2007 ACCESSORIES & EQUIPMENT

Power Seats - Avalanche, Escalade, Suburban, Tahoe & Yukon

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Front Seat Recliner Motor Bolt	9 N.m	80 lb in
Front Memory Seat Switch Screw	2 N.m	18 lb in
Memory Seat Module Bolt	9 N.m	80 lb in
Rear Seat Recliner Actuator Screw	3 N.m	25 lb in

SCHEMATIC AND ROUTING DIAGRAMS

DRIVER SEAT SCHEMATICS

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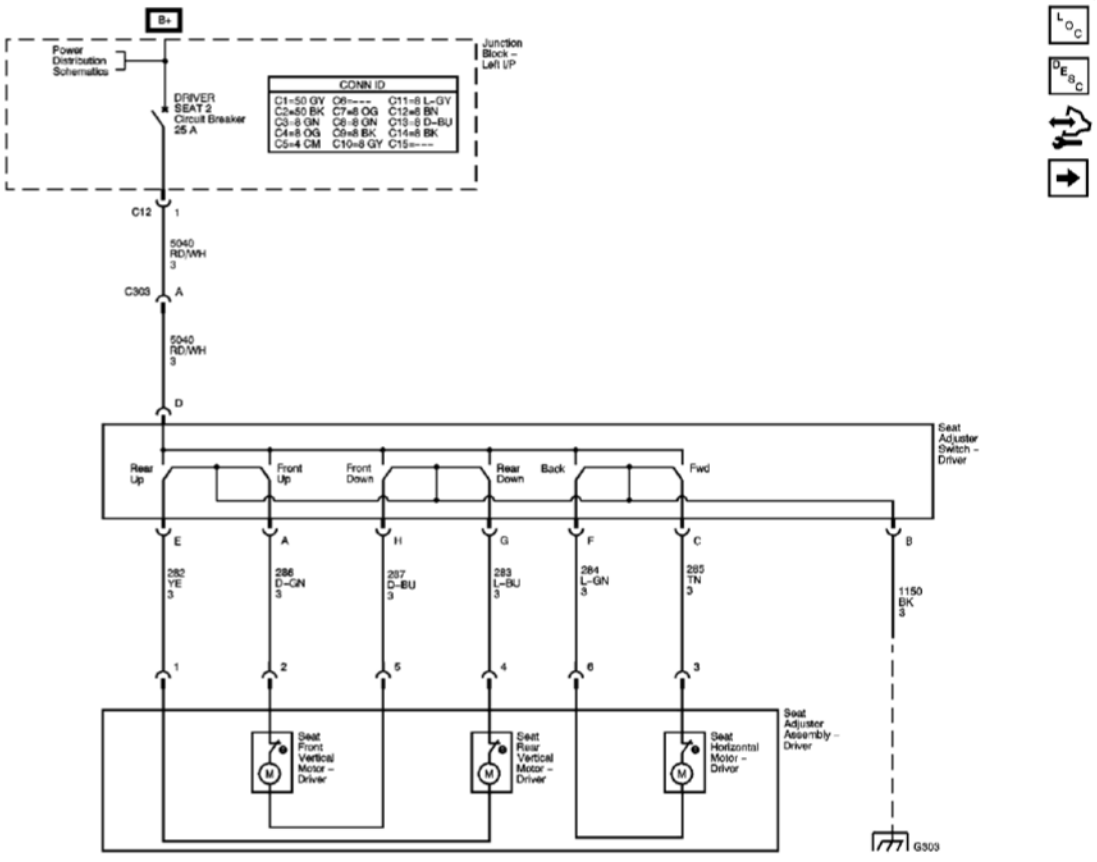


Fig. 1: 6-Way Power Schematic
Courtesy of GENERAL MOTORS CORP.

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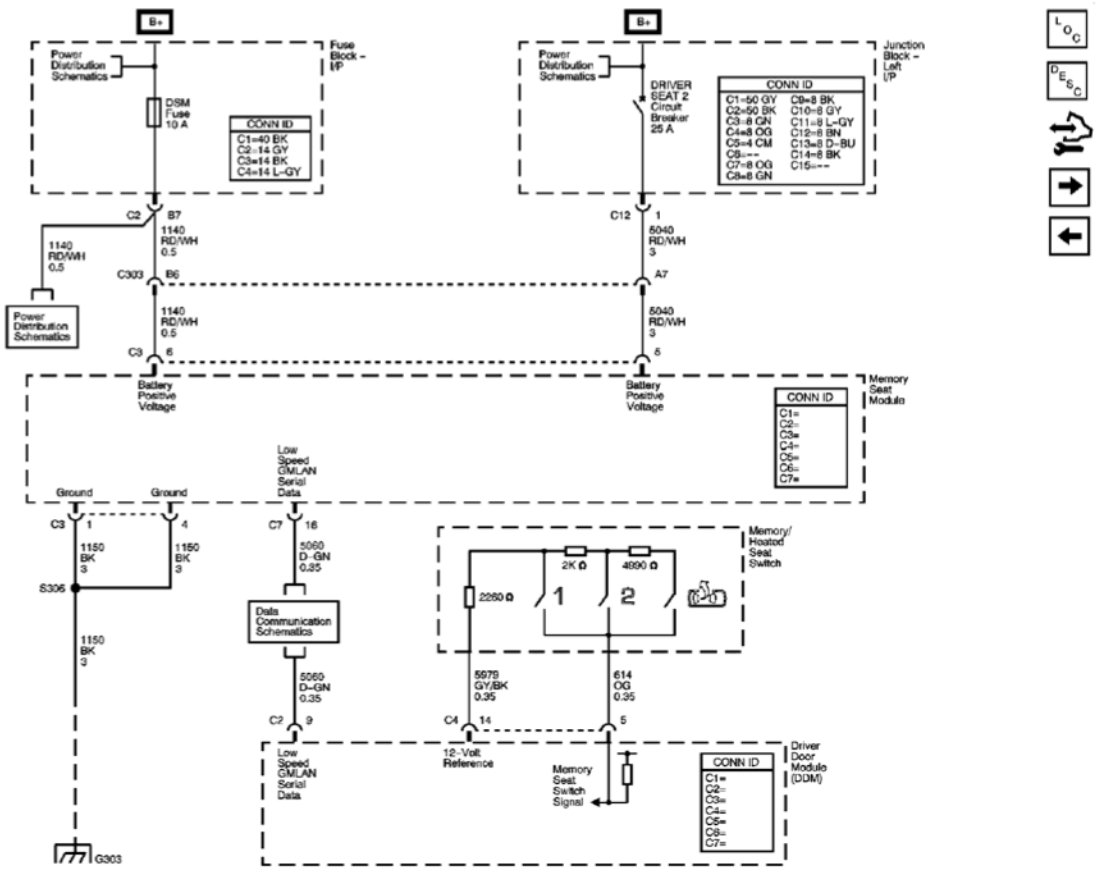


Fig. 2: Module Power, Ground, Serial Data, and Memory Switches - AN3 Schematic
Courtesy of GENERAL MOTORS CORP.

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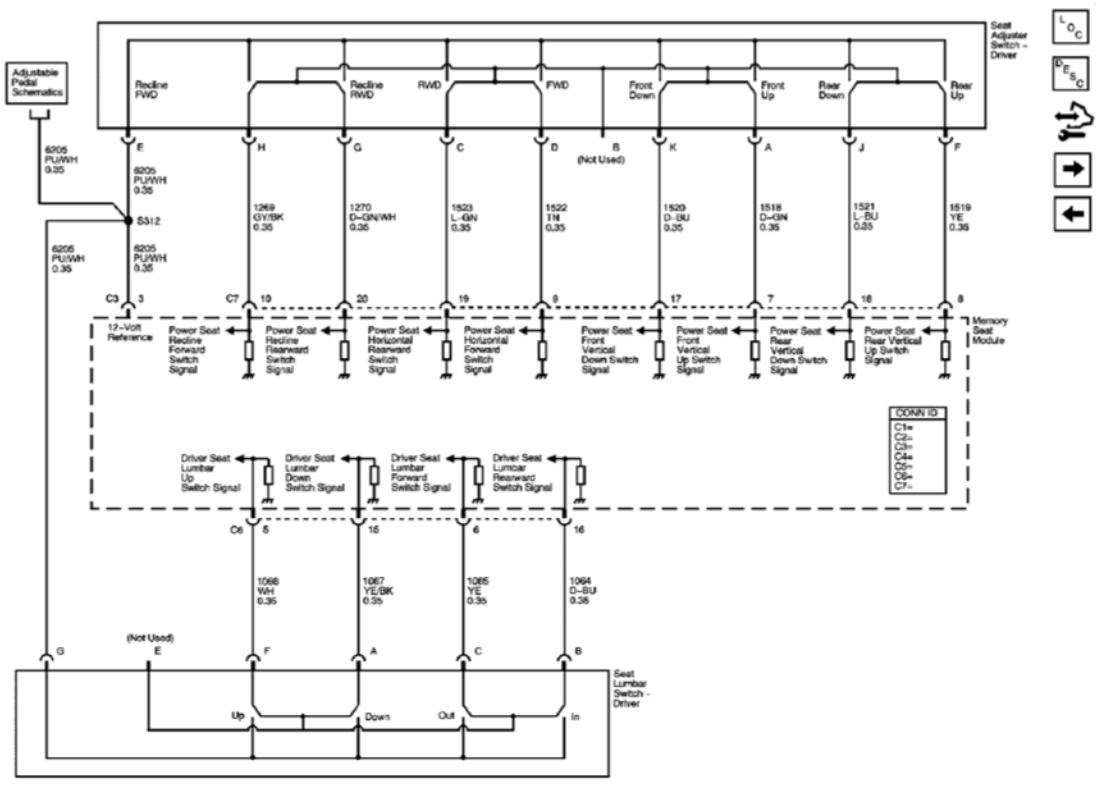


Fig. 3: Seat Adjuster Switches - AN3 Schematic
Courtesy of GENERAL MOTORS CORP.

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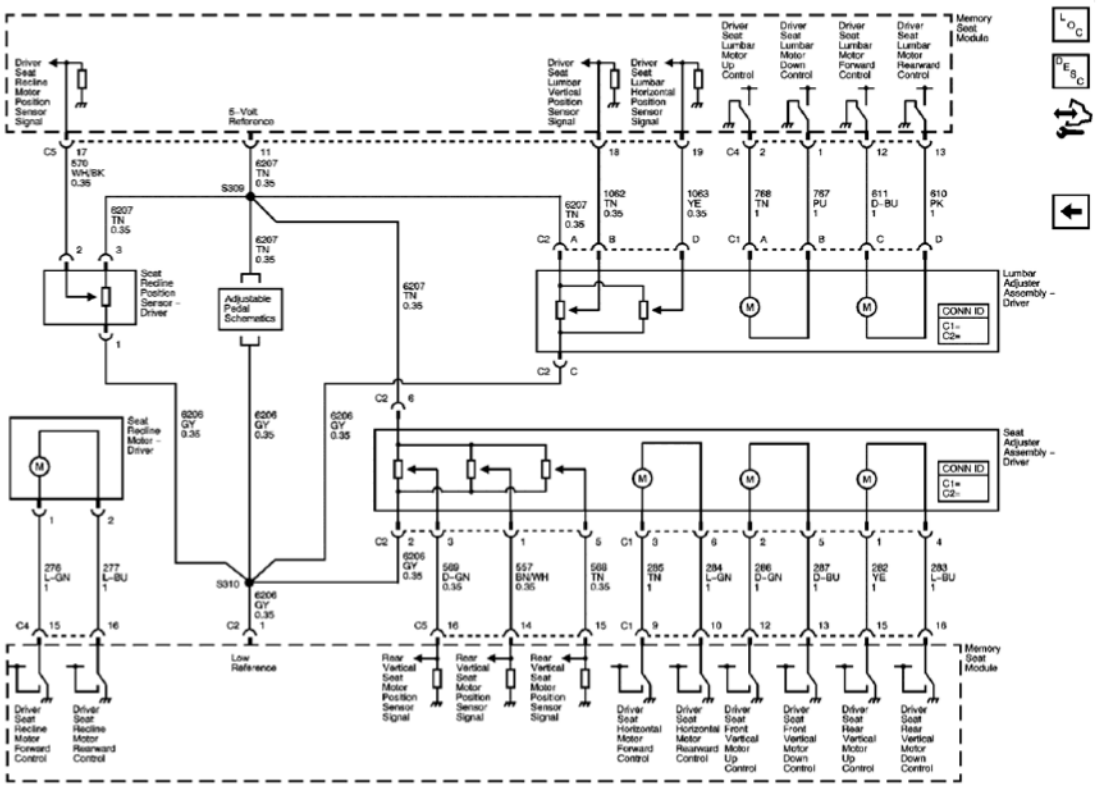


Fig. 4: Motors and Position Sensors - AN3 Schematic
Courtesy of GENERAL MOTORS CORP.

PASSENGER SEAT SCHEMATICS

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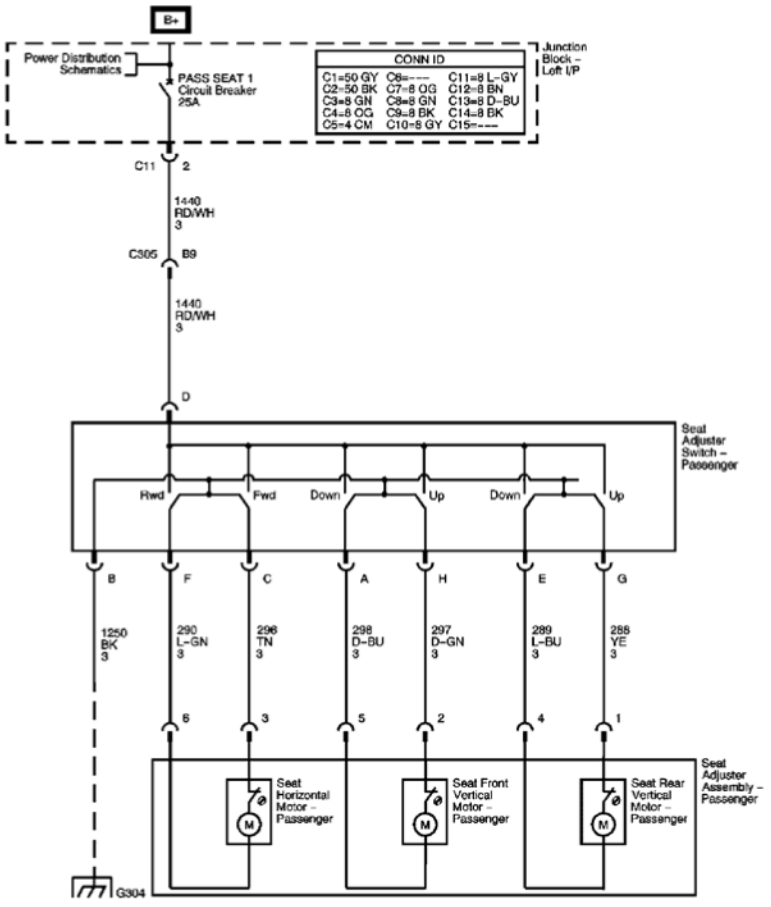


Fig. 5: Except AN3 Schematic
Courtesy of GENERAL MOTORS CORP.

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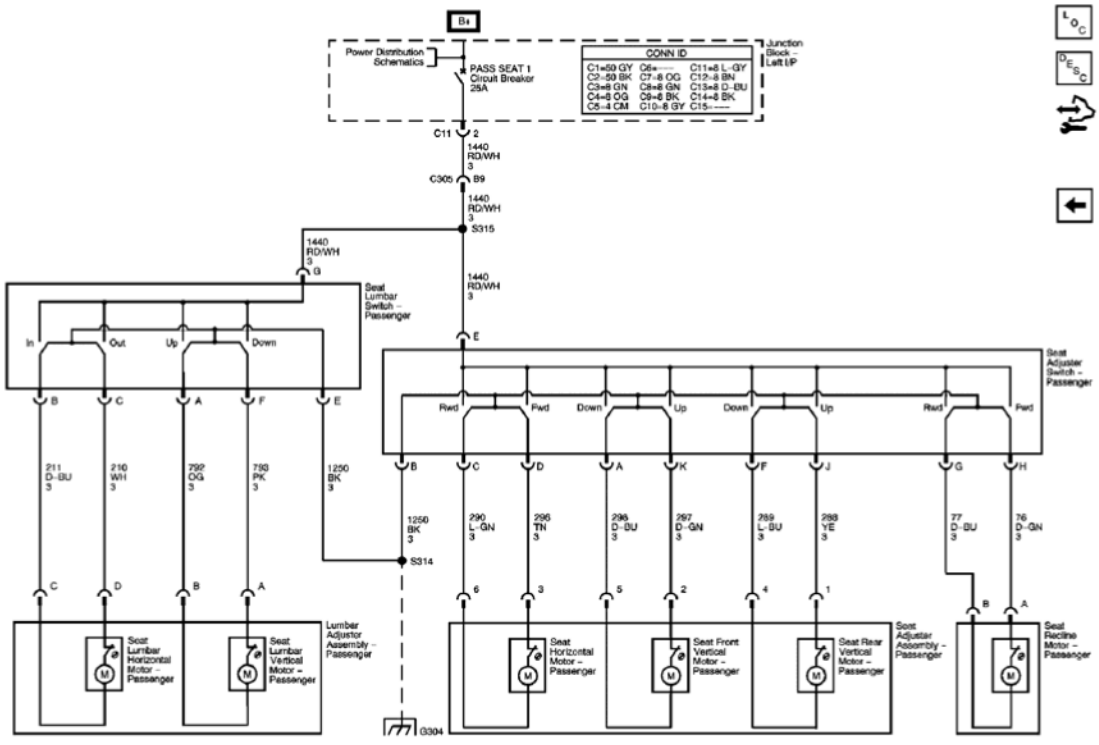


Fig. 6: AN3 Schematic
Courtesy of GENERAL MOTORS CORP.

