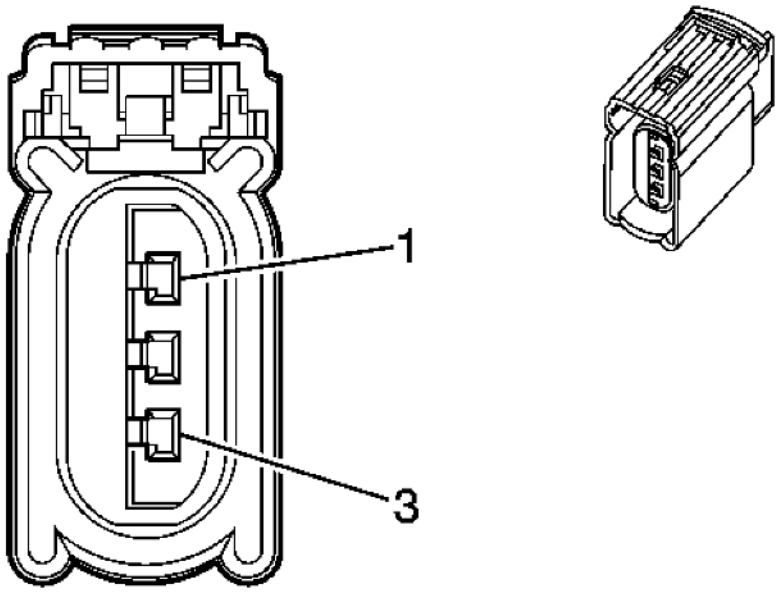


Fig. 4: E4P Park/Turn Signal Lamp - Right (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15466016
- Service: 88988599
- Description: 3-Way F Receptacle 1.5, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4P Park/Turn Signal Lamp - Right (T4A)

Pin	Wire	Circuit	Function
1	0.5 BK	1050	Ground
2	0.5 BN/WH	309	Right Park Lamp Supply Voltage

cardiagn.com

3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage

E4RF TURN SIGNAL LAMP - RIGHT FRONT (T4F)

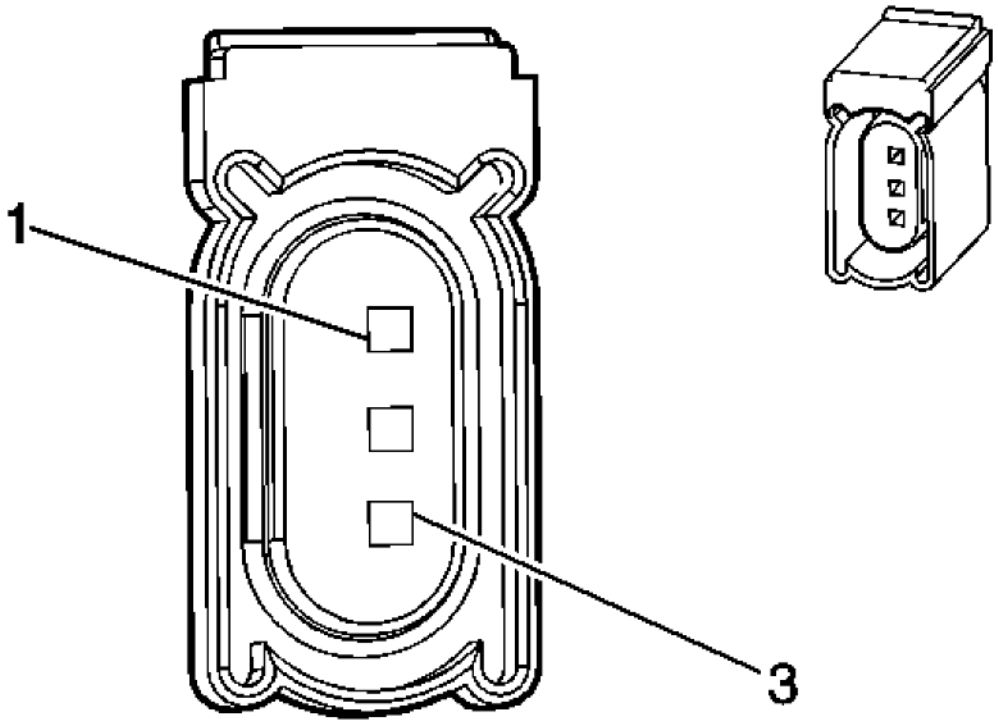


Fig. 5: E4RF Turn Signal Lamp - Right Front (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13539910
- Service: 88988383
- Description: 3-Way F Base 3, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4RF Turn Signal Lamp - Right Front (T4F)

Pin	Wire	Circuit	Function
1	0.5 BK	1050	Ground
2	-	-	Not Available
3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage

E5A BACKUP LAMP - LEFT

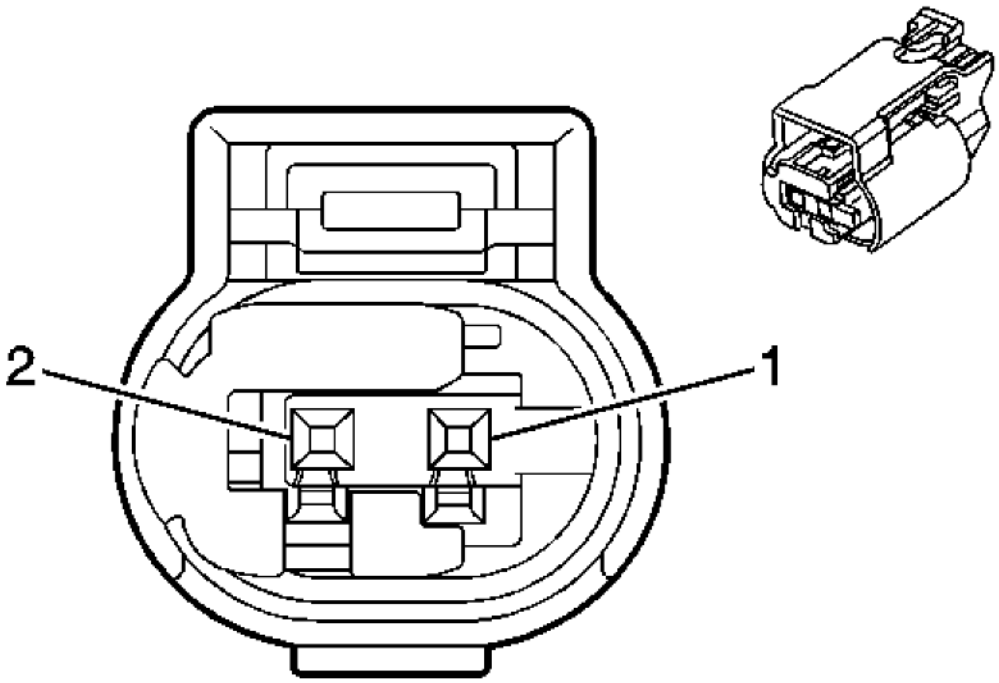


Fig. 6: E5A Backup Lamp - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Rear Fascia
- OEM: 13531640
- Service: 19149296
- Description: 2-Way F Clean Body Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 962885-5/15
- Core/Insulation Crimp: 6/6
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

E5A Backup Lamp - Left

Pin	Wire	Circuit	Function
1	0.5 L-GN	24	Backup Lamp Supply Voltage
2	0.5 BK	2550	Ground

E5AE TAIL/STOP AND TURN SIGNAL LAMP - LEFT INNER

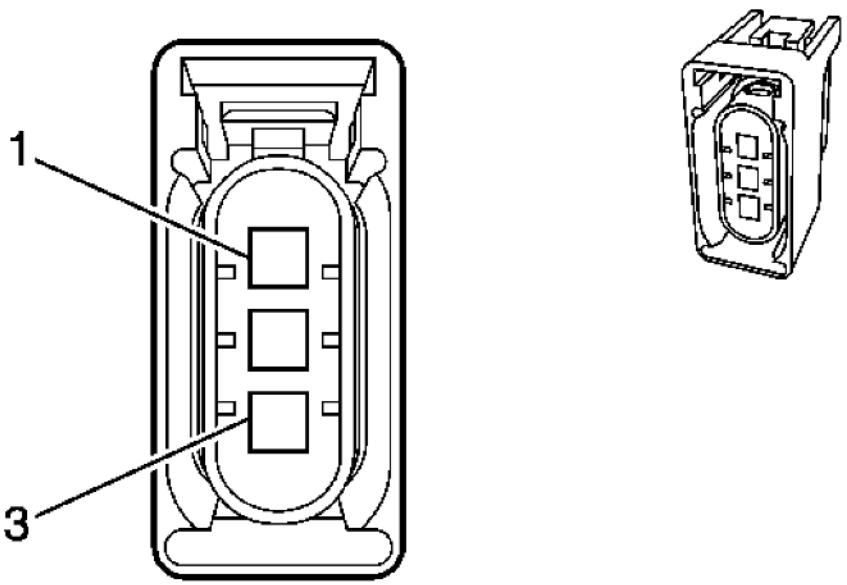


Fig. 7: E5AE Tail/Stop and Turn Signal Lamp - Left Inner Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041
- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5AE Tail/Stop and Turn Signal Lamp - Left Inner

Pin	Wire	Circuit	Function
1	0.5 BK	2550	Ground
2	0.5 PU	709	Left Park Lamp Supply Voltage
3	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage

E5AF TAIL/STOP AND TURN SIGNAL LAMP - RIGHT INNER

cardiagn.com

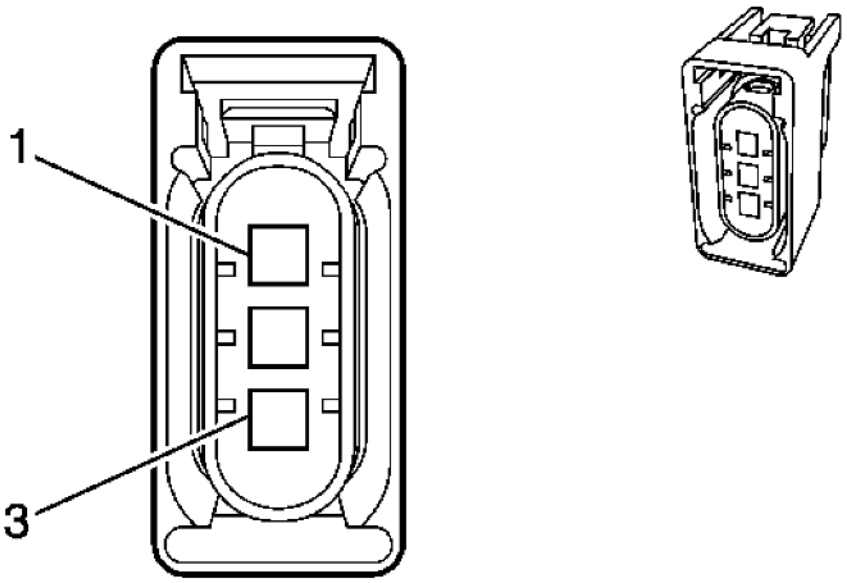


Fig. 8: E5AF Tail/Stop and Turn Signal Lamp - Right Inner Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041
- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5AF Tail/Stop and Turn Signal Lamp - Right Inner

Pin	Wire	Circuit	Function
1	0.5 BK	550	Ground
2	0.5 BN/WH	309	Right Park Lamp Supply Voltage

cardiagn.com

3	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage

E5B BACKUP LAMP - RIGHT

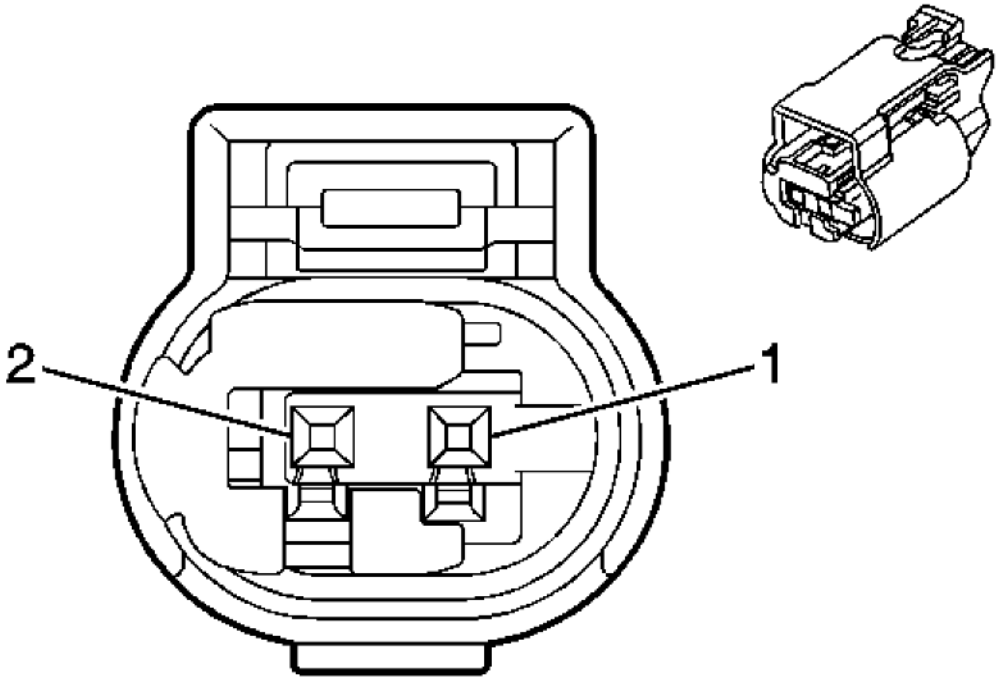


Fig. 9: E5B Backup Lamp - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13531640
- Service: 19149296
- Description: 2-Way F Clean Body Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 962885-5/15
- Core/Insulation Crimp: 6/6
- Release Tool: 12094429

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

E5B Backup Lamp - Right

Pin	Wire	Circuit	Function
1	0.5 L-GN	24	Backup Lamp Supply Voltage
2	0.5 BK	2550	Ground

E5W TAIL/STOP AND TURN SIGNAL LAMP - LEFT OUTER

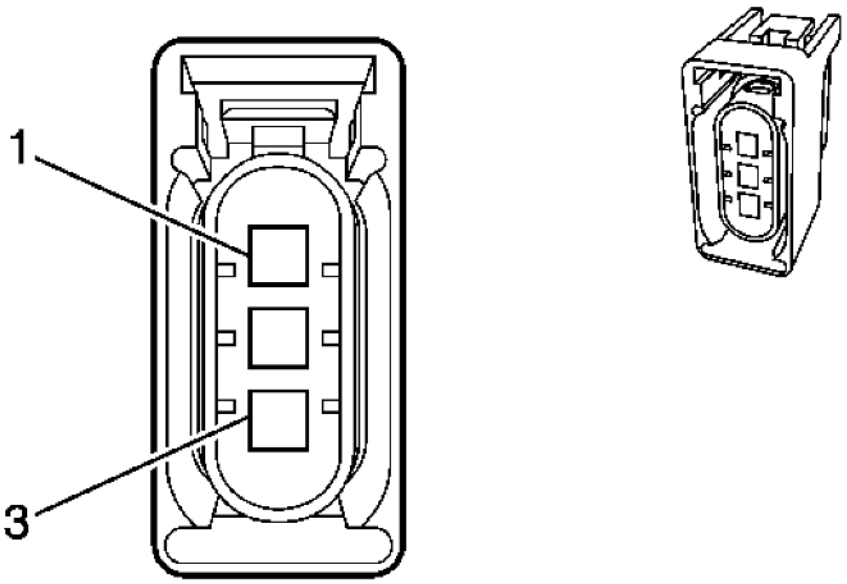


Fig. 10: E5W Tail/Stop and Turn Signal Lamp - Left Outer Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041
- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5W Tail/Stop and Turn Signal Lamp - Left Outer

Pin	Wire	Circuit	Function
1	0.5 BK	2550	Ground
2	0.5 PU	709	Left Park Lamp Supply Voltage
3	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage

E5X TAIL/STOP AND TURN SIGNAL LAMP - RIGHT OUTER

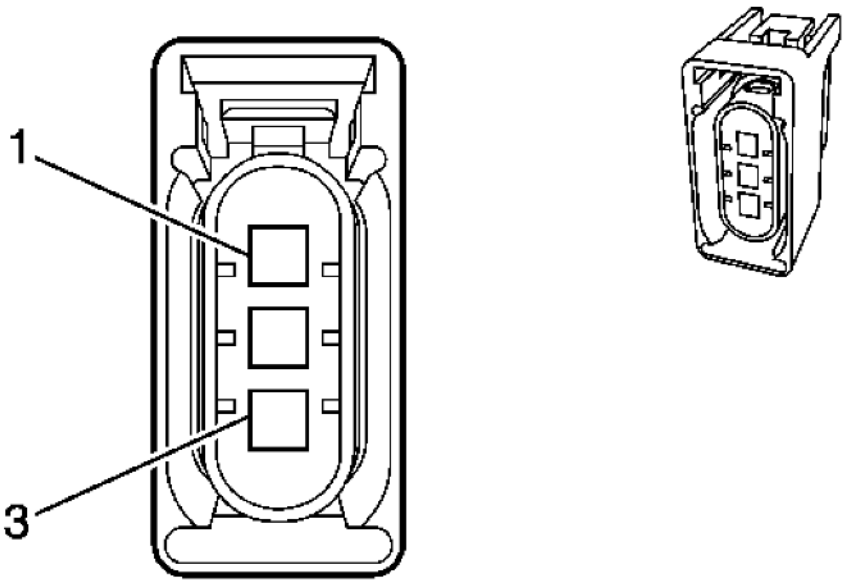


Fig. 11: E5X Tail/Stop and Turn Signal Lamp - Right Outer Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041

cardiagn.com

- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5X Tail/Stop and Turn Signal Lamp - Right Outer

Pin	Wire	Circuit	Function
1	0.5 BK	550	Ground
2	0.5 BN/WH	309	Right Park Lamp Supply Voltage
3	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage

E6 CENTER HIGH MOUNTED STOP LAMP

cardiagn.com

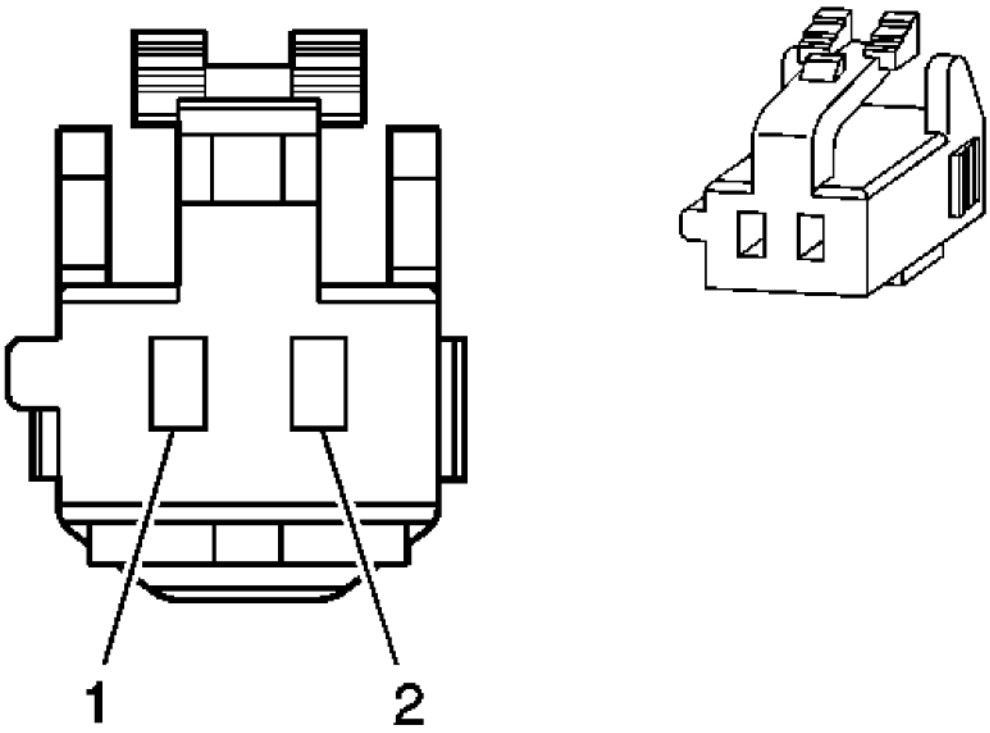


Fig. 12: E6 Center High Mounted Stop Lamp Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Window Trim Harness
- OEM: 10763601
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 090 II Series (WH)

Terminal Part Information

- Terminal/Tray: 7116-4020/11
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E6 Center High Mounted Stop Lamp

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control
2	0.5 BK	2350	Ground

E7L LICENSE PLATE LAMP - LEFT

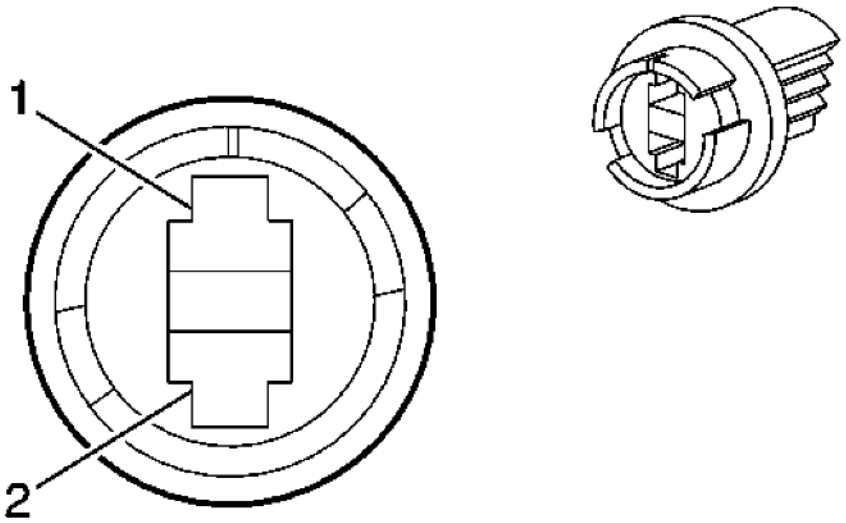


Fig. 13: E7L License Plate Lamp - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: License Lamp
- OEM: N/A
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F Bulb Socket, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

E7L License Plate Lamp - Left

Pin	Wire	Circuit	Function
1	0.5 BN	6846	Rear License Lamp Control
2	0.5 BK	2550	Ground

E7R LICENSE PLATE LAMP - RIGHT

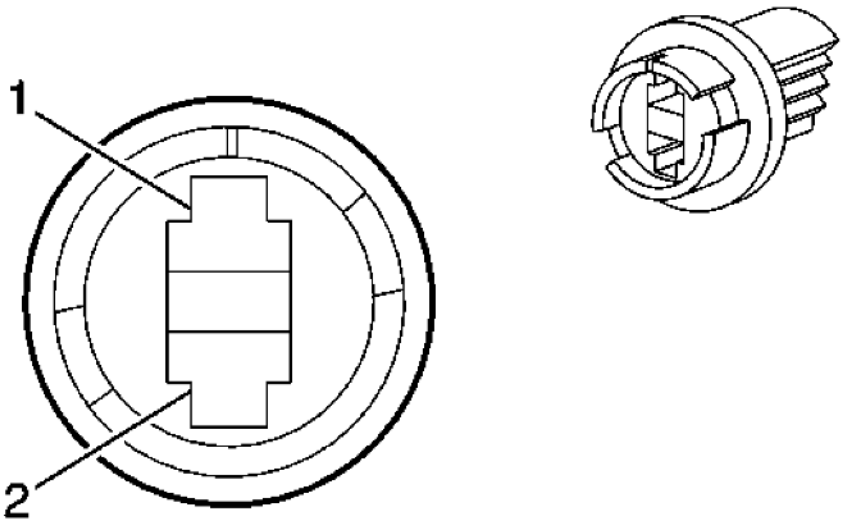


Fig. 14: E7R License Plate Lamp - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: License Lamp
- OEM: N/A
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F Bulb Socket, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

E7R License Plate Lamp - Right

Pin	Wire	Circuit	Function
1	0.5 BN	6846	Rear License Lamp Control
2	0.5 BK	2550	Ground

E8S REAR COMPARTMENT COURTESY LAMP

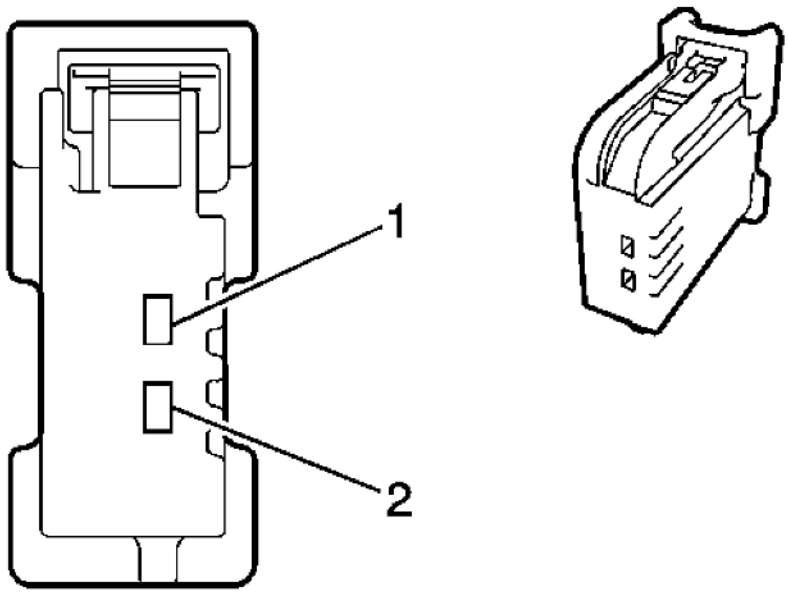


Fig. 15: E8S Rear Compartment Courtesy Lamp Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13595207
- Service: 19179373

cardiagn.com

- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: 8240-0127/22
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

E8S Rear Compartment Courtesy Lamp

Pin	Wire	Circuit	Function
1	0.5 OG/BK	737	Rear Compartment Lamp Control
2	0.5 BK	2350	Ground

F105 PASSENGER INSTRUMENT PANEL AIR BAG

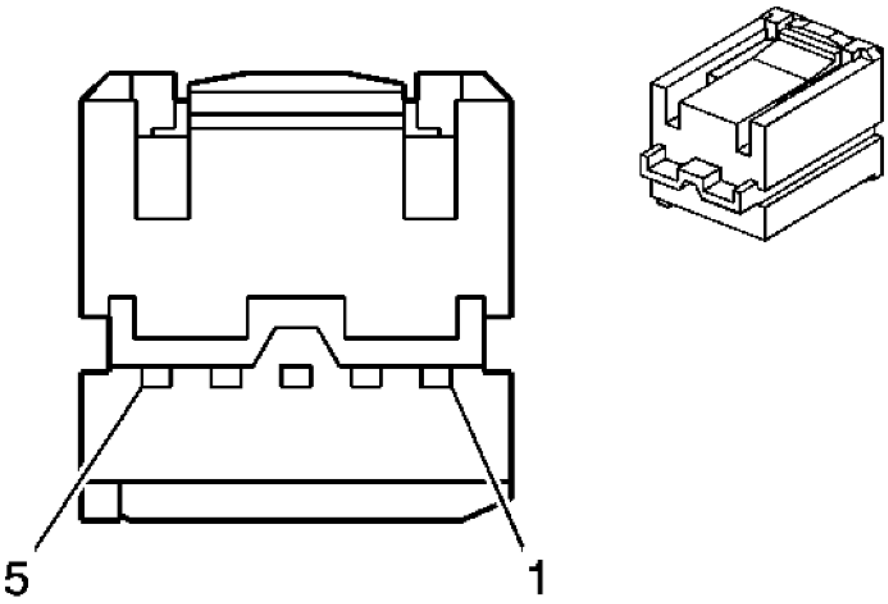


Fig. 16: F105 Passenger Instrument Panel Air Bag Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Instrument Panel
- OEM: 13601511
- Service: 19153434
- Description: 5-Way F 0.64 Series Unsealed (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

F105 Passenger Instrument Panel Air Bag

Pin	Wire	Circuit	Function
1	0.35 YE	3025	I/P Module - Stage 1 - High Control
2	0.35 OG	3024	I/P Module - Stage 1 - Low Control
3	-	-	Not Used
4	0.35 GY	3027	I/P Module - Stage 2 - High Control
5	0.35 PU	3026	I/P Module - Stage 2 - Low Control

F105L ROOF RAIL AIR BAG - LEFT

cardiagn.com

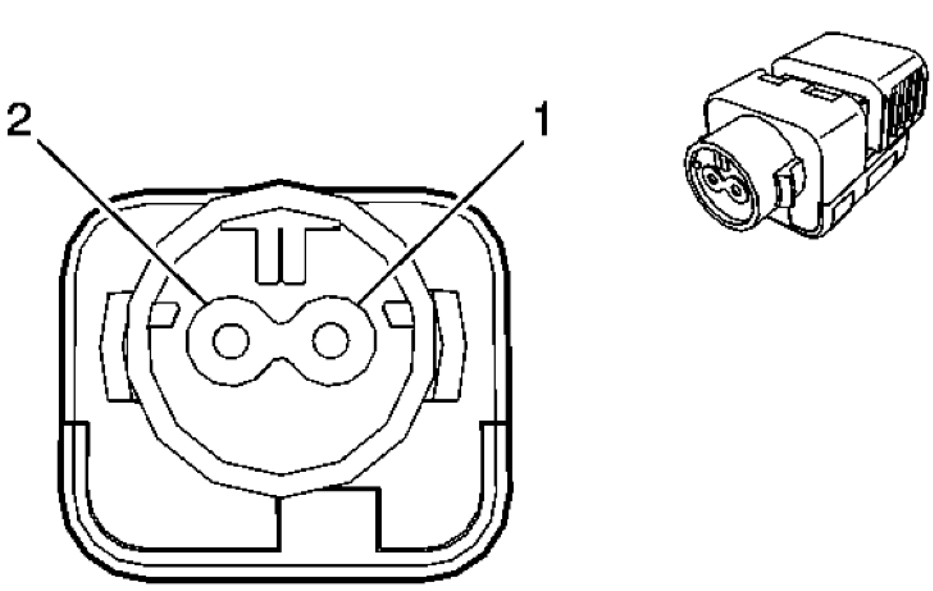


Fig. 17: F105L Roof Rail Air Bag - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13680740
- Service: Pending
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

F105L Roof Rail Air Bag - Left

Pin	Wire	Circuit	Function
1	0.35 PU/WH	5019	Roof Rail Module - Left - High Control
2	0.35 PK	5020	Roof Rail Module - Left - Low Control

cardiagn.com

F105R ROOF RAIL AIR BAG - RIGHT

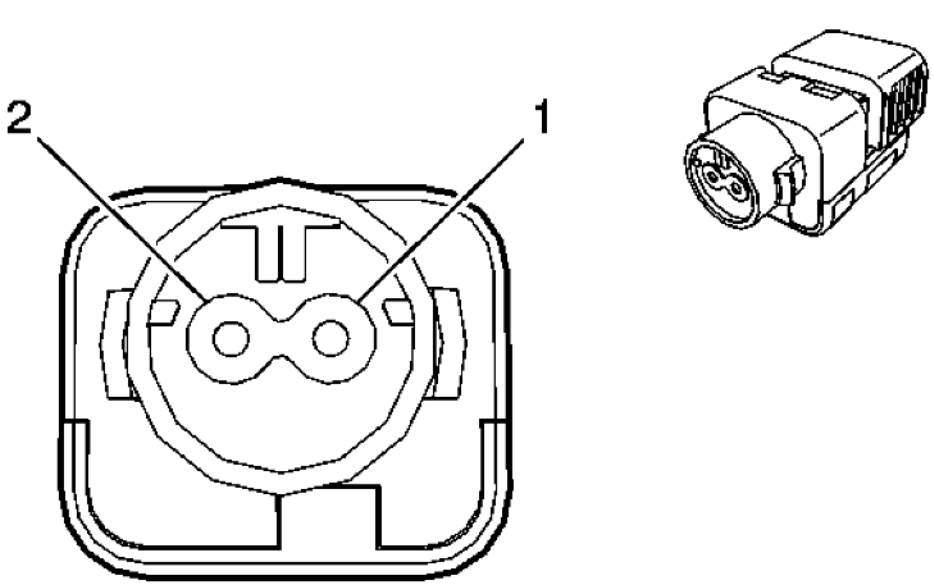


Fig. 18: F105R Roof Rail Air Bag - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13680741
- Service: Pending
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

F105R Roof Rail Air Bag - Right

Pin	Wire	Circuit	Function

cardiagn.com

1	0.35 YE/BK	5021	Roof Rail Module - Right - High Control
2	0.35 WH/BK	5022	Roof Rail Module - Right - Low Control

F106L SIDE AIR BAG - LEFT

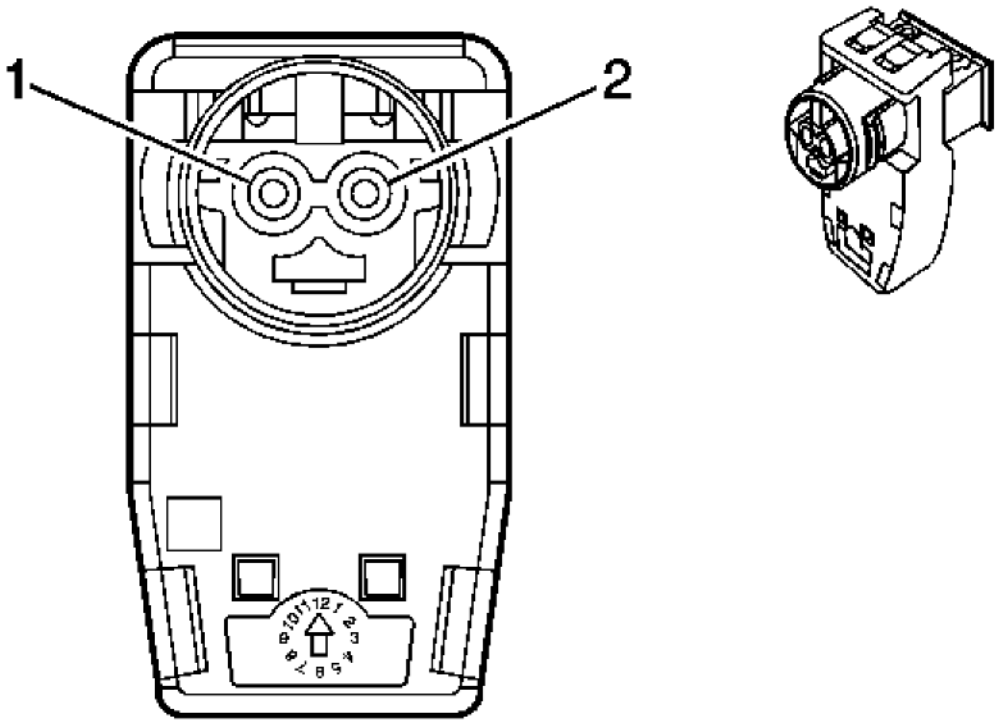


Fig. 19: F106L Side Air Bag - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Inflatable Restraint Side Impact Module - Left Jumper
- OEM: 13234634
- Service: Service by harness - See Part Catalog
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F106L Side Air Bag - Left

Pin	Wire	Circuit	Function
1	0.35 BN	2137	Side Impact Module - LF - High Control
2	0.35 YE/BK	2138	Side Impact Module - LF - Low Control

F106R SIDE AIR BAG - RIGHT

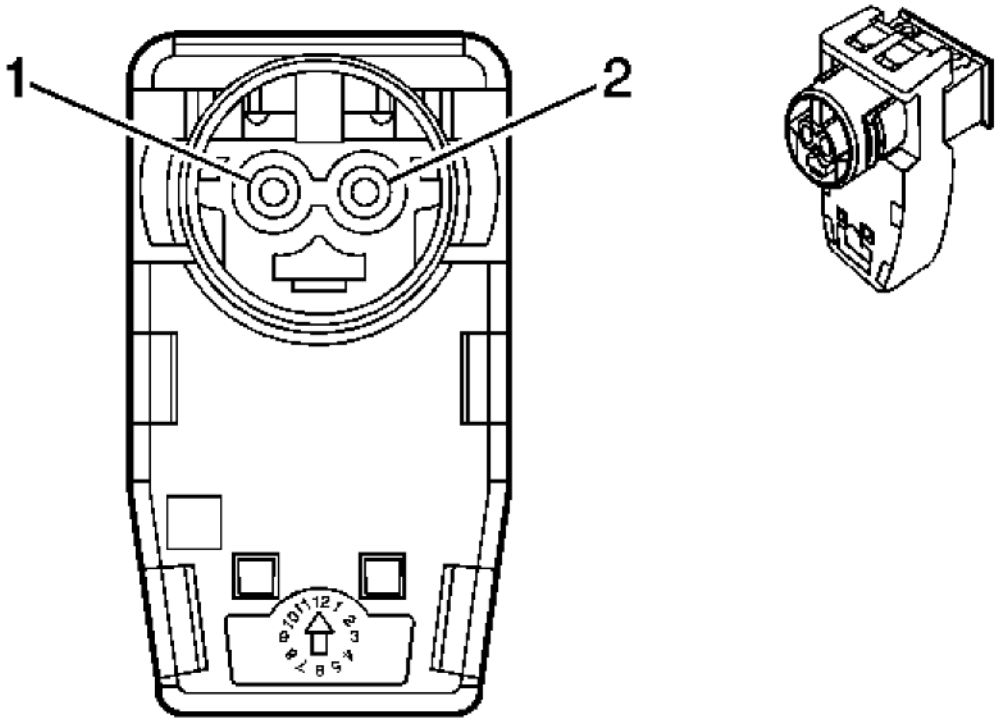


Fig. 20: F106R Side Air Bag - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Inflatable Restraint Side Impact Module - Right Jumper

cardiagn.com

- OEM: 13234634
- Service: Service by harness - See Part Catalog
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F106R Side Air Bag - Right

Pin	Wire	Circuit	Function
1	0.35 TN/WH	2135	Side Impact Module - RF - High Control
2	0.35 L-BU	2136	Side Impact Module - RF - Low Control

F107 STEERING WHEEL AIR BAG X1

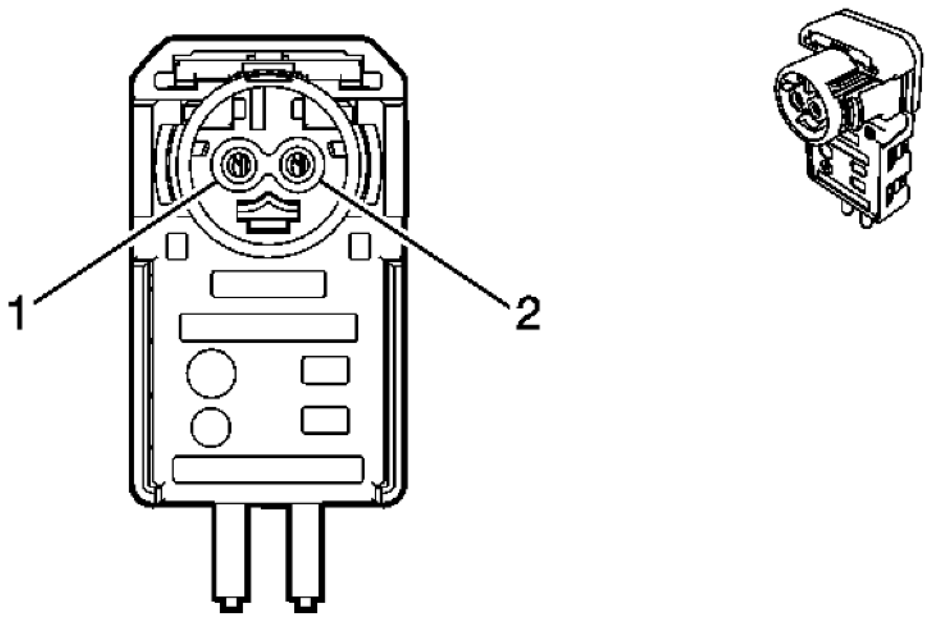


Fig. 21: F107 Steering Wheel Air Bag X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: SIR Coil
- OEM: 0988530002
- Service: Service by Component Assembly - See Part Catalog
- Description: 2-Way F (BU with YE Cover)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F107 Steering Wheel Air Bag X1

Pin	Wire	Circuit	Function
1	0.35 TN	3021	Steering Wheel Module - Stage 1 - High Control
2	0.35 BN	3020	Steering Wheel Module - Stage 1 - Low Control

F107 STEERING WHEEL AIR BAG X2

cardiagn.com

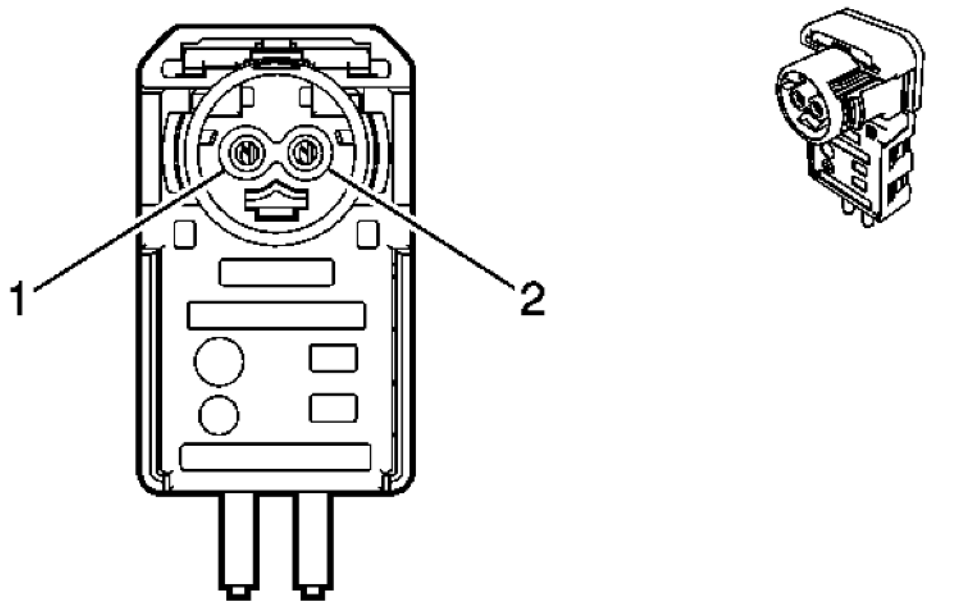


Fig. 22: F107 Steering Wheel Air Bag X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: SIR Coil
- OEM: 0988530003
- Service: Service by Component Assembly - See Part Catalog
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F107 Steering Wheel Air Bag X2

Pin	Wire	Circuit	Function
1	0.35 WH	3023	Steering Wheel Module - Stage 2 - High Control

cardiagn.com

2	0.35 PK	3022	Steering Wheel Module - Stage 2 - Low Control

F112D SEAT BELT RETRACTOR PRETENSIONER - DRIVER

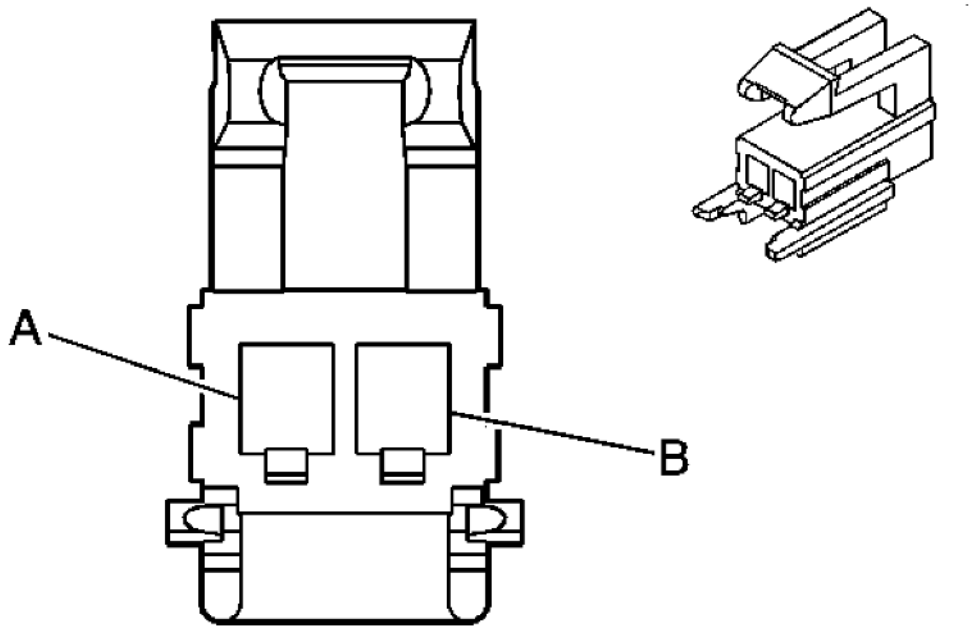


Fig. 23: F112D Seat Belt Retractor Pretensioner - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12110505
- Service: 15306044
- Description: 2-Way F Metri-Pack 150 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: N/A
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

cardiagn.com

F112D Seat Belt Retractor Pretensioner - Driver

Pin	Wire	Circuit	Function
A	0.35 TN/WH	2118	Seat Belt Retractor Pretensioner - Left - High Control
B	0.35 OG/BK	2119	Seat Belt Retractor Pretensioner - Left - Low Control

F112P SEAT BELT RETRACTOR PRETENSIONER - PASSENGER

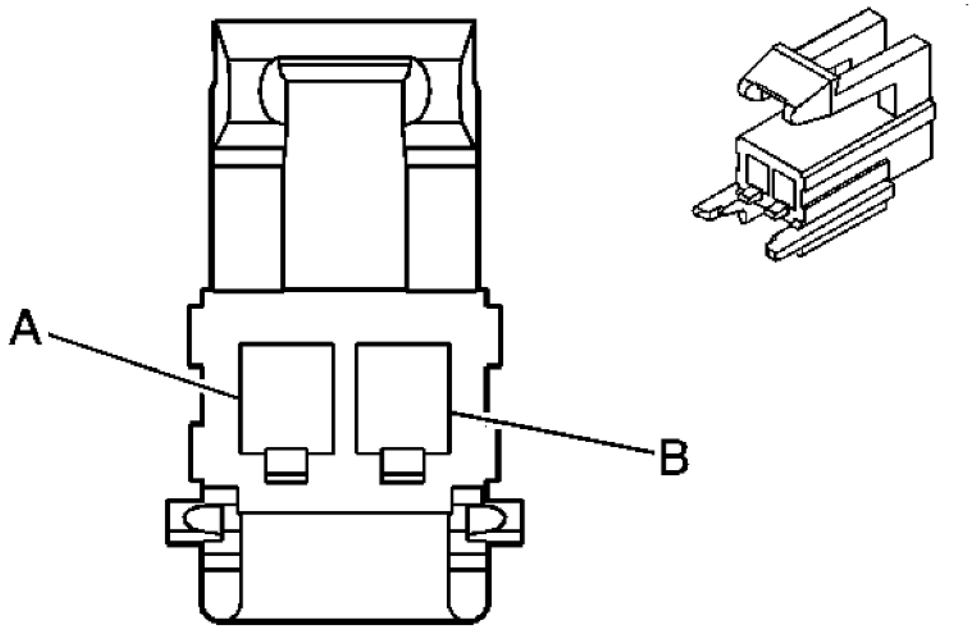


Fig. 24: F112P Seat Belt Retractor Pretensioner - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12110505
- Service: 15306044
- Description: 2-Way F Metri-Pack 150 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog

cardiagn.com

- Core/Insulation Crimp: N/A
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

F112P Seat Belt Retractor Pretensioner - Passenger

Pin	Wire	Circuit	Function
A	0.35 L-GN	2116	Seat Belt Retractor Pretensioner - Right - High Control
B	0.35 OG	2117	Seat Belt Retractor Pretensioner - Right - Low Control

G10R COOLING FAN MOTOR - RIGHT

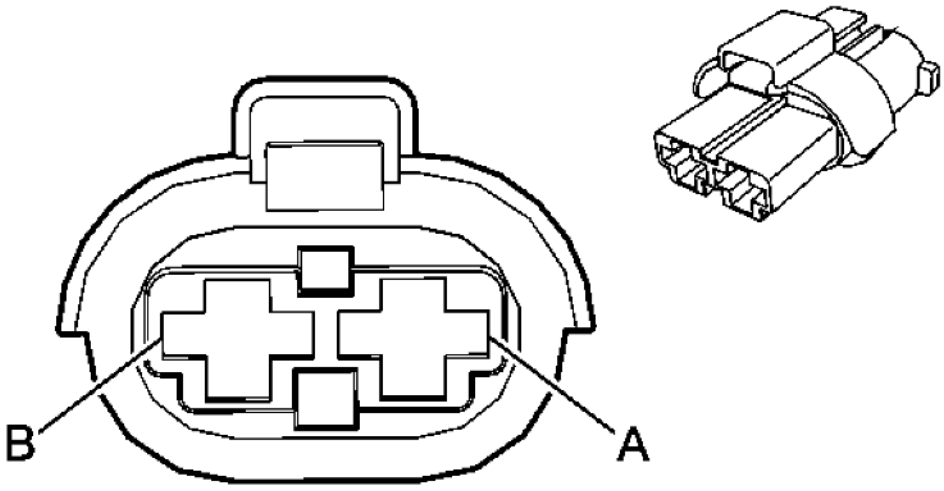


Fig. 25: G10R Cooling Fan Motor - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Cooling Fan Motor - Left
- OEM: 1544361

cardiagn.com

- Service: Service by Component - See Part Catalog
- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: Not Available
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

G10R Cooling Fan Motor - Right

Pin	Wire	Circuit	Function
A	4 BK	504	Low Reference
B	4 RD	409	Cooling Fan Motor Supply Voltage

G13 GENERATOR X1 (L99 OR LS3)

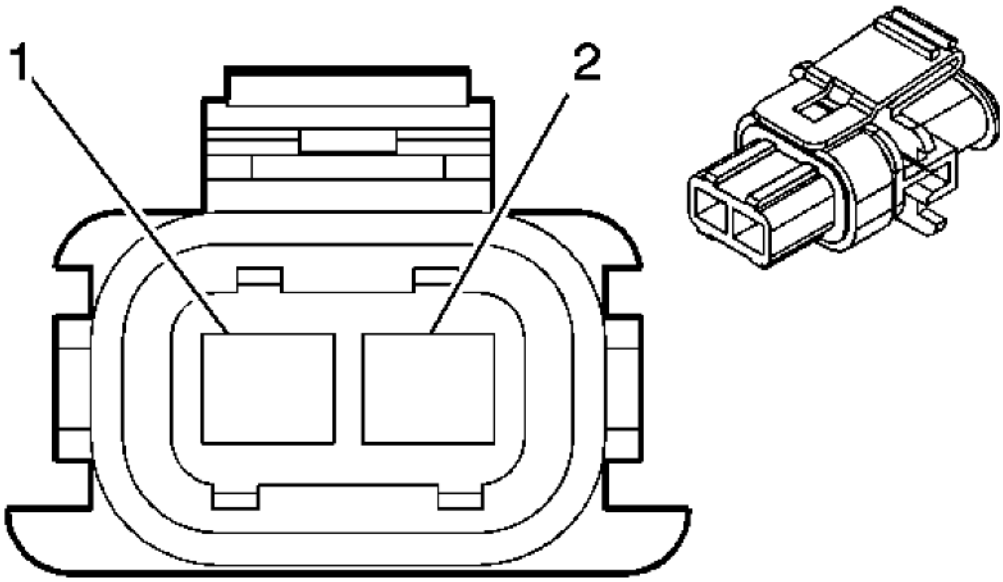


Fig. 26: G13 Generator X1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 10740370
- Service: 88988586
- Description: 2-Way F 2.8 Series, Sealed (BK)

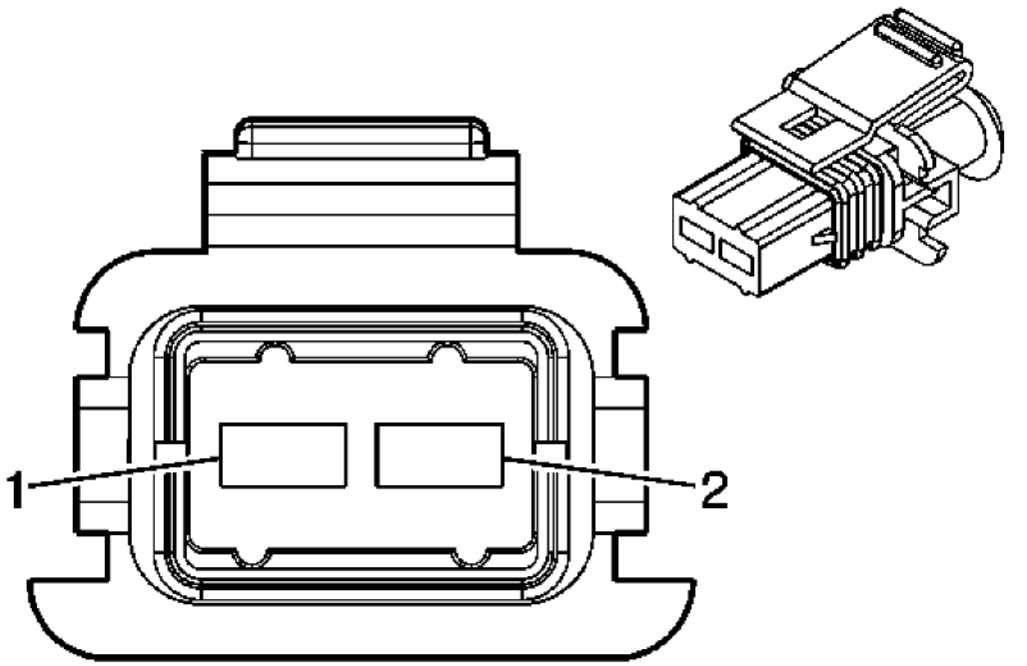
Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

G13 Generator X1 (L99 or LS3)

Pin	Wire	Circuit	Function
1	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
2	0.5 GY	23	Generator Field Duty Cycle Signal

G13 GENERATOR X1 (LLT)



cardiagn.com

Fig. 27: G13 Generator X1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12186308
- Service: 89046837
- Description: 2-Way F Junior Power Timer Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 4-964286-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

G13 Generator X1 (LLT)

Pin	Wire	Circuit	Function
1	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
2	0.5 GY	23	Generator Field Duty Cycle Signal

G13 GENERATOR X2

Connector Part Information

- Terminal: 24417869
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

G13 Generator X2

Pin	Wire	Circuit	Function
A	19 RD/BK	2	Battery Positive Voltage
	19 RD	1	Battery Positive Voltage

G18 HIGH PRESSURE FUEL PUMP (LLT)

cardiagn.com

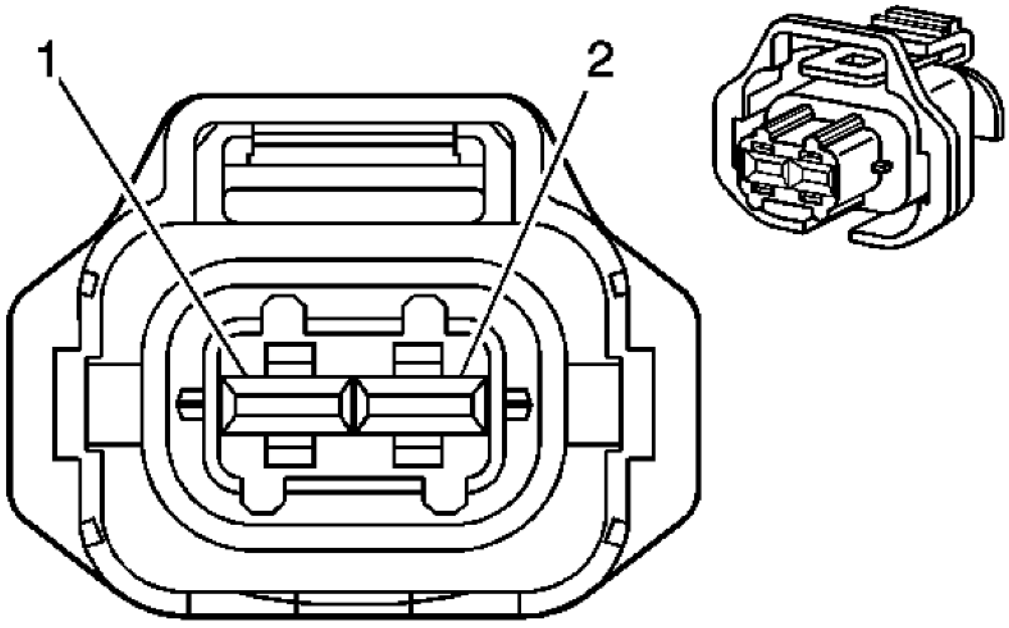


Fig. 28: G18 High Pressure Fuel Pump (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339756
- Service: 88988963
- Description: 2-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498054/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

G18 High Pressure Fuel Pump (LLT)

Pin	Wire	Circuit	Function
1	1 PU	7300	High Pressure Fuel Pump Actuator Low Control

cardiagn.com

2	1 YE	7301	High Pressure Fuel Pump Actuator High Control

G24 WINDSHIELD WASHER PUMP

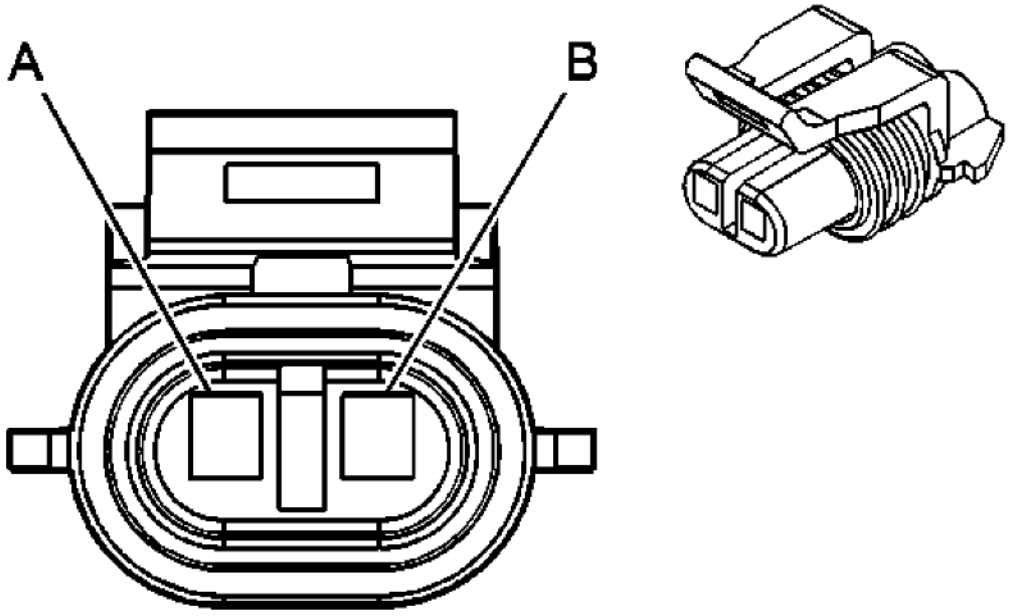


Fig. 29: G24 Windshield Washer Pump Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 12052641
- Service: 12102747
- Description: 2-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

cardiagn.com

G24 Windshield Washer Pump

Pin	Wire	Circuit	Function
A	0.8 OG	228	Windshield Washer Pump Control
B	0.8 BK	1150	Ground

G6 BRAKE BOOSTER PUMP - AUXILIARY (LLT)

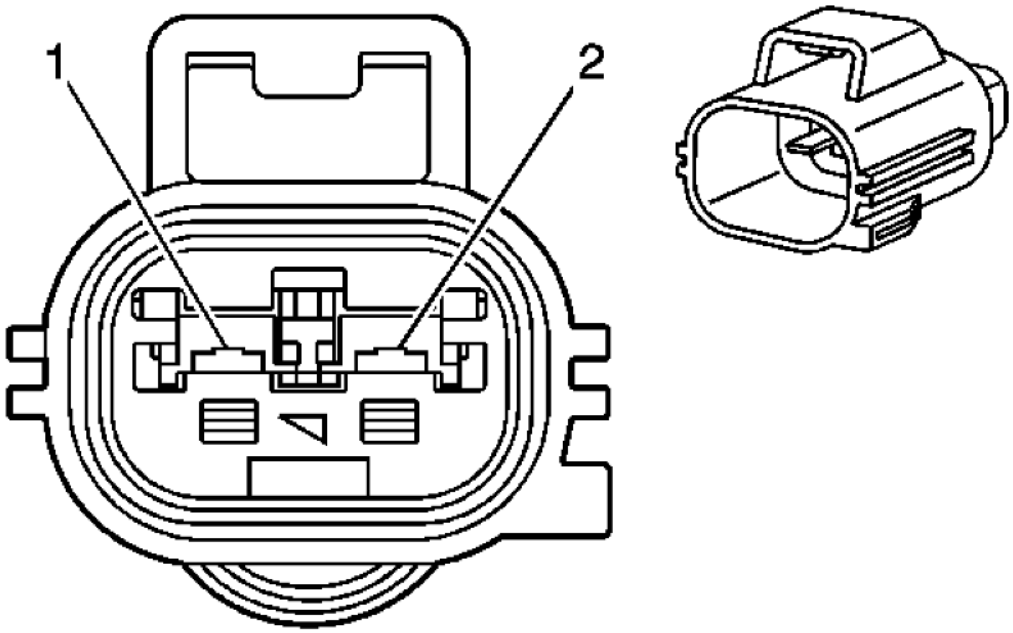


Fig. 30: G6 Brake Booster Pump - Auxiliary (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 10779536
- Service: 19115602
- Description: 2-Way M 2.8 Series, Sealed (D-GY)

Terminal Part Information

- Terminal/Tray: 10779442/See Terminal Repair Kit
- Core/Insulation Crimp: See Terminal Repair Kit

cardiagn.com

- Release Tool: See Terminal Repair Kit
- Test Probe: See Terminal Repair Kit

G6 Brake Booster Pump - Auxiliary (LLT)

Pin	Wire	Circuit	Function
1	1 OG	1470	Brake Booster Pump Motor Supply Voltage
2	1 BK	250	Ground

K17 ELECTRONIC BRAKE CONTROL MODULE (EBCM)

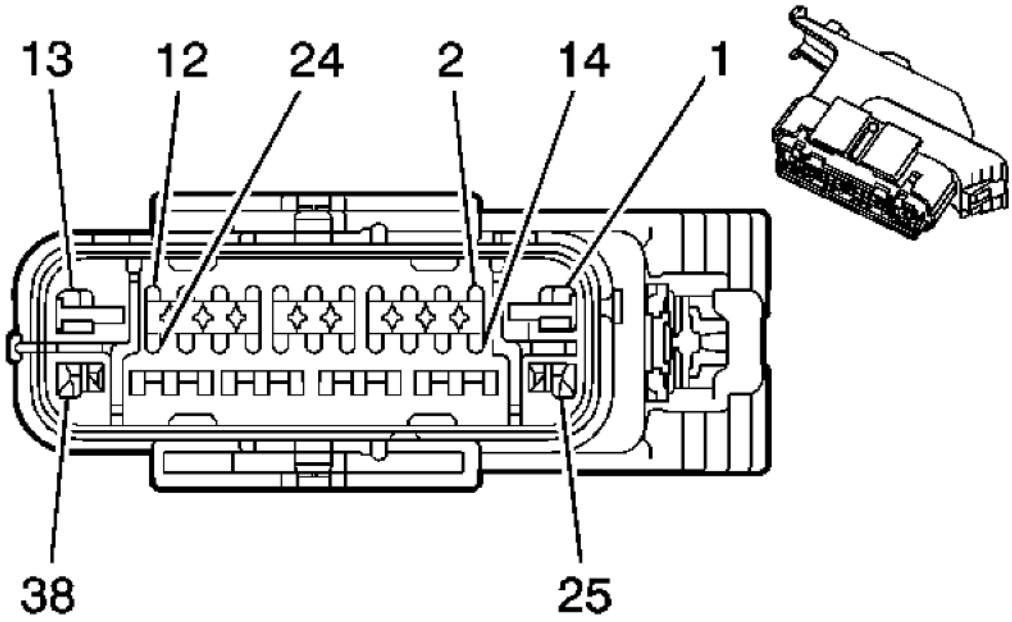


Fig. 31: K17 Electronic Brake Control Module (EBCM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13518748
- Service: 19178089
- Description: 38-Way F 2.8 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Pins: 1, 13, 25, 38
- Terminal/Tray: 15392777/23
- Core/Insulation Crimp: Pins 1, 13, 38 - D/5
- Core/Insulation Crimp: Pin 25 - See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: 4, 6, 14, 15, 18, 19, 20, 21, 24, 26, 27, 31, 32, 33, 34, 35, 37
- Terminal/Tray: SAITS-A03T-M064/14
- Core/Insulation Crimp: 9/9
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K17 Electronic Brake Control Module (EBCM)

Pin	Wire	Circuit	Function
1	3 RD/BK	442	Battery Positive Voltage
2-3	-	-	Not Used
4	0.5 PU	333	Brake Fluid Level Sensor Signal
5	-	-	Not Used
6	0.5 TN	833	Low Reference
7-12	-	-	Not Used
13	3 BK	1050	Ground
14	0.35 TN	2501	High Speed GMLAN Serial Data Bus (-)
15	0.35 TN	2501	High Speed GMLAN Serial Data Bus (-)
16-17	-	-	Not Used
18	0.5 D-GN	872	Right Front Wheel Speed Sensor Signal
19	0.5 BN	882	Right Rear Wheel Speed Sensor Signal
20	0.5 OG	885	Low Reference
21	0.5 L-BU	830	Left Front Wheel Speed Sensor Signal
22-23	-	-	Not Used
24	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
25	2 RD/BK	1042	Battery Positive Voltage
26	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus (+)
27	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus (+)
28-30	-	-	Not Used
31	0.5 WH	883	Low Reference
32	0.5 D-GN	2087	12-Volt Reference
33	0.5 TN	884	Left Rear Wheel Speed Sensor Signal
34	0.5 YE	873	Low Reference
35	0.35 L-BU	5986	Serial Data Communication Enable

cardiagn.com

36	-	-	Not Used
37	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
38	3 BK	1050	Ground

K20 ENGINE CONTROL MODULE X1 (L99 OR LS3)

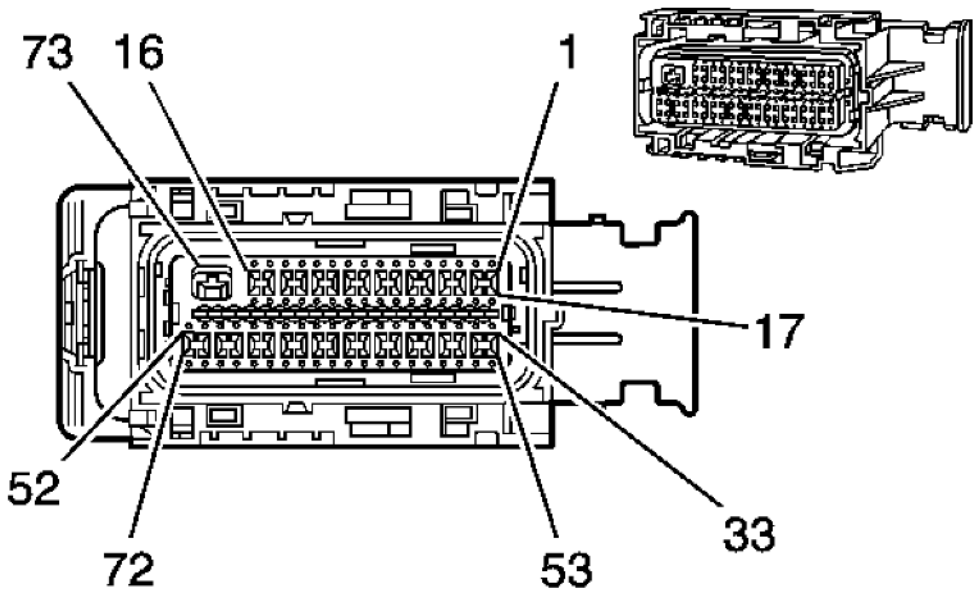


Fig. 32: K20 Engine Control Module X1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13716072
- Service: 88988931
- Description: 73-Way F 0.64 2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 9, 10, 11, 12, 13, 16, 17, 19, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 41, 42, 49, 50, 52, 53, 54, 56, 58, 59, 61, 63, 64, 65, 66, 68, 69, 70, 71, 72
- Terminal/Tray: 33467-0005/23

cardiagn.com

- Core/Insulation Crimp: Pins 1, 9, 10, 11, 12, 13, 16, 17, 19, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 41, 42, 49, 50, 52, 53, 54, 56, 58, 59, 61, 63, 64, 65, 66, 68, 69, 70, 71, 72 - J/J
- Core/Insulation Crimp: Pins 20, 47 - K/K
- Release Tool: J-38125-213
- Test Probe: J-35616-64B (L-BU)

- Pins: 8, 18
- Terminal/Tray: 33467-0003/23
- Core/Insulation Crimp: H/H
- Release Tool: J-38125-213
- Test Probe: J-35616-64B (L-BU)

- Pin: 73
- Terminal/Tray: 1326030-8/17
- Core/Insulation Crimp: A/4
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

K20 Engine Control Module X1 (L99 or LS3)

Pin	Wire	Circuit	Function
1	0.5 OG/BK	1786	Park/Neutral Signal (MYC)
2-7	-	-	Not Available
8	0.35 L-GN	5007	Backup Lamp Switch Signal (M10)
9	0.5 L-BU/WH	6311	Brake Pedal Switch Signal
10	0.5 PU/WH	1668	HO2S High Signal Bank 1 Sensor 2
11	0.5 TN/WH	1669	HO2S Low Signal Bank 1 Sensor 2
12	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal
13	0.5 TN	5514	Low Reference
14-15	-	-	Not Available
16	0.5 D-BU	1936	Fuel Level Sensor Signal
17	0.5 D-BU	473	High Speed Cooling Fan Relay Control
18	0.35 D-BU	5985	Serial Data Wake - Up Signal
19	0.5 PK	439	Ignition Voltage
20	0.8 RD/WH	440	Battery Positive Voltage
21	0.5 OG	6030	Brake Booster Vacuum Sensor Signal (L99)
22	0.5 YE/BK	6032	Low Reference (L99)
23	0.5 PU	1272	Low Reference
24	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal
26	0.5 YE	6111	Clutch Pedal Position Sensor Signal (M10)
27	0.5 TN	2501	High Speed GMLAN Serial Data Bus -

cardiagn.com

28	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus +
29	0.5 D-BU	1161	APP Sensor 1 Signal
30	0.5 BN	1271	Low Reference
31	0.5 BN/WH	6281	Low Reference
32	0.5 L-BU	1162	APP Sensor 2 Signal
33	0.5 GY	2709	5-Volt Reference 1
34	0.5 GY	2700	5-Volt Reference 1
35	-	-	Not Available
36	0.5 TN	1274	5-Volt Reference 1
37	0.5 L-BU	6289	Intake Air Temperature Sensor Signal
38	0.5 TN	2760	Low Reference
39-40	-	-	Not Available
41	0.5 YE	492	MAF Sensor Signal
42	0.5 WH	6110	Low Reference (M10)
43-46	-	-	Not Available
47	0.8 PK/BK	5290	Ignition Voltage
48	-	-	Not Available
49	0.5 TN	1671	HO2S Low Signal Bank 2 Sensor 2
50	0.5 D-GN/WH	465	Fuel Pump Relay Control
51	-	-	Not Available
52	0.5 PU/WH	6386	Starter Relay Control
53	0.5 GY	6031	5-Volt Reference 2 (L99)
54	0.5 TN	6109	5-Volt Reference 2 (M10)
55	-	-	Not Available
56	0.5 WH/BK	1164	5-Volt Reference 2
57	-	-	Not Available
58	0.5 D-GN	335	Low Speed Cooling Fan Relay Control
59	0.5 YE	5991	Powertrain Relay Control
60	-	-	Not Available
61	0.5 WH	1310	EVAP Canister Vent Solenoid Control
62	-	-	Not Available
63	0.5 D-GN/WH	459	A/C Compressor Clutch Relay Control
64	0.5 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
65	0.5 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2
66	0.5 GY	587	Skip/Shift Solenoid Control (M10)
67	-	-	Not Available
68	0.5 BN/WH	419	MIL Control
69	0.5 PU	1670	HO2S High Signal Bank 2 Sensor 2
70	0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary
71	0.5 GY/BK	6355	VSS Signal High (M10)
72	0.5 PU/WH	6356	VSS Signal Low (M10)

cardiagn.com

	2 BK/WH	451	Ground

K20 ENGINE CONTROL MODULE X1 (LLT)

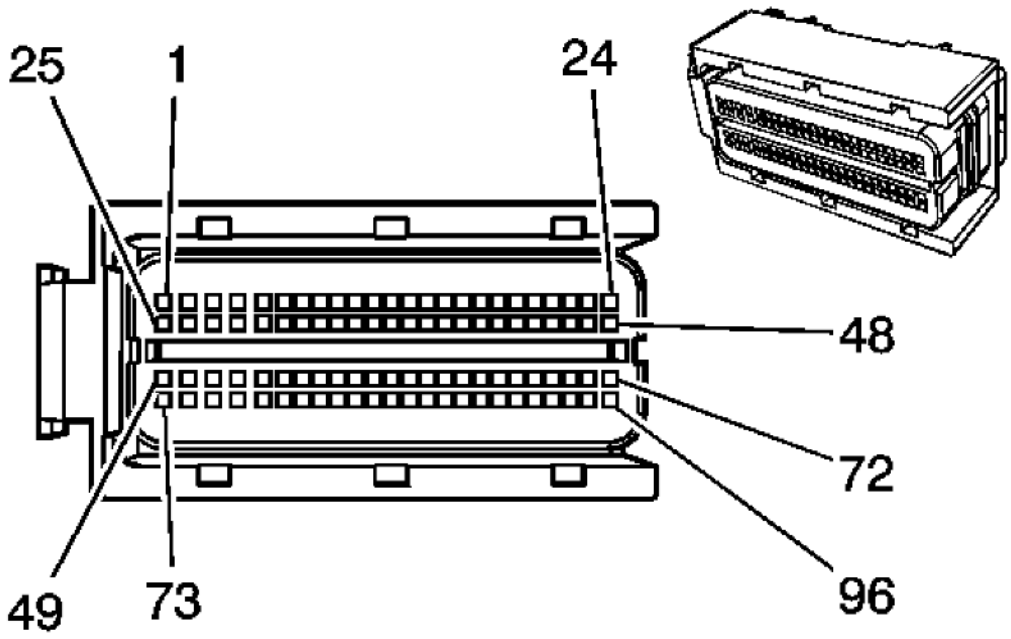


Fig. 33: K20 Engine Control Module X1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15438366
- Service: 19149311
- Description: 96-Way F Sealed (BK)

Terminal Part Information

- Pins: 1, 2, 3, 4, 5, 6, 7, 9, 10, 13, 15, 18, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 55, 56, 57, 59, 60, 61, 67, 70, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 88, 89, 90, 92, 93, 96
- Terminal/Tray: 1928498135/19
- Core/Insulation Crimp: Pins 1, 2, 6, 7, 9, 10, 13, 15, 18, 24, 25, 30, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 55, 56, 57, 59, 60, 61, 67, 70, 72, 78, 79, 80, 81, 82, 83, 84, 88, 89, 90,

cardiagn.com

92, 93, 96 - J/J

- Core/Insulation Crimp: Pins 3, 4, 5, 26, 27, 28, 29, 50, 51, 52, 53, 73, 74, 75, 76, 77 - K/K
- Core/Insulation Crimp: Pins 21 - P/P
- Release Tool: J-38125-213
- Test Probe: J-35616-16 (L-GN)

K20 Engine Control Module X1 (LLT)

Pin	Wire	Circuit	Function
1	0.8 L-GN	5282	CMP Actuator Solenoid Control - Exhaust Bank 1
2	0.8 PU	5284	CMP Actuator Solenoid Control - Intake Bank 1
3	1 PU/WH	4906	Fuel Injector 6 Control
4	1 PU	4806	Fuel Injector 6 Control
5	1 YE	7301	High Pressure Fuel Pump Actuator High Control
6	0.8 D-GN/WH	428	EVAP Canister Purge Solenoid Control
7	0.5 OG	5275	Camshaft Position (CMP) Sensor - Intake Bank 1 Signal
8	-	-	Not Used
9	0.5 PU	5274	Camshaft Position (CMP) Sensor - Exhaust Bank 2 Signal
10	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
11-12	-	-	Not Used
13	0.5 BN/WH	2130	Low Reference
14	-	-	Not Used
15	0.5 GY	705	5-Volt Reference 2
16-17	-	-	Not Used
18	0.5 BN	7448	Vacuum Assist Pump Relay Coil Control
19-20	-	-	Not Used
21	0.35 TN/WH	585	Transmission Fluid Temperature Sensor Signal
22-23	-	-	Not Used
24	0.8 YE	581	TAC Motor Control - 1
25	0.8 WH/BK	5283	CMP Actuator Solenoid Control - Exhaust Bank 2
26	1 D-GN	4803	Fuel Injector 3 Control
27	1 D-GN/WH	4903	Fuel Injector 3 Control
28	1 L-GN	4805	Fuel Injector 5 Control
29	1 L-GN/WH	4905	Fuel Injector 5 Control
30	0.5 GY	23	Generator Field Duty Cycle Signal

cardiagn.com

31-32	-	-	Not Used
33	0.5 YE	5276	Camshaft Position (CMP) Sensor - Intake Bank 2 Signal
34	0.5 D-GN	5273	Camshaft Position (CMP) Sensor - Exhaust Bank 1 Signal
35	0.5 YE	573	CKP Sensor Signal
36	0.5 YE	2918	FRP Sensor Signal
37	-	-	Not Used
38	0.5 GY	2700	5-Volt Reference 3
39	0.5 GY	2701	5-Volt Reference 3
40	0.5 GY	2705	5-Volt Reference 1
41	0.5 TN	552	Low Reference
42	0.5 TN	808	Low Reference
43	0.5 BK	2755	Low Reference
44	0.5 TN	476	Low Reference
45	0.5 GY	605	5-Volt Reference 3
46	0.5 TN	452	Low Reference
47	-	-	Not Used
48	0.8 BN	582	TAC Motor Control - 2
49	0.8 OG/BK	5272	CMP Actuator Solenoid Control - Intake Bank 2
50	1 L-BU	4804	Fuel Injector 4 Control
51	1 BN	4801	Fuel Injector 1 Control
52	1 D-BU	4802	Fuel Injector 2 Control
53	1 D-BU/WH	4902	Fuel Injector 2 Control
54	-	-	Not Used
55	0.5 PU	2121	IC 1 Control
56	0.5 L-BU	2123	IC 3 Control
57	0.5 D-GN	2125	IC 5 Control
58	-	-	Not Used
59	0.5 D-BU	496	Knock Sensor (KS) 1 Signal
60	0.5 GY	2303	Knock Sensor (KS) 2 Signal
61	0.5 TN/WH	331	Oil Pressure Sensor Signal
62-66	-	-	Not Used
67	0.5 TN/WH	3111	HO2S Low Signal Bank 1 Sensor 1
68-69	-	-	Not Used
70	0.5 PU/WH	3210	HO2S High Signal Bank 2 Sensor 1
71	-	-	Not Used
72	0.8 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1
73	1 PU	7300	High Pressure Fuel Pump Actuator Low Control
74	1 L-BU/WH	4904	Fuel Injector 4 Control

cardiagn.com

75	1 BN/WH	4901	Fuel Injector 1 Control
76	1 PK/BK	5291	Ignition Voltage
77	1 PK/BK	5292	Ignition Voltage
78	0.5 BN	2129	Low Reference
79	0.5 OG/WH	2122	IC 2 Control
80	0.5 D-GN/WH	2124	IC 4 Control
81	0.5 L-BU/WH	2126	IC 6 Control
82	0.5 YE	410	ECT Sensor Signal
83	0.5 GY	1716	Knock Sensor (KS) 1 Signal
84	0.5 L-BU	1876	Knock Sensor (KS) 2 Signal
85-87	-	-	Not Used
88	0.5 TN	2752	Low Reference
89	0.5 PU	486	TP Sensor 2 Signal
90	0.5 D-GN	485	TP Sensor 1 Signal
91	-	-	Not Used
92	0.5 PU/WH	3110	HO2S High Signal Bank 1 Sensor 1
93	0.5 TN/WH	3211	HO2S Low Signal Bank 2 Sensor 1
94-95	-	-	Not Used
96	0.8 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1

K20 ENGINE CONTROL MODULE X2 (L99 OR LS3)

cardiagn.com

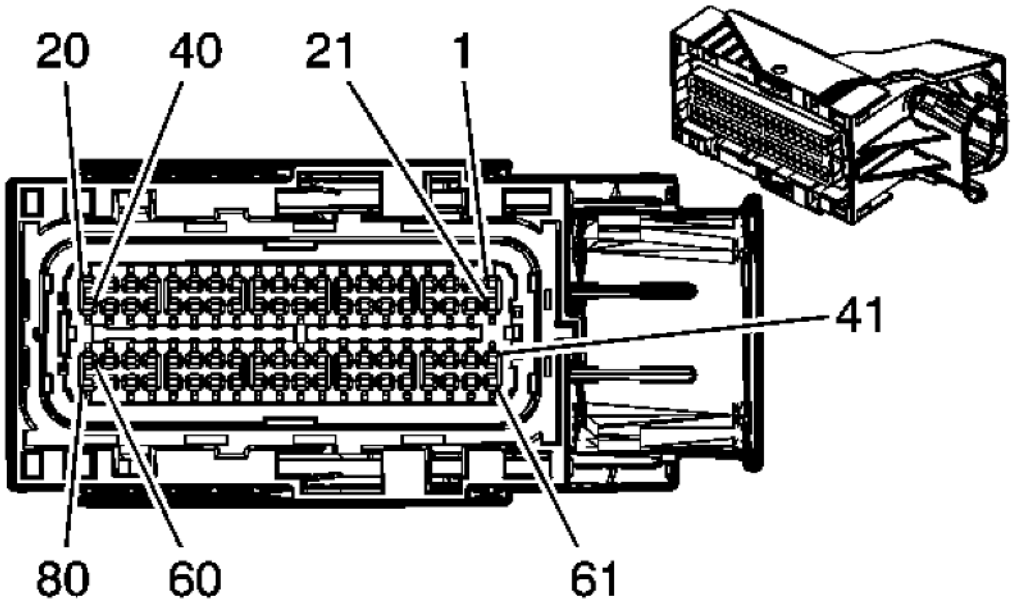


Fig. 34: K20 Engine Control Module X2 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13716073
- Service: 19115670
- Description: 80-Way F 0.64 Series, Sealed (GY Encased in BK)

Terminal Part Information

- Terminal/Tray: 33467-0005/23
- Core/Insulation Crimp: Pins 2, 3, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 29, 30, 32, 33, 34, 35, 37, 38, 39, 40, 41, 43, 44, 50, 52, 53, 56, 57, 58, 59, 60, 61, 63, 64, 65, 66, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79 - J/J
- Core/Insulation Crimp: Pins 5, 6 - K/K
- Release Tool: J-38125-213
- Test Probe: J-35616-64B (L-BU)

K20 Engine Control Module X2 (L99 or LS3)

Pin	Wire	Circuit	Function

cardiagn.com

1	-	-	Not Available
2	0.5 PU/WH	6270	5-Volt Reference 2
3	0.5 GY	2701	5-Volt Reference 2
4	-	-	Not Available
5	0.8 BN	582	TAC Motor Control - 2
6	0.8 YE	581	TAC Motor Control - 1
7	-	-	Not Available
8	0.5 D-GN/WH	428	EVAP Canister Purge Solenoid Control
9	0.5 GY	5493	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 6 Shutoff Solenoid (L99)
10	0.5 D-BU	5491	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 1 Shutoff Solenoid (L99)
11	0.5 OG	5494	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 4 Shutoff Solenoid (L99)
			Reverse Lockout Solenoid Control (M10)
12	0.5 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1
13	0.5 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1
14	0.5 L-GN	5492	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 7 Shutoff Solenoid (L99)
15	-	-	Not Available
16	0.5 PU	5284	CMP Actuator Solenoid Control - Intake Bank 1 (L99)
17	0.5 D-BU/WH	878	Fuel Injector 8 Control
18	0.5 TN/WH	845	Fuel Injector 5 Control
19	0.5 YE/BK	846	Fuel Injector 6 Control
20	0.5 TN	1744	Fuel Injector 1 Control
21	0.5 YE	410	ECT Sensor Signal
22	0.5 TN	2761	Low Reference
23	0.5 TN/WH	585	Transmission Fluid Temperature Sensor Signal (M10)
	0.5 BN/L-BU	357	Oil Temperature Sensor Signal (MYC)
24	0.5 OG/BK	586	Low Reference (M10)
25	-	-	Not Available
26	0.5 D-BU	496	Knock Sensor (KS) 1 Signal
27	0.5 GY	1716	Knock Sensor (KS) 1 Signal
28	-	-	Not Available
29	0.5 L-BU	1876	Knock Sensor (KS) 2 Signal
30	0.5 GY	2303	Knock Sensor (KS) 2 Signal
31	-	-	Not Available
32	0.5 GY	23	Generator Field Duty Cycle Signal
33	0.5 BN	1174	Oil Level Switch Signal
34	0.5 BK	2755	Low Reference

cardiagn.com

35	0.5 TN	2752	Low Reference
36	-	-	Not Available
37	0.5 L-GN/BK	1745	Fuel Injector 2 Control
38	0.5 PK/BK	1746	Fuel Injector 3 Control
39	0.5 L-BU/BK	844	Fuel Injector 4 Control
40	0.5 OG/BK	877	Fuel Injector 7 Control
41	0.5 GY	2705	5-Volt Reference 1
42	-	-	Not Available
43	0.5 GY	2704	5-Volt Reference 1
44	0.5 D-BU	6259	5-Volt Reference 1
45-49	-	-	Not Available
50	0.5 TN/WH	331	Oil Pressure Sensor Signal
51	-	-	Not Available
52	0.5 TN	2199	Low Reference (L99)
53	0.5 OG/BK	469	Low Reference
54-55	-	-	Not Available
56	0.5 TN	1664	HO2S Low Signal - Bank 1 Sensor 1
57	0.5 PU/WH	1665	HO2S High Signal Bank 1 Sensor 1
58	0.5 L-GN	432	MAP Sensor Signal
59	0.5 PU	1666	HO2S High Signal Bank 2 Sensor 1
60	0.5 TN	1667	HO2S Low Signal Bank 2 Sensor 1
61	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
62	-	-	Not Available
63	0.5 PU	486	TP Sensor 2 Signal
64	0.5 D-BU/WH	6265	Camshaft Position Signal
65	0.5 D-GN	485	TP Sensor 1 Signal
66	0.5 BN	6266	Low Reference
67	-	-	Not Available
68	0.5 WH/BK	6271	Crankshaft Position Sensor Signal
69	0.5 GY/BK	6272	Low Reference
70	0.5 PU	2121	IC 1 Control
71	0.5 PU/WH	2128	IC 8 Control
72	0.5 OG	2127	IC 7 Control
73	0.5 OG/WH	2122	IC 2 Control
74	0.5 L-BU/WH	2126	IC 6 Control
75	0.5 D-GN	2125	IC 5 Control
76	0.5 D-GN/WH	2124	IC 4 Control
77	0.5 L-BU	2123	IC 3 Control
78	0.5 BN	2129	Low Reference
79	0.5 BN/WH	2130	Low Reference

cardiagn.com

80	-	-	Not Available

K20 ENGINE CONTROL MODULE X2 (LLT)

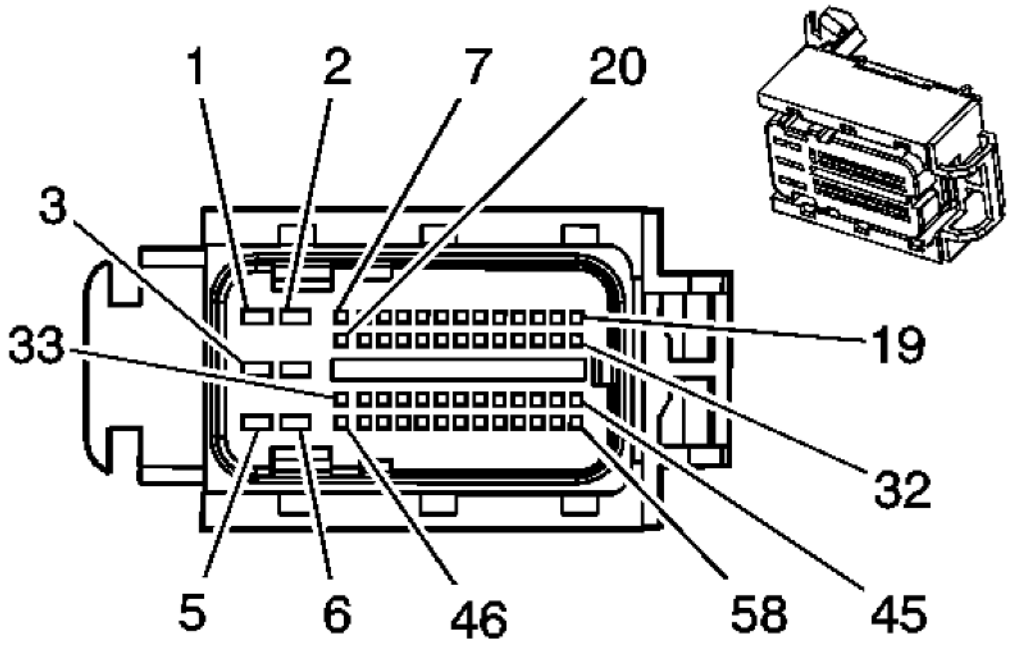


Fig. 35: K20 Engine Control Module X2 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15462694
- Service: 88988935
- Description: 58-Way F Mixed Sealed (BK)

Terminal Part Information

- Pins: 1, 2, 4
- Terminal/Tray: 1928498059/24
- Core/Insulation Crimp: 2/5
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

cardiagn.com

- Pins: 3, 5, 6
- Terminal/Tray: 1928498058/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

- Pins: 7, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 56, 57, 58
- Terminal/Tray: 1928498135/19
- Core/Insulation Crimp: Pins 7, 9, 10, 11, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36, 37, 38, 39, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 56, 57, 58 - J/J
- Core/Insulation Crimp: Pins 18, 41 - P/P
- Release Tool: J-38125-213
- Test Probe: J-35616-16 (L-GN)

K20 Engine Control Module X2 (LLT)

Pin	Wire	Circuit	Function
1	2 BK/WH	451	Ground
2	2 BK/WH	451	Ground
3	1 PK/BK	5290	Ignition Voltage
4	2 BK/WH	451	Ground
5	1 PK/BK	5290	Ignition Voltage
6	1 PK/BK	5290	Ignition Voltage
7	0.8 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2
8	-	-	Not Used
9	0.5 BN/WH	6281	Low Reference
10	0.5 D-GN/WH	465	Fuel Pump Relay Control
11	0.5 TN	5514	Low Reference
12	-	-	Not Used
13	0.5 YE	492	MAF Sensor Signal
14	0.5 GY	2709	5-Volt Reference 1
15	0.5 D-BU	1161	APP Sensor 1 Signal
16	-	-	Not Used
17	0.5 OG/BK	1786	Park/Neutral Signal (MYB)
18	0.35 L-GN	5007	Backup Lamp Switch Signal (MV5)
19	0.5 WH	1310	EVAP Canister Vent Solenoid Control
20	0.8 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
21	0.5 BN/WH	419	MIL Control
22	0.5 TN	2760	Low Reference
23	0.5 TN/WH	3121	HO2S Low Signal Bank 1 Sensor 2

cardiagn.com

24	0.5 TN	3221	HO2S Low Signal Bank 2 Sensor 2
25	0.5 L-BU	1162	APP Sensor 2 Signal
26	0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary
27	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal
28-33	-	-	Not Used
34	0.5 BN	1271	Low Reference
35	0.5 GY	598	5-Volt Reference 1
36	0.5 D-BU	1936	Fuel Level Sensor Signal
37	0.5 YE	6111	Clutch Pedal Position Sensor Signal (MV5)
38	0.5 PU	3120	HO2S High Signal Bank 1 Sensor 2
39	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal
40	-	-	Not Used
41	0.35 D-BU	5985	Serial Data Wake - Up Signal
42	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus +
43	0.5 GY/BK	6355	VSS Signal High (MV5)
44	0.5 D-GN/WH	459	A/C Compressor Clutch Relay Control
45	0.5 D-BU	473	High Speed Cooling Fan Relay Control
46	0.5 D-GN	335	Low Speed Cooling Fan Relay Control
47	0.5 PU	1272	Low Reference
48	0.5 TN	1274	5-Volt Reference 3
49	0.5 WH/BK	1164	5-Volt Reference 2
50	0.5 L-BU	6289	Intake Air Temperature Sensor Signal
51	0.5 PU	3220	HO2S High Signal Bank 2 Sensor 2
52	0.5 L-BU/WH	6311	Brake Pedal Switch Signal
53	-	-	Not Used
54	0.5 PK	439	Ignition Voltage
55	0.5 TN	2501	High Speed GMLAN Serial Data Bus -
56	0.8 RD/WH	440	Battery Positive Voltage
57	0.5 PU/WH	6386	Starter Relay Control
58	0.5 YE	5991	Powertrain Relay Control

K27 FUEL PUMP CONTROL MODULE

cardiagn.com

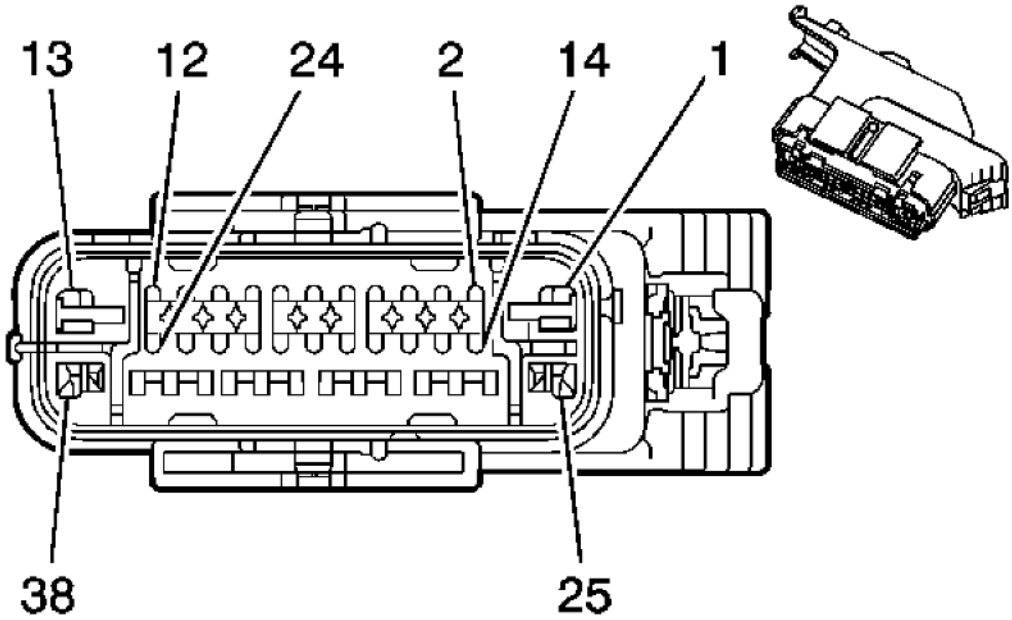


Fig. 36: K27 Fuel Pump Control Module Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13518748
- Service: 19178089
- Description: 38-Way F 2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 13, 25, 38
- Terminal/Tray: 15392777/23
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: 5, 6, 8, 10, 17, 18, 20, 21, 22, 23, 24
- Terminal/Tray: SAITS-A03T-M064/14
- Core/Insulation Crimp: 9/9

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K27 Fuel Pump Control Module

Pin	Wire	Circuit	Function
1	2 RD/WH	2640	Battery Positive Voltage
2-4	-	-	Not Used
5	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
6	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
7	-	-	Not Used
8	0.35 L-BU	5986	Serial Data Communication Enable
9	-	-	Not Used
10	0.35 PU	7446	Fuel Pressure Sensor Signal
11-12	-	-	Not Used
13	2 GY	120	Fuel Pump Supply Voltage
14-16	-	-	Not Used
17	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
18	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
19	-	-	Not Used
20	0.35 D-GN/WH	465	Fuel Pump Relay Control
21	0.35 PK	239	Ignition Voltage
22	0.35 BN	7445	5-Volt Reference
23	0.35 GY	7447	Low Reference
24	0.5 BK	7444	Drain Wire
25	2 BK	2550	Ground
26-37	-	-	Not Used
38	2 PK	1580	Low Reference

K29 SEAT HEATING CONTROL MODULE X1 (KA1)

cardiagn.com

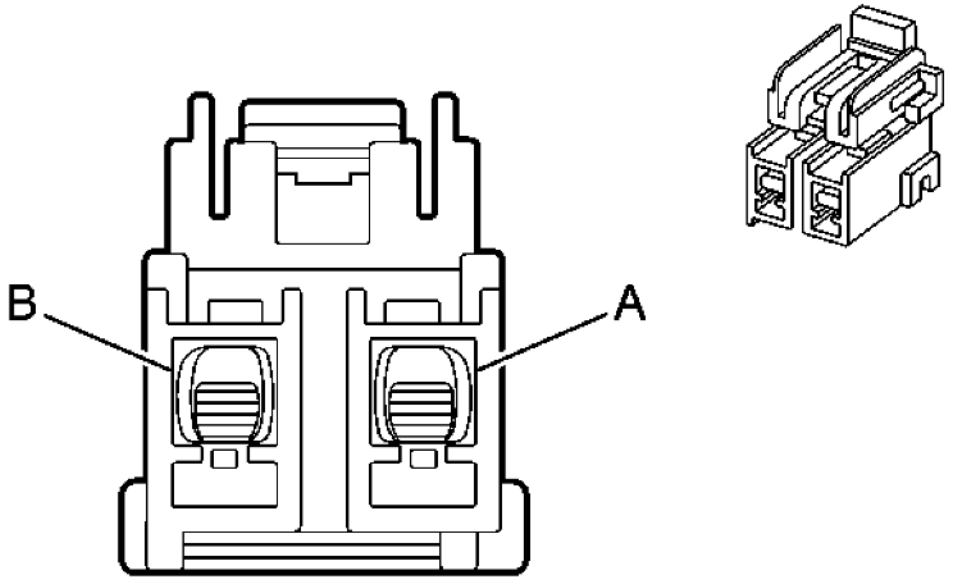


Fig. 37: K29 Seat Heating Control Module X1 (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 13527997
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F Metri-Pack 280 Series (BK)

Terminal Part Information

- Terminal/Tray: Pin A - 12110842/4
- Terminal/Tray: Pin B - 12110844/4
- Core/Insulation Crimp: Pin: A - A/B
- Core/Insulation Crimp: Pin: B - C/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

K29 Seat Heating Control Module X1 (KA1)

Pin	Wire	Circuit	Function

cardiagn.com

A	2 BK	850	Ground
B	1 RD/WH	5140	Battery Positive Voltage

K29 SEAT HEATING CONTROL MODULE X2 (KA1)

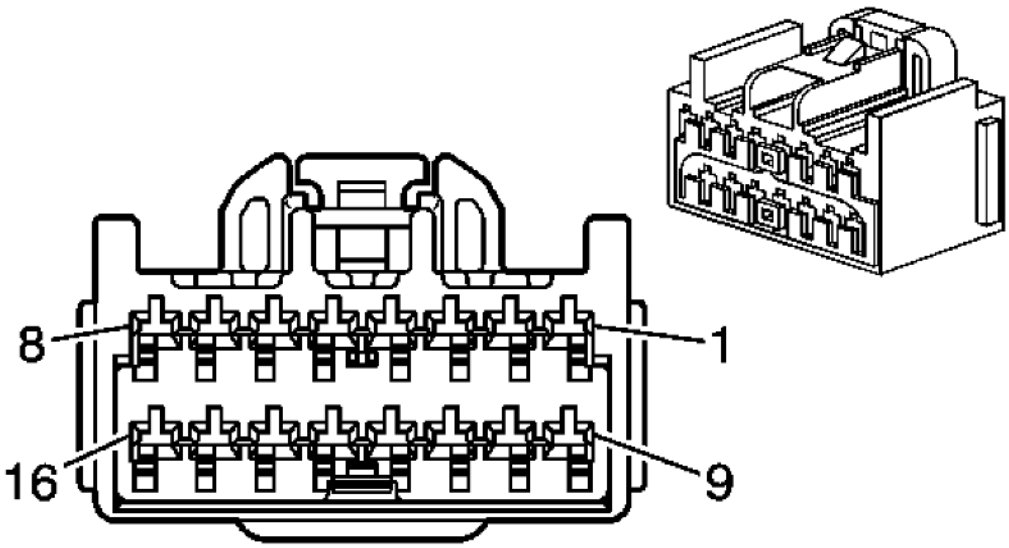


Fig. 38: K29 Seat Heating Control Module X2 (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 6098-4611
- Service: Service by Harness - See Part Catalog
- Description: 16-Way F (BK)

Terminal Part Information

- Terminal/Tray: Pins - 1, 2, 3, 5 - 8240-0128/22
- Terminal/Tray: Pins - 11, 14 - 8240-0127/22
- Core/Insulation Crimp: Pins - 1, 2, 3, 5 - C/A
- Core/Insulation Crimp: Pins - 11, 14 - E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

K29 Seat Heating Control Module X2 (KA1)

Pin	Wire	Circuit	Function
1	0.8 L-BU	2424	Driver Heated Seat Back Element Control
2	0.8 L-BU	2433	Passenger Heated Seat Back Element Control
3	0.8 D-BU	2077	Heated Seat Cushion Element Supply Voltage
4	-	-	Not Used
5	0.8 D-BU	2479	Passenger Heated Seat Element Supply Voltage
6-12	-	-	Not Used
13	0.5 PK	2080	Low Reference
14	0.5 PK	2435	Low Reference
15-16	-	-	Not Used

K29 SEAT HEATING CONTROL MODULE X3 (KA1)

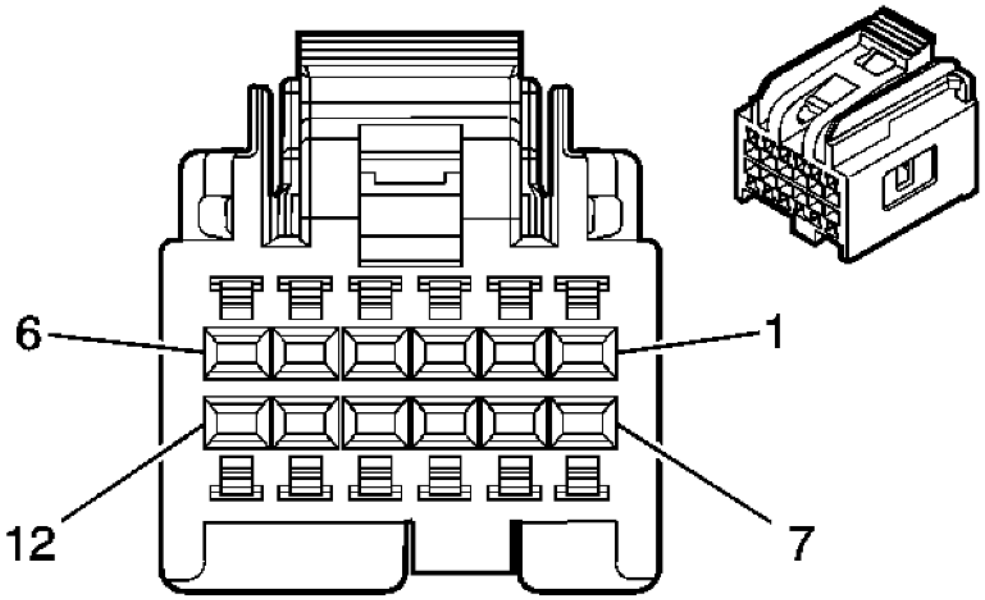


Fig. 39: K29 Seat Heating Control Module X3 (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Driver Seat
- OEM: 31410-1120
- Service: Service by Harness - See Part Catalog
- Description: 12-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K29 Seat Heating Control Module X3 (KA1)

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.5 GY	2079	Heated Seat Cushion Temperature Sensor Signal
4	0.5 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal
5-10	-	-	Not Used
11	0.35 D-GN	5060	Low Speed GMLAN Serial Data
12	-	-	Not Used

K33 HVAC CONTROL MODULE X1

cardiagn.com

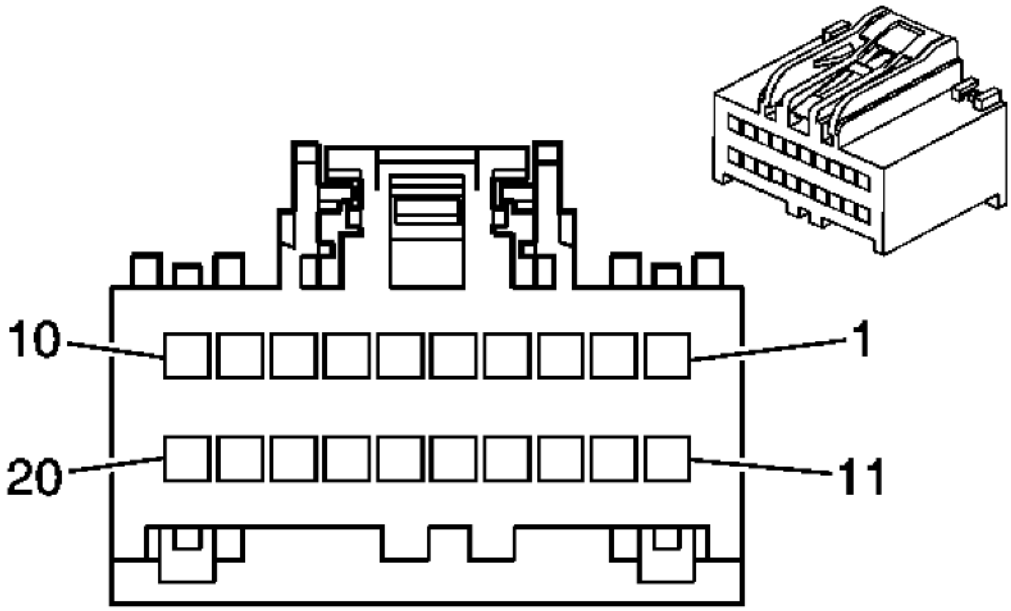


Fig. 40: K33 HVAC Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15491305
- Service: 15126709
- Description: 20-Way F USCAR 64 Series (BN)

Terminal Part Information

- Pins: 1, 8
- Terminal/Tray: 13588504/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 2, 4, 9, 15, 19
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

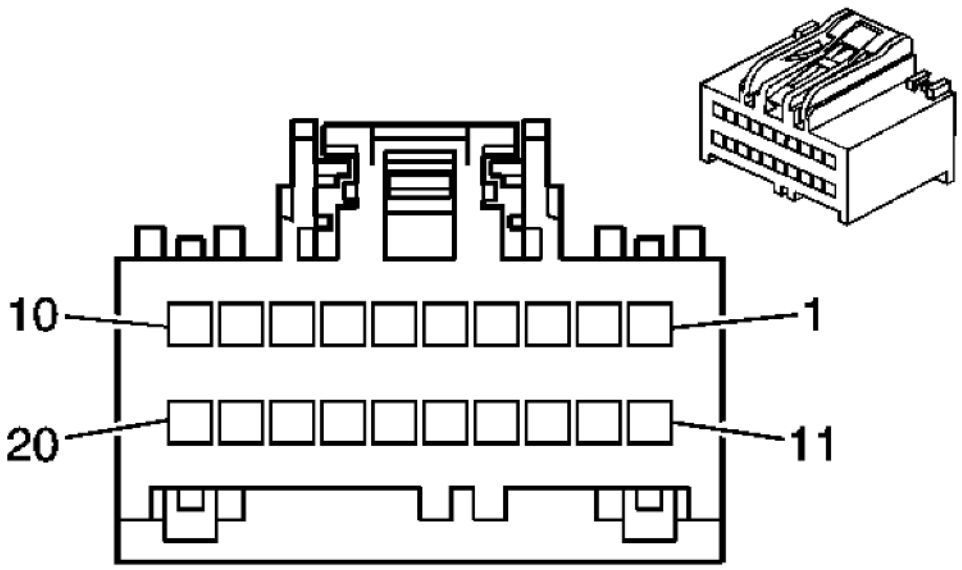
cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K33 HVAC Control Module X1

Pin	Wire	Circuit	Function
1	0.8 RD/WH	3340	Battery Positive Voltage
2	0.35 D-GN	5060	Low Speed GMLAN Serial Data
3	-	-	Not Used
4	0.35 YE	7531	Linear Interconnect Network 9
5-7	-	-	Not Used
8	0.8 BK	1450	Ground
9	0.35 PK	539	Ignition Voltage
10-14	-	-	Not Used
15	0.35 GY/BK	754	Blower Motor Speed Control
16-18	-	-	Not Used
19	0.35 WH	193	Rear Defog Relay Control
20	-	-	Not Used

K33 HVAC CONTROL MODULE X2



cardiagn.com

Fig. 41: K33 HVAC Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15489824
- Service: 15126711
- Description: 20-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K33 HVAC Control Module X2

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.35 D-BU	3167	Mode Door Stepper Motor Control 3
3	0.35 GY	3165	Mode Door Stepper Motor Control 1
4	0.35 BN	3168	Mode Door Stepper Motor Control 4
5	0.35 D-GN	3166	Mode Door Stepper Motor Control 2
6-8	-	-	Not Used
9	0.35 TN	407	Low Reference
10	-	-	Not Used
11	0.35 TN/BK	3169	Temp Door Stepper Motor Control 1
12	0.35 PU	3170	Temp Door Stepper Motor Control 2
13	0.35 L-GN	3171	Temp Door Stepper Motor Control 3
14	0.35 L-BU	3172	Temp Door Stepper Motor Control 4
15	0.5 OG	7572	HVAC Motor Supply Voltage
16	0.35 D-BU/WH	3173	Air Inlet Door Stepper Motor Control 1
17	0.35 BN/WH	3174	Air Inlet Door Stepper Motor Control 2
18	0.35 YE	3175	Air Inlet Door Stepper Motor Control 3
19	0.35 WH	3176	Air Inlet Door Stepper Motor Control 4
20	0.35 GY	6137	EVAP Core Temperature Sensor Signal

K36 INFLATABLE RESTRAINT SENSING AND DIAGNOSTIC MODULE X1

cardiagn.com

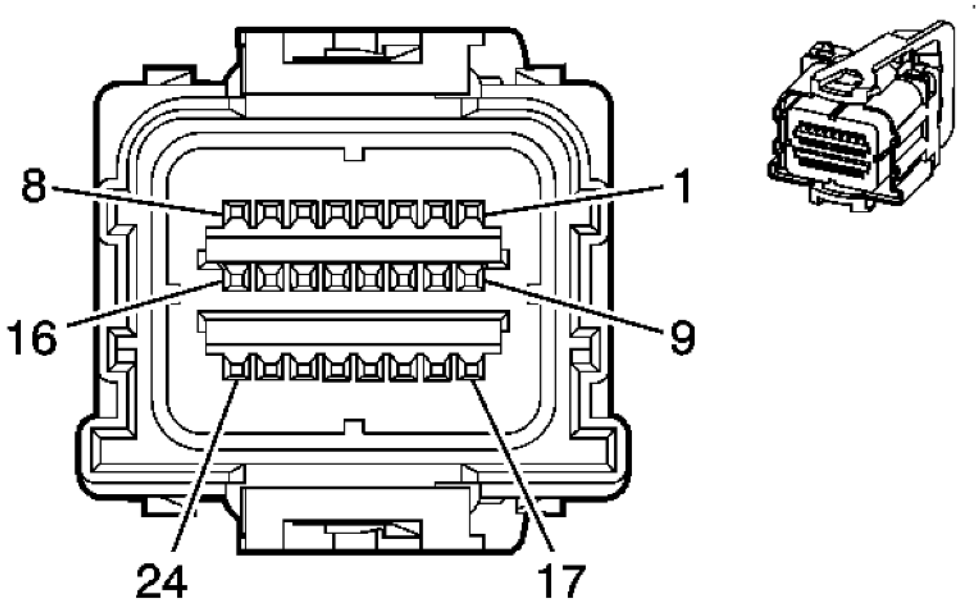


Fig. 42: K36 Inflatable Restraint Sensing and Diagnostic Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13608103
- Service: 13317834
- Description: 24-Way F Kaizen 0.64 Series, Sealed (YE)

Terminal Part Information

- Terminal/Tray: Service with Terminated Lead
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K36 Inflatable Restraint Sensing and Diagnostic Module X1

Pin	Wire	Circuit	Function
1	0.35 WH	3023	Steering Wheel Module - Stage2 - High Control
2	0.35 PK	3022	Steering Wheel Module - Stage2 - Low

cardiagn.com

			Control
3	0.35 BN	3020	Steering Wheel Module - Stage1 - Low Control
4	0.35 TN	3021	Steering Wheel Module - Stage1 - High Control
5	0.35 YE	3025	I/P Module - Stage 1 - High Control
6	0.35 OG	3024	I/P Module - Stage 1 - Low Control
7	0.35 PU	3026	I/P Module - Stage 2 - Low Control
8	0.35 GY	3027	I/P Module - Stage 2 - High Control
9	0.5 RD/WH	4440	Battery Positive Voltage
10	0.35 PU	5234	Front Passenger Seat Belt Indicator Control
11	0.35 D-BU	2307	Passenger Air Bag On Indicator Control
12	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control
13-14	-	-	Not Used
15	0.35 D-GN	5060	Low Speed GMLAN Serial Data
16	-	-	Not Used
17	0.35 PK	1139	Ignition Voltage
18	-	-	Not Used
19	0.5 BK	2450	Ground
20-24	-	-	Not Used

K36 INFLATABLE RESTRAINT SENSING AND DIAGNOSTIC MODULE X2

cardiagn.com

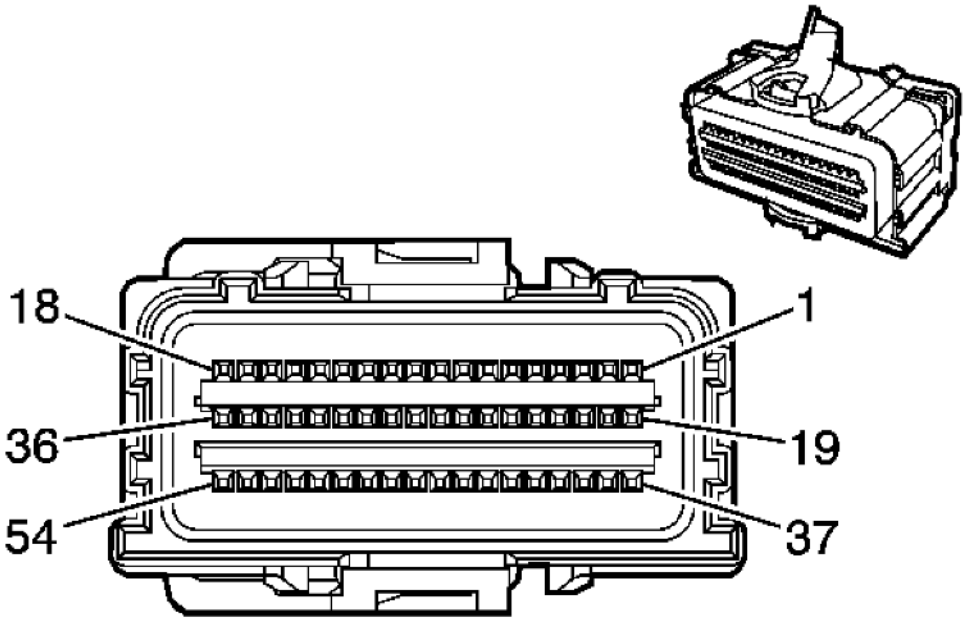


Fig. 43: K36 Inflatable Restraint Sensing and Diagnostic Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13715984
- Service: 13316188
- Description: 54-Way F 0.64 Series, Sealed (YE)

Terminal Part Information

- Terminal/Tray: Service with Terminated Lead
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K36 Inflatable Restraint Sensing and Diagnostic Module X2

Pin	Wire	Circuit	Function
1-12	-	-	Not Used
13	0.35 BN	2137	Side Impact Module - Left Front - High Control

cardiagn.com

14	0.35 YE/BK	2138	Side Impact Module - Left Front - Low Control
15	0.35 L-GN	2136	Side Impact Module - Right Front - Low Control
16	0.35 TN/WH	2135	Side Impact Module - Right Front - High Control
17	0.35 PU/WH	5019	Roof Rail Module - Left - High Control
18	0.35 PK	5020	Roof Rail Module - Left - Low Control
19	0.35 WH	2132	Side Impact Sensing Module - Left - Signal
20	0.35 PU/WH	6628	Low Reference
21	0.35 WH/BK	6629	Low Reference
22	0.35 D-GN	2134	Side Impact Sensing Module - Right - Signal
23	0.35 YE	354	Front End Sensor - Left - Signal
24	0.35 TN/OG	5045	Low Reference
25	0.35 GY	5600	Low Reference
26	0.35 D-GN	1409	Front End Sensor - Right - Signal
27-32	-	-	Not Used
33-36	-	-	Not Available
37	0.35 TN/WH	2118	Seat Belt Retractor Pretensioner - Left - High Control
38	0.35 OG/BK	2119	Seat Belt Retractor Pretensioner - Left - Low Control
39	0.35 OG	2117	Seat Belt Retractor Pretensioner - Right - Low Control
40	0.35 L-GN	2116	Seat Belt Retractor Pretensioner - Right - High Control
41	0.35 TN/WH	238	Seat Belt Switch - Left
42	0.35 L-GN	5055	Seat Position Sensor - Left - Signal
43	0.35 D-BU	1363	Seat Belt Switch - Left - Low Reference
44	0.35 L-BU	1361	Seat Belt Switch - Right - Low Reference
45	0.35 OG	1362	Seat Belt Switch - Right - Signal
46	0.35 L-BU	5056	Seat Position Sensor - Right - Signal
47-52	-	-	Not Used
53	0.35 YE/BK	5021	Roof Rail Module - Right - High Control
54	0.35 WH/BK	5022	Roof Rail Module - Right - Low Control

K41 OBJECT ALARM CONTROL MODULE X1 (UD7)

cardiagn.com

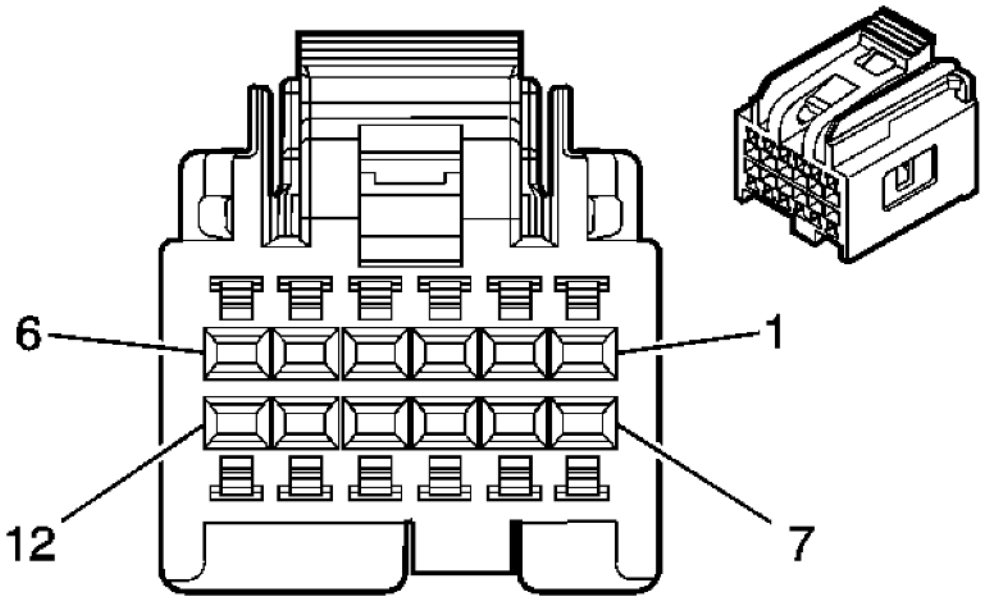


Fig. 44: K41 Object Alarm Control Module X1 (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13551678
- Service: 89047364
- Description: 12-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K41 Object Alarm Control Module X1 (UD7)

Pin	Wire	Circuit	Function
1	0.5 RD/WH	3140	Battery Positive Voltage
2-5	-	-	Not Used

cardiagn.com

6	0.35 D-GN	5060	Low Speed GMLAN Serial Data
7	0.5 BK	2550	Ground
8-12	-	-	Not Used

K41 OBJECT ALARM CONTROL MODULE X2 (UD7)

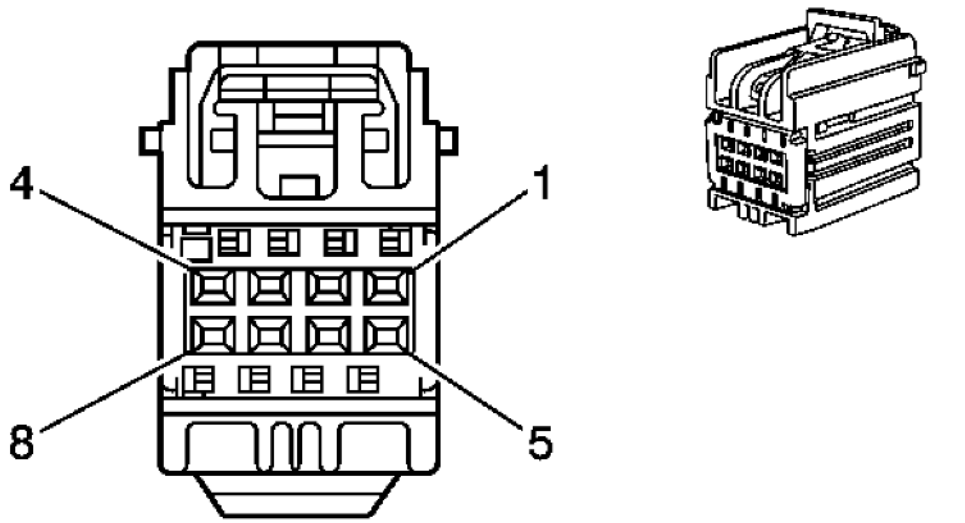


Fig. 45: K41 Object Alarm Control Module X2 (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13551679
- Service: 19115653
- Description: 8-Way F Kaizen 64 Series (GY)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

K41 Object Alarm Control Module X2 (UD7)

Pin	Wire	Circuit	Function
1	0.35 PU	2378	Right Rear Corner Object Sensor Signal
2	0.35 D-GN	2377	Right Rear Middle Object Sensor Signal
3	0.35 OG	2376	Left Rear Middle Object Sensor Signal
4	0.35 D-BU	2374	Object Sensor Supply Voltage
5	0.35 YE	2375	Left Rear Corner Object Sensor Signal
6-7	-	-	Not Used
8	0.35 GY	2379	Low Reference

K61 SUNROOF CONTROL MODULE (CF5)

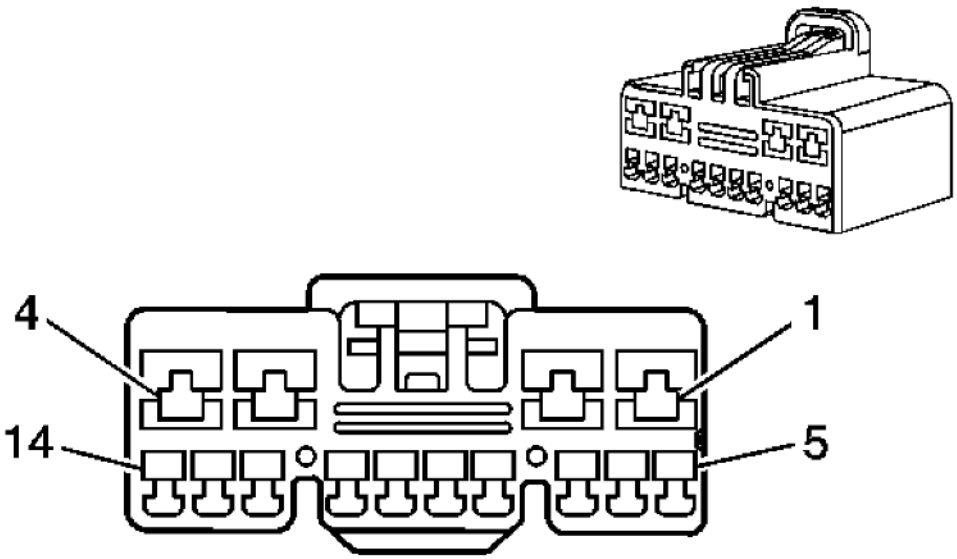


Fig. 46: K61 Sunroof Control Module (CF5) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Sunroof

cardiagn.com

- OEM: 15466088
- Service: 19179972
- Description: 14-Way F 64/2.8 YESC Series (L-GY)

Terminal Part Information

- Pins: 1, 4
- Terminal/Tray: 7116-4112-02/9
- Core/Insulation Crimp: C/D
- Release Tool: 12094430
- Test Probe: J-35616-35 (VT)

- Pins: 7, 8, 11
- Terminal/Tray: 7116-4720-02/14
- Core/Insulation Crimp: H/H
- Release Tool: 15315247
- Test Probe: J-35616-64B (L-BU)

K61 Sunroof Control Module (CF5)

Pin	Wire	Circuit	Function
1	3 RD/WH	3540	Battery Positive Voltage
2-3	-	-	Not Used
4	3 BK	1450	Ground
5-6	-	-	Not Used
7	0.35 L-BU	5027	Sunroof Switch Data 1
8	0.35 D-BU	128	Low Reference
9-10	-	-	Not Used
11	0.35 BN	6132	Linear Interconnect Network 1
12-14	-	-	Not Used

K73 TELEMATICS COMMUNICATION INTERFACE CONTROL MODULE X1 (UE1)

cardiagn.com

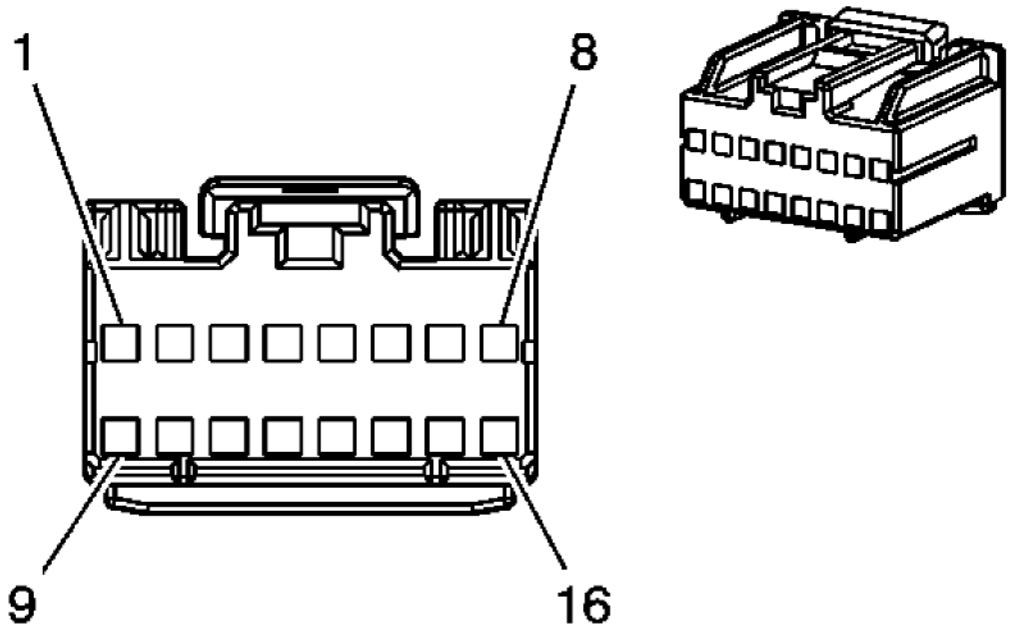


Fig. 47: K73 Telematics Communication Interface Control Module X1 (UE1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15431362
- Service: 15306351
- Description: 16-Way F Micro-Pack 100A Series (WH)

Terminal Part Information

- Terminal/Tray: 15445905/23
- Core/Insulation Crimp: Pins 1, 2, 3, 6, 10, 11, 12, 13, 14, 16 - J/J
- Core/Insulation Crimp: Pin 8 - K/K
- Release Tool: 12180559
- Test Probe: J-35616-16 (L-GN)

K73 Telematics Communication Interface Control Module X1 (UE1)

Pin	Wire	Circuit	Function
1	0.35 D-GN	5060	Low Speed GMLAN Serial Data

cardiagn.com

2	0.35 BN/WH	2517	Keypad Red LED Signal
3	0.35 YE/BK	2516	Keypad Green LED Signal
4-5	-	-	Not Used
6	0.35 L-GN/BK	2515	Keypad Supply Voltage
7	-	-	Not Used
8	0.8 BK	1750	Ground
9	-	-	Not Used
10	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
11	0.35 D-GN/WH	2514	Keypad Signal
12	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
13	0.35 GY/BK	5167	OnStar Backup Battery (-)
14	0.35 RD/WH	5235	OnStar Backup Battery (+)
15	-	-	Not Used
16	0.35 RD/WH	5340	Battery Positive Voltage

K73 TELEMATICS COMMUNICATION INTERFACE CONTROL MODULE X2 (UE1)

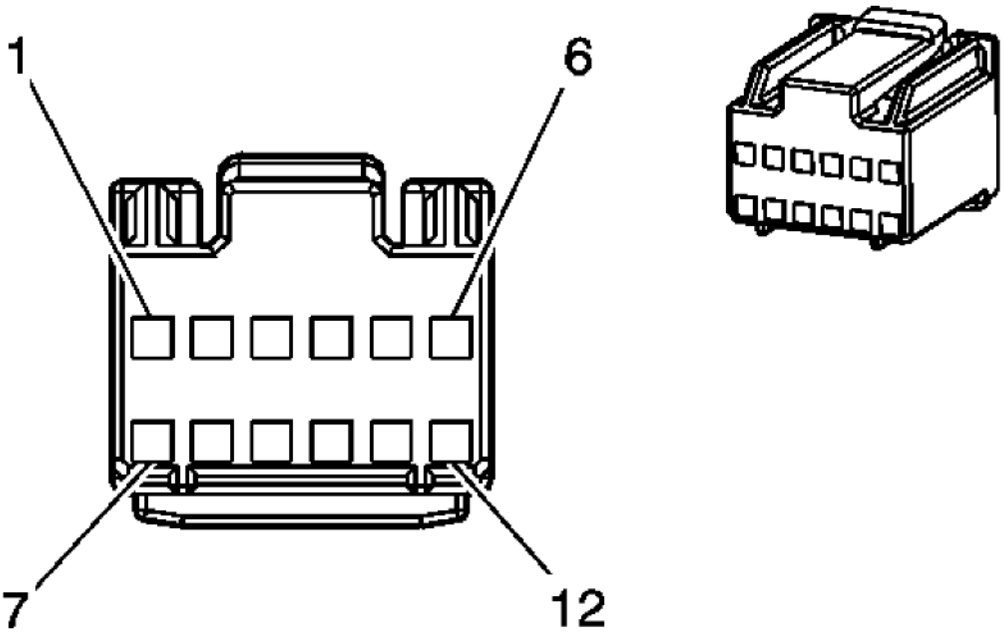


Fig. 48: K73 Telematics Communication Interface Control Module X2 (UE1) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Instrument Panel
- OEM: 15431365
- Service: 88952886
- Description: 12-Way F Micro-Pack 100A Series (WH)

Terminal Part Information

- Terminal/Tray: 15445905/23
- Core/Insulation Crimp: J/J
- Release Tool: 12180559
- Test Probe: J-35616-16 (L-GN)

K73 Telematics Communication Interface Control Module X2 (UE1)

Pin	Wire	Circuit	Function
1	0.35 D-BU	658	Cellular Telephone Voice Signal
2	0.35 L-BU/BK	659	Cellular Telephone Voice Signal
3	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
4	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
5-7	-	-	Not Used
8	0.35 BARE	1782	Drain Wire
9	0.35 GY	655	Cellular Microphone Signal
10	0.35 BARE	654	Cellular Microphone Signal
11-12	-	-	Not Used

K77 REMOTE CONTROL DOOR LOCK RECEIVER

cardiagn.com

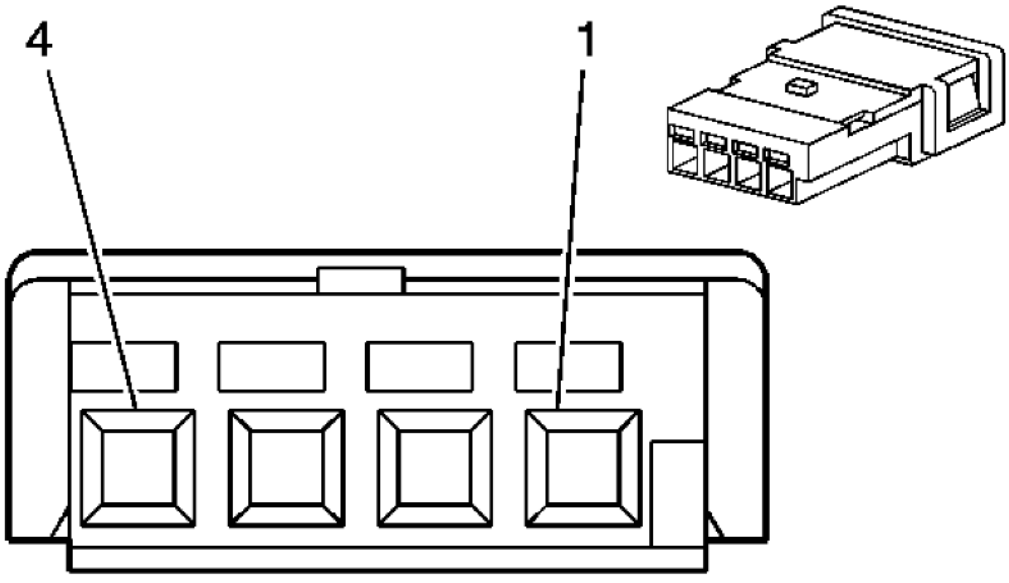


Fig. 49: K77 Remote Control Door Lock Receiver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof (BTV)
- Harness: Instrument Panel (without BTV)
- OEM: 15363838
- Service: 09130527
- Description: 4-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: H/H
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K77 Remote Control Door Lock Receiver

Pin	Wire	Circuit	Function
1	0.35 GY	3273	RCDLR Ground
2	0.35 L-BU/WH	3275	RCDLR Data Transmit

cardiagn.com

3	0.35 L-GN	3274	RCDLR Data Receive
4	0.35 PK/WH	3272	RCDLR Power

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

B55 HOOD AJAR SWITCH

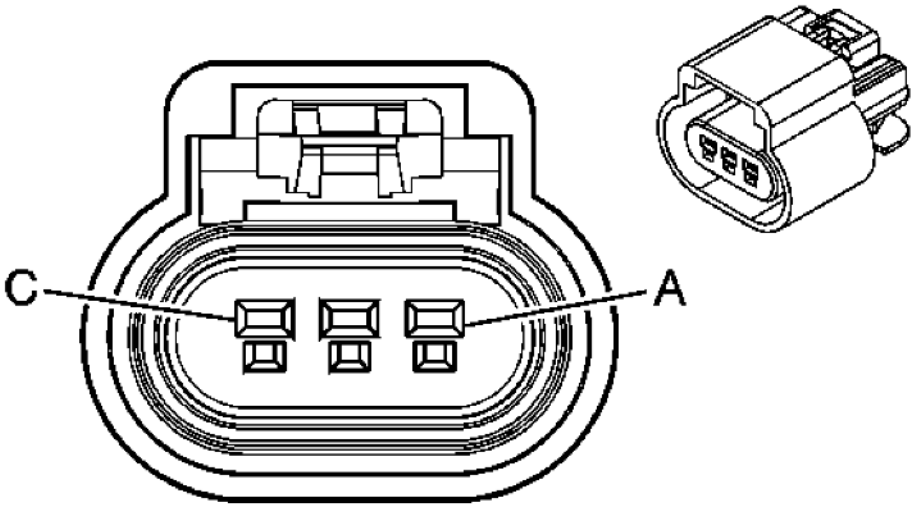


Fig. 1: B55 Hood Ajar Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13519047
- Service: 19153104
- Description: 3-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B55 Hood Ajar Switch

Pin	Wire	Circuit	Function
A	-	-	Not Used
B	0.5 PK/BK	109	Hood Ajar Switch Signal
C	0.5 BK	1150	Ground

B59L FRONT IMPACT SENSOR - LEFT

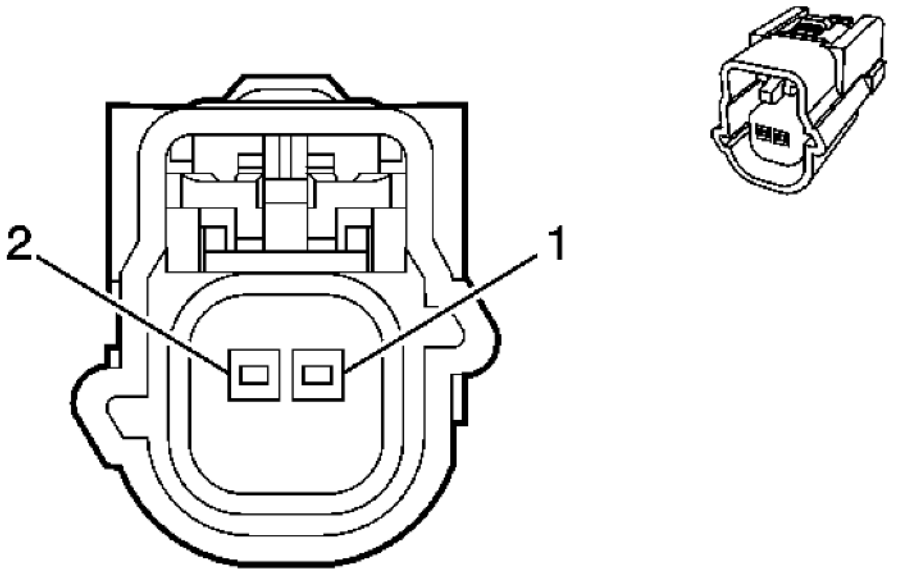


Fig. 2: B59L Front Impact Sensor - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13610095
- Service: 13314084

cardiagn.com

- Description: 2-Way F Kaizen 0.64 Series, Sealed (D-GY)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B59L Front Impact Sensor - Left

Pin	Wire	Circuit	Function
1	0.35 YE	354	Front End Sensor - Left - Signal
2	0.35 TN/OG	5045	Low Reference

B59R FRONT IMPACT SENSOR - RIGHT

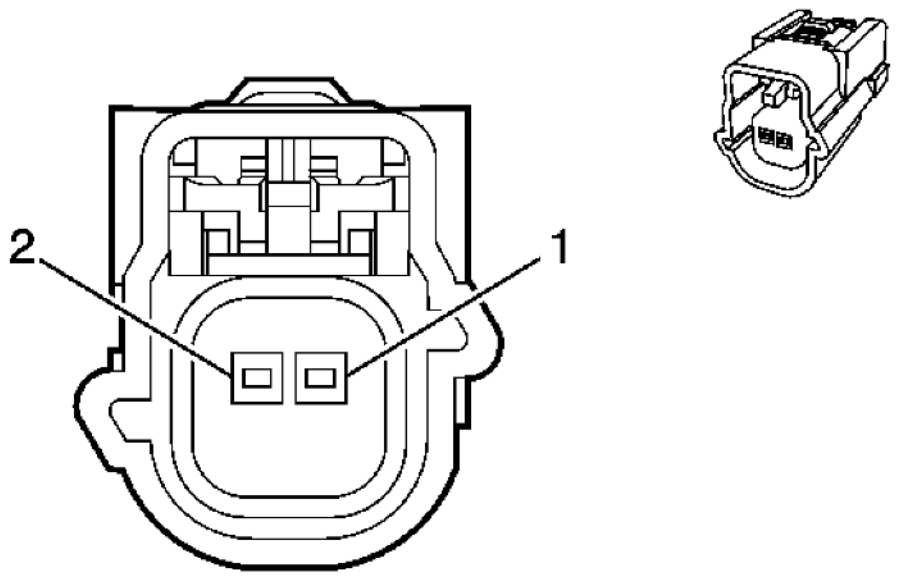


Fig. 3: B59R Front Impact Sensor - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Forward Lamp
- OEM: 13610095
- Service: 13314084
- Description: 2-Way F Kaizen 0.64 Series, Sealed (D-GY)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B59R Front Impact Sensor - Right

Pin	Wire	Circuit	Function
1	0.35 D-GN	1409	Front End Sensor - Right - Signal
2	0.35 GY	5600	Low Reference

B5LF WHEEL SPEED SENSOR - LEFT FRONT

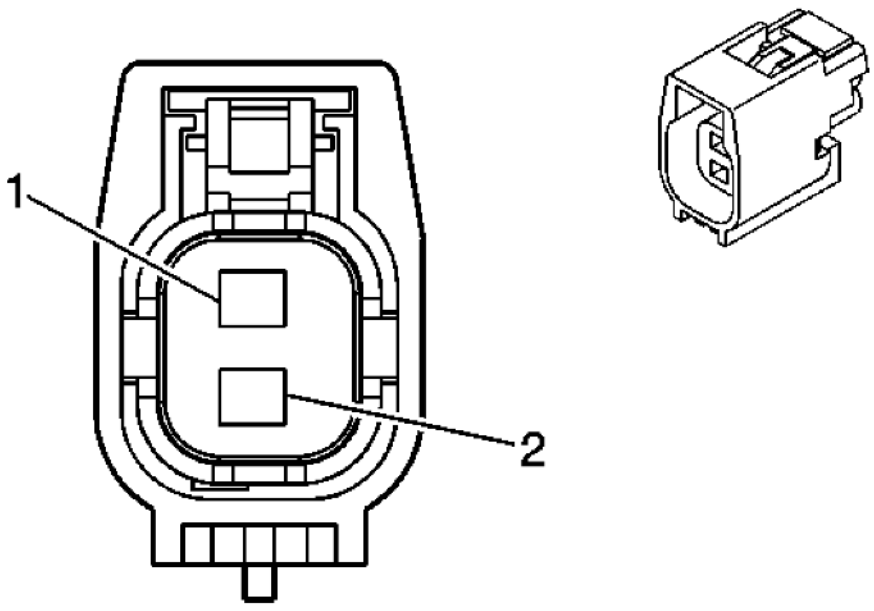


Fig. 4: B5LF Wheel Speed Sensor - Left Front Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Forward Lamp
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

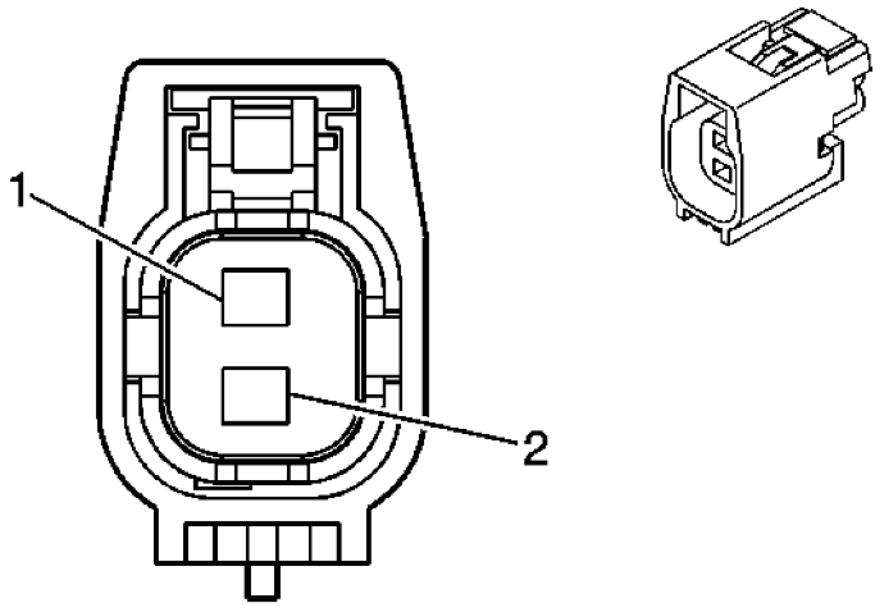
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5LF Wheel Speed Sensor - Left Front

Pin	Wire	Circuit	Function
1	0.5 L-BU	830	Left Front Wheel Speed Sensor Signal
2	0.5 YE	873	Low Reference

B5LR WHEEL SPEED SENSOR - LEFT REAR



cardiagn.com

Fig. 5: B5LR Wheel Speed Sensor - Left Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Axle
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5LR Wheel Speed Sensor - Left Rear

Pin	Wire	Circuit	Function
1	0.8 TN	884	Left Rear Wheel Speed Sensor Signal
2	0.8 OG	885	Low Reference

B5RF WHEEL SPEED SENSOR - RIGHT FRONT

cardiagn.com

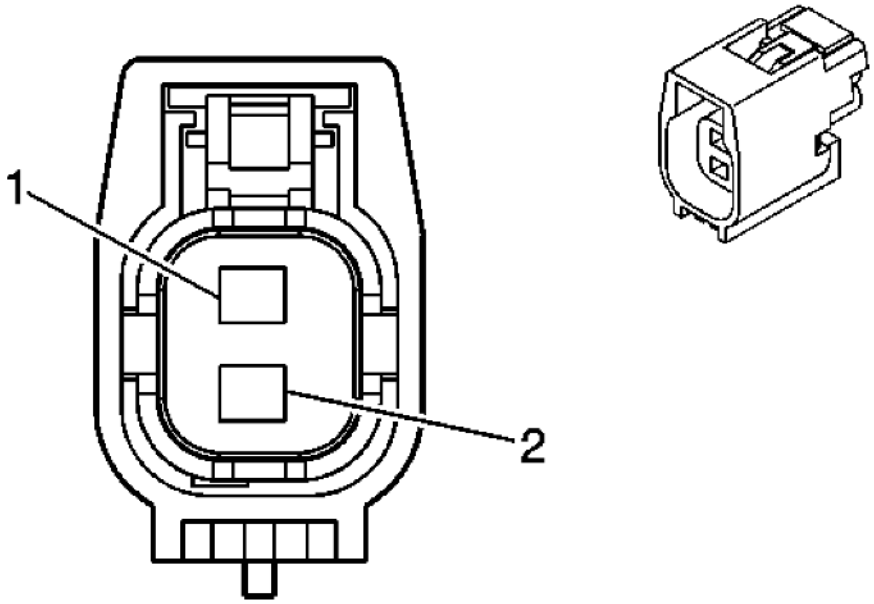


Fig. 6: B5RF Wheel Speed Sensor - Right Front Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5RF Wheel Speed Sensor - Right Front

Pin	Wire	Circuit	Function
1	0.5 D-GN	872	Right Front Wheel Speed Sensor Signal
2	0.5 TN	833	Low Reference

cardiagn.com

B5RR WHEEL SPEED SENSOR - RIGHT REAR

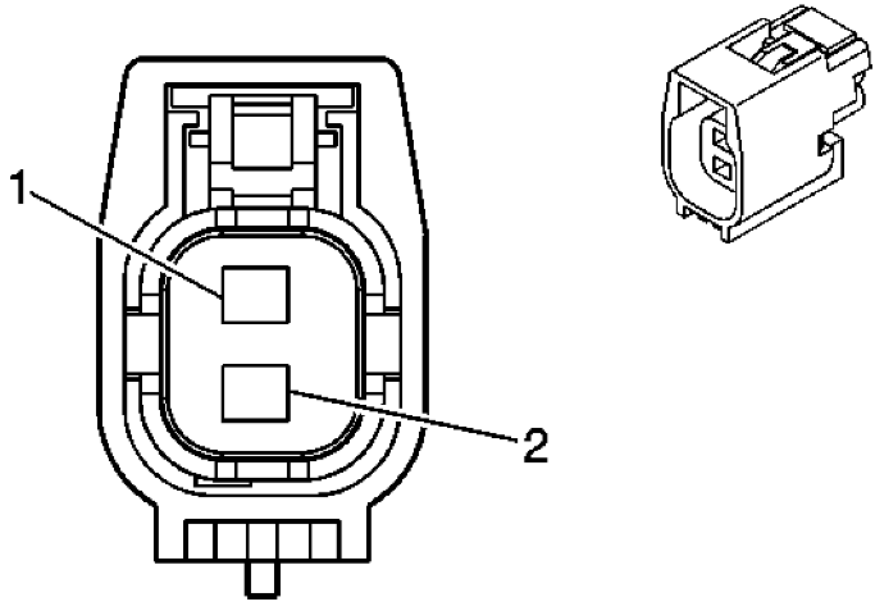


Fig. 7: B5RR Wheel Speed Sensor - Right Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Axle
- OEM: 13612509
- Service: 19178097
- Description: 2-Way F GT 1.5 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B5RR Wheel Speed Sensor - Right Rear

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 BN	882	Right Rear Wheel Speed Sensor Signal
2	0.8 WH	883	Low Reference

B62D SEAT POSITION SENSOR - DRIVER

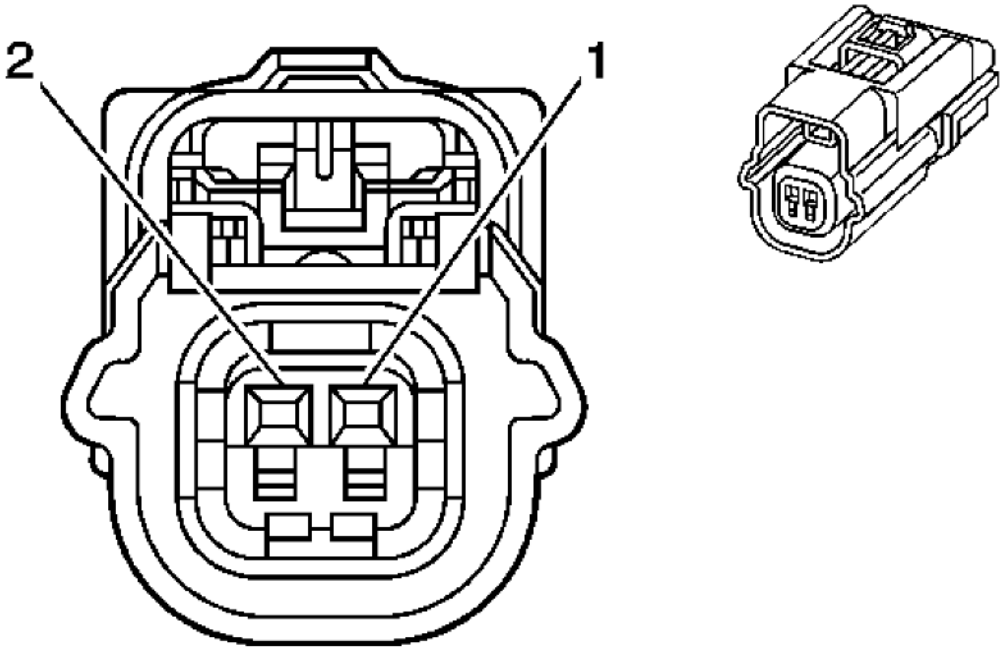


Fig. 8: B62D Seat Position Sensor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 54390239
- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

B62D Seat Position Sensor - Driver

Pin	Wire	Circuit	Function
1	0.35 D-BU	1363	Low Reference
2	0.35 L-GN	5055	Seat Position Sensor- Left - Signal

B62P SEAT POSITION SENSOR - PASSENGER

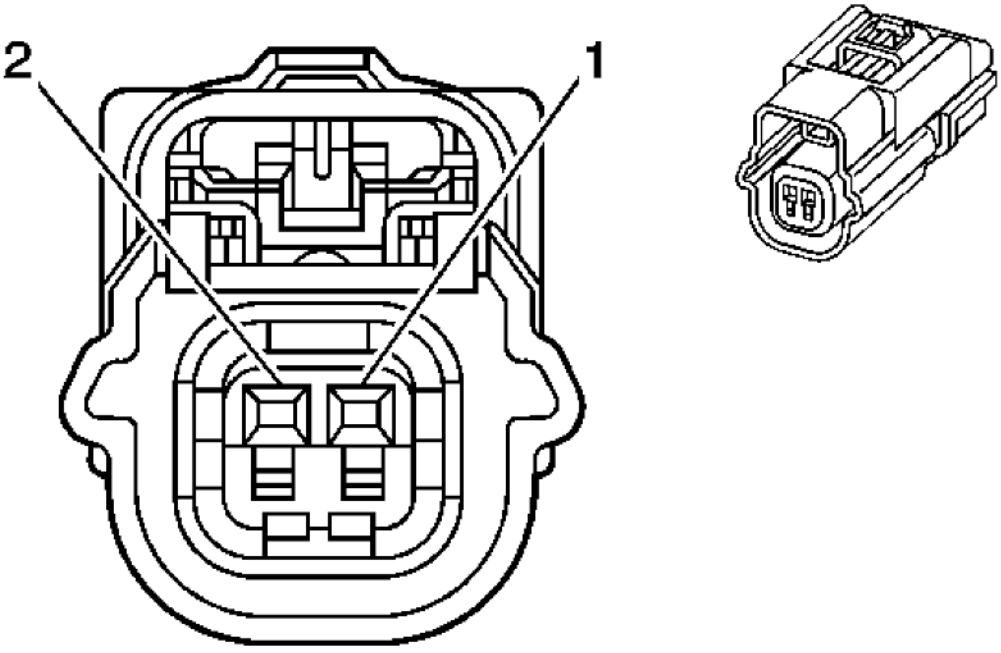


Fig. 9: B62P Seat Position Sensor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 54390239
- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B62P Seat Position Sensor - Passenger

Pin	Wire	Circuit	Function
1	0.35 L-BU	1361	Low Reference
2	0.35 L-BU	5056	Seat Position Sensor- Right - Signal

B63L SIDE IMPACT SENSOR - LEFT

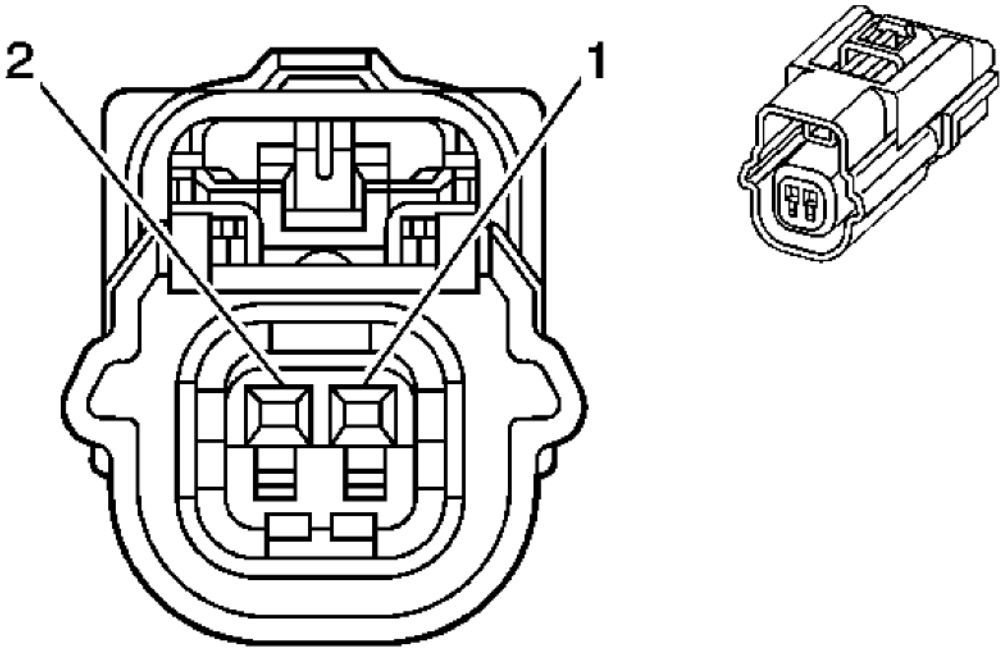


Fig. 10: B63L Side Impact Sensor - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13528494

cardiagn.com

- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B63L Side Impact Sensor - Left

Pin	Wire	Circuit	Function
1	0.35 WH	2132	Side Impact Sensing Module - Left - Signal
2	0.35 PU/WH	6628	Low Reference

B63R SIDE IMPACT SENSOR - RIGHT

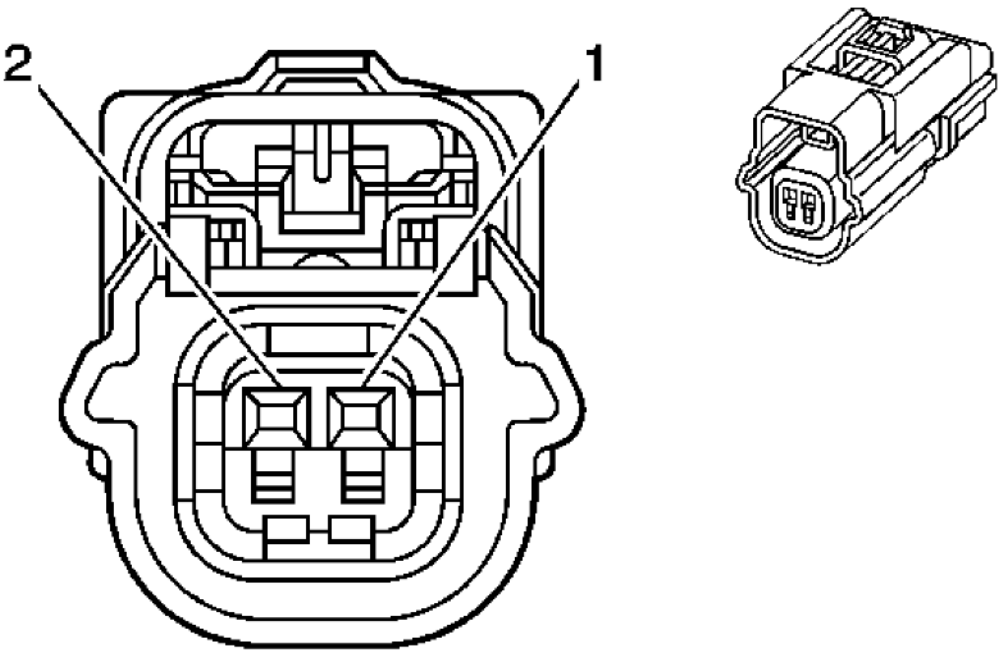


Fig. 11: B63R Side Impact Sensor - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 13528494
- Service: 19178174
- Description: 2-Way F Kaizen 64 Series (BK)

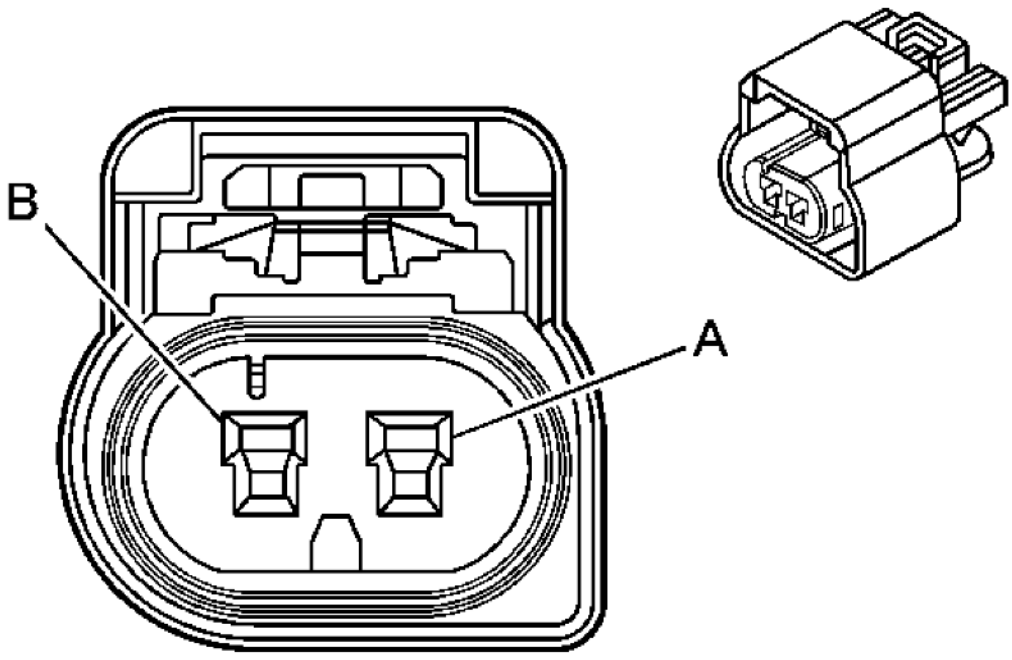
Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B63R Side Impact Sensor - Right

Pin	Wire	Circuit	Function
1	0.35 D-GN	2134	Side Impact Sensing Module - Right - Signal
2	0.35 WH/BK	6629	Low Reference

B68A KNOCK SENSOR 1



cardiagn.com

Fig. 12: B68A Knock Sensor 1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15374222
- Service: 88986864
- Description: 2-Way F GT 150 Sealed (NA)

Terminal Part Information

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B68A Knock Sensor 1

Pin	Wire	Circuit	Function
A	0.5 D-BU	496	Knock Sensor (KS) 1 Signal
B	0.5 GY	1716	Knock Sensor (KS) 1 Signal

B68B KNOCK SENSOR 2

cardiagn.com

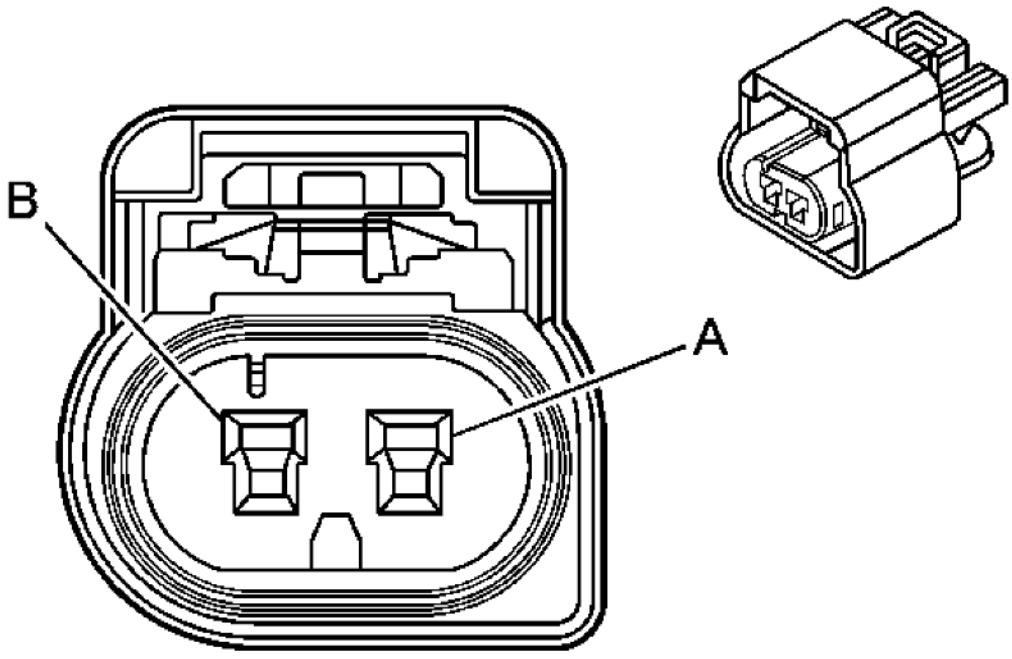


Fig. 13: B68B Knock Sensor 2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15374222
- Service: 88986864
- Description: 2-Way F GT 150 Sealed (NA)

Terminal Part Information

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B68B Knock Sensor 2

Pin	Wire	Circuit	Function
A	0.5 L-BU	1876	Knock Sensor (KS) 2 Signal

cardiagn.com

B	0.5 GY	2303	Knock Sensor (KS) 2 Signal

B74 MANIFOLD ABSOLUTE PRESSURE SENSOR (L99 OR LS3)