REAR SEAT SCHEMATICS

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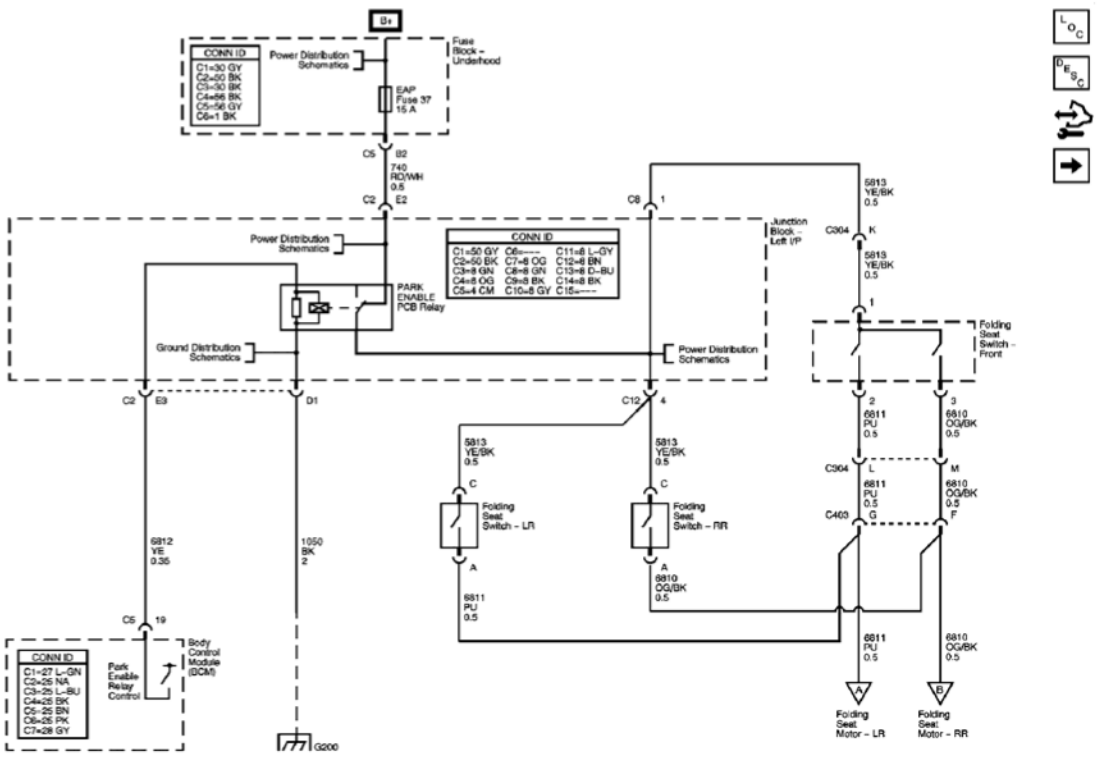


Fig. 7: Folding Seat Controls - ARS Schematic
Courtesy of GENERAL MOTORS CORP.

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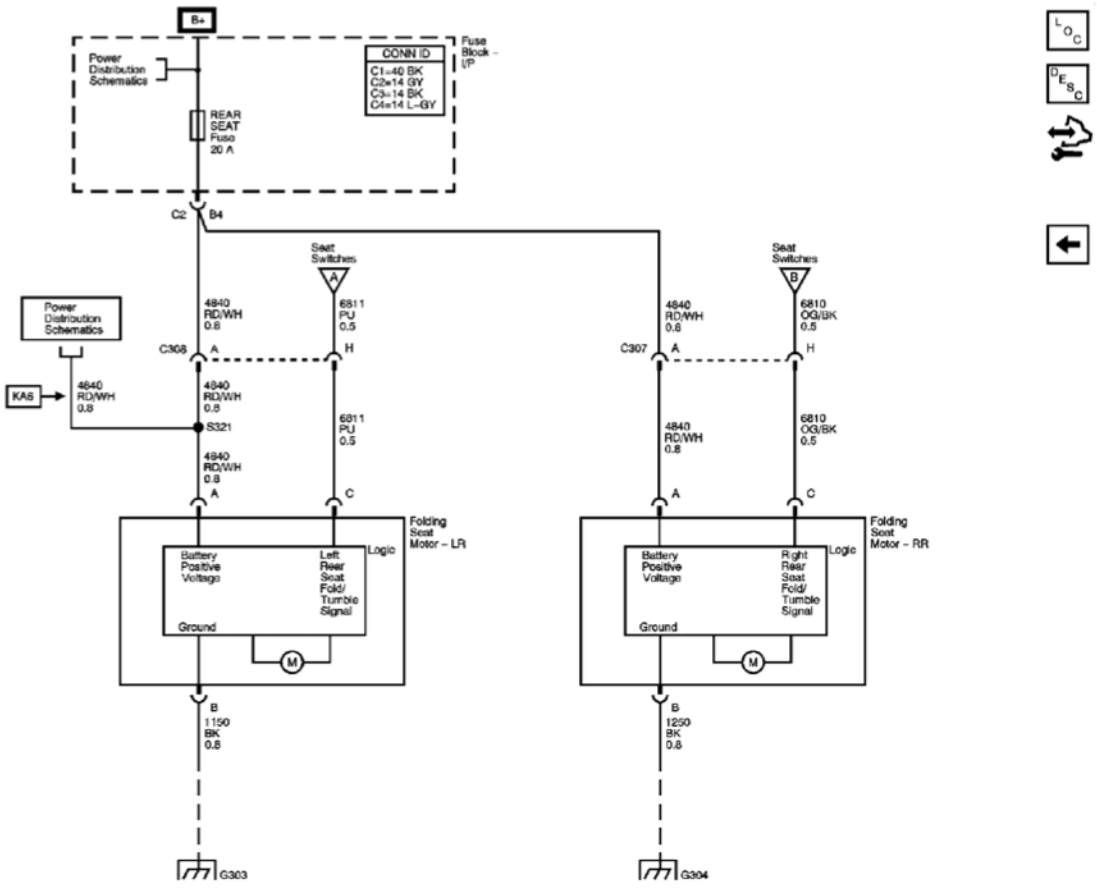


Fig. 8: Folding Seat Motors - ARS Schematic
Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR

POWER SEAT COMPONENT VIEWS

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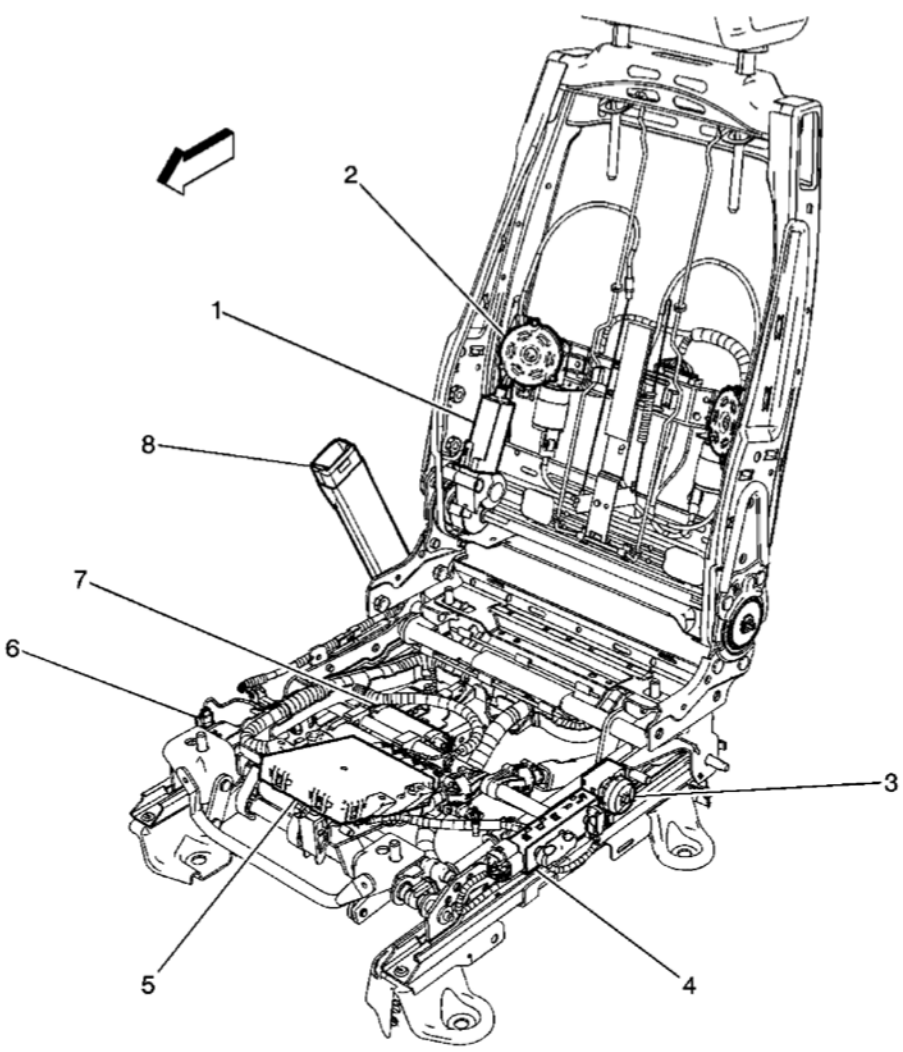


Fig. 9: Driver Seat
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 9

Callout	Component Name
1	Seat Recline Motor - Driver (AN3)
2	Lumbar Adjuster Assembly - Driver (AN3)
3	Seat Lumbar Switch - Driver (AN3)
4	Seat Adjuster Switch - Driver
5	Memory Seat Module (AN3)
6	Inflatable Restraint Seat Position Sensor (SPS) - Left
7	Seat Adjuster Assembly - Driver
8	Seat Belt Buckle

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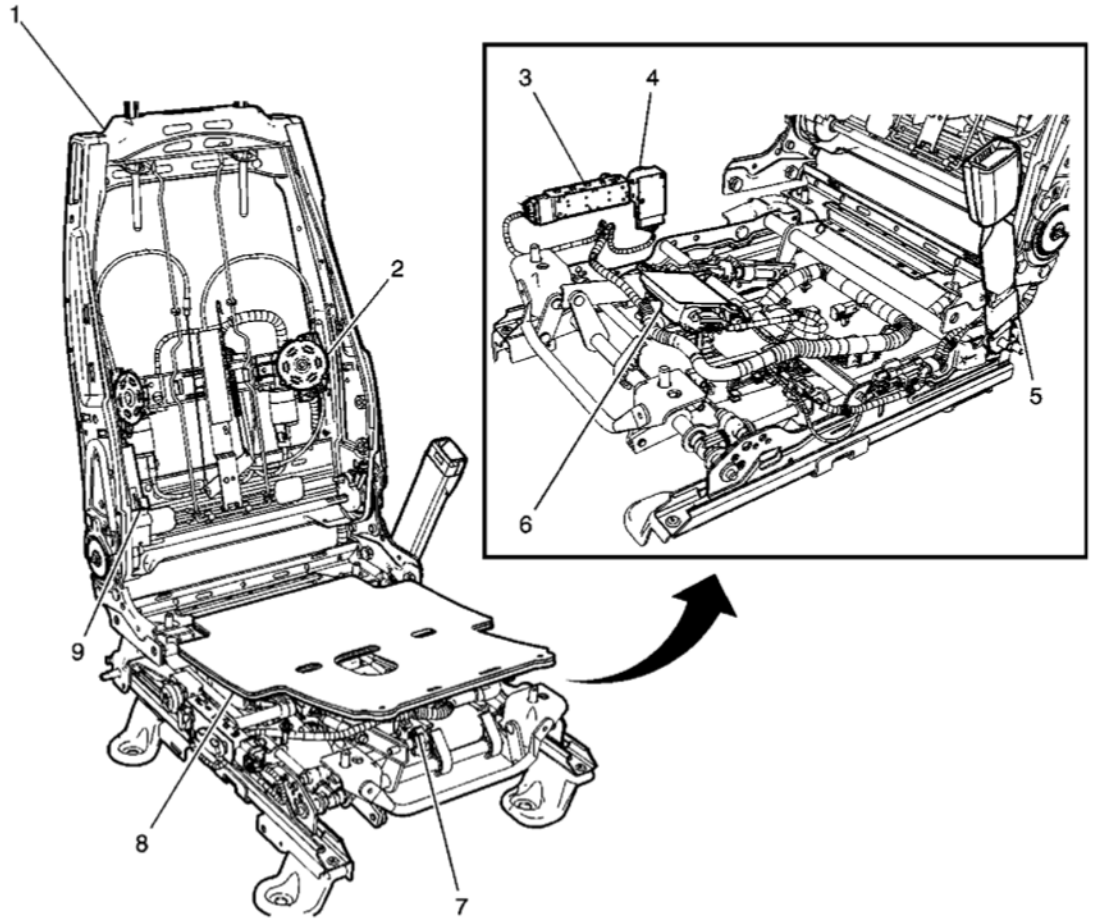


Fig. 10: Passenger Seat
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 10

Callout	Component Name
1	Seat Frame
2	Lumbar Adjuster Assembly - Passenger (AN3)
3	Seat Adjuster Switch - Passenger
4	Seat Lumbar Switch - Passenger (AN3)
5	Seat Belt Buckle
6	Inflatable Restraint Front Passenger Presence System (PPS) Module
7	Seat Adjuster Assembly - Passenger
8	Inflatable Restraint Front Passenger Presence System (PPS) Sensor
9	Seat Recline Motor - Passenger (AN3)

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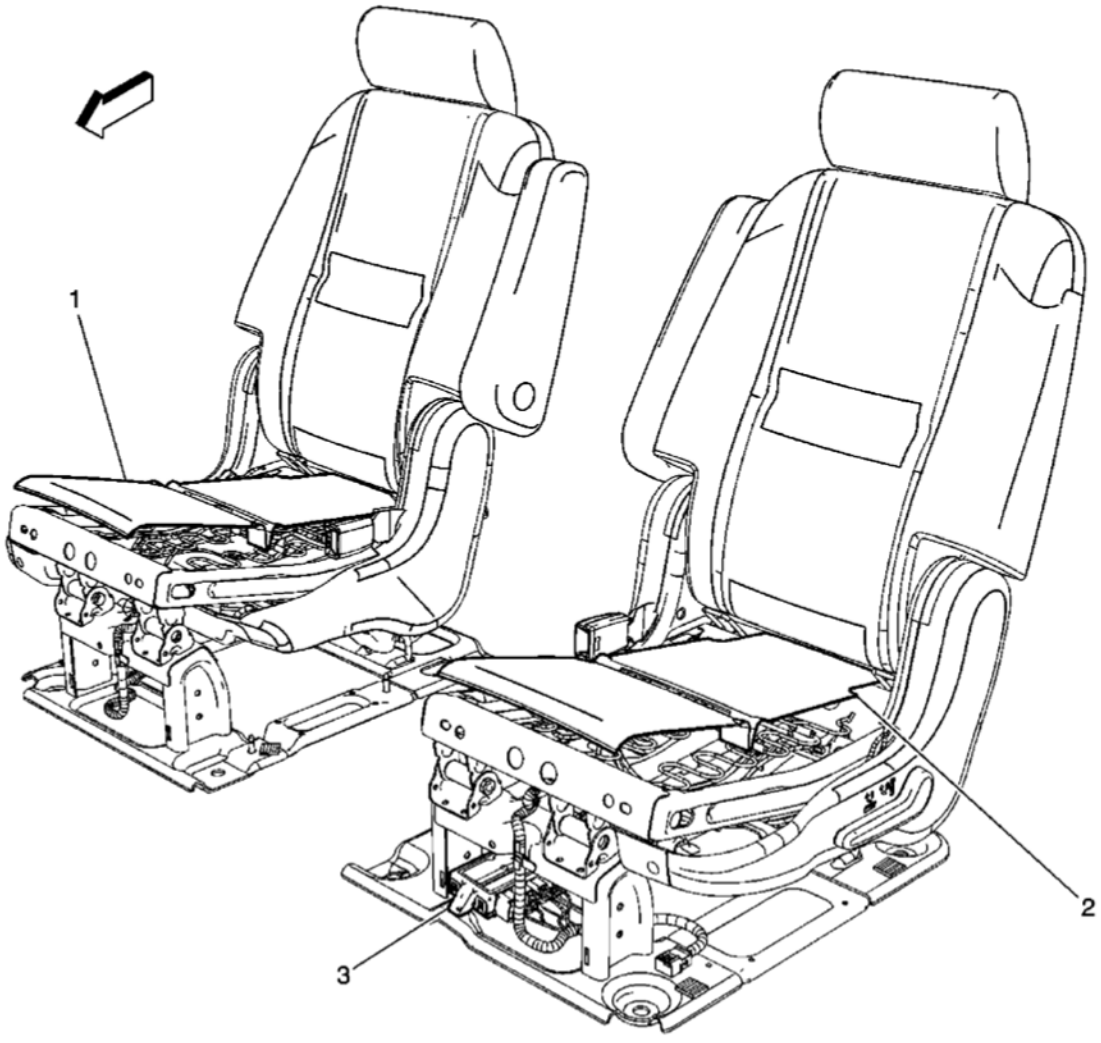