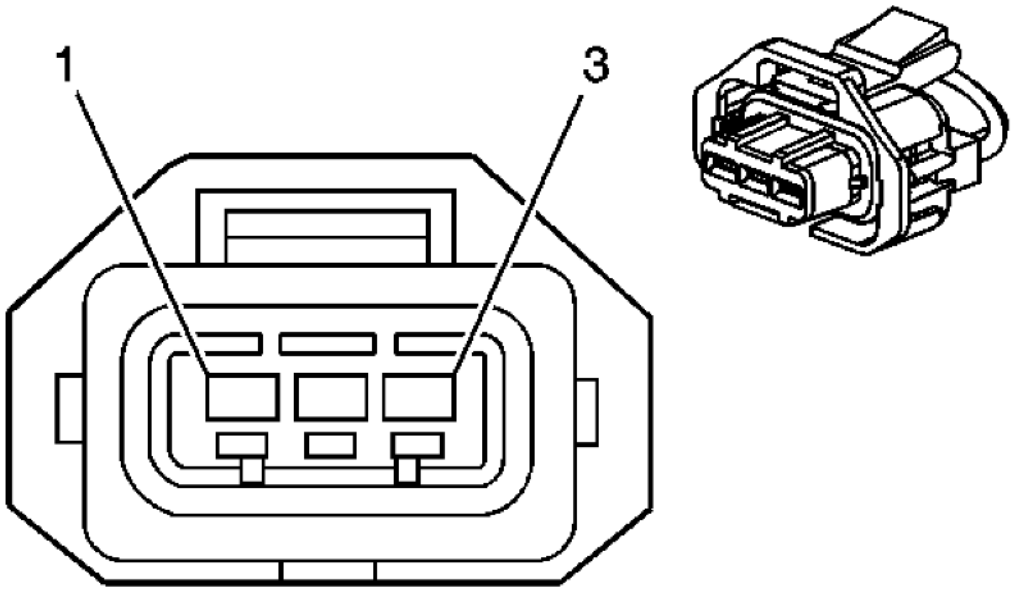


Fig. 14: B74 Manifold Absolute Pressure Sensor (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15365614
- Service: 88988583
- Description: 3-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

B74 Manifold Absolute Pressure Sensor (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 GY	2704	5-Volt Reference 1
2	0.5 OG/BK	469	Low Reference
3	0.5 L-GN	432	MAP Sensor Signal

B75B MASS AIR FLOW/INTAKE AIR TEMPERATURE SENSOR (L99 OR LS3)

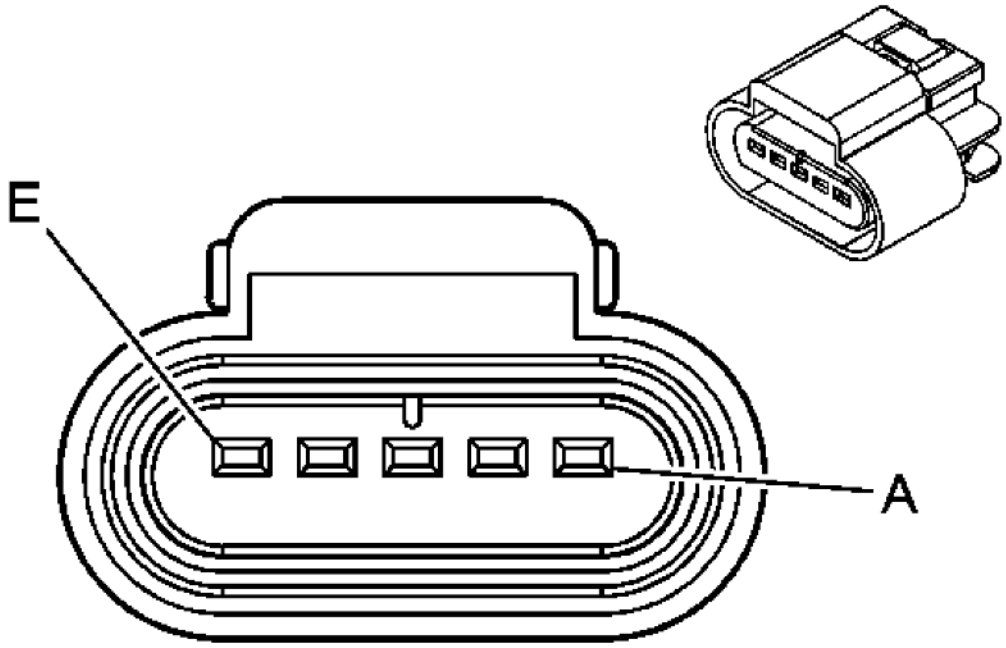


Fig. 15: B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13519912
- Service: 19207214
- Description: 5-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 YE	492	MAF Sensor Signal
B	0.5 BK/WH	451	Ground
C	0.5 PK	239	Ignition Voltage
D	0.5 TN	2760	Low Reference
E	0.5 L-BU	6289	Intake Air Temperature Sensor Signal

B75B MASS AIR FLOW/INTAKE AIR TEMPERATURE SENSOR (LLT)

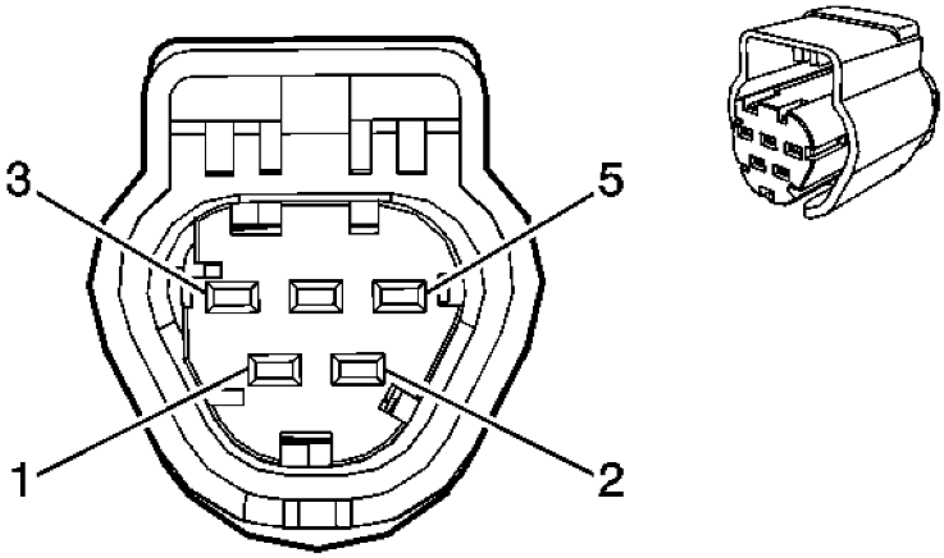


Fig. 16: B75B Mass Air Flow/Intake Air Temperature Sensor (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13610794

cardiagn.com

- Service: 13505905
- Description: 5-Way F 090 II Series, Sealed (BK)

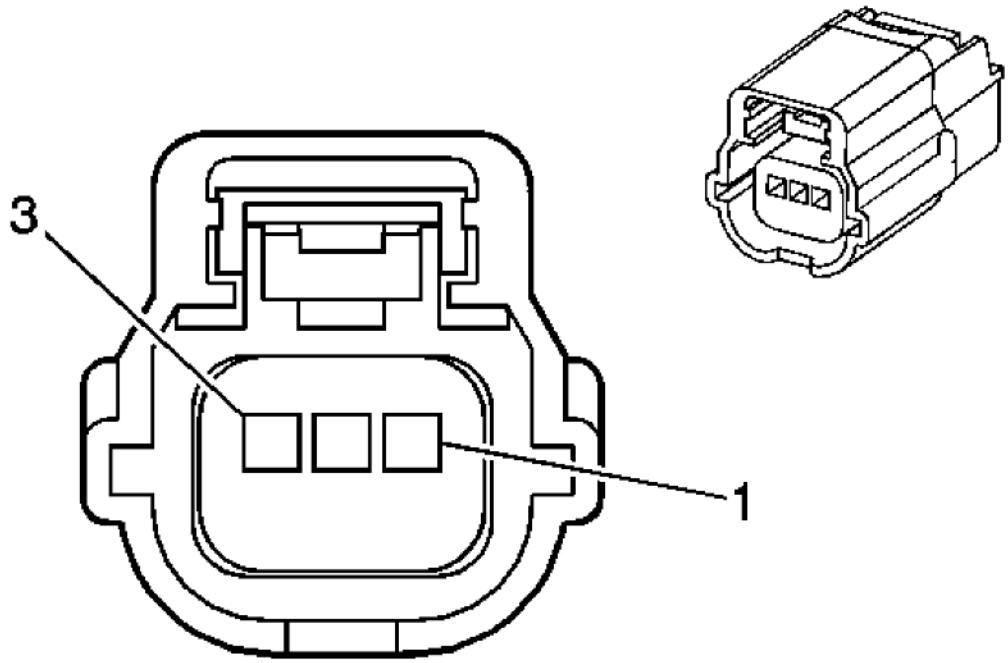
Terminal Part Information

- Terminal/Tray: 13610487/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

B75B Mass Air Flow/Intake Air Temperature Sensor (LLT)

Pin	Wire	Circuit	Function
1	0.5 TN	2760	Low Reference
2	0.5 BK/WH	451	Ground
3	0.5 L-BU	6289	Intake Air Temperature Sensor Signal
4	0.5 PK	239	Ignition Voltage
5	0.5 YE	492	MAF Sensor Signal

B78E REAR OBJECT SENSOR - LEFT MIDDLE (UD7)



cardiagn.com

Fig. 17: B78E Rear Object Sensor - Left Middle (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B78E Rear Object Sensor - Left Middle (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage
2	0.35 GY	2379	Low Reference
3	0.35 OG	2376	Left Rear Middle Object Sensor Signal

B78F REAR OBJECT SENSOR - RIGHT MIDDLE (UD7)

cardiagn.com

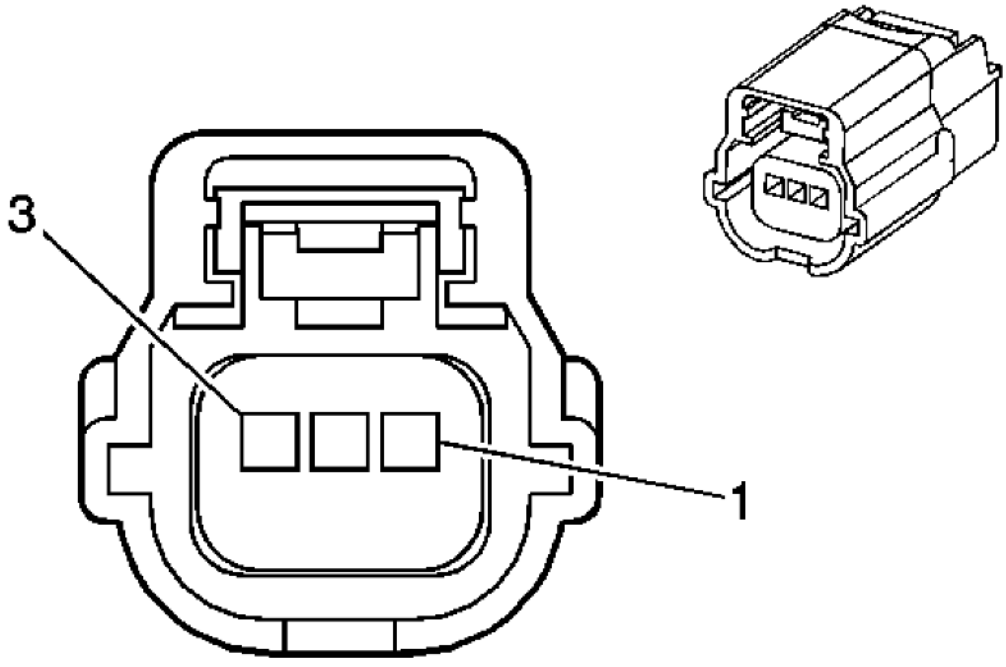


Fig. 18: B78F Rear Object Sensor - Right Middle (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B78F Rear Object Sensor - Right Middle (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage

cardiagn.com

2	0.35 GY	2379	Low Reference
3	0.35 D-GN	2377	Right Rear Middle Object Sensor Signal

B78G REAR OBJECT SENSOR - LEFT OUTER (UD7)

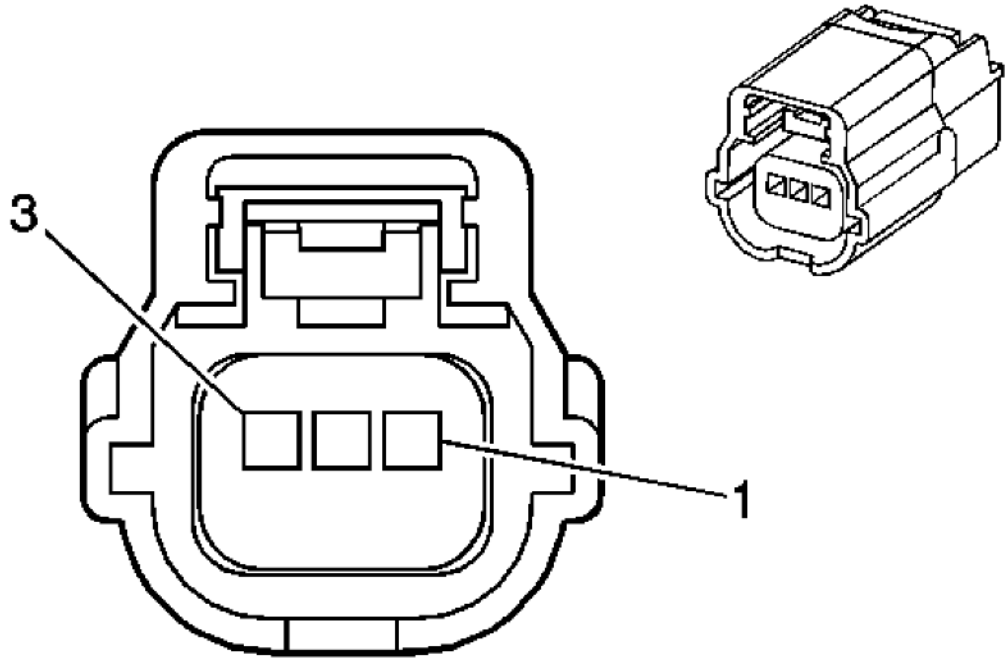


Fig. 19: B78G Rear Object Sensor - Left Outer (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

B78G Rear Object Sensor - Left Outer (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage
2	0.35 GY	2379	Low Reference
3	0.35 YE	2375	Left Rear Corner Object Sensor Signal

B78H REAR OBJECT SENSOR - RIGHT OUTER (UD7)

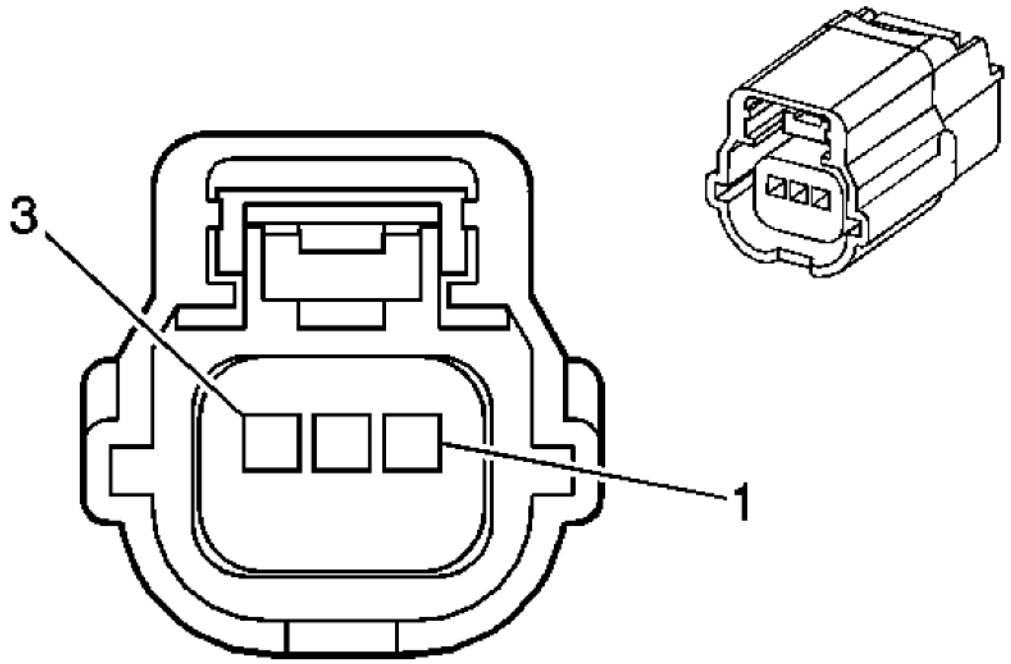


Fig. 20: B78H Rear Object Sensor - Right Outer (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13521095
- Service: 88988337
- Description: 3-Way F 64 Series, Sealed (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

B78H Rear Object Sensor - Right Outer (UD7)

Pin	Wire	Circuit	Function
1	0.35 D-BU	2374	Object Sensor Supply Voltage
2	0.35 GY	2379	Low Reference
3	0.35 PU	2378	Right Rear Corner Object Sensor Signal

B80 PARK BRAKE SWITCH

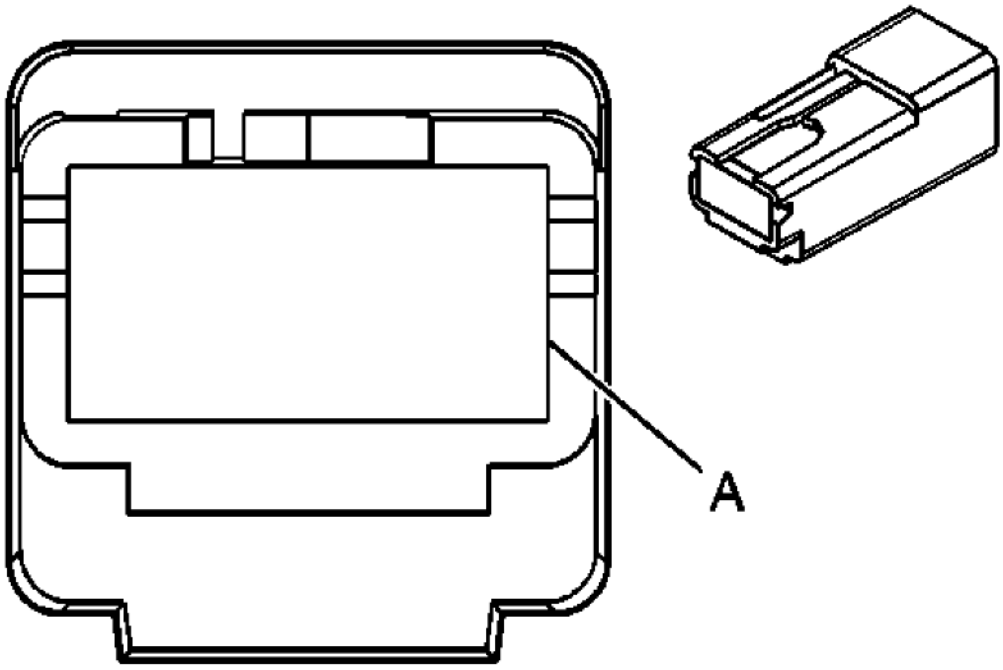


Fig. 21: B80 Park Brake Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Body
- OEM: 12092133
- Service: 12167133
- Description: 1-Way F Metri-Pack 630 Series Self Lock (BK)

Terminal Part Information

- Terminal/Tray: 12103325/3
- Core/Insulation Crimp: E/A
- Release Tool: 12094430
- Test Probe: J-35616-42 (RD)

B80 Park Brake Switch

Pin	Wire	Circuit	Function
A	0.5 L-BU	1134	Park Brake Switch Signal

B88D SEAT BELT SWITCH - DRIVER

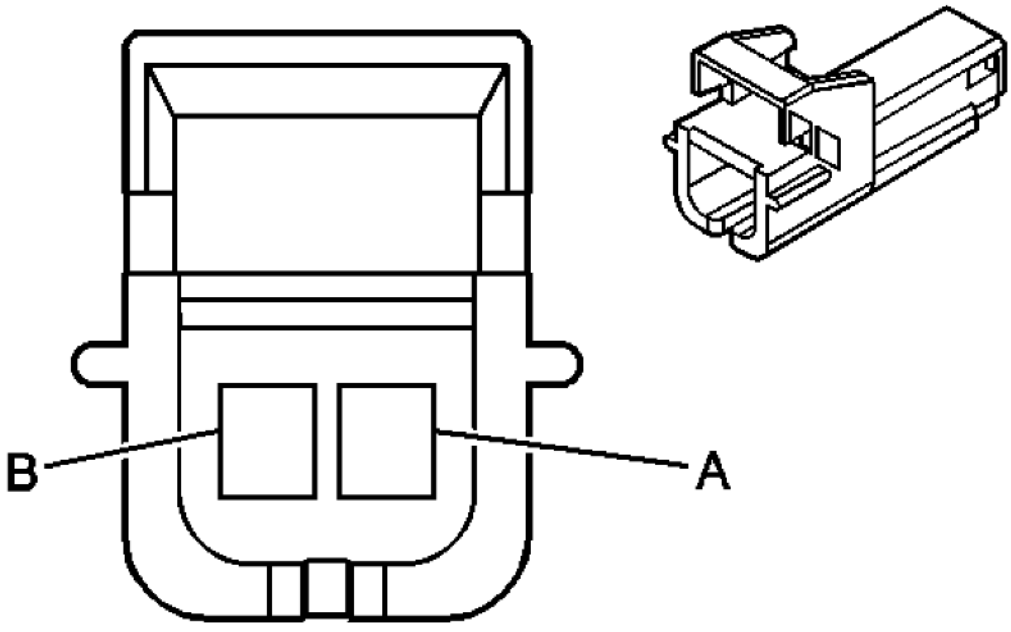


Fig. 22: B88D Seat Belt Switch - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Driver Seat
- OEM: 12052833
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (BK)

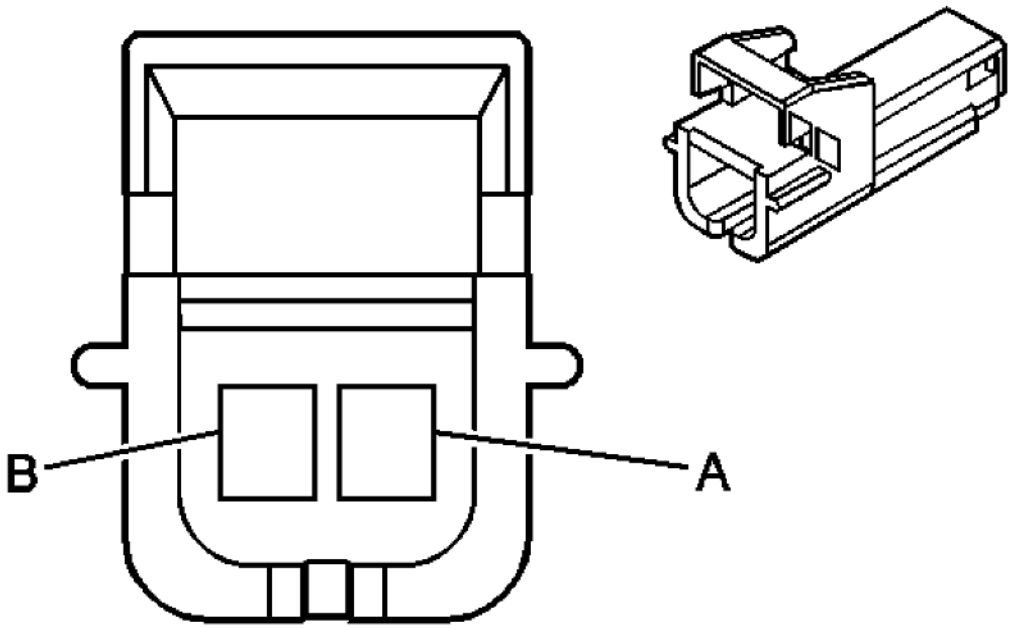
Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B88D Seat Belt Switch - Driver

Pin	Wire	Circuit	Function
A	0.35 TN/WH	238	Seat Belt Switch - Left - Signal
B	0.35 D-BU	1363	Low Reference

B88P SEAT BELT SWITCH - PASSENGER



cardiagn.com

Fig. 23: B88P Seat Belt Switch - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 12052833
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

B88P Seat Belt Switch - Passenger

Pin	Wire	Circuit	Function
A	0.35 OG	1362	Seat Belt Switch - Right - Signal
B	0.35 L-BU	1361	Low Reference

B9 AMBIENT AIR TEMPERATURE SENSOR

cardiagn.com

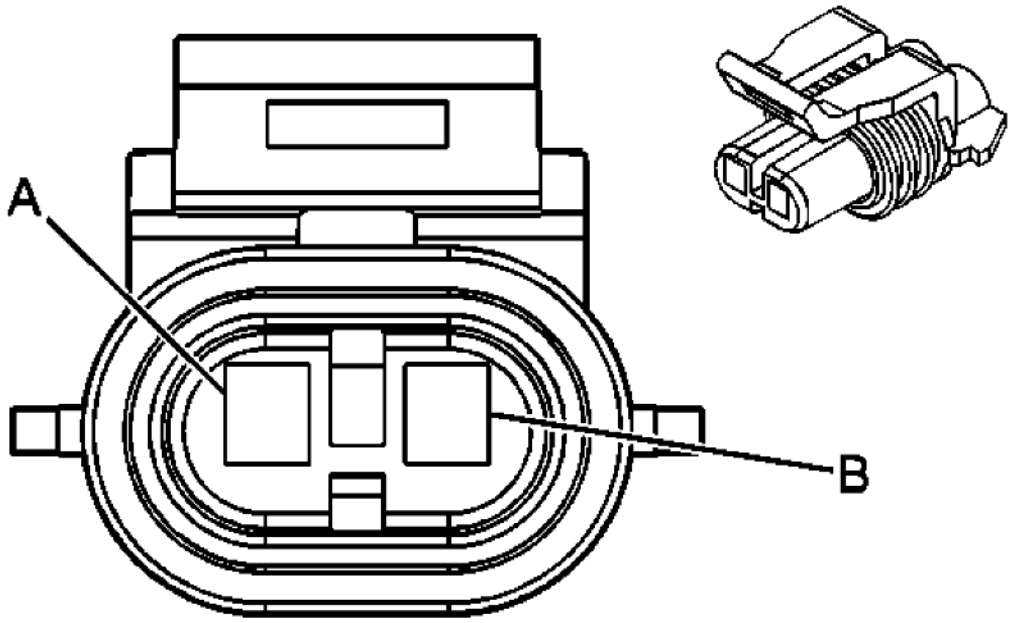


Fig. 24: B9 Ambient Air Temperature Sensor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Foward Lamp
- OEM: 13543521
- Service: 12101856
- Description: 2-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

B9 Ambient Air Temperature Sensor

Pin	Wire	Circuit	Function
A	0.5 D-GN/WH	636	Ambient Air Temperature Sensor Signal
B	0.5 YE	61	Low Reference

cardiagn.com

B99 STEERING WHEEL ANGLE SENSOR

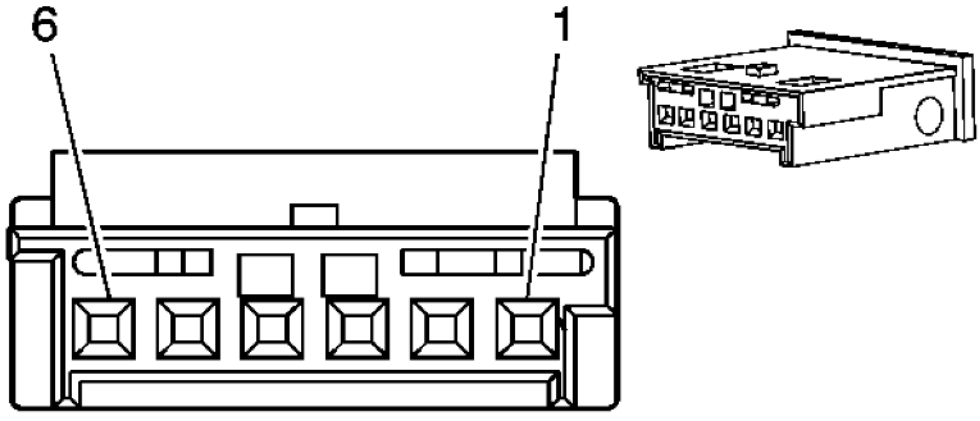


Fig. 25: B99 Steering Wheel Angle Sensor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 10820415
- Service: 19151551
- Description: 6-Way F MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 2, 3, 4, 5 - H/H
- Core/Insulation Crimp: Pin 6 - K/K
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

B99 Steering Wheel Angle Sensor

cardiagn.com

Pin	Wire	Circuit	Function
1	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
2	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
3	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
4	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
5	0.35 D-GN	2087	12-Volt Reference
6	0.8 BK	1550	Ground

C1 BATTERY +

Connector Part Information

- Terminal: K523C085
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

C1 Battery +

Pin	Wire	Circuit	Function
+	50 RD	1	Battery Positive Voltage

C1 BATTERY -

Connector Part Information

- Terminal: K3125085
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

C1 Battery -

Pin	Wire	Circuit	Function
-	50 BK	50	Ground

C3 TELEMATICS COMMUNICATION INTERFACE CONTROL MODULE BATTERY (UE1)

cardiagn.com

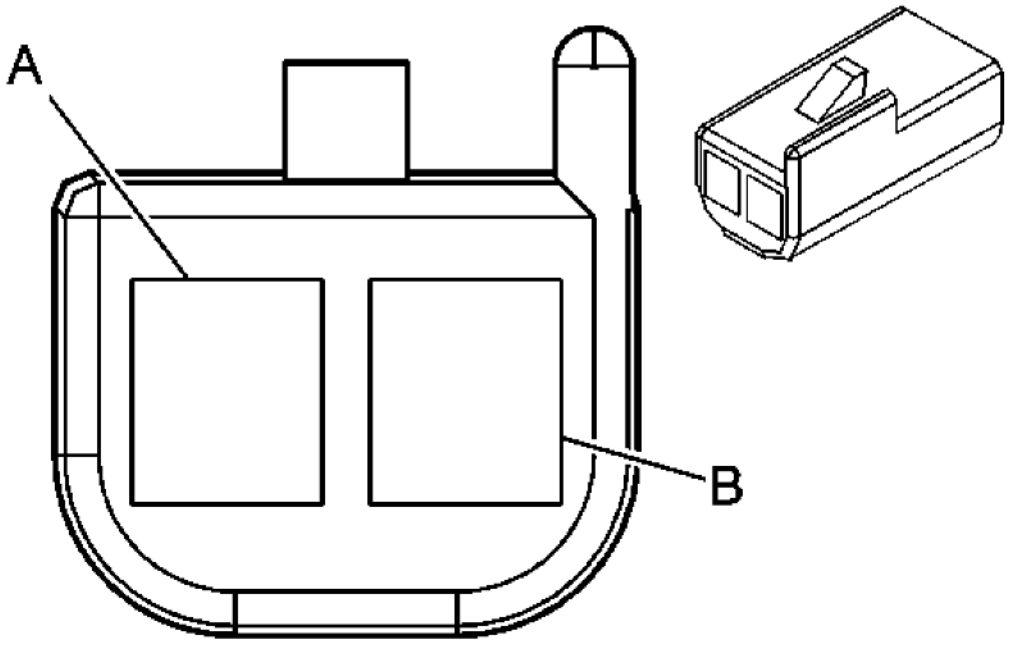


Fig. 26: C3 Telematics Communication Interface Control Module Battery (UE1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12047662
- Service: 12085535
- Description: 2-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12064971/5
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

C3 Telematics Communication Interface Control Module Battery (UE1)

Pin	Wire	Circuit	Function
A	0.35 RD/WH	5235	OnStar Backup Battery (+)
B	0.35 GY/BK	5167	OnStar Backup Battery (-)

cardiagn.com

E1D ACCENT LAMP - DRIVER DOOR (SRK/SRM)

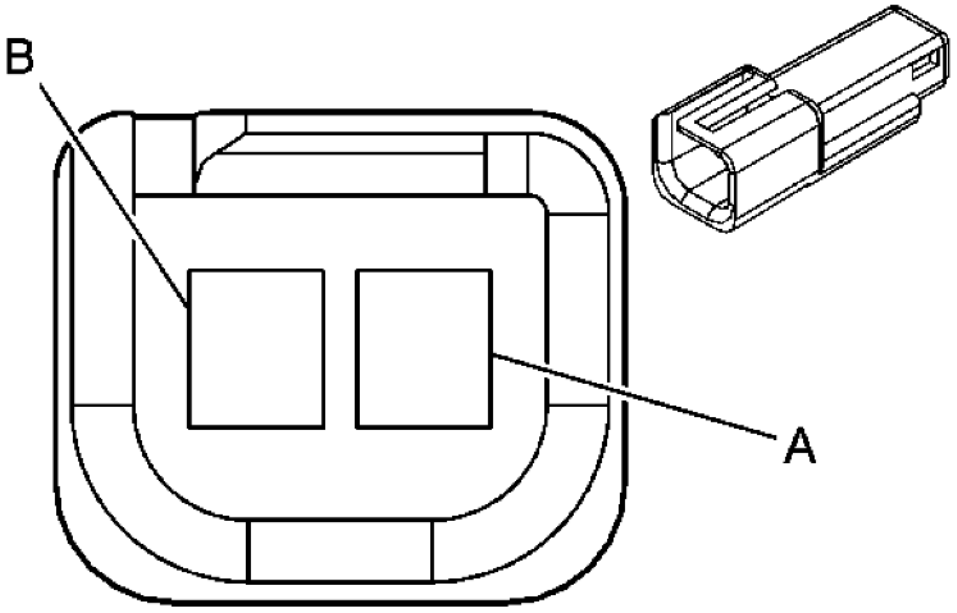


Fig. 27: E1D Accent Lamp - Driver Door (SRK/SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 12047663
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

E1D Accent Lamp - Driver Door (SRK/SRM)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.35 BK	850	Ground
B	0.35 PU	7558	Accent Lamps Control

E13L HEADLAMP - LEFT (T4A)

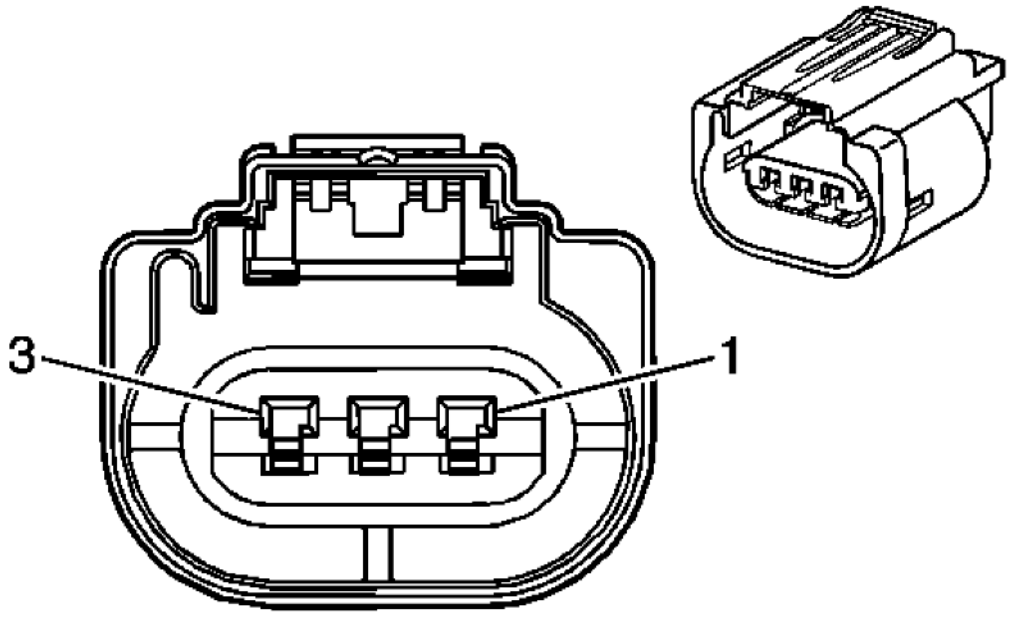


Fig. 28: E13L Headlamp - Left (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 10867142
- Service: 88988364
- Description: 3-Way F Lamp Socket, Sealed (D-GN)

Terminal Part Information

- Pins: 1
- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430

cardiagn.com

- Test Probe: J-35616-2A (GY)

- Pins: 2, 3
- Terminal/Tray: 7116-4103-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E13L Headlamp - Left (T4A)

Pin	Wire	Circuit	Function
1	0.5 YE	712	Left Headlamp Low Beam Supply Voltage
2	0.8 BK	1150	Ground
3	0.8 D-GN/WH	711	Left Headlamp High Beam Supply Voltage

E13R HEADLAMP - RIGHT (T4A)

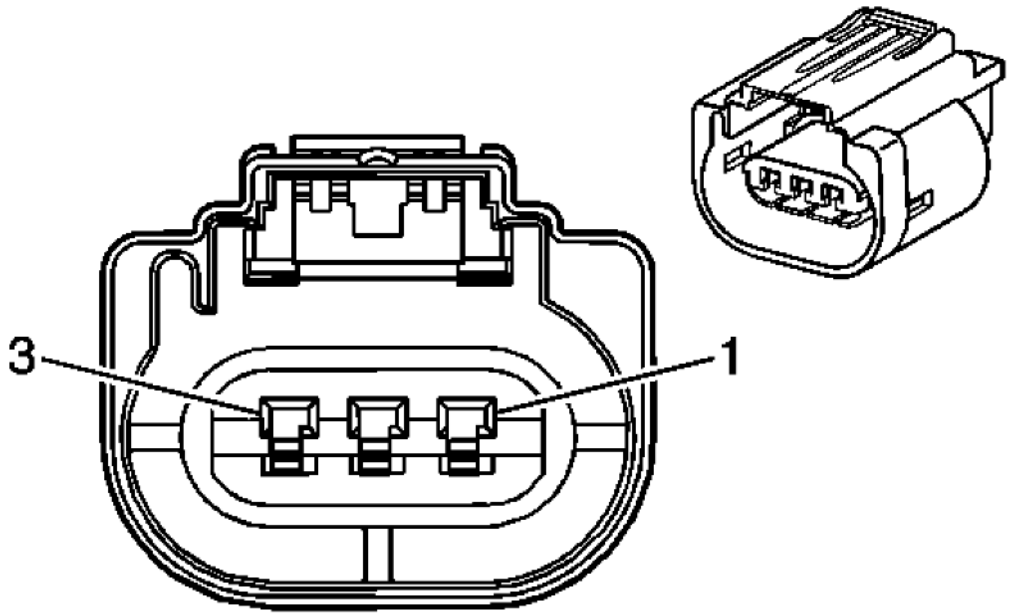


Fig. 29: E13R Headlamp - Right (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Forward Lamp
- OEM: 10867142
- Service: 88988364
- Description: 3-Way F Lamp Socket, Sealed (D-GN)

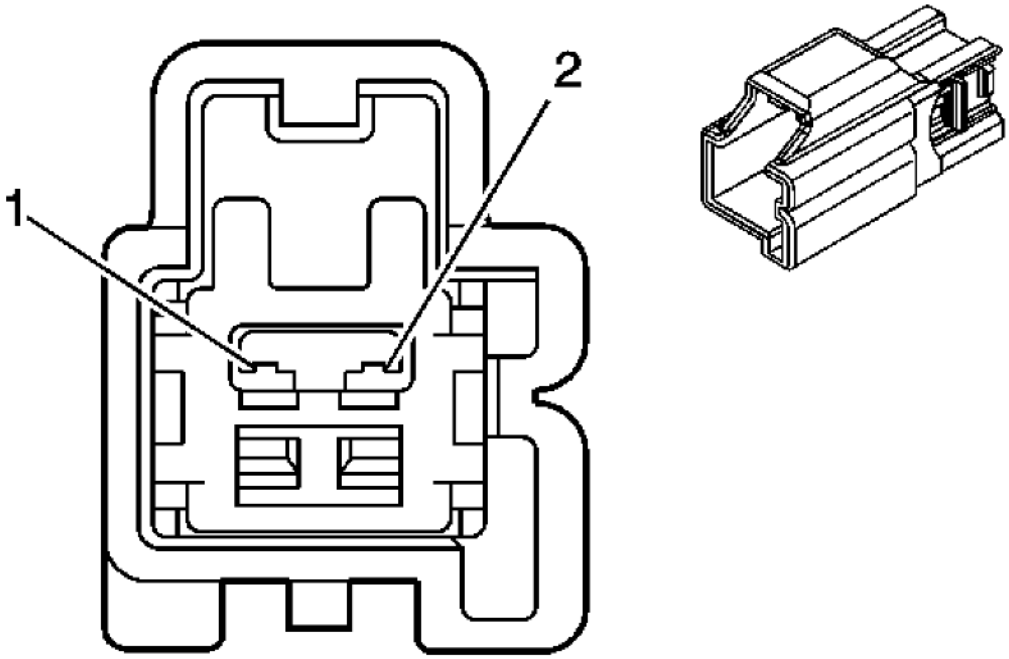
Terminal Part Information

- Terminal/Tray: 7116-4103-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E13R Headlamp - Right (T4A)

Pin	Wire	Circuit	Function
1	0.8 TN/WH	312	Right Headlamp Low Beam Supply Voltage
2	0.8 BK	1050	Ground
3	0.8 L-GN/BK	311	Right Headlamp High Beam Supply Voltage

E14A SEAT HEATING ELEMENT - DRIVER BACK (KA1)



cardiagn.com

Fig. 30: E14A Seat Heating Element - Driver Back (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 7282-6443-40
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4101-08/9
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14A Seat Heating Element - Driver Back (KA1)

Pin	Wire	Circuit	Function
1	0.8 L-BU	2424	Driver Heated Seat Back Element Control
2	0.8 PK	2078	Heated Seat Cushion Element Control

E14B SEAT HEATING ELEMENT - DRIVER CUSHION (KA1)

cardiagn.com

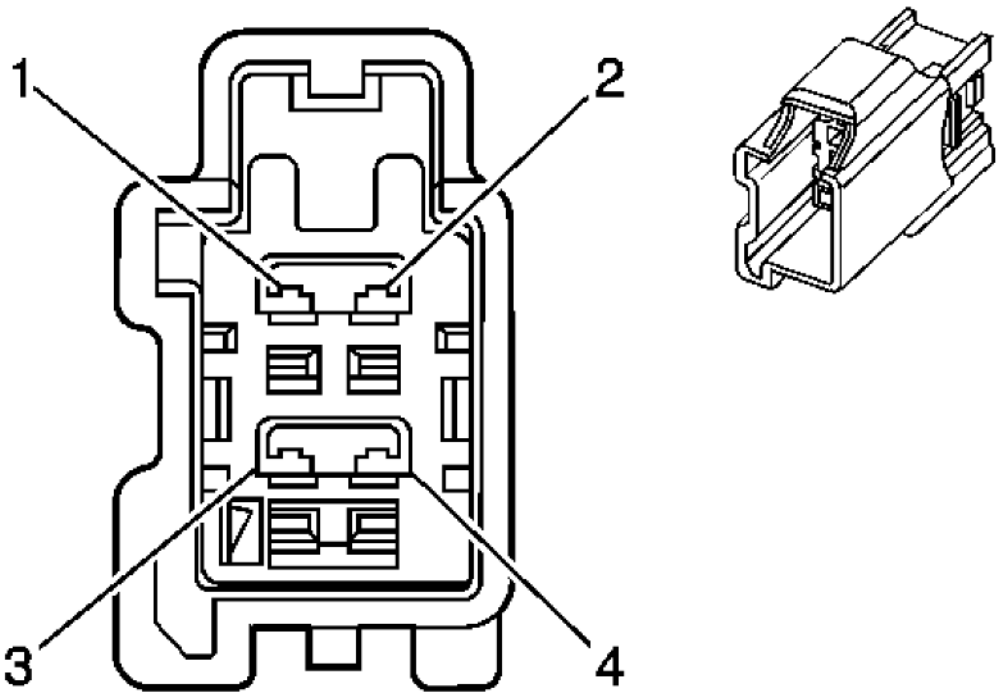


Fig. 31: E14B Seat Heating Element - Driver Cushion (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 7282-6449-40
- Service: Service by Harness - See Part Catalog
- Description: 4-Way M Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4100-08/9
- Core/Insulation Crimp: Pins - 1, 2 - E/C
- Core/Insulation Crimp: Pins - 3, 4 - E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14B Seat Heating Element - Driver Cushion (KA1)

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 PK	2080	Low Reference
2	0.5 GY	2079	Heated Seat Cushion Temperature Sensor Signal
3	0.8 D-BU	2077	Heated Seat Cushion Element Supply Voltage
4	0.8 PK	2078	Heated Seat Cushion Element Control

E14C SEAT HEATING ELEMENT - PASSENGER BACK (KA1)

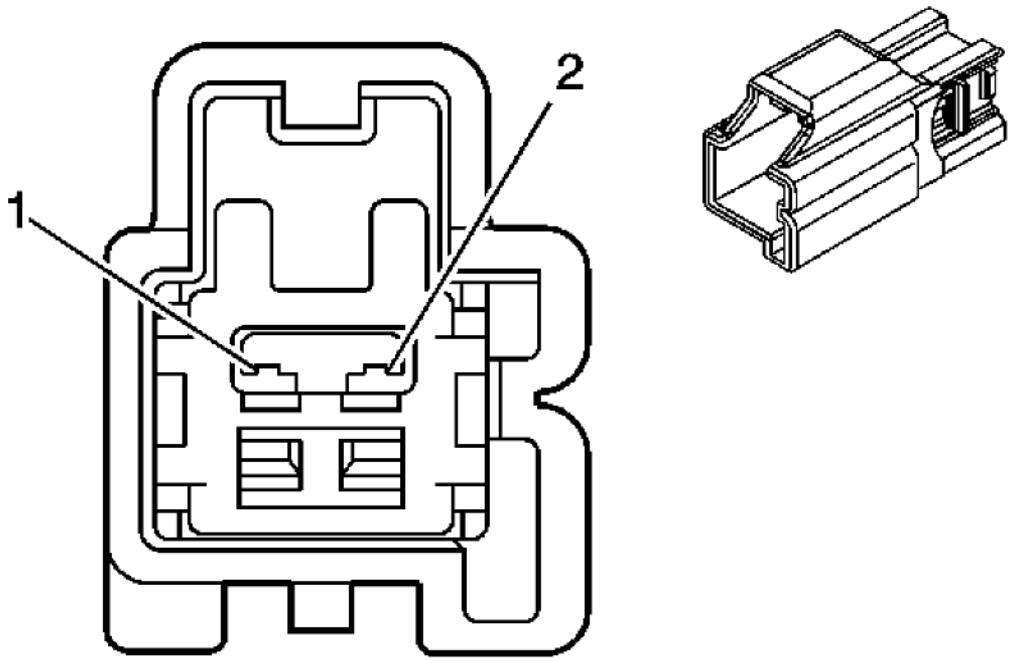


Fig. 32: E14C Seat Heating Element - Passenger Back (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 7282-6443-40
- Service: Service by Harness - See Part Catalog
- Description: 2-Way M 1.5 Series (L-GY)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 7114-4101-08/9
- Core/Insulation Crimp: E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14C Seat Heating Element - Passenger Back (KA1)

Pin	Wire	Circuit	Function
1	0.8 L-BU	2433	Passenger Heated Seat Back Element Control
2	0.8 PK	2480	Passenger Heated Seat Cushion Element Control

E14D SEAT HEATING ELEMENT - PASSENGER CUSHION (KA1)

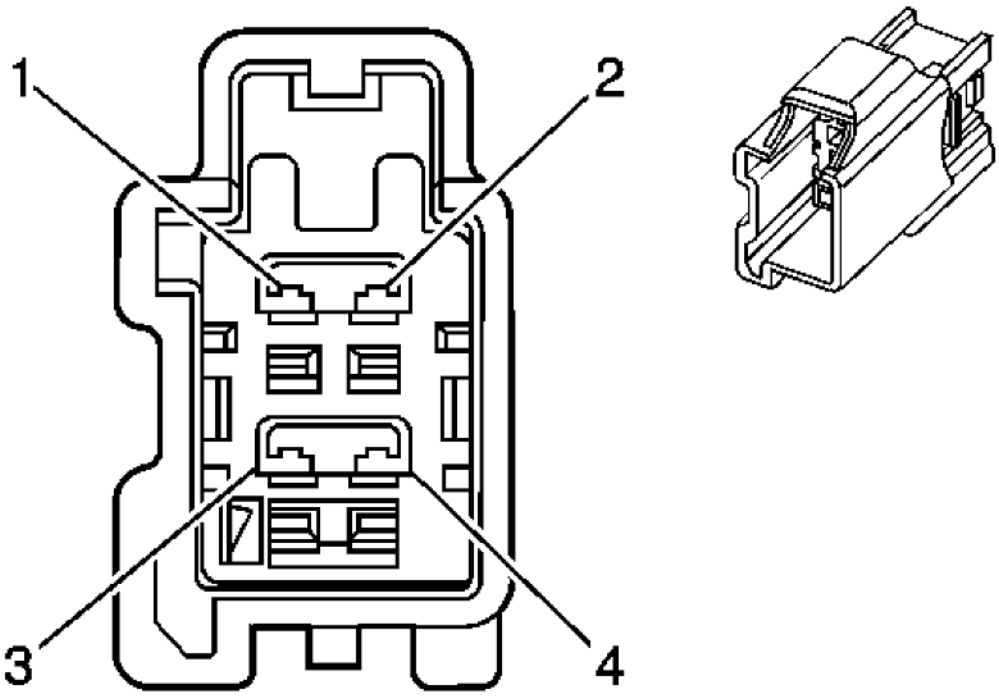


Fig. 33: E14D Seat Heating Element - Passenger Cushion (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Driver Seat
- OEM: 7282-6449-40
- Service: Service by Harness - See Part Catalog
- Description: 4-Way M Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 7114-4100-08/9
- Core/Insulation Crimp: Pins - 1, 2 - E/C
- Core/Insulation Crimp: Pins - 3, 4 - E/A
- Release Tool: 15315247
- Test Probe: J-35616-3 (GY)

E14D Seat Heating Element - Passenger Cushion (KA1)

Pin	Wire	Circuit	Function
1	0.5 PK	2435	Low Reference
2	0.5 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal
3	0.8 D-BU	2479	Passenger Heated Seat Element Supply Voltage
4	0.8 PK	2480	Passenger Heated Seat Cushion Element Control

E18 REAR DEFOGGER GRID X1

cardiagn.com

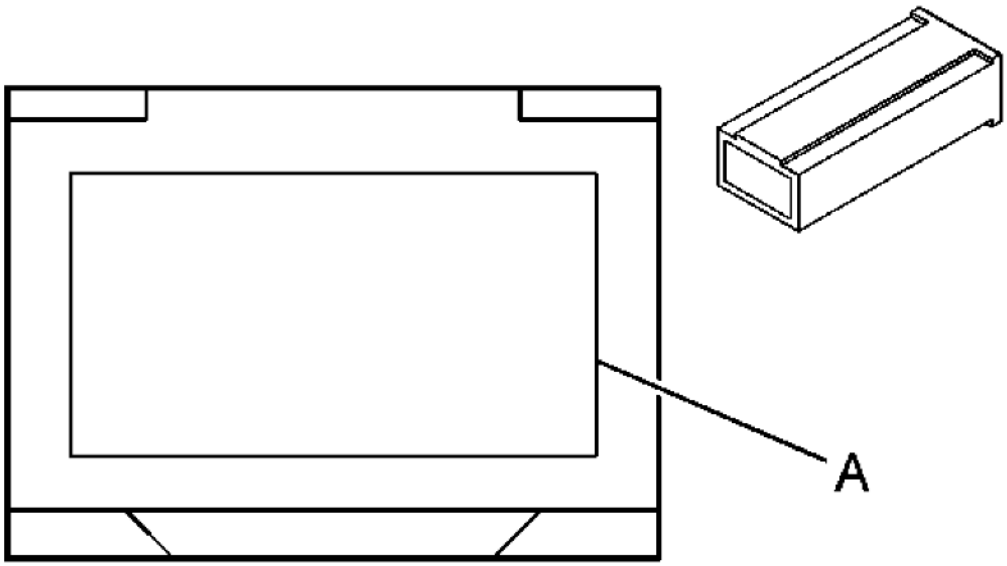


Fig. 34: E18 Rear Defogger Grid X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Not Available

E18 Rear Defogger Grid X1

Pin	Wire	Circuit	Function
A	5 PU	293	Rear Defog Element Supply Voltage

E18 REAR DEFOGGER GRID X2

cardiagn.com

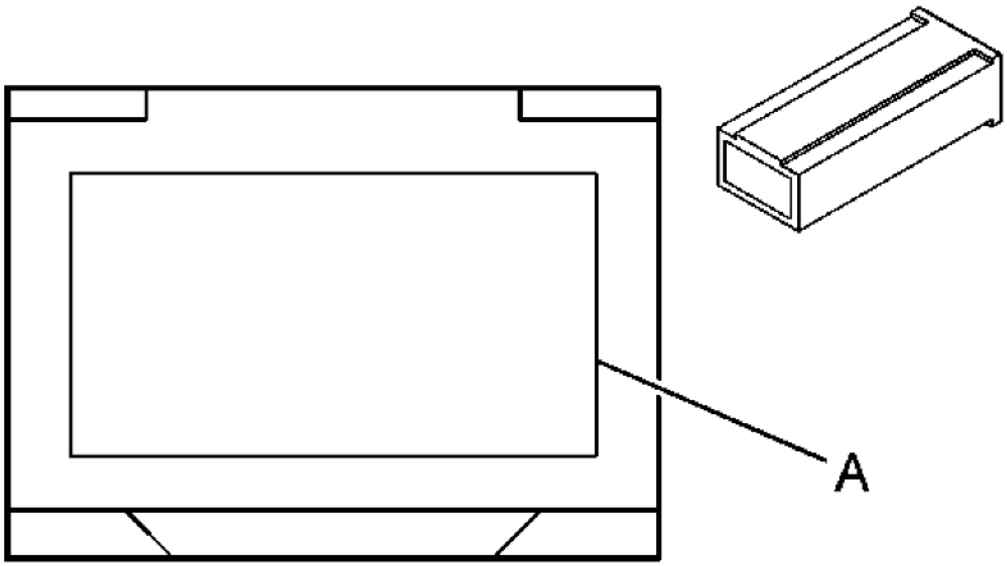


Fig. 35: E18 Rear Defogger Grid X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

E18 Rear Defogger Grid X2

Pin	Wire	Circuit	Function
A	5 BK	2950	Ground

E1G ACCENT LAMP - LEFT I/P (SRK OR SRM)

cardiagn.com

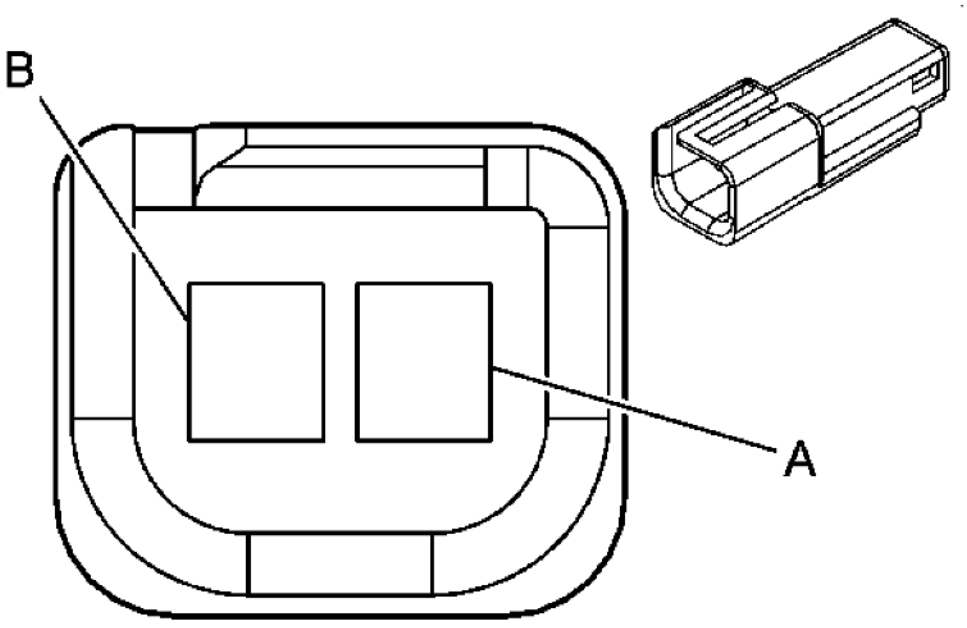


Fig. 36: E1G Accent Lamp - Left I/P (SRK or SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12089868
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: Pin A - E/A
- Core/Insulation Crimp: Pin B - E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

E1G Accent Lamp - Left I/P (SRK or SRM)

Pin	Wire	Circuit	Function
A	0.8 BK	1450	Ground

cardiagn.com

B	0.35 PU	7558	Accent Lamps Control

E1H ACCENT LAMP - RIGHT I/P (SRK OR SRM)

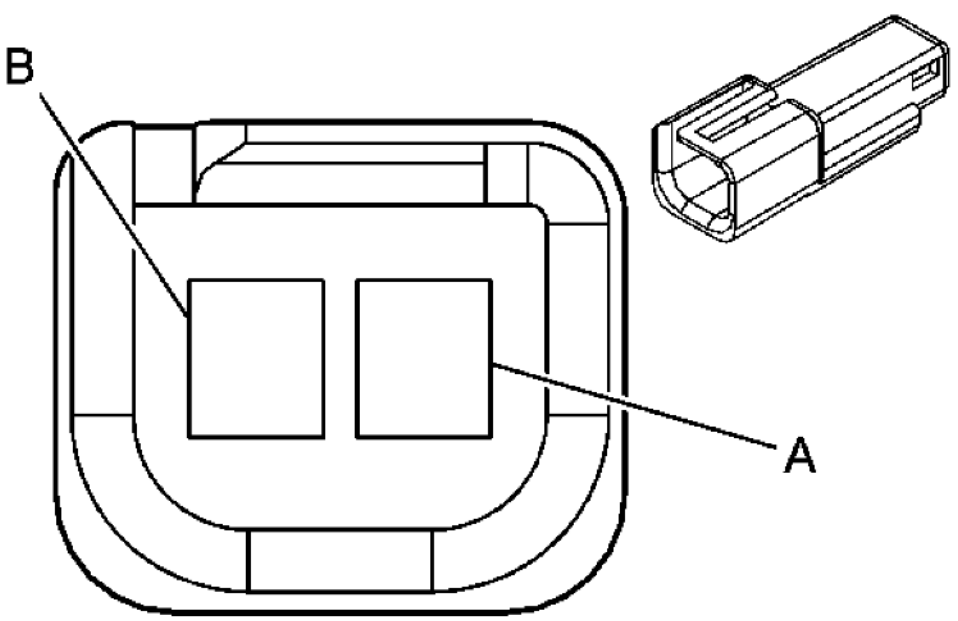


Fig. 37: E1H Accent Lamp - Right I/P (SRK or SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12089868
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: Pin A - E/A
- Core/Insulation Crimp: Pin B - E/C
- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

cardiagn.com

E1H Accent Lamp - Right I/P (SRK or SRM)

Pin	Wire	Circuit	Function
A	0.8 BK	1450	Ground
B	0.35 PU	7558	Accent Lamps Control

E1P ACCENT LAMP - PASSENGER DOOR (SRK/SRM)

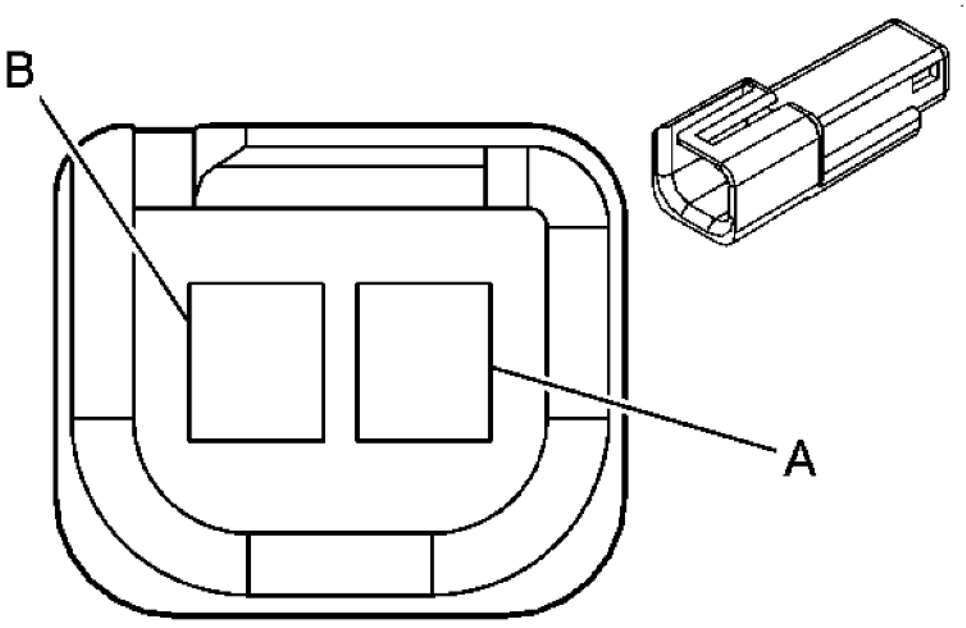


Fig. 38: E1P Accent Lamp - Passenger Door (SRK/SRM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 12047663
- Service: 12085481
- Description: 2-Way M Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12047581/2
- Core/Insulation Crimp: E/C

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-3 (GY)

E1P Accent Lamp - Passenger Door (SRK/SRM)

Pin	Wire	Circuit	Function
A	0.35 BK	2350	Ground
B	0.35 PU	7558	Accent Lamps Control

E17D OUTSIDE REARVIEW MIRROR GLASS - DRIVER

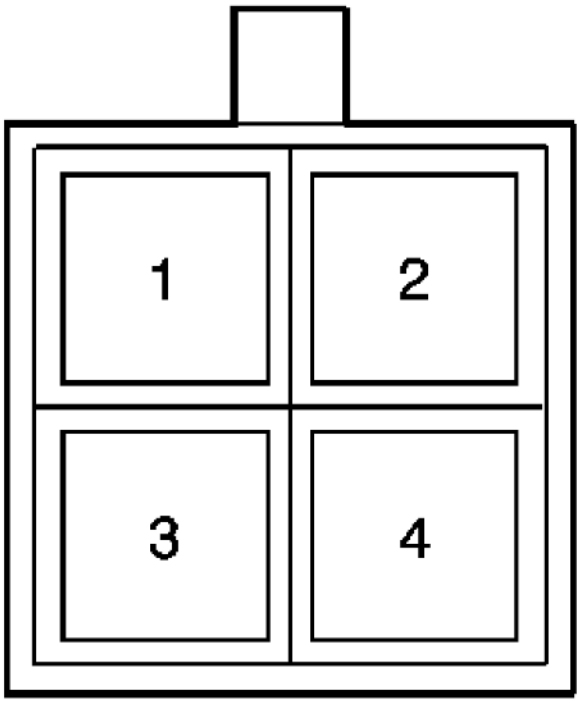


Fig. 39: E17D Outside Rearview Mirror Glass - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Driver
- OEM: MHFS 104W

cardiagn.com

- Service: Not Available
- Description: 4-Way F (WH)

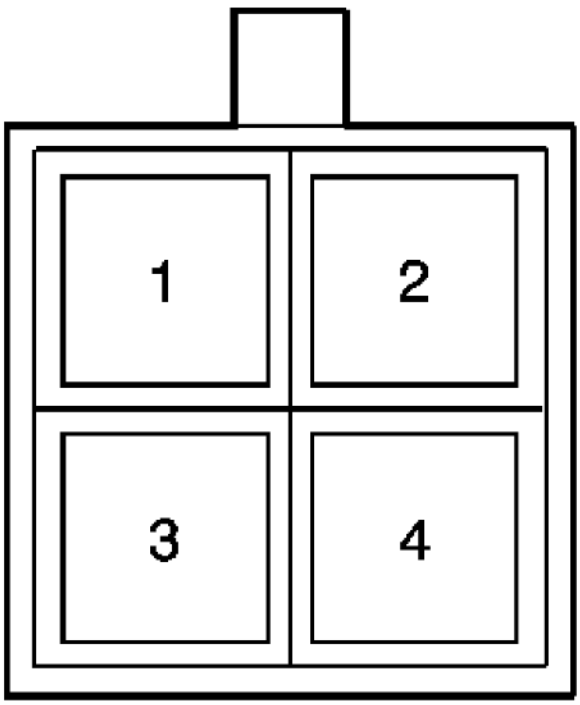
Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

E17D Outside Rearview Mirror Glass - Driver

Pin	Wire	Circuit	Function
1	0.35 BN/BK	1690	Automatic Day/Night Mirror Signal
2	0.35 BN	1691	Low Reference
3	0.35 BK	850	Ground
4	0.35 BK	2267	Mirror Heating Element Supply Voltage

E17P OUTSIDE REARVIEW MIRROR GLASS - PASSENGER



cardiagn.com

Fig. 40: E17P Outside Rearview Mirror Glass - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Outside Rearview Mirror - Passenger
- OEM: MHFS 104W
- Service: Not Available
- Description: 4-Way F (WH)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool/Test Probe: Pending

E17P Outside Rearview Mirror Glass - Passenger

Pin	Wire	Circuit	Function
1	0.35 BK	2267	Mirror Heating Element Supply Voltage
2	0.35 BK	2350	Ground
3-4	-	-	Not Used

E29LF FOG LAMP - LEFT FRONT (T3U)

cardiagn.com

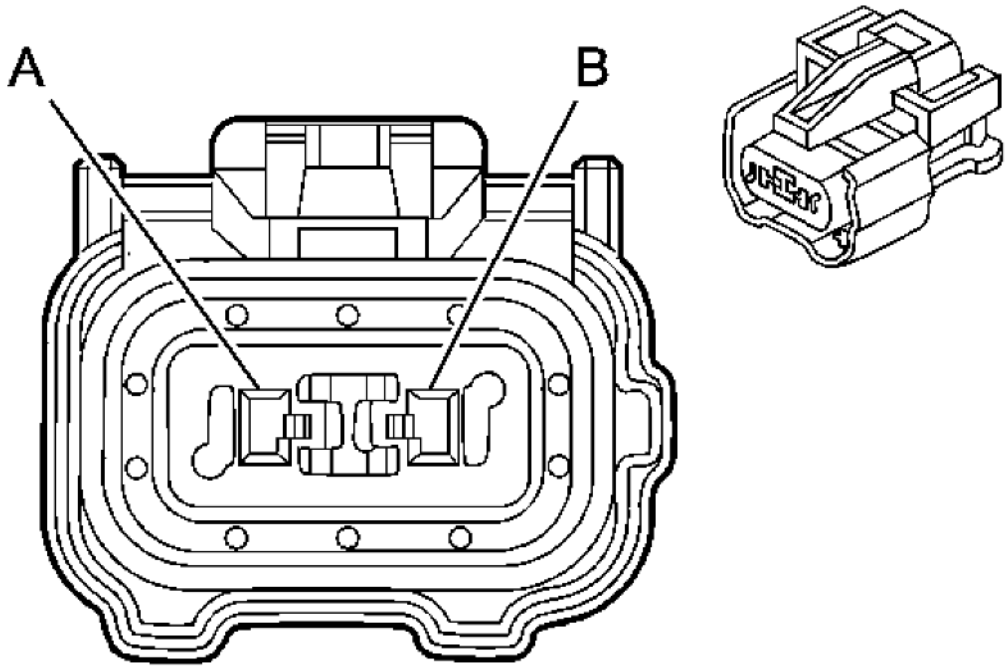


Fig. 41: E29LF Fog Lamp - Left Front (T3U) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13513272
- Service: 19153187
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15496531/8
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-29
- Test Probe: J-35616-2A (GY)

E29LF Fog Lamp - Left Front (T3U)

Pin	Wire	Circuit	Function
A	0.5 BK	1150	Ground

cardiagn.com

B	0.5 PU	2234	Front Fog Lamp Supply Voltage

E29RF FOG LAMP - RIGHT FRONT (T3U)

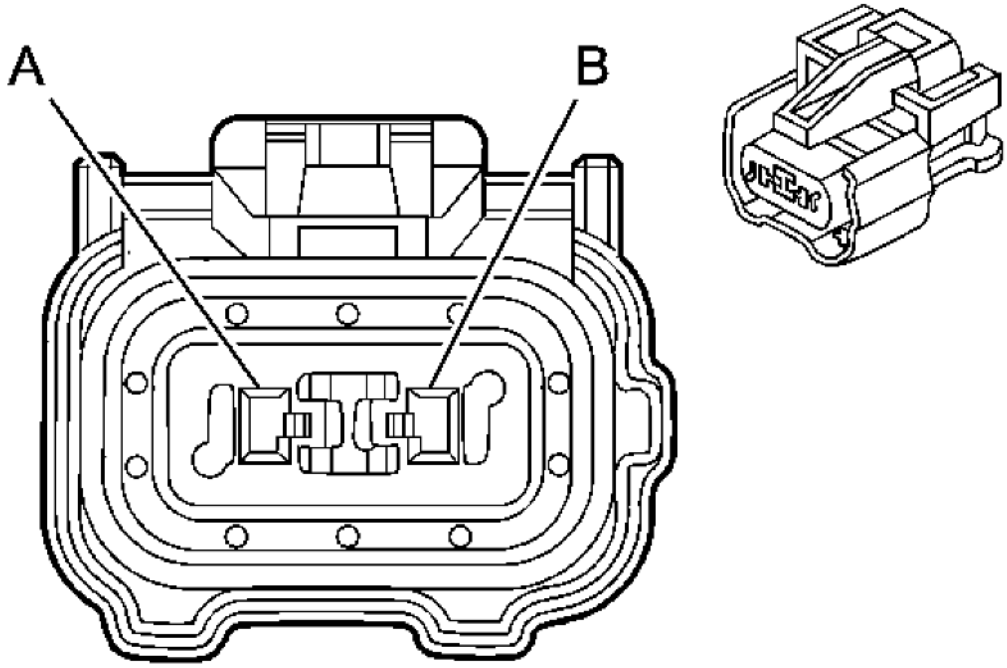


Fig. 42: E29RF Fog Lamp - Right Front (T3U) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13513272
- Service: 19153187
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15496531/8
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-29
- Test Probe: J-35616-2A (GY)

cardiagn.com

E29RF Fog Lamp - Right Front (T3U)

Pin	Wire	Circuit	Function
A	0.5 BK	1050	Ground
B	0.5 PU	2234	Front Fog Lamp Supply Voltage

E2LF SIDE MARKER LAMP - LEFT FRONT

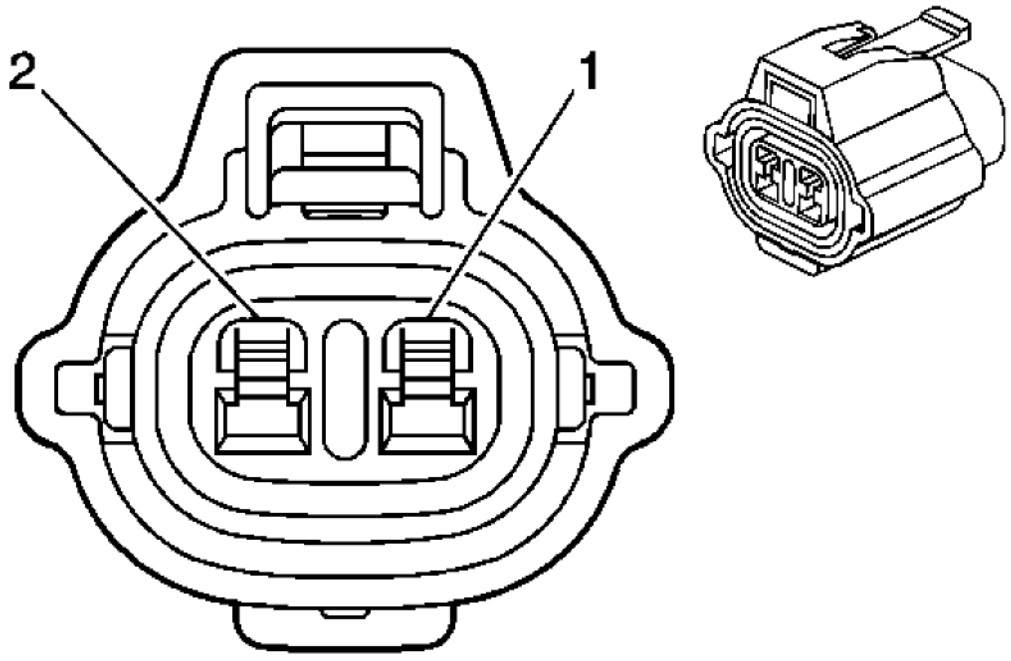


Fig. 43: E2LF Side Marker Lamp - Left Front Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

Terminal Part Information

- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2LF Side Marker Lamp - Left Front

Pin	Wire	Circuit	Function
1	0.5 PU	709	Left Park Lamp Supply Voltage
2	0.5 BK	1150	Ground

E2LR SIDE MARKER LAMP - LEFT REAR

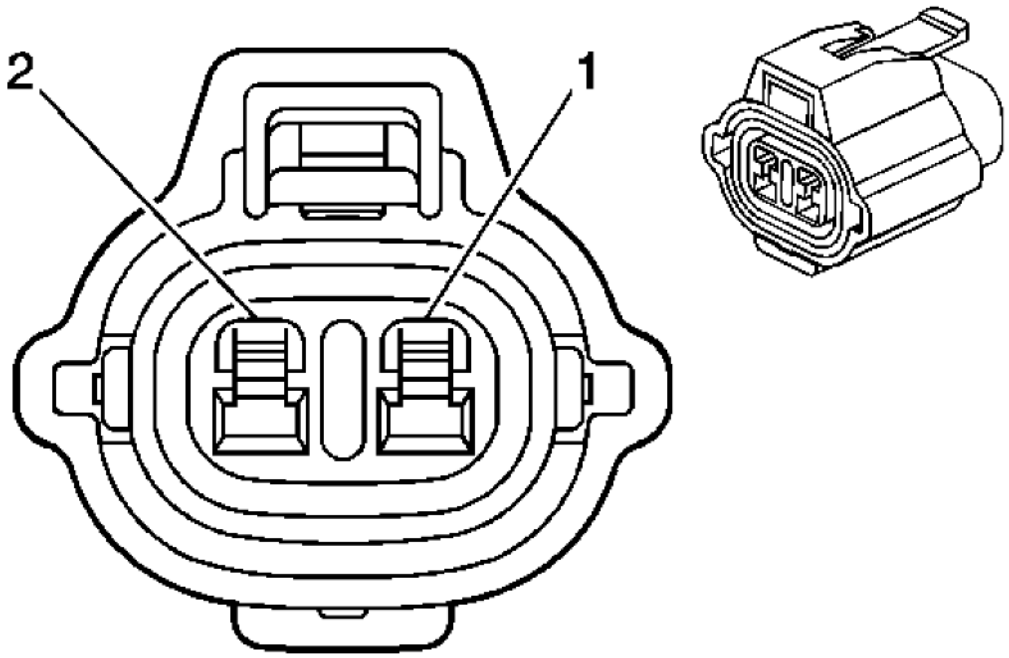


Fig. 44: E2LR Side Marker Lamp - Left Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2LR Side Marker Lamp - Left Rear

Pin	Wire	Circuit	Function
1	0.5 PU	709	Left Park Lamp Supply Voltage
2	0.5 BK	2550	Ground

E2RF SIDE MARKER LAMP - RIGHT FRONT

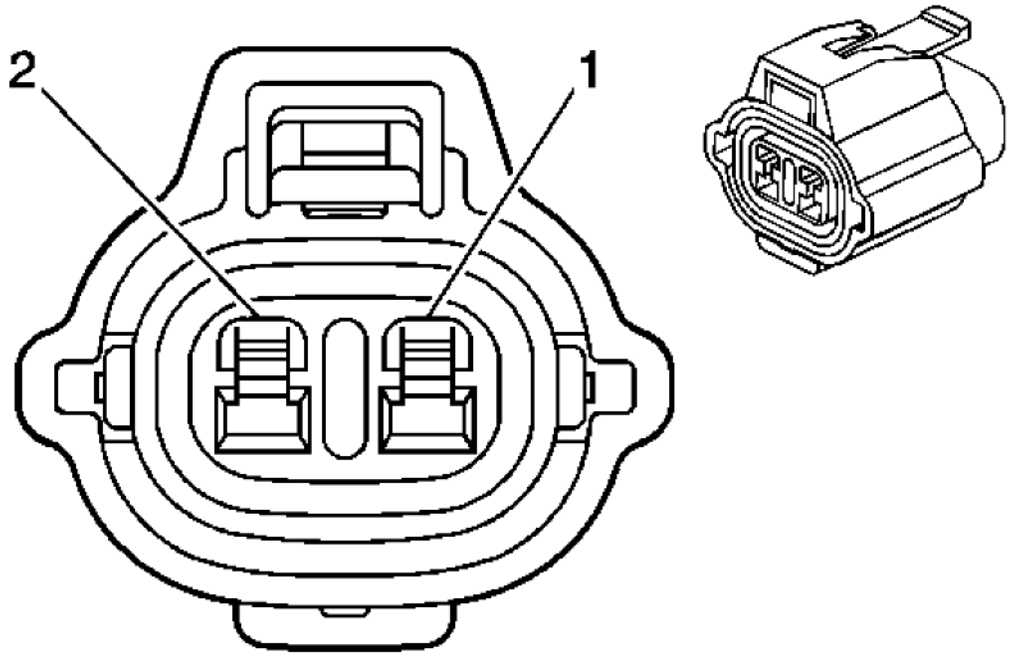


Fig. 45: E2RF Side Marker Lamp - Right Front Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp

cardiagn.com

- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

Terminal Part Information

- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2RF Side Marker Lamp - Right Front

Pin	Wire	Circuit	Function
1	0.5 BN/WH	309	Right Park Lamp Supply Voltage
2	0.5 BK	1050	Ground

E2RR SIDE MARKER LAMP - RIGHT REAR

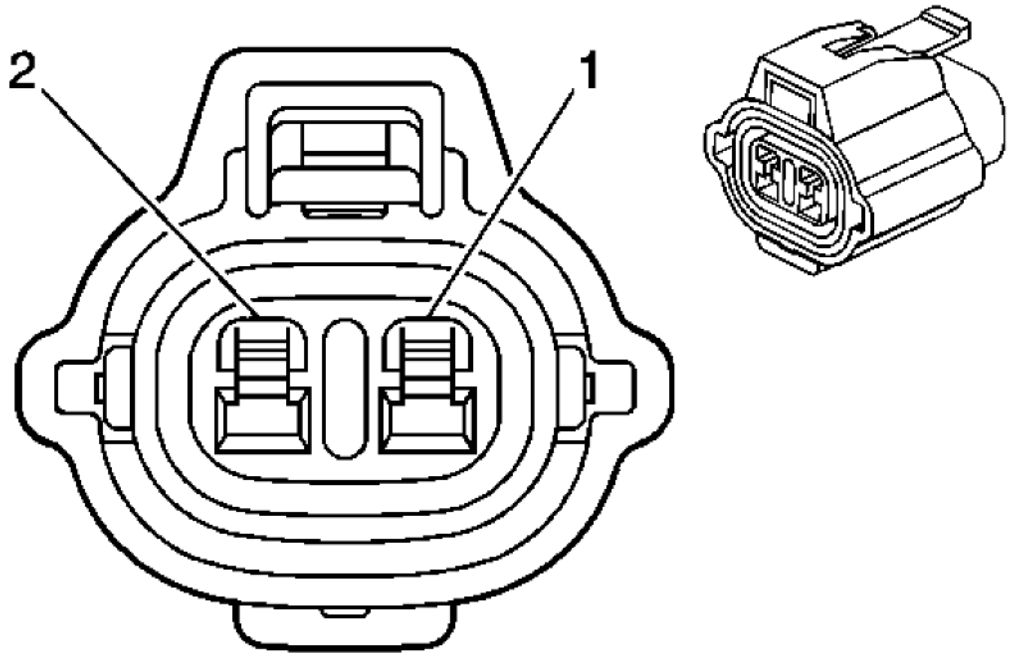


Fig. 46: E2RR Side Marker Lamp - Right Rear Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Rear Fascia
- OEM: 15316694
- Service: 88988460
- Description: 2-Way F 090 Series, Sealed (GN)

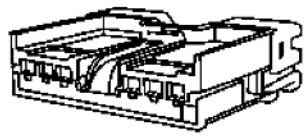
Terminal Part Information

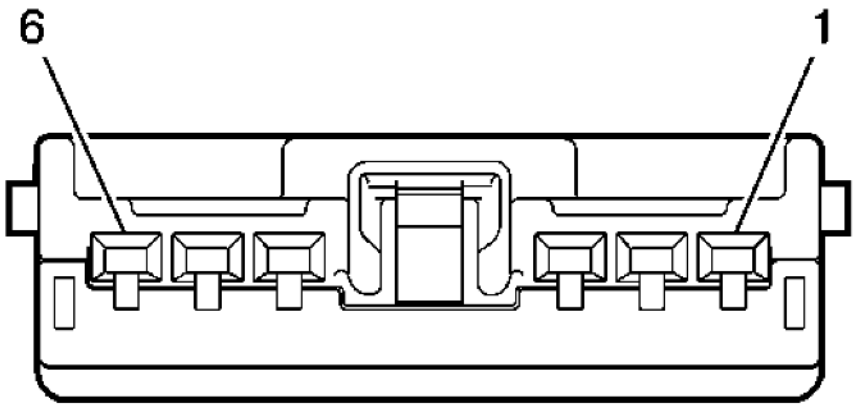
- Terminal/Tray: 7116-1420/11
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E2RR Side Marker Lamp - Right Rear

Pin	Wire	Circuit	Function
1	0.5 BN/WH	309	Right Park Lamp Supply Voltage
2	0.5 BK	550	Ground

E37A DOME/READING LAMPS





cardiagn.com

Fig. 47: E37A Dome/Reading Lamps Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13641551
- Service: 19115647
- Description: 6-Way F 1.5 Series (BK)

Terminal Part Information

- Terminal/Tray: 8240-0127/22
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

E37A Dome/Reading Lamps

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.5 GY	157	Courtesy Lamp Control
3	-	-	Not Used
4	0.35 PU	328	Interior lamp Defeat Switch Signal
5	0.35 WH	156	Courtesy Lamp Switch Signal
6	0.35 BK	1550	Ground

E4C DAYTIME RUNNING LAMP - LEFT (T4F)

cardiagn.com

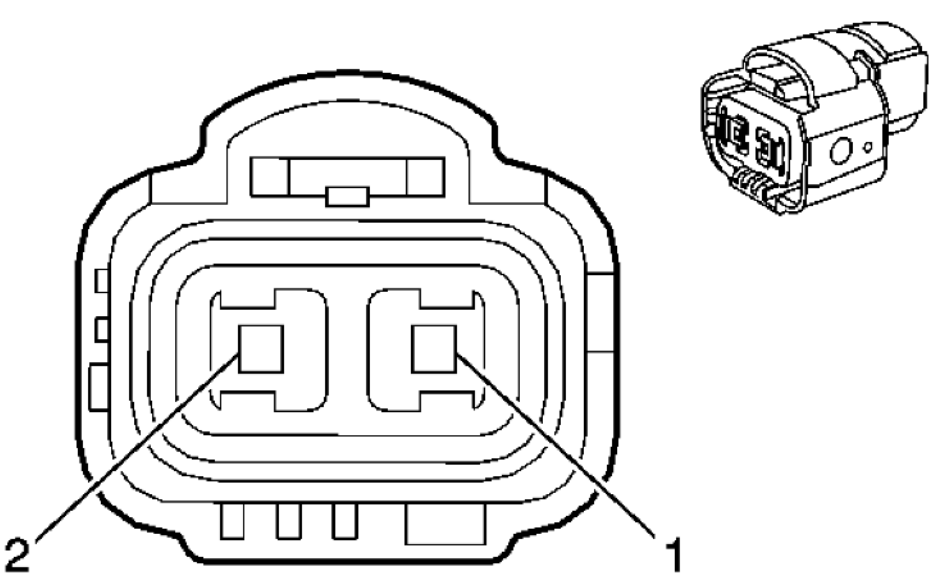


Fig. 48: E4C Daytime Running Lamp - Left (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13693815
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 13648599/See Terminal Repair Kit
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: See Terminal Repair Kit
- Test Probe: See Terminal Repair Kit

E4C Daytime Running Lamp - Left (T4F)

Pin	Wire	Circuit	Function
1	0.5 L-BU	7538	DRL Control
2	0.5 BK	1150	Ground

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

K8 BLOWER MOTOR CONTROL MODULE X1

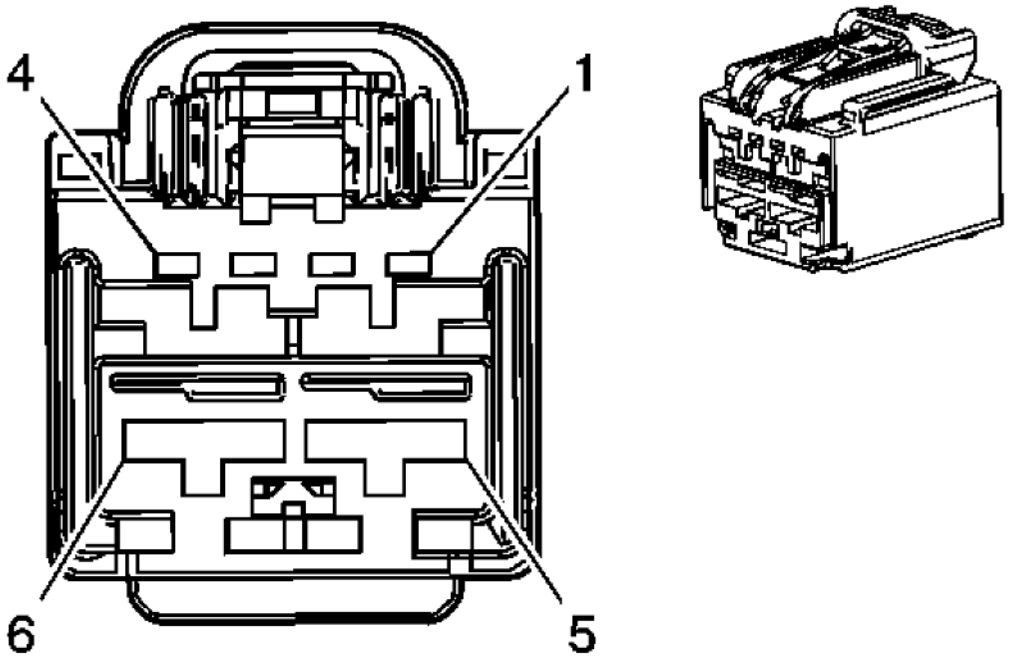


Fig. 1: K8 Blower Motor Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13520671
- Service: 88988512
- Description: 6-Way F GT 150 6.3 Series (BK)

Terminal Part Information

cardiagn.com

- Pin: 3
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: 5, 6
- Terminal/Tray: 7116-4122-02/10
- Core/Insulation Crimp: D/G
- Release Tool: 12094430
- Test Probe: J-35616-42 (RD)

K8 Blower Motor Control Module X1

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.35 GY/BK	754	Blower Motor Speed Control
4	-	-	Not Used
5	5 BK	1450	Ground
6	5 RD/BK	542	Battery Positive Voltage

K8 BLOWER MOTOR CONTROL MODULE X2

cardiagn.com

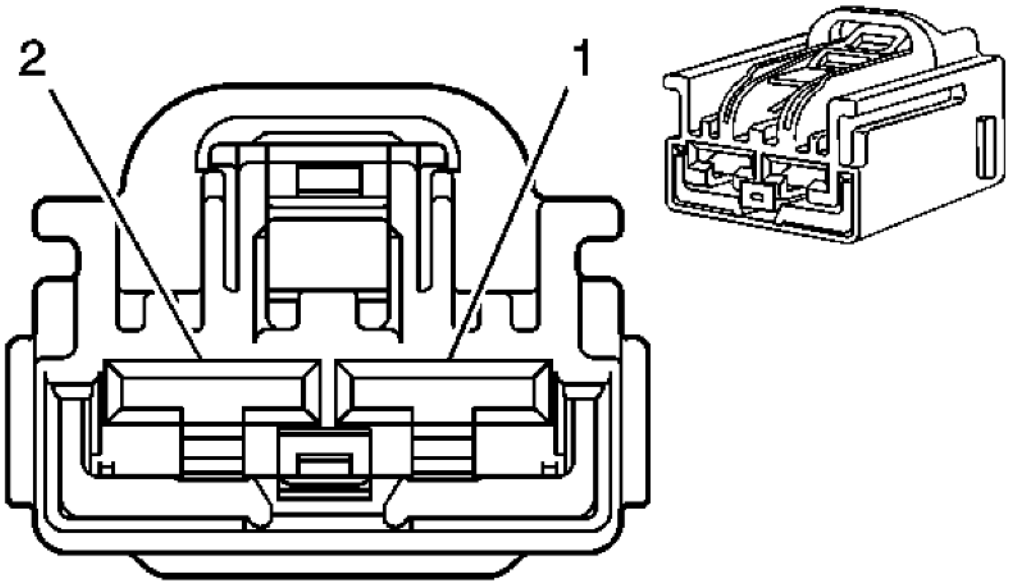


Fig. 2: K8 Blower Motor Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Blower Motor
- OEM: 15226103
- Service: 88988507
- Description: 2-Way F Recepticle 6.3 Series (L-GY)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988507
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

K8 Blower Motor Control Module X2

Pin	Wire	Circuit	Function
1	4 RD	65	Blower Motor Supply Voltage
2	4 BK	5987	Blower Motor Low Control

cardiagn.com

K85 PASSENGER PRESENCE DETECTION MODULE X1

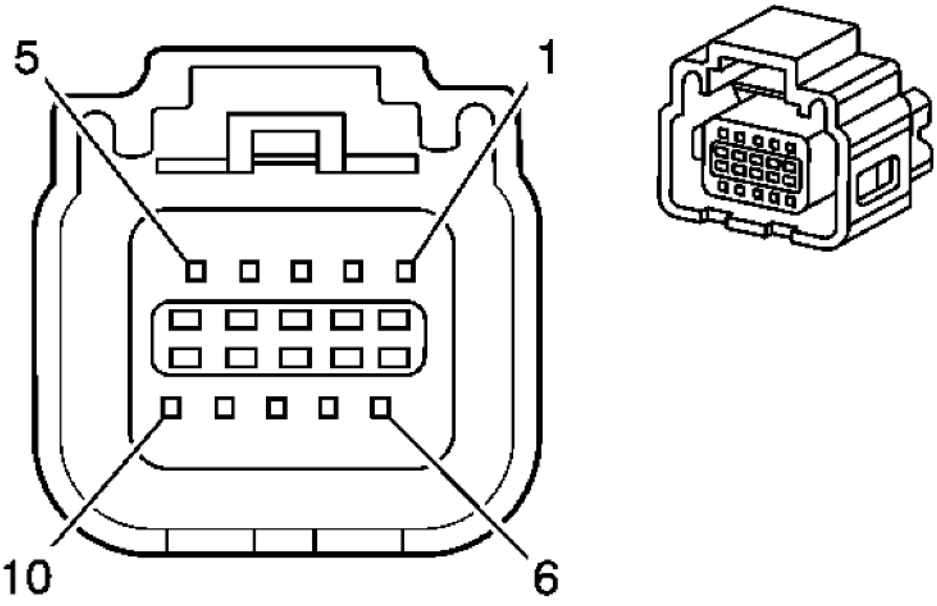


Fig. 3: K85 Passenger Presence Detection Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 13569289
- Service: Servive by Harness - See Part Catalog
- Description: 10-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service with Terminated Lead
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K85 Passenger Presence Detection Module X1

Pin	Wire	Circuit	Function
1	0.35 RD/WH	2040	Battery Positive Voltage

cardiagn.com

2	0.35 BK	2450	Ground
3	-	-	Not Used
4	0.35 D-GN	5060	Low Speed GMLAN Serial Data
5-10	-	-	Not Used

K85 PASSENGER PRESENCE DETECTION MODULE X2

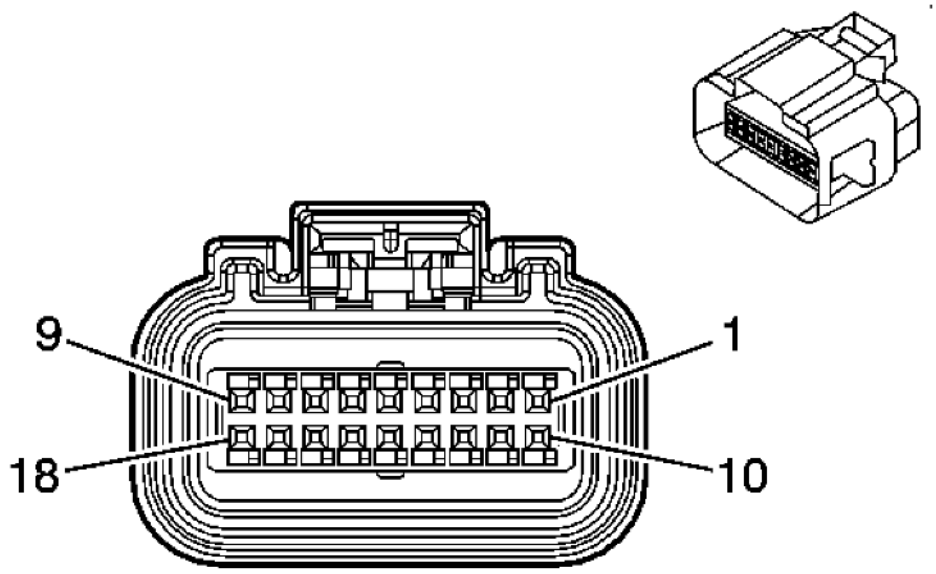


Fig. 4: K85 Passenger Presence Detection Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Presence Detection Sensor
- OEM: 13545457
- Service: Service as Harness - See Part Catalog
- Description: 18-Way F Flexible Printed Circuit Series (BK)

Terminal Part Information

- Terminal/Tray: Service as Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

K85 Passenger Presence Detection Module X2

Pin	Wire	Circuit	Function
1	FW	-	-
2	FW	-	-
3	FW	-	-
4	FW	-	-
5	FW	-	-
6	FW	-	-
7	FW	-	-
8	FW	-	-
9	FW	-	-
10	FW	-	-
11	FW	-	-
12	FW	-	-
13	FW	-	-
4	FW	-	-
15	FW	-	-
16	FW	-	-
17	FW	-	-
18	FW	-	-

K9 BODY CONTROL MODULE X1

cardiagn.com

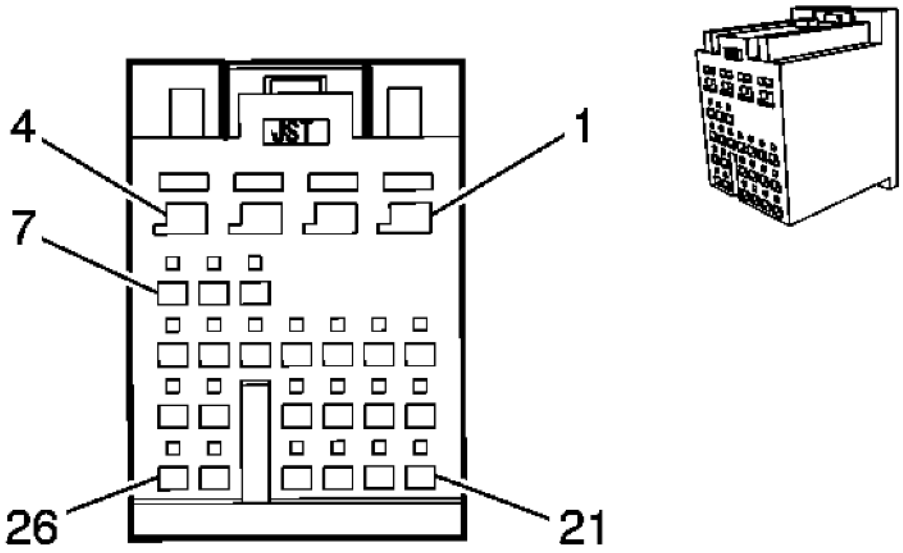


Fig. 5: K9 Body Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594128
- Service: 19151262
- Description: 26-Way F 0.64 2.8 Series (WH)

Terminal Part Information

- Pins: 1, 4
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 2, 3
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 9, 10, 11, 14, 16, 19, 21, 22, 24, 25, 26
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X1

Pin	Wire	Circuit	Function
1	0.8 BK	1650	Ground
2	2 RD/WH	2540	Battery Positive Voltage
3	2 RD/WH	2740	Battery Positive Voltage
4	0.8 RD/WH	2240	Battery Positive Voltage
5-8	-	-	Not Used
9	0.35 D-GN	7555	Headlamp Switch Signal
10	0.35 L-BU	1134	Park Brake Switch Signal
11	0.35 D-GN	306	Headlamp Switch Headlamps Off Signal/Automatic Headlamp Low Control
12-13	-	-	Not Used
14	0.35 PU	328	Interior lamp Defeat Switch Signal
15	-	-	Not Used
16	0.35 WH	103	Headlamp Switch Headlamps On Signal
17-18	-	-	Not Used
19	0.35 L-BU/BK	853	Low Reference
20	-	-	Not Used
21	0.35 GY	728	Security Indicator Control
22	0.35 L-BU	13	Headlamp Switch Park Lamps Signal
23	-	-	Not Used
24	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
25	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
26	0.35 L-GN	3274	RCDLR Data Receive

K9 BODY CONTROL MODULE X2

cardiagn.com

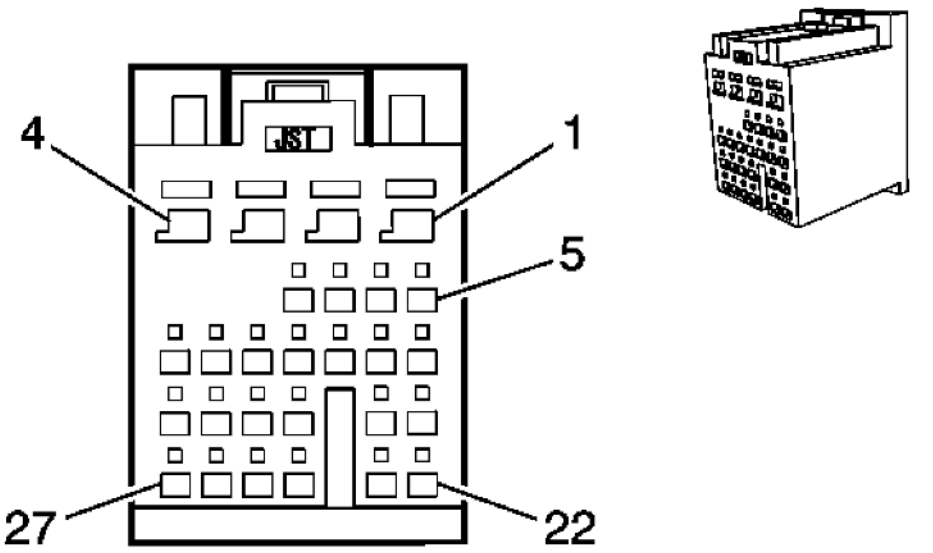


Fig. 6: K9 Body Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594133
- Service: 19151266
- Description: 27-Way F 0.64 2.8 Series (L-BU)

Terminal Part Information

- Pins: 1, 2, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: Pins 1, 2 - E/A
- Core/Insulation Crimp: Pins 3 - C/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pin: 4
- Terminal/Tray: SNAC-A081T-M2.8/20

cardiagn.com

- Core/Insulation Crimp: A/D
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 7, 8, 10, 13, 14, 15, 16, 19, 21, 22, 23, 24, 25, 26, 27
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X2

Pin	Wire	Circuit	Function
1	0.8 RD/WH	2140	Battery Positive Voltage
2	0.8 BK	1650	Ground
3	1 RD/WH	2940	Battery Positive Voltage
4	3 RD/WH	4040	Battery Positive Voltage
5-6	-	-	Not Used
7	0.35 YE	5361	Brake Pedal Position Sensor Signal
8	0.5 YE	6817	LED Backlight Dimming Control
9	-	-	Not Used
10	0.35 WH	278	Ambient Light Sensor Signal
11-12	-	-	Not Used
13	0.35 GY	5381	5-Volt Reference
14	0.35 L-BU	1788	Traction Control Switch Signal
15	0.35 OG/BK	781	Driver Door Lock Switch Unlock Signal
16	0.35 GY	3273	Low Reference
17-18	-	-	Not Used
19	0.35 PK/BK	780	Driver Door Lock Switch Lock Signal
20	-	-	Not Used
21	0.35 GY	6135	Linear Interconnect Network 4 (without CF5)
22	0.35 D-GN	5060	Low Speed GMLAN Serial Data
23	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
24	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
25	0.35 PK/WH	3272	RCDLR Power
26	0.35 WH	111	Hazard Switch Signal
27	0.35 L-BU/WH	3275	RCDLR Data Transmit

K9 BODY CONTROL MODULE X3

cardiagn.com

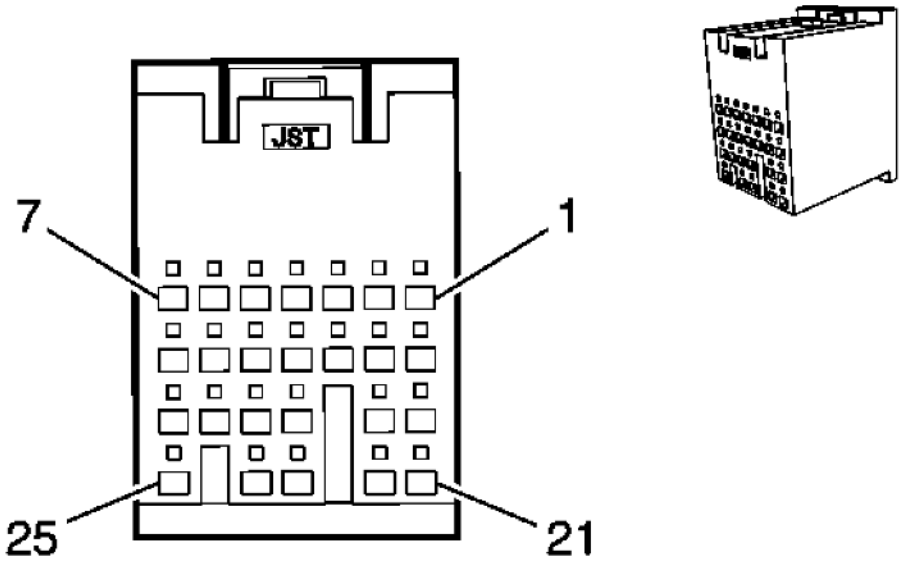


Fig. 7: K9 Body Control Module X3 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594127
- Service: 19151261
- Description: 25-Way F 0.64 Series (L-GN)

Terminal Part Information

- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X3

Pin	Wire	Circuit	Function
1	0.35 D-GN/WH	3277	Immobilizer Ground
2	0.35 L-BU	7533	Linear Interconnect Network 11

cardiagn.com

3	0.35 D-GN	3166	Immobilizer Power
4	0.35 YE	7556	Headlamp Switch Reference Voltage
5	0.35 BN	4	Accessory Voltage
6	0.35 PK	3	Ignition Voltage
7	0.35 YE	143	Accessory Voltage (MYB/MYC)
8	0.35 L-GN	6818	Steering Wheel Control Switch Signal (NZL)
9	0.35 GY	1884	Cruise Control Switch Signal
10	0.35 TN/BK	6009	Low Reference
11	0.35 PU	524	Headlamp Dimmer Switch High Beam Signal
12	0.35 D-GN	663	Left Turn Signal
13	0.35 L-BU	1714	Windshield Wiper Switch Low Signal
14	-	-	Not Used
15	0.35 PK	1020	Ignition Voltage
16	-	-	Not Used
17	0.35 YE	307	Headlamp Switch Flash to Pass Signal
18	0.35 L-GN/WH	3287	Horn Switch Signal
19	-	-	Not Used
20	0.35 L-GN	1715	Windshield Wiper Switch High Signal
21	0.35 PU	5526	Tap Up/Tap Down Switch Signal (MYB/MYC)
22	0.35 WH/BK	1073	5-Volt Reference
23	-	-	Not Used
24	0.35 TN	664	Right Turn Signal
25	0.35 PK	94	Windshield Washer Switch Signal

K9 BODY CONTROL MODULE X4

cardiagn.com

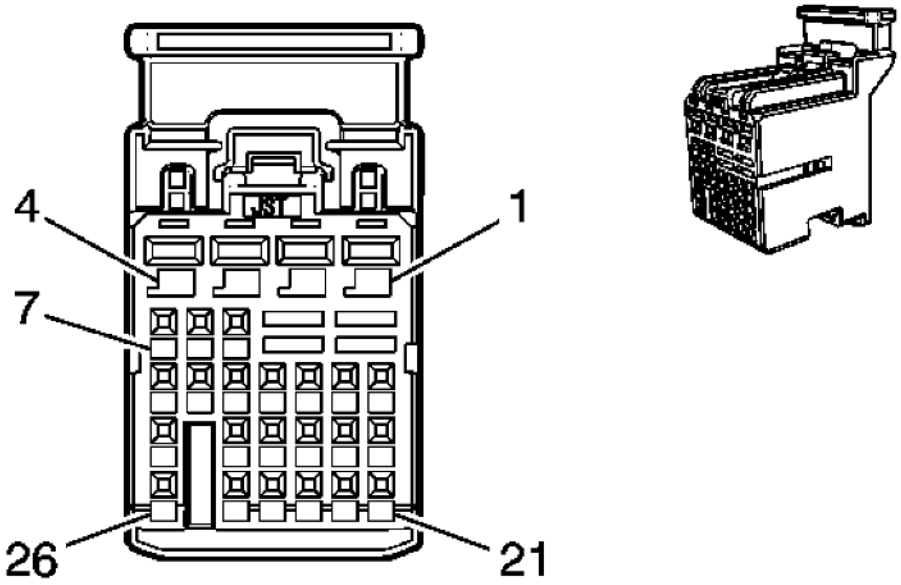


Fig. 8: K9 Body Control Module X4 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594129
- Service: 19151263
- Description: 26-Way F 0.64 2.8 Series (BK)

Terminal Part Information

- Pins: 1, 2, 3, 4
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X4

Pin	Wire	Circuit	Function
1	0.8 D-BU	7539	DRL Control
2	0.8 L-BU	7538	DRL Control
3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage
4	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage
5	0.5 BN/WH	309	Right Park Lamp Supply Voltage
6	0.5 PU	709	Left Park Lamp Supply Voltage
7	0.5 BN/L-BU	6993	Marker Lamps Control
8-10	-	-	Not Used
11	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control
12	0.35 TN	755	RAP Relay Coil Control
13	0.5 D-GN/YE	6846	Rear License Lamp Control
14	0.35 OG	2268	Washer Fluid Pump Relay Control
15	0.35 YE	5199	Ignition Voltage
16	0.35 GY	91	Wiper Relay Control
17	0.35 YE	196	Windshield Wiper Motor Park Switch Signal
18	0.5 WH	5075	Current Sensor Signal
19	-	-	Not Used
20	0.5 RD/WH	2340	Battery Positive Voltage
21	0.5 PK	5076	Current Sensor Voltage
22	0.35 D-BU	5985	Serial Data Wake - Up Signal
23	0.35 L-BU	5986	Serial Data Communication Enable
24	0.35 PK/BK	109	Hood Ajar Switch Signal
25	-	-	Not Used
26	0.5 BK	2550	Ground

K9 BODY CONTROL MODULE X5

cardiagn.com

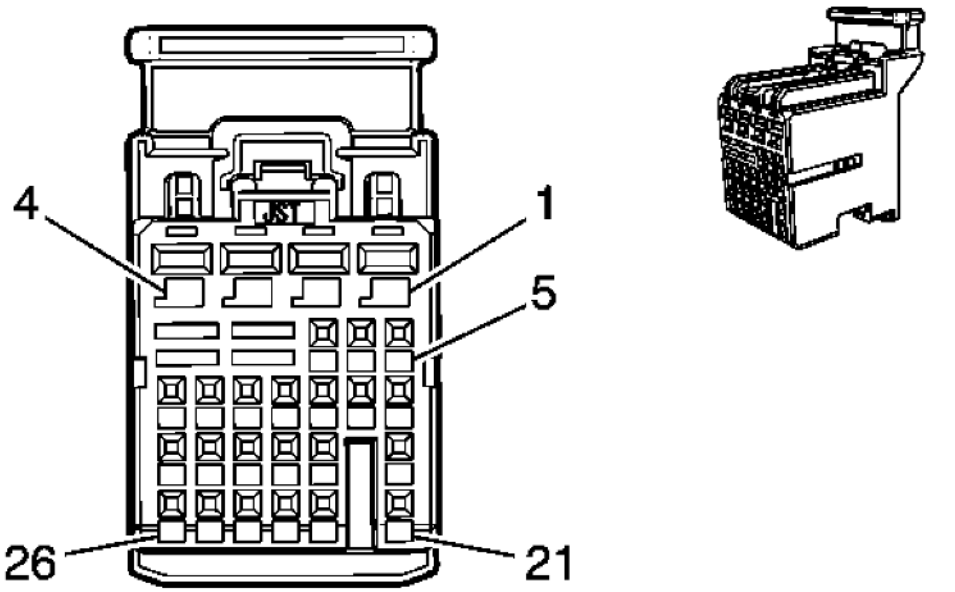


Fig. 9: K9 Body Control Module X5 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594130
- Service: 19151264
- Description: 26-Way F 0.64 2.8 Series (BN)

Terminal Part Information

- Pins: 1, 2, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pin: 4
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 6, 7, 10, 11, 12, 13, 18, 19, 24
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X5

Pin	Wire	Circuit	Function
1	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage
2	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage
3	0.8 RD/WH	3840	Battery Positive Voltage
4	3 RD/WH	3440	Battery Positive Voltage
5	-	-	Not Used
6	0.5 BN	5077	Low Reference
7	0.5 BN/GY	6995	Marker Lamps Control
8-9	-	-	Not Used
10	0.35 D-GN/WH	1317	Fog Lamp Relay Control
11	0.35 TN	6188	Rear Compartment Lid Release Control
12	0.35 L-BU/WH	6311	Brake Pedal Switch Signal
13	0.35 PK/WH	1970	HID Headlamp Relay Control
14-17	-	-	Not Used
18	0.5 TN/WH	1969	Headlamp High Beam Relay Control
19	0.35 TN	28	Horn Relay Control
20-23	-	-	Not Used
24	0.35 TN	860	Front Windshield Wiper Switch High Signal
25-26	-	-	Not Used

K9 BODY CONTROL MODULE X6

cardiagn.com

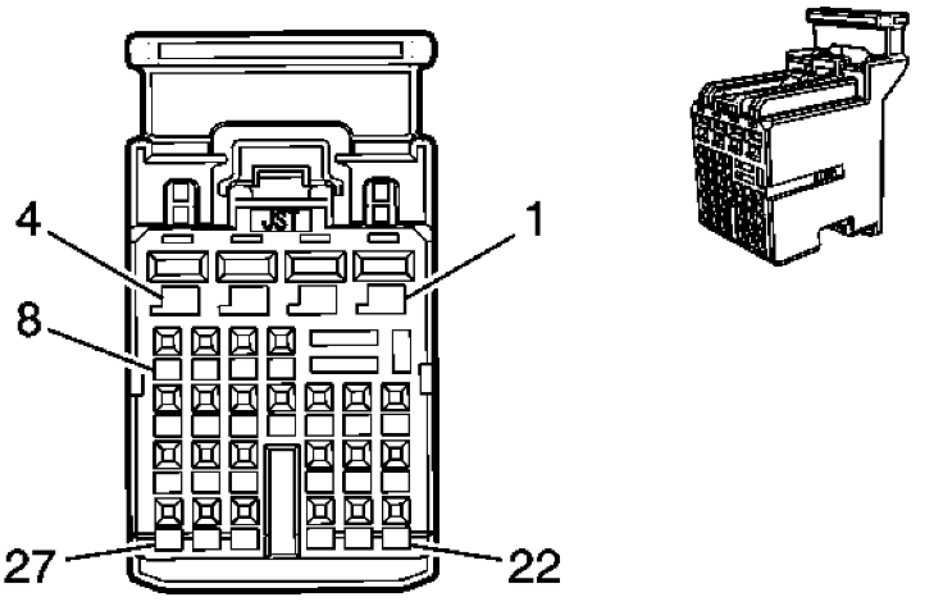


Fig. 10: K9 Body Control Module X6 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594134
- Service: 19151267
- Description: 27-Way F 0.64 2.8 Series (PK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: C/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 2, 3, 4
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 5, 7, 10, 14, 16, 24, 25
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X6

Pin	Wire	Circuit	Function
1	1 GY	5911	Driver Door Lock Motor Unlock Control
2	2 GY	295	Door Lock Actuator Unlock Control
3	2 BK	1650	Ground
4	2 TN	294	Door Lock Actuator Lock Control
5	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal
6	-	-	Not Used
7	0.35 PU	7558	Accent Lamps Control (SRK/SRM)
8-9	-	-	Not Used
10	0.35 D-GN	6134	Linear Interconnect Network 3
11-13	-	-	Not Used
14	0.35 D-BU	6189	Rear Compartment Lid Release Switch
15	-	-	Not Used
16	0.35 BN	6132	Linear Interconnect Network 1 (CF5)
17-23	-	-	Not Used
24	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
25	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
26-27	-	-	Not Used

K9 BODY CONTROL MODULE X7

cardiagn.com

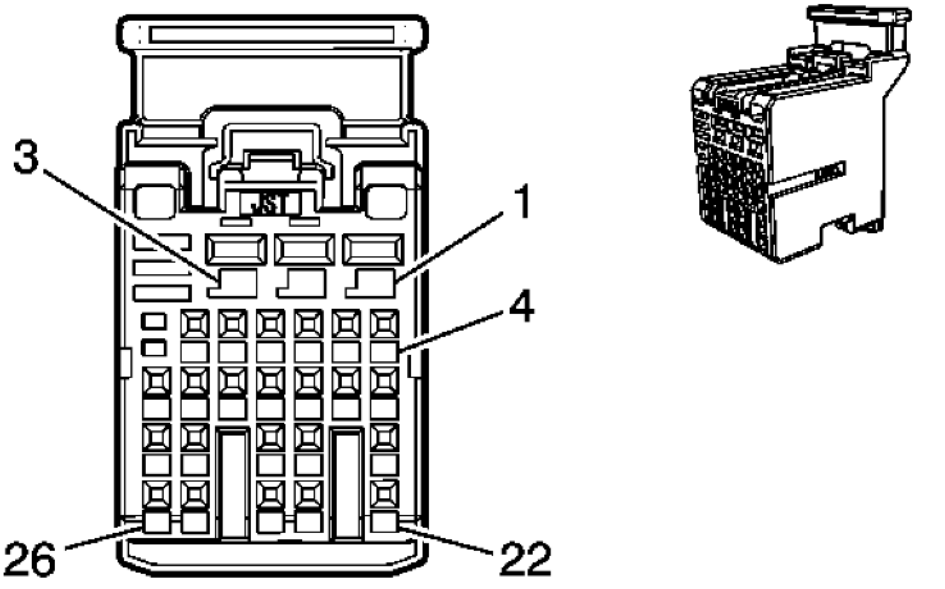


Fig. 11: K9 Body Control Module X7 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594132
- Service: 19151265
- Description: 26-Way F 0.64 2.8 Series (GY)

Terminal Part Information

- Pins: 1, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 6, 7, 9, 15, 19
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X7

Pin	Wire	Circuit	Function
1	0.5 GY	157	Courtesy Lamp Control
2	-	-	Not Used
3	0.5 L-GN	24	Backup Lamp Supply Voltage
4-5	-	-	Not Used
6	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control (MYB/MYC)
7	0.5 OG/BK	737	Rear Compartment Lamp Control
8	-	-	Not Used
9	0.5 YE	6817	LED Backlight Dimming Control
10-14	-	-	Not Used
15	0.35 D-GN	3270	Driver Door Lock Status Signal
16-18	-	-	Not Used
19	0.35 WH	156	Courtesy Lamp Switch Signal
20-26	-	-	Not Used

M37 MODE DOOR ACTUATOR

cardiagn.com

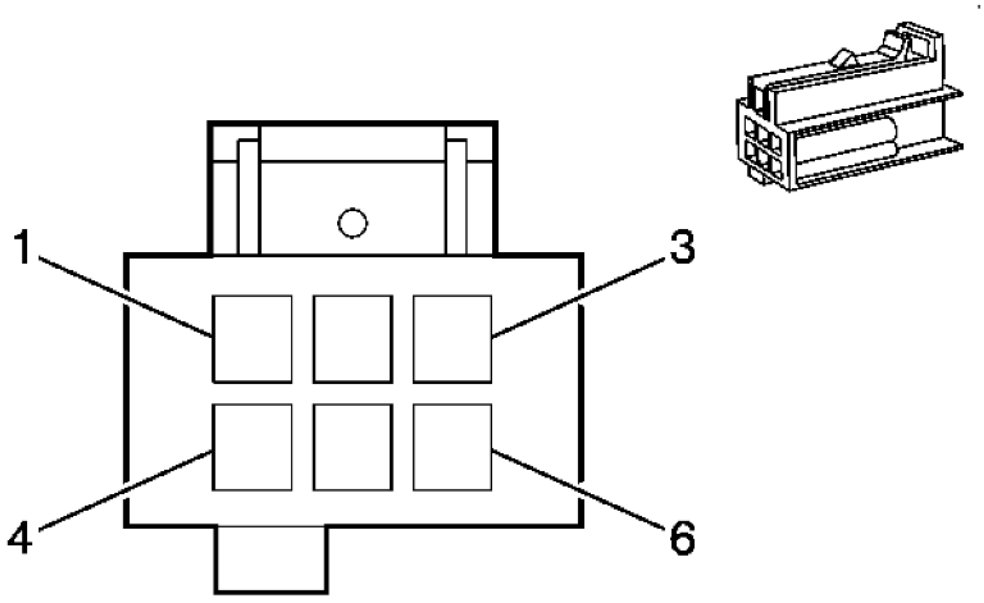


Fig. 12: M37 Mode Door Actuator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pins 2 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M37 Mode Door Actuator

Pin	Wire	Circuit	Function
1	0.35 D-BU	3167	Mode Door Stepper Motor Control 3

cardiagn.com

2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 GY	3165	Mode Door Stepper Motor Control 1
4	0.35 BN	3168	Mode Door Stepper Motor Control 4
5	-	-	Not Used
6	0.35 D-GN	3166	Mode Door Stepper Motor Control 2

M40 REAR COMPARTMENT LID LATCH

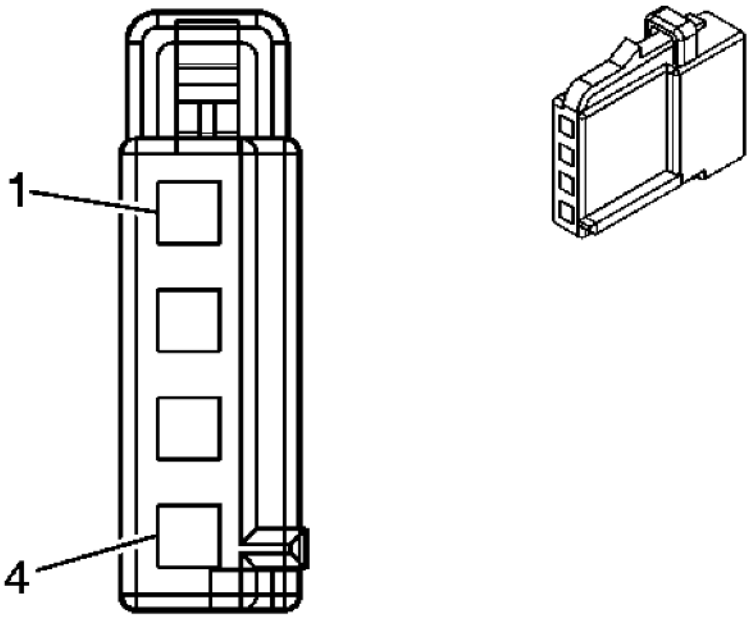


Fig. 13: M40 Rear Compartment Lid Latch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15324229
- Service: 15306167
- Description: 4-Way F Timer Micro-Pack Series (BK)

Terminal Part Information

- Terminal/Tray: 962943-5/16

cardiagn.com

- Core/Insulation Crimp: Pins 1, 2 - E/A
- Core/Insulation Crimp: Pin 4 - See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

M40 Rear Compartment Lid Latch

Pin	Wire	Circuit	Function
1	0.5 L-BU	6795	Rear Compartment Lid Release Control 2
2	0.5 BK	2350	Ground
3	-	-	Not Used
4	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal

M46 AIR RECIRCULATION DOOR MOTOR

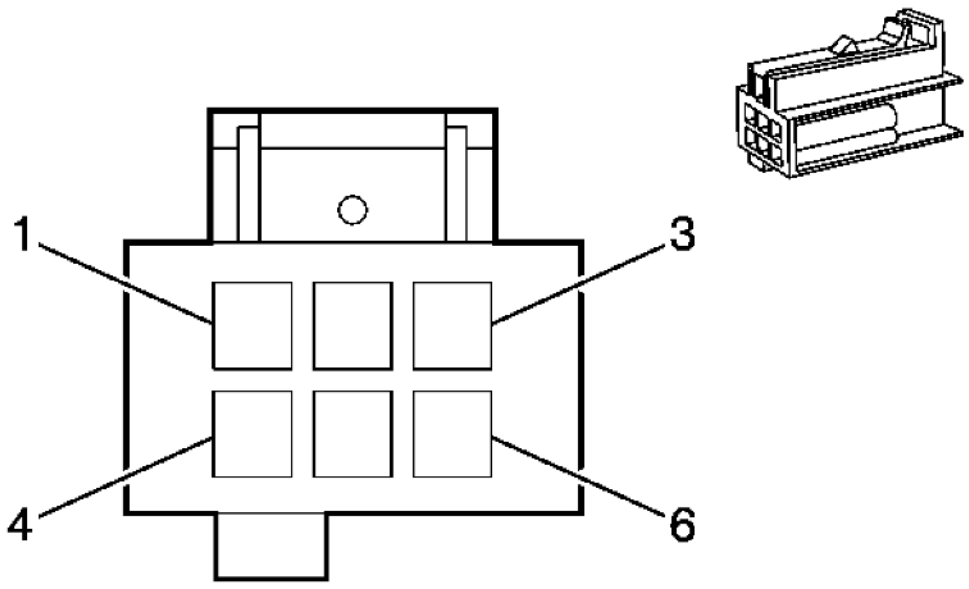


Fig. 14: M46 Air Recirculation Door Motor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC

cardiagn.com

- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pin 2 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M46 Air Recirculation Door Motor

Pin	Wire	Circuit	Function
1	0.35 D-BU/WH	3173	Air Inlet Door Stepper Motor Control 1
2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 BN/WH	3174	Air Inlet Door Stepper Motor Control 2
4	0.35 YE	3175	Air Inlet Door Stepper Motor Control 3
5	-	-	Not Used
6	0.35 WH	3176	Air Inlet Door Stepper Motor Control 4

M47 REVERSE INHIBIT SOLENOID ACTUATOR (M10)

cardiagn.com

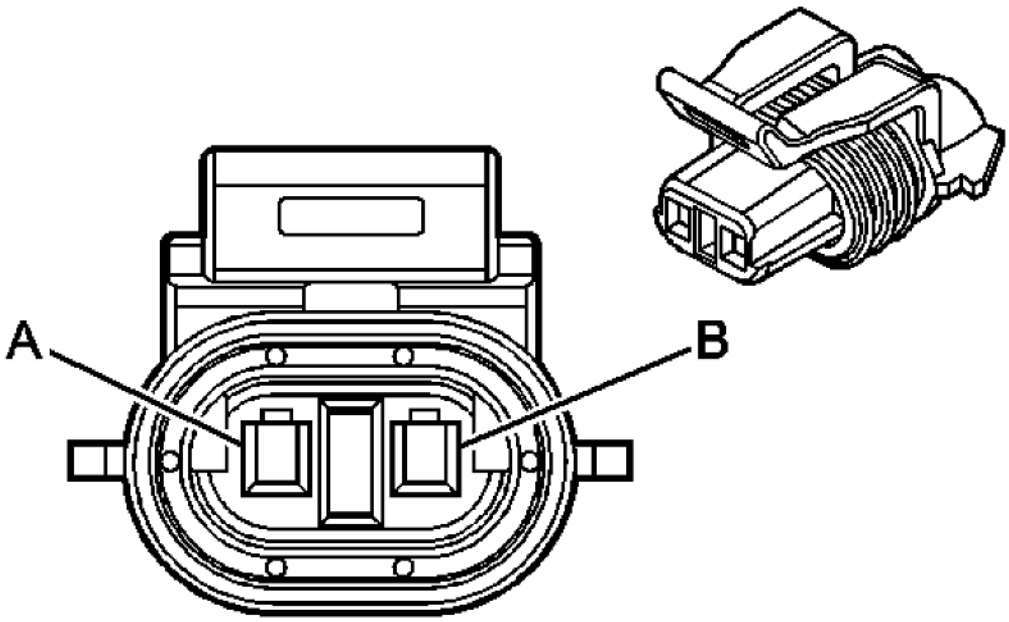


Fig. 15: M47 Reverse Inhibit Solenoid Actuator (M10) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12052646
- Service: 12101857
- Description: 2-Way F Metri-Pack 150 Sealed (WH)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

M47 Reverse Inhibit Solenoid Actuator (M10)

Pin	Wire	Circuit	Function
A	0.5 OG	5494	Reverse Lockout Solenoid Control
B	0.5 PK	239	Ignition Voltage

cardiagn.com

M50D SEAT FRONT VERTICAL MOTOR - DRIVER (AMM)

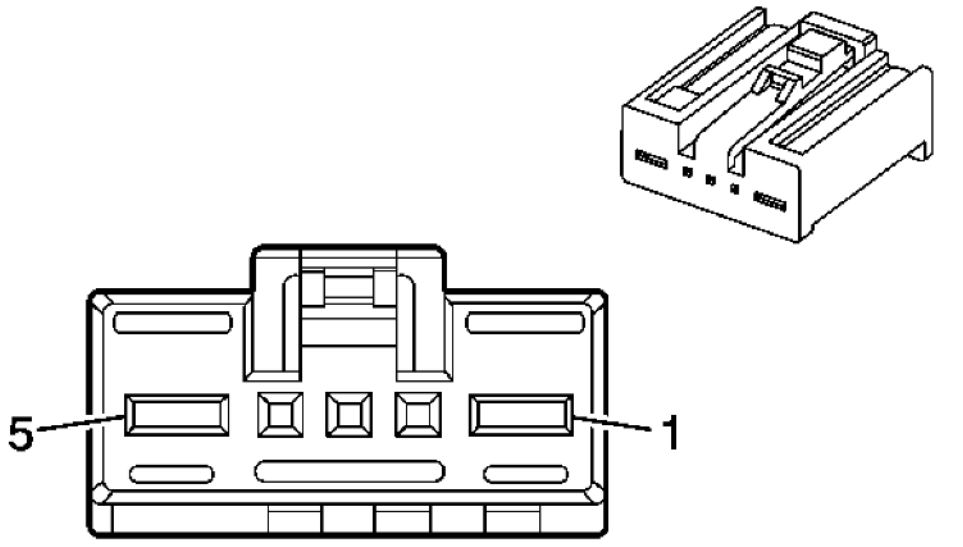


Fig. 16: M50D Seat Front Vertical Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M50D Seat Front Vertical Motor - Driver (AMM)

Pin	Wire	Circuit	Function

cardiagn.com

1	3 D-GN	286	Driver Seat Front Vertical Motor Up Control
2-4	-	-	Not Used
5	3 D-BU	287	Driver Seat Front Vertical Motor Down Control

M51D SEAT HORIZONTAL MOTOR - DRIVER (AMM)

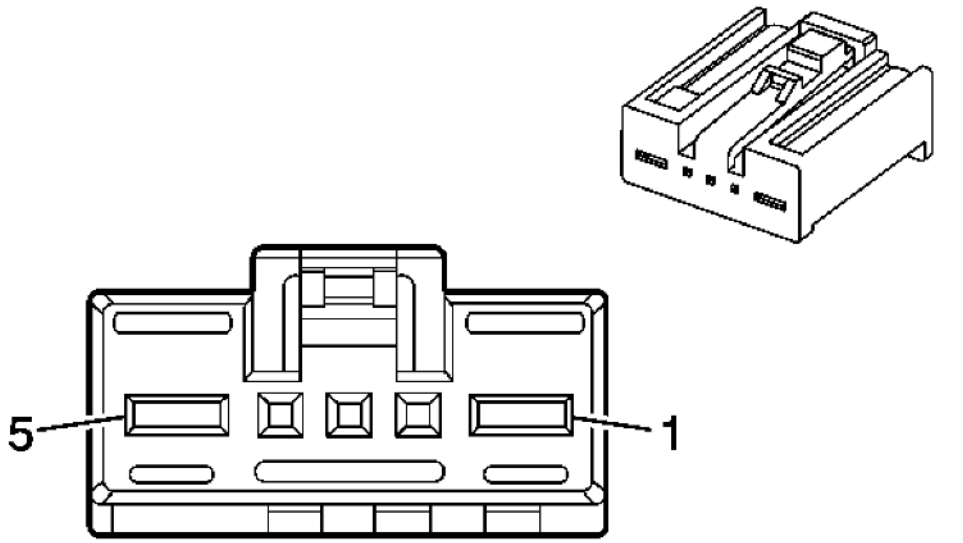


Fig. 17: M51D Seat Horizontal Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

M51D Seat Horizontal Motor - Driver (AMM)

Pin	Wire	Circuit	Function
1	3 TN	285	Driver Seat Horizontal Motor Forward Control
2-4	-	-	Not Used
5	3 L-GN	284	Driver Seat Horizontal Motor Rearward Control

M55D SEAT REAR VERTICAL MOTOR - DRIVER (AMM)

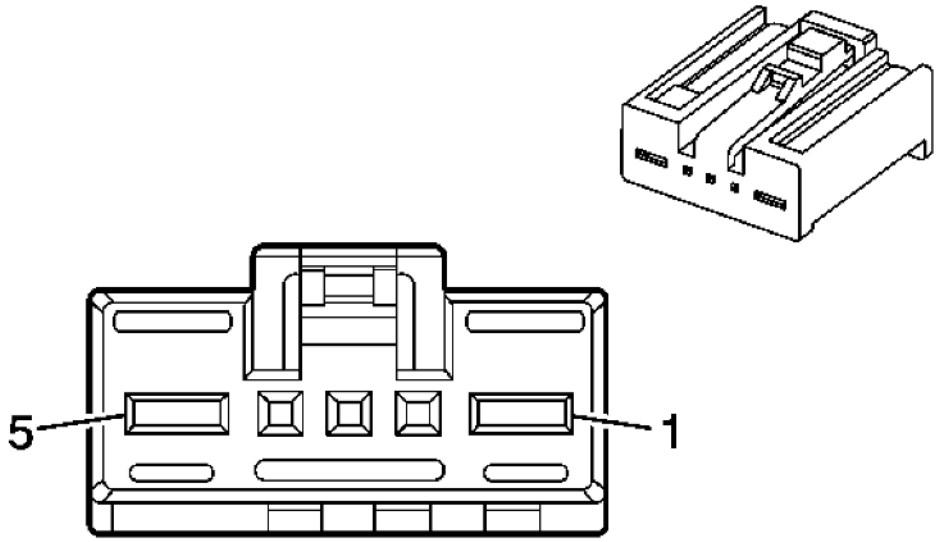


Fig. 18: M55D Seat Rear Vertical Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1

cardiagn.com

- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M55D Seat Rear Vertical Motor - Driver (AMM)

Pin	Wire	Circuit	Function
1	3 L-BU	283	Driver Seat Rear Vertical Motor Down Control
2-4	-	-	Not Used
5	3 YE	282	Driver Seat Rear Vertical Motor Up Control

M56D SEAT RECLINE MOTOR - DRIVER

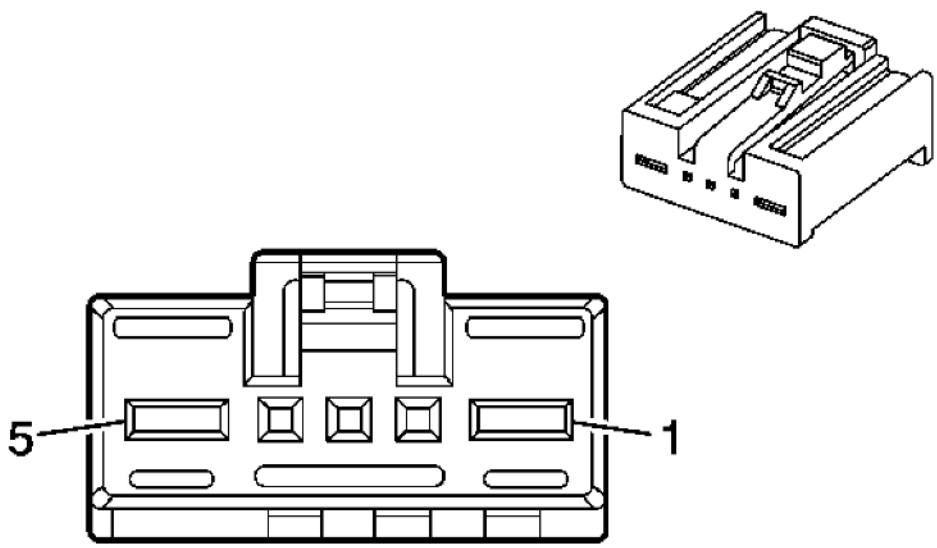


Fig. 19: M56D Seat Recline Motor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M56D Seat Recline Motor - Driver

Pin	Wire	Circuit	Function
1	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
2-4	-	-	Not Used
5	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control

M56P SEAT RECLINE MOTOR - PASSENGER

cardiagn.com

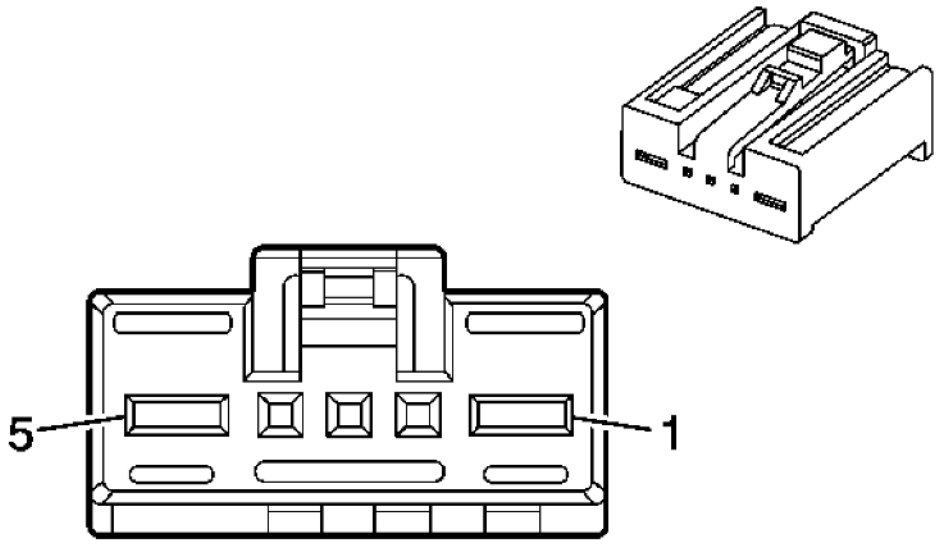


Fig. 20: M56P Seat Recline Motor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M56P Seat Recline Motor - Passenger

Pin	Wire	Circuit	Function
1	3 D-BU/YE	77	Passenger Seat Recline Motor Rearward Control

cardiagn.com

2-4	-	-	Not Used
5	3 D-GN/YE	76	Passenger Seat Recline Motor Forward Control

M6 AIR TEMPERATURE DOOR ACTUATOR

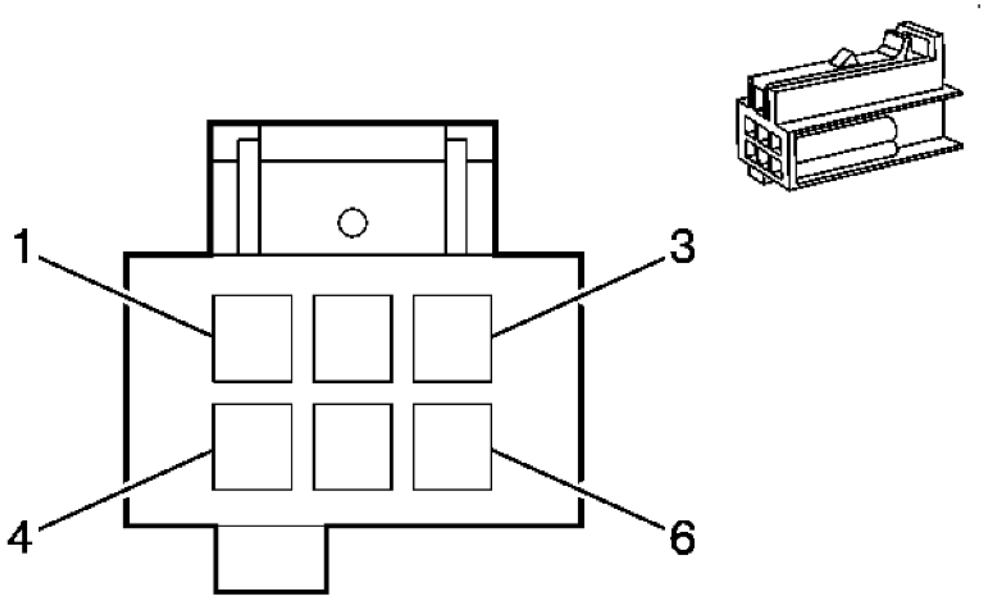


Fig. 21: M6 Air Temperature Door Actuator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pin 2 - J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M6 Air Temperature Door Actuator

Pin	Wire	Circuit	Function
1	0.35 TN/BK	3169	Temp Door Stepper Motor Control 1
2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 PU	3170	Temp Door Stepper Motor Control 2
4	0.35 L-GN	3171	Temp Door Stepper Motor Control 3
5	-	-	Not Used
6	0.35 L-BU	3172	Temp Door Stepper Motor Control 4

M64 STARTER MOTOR X1

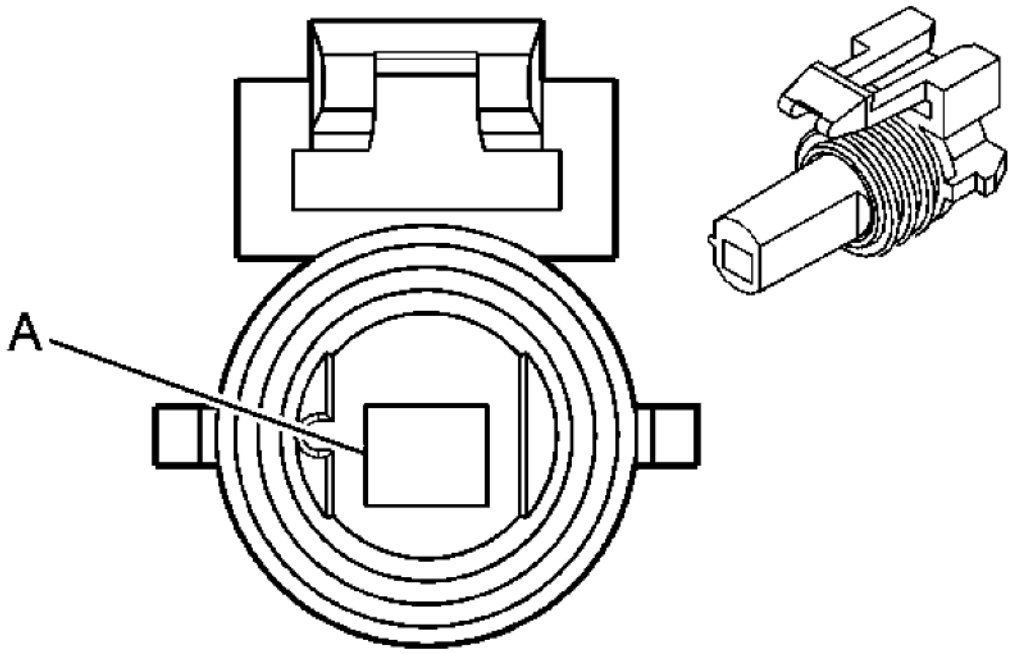


Fig. 22: M64 Starter Motor X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine

cardiagn.com

- OEM: 12089916
- Service: 12101763
- Description: 1-Way F Metri-Pack 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12129493/2
- Core/Insulation Crimp: 4/5
- Release Tool: 12094430
- Test Probe: J-35616-4A (PU)

M64 Starter Motor X1

Pin	Wire	Circuit	Function
A	3 PU	6	Starter Solenoid Crank Voltage

M64 STARTER MOTOR X2

Connector Part Information

- Terminal: 12176593
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

M64 Starter Motor X2

Pin	Wire	Circuit	Function
A	32 RD	2	Battery Positive Voltage

M7 TRANSMISSION SHIFT LOCK CONTROL SOLENOID ACTUATOR (MYB OR MYC)

cardiagn.com

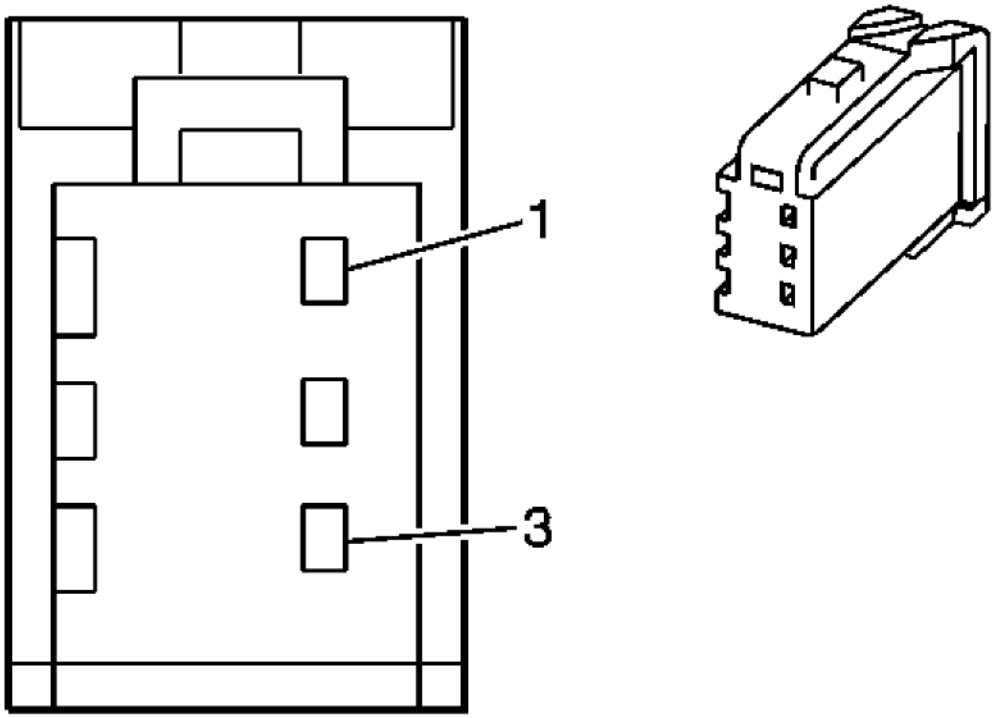


Fig. 23: M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Automatic Transmission Shift Lever Jumper Harness
- OEM: 90000223
- Service: Service by Harness - See Part Catalog
- Description: 3-Way F WH

Terminal Part Information

- Terminal/Tray: Service by Harness See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC)

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 BK	1550	Ground
2	-	-	Not Used
3	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control

M74D WINDOW MOTOR - DRIVER

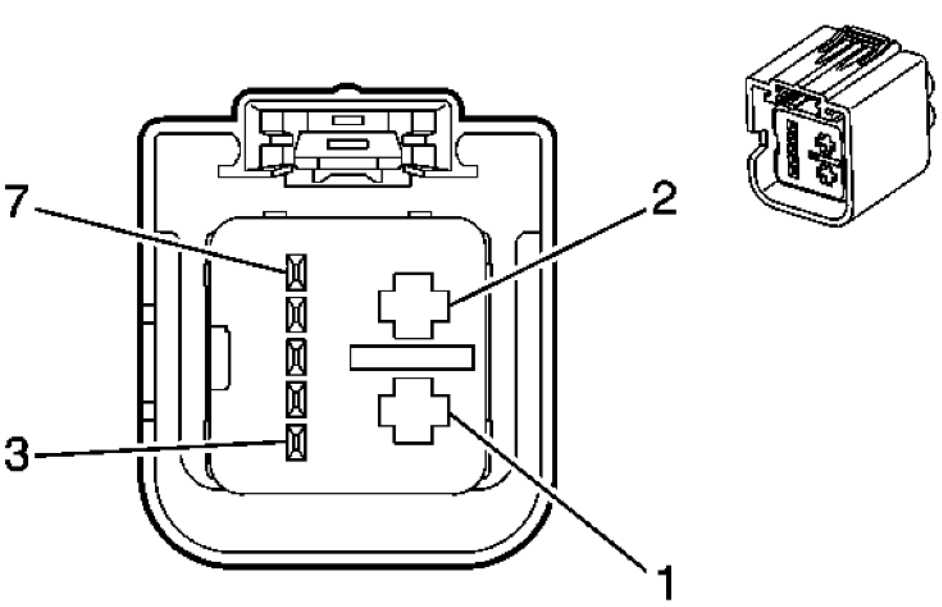


Fig. 24: M74D Window Motor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13595813
- Service: Service by Harness - See Part Catalog
- Description: 7-Way F Kaizen 0.64 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 2

cardiagn.com

- Terminal/Tray: 4-964273-1/15
- Core/Insulation Crimp: C/5
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 3, 4, 5, 6, 7
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M74D Window Motor - Driver

Pin	Wire	Circuit	Function
1	3 BK	850	Ground
2	3 RD/WH	1240	Battery Positive Voltage
3	0.35 TN	1300	Power Window Master Switch Left Front Up Signal
4	0.35 D-GN	6134	Linear Interconnect Network 3
5	0.35 L-GN/RD	7628	Power Window Switch Express Signal
6	0.35 GY/BK	745	Left Front Door Ajar Switch Signal
7	0.35 GY	1136	Power Window Master Switch Left Front Down Signal

M74P WINDOW MOTOR - PASSENGER

cardiagn.com

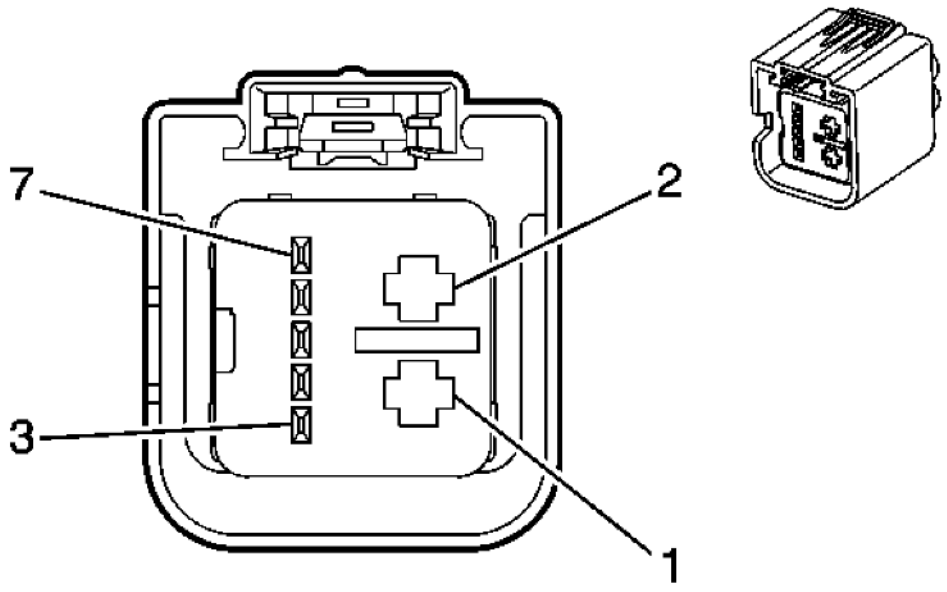


Fig. 25: M74P Window Motor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13595813
- Service: Service by Harness - See Part Catalog
- Description: 7-Way F Kaizen 0.64 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 2
- Terminal/Tray: 4-964273-1/15
- Core/Insulation Crimp: C/5
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 3, 4, 5, 6, 7
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M74P Window Motor - Passenger

Pin	Wire	Circuit	Function
1	3 BK	2350	Ground
2	3 RD/WH	1240	Battery Positive Voltage
3	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal
4	0.35 D-GN	6134	Linear Interconnect Network 3
5	0.35 PU	2765	Power Window Switch Right Front Express Signal
6	0.35 TN/WH	746	Right Front Door Ajar Switch Signal
7	0.35 TN	167	Power Window Master Switch Right Front Down Signal

M75 WINDSHIELD WIPER MOTOR

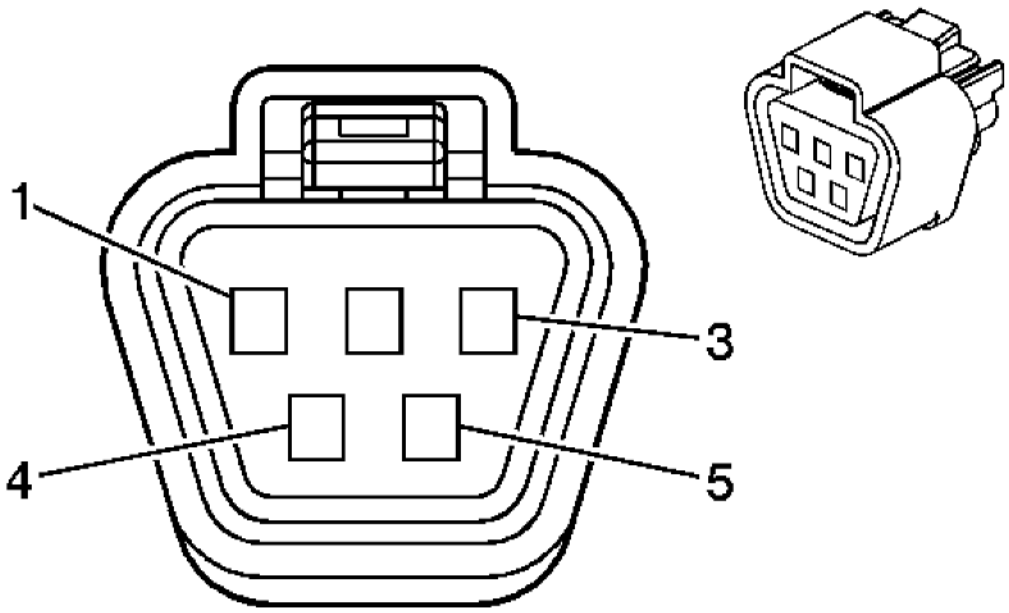


Fig. 26: M75 Windshield Wiper Motor Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Forward Lamp
- OEM: 15316488
- Service: 19149298
- Description: 5-Way F 090 Series, Sealed (BK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: 8100-0594/6
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-14 (GN)

- Pins: 3, 4, 5
- Terminal/Tray: 7116-4027/11
- Core/Insulation Crimp: 2/5
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

M75 Windshield Wiper Motor

Pin	Wire	Circuit	Function
1	0.35 YE	196	Windshield Wiper Motor Park Switch Signal
2	-	-	Not Used
3	2 PU	92	Windshield Wiper Motor High Speed
4	2 BK	1350	Ground
5	2 D-GN	95	Windshield Wiper Motor Low Speed

M93 IGNITION CYLINDER LOCK CONTROL SOLENOID ACTUATOR (MYB OR MYC)

cardiagn.com

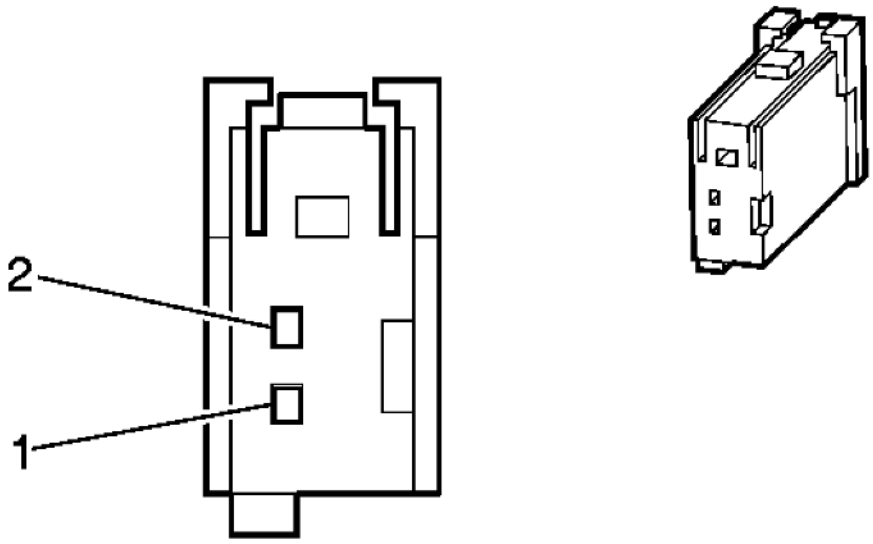


Fig. 27: M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.35 YE	143	Accessory Voltage
2	0.35 PU/WH	5905	Key Capture Signal

cardiagn.com

P12A HORN - HIGH NOTE

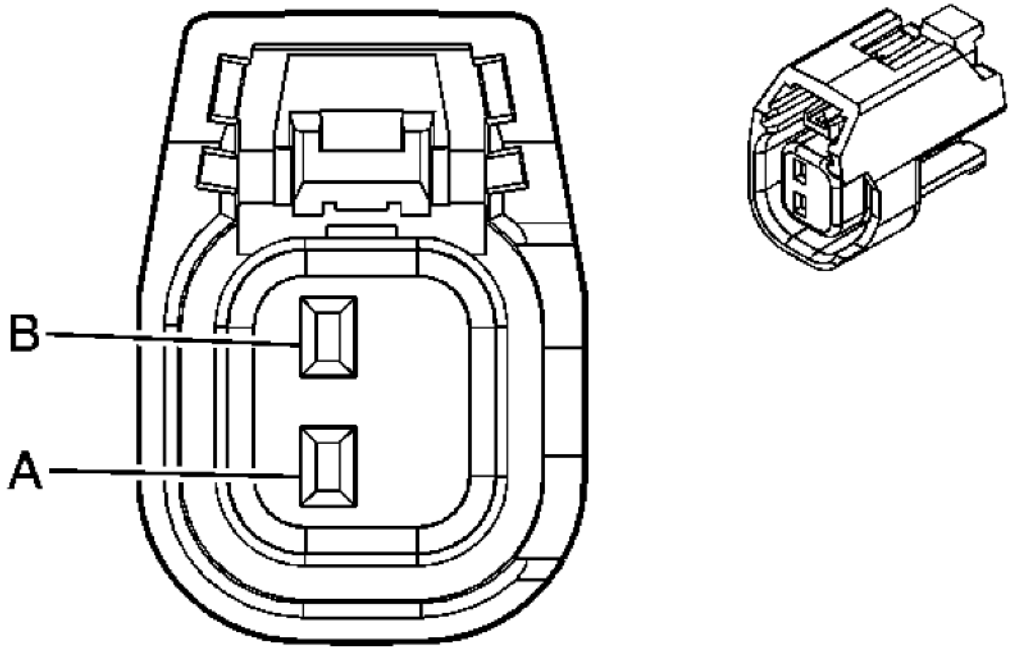


Fig. 28: P12A Horn - High Note Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15497399
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P12A Horn - High Note

Pin	Wire	Circuit	Function

cardiagn.com

A	0.8 D-GN	29	Horn Control
B	0.8 BK	1150	Ground

P12B HORN - LOW NOTE

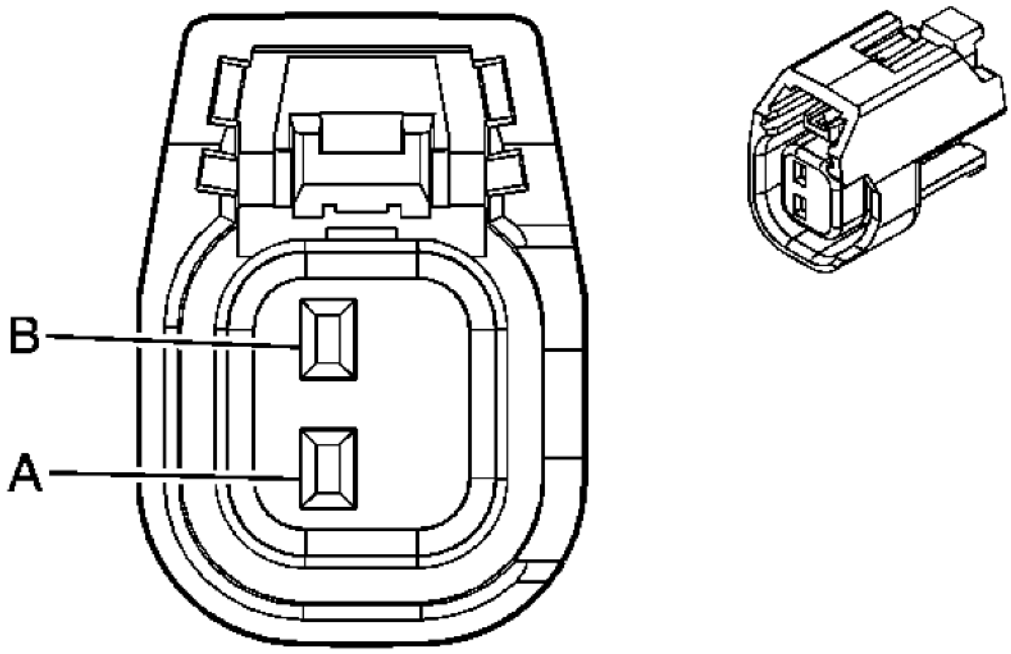


Fig. 29: P12B Horn - Low Note Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15497399
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

P12B Horn - Low Note

Pin	Wire	Circuit	Function
A	0.8 D-GN	29	Horn Control
B	0.8 BK	1150	Ground

P14 PASSENGER AIR BAG DISABLE INDICATOR

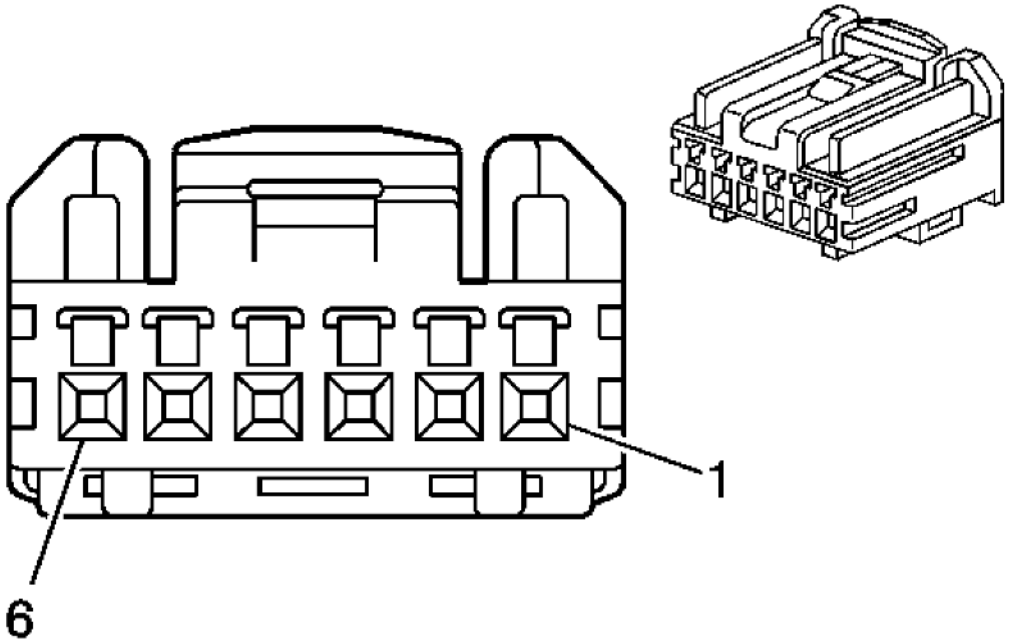


Fig. 30: P14 Passenger Air Bag Disable Indicator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13608102
- Service: 19153174
- Description: 6-Way F 1.2 HCM Series (WH)

Terminal Part Information

- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

P14 Passenger Air Bag Disable Indicator

Pin	Wire	Circuit	Function
1	0.35 D-BU	2307	Passenger Air Bag On Indicator Control
2	0.35 BK	1550	Ground
3	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control
4	0.35 PK	339	Ignition Voltage
5	0.35 PU	5234	Front Passenger Seat Belt Indicator Control
6	-	-	Not Used

P16 INSTRUMENT CLUSTER

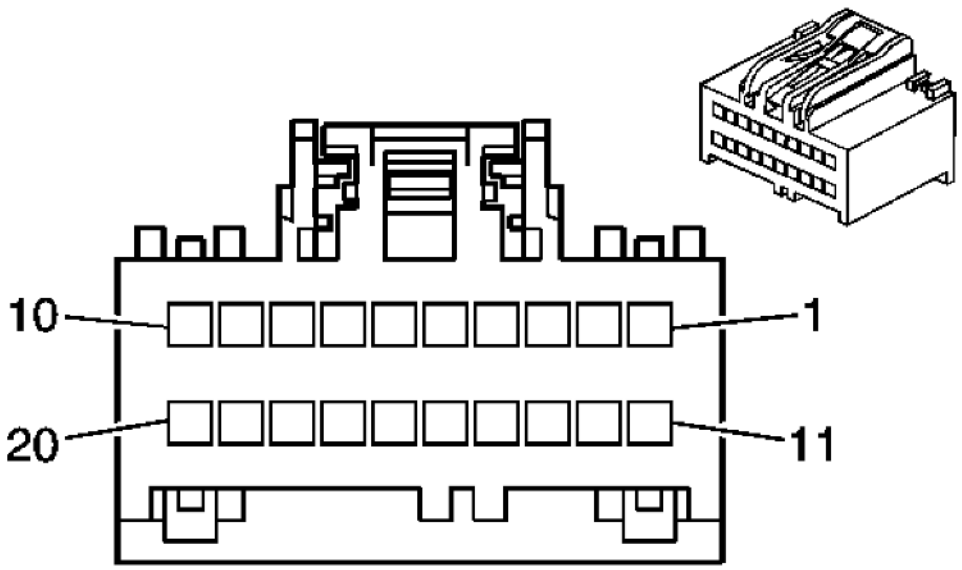


Fig. 31: P16 Instrument Cluster Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel

cardiagn.com

- OEM: 15489824
- Service: 15126711
- Description: 20-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P16 Instrument Cluster

Pin	Wire	Circuit	Function
1	0.35 D-GN	5060	Low Speed GMLAN Serial Data
2-3	-	-	Not Used
4	0.35 D-GN/WH	1358	DIC Switch Signal
5	0.35 BN	897	Low Reference
6	0.35 YE	61	Low Reference
7	0.35 D-GN/WH	636	Ambient Air Temperature Sensor Signal
8-9	-	-	Not Used
10	0.5 BK	1650	Ground
11-15	-	-	Not Used
16	0.35 PK	893	DIC Select Menu Switch Signal
17	0.35 BN/WH	419	MIL Control
18	-	-	Not Used
19	0.35 PK	139	Ignition 1 Voltage
20	0.5 RD/WH	2840	Battery Positive Voltage

P19A SPEAKER - CENTER INSTRUMENT PANEL (UQA)

cardiagn.com

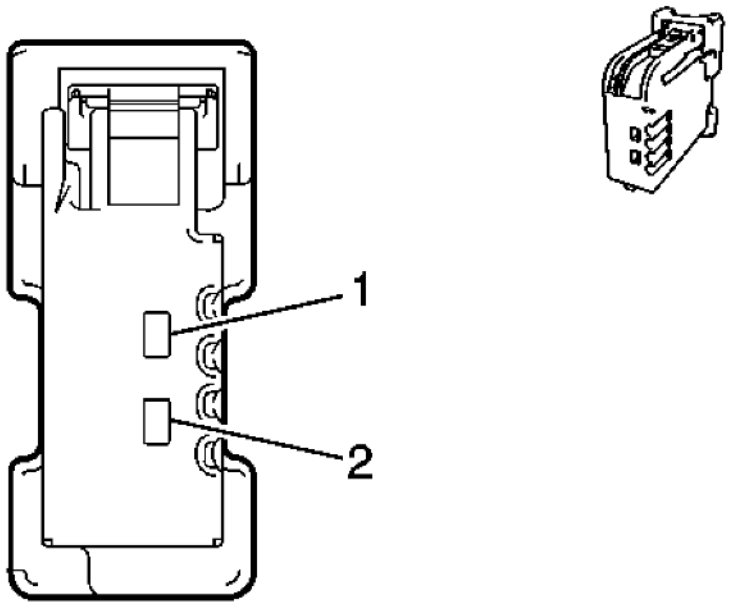


Fig. 32: P19A Speaker - Center Instrument Panel (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13682170
- Service: 13505908
- Description: 2-Way F 1.5 Series (GN)