Fig. 11: Rear Seats
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 11

Callout	Component Name
1	Heated Seat Element - RR
2	Heated Seat Element - LR
3	Heated Seat Module - Rear

POWER SEAT CONNECTOR END VIEWS

Folding Seat Motor - LR (ARS)

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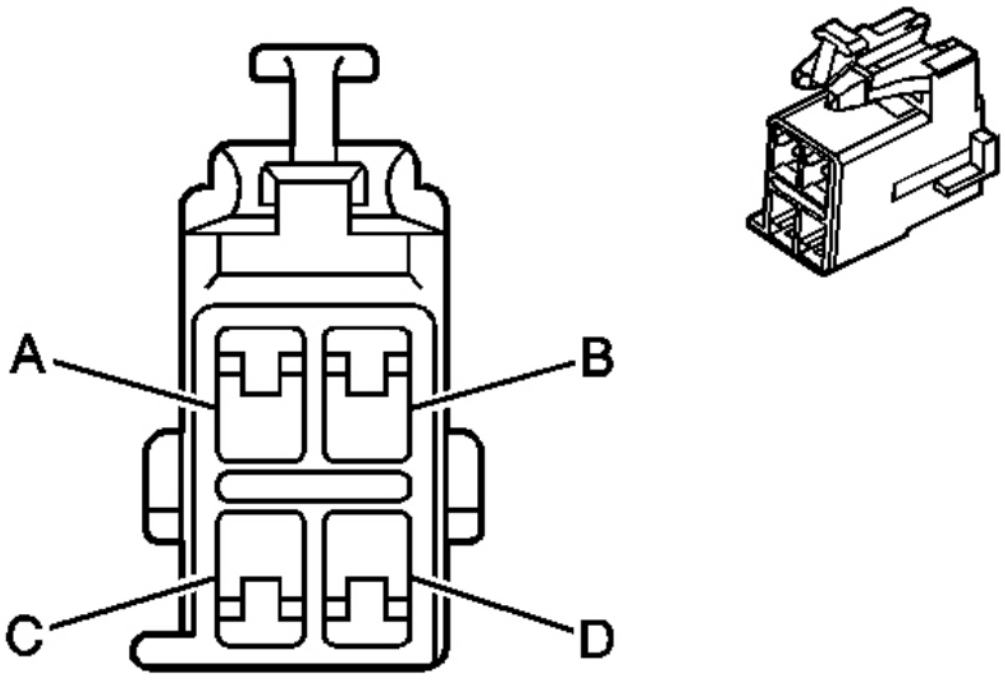


Fig. 12: Folding Seat Motor - LR (ARS) Connector End View
Courtesy of GENERAL MOTORS CORP.

Folding Seat Motor - LR (ARS) Connector Parts Information

Connector Part Information

- OEM: 12129136
- Service: 12129136
- Description: 4-Way F Metri-Pack 280 Series (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Folding Seat Motor - LR (ARS) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	RD/WH	4840	Battery Positive Voltage
B	BK	1150	Ground

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C	PU	6811	Left Rear Seat Fold/Tumble Signal
D	BK	1150	Ground

Folding Seat Motor - RR (ARS)

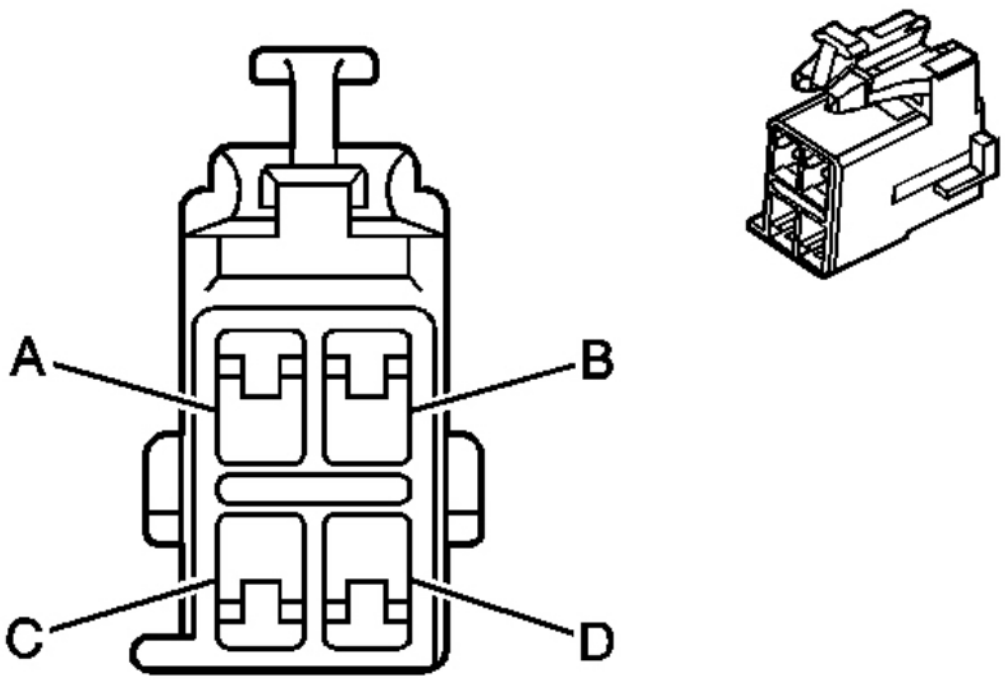


Fig. 13: Folding Seat Motor - RR (ARS) Connector End View
Courtesy of GENERAL MOTORS CORP.

Folding Seat Motor - RR (ARS) Connector Parts Information

Connector Part Information

- OEM: 12129136
- Service: 12129136
- Description: 4-Way F Metri-Pack 280 Series (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

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Folding Seat Motor - RR (ARS) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	RD/WH	4840	Battery Positive Voltage
B	BK	1250	Ground
C	OG/BK	6810	Right Rear Seat Fold/Tumble Signal
D	BK	1250	Ground

Folding Seat Switch - Front (ARS)

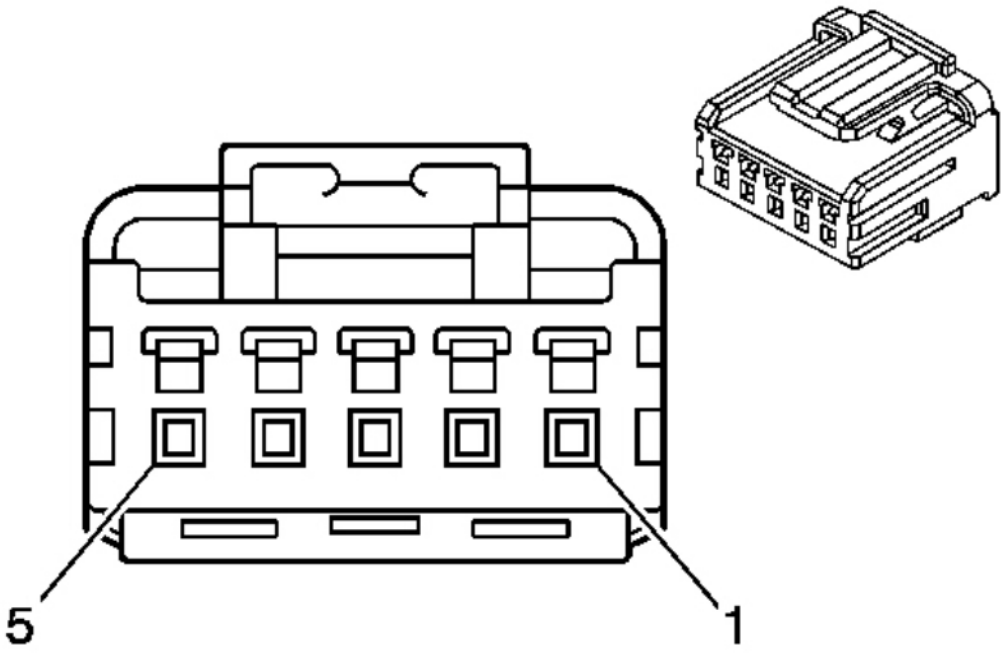


Fig. 14: Folding Seat Switch - Front (ARS) Connector End View
Courtesy of GENERAL MOTORS CORP.

Folding Seat Switch - Front (ARS) Connector Parts Information

Connector Part Information

- OEM: 15456019
- Service: 88988112
- Description: 5-Way F HCM 5P Female Housing Assembly (BK)

Terminal Part Information

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- Terminal/Tray: SHCM-A03T-P025/20
- Core/Insulation Crimp: J/J
- Release Tool/Test Probe: 12094429/J-35616-64B (L-BU)

Folding Seat Switch - Front (ARS) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	YE/BK	5813	Park Enable Supply Voltage
2	PU	6811	Left Rear Seat Fold Tumble Signal
3	OG/BK	6810	Right Rear Seat Fold Tumble Signal
4	BK	1050	Ground
5	BN/WH	230	Instrument Panel Lamp Dimming Control

Folding Seat Switch - LR (ARS)

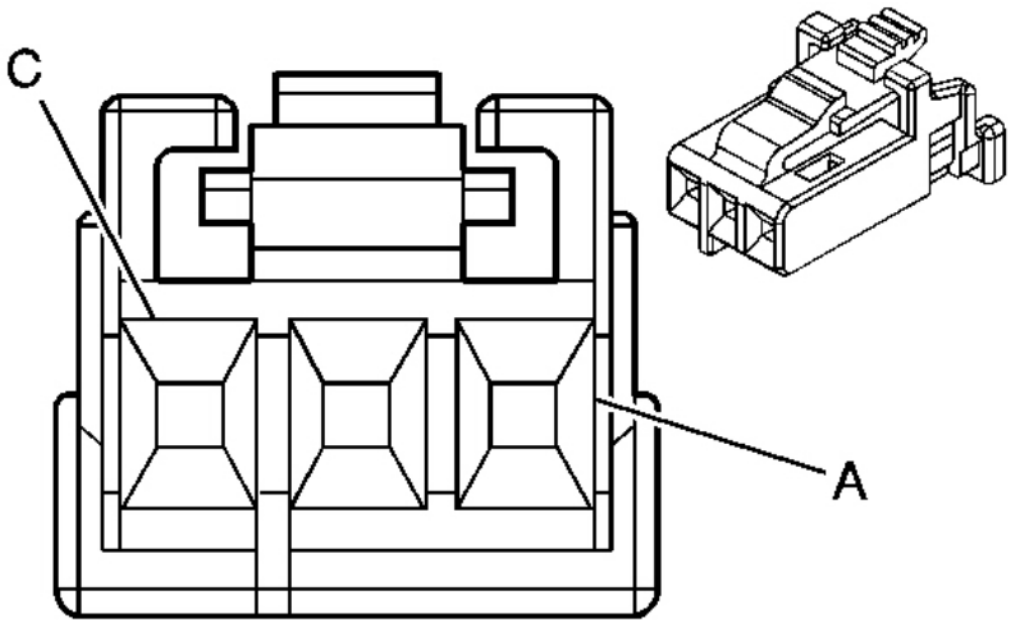


Fig. 15: Folding Seat Switch - LR (ARS) Connector End View
Courtesy of GENERAL MOTORS CORP.

Folding Seat Switch - LR (ARS) Connector Parts Information

Connector Part Information

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- OEM: 15417063
- Service: 88987857
- Description: 3-Way F Micro-Pack 064 Series Unsealed (BK)

Terminal Part Information

- Terminal/Tray: 12177007/19
- Core/Insulation Crimp: E/2
- Release Tool/Test Probe: 12180559-1/J-35616-64B (L-BU)

Folding Seat Switch - LR (ARS) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	PU	6811	Left Rear Seat Fold Tumble Signal
B	-	-	Not Used
C	YE/BK	5813	Park Enable Supply Voltage

Folding Seat Switch - RR (ARS)

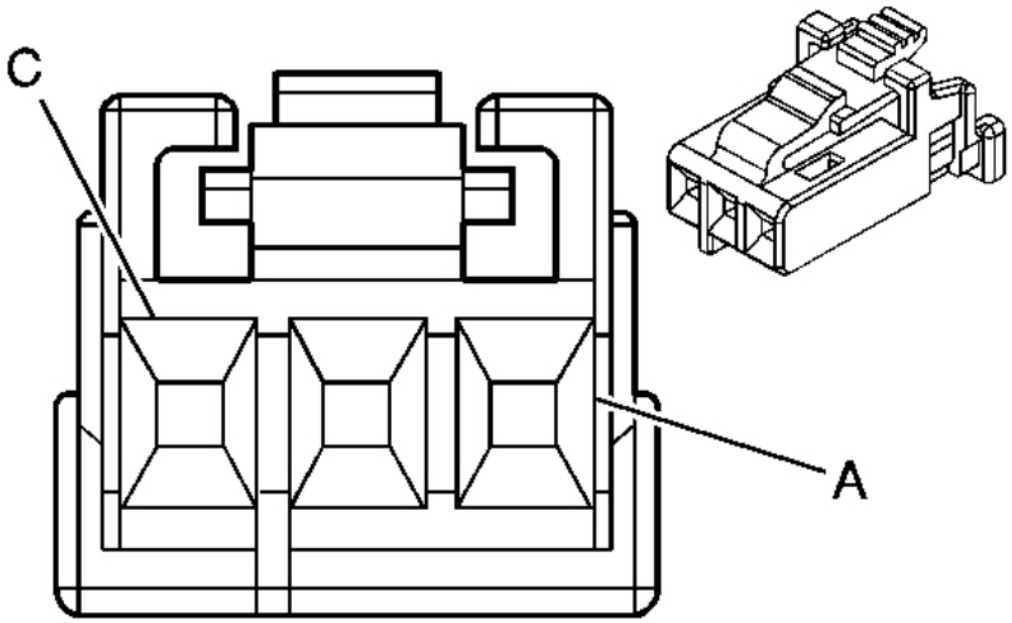


Fig. 16: Folding Seat Switch - RR (ARS) Connector End View
Courtesy of GENERAL MOTORS CORP.

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Folding Seat Switch - RR (ARS) Connector Parts Information

Connector Part Information

- OEM: 15417063
- Service: 88987857
- Description: 3-Way F Micro-Pack 064 Series Unsealed (BK)

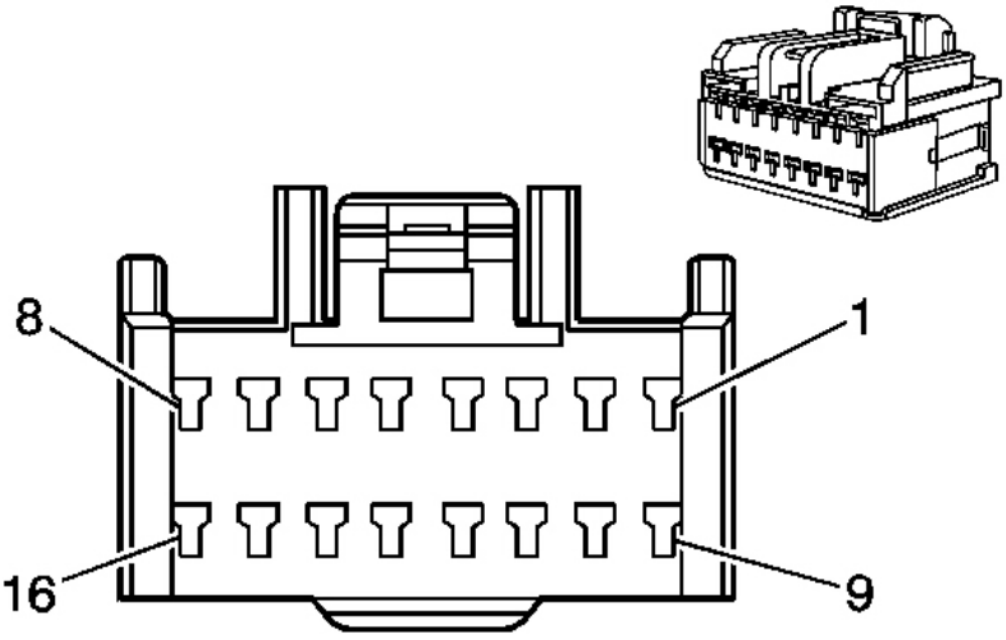
Terminal Part Information

- Terminal/Tray: 12177007/19
- Core/Insulation Crimp: E/2
- Release Tool/Test Probe: 12180559-1/J-35616-64B (L-BU)

Folding Seat Switch - RR (ARS) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	OG/BK	6810	Right Rear Seat Fold Tumble Signal
B	-	-	Not Used
C	YE/BK	5813	Park Enable Supply Voltage

Memory Seat Module C1 (AN3)



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Fig. 17: Memory Seat Module C1 (AN3) Connector End View
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Memory Seat Module C1 (AN3) Connector Parts Information

Connector Part Information

- OEM: 6098-4611
- Service: 15134091
- Description: 16-Way F (BK)

Terminal Part Information

- Terminal/Tray: 8240-0128/22
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool/Test Probe: 15315247/J-35616-2A (GY)

Memory Seat Module C1 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	PU	2424	Ground (Except KB6)
2-3	-	-	Not Used
4	L-BU	2433	Ground (Except KB6)
5	-	-	Not Used
6	D-BU	2479	Heated Seat Cushion Element Supply Voltage (Except KB6)
7-8	-	-	Not Used
9	TN	285	Driver Seat Horizontal Motor Forward Control
10	L-GN	284	Driver Seat Horizontal Motor Rearward Control
11	L-GN	2078	Ground (Except KB6)
12	D-GN	286	Driver Seat Front Vertical Motor Up Control
13	D-BU	287	Driver Seat Front Vertical Motor Down Control
14	PK	2077	Heated Seat Cushion Element Supply Voltage (Except KB6)
15	YE	282	Driver Seat Rear Vertical Motor Up Control
16	L-BU	283	Driver Seat Rear Vertical Motor Down Control