Terminal Part Information

- Terminal/Tray: 8240-0128/22
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19A Speaker - Center Instrument Panel (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU	1960	Front Center Speaker Output (-)
2	0.8 YE	1860	Front Center Speaker Output (+)

cardiagn.com

P19G SPEAKER - LEFT FRONT (UQA)

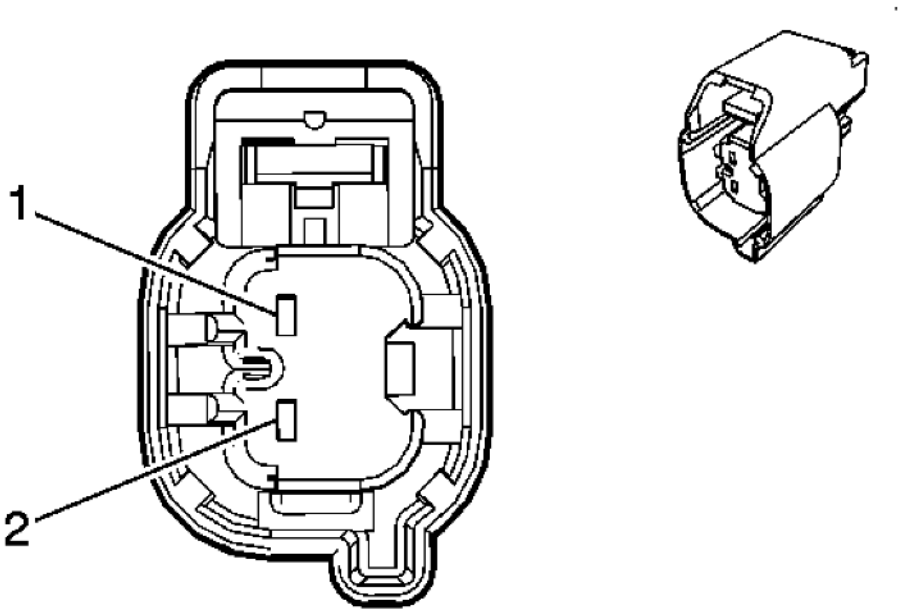


Fig. 33: P19G Speaker - Left Front (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13667983
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F GT 150 Series (TN)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19G Speaker - Left Front (UQA)

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19G SPEAKER - LEFT FRONT (UQ3)

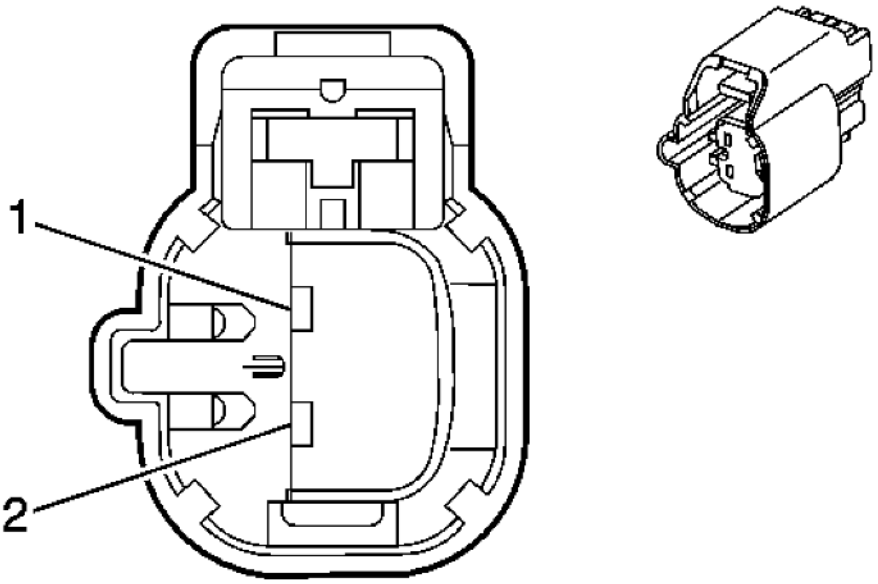


Fig. 34: P19G Speaker - Left Front (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

P19G Speaker - Left Front (UQ3)

Pin	Wire	Circuit	Function
1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19H SPEAKER - LEFT FRONT TWEETER

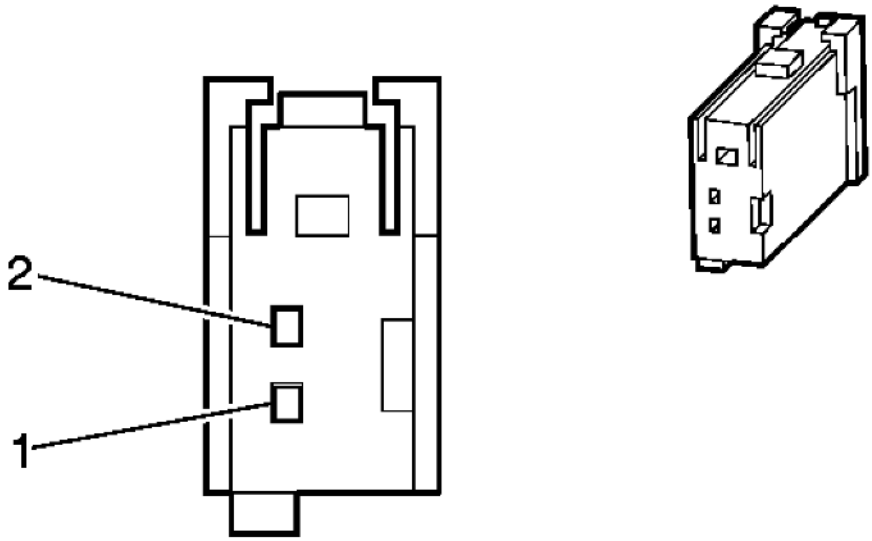


Fig. 35: P19H Speaker - Left Front Tweeter Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: See Terminal Repair Kit

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P19H Speaker - Left Front Tweeter

Pin	Wire	Circuit	Function
1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19K SPEAKER - LEFT REAR (UQA)

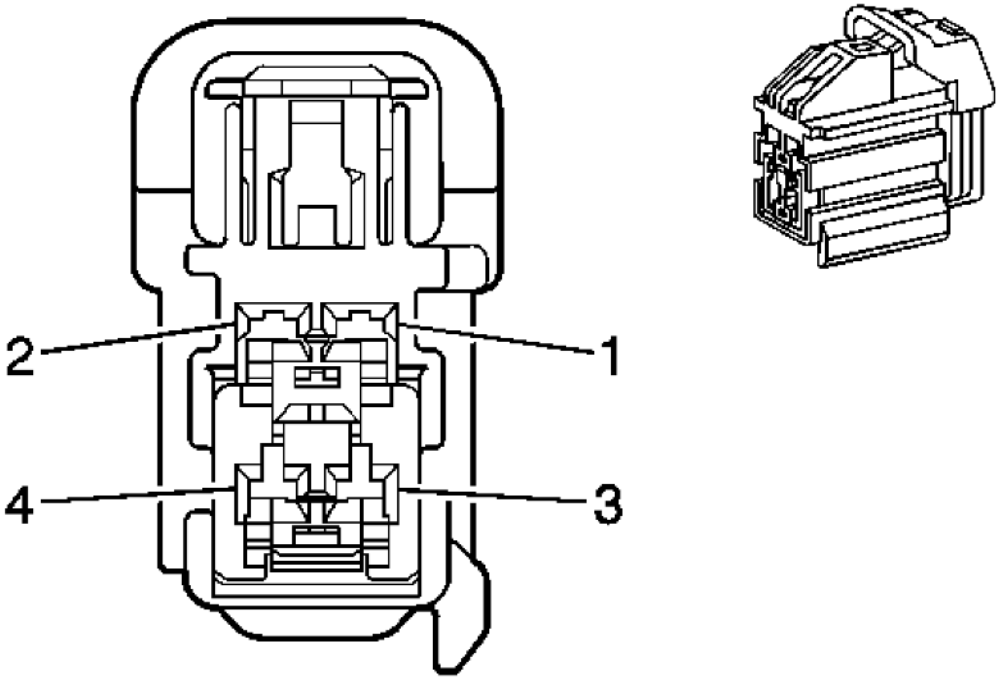


Fig. 36: P19K Speaker - Left Rear (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 10846820
- Service: 88988452

cardiagn.com

- Description: 4-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 33012-3002/26
- Core/Insulation Crimp: A/E/A/C
- Release Tool: J-38125-217
- Test Probe: J-35616-14 (GN)

P19K Speaker - Left Rear (UQA)

Pin	Wire	Circuit	Function
1	0.8 D-BU/WH	5771	Left Subwoofer Speaker Output (-)
2	0.8 D-BU	5761	Left Subwoofer Speaker Output (+)
3	1 L-GN/BK	1794	Left Subwoofer Speaker Output (-)
4	1 D-BU/WH	346	Left Subwoofer Speaker Output (+)

P19K SPEAKER - LEFT REAR (UQ3)

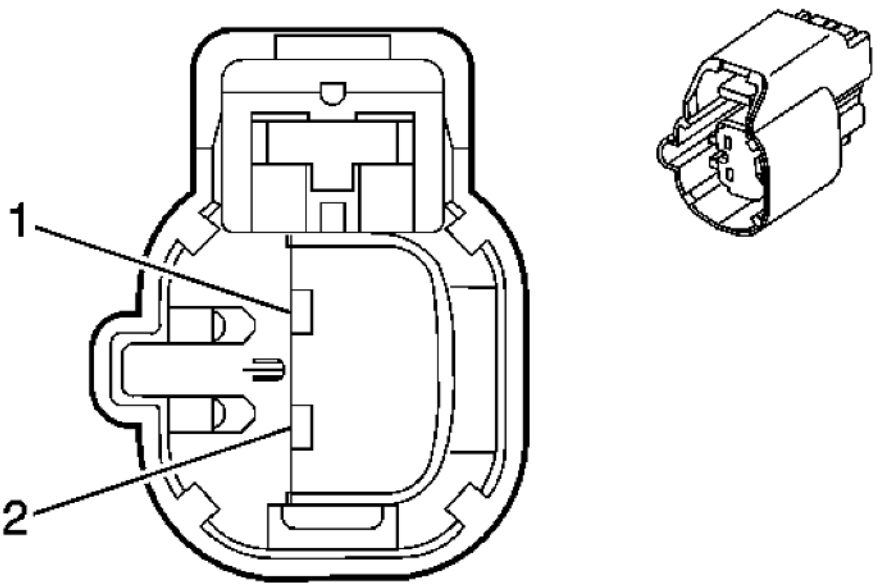


Fig. 37: P19K Speaker - Left Rear (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

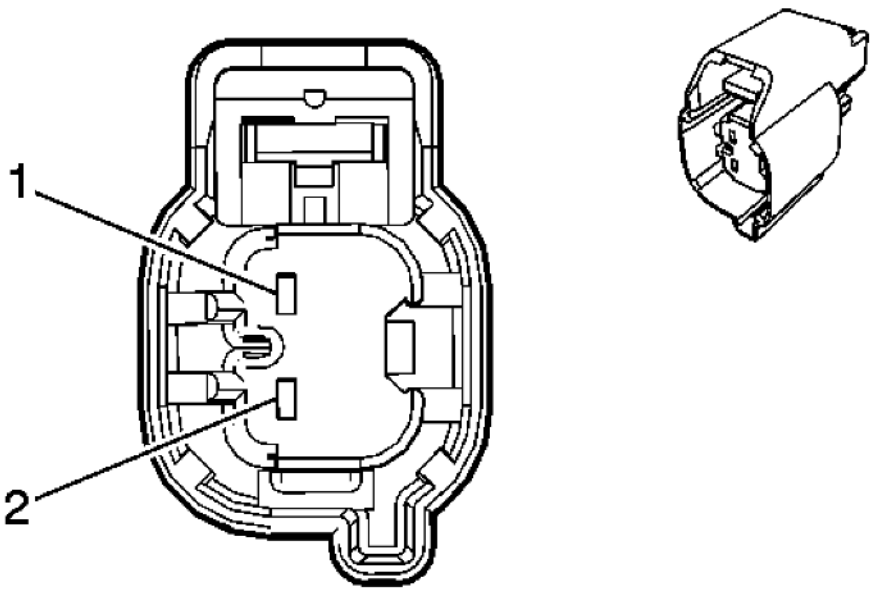
Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19K Speaker - Left Rear (UQ3)

Pin	Wire	Circuit	Function
1	0.8 YE	116	Left Rear Speaker Output (-)
2	0.8 BN	199	Left Rear Speaker Output (+)

P19U SPEAKER - RIGHT FRONT (UQA)



cardiagn.com

Fig. 38: P19U Speaker - Right Front (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13667983
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F GT 150 Series (TN)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19U Speaker - Right Front (UQA)

Pin	Wire	Circuit	Function
1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

P19U SPEAKER - RIGHT FRONT (UQ3)

cardiagn.com

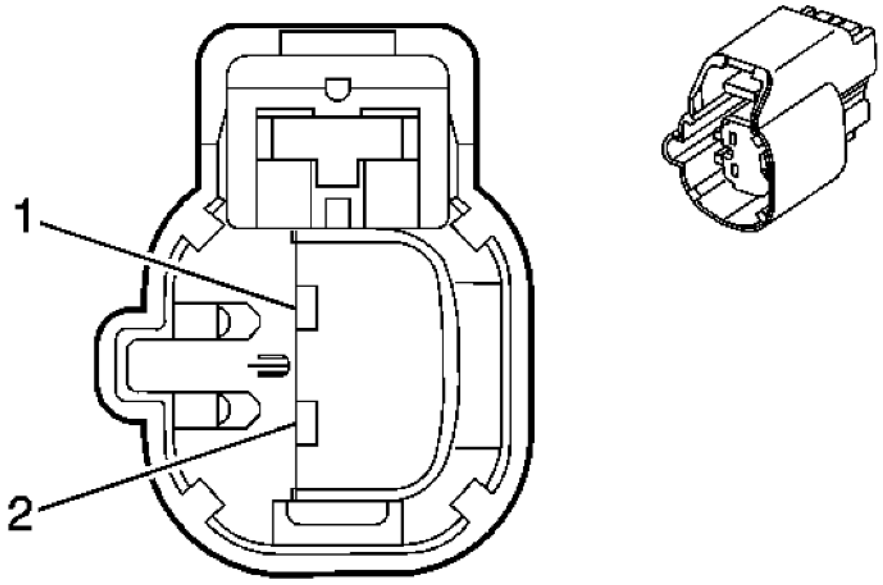


Fig. 39: P19U Speaker - Right Front (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19U Speaker - Right Front (UQ3)

Pin	Wire	Circuit	Function
1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

cardiagn.com

P19V SPEAKER - RIGHT FRONT TWEETER

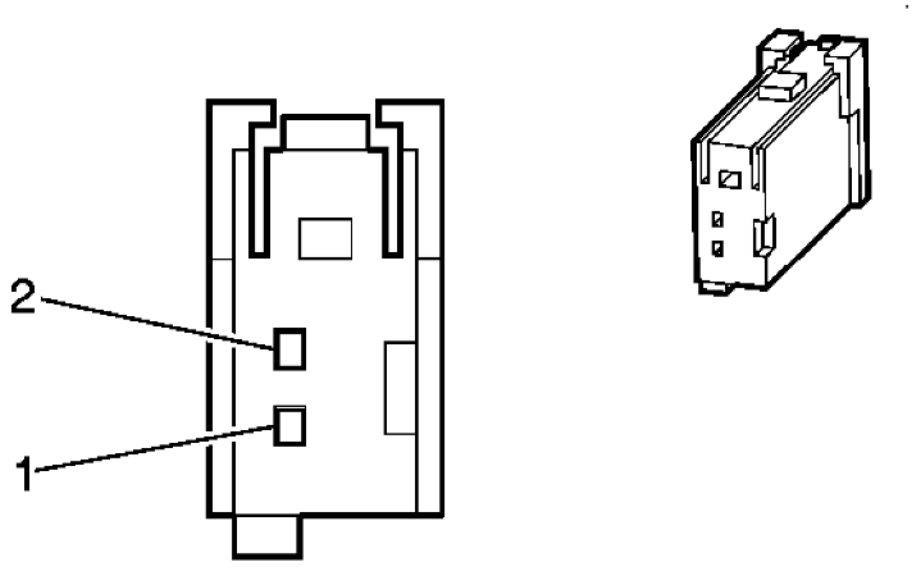


Fig. 40: P19V Speaker - Right Front Tweeter Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P19V Speaker - Right Front Tweeter

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

P19X SPEAKER - RIGHT REAR (UQA)

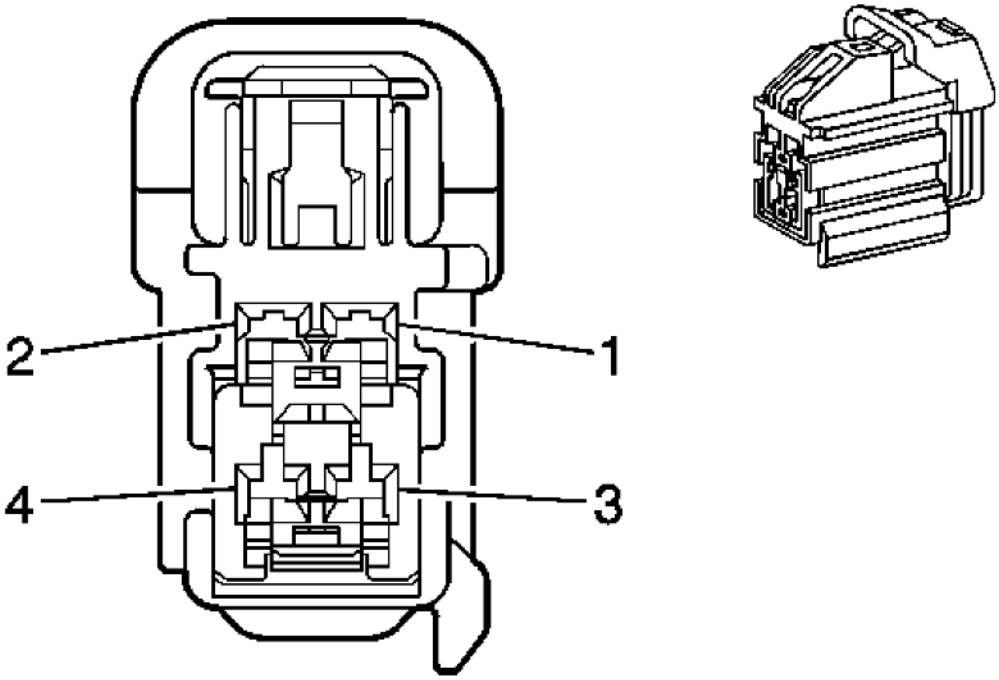


Fig. 41: P19X Speaker - Right Rear (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 10846820
- Service: 88988452
- Description: 4-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 33012-3002/26
- Core/Insulation Crimp: A/E/A/C
- Release Tool: J-38125-217

cardiagn.com

- Test Probe: J-35616-14 (GN)

P19X Speaker - Right Rear (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU/BK	5772	Right Subwoofer Speaker Output (-)
2	0.8 L-BU	5762	Right Subwoofer Speaker Output (+)
3	1 L-BU/BK	315	Right Subwoofer Speaker Output (-)
4	1 D-GN	1795	Right Subwoofer Speaker Output (+)

P19X SPEAKER - RIGHT REAR (UQ3)

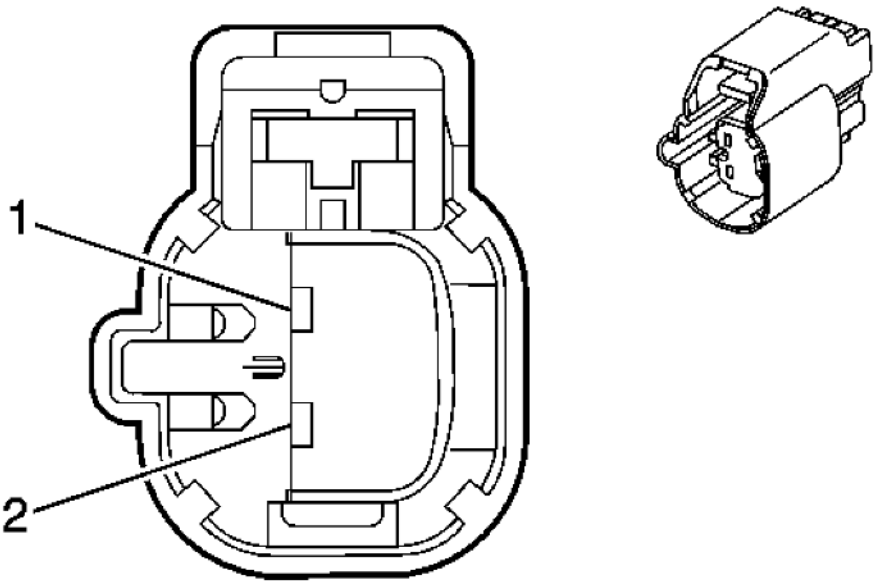


Fig. 42: P19X Speaker - Right Rear (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19X Speaker - Right Rear (UQ3)

Pin	Wire	Circuit	Function
1	0.8 L-BU	115	Right Rear Speaker Output (-)
2	0.8 D-BU	46	Right Rear Speaker Output (+)

P2 TRANSMISSION SHIFT LEVER POSITION INDICATOR (MYB OR MYC)

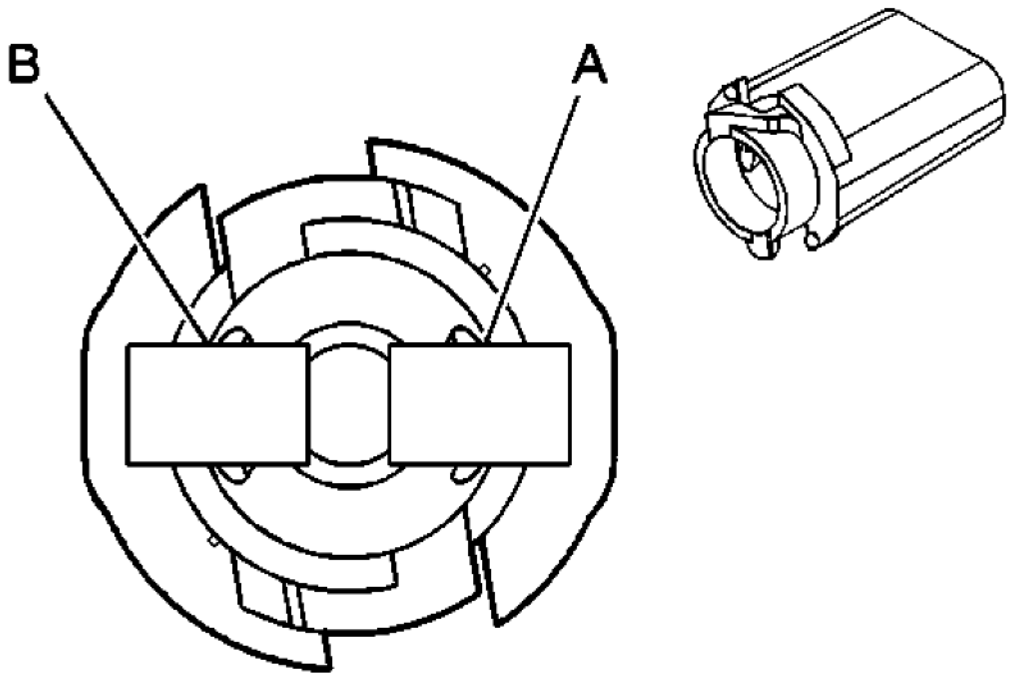


Fig. 43: P2 Transmission Shift Lever Position Indicator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: A/T Shifter
- OEM: 12162711
- Service: Service by Harness - See Part Catalog
- Description: 2-Way Lamp Socket Wedge Base W2 (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

P2 Transmission Shift Lever Position Indicator (MYB or MYC)

Pin	Wire	Circuit	Function
A	0.5 YE	6817	LED Backlight Dimming Control
B	0.5 BK	1550	Ground

P26 AUXILIARY GAGE MODULE (UMQ)

cardiagn.com

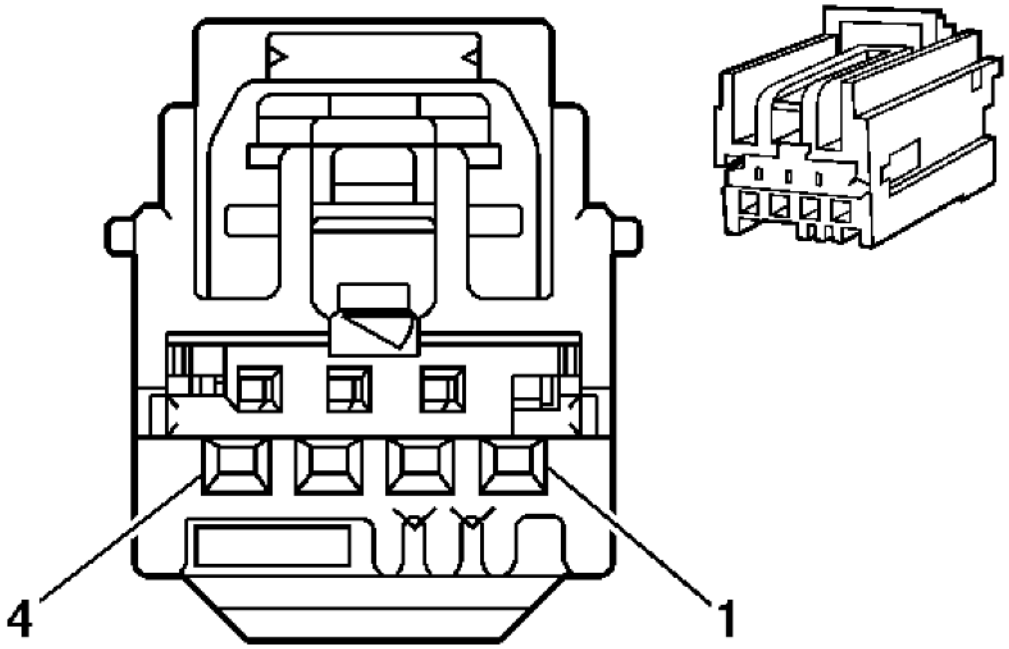


Fig. 44: P26 Auxiliary Gage Module (UMQ) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Console Cap Link
- OEM: 15491295
- Service: 19149305
- Description: 4-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P26 Auxiliary Gage Module (UMQ)

Pin	Wire	Circuit	Function
1	0.5 RD/WH	2840	Battery Positive Voltage

cardiagn.com

2	0.5 BK	1650	Ground
3	0.35 D-GN	5060	Low Speed GMLAN Serial Data
4	-	-	Not Used

Q12 EVAPORATIVE EMISSION (EVAP) PURGE SOLENOID VALVE (L99 OR LS3)

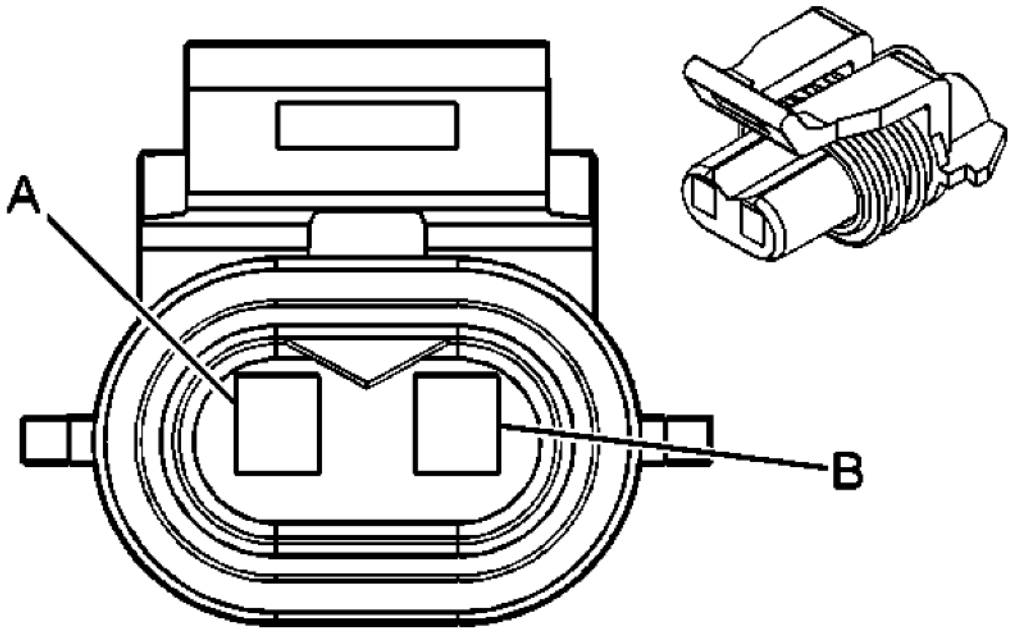


Fig. 45: Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12124037
- Service: 12101858
- Description: 2-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429

cardiagn.com

- Test Probe: J-35616-14 (GN)

Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5293	Ignition Voltage
B	0.5 D-GN/WH	428	EVAP Canister Purge Solenoid Control

Q12 EVAPORATIVE EMISSION (EVAP) PURGE SOLENOID VALVE (LLT)

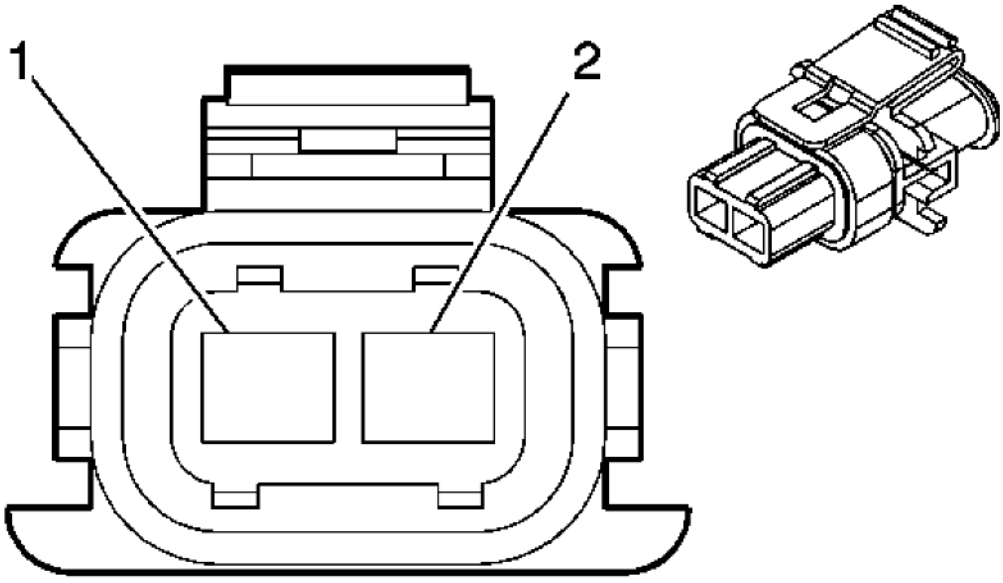


Fig. 46: Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 10740370
- Service: 88988586
- Description: 2-Way F 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 D-GN/WH	428	EVAP Canister Purge Solenoid Control

Q13 EVAPORATIVE EMISSION (EVAP) VENT SOLENOID VALVE

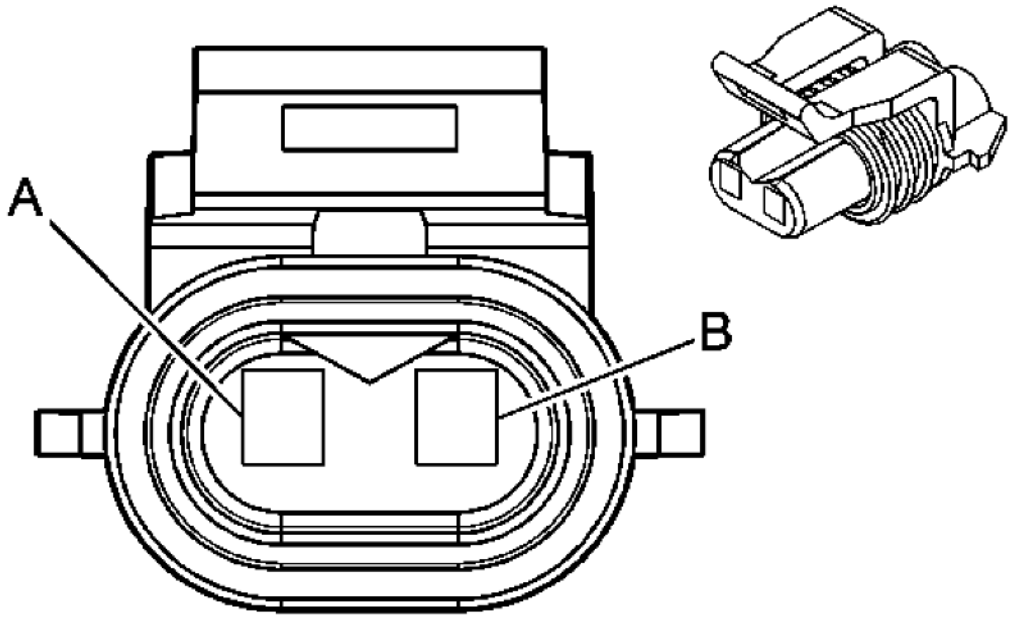


Fig. 47: Q13 Evaporative Emission (EVAP) Vent Solenoid Valve Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 12052643
- Service: 12101858
- Description: 2-Way F Metri-Pack 150 Series, Sealed (RD)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Q13 Evaporative Emission (EVAP) Vent Solenoid Valve

Pin	Wire	Circuit	Function
A	0.5 RD	2440	Battery Positive Voltage (Early Production)
	0.5 RD/WH	2440	Battery Positive Voltage Late Production)
B	0.5 BN	1310	EVAP Canister Vent Solenoid Control (Early Production)
	0.5 WH	1310	EVAP Canister Vent Solenoid Control (Late Production)

Q17A FUEL INJECTOR 1 (L99 OR LS3)

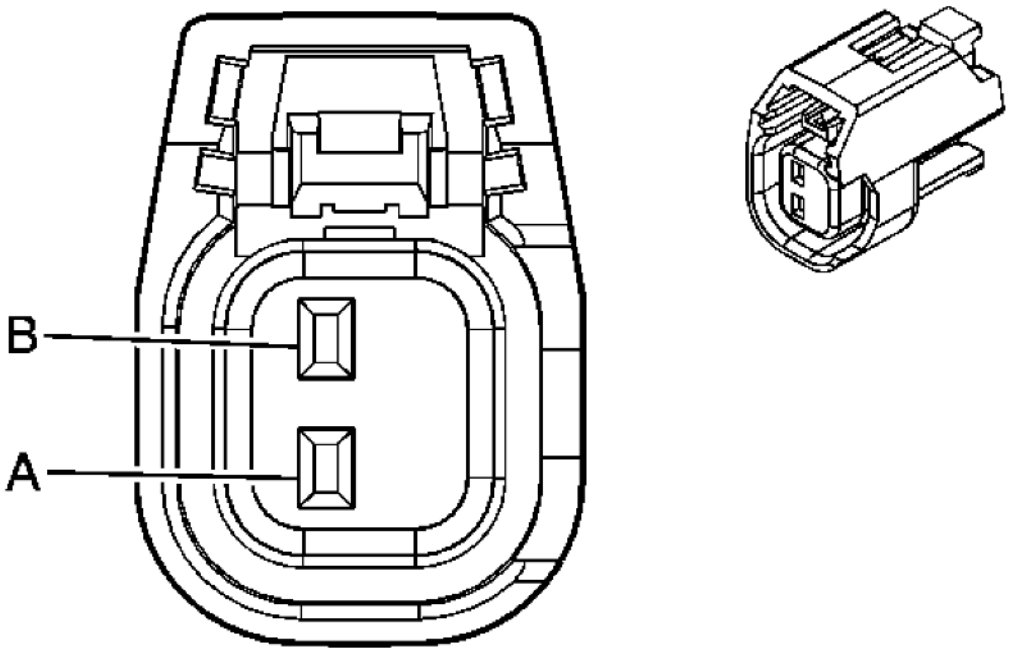


Fig. 48: Q17A Fuel Injector 1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

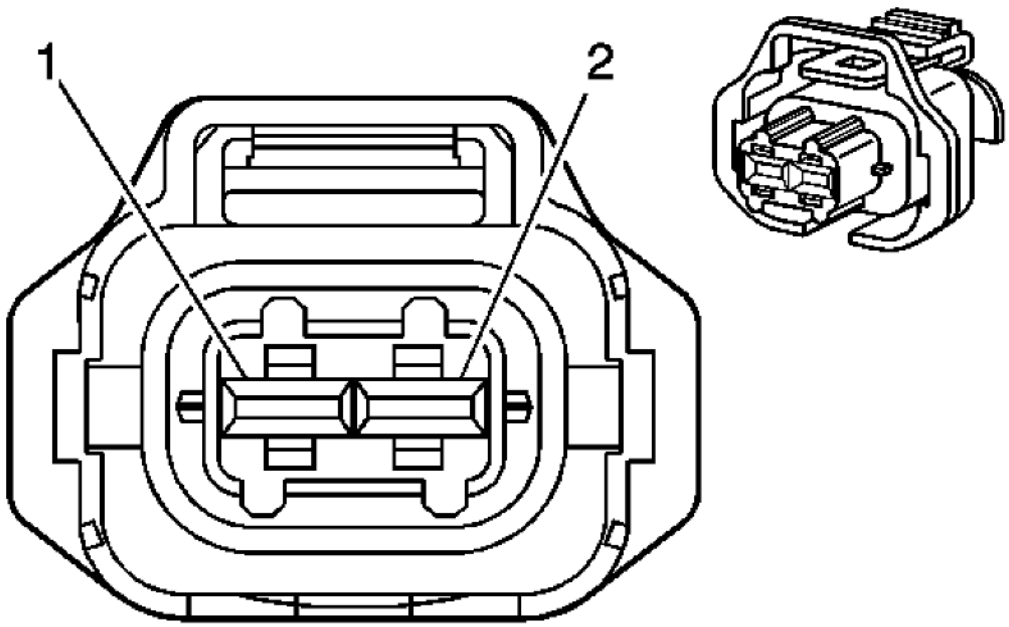
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17A Fuel Injector 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 TN	1744	Fuel Injector 1 Control

Q17A FUEL INJECTOR 1 (LLT)



cardiagn.com

Fig. 49: Q17A Fuel Injector 1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17A Fuel Injector 1 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4801	Fuel Injector 1 Low Control
2	1 BK	4901	Fuel Injector 1 High Control

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

K8 BLOWER MOTOR CONTROL MODULE X1

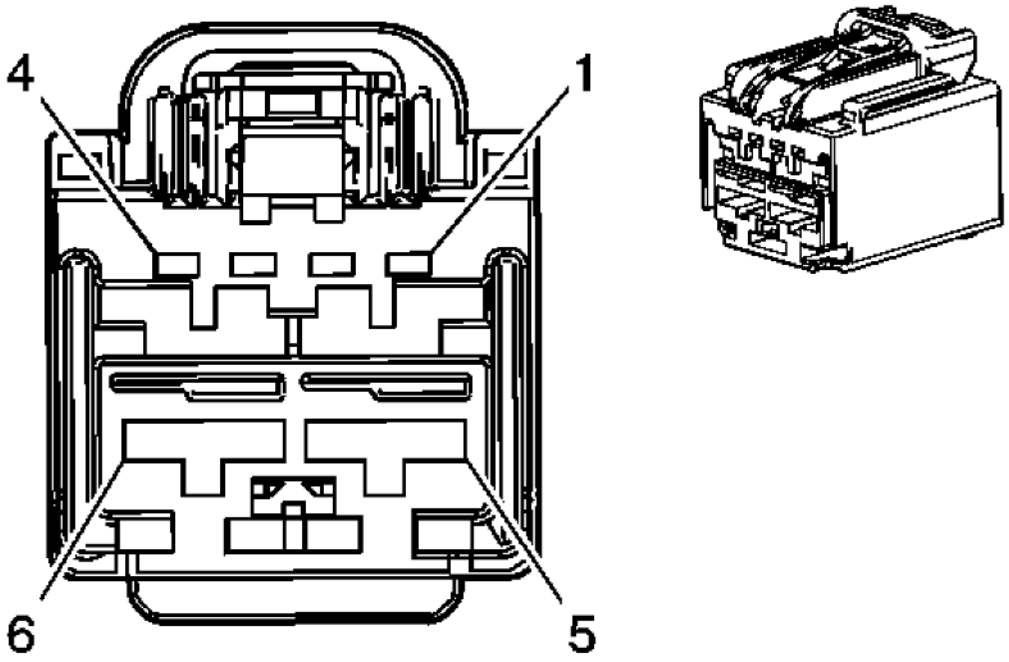


Fig. 1: K8 Blower Motor Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13520671
- Service: 88988512
- Description: 6-Way F GT 150 6.3 Series (BK)

Terminal Part Information

cardiagn.com

- Pin: 3
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: 5, 6
- Terminal/Tray: 7116-4122-02/10
- Core/Insulation Crimp: D/G
- Release Tool: 12094430
- Test Probe: J-35616-42 (RD)

K8 Blower Motor Control Module X1

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.35 GY/BK	754	Blower Motor Speed Control
4	-	-	Not Used
5	5 BK	1450	Ground
6	5 RD/BK	542	Battery Positive Voltage

K8 BLOWER MOTOR CONTROL MODULE X2

cardiagn.com

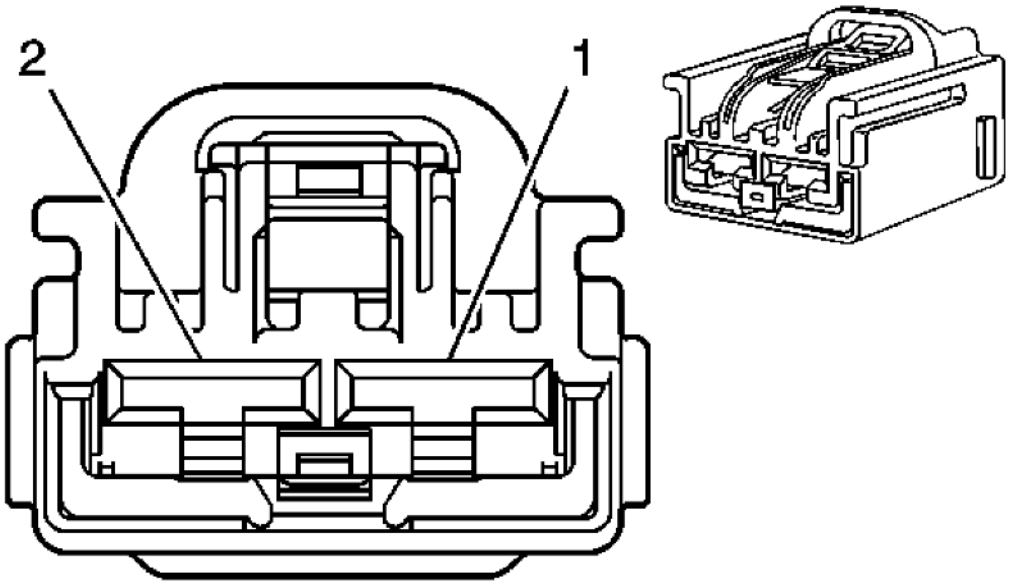


Fig. 2: K8 Blower Motor Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Blower Motor
- OEM: 15226103
- Service: 88988507
- Description: 2-Way F Recepticle 6.3 Series (L-GY)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988507
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

K8 Blower Motor Control Module X2

Pin	Wire	Circuit	Function
1	4 RD	65	Blower Motor Supply Voltage
2	4 BK	5987	Blower Motor Low Control

cardiagn.com

K85 PASSENGER PRESENCE DETECTION MODULE X1

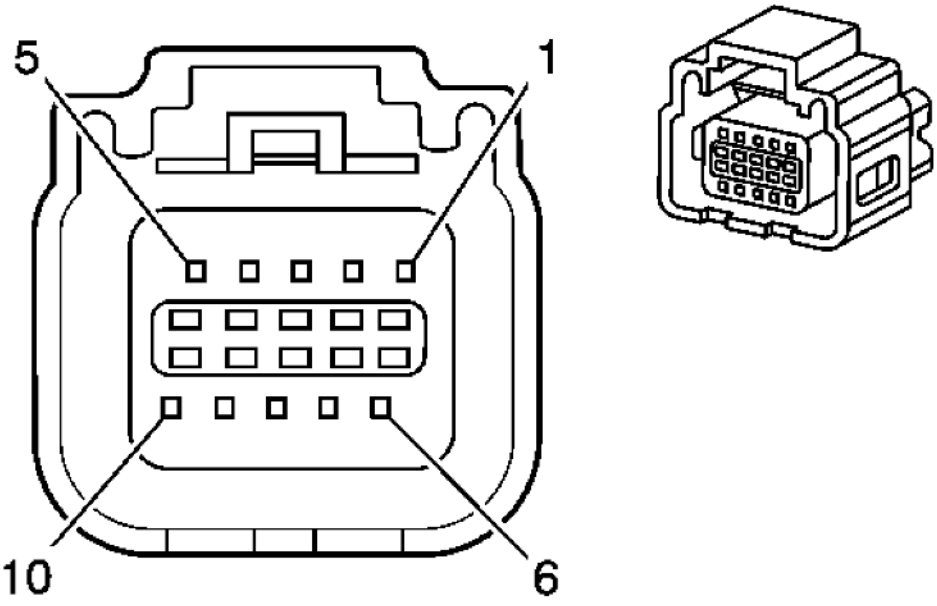


Fig. 3: K85 Passenger Presence Detection Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 13569289
- Service: Servive by Harness - See Part Catalog
- Description: 10-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service with Terminated Lead
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K85 Passenger Presence Detection Module X1

Pin	Wire	Circuit	Function
1	0.35 RD/WH	2040	Battery Positive Voltage

cardiagn.com

2	0.35 BK	2450	Ground
3	-	-	Not Used
4	0.35 D-GN	5060	Low Speed GMLAN Serial Data
5-10	-	-	Not Used

K85 PASSENGER PRESENCE DETECTION MODULE X2

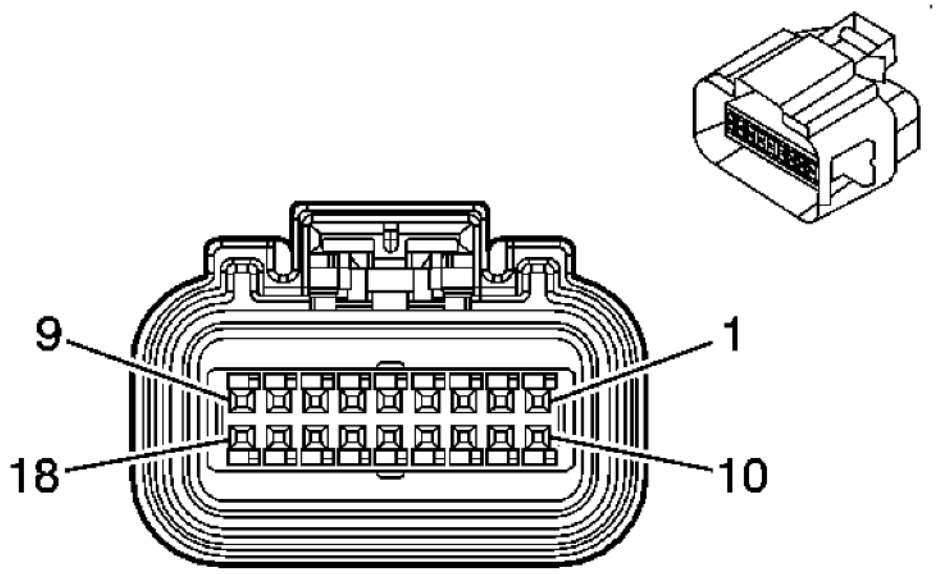


Fig. 4: K85 Passenger Presence Detection Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Presence Detection Sensor
- OEM: 13545457
- Service: Service as Harness - See Part Catalog
- Description: 18-Way F Flexible Printed Circuit Series (BK)

Terminal Part Information

- Terminal/Tray: Service as Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

K85 Passenger Presence Detection Module X2

Pin	Wire	Circuit	Function
1	FW	-	-
2	FW	-	-
3	FW	-	-
4	FW	-	-
5	FW	-	-
6	FW	-	-
7	FW	-	-
8	FW	-	-
9	FW	-	-
10	FW	-	-
11	FW	-	-
12	FW	-	-
13	FW	-	-
4	FW	-	-
15	FW	-	-
16	FW	-	-
17	FW	-	-
18	FW	-	-

K9 BODY CONTROL MODULE X1

cardiagn.com

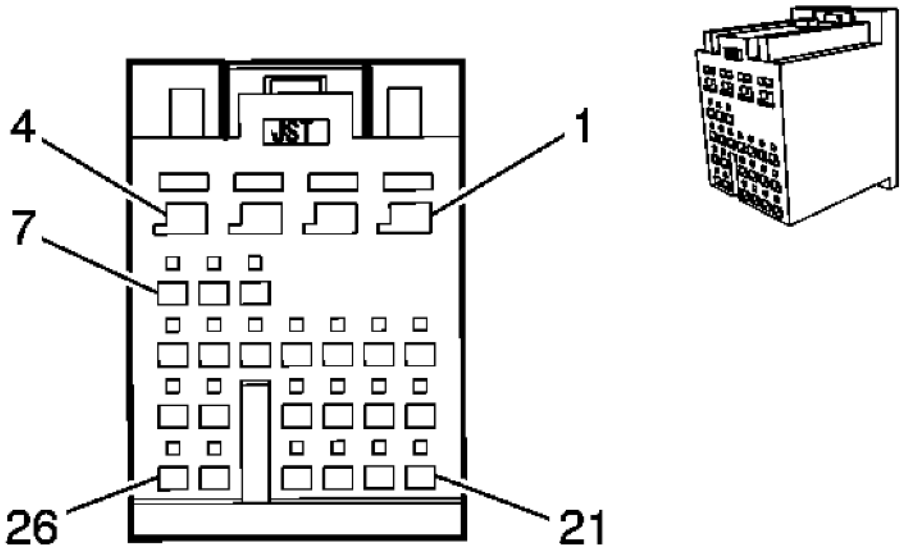


Fig. 5: K9 Body Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594128
- Service: 19151262
- Description: 26-Way F 0.64 2.8 Series (WH)

Terminal Part Information

- Pins: 1, 4
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 2, 3
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 9, 10, 11, 14, 16, 19, 21, 22, 24, 25, 26
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X1

Pin	Wire	Circuit	Function
1	0.8 BK	1650	Ground
2	2 RD/WH	2540	Battery Positive Voltage
3	2 RD/WH	2740	Battery Positive Voltage
4	0.8 RD/WH	2240	Battery Positive Voltage
5-8	-	-	Not Used
9	0.35 D-GN	7555	Headlamp Switch Signal
10	0.35 L-BU	1134	Park Brake Switch Signal
11	0.35 D-GN	306	Headlamp Switch Headlamps Off Signal/Automatic Headlamp Low Control
12-13	-	-	Not Used
14	0.35 PU	328	Interior lamp Defeat Switch Signal
15	-	-	Not Used
16	0.35 WH	103	Headlamp Switch Headlamps On Signal
17-18	-	-	Not Used
19	0.35 L-BU/BK	853	Low Reference
20	-	-	Not Used
21	0.35 GY	728	Security Indicator Control
22	0.35 L-BU	13	Headlamp Switch Park Lamps Signal
23	-	-	Not Used
24	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
25	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
26	0.35 L-GN	3274	RCDLR Data Receive

K9 BODY CONTROL MODULE X2

cardiagn.com

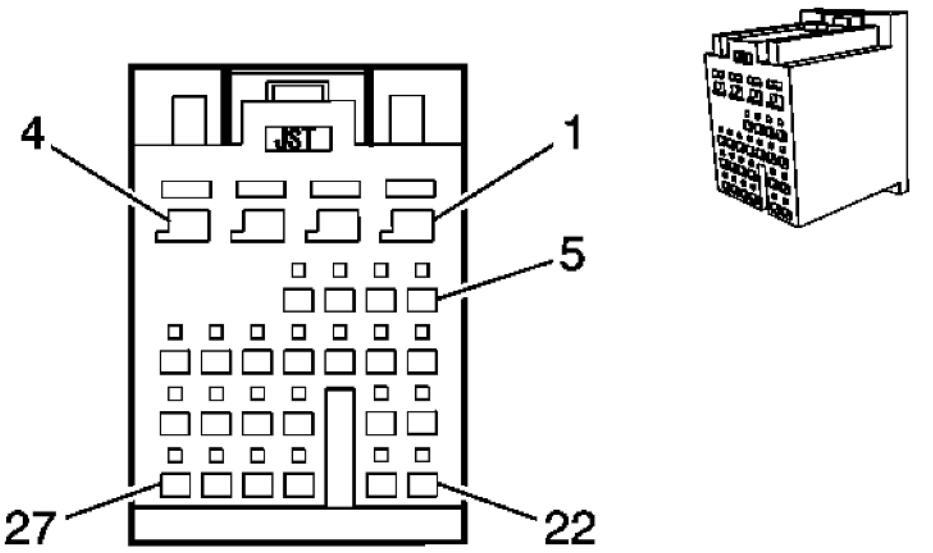


Fig. 6: K9 Body Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594133
- Service: 19151266
- Description: 27-Way F 0.64 2.8 Series (L-BU)

Terminal Part Information

- Pins: 1, 2, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: Pins 1, 2 - E/A
- Core/Insulation Crimp: Pins 3 - C/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pin: 4
- Terminal/Tray: SNAC-A081T-M2.8/20

cardiagn.com

- Core/Insulation Crimp: A/D
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 7, 8, 10, 13, 14, 15, 16, 19, 21, 22, 23, 24, 25, 26, 27
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X2

Pin	Wire	Circuit	Function
1	0.8 RD/WH	2140	Battery Positive Voltage
2	0.8 BK	1650	Ground
3	1 RD/WH	2940	Battery Positive Voltage
4	3 RD/WH	4040	Battery Positive Voltage
5-6	-	-	Not Used
7	0.35 YE	5361	Brake Pedal Position Sensor Signal
8	0.5 YE	6817	LED Backlight Dimming Control
9	-	-	Not Used
10	0.35 WH	278	Ambient Light Sensor Signal
11-12	-	-	Not Used
13	0.35 GY	5381	5-Volt Reference
14	0.35 L-BU	1788	Traction Control Switch Signal
15	0.35 OG/BK	781	Driver Door Lock Switch Unlock Signal
16	0.35 GY	3273	Low Reference
17-18	-	-	Not Used
19	0.35 PK/BK	780	Driver Door Lock Switch Lock Signal
20	-	-	Not Used
21	0.35 GY	6135	Linear Interconnect Network 4 (without CF5)
22	0.35 D-GN	5060	Low Speed GMLAN Serial Data
23	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
24	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
25	0.35 PK/WH	3272	RCDLR Power
26	0.35 WH	111	Hazard Switch Signal
27	0.35 L-BU/WH	3275	RCDLR Data Transmit

K9 BODY CONTROL MODULE X3

cardiagn.com

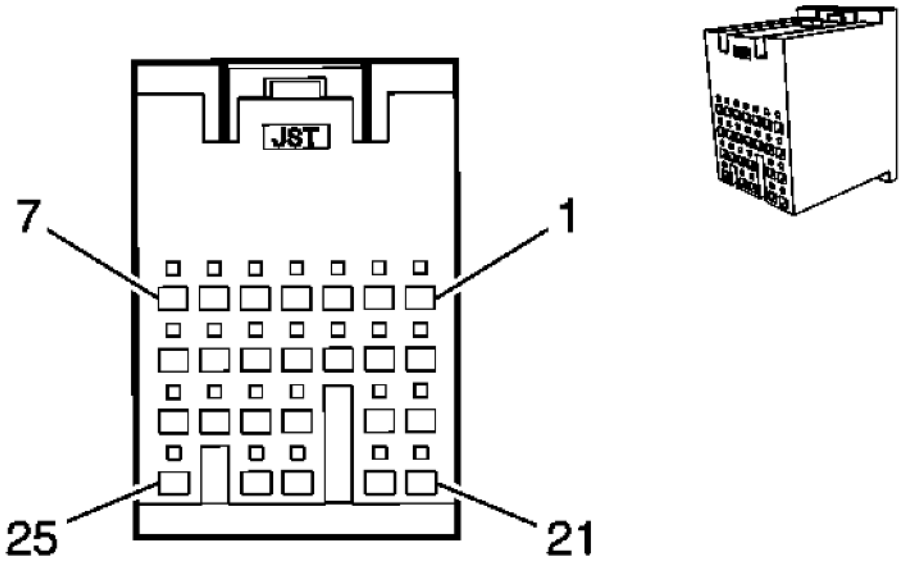


Fig. 7: K9 Body Control Module X3 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594127
- Service: 19151261
- Description: 25-Way F 0.64 Series (L-GN)

Terminal Part Information

- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X3

Pin	Wire	Circuit	Function
1	0.35 D-GN/WH	3277	Immobilizer Ground
2	0.35 L-BU	7533	Linear Interconnect Network 11

cardiagn.com

3	0.35 D-GN	3166	Immobilizer Power
4	0.35 YE	7556	Headlamp Switch Reference Voltage
5	0.35 BN	4	Accessory Voltage
6	0.35 PK	3	Ignition Voltage
7	0.35 YE	143	Accessory Voltage (MYB/MYC)
8	0.35 L-GN	6818	Steering Wheel Control Switch Signal (NZL)
9	0.35 GY	1884	Cruise Control Switch Signal
10	0.35 TN/BK	6009	Low Reference
11	0.35 PU	524	Headlamp Dimmer Switch High Beam Signal
12	0.35 D-GN	663	Left Turn Signal
13	0.35 L-BU	1714	Windshield Wiper Switch Low Signal
14	-	-	Not Used
15	0.35 PK	1020	Ignition Voltage
16	-	-	Not Used
17	0.35 YE	307	Headlamp Switch Flash to Pass Signal
18	0.35 L-GN/WH	3287	Horn Switch Signal
19	-	-	Not Used
20	0.35 L-GN	1715	Windshield Wiper Switch High Signal
21	0.35 PU	5526	Tap Up/Tap Down Switch Signal (MYB/MYC)
22	0.35 WH/BK	1073	5-Volt Reference
23	-	-	Not Used
24	0.35 TN	664	Right Turn Signal
25	0.35 PK	94	Windshield Washer Switch Signal

K9 BODY CONTROL MODULE X4

cardiagn.com

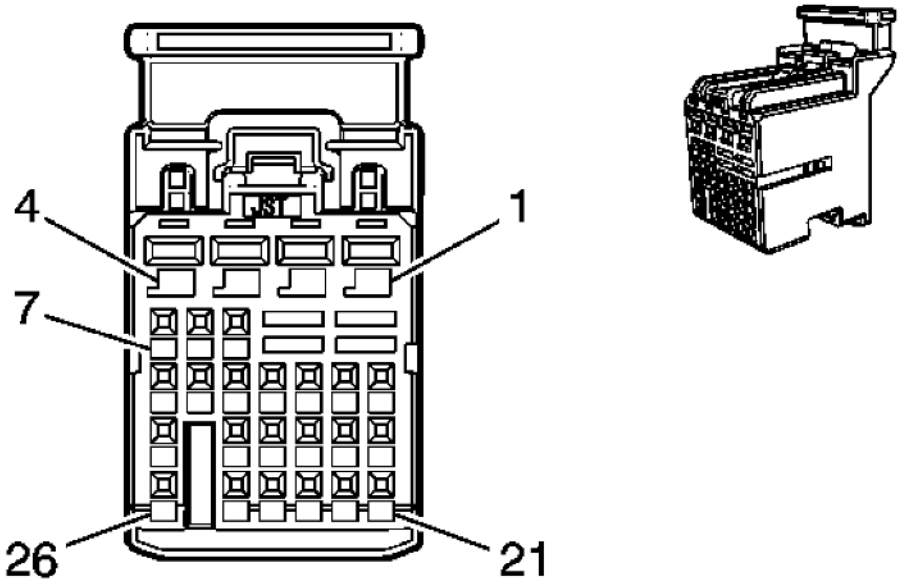


Fig. 8: K9 Body Control Module X4 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594129
- Service: 19151263
- Description: 26-Way F 0.64 2.8 Series (BK)

Terminal Part Information

- Pins: 1, 2, 3, 4
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X4

Pin	Wire	Circuit	Function
1	0.8 D-BU	7539	DRL Control
2	0.8 L-BU	7538	DRL Control
3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage
4	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage
5	0.5 BN/WH	309	Right Park Lamp Supply Voltage
6	0.5 PU	709	Left Park Lamp Supply Voltage
7	0.5 BN/L-BU	6993	Marker Lamps Control
8-10	-	-	Not Used
11	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control
12	0.35 TN	755	RAP Relay Coil Control
13	0.5 D-GN/YE	6846	Rear License Lamp Control
14	0.35 OG	2268	Washer Fluid Pump Relay Control
15	0.35 YE	5199	Ignition Voltage
16	0.35 GY	91	Wiper Relay Control
17	0.35 YE	196	Windshield Wiper Motor Park Switch Signal
18	0.5 WH	5075	Current Sensor Signal
19	-	-	Not Used
20	0.5 RD/WH	2340	Battery Positive Voltage
21	0.5 PK	5076	Current Sensor Voltage
22	0.35 D-BU	5985	Serial Data Wake - Up Signal
23	0.35 L-BU	5986	Serial Data Communication Enable
24	0.35 PK/BK	109	Hood Ajar Switch Signal
25	-	-	Not Used
26	0.5 BK	2550	Ground

K9 BODY CONTROL MODULE X5

cardiagn.com

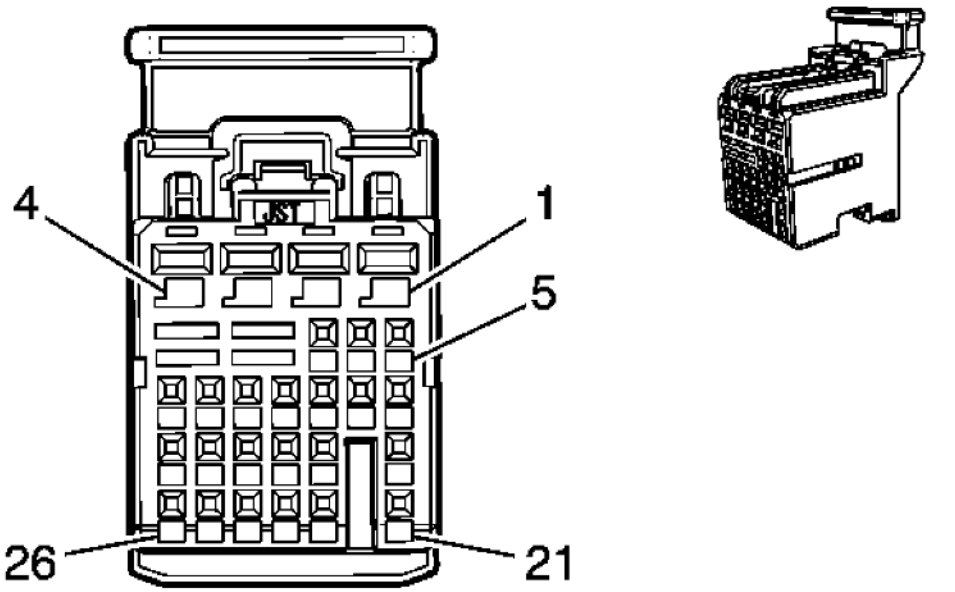


Fig. 9: K9 Body Control Module X5 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594130
- Service: 19151264
- Description: 26-Way F 0.64 2.8 Series (BN)

Terminal Part Information

- Pins: 1, 2, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pin: 4
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 6, 7, 10, 11, 12, 13, 18, 19, 24
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X5

Pin	Wire	Circuit	Function
1	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage
2	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage
3	0.8 RD/WH	3840	Battery Positive Voltage
4	3 RD/WH	3440	Battery Positive Voltage
5	-	-	Not Used
6	0.5 BN	5077	Low Reference
7	0.5 BN/GY	6995	Marker Lamps Control
8-9	-	-	Not Used
10	0.35 D-GN/WH	1317	Fog Lamp Relay Control
11	0.35 TN	6188	Rear Compartment Lid Release Control
12	0.35 L-BU/WH	6311	Brake Pedal Switch Signal
13	0.35 PK/WH	1970	HID Headlamp Relay Control
14-17	-	-	Not Used
18	0.5 TN/WH	1969	Headlamp High Beam Relay Control
19	0.35 TN	28	Horn Relay Control
20-23	-	-	Not Used
24	0.35 TN	860	Front Windshield Wiper Switch High Signal
25-26	-	-	Not Used

K9 BODY CONTROL MODULE X6

cardiagn.com

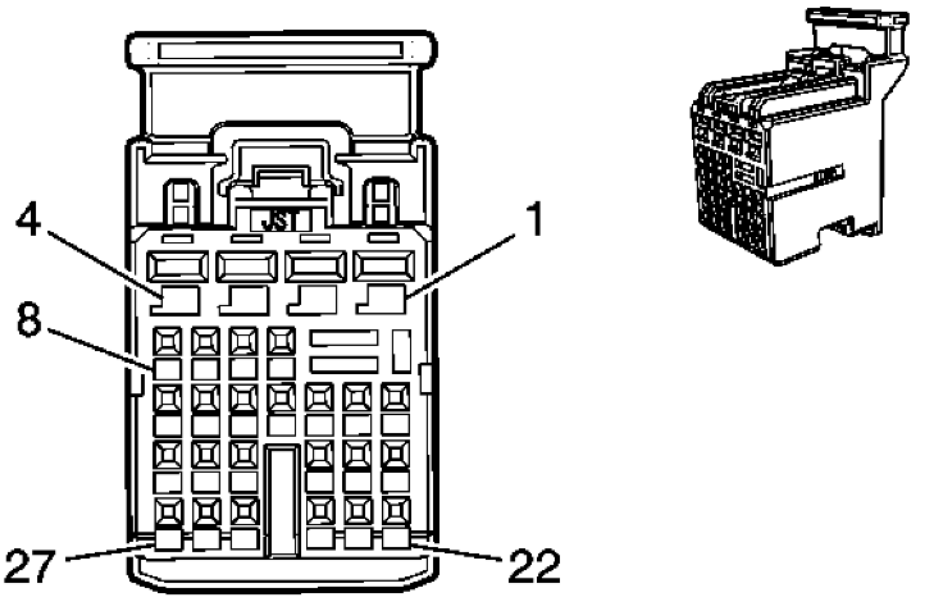


Fig. 10: K9 Body Control Module X6 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594134
- Service: 19151267
- Description: 27-Way F 0.64 2.8 Series (PK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: C/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 2, 3, 4
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 5, 7, 10, 14, 16, 24, 25
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X6

Pin	Wire	Circuit	Function
1	1 GY	5911	Driver Door Lock Motor Unlock Control
2	2 GY	295	Door Lock Actuator Unlock Control
3	2 BK	1650	Ground
4	2 TN	294	Door Lock Actuator Lock Control
5	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal
6	-	-	Not Used
7	0.35 PU	7558	Accent Lamps Control (SRK/SRM)
8-9	-	-	Not Used
10	0.35 D-GN	6134	Linear Interconnect Network 3
11-13	-	-	Not Used
14	0.35 D-BU	6189	Rear Compartment Lid Release Switch
15	-	-	Not Used
16	0.35 BN	6132	Linear Interconnect Network 1 (CF5)
17-23	-	-	Not Used
24	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
25	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
26-27	-	-	Not Used

K9 BODY CONTROL MODULE X7

cardiagn.com

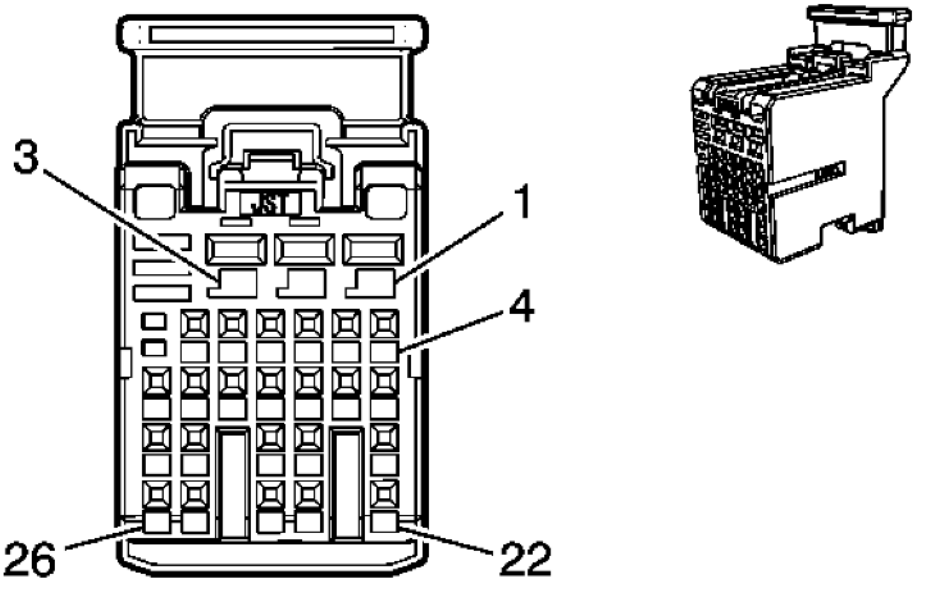


Fig. 11: K9 Body Control Module X7 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594132
- Service: 19151265
- Description: 26-Way F 0.64 2.8 Series (GY)

Terminal Part Information

- Pins: 1, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 6, 7, 9, 15, 19
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X7

Pin	Wire	Circuit	Function
1	0.5 GY	157	Courtesy Lamp Control
2	-	-	Not Used
3	0.5 L-GN	24	Backup Lamp Supply Voltage
4-5	-	-	Not Used
6	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control (MYB/MYC)
7	0.5 OG/BK	737	Rear Compartment Lamp Control
8	-	-	Not Used
9	0.5 YE	6817	LED Backlight Dimming Control
10-14	-	-	Not Used
15	0.35 D-GN	3270	Driver Door Lock Status Signal
16-18	-	-	Not Used
19	0.35 WH	156	Courtesy Lamp Switch Signal
20-26	-	-	Not Used

M37 MODE DOOR ACTUATOR

cardiagn.com

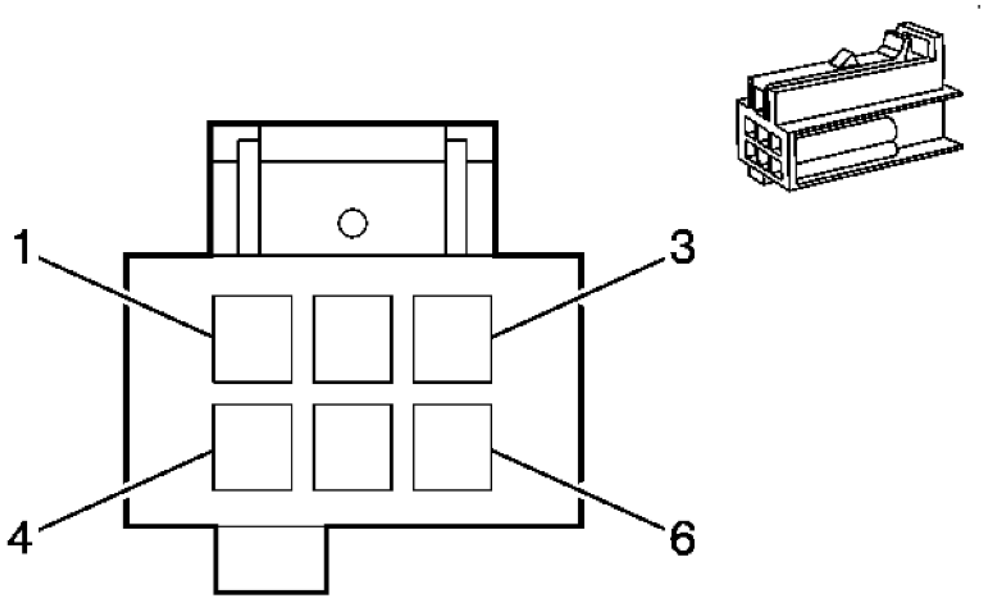


Fig. 12: M37 Mode Door Actuator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pins 2 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M37 Mode Door Actuator

Pin	Wire	Circuit	Function
1	0.35 D-BU	3167	Mode Door Stepper Motor Control 3

cardiagn.com

2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 GY	3165	Mode Door Stepper Motor Control 1
4	0.35 BN	3168	Mode Door Stepper Motor Control 4
5	-	-	Not Used
6	0.35 D-GN	3166	Mode Door Stepper Motor Control 2

M40 REAR COMPARTMENT LID LATCH

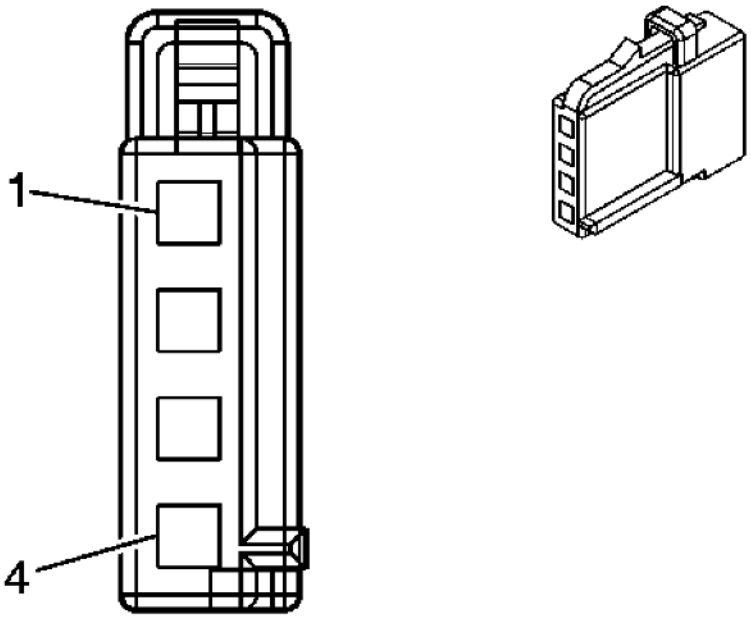


Fig. 13: M40 Rear Compartment Lid Latch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15324229
- Service: 15306167
- Description: 4-Way F Timer Micro-Pack Series (BK)

Terminal Part Information

- Terminal/Tray: 962943-5/16

cardiagn.com

- Core/Insulation Crimp: Pins 1, 2 - E/A
- Core/Insulation Crimp: Pin 4 - See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

M40 Rear Compartment Lid Latch

Pin	Wire	Circuit	Function
1	0.5 L-BU	6795	Rear Compartment Lid Release Control 2
2	0.5 BK	2350	Ground
3	-	-	Not Used
4	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal

M46 AIR RECIRCULATION DOOR MOTOR

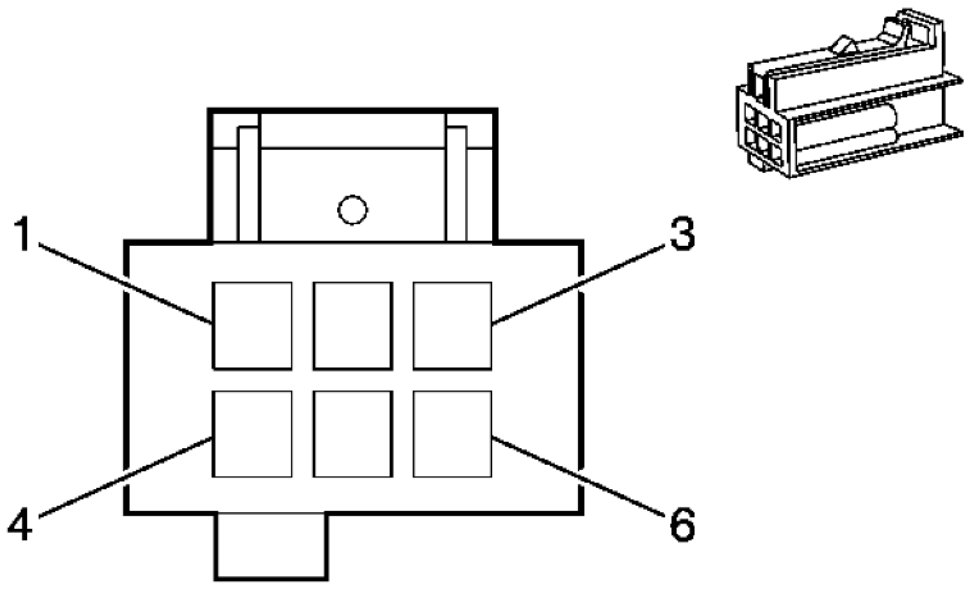


Fig. 14: M46 Air Recirculation Door Motor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC

cardiagn.com

- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pin 2 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M46 Air Recirculation Door Motor

Pin	Wire	Circuit	Function
1	0.35 D-BU/WH	3173	Air Inlet Door Stepper Motor Control 1
2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 BN/WH	3174	Air Inlet Door Stepper Motor Control 2
4	0.35 YE	3175	Air Inlet Door Stepper Motor Control 3
5	-	-	Not Used
6	0.35 WH	3176	Air Inlet Door Stepper Motor Control 4

M47 REVERSE INHIBIT SOLENOID ACTUATOR (M10)

cardiagn.com

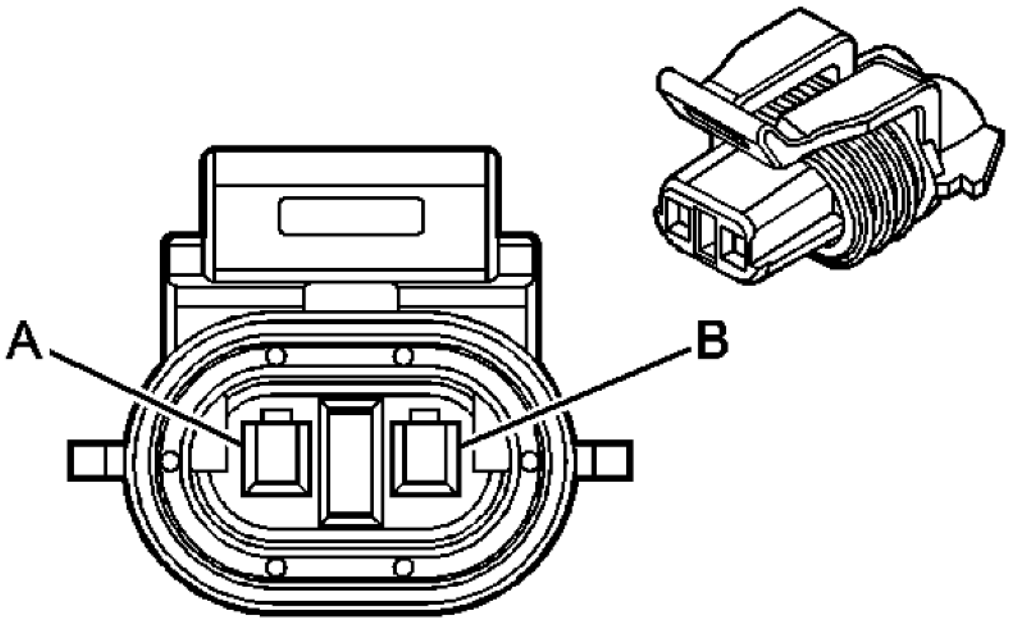


Fig. 15: M47 Reverse Inhibit Solenoid Actuator (M10) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12052646
- Service: 12101857
- Description: 2-Way F Metri-Pack 150 Sealed (WH)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

M47 Reverse Inhibit Solenoid Actuator (M10)

Pin	Wire	Circuit	Function
A	0.5 OG	5494	Reverse Lockout Solenoid Control
B	0.5 PK	239	Ignition Voltage

cardiagn.com

M50D SEAT FRONT VERTICAL MOTOR - DRIVER (AMM)

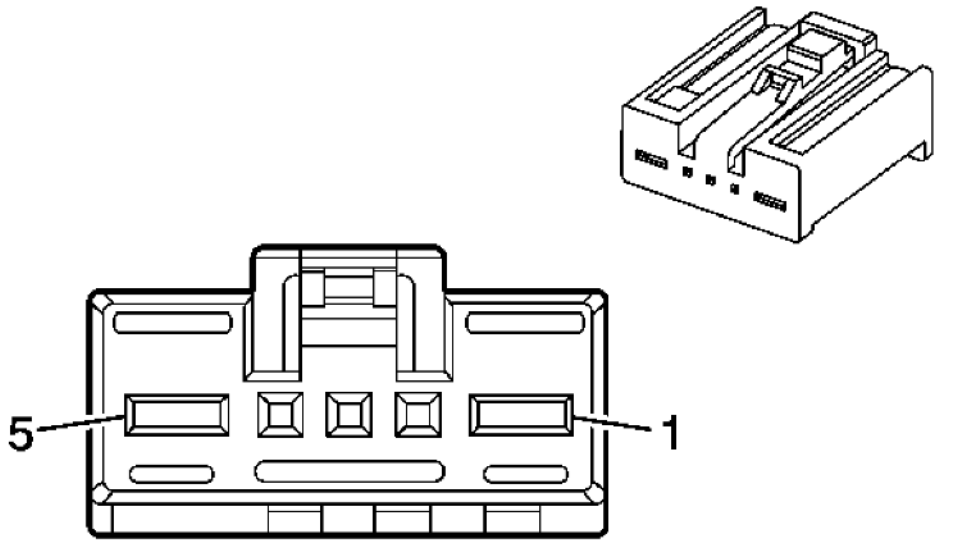


Fig. 16: M50D Seat Front Vertical Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M50D Seat Front Vertical Motor - Driver (AMM)

Pin	Wire	Circuit	Function

cardiagn.com

1	3 D-GN	286	Driver Seat Front Vertical Motor Up Control
2-4	-	-	Not Used
5	3 D-BU	287	Driver Seat Front Vertical Motor Down Control

M51D SEAT HORIZONTAL MOTOR - DRIVER (AMM)

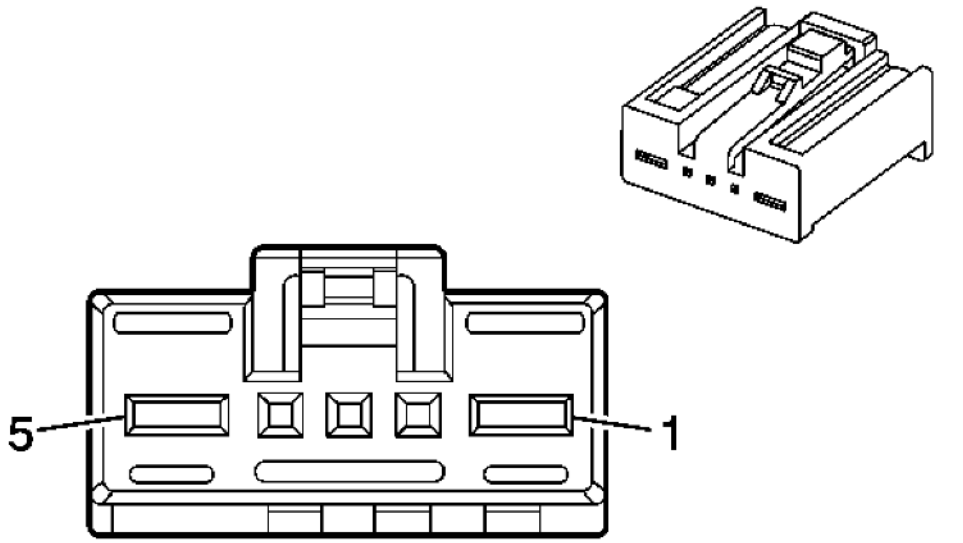


Fig. 17: M51D Seat Horizontal Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

M51D Seat Horizontal Motor - Driver (AMM)

Pin	Wire	Circuit	Function
1	3 TN	285	Driver Seat Horizontal Motor Forward Control
2-4	-	-	Not Used
5	3 L-GN	284	Driver Seat Horizontal Motor Rearward Control

M55D SEAT REAR VERTICAL MOTOR - DRIVER (AMM)

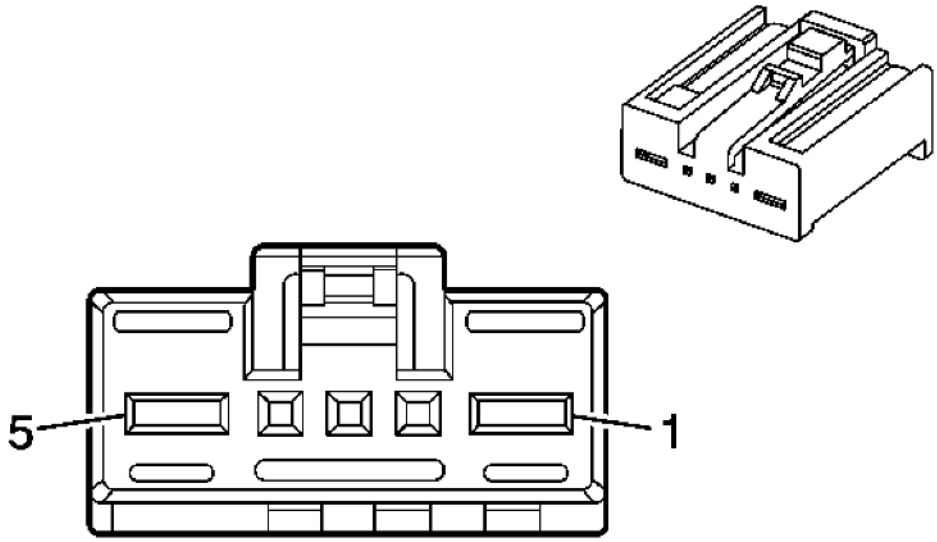


Fig. 18: M55D Seat Rear Vertical Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1

cardiagn.com

- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M55D Seat Rear Vertical Motor - Driver (AMM)

Pin	Wire	Circuit	Function
1	3 L-BU	283	Driver Seat Rear Vertical Motor Down Control
2-4	-	-	Not Used
5	3 YE	282	Driver Seat Rear Vertical Motor Up Control

M56D SEAT RECLINE MOTOR - DRIVER

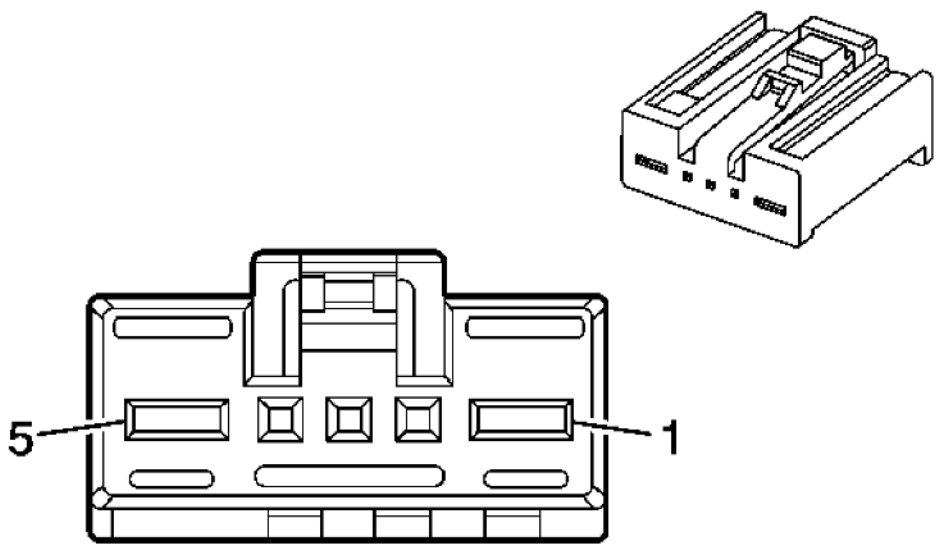


Fig. 19: M56D Seat Recline Motor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M56D Seat Recline Motor - Driver

Pin	Wire	Circuit	Function
1	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
2-4	-	-	Not Used
5	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control

M56P SEAT RECLINE MOTOR - PASSENGER

cardiagn.com

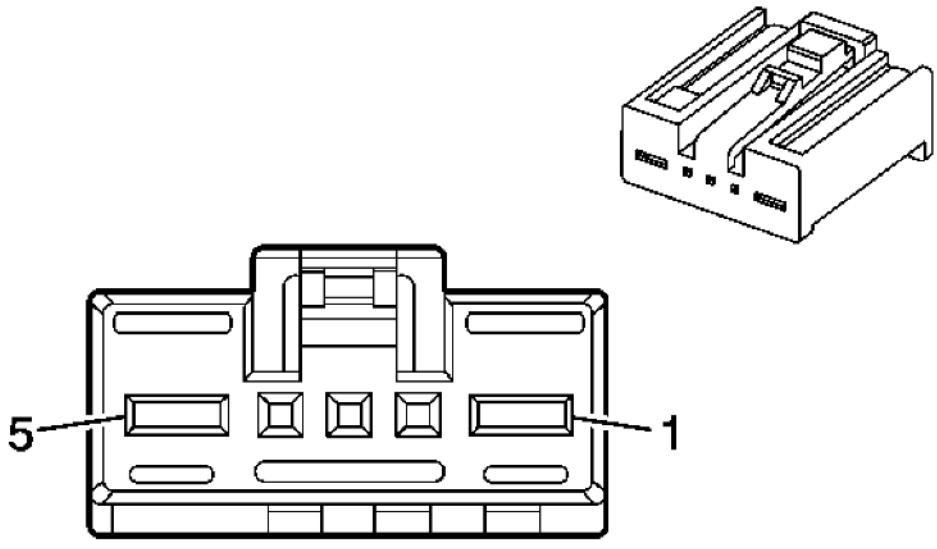


Fig. 20: M56P Seat Recline Motor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M56P Seat Recline Motor - Passenger

Pin	Wire	Circuit	Function
1	3 D-BU/YE	77	Passenger Seat Recline Motor Rearward Control

cardiagn.com

2-4	-	-	Not Used
5	3 D-GN/YE	76	Passenger Seat Recline Motor Forward Control

M6 AIR TEMPERATURE DOOR ACTUATOR

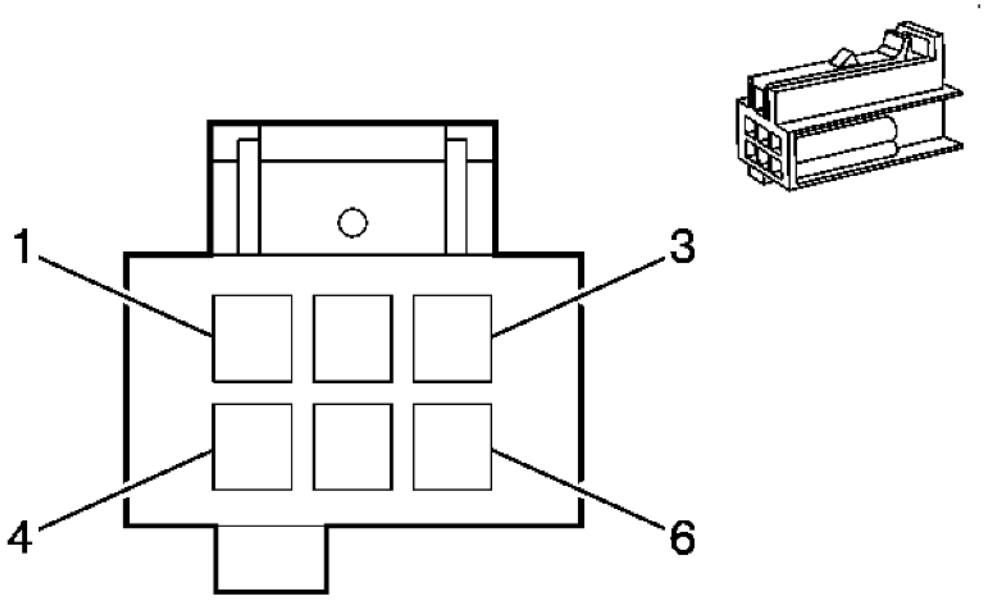


Fig. 21: M6 Air Temperature Door Actuator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pin 2 - J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M6 Air Temperature Door Actuator

Pin	Wire	Circuit	Function
1	0.35 TN/BK	3169	Temp Door Stepper Motor Control 1
2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 PU	3170	Temp Door Stepper Motor Control 2
4	0.35 L-GN	3171	Temp Door Stepper Motor Control 3
5	-	-	Not Used
6	0.35 L-BU	3172	Temp Door Stepper Motor Control 4

M64 STARTER MOTOR X1

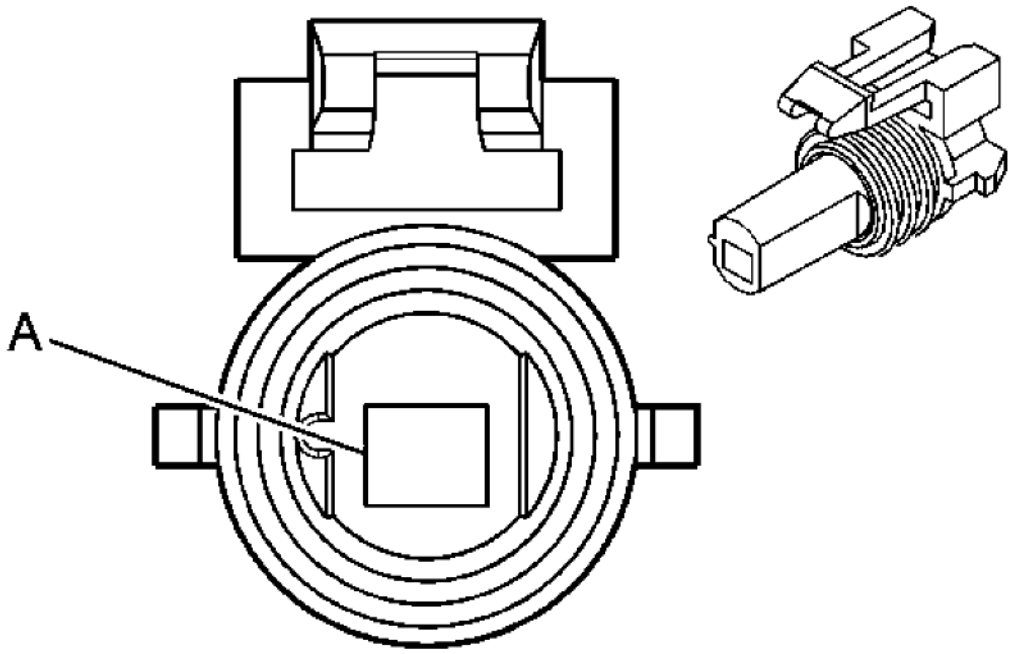


Fig. 22: M64 Starter Motor X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine

cardiagn.com

- OEM: 12089916
- Service: 12101763
- Description: 1-Way F Metri-Pack 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12129493/2
- Core/Insulation Crimp: 4/5
- Release Tool: 12094430
- Test Probe: J-35616-4A (PU)

M64 Starter Motor X1

Pin	Wire	Circuit	Function
A	3 PU	6	Starter Solenoid Crank Voltage

M64 STARTER MOTOR X2

Connector Part Information

- Terminal: 12176593
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

M64 Starter Motor X2

Pin	Wire	Circuit	Function
A	32 RD	2	Battery Positive Voltage

M7 TRANSMISSION SHIFT LOCK CONTROL SOLENOID ACTUATOR (MYB OR MYC)

cardiagn.com

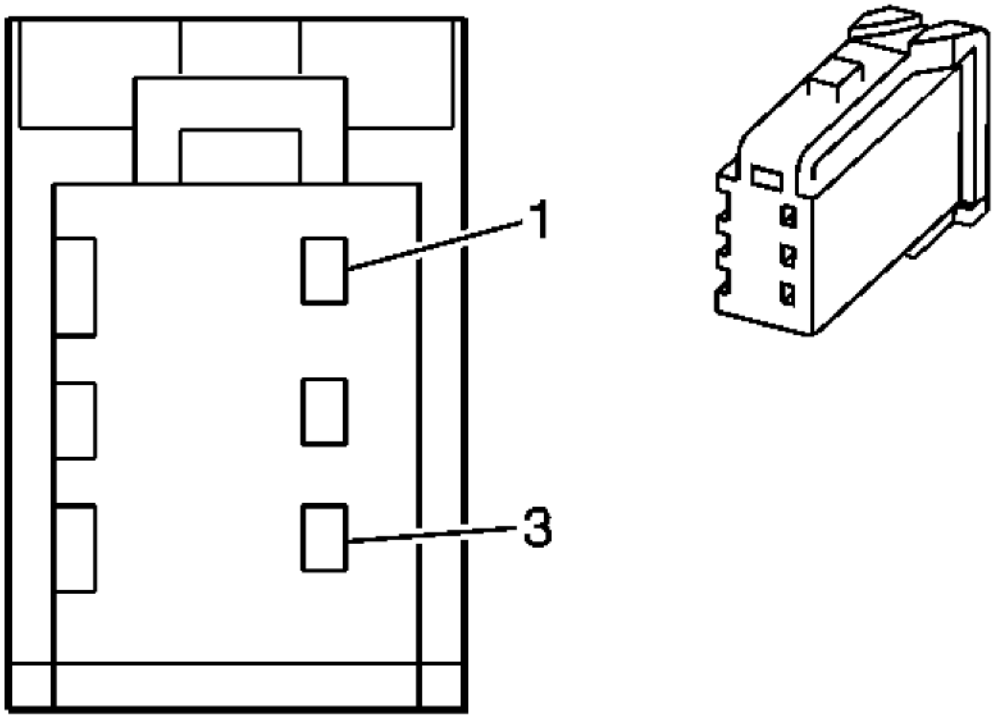


Fig. 23: M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Automatic Transmission Shift Lever Jumper Harness
- OEM: 90000223
- Service: Service by Harness - See Part Catalog
- Description: 3-Way F WH

Terminal Part Information

- Terminal/Tray: Service by Harness See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC)

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 BK	1550	Ground
2	-	-	Not Used
3	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control

M74D WINDOW MOTOR - DRIVER

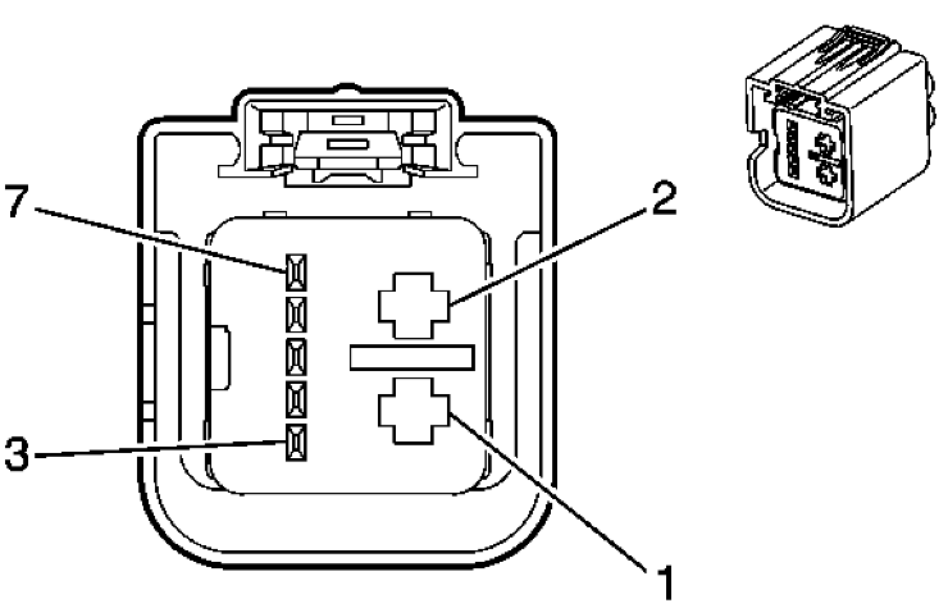


Fig. 24: M74D Window Motor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13595813
- Service: Service by Harness - See Part Catalog
- Description: 7-Way F Kaizen 0.64 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 2

cardiagn.com

- Terminal/Tray: 4-964273-1/15
- Core/Insulation Crimp: C/5
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 3, 4, 5, 6, 7
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M74D Window Motor - Driver

Pin	Wire	Circuit	Function
1	3 BK	850	Ground
2	3 RD/WH	1240	Battery Positive Voltage
3	0.35 TN	1300	Power Window Master Switch Left Front Up Signal
4	0.35 D-GN	6134	Linear Interconnect Network 3
5	0.35 L-GN/RD	7628	Power Window Switch Express Signal
6	0.35 GY/BK	745	Left Front Door Ajar Switch Signal
7	0.35 GY	1136	Power Window Master Switch Left Front Down Signal

M74P WINDOW MOTOR - PASSENGER

cardiagn.com

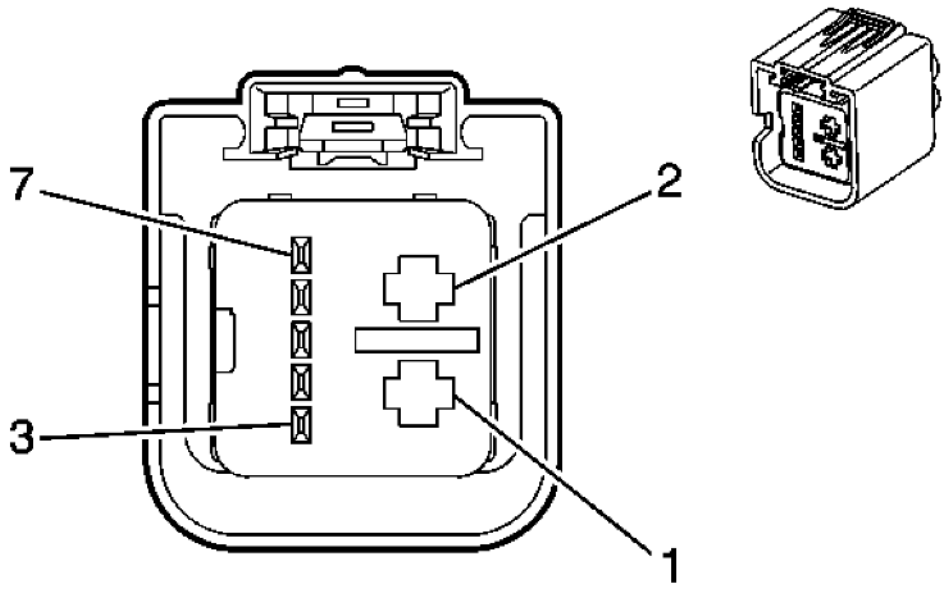


Fig. 25: M74P Window Motor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13595813
- Service: Service by Harness - See Part Catalog
- Description: 7-Way F Kaizen 0.64 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 2
- Terminal/Tray: 4-964273-1/15
- Core/Insulation Crimp: C/5
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 3, 4, 5, 6, 7
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M74P Window Motor - Passenger

Pin	Wire	Circuit	Function
1	3 BK	2350	Ground
2	3 RD/WH	1240	Battery Positive Voltage
3	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal
4	0.35 D-GN	6134	Linear Interconnect Network 3
5	0.35 PU	2765	Power Window Switch Right Front Express Signal
6	0.35 TN/WH	746	Right Front Door Ajar Switch Signal
7	0.35 TN	167	Power Window Master Switch Right Front Down Signal

M75 WINDSHIELD WIPER MOTOR

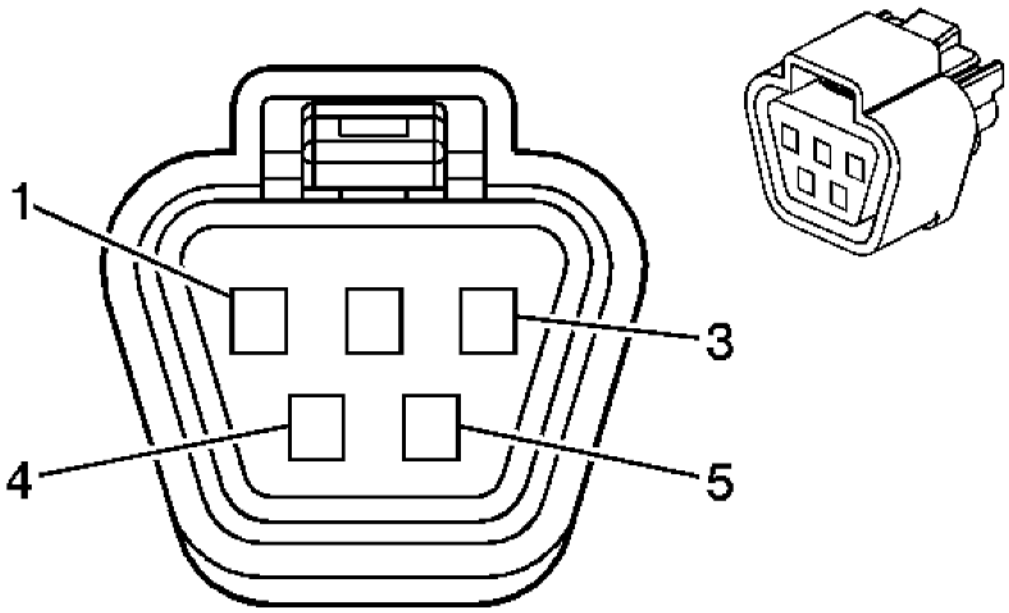


Fig. 26: M75 Windshield Wiper Motor Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Forward Lamp
- OEM: 15316488
- Service: 19149298
- Description: 5-Way F 090 Series, Sealed (BK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: 8100-0594/6
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-14 (GN)

- Pins: 3, 4, 5
- Terminal/Tray: 7116-4027/11
- Core/Insulation Crimp: 2/5
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

M75 Windshield Wiper Motor

Pin	Wire	Circuit	Function
1	0.35 YE	196	Windshield Wiper Motor Park Switch Signal
2	-	-	Not Used
3	2 PU	92	Windshield Wiper Motor High Speed
4	2 BK	1350	Ground
5	2 D-GN	95	Windshield Wiper Motor Low Speed

M93 IGNITION CYLINDER LOCK CONTROL SOLENOID ACTUATOR (MYB OR MYC)

cardiagn.com

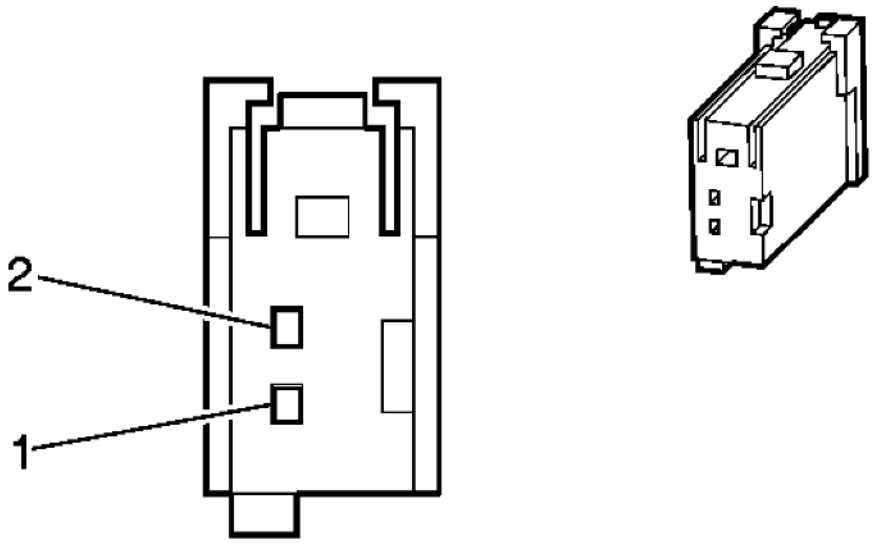


Fig. 27: M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.35 YE	143	Accessory Voltage
2	0.35 PU/WH	5905	Key Capture Signal

cardiagn.com

P12A HORN - HIGH NOTE

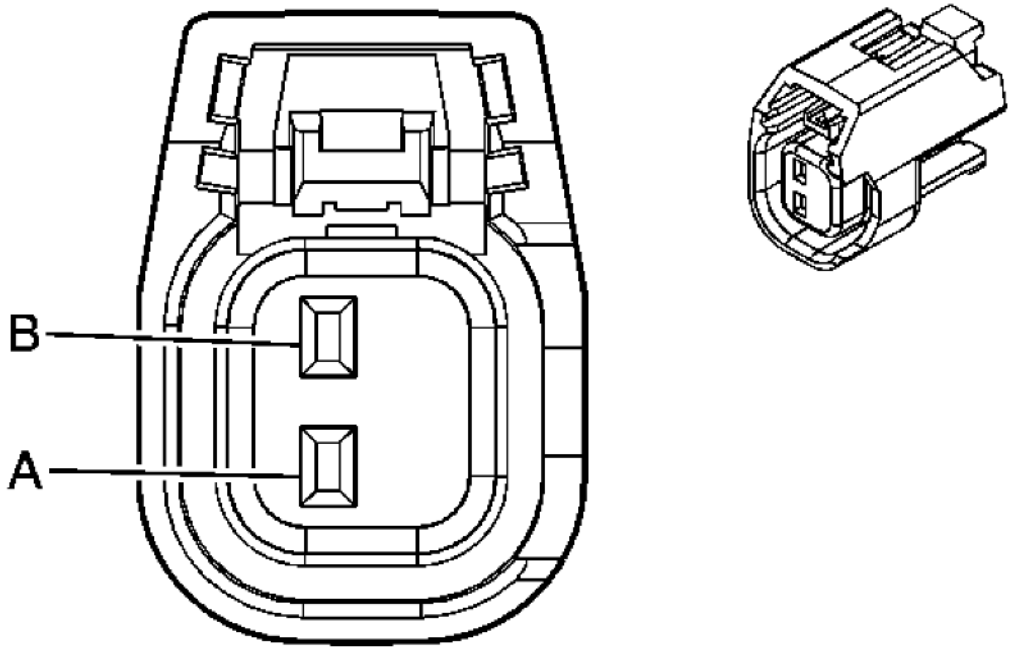


Fig. 28: P12A Horn - High Note Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15497399
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P12A Horn - High Note

Pin	Wire	Circuit	Function

cardiagn.com

A	0.8 D-GN	29	Horn Control
B	0.8 BK	1150	Ground

P12B HORN - LOW NOTE

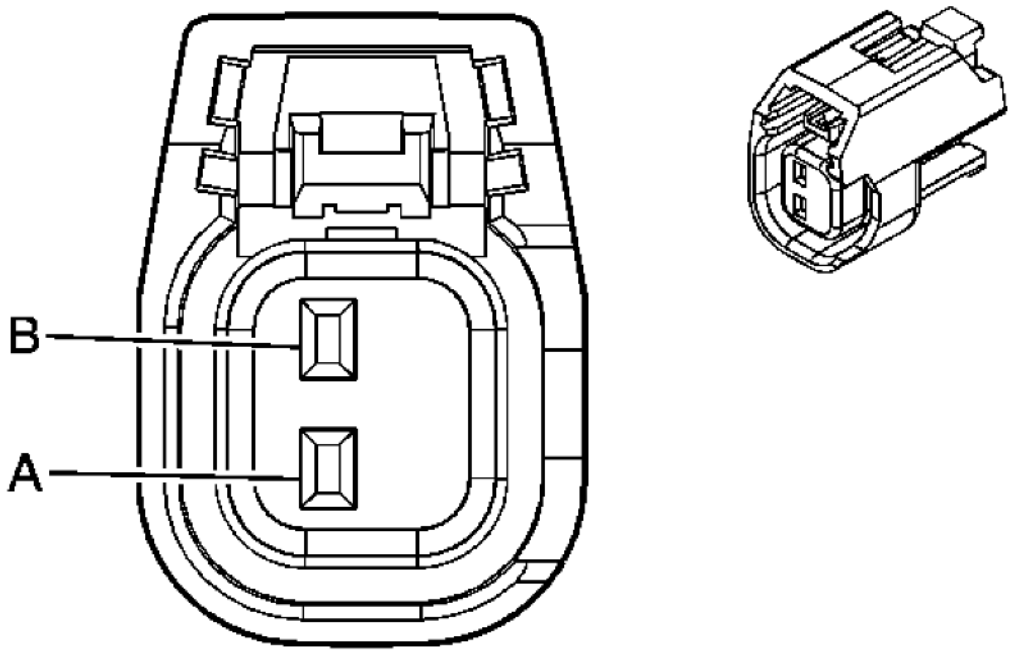


Fig. 29: P12B Horn - Low Note Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15497399
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

P12B Horn - Low Note

Pin	Wire	Circuit	Function
A	0.8 D-GN	29	Horn Control
B	0.8 BK	1150	Ground

P14 PASSENGER AIR BAG DISABLE INDICATOR

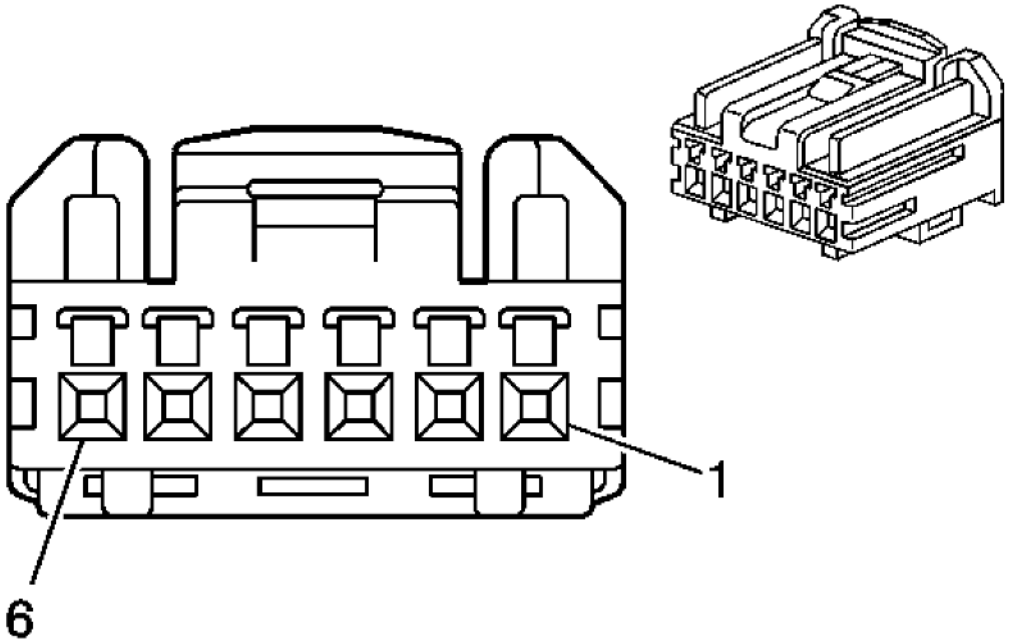


Fig. 30: P14 Passenger Air Bag Disable Indicator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13608102
- Service: 19153174
- Description: 6-Way F 1.2 HCM Series (WH)

Terminal Part Information

- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

P14 Passenger Air Bag Disable Indicator

Pin	Wire	Circuit	Function
1	0.35 D-BU	2307	Passenger Air Bag On Indicator Control
2	0.35 BK	1550	Ground
3	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control
4	0.35 PK	339	Ignition Voltage
5	0.35 PU	5234	Front Passenger Seat Belt Indicator Control
6	-	-	Not Used

P16 INSTRUMENT CLUSTER

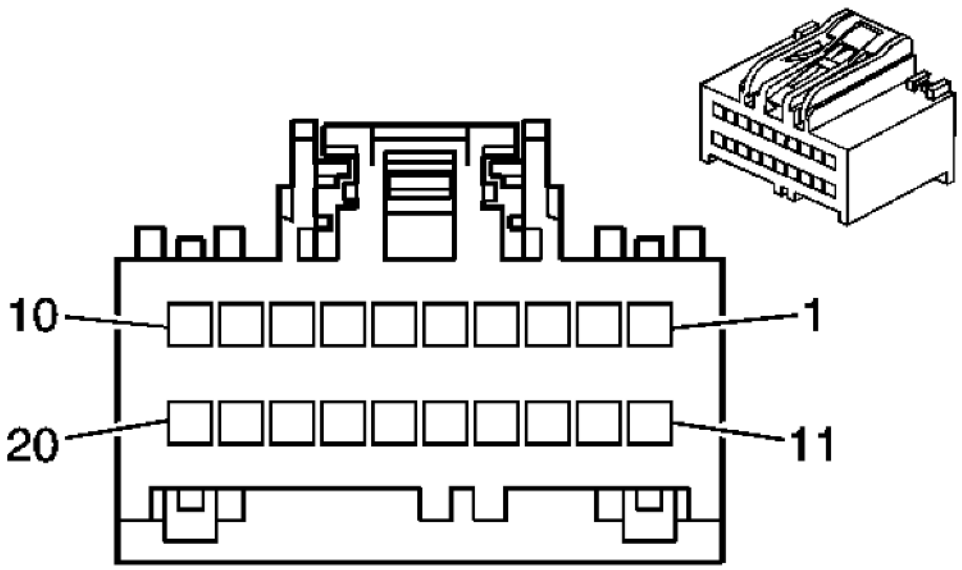


Fig. 31: P16 Instrument Cluster Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel

cardiagn.com

- OEM: 15489824
- Service: 15126711
- Description: 20-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P16 Instrument Cluster

Pin	Wire	Circuit	Function
1	0.35 D-GN	5060	Low Speed GMLAN Serial Data
2-3	-	-	Not Used
4	0.35 D-GN/WH	1358	DIC Switch Signal
5	0.35 BN	897	Low Reference
6	0.35 YE	61	Low Reference
7	0.35 D-GN/WH	636	Ambient Air Temperature Sensor Signal
8-9	-	-	Not Used
10	0.5 BK	1650	Ground
11-15	-	-	Not Used
16	0.35 PK	893	DIC Select Menu Switch Signal
17	0.35 BN/WH	419	MIL Control
18	-	-	Not Used
19	0.35 PK	139	Ignition 1 Voltage
20	0.5 RD/WH	2840	Battery Positive Voltage

P19A SPEAKER - CENTER INSTRUMENT PANEL (UQA)

cardiagn.com

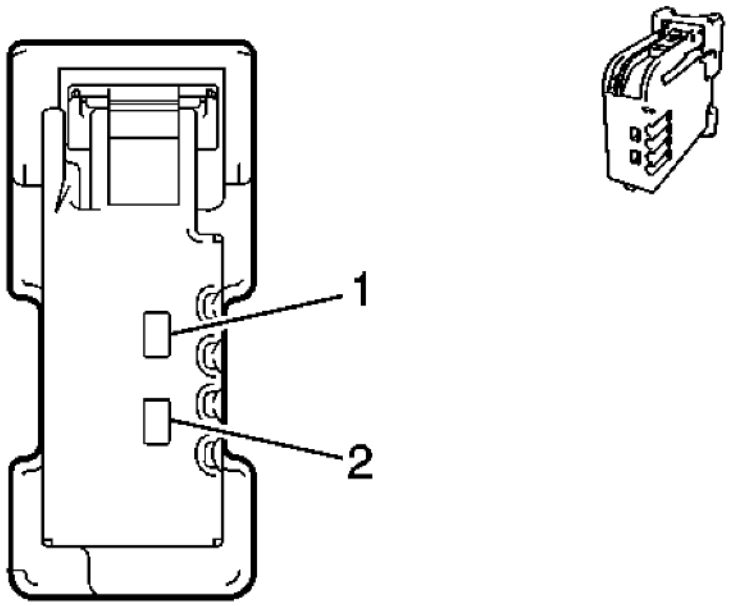


Fig. 32: P19A Speaker - Center Instrument Panel (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13682170
- Service: 13505908
- Description: 2-Way F 1.5 Series (GN)

Terminal Part Information

- Terminal/Tray: 8240-0128/22
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19A Speaker - Center Instrument Panel (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU	1960	Front Center Speaker Output (-)
2	0.8 YE	1860	Front Center Speaker Output (+)

cardiagn.com

P19G SPEAKER - LEFT FRONT (UQA)

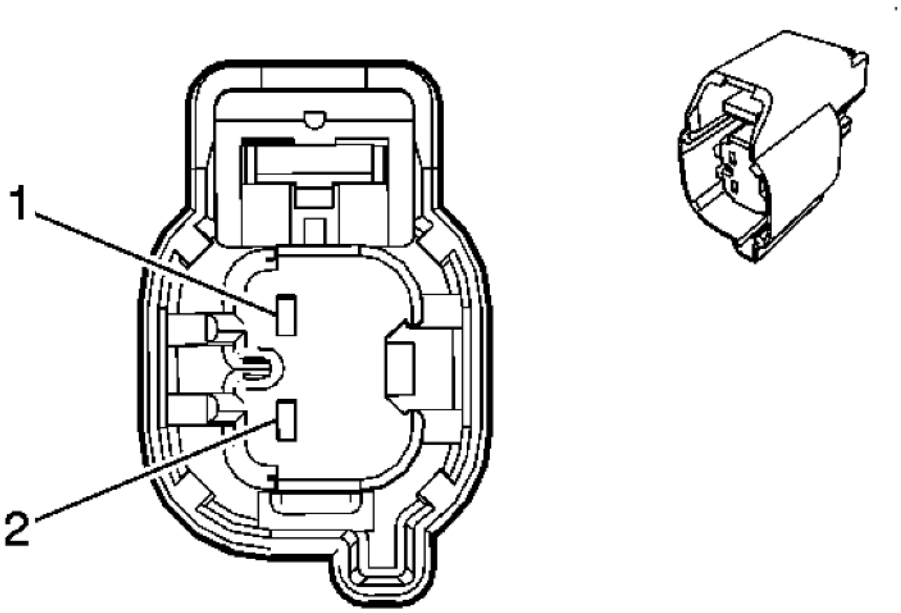


Fig. 33: P19G Speaker - Left Front (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13667983
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F GT 150 Series (TN)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19G Speaker - Left Front (UQA)

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19G SPEAKER - LEFT FRONT (UQ3)

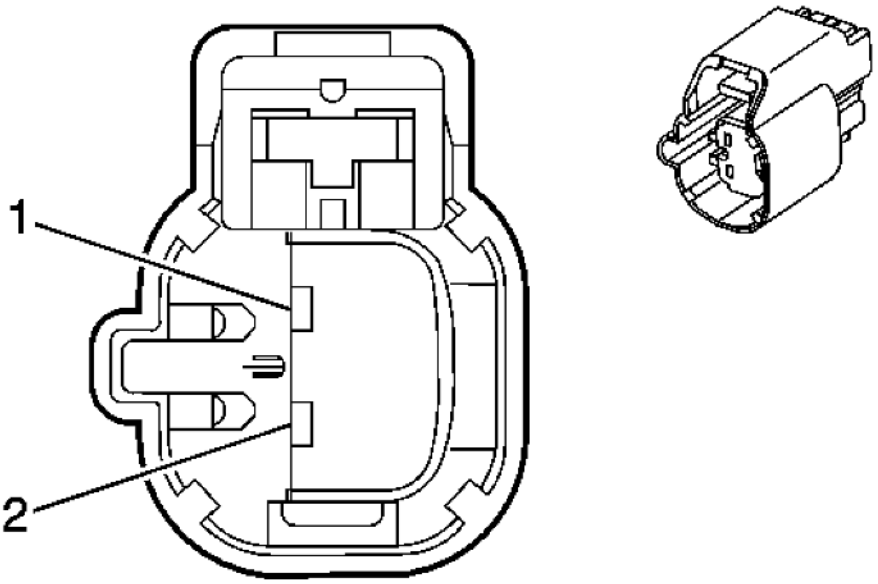


Fig. 34: P19G Speaker - Left Front (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

P19G Speaker - Left Front (UQ3)

Pin	Wire	Circuit	Function
1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19H SPEAKER - LEFT FRONT TWEETER

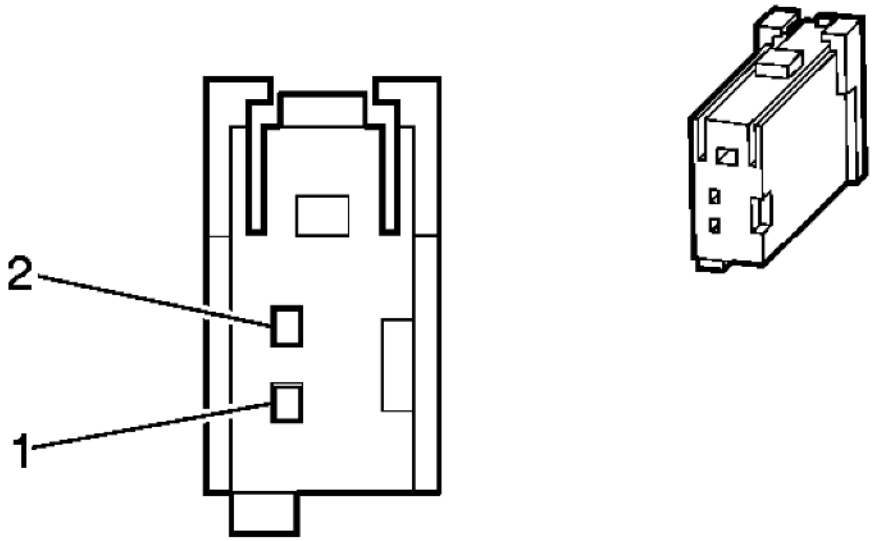


Fig. 35: P19H Speaker - Left Front Tweeter Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: See Terminal Repair Kit

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P19H Speaker - Left Front Tweeter

Pin	Wire	Circuit	Function
1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19K SPEAKER - LEFT REAR (UQA)

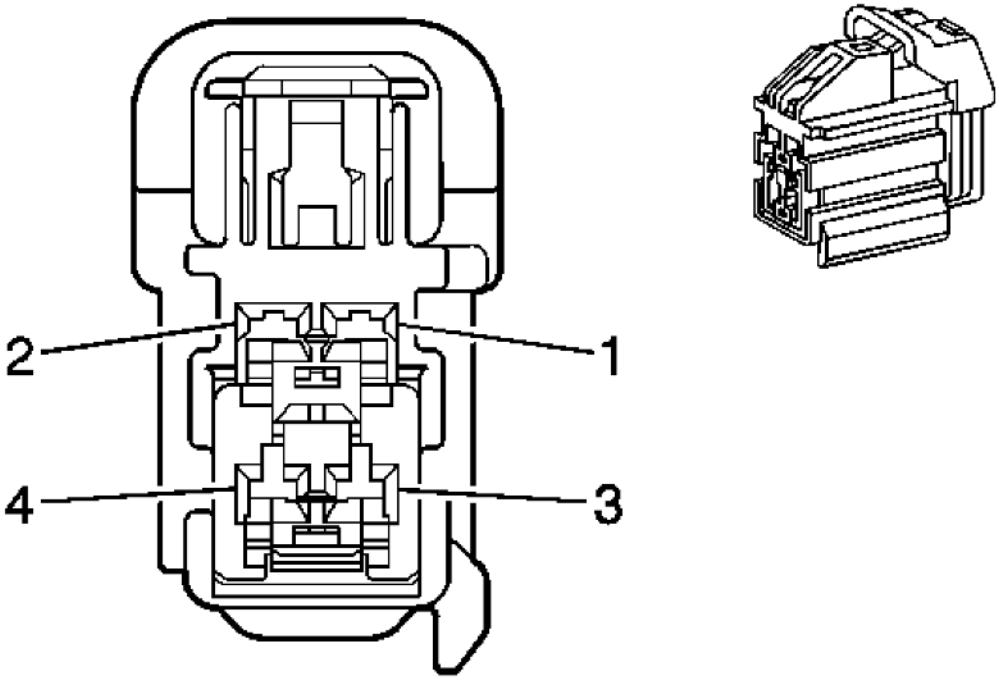


Fig. 36: P19K Speaker - Left Rear (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 10846820
- Service: 88988452

cardiagn.com

- Description: 4-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 33012-3002/26
- Core/Insulation Crimp: A/E/A/C
- Release Tool: J-38125-217
- Test Probe: J-35616-14 (GN)

P19K Speaker - Left Rear (UQA)

Pin	Wire	Circuit	Function
1	0.8 D-BU/WH	5771	Left Subwoofer Speaker Output (-)
2	0.8 D-BU	5761	Left Subwoofer Speaker Output (+)
3	1 L-GN/BK	1794	Left Subwoofer Speaker Output (-)
4	1 D-BU/WH	346	Left Subwoofer Speaker Output (+)

P19K SPEAKER - LEFT REAR (UQ3)

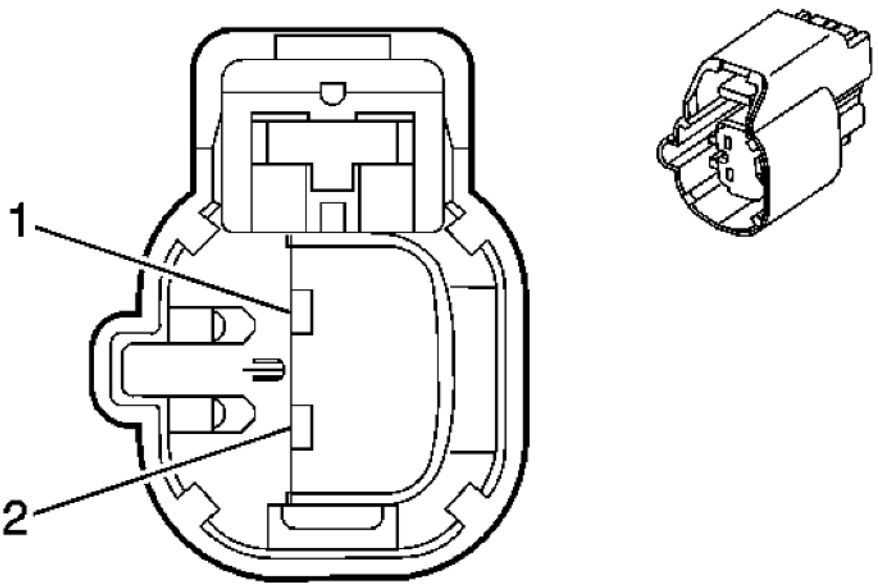


Fig. 37: P19K Speaker - Left Rear (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

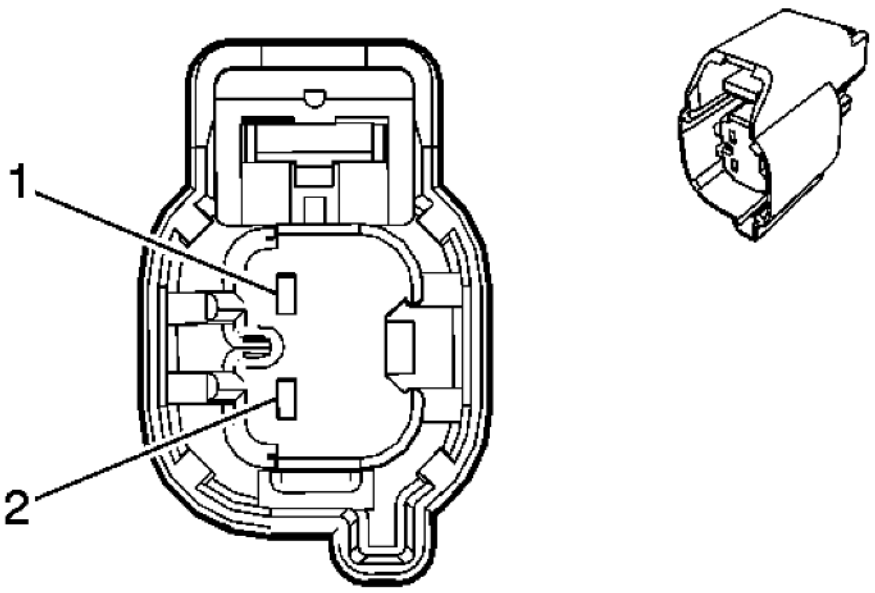
Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19K Speaker - Left Rear (UQ3)

Pin	Wire	Circuit	Function
1	0.8 YE	116	Left Rear Speaker Output (-)
2	0.8 BN	199	Left Rear Speaker Output (+)

P19U SPEAKER - RIGHT FRONT (UQA)



cardiagn.com

Fig. 38: P19U Speaker - Right Front (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13667983
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F GT 150 Series (TN)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19U Speaker - Right Front (UQA)

Pin	Wire	Circuit	Function
1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

P19U SPEAKER - RIGHT FRONT (UQ3)

cardiagn.com

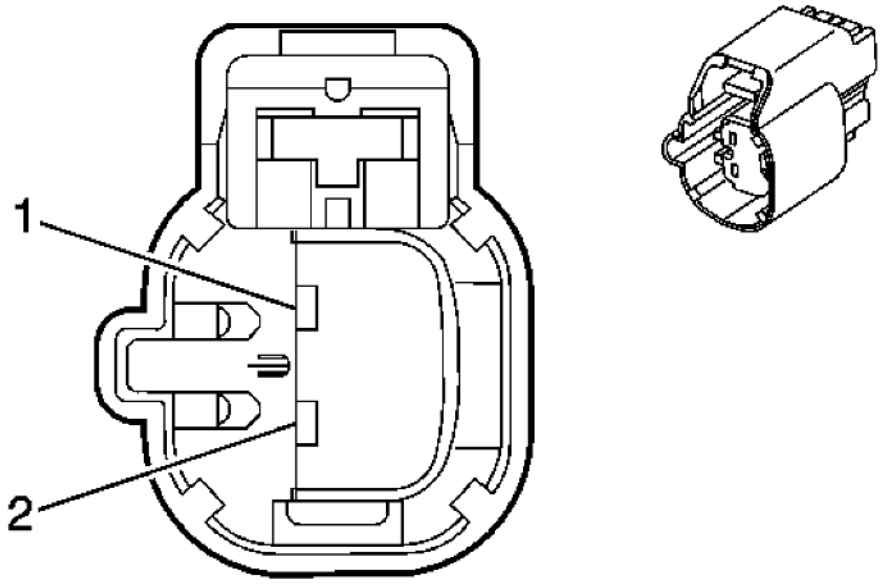


Fig. 39: P19U Speaker - Right Front (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19U Speaker - Right Front (UQ3)

Pin	Wire	Circuit	Function
1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

cardiagn.com

P19V SPEAKER - RIGHT FRONT TWEETER

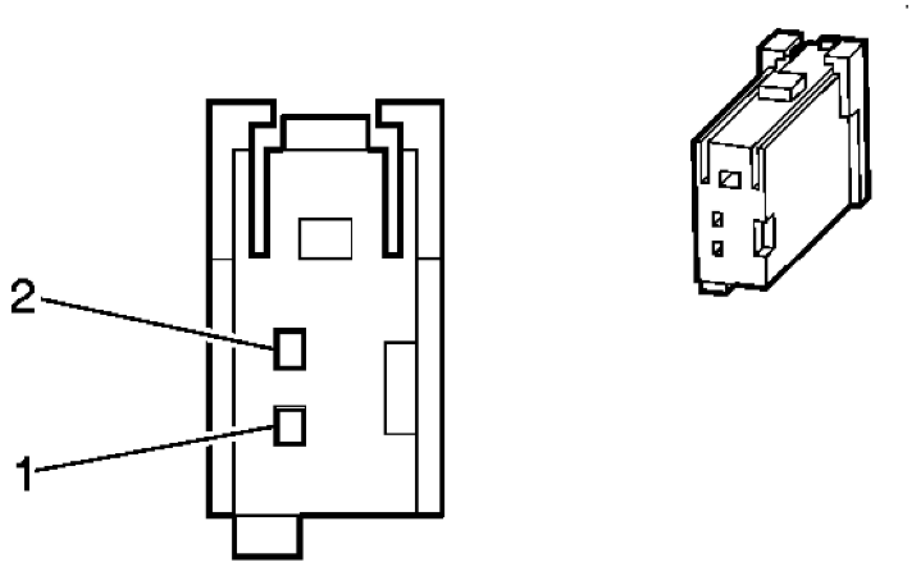


Fig. 40: P19V Speaker - Right Front Tweeter Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P19V Speaker - Right Front Tweeter

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

P19X SPEAKER - RIGHT REAR (UQA)

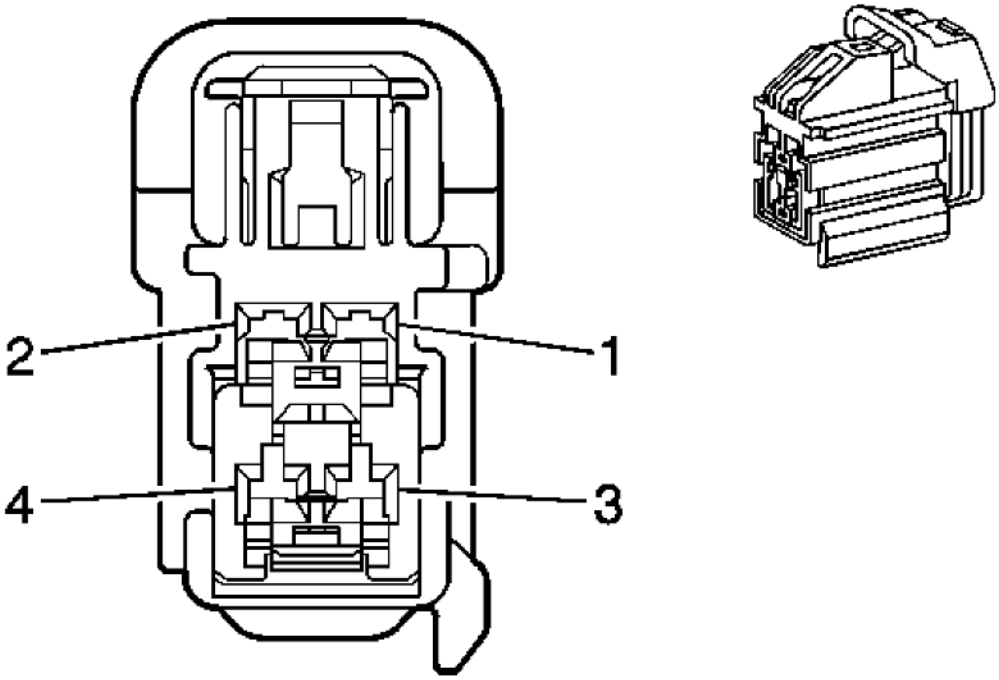


Fig. 41: P19X Speaker - Right Rear (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 10846820
- Service: 88988452
- Description: 4-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 33012-3002/26
- Core/Insulation Crimp: A/E/A/C
- Release Tool: J-38125-217

cardiagn.com

- Test Probe: J-35616-14 (GN)

P19X Speaker - Right Rear (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU/BK	5772	Right Subwoofer Speaker Output (-)
2	0.8 L-BU	5762	Right Subwoofer Speaker Output (+)
3	1 L-BU/BK	315	Right Subwoofer Speaker Output (-)
4	1 D-GN	1795	Right Subwoofer Speaker Output (+)

P19X SPEAKER - RIGHT REAR (UQ3)

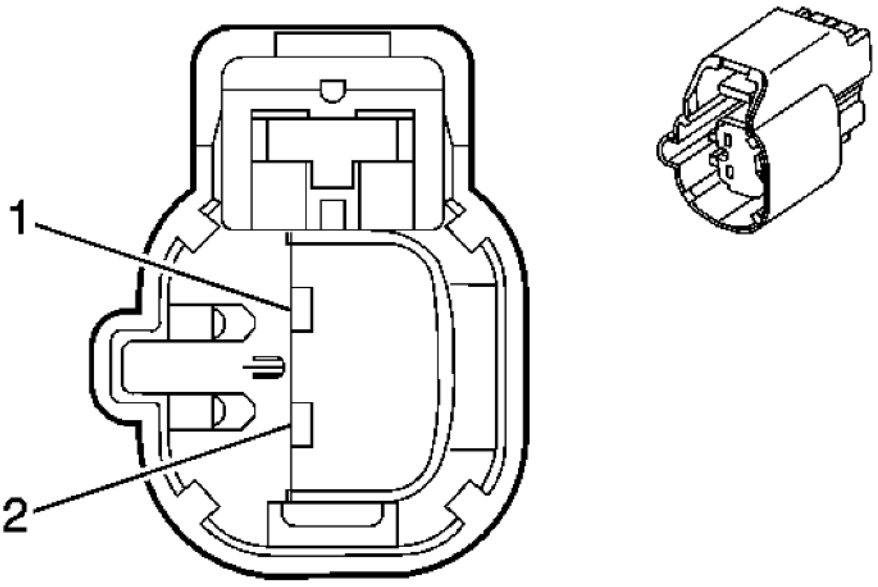


Fig. 42: P19X Speaker - Right Rear (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19X Speaker - Right Rear (UQ3)

Pin	Wire	Circuit	Function
1	0.8 L-BU	115	Right Rear Speaker Output (-)
2	0.8 D-BU	46	Right Rear Speaker Output (+)

P2 TRANSMISSION SHIFT LEVER POSITION INDICATOR (MYB OR MYC)

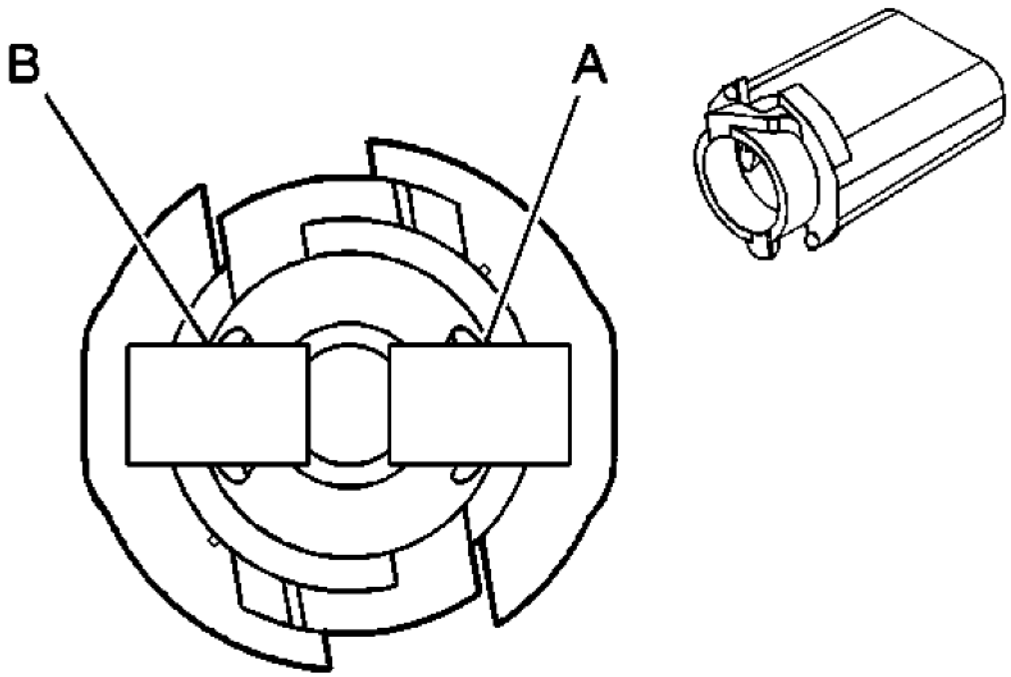


Fig. 43: P2 Transmission Shift Lever Position Indicator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: A/T Shifter
- OEM: 12162711
- Service: Service by Harness - See Part Catalog
- Description: 2-Way Lamp Socket Wedge Base W2 (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

P2 Transmission Shift Lever Position Indicator (MYB or MYC)

Pin	Wire	Circuit	Function
A	0.5 YE	6817	LED Backlight Dimming Control
B	0.5 BK	1550	Ground

P26 AUXILIARY GAGE MODULE (UMQ)

cardiagn.com

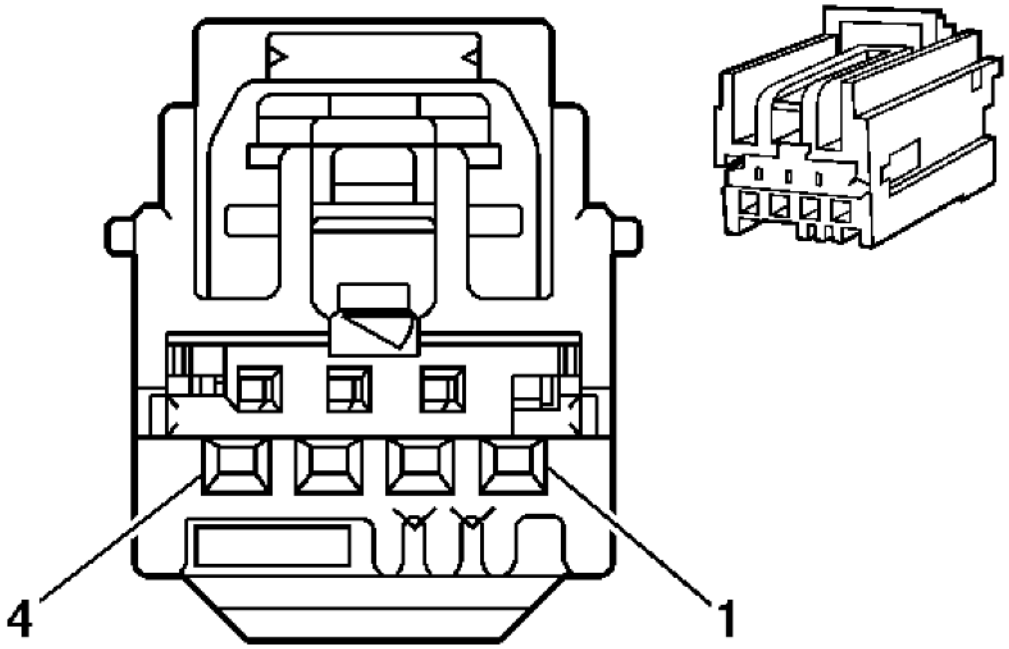


Fig. 44: P26 Auxiliary Gage Module (UMQ) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Console Cap Link
- OEM: 15491295
- Service: 19149305
- Description: 4-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P26 Auxiliary Gage Module (UMQ)

Pin	Wire	Circuit	Function
1	0.5 RD/WH	2840	Battery Positive Voltage

cardiagn.com

2	0.5 BK	1650	Ground
3	0.35 D-GN	5060	Low Speed GMLAN Serial Data
4	-	-	Not Used

Q12 EVAPORATIVE EMISSION (EVAP) PURGE SOLENOID VALVE (L99 OR LS3)

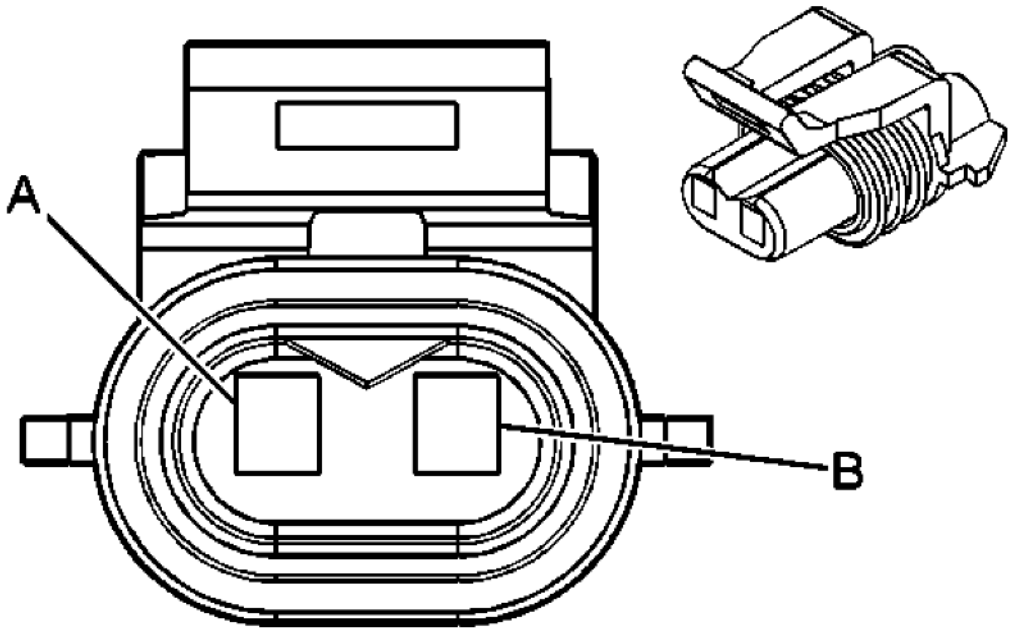


Fig. 45: Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12124037
- Service: 12101858
- Description: 2-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429

cardiagn.com

- Test Probe: J-35616-14 (GN)

Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5293	Ignition Voltage
B	0.5 D-GN/WH	428	EVAP Canister Purge Solenoid Control

Q12 EVAPORATIVE EMISSION (EVAP) PURGE SOLENOID VALVE (LLT)

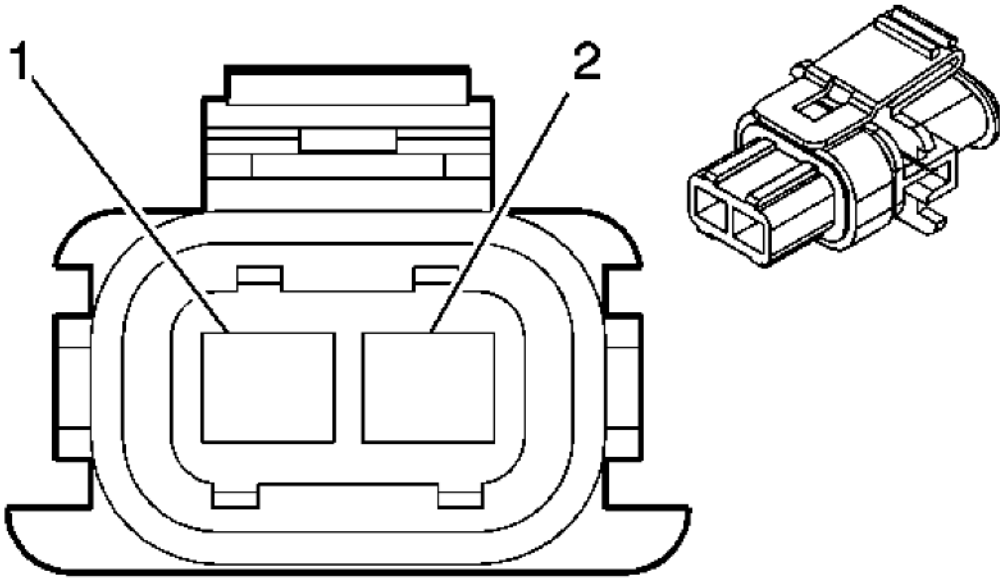


Fig. 46: Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 10740370
- Service: 88988586
- Description: 2-Way F 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 D-GN/WH	428	EVAP Canister Purge Solenoid Control

Q13 EVAPORATIVE EMISSION (EVAP) VENT SOLENOID VALVE

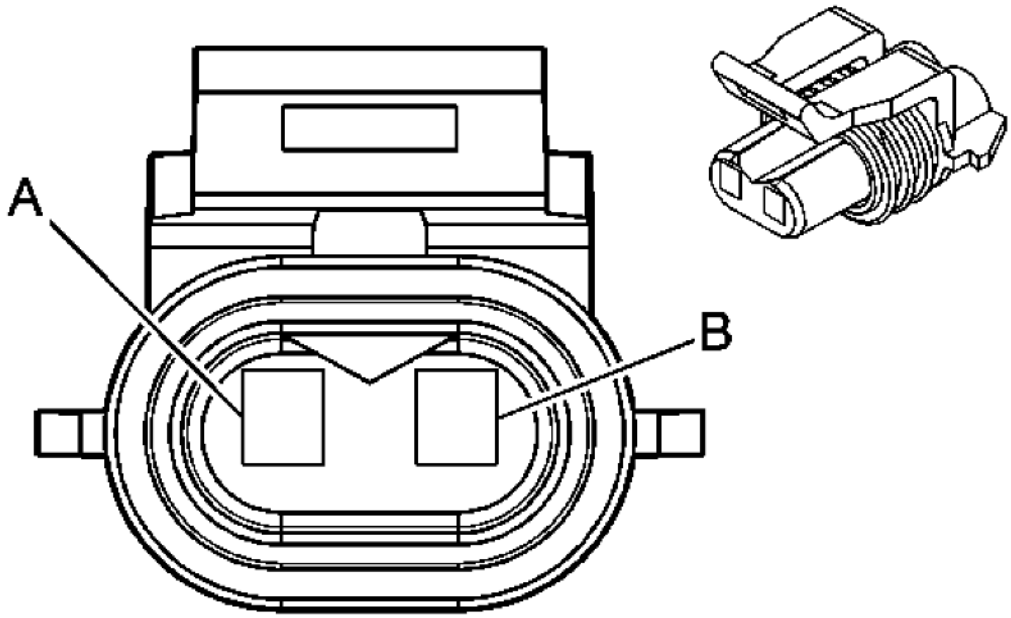


Fig. 47: Q13 Evaporative Emission (EVAP) Vent Solenoid Valve Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 12052643
- Service: 12101858
- Description: 2-Way F Metri-Pack 150 Series, Sealed (RD)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Q13 Evaporative Emission (EVAP) Vent Solenoid Valve

Pin	Wire	Circuit	Function
A	0.5 RD	2440	Battery Positive Voltage (Early Production)
	0.5 RD/WH	2440	Battery Positive Voltage Late Production)
B	0.5 BN	1310	EVAP Canister Vent Solenoid Control (Early Production)
	0.5 WH	1310	EVAP Canister Vent Solenoid Control (Late Production)

Q17A FUEL INJECTOR 1 (L99 OR LS3)

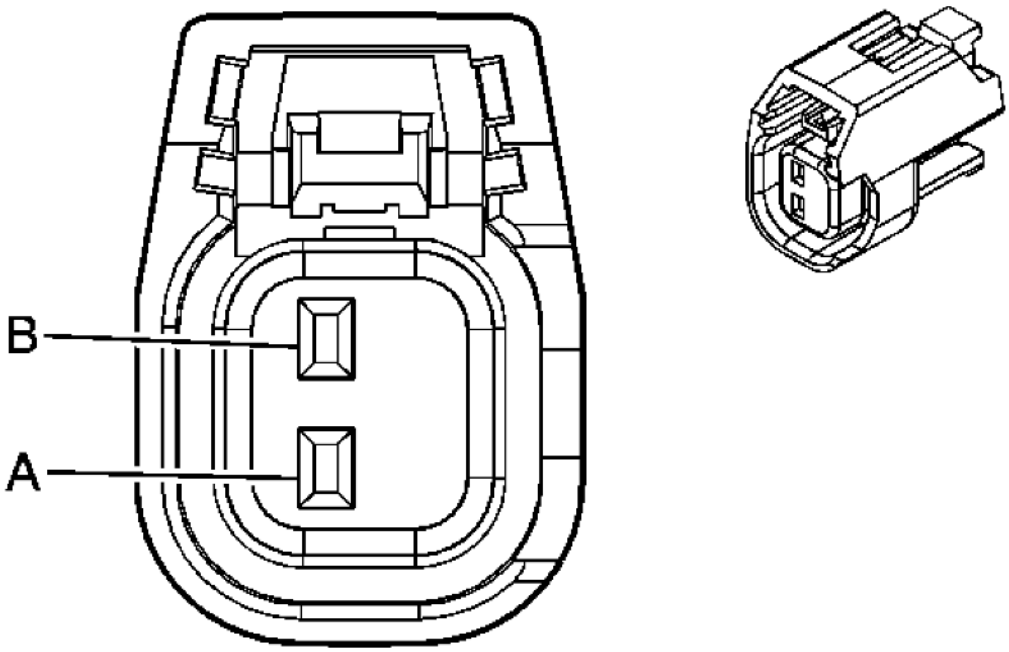


Fig. 48: Q17A Fuel Injector 1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

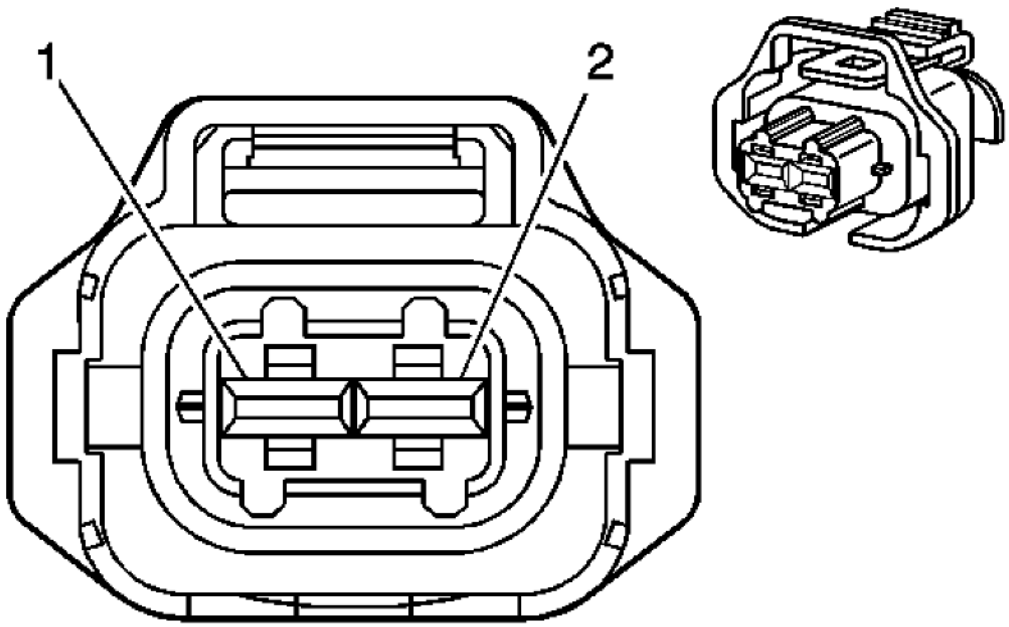
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17A Fuel Injector 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 TN	1744	Fuel Injector 1 Control

Q17A FUEL INJECTOR 1 (LLT)



cardiagn.com

Fig. 49: Q17A Fuel Injector 1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17A Fuel Injector 1 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4801	Fuel Injector 1 Low Control
2	1 BK	4901	Fuel Injector 1 High Control

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

Q17B FUEL INJECTOR 2 (L99 OR LS3)

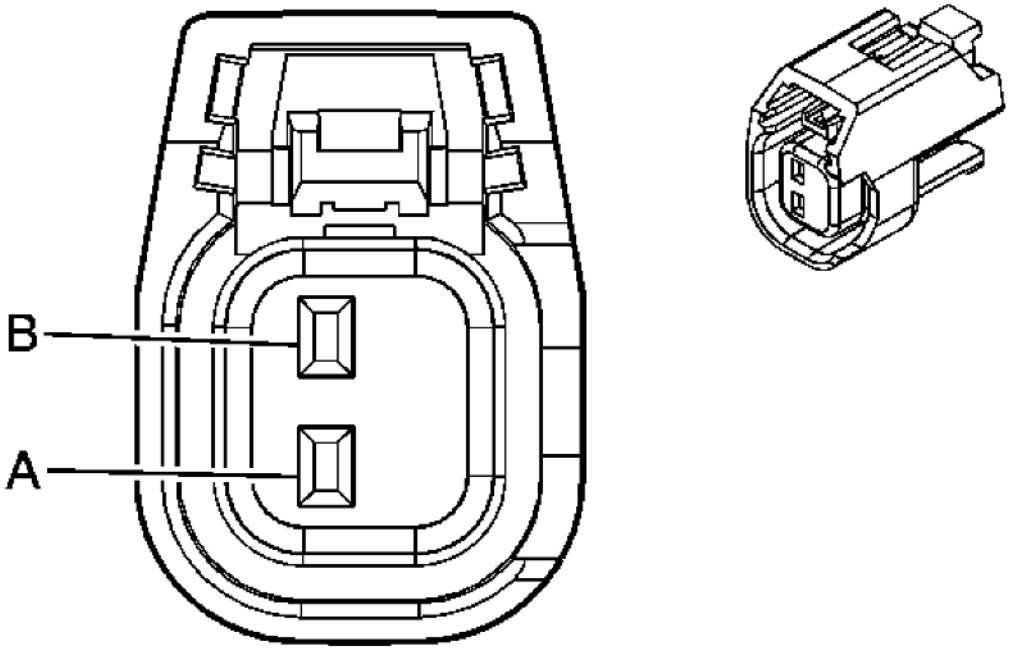


Fig. 1: Q17B Fuel Injector 2 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17B Fuel Injector 2 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 L-GN/BK	1745	Fuel Injector 2 Control

Q17B FUEL INJECTOR 2 (LLT)

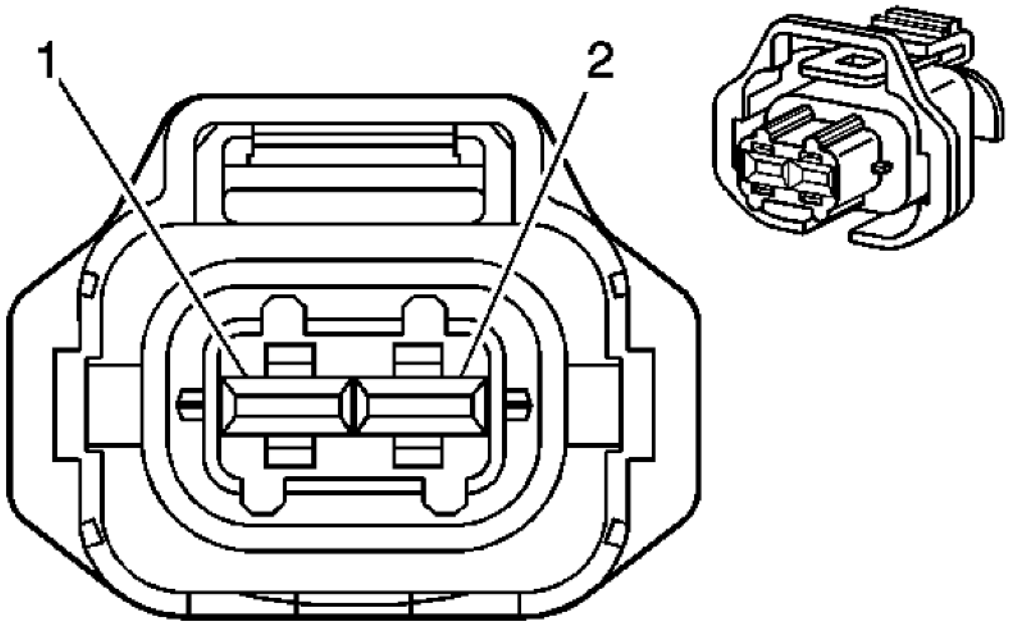


Fig. 2: Q17B Fuel Injector 2 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Even)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17B Fuel Injector 2 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4802	Fuel Injector 2 Low Control
2	1 BK	4902	Fuel Injector 2 High Control

Q17C FUEL INJECTOR 3 (L99 OR LS3)

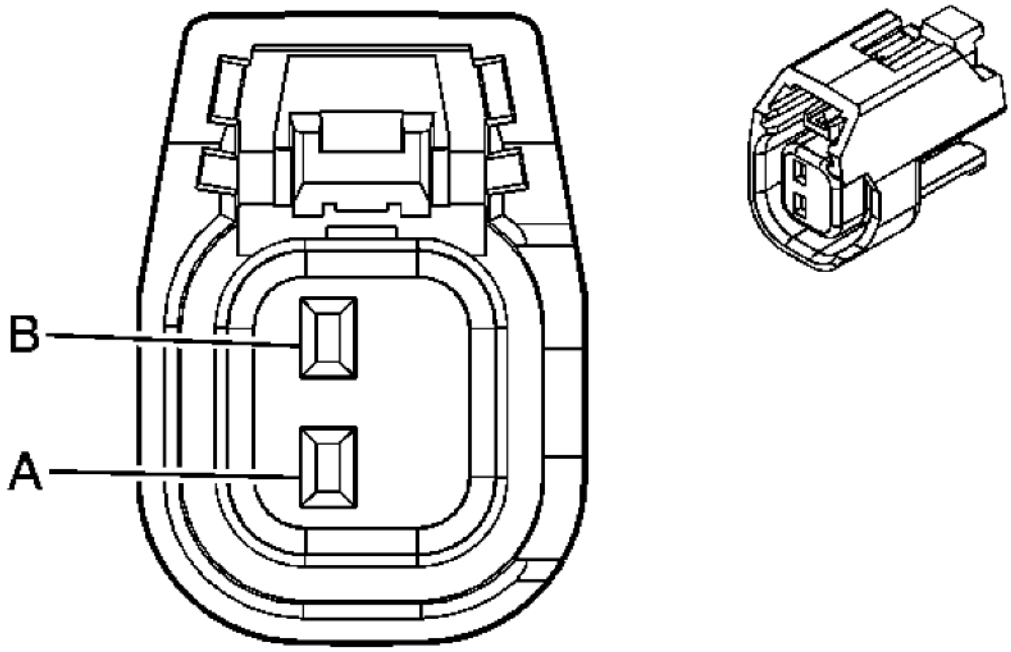


Fig. 3: Q17C Fuel Injector 3 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine

cardiagn.com

- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17C Fuel Injector 3 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 PK/BK	1746	Fuel Injector 3 Control

Q17C FUEL INJECTOR 3 (LLT)

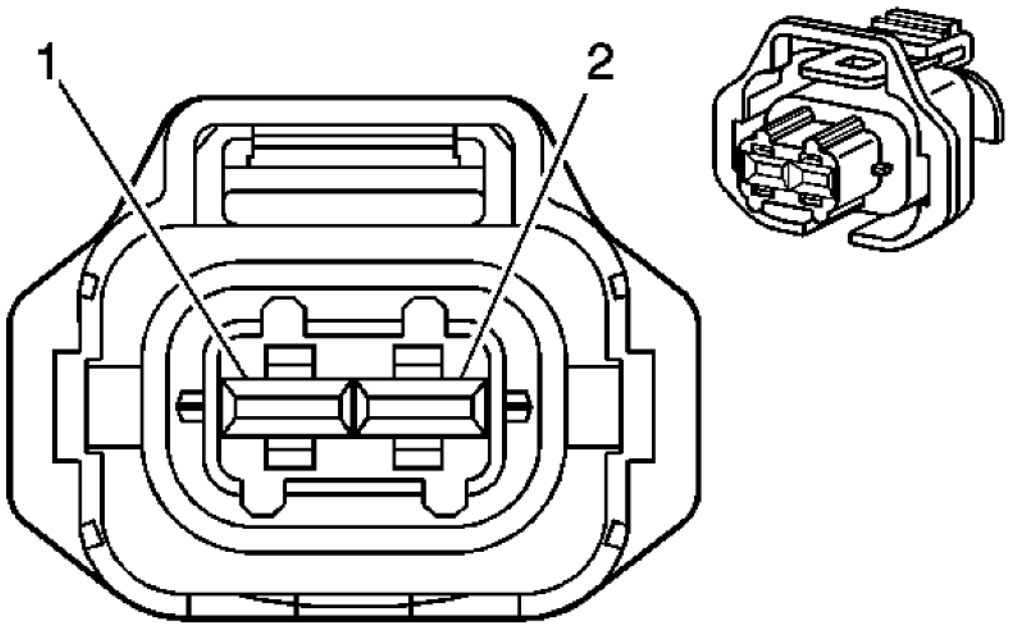


Fig. 4: Q17C Fuel Injector 3 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

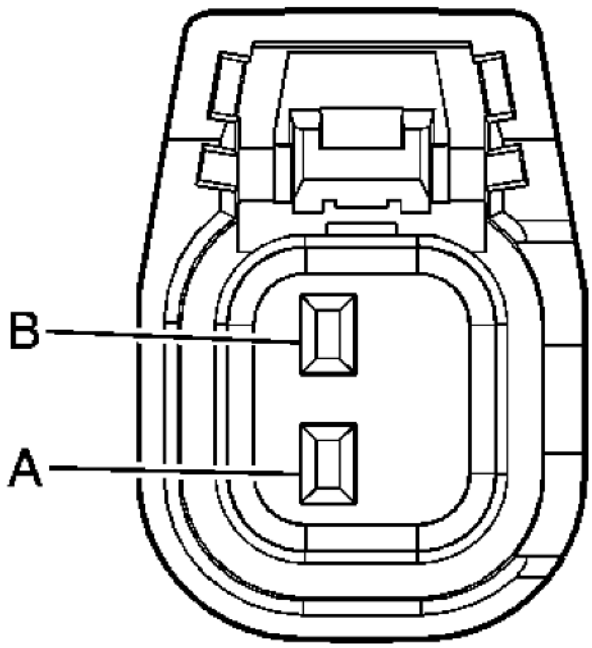
Terminal Part Information

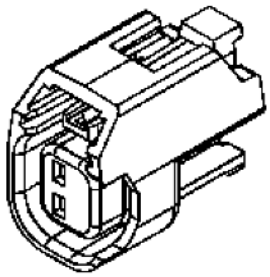
- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17C Fuel Injector 3 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4803	Fuel Injector 3 Low Control
2	1 BK	4903	Fuel Injector 3 High Control

Q17D FUEL INJECTOR 4 (L99 OR LS3)





cardiagn.com

Fig. 5: Q17D Fuel Injector 4 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17D Fuel Injector 4 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 L-BU/BK	844	Fuel Injector 4 Control

Q17D FUEL INJECTOR 4 (LLT)

cardiagn.com

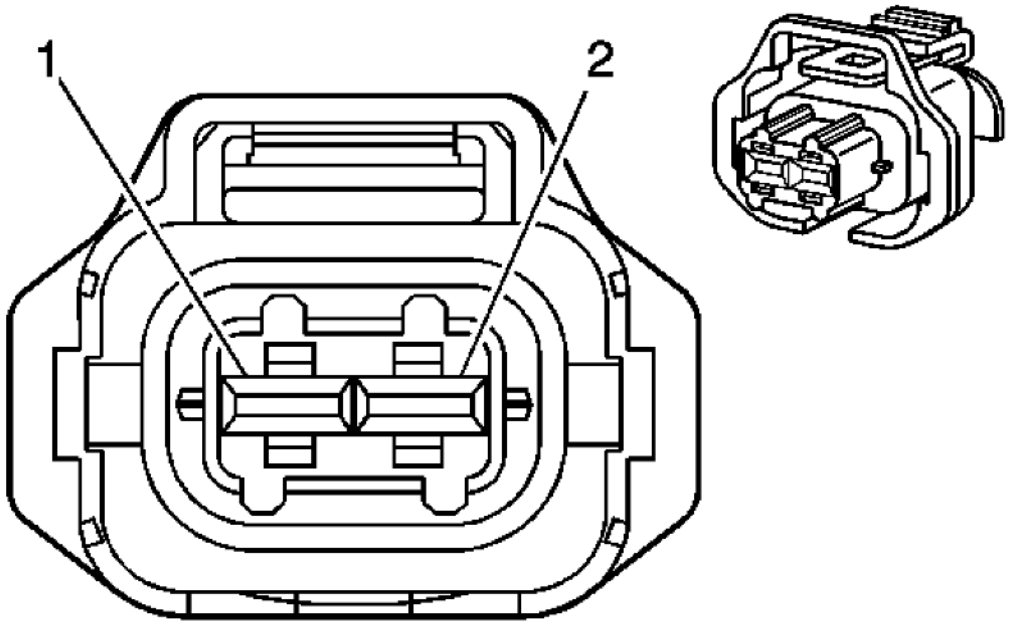


Fig. 6: Q17D Fuel Injector 4 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Even)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17D Fuel Injector 4 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4804	Fuel Injector 4 Low Control
2	1 BK	4904	Fuel Injector 4 High Control

cardiagn.com

Q17E FUEL INJECTOR 5 (L99 OR LS3)

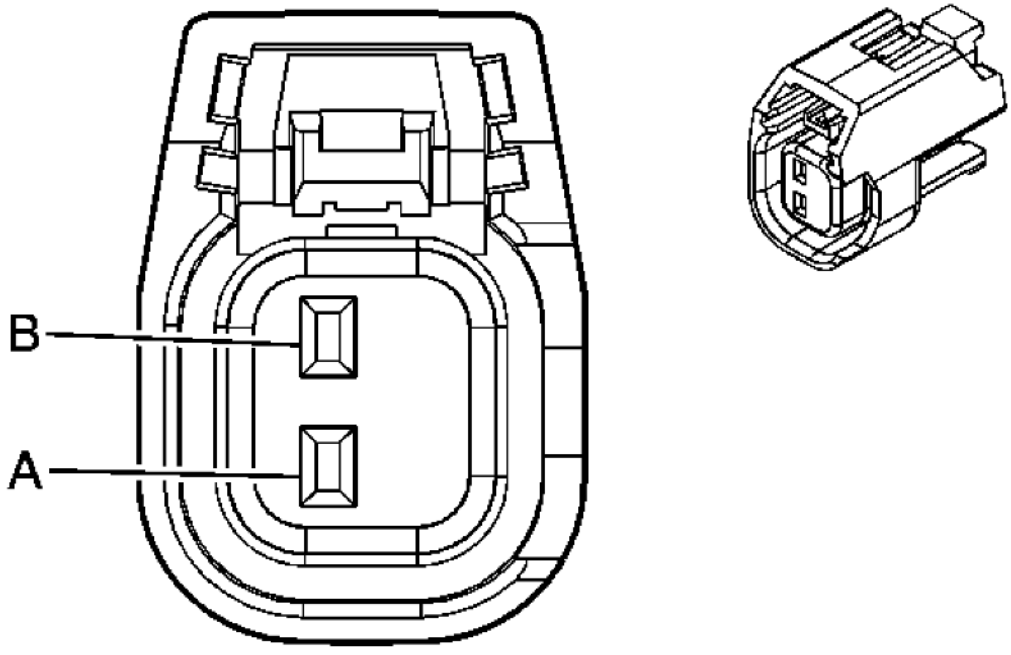


Fig. 7: Q17E Fuel Injector 5 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17E Fuel Injector 5 (L99 or LS3)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 TN/WH	845	Fuel Injector 5 Control

Q17E FUEL INJECTOR 5 (LLT)

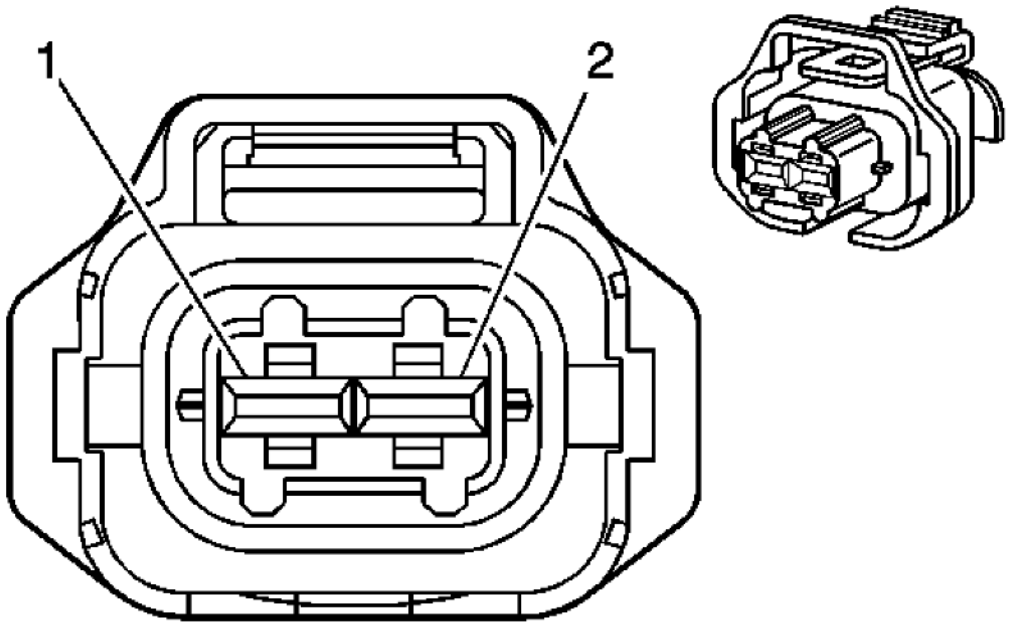


Fig. 8: Q17E Fuel Injector 5 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

cardiagn.com

Q17E Fuel Injector 5 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4805	Fuel Injector 5 Low Control
2	1 BK	4905	Fuel Injector 5 High Control

Q17F FUEL INJECTOR 6 (L99 OR LS3)

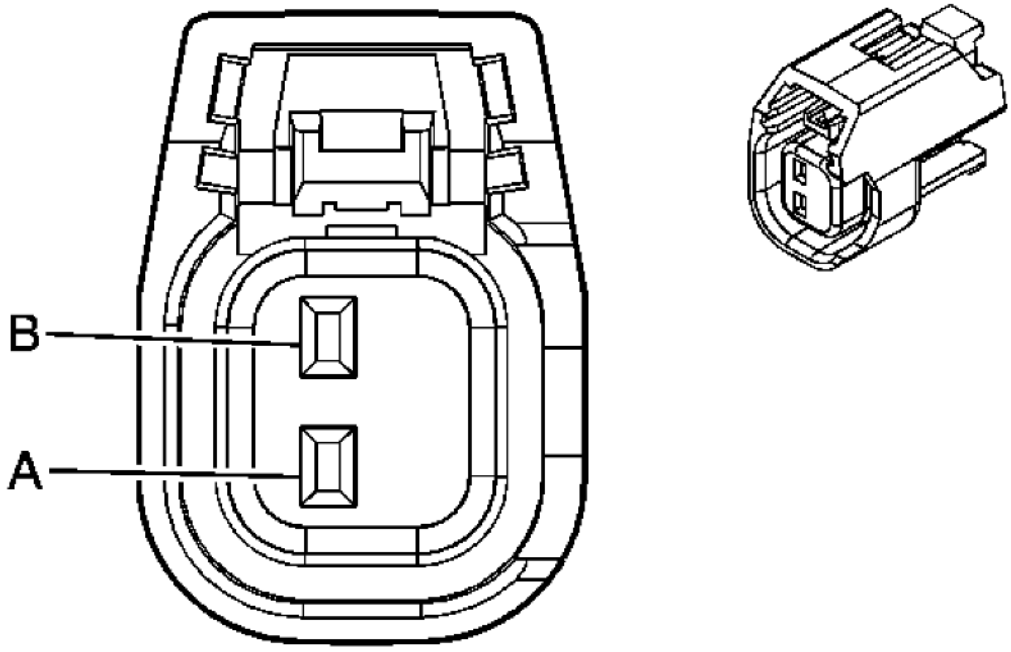


Fig. 9: Q17F Fuel Injector 6 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17F Fuel Injector 6 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 YE/BK	846	Fuel Injector 6 Control

Q17F FUEL INJECTOR 6 (LLT)

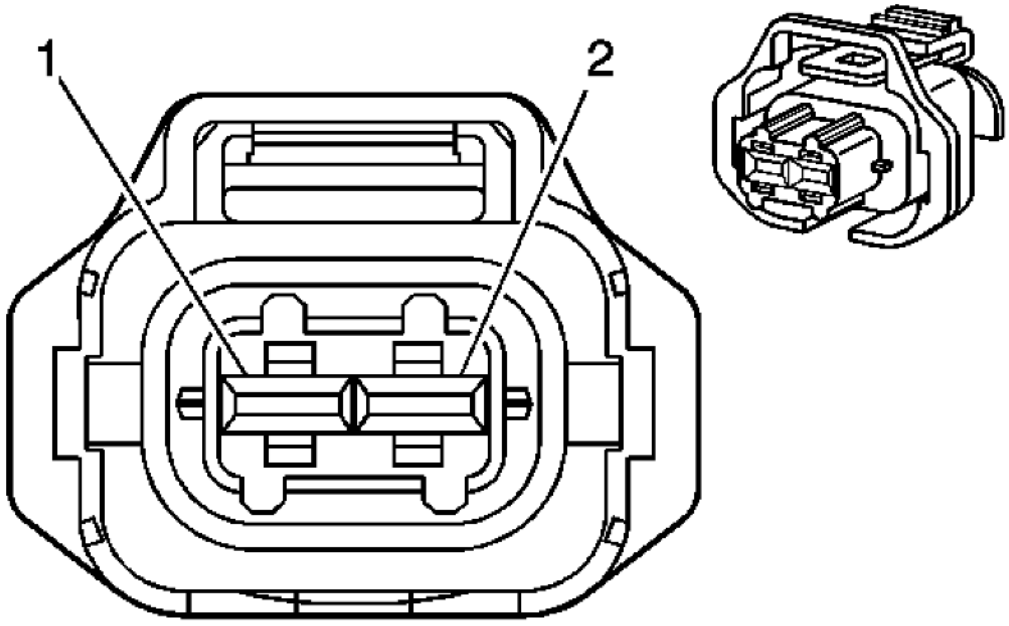


Fig. 10: Q17F Fuel Injector 6 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Even)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17F Fuel Injector 6 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4806	Fuel Injector 6 Low Control
2	1 BK	4906	Fuel Injector 6 High Control

Q17G FUEL INJECTOR 7 (L99 OR LS3)

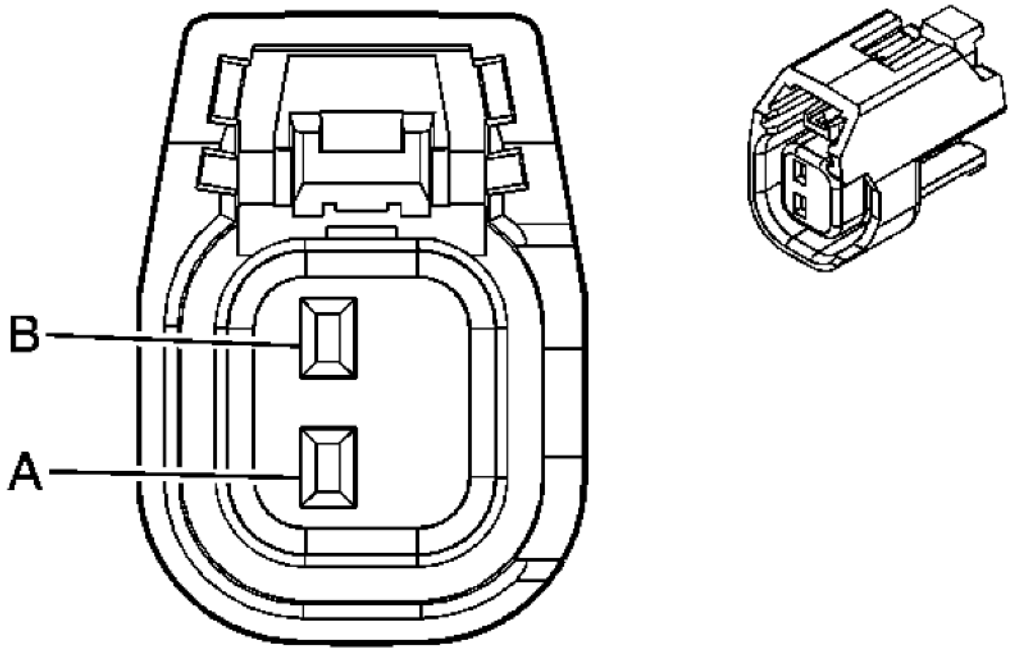


Fig. 11: Q17G Fuel Injector 7 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715

cardiagn.com

- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17G Fuel Injector 7 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 OG/BK	877	Fuel Injector 7 Control

Q17H FUEL INJECTOR 8 (L99 OR LS3)

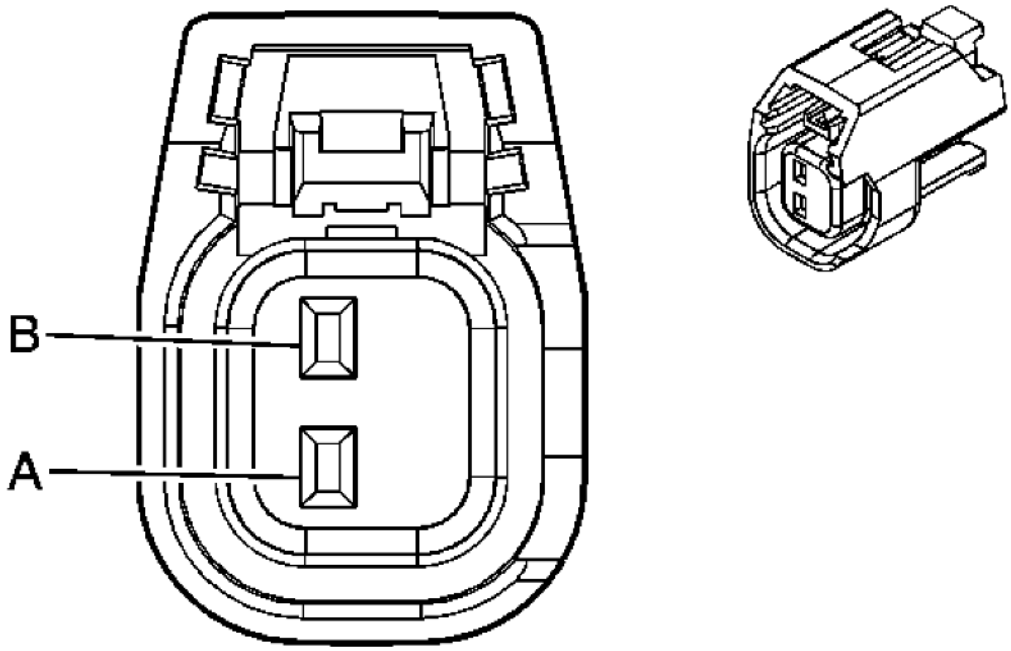


Fig. 12: Q17H Fuel Injector 8 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

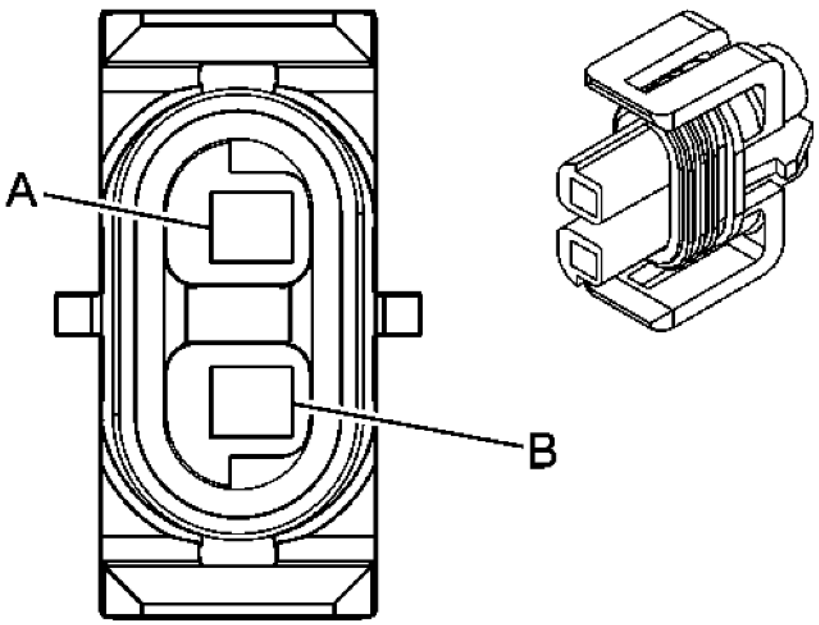
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17H Fuel Injector 8 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 D-BU/WH	878	Fuel Injector 8 Control

Q2 A/C COMPRESSOR CLUTCH



cardiagn.com

Fig. 13: Q2 A/C Compressor Clutch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine Harness
- OEM: 12162017
- Service: 12101937
- Description: 2-Way F Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Q2 A/C Compressor Clutch

Pin	Wire	Circuit	Function
A	0.5 BK	2650	Ground
B	0.5 D-GN	59	A/C Compressor Clutch Supply Voltage

Q34 SKIP SHIFT SOLENOID ACTUATOR (M10)

cardiagn.com

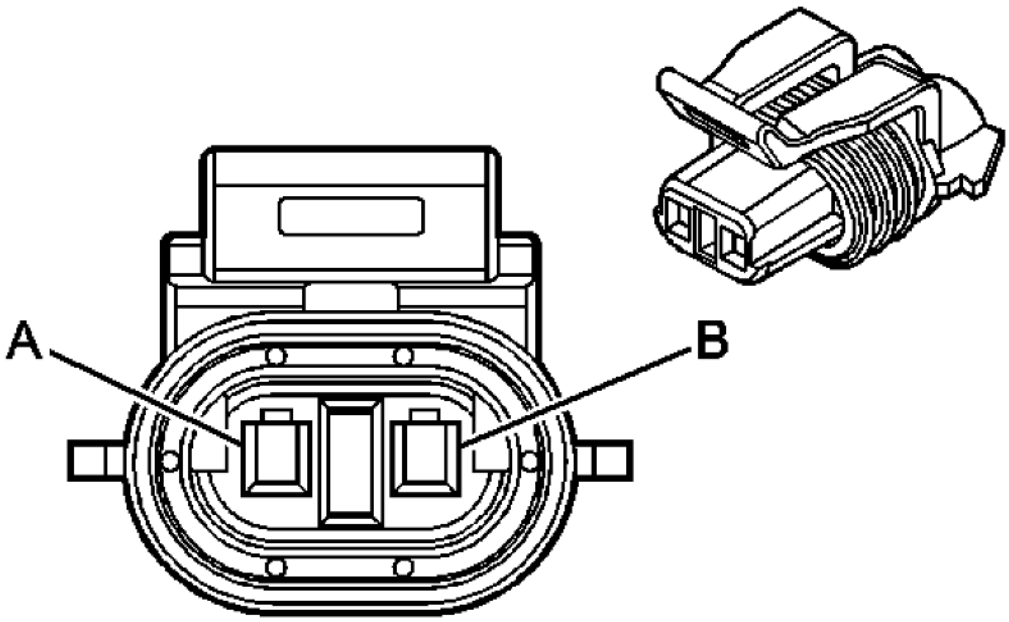


Fig. 14: Q34 Skip Shift Solenoid Actuator (M10) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12052646
- Service: 12101857
- Description: 2-Way F Metri-Pack 150 Sealed (WH)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Q34 Skip Shift Solenoid Actuator (M10)

Pin	Wire	Circuit	Function
A	0.5 PK	239	Ignition Voltage
B	0.5 GY	587	Skip/Shift Solenoid Control

cardiagn.com

Q38 THROTTLE BODY (L99 OR LS3)

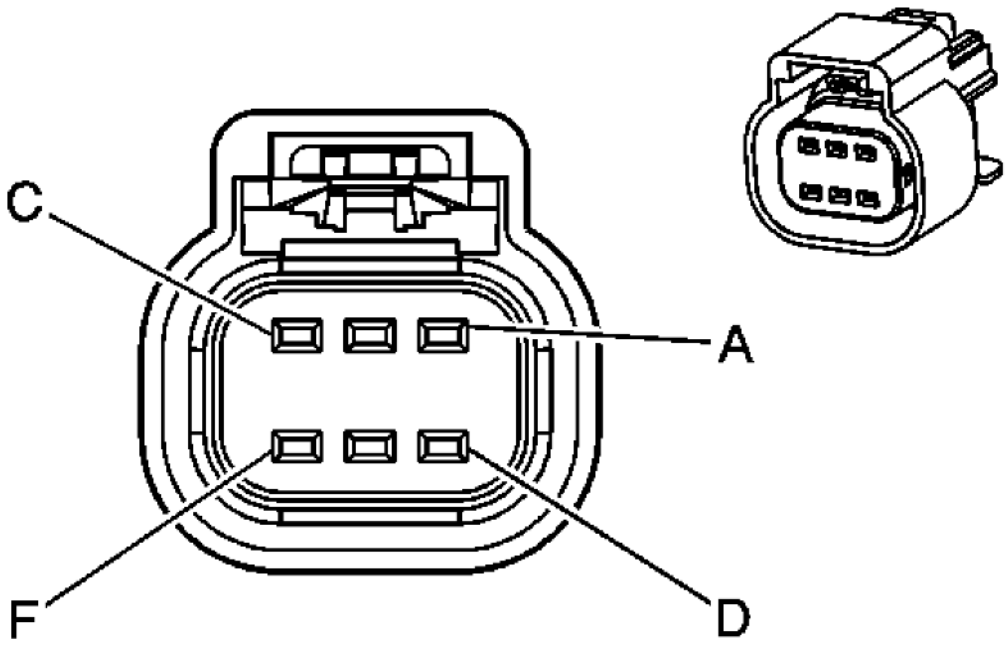


Fig. 15: Q38 Throttle Body (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15418497
- Service: 19207180
- Description: 6-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: Pins A, B - 2/1
- Core/Insulation Crimp: Pins C, D, E, F - E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q38 Throttle Body (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
A	0.8 BN	582	TAC Motor Control - 2
B	0.8 YE	581	TAC Motor Control - 1
C	0.5 TN	2752	Low Reference
D	0.5 D-GN	485	TP Sensor 1 Signal
E	0.5 GY	2701	5-Volt Reference 2
F	0.5 PU	486	TP Sensor 2 Signal

Q38 THROTTLE BODY (LLT)

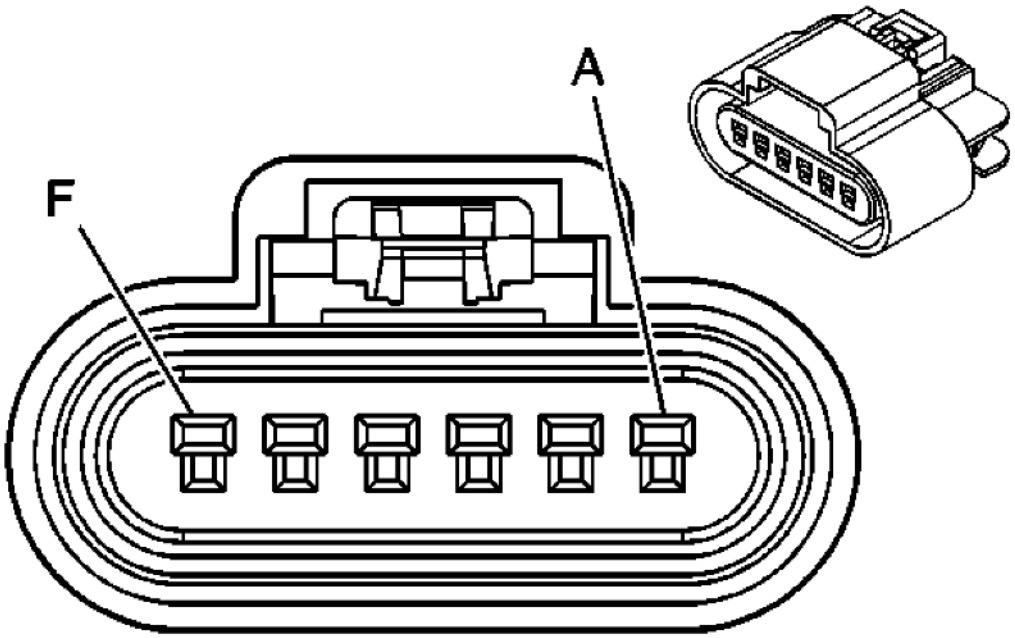


Fig. 16: Q38 Throttle Body (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15397577
- Service: 88988944
- Description: 6-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: Pins A, B - 2/1
- Core/Insulation Crimp: Pins C, D, E, F - E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q38 Throttle Body (LLT)

Pin	Wire	Circuit	Function
A	0.8 BN	582	TAC Motor Control - 2
B	0.8 YE	581	TAC Motor Control - 1
C	0.5 TN	2752	Low Reference
D	0.5 D-GN	485	TP Sensor 1 Signal
E	0.5 GY	2701	5-Volt Reference 3
F	0.5 PU	486	TP Sensor 2 Signal

Q43 VALVE LIFTER OIL MANIFOLD ASSEMBLY (L99)

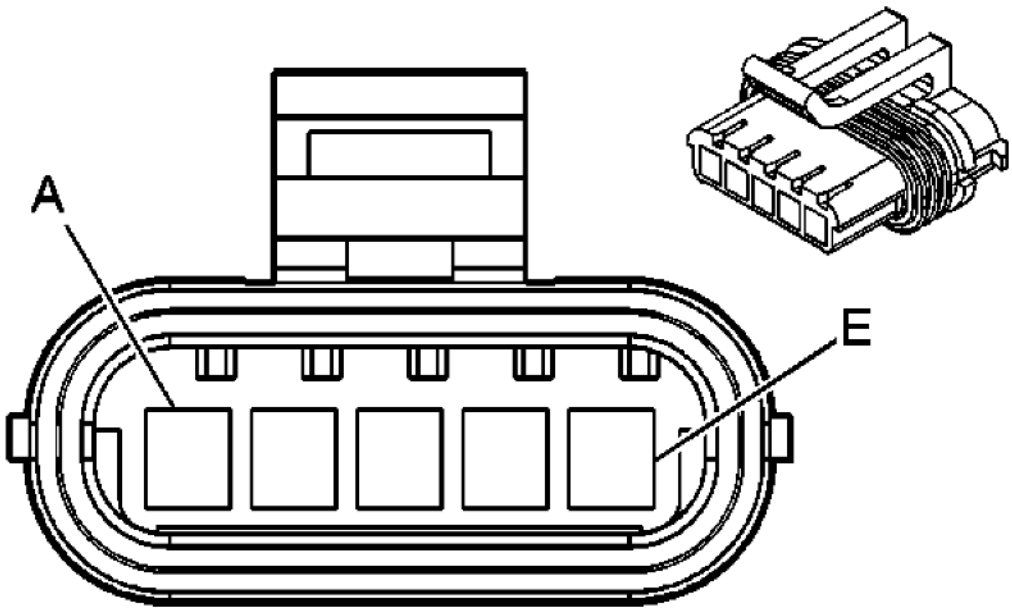


Fig. 17: Q43 Valve Lifter Oil Manifold Assembly (L99) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 12186057
- Service: 15306027
- Description: 5-Way F Metri-Pack 150.2, Pull To Seat Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12124075/5
- Core/Insulation Crimp: E/C
- Release Tool: 12180559-1
- Test Probe: J-35616-14 (GN)

Q43 Valve Lifter Oil Manifold Assembly (L99)

Pin	Wire	Circuit	Function
A	0.5 OG	5494	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 4 Shutoff Solenoid
B	0.5 GY	5493	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 6 Shutoff Solenoid
C	0.5 D-BU	5491	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 1 Shutoff Solenoid
D	0.5 L-GN	5492	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 7 Shutoff Solenoid
E	0.5 PK	239	Ignition Voltage

Q6 CAMSHAFT POSITION ACTUATOR SOLENOID VALVE (L99)

cardiagn.com

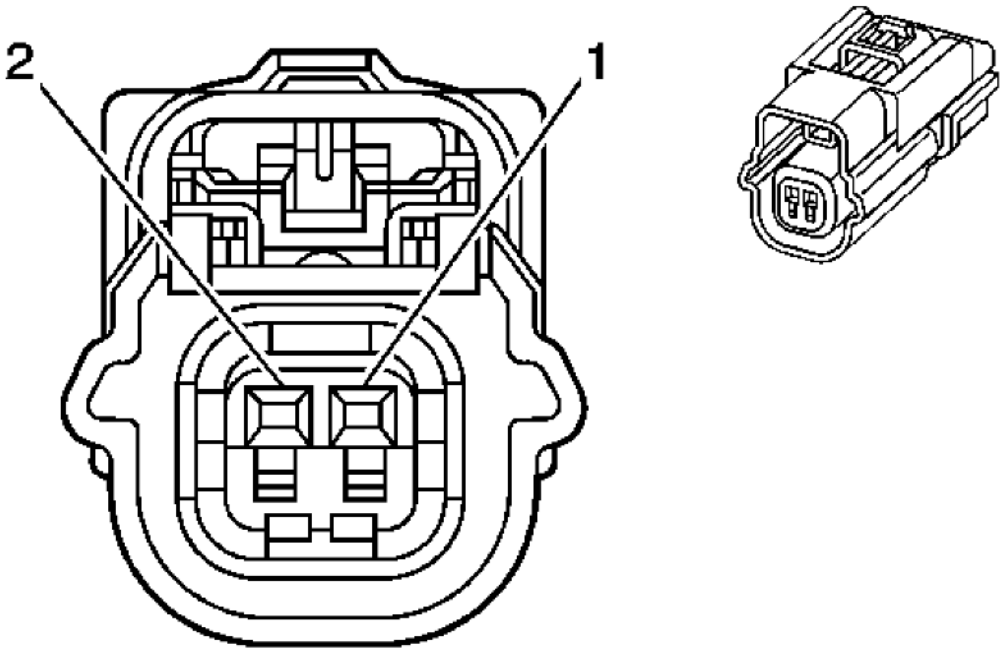


Fig. 18: Q6 Camshaft Position Actuator Solenoid Valve (L99) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Camshaft Position (CMP) Sensor and Camshaft Position (CMP) Actuator Solenoid Valve
- OEM: 13528494
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 0.64 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

Q6 Camshaft Position Actuator Solenoid Valve (L99)

Pin	Wire	Circuit	Function
1	0.5 PU	5284	CMP Actuator Solenoid Control

cardiagn.com

2	0.5 TN	2199	Low Reference

Q6A CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 1 EXHAUST (LLT)

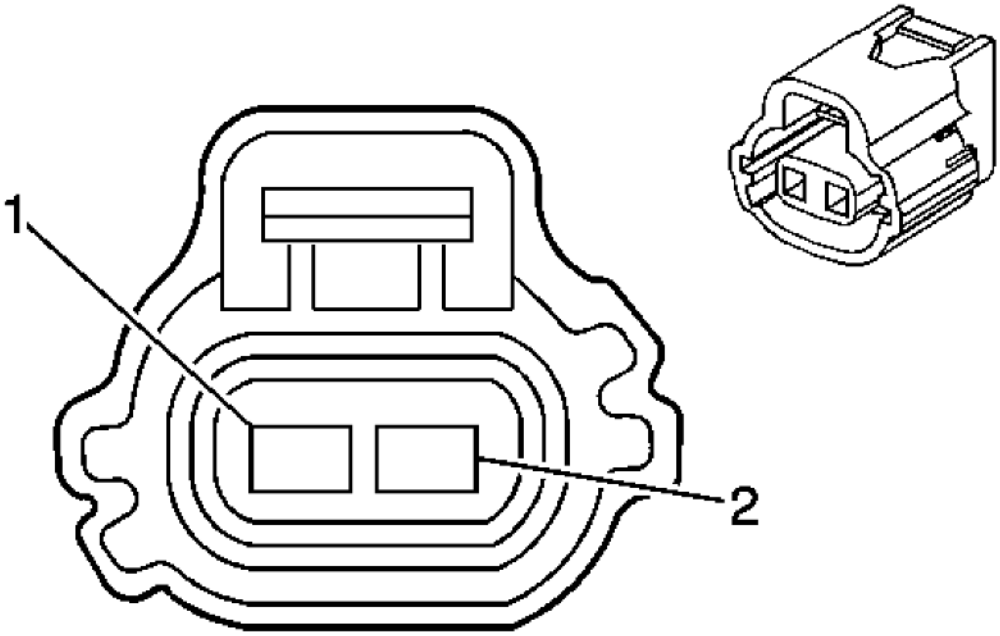


Fig. 19: Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15411401
- Service: 88988588
- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4026/11
- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

cardiagn.com

Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 L-GN	5282	CMP Actuator Solenoid Control - Exhaust Bank 1

Q6B CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 1 INTAKE (LLT)

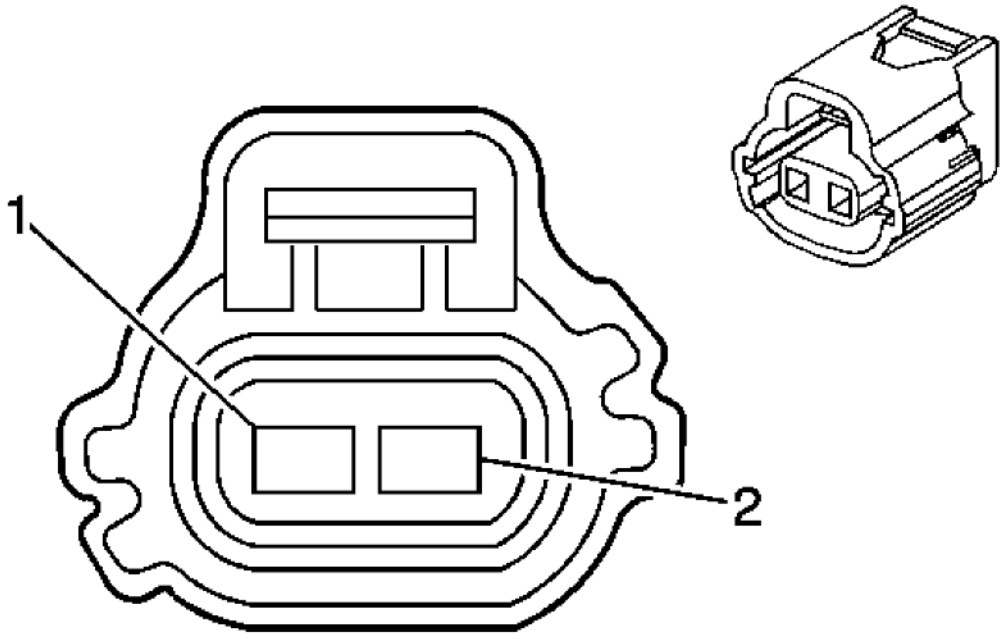


Fig. 20: Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15411401
- Service: 88988588
- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4026/11

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 PU	5284	CMP Actuator Solenoid Control - Intake Bank 1

Q6C CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 2 EXHAUST (LLT)

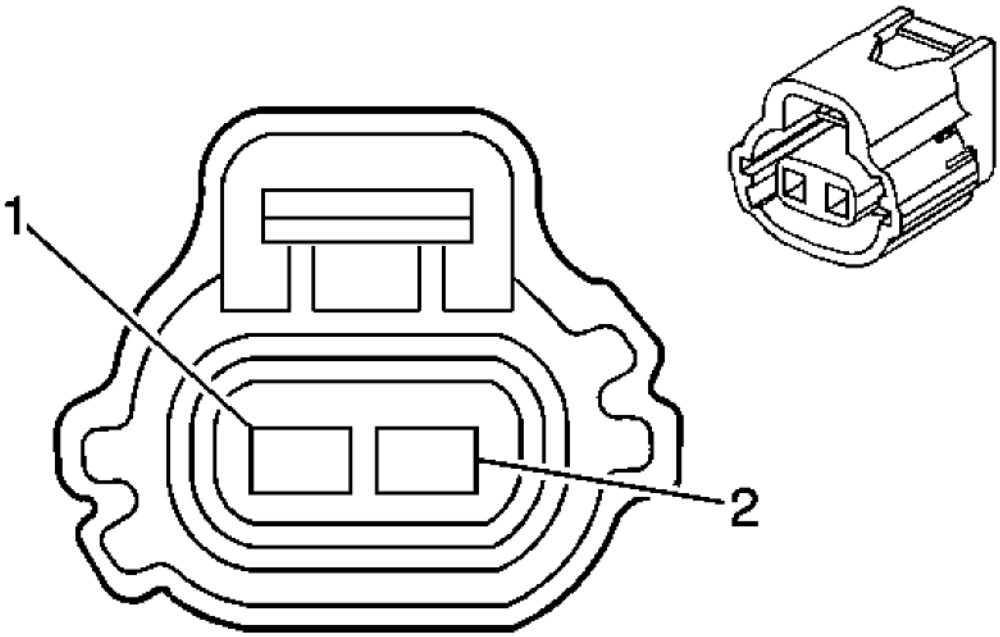


Fig. 21: Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15411401
- Service: 88988588

cardiagn.com

- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4026/11
- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 WH/BK	5283	CMP Actuator Solenoid Control - Exhaust Bank 2

Q6D CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 2 INTAKE (LLT)

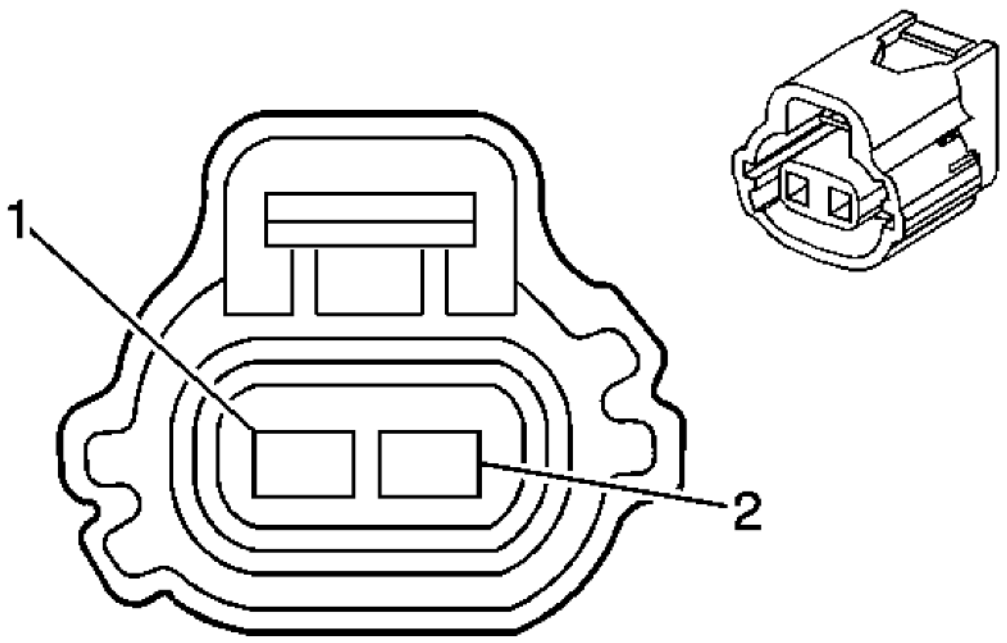


Fig. 22: Q6D Camshaft Position Actuator Solenoid Valve - Bank 2 Intake (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 15411401
- Service: 88988588
- Description: 2-Way F Sealed (BK)

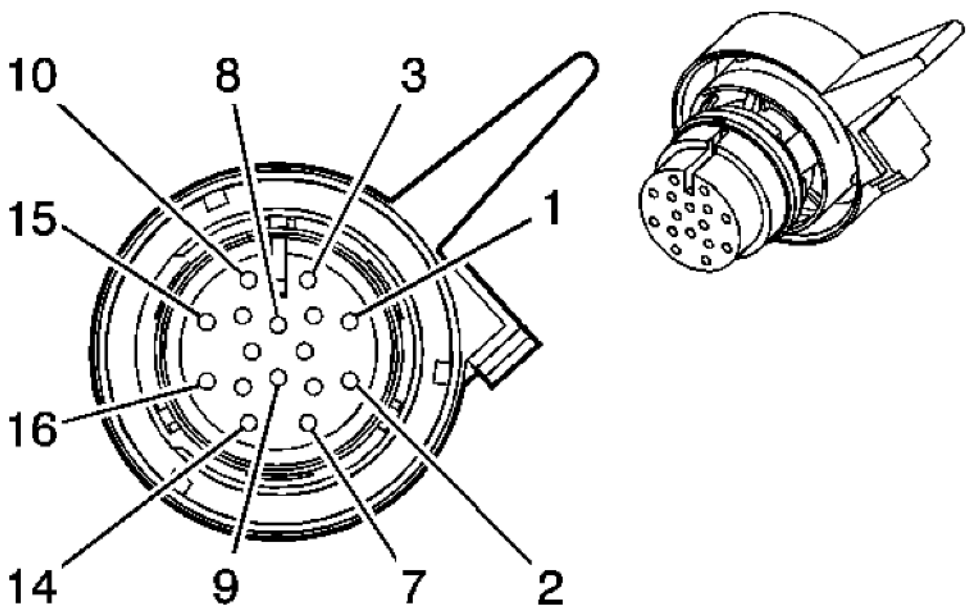
Terminal Part Information

- Terminal/Tray: 7116-4026/11
- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

Q6D Camshaft Position Actuator Solenoid Valve - Bank 2 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 OG/BK	5272	CMP Actuator Solenoid Control - Intake Bank 2

Q8 CONTROL SOLENOID VALVE ASSEMBLY X1 (MYB OR MYC)



cardiagn.com

Fig. 23: Q8 Control Solenoid Valve Assembly X1 (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15491328
- Service: 15131300
- Description: 16-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 2 21 24 47220 0/12
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-28
- Test Probe: J-35616-66 (YE)

Q8 Control Solenoid Valve Assembly X1 (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.8 RD/WH	1840	Battery Positive Voltage
2	0.5 BK/WH	451	Ground
3	0.5 OG/BK	1786	Park/Neutral Signal
4	0.5 RD/WH	1840	Battery Positive Voltage
5	0.5 BK/WH	451	Ground
6-8	-	-	Not Used
9	0.35 D-BU	5985	Serial Data Wake-Up Signal
10	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus+
11	0.5 TN	2501	High Speed GMLAN Serial Data Bus -
12	0.5 PK	2139	Ignition Voltage
13	0.5 TN	2501	High Speed GMLAN Serial Data Bus -
14	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus+
15-16	-	-	Not Used

Q8 CONTROL SOLENOID VALVE ASSEMBLY X2 (MYB OR MYC)

cardiagn.com

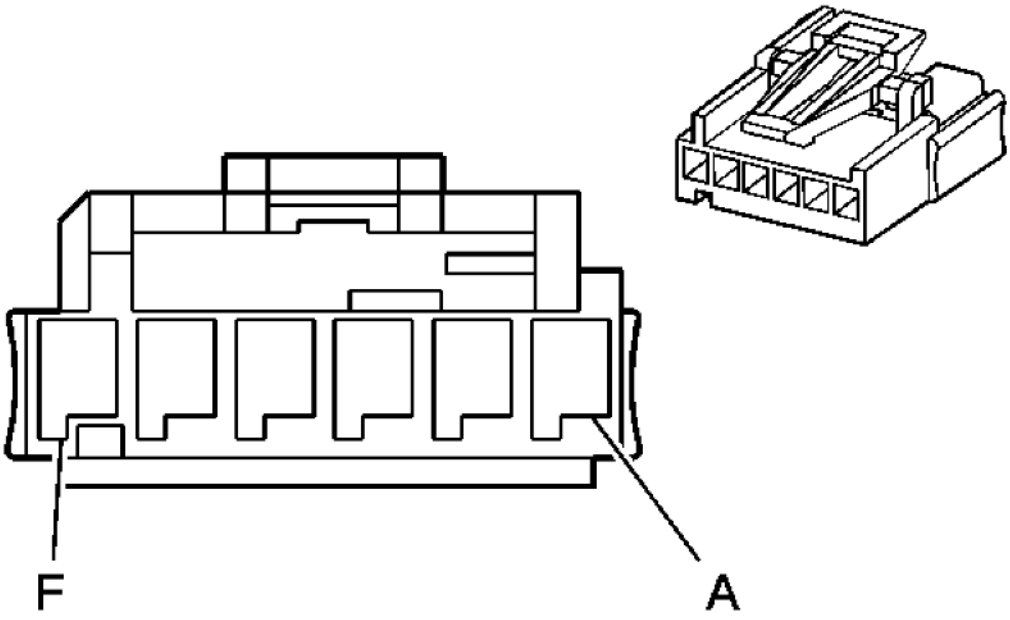


Fig. 24: Q8 Control Solenoid Valve Assembly X2 (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Transmission
- OEM: 15336500
- Service: 89046635
- Description: 6-Way F Metri-Pack 150.2 Series (GN)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q8 Control Solenoid Valve Assembly X2 (MYB or MYC)

Pin	Wire	Circuit	Function
A	0.35 GY	-	Ground
B	0.35 BK	-	Transmission Range Switch Signal P
C	0.35 YE	-	Transmission Range Switch Signal C

cardiagn.com

D	0.35 RD	-	Transmission Range Switch Signal B
E	0.35 GN	-	Transmission Range Switch Signal A
F	0.35 WH	-	Park/Neutral Switch Signal

Q8 CONTROL SOLENOID VALVE ASSEMBLY X3 (MYB OR MYC)

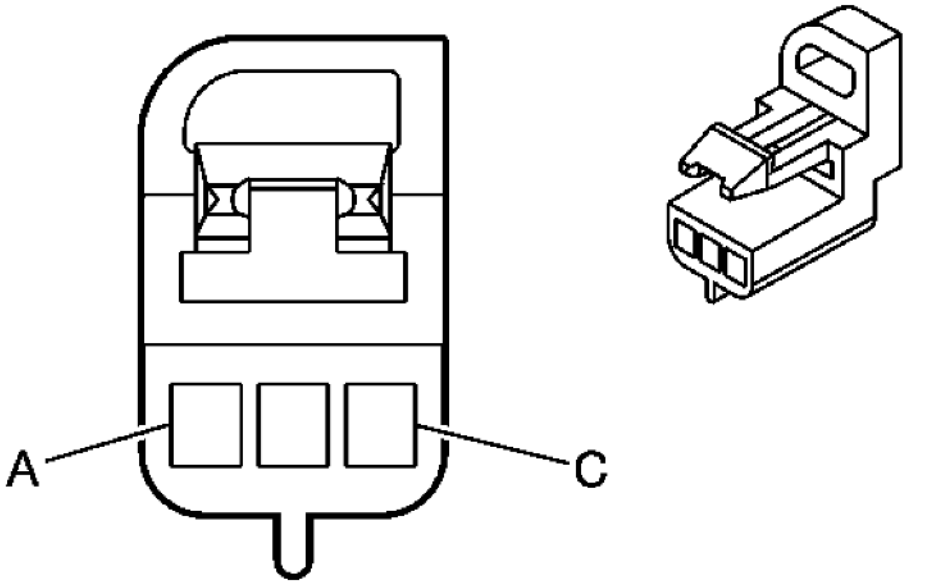


Fig. 25: Q8 Control Solenoid Valve Assembly X3 (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Transmission
- OEM: 13539487
- Service: Service by Harness - See Part Catalog
- Description: 3-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available

cardiagn.com

- Test Probe: Not Available

Q8 Control Solenoid Valve Assembly X3 (MYB or MYC)

Pin	Wire	Circuit	Function
A	0.35 GN	-	Input Speed Sensor (ISS) Signal
B	0.35 RD	-	ISS/OSS Supply Voltage
C	0.35 BK	-	Output Speed Sensor (OSS) Signal

R14R REAR WINDOW DEFOGGER NOISE FILTER - RIGHT X1

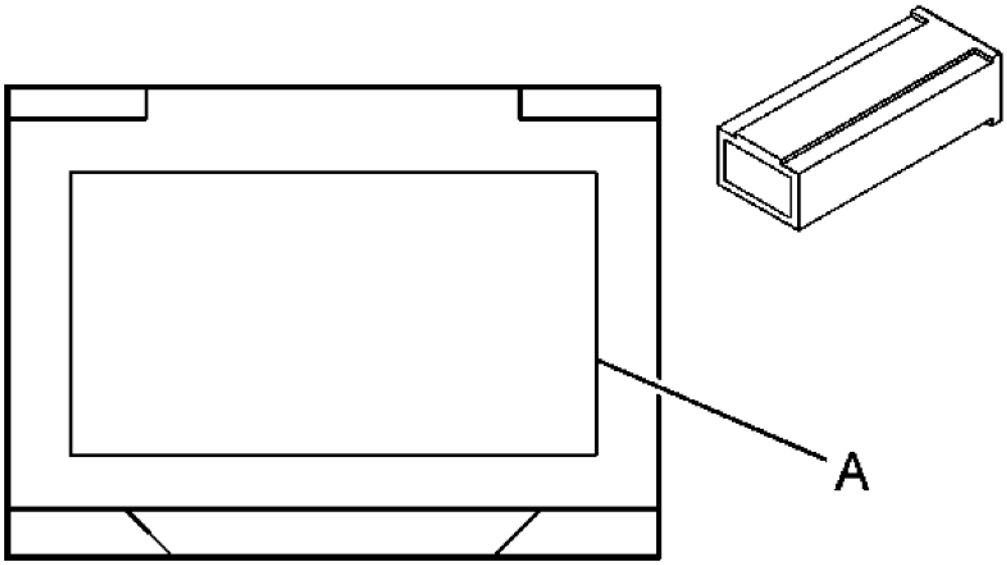


Fig. 26: R14R Rear Window Defogger Noise Filter - Right X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

R14R Rear Window Defogger Noise Filter - Right X1

Pin	Wire	Circuit	Function
A	5 PU	293	Rear Defog Element Supply Voltage

R14R REAR WINDOW DEFOGGER NOISE FILTER - RIGHT X2

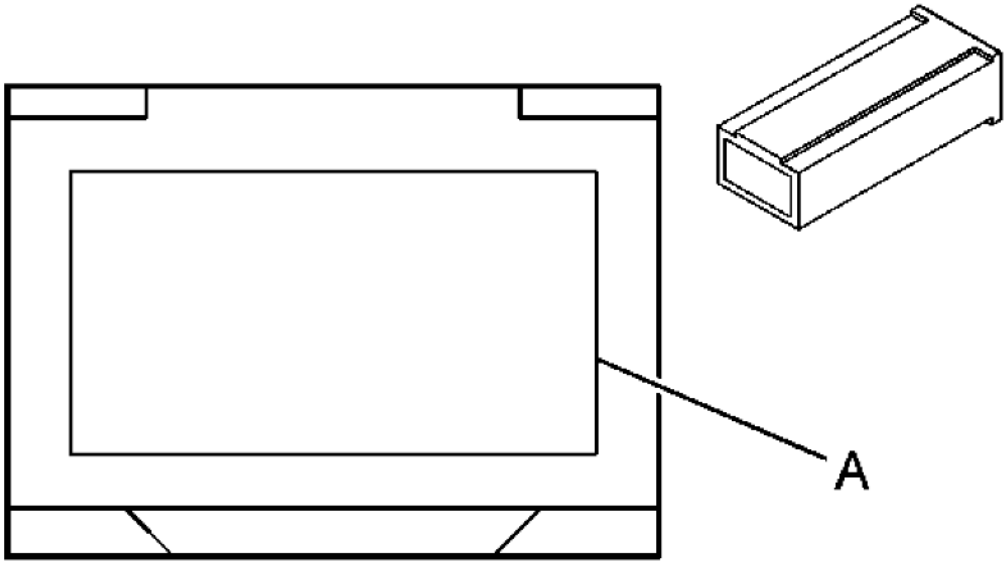


Fig. 27: R14R Rear Window Defogger Noise Filter - Right X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

R14R Rear Window Defogger Noise Filter - Right X2

Pin	Wire	Circuit	Function
A	5 PU	293	Rear Defog Element Supply Voltage

R6 DATA LINK RESISTOR

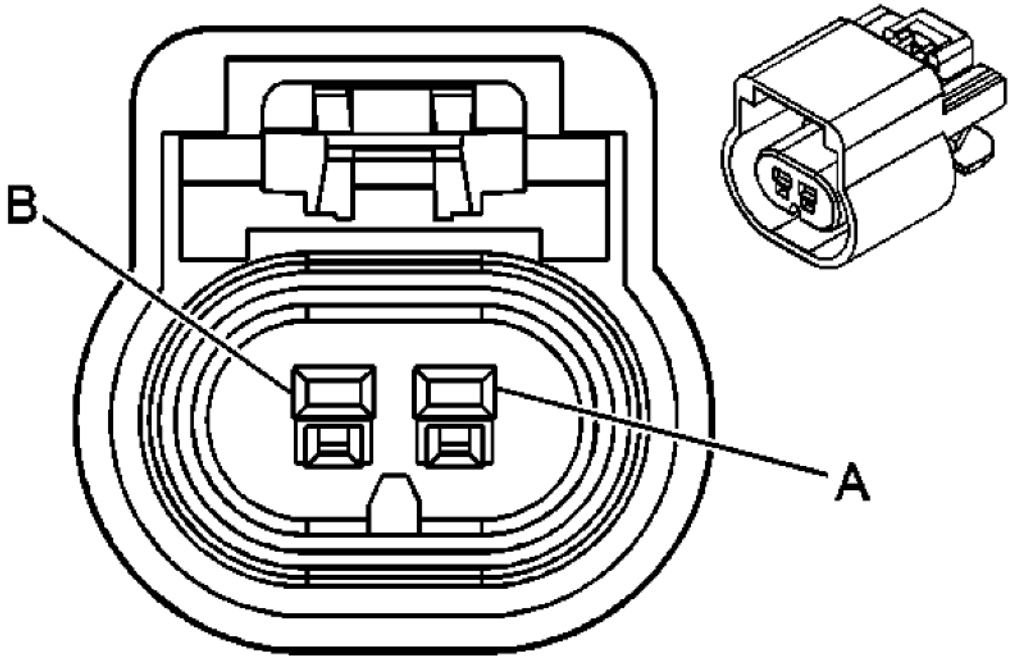


Fig. 28: R6 Data Link Resistor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15326801
- Service: 15306156
- Description: 2-Way F GT 150 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

R6 Data Link Resistor

Pin	Wire	Circuit	Function
A	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
B	0.35 TN	2501	High Speed GMLAN Serial Data Bus -

S25 GARAGE DOOR OPENER (UG1)

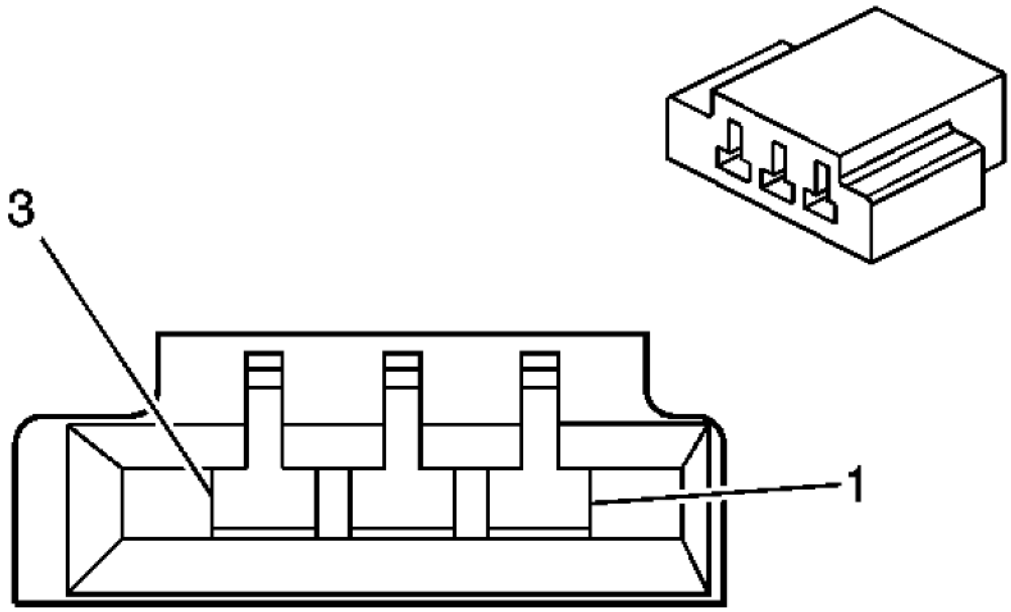


Fig. 29: S25 Garage Door Opener (UG1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13658917

cardiagn.com

- Service: 13505907
- Description: 3-Way F P/C EDGBD-ECM (CR)

Terminal Part Information

- Terminal/Tray: 13673882/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

S25 Garage Door Opener (UG1)

Pin	Wire	Circuit	Function
1	0.35 RD/WH	3140	Battery Positive Voltage
2	-	-	Not Used
3	0.35 BK	1550	Ground

S2L TRANSMISSION MANUAL SHIFT SWITCH - LEFT (MYB OR MYC)

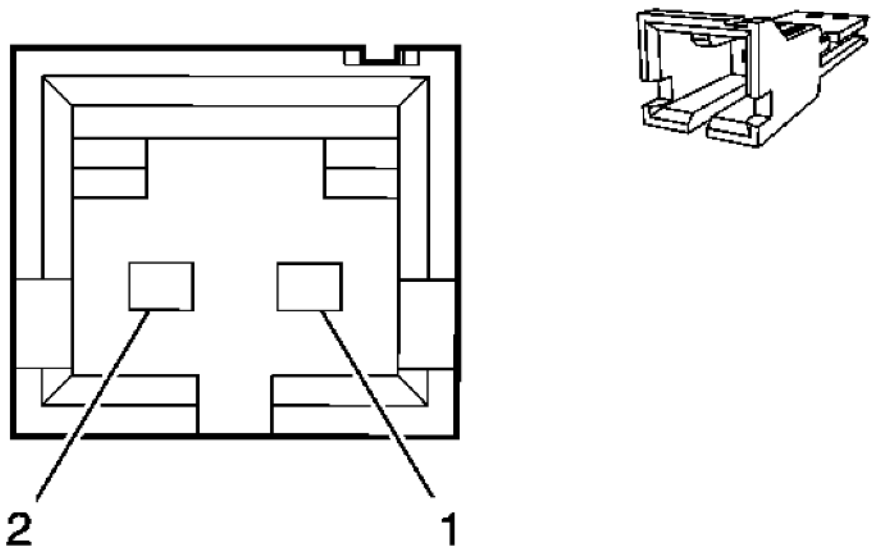


Fig. 30: S2L Transmission Manual Shift Switch - Left (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Steering Wheel
- OEM: 103653-1
- Service: Service by Harness See Part Catalog
- Description: 2-Way M MTE Series (BK)

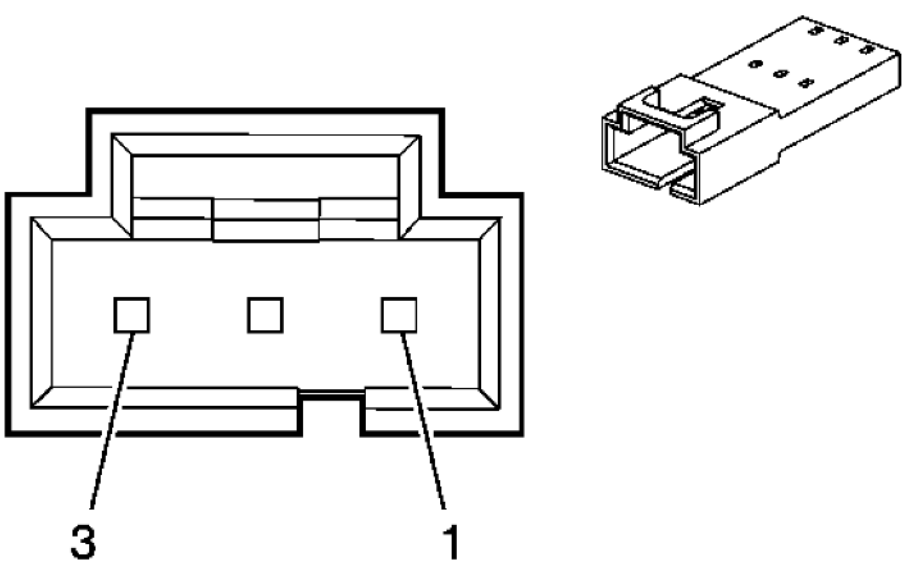
Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

S2L Transmission Manual Shift Switch - Left (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.35 PU	5526	Tap Up/Tap Down Switch Signal
2	0.35 D-BU/RD	5525	Tap Up/Tap Down Enabled Signal

S2R TRANSMISSION MANUAL SHIFT SWITCH - RIGHT (MYB OR MYC)



cardiagn.com

Fig. 31: S2R Transmission Manual Shift Switch - Right (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: 103653-2
- Service: Service by Harness See Part Catalog
- Description: 3-Way M MTE Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

S2R Transmission Manual Shift Switch - Right (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.35 BK	1550	Ground
2	0.35 PU	5526	Tap Up/Tap Down Switch Signal
3	0.35 D-BU/RD	5525	Tap Up/Tap Down Enabled Signal

S30 HEADLAMP SWITCH

cardiagn.com

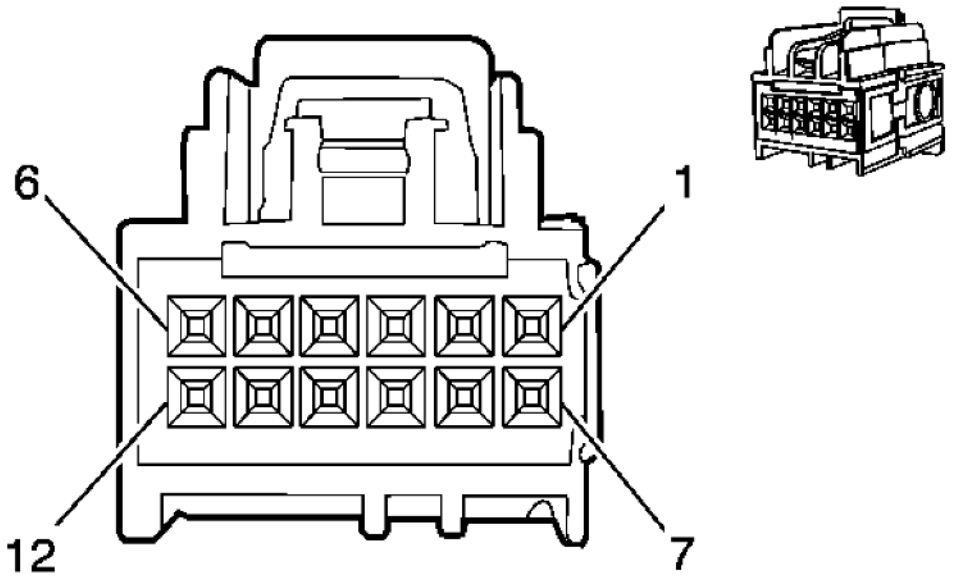


Fig. 32: S30 Headlamp Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 10890121
- Service: 13316200
- Description: 12-Way F 0.64 Micro Quadlok Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 5, 7, 12 - H/H
- Core/Insulation Crimp: Pins 6 - K/K
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S30 Headlamp Switch

Pin	Wire	Circuit	Function
1	0.35 YE/BK	7556	Headlamp Switch Reference Voltage

cardiagn.com

2	-	-	Not Used
3	0.35 L-BU	13	Headlamp Switch Park Lamps Signal
4	0.35 WH	103	Headlamp Switch Headlamps On Signal
5	0.35 D-GN	306	Headlamp Switch Headlamps Off Signal/Automatic Headlamp Low Control
6	0.8 BK	1550	Ground
7	0.35 YE	6817	LED Backlight Dimming Control
8-11	-	-	Not Used
12	0.35 D-GN	7555	Headlamp Switch Signal

S39 IGNITION SWITCH

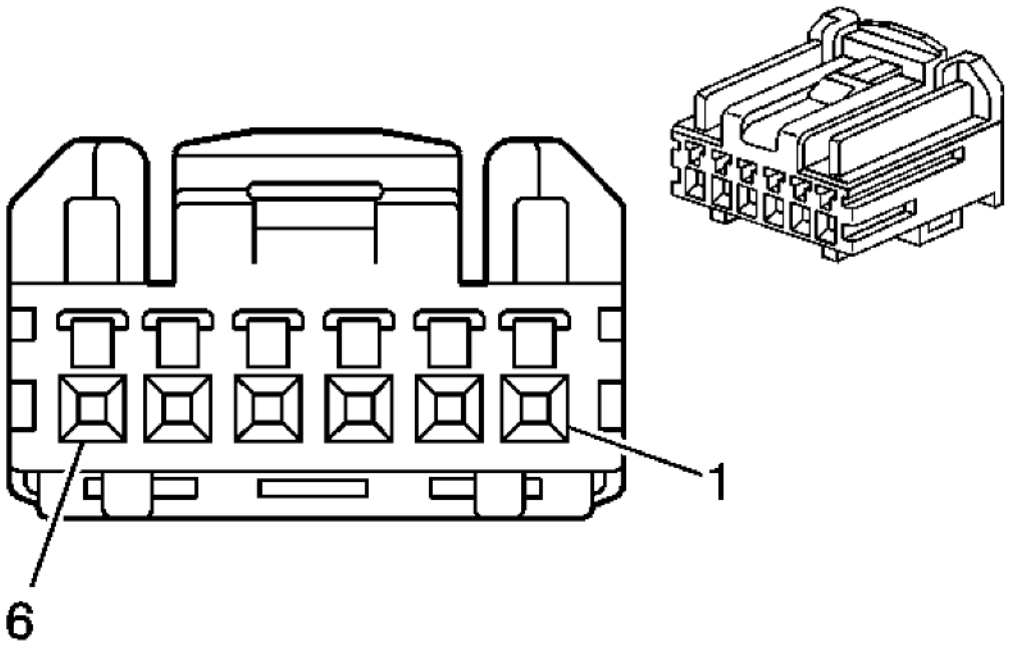


Fig. 33: S39 Ignition Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13608102
- Service: 19153174

cardiagn.com

- Description: 6-Way F 1.2 HCM Unsealed (WH)

Terminal Part Information

- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S39 Ignition Switch

Pin	Wire	Circuit	Function
1	0.35 PK	3	Ignition Voltage
2	0.5 RD/WH	540	Battery Positive Voltage
3	0.35 BN	4	Accessory Voltage
4	0.35 PK	1020	Ignition Voltage
5	-	-	Not Used
6	0.35 WH/BK	1073	5-Volt Reference

S52 OUTSIDE REARVIEW MIRROR SWITCH

cardiagn.com

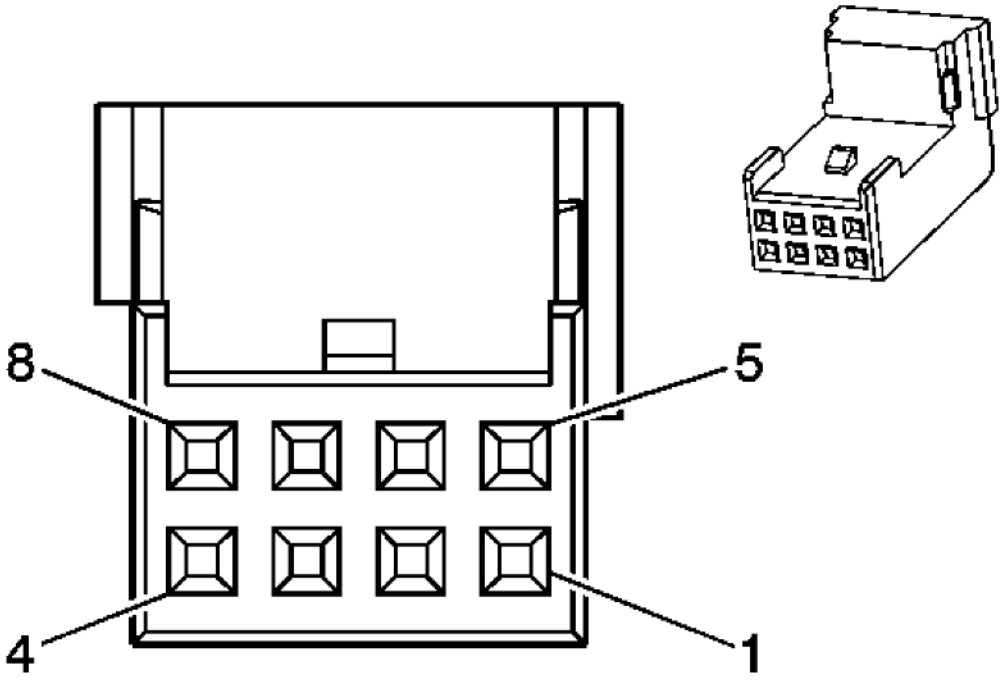


Fig. 34: S52 Outside Rearview Mirror Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 15327190
- Service: 88988407
- Description: 8-Way F DUCON 0.8 Series (GY)

Terminal Part Information

- Terminal/Tray: 15326592/19
- Core/Insulation Crimp: E/2
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S52 Outside Rearview Mirror Switch

Pin	Wire	Circuit	Function
1	0.5 RD/WH	1940	Battery Positive Voltage

cardiagn.com

2	0.5 BK	850	Ground
3	0.5 PU/WH	889	Passenger Mirror Motor Down Control
4	0.5 WH	81	Driver Mirror Motor Right Control
5	0.5 TN	329	Mirror Motor Up/Left Control
6	-	-	Not Used
7	0.5 L-GN	89	Driver Mirror Motor Down Control
8	0.5 OG/WH	881	Passenger Mirror Motor Right Control

S58 REAR COMPARTMENT LID UNLATCH SWITCH

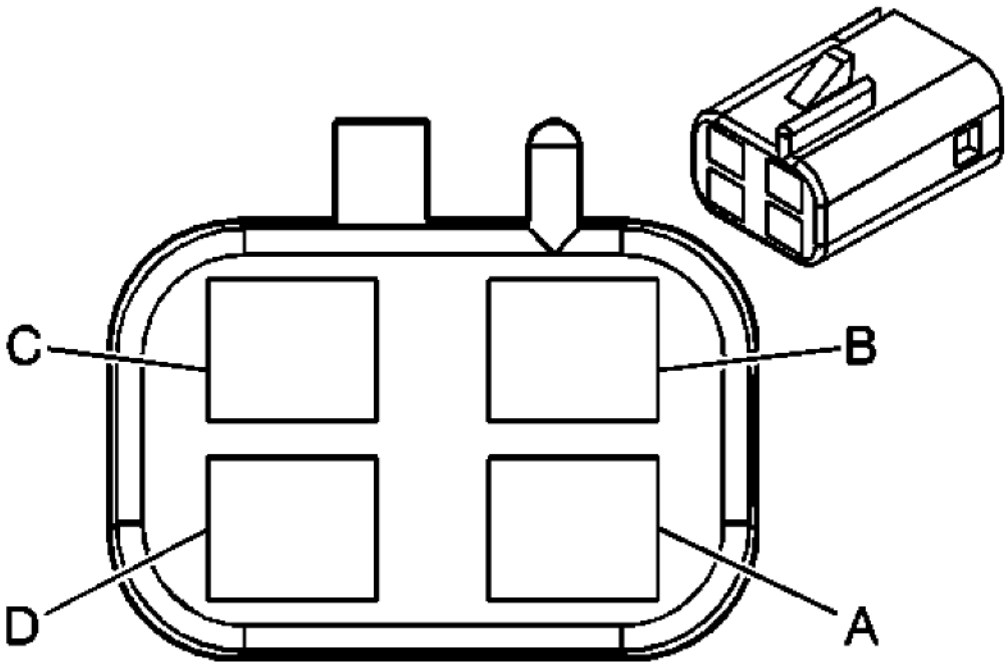


Fig. 35: S58 Rear Compartment Lid Unlatch Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 12047785
- Service: 12102900
- Description: 4-Way F Metri-Pack 150 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12064971/5
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

S58 Rear Compartment Lid Unlatch Switch

Pin	Wire	Circuit	Function
A	0.35 BK	850	Ground
B	-	-	Not Used
C	0.35 D-BU	6189	Rear Compartment Lid Release Switch
D	-	-	Not Used

S64D SEAT ADJUSTER SWITCH - DRIVER (AH3)

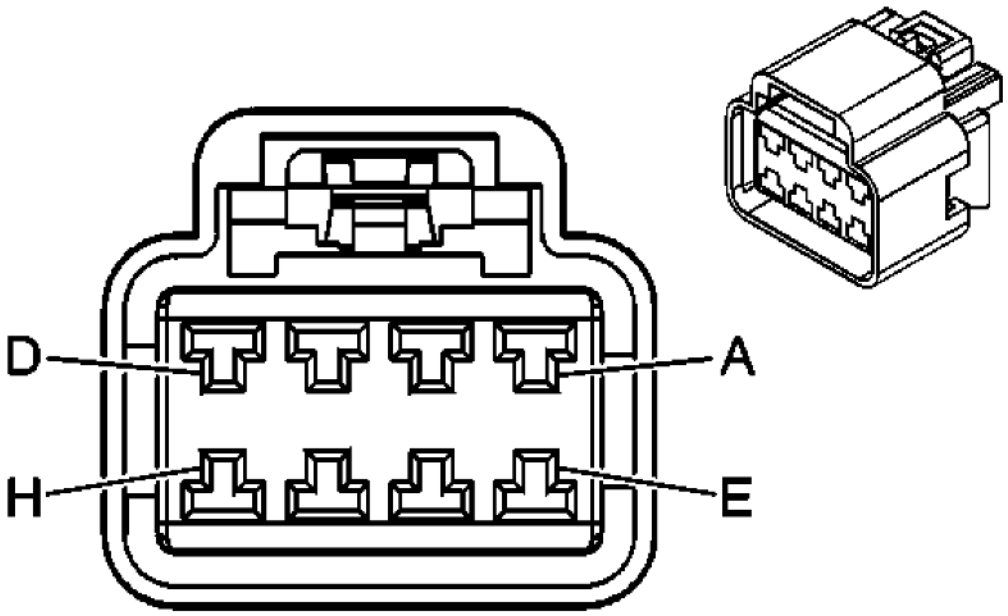


Fig. 36: S64D Seat Adjuster Switch - Driver (AH3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Driver Seat
- OEM: 15326924
- Service: 19181247
- Description: 8-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

S64D Seat Adjuster Switch - Driver (AH3)

Pin	Wire	Circuit	Function
A	-	-	Not Used
B	3 BK	850	Ground
C	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control
D	3 RD/WH	5040	Battery Positive Voltage
E	-	-	Not Used
F	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
G-H	-	-	Not Used

S64D SEAT ADJUSTER SWITCH - DRIVER (AMM)

cardiagn.com

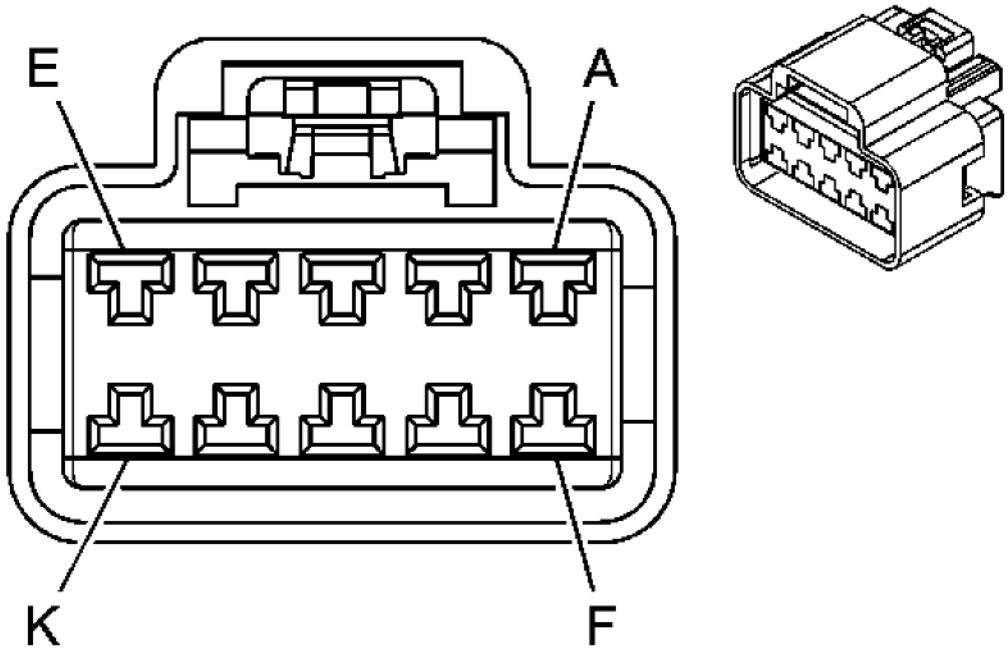


Fig. 37: S64D Seat Adjuster Switch - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 15326931
- Service: 15306309
- Description: 10-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

S64D Seat Adjuster Switch - Driver (AMM)

Pin	Wire	Circuit	Function
A	3 D-GN	286	Driver Seat Front Vertical Motor Up Control

cardiagn.com

B	3 BK	850	Ground
C	3 L-GN	284	Driver Seat Horizontal Motor Rearward Control
D	3 TN	285	Driver Seat Horizontal Motor Forward Control
E	3 RD/WH	5040	Battery Positive Voltage
F	3 YE	282	Driver Seat Rear Vertical Motor Up Control
G	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
H	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control
J	3 L-BU	283	Driver Seat Rear Vertical Motor Down Control
K	3 D-BU	287	Driver Seat Front Vertical Motor Down Control

S64P SEAT ADJUSTER SWITCH - PASSENGER

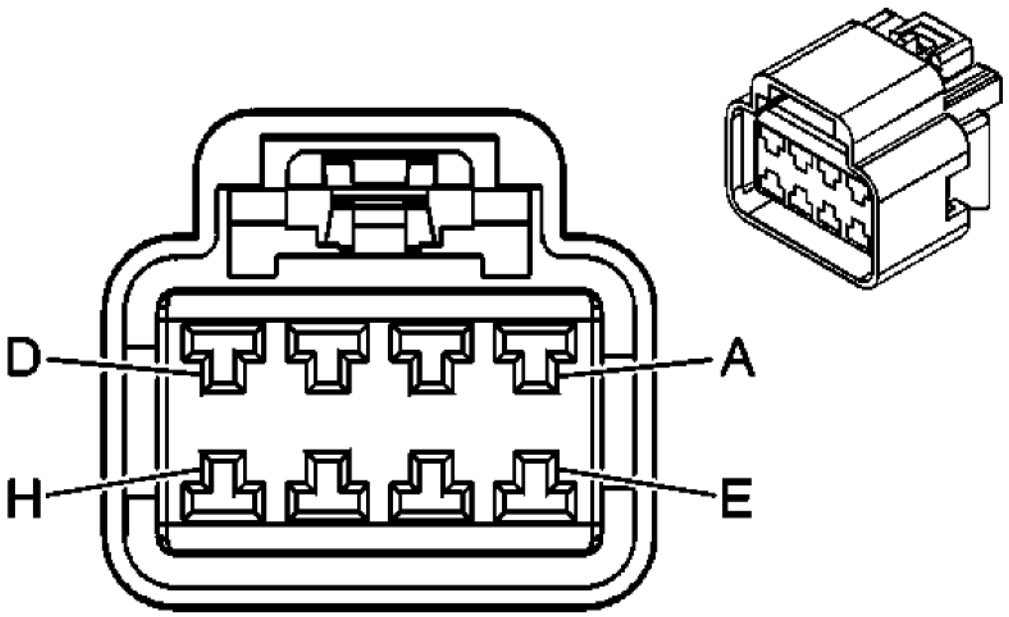


Fig. 38: S64P Seat Adjuster Switch - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Passenger Seat
- OEM: 15326924
- Service: 19181247
- Description: 8-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

S64P Seat Adjuster Switch - Passenger

Pin	Wire	Circuit	Function
A	-	-	Not Used
B	3 BK	850	Ground
C	3 D-GN/YE	76	Passenger Seat Recline Motor Forward
D	3 RD/WH	1440	Battery Positive Voltage
E	-	-	Not Used
F	3 D-BU/YE	77	Passenger Seat Recline Motor Rearward
G-H	-	-	Not Used

S70L STEERING WHEEL CONTROLS SWITCH - LEFT

cardiagn.com

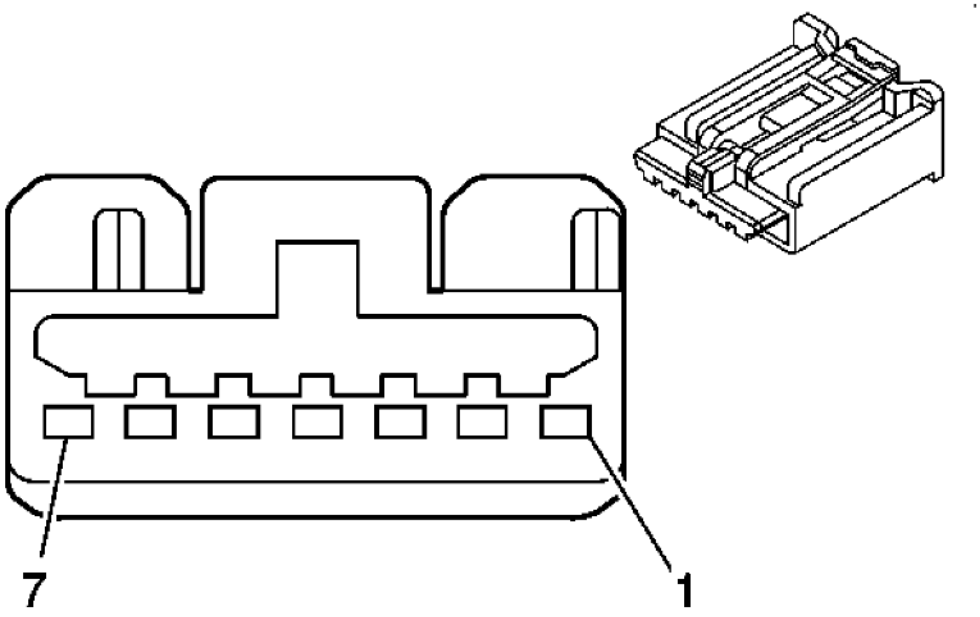


Fig. 39: S70L Steering Wheel Controls Switch - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: AIT2PB-07-1FS
- Service: 88988919
- Description: 7-Way F AIT II Series (WH)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

S70L Steering Wheel Controls Switch - Left

Pin	Wire	Circuit	Function
1	0.35 PK	1444	12-Volt Reference
2	-	-	Not Used

cardiagn.com

3	0.35 GY	1884	Cruise Control Switch Signal
4-5	-	-	Not Used
6	0.35 BN	6136	LED Backlight Dimming Control
7	0.35 BK	1550	Ground

S70R STEERING WHEEL CONTROLS SWITCH - RIGHT (NZL)

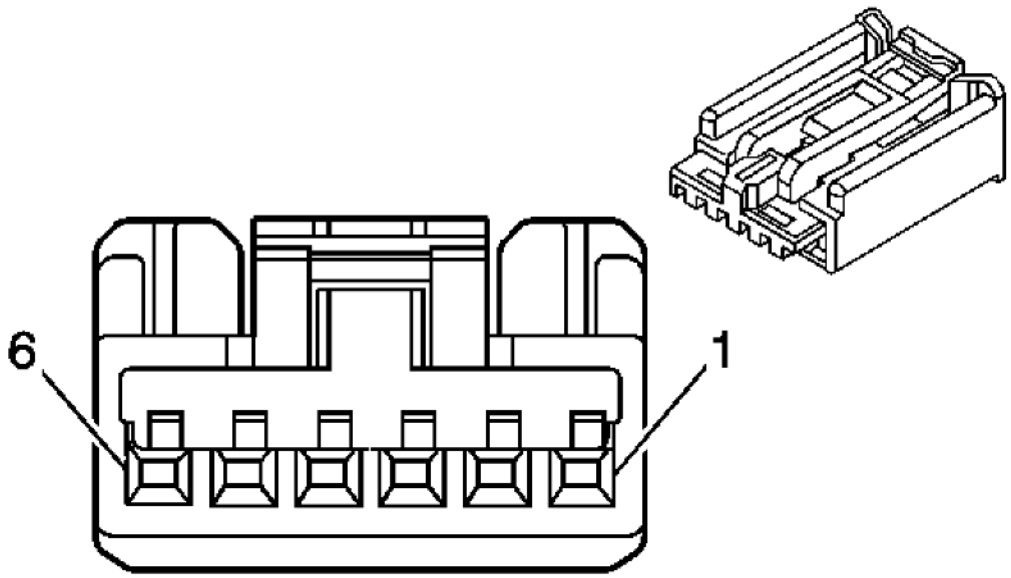


Fig. 40: S70R Steering Wheel Controls Switch - Right (NZL) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: AIT2PB-06-1AK
- Service: 19167753
- Description: 6-Way F AIT II Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

S70R Steering Wheel Controls Switch - Right (NZL)

Pin	Wire	Circuit	Function
1	0.35 PK	1444	12-Volt Reference
2	0.35 L-GN	6818	Steering Wheel Control Switch Signal
3	-	-	Not Used
4	0.35 BN	6136	LED Backlight Dimming Control
5	0.35 BK	1550	Ground
6	-	-	Not Used

S72 SUNROOF SWITCH (CF5)

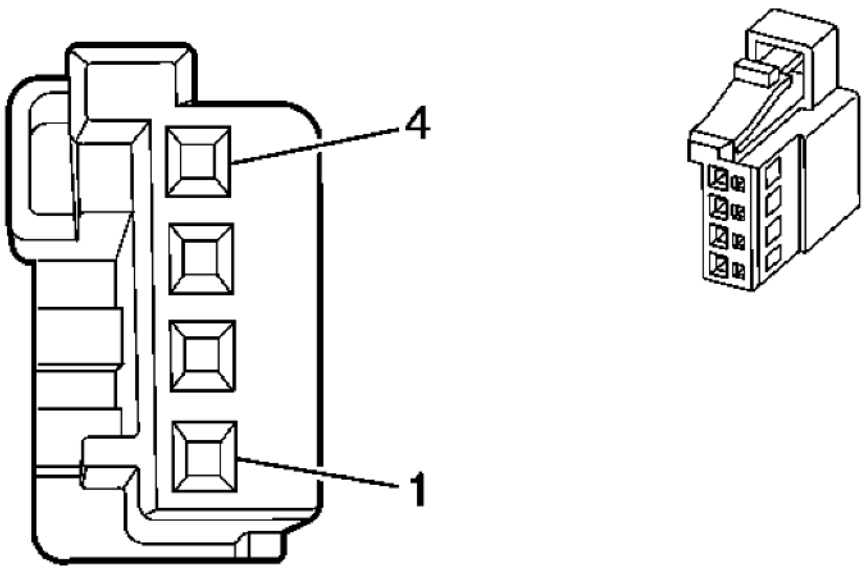


Fig. 41: S72 Sunroof Switch (CF5) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 10768790

cardiagn.com

- Service: 13216377
- Description: 4-Way F 0.64 Micro Quadlok Series (BK)

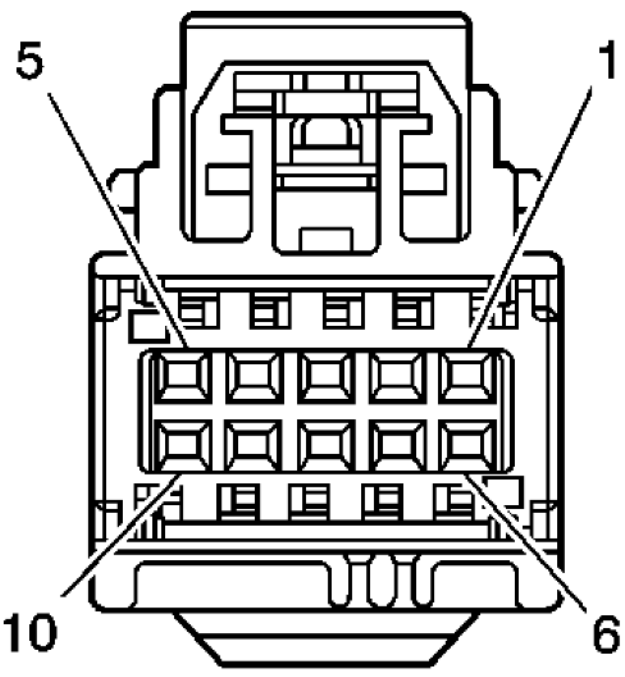
Terminal Part Information

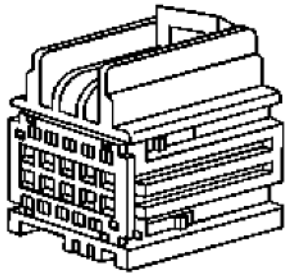
- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: H/H
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S72 Sunroof Switch (CF5)

Pin	Wire	Circuit	Function
1	0.35 D-BU	128	Low Reference
2	0.35 YE	6817	LED Backlight Dimming Control
3	0.35 BK	1550	Ground
4	0.35 L-BU	5027	Sunroof Switch Data 1

S75 TRACTION CONTROL SWITCH





cardiagn.com

Fig. 42: S75 Traction Control Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Console Cap Link
- OEM: 15491259
- Service: 15127042
- Description: 10-Way F YESC Kaizen Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: /J-35616-64B (L-BU)

S75 Traction Control Switch

Pin	Wire	Circuit	Function
1	0.35 YE	6817	LED Backlight Dimming Control
2	0.35 BK	1550	Ground
3-6	-	-	Not Used
7	0.35 L-BU	1788	Traction Control Switch Signal
8-10	-	-	Not Used

S78 TURN SIGNAL/MULTIFUNCTION SWITCH

cardiagn.com

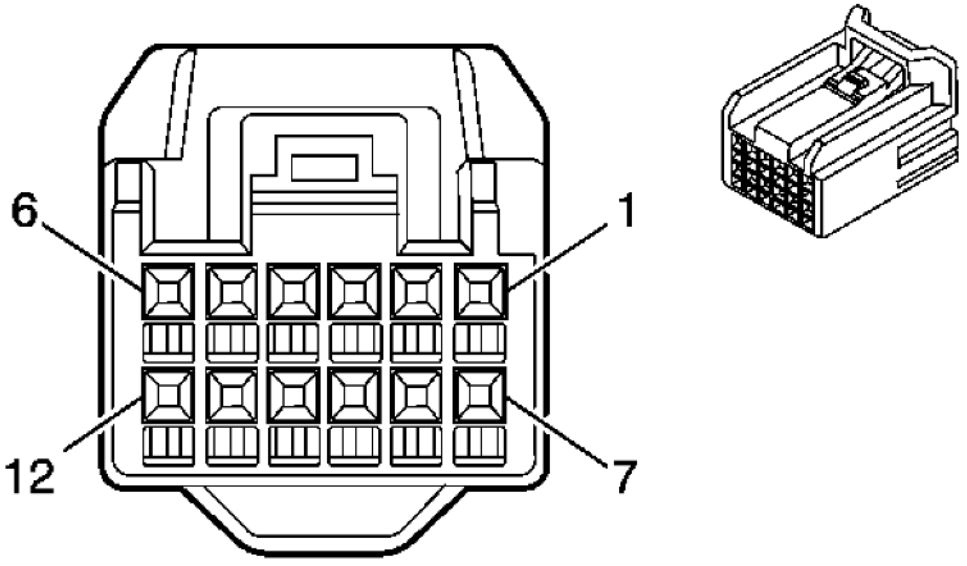


Fig. 43: S78 Turn Signal/Multifunction Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13604008
- Service: 19167197
- Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S78 Turn Signal/Multifunction Switch

Pin	Wire	Circuit	Function
1	0.35 D-GN	663	Left Turn Signal
2	0.35 PU	524	Headlamp Dimmer Switch High Beam

cardiagn.com

			Signal
3	0.5 BK	1550	Ground
4	0.35 YE	307	Headlamp Switch Flash to Pass Signal
5	0.35 PK	893	DIC Select Menu Switch Signal
6	0.35 BN	897	Low Reference
7	0.35 TN	664	Right Turn Signal
8-11	-	-	Not Used
12	0.35 D-GN/WH	1358	DIC Switch Signal

S79D WINDOW SWITCH - DRIVER

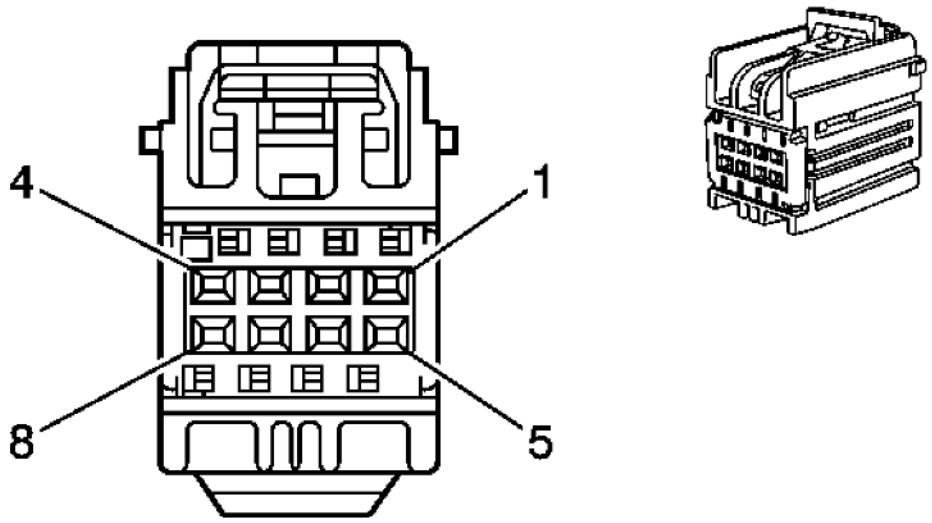


Fig. 44: S79D Window Switch - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13551679
- Service: 88987993
- Description: 8-Way F Kaizen 64 Series (GY)

cardiagn.com

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: Pin 1 - See Terminal Repair Kit
- Core/Insulation Crimp: Pins 2, 3, 4, 5, 6, 7, 8 - P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

S79D Window Switch - Driver

Pin	Wire	Circuit	Function
1	0.8 BK	850	Ground
2	0.35 L-GN/RD	7628	Power Window Switch Express Signal
3	0.35 GY	1136	Power Window Master Switch Left Front Down Signal
4	0.35 YE	6817	LED Backlight Dimming Control
5	0.35 TN	1300	Power Window Master Switch Left Front Up Signal
6	0.35 PU	2765	Power Window Switch Right Front Express Signal
7	0.35 TN	167	Power Window Master Switch Right Front Down Signal
8	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal

S79P WINDOW SWITCH - PASSENGER

cardiagn.com

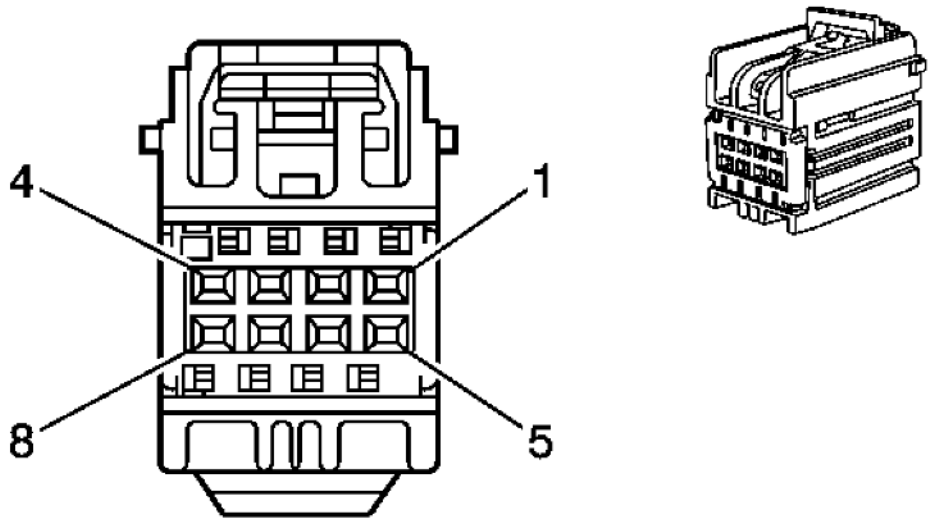


Fig. 45: S79P Window Switch - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13551679
- Service: 19115653
- Description: 8-Way F Kaizen 64 Series (GY)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

S79P Window Switch - Passenger

Pin	Wire	Circuit	Function
1	0.35 BK	2350	Ground
2	0.35 YE	6817	LED Backlight Dimming Control

cardiagn.com

3-5	-	-	Not Used
6	0.35 PU	2765	Power Window Switch Right Front Express Signal
7	0.35 TN	167	Power Window Master Switch Right Front Down Signal
8	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal

S82 WINDSHIELD WIPER/WASHER SWITCH

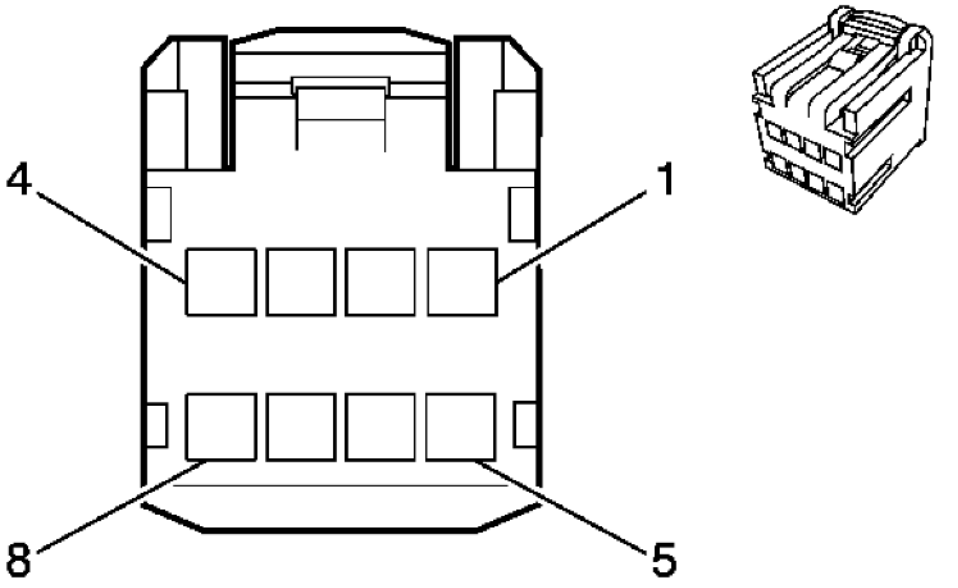


Fig. 46: S82 Windshield Wiper/Washer Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13609516
- Service: 19153437
- Description: 8-Way F 1.2 HCM Series (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S82 Windshield Wiper/Washer Switch

Pin	Wire	Circuit	Function
1	0.35 L-GN	1715	Windshield Wiper Switch High Signal
2	0.35 TN/BK	6009	Low Reference
3	0.35 L-BU	1714	Windshield Wiper Switch Low Signal
4	-	-	Not Used
5	0.35 PK	94	Windshield Washer Switch Signal
6-8	-	-	Not Used

T11 MULTIMEDIA PLAYER INTERFACE MODULE X1 (USR)

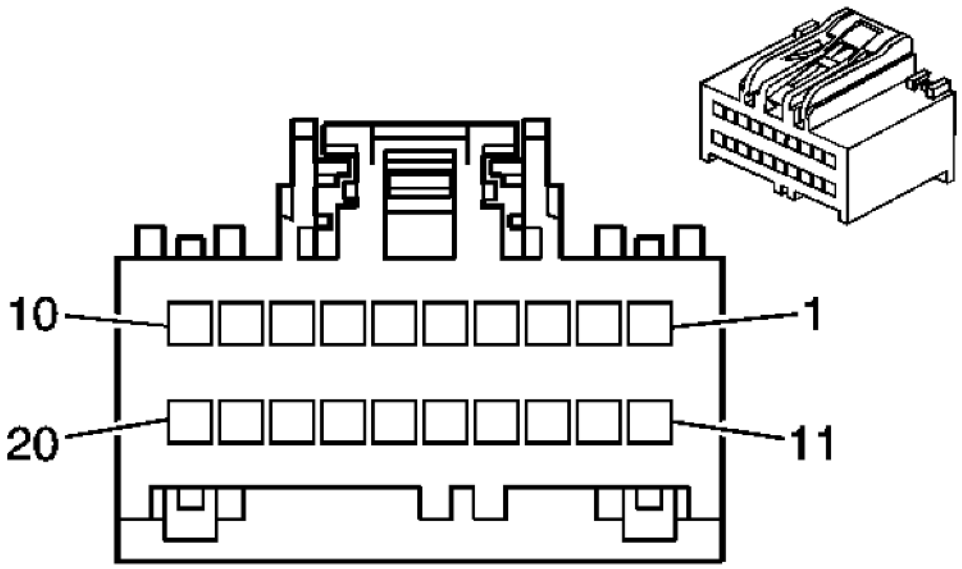


Fig. 47: T11 Multimedia Player Interface Module X1 (USR) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Console
- OEM: 15489824
- Service: 15126711
- Description: 20-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

T11 Multimedia Player Interface Module X1 (USR)

Pin	Wire	Circuit	Function
1	0.5 RD/WH	3240	Battery Positive Voltage
2	0.35 PK	2060	Auxiliary Detection Signal
3	0.35 D-BU	5843	Auxiliary Audio Common Signal
4	0.35 D-GN/WH	3376	Auxiliary Audio Common Signal
5-7	-	-	Not Used
8	0.5 D-GN	5060	Low Speed GMLAN Serial Data
9-10	-	-	Not Used
11	0.5 BK	1750	Ground
12	0.35 L-GN	5839	Left Auxiliary Audio Signal 2
13	0.35 D-GN/WH	5841	Right Auxiliary Audio Signal 2
14	0.35 YE	3377	Auxiliary Audio Jack Left (+)
15	0.35 TN/WH	3378	Auxiliary Audio Jack Right (+)
16-17	-	-	Not Used
18	0.35 BARE	5842	Drain Wire
19-20	-	-	Not Used

T3 AUDIO AMPLIFIER X1 (UQA)

cardiagn.com

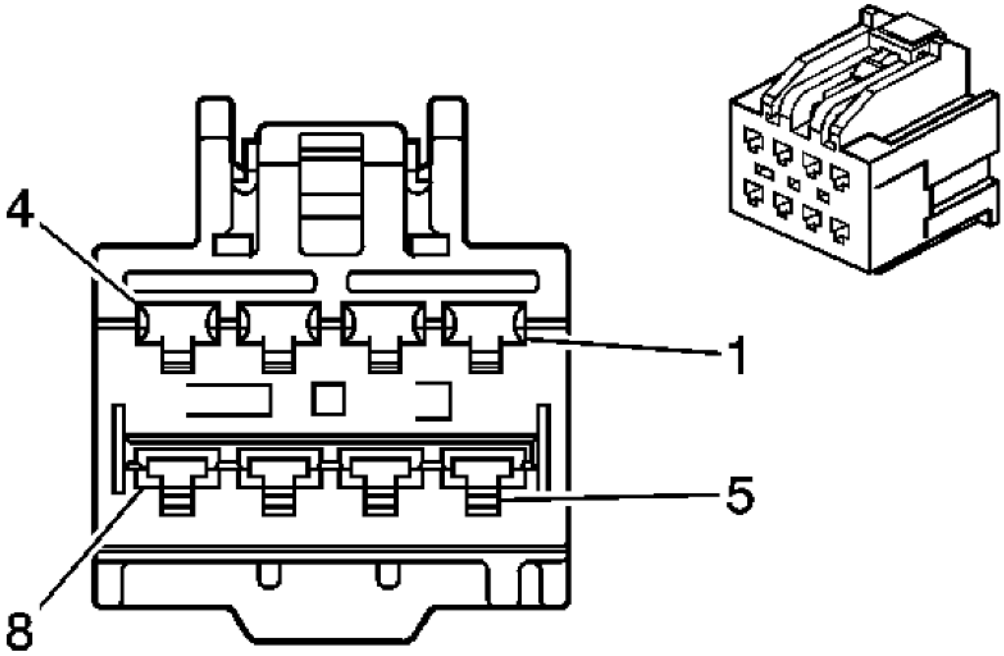


Fig. 48: T3 Audio Amplifier X1 (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15491289
- Service: 19115652
- Description: 8-Way F 2.8 Series (L-GY)

Terminal Part Information

- Pins: 2, 3, 6, 7
- Terminal/Tray: 8100-4444/22
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-35 (VT)

- Pins: 4, 8
- Terminal/Tray: 8100-4445/22

cardiagn.com

- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-35 (VT)

T3 Audio Amplifier X1 (UQA)

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	1 L-BU/BK	315	Right Subwoofer Speaker Output (-)
3	1 L-GN/BK	1794	Left Subwoofer Speaker Output (-)
4	3 RD/WH	3640	Battery Positive Voltage
5	-	-	Not Used
6	1 D-GN	1795	Right Subwoofer Speaker Output (+)
7	1 D-BU/WH	346	Left Subwoofer Speaker Output (+)
8	3 BK	550	Ground

T3 AUDIO AMPLIFIER X2 (UQA)

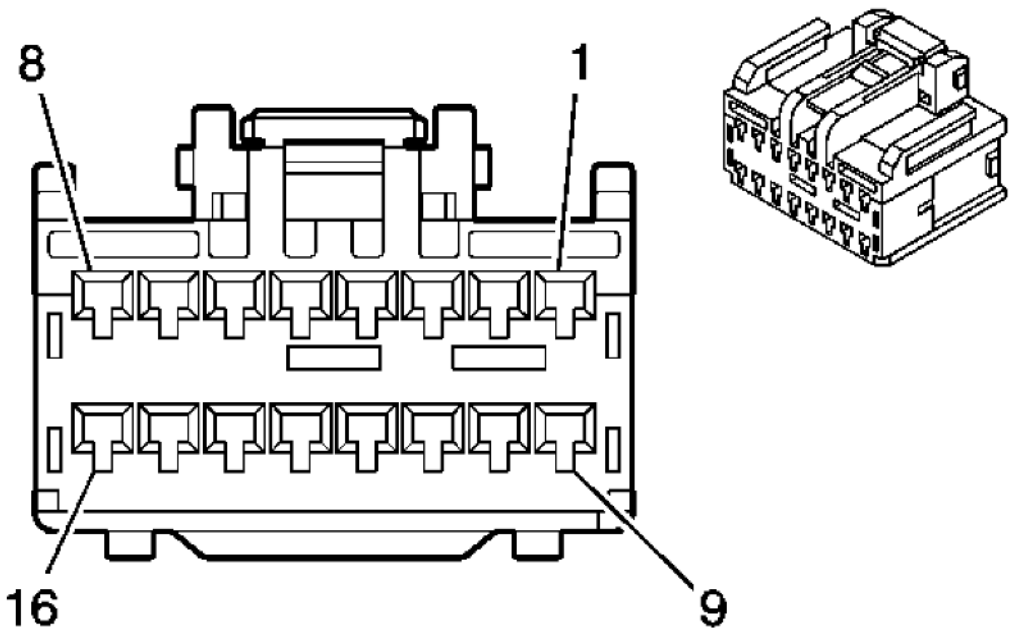


Fig. 49: T3 Audio Amplifier X2 (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 15489823
- Service: 15134091
- Description: 16-Way F 1.5 Series (BK)

Terminal Part Information

- Terminal/Tray: 8240-0128/22
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T3 Audio Amplifier X2 (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU/BK	5772	Right Rear Speaker Output (-)
2	0.8 L-BU	5762	Right Rear Speaker Output (+)
3	0.8 L-BU	1960	Front Center Speaker Output (-)
4	0.8 YE	1860	Front Center Speaker Output (+)
5-6	-	-	Not Used
7	0.8 D-GN	117	Right Front Speaker Output (-)
8	0.8 L-GN	200	Right Front Speaker Output (+)
9-12	-	-	Not Used
13	0.8 GY	118	Left Front Speaker Output (-)
14	0.8 TN	201	Left Front Speaker Output (+)
15	0.8 D-BU/WH	5771	Left Rear Speaker Output (-)
16	0.8 D-BU	5761	Left Rear Speaker Output (+)

T3 AUDIO AMPLIFIER X3 (UQA)

cardiagn.com

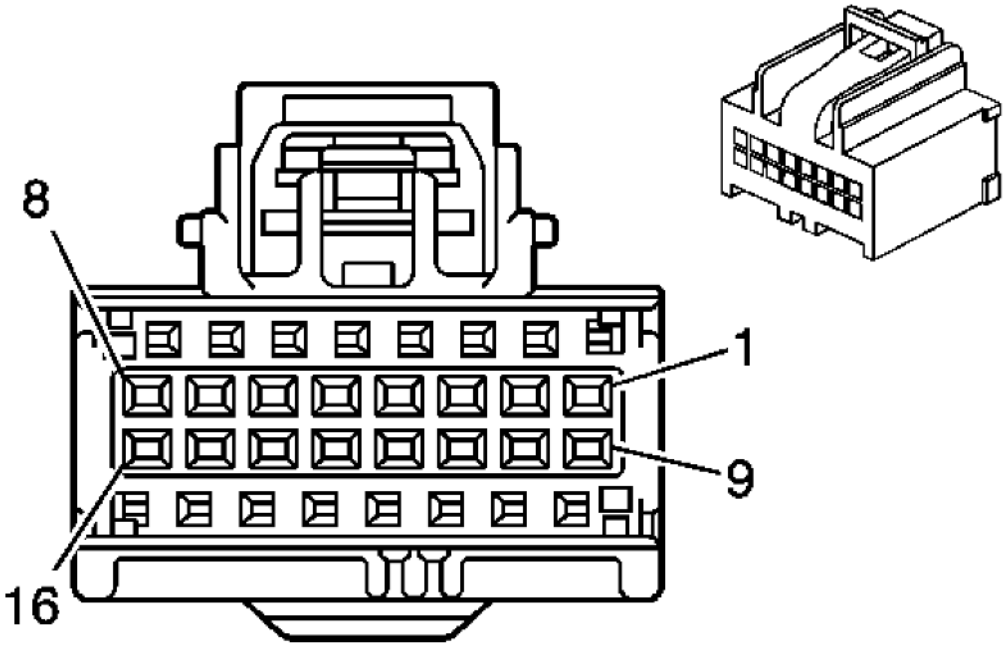


Fig. 50: T3 Audio Amplifier X3 (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15491285
- Service: 15136073
- Description: 16-Way F Kaizen 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

T3 Audio Amplifier X3 (UQA)

Pin	Wire	Circuit	Function
1	0.35 WH	7066	Remote Enable

cardiagn.com

2-3	-	-	Not Used
4	0.35 TN	1946	Right Rear Low Level Audio Signal (-)
5	0.35 BN	1999	Left Rear Low Level Audio Signal (-)
6	0.35 OG/BK	1546	Right Front Low Level Audio Signal (-)
7	0.35 D-GN	1947	Left Front Low Level Audio Signal (-)
8-10	-	-	Not Used
11	0.35 OG	6978	Amplifier Control
12	0.35 D-BU	546	Right Rear Low Level Audio Signal (+)
13	0.35 BN/WH	599	Left Rear Low Level Audio Signal (+)
14	0.35 L-GN/WH	512	Right Front Low Level Audio Signal (+)
15	0.35 TN	511	Left Front Low Level Audio Signal (+)
16	-	-	Not Used

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

T8A IGNITION COIL 1 (L99 OR LS3)

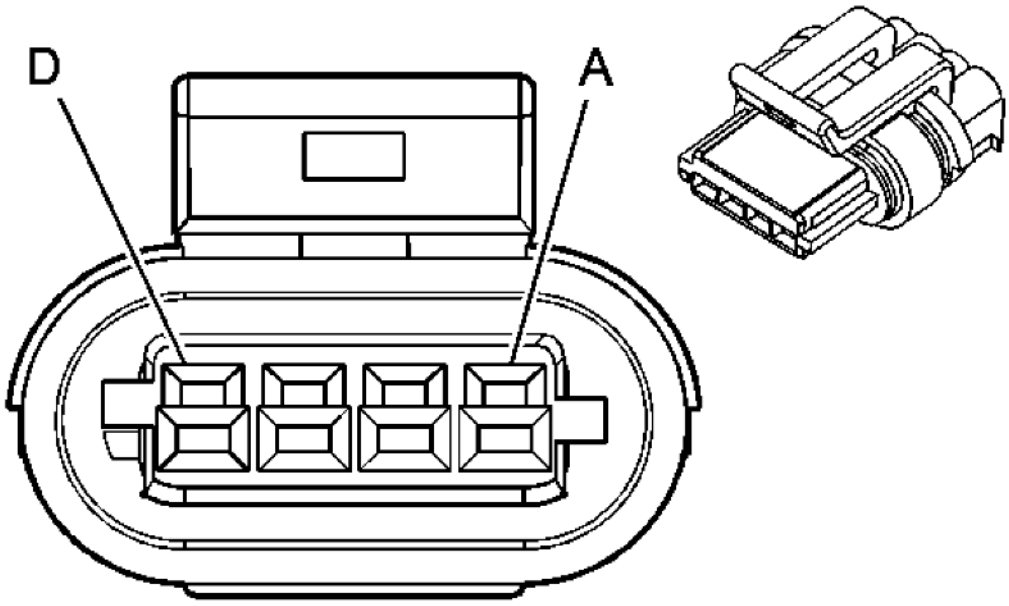


Fig. 1: T8A Ignition Coil 1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D

cardiagn.com

- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8A Ignition Coil 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 PU	2121	IC 1 Control
D	0.8 PK	39	Ignition 1 Voltage

T8A IGNITION COIL 1 (LLT)

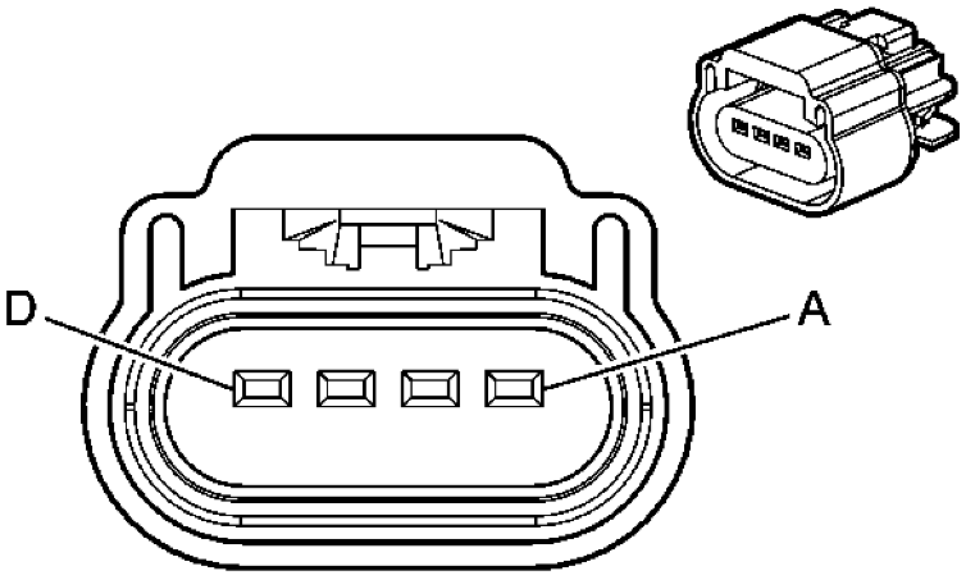


Fig. 2: T8A Ignition Coil 1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8A Ignition Coil 1 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	250	Ground
B	0.5 BN	2129	Low Reference
C	0.5 PU	2121	IC 1 Control
D	1 PK/BK	5291	Ignition Voltage

T8B IGNITION COIL 2 (L99 OR LS3)

cardiagn.com

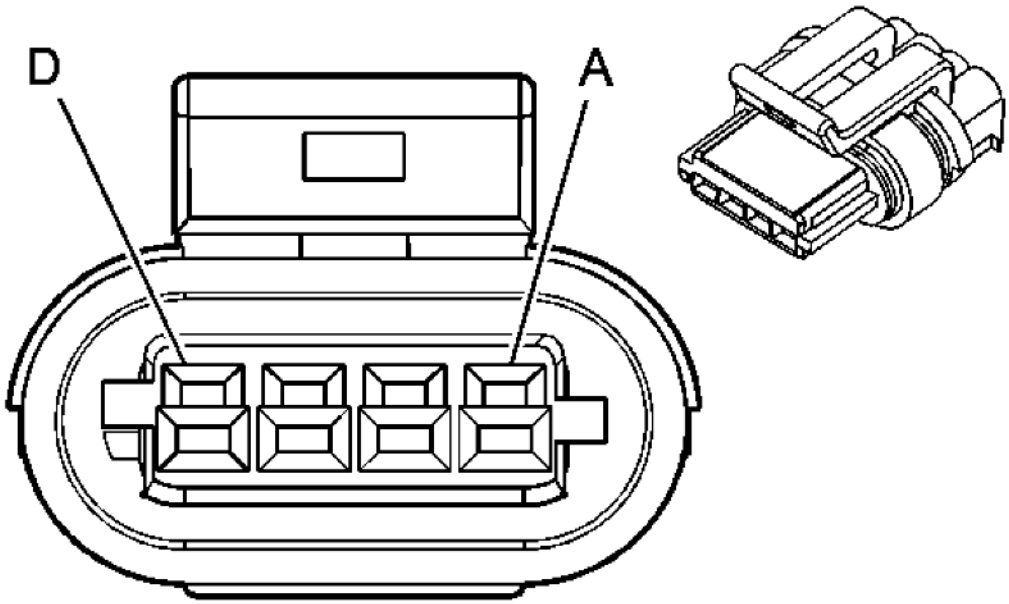


Fig. 3: T8B Ignition Coil 2 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8B Ignition Coil 2 (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 RD	2127	IC 2 Control
D	0.8 PK	39	Ignition 1 Voltage

T8B IGNITION COIL 2 (LLT)

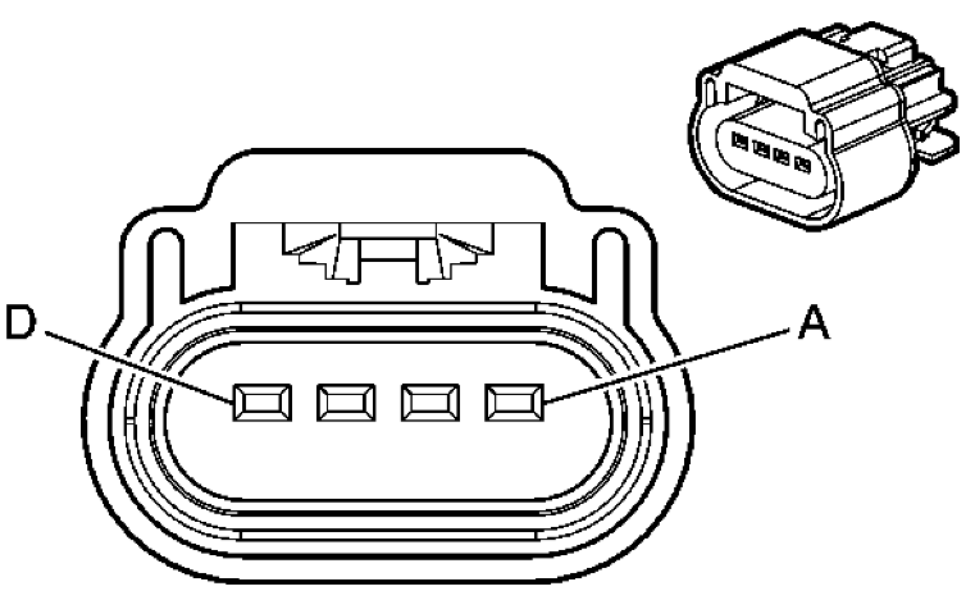


Fig. 4: T8B Ignition Coil 2 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8

cardiagn.com

- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8B Ignition Coil 2 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	350	Ground
B	0.5 BN/WH	2130	Low Reference
C	0.5 OG/WH	2122	IC 2 Control
D	1 PK/BK	5292	Ignition Voltage

T8C IGNITION COIL 3 (L99 OR LS3)

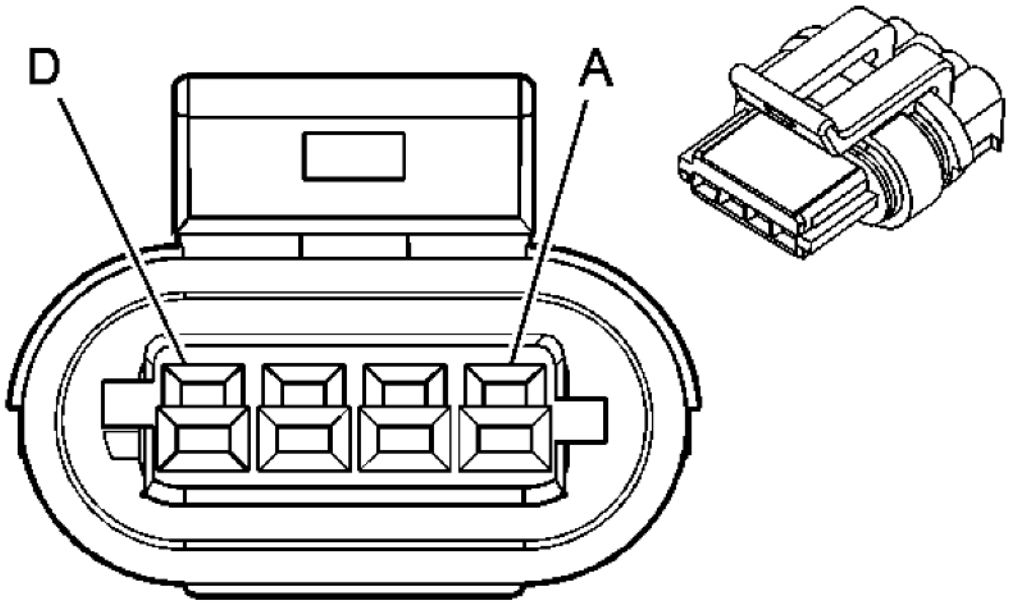


Fig. 5: T8C Ignition Coil 3 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568

cardiagn.com

- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8C Ignition Coil 3 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 L-BU	2123	IC 3 Control
D	0.8 PK	39	Ignition 1 Voltage

T8C IGNITION COIL 3 (LLT)

cardiagn.com

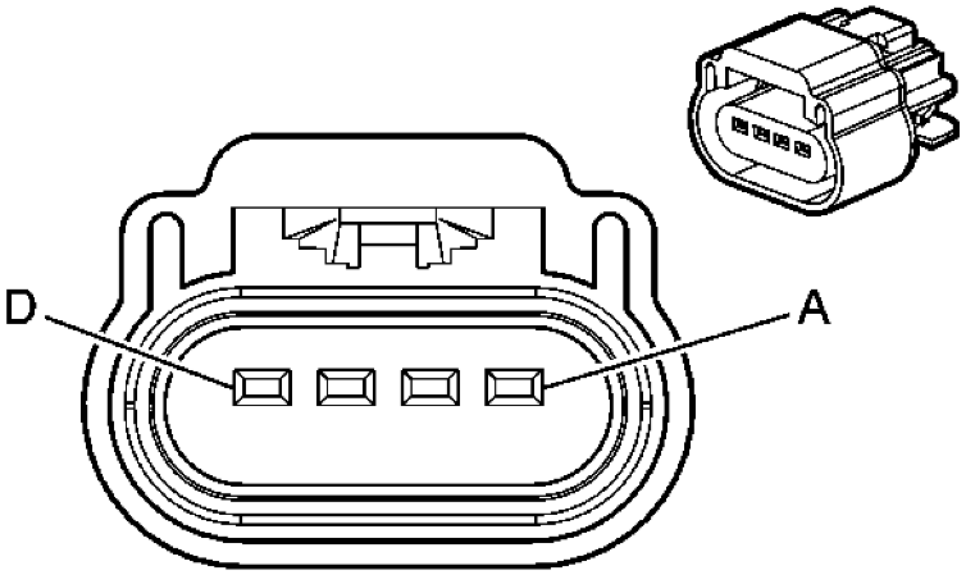


Fig. 6: T8C Ignition Coil 3 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8C Ignition Coil 3 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	250	Ground

cardiagn.com

B	0.5 BN	2129	Low Reference
C	0.5 L-BU	2123	IC 3 Control
D	1 PK/BK	5291	Ignition Voltage

T8D IGNITION COIL 4 (L99 OR LS3)

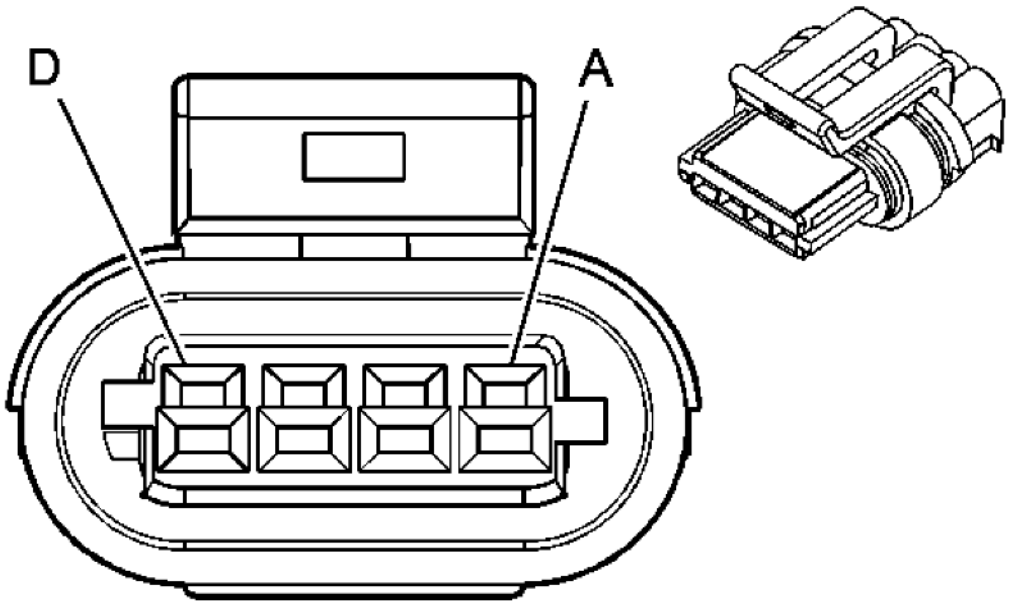


Fig. 7: T8D Ignition Coil 4 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C

cardiagn.com

- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8D Ignition Coil 4 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 D-GN	2125	IC 4 Control
D	0.8 PK	39	Ignition 1 Voltage

T8D IGNITION COIL 4 (LLT)

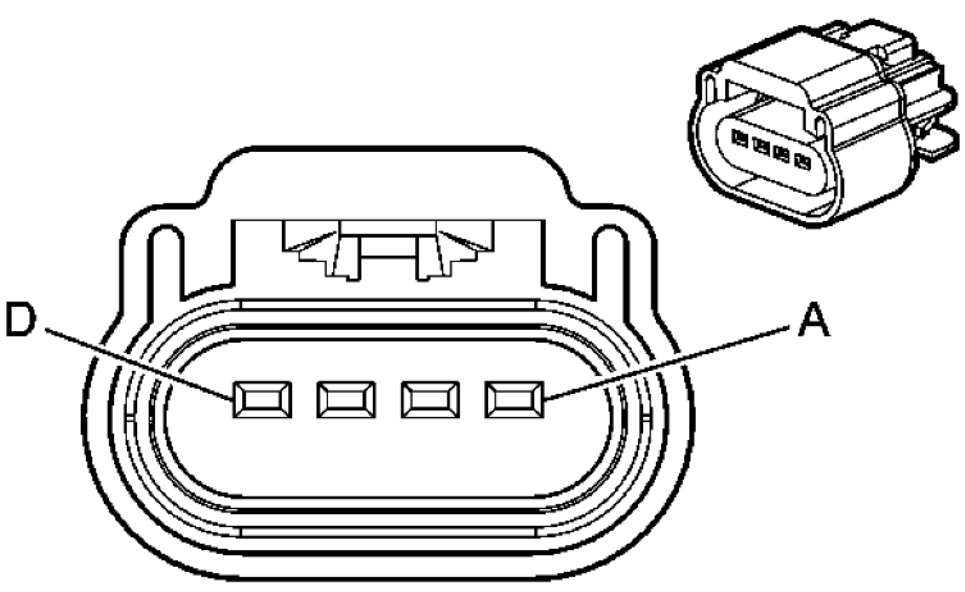


Fig. 8: T8D Ignition Coil 4 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325

cardiagn.com

- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8D Ignition Coil 4 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	350	Ground
B	0.5 BN/WH	2130	Low Reference
C	0.5 D-GN/WH	2124	IC 4 Control
D	1 PK/BK	5292	Ignition Voltage

T8E IGNITION COIL 5 (L99 OR LS3)

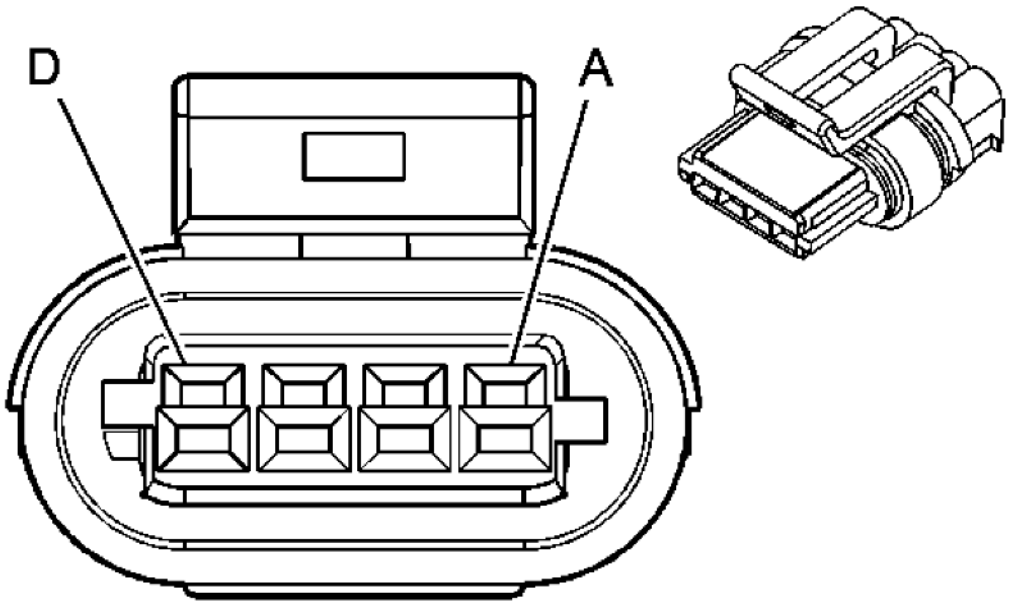


Fig. 9: T8E Ignition Coil 5 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8E Ignition Coil 5 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 D-GN	2125	IC 5 Control
D	0.8 PK	39	Ignition 1 Voltage

T8E IGNITION COIL 5 (LLT)

cardiagn.com

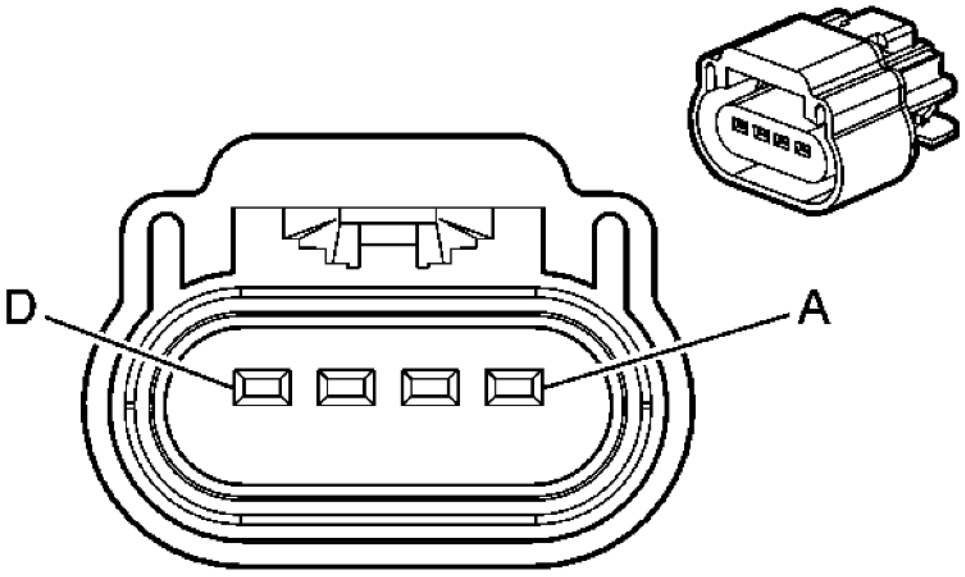


Fig. 10: T8E Ignition Coil 5 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8E Ignition Coil 5 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	250	Ground

cardiagn.com

B	0.5 BN	2129	Low Reference
C	0.5 D-GN	2125	IC 5 Control
D	1 PK/BK	5291	Ignition Voltage

T8F IGNITION COIL 6 (L99 OR LS3)

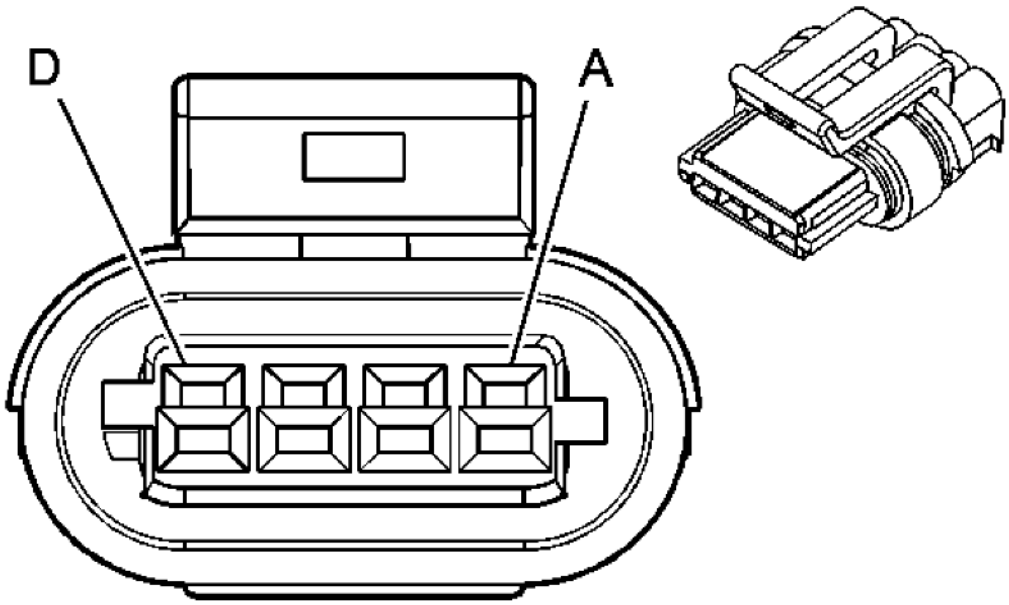


Fig. 11: T8F Ignition Coil 6 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C

cardiagn.com

- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8F Ignition Coil 6 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 L-BU	2123	IC 6 Control
D	0.8 PK	39	Ignition 1 Voltage

T8F IGNITION COIL 6 (LLT)

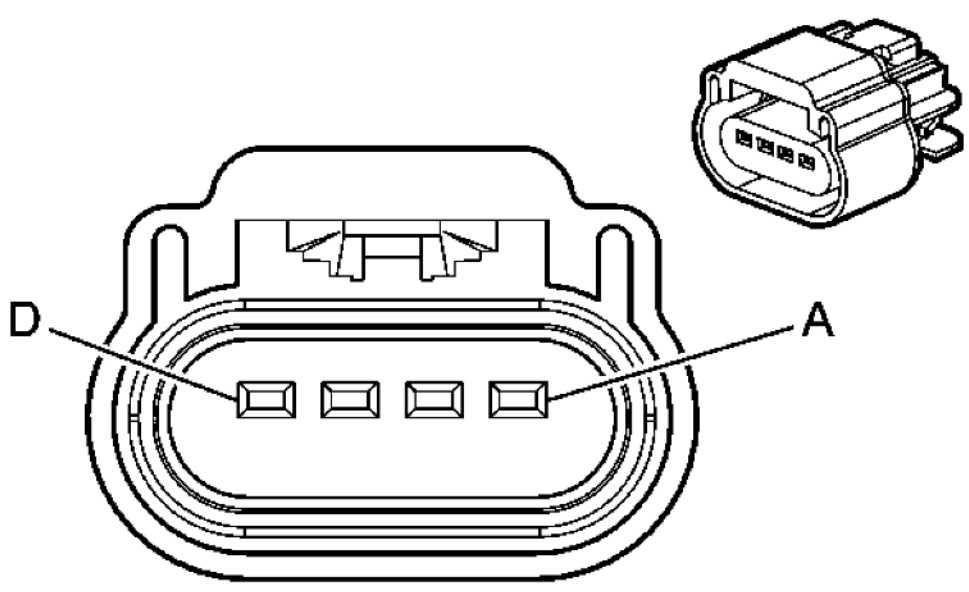


Fig. 12: T8F Ignition Coil 6 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325

cardiagn.com

- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8F Ignition Coil 6 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	350	Ground
B	0.5 BN/WH	2130	Low Reference
C	0.5 L-BU/WH	2126	IC 6 Control
D	1 PK/BK	5292	Ignition Voltage

T8G IGNITION COIL 7 (L99 OR LS3)

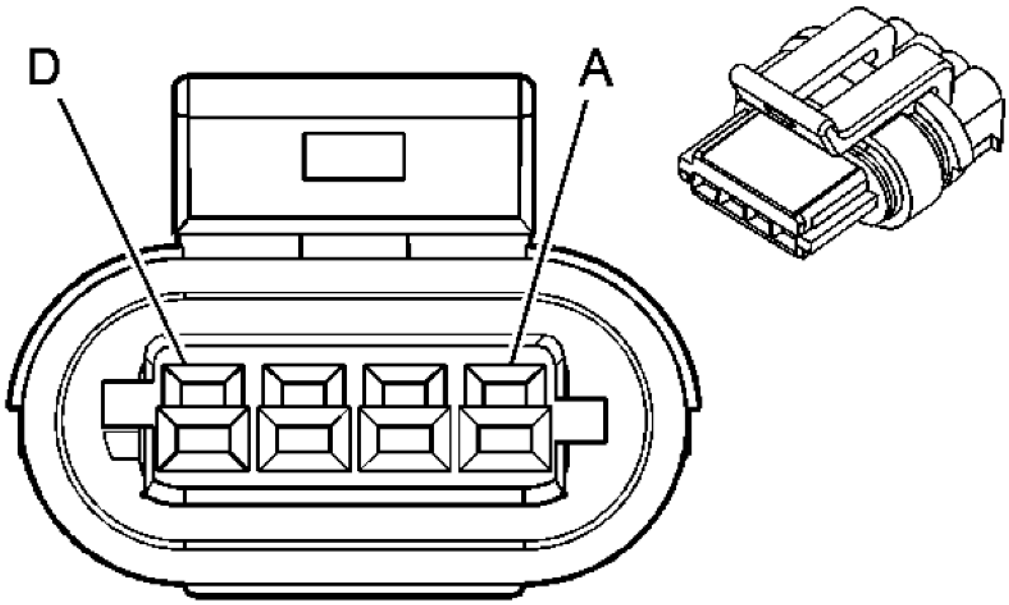


Fig. 13: T8G Ignition Coil 7 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8G Ignition Coil 7 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 RD	2127	IC 7 Control
D	0.8 PK	39	Ignition 1 Voltage

T8H IGNITION COIL 8 (L99 OR LS3)

cardiagn.com

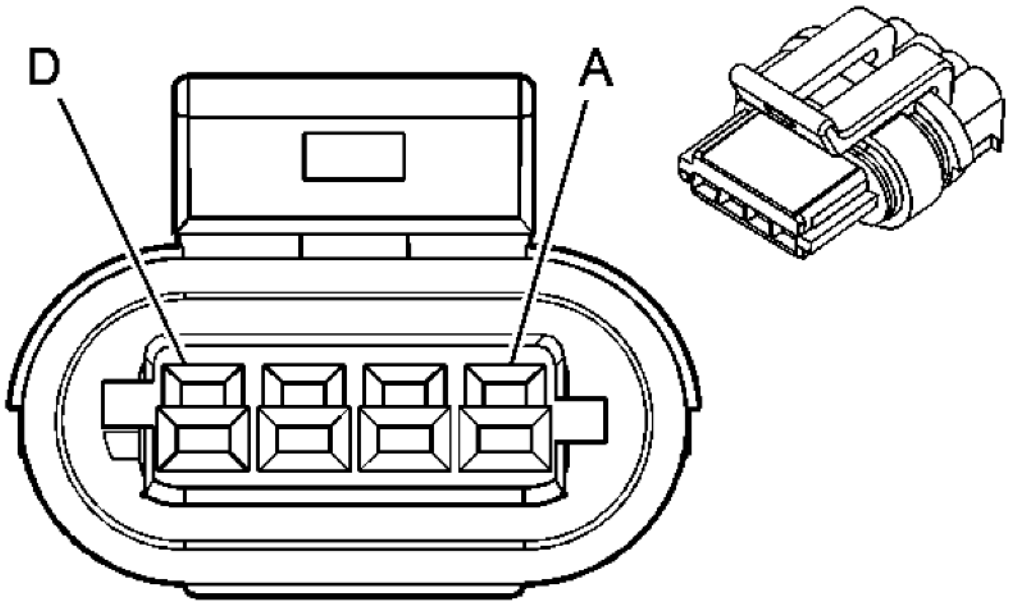


Fig. 14: T8H Ignition Coil 8 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8H Ignition Coil 8 (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 PU	2121	IC 8 Control
D	0.8 PK	39	Ignition 1 Voltage

X80D ACCESSORY POWER RECEPTACLE - CENTER CONSOLE COMPARTMENT

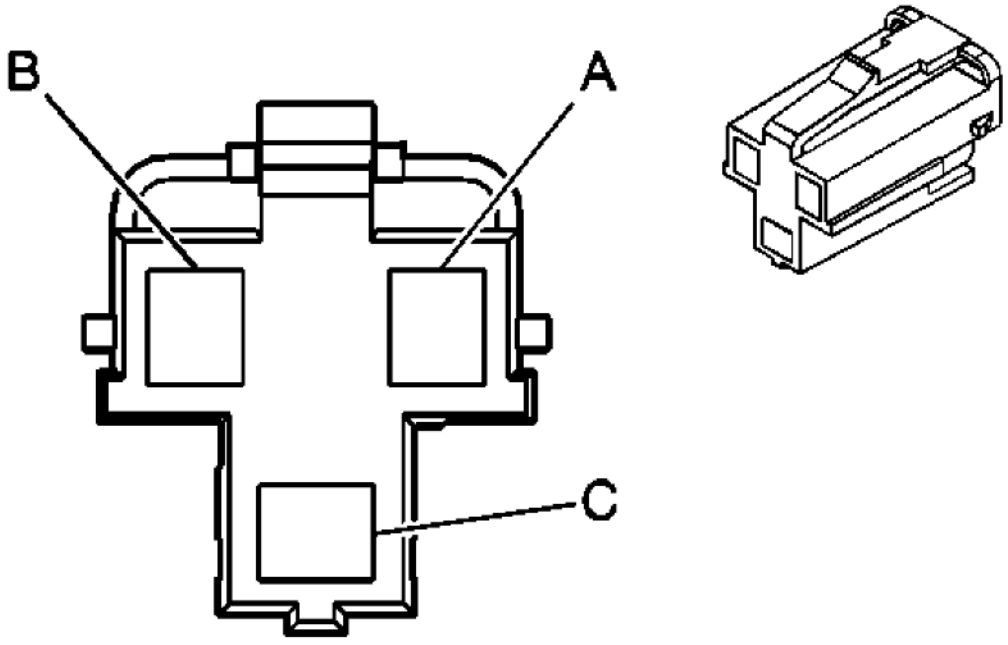


Fig. 15: X80D Accessory Power Receptacle - Center Console Compartment Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Floor Console
- OEM: 12176836
- Service: 15305923
- Description: 3-Way F Metri-Pack 280 Series (GY)

Terminal Part Information

- Terminal/Tray: 12110844/4

cardiagn.com

- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

X80D Accessory Power Receptacle - Center Console Compartment

Pin	Wire	Circuit	Function
A	1 D-GN/WH	801	RAP 2 Fuse Supply Voltage
B	-	-	Not Used
C	1 BK	1450	Ground

X80H ACCESSORY POWER RECEPTACLE - CENTER CONSOLE

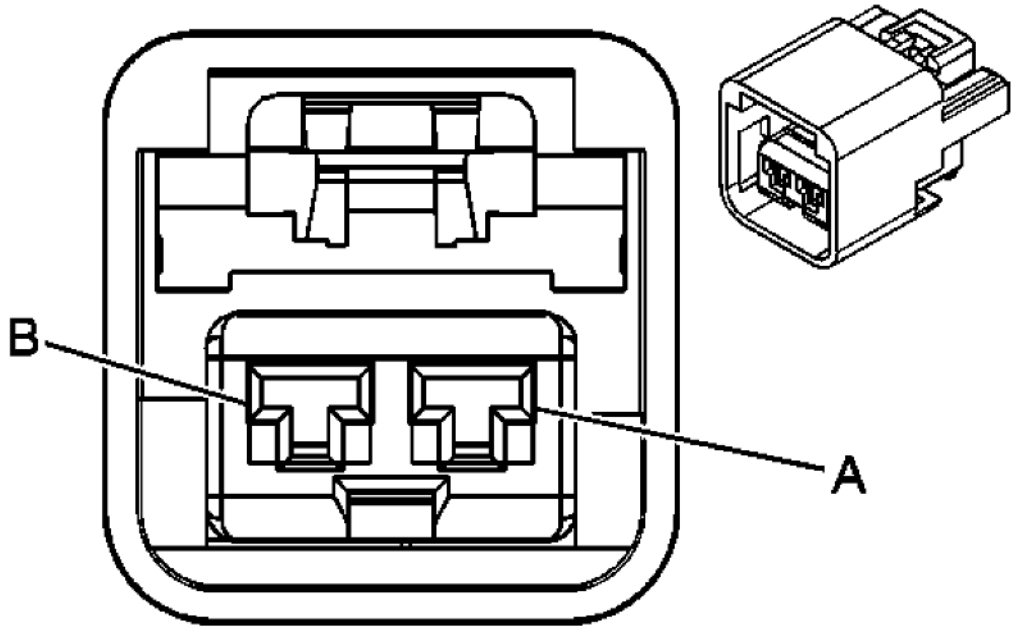


Fig. 16: X80H Accessory Power Receptacle - Center Console Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Console Cap Link
- OEM: 15326870
- Service: 88953160

cardiagn.com

- Description: 2-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

X80H Accessory Power Receptacle - Center Console

Pin	Wire	Circuit	Function
A	1 D-GN	1001	RAP 1 Fuse Supply Voltage
B	1 BK	1450	Ground

X83 AUXILIARY AUDIO INPUT (USR)

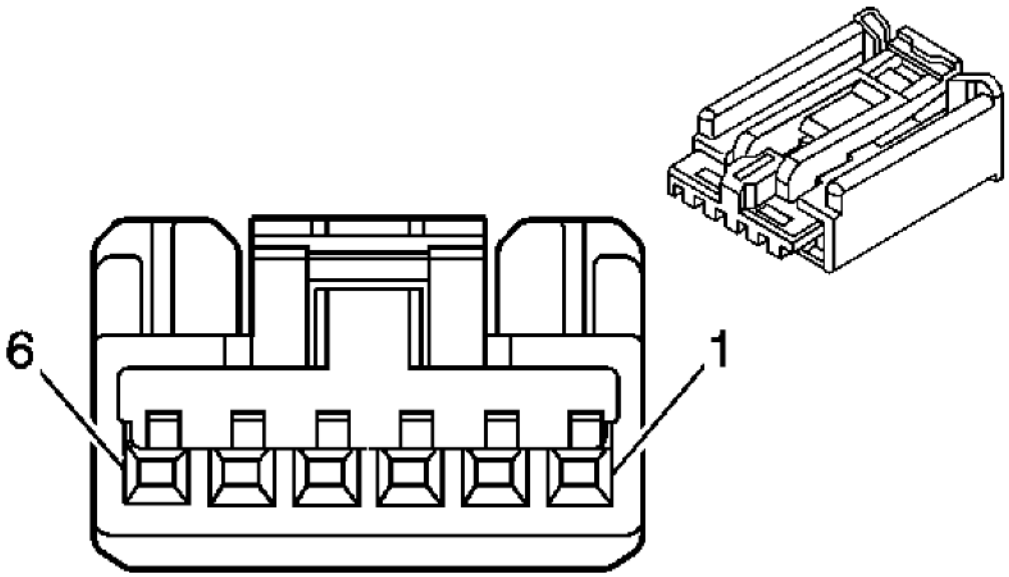


Fig. 17: X83 Auxiliary Audio Input (USR) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Floor Console

cardiagn.com

- OEM: 13595476
- Service: 19167753
- Description: 6-Way F AIT II Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

X83 Auxiliary Audio Input (USR)

Pin	Wire	Circuit	Function
1	0.35 L-GN	5839	Left Auxiliary Audio Signal 2
2	0.35 D-GN/WH	5841	Right Auxiliary Audio Signal 2
3	0.35 D-BU	5843	Auxiliary Audio Common Signal
4	-	-	Not Used
5	0.35 PK	2060	Auxiliary Detection Signal
6	-	-	Not Used

X84 DATA LINK CONNECTOR

cardiagn.com

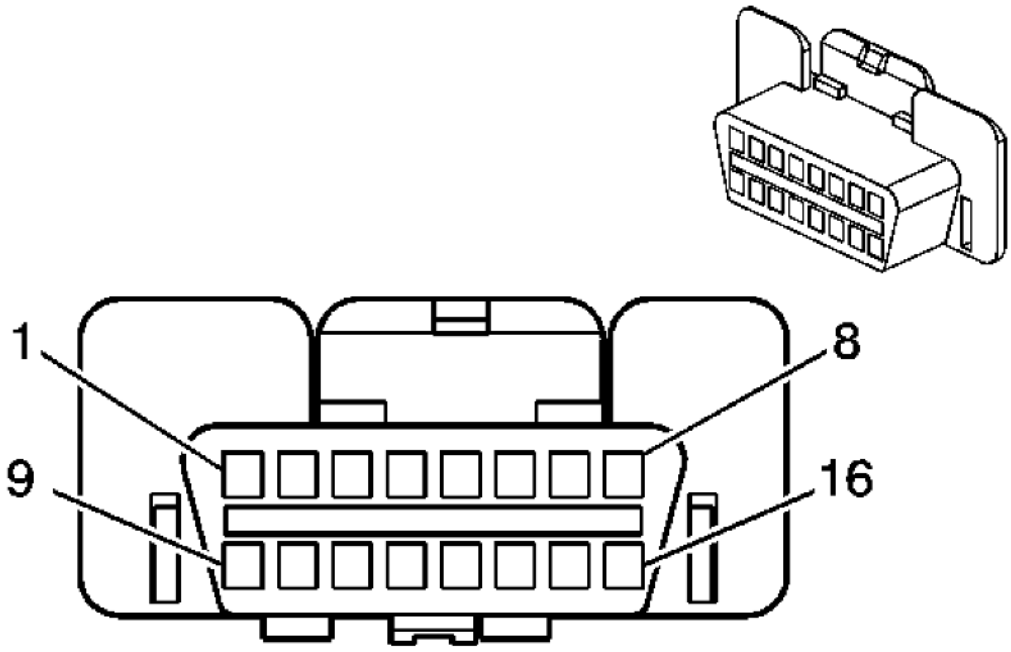


Fig. 18: X84 Data Link Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15488184
- Service: 19115029
- Description: 16-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12129484/19
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

X84 Data Link Connector

Pin	Wire	Circuit	Function
1	0.35 D-GN	5060	Low Speed GMLAN Serial Data
2-3	-	-	Not Used

cardiagn.com

4	0.5 BK	1650	Ground
5	0.5 BK	1650	Ground
6	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus (+)
7-11	-	-	Not Used
12	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
13	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
14	0.35 TN	2501	High Speed GMLAN Serial Data Bus (-)
15	-	-	Not Used
16	0.35 RD/WH	40	Battery Positive Voltage

X85 STEERING WHEEL AIR BAG COIL X1

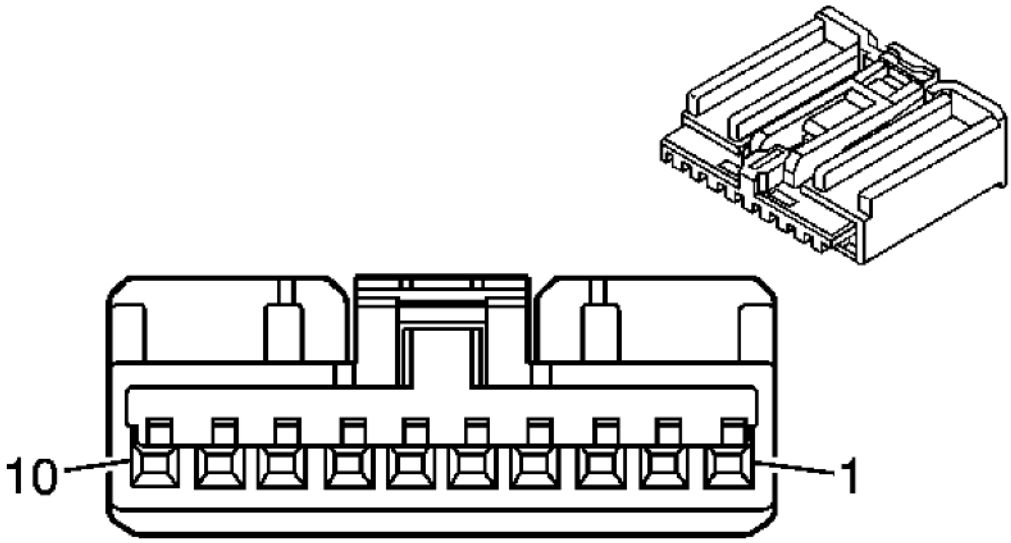


Fig. 19: X85 Steering Wheel Air Bag Coil X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13574592
- Service: 13316186
- Description: 10-Way F Kaizen 64 Series (BK)

Terminal Part Information

cardiagn.com

- Pin: 2
- Terminal/Tray: Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 1, 3, 4, 5, 6, 8
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

X85 Steering Wheel Air Bag Coil X1

Pin	Wire	Circuit	Function
1	0.35 L-GN/WH	3287	Horn Switch Signal
2	0.8 BK	1550	Ground
3	0.35 GY	1884	Cruise Control Switch Signal
4	0.35 L-GN	6818	Steering Wheel Control Switch Signal
5	0.35 YE	7556	Headlamp Switch Reference Voltage
6	0.35 BN	6136	LED Backlight Dimming Control
7	-	-	Not Used
8	0.35 PU	5526	Tap Up/Tap Down Switch Signal (MYB/MYC)
9-10	-	-	Not Used

X85 STEERING WHEEL AIR BAG COIL X2

cardiagn.com

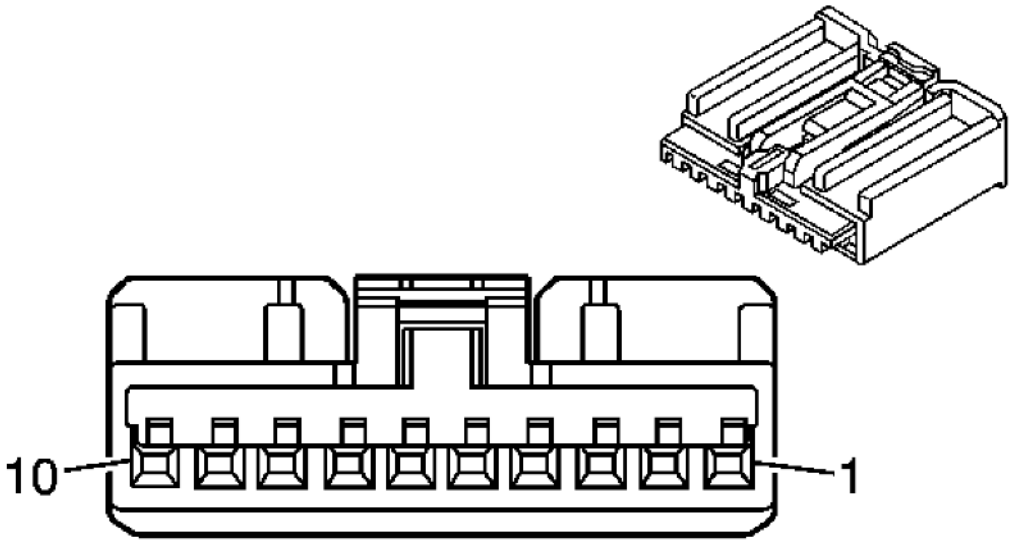


Fig. 20: X85 Steering Wheel Air Bag Coil X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: 15269795
- Service: 13316186
- Description: 10-Way F AIT II Series (BK)

Terminal Part Information

- Pins: 3, 5, 6, 7, 8, 10
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

- Pin: 9
- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

cardiagn.com

X85 Steering Wheel Air Bag Coil X2

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.35 PU	5526	Tap Up/Tap Down Switch Signal (MYB/MYC)
4	-	-	Not Used
5	0.35 BN	6136	LED Backlight Dimming Control
6	0.35 PK	1444	12-Volt Reference
7	0.35 L-GN	6818	Steering Wheel Control Switch Signal
8	0.35 GY	1884	Cruise Control Switch Signal
9	0.8 BK	1550	Ground
10	0.35 L-GN/WH	3287	Horn Switch Signal