Memory Seat Module C2 (AN3)

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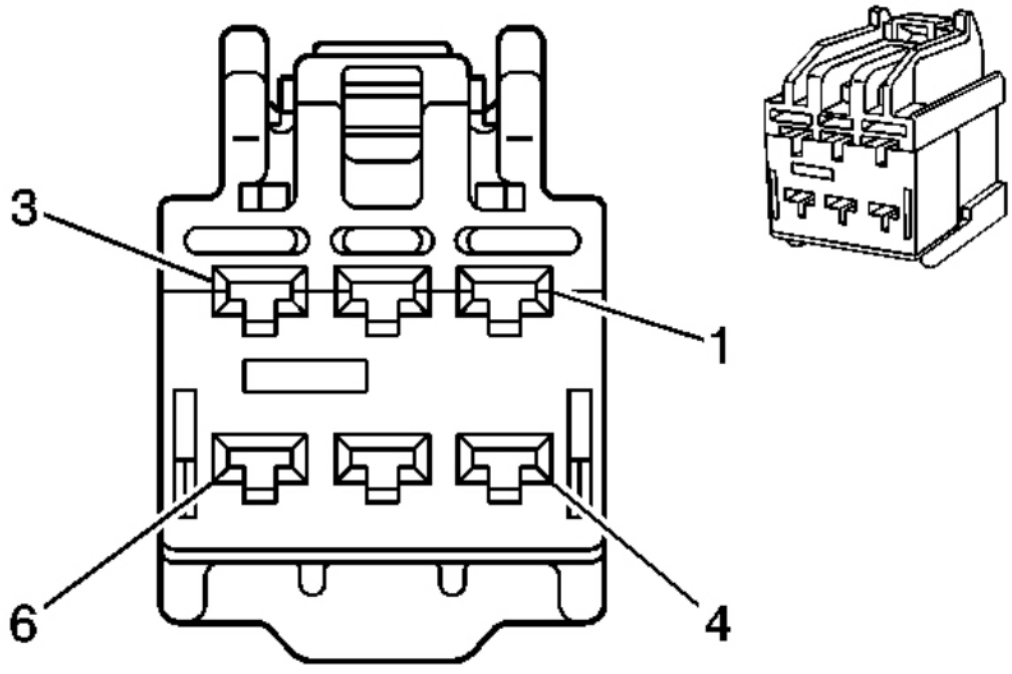


Fig. 18: Memory Seat Module C2 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Memory Seat Module C2 (AN3) Connector Parts Information

Connector Part Information

- OEM: 6098-4607
- Service: See Catalog
- Description: 6-Way F (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Memory Seat Module C2 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	GY	6206	Low Reference
2	PK	2426	Low Reference (Except KB6)

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3	YE	2080	Low Reference (Except KB6)
4	-	-	Not Used
5	TN	2482	Low Reference (Except KB6)
6	PK	2435	Low Reference (Except UK6)

Memory Seat Module C3 (AN3)

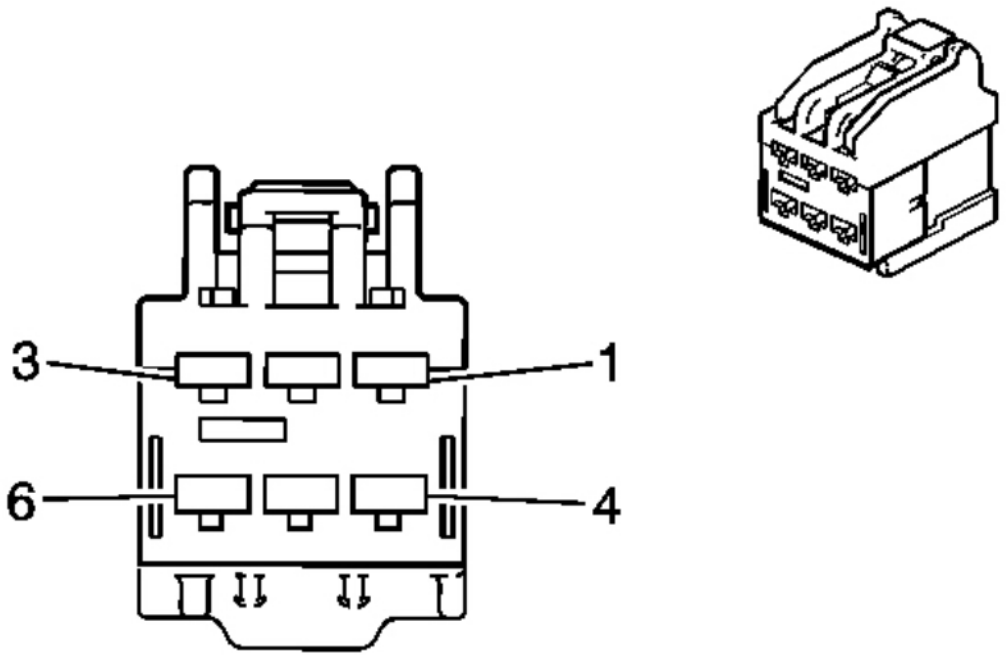


Fig. 19: Memory Seat Module C3 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Memory Seat Module C3 (AN3) Connector Parts Information

Connector Part Information

- OEM: 6098-4606
- Service: See Catalog
- Description: 6-Way F (BN)

Terminal Part Information

- Terminal/Tray: TBD

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- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Memory Seat Module C3 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	BK	1150	Ground
2	-	-	Not Used
3	PU/WH	6205	12-Volt Reference
4	BK	1150	Ground
5	RD/WH	5040	Battery Positive Voltage
6	RD/WH	1140	Battery Positive Voltage

Memory Seat Module C4 (AN3)

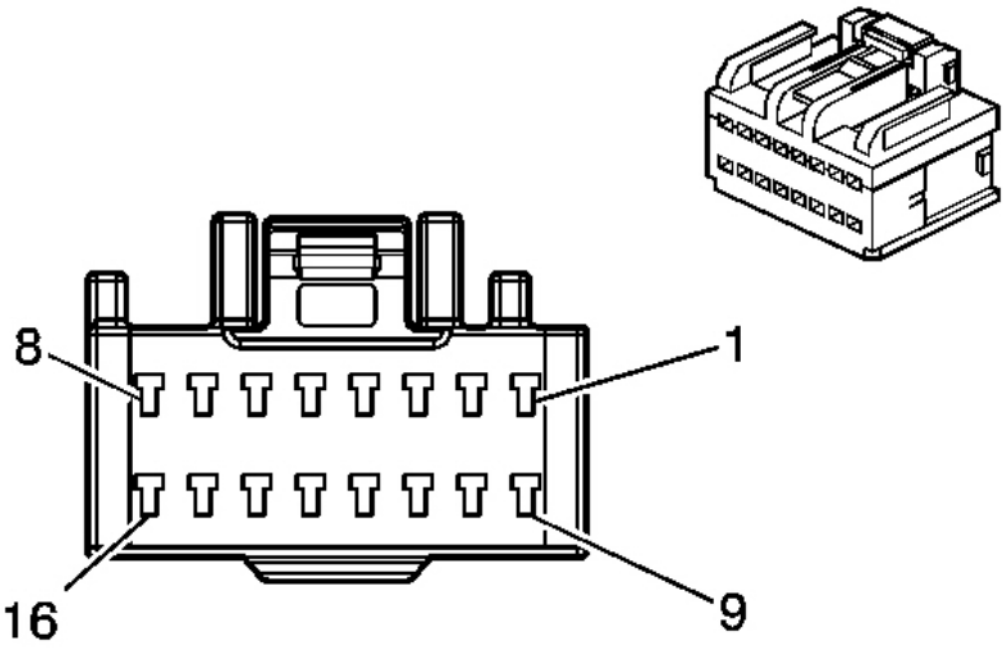


Fig. 20: Memory Seat Module C4 (AN3) Connector End View
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Memory Seat Module C4 (AN3) Connector Parts Information

Connector Part Information

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- OEM: 6098-4610
- Service: See Catalog
- Description: 16-Way F (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Memory Seat Module C4 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	PU	767	Driver Seat Lumbar Motor Down Control
2	TN	768	Driver Seat Lumbar Motor Up Control
3-8	-	-	Not Used
9	PU	5130	Adjustable Pedal Motor Forward Control (JF4)
10	OG/BK	5129	Adjustable Pedal Motor Rearward Control (JF4)
11	-	-	Not Used
12	D-BU	611	Driver Seat Lumbar Motor Forward Control
13	PK	610	Driver Seat Lumbar Motor Rearward Control
14	PK	2480	Ground (Except KB6)
15	L-GN	276	Driver Seat Recline Motor Forward Control
16	L-BU	277	Driver Seat Recline Motor Rearward Control

Memory Seat Module C5 (AN3)

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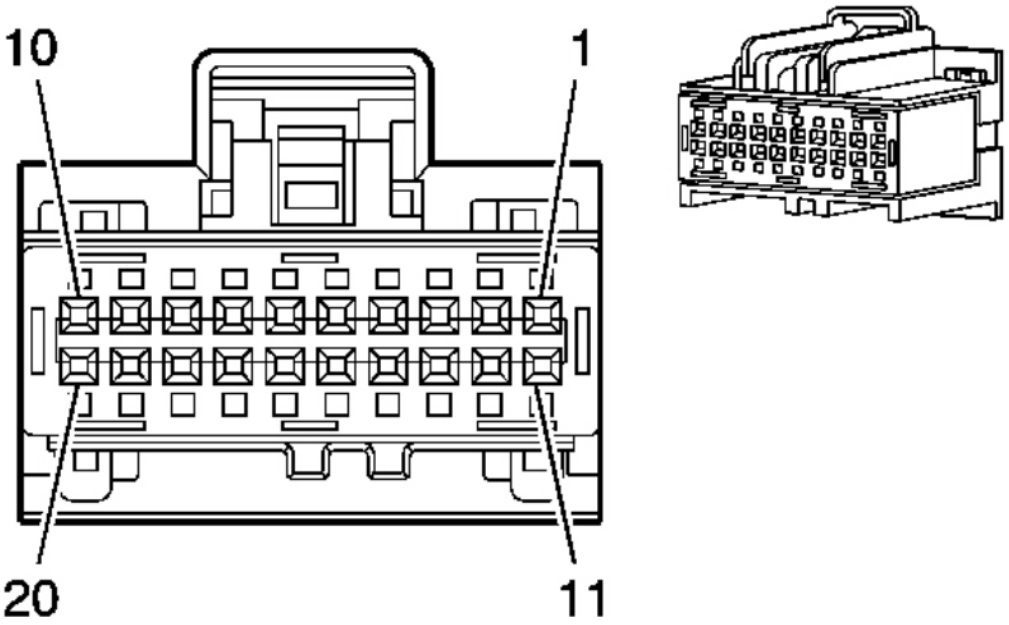


Fig. 21: Memory Seat Module C5 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Memory Seat Module C5 (AN3) Connector Parts Information

Connector Part Information

- OEM: 31410-1200
- Service: See Catalog
- Description: 20-Way F (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Memory Seat Module C5 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	YE/BK	2079	Driver Heated Seat Cushion Temperature Signal (Except KB6)
2	GY	2434	Driver Heated Seat Cushion Temperature

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			Signal (Except KB6)
3	TN	2436	Driver Heated Seat Back Temperature Signal (Except KB6)
4	D-BU	2425	Driver Heated Seat Back Temperature Signal (Except KB6)
5-9	-	-	Not Used
10	PK	5289	Adjustable Pedal Sensor Signal (JF4)
11	TN	6207	5-Volt Reference
12-13	-	-	Not Used
14	BN/WH	557	Seat Front Vertical Motor Position Sensor Signal
15	TN	568	Seat Rear Vertical Motor Position Sensor Signal
16	D-GN	569	Seat Horizontal Motor Position Sensor Signal
17	WH/BK	570	Driver Seat Recline Motor Position Sensor Signal
18	TN	1062	Driver Seat Lumbar Vertical Position Sensor Signal
19	YE	1063	Driver Seat Lumbar Horizontal Position Sensor Signal
20	-	-	Not Used

Memory Seat Module C6 (AN3)

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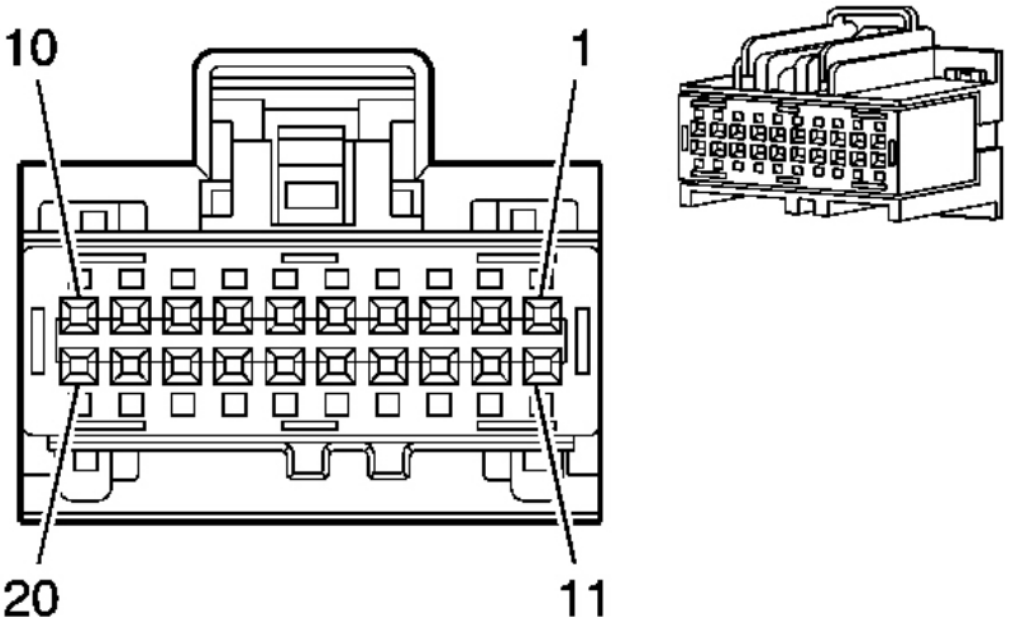


Fig. 22: Memory Seat Module C6 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Memory Seat Module C6 (AN3) Connector Parts Information

Connector Part Information

- OEM: 31410-1201
- Service: See Catalog
- Description: 20-Way F (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Memory Seat Module C6 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	-	-	Not Used
2	WH	5908	Right Heated/Cooled Seat Mode Signal (KB6)

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3-4	-	-	Not Used
5	WH	1066	Driver Seat Lumbar Up Switch Signal
6	YE	1065	Driver Seat Lumbar Forward Switch Signal
7	PU	5286	Adjustable Pedal Switch Forward Signal (JF4)
8-10	-	-	Not Used
11	D-GN	5906	Left Heated/Cooled Seat Mode Signal (KB6)
12-14	-	-	Not Used
15	YE/BK	1067	Driver Seat Lumbar Down Switch Signal
16	D-BU	1064	Driver Seat Lumbar Rearward Switch Signal
17-20	-	-	Not Used

Memory Seat Module C7 (AN3)

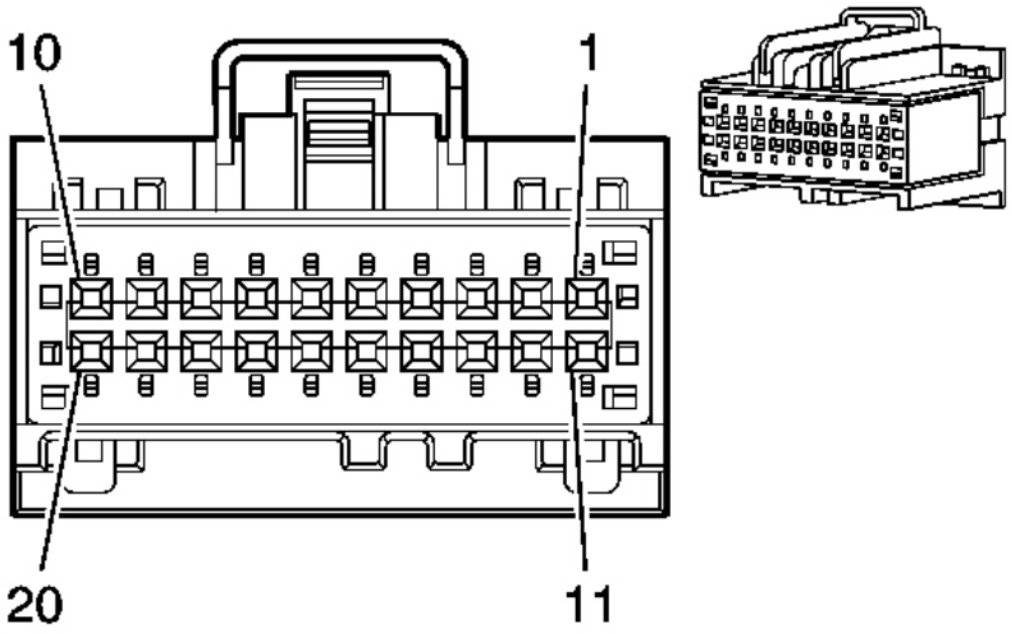


Fig. 23: Memory Seat Module C7 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Memory Seat Module C7 (AN3) Connector Parts Information