X85 STEERING WHEEL AIR BAG COIL X3

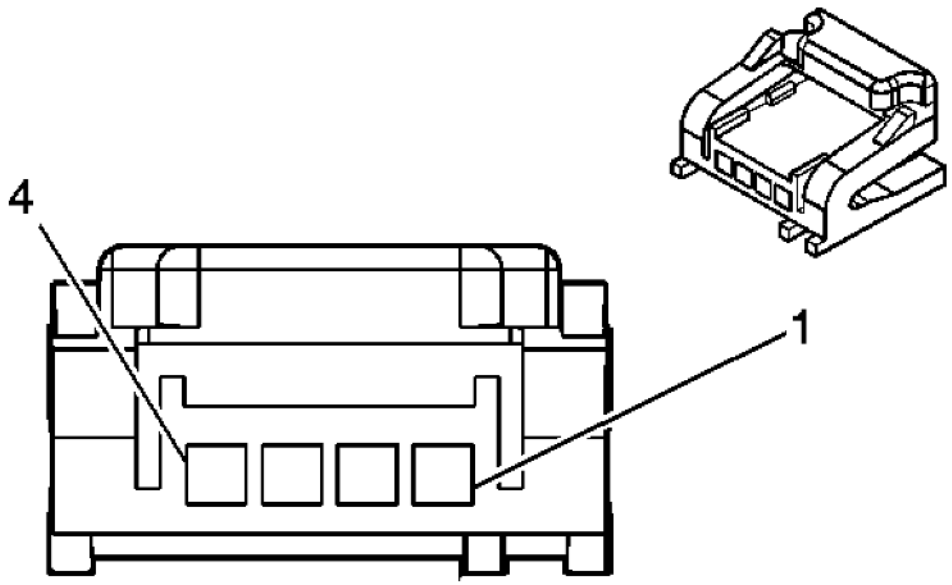


Fig. 21: X85 Steering Wheel Air Bag Coil X3 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel

cardiagn.com

- OEM: 15393421
- Service: 88987853
- Description: 4-Way F Micro-Pack 064 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: E/2
- Release Tool: 12180559-1
- Test Probe: J-35616-64B (L-BU)

X85 Steering Wheel Air Bag Coil X3

Pin	Wire	Circuit	Function
1	0.35 TN	3021	Steering Wheel Module - Stage1 - High Control
2	0.35 BN	3020	Steering Wheel Module - Stage1 - Low Control
3	0.35 WH	3023	Steering Wheel Module - Stage2 - High Control
4	0.35 PK	3022	Steering Wheel Module - Stage2 - Low Control

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Camaro

SCHEMATIC AND ROUTING DIAGRAMS

HARNESS ROUTING VIEWS

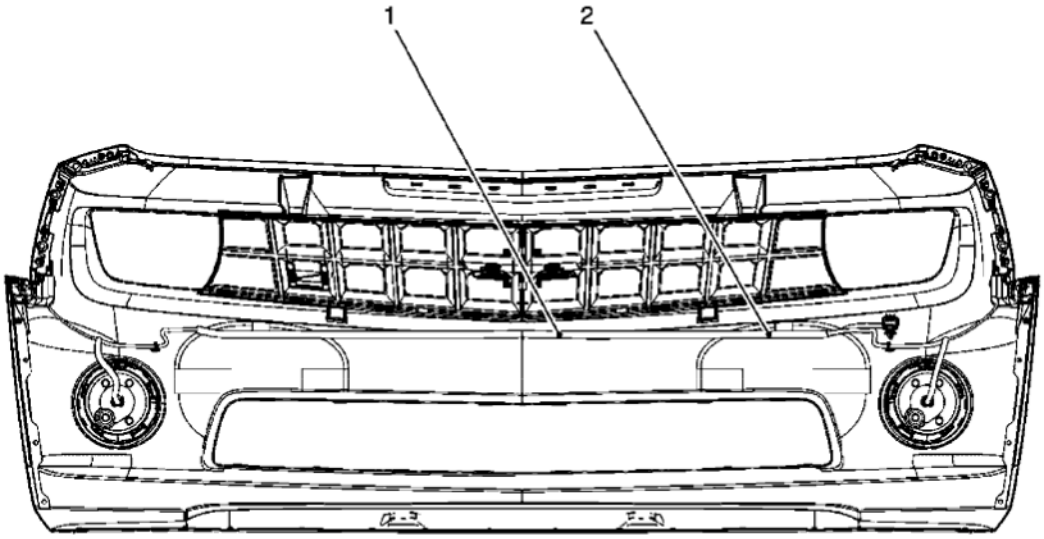


Fig. 1: Fog Lamp Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J102
2	J101

cardiagn.com

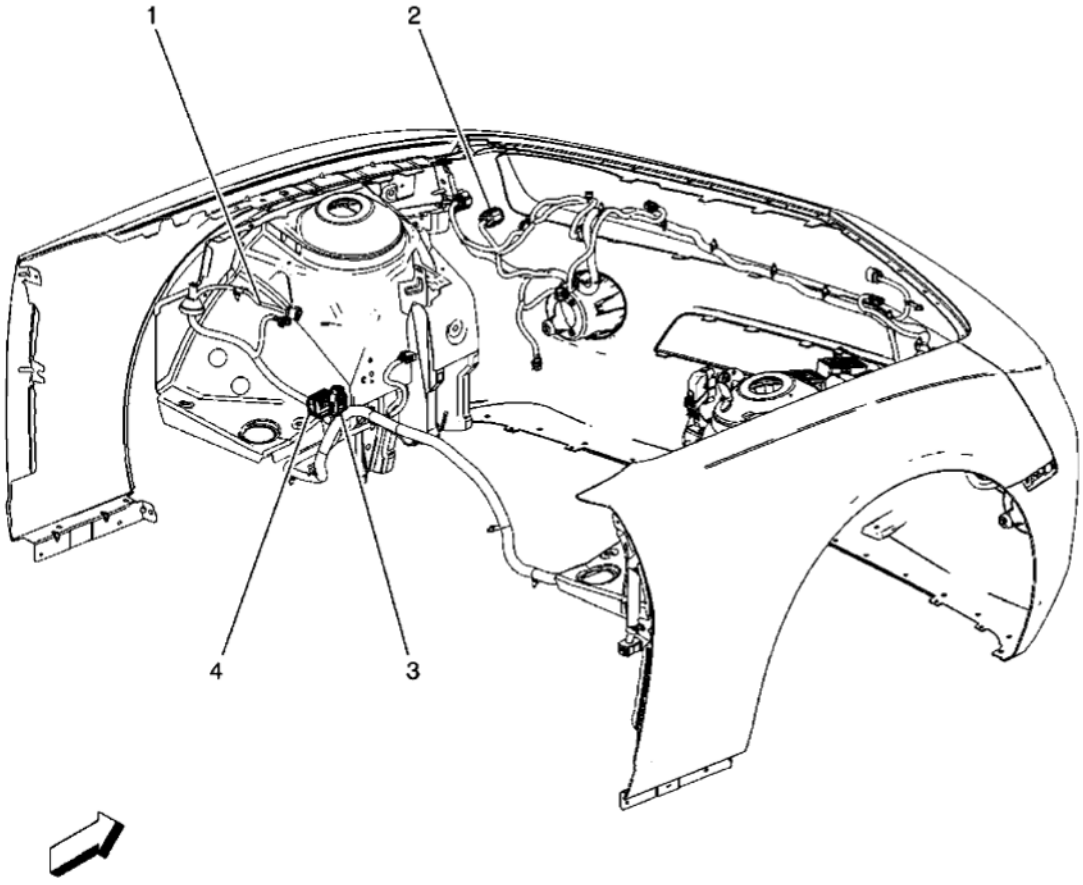


Fig. 2: Forward Lamp Harness Routing - Left
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J107
2	X110 (T4F)
3	X105
4	X104

cardiagn.com

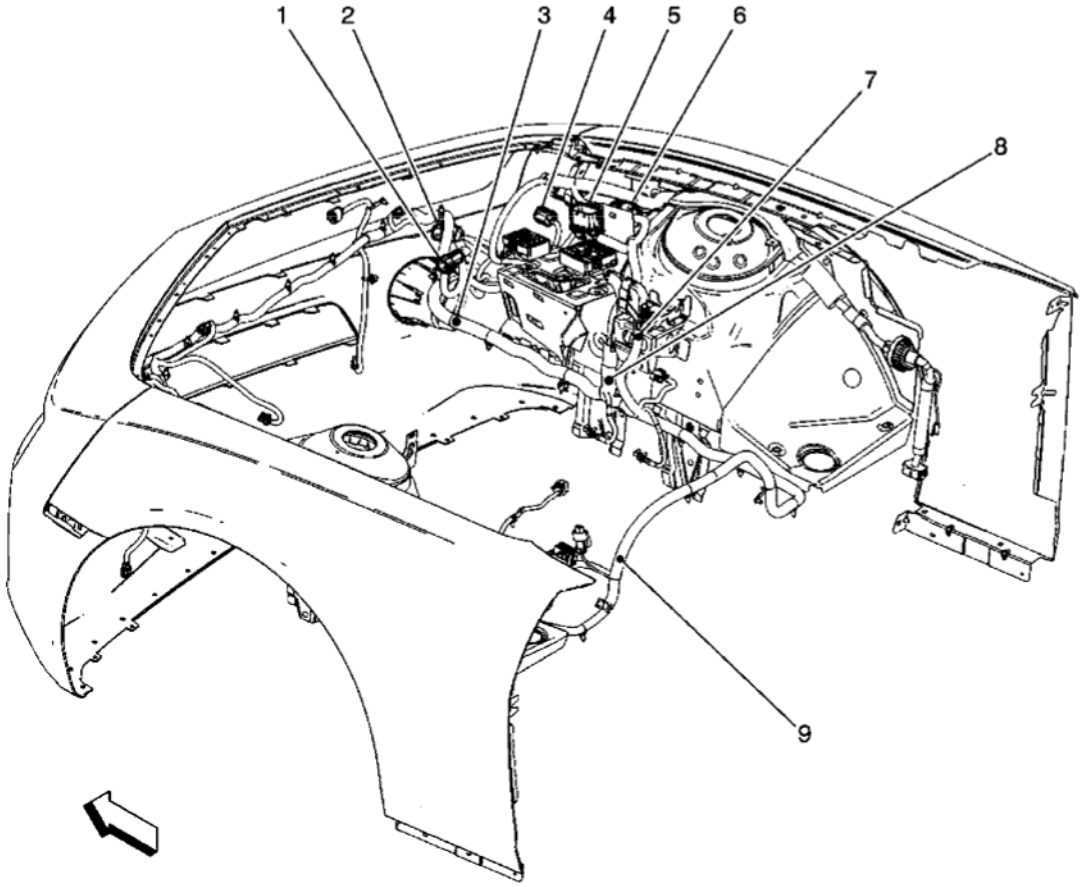


Fig. 3: Forward Lamp Harness Routing - Right
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X162
2	X108
3	J103
4	X120 (T4F)
5	X102
6	X103
7	J104
8	J105
9	J106 (T4A)

cardiagn.com

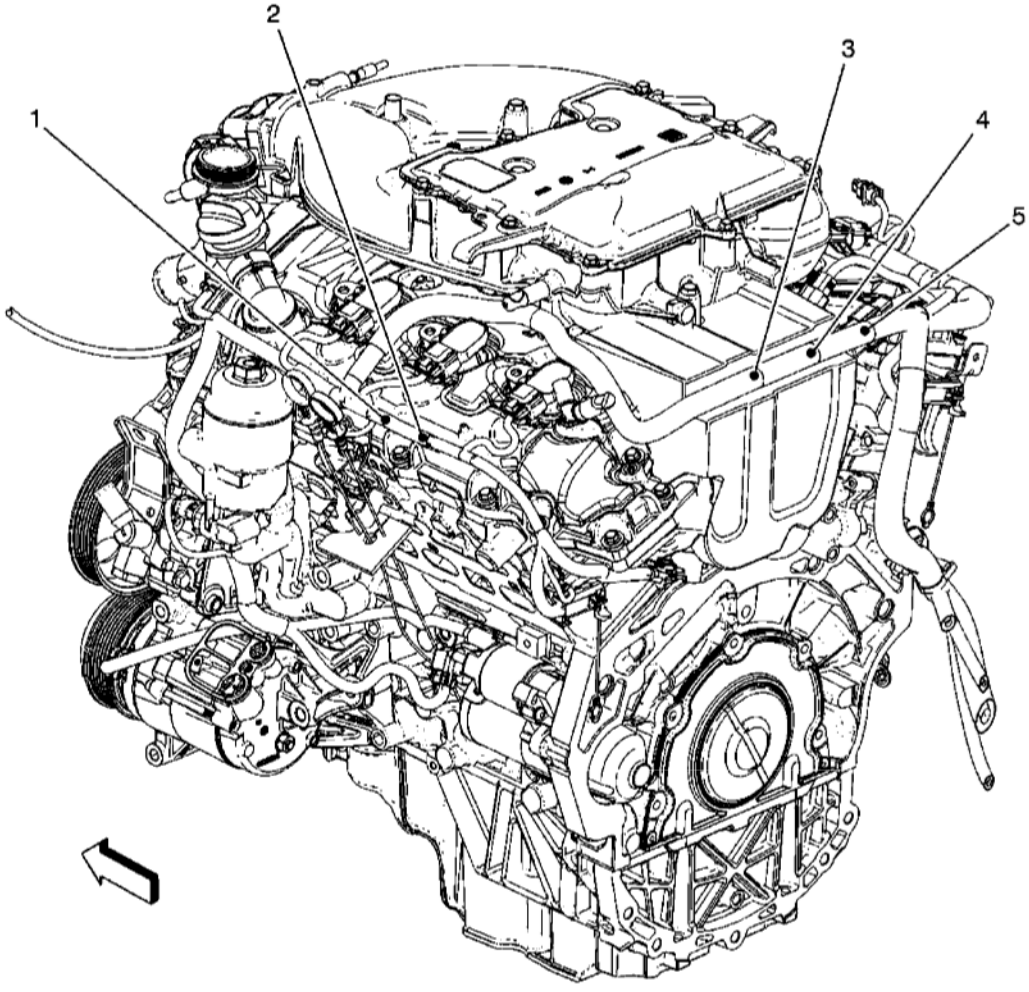


Fig. 4: Engine Harness Routing - Left Rear (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J122
2	J123
3	J121
4	J120
5	J119

cardiagn.com

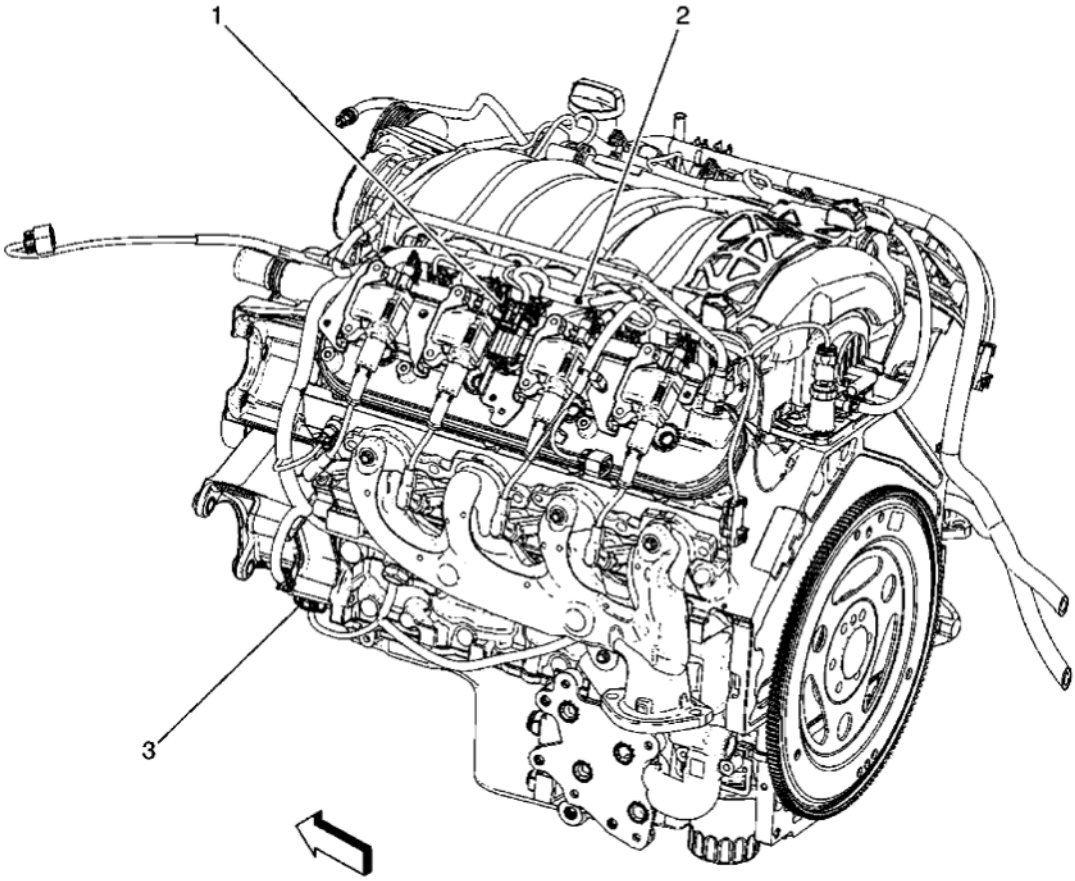


Fig. 5: Engine Harness Routing - Left Rear (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X113
2	J113
3	X109

cardiagn.com

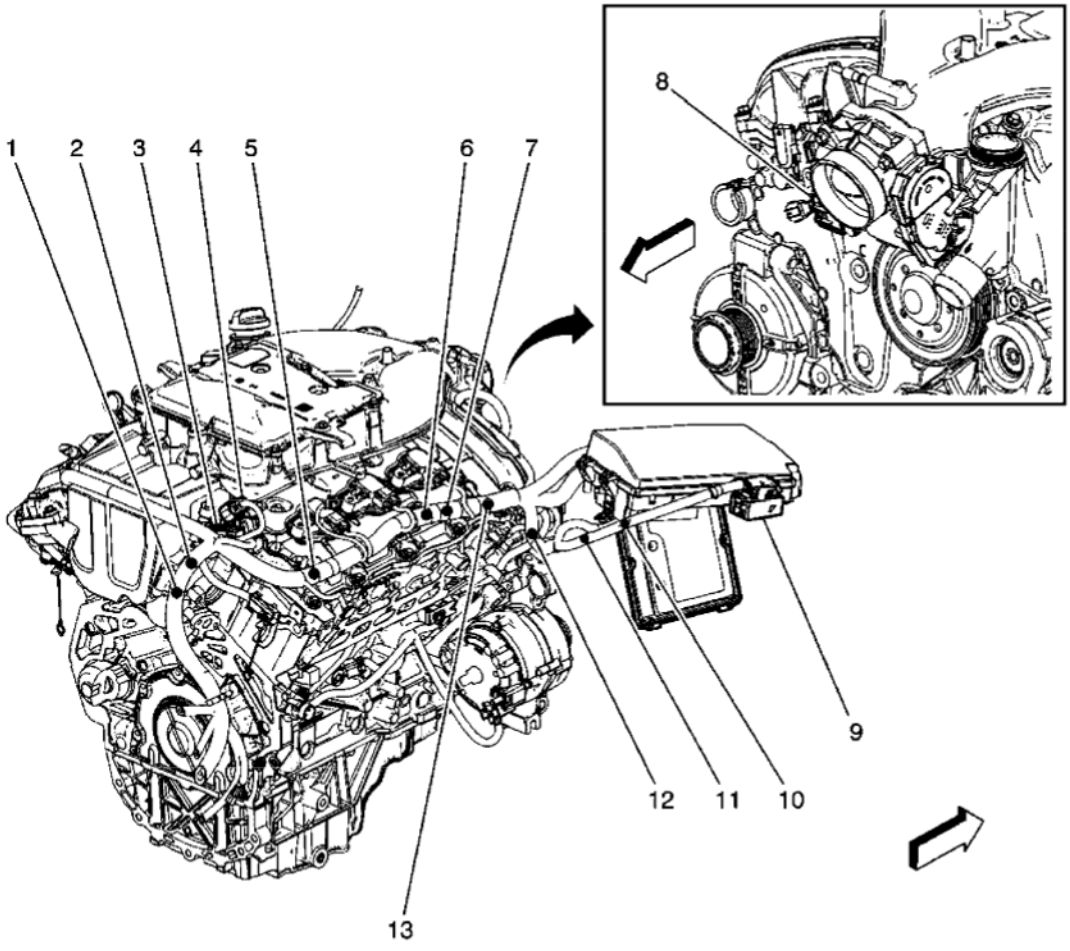


Fig. 6: Engine Harness Routing - Right Side (LLT)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J116
2	J115
3	X161
4	X160
5	J114 (MV5)
6	J113
7	J112
8	X111
9	X102
10	J108 (MV5)
11	J109 (MV5)

cardiagn.com

12	J110
13	J111 (MYB)

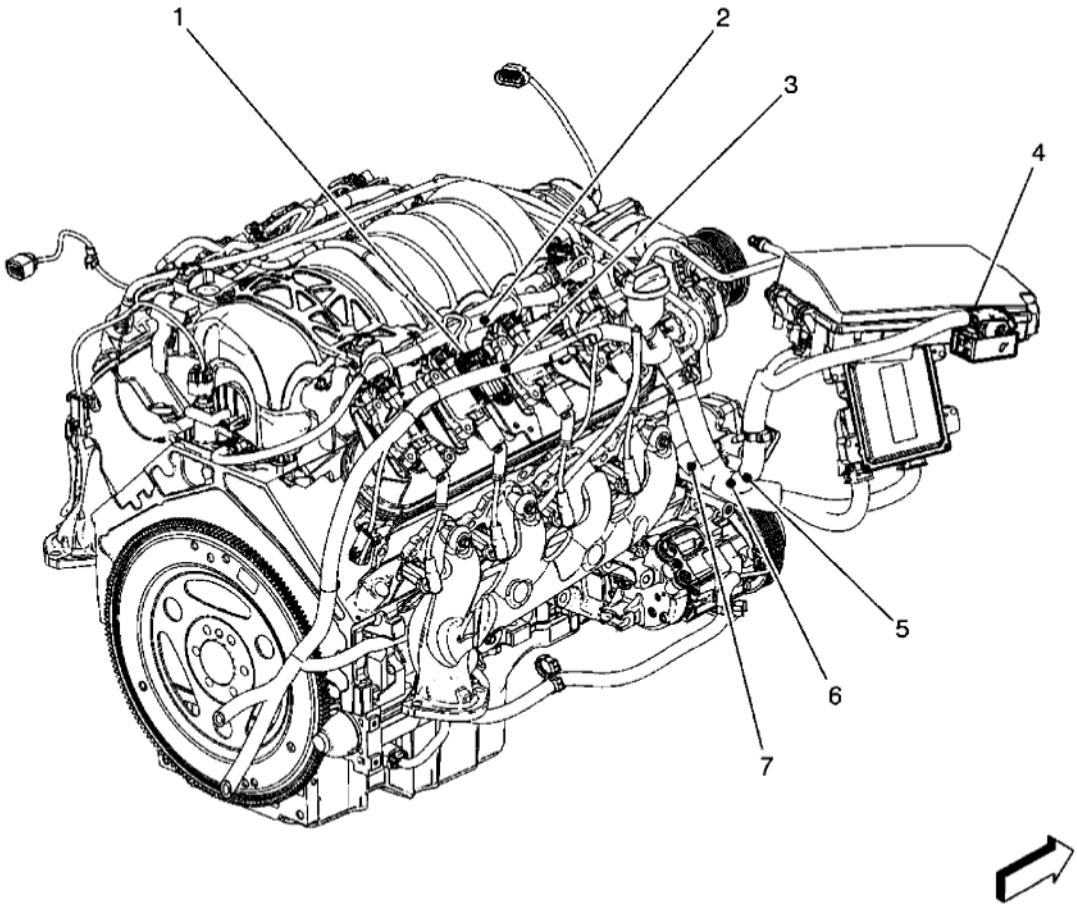


Fig. 7: Engine Harness Routing - Right Side (L99 or LS3)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X112
2	J123
3	J129
4	X102
5	J111 (MYC)
6	J116
7	J126

cardiagn.com

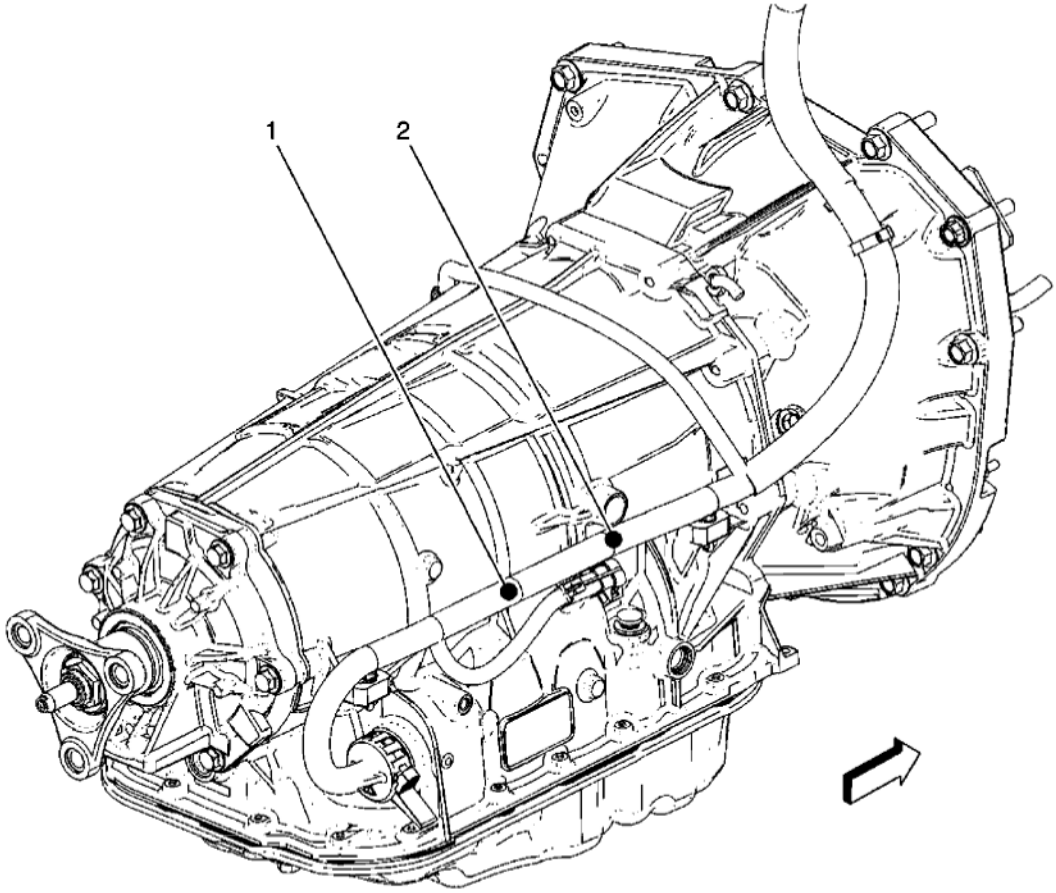


Fig. 8: Transmission Harness Routing - Right Rear (MYB)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J118
2	J117

cardiagn.com

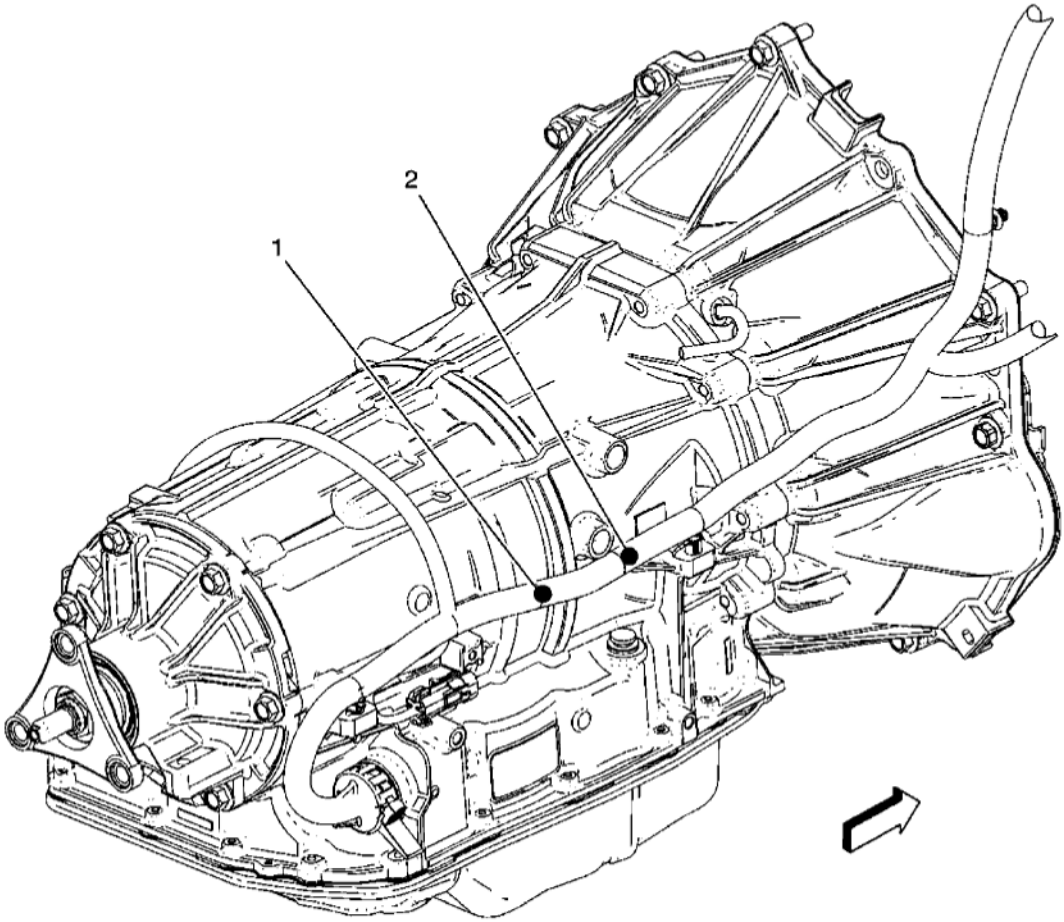


Fig. 9: Transmission Harness Routing - Right Rear (MYC)
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J117
2	J118

cardiagn.com

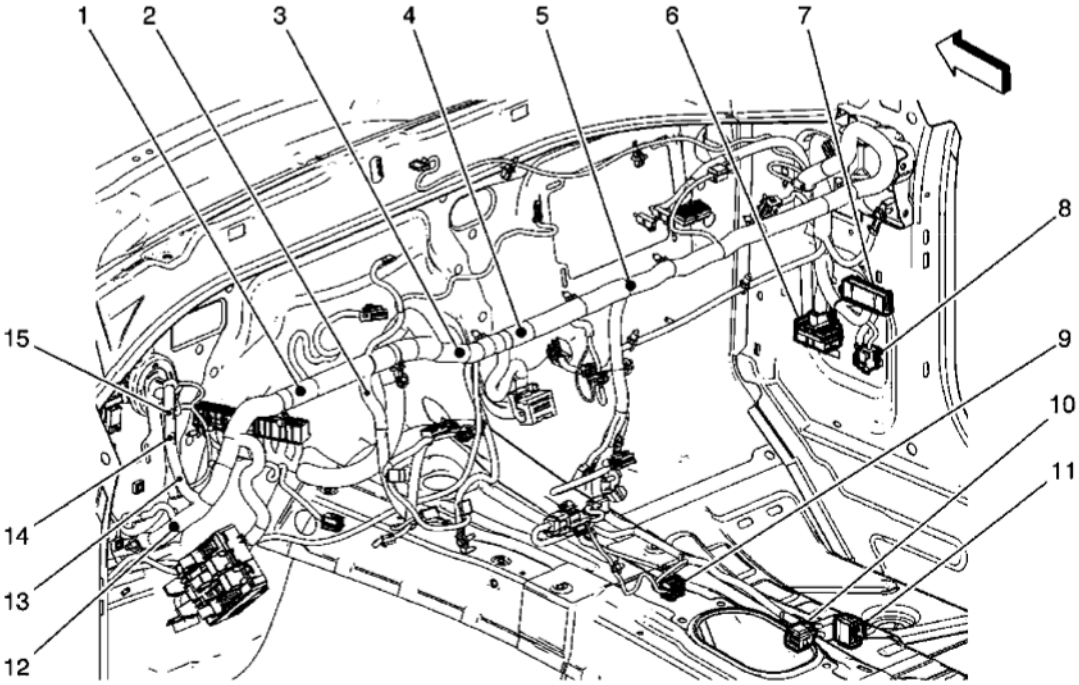


Fig. 10: Instrument Panel Harness Routing - Top Left Overhead
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J205 (DBX)
2	J206
3	J207
4	J208
5	J209 (SRK or SRM)
6	X208
7	X204
8	X254
9	X211
10	X301 (MYB or MYC)
11	X302
12	J201
13	J202
14	J203
15	J204

cardiagn.com

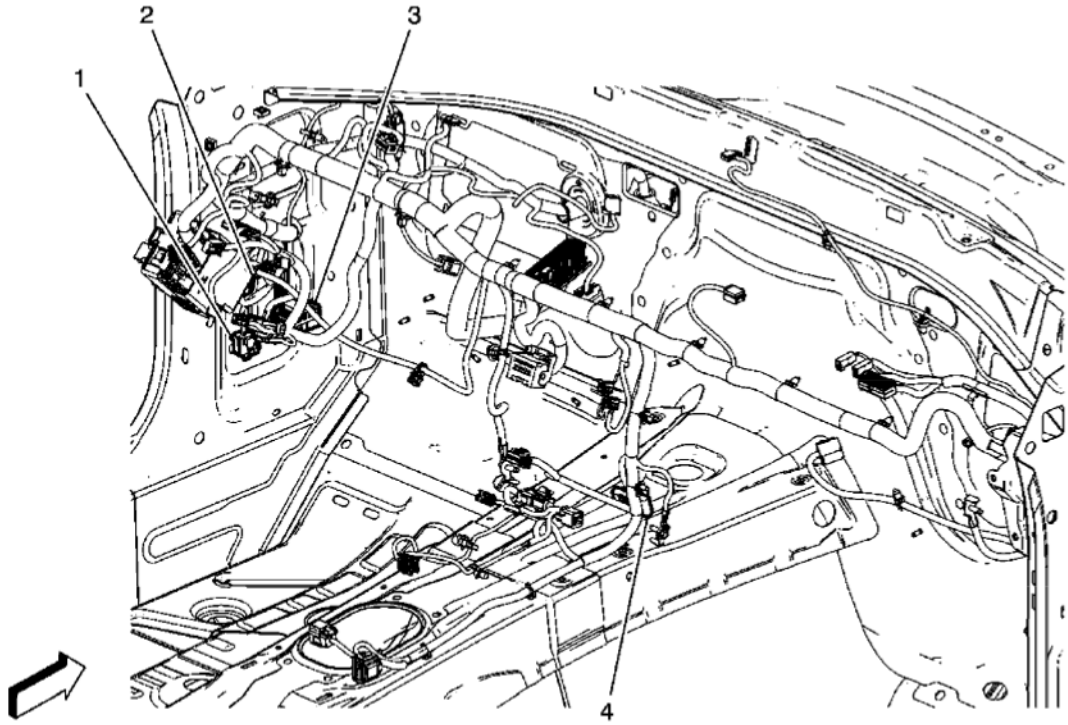


Fig. 11: Instrument Panel Harness Routing - Top Right Overhead
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X253
2	X206 (CF5)
3	X207
4	JX200

cardiagn.com

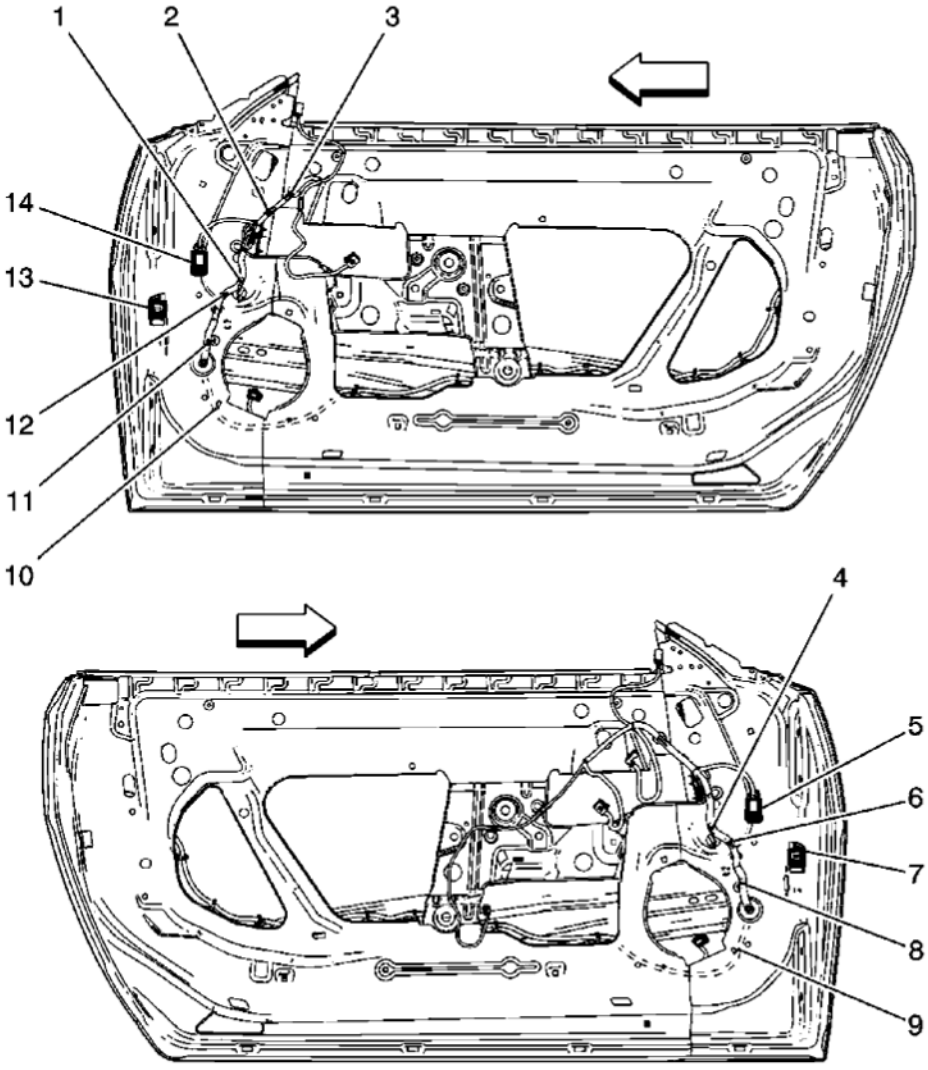


Fig. 12: Doors Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	J604
2	J605
3	J602
4	J503
5	X502
6	J502
7	X500
8	J501
9	J500

cardiagn.com

10	J600
11	J601
12	J603
13	X600
14	X602

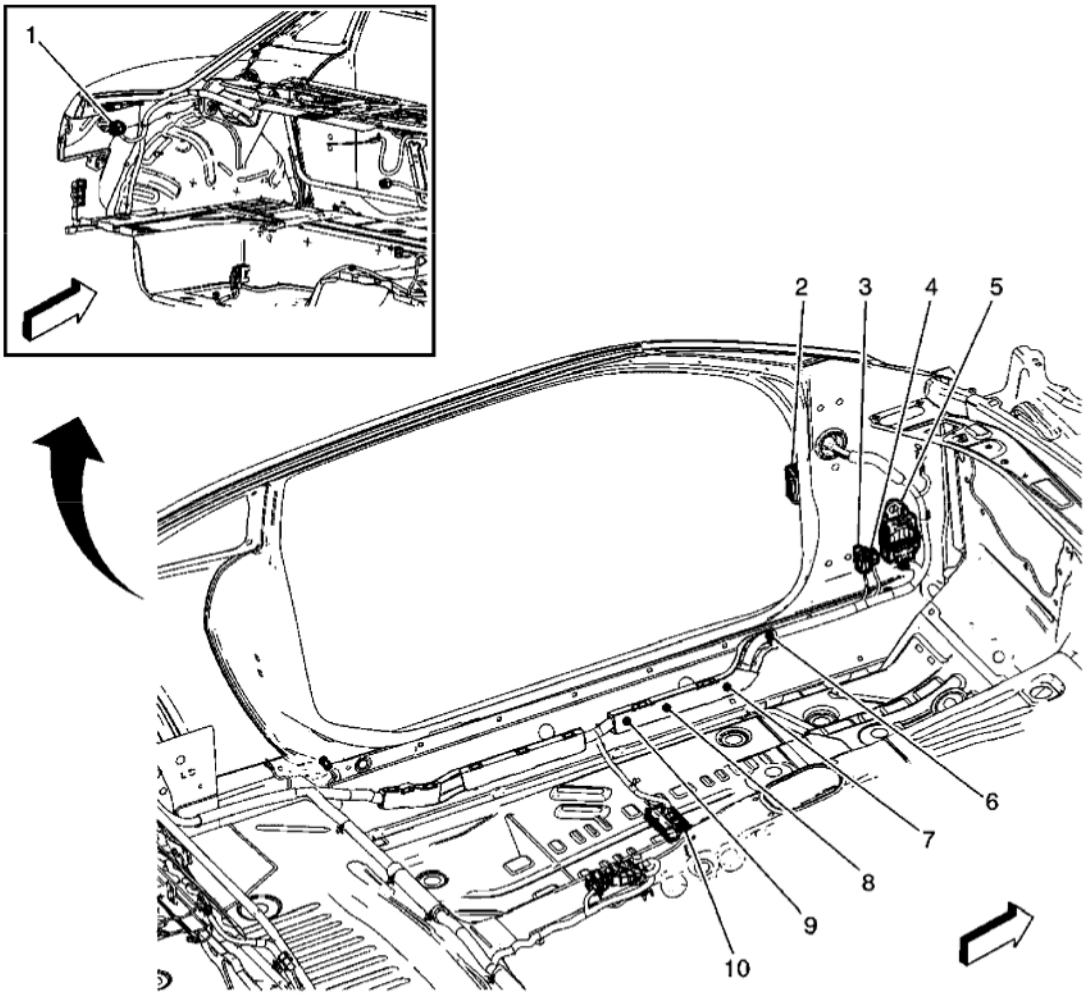


Fig. 13: Body Harness Routing - Left Passenger and Rear Compartments
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X400
2	X500
3	X253
4	X251
5	X207

cardiagn.com

6	J301
7	J302
8	J303
9	J304
10	X307

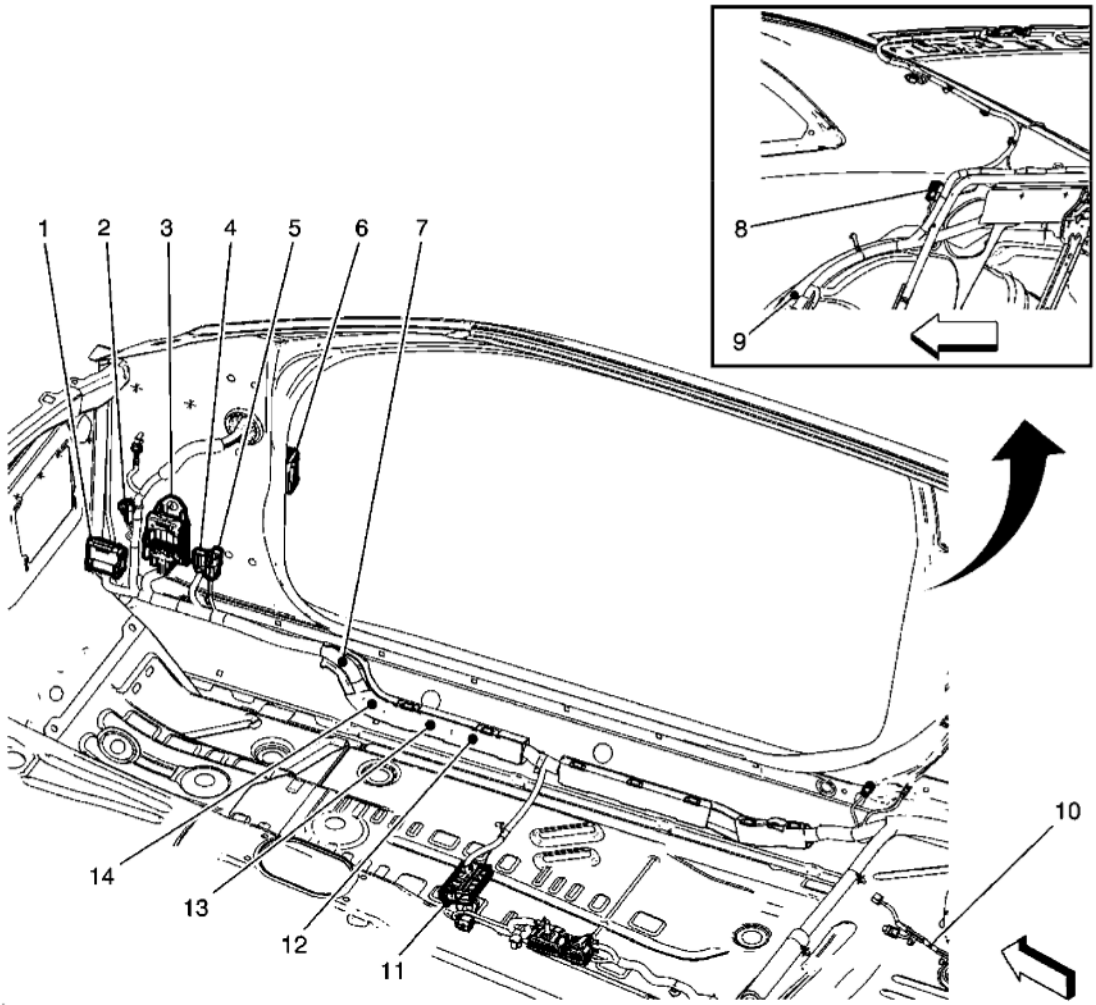


Fig. 14: Body Harness Routing - Right Passenger Compartment
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X210
2	X209
3	X208
4	X256 (UE1 or U2K)
5	X254

cardiagn.com

6	X600
7	J305
8	X304
9	J310
10	J309
11	X306
12	J308
13	J307
14	J306

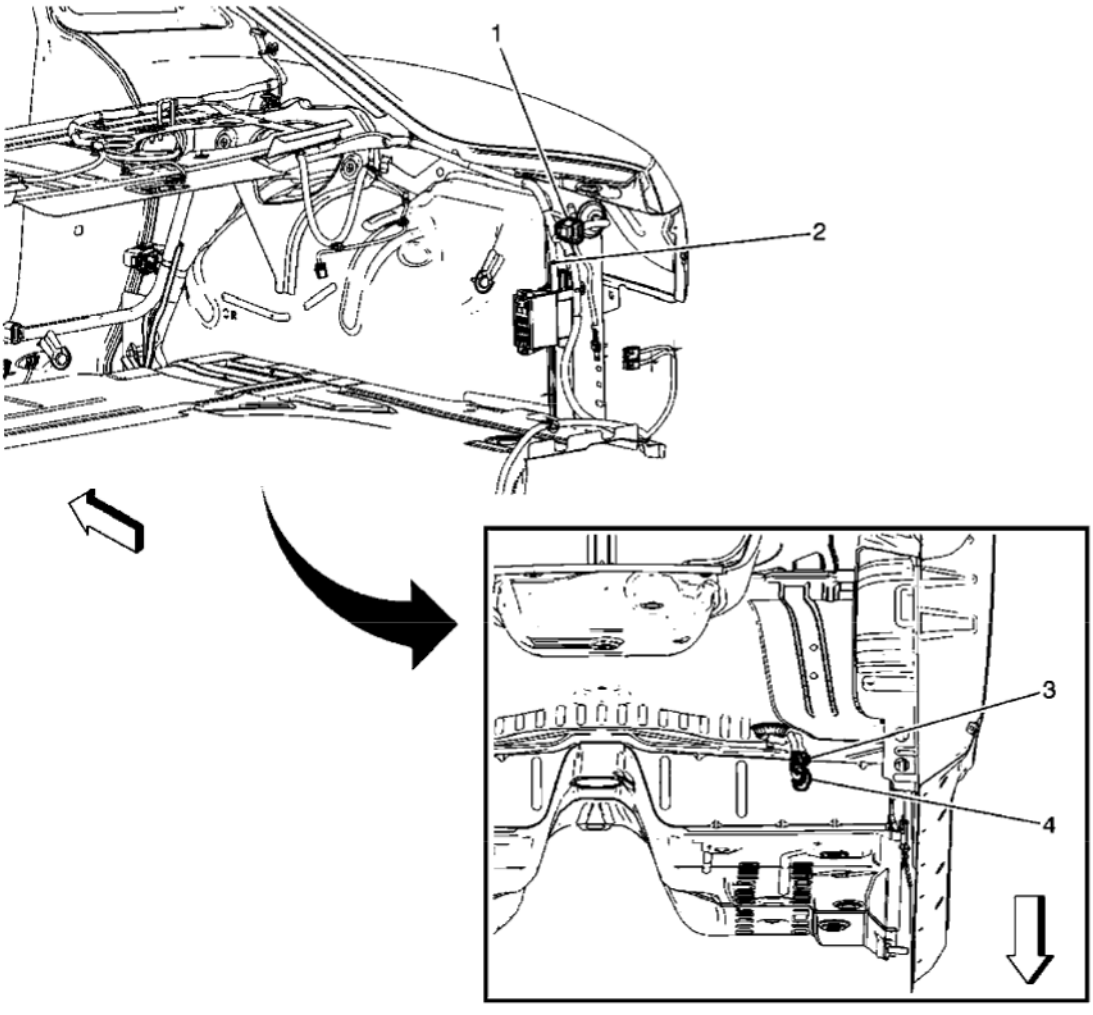


Fig. 15: Body Harness Routing - Right Rear Compartment and Underbody
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X401

cardiagn.com

2	J409
3	X360
4	X350

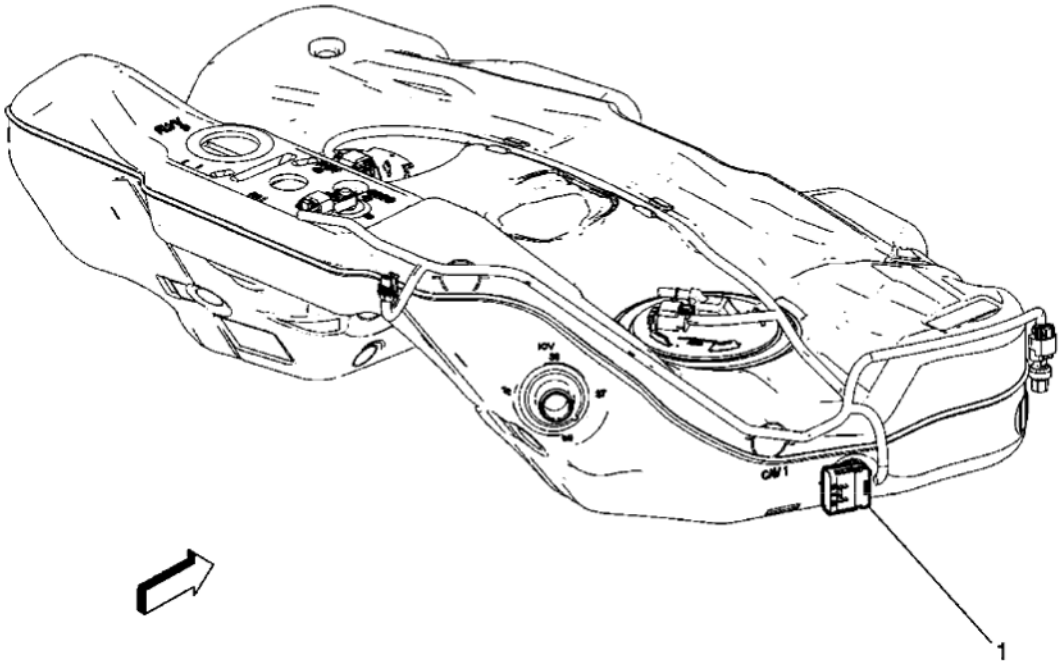


Fig. 16: Fuel Tank Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X350

cardiagn.com

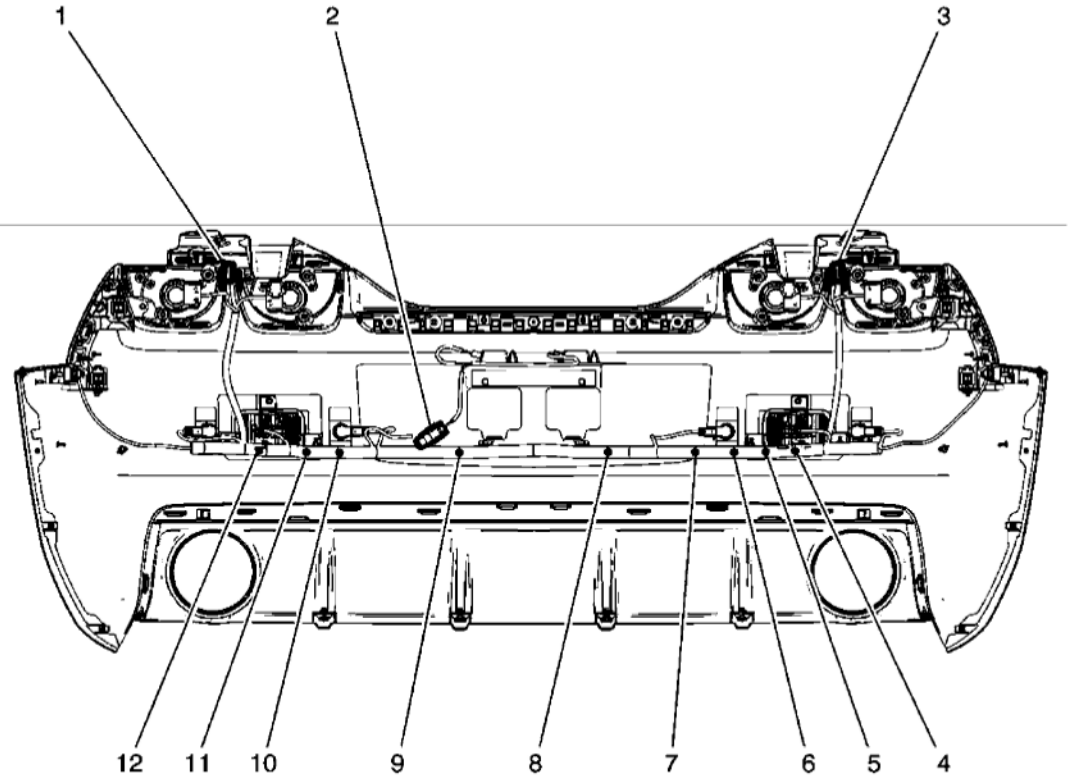


Fig. 17: Rear Fascia Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	X401
2	X402
3	X400
4	J400
5	J401
6	J402
7	J403
8	J404 (UD7)
9	J405 (UD7)
10	J406
11	J407
12	J408

cardiagn.com

ELECTRICAL SCHEMATIC SYMBOLS

Voltage Indicators

Symbol	Description
	Battery Voltage
	Ignition Switch - Off Position
	Ignition Switch - Accessory Position
	Ignition Switch - Run Position

cardiagn.com

	
	Ignition Switch - Start Position

General Icons

Symbol	Description
	Master Component List Icon This icon is used on the schematic to link to the Master Electrical Component List.
	Description and Operation Icon This icon is used on the schematic to link to the Description and Operation of that particular system.

cardiagn.com

	
	Computer Programming Icon This icon is used on the schematic to link to Control Module References, which identifies which components need programming upon replacement.
	Next Schematic Page Icon This icon is used on the schematic to navigate to the next schematic in the subsystem.
	Previous Schematic Page Icon This icon is used on the schematic to navigate to the previous schematic in the subsystem.

cardiagn.com

	
	Supplemental Inflatable Restraint (SIR) or Supplemental Restraint System (SRS) Icon This icon is used to alert the technician that the system contains SIR/SRS components that require certain precautions before servicing.
	Information Icon This icon is used to alert the technician that there is additional information that will aid in servicing a system.
	Danger - High Voltage Icon This icon is used to alert the technician that a component/system contains 300 volt circuits.

cardiagn.com

	
	High Voltage Icon This icon is used to alert the technician that a component/system contains voltage greater than 42 volts but less than 300 volts.
	Caution Icon This icon is used to advise the technician to use caution when servicing this component.
	Functional Serial Data Communication This icon is used to show the technician that the serial data circuit detail is shown incomplete. It also provides an active link to the Data Communication Schematics were the circuit is shown complete.

cardiagn.com

Switch Position Icons

Symbol	Description
↑ ^ △	Generic Up Arrows
↓ v ▽	Generic Down Arrows
	Generic Left Arrows

cardiagn.com

	
	Generic Right Arrows
	Generic Express Down Arrows

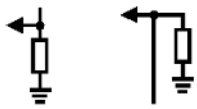
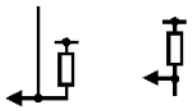
cardiagn.com

	On/Off Icon
	Generic Lock Icon
	Generic Unlock Icon
	Generic Window Switch Positions - 4 Door

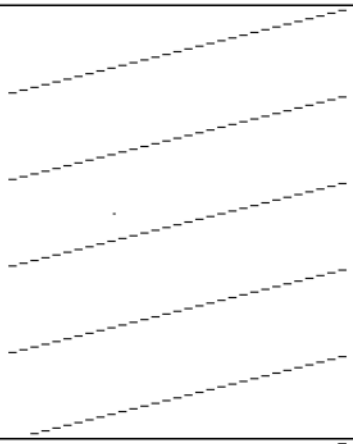
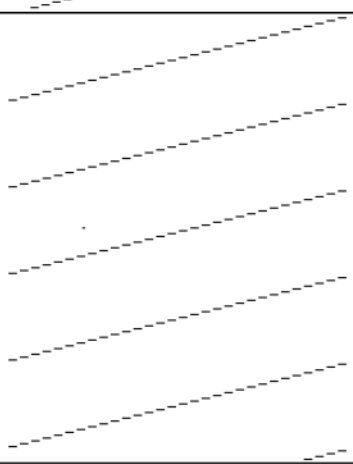
cardiagn.com

		Generic Window Switch Positions - 2 Door

Module Circuit Function Icons

Symbol	Description
	I/O Pull-Down Resistors (-)
	I/O Pull-Up Resistors (+)
	I/O High-Side Drive Switch (+)

cardiagn.com

	I/O Low-Side Drive Switch (+)
	I/O Bidirectional Switch (+/-)
	Pulse-Width Modulation Symbol
	Battery Voltage

cardiagn.com

IGN	Ignition Voltage
5V	Voltage Reference
5V AC	A/C Voltage
	Low Reference

cardiagn.com

	Ground
	Serial Data
	Antenna Signal - In
	Antenna Signal - Out

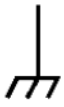
cardiagn.com

	Brake Apply

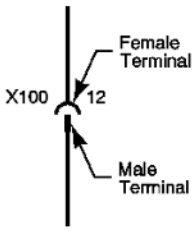
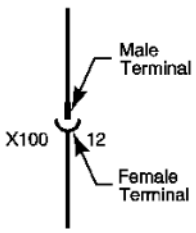
Harness Components

Symbol	Description
	Fuse
	Fuse Supplied by a Relay

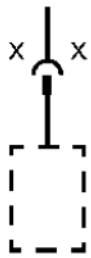
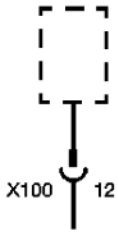
cardiagn.com

	Circuit Breaker
	Fusible Link
	Ground

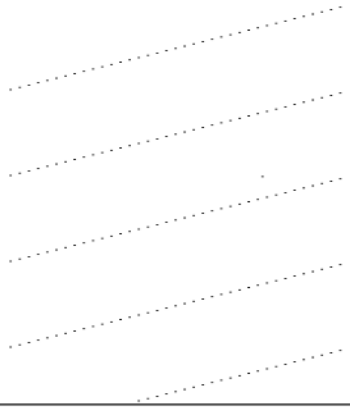
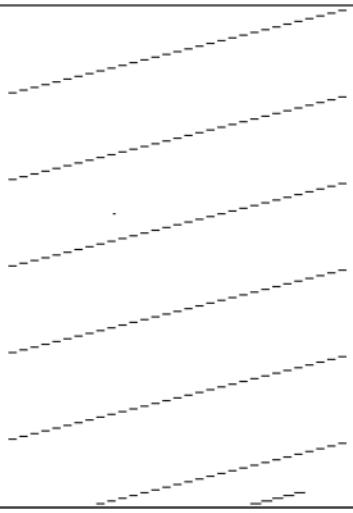
cardiagn.com

	Case Ground
	Inline Harness Connector
	Inline Harness Connector
	Pigtail Connection

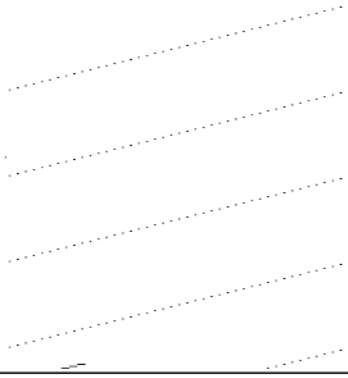
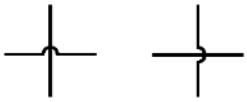
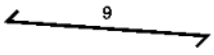
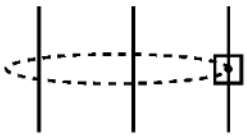
cardiagn.com

	
	Pigtail Connection
	Provisional or Diagnostic Connector
	Blunt Cut Wire

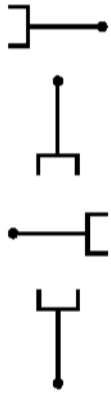
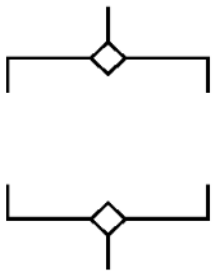
cardiagn.com

	
	Incomplete Physical Splice
	Complete Physical Splice - 2 Wires
	Complete Physical Splice - 3 or more wires

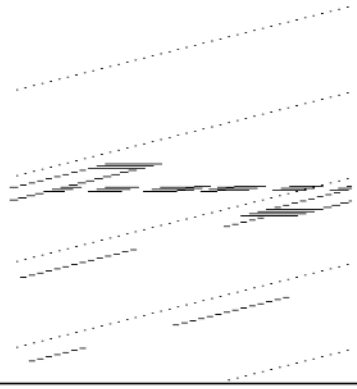
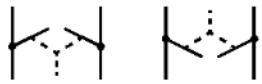
cardiagn.com

	
	Wire Crosses
	Twisted Wires
	Shield

cardiagn.com

	Circuit References
	Circuit Continuation Arrowheads
	Option Breakpoint

cardiagn.com

	Ground Circuit Connection
	Connector Shorting Clip

Component Parts

Symbol	Description
	Partial Component When a component is represented in a dashed box, the component or its wiring is not shown in its entirety.
	Entire Component When a component is represented in a solid box the component or its wiring is shown in its entirety.

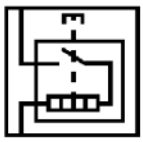
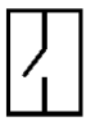
cardiagn.com

	Connector Directly Attached to Component
	Pigtail Connector

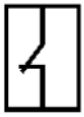
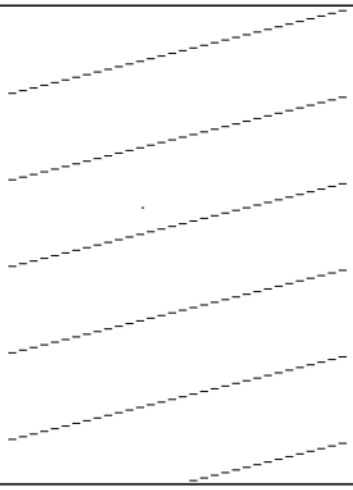
Switches and Relays

Symbol	Description

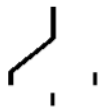
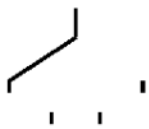
cardiagn.com

	Accessory Power Outlet
	Cigar Lighter
	Switch - 2 Position Normally Open
	Switch - 2 Position Normally Closed

cardiagn.com

	
	Switch - Rocker
	Switch - Contact Plate (1 Wire)
	Switch - Contact Plate (2 Wire)

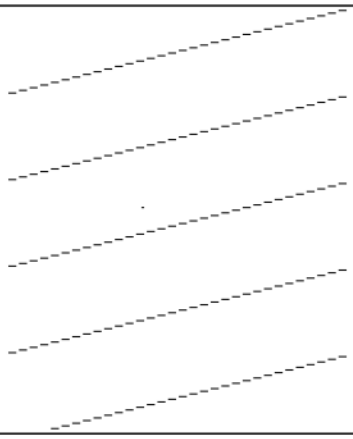
cardiagn.com

	Switch - 3 Position
	Switch - 4 Position
	Switch - 5 Position

cardiagn.com

	Switch - 6 Position
	Switch Actuator - Push (Momentary)
	Switch Actuator - Push (Latching)

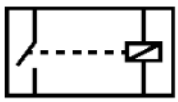
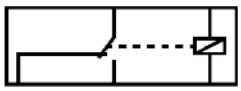
cardiagn.com

	Switch Actuator - Pull (Momentary)
	Switch Actuator - Pull (Latching)
	Switch Actuator - Rotate (Momentary)
	Switch Actuator - Rotate (Latching)

cardiagn.com

	
	Switch Actuator - Slide (Momentary)
	Switch Actuator - Slide (Latching)
	Switch Actuator - Pressure (Momentary)

cardiagn.com

	Switch Actuator - Temperature (Momentary)
	Switch Actuator - Volume (Latching)
	4-Pin Single Pole/Throw Relay - Normally Open
	5-Pin Relay - Normally Closed

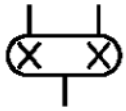
Devices and Sensors

Symbol	Description

cardiagn.com

	Battery
	Battery Assembly - Hybrid
	Single Filament Light Bulb
	Double Filament Light Bulb

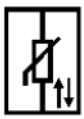
cardiagn.com

	
	Light Emitting Diode (LED)
	Photo Sensor
	Gauge

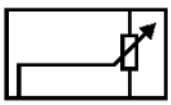
cardiagn.com

	
	Diode
	Capacitor
	Resistor

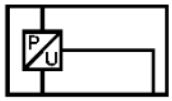
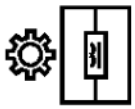
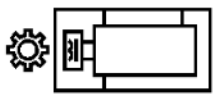
cardiagn.com

	Variable Resistor
	Variable Resistor - NTC
	Breakable Wire

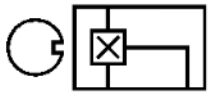
cardiagn.com

	Heating Element
	Position Sensor
	Pressure Sensor

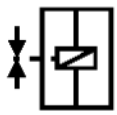
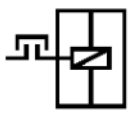
cardiagn.com

	
	Knock Sensor
	Inductive Type Sensor - 2-Wire
	Inductive Type Sensor - 3-Wire

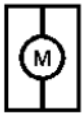
cardiagn.com

	Hall Effect Sensor - 2-Wire
	Hall Effect Sensor - 3-Wire
	Oxygen Sensor - 2-Wire
	Heated Oxygen Sensor - 4-Wire

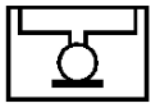
cardiagn.com

	Solenoid - Actuator
	Solenoid - Valve
	Clutch
	Motor

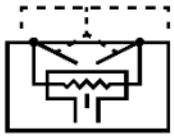
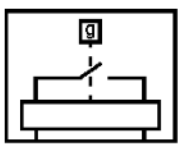
cardiagn.com

	
	Motor with PTC
	Antenna
	Speaker

cardiagn.com

	
	Horn
	Microphone
	Airbag

cardiagn.com

	
	SIR Coil
	SIR Impact Sensor

VEHICLE ZONING STRATEGY

All grounds, in-line connectors, pass-through grommets, and splices have identifying numbers that correspond to where they are located in the vehicle. The following table explains the numbering system.

cardiagn.com

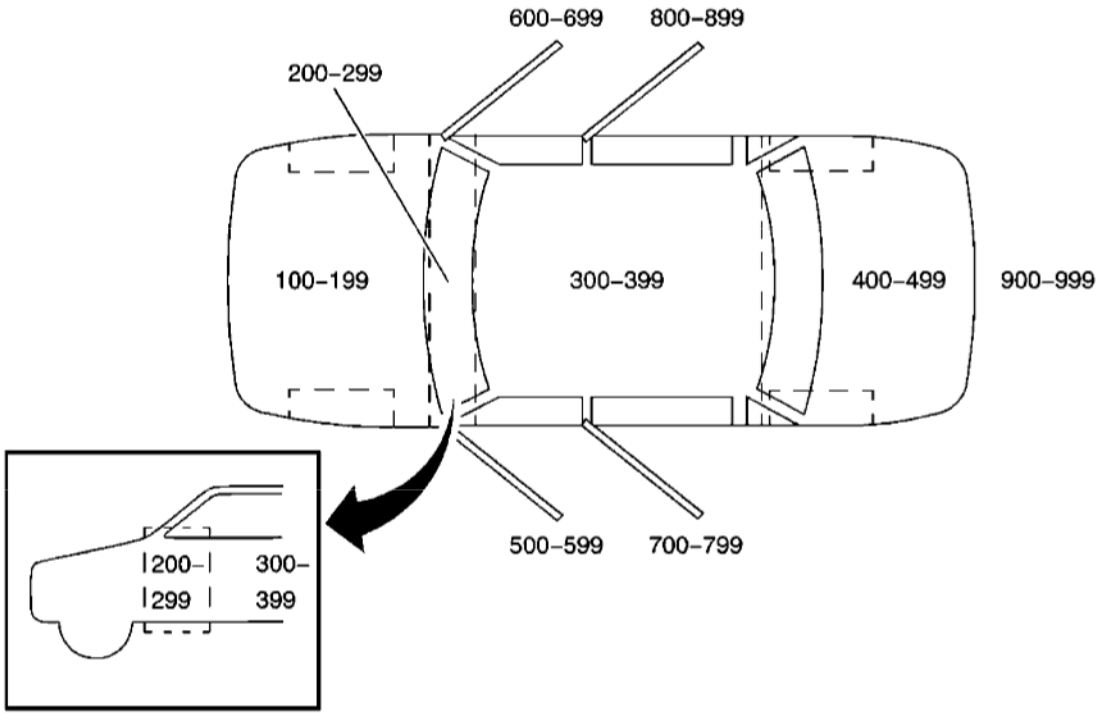


Fig. 18: Passenger Car Zoning View
Courtesy of GENERAL MOTORS CORP.

Callout Numbers	Zone Description
100-199	Engine compartment- All forward of the dash panel Note: 001-099 are additional for the engine compartment - ONLY to be used if all 100-199 items are used
200-299	Within the instrument panel area
300-399	Passenger compartment - From the instrument panel to the rear wheelhouse
400-499	Luggage compartment - From the rear wheelhouse to the rear of the vehicle
500-599	Within the left front door
600-699	Within the right front door
700-799	Within the left rear door
800-899	Within the right rear door
900-999	Within the luggage compartment lid or hatch

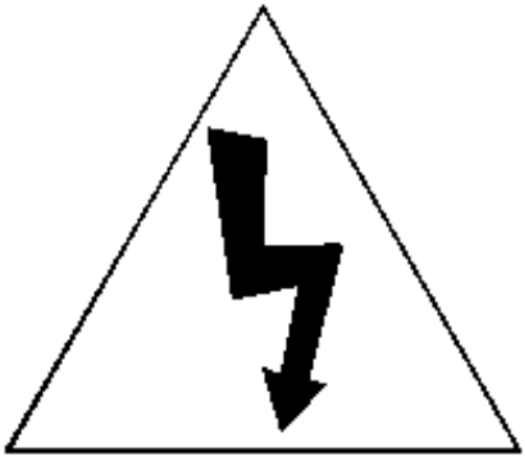
MASTER ELECTRICAL SCHEMATIC ICONS

Icon	Icon Definition
	WARNING: **When performing service on or near the SIR**

cardiagn.com



components or the SIR wiring, the SIR system must be disabled. Refer to SIR Disabling and Enabling. Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unnecessary SIR system repairs.

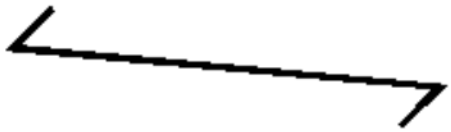


WARNING:

The high intensity discharge system produces high voltage and current. To reduce the risk of severe shocks and burns:

- **Never open the high intensity discharge system ballast or the arc tube assembly starter.**
- **Never probe between the high intensity discharge system ballast output connector and the arc tube assembly.**

cardiagn.com

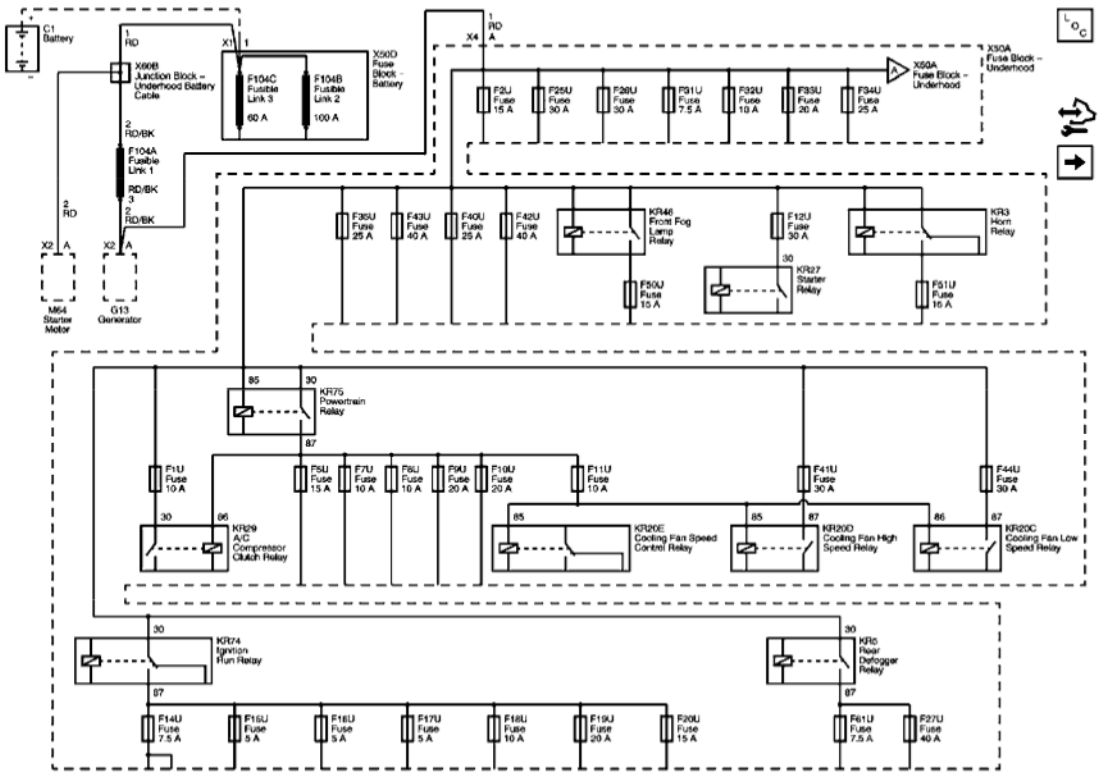


NOTE:

Twisted wires provide an effective shield that helps protect sensitive electronic components from electrical interference.
In order to prevent electrical interference from degrading the performance of the connected components, you must maintain the proper specification when making any repairs to the twisted wires shown :

- **The wires must be twisted a minimum of 10 turns per 31 cm (12 in) as measured anywhere along the length of the wires.**
- **The outside diameter of the twisted wires must not exceed 6.0 mm (0.25 in).**

POWER DISTRIBUTION SCHEMATICS



cardiagn.com

Fig. 19: Fuse Block - Underhood Bussing (1 of 2)
Courtesy of GENERAL MOTORS CORP.

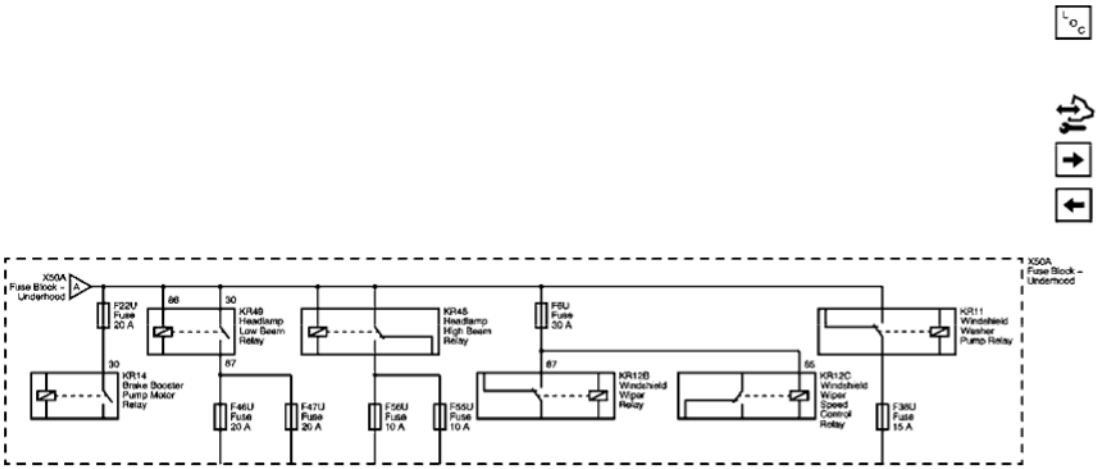
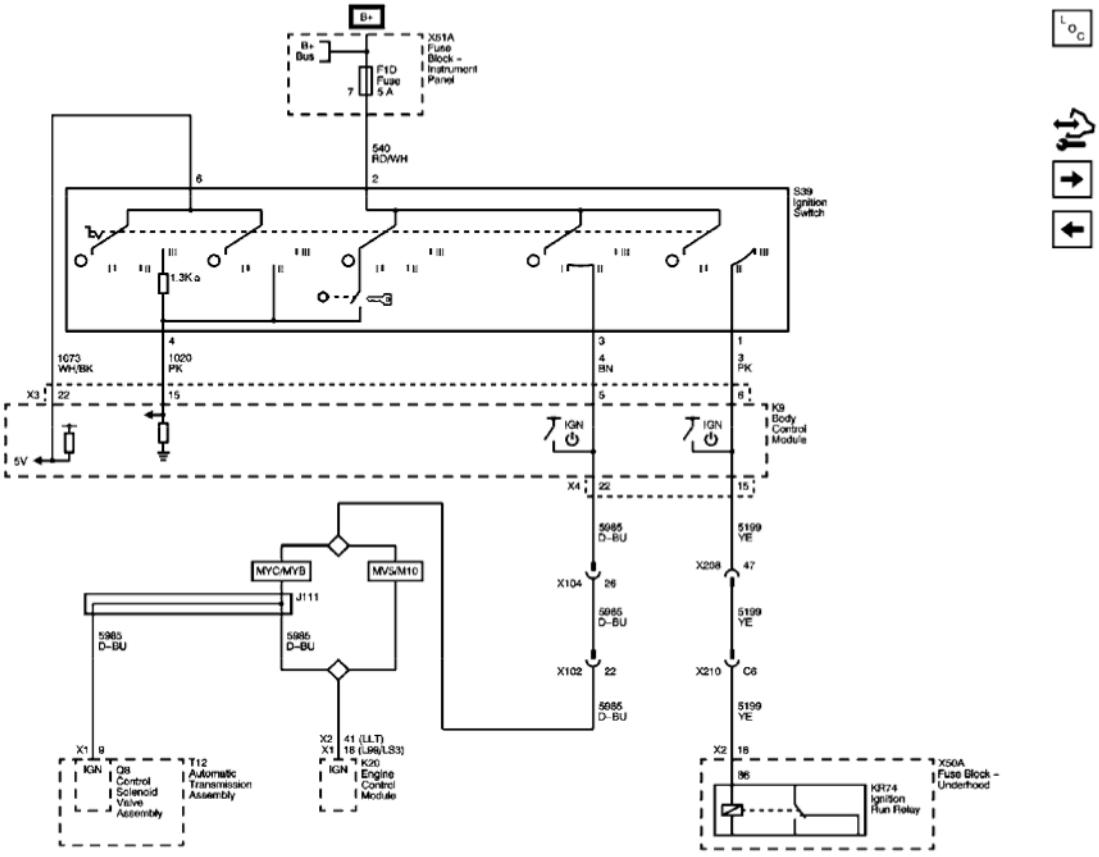


Fig. 20: Fuse Block - Underhood Bussing (2 of 2)
Courtesy of GENERAL MOTORS CORP.



cardiagn.com

Fig. 21: Ignition Switch
Courtesy of GENERAL MOTORS CORP.

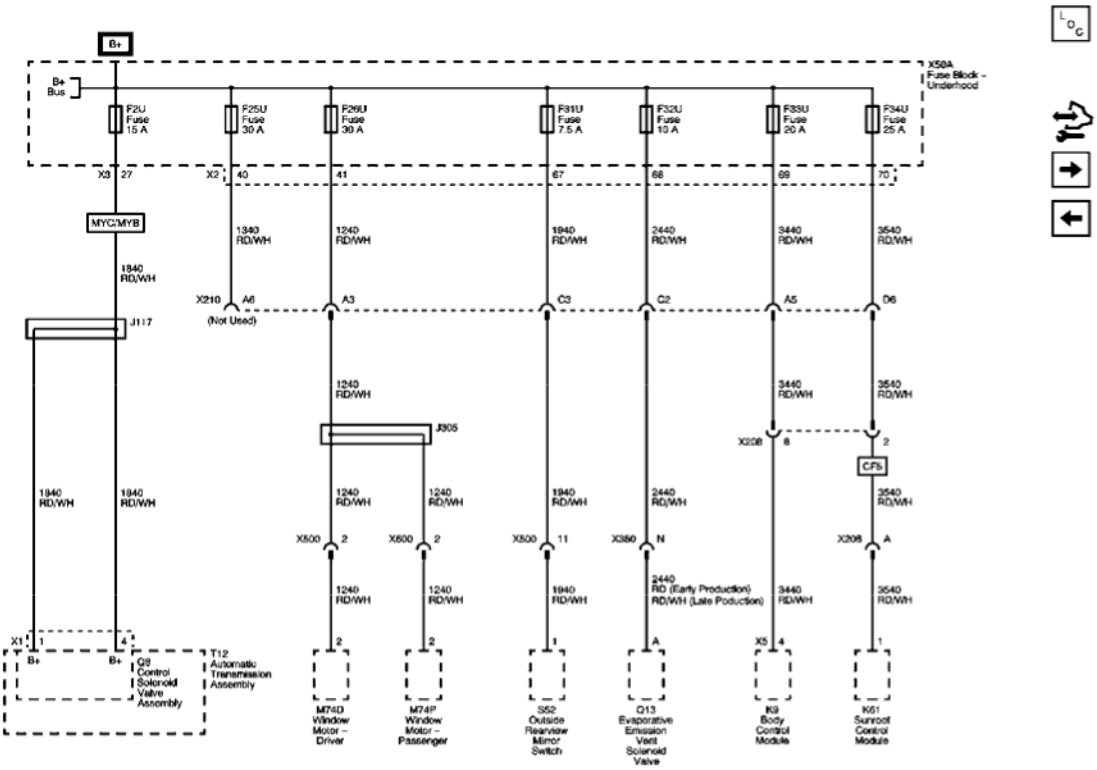


Fig. 22: Fuse Block - Underhood - TCM BATT Fuse 2, POWER WINDOW REAR Fuse 25, POWER WINDOW FRONT Fuse 26, MIR EWL FR Fuse 31, CANNISTER VENT Fuse 32, BCM 6 Fuse 33, and SUNROOF Fuse 34
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

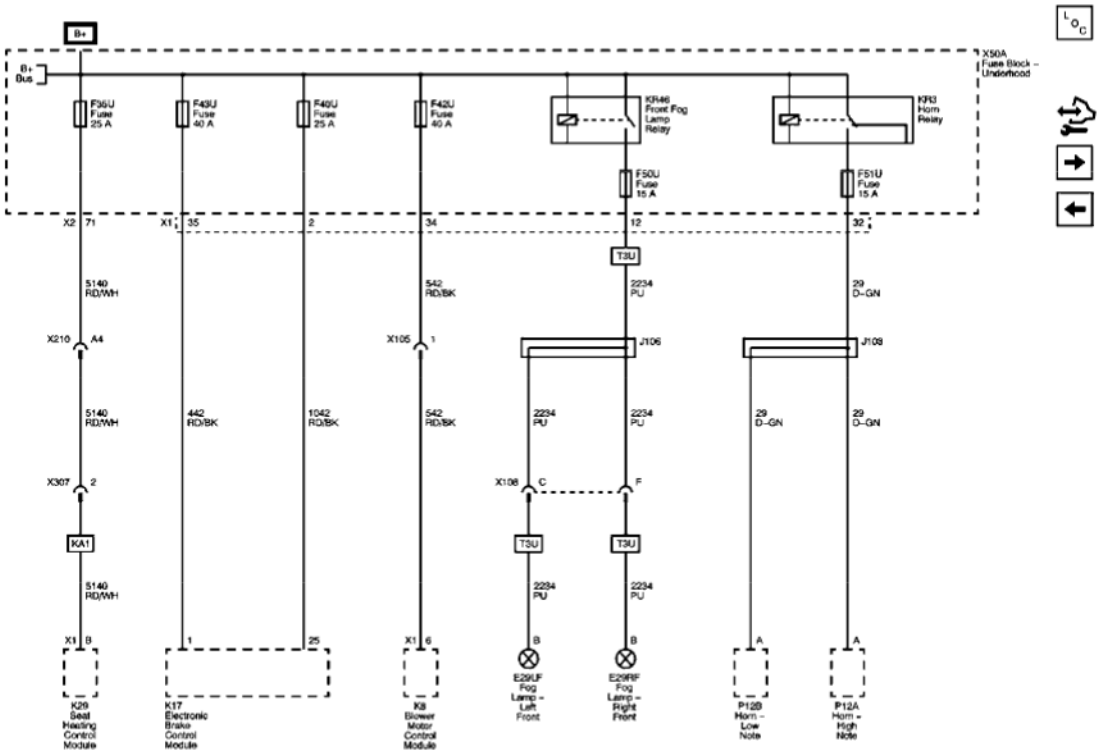
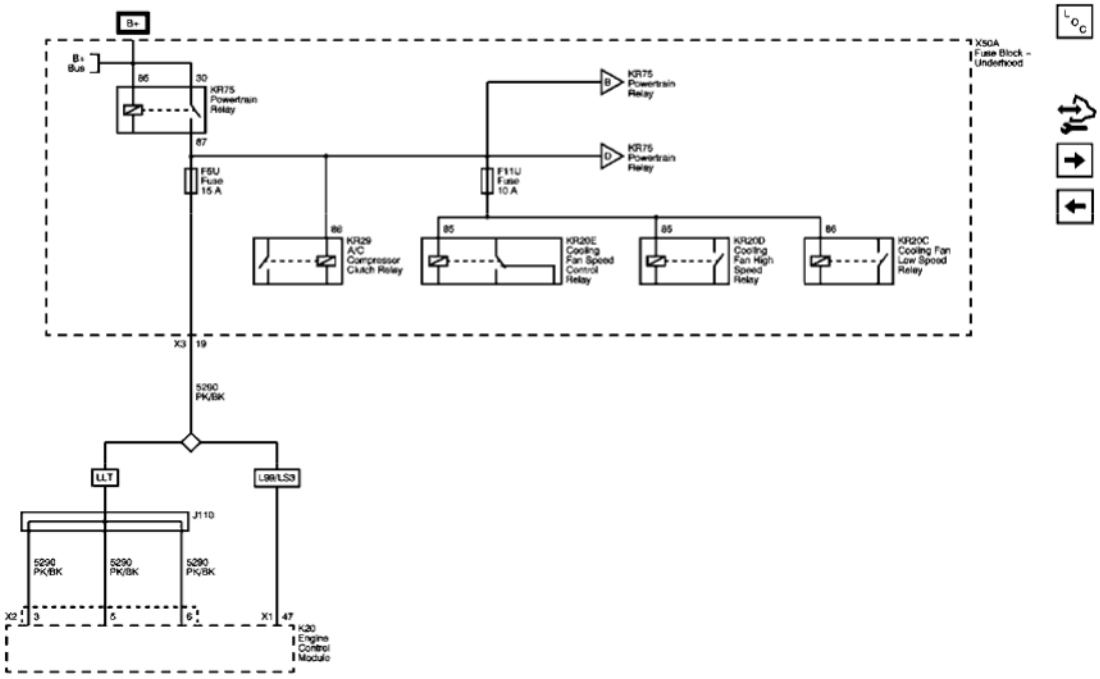


Fig. 23: Fuse Block - Underhood - SEAT HEAT FRT Fuse 35, ABS PUMP Fuse 43, ABS VALVE Fuse 40, HTD WASH Fuse 42, FRONT FOG LAMP Fuse 50, and HORN Fuse 51
Courtesy of GENERAL MOTORS CORP.



cardiagn.com

Fig. 24: Fuse Block - Underhood - PWR/TRN Relay K26, ECM Fuse 5, and COOL FAN RLY Fuse 11
Courtesy of GENERAL MOTORS CORP.

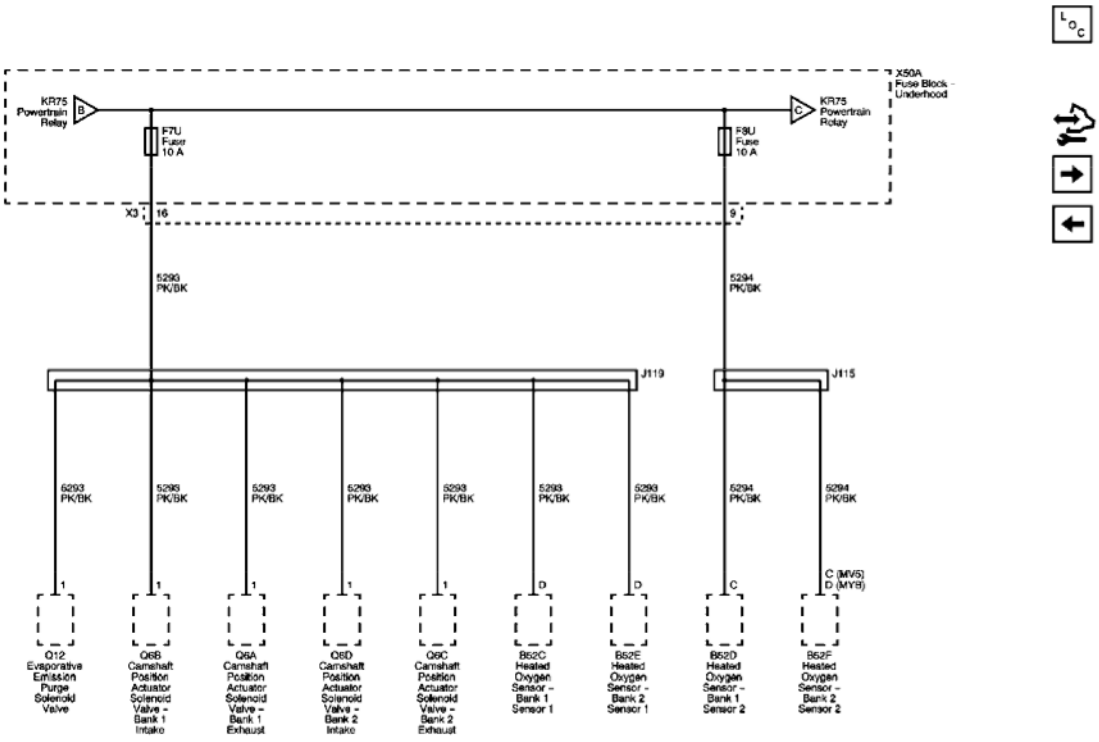


Fig. 25: Fuse Block - Underhood - 02 PRE Fuse 7, and 02 POST Fuse 8 (LLT)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

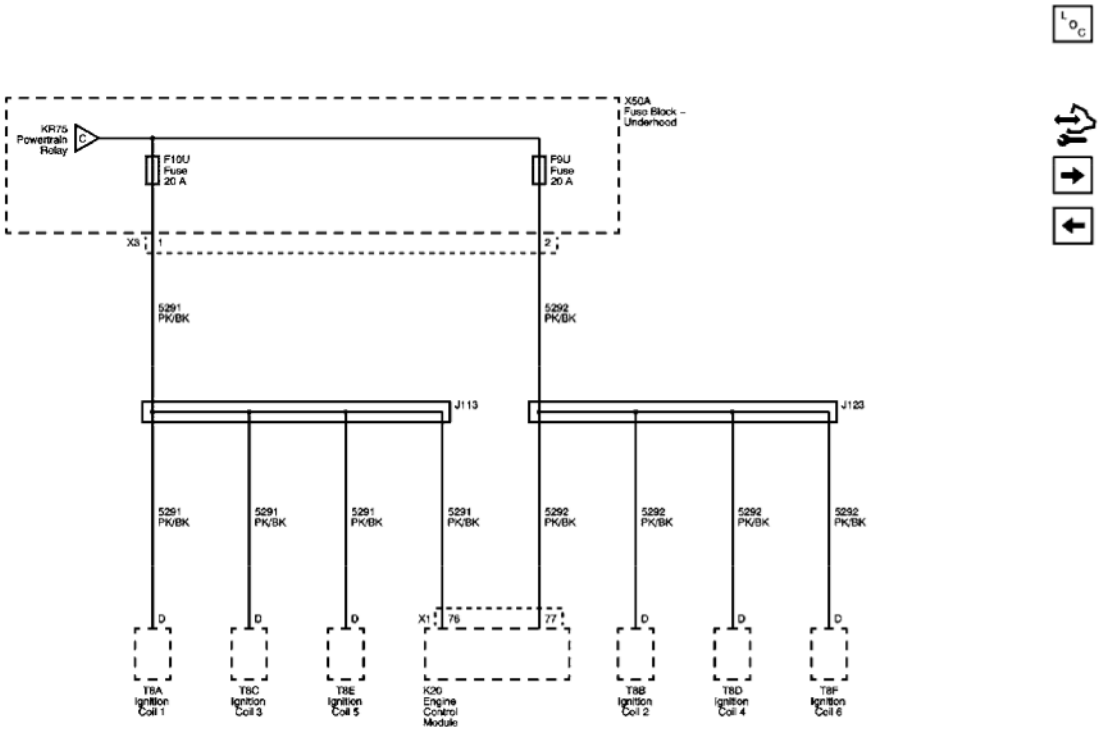


Fig. 26: Fuse Block - Underhood - INJ ODD Fuse 10, and INJ EVEN Fuse 9 (LLT)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

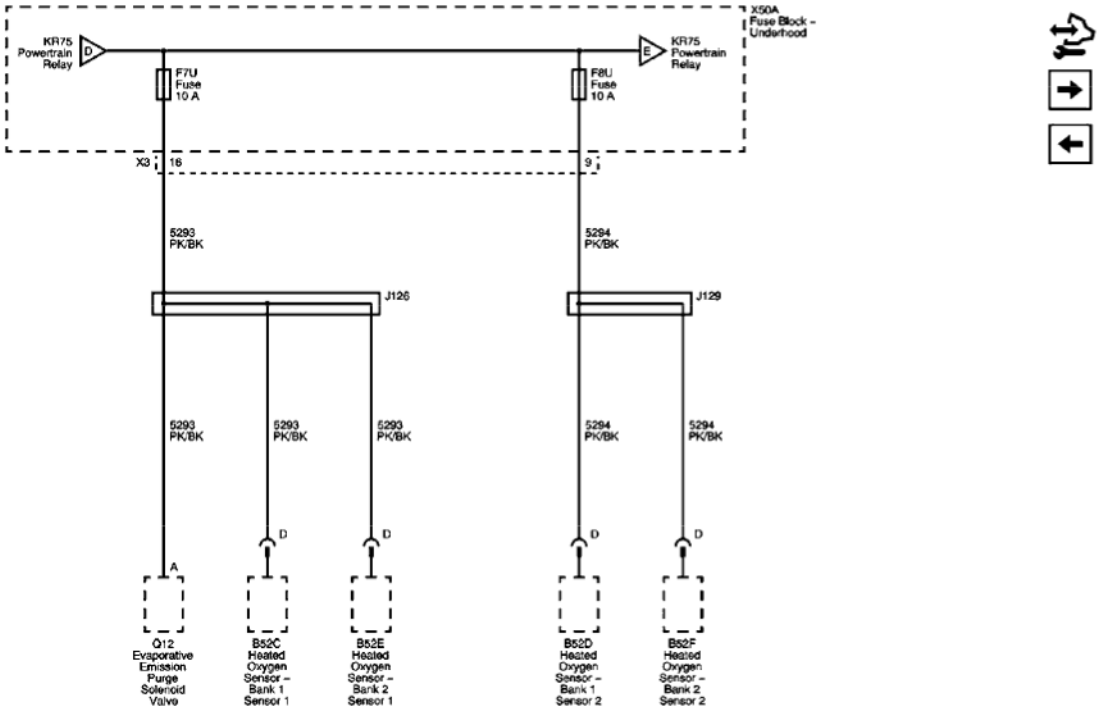


Fig. 27: Fuse Block - Underhood - 02 PRE Fuse 7, and 02 POST Fuse 8 (L99/LS3)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

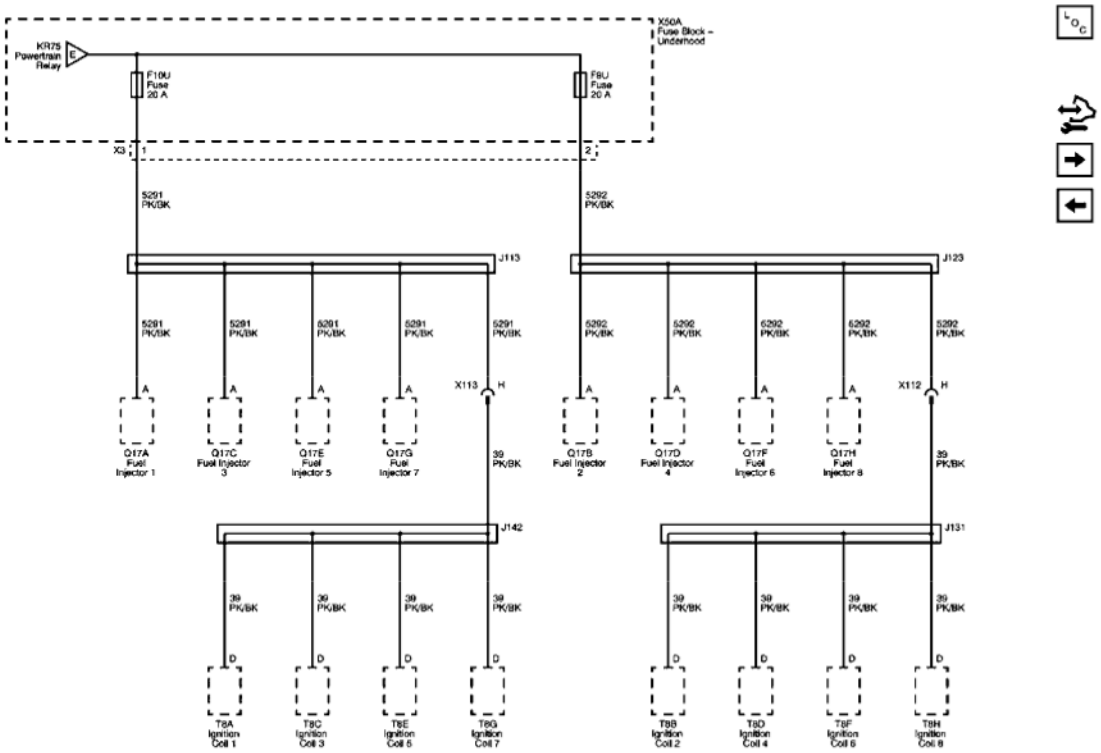


Fig. 28: Fuse Block - Underhood - INJ ODD Fuse 10, and INJ EVEN Fuse 9 (L99/LS3)
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

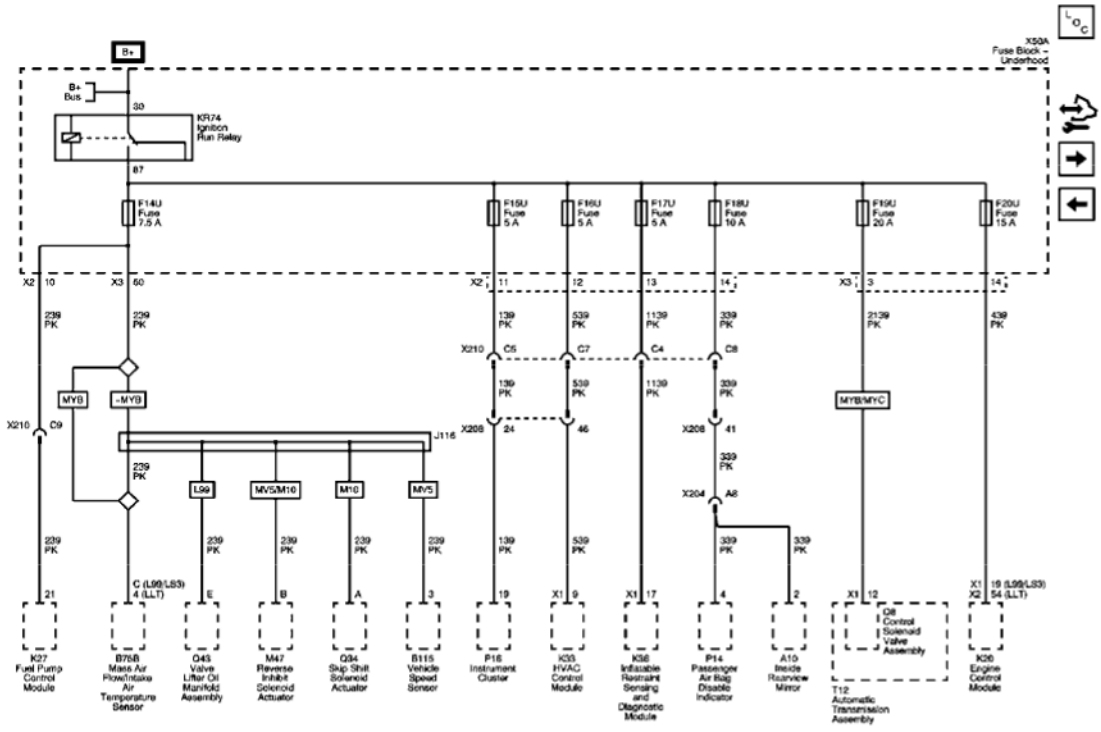


Fig. 29: Fuse Block - Underhood - RUN/CRNK Relay K50, MAF/CCC Fuse 13, IGN Fuse 15, RUN/CRNK IP Fuse 16, SDM/IGN Fuse 17, RUN/CRNK BODY Fuse 18, and TCM/IGN Fuse 20
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

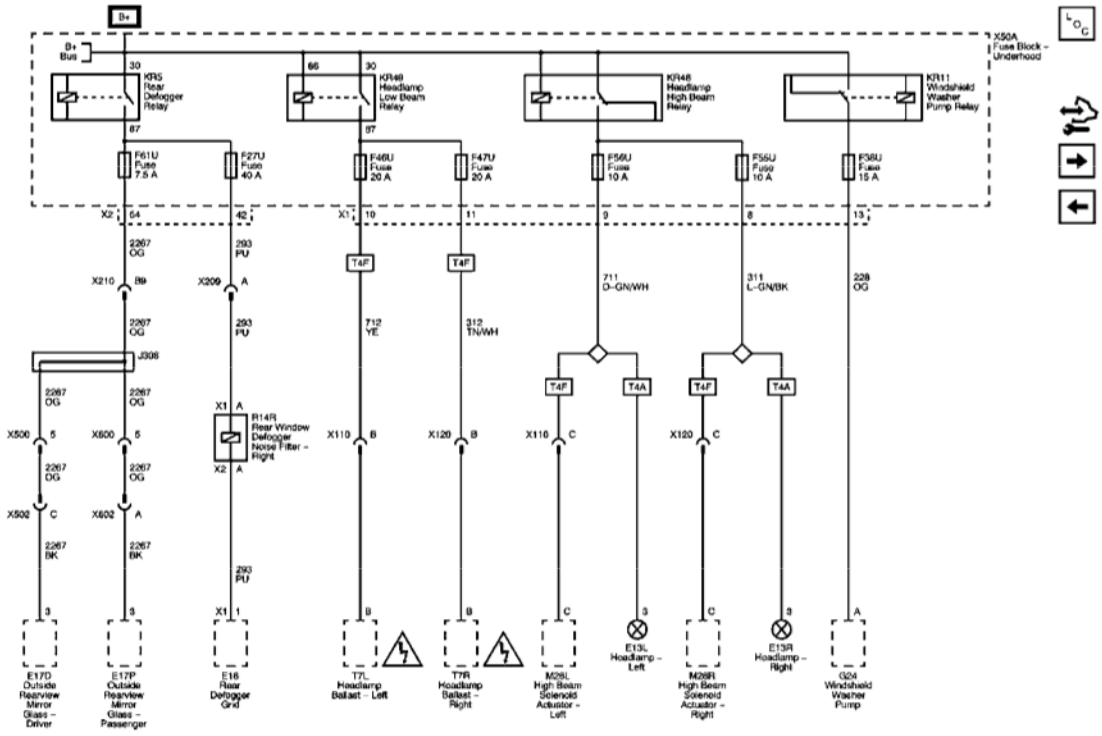


Fig. 30: Fuse Block - Underhood - BCM (RVC) Fuse 61, REAR DEFOG Fuse 27, LO BEAM - LT Fuse 46, LO BEAM - RT Fuse 47, HI BEAM - LT Fuse 56, HI BEAM - RT Fuse 55, and WSW PUMP FRT Fuse 38

Courtesy of GENERAL MOTORS CORP.

cardiagn.com

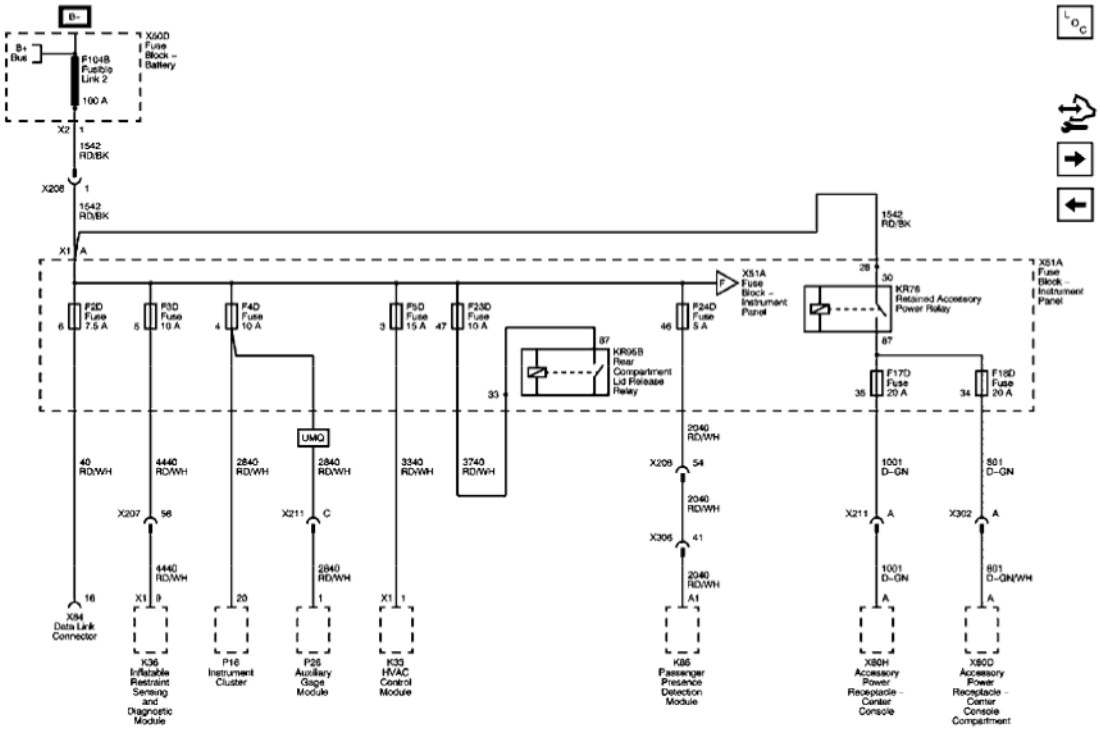
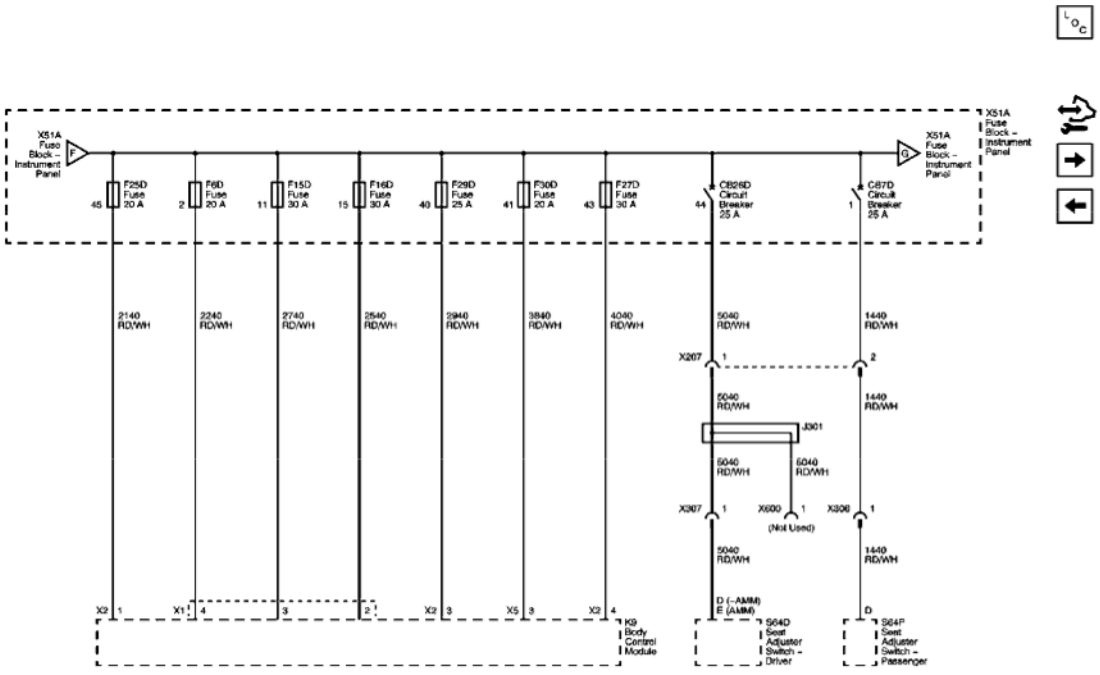


Fig. 31: Fuse Block - I/P - DLC Fuse 2, AIR BAG Fuse 3, CLUSTER Fuse 4, HVAC CNTRL Fuse 5, TRUNK Fuse 23, AOS Fuse 24, APO 1 Fuse 17, and APO 2 Fuse 18
Courtesy of GENERAL MOTORS CORP.



cardiagn.com

Fig. 32: Fuse Block - I/P - BCM_1 Fuse 25, BCM_2 Fuse 6, BCM_3 Fuse 15, BCM_4 Fuse 16, BCM_5 Fuse 29, BCM_7 Fuse 30, BCM_8 Fuse 27, and LF_SEAT, RF_SEAT Circuit Breakers
Courtesy of GENERAL MOTORS CORP.

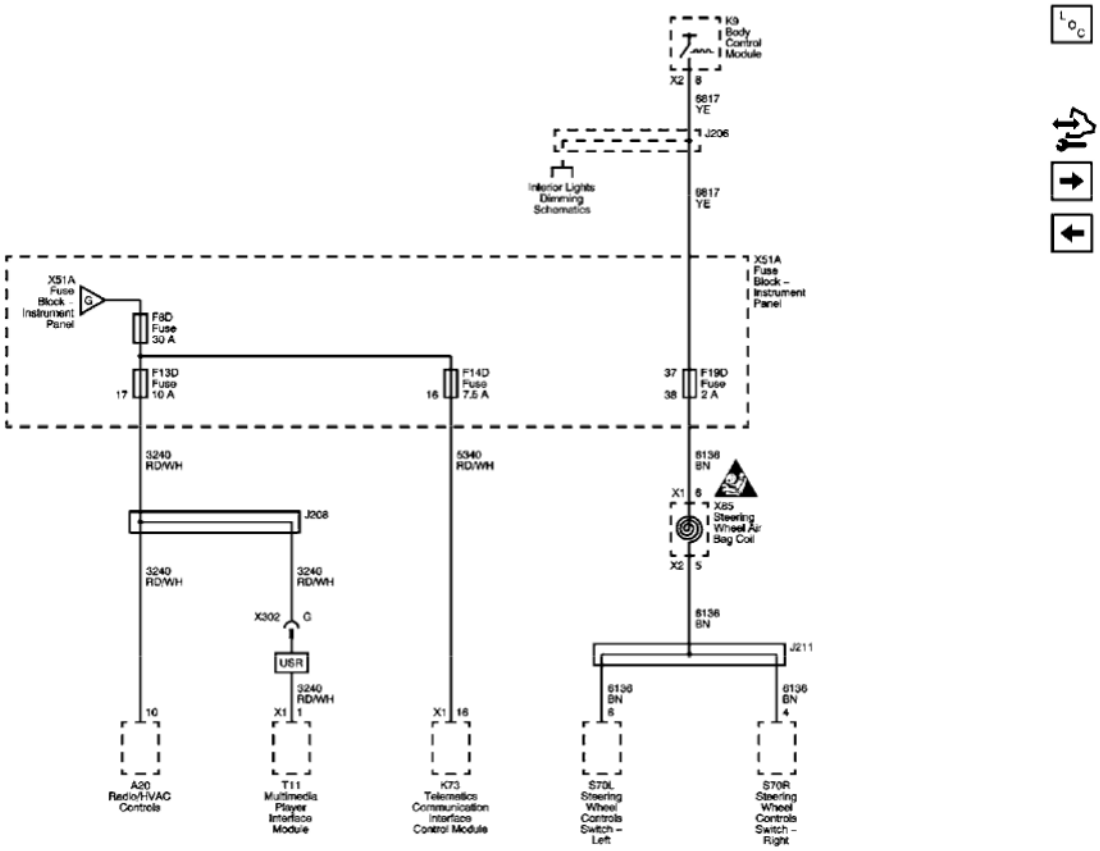


Fig. 33: Fuse Block - I/P - LOGISTIC MODE Fuse 8, ONSTAR Fuse 14, and SWC BKUP Fuse 19
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

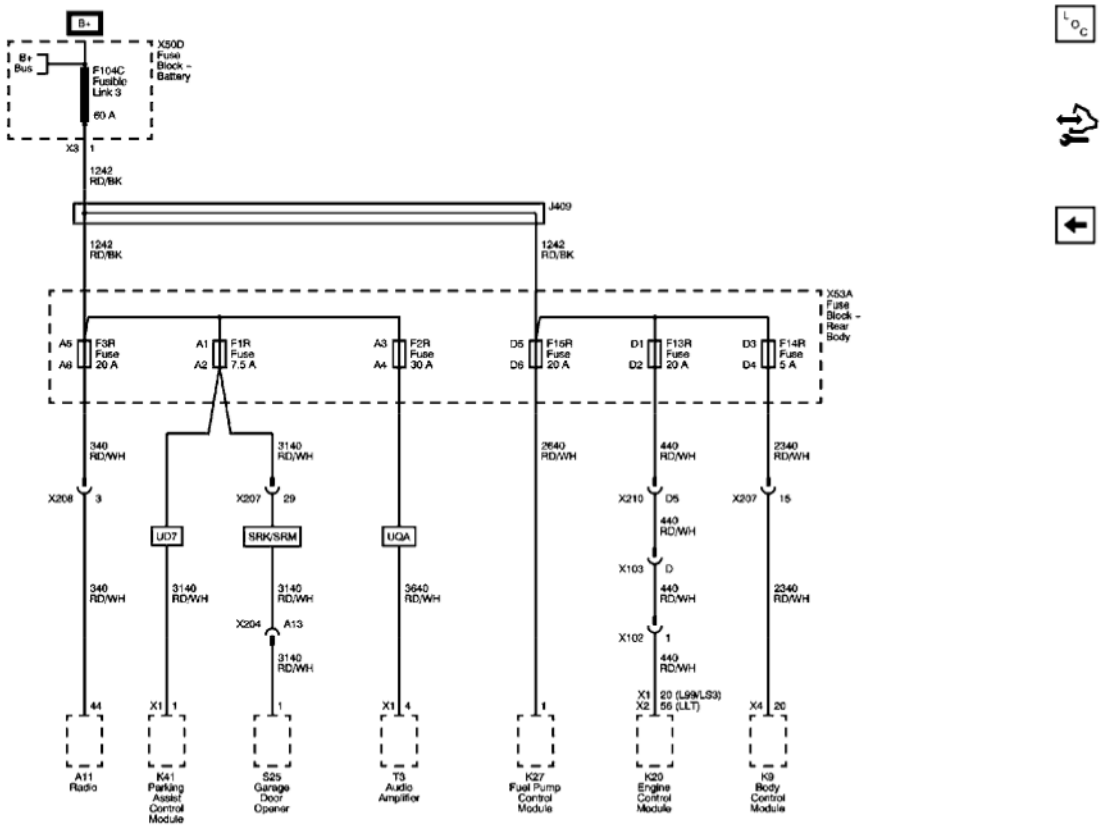


Fig. 34: Fuse Block - Rear - UGDO/UPA Fuse 1, AMP Fuse 2, RADIO Fuse 3, ECM BATTERY Fuse 13, BATTERY RVC Fuse 14, and CCM/FUEL PMP Fuse 15
Courtesy of GENERAL MOTORS CORP.

POWER MODING SCHEMATICS

cardiagn.com

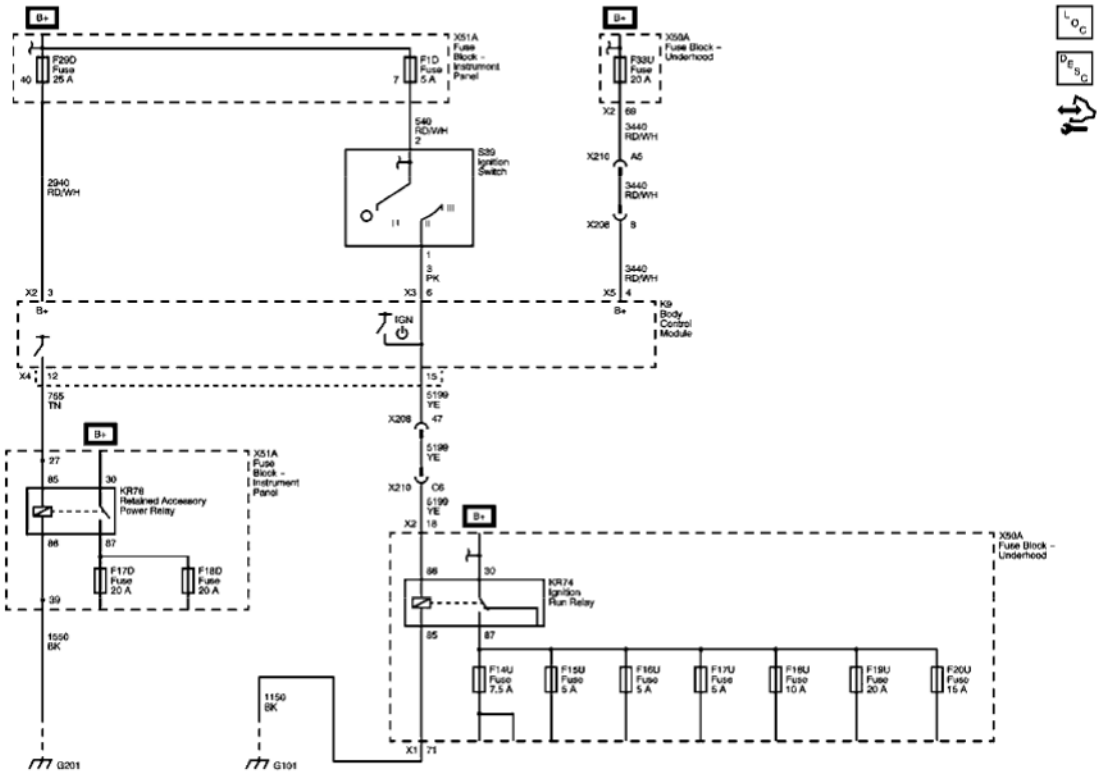


Fig. 35: Power Moding
Courtesy of GENERAL MOTORS CORP.

IGNITION LOCK SCHEMATICS

cardiagn.com

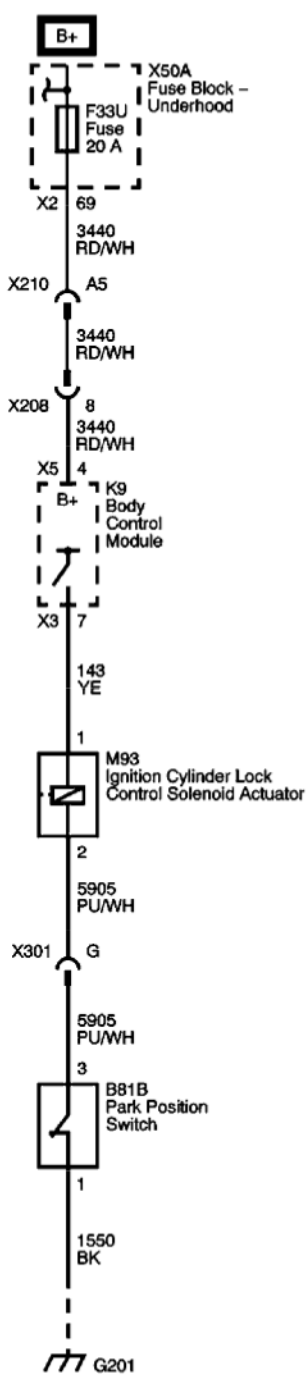




Fig. 36: Ignition Lock
Courtesy of GENERAL MOTORS CORP.

GROUND DISTRIBUTION SCHEMATICS

cardiagn.com

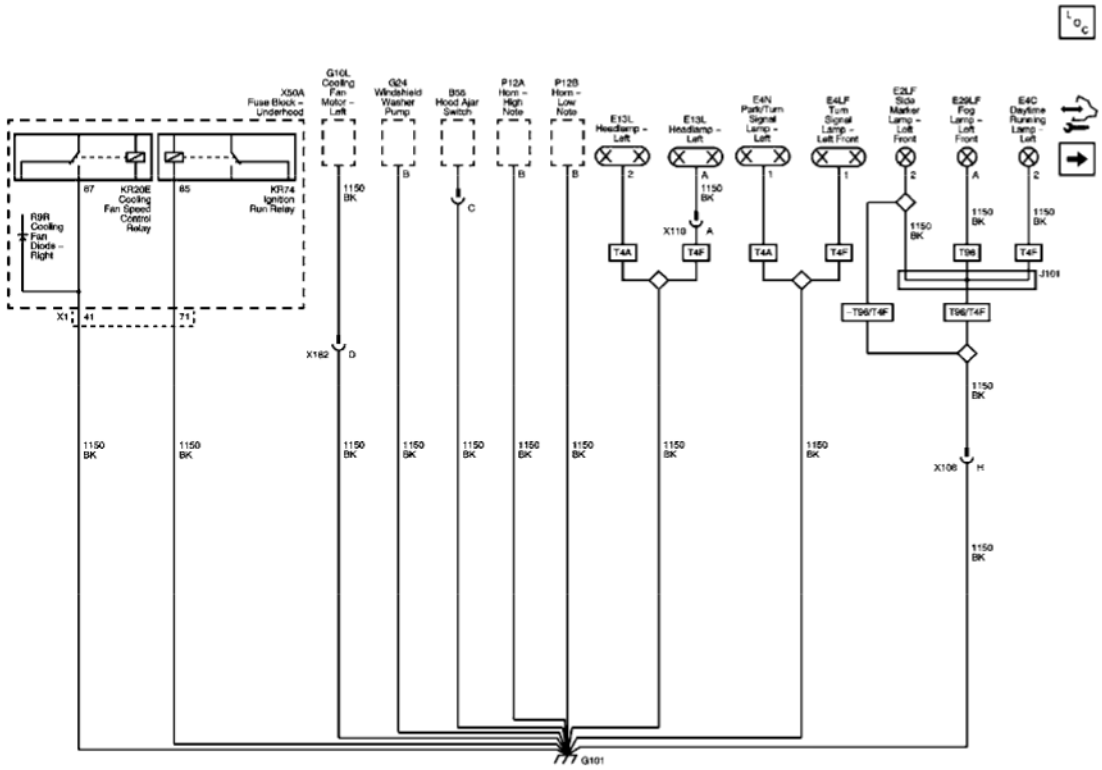


Fig. 37: G101
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

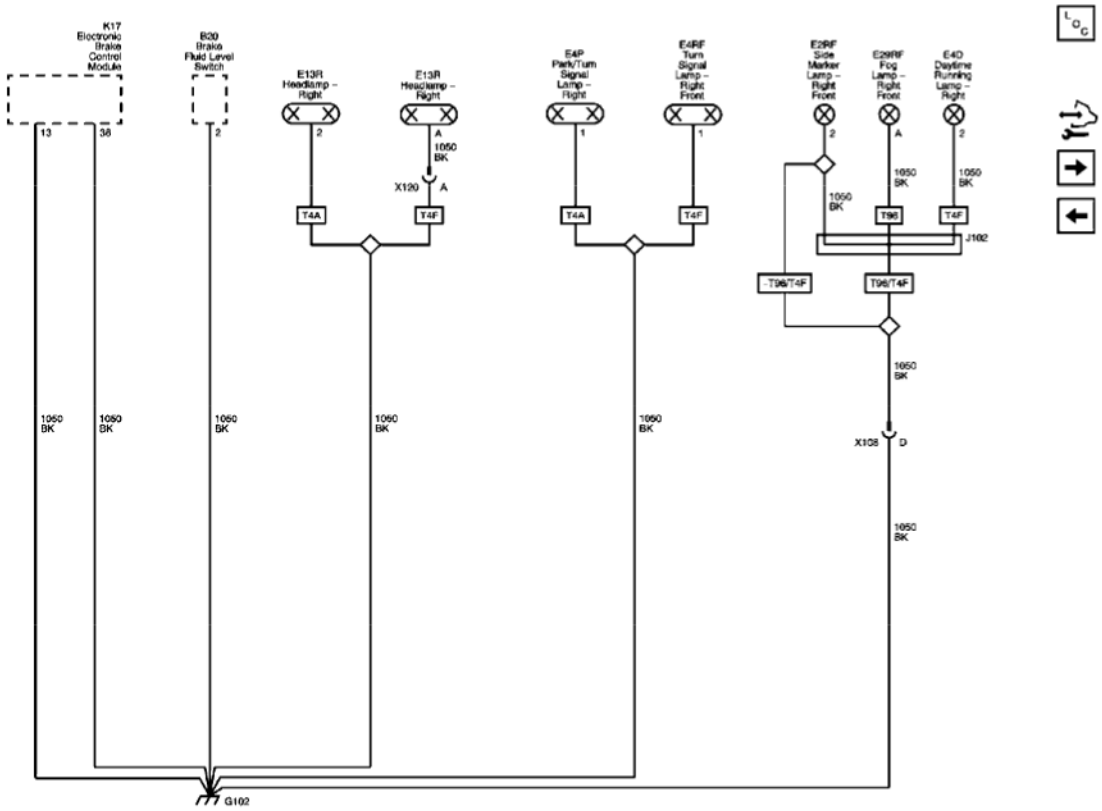


Fig. 38: G102
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

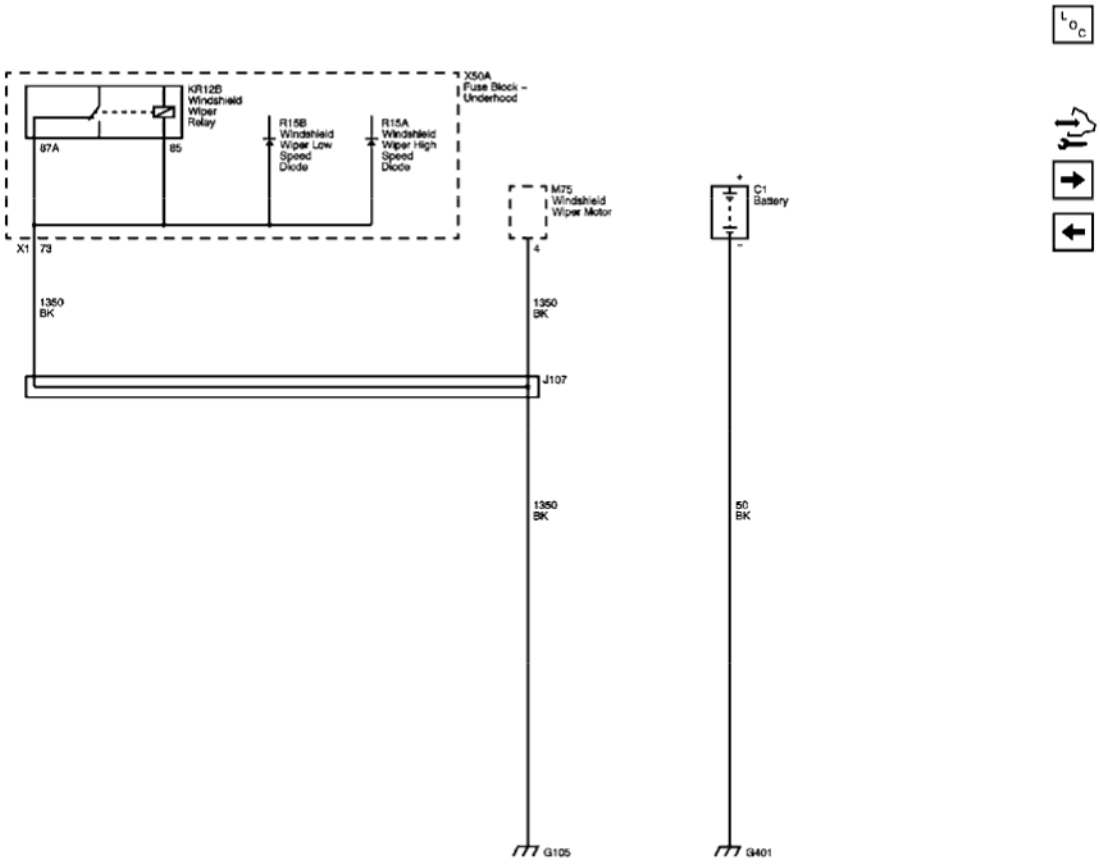


Fig. 39: G103, G105 and G401
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

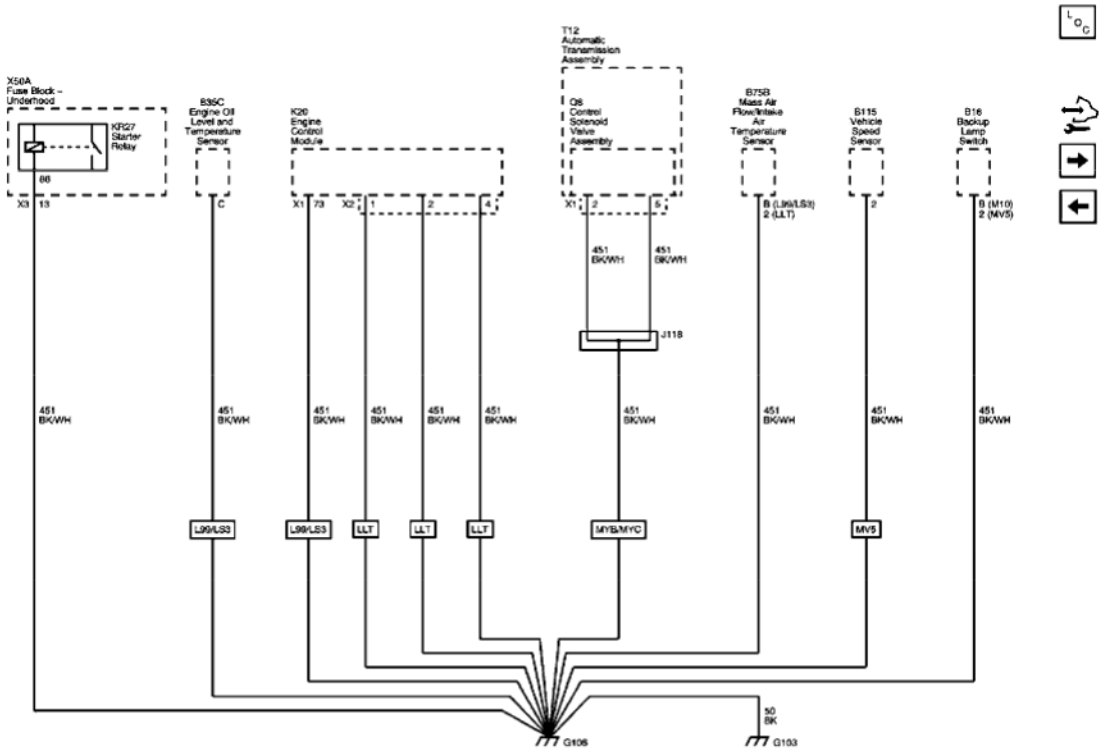


Fig. 40: G103 and G106
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

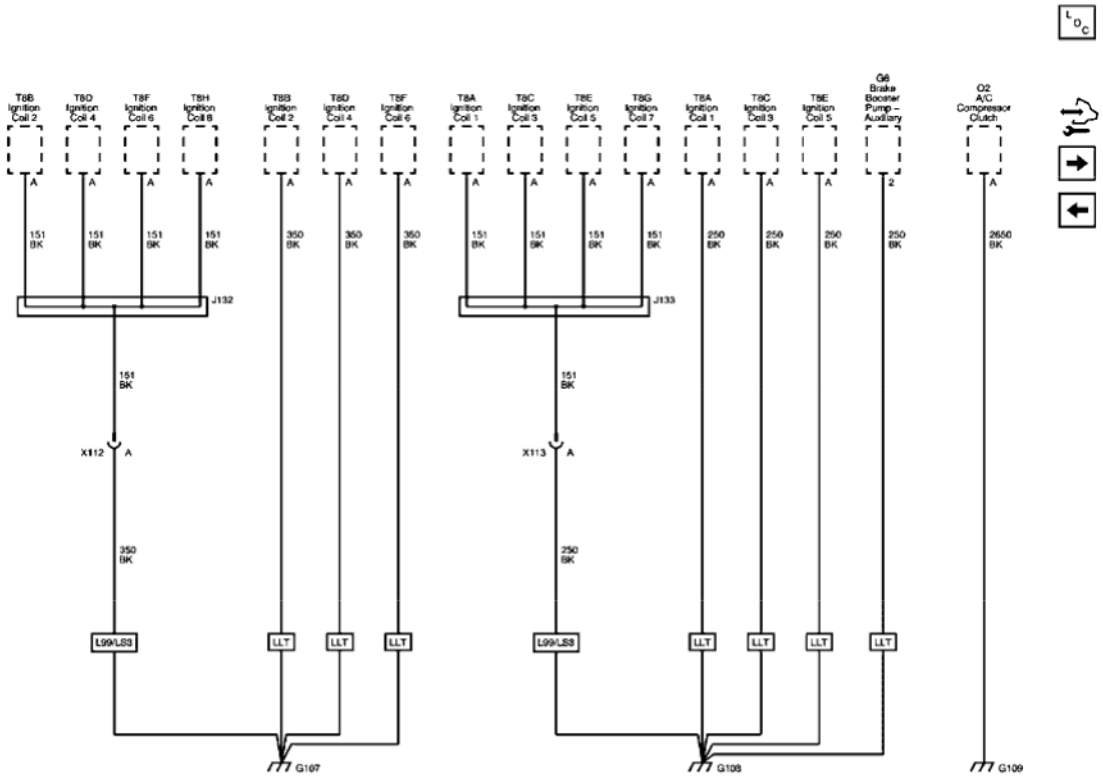


Fig. 41: G107 and G108
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

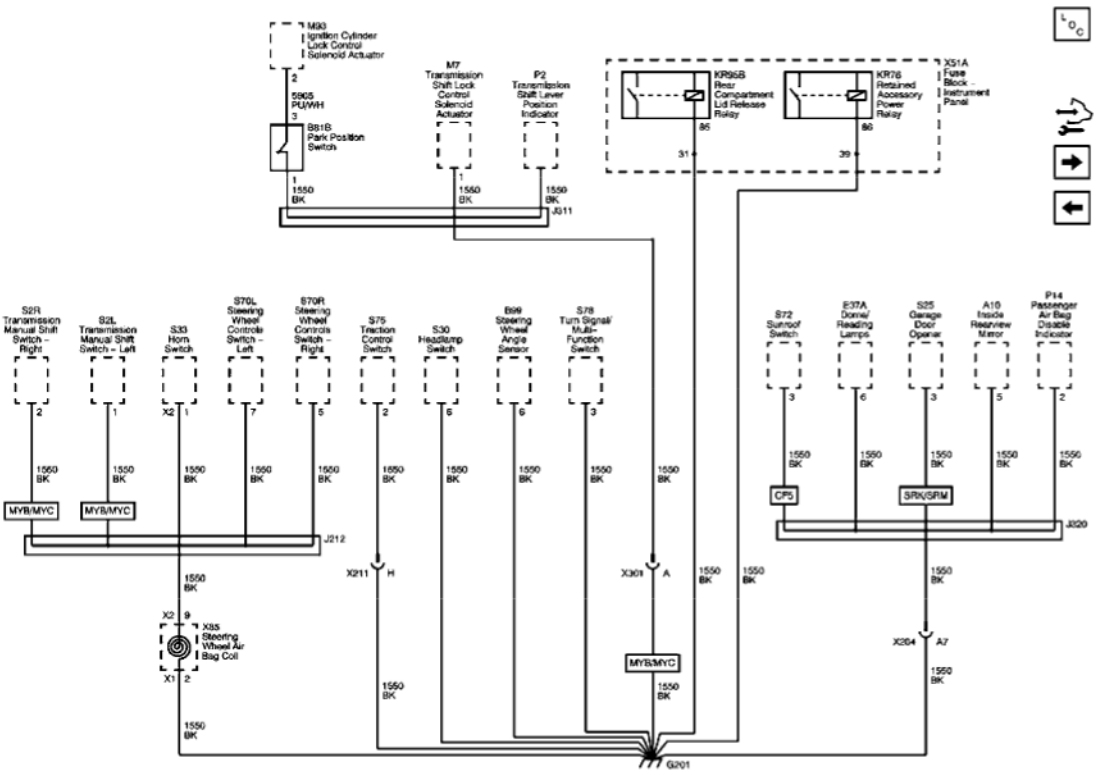


Fig. 42: G201
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

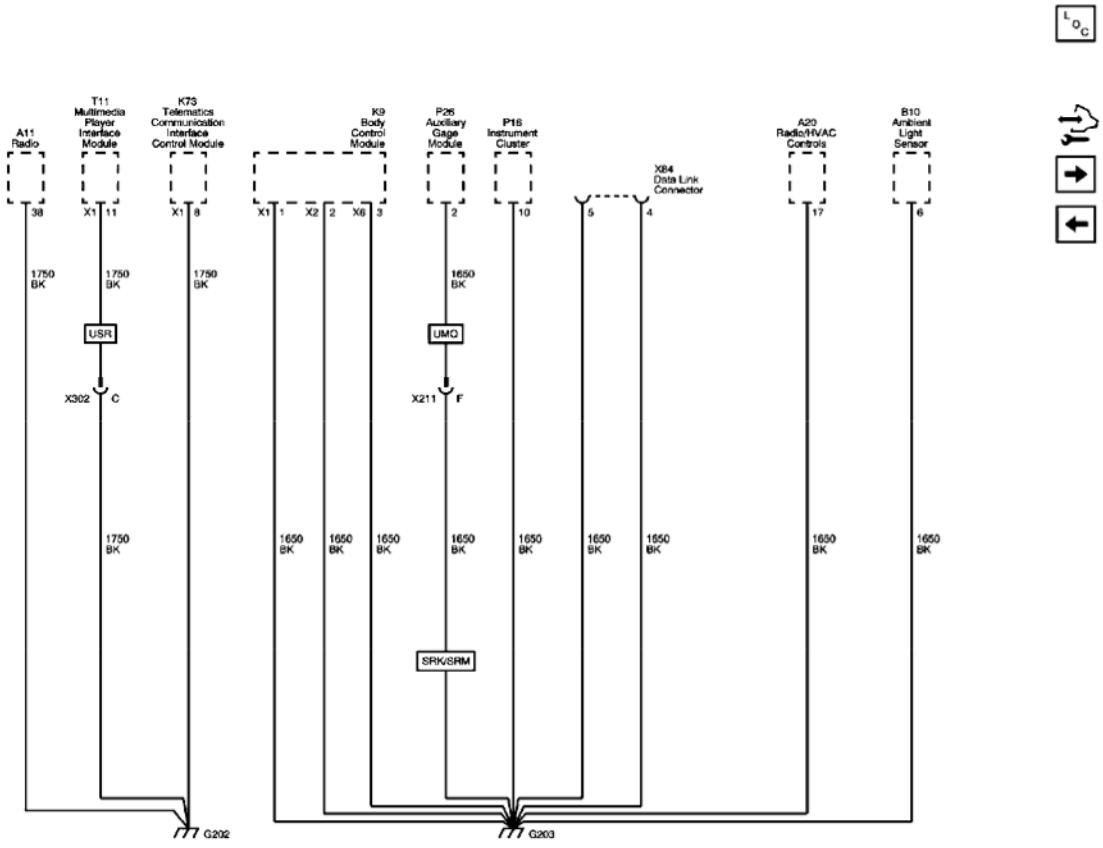


Fig. 43: G202 and G203
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

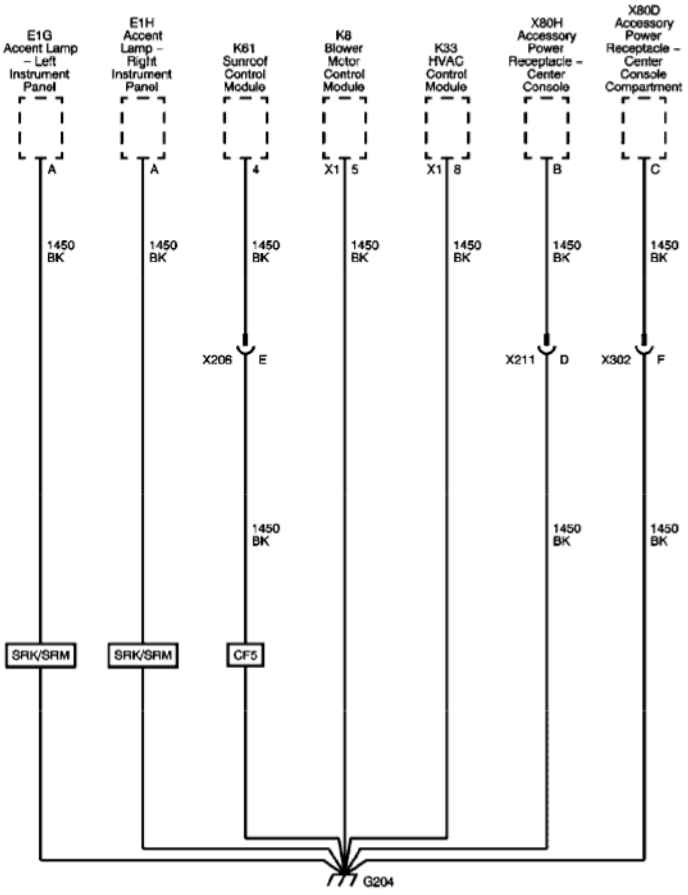


Fig. 44: G204
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

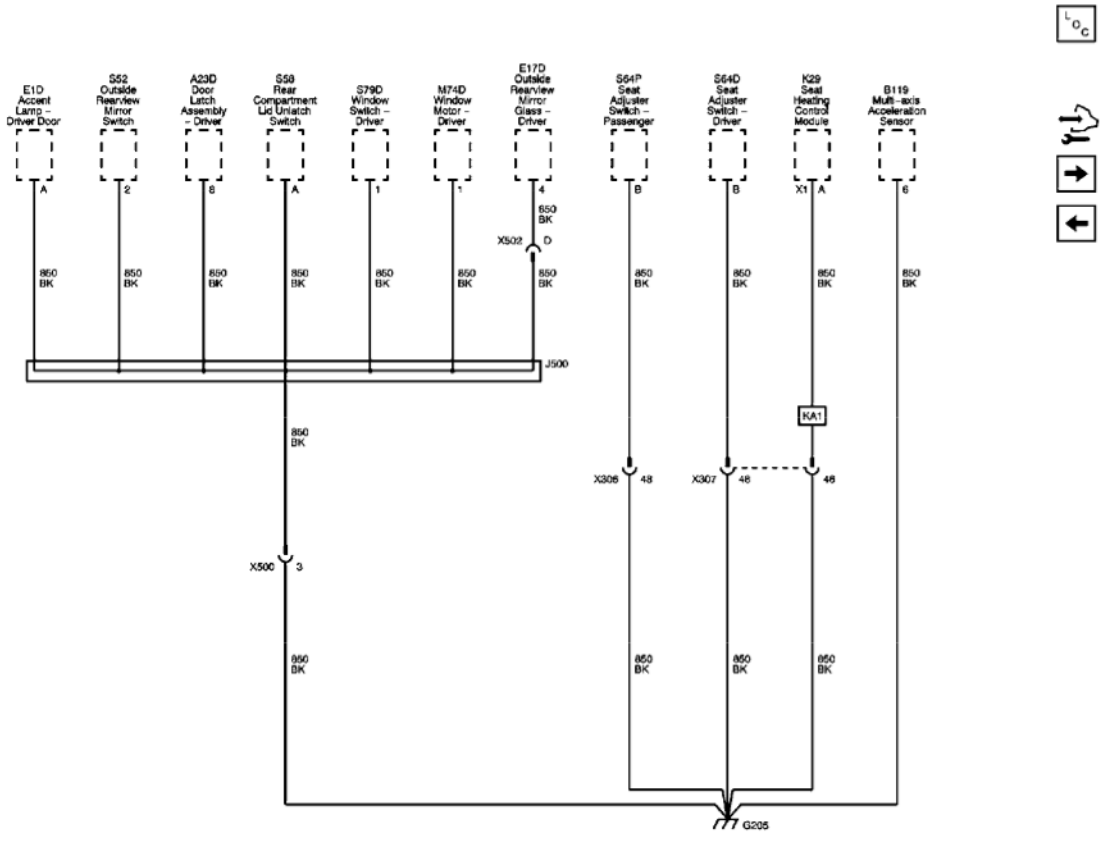


Fig. 45: G205
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

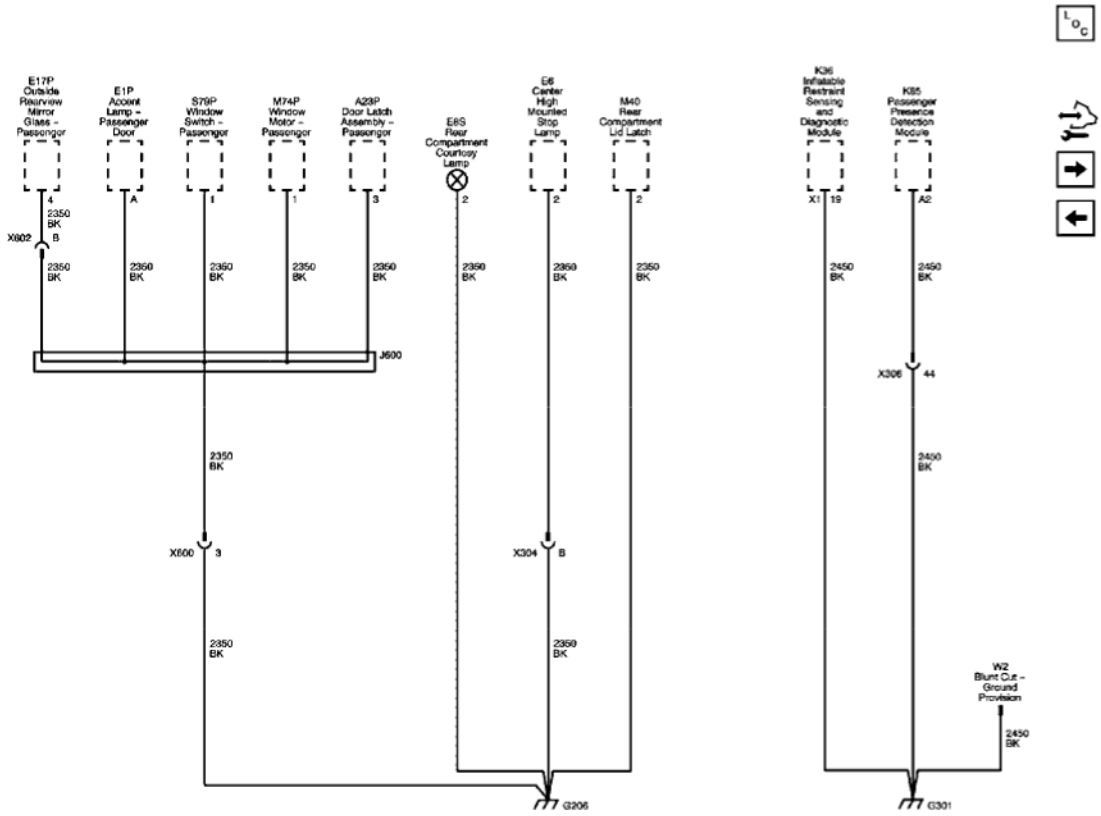


Fig. 46: G206 and G301
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

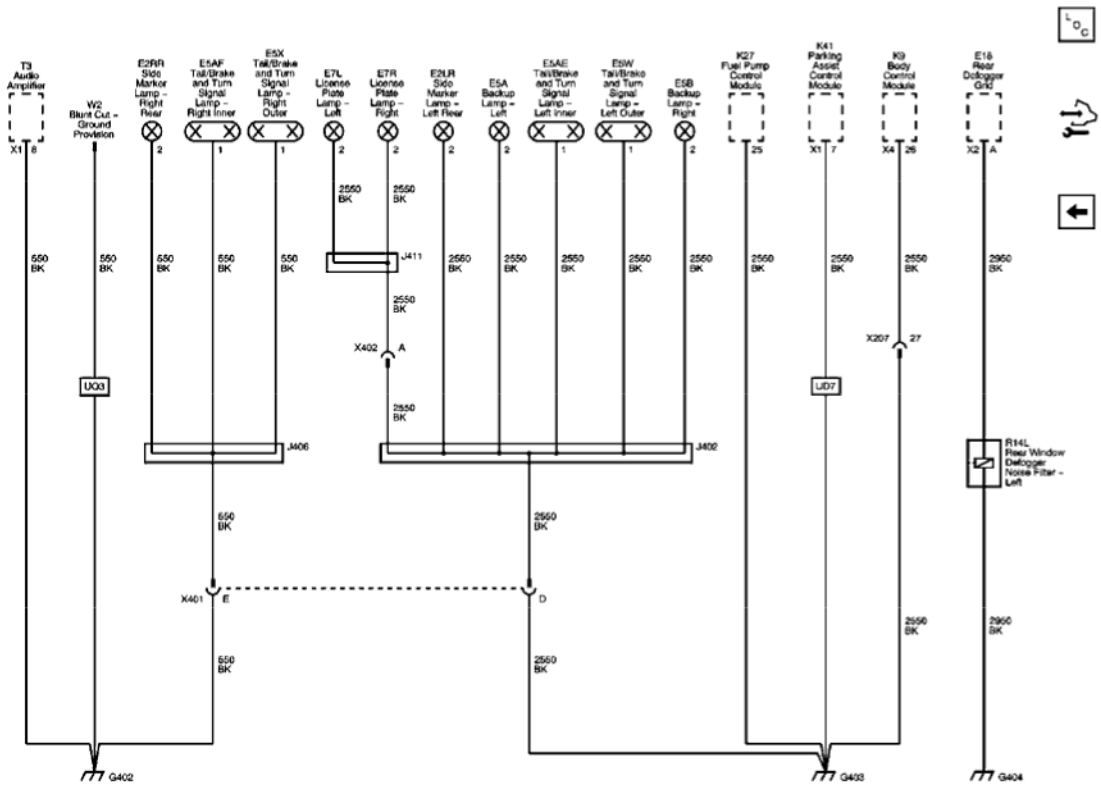


Fig. 47: G402, G403 and G404
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

SPLICE PACK CONNECTOR END VIEWS

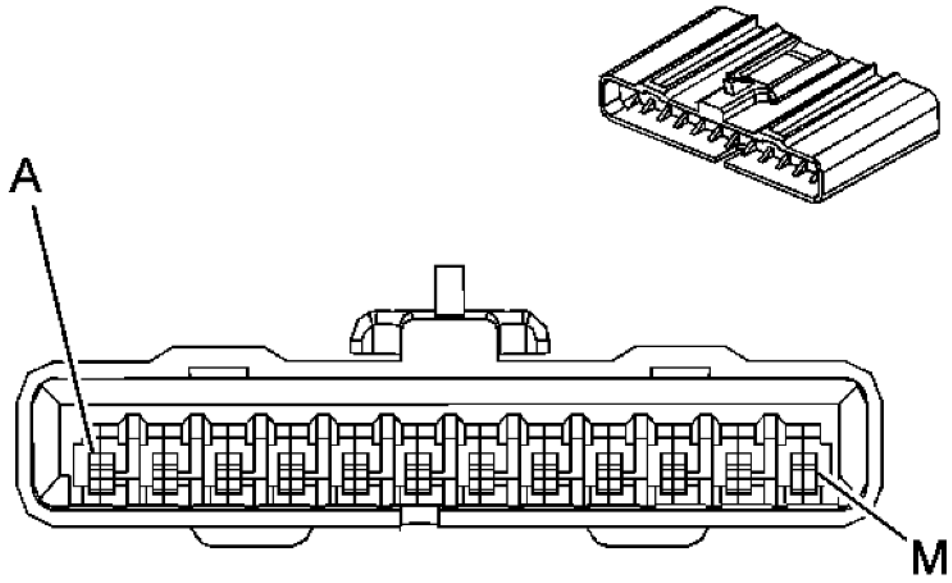


Fig. 1: JX200 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 12176461
- Service: 15305914
- Description: 12-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247

cardiagn.com

- Test Probe: J-35616-2A (GY)

JX200

Pin	Wire	Circuit	Function
A	0.35 D-GN	5060	Low Speed GMLAN Serial Data
B	0.35 D-GN	5060	Low Speed GMLAN Serial Data
C	0.35 D-GN	5060	Low Speed GMLAN Serial Data (UMQ or UXQ)
D	-	-	Not Used
E	0.35 D-GN	5060	Low Speed GMLAN Serial Data
F	-	-	Not Used
G	0.35 D-GN	5060	Low Speed GMLAN Serial Data
H	-	-	Not Used
J	0.35 D-GN	5060	Low Speed GMLAN Serial Data
K	0.35 D-GN	5060	Low Speed GMLAN Serial Data
L	0.35 D-GN	5060	Low Speed GMLAN Serial Data
M	0.35 D-GN	5060	Low Speed GMLAN Serial Data

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

E4D DAYTIME RUNNING LAMP - RIGHT (T4F)

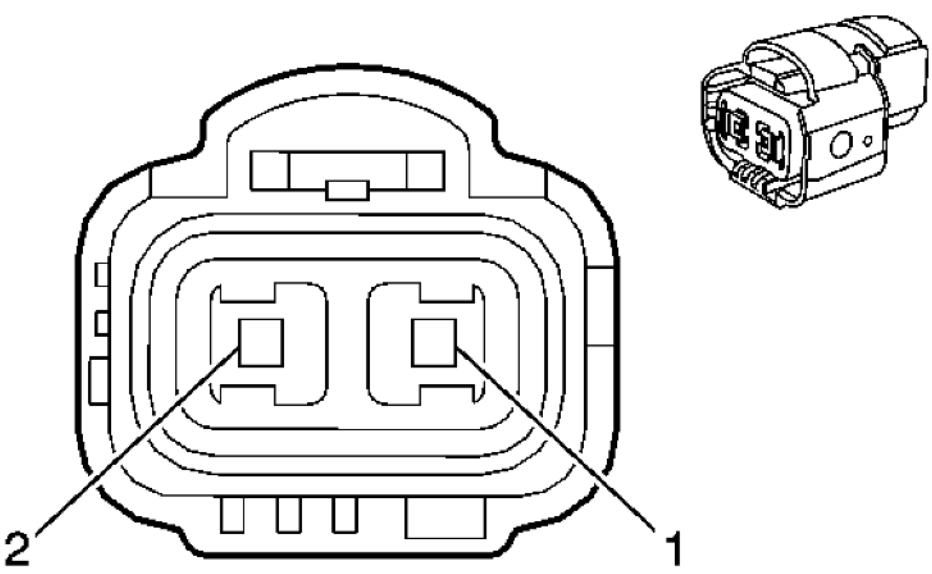


Fig. 1: E4D Daytime Running Lamp - Right (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fog Lamp
- OEM: 13693815
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 13648599/See Terminal Repair Kit

cardiagn.com

- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: See Terminal Repair Kit
- Test Probe: See Terminal Repair Kit

E4D Daytime Running Lamp - Right (T4F)

Pin	Wire	Circuit	Function
1	0.5 D-BU	7539	DRL Control
2	0.5 BK	1050	Ground

E4LF TURN SIGNAL LAMP - LEFT FRONT (T4F)

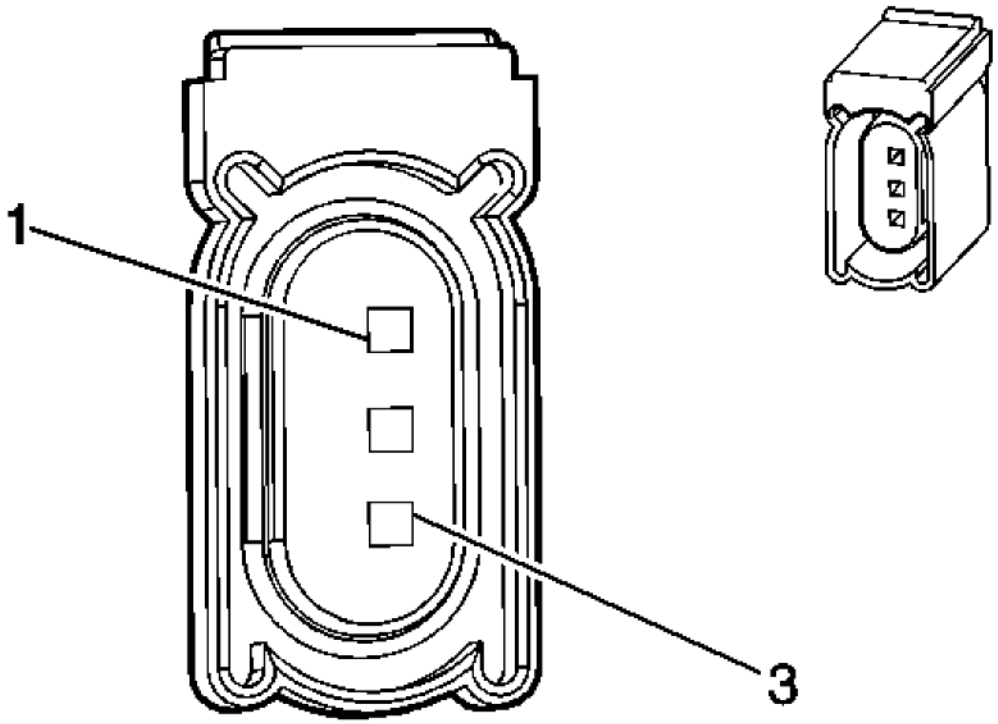


Fig. 2: E4LF Turn Signal Lamp - Left Front (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp

cardiagn.com

- OEM: 13539910
- Service: 88988383
- Description: 3-Way F Base 3, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4LF Turn Signal Lamp - Left Front (T4F)

Pin	Wire	Circuit	Function
1	0.5 BK	1150	Ground
2	-	-	Not Available
3	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage

E4N PARK/TURN SIGNAL LAMP - LEFT (T4A)

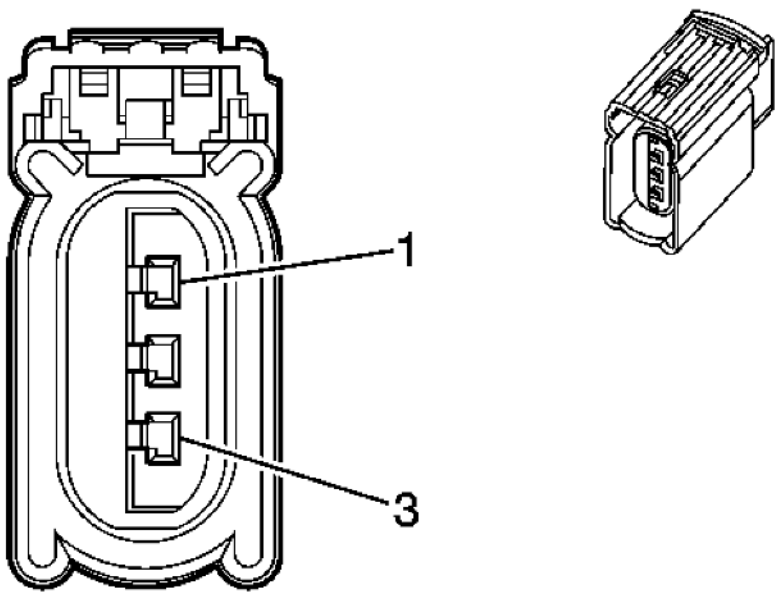


Fig. 3: E4N Park/Turn Signal Lamp - Left (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Forward Lamp
- OEM: 15466016
- Service: 88988599
- Description: 3-Way F Receptacle 1.5, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4N Park/Turn Signal Lamp - Left (T4A)

Pin	Wire	Circuit	Function
1	0.5 BK	1150	Ground
2	0.5 PU	709	Left Park Lamp Supply Voltage
3	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage

E4P PARK/TURN SIGNAL LAMP - RIGHT (T4A)

cardiagn.com

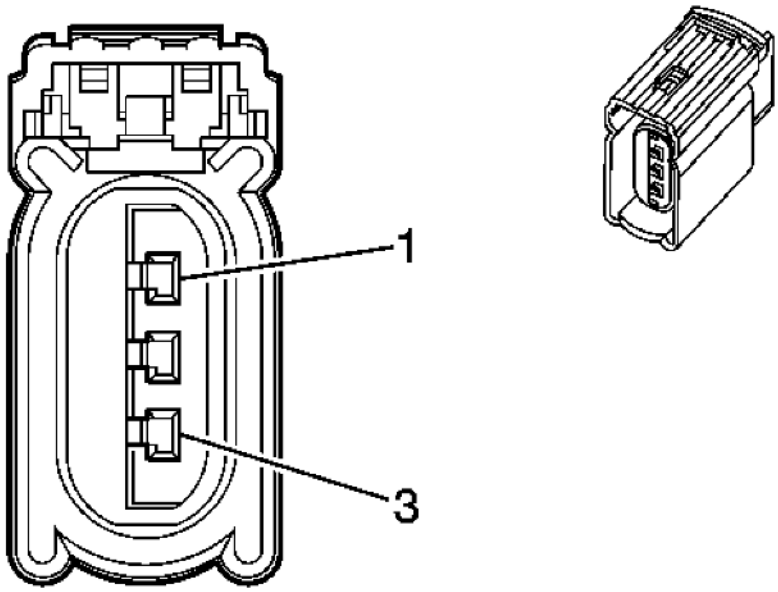


Fig. 4: E4P Park/Turn Signal Lamp - Right (T4A) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15466016
- Service: 88988599
- Description: 3-Way F Receptacle 1.5, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4P Park/Turn Signal Lamp - Right (T4A)

Pin	Wire	Circuit	Function
1	0.5 BK	1050	Ground
2	0.5 BN/WH	309	Right Park Lamp Supply Voltage

cardiagn.com

3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage

E4RF TURN SIGNAL LAMP - RIGHT FRONT (T4F)

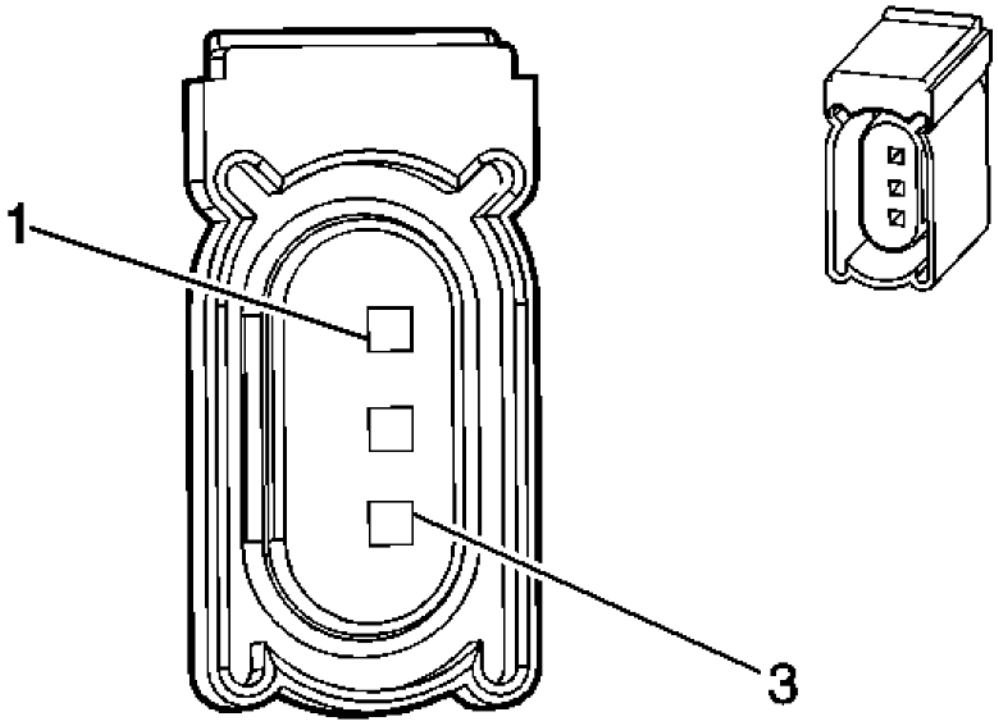


Fig. 5: E4RF Turn Signal Lamp - Right Front (T4F) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13539910
- Service: 88988383
- Description: 3-Way F Base 3, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E4RF Turn Signal Lamp - Right Front (T4F)

Pin	Wire	Circuit	Function
1	0.5 BK	1050	Ground
2	-	-	Not Available
3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage

E5A BACKUP LAMP - LEFT

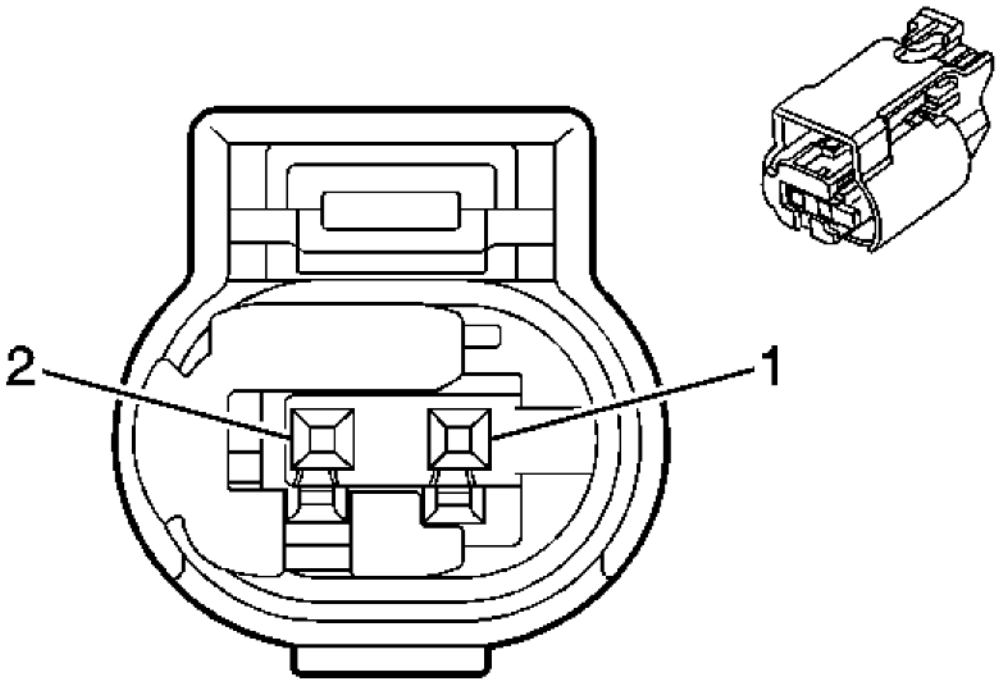


Fig. 6: E5A Backup Lamp - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Rear Fascia
- OEM: 13531640
- Service: 19149296
- Description: 2-Way F Clean Body Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 962885-5/15
- Core/Insulation Crimp: 6/6
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

E5A Backup Lamp - Left

Pin	Wire	Circuit	Function
1	0.5 L-GN	24	Backup Lamp Supply Voltage
2	0.5 BK	2550	Ground

E5AE TAIL/STOP AND TURN SIGNAL LAMP - LEFT INNER

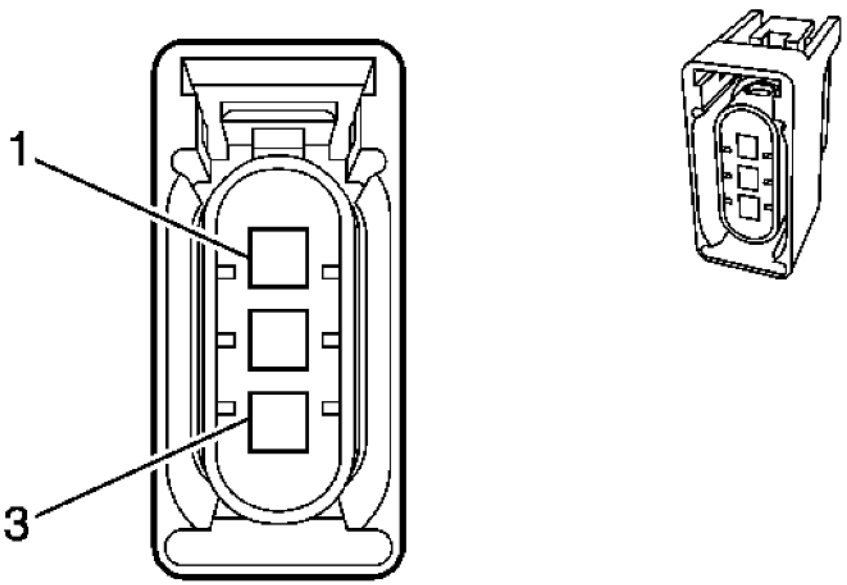


Fig. 7: E5AE Tail/Stop and Turn Signal Lamp - Left Inner Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041
- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5AE Tail/Stop and Turn Signal Lamp - Left Inner

Pin	Wire	Circuit	Function
1	0.5 BK	2550	Ground
2	0.5 PU	709	Left Park Lamp Supply Voltage
3	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage

E5AF TAIL/STOP AND TURN SIGNAL LAMP - RIGHT INNER

cardiagn.com

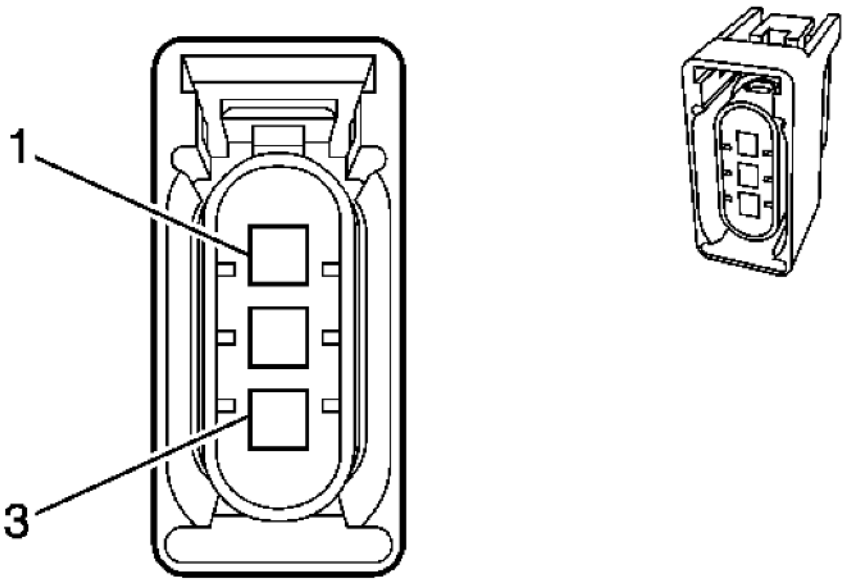


Fig. 8: E5AF Tail/Stop and Turn Signal Lamp - Right Inner Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041
- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5AF Tail/Stop and Turn Signal Lamp - Right Inner

Pin	Wire	Circuit	Function
1	0.5 BK	550	Ground
2	0.5 BN/WH	309	Right Park Lamp Supply Voltage

cardiagn.com

3	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage

E5B BACKUP LAMP - RIGHT

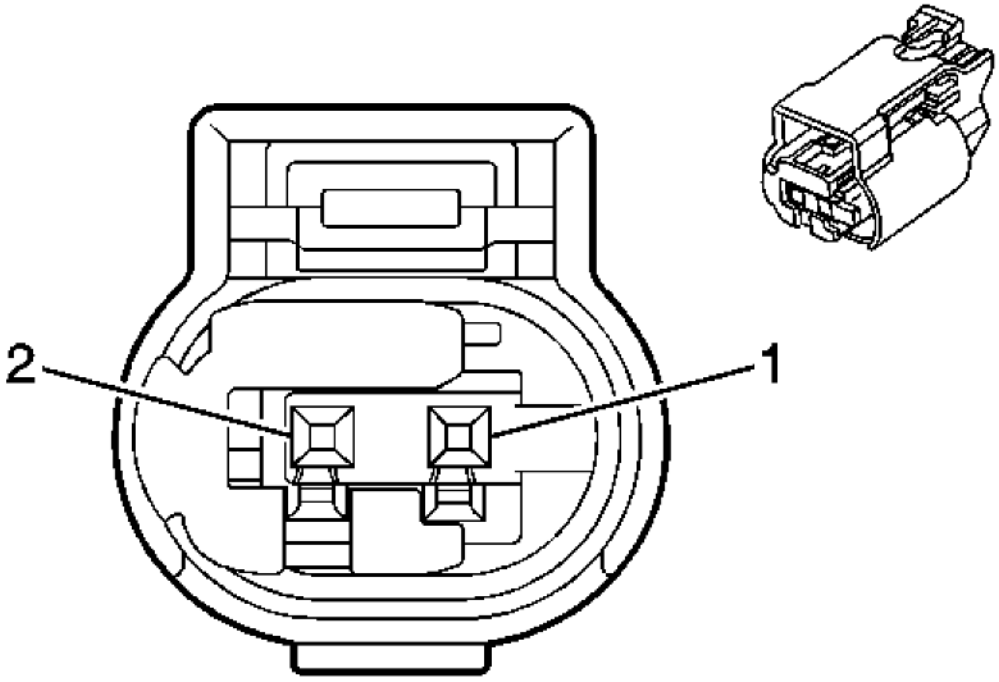


Fig. 9: E5B Backup Lamp - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 13531640
- Service: 19149296
- Description: 2-Way F Clean Body Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 962885-5/15
- Core/Insulation Crimp: 6/6
- Release Tool: 12094429

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

E5B Backup Lamp - Right

Pin	Wire	Circuit	Function
1	0.5 L-GN	24	Backup Lamp Supply Voltage
2	0.5 BK	2550	Ground

E5W TAIL/STOP AND TURN SIGNAL LAMP - LEFT OUTER

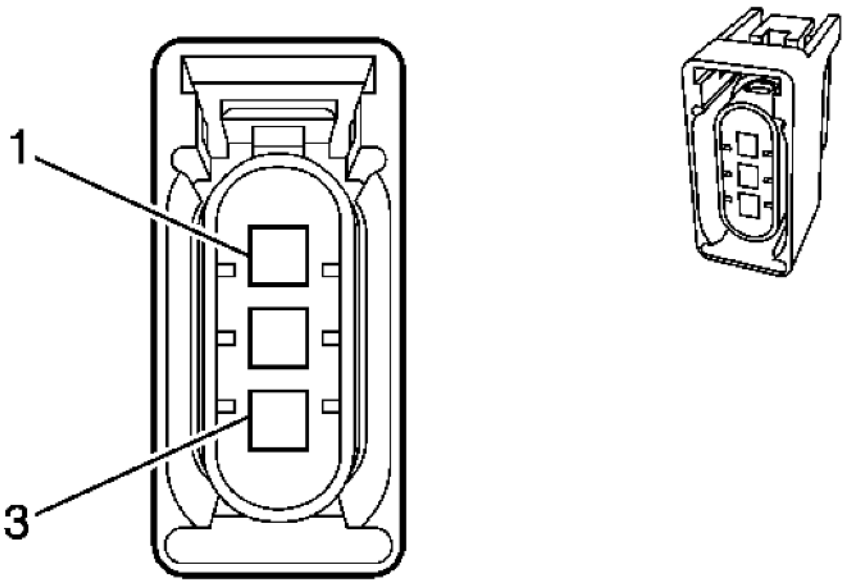


Fig. 10: E5W Tail/Stop and Turn Signal Lamp - Left Outer Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041
- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5W Tail/Stop and Turn Signal Lamp - Left Outer

Pin	Wire	Circuit	Function
1	0.5 BK	2550	Ground
2	0.5 PU	709	Left Park Lamp Supply Voltage
3	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage

E5X TAIL/STOP AND TURN SIGNAL LAMP - RIGHT OUTER

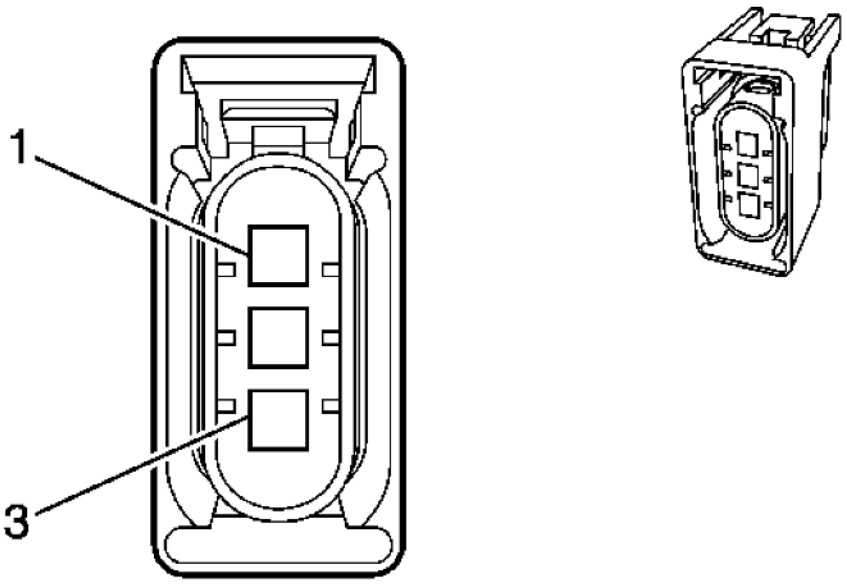


Fig. 11: E5X Tail/Stop and Turn Signal Lamp - Right Outer Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Fascia
- OEM: 15431041

cardiagn.com

- Service: 88988139
- Description: 3-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4102-08/9
- Core/Insulation Crimp: E/1
- Release Tool: 12094430
- Test Probe: J-35616-2A (GY)

E5X Tail/Stop and Turn Signal Lamp - Right Outer

Pin	Wire	Circuit	Function
1	0.5 BK	550	Ground
2	0.5 BN/WH	309	Right Park Lamp Supply Voltage
3	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage

E6 CENTER HIGH MOUNTED STOP LAMP

cardiagn.com

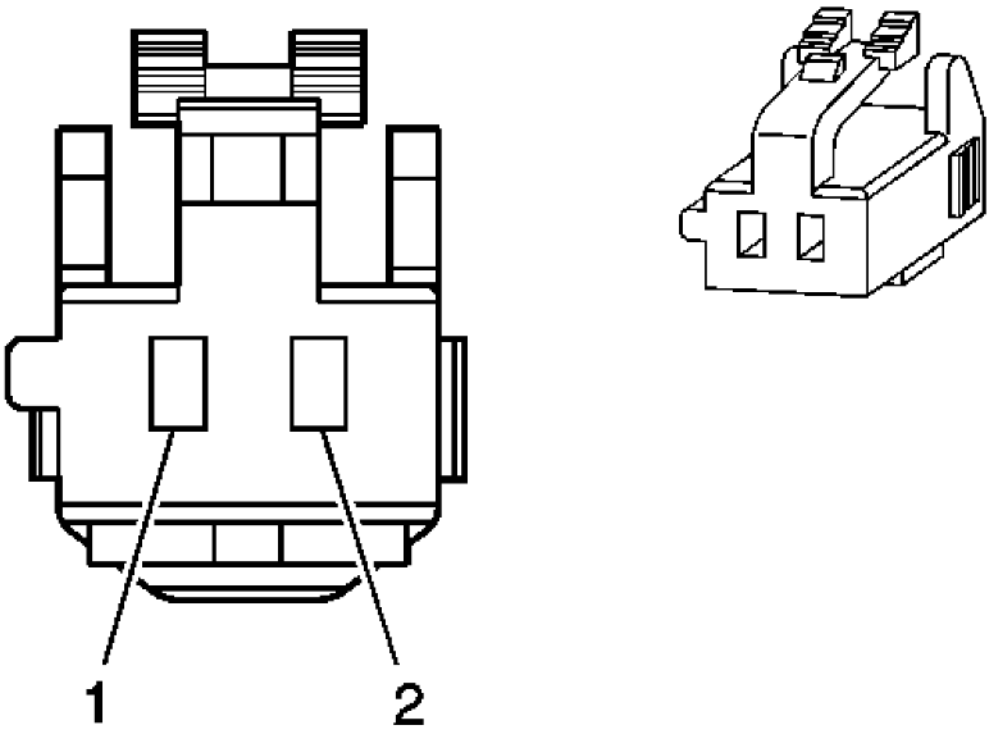


Fig. 12: E6 Center High Mounted Stop Lamp Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Rear Window Trim Harness
- OEM: 10763601
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 090 II Series (WH)

Terminal Part Information

- Terminal/Tray: 7116-4020/11
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-18 (BK)

E6 Center High Mounted Stop Lamp

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control
2	0.5 BK	2350	Ground

E7L LICENSE PLATE LAMP - LEFT

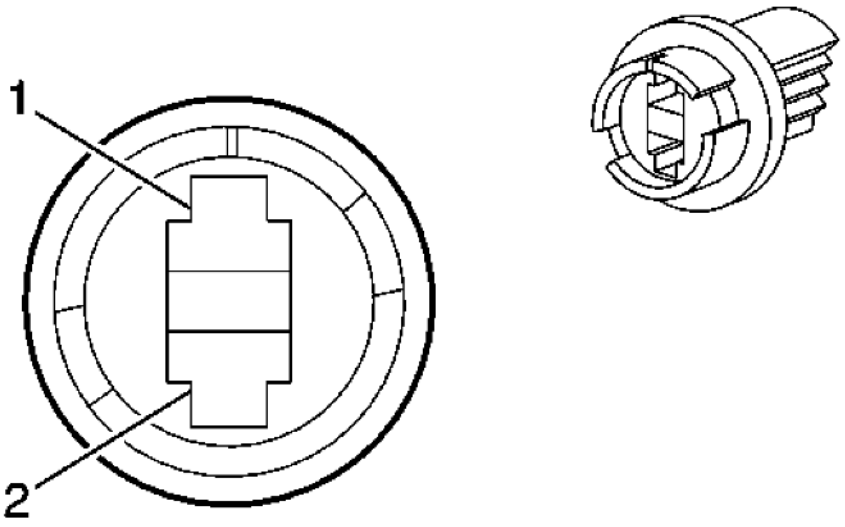


Fig. 13: E7L License Plate Lamp - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: License Lamp
- OEM: N/A
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F Bulb Socket, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

E7L License Plate Lamp - Left

Pin	Wire	Circuit	Function
1	0.5 BN	6846	Rear License Lamp Control
2	0.5 BK	2550	Ground

E7R LICENSE PLATE LAMP - RIGHT

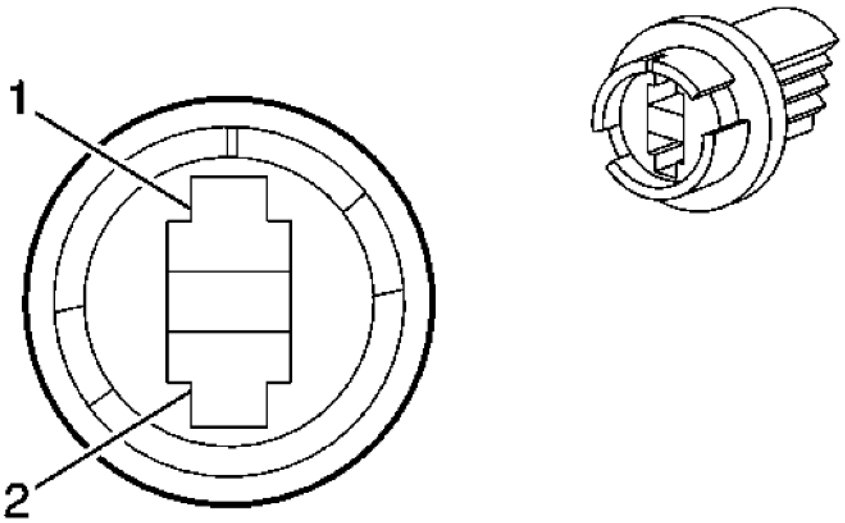


Fig. 14: E7R License Plate Lamp - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: License Lamp
- OEM: N/A
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F Bulb Socket, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

E7R License Plate Lamp - Right

Pin	Wire	Circuit	Function
1	0.5 BN	6846	Rear License Lamp Control
2	0.5 BK	2550	Ground

E8S REAR COMPARTMENT COURTESY LAMP

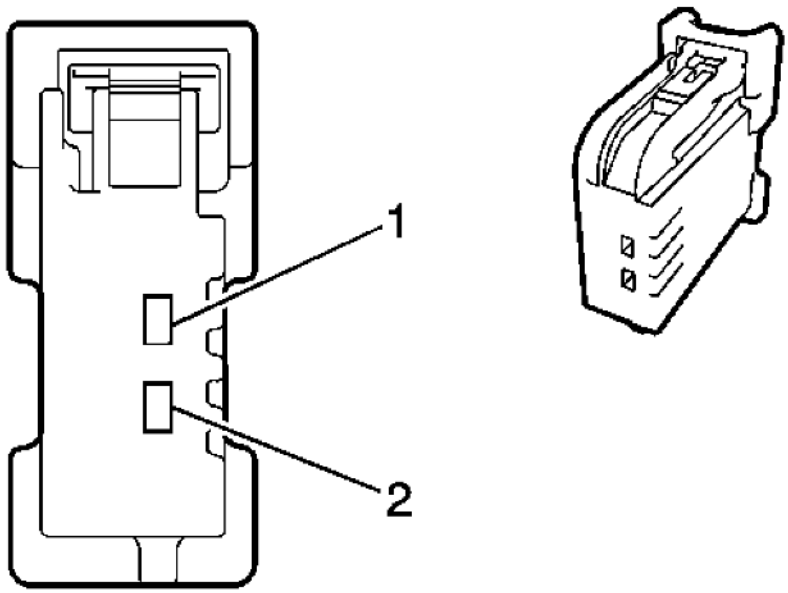


Fig. 15: E8S Rear Compartment Courtesy Lamp Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13595207
- Service: 19179373

cardiagn.com

- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: 8240-0127/22
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

E8S Rear Compartment Courtesy Lamp

Pin	Wire	Circuit	Function
1	0.5 OG/BK	737	Rear Compartment Lamp Control
2	0.5 BK	2350	Ground

F105 PASSENGER INSTRUMENT PANEL AIR BAG

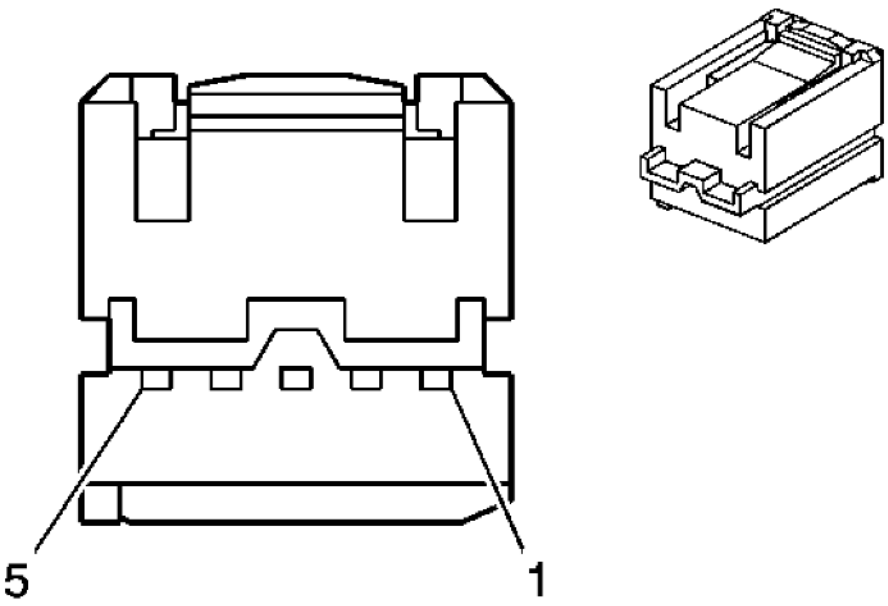


Fig. 16: F105 Passenger Instrument Panel Air Bag Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Instrument Panel
- OEM: 13601511
- Service: 19153434
- Description: 5-Way F 0.64 Series Unsealed (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

F105 Passenger Instrument Panel Air Bag

Pin	Wire	Circuit	Function
1	0.35 YE	3025	I/P Module - Stage 1 - High Control
2	0.35 OG	3024	I/P Module - Stage 1 - Low Control
3	-	-	Not Used
4	0.35 GY	3027	I/P Module - Stage 2 - High Control
5	0.35 PU	3026	I/P Module - Stage 2 - Low Control

F105L ROOF RAIL AIR BAG - LEFT

cardiagn.com

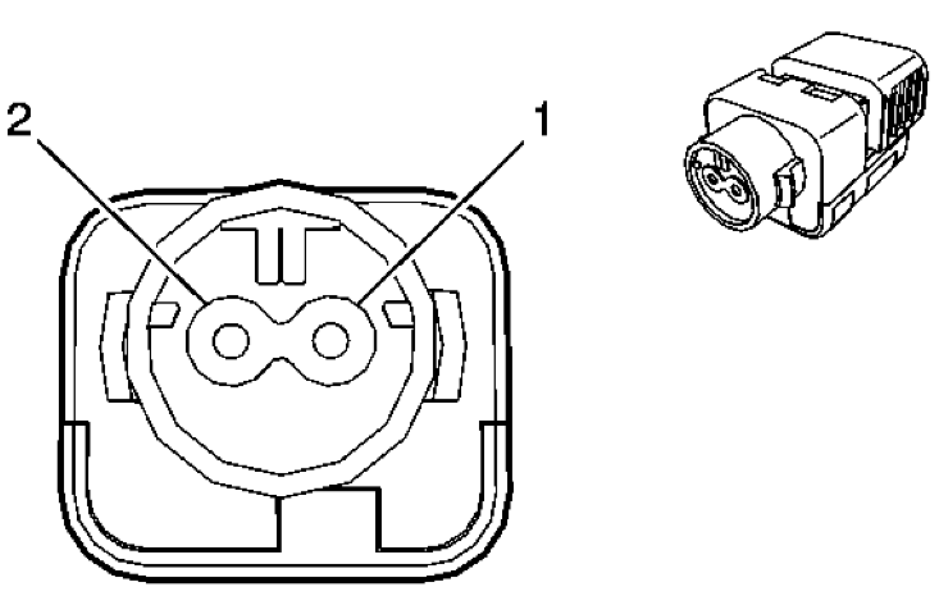


Fig. 17: F105L Roof Rail Air Bag - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13680740
- Service: Pending
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

F105L Roof Rail Air Bag - Left

Pin	Wire	Circuit	Function
1	0.35 PU/WH	5019	Roof Rail Module - Left - High Control
2	0.35 PK	5020	Roof Rail Module - Left - Low Control

cardiagn.com

F105R ROOF RAIL AIR BAG - RIGHT

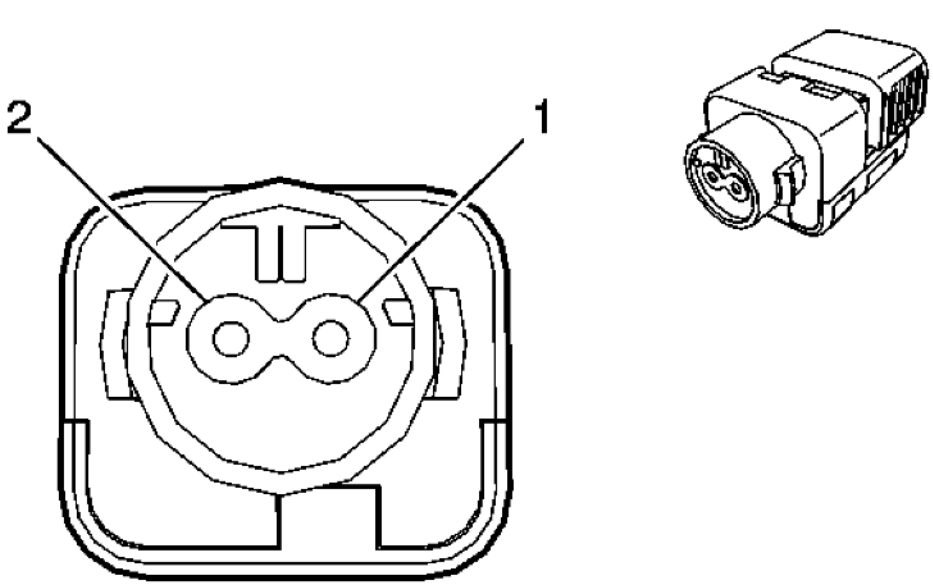


Fig. 18: F105R Roof Rail Air Bag - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13680741
- Service: Pending
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

F105R Roof Rail Air Bag - Right

Pin	Wire	Circuit	Function

cardiagn.com

1	0.35 YE/BK	5021	Roof Rail Module - Right - High Control
2	0.35 WH/BK	5022	Roof Rail Module - Right - Low Control

F106L SIDE AIR BAG - LEFT

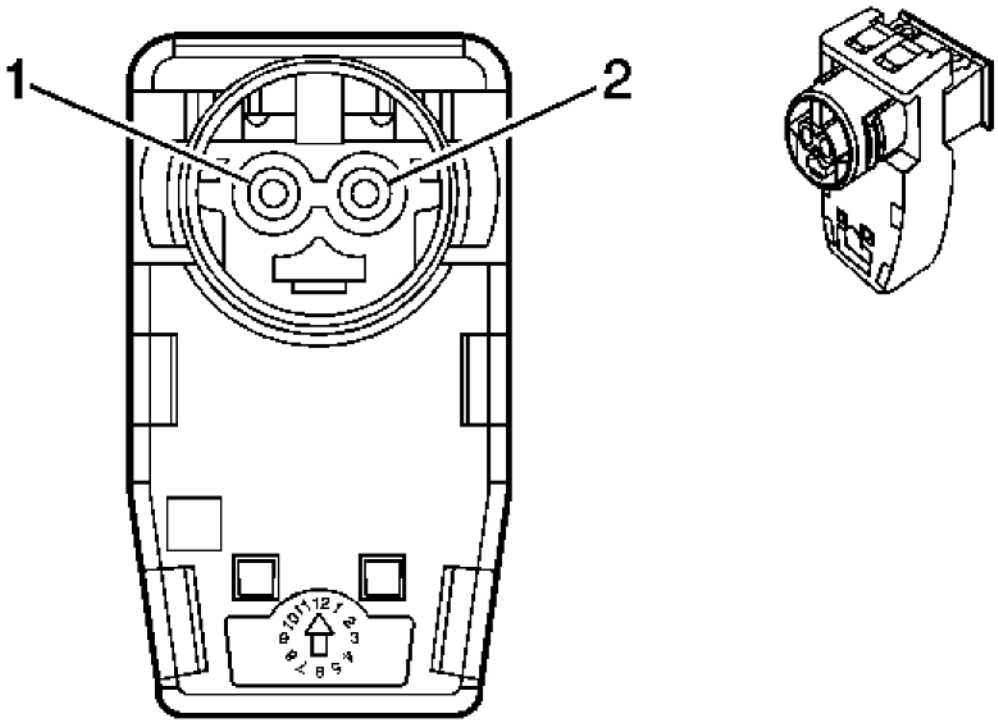


Fig. 19: F106L Side Air Bag - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Inflatable Restraint Side Impact Module - Left Jumper
- OEM: 13234634
- Service: Service by harness - See Part Catalog
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F106L Side Air Bag - Left

Pin	Wire	Circuit	Function
1	0.35 BN	2137	Side Impact Module - LF - High Control
2	0.35 YE/BK	2138	Side Impact Module - LF - Low Control

F106R SIDE AIR BAG - RIGHT

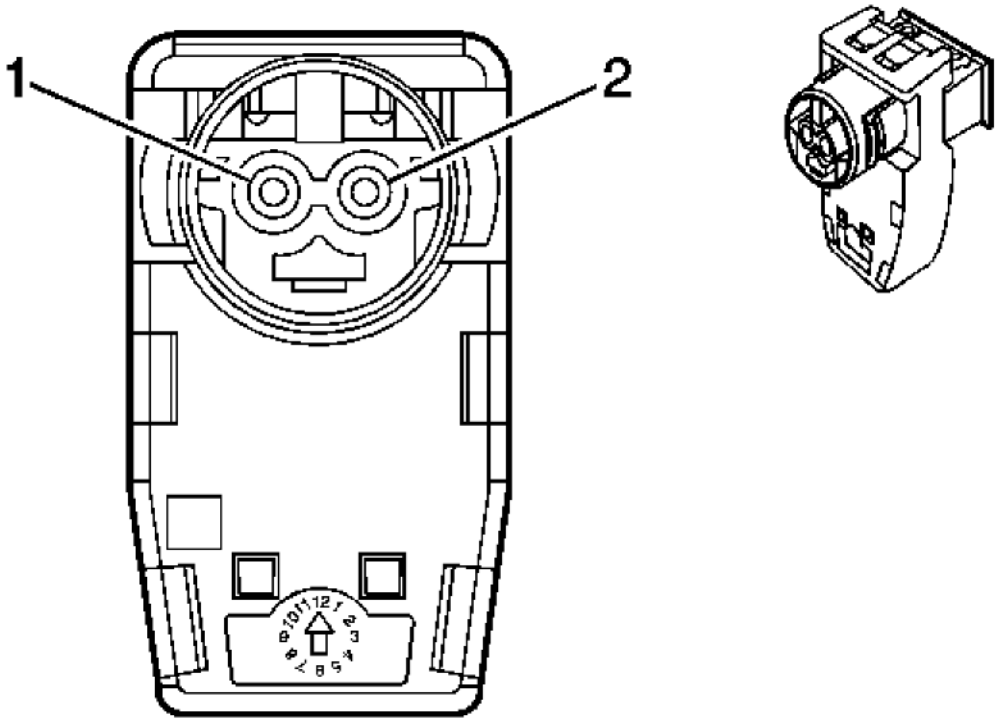


Fig. 20: F106R Side Air Bag - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Inflatable Restraint Side Impact Module - Right Jumper

cardiagn.com

- OEM: 13234634
- Service: Service by harness - See Part Catalog
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F106R Side Air Bag - Right

Pin	Wire	Circuit	Function
1	0.35 TN/WH	2135	Side Impact Module - RF - High Control
2	0.35 L-BU	2136	Side Impact Module - RF - Low Control

F107 STEERING WHEEL AIR BAG X1

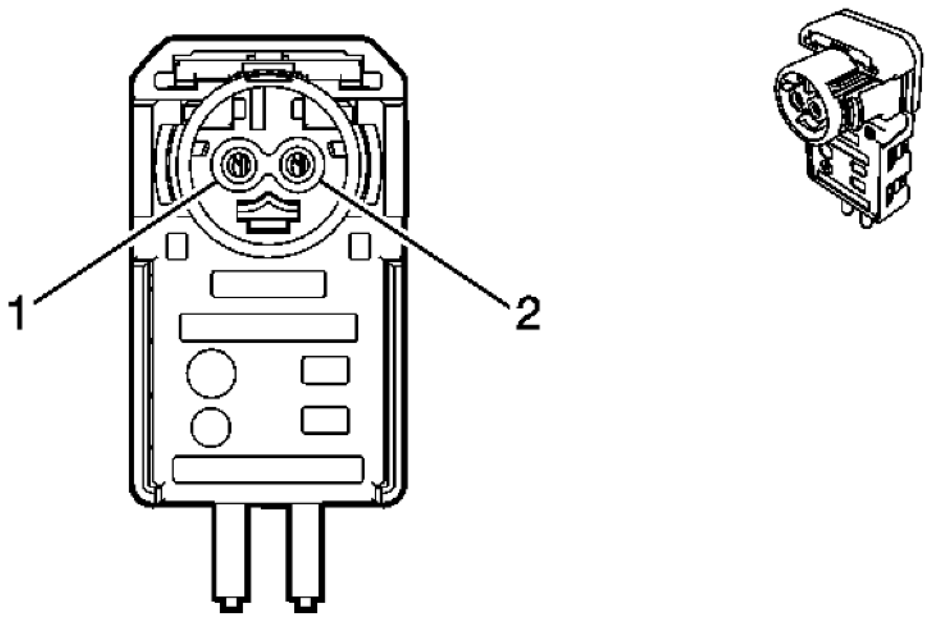


Fig. 21: F107 Steering Wheel Air Bag X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: SIR Coil
- OEM: 0988530002
- Service: Service by Component Assembly - See Part Catalog
- Description: 2-Way F (BU with YE Cover)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F107 Steering Wheel Air Bag X1

Pin	Wire	Circuit	Function
1	0.35 TN	3021	Steering Wheel Module - Stage 1 - High Control
2	0.35 BN	3020	Steering Wheel Module - Stage 1 - Low Control

F107 STEERING WHEEL AIR BAG X2

cardiagn.com

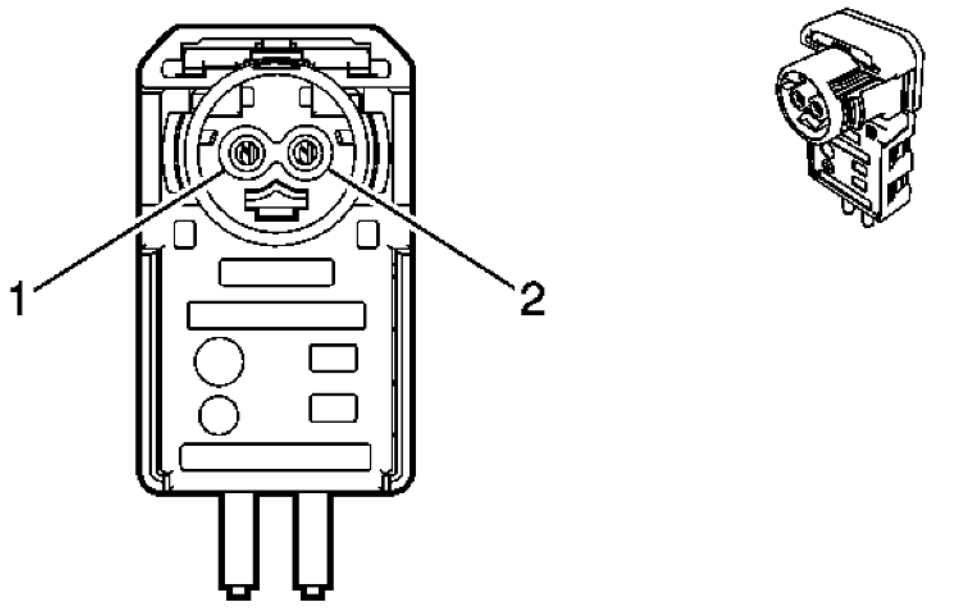


Fig. 22: F107 Steering Wheel Air Bag X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: SIR Coil
- OEM: 0988530003
- Service: Service by Component Assembly - See Part Catalog
- Description: 2-Way F (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

F107 Steering Wheel Air Bag X2

Pin	Wire	Circuit	Function
1	0.35 WH	3023	Steering Wheel Module - Stage 2 - High Control

cardiagn.com

2	0.35 PK	3022	Steering Wheel Module - Stage 2 - Low Control

F112D SEAT BELT RETRACTOR PRETENSIONER - DRIVER

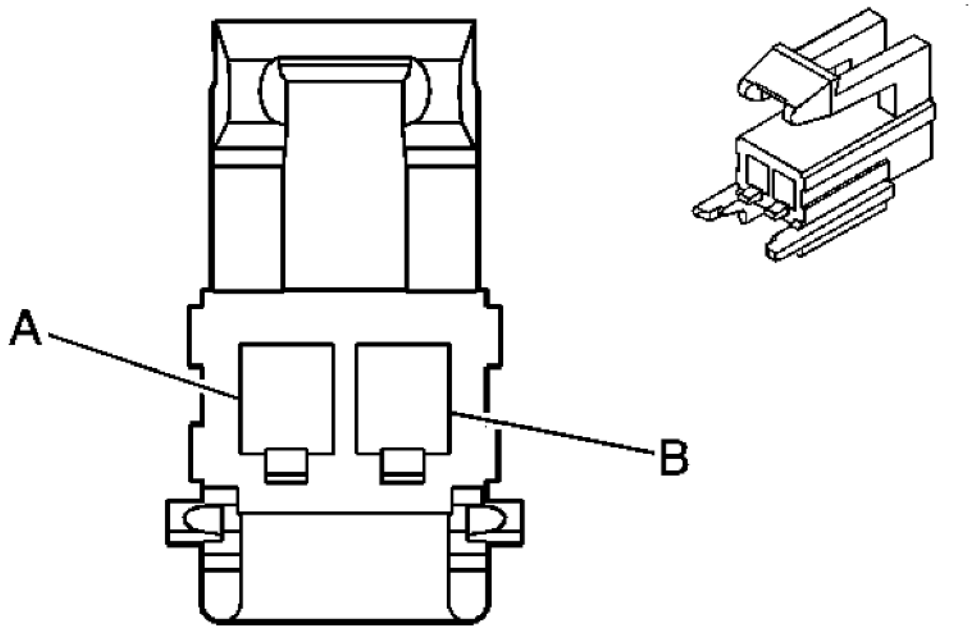


Fig. 23: F112D Seat Belt Retractor Pretensioner - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12110505
- Service: 15306044
- Description: 2-Way F Metri-Pack 150 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog
- Core/Insulation Crimp: N/A
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

cardiagn.com

F112D Seat Belt Retractor Pretensioner - Driver

Pin	Wire	Circuit	Function
A	0.35 TN/WH	2118	Seat Belt Retractor Pretensioner - Left - High Control
B	0.35 OG/BK	2119	Seat Belt Retractor Pretensioner - Left - Low Control

F112P SEAT BELT RETRACTOR PRETENSIONER - PASSENGER

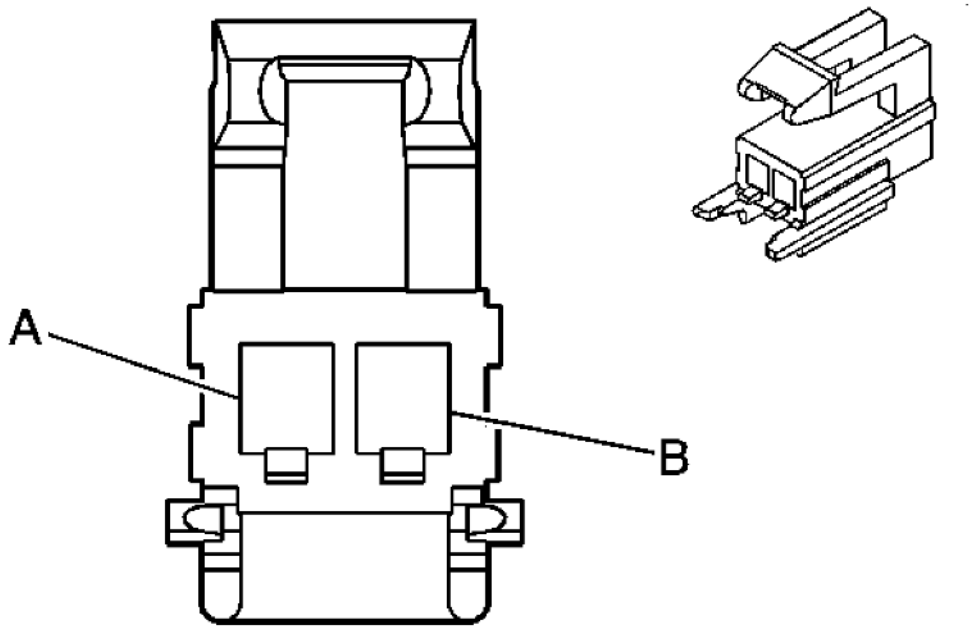


Fig. 24: F112P Seat Belt Retractor Pretensioner - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12110505
- Service: 15306044
- Description: 2-Way F Metri-Pack 150 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly- See Part Catalog

cardiagn.com

- Core/Insulation Crimp: N/A
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

F112P Seat Belt Retractor Pretensioner - Passenger

Pin	Wire	Circuit	Function
A	0.35 L-GN	2116	Seat Belt Retractor Pretensioner - Right - High Control
B	0.35 OG	2117	Seat Belt Retractor Pretensioner - Right - Low Control

G10R COOLING FAN MOTOR - RIGHT

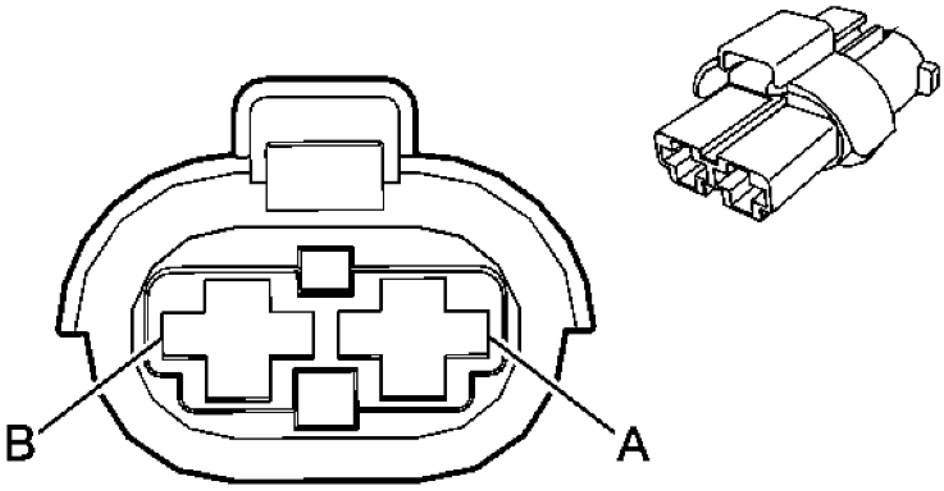


Fig. 25: G10R Cooling Fan Motor - Right Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Cooling Fan Motor - Left
- OEM: 1544361

cardiagn.com

- Service: Service by Component - See Part Catalog
- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: Not Available
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

G10R Cooling Fan Motor - Right

Pin	Wire	Circuit	Function
A	4 BK	504	Low Reference
B	4 RD	409	Cooling Fan Motor Supply Voltage

G13 GENERATOR X1 (L99 OR LS3)

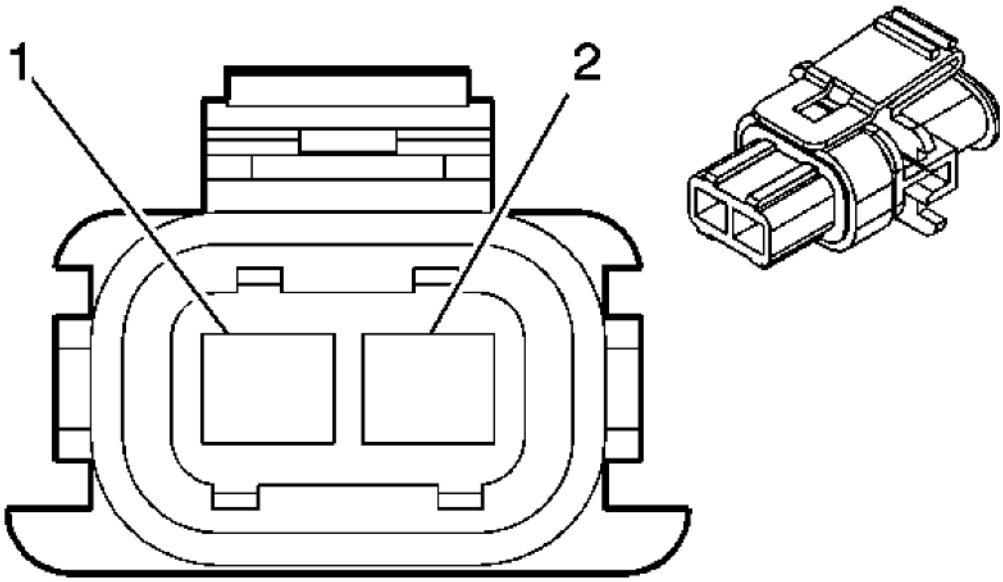


Fig. 26: G13 Generator X1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 10740370
- Service: 88988586
- Description: 2-Way F 2.8 Series, Sealed (BK)

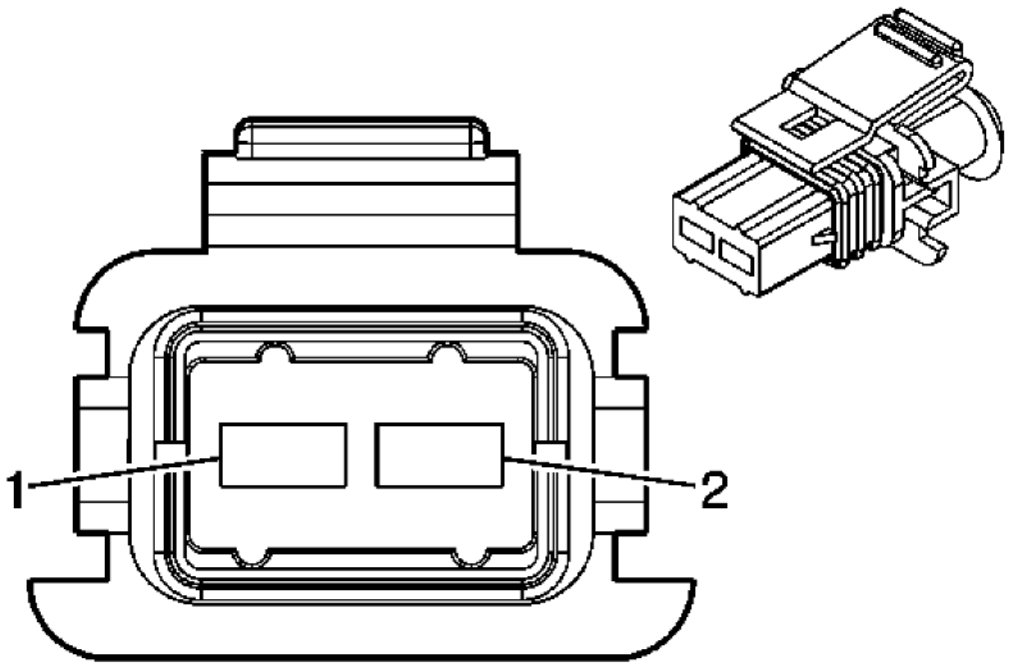
Terminal Part Information

- Terminal/Tray: 1928498056/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

G13 Generator X1 (L99 or LS3)

Pin	Wire	Circuit	Function
1	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
2	0.5 GY	23	Generator Field Duty Cycle Signal

G13 GENERATOR X1 (LLT)



cardiagn.com

Fig. 27: G13 Generator X1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12186308
- Service: 89046837
- Description: 2-Way F Junior Power Timer Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 4-964286-1/16
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

G13 Generator X1 (LLT)

Pin	Wire	Circuit	Function
1	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
2	0.5 GY	23	Generator Field Duty Cycle Signal

G13 GENERATOR X2

Connector Part Information

- Terminal: 24417869
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

G13 Generator X2

Pin	Wire	Circuit	Function
A	19 RD/BK	2	Battery Positive Voltage
	19 RD	1	Battery Positive Voltage

G18 HIGH PRESSURE FUEL PUMP (LLT)

cardiagn.com

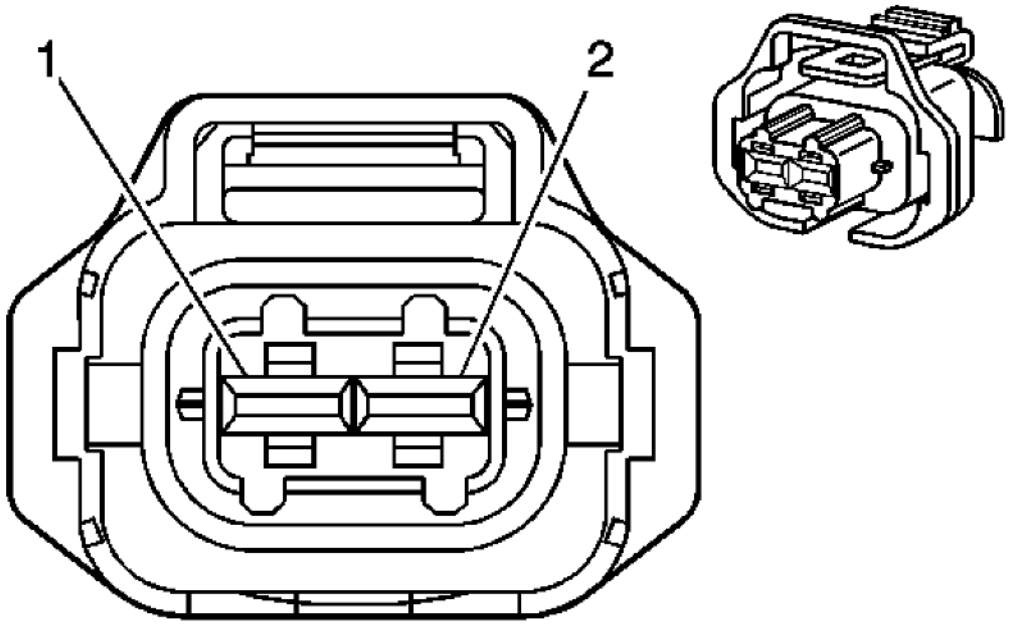


Fig. 28: G18 High Pressure Fuel Pump (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15339756
- Service: 88988963
- Description: 2-Way F Kompakt 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498054/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

G18 High Pressure Fuel Pump (LLT)

Pin	Wire	Circuit	Function
1	1 PU	7300	High Pressure Fuel Pump Actuator Low Control

cardiagn.com

2	1 YE	7301	High Pressure Fuel Pump Actuator High Control

G24 WINDSHIELD WASHER PUMP

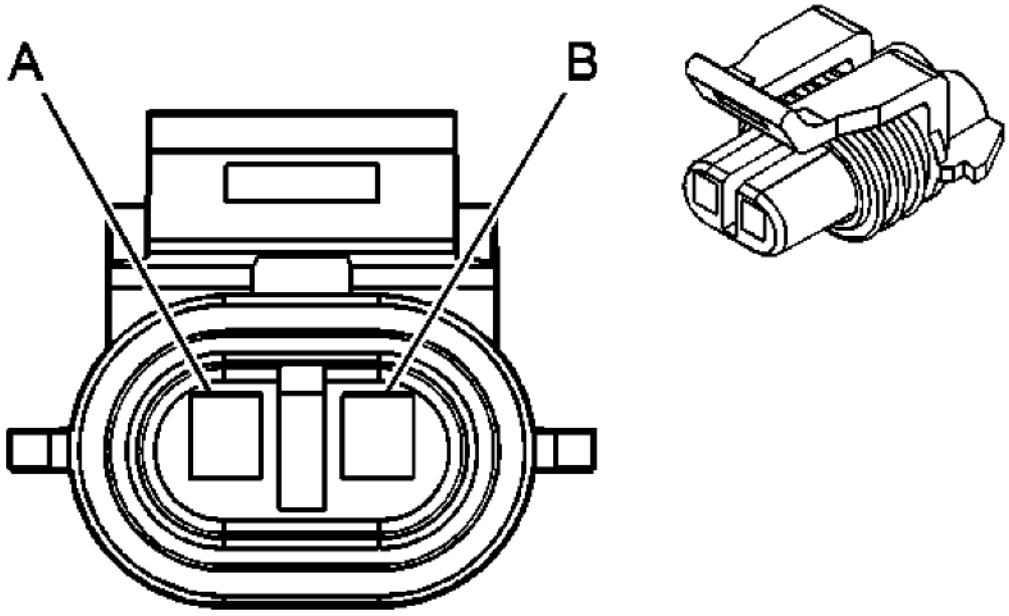


Fig. 29: G24 Windshield Washer Pump Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 12052641
- Service: 12102747
- Description: 2-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

cardiagn.com

G24 Windshield Washer Pump

Pin	Wire	Circuit	Function
A	0.8 OG	228	Windshield Washer Pump Control
B	0.8 BK	1150	Ground

G6 BRAKE BOOSTER PUMP - AUXILIARY (LLT)

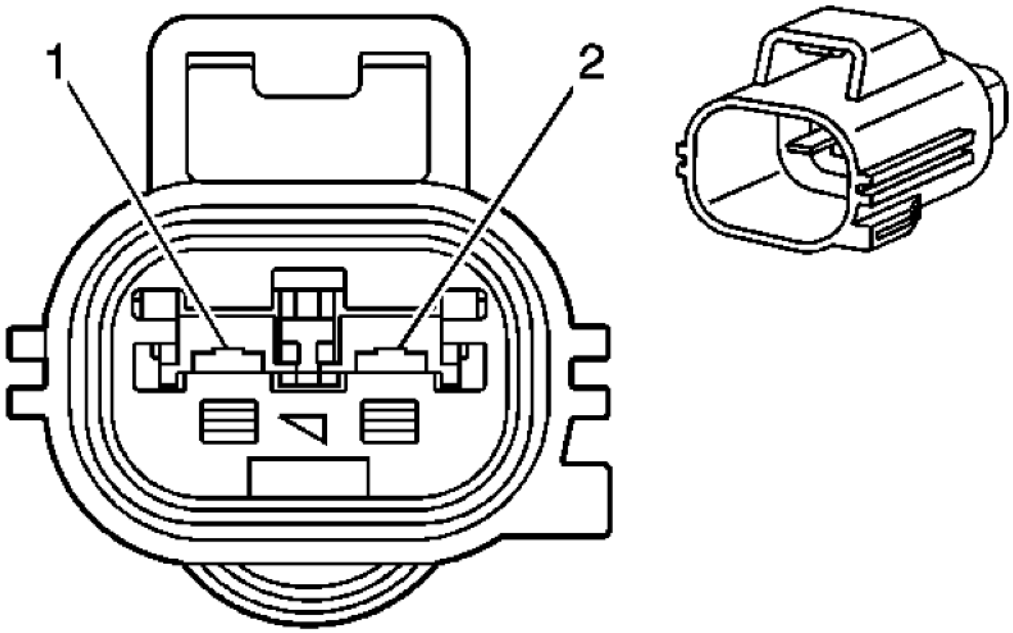


Fig. 30: G6 Brake Booster Pump - Auxiliary (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 10779536
- Service: 19115602
- Description: 2-Way M 2.8 Series, Sealed (D-GY)

Terminal Part Information

- Terminal/Tray: 10779442/See Terminal Repair Kit
- Core/Insulation Crimp: See Terminal Repair Kit

cardiagn.com

- Release Tool: See Terminal Repair Kit
- Test Probe: See Terminal Repair Kit

G6 Brake Booster Pump - Auxiliary (LLT)

Pin	Wire	Circuit	Function
1	1 OG	1470	Brake Booster Pump Motor Supply Voltage
2	1 BK	250	Ground

K17 ELECTRONIC BRAKE CONTROL MODULE (EBCM)

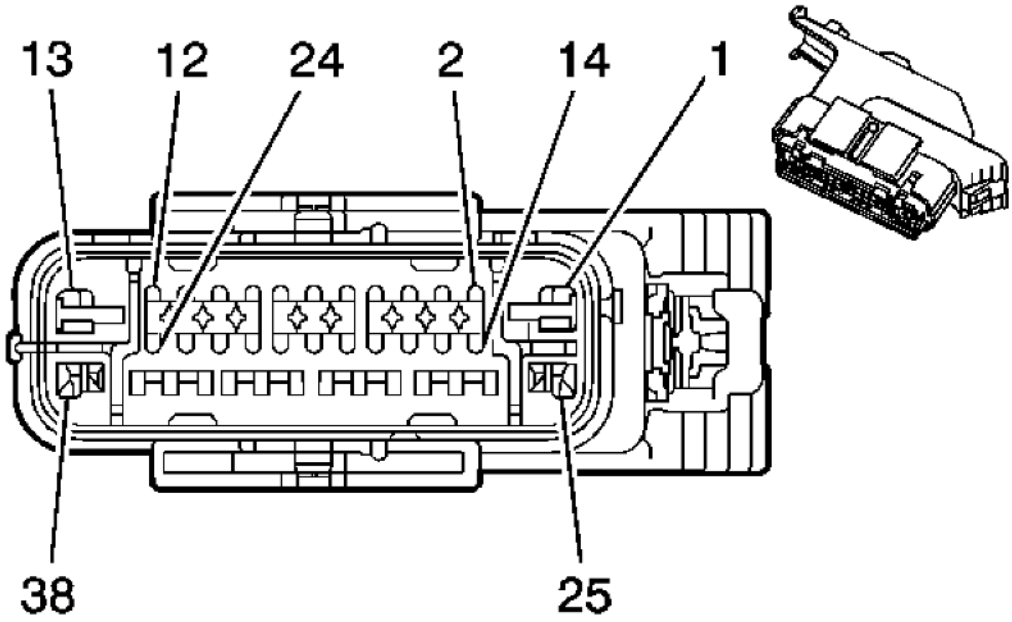


Fig. 31: K17 Electronic Brake Control Module (EBCM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13518748
- Service: 19178089
- Description: 38-Way F 2.8 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Pins: 1, 13, 25, 38
- Terminal/Tray: 15392777/23
- Core/Insulation Crimp: Pins 1, 13, 38 - D/5
- Core/Insulation Crimp: Pin 25 - See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: 4, 6, 14, 15, 18, 19, 20, 21, 24, 26, 27, 31, 32, 33, 34, 35, 37
- Terminal/Tray: SAITS-A03T-M064/14
- Core/Insulation Crimp: 9/9
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K17 Electronic Brake Control Module (EBCM)

Pin	Wire	Circuit	Function
1	3 RD/BK	442	Battery Positive Voltage
2-3	-	-	Not Used
4	0.5 PU	333	Brake Fluid Level Sensor Signal
5	-	-	Not Used
6	0.5 TN	833	Low Reference
7-12	-	-	Not Used
13	3 BK	1050	Ground
14	0.35 TN	2501	High Speed GMLAN Serial Data Bus (-)
15	0.35 TN	2501	High Speed GMLAN Serial Data Bus (-)
16-17	-	-	Not Used
18	0.5 D-GN	872	Right Front Wheel Speed Sensor Signal
19	0.5 BN	882	Right Rear Wheel Speed Sensor Signal
20	0.5 OG	885	Low Reference
21	0.5 L-BU	830	Left Front Wheel Speed Sensor Signal
22-23	-	-	Not Used
24	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
25	2 RD/BK	1042	Battery Positive Voltage
26	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus (+)
27	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus (+)
28-30	-	-	Not Used
31	0.5 WH	883	Low Reference
32	0.5 D-GN	2087	12-Volt Reference
33	0.5 TN	884	Left Rear Wheel Speed Sensor Signal
34	0.5 YE	873	Low Reference
35	0.35 L-BU	5986	Serial Data Communication Enable

cardiagn.com

36	-	-	Not Used
37	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
38	3 BK	1050	Ground

K20 ENGINE CONTROL MODULE X1 (L99 OR LS3)

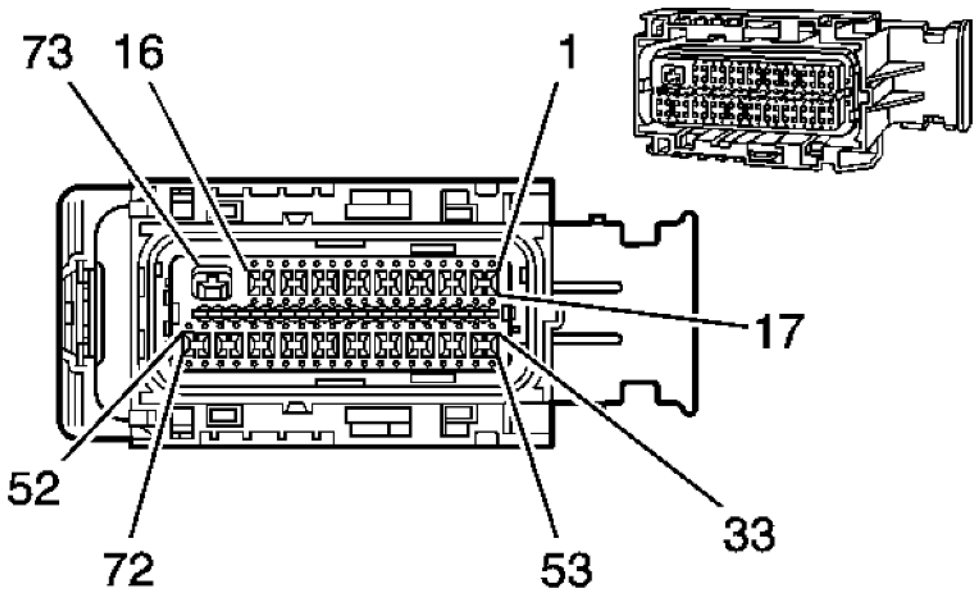


Fig. 32: K20 Engine Control Module X1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13716072
- Service: 88988931
- Description: 73-Way F 0.64 2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 9, 10, 11, 12, 13, 16, 17, 19, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 41, 42, 49, 50, 52, 53, 54, 56, 58, 59, 61, 63, 64, 65, 66, 68, 69, 70, 71, 72
- Terminal/Tray: 33467-0005/23

cardiagn.com

- Core/Insulation Crimp: Pins 1, 9, 10, 11, 12, 13, 16, 17, 19, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 41, 42, 49, 50, 52, 53, 54, 56, 58, 59, 61, 63, 64, 65, 66, 68, 69, 70, 71, 72 - J/J
- Core/Insulation Crimp: Pins 20, 47 - K/K
- Release Tool: J-38125-213
- Test Probe: J-35616-64B (L-BU)

- Pins: 8, 18
- Terminal/Tray: 33467-0003/23
- Core/Insulation Crimp: H/H
- Release Tool: J-38125-213
- Test Probe: J-35616-64B (L-BU)

- Pin: 73
- Terminal/Tray: 1326030-8/17
- Core/Insulation Crimp: A/4
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

K20 Engine Control Module X1 (L99 or LS3)

Pin	Wire	Circuit	Function
1	0.5 OG/BK	1786	Park/Neutral Signal (MYC)
2-7	-	-	Not Available
8	0.35 L-GN	5007	Backup Lamp Switch Signal (M10)
9	0.5 L-BU/WH	6311	Brake Pedal Switch Signal
10	0.5 PU/WH	1668	HO2S High Signal Bank 1 Sensor 2
11	0.5 TN/WH	1669	HO2S Low Signal Bank 1 Sensor 2
12	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal
13	0.5 TN	5514	Low Reference
14-15	-	-	Not Available
16	0.5 D-BU	1936	Fuel Level Sensor Signal
17	0.5 D-BU	473	High Speed Cooling Fan Relay Control
18	0.35 D-BU	5985	Serial Data Wake - Up Signal
19	0.5 PK	439	Ignition Voltage
20	0.8 RD/WH	440	Battery Positive Voltage
21	0.5 OG	6030	Brake Booster Vacuum Sensor Signal (L99)
22	0.5 YE/BK	6032	Low Reference (L99)
23	0.5 PU	1272	Low Reference
24	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal
26	0.5 YE	6111	Clutch Pedal Position Sensor Signal (M10)
27	0.5 TN	2501	High Speed GMLAN Serial Data Bus -

cardiagn.com

28	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus +
29	0.5 D-BU	1161	APP Sensor 1 Signal
30	0.5 BN	1271	Low Reference
31	0.5 BN/WH	6281	Low Reference
32	0.5 L-BU	1162	APP Sensor 2 Signal
33	0.5 GY	2709	5-Volt Reference 1
34	0.5 GY	2700	5-Volt Reference 1
35	-	-	Not Available
36	0.5 TN	1274	5-Volt Reference 1
37	0.5 L-BU	6289	Intake Air Temperature Sensor Signal
38	0.5 TN	2760	Low Reference
39-40	-	-	Not Available
41	0.5 YE	492	MAF Sensor Signal
42	0.5 WH	6110	Low Reference (M10)
43-46	-	-	Not Available
47	0.8 PK/BK	5290	Ignition Voltage
48	-	-	Not Available
49	0.5 TN	1671	HO2S Low Signal Bank 2 Sensor 2
50	0.5 D-GN/WH	465	Fuel Pump Relay Control
51	-	-	Not Available
52	0.5 PU/WH	6386	Starter Relay Control
53	0.5 GY	6031	5-Volt Reference 2 (L99)
54	0.5 TN	6109	5-Volt Reference 2 (M10)
55	-	-	Not Available
56	0.5 WH/BK	1164	5-Volt Reference 2
57	-	-	Not Available
58	0.5 D-GN	335	Low Speed Cooling Fan Relay Control
59	0.5 YE	5991	Powertrain Relay Control
60	-	-	Not Available
61	0.5 WH	1310	EVAP Canister Vent Solenoid Control
62	-	-	Not Available
63	0.5 D-GN/WH	459	A/C Compressor Clutch Relay Control
64	0.5 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
65	0.5 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2
66	0.5 GY	587	Skip/Shift Solenoid Control (M10)
67	-	-	Not Available
68	0.5 BN/WH	419	MIL Control
69	0.5 PU	1670	HO2S High Signal Bank 2 Sensor 2
70	0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary
71	0.5 GY/BK	6355	VSS Signal High (M10)
72	0.5 PU/WH	6356	VSS Signal Low (M10)

cardiagn.com

	2 BK/WH	451	Ground

K20 ENGINE CONTROL MODULE X1 (LLT)

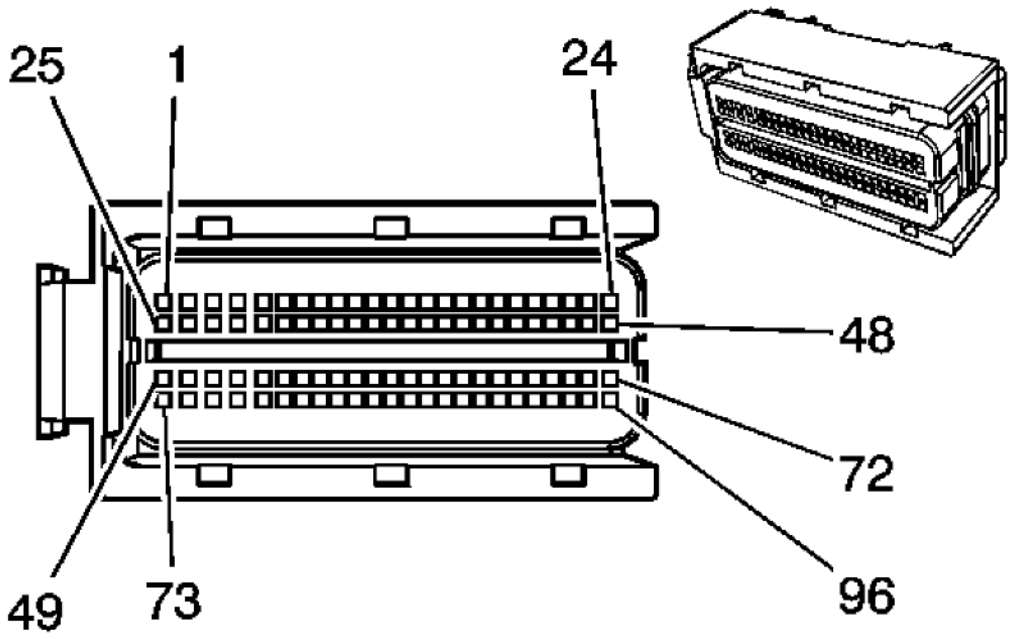


Fig. 33: K20 Engine Control Module X1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15438366
- Service: 19149311
- Description: 96-Way F Sealed (BK)

Terminal Part Information

- Pins: 1, 2, 3, 4, 5, 6, 7, 9, 10, 13, 15, 18, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 55, 56, 57, 59, 60, 61, 67, 70, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 88, 89, 90, 92, 93, 96
- Terminal/Tray: 1928498135/19
- Core/Insulation Crimp: Pins 1, 2, 6, 7, 9, 10, 13, 15, 18, 24, 25, 30, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 55, 56, 57, 59, 60, 61, 67, 70, 72, 78, 79, 80, 81, 82, 83, 84, 88, 89, 90,

cardiagn.com

92, 93, 96 - J/J

- Core/Insulation Crimp: Pins 3, 4, 5, 26, 27, 28, 29, 50, 51, 52, 53, 73, 74, 75, 76, 77 - K/K
- Core/Insulation Crimp: Pins 21 - P/P
- Release Tool: J-38125-213
- Test Probe: J-35616-16 (L-GN)

K20 Engine Control Module X1 (LLT)

Pin	Wire	Circuit	Function
1	0.8 L-GN	5282	CMP Actuator Solenoid Control - Exhaust Bank 1
2	0.8 PU	5284	CMP Actuator Solenoid Control - Intake Bank 1
3	1 PU/WH	4906	Fuel Injector 6 Control
4	1 PU	4806	Fuel Injector 6 Control
5	1 YE	7301	High Pressure Fuel Pump Actuator High Control
6	0.8 D-GN/WH	428	EVAP Canister Purge Solenoid Control
7	0.5 OG	5275	Camshaft Position (CMP) Sensor - Intake Bank 1 Signal
8	-	-	Not Used
9	0.5 PU	5274	Camshaft Position (CMP) Sensor - Exhaust Bank 2 Signal
10	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
11-12	-	-	Not Used
13	0.5 BN/WH	2130	Low Reference
14	-	-	Not Used
15	0.5 GY	705	5-Volt Reference 2
16-17	-	-	Not Used
18	0.5 BN	7448	Vacuum Assist Pump Relay Coil Control
19-20	-	-	Not Used
21	0.35 TN/WH	585	Transmission Fluid Temperature Sensor Signal
22-23	-	-	Not Used
24	0.8 YE	581	TAC Motor Control - 1
25	0.8 WH/BK	5283	CMP Actuator Solenoid Control - Exhaust Bank 2
26	1 D-GN	4803	Fuel Injector 3 Control
27	1 D-GN/WH	4903	Fuel Injector 3 Control
28	1 L-GN	4805	Fuel Injector 5 Control
29	1 L-GN/WH	4905	Fuel Injector 5 Control
30	0.5 GY	23	Generator Field Duty Cycle Signal

cardiagn.com

31-32	-	-	Not Used
33	0.5 YE	5276	Camshaft Position (CMP) Sensor - Intake Bank 2 Signal
34	0.5 D-GN	5273	Camshaft Position (CMP) Sensor - Exhaust Bank 1 Signal
35	0.5 YE	573	CKP Sensor Signal
36	0.5 YE	2918	FRP Sensor Signal
37	-	-	Not Used
38	0.5 GY	2700	5-Volt Reference 3
39	0.5 GY	2701	5-Volt Reference 3
40	0.5 GY	2705	5-Volt Reference 1
41	0.5 TN	552	Low Reference
42	0.5 TN	808	Low Reference
43	0.5 BK	2755	Low Reference
44	0.5 TN	476	Low Reference
45	0.5 GY	605	5-Volt Reference 3
46	0.5 TN	452	Low Reference
47	-	-	Not Used
48	0.8 BN	582	TAC Motor Control - 2
49	0.8 OG/BK	5272	CMP Actuator Solenoid Control - Intake Bank 2
50	1 L-BU	4804	Fuel Injector 4 Control
51	1 BN	4801	Fuel Injector 1 Control
52	1 D-BU	4802	Fuel Injector 2 Control
53	1 D-BU/WH	4902	Fuel Injector 2 Control
54	-	-	Not Used
55	0.5 PU	2121	IC 1 Control
56	0.5 L-BU	2123	IC 3 Control
57	0.5 D-GN	2125	IC 5 Control
58	-	-	Not Used
59	0.5 D-BU	496	Knock Sensor (KS) 1 Signal
60	0.5 GY	2303	Knock Sensor (KS) 2 Signal
61	0.5 TN/WH	331	Oil Pressure Sensor Signal
62-66	-	-	Not Used
67	0.5 TN/WH	3111	HO2S Low Signal Bank 1 Sensor 1
68-69	-	-	Not Used
70	0.5 PU/WH	3210	HO2S High Signal Bank 2 Sensor 1
71	-	-	Not Used
72	0.8 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1
73	1 PU	7300	High Pressure Fuel Pump Actuator Low Control
74	1 L-BU/WH	4904	Fuel Injector 4 Control

cardiagn.com

75	1 BN/WH	4901	Fuel Injector 1 Control
76	1 PK/BK	5291	Ignition Voltage
77	1 PK/BK	5292	Ignition Voltage
78	0.5 BN	2129	Low Reference
79	0.5 OG/WH	2122	IC 2 Control
80	0.5 D-GN/WH	2124	IC 4 Control
81	0.5 L-BU/WH	2126	IC 6 Control
82	0.5 YE	410	ECT Sensor Signal
83	0.5 GY	1716	Knock Sensor (KS) 1 Signal
84	0.5 L-BU	1876	Knock Sensor (KS) 2 Signal
85-87	-	-	Not Used
88	0.5 TN	2752	Low Reference
89	0.5 PU	486	TP Sensor 2 Signal
90	0.5 D-GN	485	TP Sensor 1 Signal
91	-	-	Not Used
92	0.5 PU/WH	3110	HO2S High Signal Bank 1 Sensor 1
93	0.5 TN/WH	3211	HO2S Low Signal Bank 2 Sensor 1
94-95	-	-	Not Used
96	0.8 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1

K20 ENGINE CONTROL MODULE X2 (L99 OR LS3)

cardiagn.com

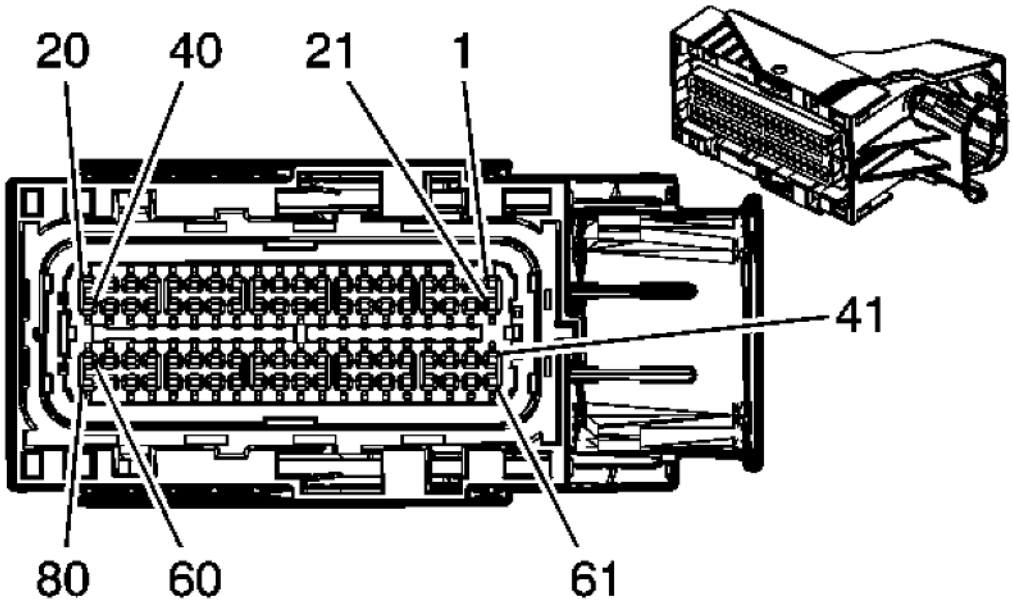


Fig. 34: K20 Engine Control Module X2 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13716073
- Service: 19115670
- Description: 80-Way F 0.64 Series, Sealed (GY Encased in BK)

Terminal Part Information

- Terminal/Tray: 33467-0005/23
- Core/Insulation Crimp: Pins 2, 3, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 29, 30, 32, 33, 34, 35, 37, 38, 39, 40, 41, 43, 44, 50, 52, 53, 56, 57, 58, 59, 60, 61, 63, 64, 65, 66, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79 - J/J
- Core/Insulation Crimp: Pins 5, 6 - K/K
- Release Tool: J-38125-213
- Test Probe: J-35616-64B (L-BU)

K20 Engine Control Module X2 (L99 or LS3)

Pin	Wire	Circuit	Function

cardiagn.com

1	-	-	Not Available
2	0.5 PU/WH	6270	5-Volt Reference 2
3	0.5 GY	2701	5-Volt Reference 2
4	-	-	Not Available
5	0.8 BN	582	TAC Motor Control - 2
6	0.8 YE	581	TAC Motor Control - 1
7	-	-	Not Available
8	0.5 D-GN/WH	428	EVAP Canister Purge Solenoid Control
9	0.5 GY	5493	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 6 Shutoff Solenoid (L99)
10	0.5 D-BU	5491	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 1 Shutoff Solenoid (L99)
11	0.5 OG	5494	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 4 Shutoff Solenoid (L99)
			Reverse Lockout Solenoid Control (M10)
12	0.5 GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1
13	0.5 L-GN	3212	HO2S Heater Low Control Bank 2 Sensor 1
14	0.5 L-GN	5492	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 7 Shutoff Solenoid (L99)
15	-	-	Not Available
16	0.5 PU	5284	CMP Actuator Solenoid Control - Intake Bank 1 (L99)
17	0.5 D-BU/WH	878	Fuel Injector 8 Control
18	0.5 TN/WH	845	Fuel Injector 5 Control
19	0.5 YE/BK	846	Fuel Injector 6 Control
20	0.5 TN	1744	Fuel Injector 1 Control
21	0.5 YE	410	ECT Sensor Signal
22	0.5 TN	2761	Low Reference
23	0.5 TN/WH	585	Transmission Fluid Temperature Sensor Signal (M10)
	0.5 BN/L-BU	357	Oil Temperature Sensor Signal (MYC)
24	0.5 OG/BK	586	Low Reference (M10)
25	-	-	Not Available
26	0.5 D-BU	496	Knock Sensor (KS) 1 Signal
27	0.5 GY	1716	Knock Sensor (KS) 1 Signal
28	-	-	Not Available
29	0.5 L-BU	1876	Knock Sensor (KS) 2 Signal
30	0.5 GY	2303	Knock Sensor (KS) 2 Signal
31	-	-	Not Available
32	0.5 GY	23	Generator Field Duty Cycle Signal
33	0.5 BN	1174	Oil Level Switch Signal
34	0.5 BK	2755	Low Reference

cardiagn.com

35	0.5 TN	2752	Low Reference
36	-	-	Not Available
37	0.5 L-GN/BK	1745	Fuel Injector 2 Control
38	0.5 PK/BK	1746	Fuel Injector 3 Control
39	0.5 L-BU/BK	844	Fuel Injector 4 Control
40	0.5 OG/BK	877	Fuel Injector 7 Control
41	0.5 GY	2705	5-Volt Reference 1
42	-	-	Not Available
43	0.5 GY	2704	5-Volt Reference 1
44	0.5 D-BU	6259	5-Volt Reference 1
45-49	-	-	Not Available
50	0.5 TN/WH	331	Oil Pressure Sensor Signal
51	-	-	Not Available
52	0.5 TN	2199	Low Reference (L99)
53	0.5 OG/BK	469	Low Reference
54-55	-	-	Not Available
56	0.5 TN	1664	HO2S Low Signal - Bank 1 Sensor 1
57	0.5 PU/WH	1665	HO2S High Signal Bank 1 Sensor 1
58	0.5 L-GN	432	MAP Sensor Signal
59	0.5 PU	1666	HO2S High Signal Bank 2 Sensor 1
60	0.5 TN	1667	HO2S Low Signal Bank 2 Sensor 1
61	0.5 BN	25	Charge Indicator Control/Charge Indicator Signal
62	-	-	Not Available
63	0.5 PU	486	TP Sensor 2 Signal
64	0.5 D-BU/WH	6265	Camshaft Position Signal
65	0.5 D-GN	485	TP Sensor 1 Signal
66	0.5 BN	6266	Low Reference
67	-	-	Not Available
68	0.5 WH/BK	6271	Crankshaft Position Sensor Signal
69	0.5 GY/BK	6272	Low Reference
70	0.5 PU	2121	IC 1 Control
71	0.5 PU/WH	2128	IC 8 Control
72	0.5 OG	2127	IC 7 Control
73	0.5 OG/WH	2122	IC 2 Control
74	0.5 L-BU/WH	2126	IC 6 Control
75	0.5 D-GN	2125	IC 5 Control
76	0.5 D-GN/WH	2124	IC 4 Control
77	0.5 L-BU	2123	IC 3 Control
78	0.5 BN	2129	Low Reference
79	0.5 BN/WH	2130	Low Reference

cardiagn.com

80	-	-	Not Available

K20 ENGINE CONTROL MODULE X2 (LLT)

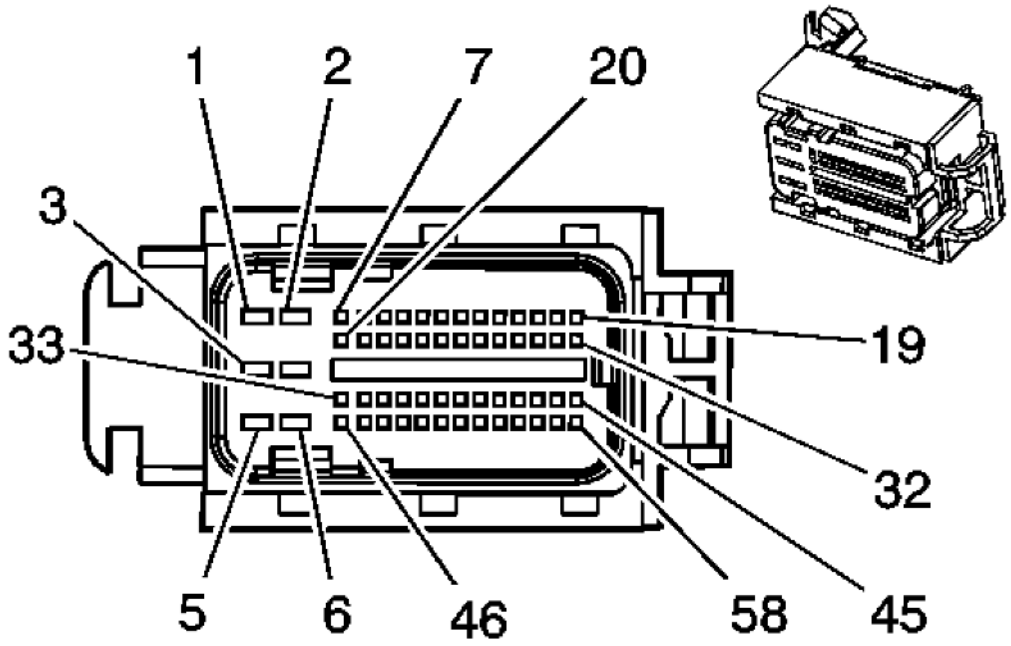


Fig. 35: K20 Engine Control Module X2 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15462694
- Service: 88988935
- Description: 58-Way F Mixed Sealed (BK)

Terminal Part Information

- Pins: 1, 2, 4
- Terminal/Tray: 1928498059/24
- Core/Insulation Crimp: 2/5
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

cardiagn.com

- Pins: 3, 5, 6
- Terminal/Tray: 1928498058/8
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

- Pins: 7, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 56, 57, 58
- Terminal/Tray: 1928498135/19
- Core/Insulation Crimp: Pins 7, 9, 10, 11, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36, 37, 38, 39, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 56, 57, 58 - J/J
- Core/Insulation Crimp: Pins 18, 41 - P/P
- Release Tool: J-38125-213
- Test Probe: J-35616-16 (L-GN)

K20 Engine Control Module X2 (LLT)

Pin	Wire	Circuit	Function
1	2 BK/WH	451	Ground
2	2 BK/WH	451	Ground
3	1 PK/BK	5290	Ignition Voltage
4	2 BK/WH	451	Ground
5	1 PK/BK	5290	Ignition Voltage
6	1 PK/BK	5290	Ignition Voltage
7	0.8 GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2
8	-	-	Not Used
9	0.5 BN/WH	6281	Low Reference
10	0.5 D-GN/WH	465	Fuel Pump Relay Control
11	0.5 TN	5514	Low Reference
12	-	-	Not Used
13	0.5 YE	492	MAF Sensor Signal
14	0.5 GY	2709	5-Volt Reference 1
15	0.5 D-BU	1161	APP Sensor 1 Signal
16	-	-	Not Used
17	0.5 OG/BK	1786	Park/Neutral Signal (MYB)
18	0.35 L-GN	5007	Backup Lamp Switch Signal (MV5)
19	0.5 WH	1310	EVAP Canister Vent Solenoid Control
20	0.8 OG/WH	3223	HO2S Heater Low Control Bank 2 Sensor 2
21	0.5 BN/WH	419	MIL Control
22	0.5 TN	2760	Low Reference
23	0.5 TN/WH	3121	HO2S Low Signal Bank 1 Sensor 2

cardiagn.com

24	0.5 TN	3221	HO2S Low Signal Bank 2 Sensor 2
25	0.5 L-BU	1162	APP Sensor 2 Signal
26	0.5 L-BU	1937	Fuel Level Sensor Signal - Secondary
27	0.5 D-GN	890	Fuel Tank Pressure Sensor Signal
28-33	-	-	Not Used
34	0.5 BN	1271	Low Reference
35	0.5 GY	598	5-Volt Reference 1
36	0.5 D-BU	1936	Fuel Level Sensor Signal
37	0.5 YE	6111	Clutch Pedal Position Sensor Signal (MV5)
38	0.5 PU	3120	HO2S High Signal Bank 1 Sensor 2
39	0.5 OG/BK	380	A/C Refrigerant Pressure Sensor Signal
40	-	-	Not Used
41	0.35 D-BU	5985	Serial Data Wake - Up Signal
42	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus +
43	0.5 GY/BK	6355	VSS Signal High (MV5)
44	0.5 D-GN/WH	459	A/C Compressor Clutch Relay Control
45	0.5 D-BU	473	High Speed Cooling Fan Relay Control
46	0.5 D-GN	335	Low Speed Cooling Fan Relay Control
47	0.5 PU	1272	Low Reference
48	0.5 TN	1274	5-Volt Reference 3
49	0.5 WH/BK	1164	5-Volt Reference 2
50	0.5 L-BU	6289	Intake Air Temperature Sensor Signal
51	0.5 PU	3220	HO2S High Signal Bank 2 Sensor 2
52	0.5 L-BU/WH	6311	Brake Pedal Switch Signal
53	-	-	Not Used
54	0.5 PK	439	Ignition Voltage
55	0.5 TN	2501	High Speed GMLAN Serial Data Bus -
56	0.8 RD/WH	440	Battery Positive Voltage
57	0.5 PU/WH	6386	Starter Relay Control
58	0.5 YE	5991	Powertrain Relay Control

K27 FUEL PUMP CONTROL MODULE

cardiagn.com

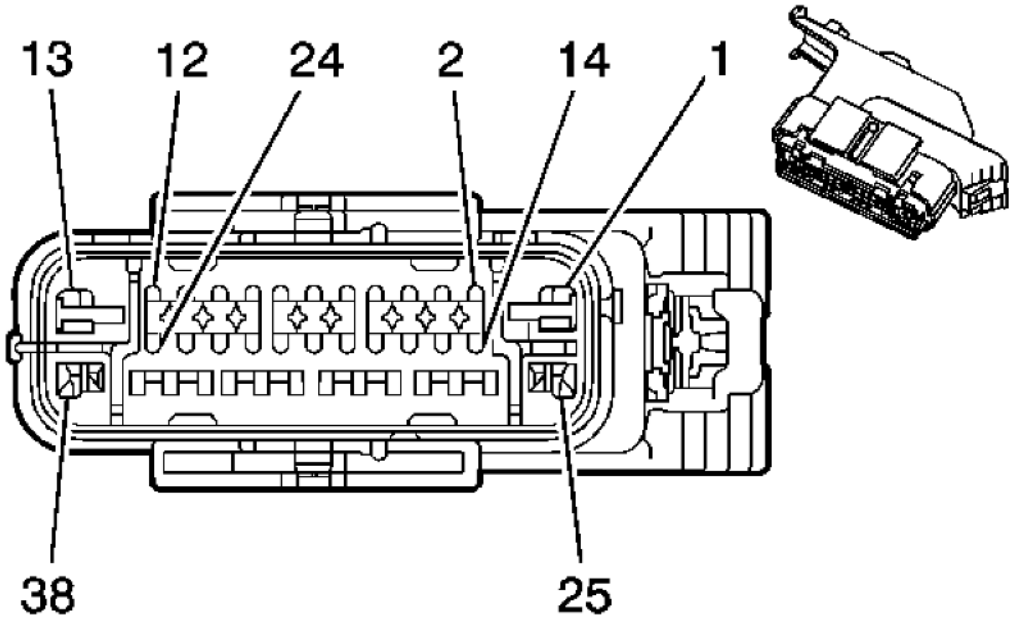


Fig. 36: K27 Fuel Pump Control Module Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13518748
- Service: 19178089
- Description: 38-Way F 2.8 Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 13, 25, 38
- Terminal/Tray: 15392777/23
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: 5, 6, 8, 10, 17, 18, 20, 21, 22, 23, 24
- Terminal/Tray: SAITS-A03T-M064/14
- Core/Insulation Crimp: 9/9

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K27 Fuel Pump Control Module

Pin	Wire	Circuit	Function
1	2 RD/WH	2640	Battery Positive Voltage
2-4	-	-	Not Used
5	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
6	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
7	-	-	Not Used
8	0.35 L-BU	5986	Serial Data Communication Enable
9	-	-	Not Used
10	0.35 PU	7446	Fuel Pressure Sensor Signal
11-12	-	-	Not Used
13	2 GY	120	Fuel Pump Supply Voltage
14-16	-	-	Not Used
17	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
18	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
19	-	-	Not Used
20	0.35 D-GN/WH	465	Fuel Pump Relay Control
21	0.35 PK	239	Ignition Voltage
22	0.35 BN	7445	5-Volt Reference
23	0.35 GY	7447	Low Reference
24	0.5 BK	7444	Drain Wire
25	2 BK	2550	Ground
26-37	-	-	Not Used
38	2 PK	1580	Low Reference

K29 SEAT HEATING CONTROL MODULE X1 (KA1)

cardiagn.com

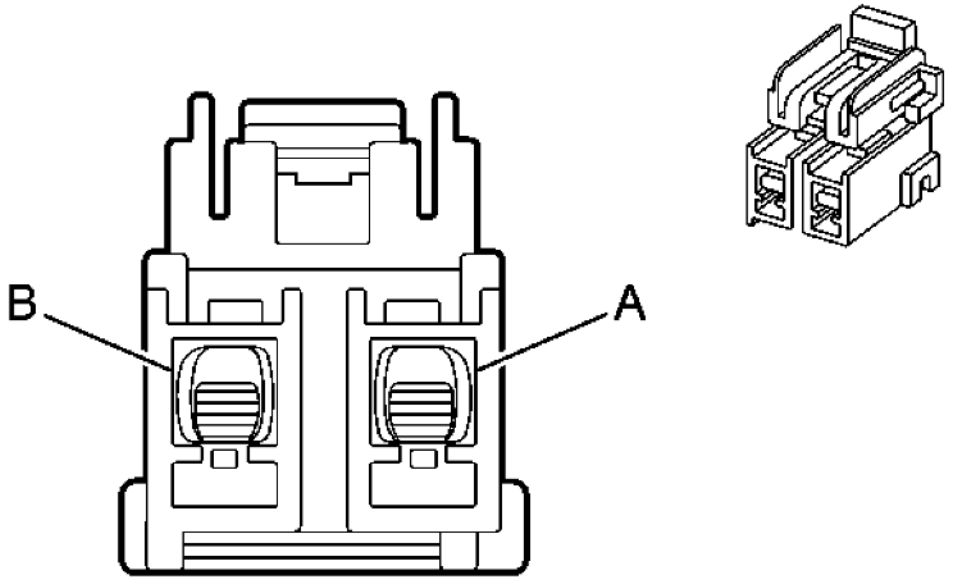


Fig. 37: K29 Seat Heating Control Module X1 (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 13527997
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F Metri-Pack 280 Series (BK)

Terminal Part Information

- Terminal/Tray: Pin A - 12110842/4
- Terminal/Tray: Pin B - 12110844/4
- Core/Insulation Crimp: Pin: A - A/B
- Core/Insulation Crimp: Pin: B - C/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

K29 Seat Heating Control Module X1 (KA1)

Pin	Wire	Circuit	Function

cardiagn.com

A	2 BK	850	Ground
B	1 RD/WH	5140	Battery Positive Voltage

K29 SEAT HEATING CONTROL MODULE X2 (KA1)

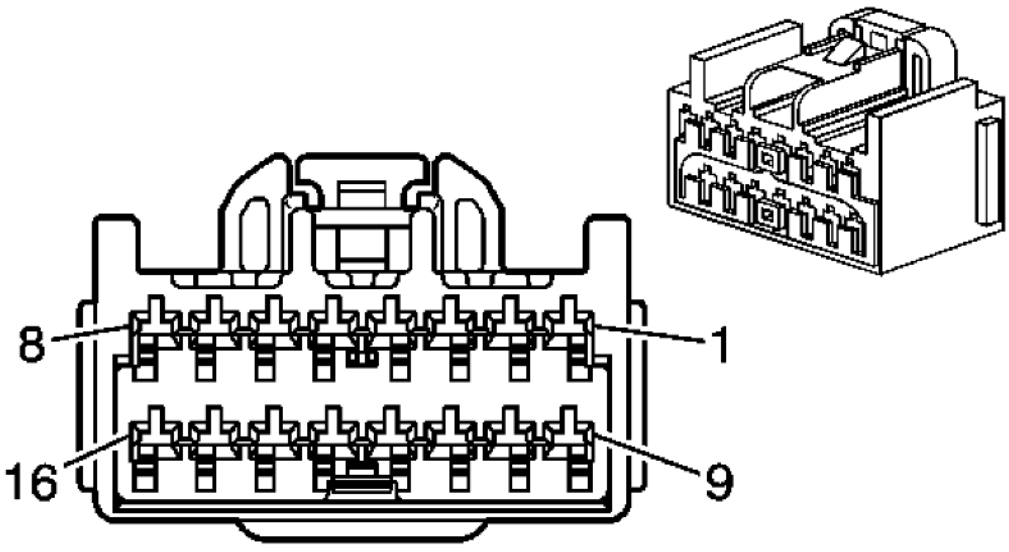


Fig. 38: K29 Seat Heating Control Module X2 (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 6098-4611
- Service: Service by Harness - See Part Catalog
- Description: 16-Way F (BK)

Terminal Part Information

- Terminal/Tray: Pins - 1, 2, 3, 5 - 8240-0128/22
- Terminal/Tray: Pins - 11, 14 - 8240-0127/22
- Core/Insulation Crimp: Pins - 1, 2, 3, 5 - C/A
- Core/Insulation Crimp: Pins - 11, 14 - E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

K29 Seat Heating Control Module X2 (KA1)

Pin	Wire	Circuit	Function
1	0.8 L-BU	2424	Driver Heated Seat Back Element Control
2	0.8 L-BU	2433	Passenger Heated Seat Back Element Control
3	0.8 D-BU	2077	Heated Seat Cushion Element Supply Voltage
4	-	-	Not Used
5	0.8 D-BU	2479	Passenger Heated Seat Element Supply Voltage
6-12	-	-	Not Used
13	0.5 PK	2080	Low Reference
14	0.5 PK	2435	Low Reference
15-16	-	-	Not Used

K29 SEAT HEATING CONTROL MODULE X3 (KA1)

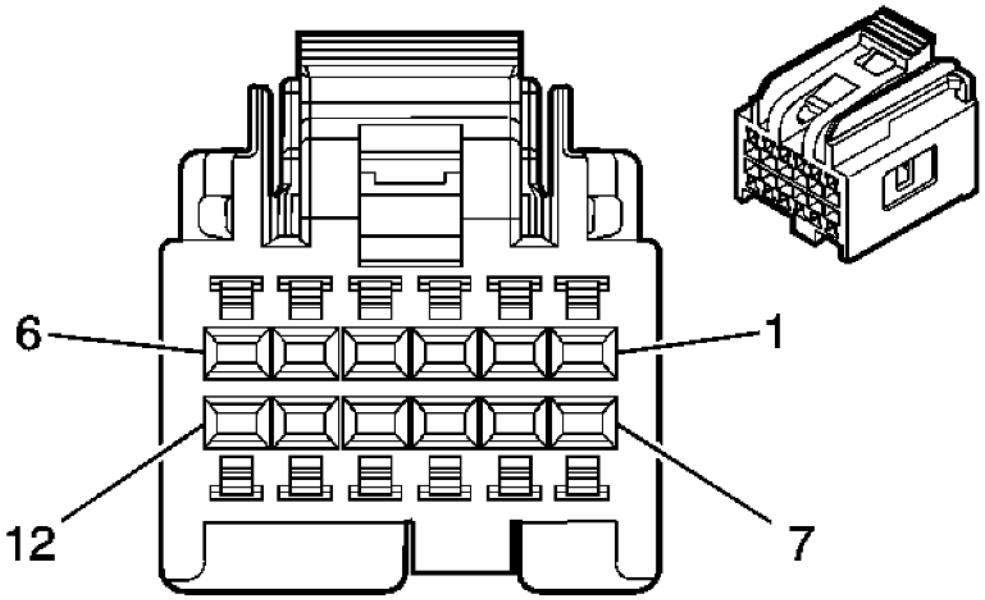


Fig. 39: K29 Seat Heating Control Module X3 (KA1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Driver Seat
- OEM: 31410-1120
- Service: Service by Harness - See Part Catalog
- Description: 12-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K29 Seat Heating Control Module X3 (KA1)

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.5 GY	2079	Heated Seat Cushion Temperature Sensor Signal
4	0.5 GY	2434	Passenger Heated Seat Cushion Temperature Sensor Signal
5-10	-	-	Not Used
11	0.35 D-GN	5060	Low Speed GMLAN Serial Data
12	-	-	Not Used

K33 HVAC CONTROL MODULE X1

cardiagn.com

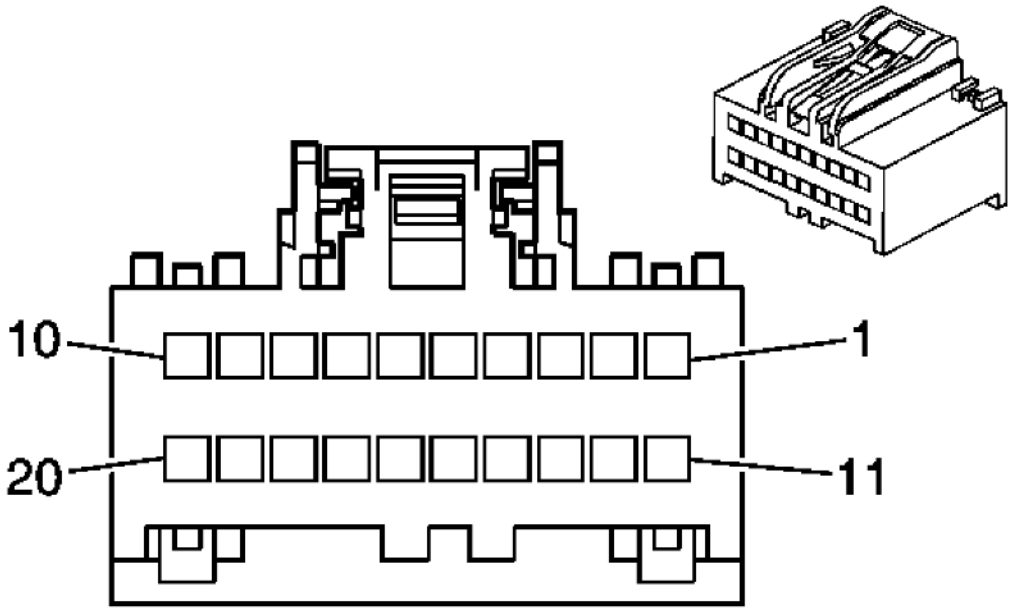


Fig. 40: K33 HVAC Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15491305
- Service: 15126709
- Description: 20-Way F USCAR 64 Series (BN)

Terminal Part Information

- Pins: 1, 8
- Terminal/Tray: 13588504/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 2, 4, 9, 15, 19
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

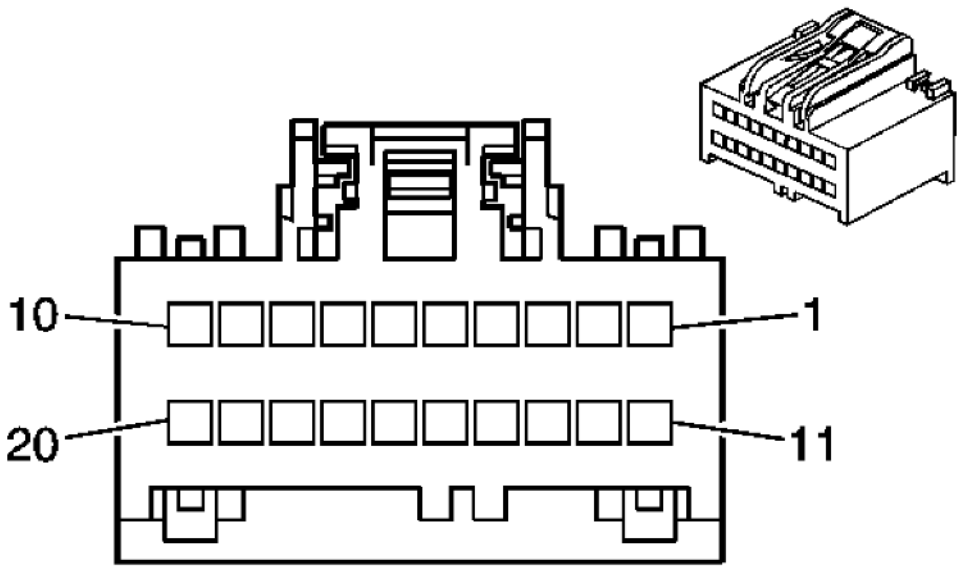
cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K33 HVAC Control Module X1

Pin	Wire	Circuit	Function
1	0.8 RD/WH	3340	Battery Positive Voltage
2	0.35 D-GN	5060	Low Speed GMLAN Serial Data
3	-	-	Not Used
4	0.35 YE	7531	Linear Interconnect Network 9
5-7	-	-	Not Used
8	0.8 BK	1450	Ground
9	0.35 PK	539	Ignition Voltage
10-14	-	-	Not Used
15	0.35 GY/BK	754	Blower Motor Speed Control
16-18	-	-	Not Used
19	0.35 WH	193	Rear Defog Relay Control
20	-	-	Not Used

K33 HVAC CONTROL MODULE X2



cardiagn.com

Fig. 41: K33 HVAC Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15489824
- Service: 15126711
- Description: 20-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K33 HVAC Control Module X2

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	0.35 D-BU	3167	Mode Door Stepper Motor Control 3
3	0.35 GY	3165	Mode Door Stepper Motor Control 1
4	0.35 BN	3168	Mode Door Stepper Motor Control 4
5	0.35 D-GN	3166	Mode Door Stepper Motor Control 2
6-8	-	-	Not Used
9	0.35 TN	407	Low Reference
10	-	-	Not Used
11	0.35 TN/BK	3169	Temp Door Stepper Motor Control 1
12	0.35 PU	3170	Temp Door Stepper Motor Control 2
13	0.35 L-GN	3171	Temp Door Stepper Motor Control 3
14	0.35 L-BU	3172	Temp Door Stepper Motor Control 4
15	0.5 OG	7572	HVAC Motor Supply Voltage
16	0.35 D-BU/WH	3173	Air Inlet Door Stepper Motor Control 1
17	0.35 BN/WH	3174	Air Inlet Door Stepper Motor Control 2
18	0.35 YE	3175	Air Inlet Door Stepper Motor Control 3
19	0.35 WH	3176	Air Inlet Door Stepper Motor Control 4
20	0.35 GY	6137	EVAP Core Temperature Sensor Signal

K36 INFLATABLE RESTRAINT SENSING AND DIAGNOSTIC MODULE X1

cardiagn.com

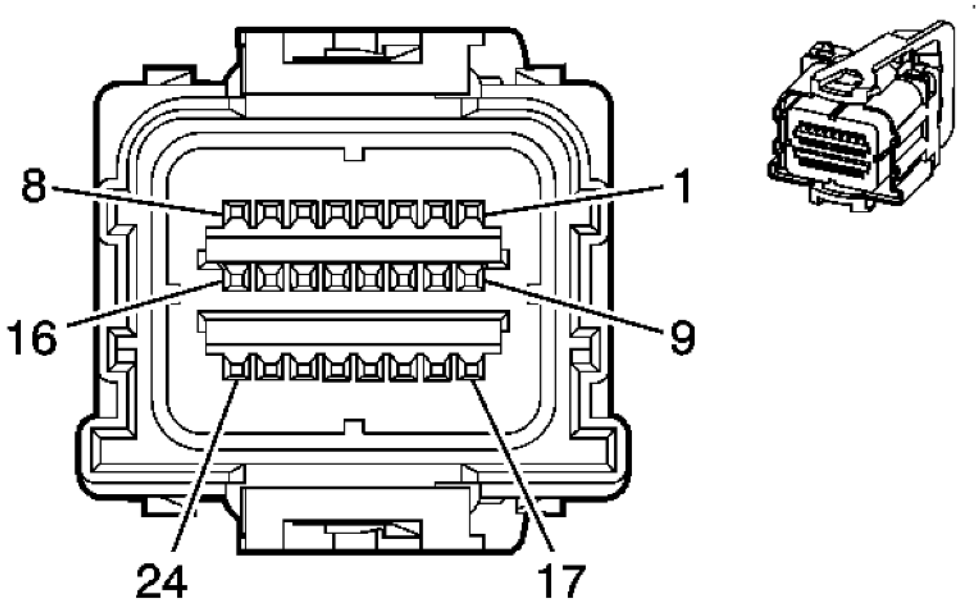


Fig. 42: K36 Inflatable Restraint Sensing and Diagnostic Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13608103
- Service: 13317834
- Description: 24-Way F Kaizen 0.64 Series, Sealed (YE)

Terminal Part Information

- Terminal/Tray: Service with Terminated Lead
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K36 Inflatable Restraint Sensing and Diagnostic Module X1

Pin	Wire	Circuit	Function
1	0.35 WH	3023	Steering Wheel Module - Stage2 - High Control
2	0.35 PK	3022	Steering Wheel Module - Stage2 - Low

cardiagn.com

			Control
3	0.35 BN	3020	Steering Wheel Module - Stage1 - Low Control
4	0.35 TN	3021	Steering Wheel Module - Stage1 - High Control
5	0.35 YE	3025	I/P Module - Stage 1 - High Control
6	0.35 OG	3024	I/P Module - Stage 1 - Low Control
7	0.35 PU	3026	I/P Module - Stage 2 - Low Control
8	0.35 GY	3027	I/P Module - Stage 2 - High Control
9	0.5 RD/WH	4440	Battery Positive Voltage
10	0.35 PU	5234	Front Passenger Seat Belt Indicator Control
11	0.35 D-BU	2307	Passenger Air Bag On Indicator Control
12	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control
13-14	-	-	Not Used
15	0.35 D-GN	5060	Low Speed GMLAN Serial Data
16	-	-	Not Used
17	0.35 PK	1139	Ignition Voltage
18	-	-	Not Used
19	0.5 BK	2450	Ground
20-24	-	-	Not Used

K36 INFLATABLE RESTRAINT SENSING AND DIAGNOSTIC MODULE X2

cardiagn.com

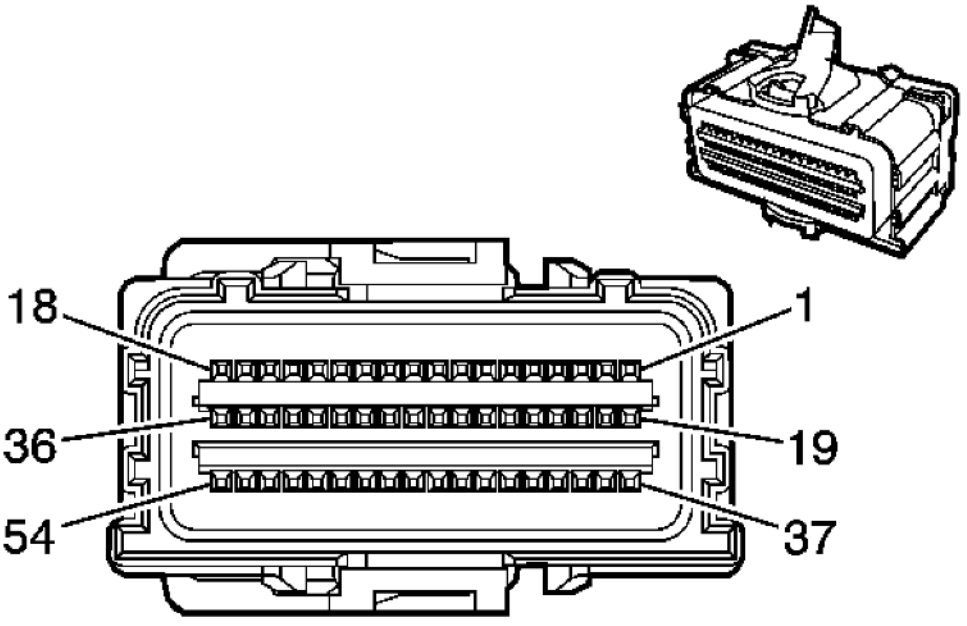


Fig. 43: K36 Inflatable Restraint Sensing and Diagnostic Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13715984
- Service: 13316188
- Description: 54-Way F 0.64 Series, Sealed (YE)

Terminal Part Information

- Terminal/Tray: Service with Terminated Lead
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K36 Inflatable Restraint Sensing and Diagnostic Module X2

Pin	Wire	Circuit	Function
1-12	-	-	Not Used
13	0.35 BN	2137	Side Impact Module - Left Front - High Control

cardiagn.com

14	0.35 YE/BK	2138	Side Impact Module - Left Front - Low Control
15	0.35 L-GN	2136	Side Impact Module - Right Front - Low Control
16	0.35 TN/WH	2135	Side Impact Module - Right Front - High Control
17	0.35 PU/WH	5019	Roof Rail Module - Left - High Control
18	0.35 PK	5020	Roof Rail Module - Left - Low Control
19	0.35 WH	2132	Side Impact Sensing Module - Left - Signal
20	0.35 PU/WH	6628	Low Reference
21	0.35 WH/BK	6629	Low Reference
22	0.35 D-GN	2134	Side Impact Sensing Module - Right - Signal
23	0.35 YE	354	Front End Sensor - Left - Signal
24	0.35 TN/OG	5045	Low Reference
25	0.35 GY	5600	Low Reference
26	0.35 D-GN	1409	Front End Sensor - Right - Signal
27-32	-	-	Not Used
33-36	-	-	Not Available
37	0.35 TN/WH	2118	Seat Belt Retractor Pretensioner - Left - High Control
38	0.35 OG/BK	2119	Seat Belt Retractor Pretensioner - Left - Low Control
39	0.35 OG	2117	Seat Belt Retractor Pretensioner - Right - Low Control
40	0.35 L-GN	2116	Seat Belt Retractor Pretensioner - Right - High Control
41	0.35 TN/WH	238	Seat Belt Switch - Left
42	0.35 L-GN	5055	Seat Position Sensor - Left - Signal
43	0.35 D-BU	1363	Seat Belt Switch - Left - Low Reference
44	0.35 L-BU	1361	Seat Belt Switch - Right - Low Reference
45	0.35 OG	1362	Seat Belt Switch - Right - Signal
46	0.35 L-BU	5056	Seat Position Sensor - Right - Signal
47-52	-	-	Not Used
53	0.35 YE/BK	5021	Roof Rail Module - Right - High Control
54	0.35 WH/BK	5022	Roof Rail Module - Right - Low Control

K41 OBJECT ALARM CONTROL MODULE X1 (UD7)

cardiagn.com

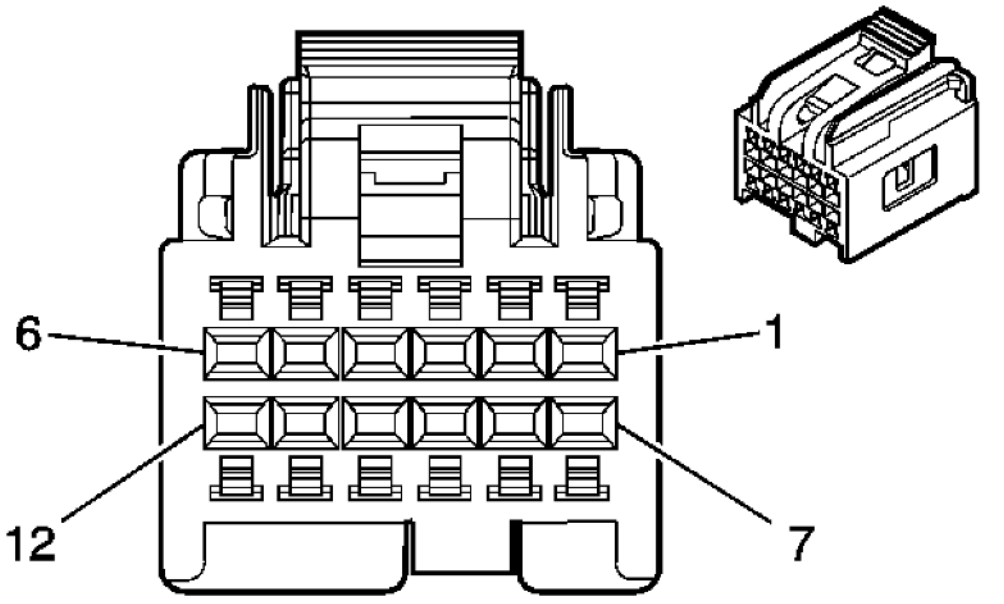


Fig. 44: K41 Object Alarm Control Module X1 (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13551678
- Service: 89047364
- Description: 12-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K41 Object Alarm Control Module X1 (UD7)

Pin	Wire	Circuit	Function
1	0.5 RD/WH	3140	Battery Positive Voltage
2-5	-	-	Not Used

cardiagn.com

6	0.35 D-GN	5060	Low Speed GMLAN Serial Data
7	0.5 BK	2550	Ground
8-12	-	-	Not Used

K41 OBJECT ALARM CONTROL MODULE X2 (UD7)

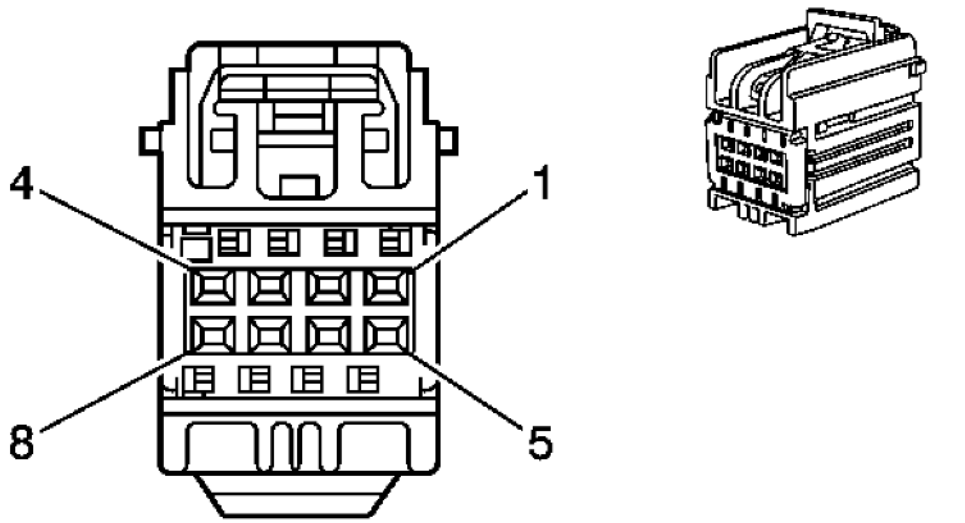


Fig. 45: K41 Object Alarm Control Module X2 (UD7) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13551679
- Service: 19115653
- Description: 8-Way F Kaizen 64 Series (GY)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

K41 Object Alarm Control Module X2 (UD7)

Pin	Wire	Circuit	Function
1	0.35 PU	2378	Right Rear Corner Object Sensor Signal
2	0.35 D-GN	2377	Right Rear Middle Object Sensor Signal
3	0.35 OG	2376	Left Rear Middle Object Sensor Signal
4	0.35 D-BU	2374	Object Sensor Supply Voltage
5	0.35 YE	2375	Left Rear Corner Object Sensor Signal
6-7	-	-	Not Used
8	0.35 GY	2379	Low Reference

K61 SUNROOF CONTROL MODULE (CF5)

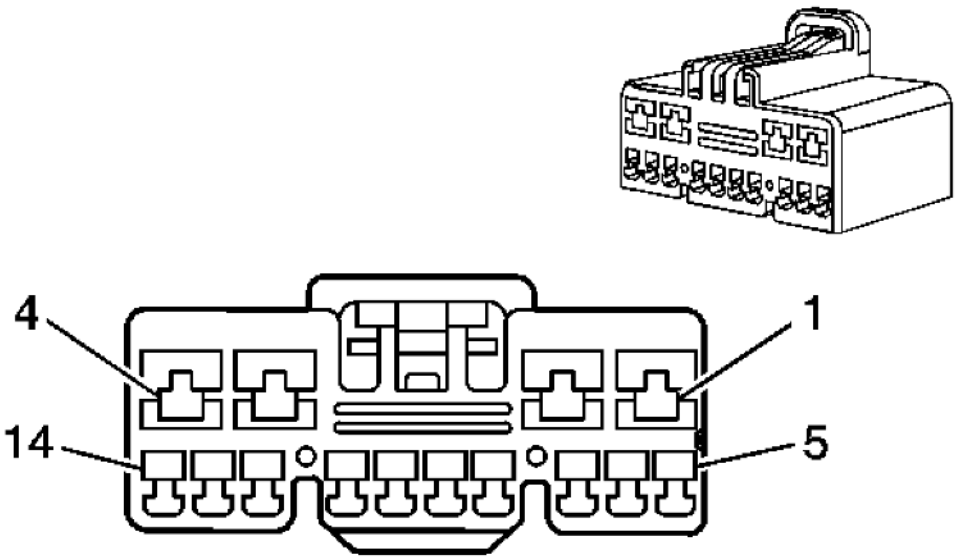


Fig. 46: K61 Sunroof Control Module (CF5) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Sunroof

cardiagn.com

- OEM: 15466088
- Service: 19179972
- Description: 14-Way F 64/2.8 YESC Series (L-GY)

Terminal Part Information

- Pins: 1, 4
- Terminal/Tray: 7116-4112-02/9
- Core/Insulation Crimp: C/D
- Release Tool: 12094430
- Test Probe: J-35616-35 (VT)

- Pins: 7, 8, 11
- Terminal/Tray: 7116-4720-02/14
- Core/Insulation Crimp: H/H
- Release Tool: 15315247
- Test Probe: J-35616-64B (L-BU)

K61 Sunroof Control Module (CF5)

Pin	Wire	Circuit	Function
1	3 RD/WH	3540	Battery Positive Voltage
2-3	-	-	Not Used
4	3 BK	1450	Ground
5-6	-	-	Not Used
7	0.35 L-BU	5027	Sunroof Switch Data 1
8	0.35 D-BU	128	Low Reference
9-10	-	-	Not Used
11	0.35 BN	6132	Linear Interconnect Network 1
12-14	-	-	Not Used

K73 TELEMATICS COMMUNICATION INTERFACE CONTROL MODULE X1 (UE1)

cardiagn.com

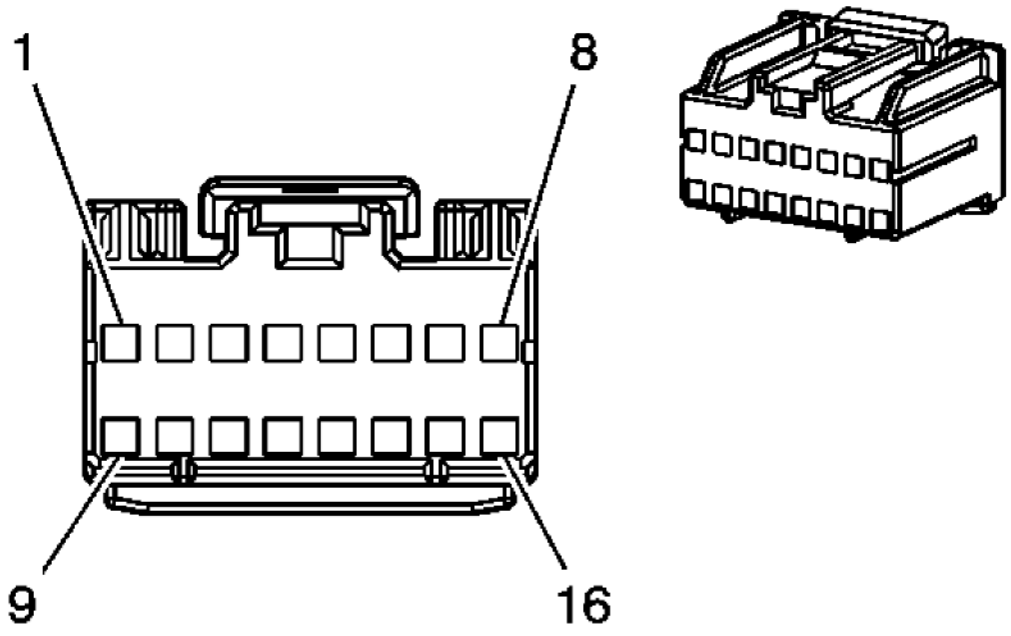


Fig. 47: K73 Telematics Communication Interface Control Module X1 (UE1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15431362
- Service: 15306351
- Description: 16-Way F Micro-Pack 100A Series (WH)

Terminal Part Information

- Terminal/Tray: 15445905/23
- Core/Insulation Crimp: Pins 1, 2, 3, 6, 10, 11, 12, 13, 14, 16 - J/J
- Core/Insulation Crimp: Pin 8 - K/K
- Release Tool: 12180559
- Test Probe: J-35616-16 (L-GN)

K73 Telematics Communication Interface Control Module X1 (UE1)

Pin	Wire	Circuit	Function
1	0.35 D-GN	5060	Low Speed GMLAN Serial Data

cardiagn.com

2	0.35 BN/WH	2517	Keypad Red LED Signal
3	0.35 YE/BK	2516	Keypad Green LED Signal
4-5	-	-	Not Used
6	0.35 L-GN/BK	2515	Keypad Supply Voltage
7	-	-	Not Used
8	0.8 BK	1750	Ground
9	-	-	Not Used
10	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
11	0.35 D-GN/WH	2514	Keypad Signal
12	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
13	0.35 GY/BK	5167	OnStar Backup Battery (-)
14	0.35 RD/WH	5235	OnStar Backup Battery (+)
15	-	-	Not Used
16	0.35 RD/WH	5340	Battery Positive Voltage

K73 TELEMATICS COMMUNICATION INTERFACE CONTROL MODULE X2 (UE1)

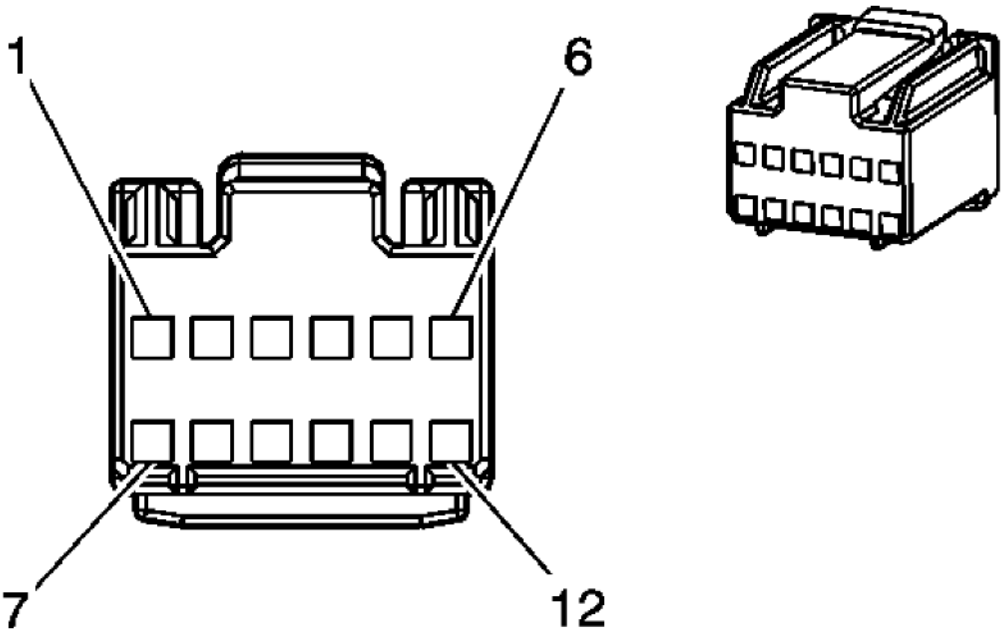


Fig. 48: K73 Telematics Communication Interface Control Module X2 (UE1) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Instrument Panel
- OEM: 15431365
- Service: 88952886
- Description: 12-Way F Micro-Pack 100A Series (WH)

Terminal Part Information

- Terminal/Tray: 15445905/23
- Core/Insulation Crimp: J/J
- Release Tool: 12180559
- Test Probe: J-35616-16 (L-GN)

K73 Telematics Communication Interface Control Module X2 (UE1)

Pin	Wire	Circuit	Function
1	0.35 D-BU	658	Cellular Telephone Voice Signal
2	0.35 L-BU/BK	659	Cellular Telephone Voice Signal
3	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
4	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
5-7	-	-	Not Used
8	0.35 BARE	1782	Drain Wire
9	0.35 GY	655	Cellular Microphone Signal
10	0.35 BARE	654	Cellular Microphone Signal
11-12	-	-	Not Used

K77 REMOTE CONTROL DOOR LOCK RECEIVER

cardiagn.com

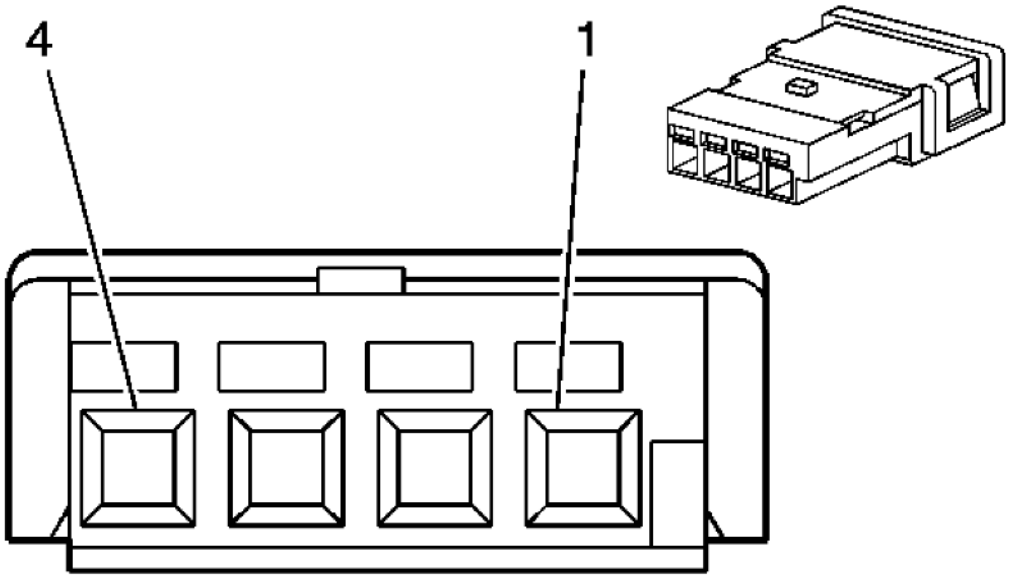


Fig. 49: K77 Remote Control Door Lock Receiver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof (BTV)
- Harness: Instrument Panel (without BTV)
- OEM: 15363838
- Service: 09130527
- Description: 4-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: H/H
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K77 Remote Control Door Lock Receiver

Pin	Wire	Circuit	Function
1	0.35 GY	3273	RCDLR Ground
2	0.35 L-BU/WH	3275	RCDLR Data Transmit

cardiagn.com

3	0.35 L-GN	3274	RCDLR Data Receive
4	0.35 PK/WH	3272	RCDLR Power

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

K8 BLOWER MOTOR CONTROL MODULE X1

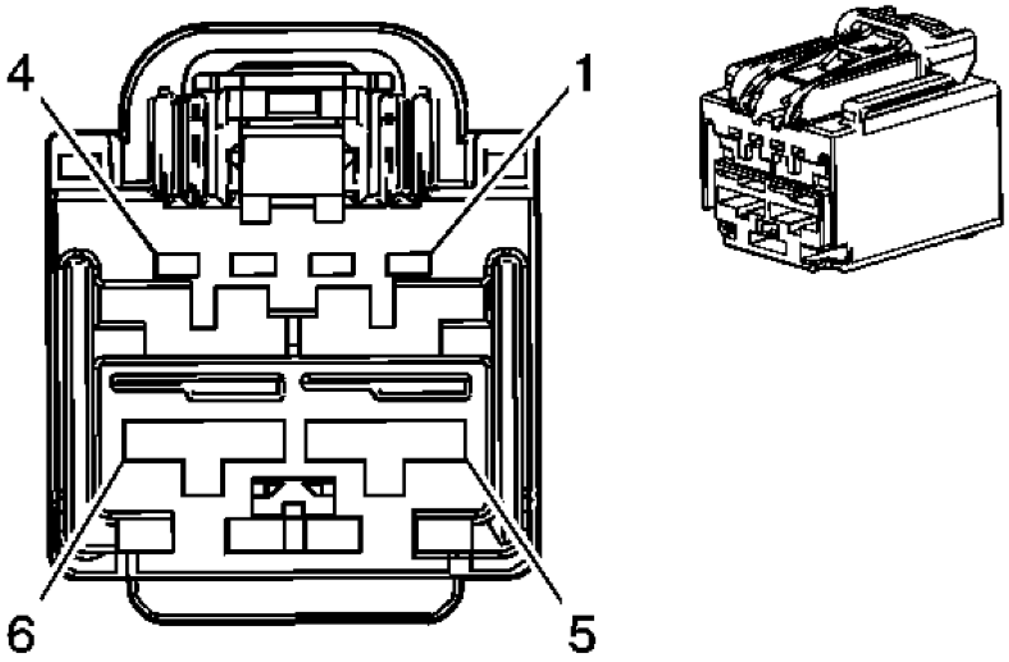


Fig. 1: K8 Blower Motor Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13520671
- Service: 88988512
- Description: 6-Way F GT 150 6.3 Series (BK)

Terminal Part Information

cardiagn.com

- Pin: 3
- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: E/C
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

- Pins: 5, 6
- Terminal/Tray: 7116-4122-02/10
- Core/Insulation Crimp: D/G
- Release Tool: 12094430
- Test Probe: J-35616-42 (RD)

K8 Blower Motor Control Module X1

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.35 GY/BK	754	Blower Motor Speed Control
4	-	-	Not Used
5	5 BK	1450	Ground
6	5 RD/BK	542	Battery Positive Voltage

K8 BLOWER MOTOR CONTROL MODULE X2

cardiagn.com

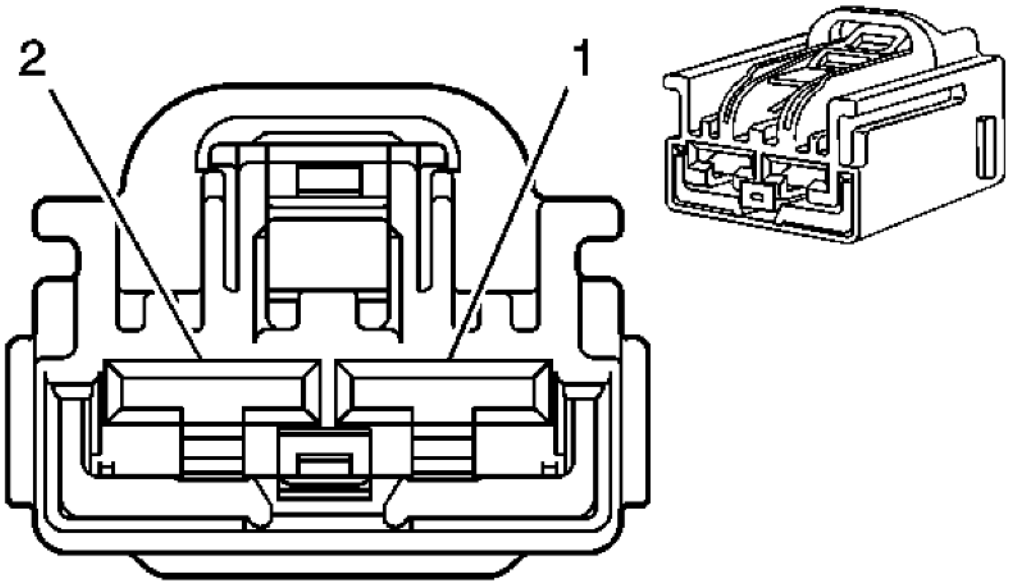


Fig. 2: K8 Blower Motor Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Blower Motor
- OEM: 15226103
- Service: 88988507
- Description: 2-Way F Recepticle 6.3 Series (L-GY)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988507
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

K8 Blower Motor Control Module X2

Pin	Wire	Circuit	Function
1	4 RD	65	Blower Motor Supply Voltage
2	4 BK	5987	Blower Motor Low Control

cardiagn.com

K85 PASSENGER PRESENCE DETECTION MODULE X1

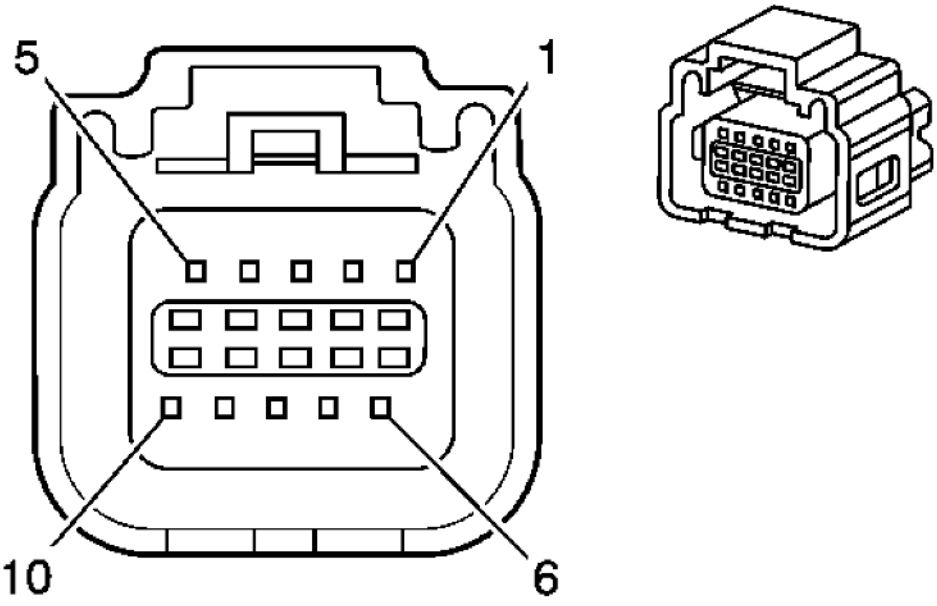


Fig. 3: K85 Passenger Presence Detection Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 13569289
- Service: Servive by Harness - See Part Catalog
- Description: 10-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service with Terminated Lead
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

K85 Passenger Presence Detection Module X1

Pin	Wire	Circuit	Function
1	0.35 RD/WH	2040	Battery Positive Voltage

cardiagn.com

2	0.35 BK	2450	Ground
3	-	-	Not Used
4	0.35 D-GN	5060	Low Speed GMLAN Serial Data
5-10	-	-	Not Used

K85 PASSENGER PRESENCE DETECTION MODULE X2

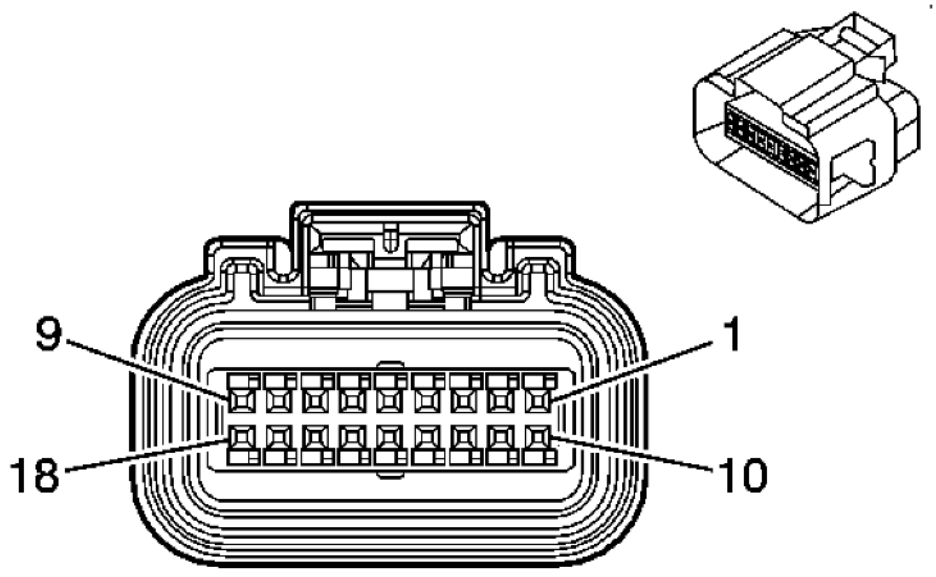


Fig. 4: K85 Passenger Presence Detection Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Presence Detection Sensor
- OEM: 13545457
- Service: Service as Harness - See Part Catalog
- Description: 18-Way F Flexible Printed Circuit Series (BK)

Terminal Part Information

- Terminal/Tray: Service as Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

K85 Passenger Presence Detection Module X2

Pin	Wire	Circuit	Function
1	FW	-	-
2	FW	-	-
3	FW	-	-
4	FW	-	-
5	FW	-	-
6	FW	-	-
7	FW	-	-
8	FW	-	-
9	FW	-	-
10	FW	-	-
11	FW	-	-
12	FW	-	-
13	FW	-	-
4	FW	-	-
15	FW	-	-
16	FW	-	-
17	FW	-	-
18	FW	-	-

K9 BODY CONTROL MODULE X1

cardiagn.com

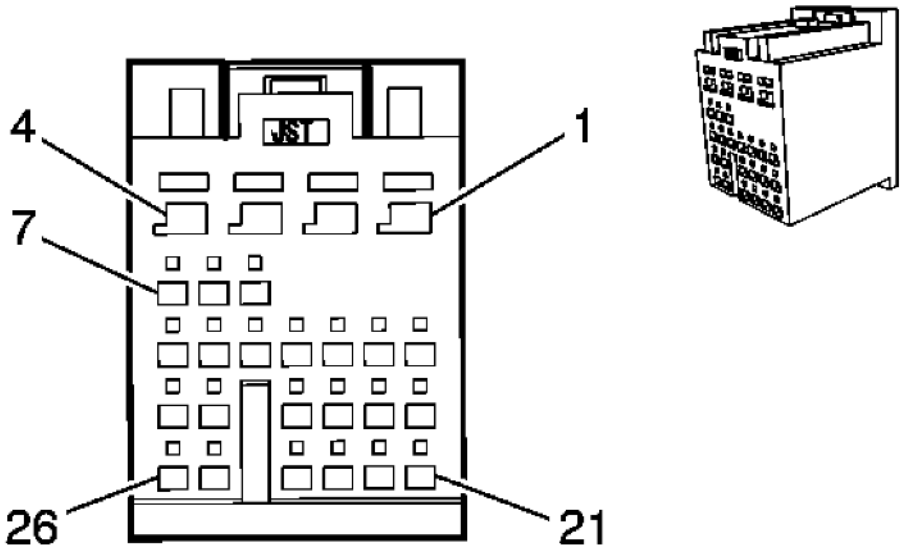


Fig. 5: K9 Body Control Module X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594128
- Service: 19151262
- Description: 26-Way F 0.64 2.8 Series (WH)

Terminal Part Information

- Pins: 1, 4
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 2, 3
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 9, 10, 11, 14, 16, 19, 21, 22, 24, 25, 26
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X1

Pin	Wire	Circuit	Function
1	0.8 BK	1650	Ground
2	2 RD/WH	2540	Battery Positive Voltage
3	2 RD/WH	2740	Battery Positive Voltage
4	0.8 RD/WH	2240	Battery Positive Voltage
5-8	-	-	Not Used
9	0.35 D-GN	7555	Headlamp Switch Signal
10	0.35 L-BU	1134	Park Brake Switch Signal
11	0.35 D-GN	306	Headlamp Switch Headlamps Off Signal/Automatic Headlamp Low Control
12-13	-	-	Not Used
14	0.35 PU	328	Interior lamp Defeat Switch Signal
15	-	-	Not Used
16	0.35 WH	103	Headlamp Switch Headlamps On Signal
17-18	-	-	Not Used
19	0.35 L-BU/BK	853	Low Reference
20	-	-	Not Used
21	0.35 GY	728	Security Indicator Control
22	0.35 L-BU	13	Headlamp Switch Park Lamps Signal
23	-	-	Not Used
24	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
25	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
26	0.35 L-GN	3274	RCDLR Data Receive

K9 BODY CONTROL MODULE X2

cardiagn.com

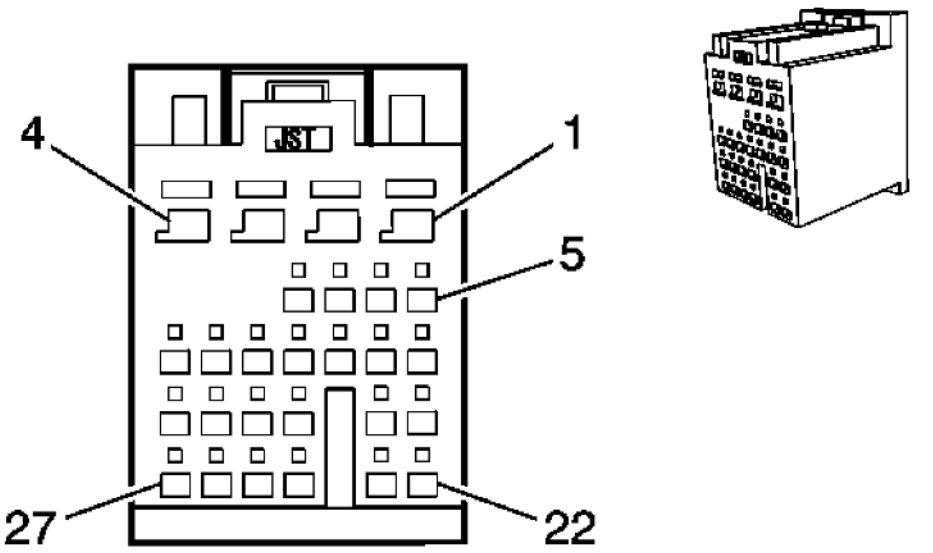


Fig. 6: K9 Body Control Module X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594133
- Service: 19151266
- Description: 27-Way F 0.64 2.8 Series (L-BU)

Terminal Part Information

- Pins: 1, 2, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: Pins 1, 2 - E/A
- Core/Insulation Crimp: Pins 3 - C/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pin: 4
- Terminal/Tray: SNAC-A081T-M2.8/20

cardiagn.com

- Core/Insulation Crimp: A/D
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 7, 8, 10, 13, 14, 15, 16, 19, 21, 22, 23, 24, 25, 26, 27
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X2

Pin	Wire	Circuit	Function
1	0.8 RD/WH	2140	Battery Positive Voltage
2	0.8 BK	1650	Ground
3	1 RD/WH	2940	Battery Positive Voltage
4	3 RD/WH	4040	Battery Positive Voltage
5-6	-	-	Not Used
7	0.35 YE	5361	Brake Pedal Position Sensor Signal
8	0.5 YE	6817	LED Backlight Dimming Control
9	-	-	Not Used
10	0.35 WH	278	Ambient Light Sensor Signal
11-12	-	-	Not Used
13	0.35 GY	5381	5-Volt Reference
14	0.35 L-BU	1788	Traction Control Switch Signal
15	0.35 OG/BK	781	Driver Door Lock Switch Unlock Signal
16	0.35 GY	3273	Low Reference
17-18	-	-	Not Used
19	0.35 PK/BK	780	Driver Door Lock Switch Lock Signal
20	-	-	Not Used
21	0.35 GY	6135	Linear Interconnect Network 4 (without CF5)
22	0.35 D-GN	5060	Low Speed GMLAN Serial Data
23	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
24	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
25	0.35 PK/WH	3272	RCDLR Power
26	0.35 WH	111	Hazard Switch Signal
27	0.35 L-BU/WH	3275	RCDLR Data Transmit

K9 BODY CONTROL MODULE X3

cardiagn.com

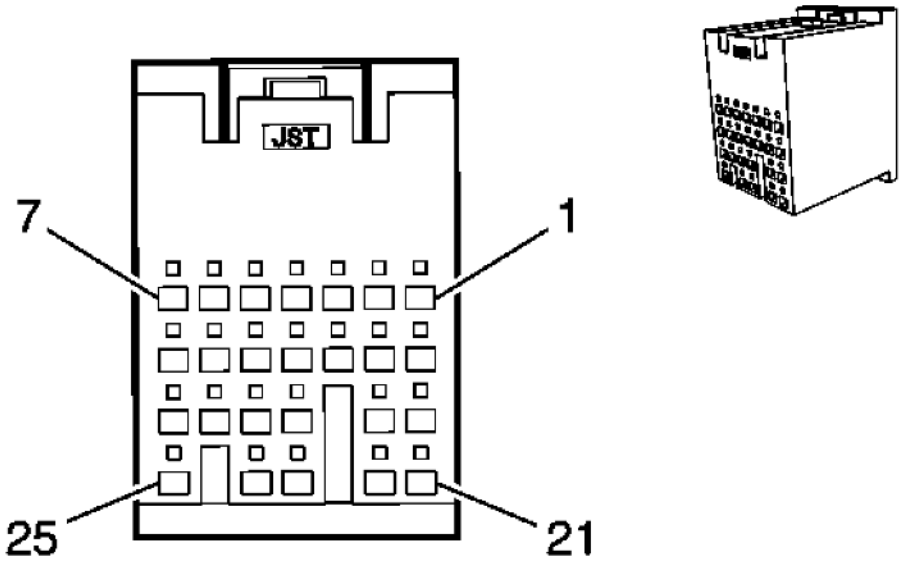


Fig. 7: K9 Body Control Module X3 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594127
- Service: 19151261
- Description: 25-Way F 0.64 Series (L-GN)

Terminal Part Information

- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X3

Pin	Wire	Circuit	Function
1	0.35 D-GN/WH	3277	Immobilizer Ground
2	0.35 L-BU	7533	Linear Interconnect Network 11

cardiagn.com

3	0.35 D-GN	3166	Immobilizer Power
4	0.35 YE	7556	Headlamp Switch Reference Voltage
5	0.35 BN	4	Accessory Voltage
6	0.35 PK	3	Ignition Voltage
7	0.35 YE	143	Accessory Voltage (MYB/MYC)
8	0.35 L-GN	6818	Steering Wheel Control Switch Signal (NZL)
9	0.35 GY	1884	Cruise Control Switch Signal
10	0.35 TN/BK	6009	Low Reference
11	0.35 PU	524	Headlamp Dimmer Switch High Beam Signal
12	0.35 D-GN	663	Left Turn Signal
13	0.35 L-BU	1714	Windshield Wiper Switch Low Signal
14	-	-	Not Used
15	0.35 PK	1020	Ignition Voltage
16	-	-	Not Used
17	0.35 YE	307	Headlamp Switch Flash to Pass Signal
18	0.35 L-GN/WH	3287	Horn Switch Signal
19	-	-	Not Used
20	0.35 L-GN	1715	Windshield Wiper Switch High Signal
21	0.35 PU	5526	Tap Up/Tap Down Switch Signal (MYB/MYC)
22	0.35 WH/BK	1073	5-Volt Reference
23	-	-	Not Used
24	0.35 TN	664	Right Turn Signal
25	0.35 PK	94	Windshield Washer Switch Signal

K9 BODY CONTROL MODULE X4

cardiagn.com

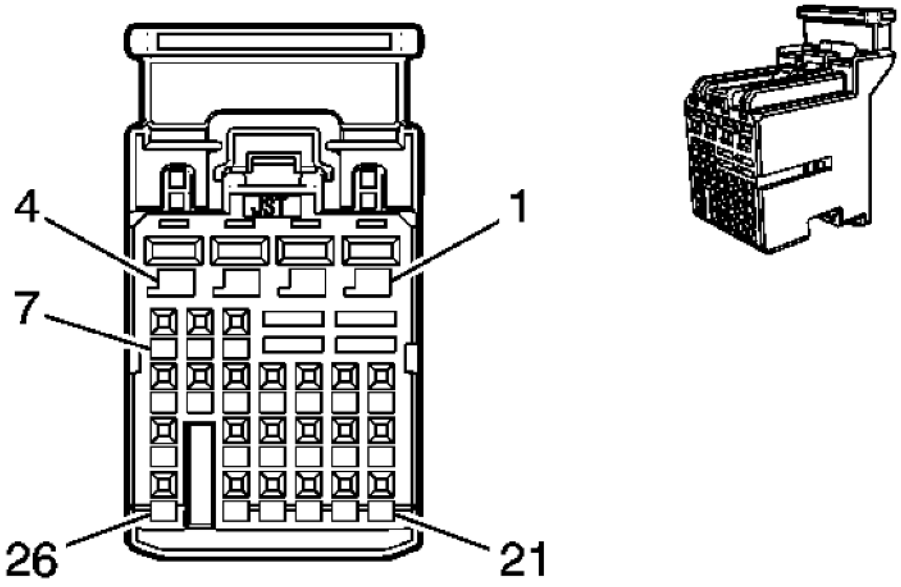


Fig. 8: K9 Body Control Module X4 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594129
- Service: 19151263
- Description: 26-Way F 0.64 2.8 Series (BK)

Terminal Part Information

- Pins: 1, 2, 3, 4
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 5, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X4

Pin	Wire	Circuit	Function
1	0.8 D-BU	7539	DRL Control
2	0.8 L-BU	7538	DRL Control
3	0.5 D-BU/WH	1315	Right Front Turn Signal Lamp Supply Voltage
4	0.5 D-GN/WH	1335	Right Rear Turn Signal Lamp Supply Voltage
5	0.5 BN/WH	309	Right Park Lamp Supply Voltage
6	0.5 PU	709	Left Park Lamp Supply Voltage
7	0.5 BN/L-BU	6993	Marker Lamps Control
8-10	-	-	Not Used
11	0.5 WH	5065	Center High Mounted Stop Lamp (CHMSL) Control
12	0.35 TN	755	RAP Relay Coil Control
13	0.5 D-GN/YE	6846	Rear License Lamp Control
14	0.35 OG	2268	Washer Fluid Pump Relay Control
15	0.35 YE	5199	Ignition Voltage
16	0.35 GY	91	Wiper Relay Control
17	0.35 YE	196	Windshield Wiper Motor Park Switch Signal
18	0.5 WH	5075	Current Sensor Signal
19	-	-	Not Used
20	0.5 RD/WH	2340	Battery Positive Voltage
21	0.5 PK	5076	Current Sensor Voltage
22	0.35 D-BU	5985	Serial Data Wake - Up Signal
23	0.35 L-BU	5986	Serial Data Communication Enable
24	0.35 PK/BK	109	Hood Ajar Switch Signal
25	-	-	Not Used
26	0.5 BK	2550	Ground

K9 BODY CONTROL MODULE X5

cardiagn.com

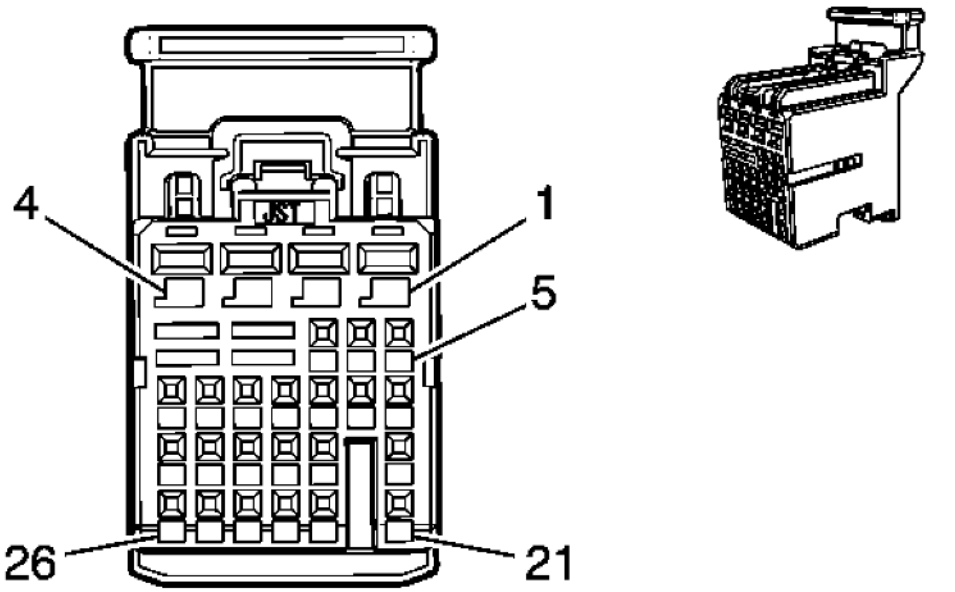


Fig. 9: K9 Body Control Module X5 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594130
- Service: 19151264
- Description: 26-Way F 0.64 2.8 Series (BN)

Terminal Part Information

- Pins: 1, 2, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pin: 4
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 6, 7, 10, 11, 12, 13, 18, 19, 24
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X5

Pin	Wire	Circuit	Function
1	0.5 YE/BK	1334	Left Rear Turn Signal Lamp Supply Voltage
2	0.5 L-BU/WH	1314	Left Front Turn Signal Lamp Supply Voltage
3	0.8 RD/WH	3840	Battery Positive Voltage
4	3 RD/WH	3440	Battery Positive Voltage
5	-	-	Not Used
6	0.5 BN	5077	Low Reference
7	0.5 BN/GY	6995	Marker Lamps Control
8-9	-	-	Not Used
10	0.35 D-GN/WH	1317	Fog Lamp Relay Control
11	0.35 TN	6188	Rear Compartment Lid Release Control
12	0.35 L-BU/WH	6311	Brake Pedal Switch Signal
13	0.35 PK/WH	1970	HID Headlamp Relay Control
14-17	-	-	Not Used
18	0.5 TN/WH	1969	Headlamp High Beam Relay Control
19	0.35 TN	28	Horn Relay Control
20-23	-	-	Not Used
24	0.35 TN	860	Front Windshield Wiper Switch High Signal
25-26	-	-	Not Used

K9 BODY CONTROL MODULE X6

cardiagn.com

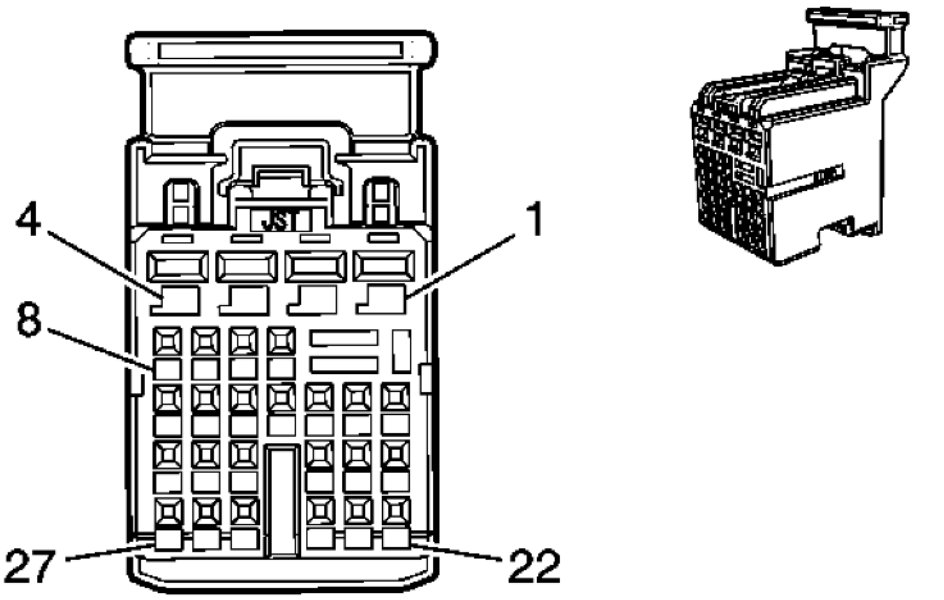


Fig. 10: K9 Body Control Module X6 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594134
- Service: 19151267
- Description: 27-Way F 0.64 2.8 Series (PK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: C/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 2, 3, 4
- Terminal/Tray: SNAC-A081T-M2.8/20
- Core/Insulation Crimp: A/D

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 5, 7, 10, 14, 16, 24, 25
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X6

Pin	Wire	Circuit	Function
1	1 GY	5911	Driver Door Lock Motor Unlock Control
2	2 GY	295	Door Lock Actuator Unlock Control
3	2 BK	1650	Ground
4	2 TN	294	Door Lock Actuator Lock Control
5	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal
6	-	-	Not Used
7	0.35 PU	7558	Accent Lamps Control (SRK/SRM)
8-9	-	-	Not Used
10	0.35 D-GN	6134	Linear Interconnect Network 3
11-13	-	-	Not Used
14	0.35 D-BU	6189	Rear Compartment Lid Release Switch
15	-	-	Not Used
16	0.35 BN	6132	Linear Interconnect Network 1 (CF5)
17-23	-	-	Not Used
24	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
25	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
26-27	-	-	Not Used

K9 BODY CONTROL MODULE X7

cardiagn.com

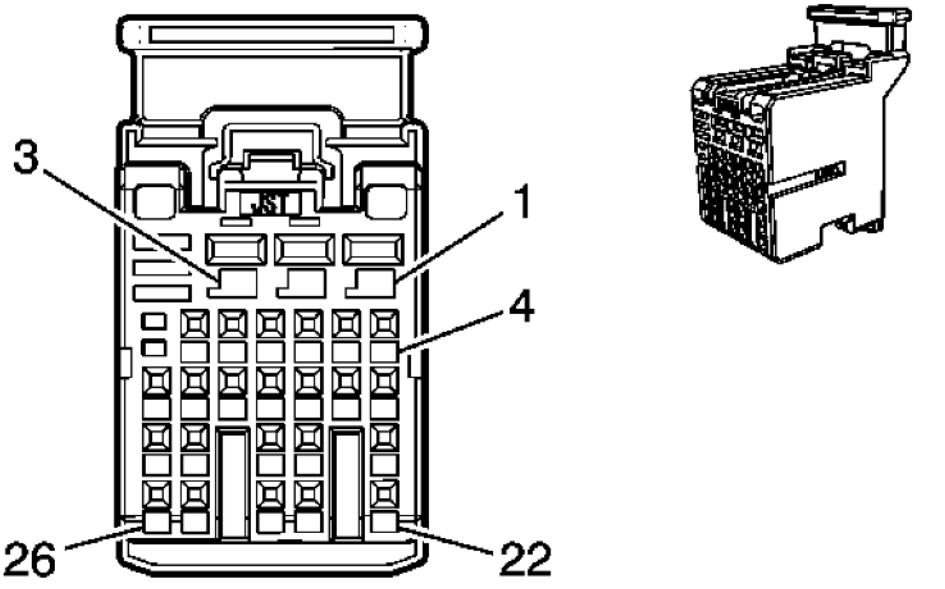


Fig. 11: K9 Body Control Module X7 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13594132
- Service: 19151265
- Description: 26-Way F 0.64 2.8 Series (GY)

Terminal Part Information

- Pins: 1, 3
- Terminal/Tray: SNAC-A061T-M2.8/20
- Core/Insulation Crimp: E/A
- Release Tool: 12094429
- Test Probe: J-35616-35 (VT)