Connector Part Information

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- OEM: 31410-1202
- Service: See Catalog
- Description: 20-Way F (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Memory Seat Module C7 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1-4	-	-	Not Used
5	YE	5285	Adjustable Pedal Switch Rearward Signal (JF4)
6	-	-	Not Used
7	D-GN	1518	Driver Seat Front Vertical Up Switch Signal
8	YE	1519	Driver Seat Rear Vertical Up Switch Signal
9	TN	1522	Driver Seat Horizontal Forward Switch Signal
10	GY/BK	1269	Driver Seat Recline Forward Switch Signal
11-15	-	-	Not Used
16	D-GN	5060	Low Speed GMLAN Serial Data
17	D-BU	1520	Driver Seat Front Vertical Down Switch Signal
18	L-BU	1521	Driver Seat Rear Vertical Down Switch Signal
19	L-GN	1523	Driver Seat Horizontal Rearward Switch Signal
20	D-GN/WH	1270	Driver Seat Recline Rearward Switch Signal

Seat Adjuster Assembly - Driver (Except AN3)

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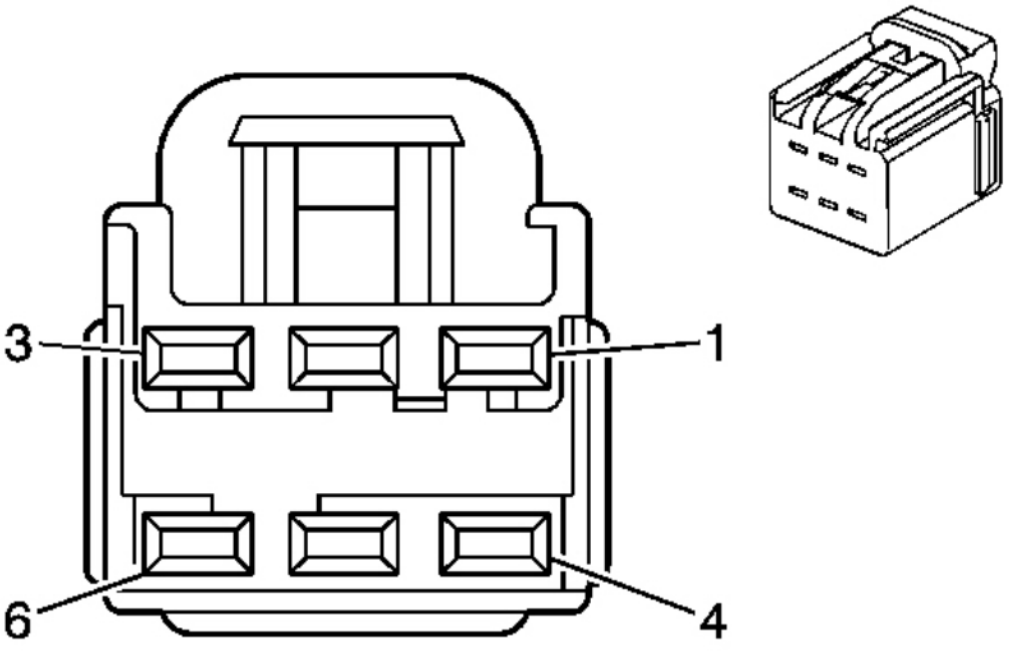


Fig. 24: Seat Adjuster Assembly - Driver (Except AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Assembly - Driver (Except AN3) Connector Parts Information

Connector Part Information

- OEM: 7283-6466-40
- Service: See Catalog
- Description: 6-Way F YESC 2.8MM (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Seat Adjuster Assembly - Driver (Except AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	YE	282	Driver Power Seat Rear Vertical Motor Up Control
			Driver Power Seat Front Vertical Motor Up

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2	D-GN	286	Control
3	TN	285	Driver Power Seat Horizontal Motor Forward Control
4	L-BU	283	Driver Power Seat Rear Vertical Motor Down Control
5	D-BU	287	Driver Power Seat Front Vertical Motor Down Control
6	L-GN	284	Driver Power Seat Horizontal Motor Rearward Control

Seat Adjuster Assembly - Driver C1 (AN3)

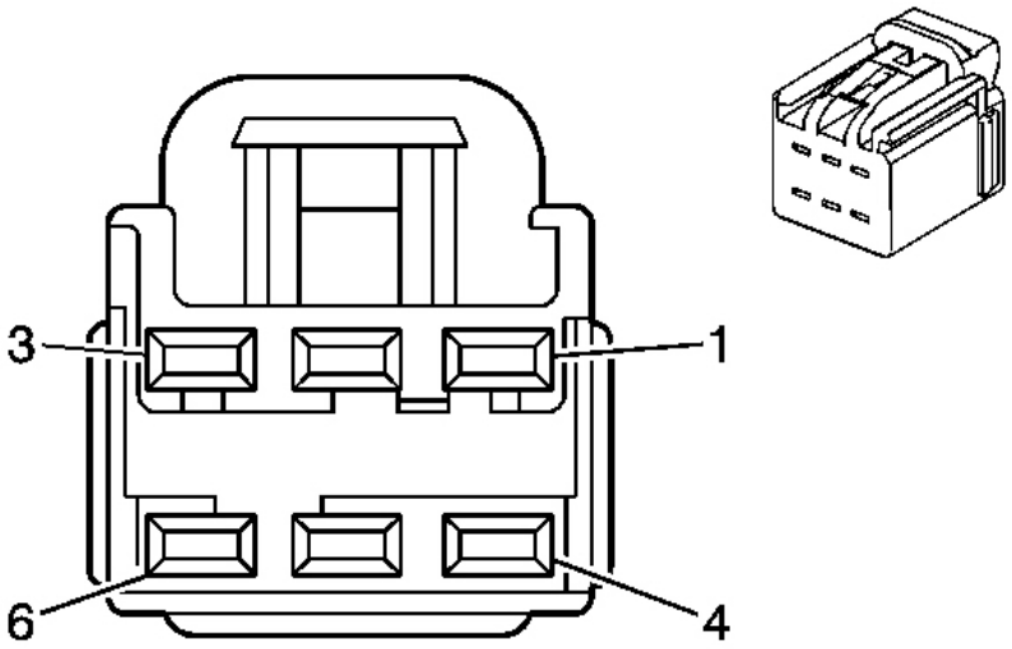


Fig. 25: Seat Adjuster Assembly - Driver C1 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Assembly - Driver C1 (AN3) Connector Parts Information

Connector Part Information

- OEM: 7283-6466-40
- Service: See Catalog

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- Description: 6-Way F YESC 2.8MM (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Seat Adjuster Assembly - Driver C1 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	YE	282	Driver Seat Rear Vertical Motor Up Control
2	D-GN	286	Driver Seat Front Vertical Motor Up Control
3	TN	285	Driver Seat Horizontal Motor Forward Control
4	L-BU	283	Driver Seat Rear Vertical Motor Down Control
5	D-BU	287	Driver Seat Front Vertical Motor Down Control
6	L-GN	284	Driver Seat Horizontal Motor Rearward Control

Seat Adjuster Assembly - Driver C2 (AN3)

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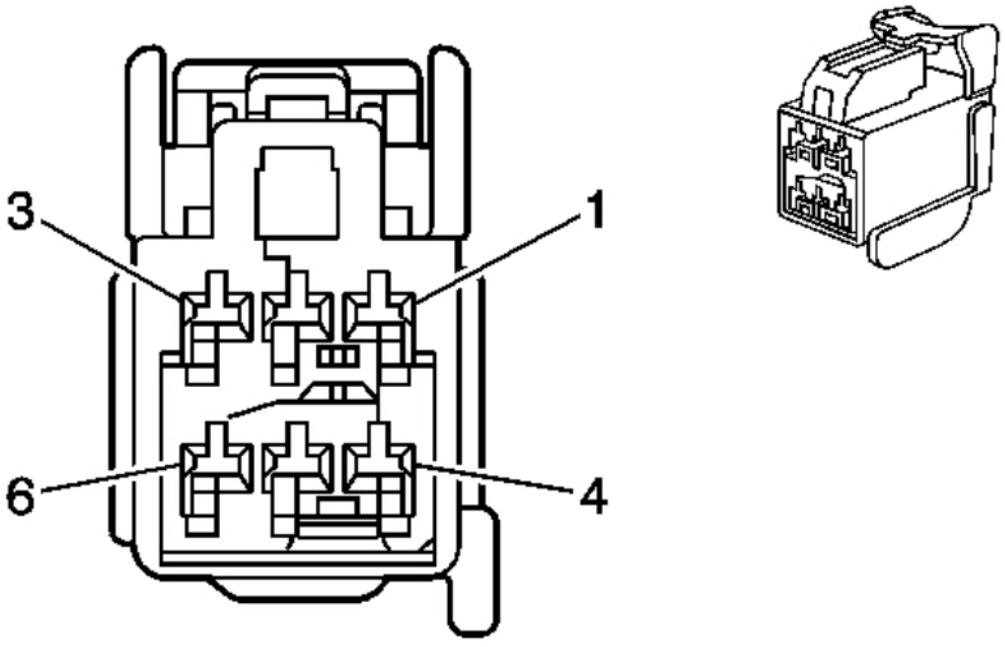


Fig. 26: Seat Adjuster Assembly - Driver C2 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Assembly - Driver C2 (AN3) Connector Parts Information

Connector Part Information

- OEM: 7283-5532-40
- Service: 89046849
- Description: 6-Way F 1.5 Series (GY)

Terminal Part Information

- Terminal/Tray: 7116-4100-08/9
- Core/Insulation Crimp: E/C
- Release Tool/Test Probe: 12094430/J-35616-2A (GY)

Seat Adjuster Assembly - Driver C2 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	BN/WH	557	Front Vertical Motor Position Sensor Signal
2	GY	6206	Low Reference

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3	D-GN	569	Horizontal Motor Position Sensor Signal
4	-	-	Not Used
5	TN	568	Rear Vertical Motor Position Sensor Signal
6	TN	6207	5-Volt Reference

Seat Adjuster Assembly - Passenger

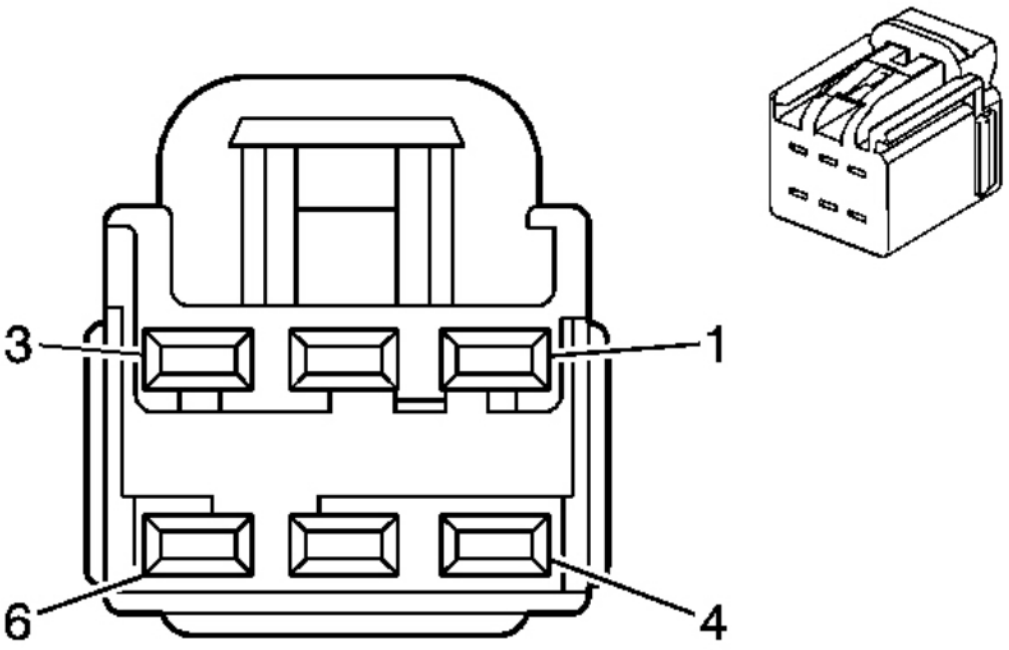


Fig. 27: Seat Adjuster Assembly - Passenger Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Assembly - Passenger Connector Parts Information

Connector Part Information

- OEM: 7283-6466-40
- Service: See Catalog
- Description: 6-Way F YESC 2.8MM (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD

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- Release Tool/Test Probe: TBD

Seat Adjuster Assembly - Passenger Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	YE	288	Passenger Seat Rear Vertical Motor Up Control
2	D-GN	297	Passenger Seat Front Vertical Motor Up Control
3	TN	296	Passenger Seat Horizontal Motor Forward Control
4	L-BU	289	Passenger Seat Rear Vertical Motor Down Control
5	D-BU	298	Passenger Seat Front Vertical Motor Down Control
6	L-GN	290	Passenger Seat Horizontal Motor Rearward Control

Seat Adjuster Switch - Driver (AN3)

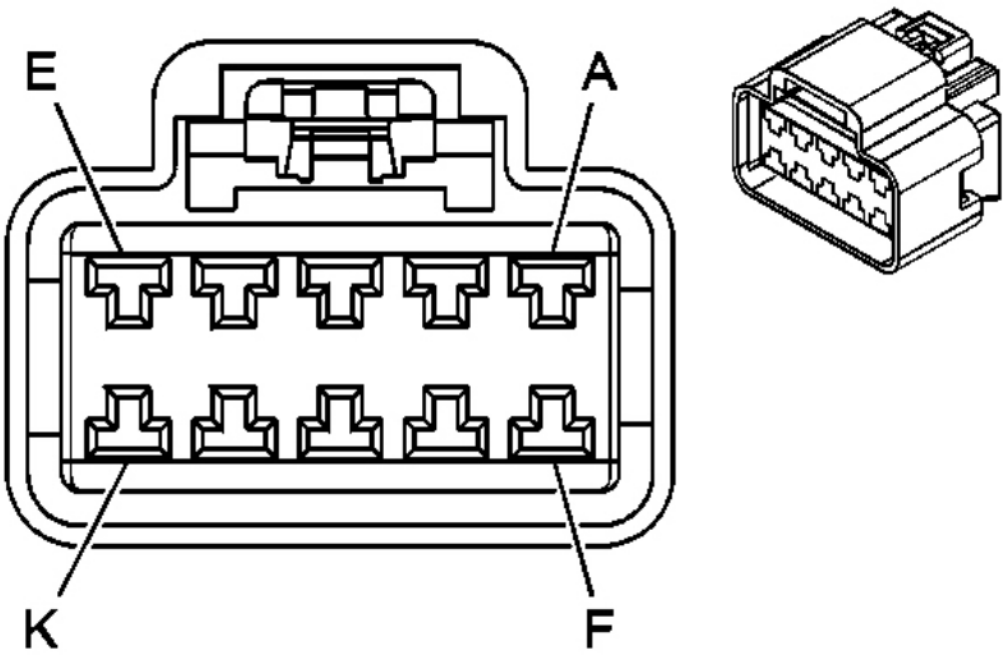


Fig. 28: Seat Adjuster Switch - Driver (AN3) Connector End View

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Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Switch - Driver (AN3) Connector Parts Information

Connector Part Information

- OEM: 15326931
- Service: 15306309
- Description: 10-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: 15304711/8
- Core/Insulation Crimp: E/A
- Release Tool/Test Probe: 15315247/J-35616-4A (PU)

Seat Adjuster Switch - Driver (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	D-GN	1518	Front Vertical Up Switch Signal
B	-	-	Not Used
C	L-GN	1523	Horizontal Rearward Switch Signal
D	TN	1522	Horizontal Forward Switch Signal
E	PU/WH	6205	12-Volt Reference
F	YE	1519	Rear Vertical Up Switch Signal
G	D-GN/WH	1270	Recline Rearward Switch Signal
H	GY/BK	1269	Recline Forward Switch Signal
J	L-BU	1521	Rear Vertical Down Switch Signal
K	D-BU	1520	Front Vertical Down Switch Signal

Seat Adjuster Switch - Driver (Except AN3)

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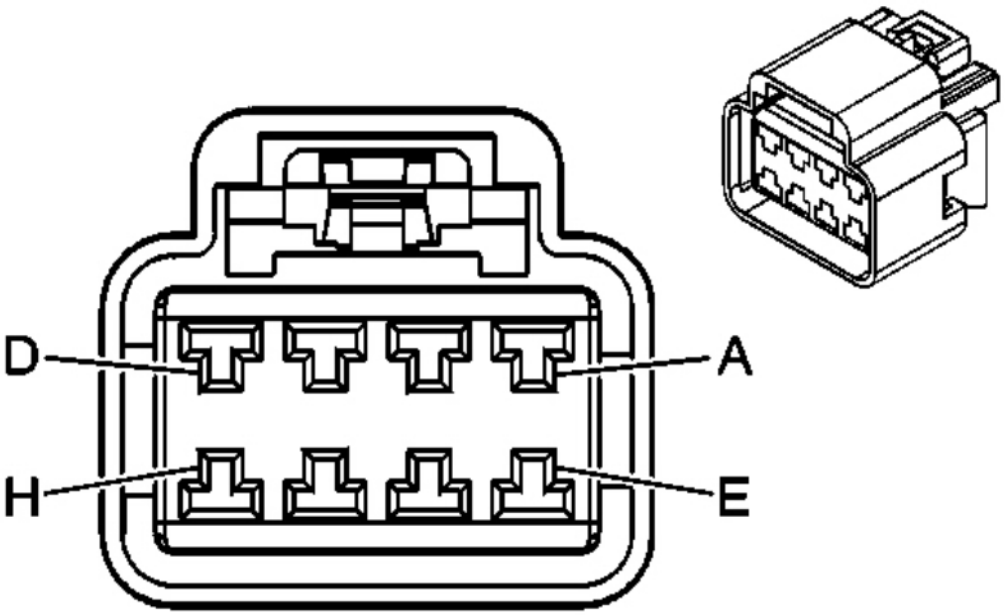


Fig. 29: Seat Adjuster Switch - Driver (Except AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Switch - Driver (Except AN3) Connector Parts Information

Connector Part Information

- OEM: 15326924
- Service: 15306174
- Description: 8-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: See Terminal Repair Kit
- Core/Insulation Crimp: See Terminal Repair Kit
- Release Tool/Test Probe: See Terminal Repair Kit

Seat Adjuster Switch - Driver (Except AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	D-GN	286	Driver Seat Front Vertical Motor Up Control
B	BK	1150	Ground
C	TN	285	Driver Seat Horizontal Motor Forward

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			Control
D	RD/WH	5040	Battery Positive Voltage
E	YE	282	Driver Seat Rear Vertical Motor Up Control
F	L-GN	284	Driver Seat Horizontal Motor Rearward Control
G	L-BU	283	Driver Seat Rear Vertical Motor Down Control
H	D-BU	287	Driver Seat Front Vertical Motor Down Control

Seat Adjuster Switch - Passenger (Except AN3)

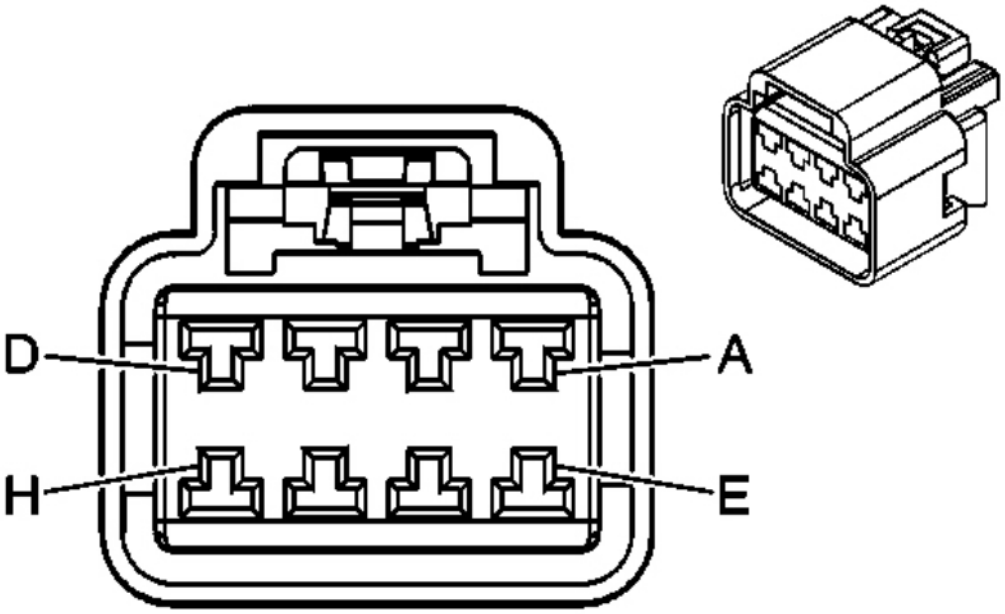


Fig. 30: Seat Adjuster Switch - Passenger (Except AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Switch - Passenger (Except AN3) Connector Parts Information

Connector Part Information

- OEM: 15326924
- Service: 15306174
- Description: 8-Way F GT 280 Series (BK)

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Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD Kit
- Release Tool/Test Probe: TBD

Seat Adjuster Switch - Passenger (Except AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	D-BU	298	Passenger Seat Front Vertical Motor Down Control
B	BK	1250	Ground
C	TN	296	Passenger Seat Horizontal Motor Forward Control
D	RD/WH	1440	Battery Positive Voltage
E	L-BU	289	Passenger Seat Rear Vertical Motor Down Control
F	L-GN	290	Passenger Seat Horizontal Motor Rearward Control
G	YE	288	Passenger Seat Rear Vertical Motor Up Control
H	D-GN	297	Passenger Seat Front Vertical Motor Up Control

Seat Adjuster Switch - Passenger (AN3)

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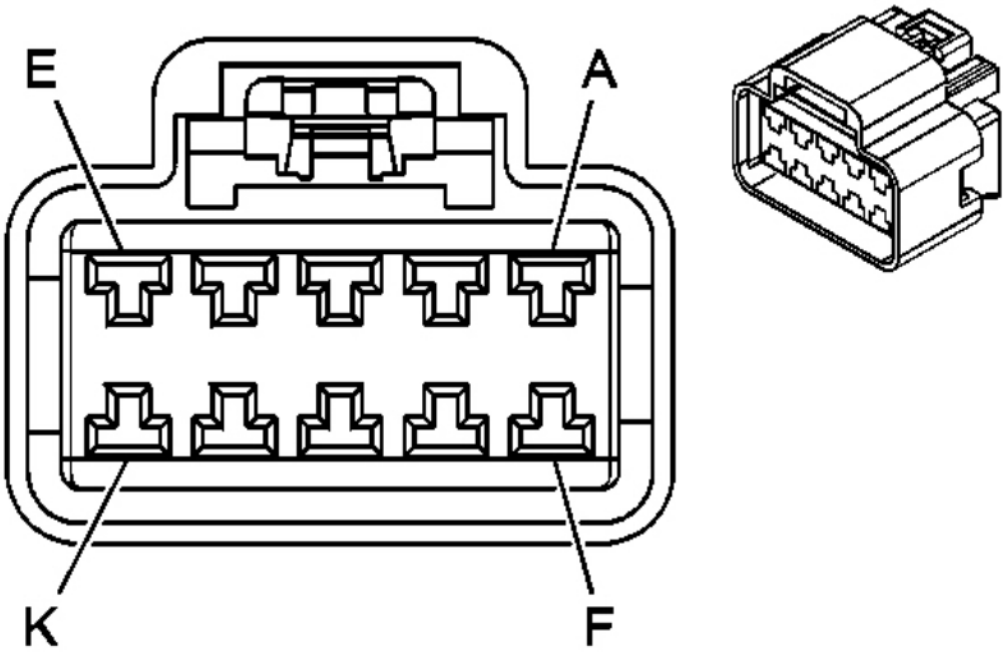


Fig. 31: Seat Adjuster Switch - Passenger (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Adjuster Switch - Passenger (AN3) Connector Parts Information

Connector Part Information

- OEM: 15326931
- Service: 15306309
- Description: 10-Way F GT 280 Series (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Seat Adjuster Switch - Passenger (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	D-BU	298	Passenger Seat Front Vertical Motor Down Control

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B	BK	1250	Ground
C	L-GN	290	Passenger Seat Horizontal Motor Rearward Control
D	TN	296	Passenger Seat Horizontal Motor Forward Control
E	RD/WH	1440	Battery Positive Voltage
F	L-BU	289	Passenger Seat Rear Vertical Motor Down Control
G	D-BU	77	Passenger Seat Recline Motor Rearward
H	D-GN	76	Passenger Seat Recline Motor Forward
J	YE	288	Passenger Seat Rear Vertical Motor Up Control
K	D-GN	297	Passenger Seat Front Vertical Motor Up Control

Seat Lumbar Adjuster Assembly - Driver C1 (AN3)

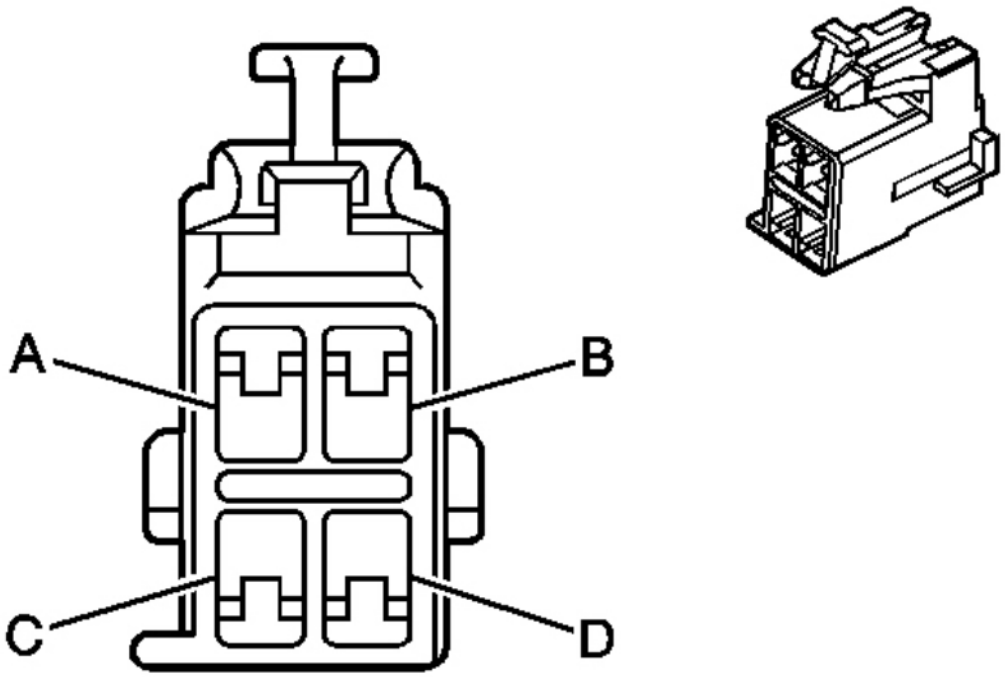


Fig. 32: Seat Lumbar Adjuster Assembly - Driver C1 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

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Seat Lumbar Adjuster Assembly - Driver C1 (AN3) Connector Parts Information

Connector Part Information

- OEM: 12129136
- Service: 12129136
- Description: 4-Way F Metri-Pack 280 Series, Flexlock (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Seat Lumbar Adjuster Assembly - Driver C1 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	TN	768	Driver Seat Lumbar Motor Up Control
B	PU	767	Driver Seat Lumbar Motor Down Control
C	D-BU	611	Driver Seat Lumbar Motor Forward Control
D	D-BU	610	Driver Seat Lumbar Motor Rearward Control

Seat Lumbar Adjuster Assembly - Driver C2 (AN3)

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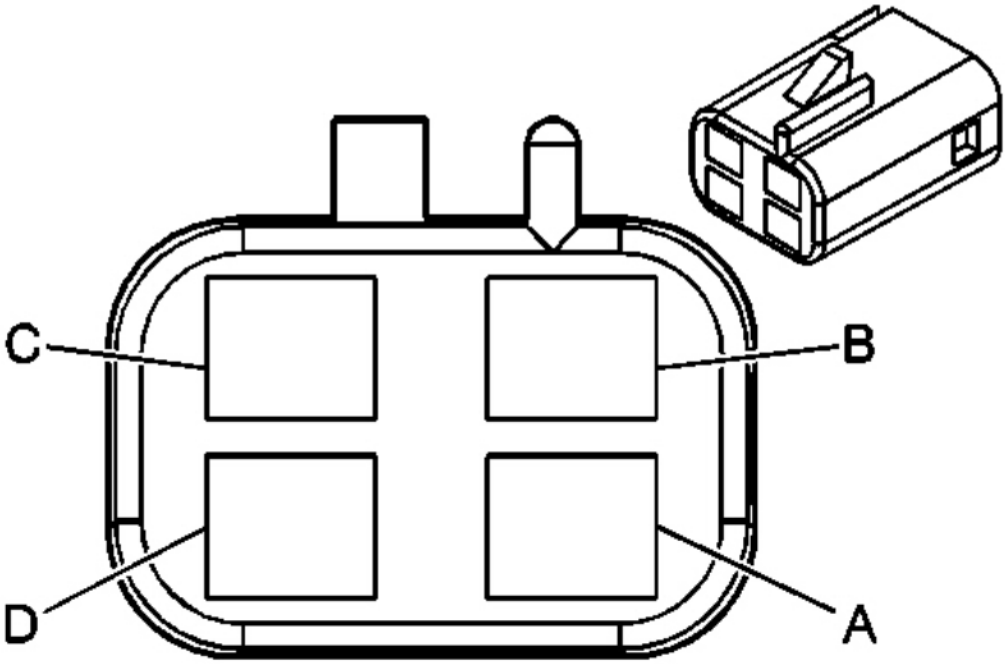


Fig. 33: Seat Lumbar Adjuster Assembly - Driver C2 (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Lumbar Adjuster Assembly - Driver C2 (AN3) Connector Parts Information

Connector Part Information

- OEM: 12047785
- Service: 12102900
- Description: 4-Way F Metri-Pack 150 Series (BK)

Terminal Part Information

- Terminal/Tray: 12064971/5
- Core/Insulation Crimp: E/C
- Release Tool/Test Probe: 12094429/J-35616-2A (GY)

Seat Lumbar Adjuster Assembly - Driver C2 (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	TN	6207	5-Volt Reference
B	TN	1062	Driver Seat Lumbar Vertical Position Sensor

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			Signal
C	GY	6206	Low Reference
D	YE	1063	Driver Seat Lumbar Horizontal Position Sensor Signal

Seat Lumbar Adjuster Assembly - Passenger (AN3)

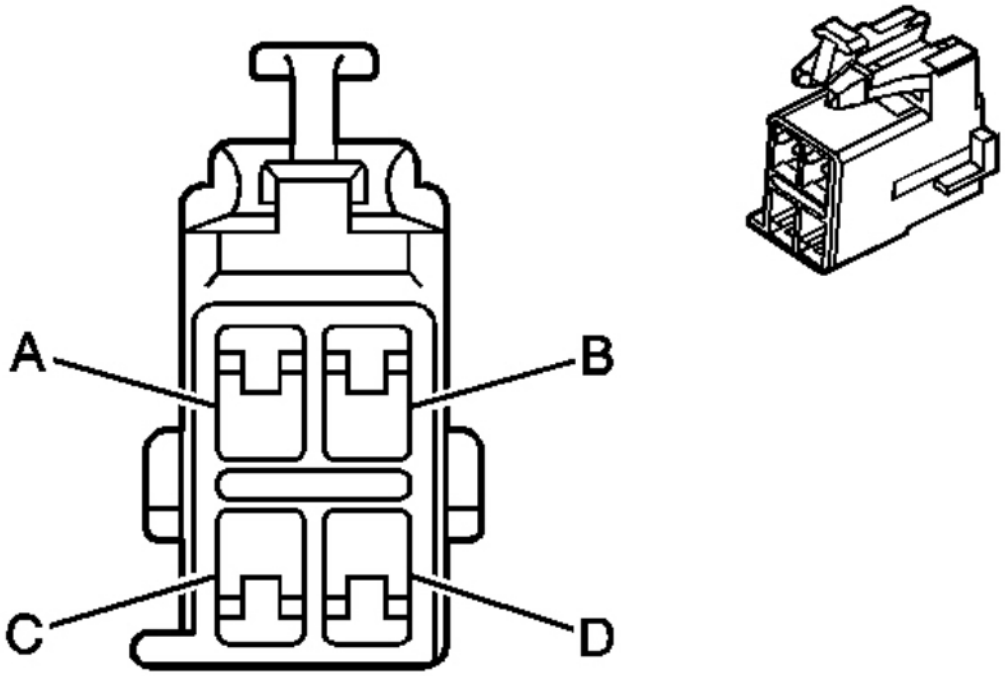


Fig. 34: Seat Lumbar Adjuster Assembly - Passenger (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Lumbar Adjuster Assembly - Passenger (AN3) Connector Parts Information

Connector Part Information

- OEM: 12129136
- Service: 12129136
- Description: 4-Way F Metri-Pack 280 Series, Flexlock (BK)

Terminal Part Information

- Terminal/Tray: TBD

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- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Seat Lumbar Adjuster Assembly - Passenger (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	PK	793	Passenger Seat Lumbar Motor Down Control
B	OG	792	Passenger Seat Lumbar Motor Up Control
C	D-BU	211	Driver Seat Lumbar Motor Rearward Control
D	WH	210	Driver Seat Lumbar Motor Forward Control

Seat Lumbar Switch - Driver (AN3)

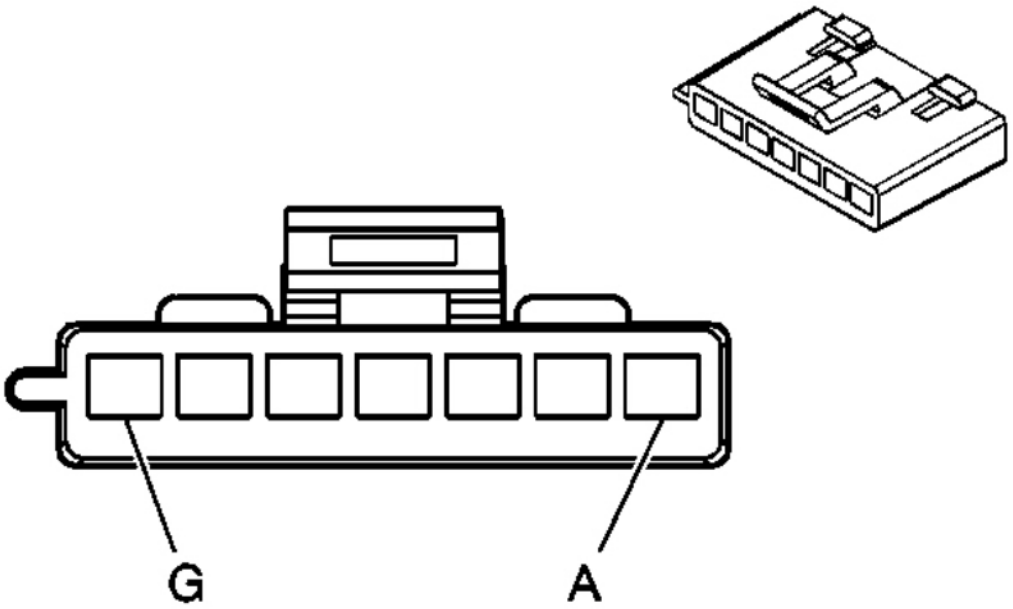


Fig. 35: Seat Lumbar Switch - Driver (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Lumbar Switch - Driver (AN3) Connector Parts Information