- Pins: 6, 7, 9, 15, 19
- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

K9 Body Control Module X7

Pin	Wire	Circuit	Function
1	0.5 GY	157	Courtesy Lamp Control
2	-	-	Not Used
3	0.5 L-GN	24	Backup Lamp Supply Voltage
4-5	-	-	Not Used
6	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control (MYB/MYC)
7	0.5 OG/BK	737	Rear Compartment Lamp Control
8	-	-	Not Used
9	0.5 YE	6817	LED Backlight Dimming Control
10-14	-	-	Not Used
15	0.35 D-GN	3270	Driver Door Lock Status Signal
16-18	-	-	Not Used
19	0.35 WH	156	Courtesy Lamp Switch Signal
20-26	-	-	Not Used

M37 MODE DOOR ACTUATOR

cardiagn.com

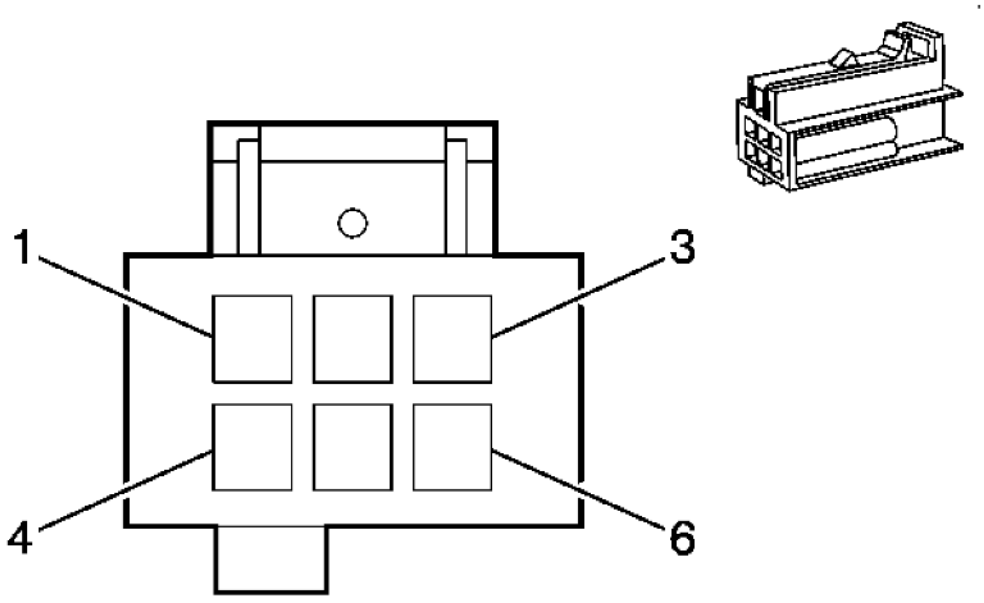


Fig. 12: M37 Mode Door Actuator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pins 2 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M37 Mode Door Actuator

Pin	Wire	Circuit	Function
1	0.35 D-BU	3167	Mode Door Stepper Motor Control 3

cardiagn.com

2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 GY	3165	Mode Door Stepper Motor Control 1
4	0.35 BN	3168	Mode Door Stepper Motor Control 4
5	-	-	Not Used
6	0.35 D-GN	3166	Mode Door Stepper Motor Control 2

M40 REAR COMPARTMENT LID LATCH

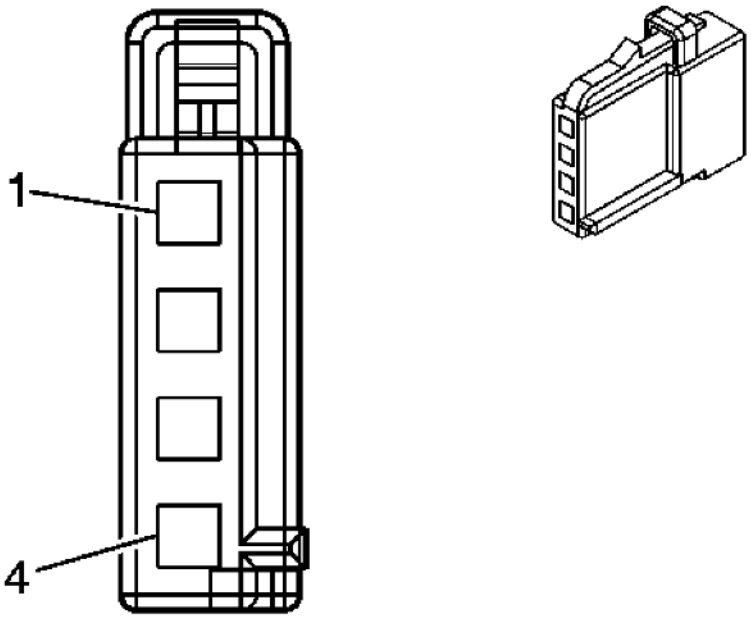


Fig. 13: M40 Rear Compartment Lid Latch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15324229
- Service: 15306167
- Description: 4-Way F Timer Micro-Pack Series (BK)

Terminal Part Information

- Terminal/Tray: 962943-5/16

cardiagn.com

- Core/Insulation Crimp: Pins 1, 2 - E/A
- Core/Insulation Crimp: Pin 4 - See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

M40 Rear Compartment Lid Latch

Pin	Wire	Circuit	Function
1	0.5 L-BU	6795	Rear Compartment Lid Release Control 2
2	0.5 BK	2350	Ground
3	-	-	Not Used
4	0.35 PK/BK	1303	Rear Compartment Lid Ajar Switch Signal

M46 AIR RECIRCULATION DOOR MOTOR

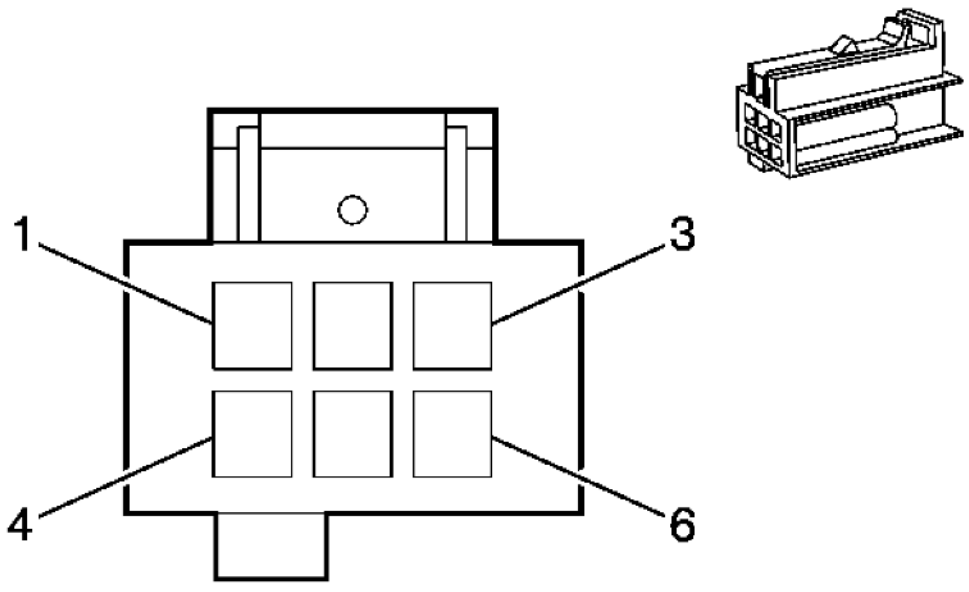


Fig. 14: M46 Air Recirculation Door Motor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC

cardiagn.com

- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pin 2 - J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M46 Air Recirculation Door Motor

Pin	Wire	Circuit	Function
1	0.35 D-BU/WH	3173	Air Inlet Door Stepper Motor Control 1
2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 BN/WH	3174	Air Inlet Door Stepper Motor Control 2
4	0.35 YE	3175	Air Inlet Door Stepper Motor Control 3
5	-	-	Not Used
6	0.35 WH	3176	Air Inlet Door Stepper Motor Control 4

M47 REVERSE INHIBIT SOLENOID ACTUATOR (M10)

cardiagn.com

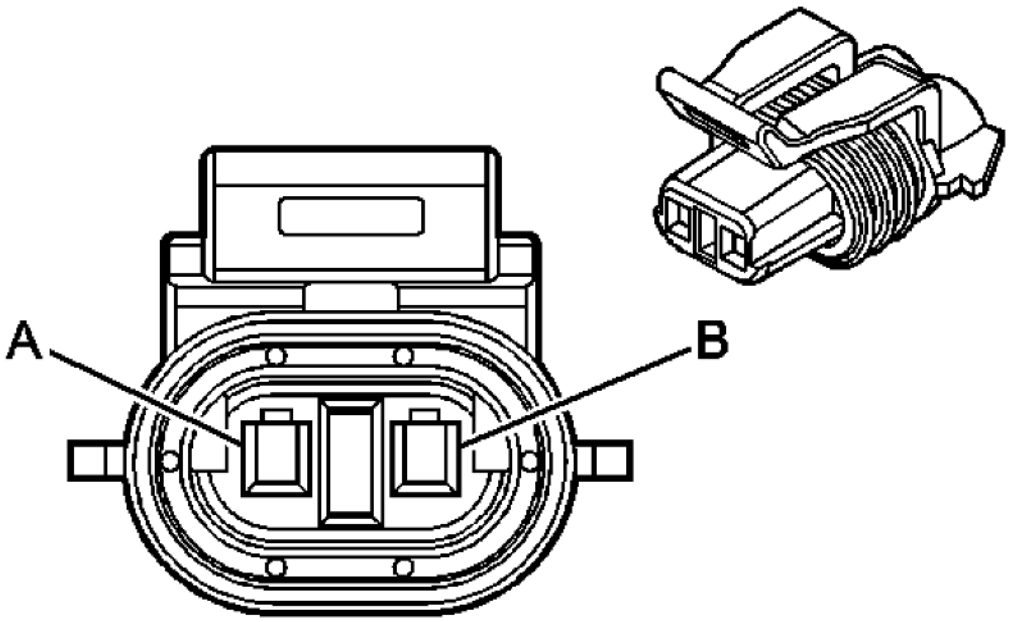


Fig. 15: M47 Reverse Inhibit Solenoid Actuator (M10) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12052646
- Service: 12101857
- Description: 2-Way F Metri-Pack 150 Sealed (WH)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

M47 Reverse Inhibit Solenoid Actuator (M10)

Pin	Wire	Circuit	Function
A	0.5 OG	5494	Reverse Lockout Solenoid Control
B	0.5 PK	239	Ignition Voltage

cardiagn.com

M50D SEAT FRONT VERTICAL MOTOR - DRIVER (AMM)

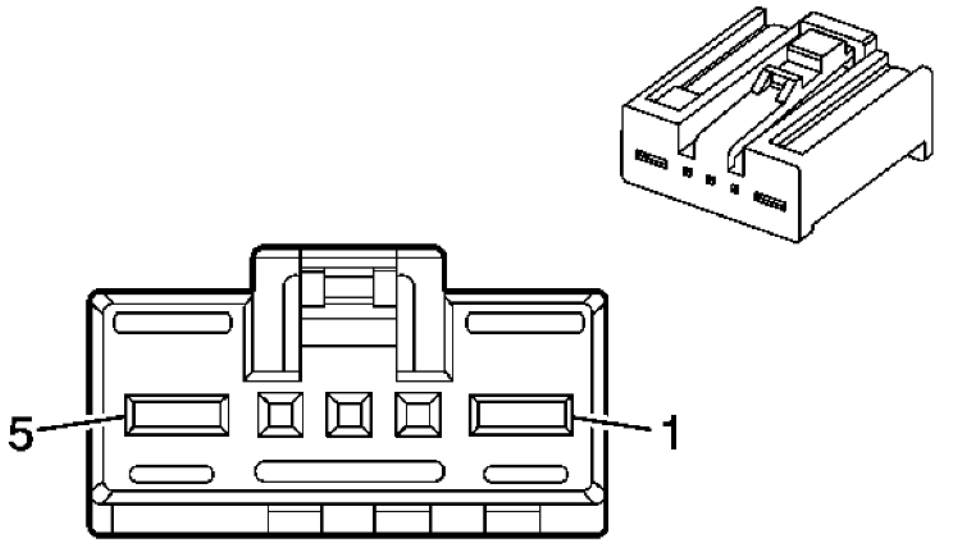


Fig. 16: M50D Seat Front Vertical Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M50D Seat Front Vertical Motor - Driver (AMM)

Pin	Wire	Circuit	Function

cardiagn.com

1	3 D-GN	286	Driver Seat Front Vertical Motor Up Control
2-4	-	-	Not Used
5	3 D-BU	287	Driver Seat Front Vertical Motor Down Control

M51D SEAT HORIZONTAL MOTOR - DRIVER (AMM)

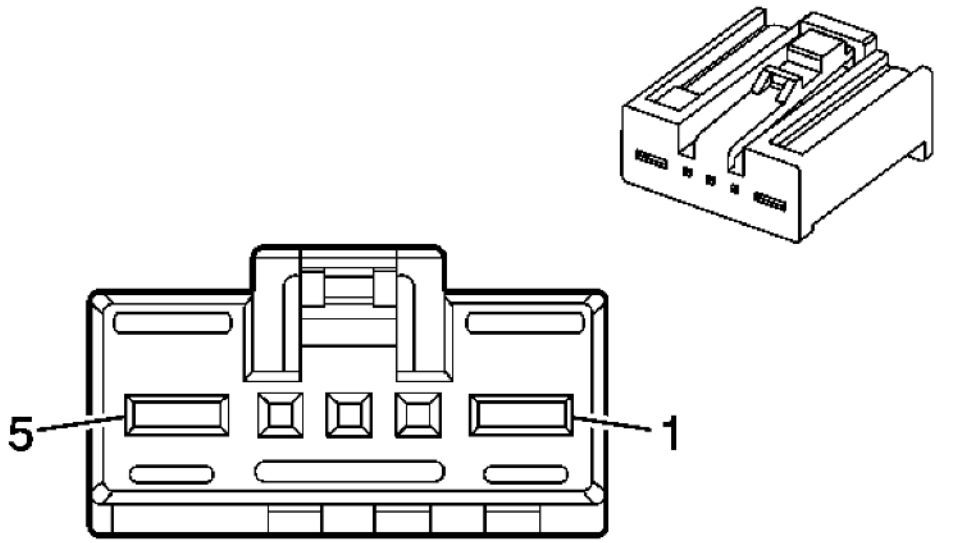


Fig. 17: M51D Seat Horizontal Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available

cardiagn.com

- Release Tool: Not Available
- Test Probe: Not Available

M51D Seat Horizontal Motor - Driver (AMM)

Pin	Wire	Circuit	Function
1	3 TN	285	Driver Seat Horizontal Motor Forward Control
2-4	-	-	Not Used
5	3 L-GN	284	Driver Seat Horizontal Motor Rearward Control

M55D SEAT REAR VERTICAL MOTOR - DRIVER (AMM)

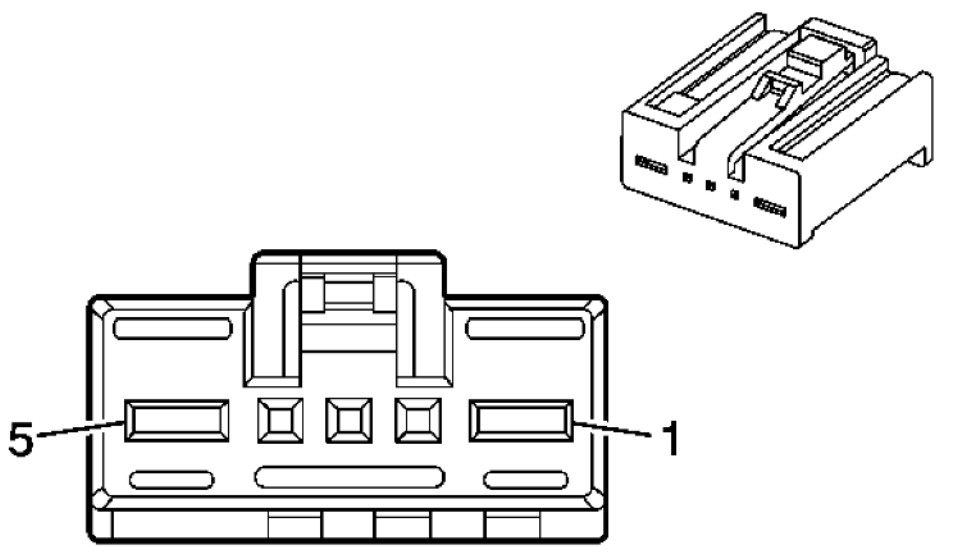


Fig. 18: M55D Seat Rear Vertical Motor - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1

cardiagn.com

- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M55D Seat Rear Vertical Motor - Driver (AMM)

Pin	Wire	Circuit	Function
1	3 L-BU	283	Driver Seat Rear Vertical Motor Down Control
2-4	-	-	Not Used
5	3 YE	282	Driver Seat Rear Vertical Motor Up Control

M56D SEAT RECLINE MOTOR - DRIVER

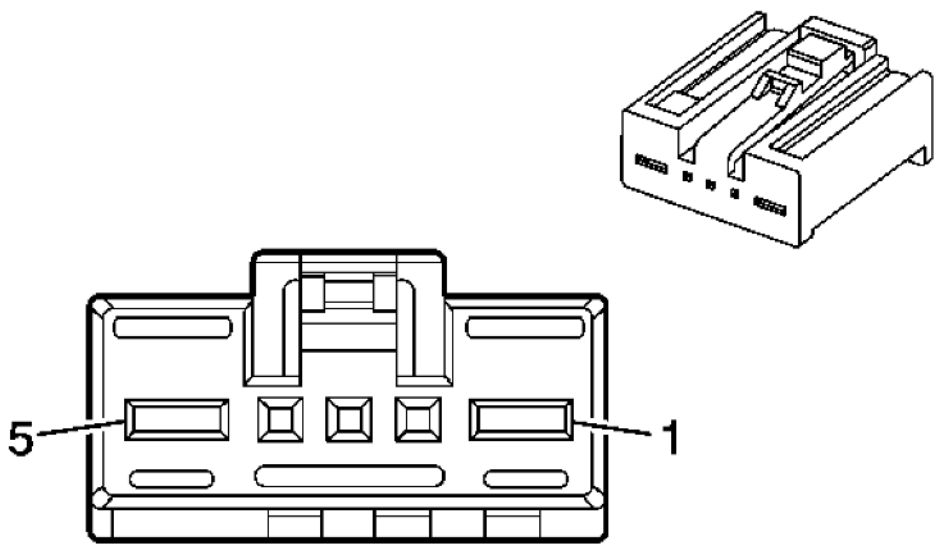


Fig. 19: M56D Seat Recline Motor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Driver Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M56D Seat Recline Motor - Driver

Pin	Wire	Circuit	Function
1	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
2-4	-	-	Not Used
5	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control

M56P SEAT RECLINE MOTOR - PASSENGER

cardiagn.com

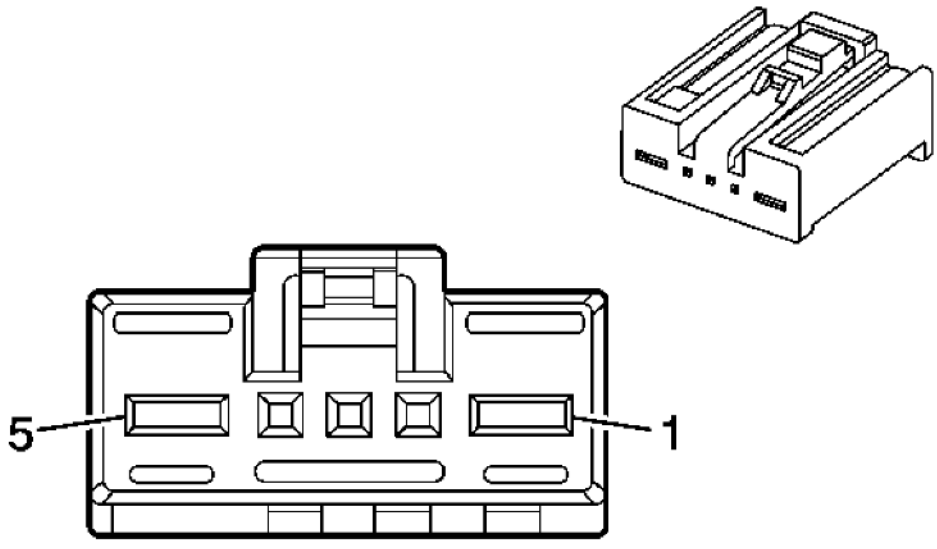


Fig. 20: M56P Seat Recline Motor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Seat
- OEM: 1379217-1
- Service: Service by Harness - See Part Catalog
- Description: 5-Way F MQS/MCP Mixed Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M56P Seat Recline Motor - Passenger

Pin	Wire	Circuit	Function
1	3 D-BU/YE	77	Passenger Seat Recline Motor Rearward Control

cardiagn.com

2-4	-	-	Not Used
5	3 D-GN/YE	76	Passenger Seat Recline Motor Forward Control

M6 AIR TEMPERATURE DOOR ACTUATOR

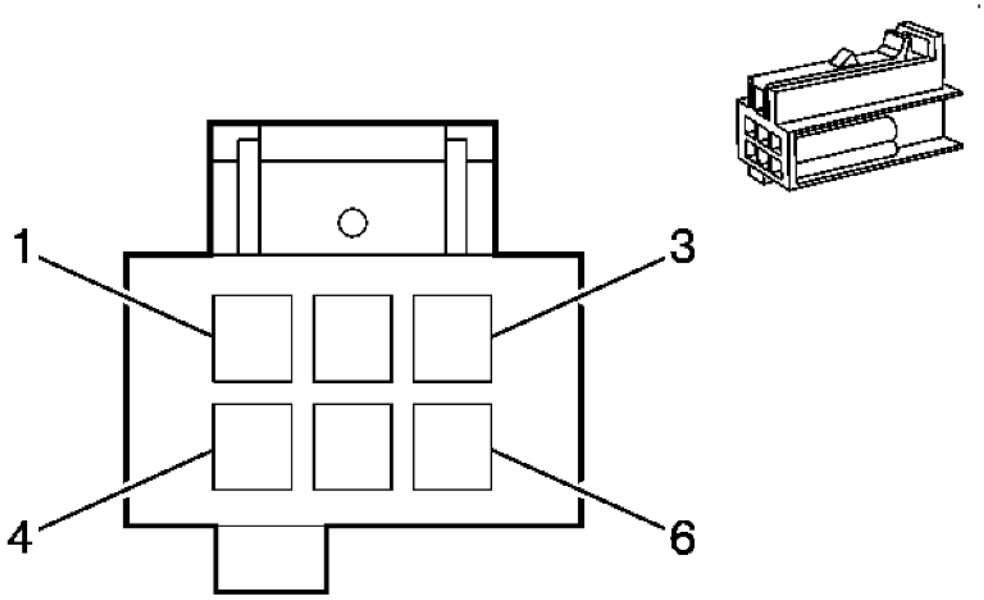


Fig. 21: M6 Air Temperature Door Actuator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: HVAC
- OEM: 15338980
- Service: Service by Harness - See Part Catalog
- Description: 6-Way F 0.64 MQS Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 6 - H/H
- Core/Insulation Crimp: Pin 2 - J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

M6 Air Temperature Door Actuator

Pin	Wire	Circuit	Function
1	0.35 TN/BK	3169	Temp Door Stepper Motor Control 1
2	0.5 OG	7572	HVAC Motor Supply Voltage
3	0.35 PU	3170	Temp Door Stepper Motor Control 2
4	0.35 L-GN	3171	Temp Door Stepper Motor Control 3
5	-	-	Not Used
6	0.35 L-BU	3172	Temp Door Stepper Motor Control 4

M64 STARTER MOTOR X1

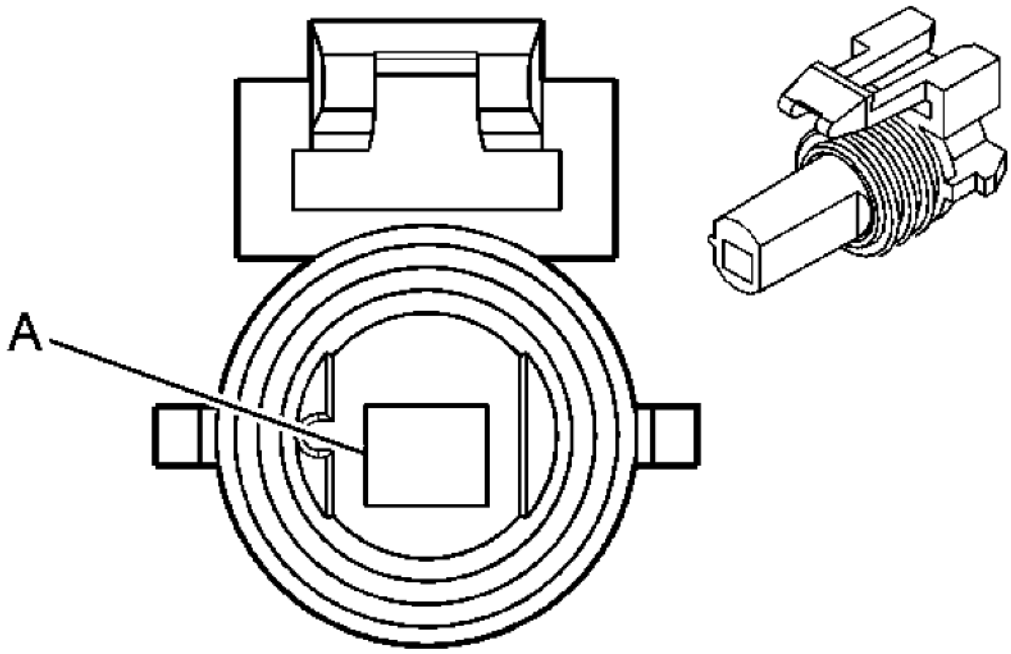


Fig. 22: M64 Starter Motor X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine

cardiagn.com

- OEM: 12089916
- Service: 12101763
- Description: 1-Way F Metri-Pack 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12129493/2
- Core/Insulation Crimp: 4/5
- Release Tool: 12094430
- Test Probe: J-35616-4A (PU)

M64 Starter Motor X1

Pin	Wire	Circuit	Function
A	3 PU	6	Starter Solenoid Crank Voltage

M64 STARTER MOTOR X2

Connector Part Information

- Terminal: 12176593
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

M64 Starter Motor X2

Pin	Wire	Circuit	Function
A	32 RD	2	Battery Positive Voltage

M7 TRANSMISSION SHIFT LOCK CONTROL SOLENOID ACTUATOR (MYB OR MYC)

cardiagn.com

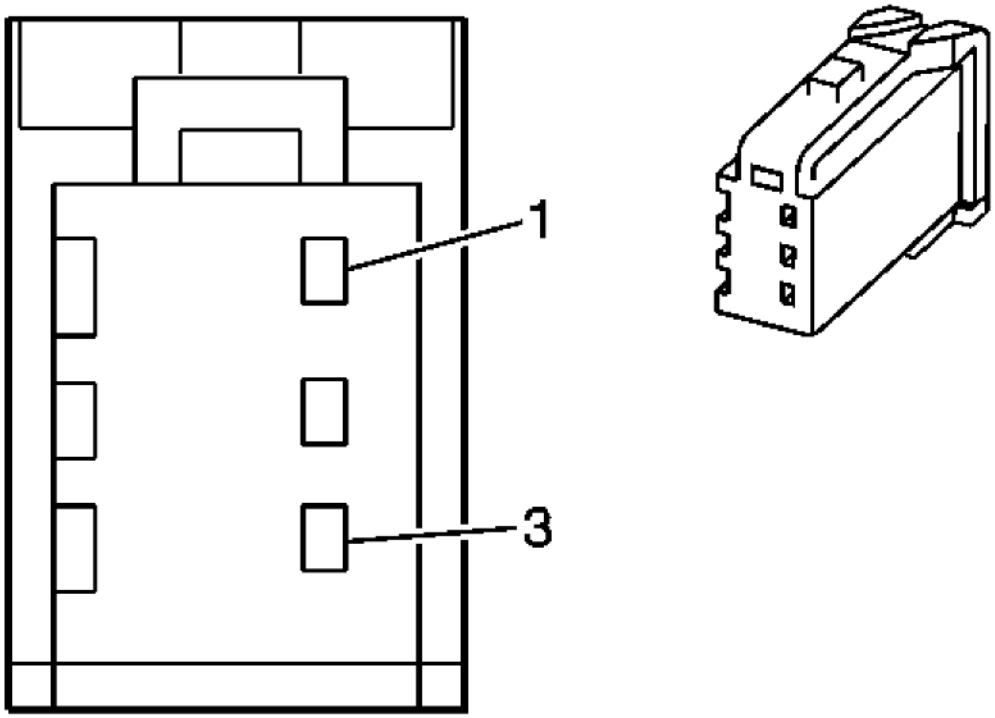


Fig. 23: M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Automatic Transmission Shift Lever Jumper Harness
- OEM: 90000223
- Service: Service by Harness - See Part Catalog
- Description: 3-Way F WH

Terminal Part Information

- Terminal/Tray: Service by Harness See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

M7 Transmission Shift Lock Control Solenoid Actuator (MYB or MYC)

cardiagn.com

Pin	Wire	Circuit	Function
1	0.5 BK	1550	Ground
2	-	-	Not Used
3	0.35 TN	7553	Automatic Transmission Shift Lock Control Solenoid Control

M74D WINDOW MOTOR - DRIVER

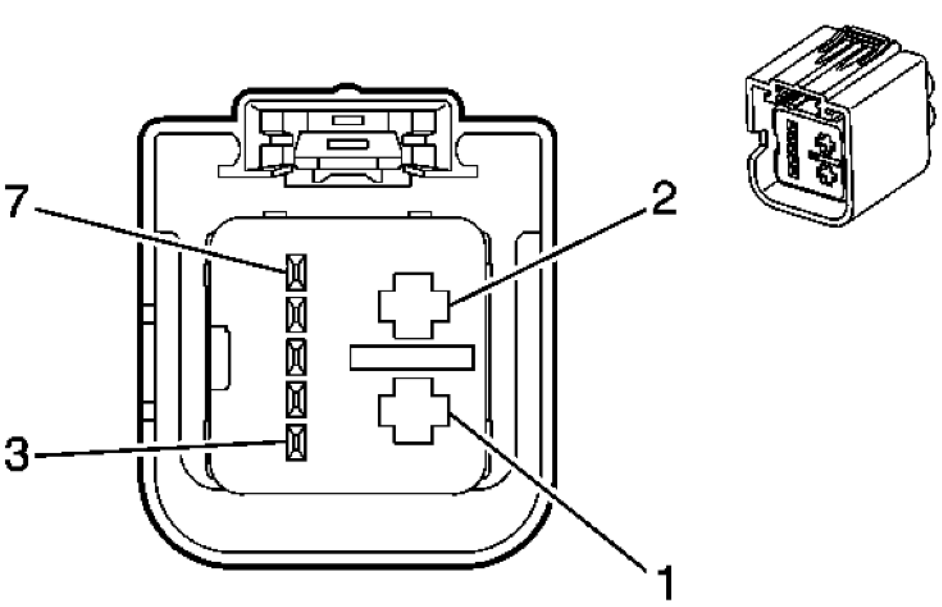


Fig. 24: M74D Window Motor - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13595813
- Service: Service by Harness - See Part Catalog
- Description: 7-Way F Kaizen 0.64 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 2

cardiagn.com

- Terminal/Tray: 4-964273-1/15
- Core/Insulation Crimp: C/5
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 3, 4, 5, 6, 7
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M74D Window Motor - Driver

Pin	Wire	Circuit	Function
1	3 BK	850	Ground
2	3 RD/WH	1240	Battery Positive Voltage
3	0.35 TN	1300	Power Window Master Switch Left Front Up Signal
4	0.35 D-GN	6134	Linear Interconnect Network 3
5	0.35 L-GN/RD	7628	Power Window Switch Express Signal
6	0.35 GY/BK	745	Left Front Door Ajar Switch Signal
7	0.35 GY	1136	Power Window Master Switch Left Front Down Signal

M74P WINDOW MOTOR - PASSENGER

cardiagn.com

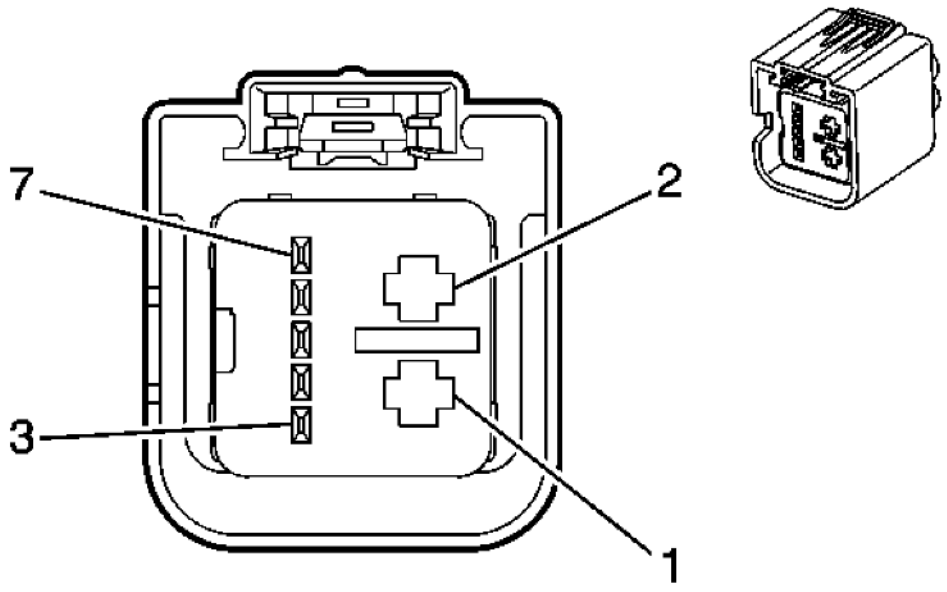


Fig. 25: M74P Window Motor - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13595813
- Service: Service by Harness - See Part Catalog
- Description: 7-Way F Kaizen 0.64 2.8 Timer Series, Sealed (BK)

Terminal Part Information

- Pins: 1, 2
- Terminal/Tray: 4-964273-1/15
- Core/Insulation Crimp: C/5
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 3, 4, 5, 6, 7
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M74P Window Motor - Passenger

Pin	Wire	Circuit	Function
1	3 BK	2350	Ground
2	3 RD/WH	1240	Battery Positive Voltage
3	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal
4	0.35 D-GN	6134	Linear Interconnect Network 3
5	0.35 PU	2765	Power Window Switch Right Front Express Signal
6	0.35 TN/WH	746	Right Front Door Ajar Switch Signal
7	0.35 TN	167	Power Window Master Switch Right Front Down Signal

M75 WINDSHIELD WIPER MOTOR

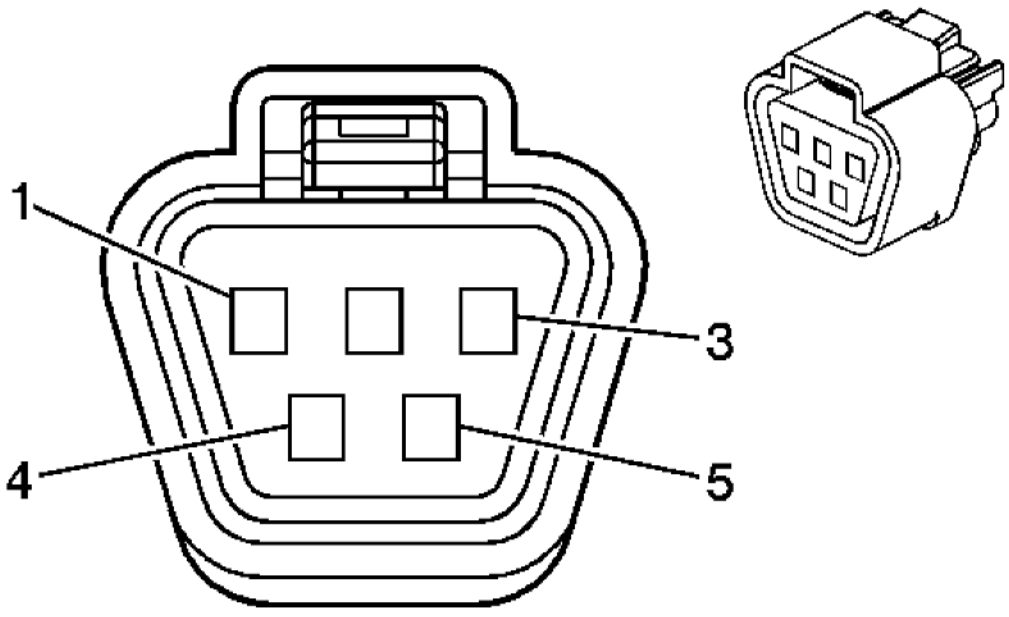


Fig. 26: M75 Windshield Wiper Motor Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Forward Lamp
- OEM: 15316488
- Service: 19149298
- Description: 5-Way F 090 Series, Sealed (BK)

Terminal Part Information

- Pin: 1
- Terminal/Tray: 8100-0594/6
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: 15315247
- Test Probe: J-35616-14 (GN)

- Pins: 3, 4, 5
- Terminal/Tray: 7116-4027/11
- Core/Insulation Crimp: 2/5
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

M75 Windshield Wiper Motor

Pin	Wire	Circuit	Function
1	0.35 YE	196	Windshield Wiper Motor Park Switch Signal
2	-	-	Not Used
3	2 PU	92	Windshield Wiper Motor High Speed
4	2 BK	1350	Ground
5	2 D-GN	95	Windshield Wiper Motor Low Speed

M93 IGNITION CYLINDER LOCK CONTROL SOLENOID ACTUATOR (MYB OR MYC)

cardiagn.com

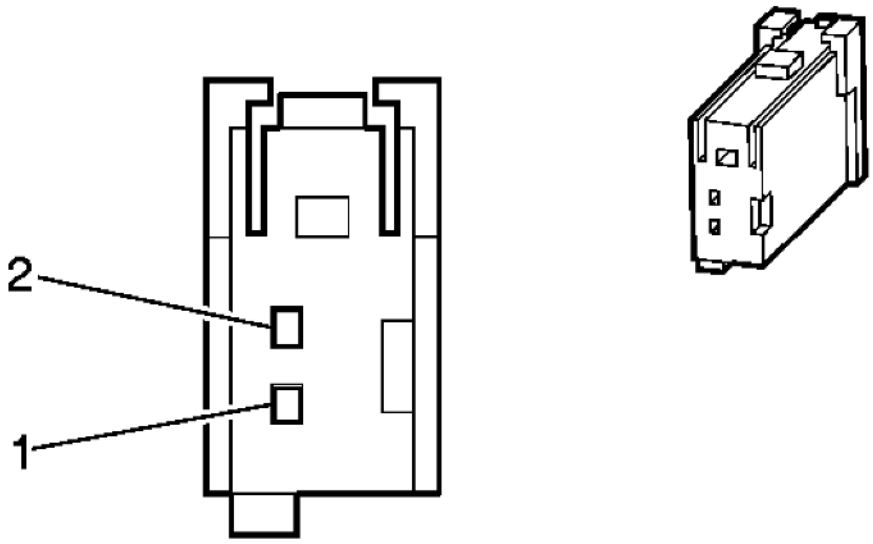


Fig. 27: M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

M93 Ignition Cylinder Lock Control Solenoid Actuator (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.35 YE	143	Accessory Voltage
2	0.35 PU/WH	5905	Key Capture Signal

cardiagn.com

P12A HORN - HIGH NOTE

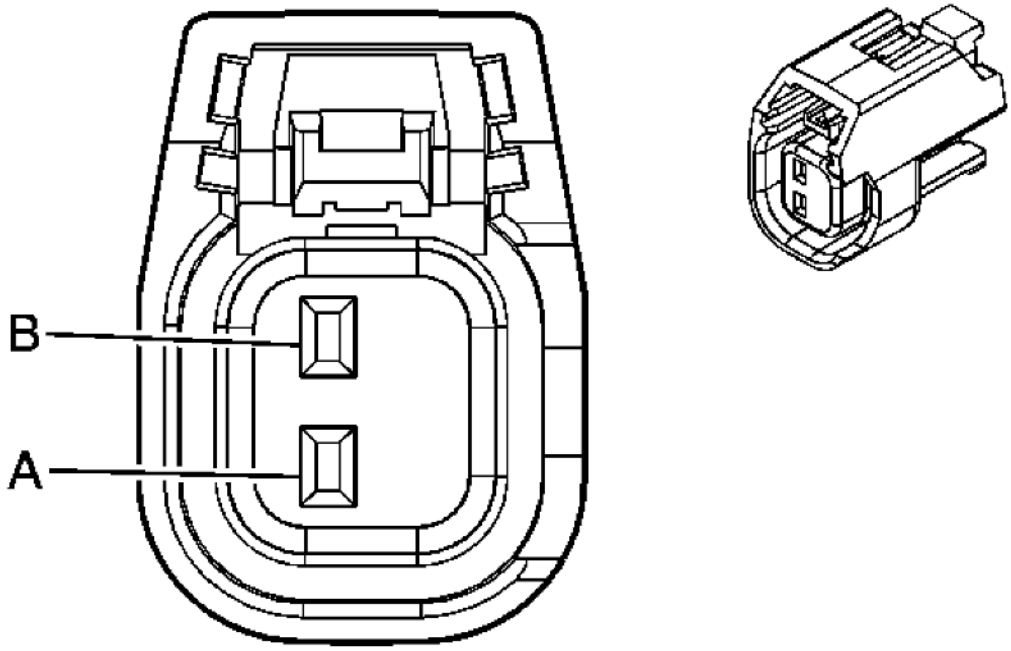


Fig. 28: P12A Horn - High Note Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15497399
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P12A Horn - High Note

Pin	Wire	Circuit	Function

cardiagn.com

A	0.8 D-GN	29	Horn Control
B	0.8 BK	1150	Ground

P12B HORN - LOW NOTE

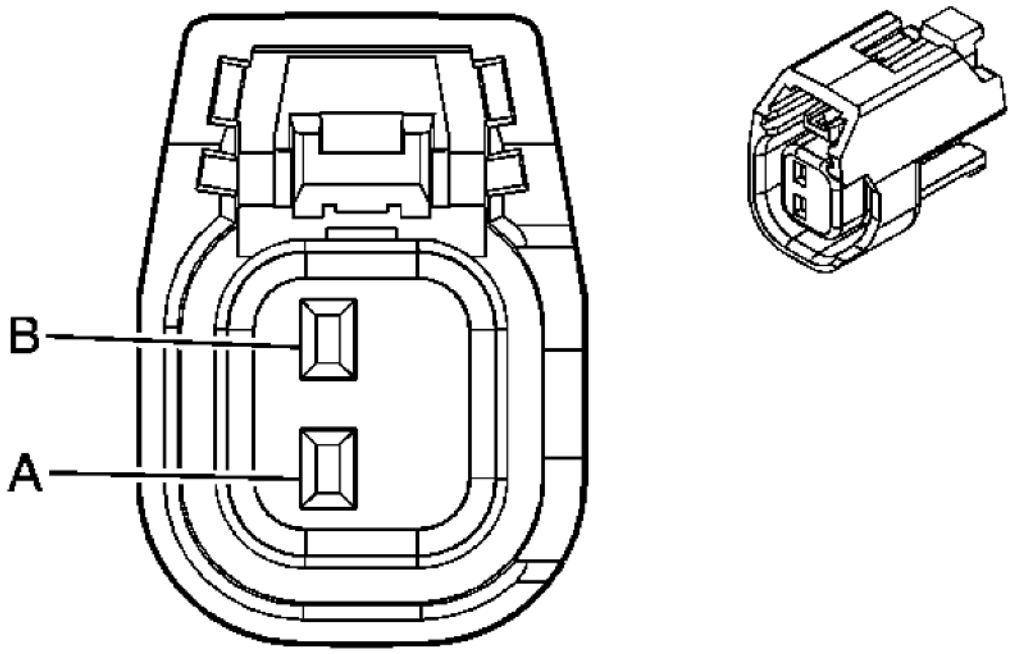


Fig. 29: P12B Horn - Low Note Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 15497399
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: 2/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

P12B Horn - Low Note

Pin	Wire	Circuit	Function
A	0.8 D-GN	29	Horn Control
B	0.8 BK	1150	Ground

P14 PASSENGER AIR BAG DISABLE INDICATOR

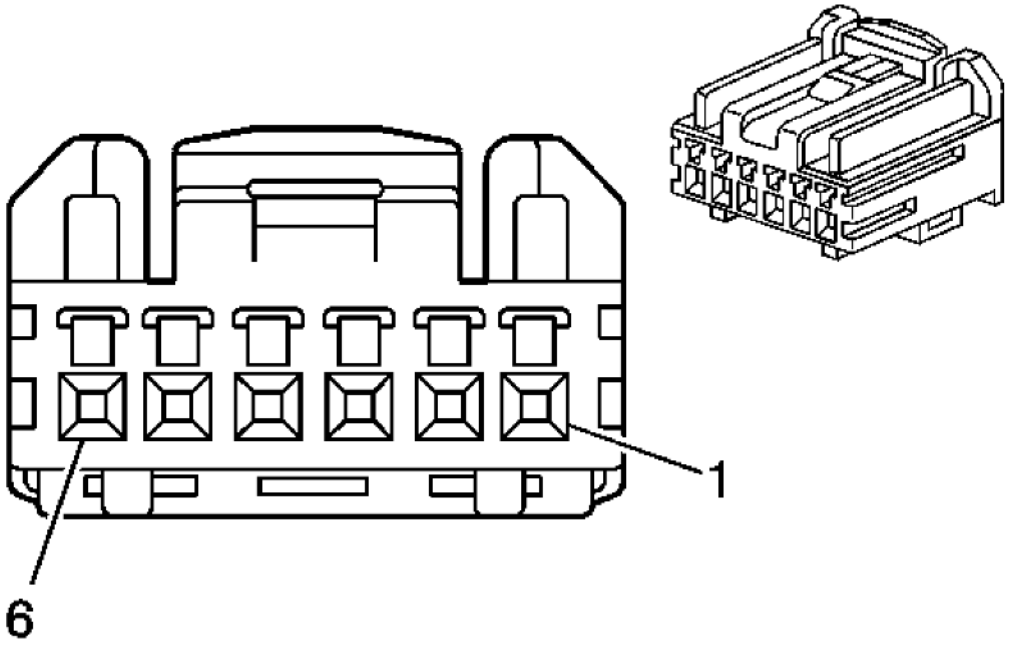


Fig. 30: P14 Passenger Air Bag Disable Indicator Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13608102
- Service: 19153174
- Description: 6-Way F 1.2 HCM Series (WH)

Terminal Part Information

- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J

cardiagn.com

- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

P14 Passenger Air Bag Disable Indicator

Pin	Wire	Circuit	Function
1	0.35 D-BU	2307	Passenger Air Bag On Indicator Control
2	0.35 BK	1550	Ground
3	0.35 D-GN	2308	Passenger Air Bag Off Indicator Control
4	0.35 PK	339	Ignition Voltage
5	0.35 PU	5234	Front Passenger Seat Belt Indicator Control
6	-	-	Not Used

P16 INSTRUMENT CLUSTER

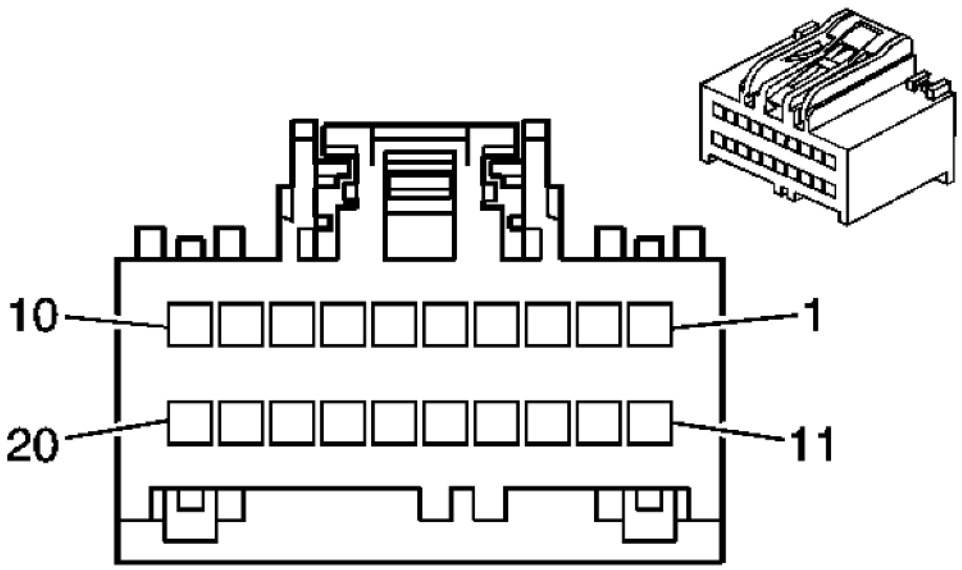


Fig. 31: P16 Instrument Cluster Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel

cardiagn.com

- OEM: 15489824
- Service: 15126711
- Description: 20-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P16 Instrument Cluster

Pin	Wire	Circuit	Function
1	0.35 D-GN	5060	Low Speed GMLAN Serial Data
2-3	-	-	Not Used
4	0.35 D-GN/WH	1358	DIC Switch Signal
5	0.35 BN	897	Low Reference
6	0.35 YE	61	Low Reference
7	0.35 D-GN/WH	636	Ambient Air Temperature Sensor Signal
8-9	-	-	Not Used
10	0.5 BK	1650	Ground
11-15	-	-	Not Used
16	0.35 PK	893	DIC Select Menu Switch Signal
17	0.35 BN/WH	419	MIL Control
18	-	-	Not Used
19	0.35 PK	139	Ignition 1 Voltage
20	0.5 RD/WH	2840	Battery Positive Voltage

P19A SPEAKER - CENTER INSTRUMENT PANEL (UQA)

cardiagn.com

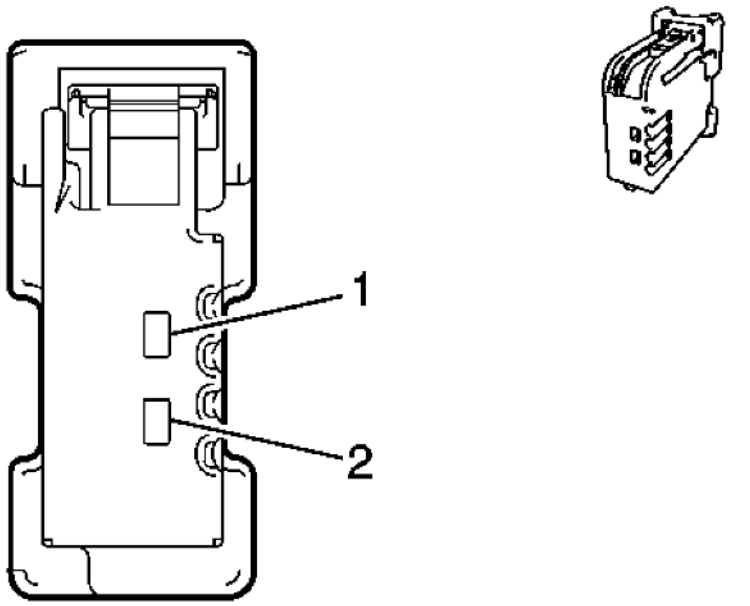


Fig. 32: P19A Speaker - Center Instrument Panel (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13682170
- Service: 13505908
- Description: 2-Way F 1.5 Series (GN)

Terminal Part Information

- Terminal/Tray: 8240-0128/22
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19A Speaker - Center Instrument Panel (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU	1960	Front Center Speaker Output (-)
2	0.8 YE	1860	Front Center Speaker Output (+)

cardiagn.com

P19G SPEAKER - LEFT FRONT (UQA)

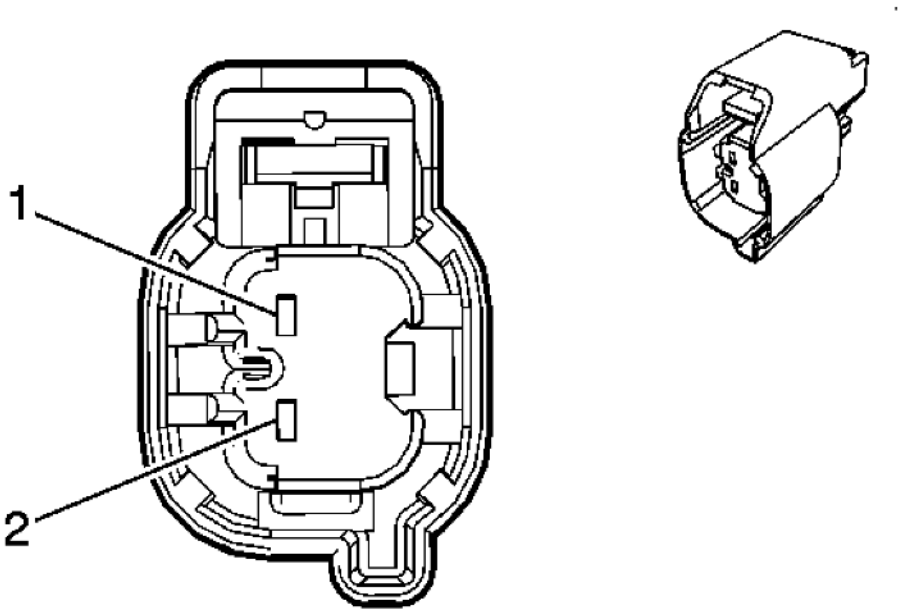


Fig. 33: P19G Speaker - Left Front (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13667983
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F GT 150 Series (TN)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19G Speaker - Left Front (UQA)

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19G SPEAKER - LEFT FRONT (UQ3)

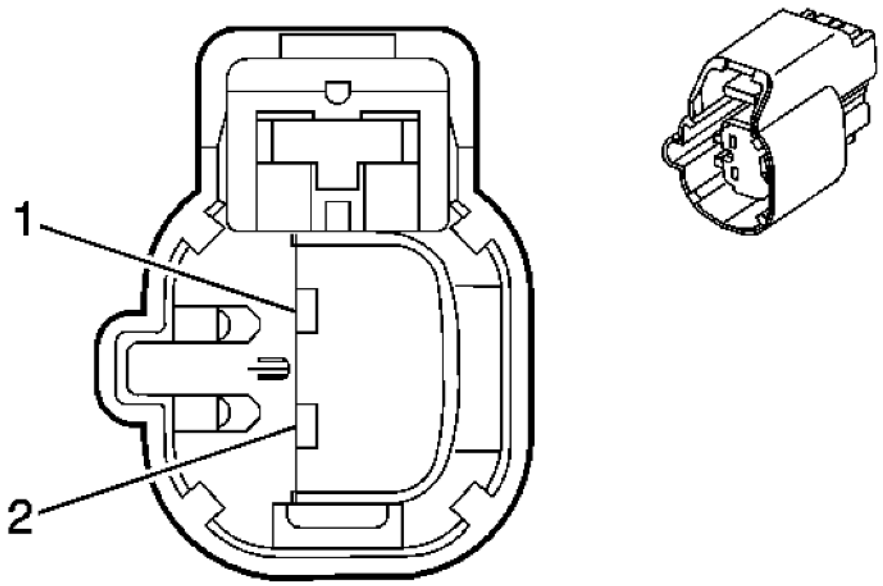


Fig. 34: P19G Speaker - Left Front (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

cardiagn.com

P19G Speaker - Left Front (UQ3)

Pin	Wire	Circuit	Function
1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19H SPEAKER - LEFT FRONT TWEETER

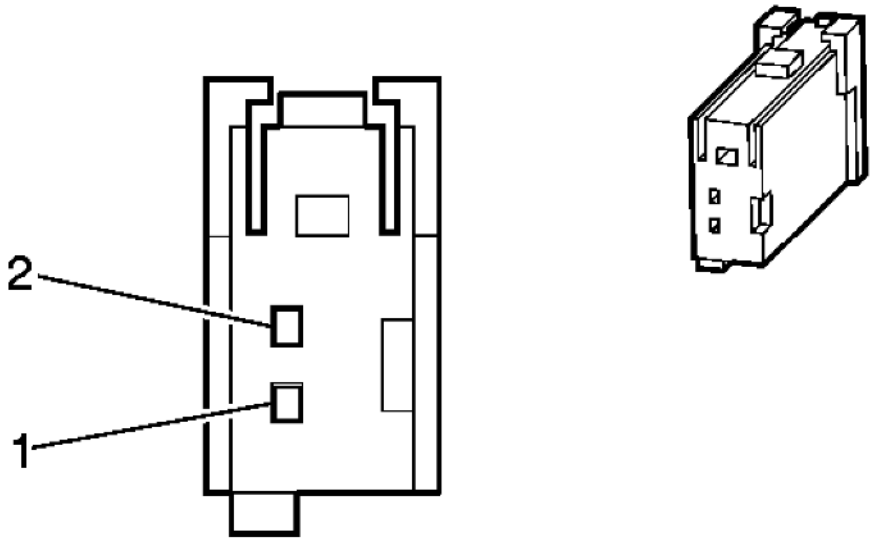


Fig. 35: P19H Speaker - Left Front Tweeter Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: See Terminal Repair Kit

cardiagn.com

- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P19H Speaker - Left Front Tweeter

Pin	Wire	Circuit	Function
1	0.8 GY	118	Left Front Speaker Output (-)
2	0.8 TN	201	Left Front Speaker Output (+)

P19K SPEAKER - LEFT REAR (UQA)

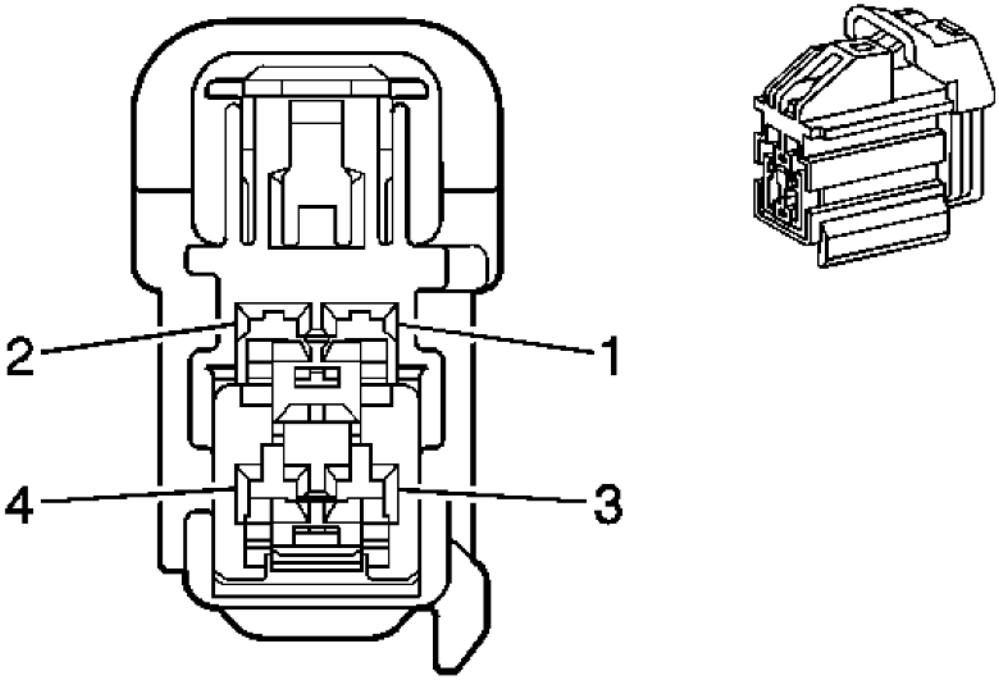


Fig. 36: P19K Speaker - Left Rear (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 10846820
- Service: 88988452

cardiagn.com

- Description: 4-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 33012-3002/26
- Core/Insulation Crimp: A/E/A/C
- Release Tool: J-38125-217
- Test Probe: J-35616-14 (GN)

P19K Speaker - Left Rear (UQA)

Pin	Wire	Circuit	Function
1	0.8 D-BU/WH	5771	Left Subwoofer Speaker Output (-)
2	0.8 D-BU	5761	Left Subwoofer Speaker Output (+)
3	1 L-GN/BK	1794	Left Subwoofer Speaker Output (-)
4	1 D-BU/WH	346	Left Subwoofer Speaker Output (+)

P19K SPEAKER - LEFT REAR (UQ3)

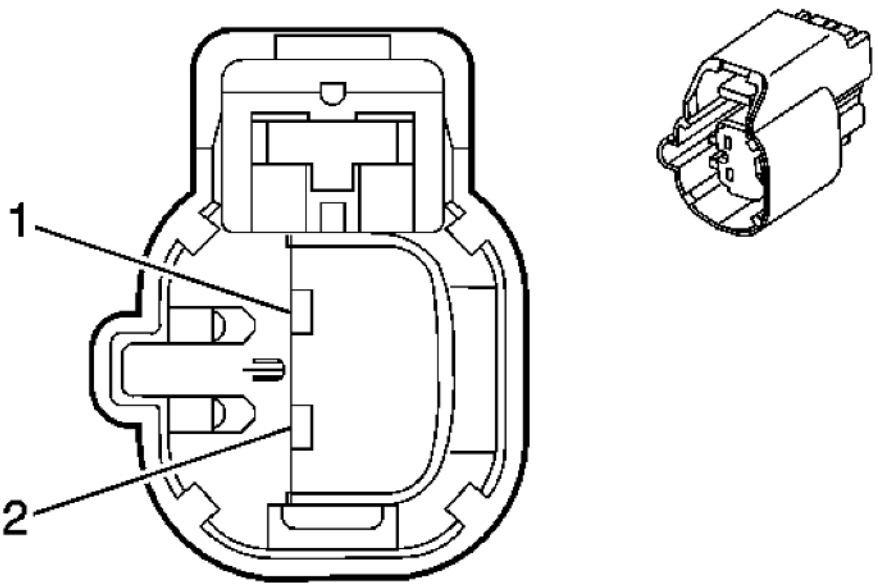


Fig. 37: P19K Speaker - Left Rear (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

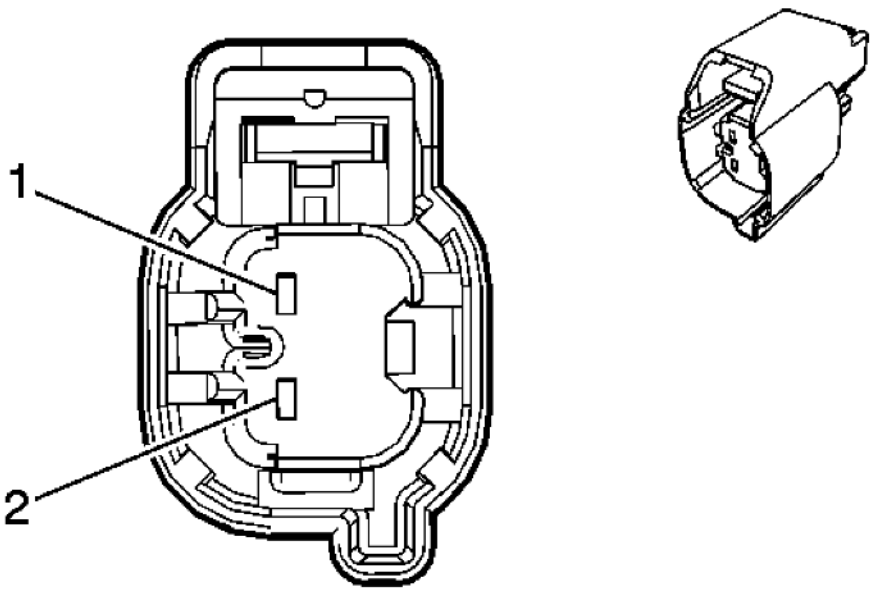
Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19K Speaker - Left Rear (UQ3)

Pin	Wire	Circuit	Function
1	0.8 YE	116	Left Rear Speaker Output (-)
2	0.8 BN	199	Left Rear Speaker Output (+)

P19U SPEAKER - RIGHT FRONT (UQA)



cardiagn.com

Fig. 38: P19U Speaker - Right Front (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13667983
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F GT 150 Series (TN)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19U Speaker - Right Front (UQA)

Pin	Wire	Circuit	Function
1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

P19U SPEAKER - RIGHT FRONT (UQ3)

cardiagn.com

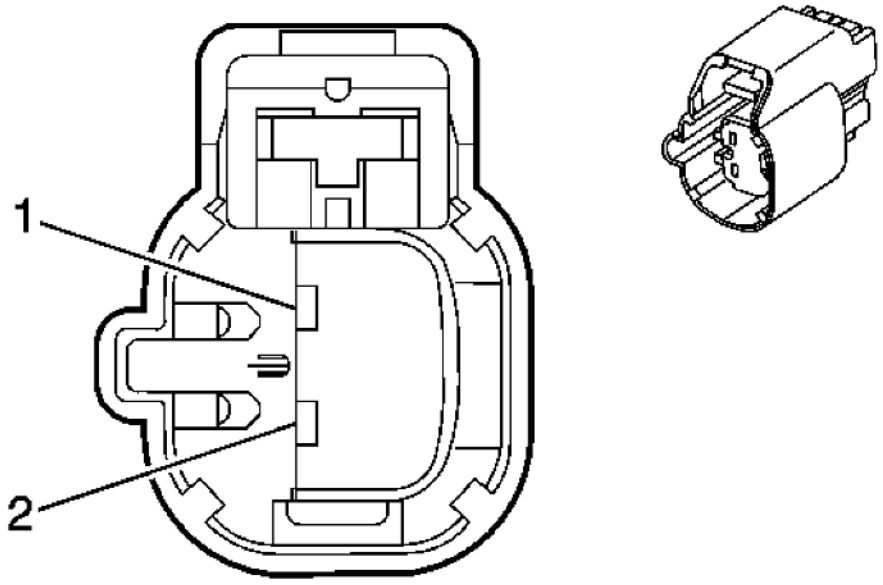


Fig. 39: P19U Speaker - Right Front (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19U Speaker - Right Front (UQ3)

Pin	Wire	Circuit	Function
1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

cardiagn.com

P19V SPEAKER - RIGHT FRONT TWEETER

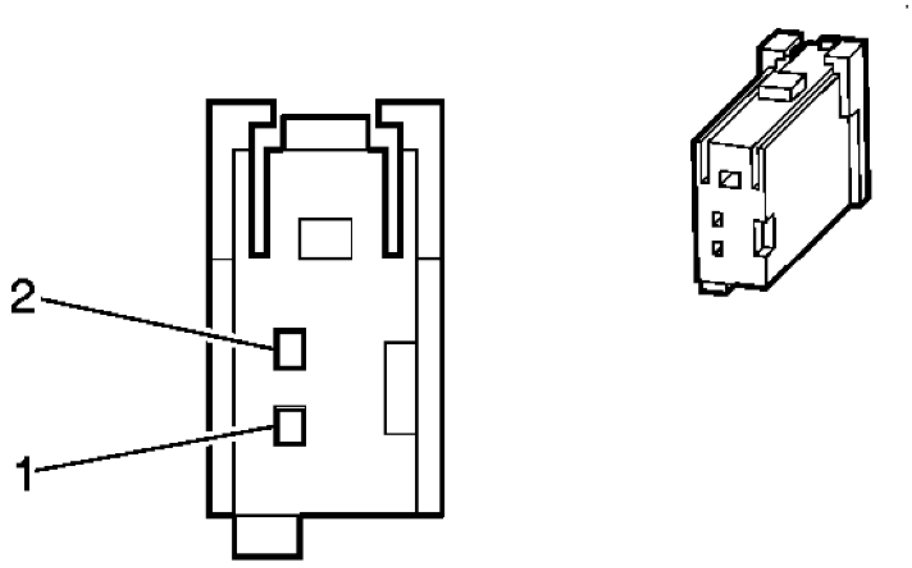


Fig. 40: P19V Speaker - Right Front Tweeter Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13595633
- Service: 19115645
- Description: 2-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P19V Speaker - Right Front Tweeter

Pin	Wire	Circuit	Function

cardiagn.com

1	0.8 D-GN	117	Right Front Speaker Output (-)
2	0.8 L-GN	200	Right Front Speaker Output (+)

P19X SPEAKER - RIGHT REAR (UQA)

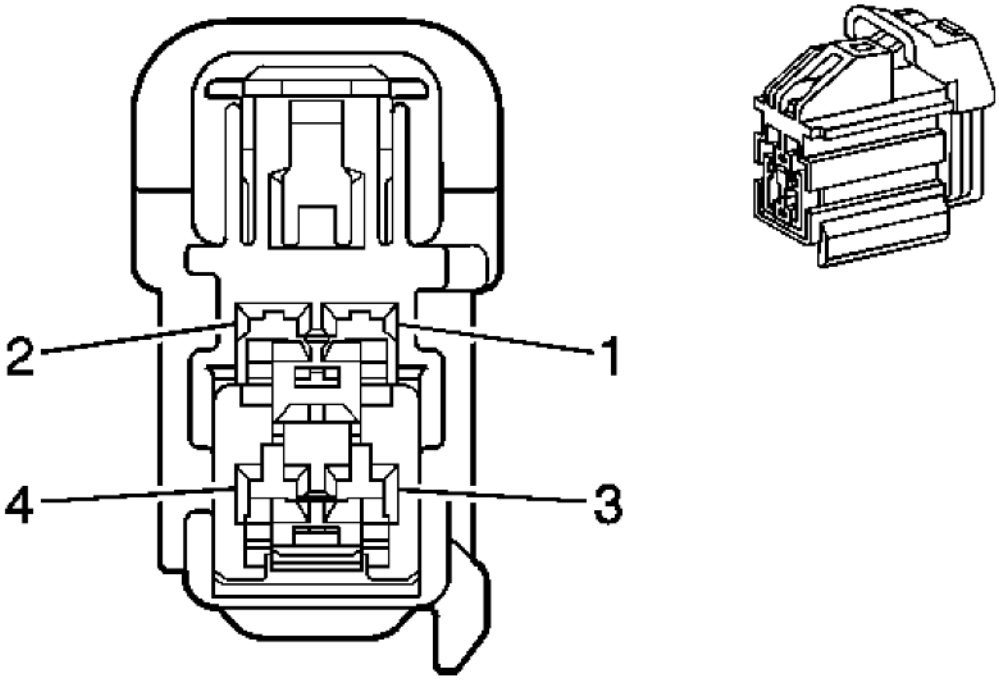


Fig. 41: P19X Speaker - Right Rear (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 10846820
- Service: 88988452
- Description: 4-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

- Terminal/Tray: 33012-3002/26
- Core/Insulation Crimp: A/E/A/C
- Release Tool: J-38125-217

cardiagn.com

- Test Probe: J-35616-14 (GN)

P19X Speaker - Right Rear (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU/BK	5772	Right Subwoofer Speaker Output (-)
2	0.8 L-BU	5762	Right Subwoofer Speaker Output (+)
3	1 L-BU/BK	315	Right Subwoofer Speaker Output (-)
4	1 D-GN	1795	Right Subwoofer Speaker Output (+)

P19X SPEAKER - RIGHT REAR (UQ3)

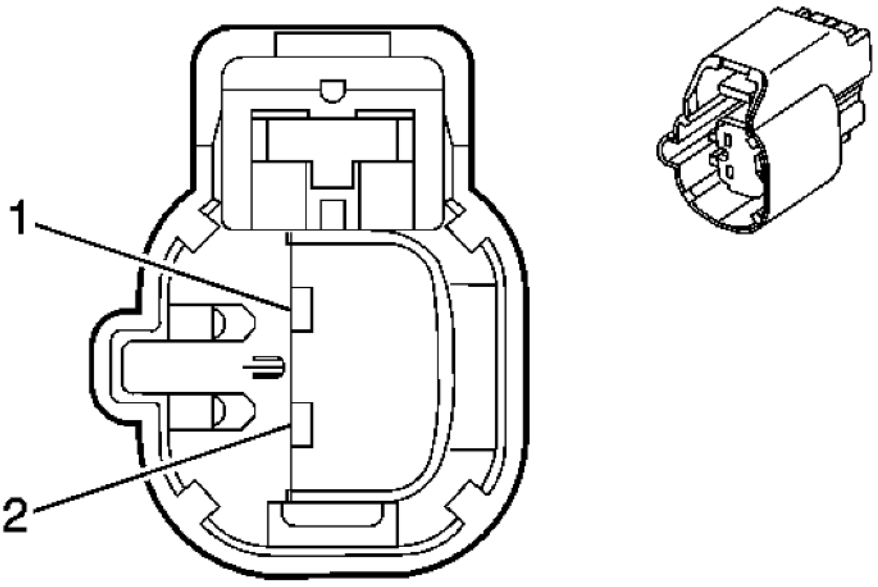


Fig. 42: P19X Speaker - Right Rear (UQ3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 13665500
- Service: 19179953
- Description: 2-Way F GT 150 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12191812/19
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

P19X Speaker - Right Rear (UQ3)

Pin	Wire	Circuit	Function
1	0.8 L-BU	115	Right Rear Speaker Output (-)
2	0.8 D-BU	46	Right Rear Speaker Output (+)

P2 TRANSMISSION SHIFT LEVER POSITION INDICATOR (MYB OR MYC)

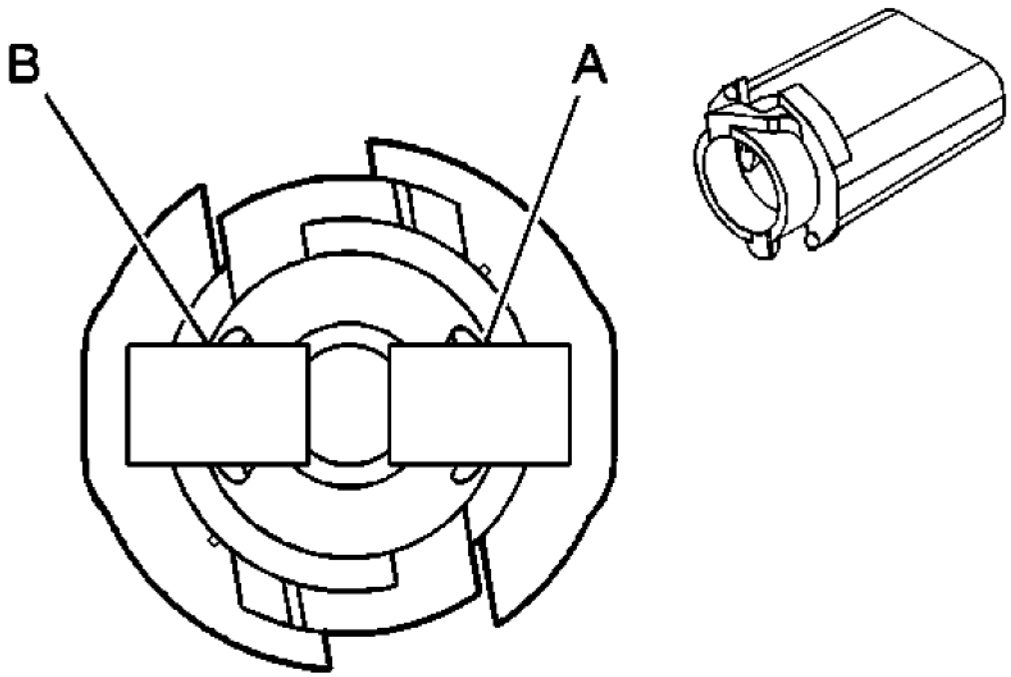


Fig. 43: P2 Transmission Shift Lever Position Indicator (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: A/T Shifter
- OEM: 12162711
- Service: Service by Harness - See Part Catalog
- Description: 2-Way Lamp Socket Wedge Base W2 (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

P2 Transmission Shift Lever Position Indicator (MYB or MYC)

Pin	Wire	Circuit	Function
A	0.5 YE	6817	LED Backlight Dimming Control
B	0.5 BK	1550	Ground

P26 AUXILIARY GAGE MODULE (UMQ)

cardiagn.com

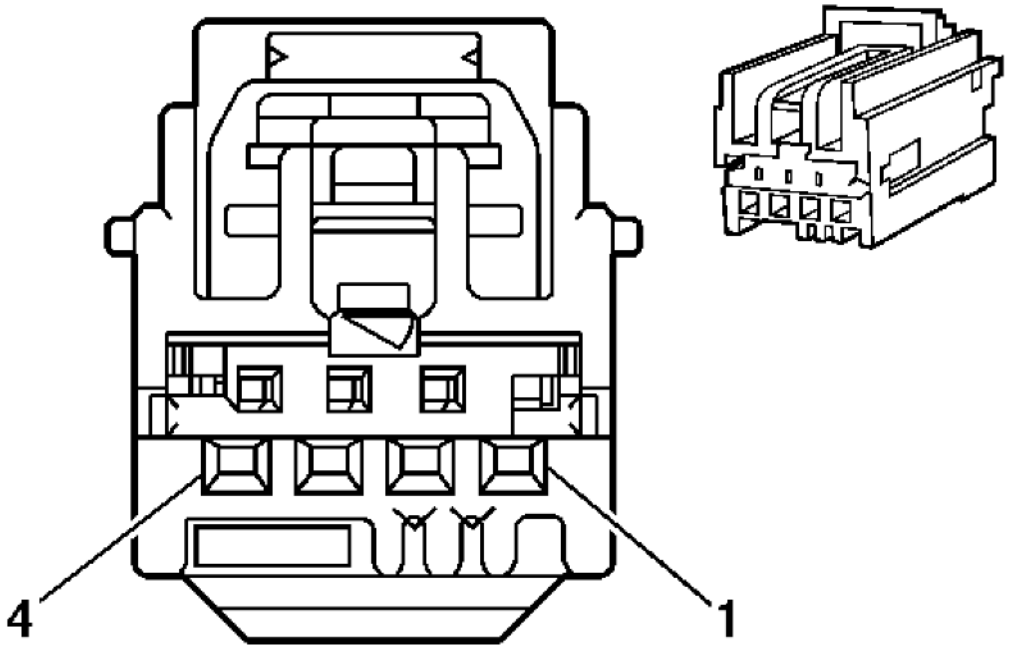


Fig. 44: P26 Auxiliary Gage Module (UMQ) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Console Cap Link
- OEM: 15491295
- Service: 19149305
- Description: 4-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

P26 Auxiliary Gage Module (UMQ)

Pin	Wire	Circuit	Function
1	0.5 RD/WH	2840	Battery Positive Voltage

cardiagn.com

2	0.5 BK	1650	Ground
3	0.35 D-GN	5060	Low Speed GMLAN Serial Data
4	-	-	Not Used

Q12 EVAPORATIVE EMISSION (EVAP) PURGE SOLENOID VALVE (L99 OR LS3)

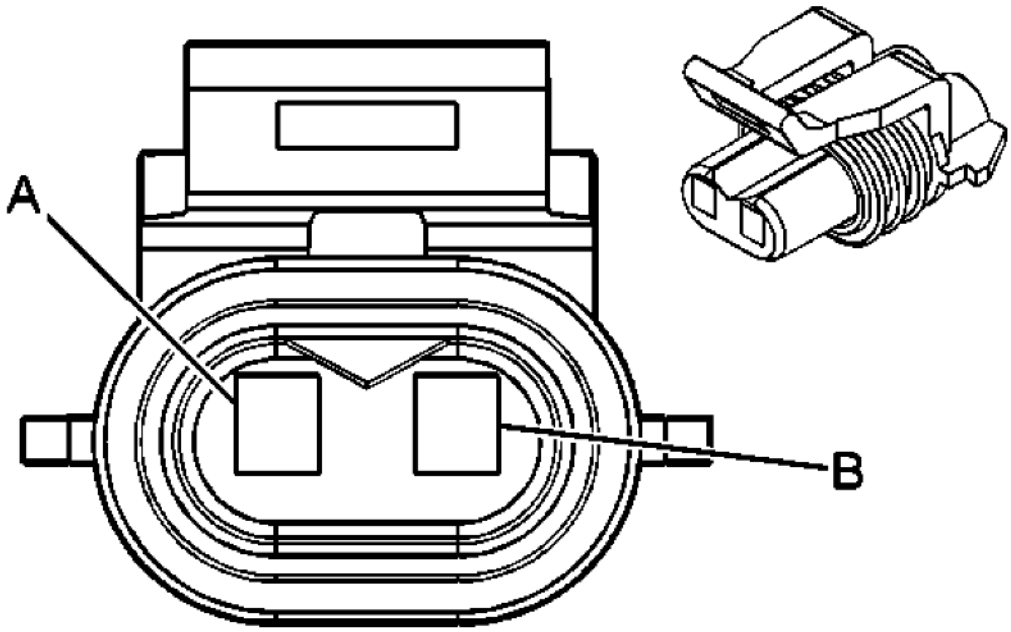


Fig. 45: Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12124037
- Service: 12101858
- Description: 2-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429

cardiagn.com

- Test Probe: J-35616-14 (GN)

Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5293	Ignition Voltage
B	0.5 D-GN/WH	428	EVAP Canister Purge Solenoid Control

Q12 EVAPORATIVE EMISSION (EVAP) PURGE SOLENOID VALVE (LLT)

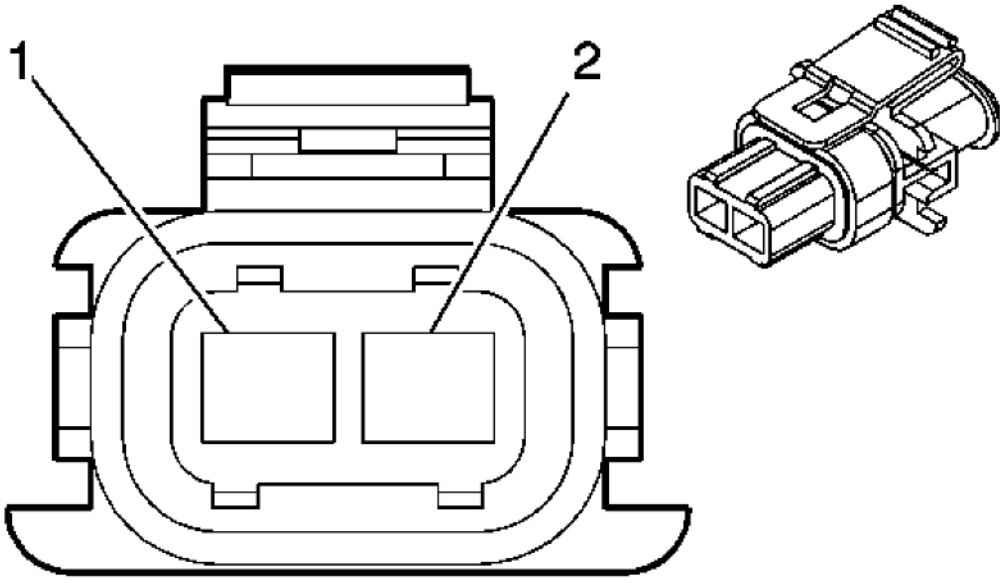


Fig. 46: Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 10740370
- Service: 88988586
- Description: 2-Way F 2.8 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 1928498056/8

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: J-38125-561
- Test Probe: J-35616-35 (VT)

Q12 Evaporative Emission (EVAP) Purge Solenoid Valve (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 D-GN/WH	428	EVAP Canister Purge Solenoid Control

Q13 EVAPORATIVE EMISSION (EVAP) VENT SOLENOID VALVE

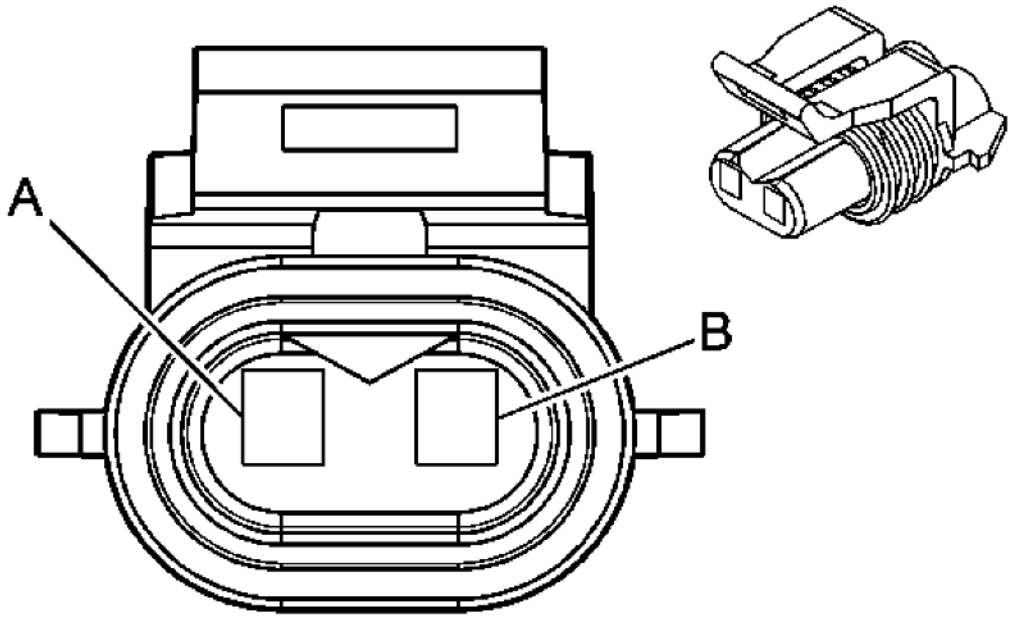


Fig. 47: Q13 Evaporative Emission (EVAP) Vent Solenoid Valve Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Fuel Tank
- OEM: 12052643
- Service: 12101858
- Description: 2-Way F Metri-Pack 150 Series, Sealed (RD)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Q13 Evaporative Emission (EVAP) Vent Solenoid Valve

Pin	Wire	Circuit	Function
A	0.5 RD	2440	Battery Positive Voltage (Early Production)
	0.5 RD/WH	2440	Battery Positive Voltage Late Production)
B	0.5 BN	1310	EVAP Canister Vent Solenoid Control (Early Production)
	0.5 WH	1310	EVAP Canister Vent Solenoid Control (Late Production)

Q17A FUEL INJECTOR 1 (L99 OR LS3)

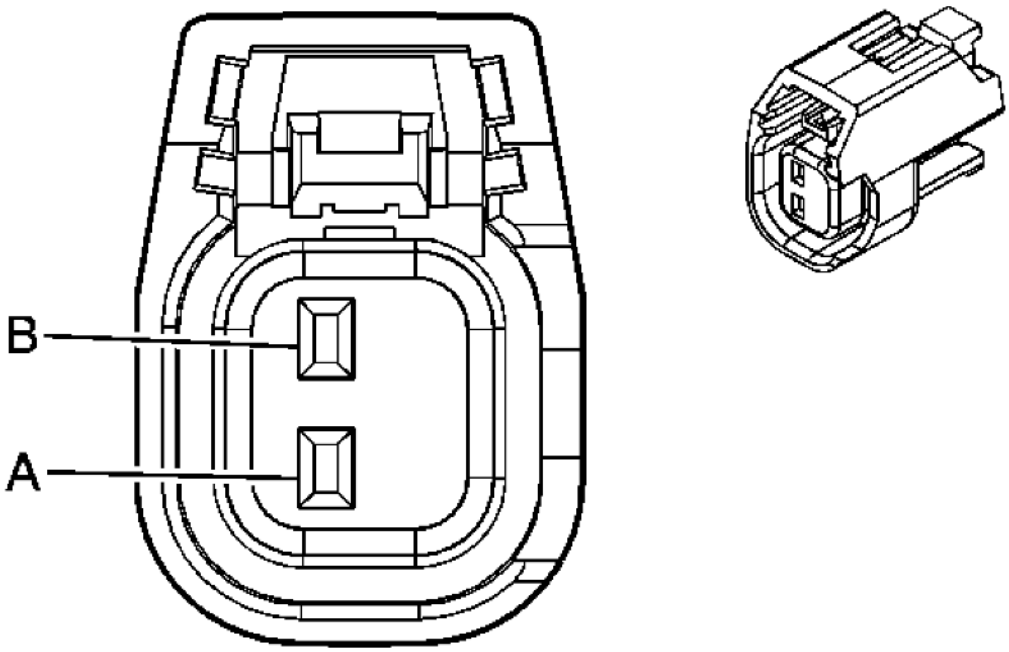


Fig. 48: Q17A Fuel Injector 1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

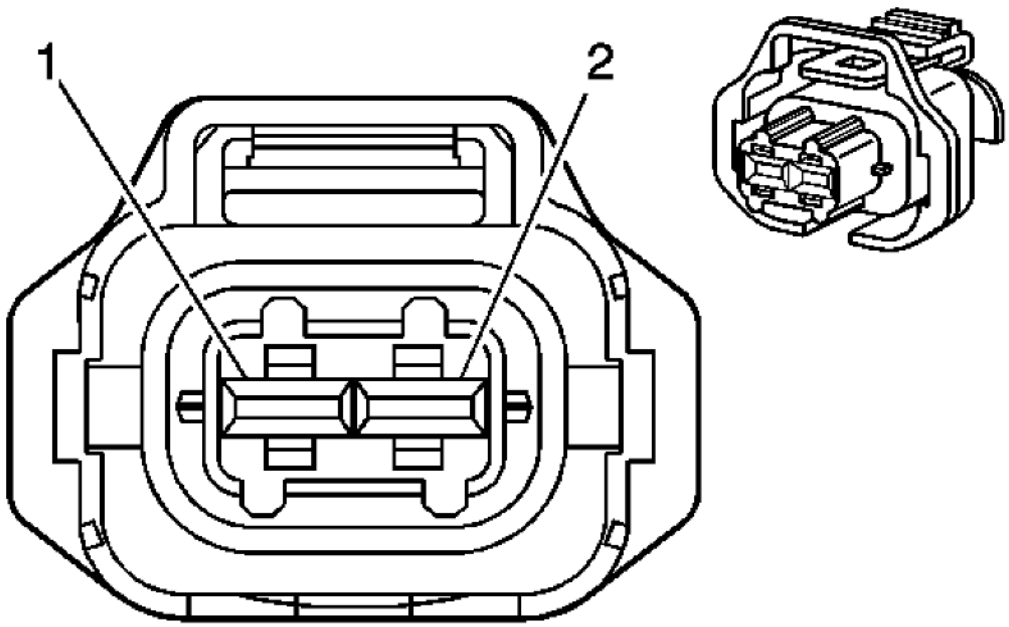
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17A Fuel Injector 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 TN	1744	Fuel Injector 1 Control

Q17A FUEL INJECTOR 1 (LLT)



cardiagn.com

Fig. 49: Q17A Fuel Injector 1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17A Fuel Injector 1 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4801	Fuel Injector 1 Low Control
2	1 BK	4901	Fuel Injector 1 High Control

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

Q17B FUEL INJECTOR 2 (L99 OR LS3)

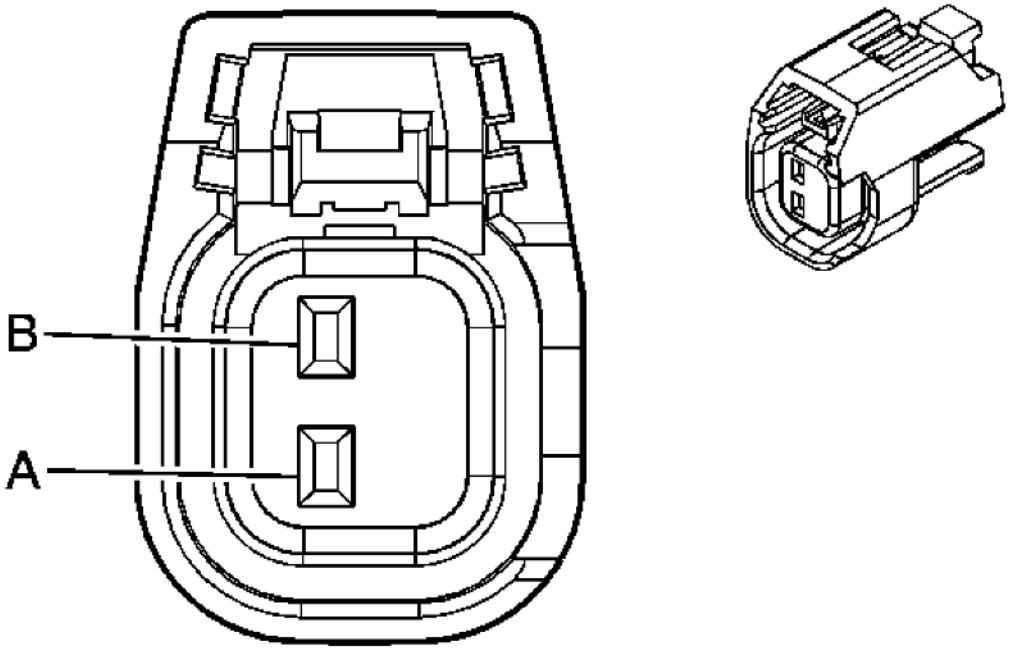


Fig. 1: Q17B Fuel Injector 2 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17B Fuel Injector 2 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 L-GN/BK	1745	Fuel Injector 2 Control

Q17B FUEL INJECTOR 2 (LLT)

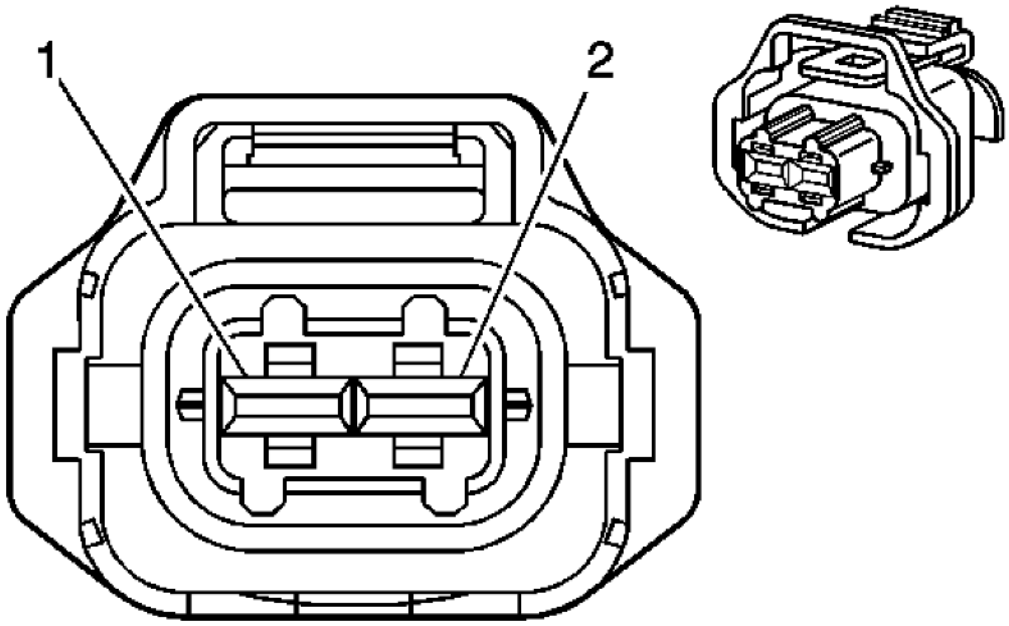


Fig. 2: Q17B Fuel Injector 2 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Even)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17B Fuel Injector 2 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4802	Fuel Injector 2 Low Control
2	1 BK	4902	Fuel Injector 2 High Control

Q17C FUEL INJECTOR 3 (L99 OR LS3)

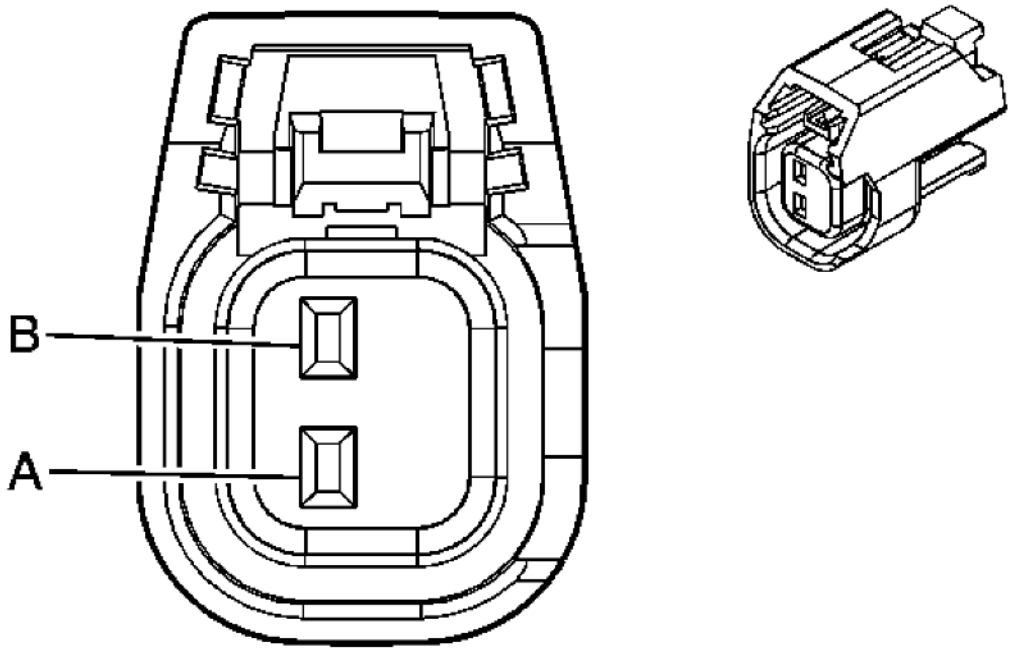


Fig. 3: Q17C Fuel Injector 3 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine

cardiagn.com

- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17C Fuel Injector 3 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 PK/BK	1746	Fuel Injector 3 Control

Q17C FUEL INJECTOR 3 (LLT)

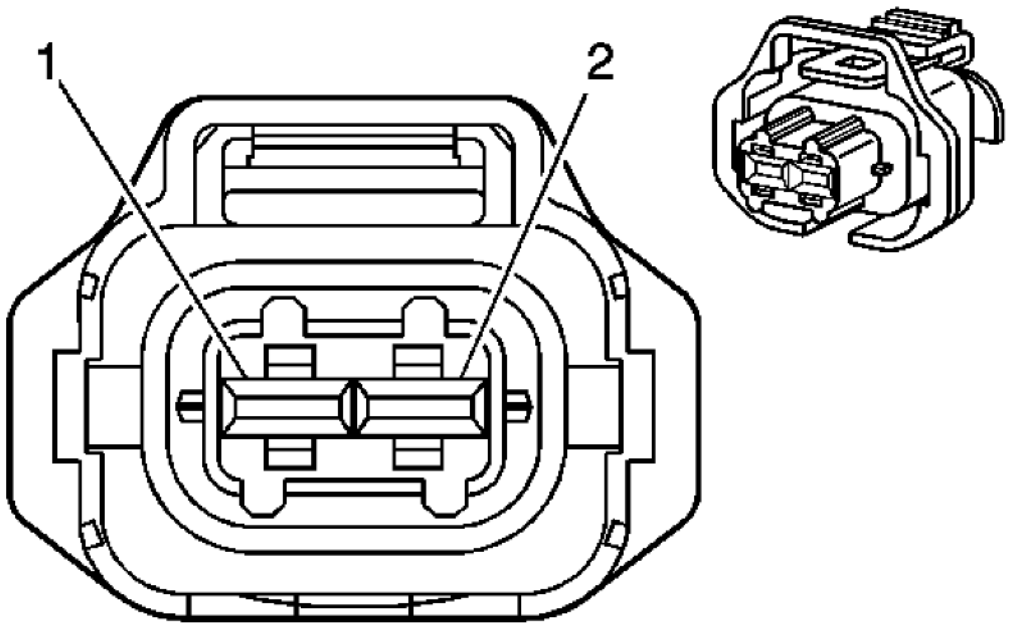


Fig. 4: Q17C Fuel Injector 3 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

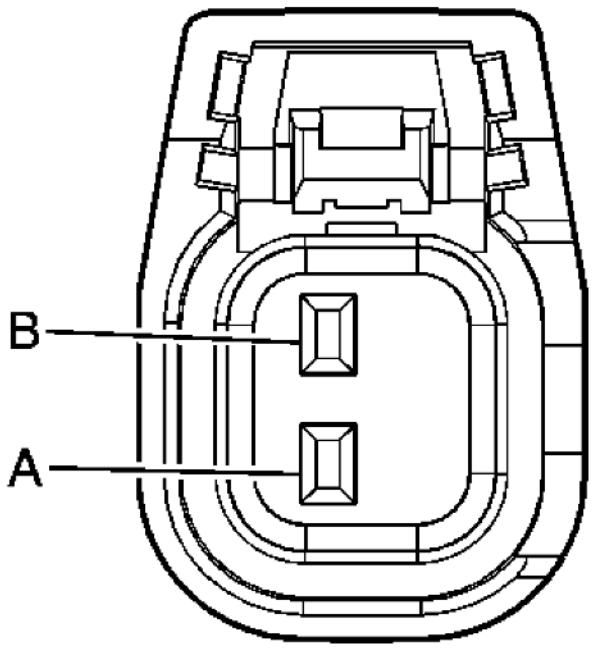
Terminal Part Information

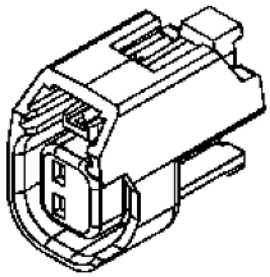
- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17C Fuel Injector 3 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4803	Fuel Injector 3 Low Control
2	1 BK	4903	Fuel Injector 3 High Control

Q17D FUEL INJECTOR 4 (L99 OR LS3)





cardiagn.com

Fig. 5: Q17D Fuel Injector 4 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17D Fuel Injector 4 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 L-BU/BK	844	Fuel Injector 4 Control

Q17D FUEL INJECTOR 4 (LLT)

cardiagn.com

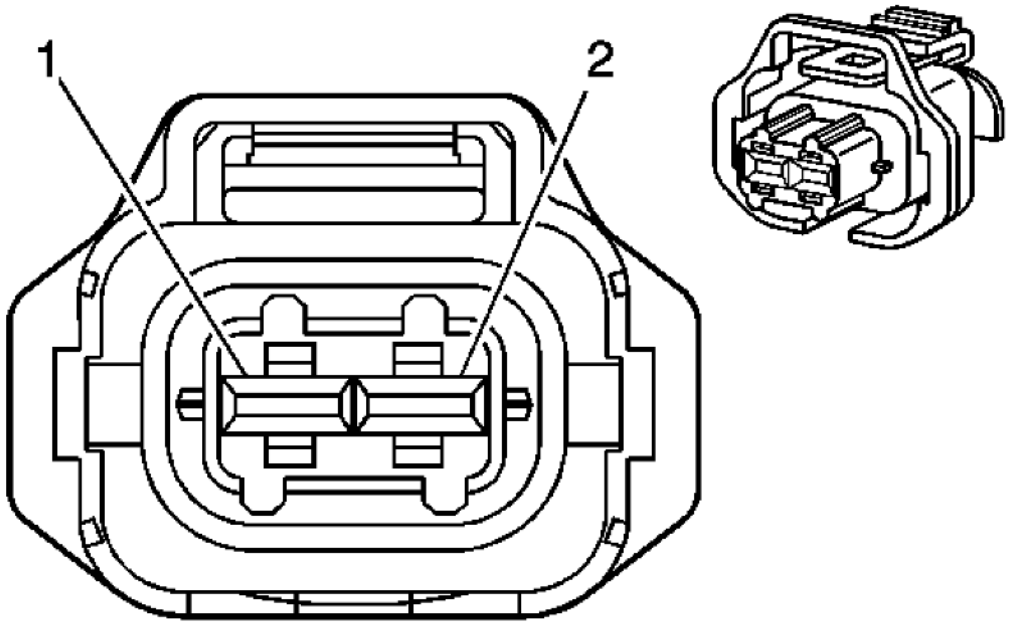


Fig. 6: Q17D Fuel Injector 4 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Even)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17D Fuel Injector 4 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4804	Fuel Injector 4 Low Control
2	1 BK	4904	Fuel Injector 4 High Control

cardiagn.com

Q17E FUEL INJECTOR 5 (L99 OR LS3)

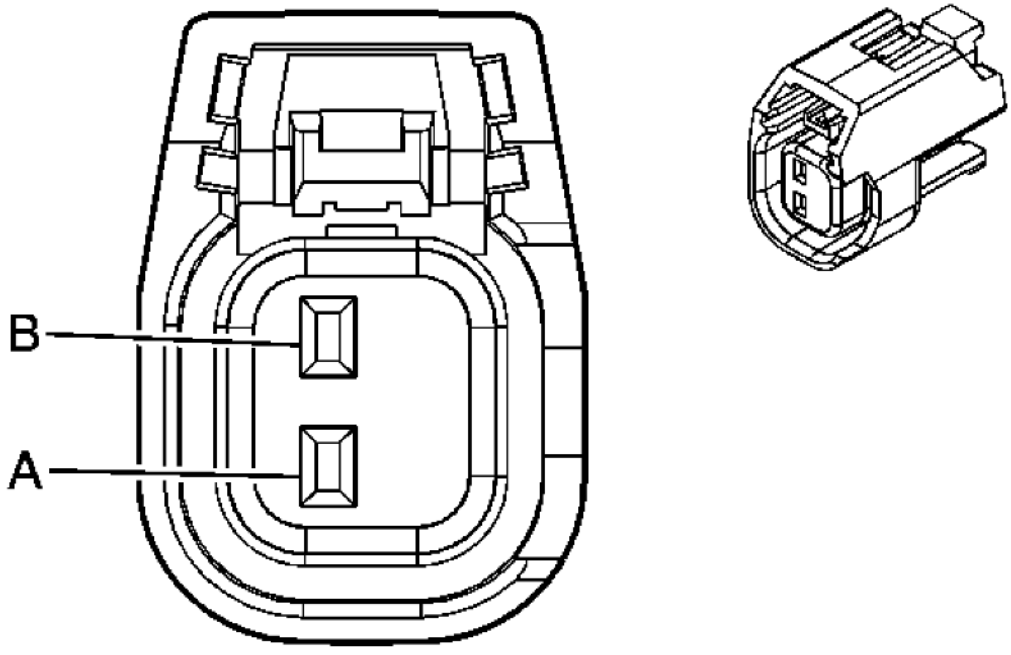


Fig. 7: Q17E Fuel Injector 5 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17E Fuel Injector 5 (L99 or LS3)

Pin	Wire	Circuit	Function

cardiagn.com

A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 TN/WH	845	Fuel Injector 5 Control

Q17E FUEL INJECTOR 5 (LLT)

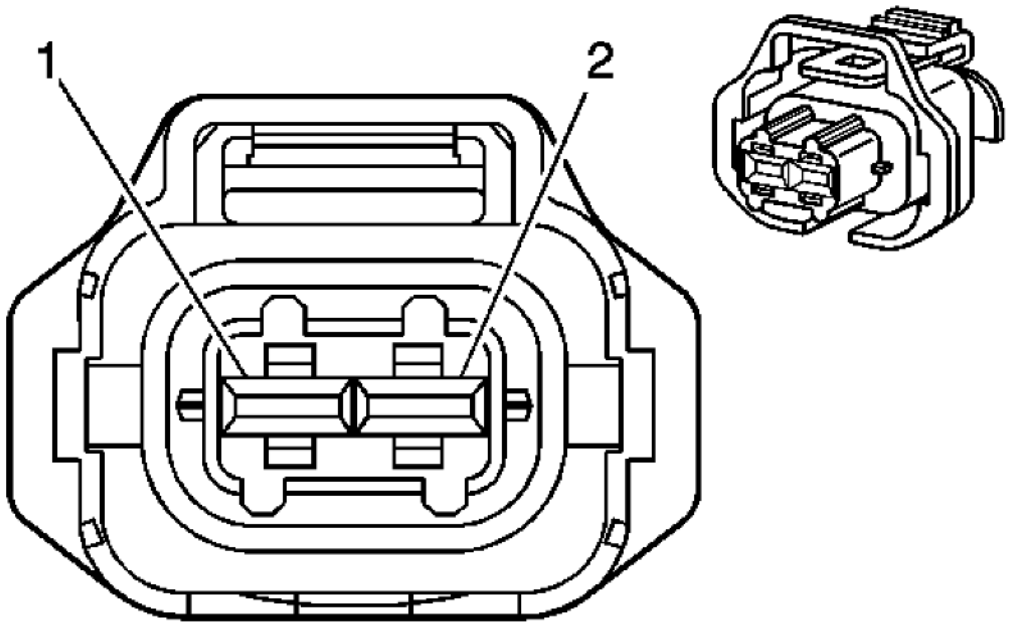


Fig. 8: Q17E Fuel Injector 5 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Odd)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

cardiagn.com

Q17E Fuel Injector 5 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4805	Fuel Injector 5 Low Control
2	1 BK	4905	Fuel Injector 5 High Control

Q17F FUEL INJECTOR 6 (L99 OR LS3)

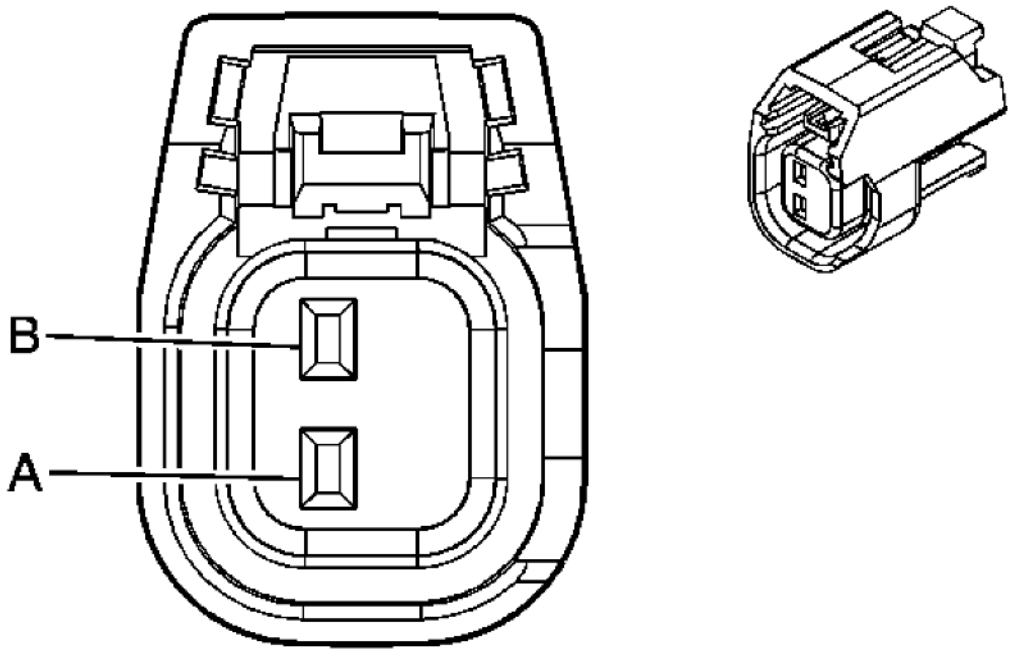


Fig. 9: Q17F Fuel Injector 6 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1

cardiagn.com

- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17F Fuel Injector 6 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 YE/BK	846	Fuel Injector 6 Control

Q17F FUEL INJECTOR 6 (LLT)

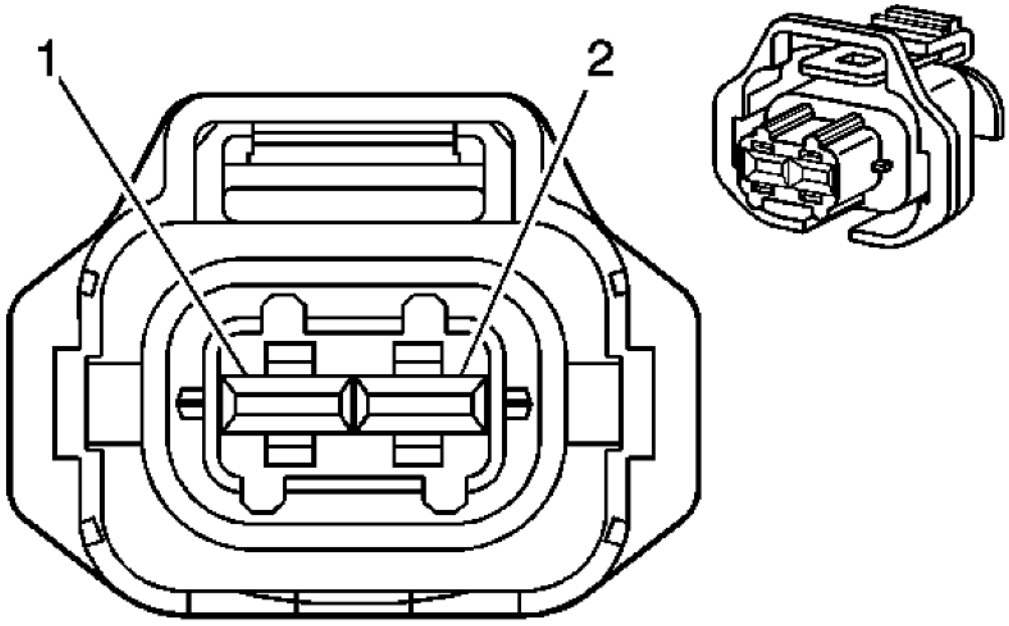


Fig. 10: Q17F Fuel Injector 6 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Injectors (Even)
- OEM: 1928403874
- Service: 88988163
- Description: 2-Way F Kompakt 280 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q17F Fuel Injector 6 (LLT)

Pin	Wire	Circuit	Function
1	1 BN	4806	Fuel Injector 6 Low Control
2	1 BK	4906	Fuel Injector 6 High Control

Q17G FUEL INJECTOR 7 (L99 OR LS3)

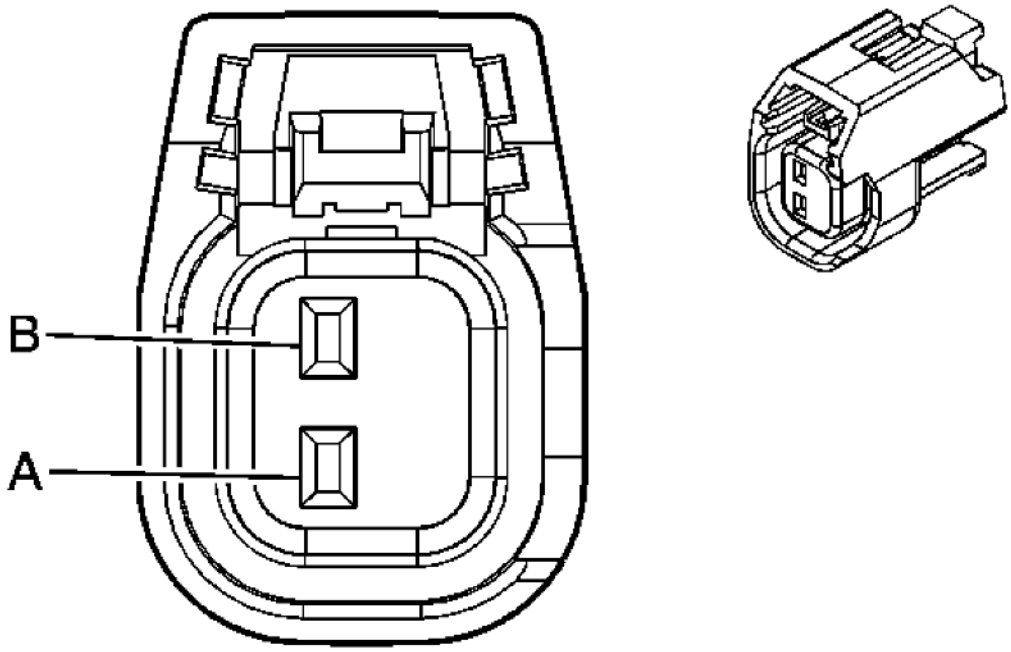


Fig. 11: Q17G Fuel Injector 7 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15419715

cardiagn.com

- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17G Fuel Injector 7 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5291	Ignition Voltage
B	0.5 OG/BK	877	Fuel Injector 7 Control

Q17H FUEL INJECTOR 8 (L99 OR LS3)

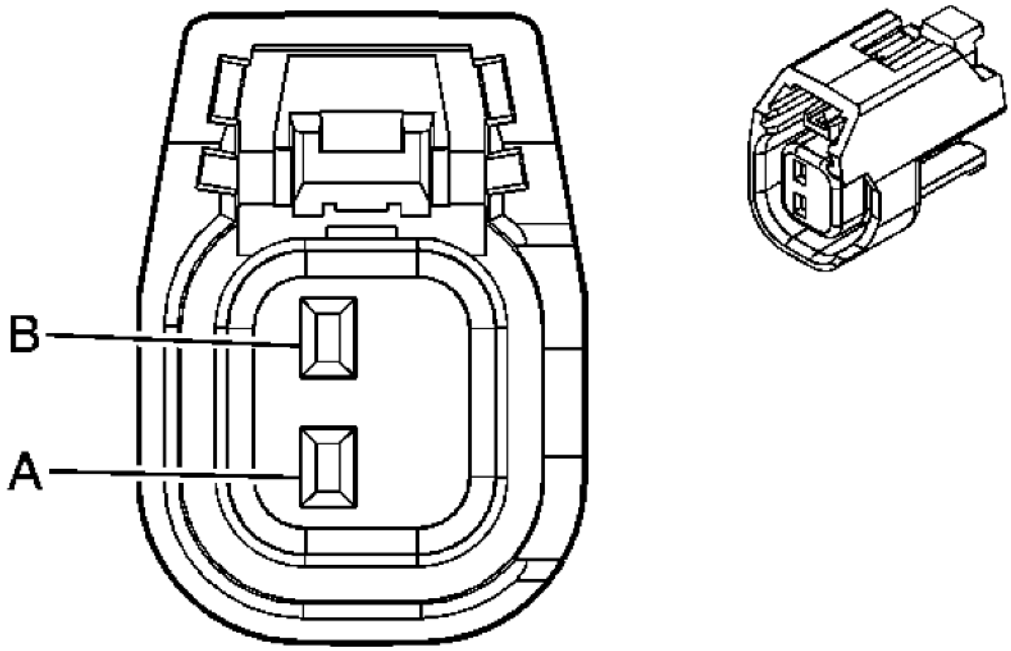


Fig. 12: Q17H Fuel Injector 8 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 15419715
- Service: 88988313
- Description: 2-Way F GT 150 Series, Sealed (GY)

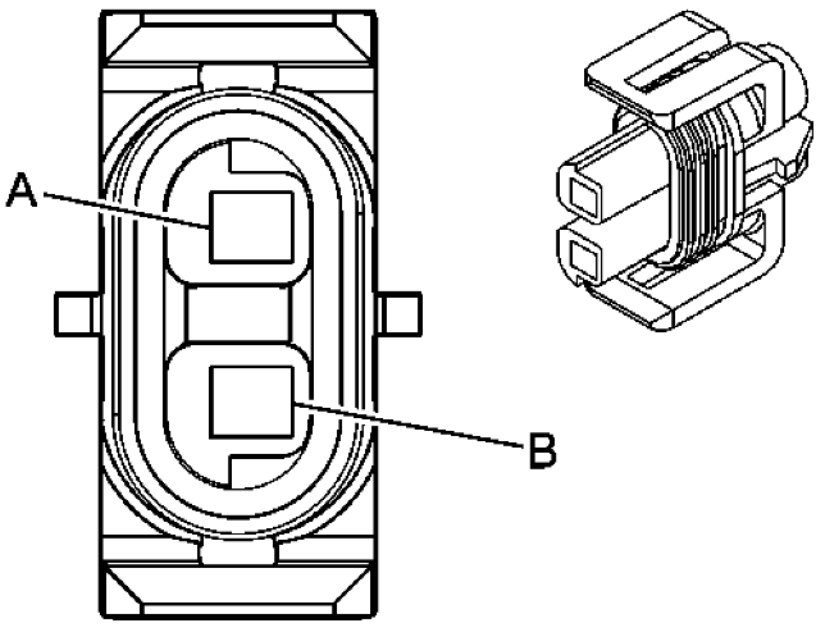
Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q17H Fuel Injector 8 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 PK/BK	5292	Ignition Voltage
B	0.5 D-BU/WH	878	Fuel Injector 8 Control

Q2 A/C COMPRESSOR CLUTCH



cardiagn.com

Fig. 13: Q2 A/C Compressor Clutch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine Harness
- OEM: 12162017
- Service: 12101937
- Description: 2-Way F Metri-Pack 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Q2 A/C Compressor Clutch

Pin	Wire	Circuit	Function
A	0.5 BK	2650	Ground
B	0.5 D-GN	59	A/C Compressor Clutch Supply Voltage

Q34 SKIP SHIFT SOLENOID ACTUATOR (M10)

cardiagn.com

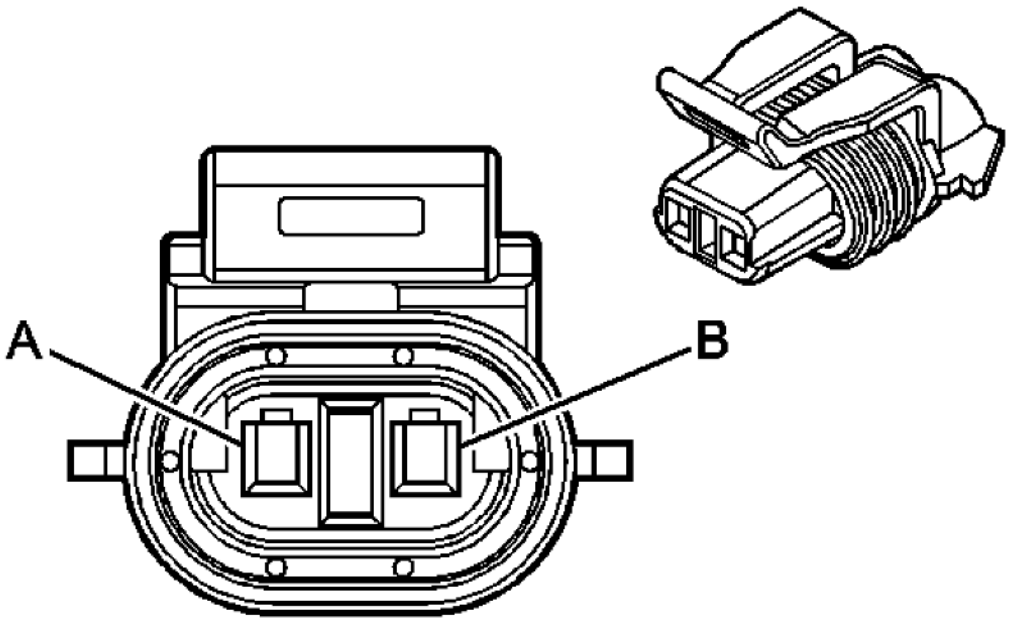


Fig. 14: Q34 Skip Shift Solenoid Actuator (M10) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 12052646
- Service: 12101857
- Description: 2-Way F Metri-Pack 150 Sealed (WH)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

Q34 Skip Shift Solenoid Actuator (M10)

Pin	Wire	Circuit	Function
A	0.5 PK	239	Ignition Voltage
B	0.5 GY	587	Skip/Shift Solenoid Control

cardiagn.com

Q38 THROTTLE BODY (L99 OR LS3)

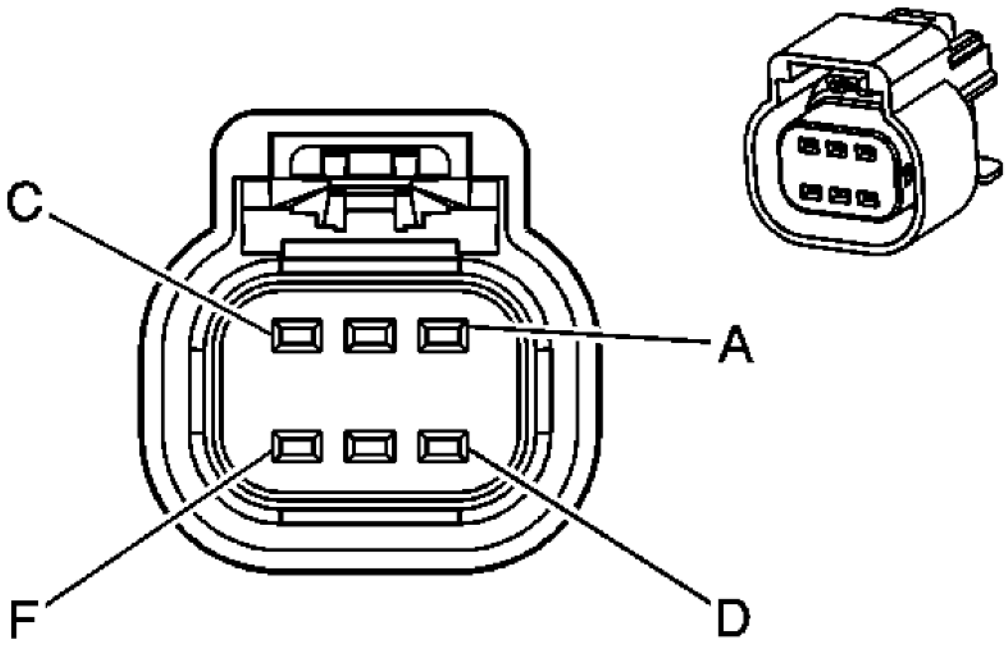


Fig. 15: Q38 Throttle Body (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15418497
- Service: 19207180
- Description: 6-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: Pins A, B - 2/1
- Core/Insulation Crimp: Pins C, D, E, F - E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q38 Throttle Body (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
A	0.8 BN	582	TAC Motor Control - 2
B	0.8 YE	581	TAC Motor Control - 1
C	0.5 TN	2752	Low Reference
D	0.5 D-GN	485	TP Sensor 1 Signal
E	0.5 GY	2701	5-Volt Reference 2
F	0.5 PU	486	TP Sensor 2 Signal

Q38 THROTTLE BODY (LLT)

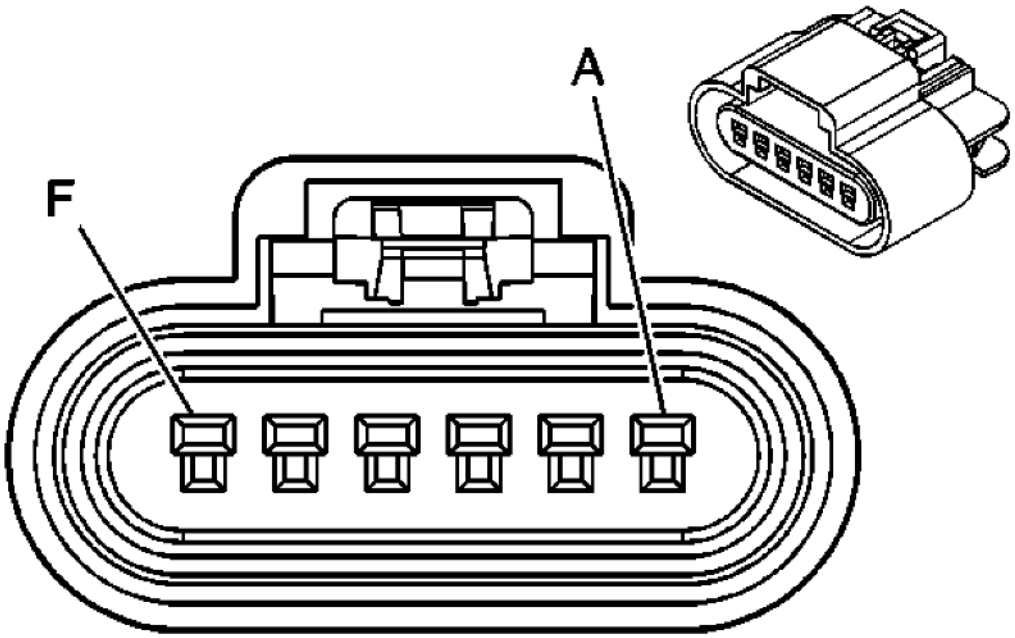


Fig. 16: Q38 Throttle Body (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15397577
- Service: 88988944
- Description: 6-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: 15326427/5
- Core/Insulation Crimp: Pins A, B - 2/1
- Core/Insulation Crimp: Pins C, D, E, F - E/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

Q38 Throttle Body (LLT)

Pin	Wire	Circuit	Function
A	0.8 BN	582	TAC Motor Control - 2
B	0.8 YE	581	TAC Motor Control - 1
C	0.5 TN	2752	Low Reference
D	0.5 D-GN	485	TP Sensor 1 Signal
E	0.5 GY	2701	5-Volt Reference 3
F	0.5 PU	486	TP Sensor 2 Signal

Q43 VALVE LIFTER OIL MANIFOLD ASSEMBLY (L99)

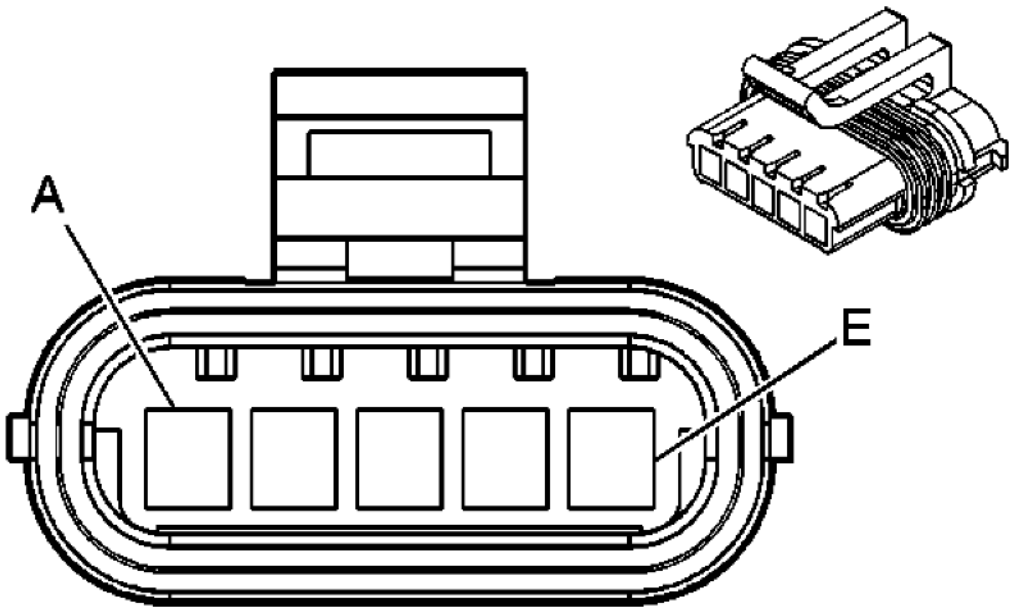


Fig. 17: Q43 Valve Lifter Oil Manifold Assembly (L99) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Engine
- OEM: 12186057
- Service: 15306027
- Description: 5-Way F Metri-Pack 150.2, Pull To Seat Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12124075/5
- Core/Insulation Crimp: E/C
- Release Tool: 12180559-1
- Test Probe: J-35616-14 (GN)

Q43 Valve Lifter Oil Manifold Assembly (L99)

Pin	Wire	Circuit	Function
A	0.5 OG	5494	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 4 Shutoff Solenoid
B	0.5 GY	5493	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 6 Shutoff Solenoid
C	0.5 D-BU	5491	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 1 Shutoff Solenoid
D	0.5 L-GN	5492	Valve Lifter Oil Manifold (VLOM) Assembly Cylinder 7 Shutoff Solenoid
E	0.5 PK	239	Ignition Voltage

Q6 CAMSHAFT POSITION ACTUATOR SOLENOID VALVE (L99)

cardiagn.com

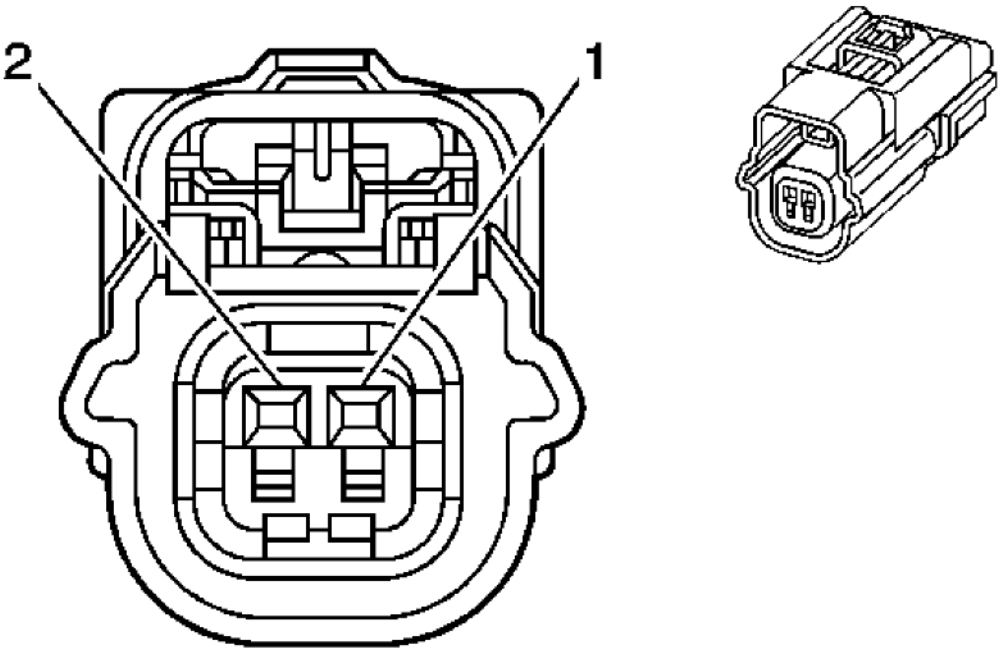


Fig. 18: Q6 Camshaft Position Actuator Solenoid Valve (L99) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Camshaft Position (CMP) Sensor and Camshaft Position (CMP) Actuator Solenoid Valve
- OEM: 13528494
- Service: Service by Harness - See Part Catalog
- Description: 2-Way F 0.64 Series Sealed (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

Q6 Camshaft Position Actuator Solenoid Valve (L99)

Pin	Wire	Circuit	Function
1	0.5 PU	5284	CMP Actuator Solenoid Control

cardiagn.com

2	0.5 TN	2199	Low Reference

Q6A CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 1 EXHAUST (LLT)

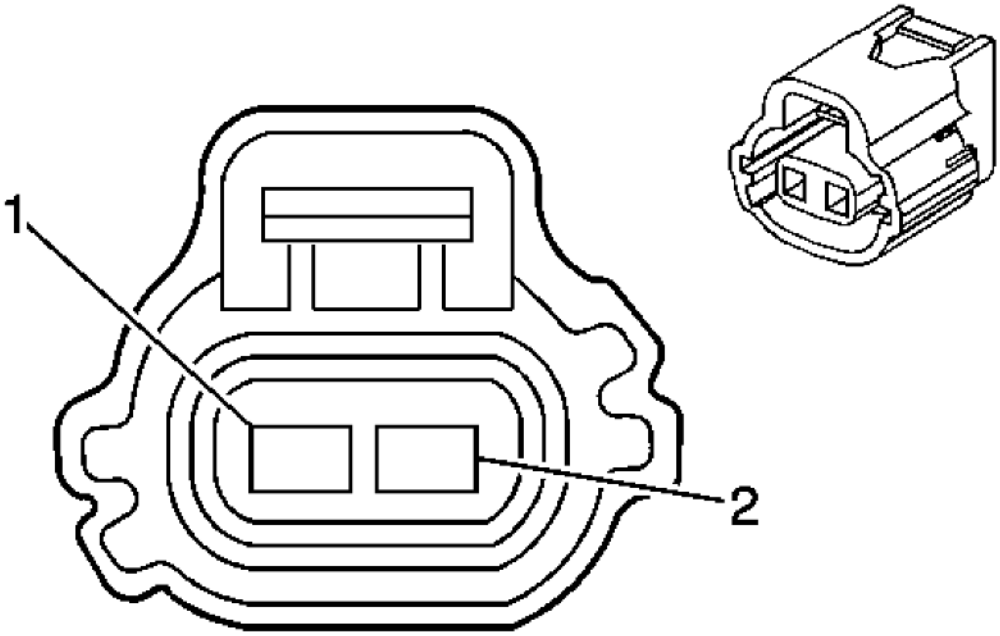


Fig. 19: Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15411401
- Service: 88988588
- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4026/11
- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

cardiagn.com

Q6A Camshaft Position Actuator Solenoid Valve - Bank 1 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 L-GN	5282	CMP Actuator Solenoid Control - Exhaust Bank 1

Q6B CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 1 INTAKE (LLT)

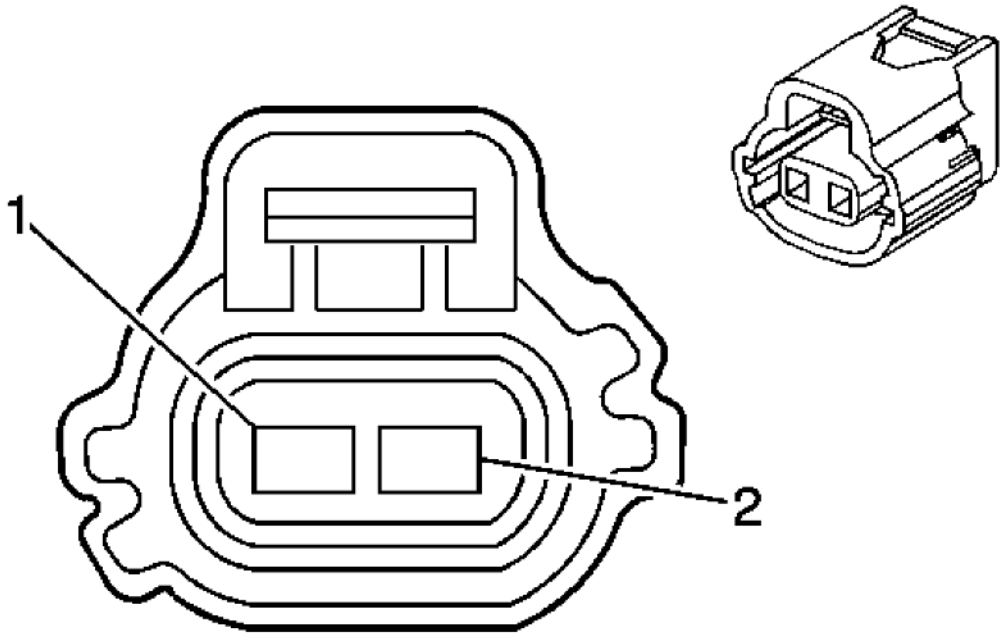


Fig. 20: Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15411401
- Service: 88988588
- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4026/11

cardiagn.com

- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

Q6B Camshaft Position Actuator Solenoid Valve - Bank 1 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 PU	5284	CMP Actuator Solenoid Control - Intake Bank 1

Q6C CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 2 EXHAUST (LLT)

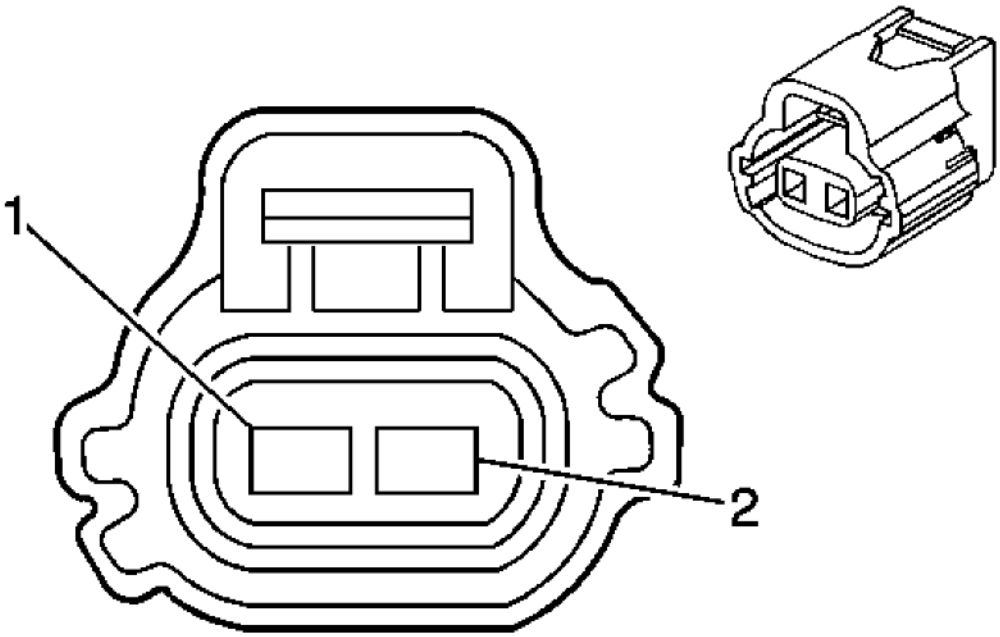


Fig. 21: Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15411401
- Service: 88988588

cardiagn.com

- Description: 2-Way F Sealed (BK)

Terminal Part Information

- Terminal/Tray: 7116-4026/11
- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

Q6C Camshaft Position Actuator Solenoid Valve - Bank 2 Exhaust (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 WH/BK	5283	CMP Actuator Solenoid Control - Exhaust Bank 2

Q6D CAMSHAFT POSITION ACTUATOR SOLENOID VALVE - BANK 2 INTAKE (LLT)

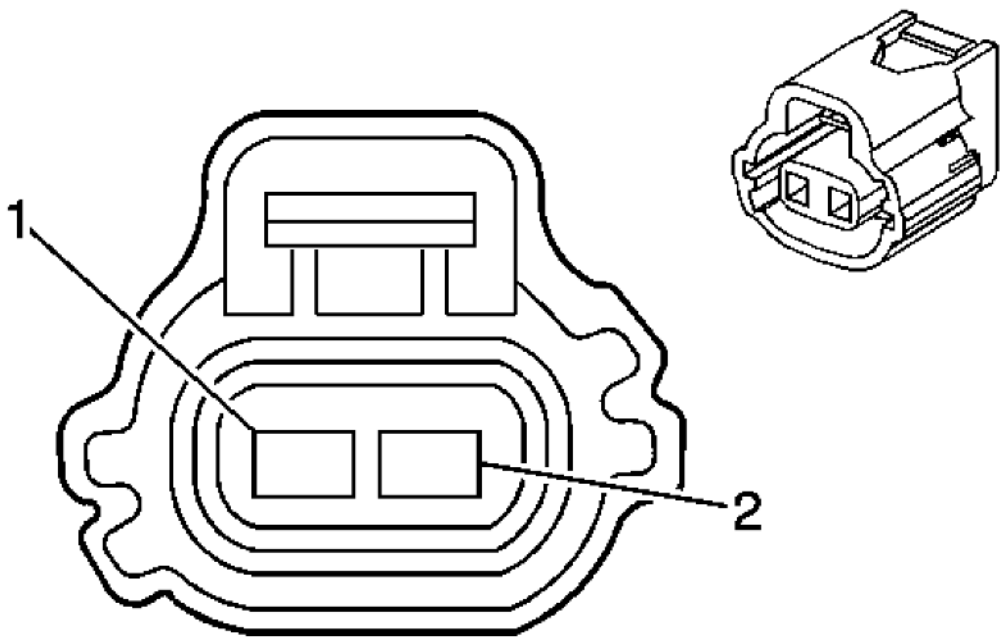


Fig. 22: Q6D Camshaft Position Actuator Solenoid Valve - Bank 2 Intake (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 15411401
- Service: 88988588
- Description: 2-Way F Sealed (BK)

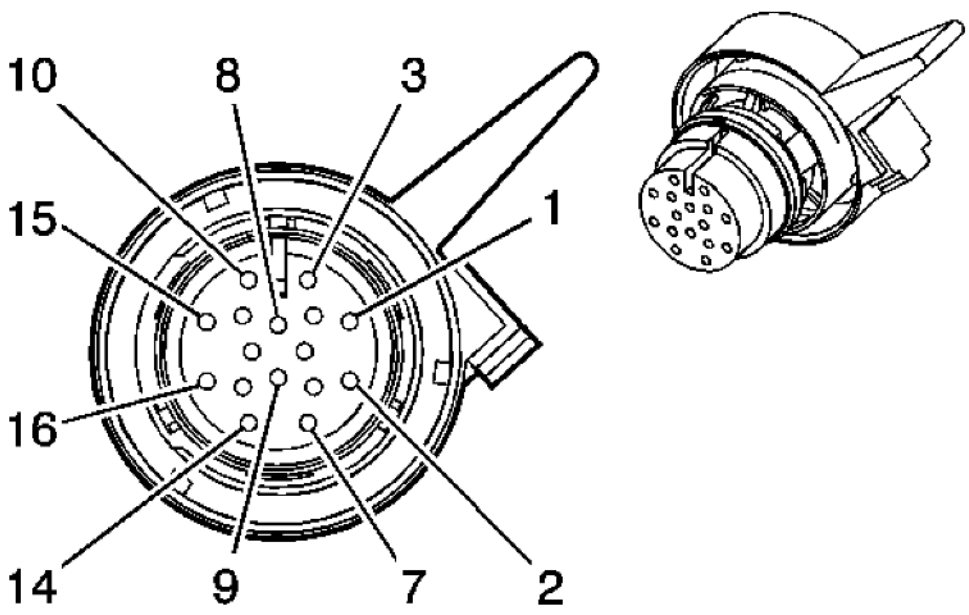
Terminal Part Information

- Terminal/Tray: 7116-4026/11
- Core/Insulation Crimp: E/1
- Release Tool: 15313892
- Test Probe: J-35616-18 (BK)

Q6D Camshaft Position Actuator Solenoid Valve - Bank 2 Intake (LLT)

Pin	Wire	Circuit	Function
1	0.8 PK/BK	5293	Ignition Voltage
2	0.8 OG/BK	5272	CMP Actuator Solenoid Control - Intake Bank 2

Q8 CONTROL SOLENOID VALVE ASSEMBLY X1 (MYB OR MYC)



cardiagn.com

Fig. 23: Q8 Control Solenoid Valve Assembly X1 (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15491328
- Service: 15131300
- Description: 16-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 2 21 24 47220 0/12
- Core/Insulation Crimp: E/1
- Release Tool: J-38125-28
- Test Probe: J-35616-66 (YE)

Q8 Control Solenoid Valve Assembly X1 (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.8 RD/WH	1840	Battery Positive Voltage
2	0.5 BK/WH	451	Ground
3	0.5 OG/BK	1786	Park/Neutral Signal
4	0.5 RD/WH	1840	Battery Positive Voltage
5	0.5 BK/WH	451	Ground
6-8	-	-	Not Used
9	0.35 D-BU	5985	Serial Data Wake-Up Signal
10	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus+
11	0.5 TN	2501	High Speed GMLAN Serial Data Bus -
12	0.5 PK	2139	Ignition Voltage
13	0.5 TN	2501	High Speed GMLAN Serial Data Bus -
14	0.5 TN/BK	2500	High Speed GMLAN Serial Data Bus+
15-16	-	-	Not Used

Q8 CONTROL SOLENOID VALVE ASSEMBLY X2 (MYB OR MYC)

cardiagn.com

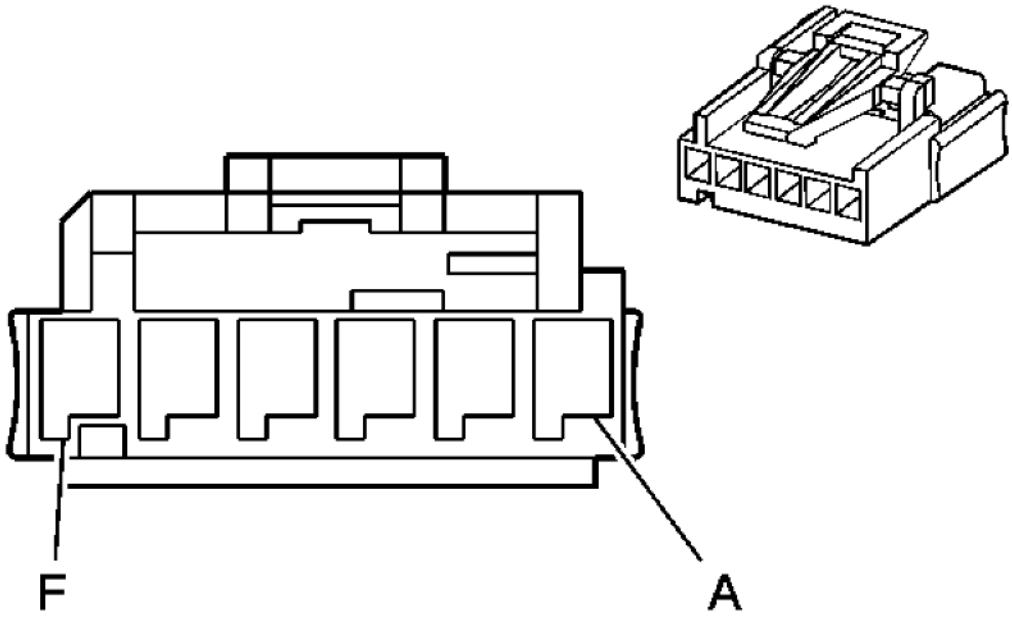


Fig. 24: Q8 Control Solenoid Valve Assembly X2 (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Transmission
- OEM: 15336500
- Service: 89046635
- Description: 6-Way F Metri-Pack 150.2 Series (GN)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

Q8 Control Solenoid Valve Assembly X2 (MYB or MYC)

Pin	Wire	Circuit	Function
A	0.35 GY	-	Ground
B	0.35 BK	-	Transmission Range Switch Signal P
C	0.35 YE	-	Transmission Range Switch Signal C

cardiagn.com

D	0.35 RD	-	Transmission Range Switch Signal B
E	0.35 GN	-	Transmission Range Switch Signal A
F	0.35 WH	-	Park/Neutral Switch Signal

Q8 CONTROL SOLENOID VALVE ASSEMBLY X3 (MYB OR MYC)

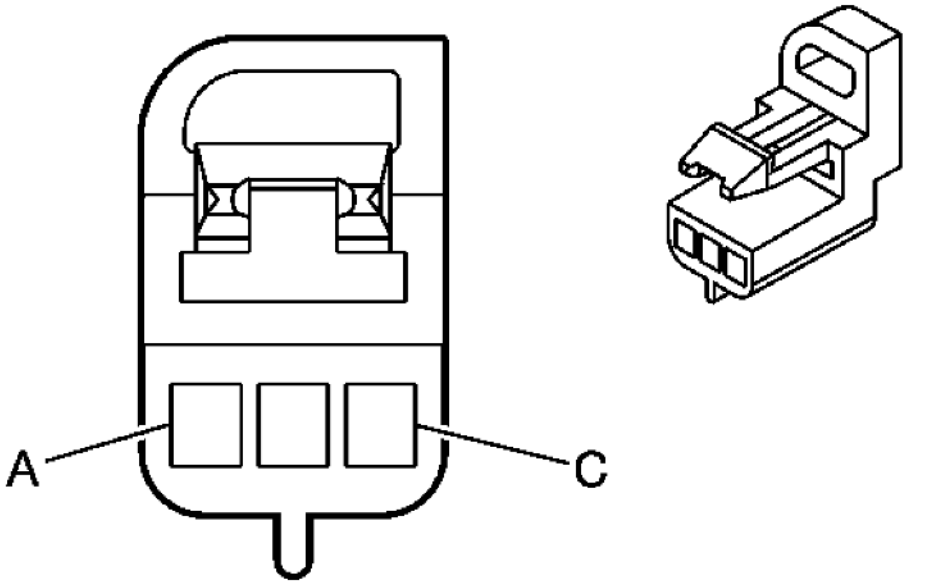


Fig. 25: Q8 Control Solenoid Valve Assembly X3 (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Transmission
- OEM: 13539487
- Service: Service by Harness - See Part Catalog
- Description: 3-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available

cardiagn.com

- Test Probe: Not Available

Q8 Control Solenoid Valve Assembly X3 (MYB or MYC)

Pin	Wire	Circuit	Function
A	0.35 GN	-	Input Speed Sensor (ISS) Signal
B	0.35 RD	-	ISS/OSS Supply Voltage
C	0.35 BK	-	Output Speed Sensor (OSS) Signal

R14R REAR WINDOW DEFOGGER NOISE FILTER - RIGHT X1

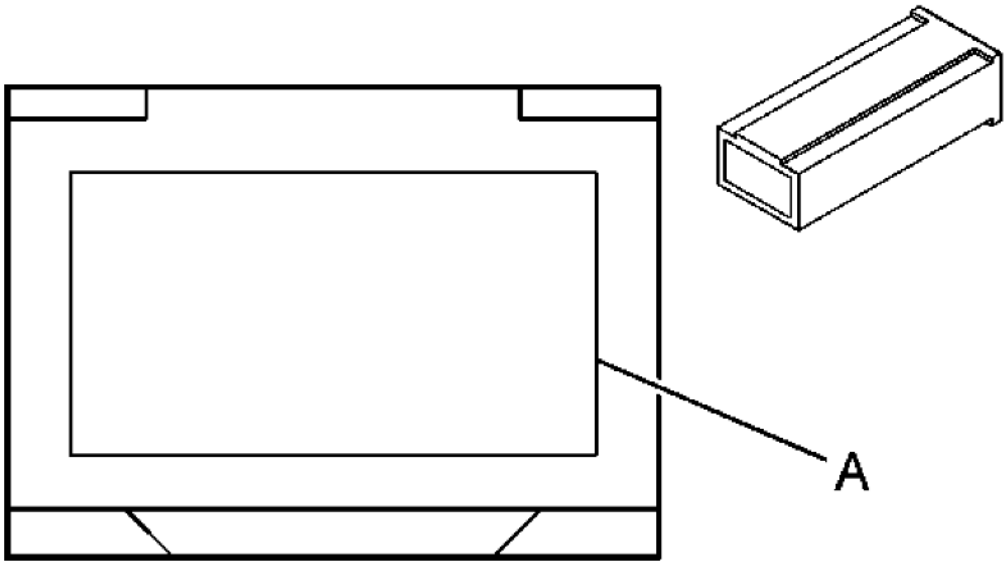


Fig. 26: R14R Rear Window Defogger Noise Filter - Right X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

R14R Rear Window Defogger Noise Filter - Right X1

Pin	Wire	Circuit	Function
A	5 PU	293	Rear Defog Element Supply Voltage

R14R REAR WINDOW DEFOGGER NOISE FILTER - RIGHT X2

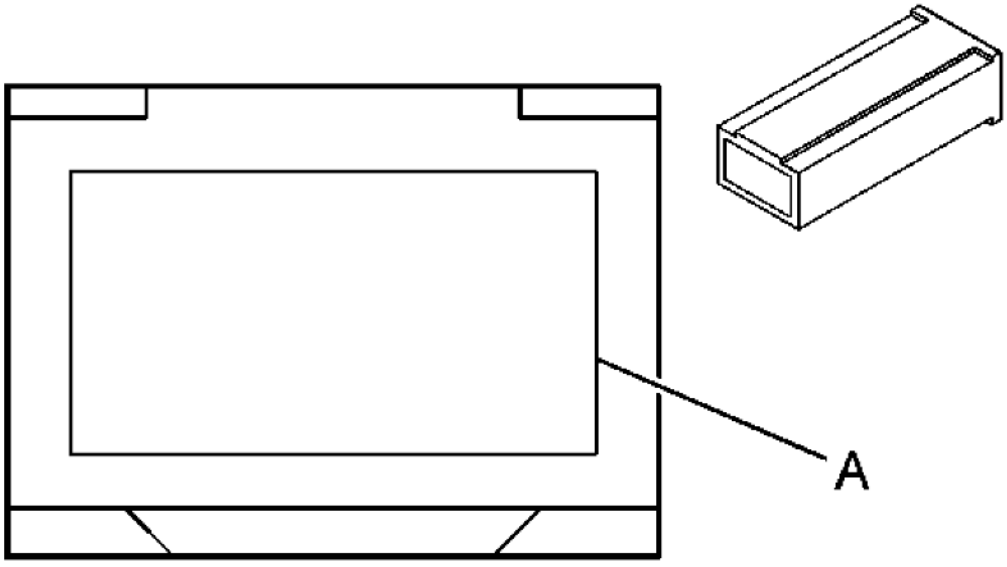


Fig. 27: R14R Rear Window Defogger Noise Filter - Right X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 12052018
- Service: 88988738
- Description: 1-Way F (BK)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - 88988738

cardiagn.com

- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

R14R Rear Window Defogger Noise Filter - Right X2

Pin	Wire	Circuit	Function
A	5 PU	293	Rear Defog Element Supply Voltage

R6 DATA LINK RESISTOR

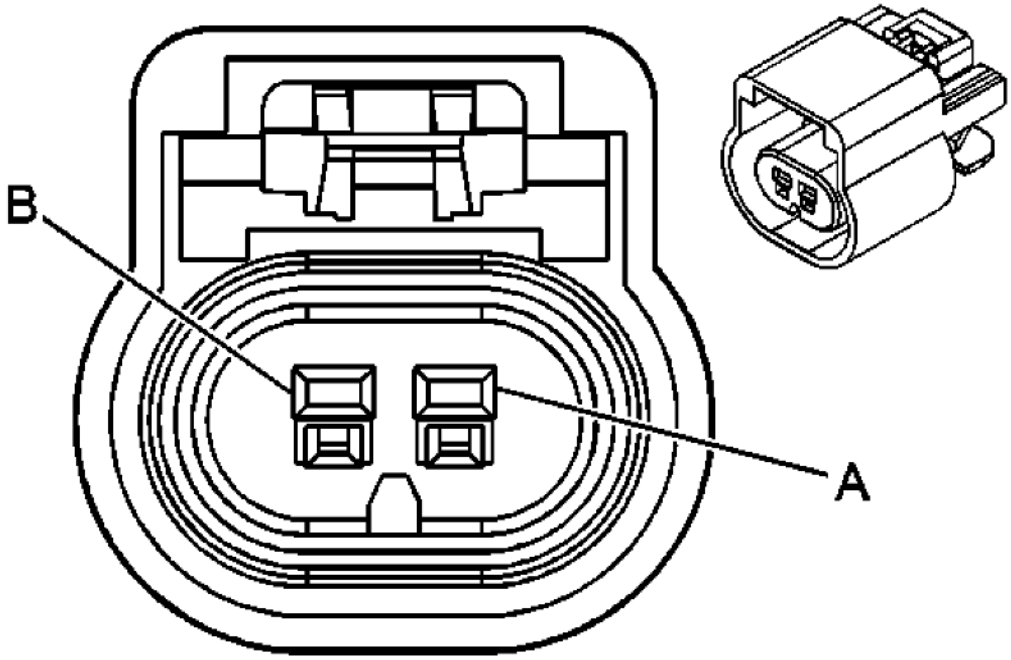


Fig. 28: R6 Data Link Resistor Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15326801
- Service: 15306156
- Description: 2-Way F GT 150 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

R6 Data Link Resistor

Pin	Wire	Circuit	Function
A	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus+
B	0.35 TN	2501	High Speed GMLAN Serial Data Bus -

S25 GARAGE DOOR OPENER (UG1)

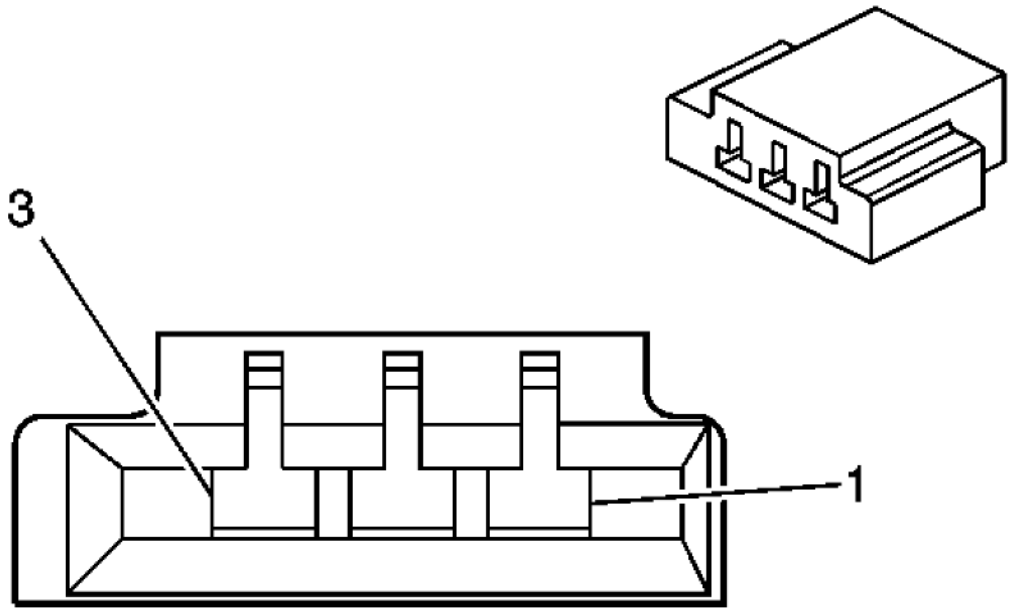


Fig. 29: S25 Garage Door Opener (UG1) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 13658917

cardiagn.com

- Service: 13505907
- Description: 3-Way F P/C EDGBD-ECM (CR)

Terminal Part Information

- Terminal/Tray: 13673882/Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

S25 Garage Door Opener (UG1)

Pin	Wire	Circuit	Function
1	0.35 RD/WH	3140	Battery Positive Voltage
2	-	-	Not Used
3	0.35 BK	1550	Ground

S2L TRANSMISSION MANUAL SHIFT SWITCH - LEFT (MYB OR MYC)

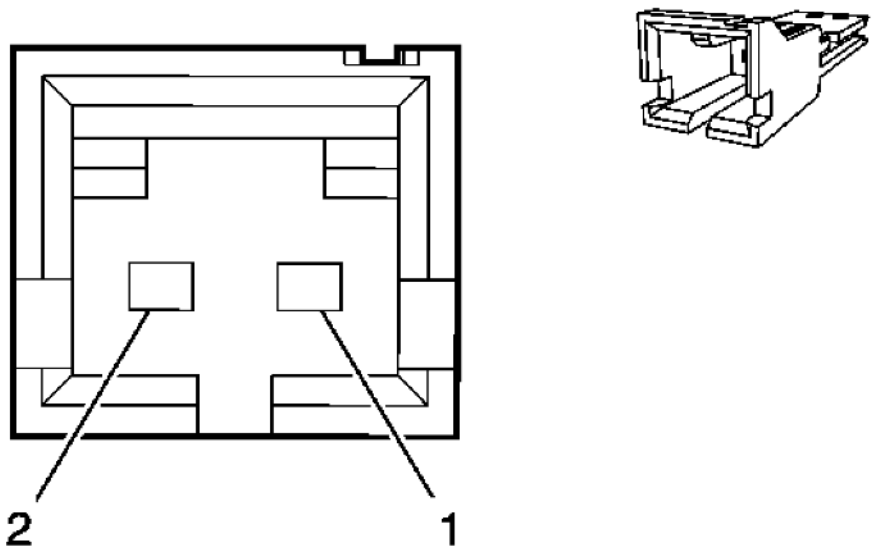


Fig. 30: S2L Transmission Manual Shift Switch - Left (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Steering Wheel
- OEM: 103653-1
- Service: Service by Harness See Part Catalog
- Description: 2-Way M MTE Series (BK)

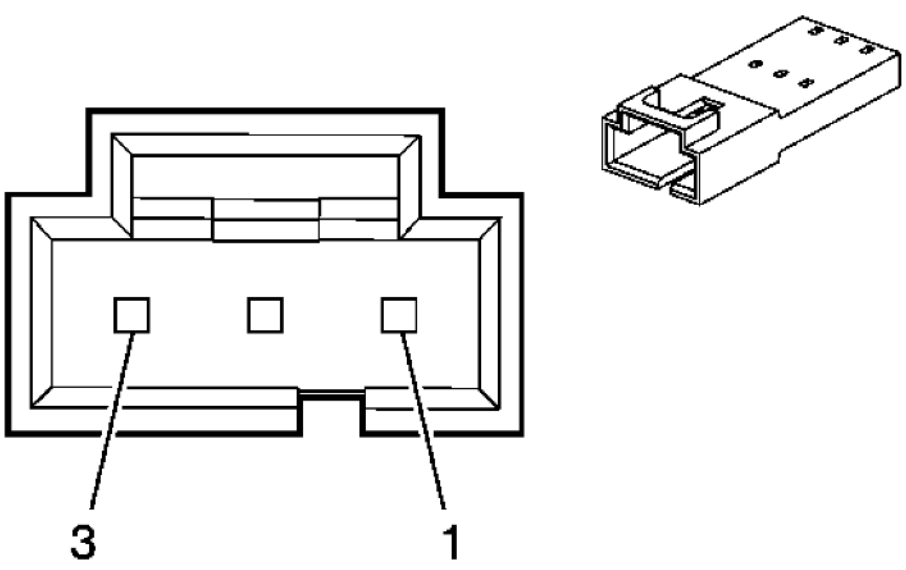
Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

S2L Transmission Manual Shift Switch - Left (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.35 PU	5526	Tap Up/Tap Down Switch Signal
2	0.35 D-BU/RD	5525	Tap Up/Tap Down Enabled Signal

S2R TRANSMISSION MANUAL SHIFT SWITCH - RIGHT (MYB OR MYC)



cardiagn.com

Fig. 31: S2R Transmission Manual Shift Switch - Right (MYB or MYC) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: 103653-2
- Service: Service by Harness See Part Catalog
- Description: 3-Way M MTE Series (BK)

Terminal Part Information

- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

S2R Transmission Manual Shift Switch - Right (MYB or MYC)

Pin	Wire	Circuit	Function
1	0.35 BK	1550	Ground
2	0.35 PU	5526	Tap Up/Tap Down Switch Signal
3	0.35 D-BU/RD	5525	Tap Up/Tap Down Enabled Signal

S30 HEADLAMP SWITCH

cardiagn.com

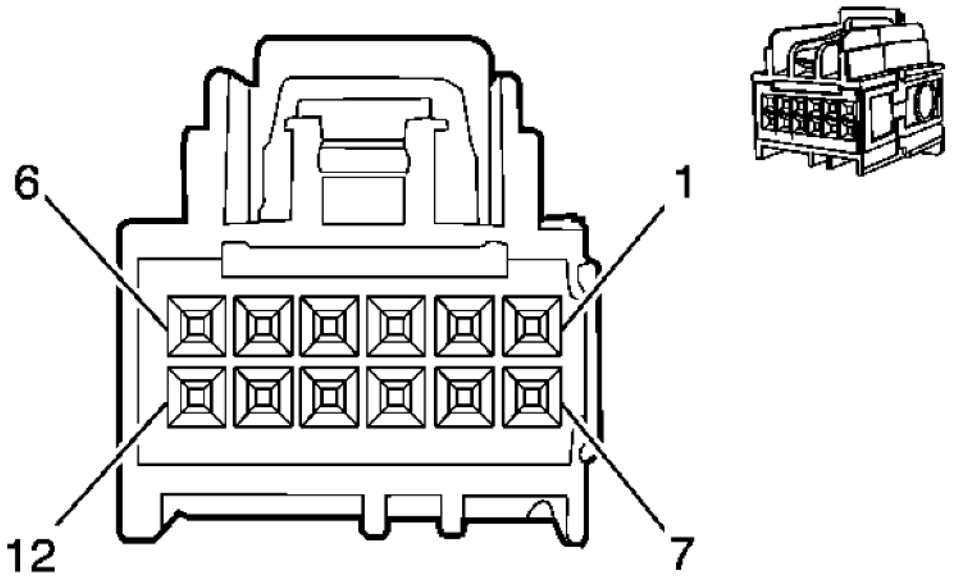


Fig. 32: S30 Headlamp Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 10890121
- Service: 13316200
- Description: 12-Way F 0.64 Micro Quadlok Series (BK)

Terminal Part Information

- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: Pins 1, 3, 4, 5, 7, 12 - H/H
- Core/Insulation Crimp: Pins 6 - K/K
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S30 Headlamp Switch

Pin	Wire	Circuit	Function
1	0.35 YE/BK	7556	Headlamp Switch Reference Voltage

cardiagn.com

2	-	-	Not Used
3	0.35 L-BU	13	Headlamp Switch Park Lamps Signal
4	0.35 WH	103	Headlamp Switch Headlamps On Signal
5	0.35 D-GN	306	Headlamp Switch Headlamps Off Signal/Automatic Headlamp Low Control
6	0.8 BK	1550	Ground
7	0.35 YE	6817	LED Backlight Dimming Control
8-11	-	-	Not Used
12	0.35 D-GN	7555	Headlamp Switch Signal

S39 IGNITION SWITCH

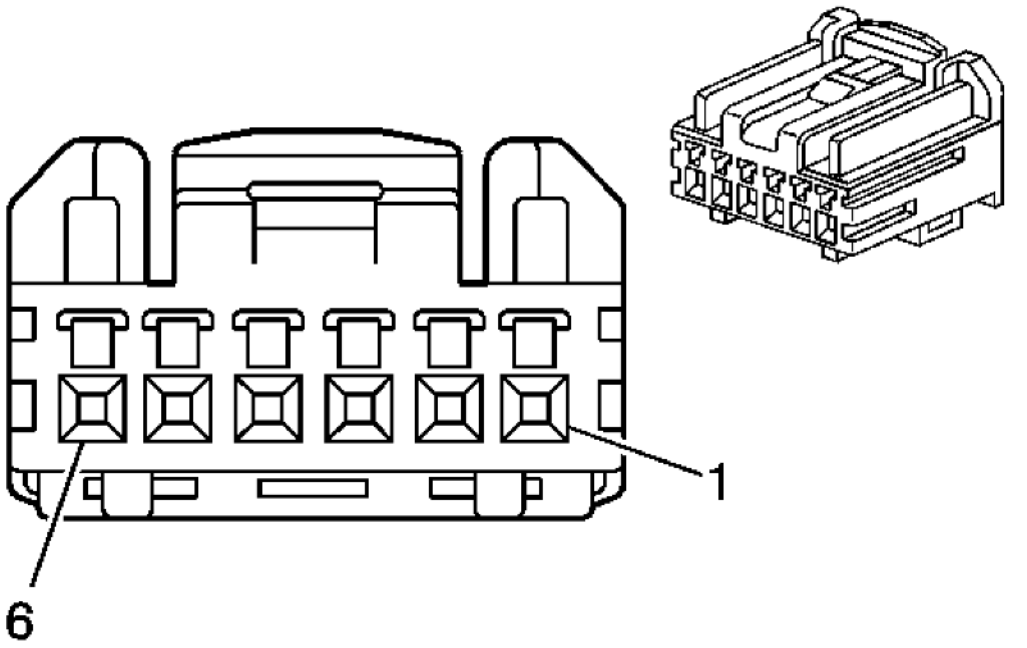


Fig. 33: S39 Ignition Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13608102
- Service: 19153174

cardiagn.com

- Description: 6-Way F 1.2 HCM Unsealed (WH)

Terminal Part Information

- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S39 Ignition Switch

Pin	Wire	Circuit	Function
1	0.35 PK	3	Ignition Voltage
2	0.5 RD/WH	540	Battery Positive Voltage
3	0.35 BN	4	Accessory Voltage
4	0.35 PK	1020	Ignition Voltage
5	-	-	Not Used
6	0.35 WH/BK	1073	5-Volt Reference

S52 OUTSIDE REARVIEW MIRROR SWITCH

cardiagn.com

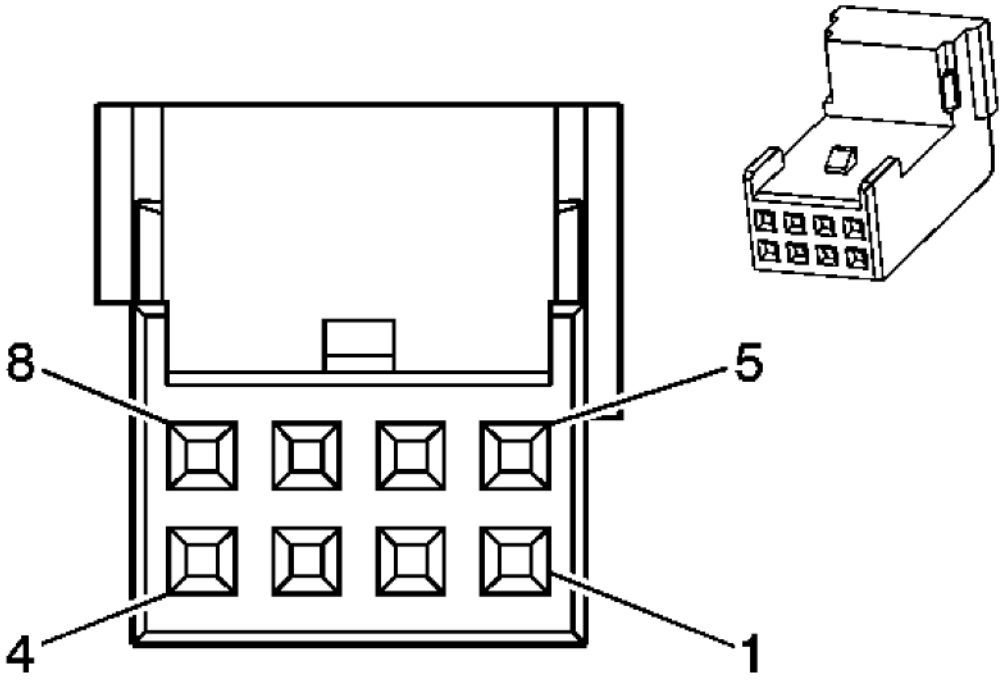


Fig. 34: S52 Outside Rearview Mirror Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 15327190
- Service: 88988407
- Description: 8-Way F DUCON 0.8 Series (GY)

Terminal Part Information

- Terminal/Tray: 15326592/19
- Core/Insulation Crimp: E/2
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S52 Outside Rearview Mirror Switch

Pin	Wire	Circuit	Function
1	0.5 RD/WH	1940	Battery Positive Voltage

cardiagn.com

2	0.5 BK	850	Ground
3	0.5 PU/WH	889	Passenger Mirror Motor Down Control
4	0.5 WH	81	Driver Mirror Motor Right Control
5	0.5 TN	329	Mirror Motor Up/Left Control
6	-	-	Not Used
7	0.5 L-GN	89	Driver Mirror Motor Down Control
8	0.5 OG/WH	881	Passenger Mirror Motor Right Control

S58 REAR COMPARTMENT LID UNLATCH SWITCH

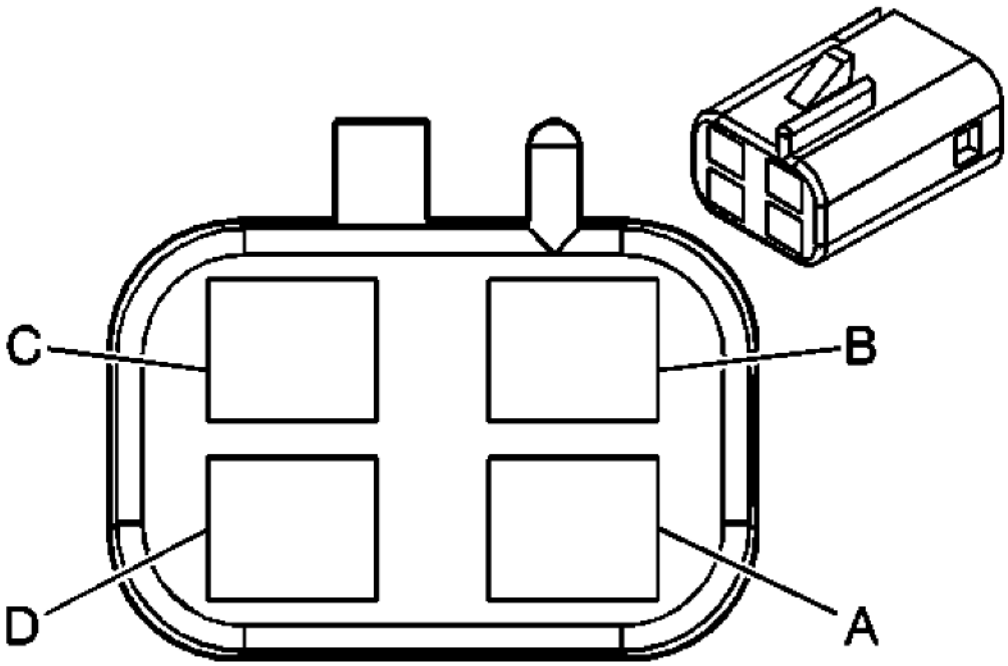


Fig. 35: S58 Rear Compartment Lid Unlatch Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 12047785
- Service: 12102900
- Description: 4-Way F Metri-Pack 150 Series (BK)

cardiagn.com

Terminal Part Information

- Terminal/Tray: 12064971/5
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

S58 Rear Compartment Lid Unlatch Switch

Pin	Wire	Circuit	Function
A	0.35 BK	850	Ground
B	-	-	Not Used
C	0.35 D-BU	6189	Rear Compartment Lid Release Switch
D	-	-	Not Used

S64D SEAT ADJUSTER SWITCH - DRIVER (AH3)

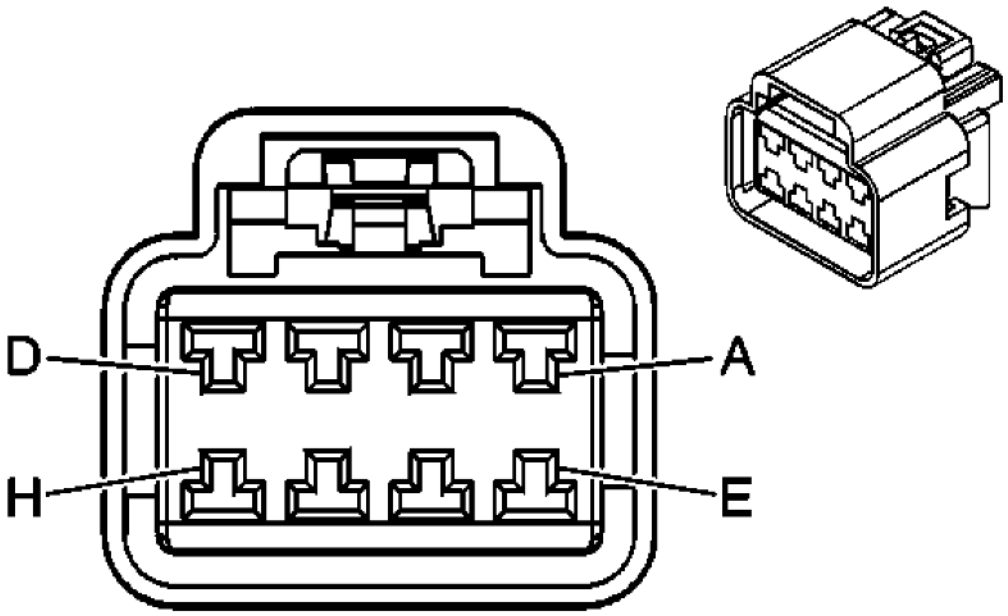


Fig. 36: S64D Seat Adjuster Switch - Driver (AH3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Driver Seat
- OEM: 15326924
- Service: 19181247
- Description: 8-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

S64D Seat Adjuster Switch - Driver (AH3)

Pin	Wire	Circuit	Function
A	-	-	Not Used
B	3 BK	850	Ground
C	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control
D	3 RD/WH	5040	Battery Positive Voltage
E	-	-	Not Used
F	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
G-H	-	-	Not Used

S64D SEAT ADJUSTER SWITCH - DRIVER (AMM)

cardiagn.com

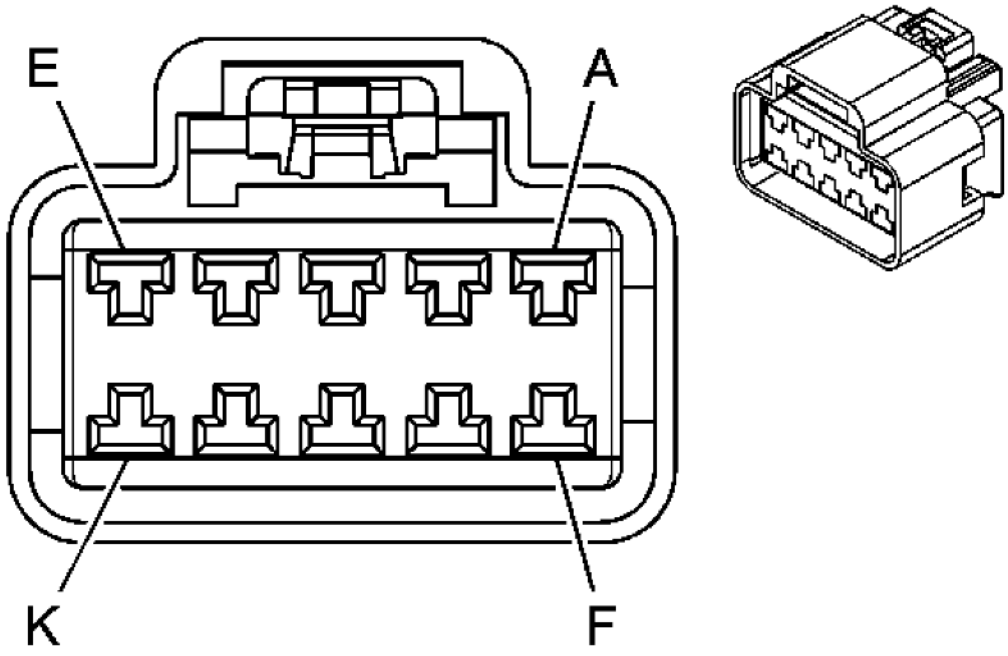


Fig. 37: S64D Seat Adjuster Switch - Driver (AMM) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Seat
- OEM: 15326931
- Service: 15306309
- Description: 10-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

S64D Seat Adjuster Switch - Driver (AMM)

Pin	Wire	Circuit	Function
A	3 D-GN	286	Driver Seat Front Vertical Motor Up Control

cardiagn.com

B	3 BK	850	Ground
C	3 L-GN	284	Driver Seat Horizontal Motor Rearward Control
D	3 TN	285	Driver Seat Horizontal Motor Forward Control
E	3 RD/WH	5040	Battery Positive Voltage
F	3 YE	282	Driver Seat Rear Vertical Motor Up Control
G	3 D-BU/YE	277	Driver Seat Recline Motor Rearward Control
H	3 D-GN/YE	276	Driver Seat Recline Motor Forward Control
J	3 L-BU	283	Driver Seat Rear Vertical Motor Down Control
K	3 D-BU	287	Driver Seat Front Vertical Motor Down Control

S64P SEAT ADJUSTER SWITCH - PASSENGER

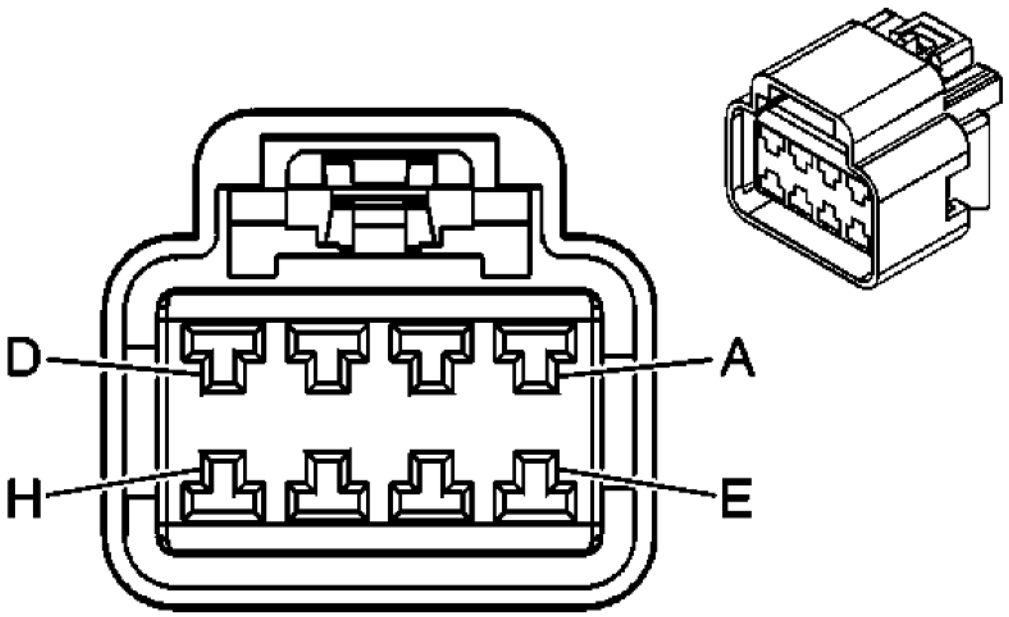


Fig. 38: S64P Seat Adjuster Switch - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Passenger Seat
- OEM: 15326924
- Service: 19181247
- Description: 8-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304713/19
- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

S64P Seat Adjuster Switch - Passenger

Pin	Wire	Circuit	Function
A	-	-	Not Used
B	3 BK	850	Ground
C	3 D-GN/YE	76	Passenger Seat Recline Motor Forward
D	3 RD/WH	1440	Battery Positive Voltage
E	-	-	Not Used
F	3 D-BU/YE	77	Passenger Seat Recline Motor Rearward
G-H	-	-	Not Used

S70L STEERING WHEEL CONTROLS SWITCH - LEFT

cardiagn.com

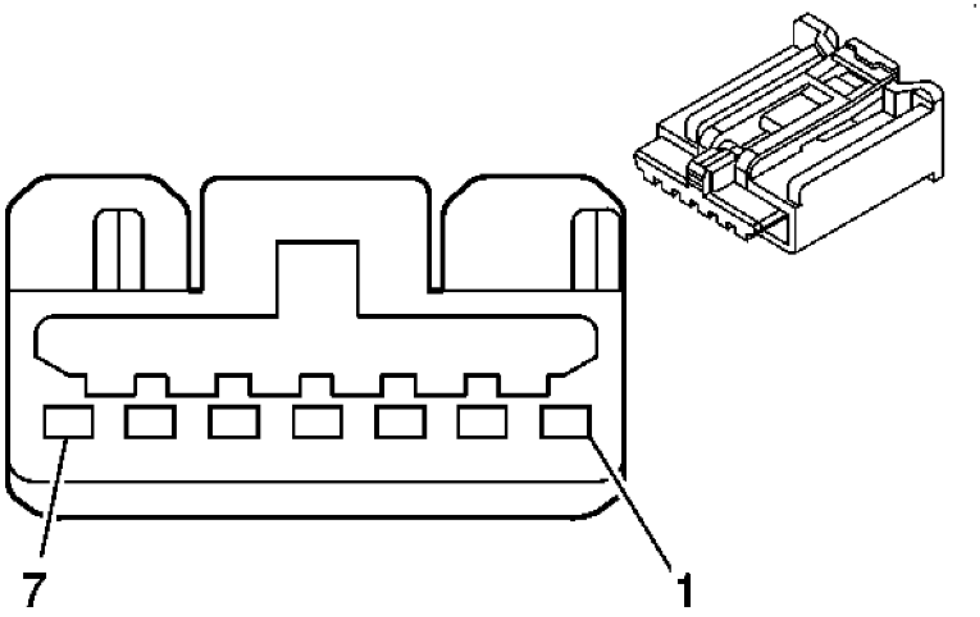


Fig. 39: S70L Steering Wheel Controls Switch - Left Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: AIT2PB-07-1FS
- Service: 88988919
- Description: 7-Way F AIT II Series (WH)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

S70L Steering Wheel Controls Switch - Left

Pin	Wire	Circuit	Function
1	0.35 PK	1444	12-Volt Reference
2	-	-	Not Used

cardiagn.com

3	0.35 GY	1884	Cruise Control Switch Signal
4-5	-	-	Not Used
6	0.35 BN	6136	LED Backlight Dimming Control
7	0.35 BK	1550	Ground

S70R STEERING WHEEL CONTROLS SWITCH - RIGHT (NZL)

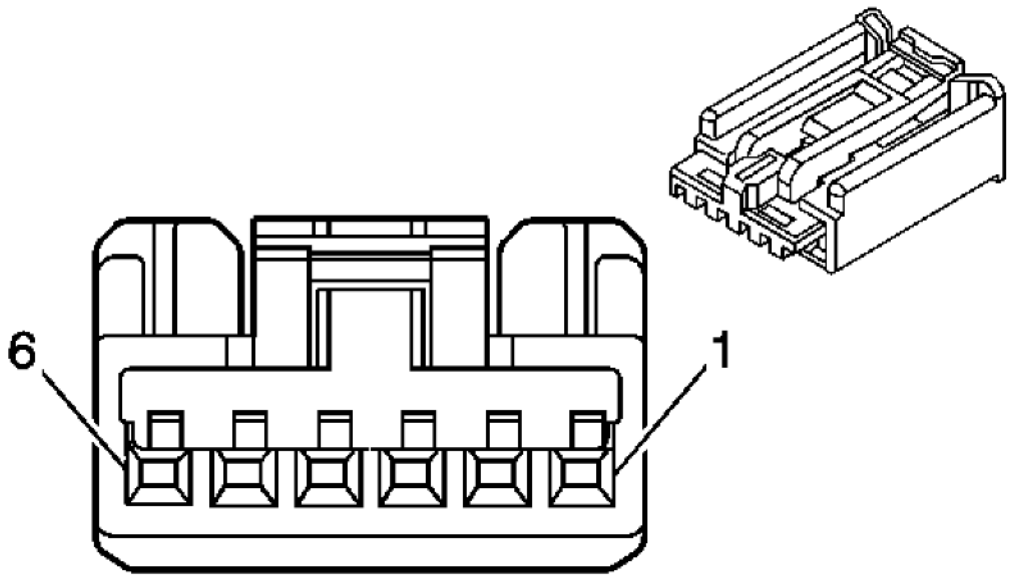


Fig. 40: S70R Steering Wheel Controls Switch - Right (NZL) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: AIT2PB-06-1AK
- Service: 19167753
- Description: 6-Way F AIT II Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A

cardiagn.com

- Test Probe: J-35616-64B (L-BU)

S70R Steering Wheel Controls Switch - Right (NZL)

Pin	Wire	Circuit	Function
1	0.35 PK	1444	12-Volt Reference
2	0.35 L-GN	6818	Steering Wheel Control Switch Signal
3	-	-	Not Used
4	0.35 BN	6136	LED Backlight Dimming Control
5	0.35 BK	1550	Ground
6	-	-	Not Used

S72 SUNROOF SWITCH (CF5)

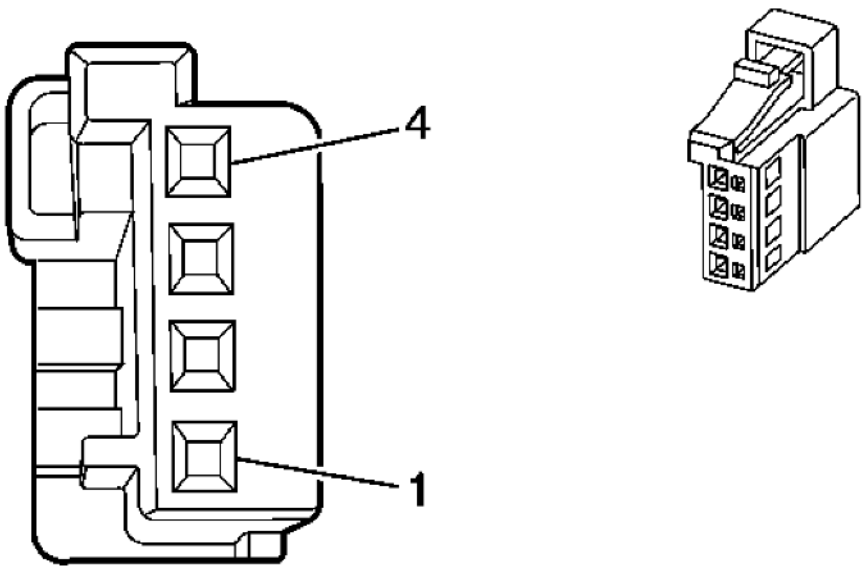


Fig. 41: S72 Sunroof Switch (CF5) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Roof
- OEM: 10768790

cardiagn.com

- Service: 13216377
- Description: 4-Way F 0.64 Micro Quadlok Series (BK)

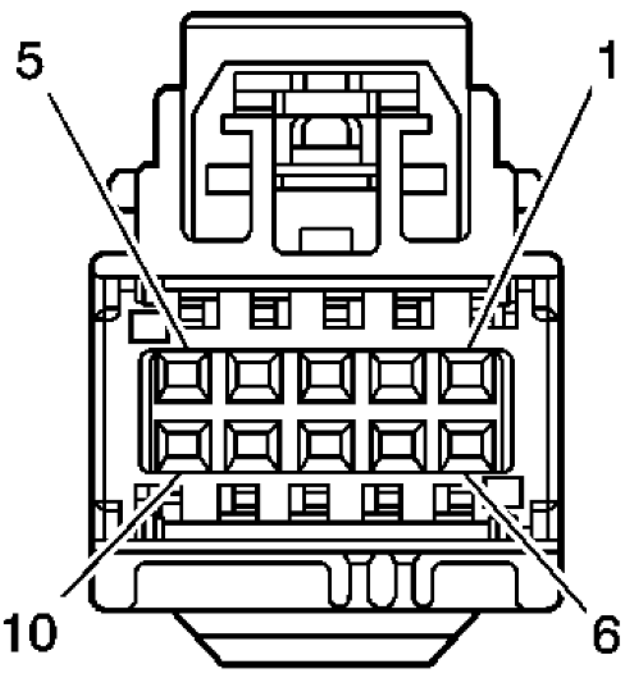
Terminal Part Information

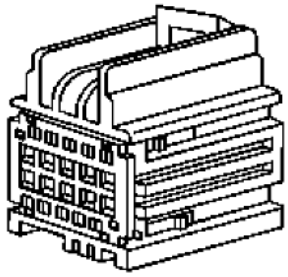
- Terminal/Tray: 928999-5/15
- Core/Insulation Crimp: H/H
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S72 Sunroof Switch (CF5)

Pin	Wire	Circuit	Function
1	0.35 D-BU	128	Low Reference
2	0.35 YE	6817	LED Backlight Dimming Control
3	0.35 BK	1550	Ground
4	0.35 L-BU	5027	Sunroof Switch Data 1

S75 TRACTION CONTROL SWITCH





cardiagn.com

Fig. 42: S75 Traction Control Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Console Cap Link
- OEM: 15491259
- Service: 15127042
- Description: 10-Way F YESC Kaizen Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: /J-35616-64B (L-BU)

S75 Traction Control Switch

Pin	Wire	Circuit	Function
1	0.35 YE	6817	LED Backlight Dimming Control
2	0.35 BK	1550	Ground
3-6	-	-	Not Used
7	0.35 L-BU	1788	Traction Control Switch Signal
8-10	-	-	Not Used

S78 TURN SIGNAL/MULTIFUNCTION SWITCH

cardiagn.com

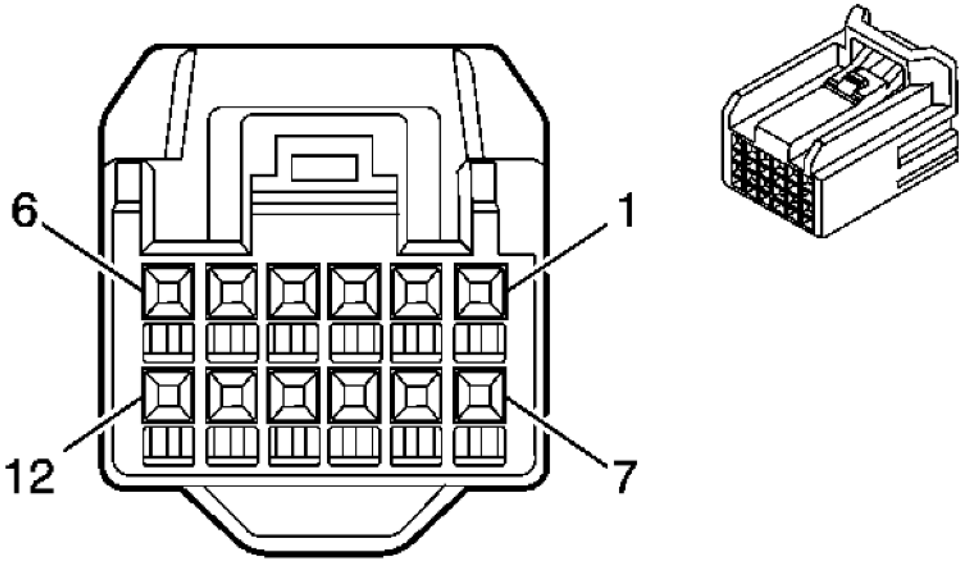


Fig. 43: S78 Turn Signal/Multifunction Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13604008
- Service: 19167197
- Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

- Terminal/Tray: SNAC3-A021T-M0.64/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S78 Turn Signal/Multifunction Switch

Pin	Wire	Circuit	Function
1	0.35 D-GN	663	Left Turn Signal
2	0.35 PU	524	Headlamp Dimmer Switch High Beam

cardiagn.com

			Signal
3	0.5 BK	1550	Ground
4	0.35 YE	307	Headlamp Switch Flash to Pass Signal
5	0.35 PK	893	DIC Select Menu Switch Signal
6	0.35 BN	897	Low Reference
7	0.35 TN	664	Right Turn Signal
8-11	-	-	Not Used
12	0.35 D-GN/WH	1358	DIC Switch Signal

S79D WINDOW SWITCH - DRIVER

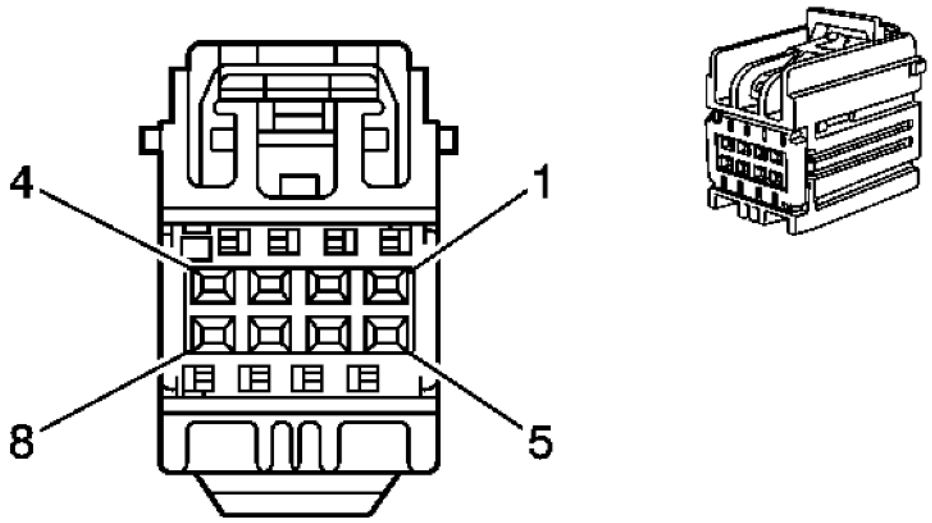


Fig. 44: S79D Window Switch - Driver Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Driver Door
- OEM: 13551679
- Service: 88987993
- Description: 8-Way F Kaizen 64 Series (GY)

cardiagn.com

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: Pin 1 - See Terminal Repair Kit
- Core/Insulation Crimp: Pins 2, 3, 4, 5, 6, 7, 8 - P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

S79D Window Switch - Driver

Pin	Wire	Circuit	Function
1	0.8 BK	850	Ground
2	0.35 L-GN/RD	7628	Power Window Switch Express Signal
3	0.35 GY	1136	Power Window Master Switch Left Front Down Signal
4	0.35 YE	6817	LED Backlight Dimming Control
5	0.35 TN	1300	Power Window Master Switch Left Front Up Signal
6	0.35 PU	2765	Power Window Switch Right Front Express Signal
7	0.35 TN	167	Power Window Master Switch Right Front Down Signal
8	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal

S79P WINDOW SWITCH - PASSENGER

cardiagn.com

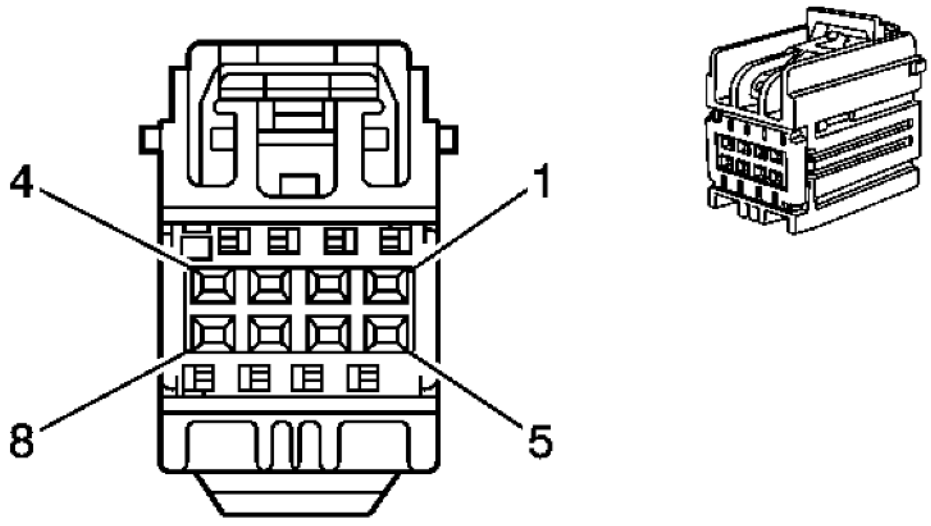


Fig. 45: S79P Window Switch - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Passenger Door
- OEM: 13551679
- Service: 19115653
- Description: 8-Way F Kaizen 64 Series (GY)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

S79P Window Switch - Passenger

Pin	Wire	Circuit	Function
1	0.35 BK	2350	Ground
2	0.35 YE	6817	LED Backlight Dimming Control

cardiagn.com

3-5	-	-	Not Used
6	0.35 PU	2765	Power Window Switch Right Front Express Signal
7	0.35 TN	167	Power Window Master Switch Right Front Down Signal
8	0.35 L-BU	166	Power Window Master Switch Right Front Up Signal

S82 WINDSHIELD WIPER/WASHER SWITCH

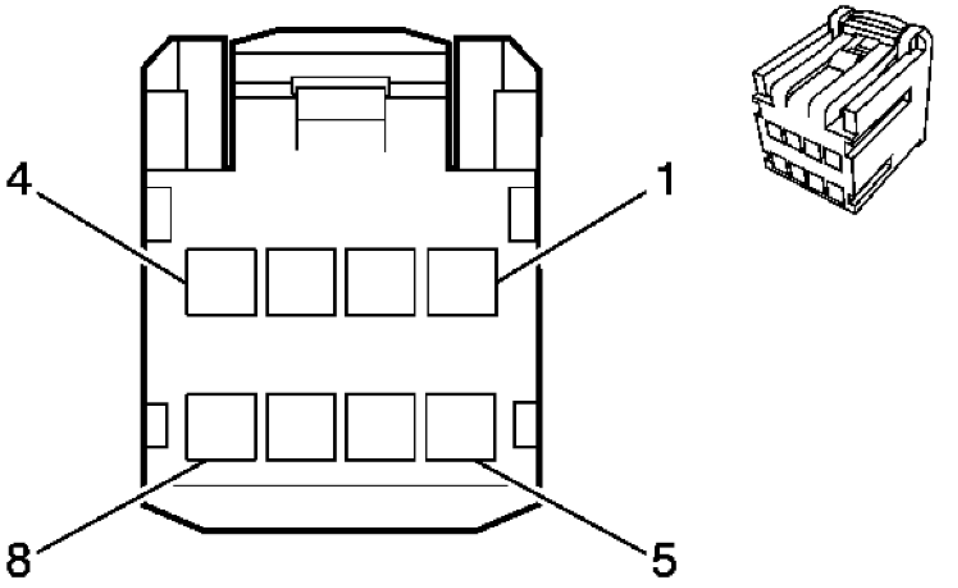


Fig. 46: S82 Windshield Wiper/Washer Switch Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13609516
- Service: 19153437
- Description: 8-Way F 1.2 HCM Series (BK)

Terminal Part Information

cardiagn.com

- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J
- Release Tool: 12094429
- Test Probe: J-35616-64B (L-BU)

S82 Windshield Wiper/Washer Switch

Pin	Wire	Circuit	Function
1	0.35 L-GN	1715	Windshield Wiper Switch High Signal
2	0.35 TN/BK	6009	Low Reference
3	0.35 L-BU	1714	Windshield Wiper Switch Low Signal
4	-	-	Not Used
5	0.35 PK	94	Windshield Washer Switch Signal
6-8	-	-	Not Used

T11 MULTIMEDIA PLAYER INTERFACE MODULE X1 (USR)

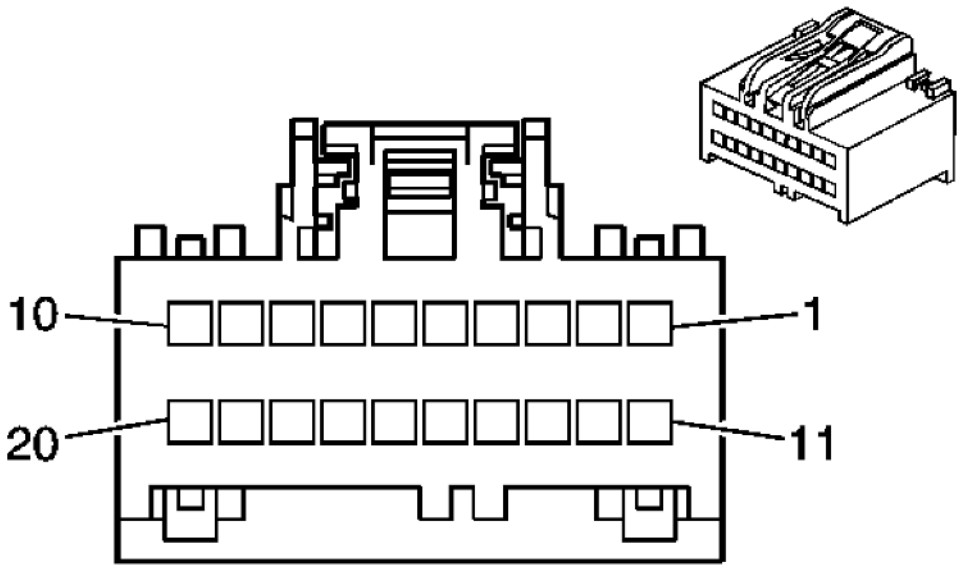


Fig. 47: T11 Multimedia Player Interface Module X1 (USR) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Console
- OEM: 15489824
- Service: 15126711
- Description: 20-Way F 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

T11 Multimedia Player Interface Module X1 (USR)

Pin	Wire	Circuit	Function
1	0.5 RD/WH	3240	Battery Positive Voltage
2	0.35 PK	2060	Auxiliary Detection Signal
3	0.35 D-BU	5843	Auxiliary Audio Common Signal
4	0.35 D-GN/WH	3376	Auxiliary Audio Common Signal
5-7	-	-	Not Used
8	0.5 D-GN	5060	Low Speed GMLAN Serial Data
9-10	-	-	Not Used
11	0.5 BK	1750	Ground
12	0.35 L-GN	5839	Left Auxiliary Audio Signal 2
13	0.35 D-GN/WH	5841	Right Auxiliary Audio Signal 2
14	0.35 YE	3377	Auxiliary Audio Jack Left (+)
15	0.35 TN/WH	3378	Auxiliary Audio Jack Right (+)
16-17	-	-	Not Used
18	0.35 BARE	5842	Drain Wire
19-20	-	-	Not Used

T3 AUDIO AMPLIFIER X1 (UQA)

cardiagn.com

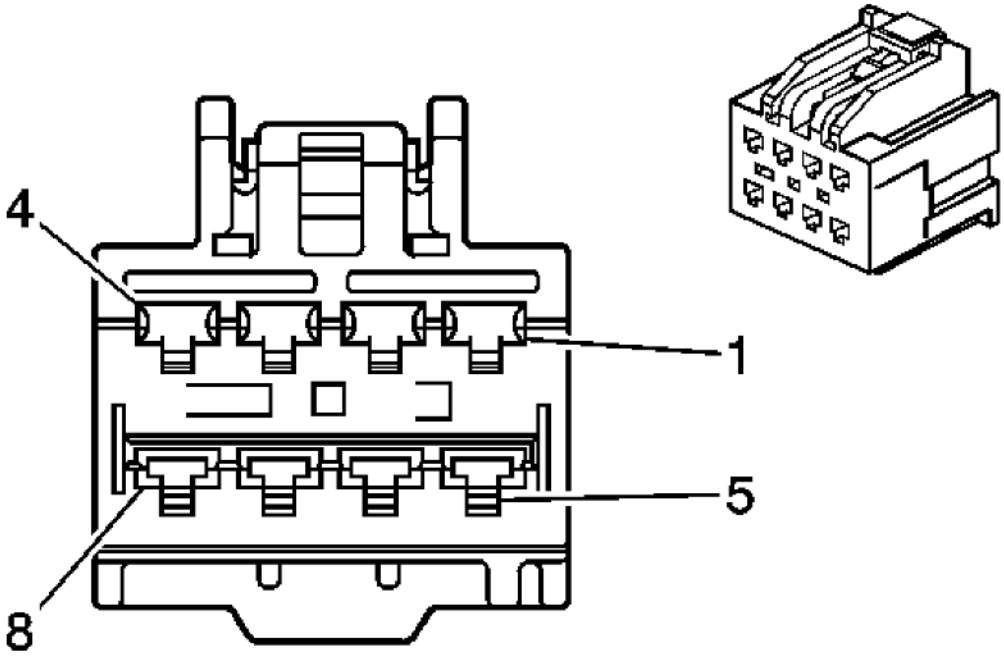


Fig. 48: T3 Audio Amplifier X1 (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15491289
- Service: 19115652
- Description: 8-Way F 2.8 Series (L-GY)

Terminal Part Information

- Pins: 2, 3, 6, 7
- Terminal/Tray: 8100-4444/22
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-35 (VT)

- Pins: 4, 8
- Terminal/Tray: 8100-4445/22

cardiagn.com

- Core/Insulation Crimp: F/D
- Release Tool: 15315247
- Test Probe: J-35616-35 (VT)

T3 Audio Amplifier X1 (UQA)

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	1 L-BU/BK	315	Right Subwoofer Speaker Output (-)
3	1 L-GN/BK	1794	Left Subwoofer Speaker Output (-)
4	3 RD/WH	3640	Battery Positive Voltage
5	-	-	Not Used
6	1 D-GN	1795	Right Subwoofer Speaker Output (+)
7	1 D-BU/WH	346	Left Subwoofer Speaker Output (+)
8	3 BK	550	Ground

T3 AUDIO AMPLIFIER X2 (UQA)

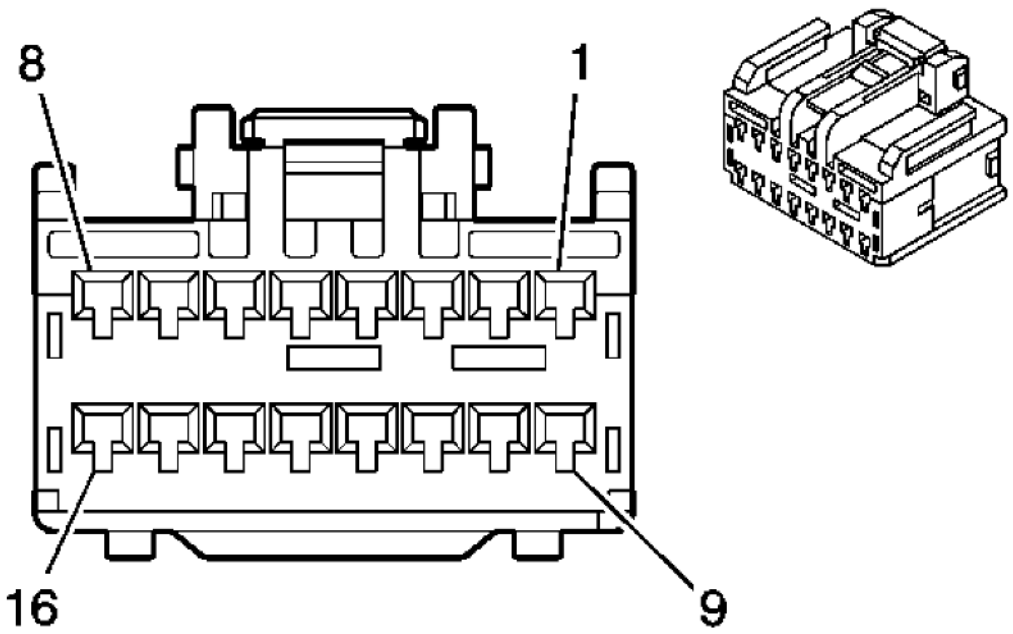


Fig. 49: T3 Audio Amplifier X2 (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 15489823
- Service: 15134091
- Description: 16-Way F 1.5 Series (BK)

Terminal Part Information

- Terminal/Tray: 8240-0128/22
- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T3 Audio Amplifier X2 (UQA)

Pin	Wire	Circuit	Function
1	0.8 L-BU/BK	5772	Right Rear Speaker Output (-)
2	0.8 L-BU	5762	Right Rear Speaker Output (+)
3	0.8 L-BU	1960	Front Center Speaker Output (-)
4	0.8 YE	1860	Front Center Speaker Output (+)
5-6	-	-	Not Used
7	0.8 D-GN	117	Right Front Speaker Output (-)
8	0.8 L-GN	200	Right Front Speaker Output (+)
9-12	-	-	Not Used
13	0.8 GY	118	Left Front Speaker Output (-)
14	0.8 TN	201	Left Front Speaker Output (+)
15	0.8 D-BU/WH	5771	Left Rear Speaker Output (-)
16	0.8 D-BU	5761	Left Rear Speaker Output (+)

T3 AUDIO AMPLIFIER X3 (UQA)

cardiagn.com

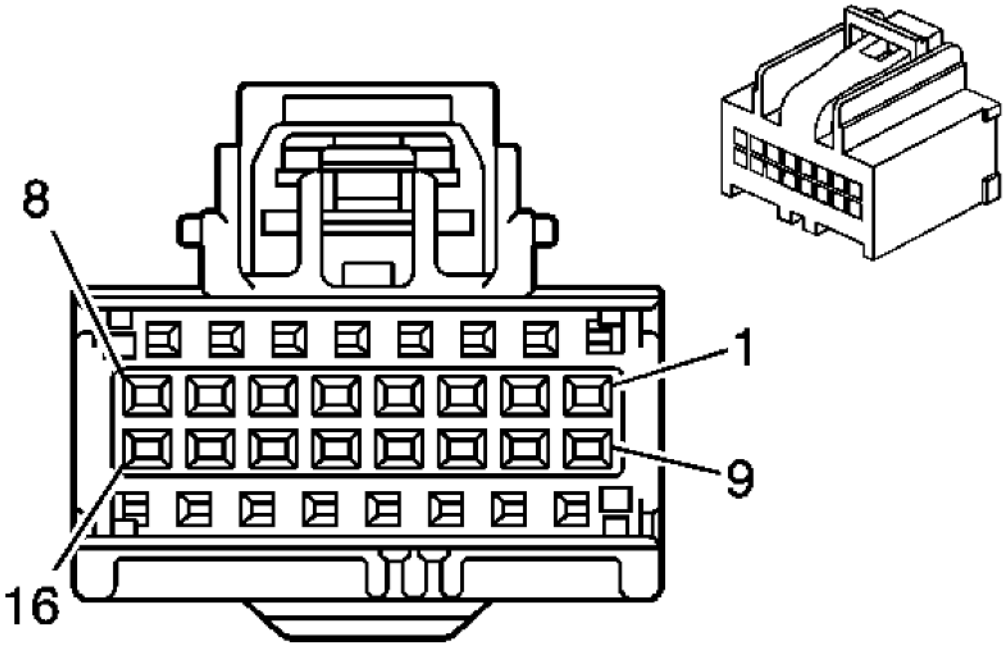


Fig. 50: T3 Audio Amplifier X3 (UQA) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body
- OEM: 15491285
- Service: 15136073
- Description: 16-Way F Kaizen 64 Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

T3 Audio Amplifier X3 (UQA)

Pin	Wire	Circuit	Function
1	0.35 WH	7066	Remote Enable

cardiagn.com

2-3	-	-	Not Used
4	0.35 TN	1946	Right Rear Low Level Audio Signal (-)
5	0.35 BN	1999	Left Rear Low Level Audio Signal (-)
6	0.35 OG/BK	1546	Right Front Low Level Audio Signal (-)
7	0.35 D-GN	1947	Left Front Low Level Audio Signal (-)
8-10	-	-	Not Used
11	0.35 OG	6978	Amplifier Control
12	0.35 D-BU	546	Right Rear Low Level Audio Signal (+)
13	0.35 BN/WH	599	Left Rear Low Level Audio Signal (+)
14	0.35 L-GN/WH	512	Right Front Low Level Audio Signal (+)
15	0.35 TN	511	Left Front Low Level Audio Signal (+)
16	-	-	Not Used

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Component Connector End Views - Camaro

COMPONENT CONNECTOR END VIEWS

T8A IGNITION COIL 1 (L99 OR LS3)

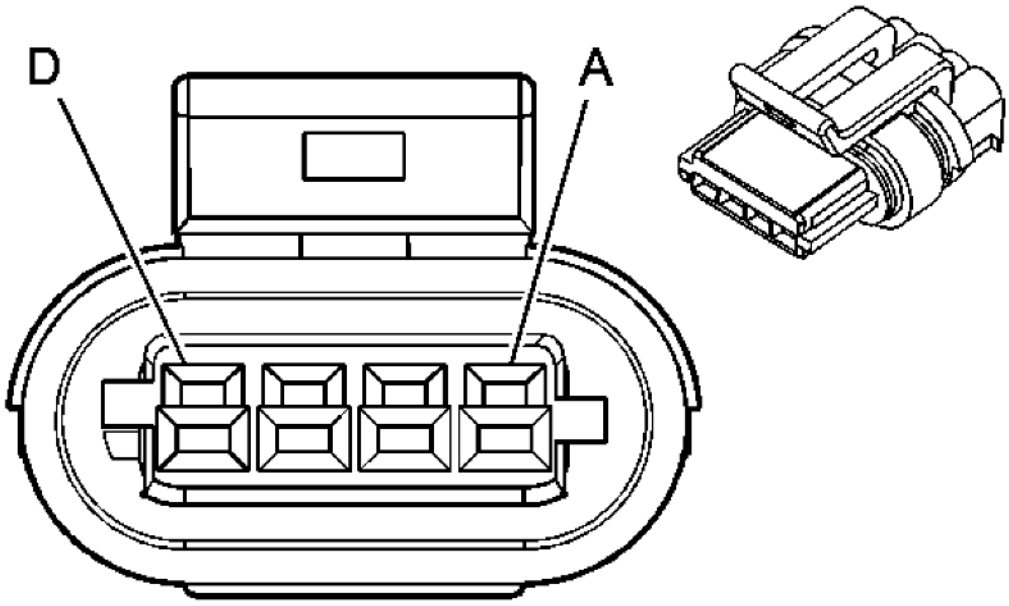


Fig. 1: T8A Ignition Coil 1 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D

cardiagn.com

- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8A Ignition Coil 1 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 PU	2121	IC 1 Control
D	0.8 PK	39	Ignition 1 Voltage

T8A IGNITION COIL 1 (LLT)

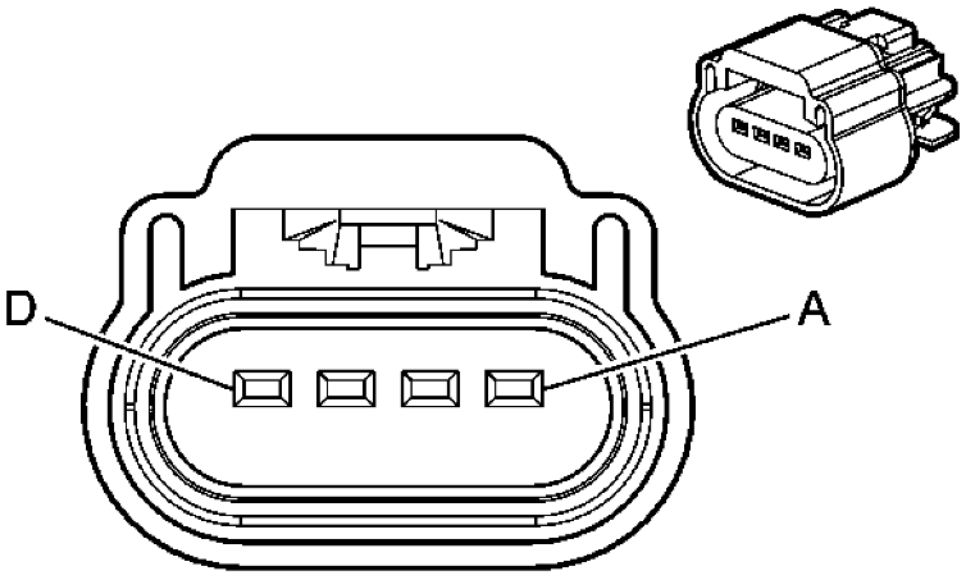


Fig. 2: T8A Ignition Coil 1 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

cardiagn.com

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8A Ignition Coil 1 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	250	Ground
B	0.5 BN	2129	Low Reference
C	0.5 PU	2121	IC 1 Control
D	1 PK/BK	5291	Ignition Voltage

T8B IGNITION COIL 2 (L99 OR LS3)

cardiagn.com

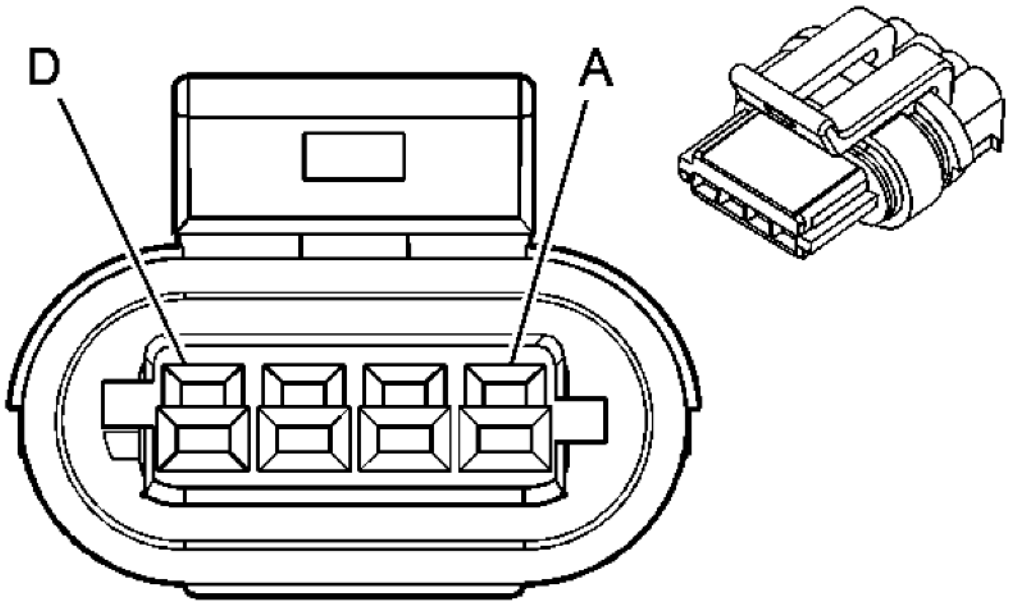


Fig. 3: T8B Ignition Coil 2 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8B Ignition Coil 2 (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 RD	2127	IC 2 Control
D	0.8 PK	39	Ignition 1 Voltage

T8B IGNITION COIL 2 (LLT)

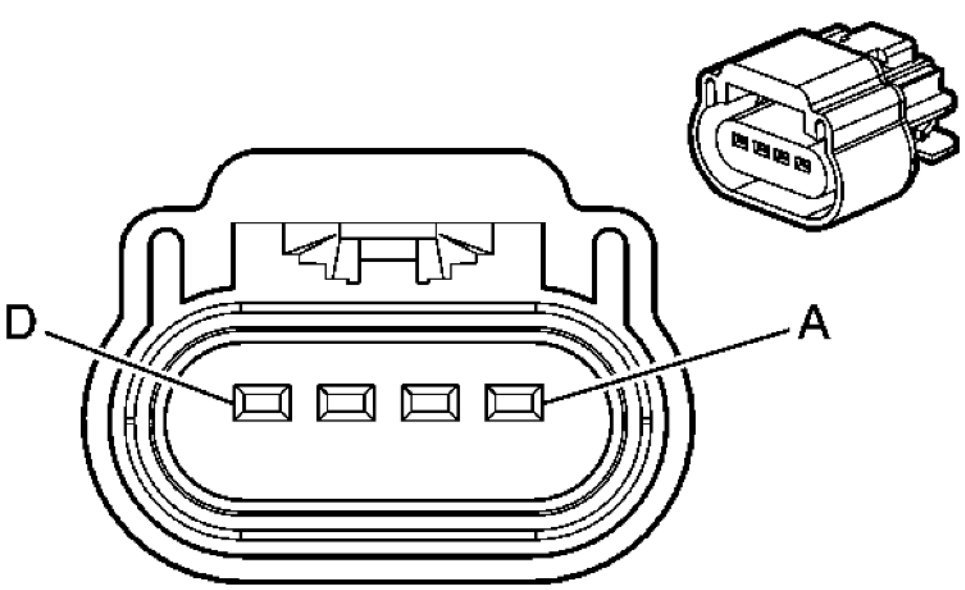


Fig. 4: T8B Ignition Coil 2 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8

cardiagn.com

- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8B Ignition Coil 2 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	350	Ground
B	0.5 BN/WH	2130	Low Reference
C	0.5 OG/WH	2122	IC 2 Control
D	1 PK/BK	5292	Ignition Voltage

T8C IGNITION COIL 3 (L99 OR LS3)

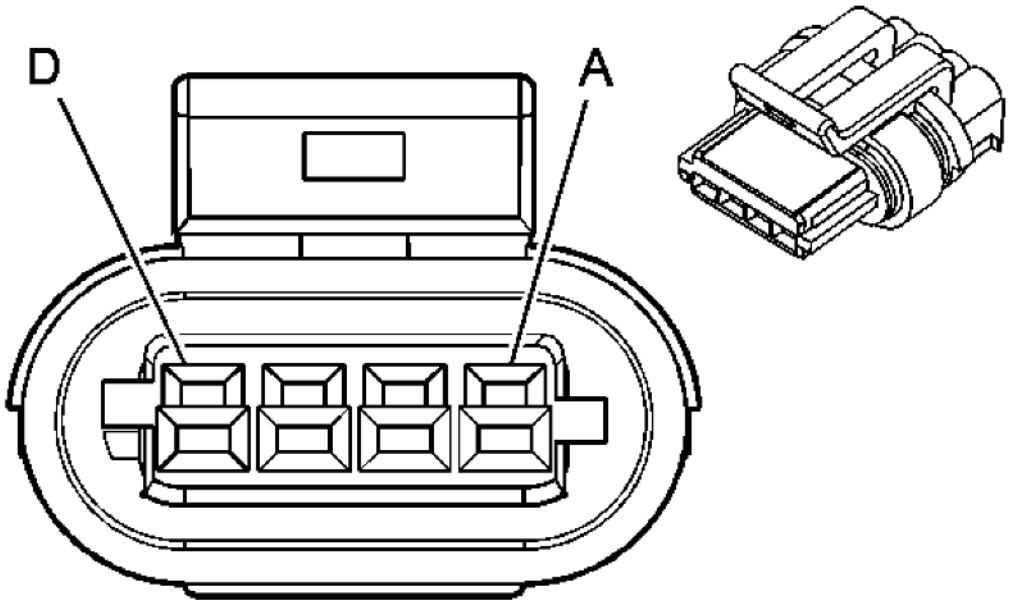


Fig. 5: T8C Ignition Coil 3 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568

cardiagn.com

- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8C Ignition Coil 3 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 L-BU	2123	IC 3 Control
D	0.8 PK	39	Ignition 1 Voltage

T8C IGNITION COIL 3 (LLT)

cardiagn.com

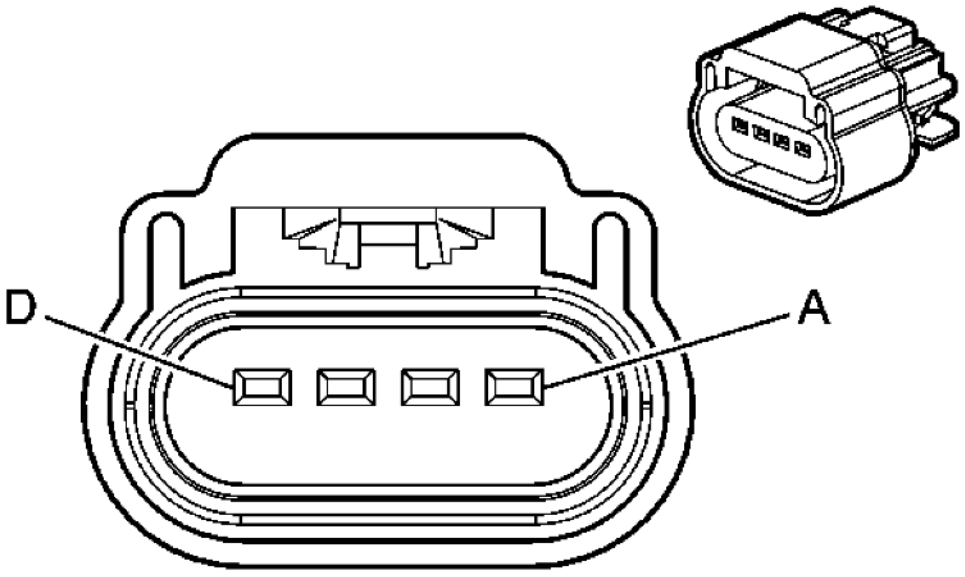


Fig. 6: T8C Ignition Coil 3 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8C Ignition Coil 3 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	250	Ground

cardiagn.com

B	0.5 BN	2129	Low Reference
C	0.5 L-BU	2123	IC 3 Control
D	1 PK/BK	5291	Ignition Voltage

T8D IGNITION COIL 4 (L99 OR LS3)

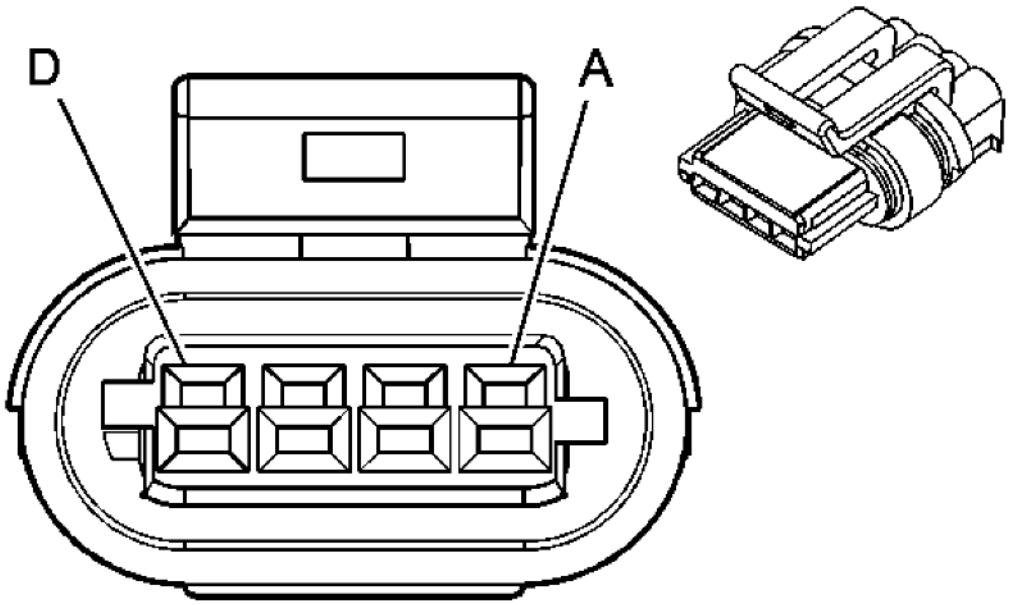


Fig. 7: T8D Ignition Coil 4 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C

cardiagn.com

- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8D Ignition Coil 4 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 D-GN	2125	IC 4 Control
D	0.8 PK	39	Ignition 1 Voltage

T8D IGNITION COIL 4 (LLT)

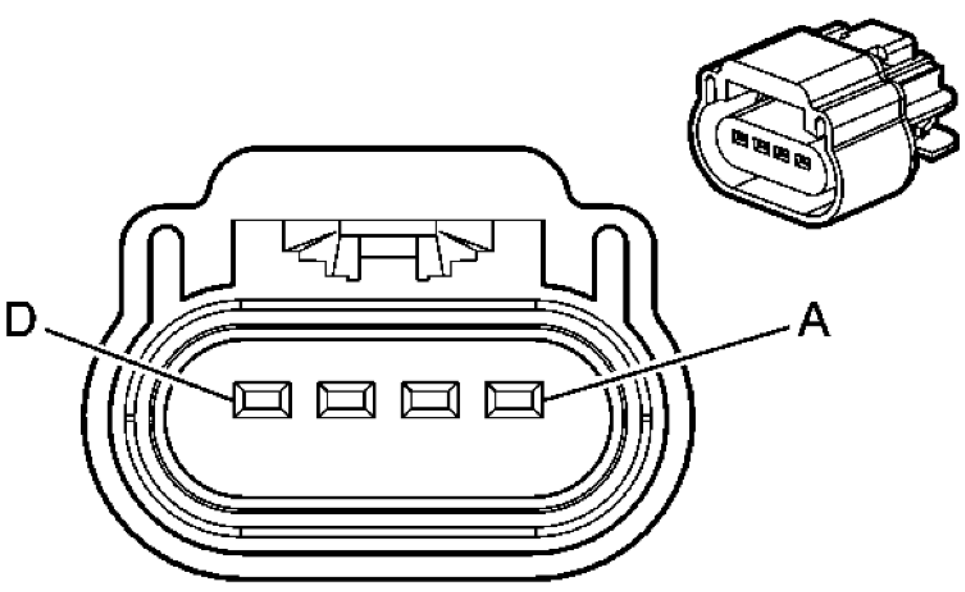


Fig. 8: T8D Ignition Coil 4 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325

cardiagn.com

- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8D Ignition Coil 4 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	350	Ground
B	0.5 BN/WH	2130	Low Reference
C	0.5 D-GN/WH	2124	IC 4 Control
D	1 PK/BK	5292	Ignition Voltage

T8E IGNITION COIL 5 (L99 OR LS3)

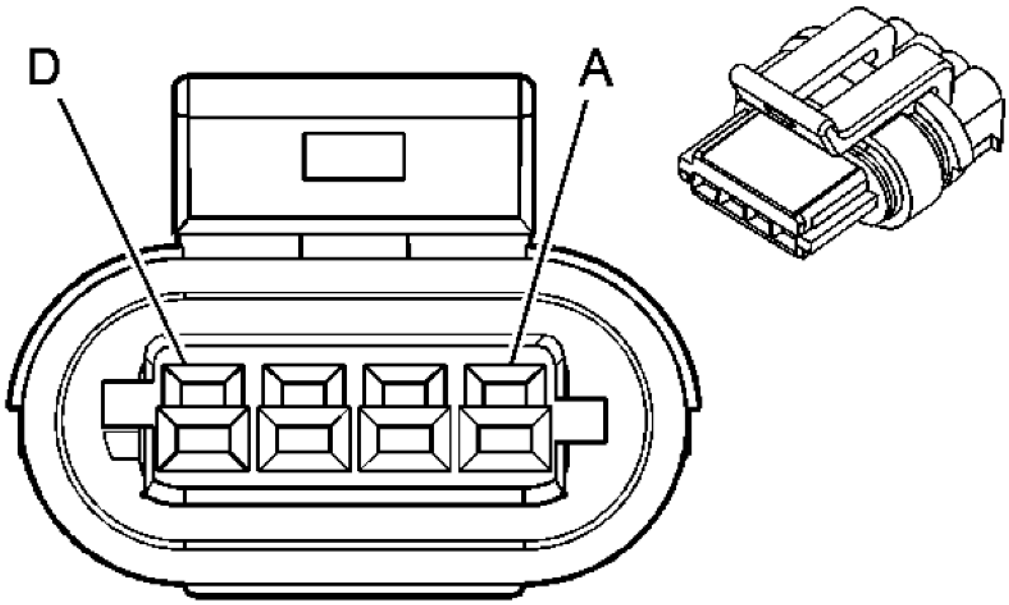


Fig. 9: T8E Ignition Coil 5 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8E Ignition Coil 5 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 D-GN	2125	IC 5 Control
D	0.8 PK	39	Ignition 1 Voltage

T8E IGNITION COIL 5 (LLT)

cardiagn.com

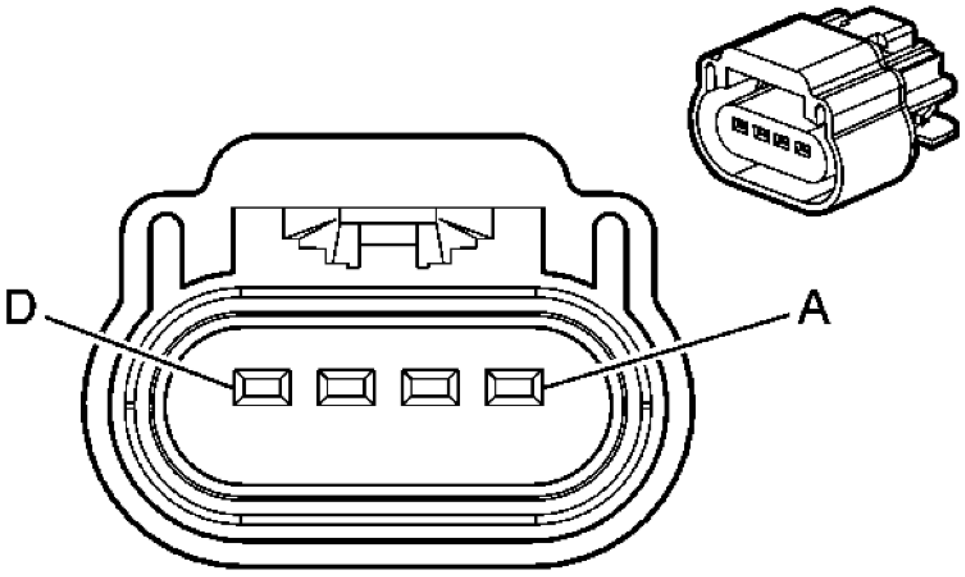


Fig. 10: T8E Ignition Coil 5 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325
- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8E Ignition Coil 5 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	250	Ground

cardiagn.com

B	0.5 BN	2129	Low Reference
C	0.5 D-GN	2125	IC 5 Control
D	1 PK/BK	5291	Ignition Voltage

T8F IGNITION COIL 6 (L99 OR LS3)

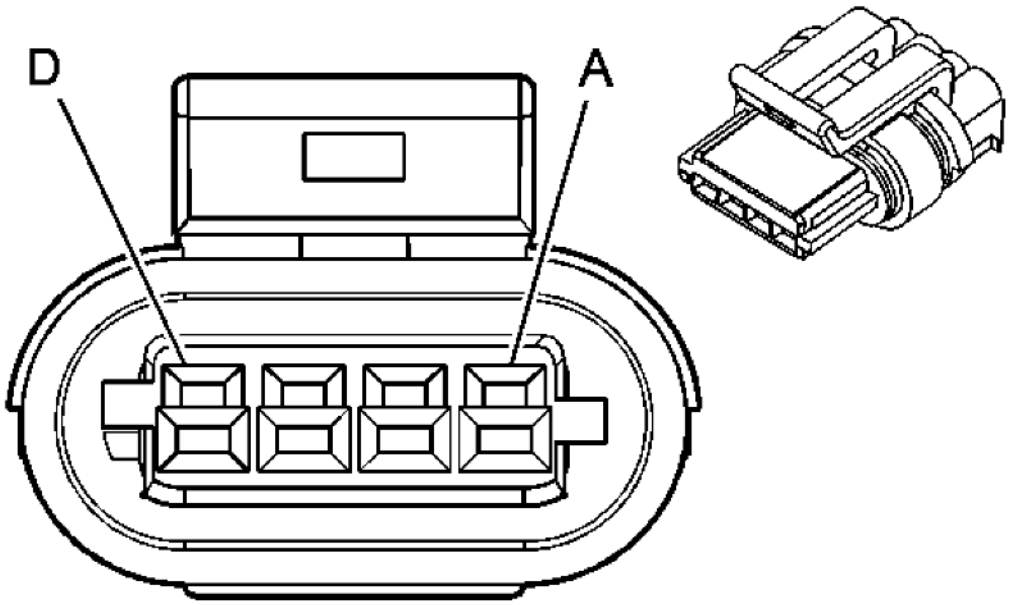


Fig. 11: T8F Ignition Coil 6 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C

cardiagn.com

- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8F Ignition Coil 6 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 L-BU	2123	IC 6 Control
D	0.8 PK	39	Ignition 1 Voltage

T8F IGNITION COIL 6 (LLT)

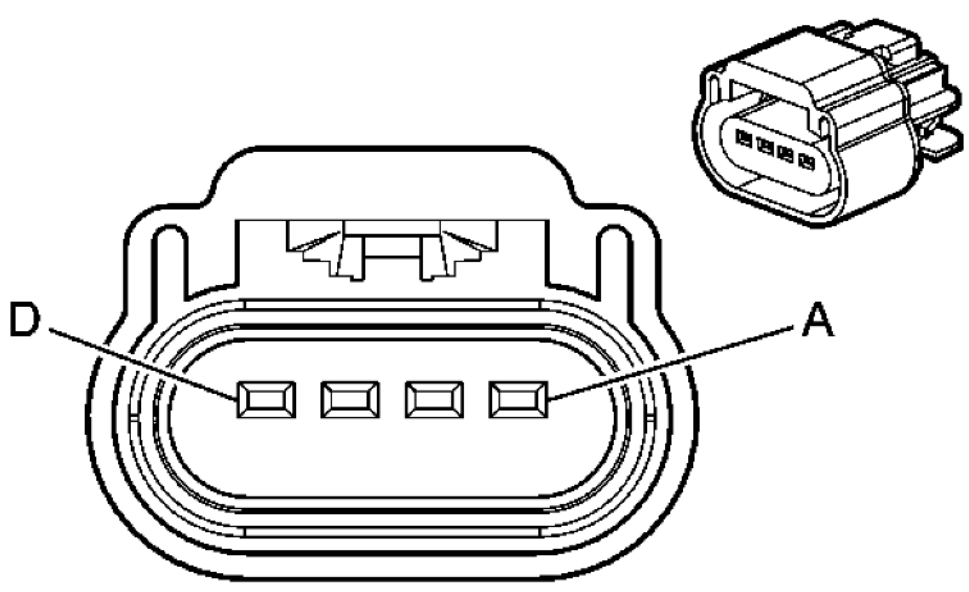


Fig. 12: T8F Ignition Coil 6 (LLT) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 15466325

cardiagn.com

- Service: 88988737
- Description: 4-Way F GT 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12191819/8
- Core/Insulation Crimp: Pins A, D - 2/1
- Core/Insulation Crimp: Pins B, C - E/1
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8F Ignition Coil 6 (LLT)

Pin	Wire	Circuit	Function
A	1 BK	350	Ground
B	0.5 BN/WH	2130	Low Reference
C	0.5 L-BU/WH	2126	IC 6 Control
D	1 PK/BK	5292	Ignition Voltage

T8G IGNITION COIL 7 (L99 OR LS3)

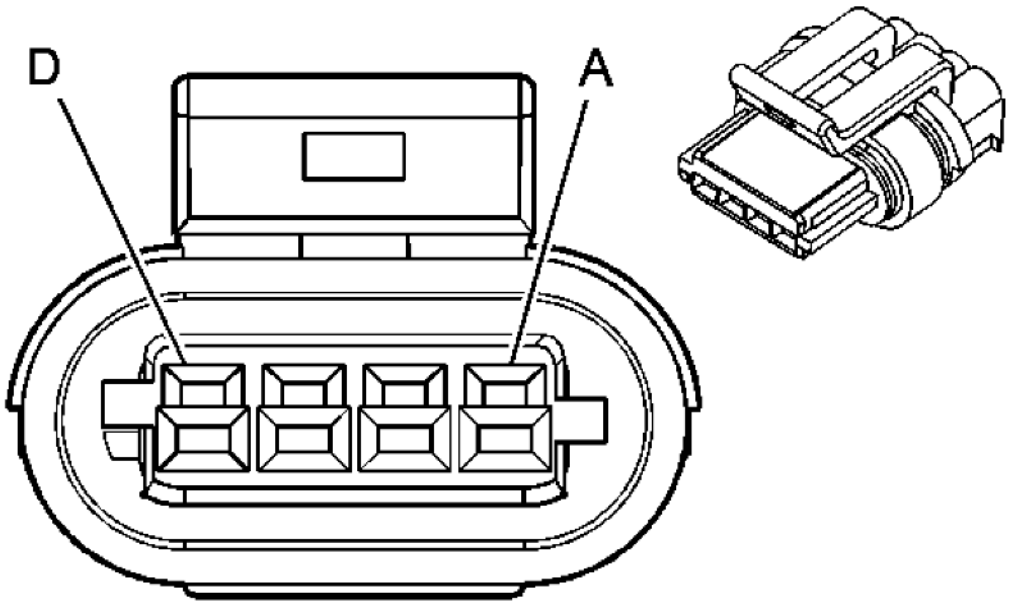


Fig. 13: T8G Ignition Coil 7 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

Connector Part Information

- Harness: Coils (Odd)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8G Ignition Coil 7 (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 RD	2127	IC 7 Control
D	0.8 PK	39	Ignition 1 Voltage

T8H IGNITION COIL 8 (L99 OR LS3)

cardiagn.com

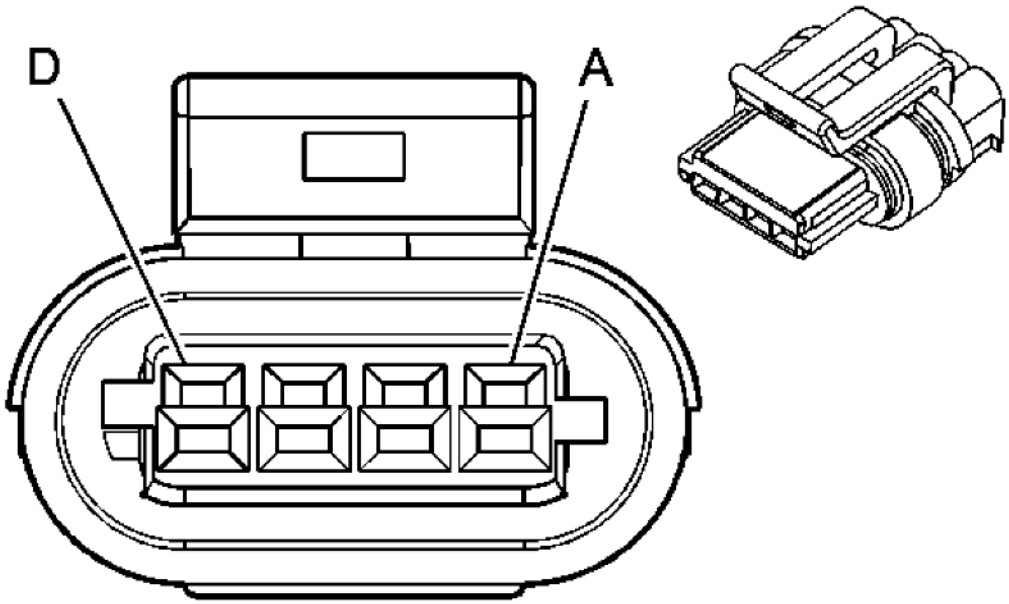


Fig. 14: T8H Ignition Coil 8 (L99 or LS3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Coils (Even)
- OEM: 15439568
- Service: 88987184
- Description: 4-Way F GT 150 Series, Sealed (GY)

Terminal Part Information

- Terminal/Tray: 15326267/19
- Pins: A, D
- Core/Insulation Crimp: E/1
- Pins: B, C
- Core/Insulation Crimp: E/4
- Release Tool: 15315247
- Test Probe: J-35616-2A (GY)

T8H Ignition Coil 8 (L99 or LS3)

cardiagn.com

Pin	Wire	Circuit	Function
A	0.8 BK	151	Ground
B	0.5 BN	2129	Low Reference
C	0.5 PU	2121	IC 8 Control
D	0.8 PK	39	Ignition 1 Voltage

X80D ACCESSORY POWER RECEPTACLE - CENTER CONSOLE COMPARTMENT

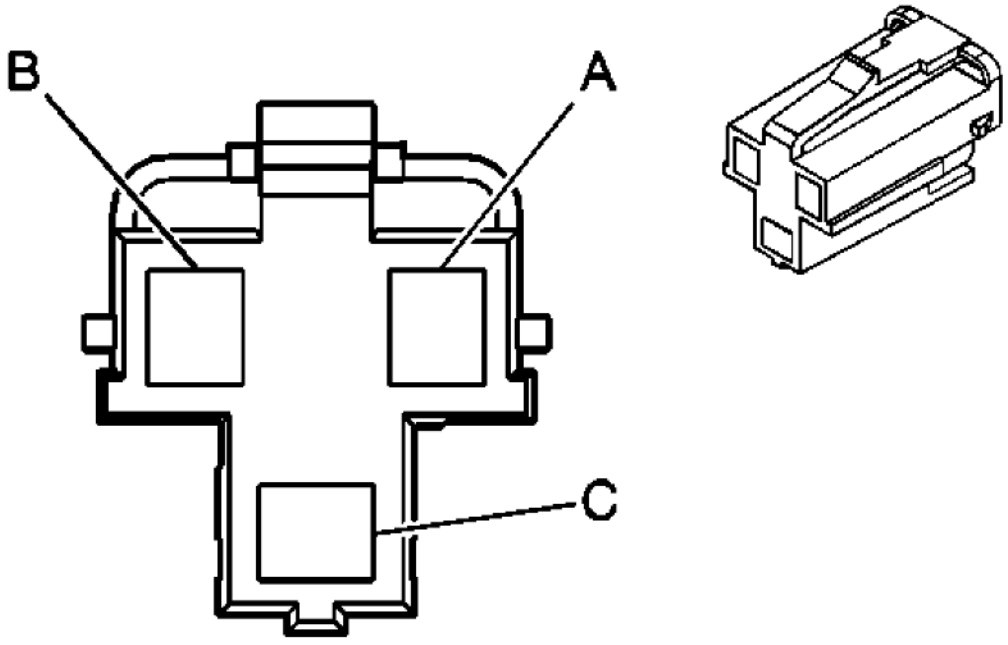


Fig. 15: X80D Accessory Power Receptacle - Center Console Compartment Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Floor Console
- OEM: 12176836
- Service: 15305923
- Description: 3-Way F Metri-Pack 280 Series (GY)

Terminal Part Information

- Terminal/Tray: 12110844/4

cardiagn.com

- Core/Insulation Crimp: C/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

X80D Accessory Power Receptacle - Center Console Compartment

Pin	Wire	Circuit	Function
A	1 D-GN/WH	801	RAP 2 Fuse Supply Voltage
B	-	-	Not Used
C	1 BK	1450	Ground

X80H ACCESSORY POWER RECEPTACLE - CENTER CONSOLE

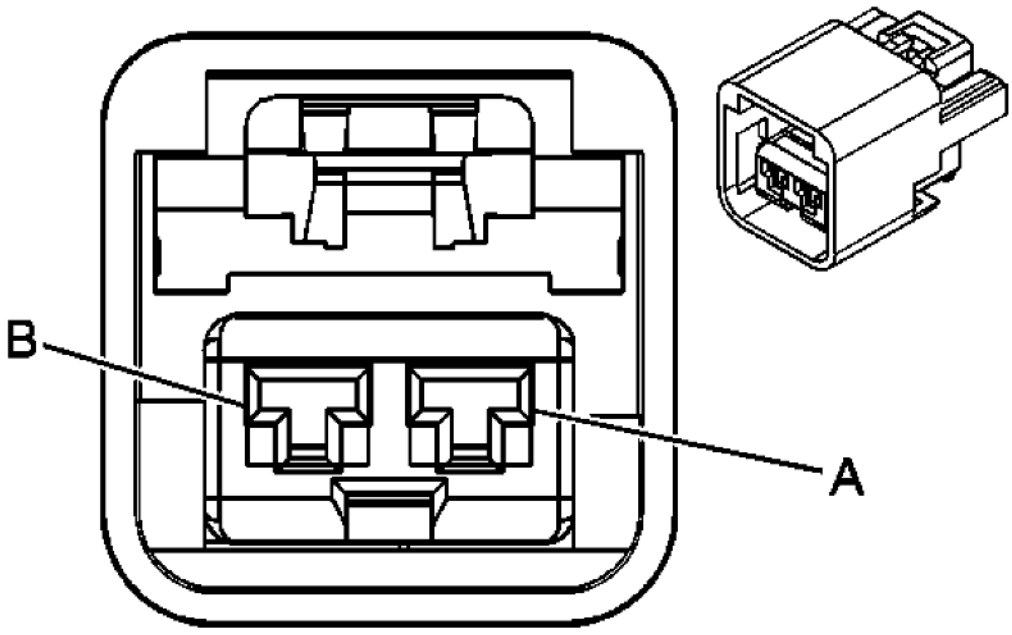


Fig. 16: X80H Accessory Power Receptacle - Center Console Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Console Cap Link
- OEM: 15326870
- Service: 88953160

cardiagn.com

- Description: 2-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: 2/A
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

X80H Accessory Power Receptacle - Center Console

Pin	Wire	Circuit	Function
A	1 D-GN	1001	RAP 1 Fuse Supply Voltage
B	1 BK	1450	Ground

X83 AUXILIARY AUDIO INPUT (USR)

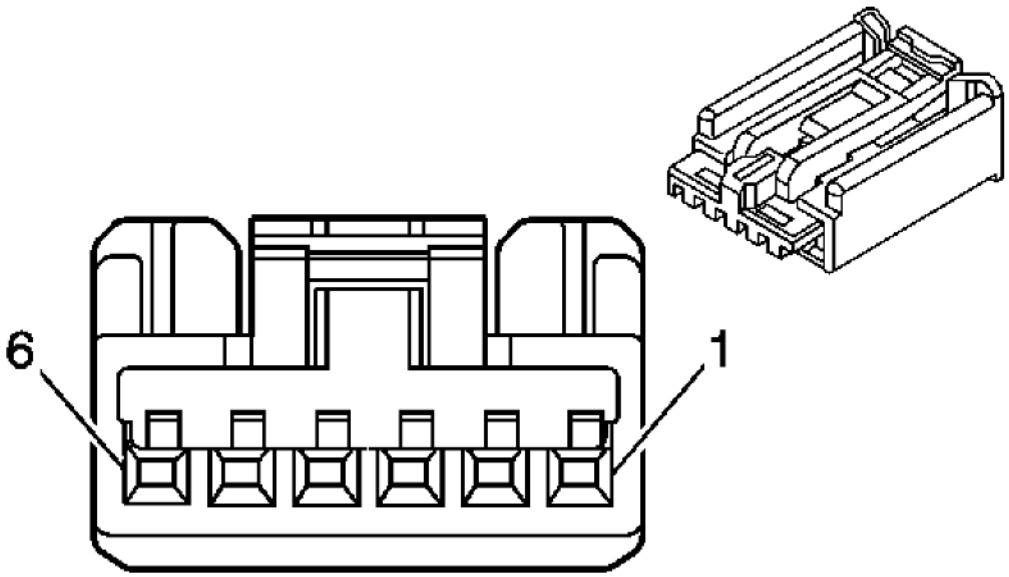


Fig. 17: X83 Auxiliary Audio Input (USR) Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Floor Console

cardiagn.com

- OEM: 13595476
- Service: 19167753
- Description: 6-Way F AIT II Series (BK)

Terminal Part Information

- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

X83 Auxiliary Audio Input (USR)

Pin	Wire	Circuit	Function
1	0.35 L-GN	5839	Left Auxiliary Audio Signal 2
2	0.35 D-GN/WH	5841	Right Auxiliary Audio Signal 2
3	0.35 D-BU	5843	Auxiliary Audio Common Signal
4	-	-	Not Used
5	0.35 PK	2060	Auxiliary Detection Signal
6	-	-	Not Used

X84 DATA LINK CONNECTOR

cardiagn.com

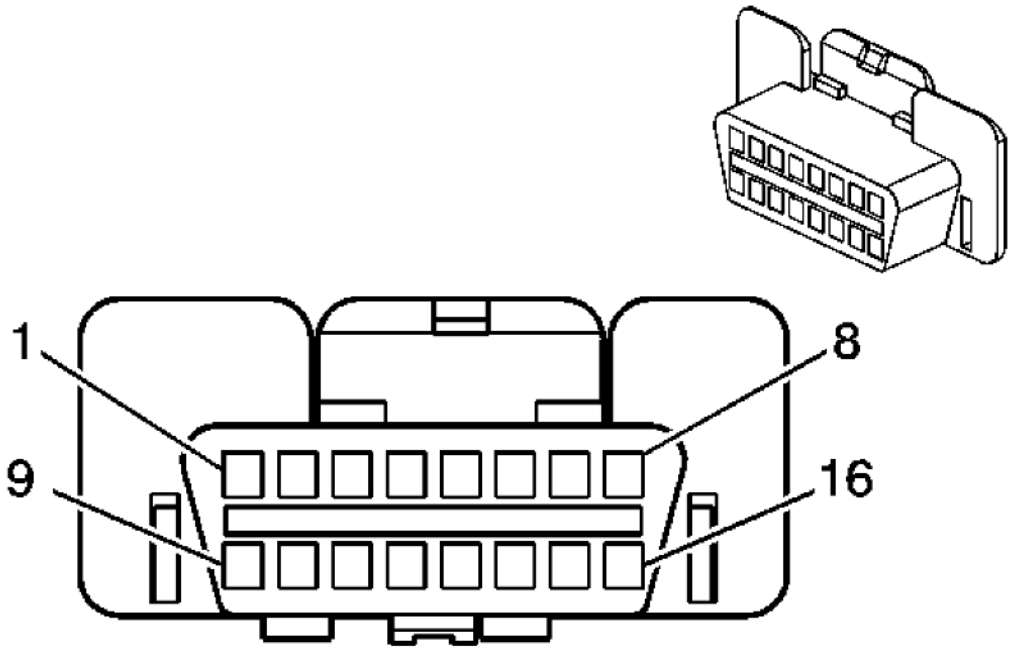


Fig. 18: X84 Data Link Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 15488184
- Service: 19115029
- Description: 16-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12129484/19
- Core/Insulation Crimp: E/C
- Release Tool: 12094429
- Test Probe: J-35616-14 (GN)

X84 Data Link Connector

Pin	Wire	Circuit	Function
1	0.35 D-GN	5060	Low Speed GMLAN Serial Data
2-3	-	-	Not Used

cardiagn.com

4	0.5 BK	1650	Ground
5	0.5 BK	1650	Ground
6	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus (+)
7-11	-	-	Not Used
12	0.35 D-BU	6105	High Speed GMLAN Serial Data (+)
13	0.35 L-BU	6106	High Speed GMLAN Serial Data (-)
14	0.35 TN	2501	High Speed GMLAN Serial Data Bus (-)
15	-	-	Not Used
16	0.35 RD/WH	40	Battery Positive Voltage

X85 STEERING WHEEL AIR BAG COIL X1

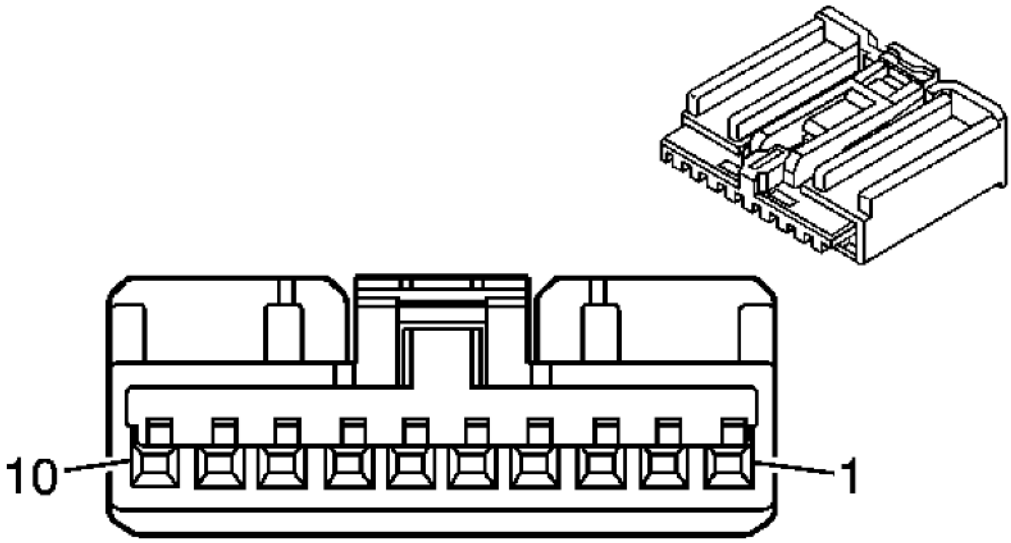


Fig. 19: X85 Steering Wheel Air Bag Coil X1 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel
- OEM: 13574592
- Service: 13316186
- Description: 10-Way F Kaizen 64 Series (BK)

Terminal Part Information

cardiagn.com

- Pin: 2
- Terminal/Tray: Pending
- Core/Insulation Crimp: Pending
- Release Tool: Pending
- Test Probe: Pending

- Pins: 1, 3, 4, 5, 6, 8
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

X85 Steering Wheel Air Bag Coil X1

Pin	Wire	Circuit	Function
1	0.35 L-GN/WH	3287	Horn Switch Signal
2	0.8 BK	1550	Ground
3	0.35 GY	1884	Cruise Control Switch Signal
4	0.35 L-GN	6818	Steering Wheel Control Switch Signal
5	0.35 YE	7556	Headlamp Switch Reference Voltage
6	0.35 BN	6136	LED Backlight Dimming Control
7	-	-	Not Used
8	0.35 PU	5526	Tap Up/Tap Down Switch Signal (MYB/MYC)
9-10	-	-	Not Used

X85 STEERING WHEEL AIR BAG COIL X2

cardiagn.com

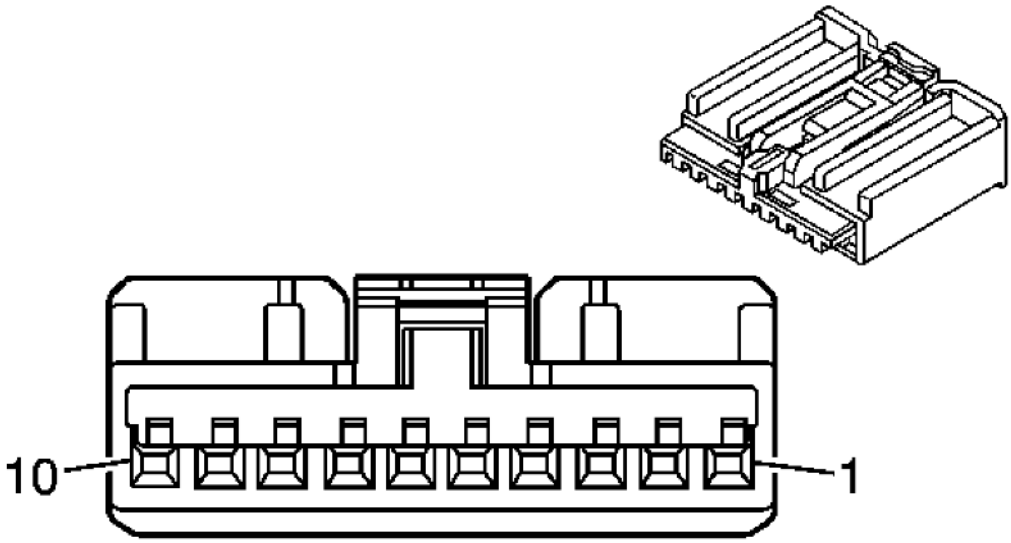


Fig. 20: X85 Steering Wheel Air Bag Coil X2 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Steering Wheel
- OEM: 15269795
- Service: 13316186
- Description: 10-Way F AIT II Series (BK)

Terminal Part Information

- Pins: 3, 5, 6, 7, 8, 10
- Terminal/Tray: SAIT-A03T-M064/14
- Core/Insulation Crimp: P/P
- Release Tool: J-38125-215A
- Test Probe: J-35616-64B (L-BU)

- Pin: 9
- Terminal/Tray: Service by Harness - See Part Catalog
- Core/Insulation Crimp: Not Available
- Release Tool: Not Available
- Test Probe: Not Available

cardiagn.com

X85 Steering Wheel Air Bag Coil X2

Pin	Wire	Circuit	Function
1-2	-	-	Not Used
3	0.35 PU	5526	Tap Up/Tap Down Switch Signal (MYB/MYC)
4	-	-	Not Used
5	0.35 BN	6136	LED Backlight Dimming Control
6	0.35 PK	1444	12-Volt Reference
7	0.35 L-GN	6818	Steering Wheel Control Switch Signal
8	0.35 GY	1884	Cruise Control Switch Signal
9	0.8 BK	1550	Ground
10	0.35 L-GN/WH	3287	Horn Switch Signal

X85 STEERING WHEEL AIR BAG COIL X3

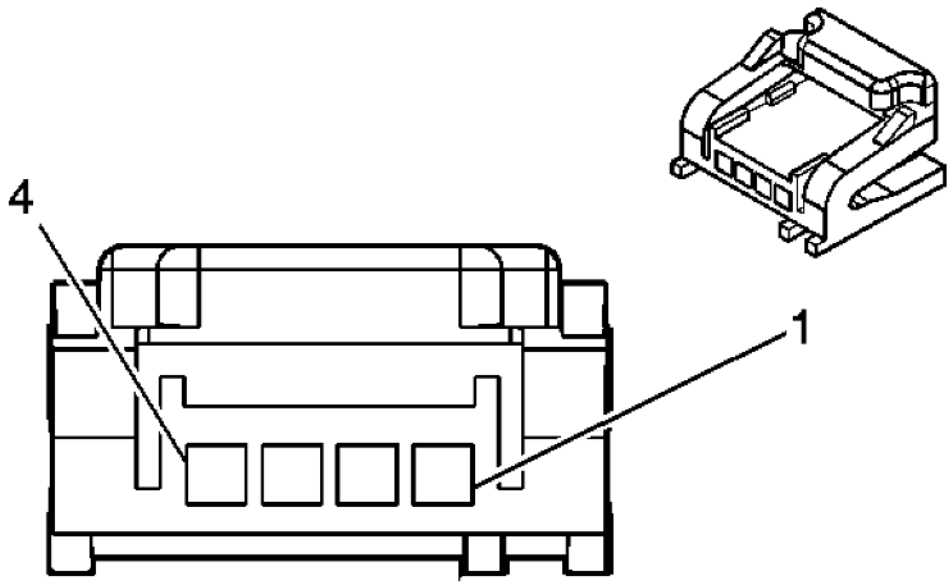


Fig. 21: X85 Steering Wheel Air Bag Coil X3 Connector End View
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Instrument Panel

cardiagn.com

- OEM: 15393421
- Service: 88987853
- Description: 4-Way F Micro-Pack 064 Series (YE)

Terminal Part Information

- Terminal/Tray: Service by Connector Assembly - See Part Catalog
- Core/Insulation Crimp: E/2
- Release Tool: 12180559-1
- Test Probe: J-35616-64B (L-BU)

X85 Steering Wheel Air Bag Coil X3

Pin	Wire	Circuit	Function
1	0.35 TN	3021	Steering Wheel Module - Stage1 - High Control
2	0.35 BN	3020	Steering Wheel Module - Stage1 - Low Control
3	0.35 WH	3023	Steering Wheel Module - Stage2 - High Control
4	0.35 PK	3022	Steering Wheel Module - Stage2 - Low Control

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

DOOR COMPONENT VIEWS

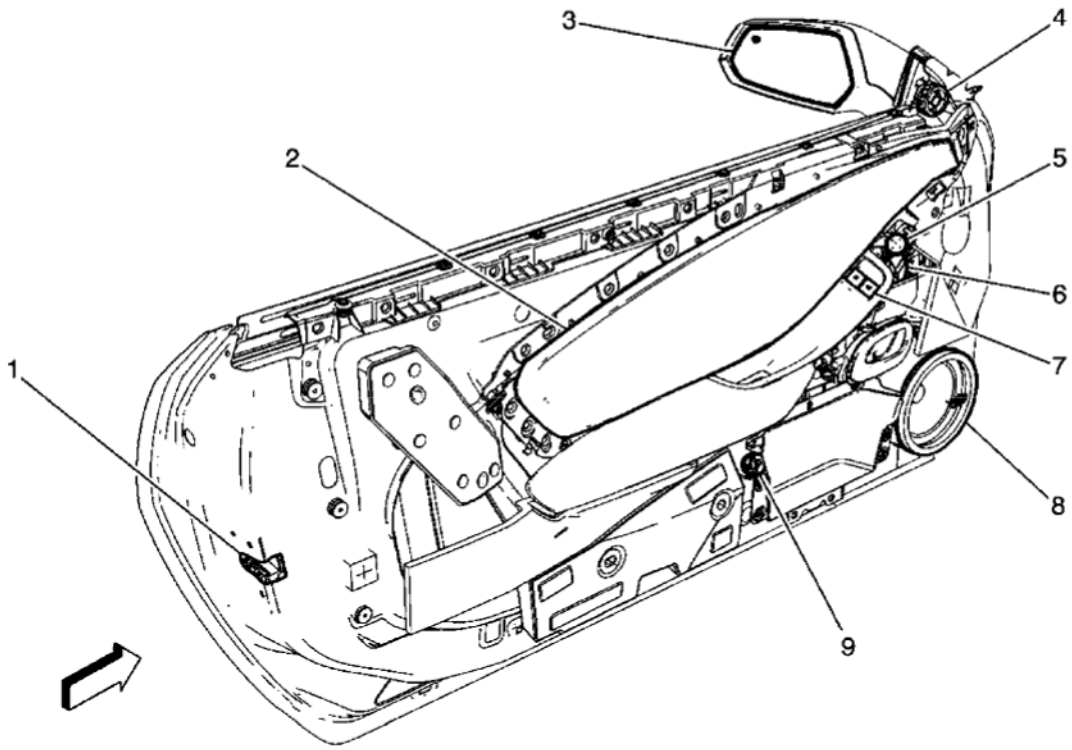


Fig. 1: Driver Door Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	A23D Door Latch Assembly - Driver
2	E1D Accent Lamp - Driver Door (FCR)
3	A9A Outside Rearview Mirror - Driver
4	P19H Speaker - Left Front Tweeter
5	S52 Outside Rearview Mirror - Switch
6	M74D Window Motor - Driver
7	S79D Window Switch - Driver
8	P19G Speaker - Left Front
9	S58 Rear Compartment Lid Unlatch Switch

cardiagn.com

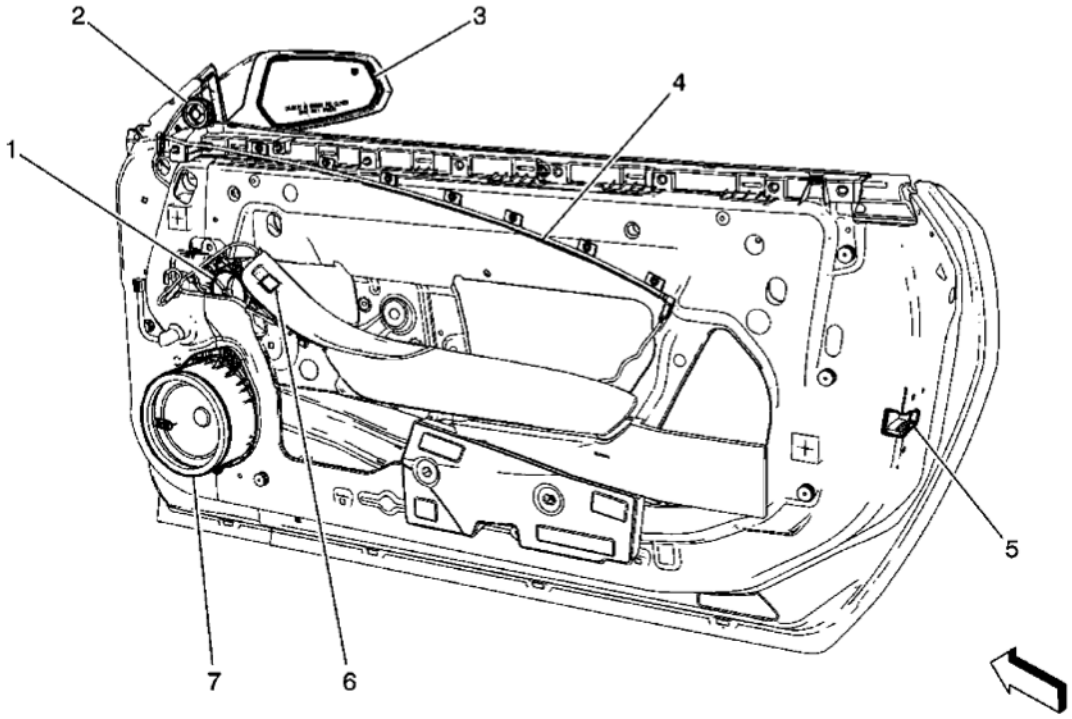


Fig. 2: Passenger Door Components
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	M74P Window Motor - Passenger
2	P19V Speaker - Right Front Tweeter
3	A9B Outside Rearview Mirror - Passenger
4	E1P Accent Lamp - Passenger Door (FCR)
5	A23P Door Latch Assembly - Passenger
6	S79P Window Switch - Passenger
7	P19U Speaker - Right Front

cardiagn.com

2010 ELECTRICAL

Wiring Systems and Power Management - Component Locator - Camaro

ELECTRICAL CENTER IDENTIFICATION VIEWS

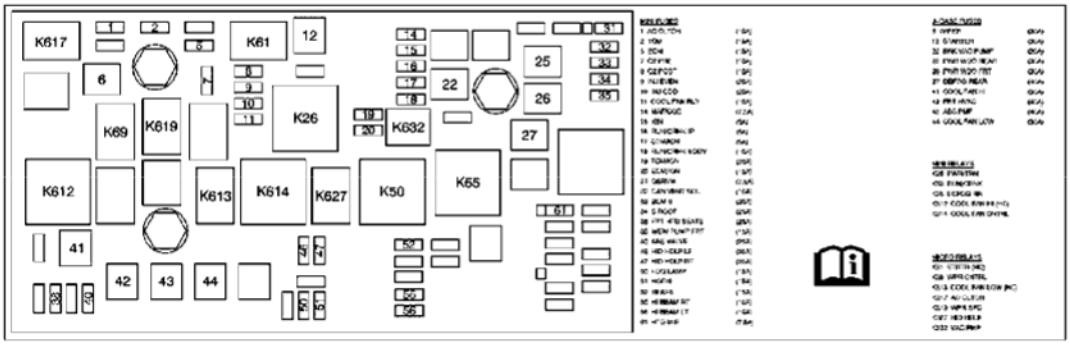


Fig. 1: X50A Fuse Block - Underhood Label
Courtesy of GENERAL MOTORS CORP.

X50A Fuse Block - Underhood Label Usage

No.	Device Label Name	Device Assigned Name	Rating	Description
1	AC CLTCH Fuse	F1U Fuse	10 A	KR29 A/C Compressor Clutch Relay
2	TCM Fuse	F2U Fuse	15 A	Q8 Control Solenoid Valve Assembly (MYB/MYC)
3-4	-	-	-	Not Used
5	ECM Fuse	F5U Fuse	15 A	K20 Engine Control Module
6	WIPER Fuse	F6U Fuse	30 A	KR12B Windshield Wiper relay, and KR12C Windshield Wiper Speed Control Relay
7	02 PRE Fuse	F7U Fuse	10 A	Q6A Camshaft Position (CMP) Actuator Solenoid Valve - Bank 1 Exhaust (LLT), Q6B Camshaft Position (CMP) Actuator Solenoid Valve - Bank 1 Intake (LLT), Q6C Camshaft Position (CMP) Actuator Solenoid Valve - Bank 2 Exhaust (LLT), Q6D Camshaft Position (CMP) Actuator Solenoid Valve - Bank 2 Intake (LLT), Q12 Evaporative Emission (EVAP) Purge Solenoid Valve,

cardiagn.com

				B52C Heated Oxygen Sensor Bank 1 Sensor 1, and B52E Heated Oxygen Sensor Bank 2 Sensor 1
8	02 POST Fuse	F8U Fuse	10 A	B52DHeated Oxygen Sensor Bank 1 Sensor 2, and B52F Heated Oxygen Sensor Bank 2 Sensor 2
9	INJ EVEN Fuse	F9U Fuse	20 A	K20 Engine Control Module (LLT), Q17B Fuel Injector 2 (L99/LS3), Q17D Fuel Injector 4 (L99/LS3), Q17F Fuel Injecto 6 (L99/LS3), Q17H Fuel Injector 8 (L99/LS3), T8B Ignition Coil 2, T8D Ignition Coil 4, and T8F Ignition Coil 6, T8H Ignition Coil 8 (L99/LS3)
10	INJ ODD Fuse	F10U Fuse	20 A	K20 Engine Control Module (LLT), Q17A Fuel Injector 1 (L99/LS3), Q17C Fuel Injector 3 (L99/LS3), Q17E Fuel Injector 5 (L99/LS3), Q17G Fuel Injector 7 (L99/LS3), Q17A Ignition Coil 1, Q17C Ignition Coil 4, and Q17E Ignition Coil 5, Q17G Ignition Coil 7 (L99/LS3)
11	COOL FAN RLY Fuse	F11U Fuse	10 A	KR20E Cooling Fan Speed Control Relay, KR20D Cooling Fan High Speed Relay, and KR20C Cooling fan Low Speed Relay
12	STARTER Fuse	F12U Fuse	30 A	KR27 Starter Relay
13	-	-	-	Not Used
14	MAF/CCC Fuse	F14U Fuse	7.5 A	K27 Fuel Pump Control Module, B75B Mass Air Flow/Intake Air Temperature Sensor, M47 Reverse Inhibit Solenoid Actuator (MV5/M10), Q34 Skip Shift Solenoid Actuator (M10), Q43 Valve Lifter Oil Manifold Assembly (L99), and B115 Vehicle Speed Sensor (MV5)
15	IGN Fuse	F15U Fuse	5 A	P16 Instrument Cluster
16	RUN/CRNK IP Fuse	F16U Fuse	5 A	K33 HVAC Control Module
17	SDM/IGN Fuse	F17U Fuse	5 A	K36 Inflatable Restraint Sensing and Diagnostic Module
18	RUN/CRNK BODY Fuse	F18U Fuse	10 A	P14 Passenger Air Bag Disable Indicator, and A10 Inside Rearview Mirror
19	TCM/IGN Fuse	F19U Fuse	20 A	Q8 Control Solenoid Valve Assembly (MYB/MYC)
20	ECM/IGN Fuse	F20U Fuse	15 A	K20 Engine Control Module
21	-	-	-	Not Used
22	BRK VAC PUMP Fuse	F22U Fuse	20 A	KR14 Brake Booster Pump Motor Relay

cardiagn.com

23-24	-	-	-	Not Used
25	PWR WDO REAR Fuse	F25U Fuse	30 A	X210
26	PWR WDO FRT Fuse	F26U Fuse	30 A	M74D Window Motor - Driver, and M74P Window Motor - Passenger
27	DEFOG REAR Fuse	F27U Fuse	40 A	E18 Rear Defogger Grid, and R14R Rear Window Defogger Noise Filter - Right
28-30	-	-	-	Not Used
31	OSRVM Fuse	F31U Fuse	7.5 A	S52 Outside Rearview Mirror Switch
32	CAN VENT SOL Fuse	F32U Fuse	10 A	Q13 Evaporative Emission (EVAP) Vent Solenoid Valve
33	BCM 6 Fuse	F33U Fuse	20 A	K9 Body Control Module
34	S ROOF Fuse	F34U Fuse	25 A	K61 Sunroof Control Module (CF5)
35	FRT HTD SEATS Fuse	F35U Fuse	25 A	K29 Seat Heating Control Module (KA1)
36-37	-	-	-	Not Used
38	WSW PUMP FRT Fuse	F38U Fuse	15 A	G24 Windshield Washer Pump
39	-	-	-	Not Used
40	ABS VALVE Fuse	F40U Fuse	25 A	K17 Electronic Brake Control Module (EBCM)
41	COOL FAN HI Fuse	F41U Fuse	30 A	KR20D Cooling Fan High Speed Relay
42	FRT HVAC Fuse	F42U Fuse	40 A	K8 Blower Motor Control Module
43	ABS PMP Fuse	F43U Fuse	40 A	K17 Electronic Brake Control Module (EBCM)
44	COOL FAN LOW Fuse	F44U Fuse	30 A	KR20C Cooling Fan Low Speed Relay
45	-	-	-	Not Used
46	HID HDLP LF Fuse	F46U Fuse	20 A	T7L Headlamp Ballast - Left (T4F)
47	HID HDLP RF Fuse	F47U Fuse	20 A	T7R Headlamp Ballast - Right (T4F)
48-49	-	-	-	Not Used
50	FOG LAMP Fuse	F50U Fuse	15 A	E29LF Fog Lamp - Left Front (T3U), and E29RF Fog Lamp - Right Front (T3U)
51	HORN Fuse	F51U Fuse	15 A	P12B Horn - Low Note, and P12A Horn - High Note
52	SPARE Fuse	F52U Fuse	15 A	Not Used
53-54	-	-	-	Not Used
55	HI BEAM RT Fuse	F55U Fuse	10 A	E13R Headlamp - Right (T4A), M28R High Beam Solenoid Actuator - Right (T4F)
56	HI BEAM LT	F56U Fuse	10 A	E13L Headlamp - Left (T4A), M28L High

cardiagn.com

	Fuse			Beam Solenoid Actuator - Left (T4F)
57-60	-	-	-	Not Used
61	HTD MIR Fuse	F61U Fuse	7.5 A	A9A Outside Rearview Mirror - Driver (DD1), and A9B Outside Rearview Mirror - Passenger (DD1)
K26	PWR/TRN Relay	KR75 Powertrain Relay	-	KR29 A/C Compressor Clutch Relay, and ECM/F5U, 02 PRE/F7U, 02 POST/F8U, INJ EVEN/F9U, INJ ODD/F10U, COOL FAN RLY/F11U Fuses
K50	RUN/CRNK Relay	KR74 Ignition Run Relay	-	MAF/CCC/F14U, IGN/F15U, RUN/CRNK IP/F16U, SDM/IGN/F17U, RUN/CRNK BODY/F18U, TCM/IGN/F19U, and ECM/IGN/F20U Fuses
K55	DEFOG RR Relay	KR5 Rear Defogger Relay	-	DEFOG REAR/F27U, and HTD MIR/F61U Fuses
K61	STRTR (HC) Relay	KR27 Starter Relay	-	M64 Starter Motor
K69	WPR CNTRL Relay	KR12B Windshield Wiper Relay	-	KR12C Windshield Wiper Speed Control Relay
K612	COOL FAN HI (HC) Relay	KR20D Cooling Fan High Speed Relay	-	G10L Cooling Fan Motor - Left, KR20E Cooling Fan Speed Control Relay
K613	COOL FAN LOW (HC) Relay	KR20C Cooling Fan Low Speed Relay	-	G10R Cooling Fan Motor - Right
K614	COOL FAN CNTRL Relay	KR20E Cooling Fan Speed Control Relay	-	G10L Cooling Fan Motor - Left
K617	AC CLTCH Relay	KR29 A/C Compressor Clutch Relay	-	Q2 A/C Compressor Clutch
K619	WPR SPD Relay	KR12C Windshield Wiper Speed Control Relay	-	M75 Windshield Wiper Motor
K627	HID HDLP Relay	KR49 Headlamp Low Beam Relay	-	HID HDLP LF/F46U, and HID HDLP RF/F47U Fuses
K632	VAC PMP Relay	KR14 Brake Booster Pump Motor Relay	-	G6 Brake Booster Pump - Auxiliary (LLT)
Important: Relays listed below are non-serviceable Printed Circuit Board (PCB) relays and are internal to the block				
-	Fog Lamp PCB Relay	KR46 Front Fog Lamp Relay	-	FOG LAMP/F50U Fuse

cardiagn.com

-	HI BEAM PCB Relay	KR48 Headlamp High Beam Relay	-	HI BEAM LT/F56U, and HI BEAM RT/F55U Fuses
-	HORN PCB Relay	KR3 Horn Relay	-	HORN/F51U Fuse
-	WASHER FRT PCB Relay	KR11 Windshield Washer Pump Relay	-	WSW PUMP FRT/F38U Fuse

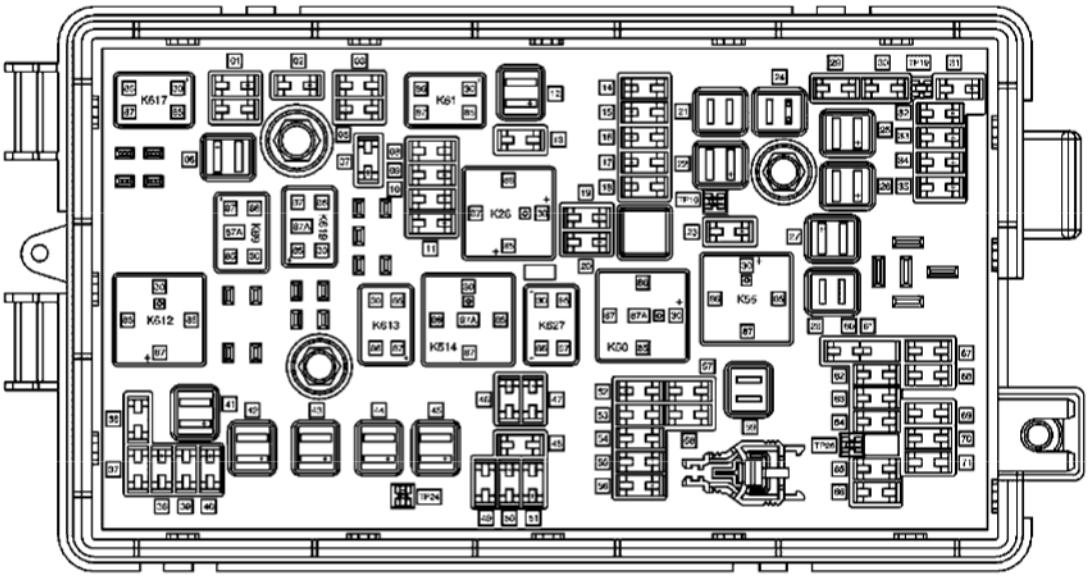


Fig. 2: X50A Fuse Block - Underhood Top View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

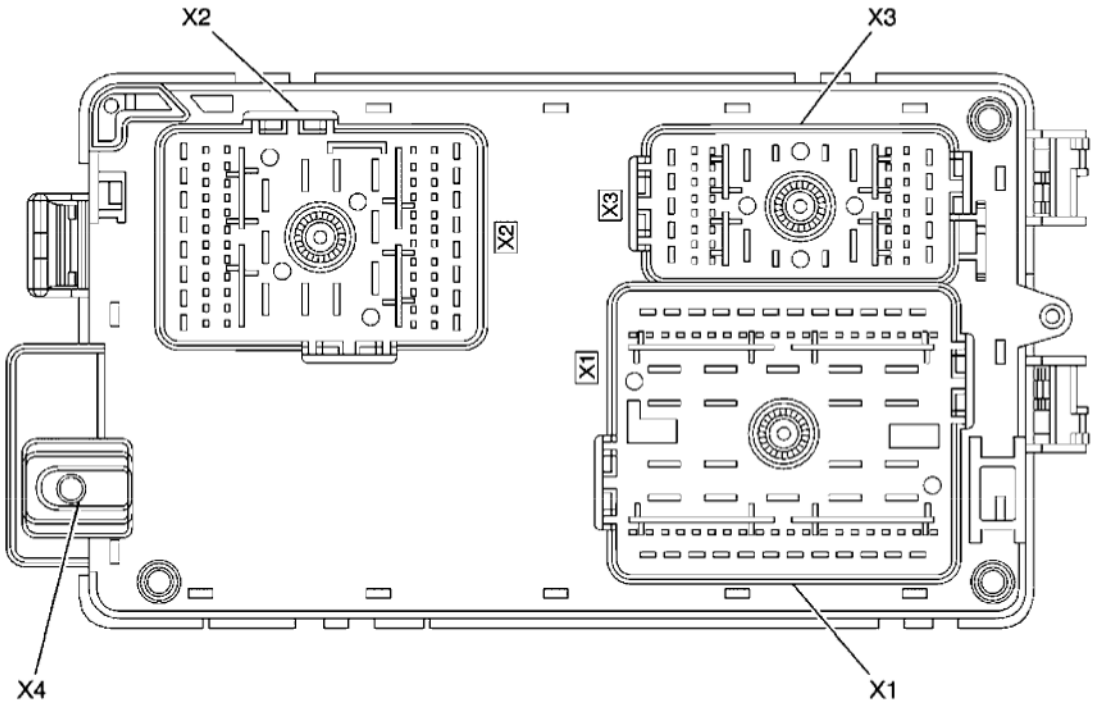


Fig. 3: X50A Fuse Block - Underhood Bottom View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

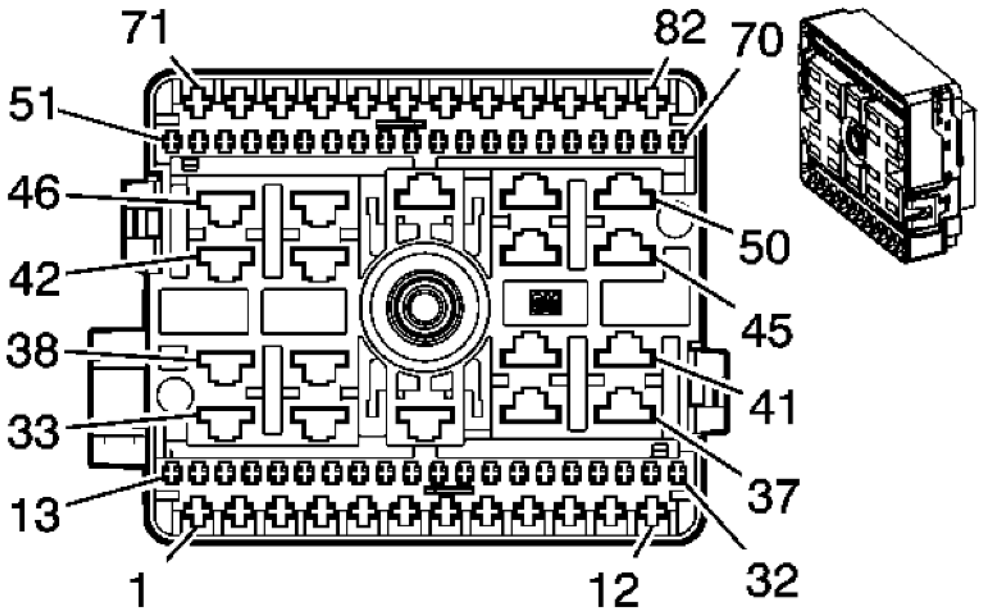


Fig. 4: X50A Fuse Block - Underhood X1
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Forward Lamp
- OEM: 13600400
- Service: 13316113
- Description: 82-Way F DSQ 1.5 2.8 Metri-Pack 800 Series (BK)

Terminal Part Information

- Pins: 34, 35, 41, 46, 49, 50
- Terminal/Tray: 12110127/19
- Core/Insulation Crimp: F/G
- Release Tool: 12150860
- Test Probe: J-35616-44 (YE)

- Pins: 8, 9, 10, 11, 12, 13, 32, 71
- Terminal/Tray: 2-964284-1/25
- Core/Insulation Crimp: E/A

cardiagn.com

- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 2, 73, 75, 78
- Terminal/Tray: 4-965999-1/25
- Core/Insulation Crimp: Pins 2, 75, 78 - 4/A
- Core/Insulation Crimp: Pins 73 - See Terminal Repair Kit
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

X50A Fuse Block - Underhood X1

Pin	Wire	Circuit	Function
1	-	-	Not Used
2	2 RD/BK	1042	Battery Positive Voltage
3-7	-	-	Not Used
8	0.8 L-GN/BK	311	Right Headlamp High Beam Supply Voltage (T4A)
	0.5 L-GN/BK	311	Right Headlamp High Beam Supply Voltage (T4F)
9	0.8 D-GN/WH	711	Left Headlamp High Beam Supply Voltage (T4A)
	0.5 D-GN/WH	711	Left Headlamp High Beam Supply Voltage (T4F)
10	1 YE	712	Left Headlamp Low Beam Supply Voltage (T4F)
11	1 TN/WH	312	Right Headlamp Low Beam Supply Voltage (T4F)
12	0.5 PU	2234	Front Fog Lamp Supply Voltage (T3U)
13	0.8 OG	228	Windshield Washer Pump Control
14-31	-	-	Not Used
32	0.8 D-GN	29	Horn Control
33	-	-	Not Used
34	5 RD/BK	542	Battery Positive Voltage
35	3 RD/BK	442	Battery Positive Voltage
36-40	-	-	Not Used
41	3 BK	1150	Ground
42-45	-	-	Not Used
46	3 GY	532	Cooling Fan Motor Supply Voltage
47-48	-	-	Not Used
49	3 L-BU	409	Cooling Fan Motor Supply Voltage
50	3 WH	504	Low Reference

cardiagn.com

51-70	-	-	Not Used
71	0.8 BK	1150	Ground
72	-	-	Not Used
73	3 BK	1350	Ground
74	-	-	Not Used
75	2 D-GN	95	Windshield Wiper Motor Low Speed
76-77	-	-	Not Used
78	2 PU	92	Windshield Wiper Motor High Speed
79-82	-	-	Not Used

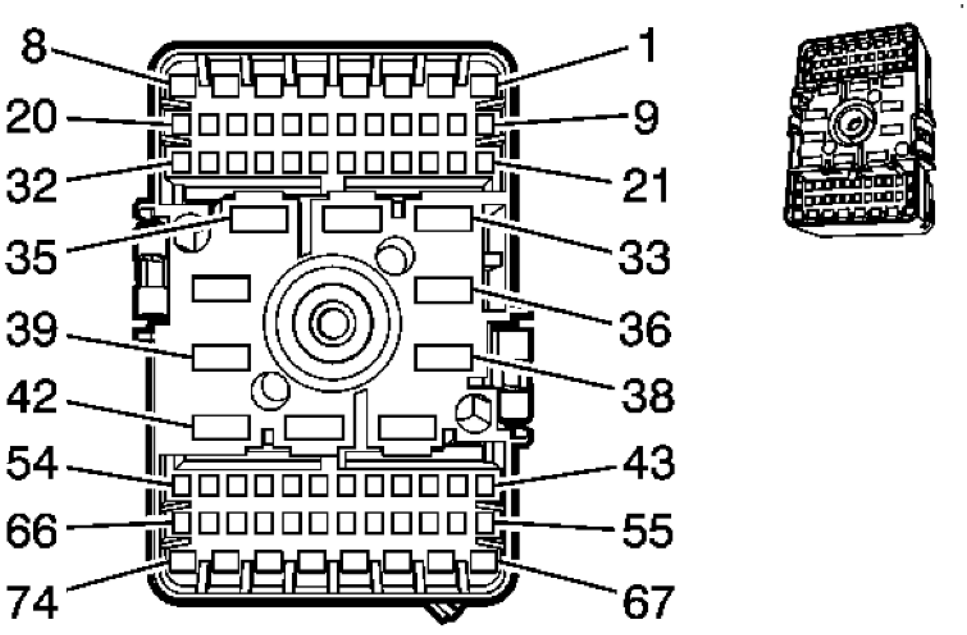


Fig. 5: X50A Fuse Block - Underhood X2
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Body Extension
- OEM: 13600393
- Service: See Catalog
- Description: 74-Way F DSQ 1.5 2.8 Metri-Pack 800 Series (BK)

Terminal Part Information

cardiagn.com

- Pins: 41, 42
- Terminal/Tray: 12110127/19
- Core/Insulation Crimp: F/G
- Release Tool: 12150860
- Test Probe: J-35616-44 (YE)

- Pins: 14, 31, 67, 68, 69, 71
- Terminal/Tray: 2-964284-1/25
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22, 30, 54, 70
- Terminal/Tray: 962943-5/16
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

X50A Fuse Block - Underhood X2

Pin	Wire	Circuit	Function
1-7	-	-	Not Used
8	0.35 PK/WH	1970	Headlamp Low Beam Relay Control
9	0.35 TN	860	Front Windshield Wiper Switch High Signal
10	0.35 PK	239	Ignition Voltage
11	0.35 PK	139	Ignition 1 Voltage
12	0.35 PK	539	Ignition Voltage
13	0.35 PK	1139	Ignition Voltage
14	0.5 PK	339	Ignition Voltage
15-17	-	-	Not Used
18	0.35 YE	5199	Ignition Voltage
19	0.35 D-GN/WH	1317	Fog Lamp Relay Control
20	0.35 TN	28	Horn Relay Control
21	0.35 OG	2268	Washer Fluid Pump Relay Control
22	0.35 GY	91	Wiper Relay Control
23-29	-	-	Not Used
30	0.35 WH	193	Rear Defog Relay Control
31	0.5 TN/WH	1969	Headlamp High Beam Relay Control
32-39	-	-	Not Used
40	3 RD/WH	1340	Battery Positive Voltage
41	3 RD/WH	1240	Battery Positive Voltage

cardiagn.com

42	5 PU	293	Rear Defog Element Supply Voltage
43-53	-	-	Not Used
54	0.35 OG	2267	Mirror Heating Element Supply Voltage
55-66	-	-	Not Used
67	0.5 RD/WH	1940	Battery Positive Voltage
68	0.5 RD/WH	2440	Battery Positive Voltage
69	0.8 RD/WH	3440	Battery Positive Voltage
70	3 RD/WH	3540	Battery Positive Voltage
71	1 RD/WH	5140	Battery Positive Voltage
72-74	-	-	Not Used

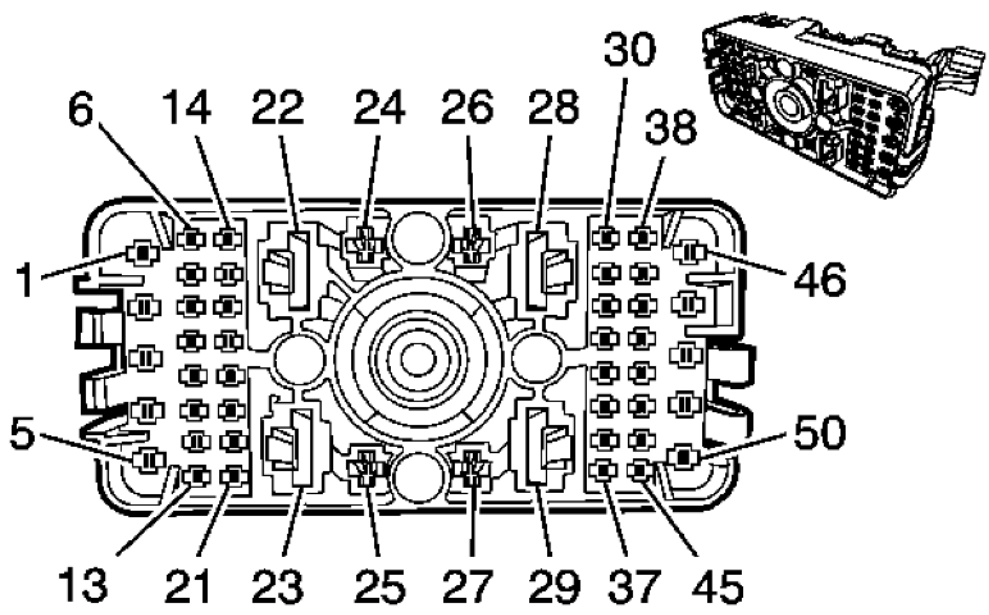


Fig. 6: X50A Fuse Block - Underhood X3
Courtesy of GENERAL MOTORS CORP.

Connector Part Information

- Harness: Engine
- OEM: 13600407
- Service: 13505902
- Description: 50-Way F 1.5/2.8 Metri-Pack 800 Series (BK)

cardiagn.com

Terminal Part Information

- Pins: 1, 2, 3, 5, 6, 7, 9, 11, 12, 13, 14, 16, 19, 27, 36, 38, 49, 50
- Terminal/Tray: 2-964284-1/25
- Core/Insulation Crimp: E/A
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 4
- Terminal/Tray: 4-965999-1/25
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: J-38125-36
- Test Probe: J-35616-35 (VT)

- Pins: 19
- Terminal/Tray: 962943-5/16
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool: J-38125-560
- Test Probe: J-35616-14 (GN)

X50A Fuse Block - Underhood X3

Pin	Wire	Circuit	Function
1	1 PK/BK	5291	Ignition Voltage
2	1 PK/BK	5292	Ignition Voltage
3	0.5 PK	2139	Ignition Voltage (MYB or MYC)
4	3 PU	6	Starter Solenoid Crank Voltage
5	1 OG	1470	Brake Booster Pump Motor Supply Voltage (LLT)
6	0.5 YE	5991	Powertrain Relay Control
7	0.5 D-GN	335	Low Speed Cooling Fan Relay Control
8	-	-	Not Used
9	0.8 PK/BK	5294	Ignition Voltage
10	-	-	Not Used
11	0.5 BN	7448	Vacuum Assist Pump Relay Coil Control (LLT)
12	0.5 PU/WH	6386	Starter Relay Control
13	0.5 BK/WH	451	Ground
14	0.5 PK	439	Ignition Voltage
15	-	-	Not Used
16	0.8 PK/BK	5293	Ignition Voltage
17-18	-	-	Not Used

cardiagn.com

19	0.8 PK/BK	5290	Ignition Voltage (L99 or LS3)
	2 PK/BK	5290	Ignition Voltage (LLT)
20-26	-	-	Not Used
27	0.8 RD/WH	1840	Battery Positive Voltage (MYB or MYC)
28-35	-	-	Not Used
36	0.5 D-GN/WH	459	A/C Compressor Clutch Relay Control
37	-	-	Not Used
38	0.5 D-BU	473	High Speed Cooling Fan Relay Control
39-48	-	-	Not Used
49	0.5 D-GN	59	A/C Compressor Clutch Supply Voltage
50	0.5 PK	239	Ignition Voltage

X50A Fuse Block - Underhood X4

Connector Part Information

- Terminal: 13595182
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

X50A Fuse Block - Underhood X4

Pin	Wire	Circuit	Function
A	19 RD	1	Battery Positive Voltage

cardiagn.com

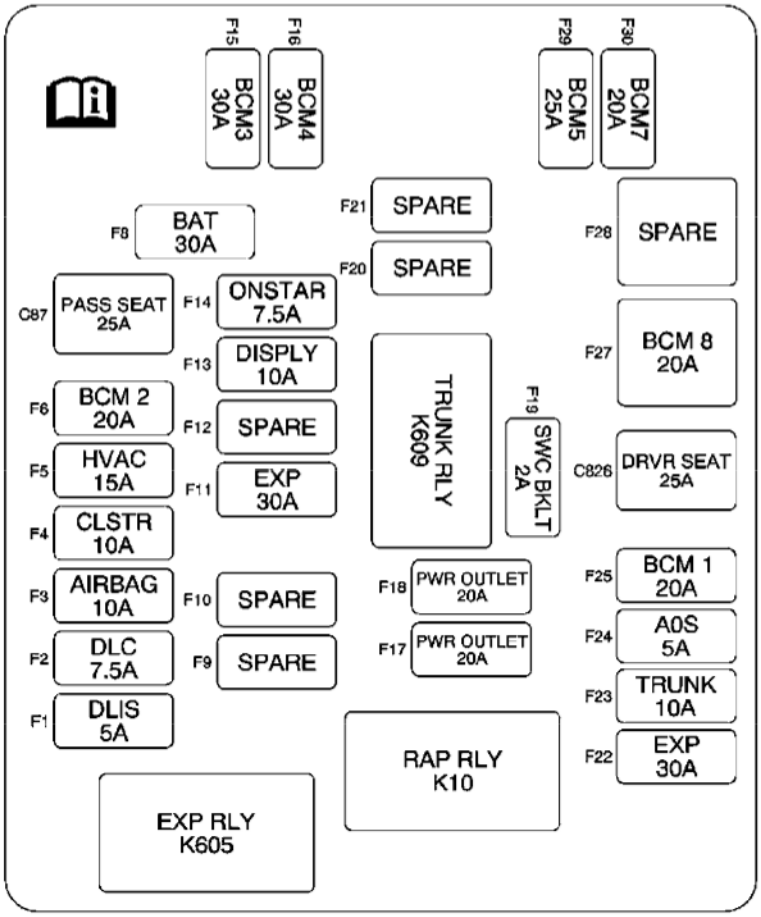


Fig. 7: X51A Fuse Block - Instrument Panel Label
Courtesy of GENERAL MOTORS CORP.

X51A Fuse Block - Instrument Panel Label Usage

No.	Device Label Name	Device Assigned Name	Rating	Description
F1	DLIS Fuse	F1D Fuse	5 A	S39 Ignition Switch
F2	DLC Fuse	F2D Fuse	7.5 A	X84 Data Link Connector
F3	AIRBAG Fuse	F3D Fuse	10 A	K36 Inflatable Restraint Sensing and Diagnostic Module
F4	CLSTR Fuse	F4D Fuse	10 A	P16 Instrument Cluster, and P26 Auxiliary Gauge Module (UMQ)
F5	HVAC Fuse	F5D Fuse	15 A	K33 HVAC Control Module
F6	BCM 2 Fuse	F6D Fuse	20 A	K9 Body Control Module
CB7	PASS SEAT Circuit Breaker	CB7D Circuit Breaker	25 A	S64P Seat Adjuster Switch - Passenger
F8	BAT Fuse	F8D Fuse	30 A	DISPLY/F13D, and ONSTAR/F14D Fuses
F9	SPARE Fuse	F9D Fuse	-	Not Used

cardiagn.com

F10	SPARE Fuse	F10D Fuse	-	Not Used
F11	EXP Fuse	F11D Fuse	30 A	Not Used
F12	SPARE Fuse	F12D Fuse	-	Not Used
F13	DISPLY Fuse	F13D Fuse	10 A	T11 Multimedia Player Interface Module (USR), A20 Radio/HVAC Controls
F14	ONSTAR Fuse	F14D Fuse	7.5 A	K73 Telematics Communication Interface Control Module (UE1)
F15	BCM3 Fuse	F15D Fuse	30 A	K9 Body Control Module
F16	BCM4 Fuse	F16D Fuse	30 A	K9 Body Control Module
F17	PWR OUTLET Fuse	F17D Fuse	20 A	X80H Accessory Power Receptacle - Center Console
F18	PWR OUTLET Fuse	F18D Fuse	20 A	X80D Accessory Power Receptacle - Center Console Compartment
F19	SWC BKLT Fuse	F19D Fuse	2 A	S70L Steering Wheel Controls Switch - Left, and S70R Steering Wheel Controls Switch - Right (NZL)
F20	SPARE Fuse	F20D Fuse	-	Not Used
F21	SPARE Fuse	F21D Fuse	-	Not Used
F22	EXP Fuse	F22D Fuse	30 A	Not Used
F23	TRUNK Fuse	F23D Fuse	10 A	TRUNK RLY Relay K609
F24	AOS Fuse	F24D Fuse	5 A	K85 Passenger Presence Detection Module
F25	BCM 1 Fuse	F25D Fuse	20 A	K9 Body Control Module
CB26	DRVR SEAT Circuit Breaker	CB26 Circuit Breaker	25 A	S64D Seat Adjuster Switch - Driver
F27	BCM 8 Fuse	F27D Fuse	30 A	K9 Body Control Module
F28	SPARE Fuse	F28D Fuse	-	-
F29	BCM5 Fuse	F29D Fuse	25 A	K9 Body Control Module
F30	BCM7 Fuse	F30D Fuse	20 A	K9 Body Control Module
K10	RAP RLY Relay K10	KR76 Retained Accessory Power Relay	-	PWR OUTLET/F17, and PWR OUTLET/F18 Fuses
K605	EXP RLY Relay K605	EXP RLY Relay K605	-	Not Used
K609	TRUNK RLY Relay K609	KR95B Rear Compartment Lid release Relay	-	M40 Rear Compartment Lid Latch

cardiagn.com

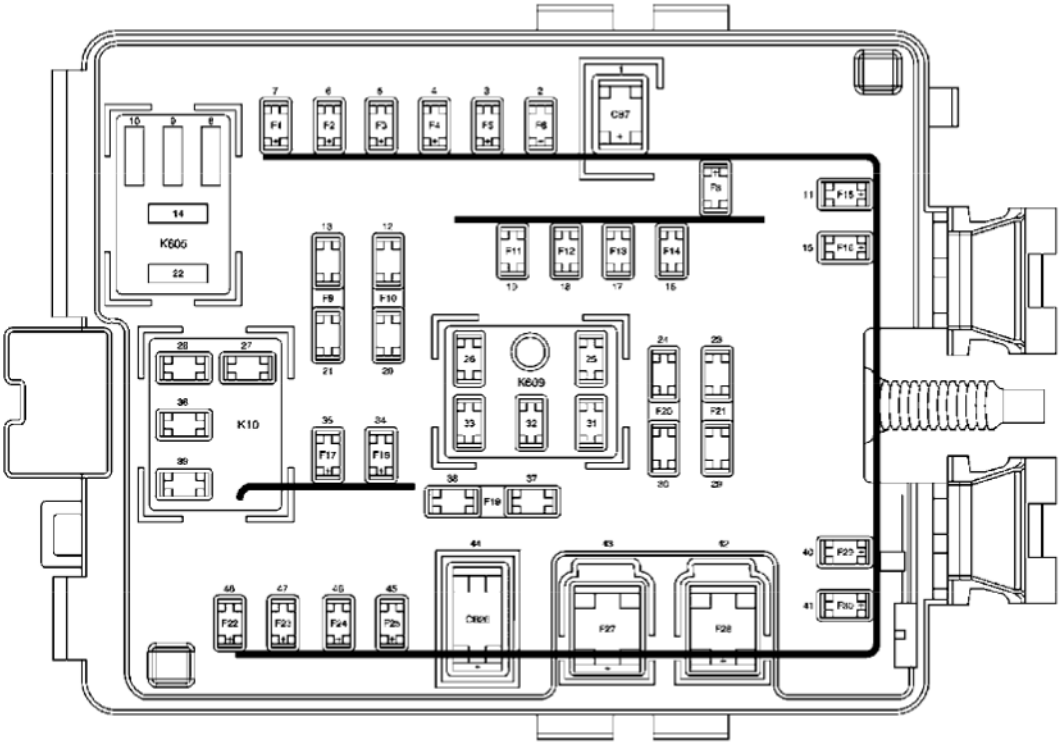


Fig. 8: X51A Fuse Block - Instrument Panel Top View
Courtesy of GENERAL MOTORS CORP.

cardiagn.com

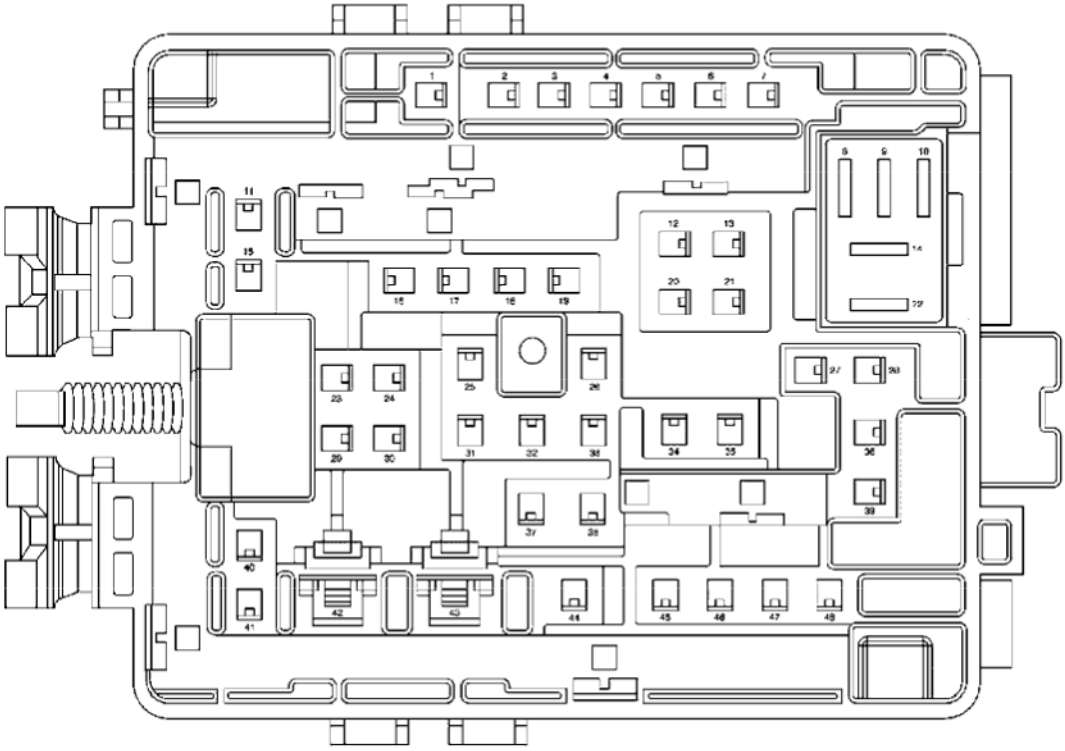


Fig. 9: X51A Fuse Block - Instrument Panel Bottom View
Courtesy of GENERAL MOTORS CORP.

X51A Fuse Block - Instrument Panel Wire Entry

Connector Part Information

- Harness: Instrument Panel
- OEM: 13676641
- Service: See Catalog
- Description: 48-Way F ASM CENT ELEC CTR I/P

Terminal Part Information

- Pin: 43
- Terminal/Tray: 15410292/23
- Core/Insulation Crimp: G/F/G/F
- Release Tool: 15315247
- Test Probe: J-35616-43 (RD)

- Pins: 2, 3, 4, 5, 6, 7, 16, 17, 25, 26, 27, 31, 33, 37, 38, 39, 41, 45, 46, 47
- Terminal/Tray: See Terminal Repair Kit
- Core/Insulation Crimp: See Terminal Repair Kit

cardiagn.com

- Release Tool: See Terminal Repair Kit
- Test Probe: See Terminal Repair Kit

- Pins: 1, 11, 15, 28, 34, 35, 40, 44
- Terminal/Tray: 12191475/1
- Core/Insulation Crimp: Pins 1, 11, 15, 28 - A/G
- Core/Insulation Crimp: Pins 34, 35, 40 - 4/G
- Release Tool: 12094429
- Test Probe: J-35616-4A (PU)

X51A Fuse Block - Instrument Panel Wire Entry

Pin	Wire	Circuit	Function
1	3 RD/WH	1440	Battery Positive Voltage
2	0.8 RD/WH	2240	Battery Positive Voltage
3	0.8 RD/WH	3340	Battery Positive Voltage
4	0.5 RD/WH	2840	Battery Positive Voltage
	0.5 RD/WH	2840	Battery Positive Voltage (UMQ)
5	0.5 RD/WH	4440	Battery Positive Voltage
6	0.35 RD/WH	40	Battery Positive Voltage
7	0.5 RD/WH	540	Battery Positive Voltage
8-10	-	-	Not Used
11	2 RD/WH	2740	Battery Positive Voltage
12-14	-	-	Not Used
15	2 RD/WH	2540	Battery Positive Voltage
16	0.35 RD/WH	5340	Battery Positive Voltage
17	0.5 RD/WH	3240	Battery Positive Voltage
18	-	-	Not Used
19-24	-	-	Not Used
25	0.5 L-BU	6795	Rear Compartment Lid Release Control 2
26	0.35 TN	6188	Rear Compartment Lid Release Control
27	0.35 TN	755	RAP Relay Coil Control
28	2 RD/BK	1542	Battery Positive Voltage
29-30	-	-	Not Used
31	0.8 BK	1550	Ground
32	-	-	Not Used
33	0.5 RD/WH	3740	Battery Positive Voltage
34	1 D-GN	801	RAP 2 Fuse Supply Voltage
35	1 D-GN	1001	RAP 1 Fuse Supply Voltage
36	-	-	Not Used
37	0.35 YE	6817	LED Backlight Dimming Control
38	0.35 BN	6136	LED Backlight Dimming Control

cardiagn.com

39	0.8 BK	1550	Ground
40	1 RD/WH	2940	Battery Positive Voltage
41	0.8 RD/WH	3840	Battery Positive Voltage
42	-	-	Not Used
43	3 RD/WH	4040	Battery Positive Voltage
44	3 RD/WH	5040	Battery Positive Voltage
45	0.8 RD/WH	2140	Battery Positive Voltage
46	0.35 RD/WH	2040	Battery Positive Voltage
47	0.5 RD/WH	3740	Battery Positive Voltage
48	-	-	Not Used

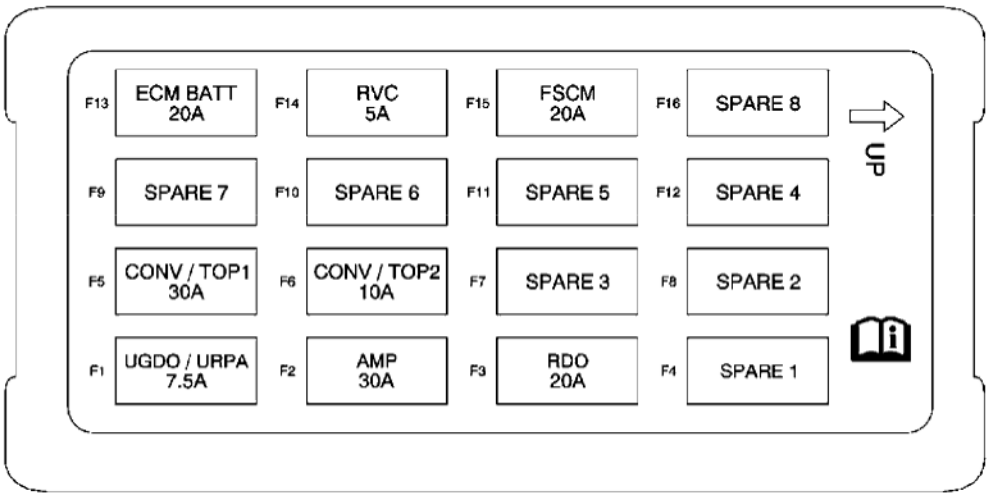
X51A Fuse Block - Instrument Panel X1

Connector Part Information

- Terminal: 12146714
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

X51A Fuse Block - Instrument Panel X1

Pin	Wire	Circuit	Function
A	10 RD/BK	1542	Battery Positive Voltage
	2 RD/BK	1542	Battery Positive Voltage



cardiagn.com

Fig. 10: X53A Fuse Block - Rear Body Label
Courtesy of GENERAL MOTORS CORP.

X53A Fuse Block - Rear Body Usage

No.	Device Label Name	Device Assigned Name	Rating	Description
F1	UGDO / URPA Fuse	F1R Fuse	7.5 A	S25 Garage Door Opener (UG1), K41 Parking Assist Control Module (UD7)
F2	AMP Fuse	F2R Fuse	30 A	T3 Audio Amplifier (UQA)
F3	RDO Fuse	F3R Fuse	20 A	A11 Radio
F4	SPARE 1 Fuse	F4R Fuse	-	Not Used
F5	CONV / TOP1 Fuse	F5R Fuse	30 A	Not Used
F6	CONV / TOP2 Fuse	F6R Fuse	10 A	Not Used
F7	SPARE 3 Fuse	F7R Fuse	-	Not Used
F8	SPARE 2 Fuse	F8R Fuse	-	Not Used
F9	SPARE 7 Fuse	F9R Fuse	-	Not Used
F10	SPARE 6 Fuse	F10R Fuse	-	Not Used
F11	SPARE 5 Fuse	F11R Fuse	-	Not Used
F12	SPARE 4 Fuse	F12R Fuse	-	Not Used
F13	ECM BATT Fuse	F13R Fuse	20 A	K20 Engine Control Module
F14	RVC Fuse	F14R Fuse	5 A	K9 Body Control Module
F15	FSCM Fuse	F15R Fuse	20 A	K27 Fuel Pump Control Module
F16	SPARE 8 Fuse	F16R Fuse	-	Not Used

cardiagn.com

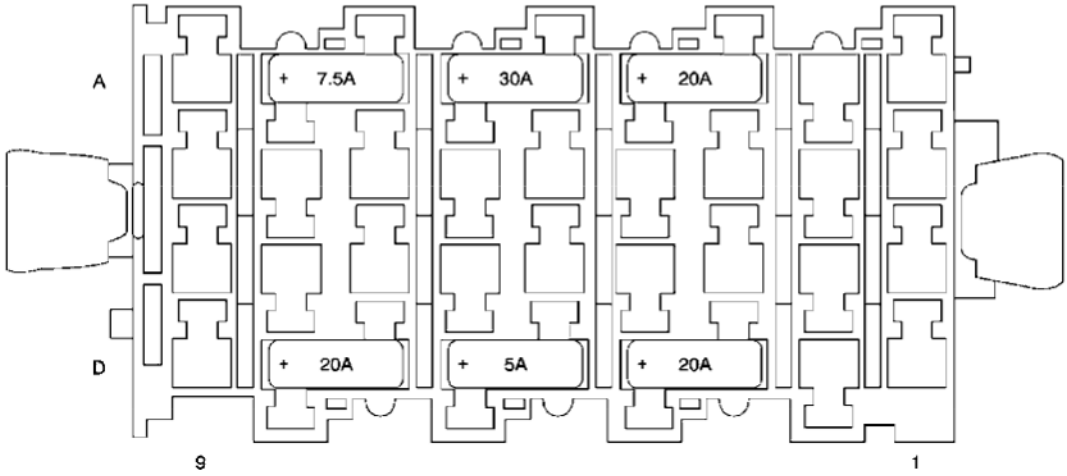


Fig. 11: X53A Fuse Block - Rear Body Top View
Courtesy of GENERAL MOTORS CORP.

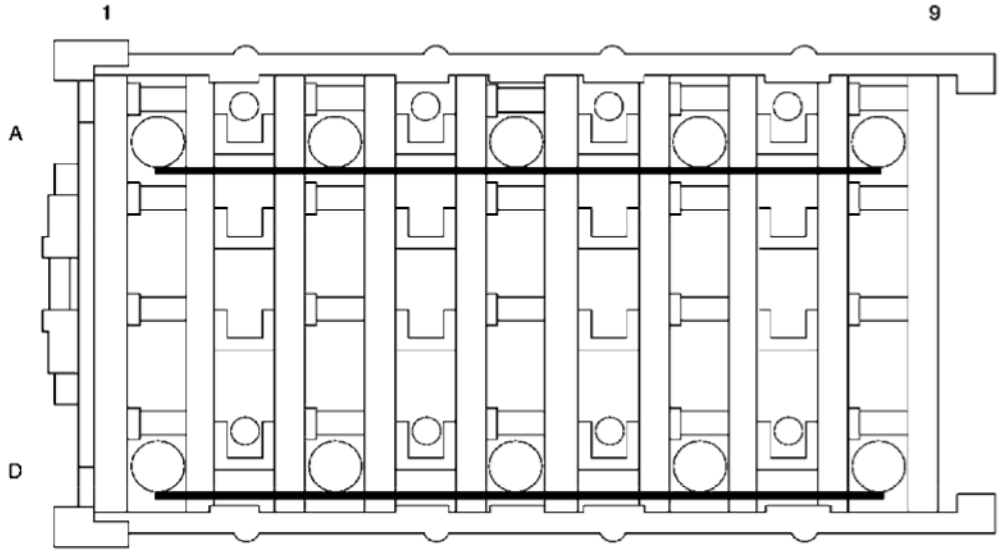


Fig. 12: X53A Fuse Block - Rear Body Bottom View
Courtesy of GENERAL MOTORS CORP.

X53A Fuse Block - Rear Body Wire Entry

cardiagn.com

Connector Part Information

- Harness: Body
- OEM: 12160504
- Service: See Catalog
- Description: 36-Way F CENT FUS BLK M/P 280 (BK)

Terminal Part Information

- Pins: D6
- Terminal/Tray: 12110652/4
- Core/Insulation Crimp: A/B
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

- Pins: A2, A4, A5, A6, D2, D4, D5
- Terminal/Tray: 12110652/4
- Core/Insulation Crimp: Pins A2, A4, A5, D2, D4, D5 - See Terminal Repair Kit
- Core/Insulation Crimp: Pins A6 - F/D
- Release Tool: 15315247
- Test Probe: J-35616-4A (PU)

X53A Fuse Block - Rear Body Wire Entry

Pin	Wire	Circuit	Function
A1	-	1242	Battery Positive Voltage Bus
A2	0.5 RD/WH	3140	Battery Positive Voltage (UD7)
	0.35 RD/WH	3140	Battery Positive Voltage
A3	-	1242	Battery Positive Voltage Bus
A4	3 RD/WH	3640	Battery Positive Voltage (UQA)
A5	5 RD/BK	1242	Battery Positive Voltage Bus
A6	1 RD/WH	340	Battery Positive Voltage
A7	-	1242	Battery Positive Voltage Bus
A8	-	-	Not Used
A9	-	1242	Battery Positive Voltage Bus
B1-B9	-	-	Not Used
C1-C9	-	-	Not Used
D1	-	1242	Battery Positive Voltage Bus
D2	0.8 RD/WH	440	Battery Positive Voltage
D3	-	1242	Battery Positive Voltage Bus
D4	0.35 RD/WH	2340	Battery Positive Voltage
D5	5 RD/BK	1242	Battery Positive Voltage Bus
D6	2 RD/WH	2640	Battery Positive Voltage

cardiagn.com

D7	-	1242	Battery Positive Voltage Bus
D8	-	-	Not Used
D9	-	1242	Battery Positive Voltage Bus

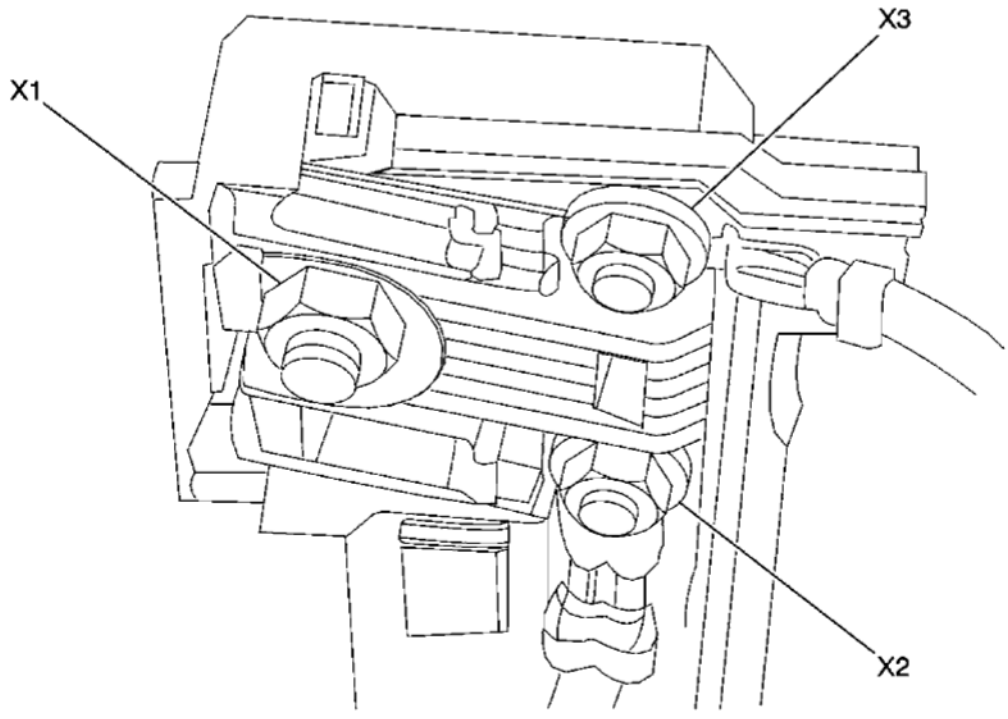


Fig. 13: X50D Fuse Block - Battery Top View
Courtesy of GENERAL MOTORS CORP.

X50D Fuse Block - Battery X1

Connector Part Information

- Terminal: 12015104
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

X50D Fuse Block - Battery X1

Pin	Wire	Circuit	Function
1	50 RD	1	Battery Positive Voltage

X50D Fuse Block - Battery X2

Connector Part Information

- Terminal: 13677128

cardiagn.com

- Core/Insulation Crimp: N/A
- Description: Ring Terminal

X50D Fuse Block - Battery X2

Pin	Wire	Circuit	Function
1	10 RD/BK	1542	Battery Positive Voltage

X50D Fuse Block - Battery X3

Connector Part Information

- Terminal: 12077720
- Core/Insulation Crimp: N/A
- Description: Ring Terminal

X50D Fuse Block - Battery X3

Pin	Wire	Circuit	Function
1	8 RD/BK	1242	Battery Positive Voltage

cardiagn.com