Connector Part Information

- OEM: 12052854
- Service: 88953358
- Description: 7-Way F Metri-Pack 280 Series (BK)

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Terminal Part Information

- Terminal/Tray: 12034046/2
- Core/Insulation Crimp: E/A
- Release Tool/Test Probe: 12094430/J-35616-4A (PU)

Seat Lumbar Switch - Driver (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	YE/BK	1067	Driver Seat Lumbar Down Switch Signal
B	D-BU	1064	Driver Seat Lumbar Rearward Switch Signal
C	YE	1065	Driver Seat Lumbar Forward Switch Signal
D-E	-	-	Not Used
F	WH	1066	Driver Seat Lumbar Up Switch Signal
G	PU/WH	6205	12-Volt Reference

Seat Lumbar Switch - Passenger (AN3)

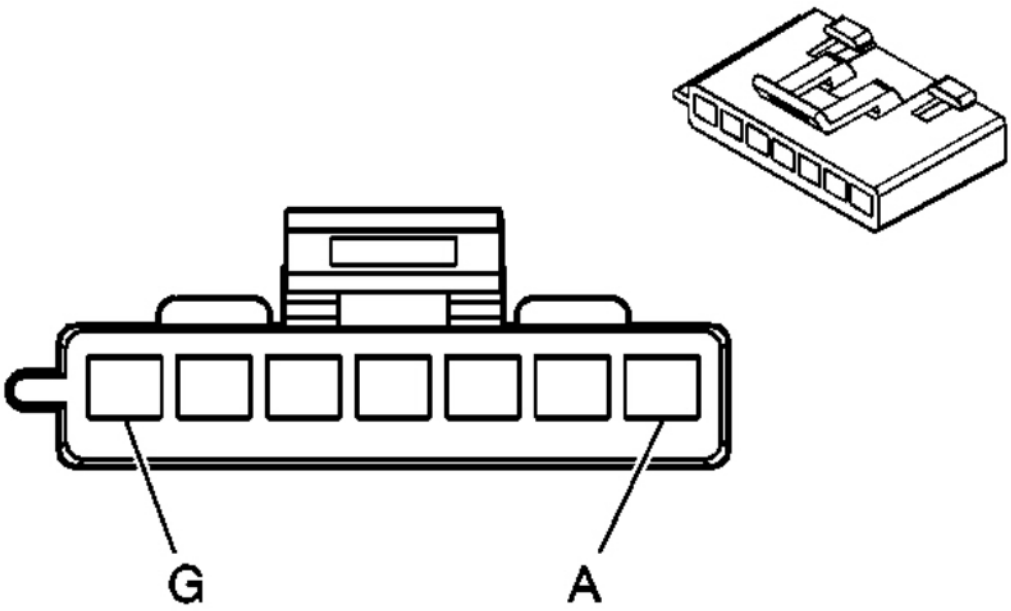


Fig. 36: Seat Lumbar Switch - Passenger (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Lumbar Switch - Passenger (AN3) Connector Parts Information

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Connector Part Information

- OEM: 12052854
- Service: 88953358
- Description: 7-Way F Metri-Pack 280 Series (BK)

Terminal Part Information

- Terminal/Tray: TBD
- Core/Insulation Crimp: TBD
- Release Tool/Test Probe: TBD

Seat Lumbar Switch - Passenger (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	OG	792	Passenger Seat Lumbar Up Switch Signal
B	D-BU	211	Passenger Seat Lumbar In Switch Signal
C	WH	210	Passenger Seat Lumbar Out Switch Signal
D	-	-	Not Used
E	BK	1250	Ground
F	PK	793	Passenger Seat Lumbar Down Switch Signal
G	RD/WH	1440	Battery Positive Voltage

Seat Recline Motor - Driver (AN3)

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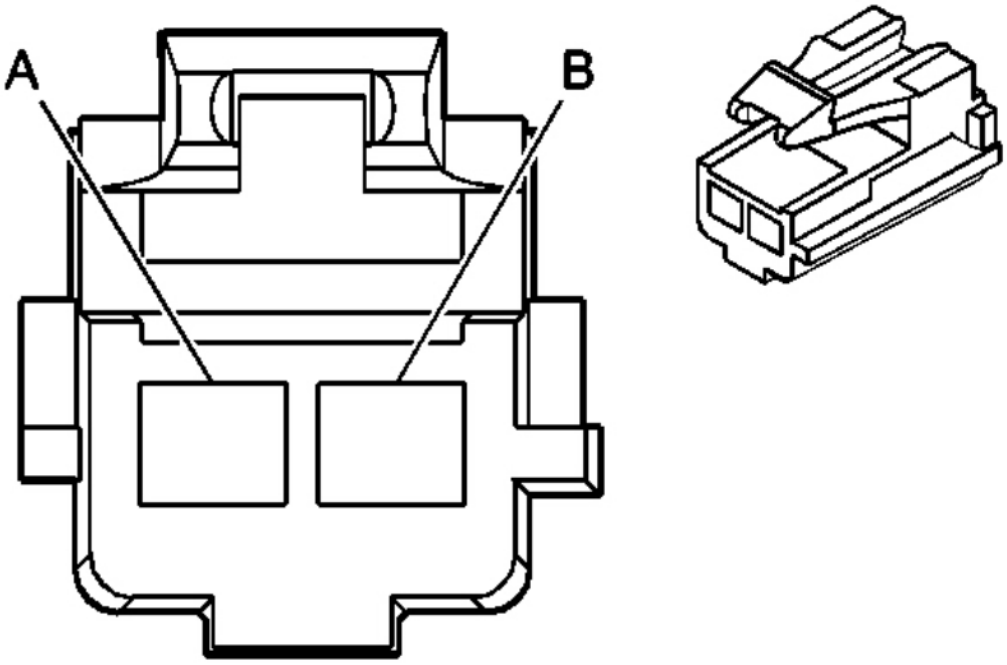


Fig. 37: Seat Recline Motor - Driver (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Recline Motor - Driver (AN3) Connector Parts Information

Connector Part Information

- OEM: 12129081
- Service: 12129081
- Description: 2-Way F Metri-Pack 280 Series, Flexlock (BK)

Terminal Part Information

- Terminal/Tray: 12110844/4
- Core/Insulation Crimp: C/A
- Release Tool/Test Probe: 15315247/J-35616-4A (PU)

Seat Recline Motor - Driver (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	L-GN	276	Driver Seat Recline Motor Forward Control
B	L-BU	277	Driver Seat Recline Motor Rearward Control

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Seat Recline Motor - Passenger (AN3)

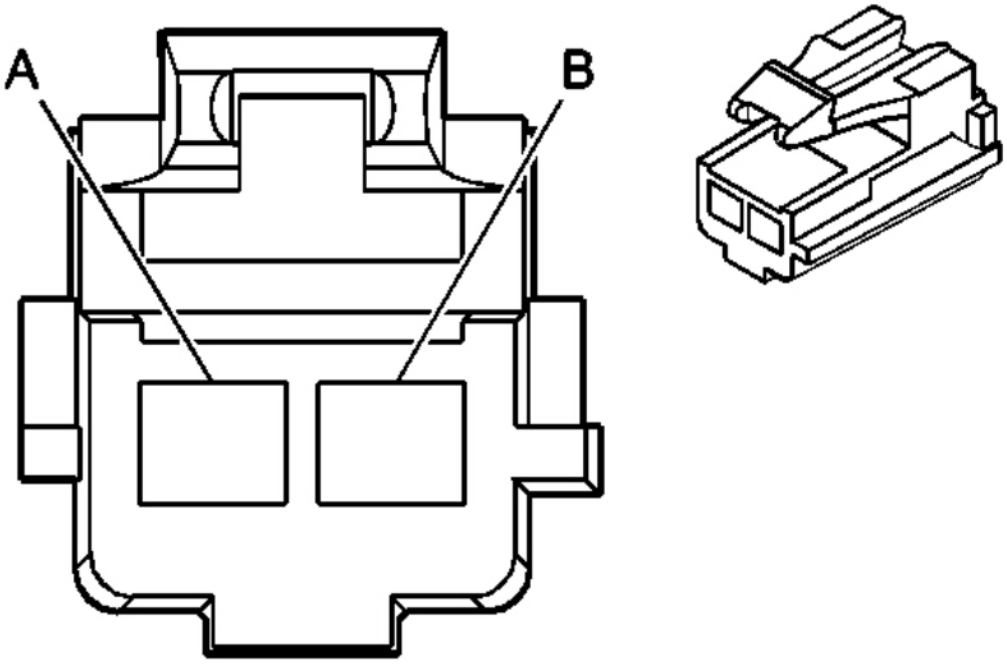


Fig. 38: Seat Recline Motor - Passenger (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Recline Motor - Passenger (AN3) Connector Parts Information

Connector Part Information

- OEM: 12129081
- Service: 12129081
- Description: 2-Way F Metri-Pack 280 Series, Flexlock (BK)

Terminal Part Information

- Terminal/Tray: 12110844/4
- Core/Insulation Crimp: C/A
- Release Tool/Test Probe: 15315247/J-35616-4A (PU)

Seat Recline Motor - Passenger (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function

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A	D-GN	76	Passenger Seat Recline Motor Forward Control
B	D-BU	77	Passenger Seat Recline Motor Rearward Control

Seat Recline Position Sensor - Driver (AN3)

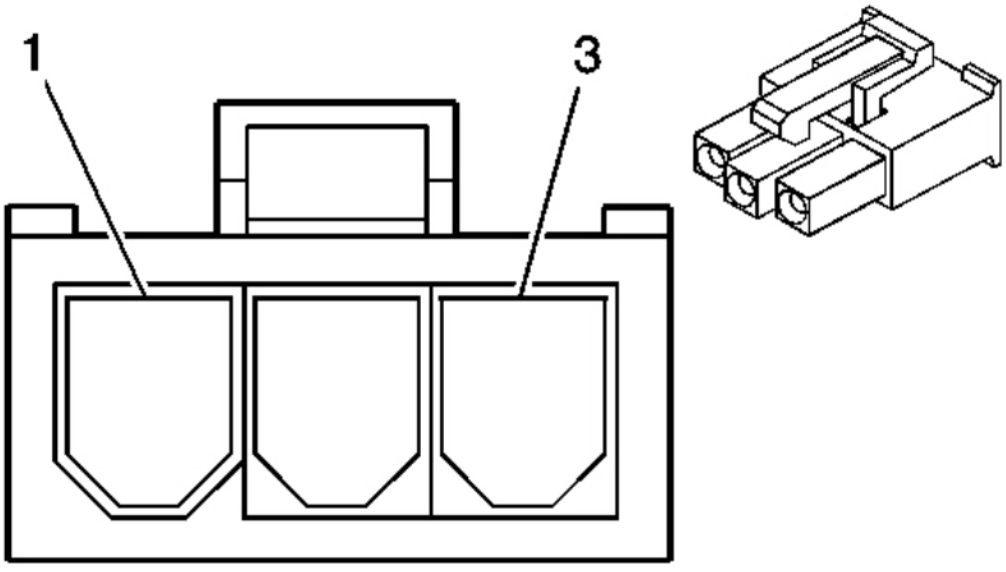


Fig. 39: Seat Recline Position Sensor - Driver (AN3) Connector End View
Courtesy of GENERAL MOTORS CORP.

Seat Recline Position Sensor - Driver (AN3) Connector Parts Information

Connector Part Information

- OEM: 39-01-4030
- Service: See Catalog
- Description: 3-Way F Molex Connector (NA)

Terminal Part Information

- Terminal/Tray: 39-00-0038/23
- Core/Insulation Crimp: K/K
- Release Tool/Test Probe: J-38125-560/J-35616-12 (BU)

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Seat Recline Position Sensor - Driver (AN3) Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	GY	6206	Low Reference
2	WH/BK	570	Driver Seat Recline Motor Position Sensor Signal
3	TN	6207	5- Volt Reference

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
DTC B1335	Device Power 3 Circuit
DTC B1395	Device Voltage Reference Output Circuit
DTC B1735, B1740, B1745, B1750, B1755, B1760, B1815, or B1820	Driver Seat Switch Circuits
DTC B1825, B1850, B1860, B2355, B2365, or B2375	Driver Seat Position Sensor Circuit
DTC B2765	Memory Set Switch Circuit
DTC B3920 or B3921	Group 1 Seat Motors Circuit

DIAGNOSTIC STARTING POINT - SEATS

Begin the system diagnosis with the **Diagnostic System Check - Vehicle** . The Diagnostic System Check will provide the following information:

- The identification of the control modules which command the system.
- The ability of the control modules to communicate through the serial data circuit.
- The identification of any stored diagnostic trouble codes (DTCs) and their status.

The use of the Diagnostic System Check will identify the correct procedure for diagnosing the system and where the procedure is located.

SCAN TOOL DATA LIST

Driver Position Module

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Operating Conditions: Ignition ON/Engine OFF			
Battery Voltage Signal	Inputs	Volts	Varies
Current	Inputs	amps	Varies
Driver Seat Front Vertical Sensor	Seat 1 Info	Volts	0-5 Volts

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Driver Seat Horizontal Sensor	Seat 1 Info	Volts	0-5 Volts
Driver Seat Rear Vertical Sensor	Seat 1 Info	Volts	0-5 Volts
Driver Seat Recline Sensor	Seat 1 Info	Volts	0-5 Volts
Front Vertical Downward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Front Vertical Upward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Front Vertical Motor Downward	Seat 1 Outputs	Active/Inactive	Inactive
Front Vertical Motor Upward	Seat 1 Outputs	Active/Inactive	Inactive
Horizontal Motor Forward	Seat 1 Outputs	Active/Inactive	Inactive
Horizontal Motor Rearward	Seat 1 Outputs	Active/Inactive	Inactive
Horizontal Forward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Horizontal Rearward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Lumbar Downward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Lumbar Forward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Lumbar Horizontal Position	Memory Data 1	Volts	0-5 Volts
Lumbar Horizontal Position	Memory Data 2	Volts	0-5 Volts
Lumbar Horizontal Sensor	Seat 1 Info	Volts	0-5 Volts
Lumbar Motor Downward	Seat 1 Outputs	Active/Inactive	Inactive
Lumbar Motor Forward	Seat 1 Outputs	Active/Inactive	Inactive
Lumbar Motor Rearward	Seat 1 Outputs	Active/Inactive	Inactive
Lumbar Motor Upward	Seat 1 Outputs	Active/Inactive	Inactive
Lumbar Rearward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Lumbar Upward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Lumbar Vertical Position	Memory Data 1	Volts	0-5 Volts
Lumbar Vertical Position	Memory Data 2	Volts	0-5 Volts
Lumbar Vertical Sensor	Seat 1 Info	Volts	0-5 Volts
Recline Forward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Recline Motor Forward	Seat 1 Outputs	Active/Inactive	Inactive
Recline Motor Rearward	Seat 1 Outputs	Active/Inactive	Inactive
Recline Rearward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Rear Vertical Downward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Rear Vertical Motor Downward	Seat 1 Outputs	Active/Inactive	Inactive
Rear Vertical Motor Upward	Seat 1 Outputs	Active/Inactive	Inactive
Rear Vertical Upward Switch	Seat 1 Inputs	Active/Inactive	Inactive
Seat Horizontal Position	Memory Data 1	Volts	0-5 Volts
Seat Horizontal Position	Memory Data 2	Volts	0-5 Volts
Seat Front Vertical Position	Memory Data 1	Volts	0-5 Volts
Seat Front Vertical Position	Memory Data 2	Volts	0-5 Volts
Seat Rear Vertical Position	Memory Data 1	Volts	0-5 Volts
Seat Rear Vertical Position	Memory Data 2	Volts	0-5 Volts
Seat Recline Position	Memory Data 1	Volts	0-5 Volts
Seat Recline Position	Memory Data 2	Volts	0-5 Volts

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Door Module(s)

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Ignition ON/Engine OFF			
Battery Voltage Signal	Data	Volts	Varies
Memory Recall Switch	Inputs	Inactive/Memory 1/Memory 2/Exit	Inactive
Seat Back Heat Mode Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Back Heat Mode Sw.	Inputs	Inactive/Active	Inactive
Seat Cool Mode Ind. Cmd	Outputs	OFF/ON	OFF
Seat Cool Mode Switch	Inputs	Inactive/Active	Inactive
Seat Heat High Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Heat Low Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Heat Medium Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Heat Mode Cmd.	Outputs	OFF/ON	OFF
Seat Heat Mode Sw.	Inputs	Inactive/Active	Inactive

Rear Heated Seat Module

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Ignition ON/Engine OFF			
Battery Voltage Signal	Data	Volts	Varies
Seat Back Heat Mode Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Back Heat Mode Sw.	Inputs	Inactive/Active	Inactive
Seat Cool Mode Ind. Cmd	Outputs	OFF/ON	OFF
Seat Cool Mode Switch	Inputs	Inactive/Active	Inactive
Seat Heat High Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Heat Low Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Heat Medium Ind. Cmd.	Outputs	OFF/ON	OFF
Seat Heat Mode Cmd.	Outputs	OFF/ON	OFF
Seat Heat Mode Sw.	Inputs	Inactive/Active	Inactive

SCAN TOOL DATA DEFINITIONS

8-Digit GM Part Number

The scan tool displays the part number of the module.

Battery Voltage

The scan tool displays 0-16 volts. The level of battery voltage at the module.

Calibration ID

The scan tool displays a 4-digit number. This number designates the calibration or program level used in

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the PROM.

Current

The scan tool displays 0-127.5 amps. The current measured during seat operation.

Front Vertical Sensor

The scan tool displays 0-5.0 volts or 0-255 A/D. The sensor potentiometer provides an analog voltage which varies directly with the seat front vertical position. High scan tool values (volts or A/D) indicate that the seat front is in the up position and low values indicate that the seat front is in the down position.

Hardware Level

The scan tool displays a 4-digit number representing the level of hardware incorporated into the module.

Horizontal Sensor

The scan tool displays 0-5.0 volts or 0-255 A/D. The sensor potentiometer provides an analog voltage which varies directly with the seat horizontal position. High scan tool values (volts or A/D) indicate that the seat is in the forward position and low values indicate that the seat is in the rearward position.

Julian Date of Build

The scan tool displays a 3-digit number. This number is the day of the year that the module was built.

Lumbar Horizontal Sensor

The scan tool displays 0-5.0 volts or 0-255 A/D. The sensor potentiometer provides an analog voltage which varies directly with the lumbar horizontal position. High scan tool values (volts or A/D) indicate that the Lumbar is in the forward position and low values indicate that the lumbar is in the rearward position.

Lumbar Vertical Sensor

The scan tool displays 0-5.0 volts or 0-255 A/D. The sensor potentiometer provides an analog voltage which varies directly with the lumbar vertical position. High scan tool values (volts or A/D) indicate that the lumbar is in the up position and low values indicate that the lumbar is in the down position.

Memory Recall Switches

The scan tool displays Idle/Memory 1/memory 2/Exit/Set. When a memory function switch is activated, the scan tool will momentarily display the switch input function to the driver door switch assembly (DDSA) as selected.

PROM ID

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The scan tool displays a 4-digit number. This is the identification number of the PROM that is incorporated into the module.

Rear Vertical Sensor

The scan tool displays 0-5.0 volts or 0-255 A/D. The sensor potentiometer provides an analog voltage which varies directly with the seat rear vertical position. High scan tool values (volts or A/D) indicate that the seat rear vertical is in the up position and low values indicate that the seat rear vertical is in the down position.

Recline Sensor

The scan tool displays 0-5.0 volts or 0-255 A/D. The sensor potentiometer provides an analog voltage which varies directly with the seat recline position. High scan tool values (volts or A/D) indicate that the seat recline is in the froward position and low values indicate that the seat recline is in the rearward position.

Seat Back Heat Mode Cmd.

The scan tool displays Off/On. When the Heated Seat Back Only Mode Switch is activated, the scan tool will momentarily display On while the output from the door module signals the heated seat module to deactivate the heat from the seat cushion.

Seat Back Heat Mode Ind. Cmd.

The scan tool displays Off/On. When the Heated Seat Back Only Mode Switch is activated, this parameter indicates that the door module has illuminated the Back Only Mode Indicator.

Seat Back Heat Mode Sw.

The scan tool displays Off/On. When the Heated Seat Back Only Mode Switch is activated, the scan tool will momentarily display the switch input to the door module as On.

Seat Cool Mode Switch

The scan tool displays Off/On. When the Heated Seat Cool Switch is activated, the scan tool will momentarily display the switch input to the door module as On.

Seat Forward - Input

The scan tool displays Inactive/Active. When the seat forward switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Forward - Output

The scan tool displays Inactive/Active. When the seat forward switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat

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module is commanding the seat horizontal motor in the forward direction.

Seat Front Down - Input

The scan tool displays Inactive/Active. When the seat front down switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Front Down - Output

The scan tool displays Inactive/Active. When the seat front down switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the seat front vertical motor in the down direction.

Seat Front Up - Input

The scan tool displays Inactive/Active. When the seat front up switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Front Up - Output

The scan tool displays Inactive/Active. When the seat front up switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the seat front vertical motor in the up direction.

Seat Heat High Ind. Cmd.

The scan tool displays Off/On. When the Heated or Cool Seat Temperature Switch is activated, this parameter indicates that the door module has illuminated the seat high temperature indicator.

Seat Heat Low Ind. Cmd.

The scan tool displays Off/On. When the Heated or Cool Seat Temperature Switch is activated, this parameter indicates that the door module has illuminated the seat low temperature indicator.

Seat Heat Medium Ind. Cmd.

The scan tool displays Off/On. When the Heated or Cool Seat Temperature Switch is activated, this parameter indicates that the door module has illuminated the seat medium temperature indicator.

Seat Heat Mode Cmd.

The scan tool displays Off/On. When the Heated Seat Heat/Off Temperature Switch is first activated, the scan tool will momentarily display On, while the output from the door module signals the heated seat module to turn on to the High heat mode. With each additional activation of the switch, the heated seat module will increment through the remaining temperature modes (Med/Low/Off).

Seat Heat Mode Switch.

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The scan tool displays Off/On. When the Heated Seat Heat/Off Temperature Switch is activated, the scan tool will momentarily display the switch input to the door module as On.

Seat Lumbar Down - Input

The scan tool displays Inactive/Active. When the seat lumbar down switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Lumbar Down - Output

The scan tool displays Inactive/Active. When the seat lumbar down switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the lumbar vertical motor in the down direction.

Seat Lumbar Forward - Input

The scan tool displays Inactive/Active. When the seat lumbar forward switch is activated, the scan tool will momentarily display switch input to the memory seat module as Active.

Seat Lumbar Forward - Output

The scan tool displays Inactive/Active. When the seat lumbar forward switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the lumbar horizontal motor in the forward direction.

Seat Lumbar Rearward - Input

The scan tool displays Inactive/Active. When the seat lumbar rearward switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Lumbar Rearward - Output

The scan tool displays Inactive/Active. When the seat lumbar rearward switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the lumbar horizontal motor in the rearward direction.

Seat Lumbar Up - Input

The scan tool displays Inactive/Active. When the seat lumbar up switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Lumbar Up - Output

The scan tool displays Inactive/Active. When the seat lumbar up switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory module is commanding the lumbar vertical motor the up direction.

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Seat Rear Down - Input

The scan tool displays Inactive/Active. When the seat rear down switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Rear Down - Output

The scan tool displays Inactive/Active. When the seat rear down switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the seat rear vertical motor in the down direction.

Seat Rear Up - Input

The scan tool displays Inactive/Active. When the seat rear up switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Rear Up - Output

The scan tool displays Inactive/Active. When the seat rear up switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the seat rear vertical motor in the up direction.

Seat Rearward - Input

The scan tool displays Inactive/Active. When the seat rearward switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Rearward - Output

The scan tool displays Inactive/Active. When the seat rearward switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the seat horizontal motor in the rearward direction.

Seat Recline Forward - Input

The scan tool displays Inactive/Active. When the seat recline forward switch is activated, the scan tool will momentarily display the switch input to the memory seat module as Active.

Seat Recline Forward - Output

The scan tool displays Inactive/Active. When the seat recline forward switch is activated or a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the seat recline motor in the forward direction.

Seat Recline Rearward - Input

The scan tool displays Inactive/Active. When the seat recline rearward switch is activated, the scan tool

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will momentarily display the switch input to the memory seat module as Active.

Seat Recline Rearward - Output

The scan tool displays Inactive/Active. When the seat recline rearward switch is activated or when a memory recall occurs, the scan tool will momentarily display Active while the output from the memory seat module is commanding the seat recline motor in the rearward direction.

Software Level

The scan tool displays the 4-digit number of the software incorporated into the module.

Year Module Built

The scan tool displays a 4-digit number. This number represents the year the module was built.

DTC B1335

DTC Descriptors

DTC B1335 00

Device Power 3 Circuit

DTC B1335 0B

Device Power 3 Circuit Current Above Threshold

DTC B1335 42

Device Power 3 Circuit Calibration Data Set Not Programed

DTC B1335 4B

Device Power 3 Circuit Calibration Not Learned

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

DTC B1335

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Seat Front Vertical Motor Down Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Front Vertical Motor Up	B3920 02	1	B3920 01	B1335 00

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Control				B1335 0B
Driver Seat Rear Vertical Motor Down Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Rear Vertical Motor Up Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Horizontal Motor Forward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Horizontal Motor Rearward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Recline Motor Forward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Recline Motor Rearward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Lumbar Motor Up Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Lumbar Motor Down Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Lumbar Motor Forward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Driver Seat Lumbar Motor Rearward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Adjustable Pedal Motor Forward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
Adjustable Pedal Motor Rearward Control	B3920 02	1	B3920 01	B1335 00 B1335 0B
1. Power seat motor inoperative				

Circuit/System Description

The memory seat module (MSM) monitors the current supplied to the seat adjuster motors. The MSM can detect both absolute and differential current levels from the seat motors. Absolute current is the maximum allowable current the module will supply to the motors. A differential current mismatch occurs when the current supplied to the seat motors does not match the current returning from the motors.

Conditions for Running the DTC

The MSM establishes that it is not closing to a shorted motor control circuit before the motors are active.

Conditions for Setting the DTC

The following conditions exist for more than 1 second:

B1335 00

Current out of the module does not match the current returning to the module within 5 amps.

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B1335 0B

The absolute current or an over-current has exceeded the maximum value allowed.

B1335 42

This DTC will set if the module calibration is not programmed.

B1335 4B

This DTC will set if the module calibration is out of range.

Action Taken When the DTC Sets

The adjustable pedal motor and all driver seat adjuster motors are disabled.

Conditions for Clearing the DTC

- The current DTC will clear and set the code to history, 3 seconds after no motor movement is requested or the current is no longer mismatched, and the ignition is cycled OFF then back to ACC or RUN.
- A history DTC will clear after 50 ignition cycles or with a scan tool using the clear DTCs function.

Reference Information

Schematic Reference

- **Driver Seat Schematics**
- **Passenger Seat Schematics**
- **Adjustable Pedal Schematics**

Connector End View Reference

- **Power Seat Connector End Views**
- **Adjustable Pedal Connector End Views**

Electrical Information Reference

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

Scan Tool Reference

- **Scan Tool Data List**

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- **Scan Tool Data Definitions**

Module Internal Malfunction

If DTCs B1335 42 or B1335 4B are set history or current, the only option is module replacement.

Circuit/System Testing

1. Use a scan tool to clear the current and history diagnostic trouble code.
2. Ignition ON, while observing the scan tool for DTCs, operate the seat adjuster switch in both directions for each directional motor.
3. Disconnect the suspect seat motor for which the DTC set.
4. Clear the current and history diagnostic trouble code.
5. While observing the scan tool for DTCs, operate the suspect seat motor adjuster switch in both directions.
    - If the DTC set current or history, test the motor control circuits for a short to ground, or an open/high resistance. If the circuits test normal, replace the memory seat module.
6. If all circuits/connections test normal, replace the seat motor.

Repair Procedures

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

- **Power Recliner Motor Replacement - Front Seat**
- **Lumbar Replacement - Front Seat (Power)**
- **Front Seat Adjuster Replacement (Power)**
- **Brake Pedal Assembly Replacement**
- **Control Module References** for MSM replacement, setup, and programming

DTC B1395

DTC Descriptors

DTC B1395 02

Device Voltage Reference Output Circuit Shorted to Ground

DTC B1395 05

Device Voltage Reference Output Circuit Shorted to Battery or Open

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

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DTC B1395

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
5-Volt Reference	B1395 02	B1395 05	B1395 05	-
Memory Seat Sensor Low Reference	-	B1825 01, B1850 01, B1860 01, B2355 01, B2365 01, B2375 01	-	-
Driver Seat Front Vertical Position Sensor Signal	B2355 06	B2355 06	B2355 01	-
Driver Seat Rear Vertical Position Sensor Signal	B2365 06	B2365 06	B2365 01	-
Driver Seat Horizontal Position Sensor Signal	B2375 06	B2375 06	B2375 01	-
Driver Seat Lumbar Vertical Position Sensor Signal	B1860 06	B1860 06	B1860 01	-
Driver Seat Lumbar Horizontal Position Sensor Signal	B1850 06	B1850 06	B1850 01	-
Driver Seat Recline Position Sensor Signal	B1825 06	B1825 06	B1825 01	-

Circuit/System Description

The memory seat module (MSM) supplies a 5-volt reference voltage to the driver seat and adjustable pedal position sensors. The MSM monitors this reference voltage to ensure the accuracy of the voltages being returned from the sensors. If the voltage exceeds the normal operating range, errors will occur in the memory recall operations of the seat and adjustable pedals.

Conditions for Running the DTC

The memory seat module must be powered.

Conditions for Setting the DTC

The following conditions exist for more than 1 second:

B1395 02

The reference voltage drops below 4.75 volts.

B1395 05

The reference voltage exceeds 5.15 volts.

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Action Taken When the DTC Sets

All memory recall functions will be disabled.

Conditions for Clearing the DTC

- The current DTC will clear 3 seconds after the reference voltage returns to normal operating range, and the ignition is cycled OFF then back to ACC or RUN.
- A history DTC will clear after 50 ignition cycles or with a scan tool using the clear DTCs function.

Reference Information

Schematic Reference

- **Driver Seat Schematics**
- **Passenger Seat Schematics**
- **Adjustable Pedal Schematics**

Connector End View Reference

- **Power Seat Connector End Views**
- **Adjustable Pedal Connector End Views**

Electrical Information Reference

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

Scan Tool Reference

- **Scan Tool Data List**
- **Scan Tool Data Definitions**

Diagnostic Aids

An internal short to ground in one of the position sensors may set this DTC.

Circuit/System Testing

Ignition ON, test for 4.75-5.15 volts between the 5-volt reference circuit and ground.

- If less than 4.75 volts, test the 5-volt reference circuit to all position sensors for a short to ground or an open. If the circuit tests normal, replace the memory seat module.

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- If greater than 5.15 volts, test the 5-volt reference circuit to all position sensors or a short to voltage. If the circuit tests normal, replace the memory seat module.

Repair Procedures

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

- **Front Seat Adjuster Replacement (Power)**
- **Lumbar Replacement - Front Seat (Power)**
- **Power Recliner Motor Replacement - Front Seat**
- **Brake Pedal Assembly Replacement**
- **Control Module References** for MSM replacement, setup, and programming

DTC B1735, B1740, B1745, B1750, B1755, B1760, B1815, OR B1820

DTC Descriptors

DTC B1735 01

Driver Seat Front Up Switch Circuit Short to Battery

DTC B1740 01

Driver Seat Front Down Switch Circuit Short to Battery

DTC B1745 01

Driver Seat Rear Up Switch Circuit Short to Battery

DTC B1750 01

Driver Seat Rear Down Switch Circuit Short to Battery

DTC B1755 01

Driver Seat Assembly Horizontal Forward Switch Circuit Short to Battery

DTC B1760 01

Driver Seat Assembly Horizontal Rearward Switch Circuit Short to Battery

DTC B1815 01

Driver Seat Recline Forward Switch Circuit Short to Battery

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DTC B1820 01

Driver Seat Recline Rearward Switch Circuit Short to Battery

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

Circuit Description

When the power seat switches are pressed, they send a 12-volt signal through the switch signal circuits to the memory seat module (MSM). The MSM then commands the driver seat motors to move in response to the switch signals.

Conditions for Running the DTC

The memory seat module must be powered.

Conditions for Setting the DTC

- If a seat switch circuit is active in one direction and the switch for the opposite direction is pressed, this DTC will set.
- Multiple DTCs will set if one of the switch signal circuits is shorted to voltage.

Action Taken When the DTC Sets

- A motor output driven in response to a switch considered failed, is deactivated for both directions.
- All memory recall commands are ignored.
- The MSM will respond to any other switch signal that has not set a DTC.

Conditions for Clearing the DTC

- The current DTC will clear and set the code to history, 3 seconds after the fault is no longer present and the ignition is cycled OFF then back to ACC or RUN.
- A history DTC will clear after 50 ignition cycles or with a scan tool using the clear DTCs function.

Reference Information

Schematic Reference

Driver Seat Schematics

Connector End View Reference

Power Seat Connector End Views

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Electrical Information Reference

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

Scan Tool Reference

Scan Tool Data List

Circuit/System Verification

Ignition ON, observe the scan tool seat switch parameters while pressing the appropriate seat directional switches. The reading should change between Inactive and Active.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the seat adjuster switch.
2. Test for infinite resistance between each seat direction signal terminal and the switch B+ terminal with the switch in the open position.
    - If not Inactive, test the signal circuit that displays Active for a short to voltage. If the circuit tests normal, replace the MSM.
3. If all circuits test normal, test or replace the seat adjuster switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the seat adjuster switch.
2. Test for infinite resistance between each seat direction signal terminal and the switch B+ terminal with the switch in the open position.
    - If less than infinite resistance, replace the switch.
3. Test for less than 1 ohm of resistance between each seat direction signal terminal and the B+ terminal with the switch in the closed position.
    - If greater than 1 ohm, replace the switch.

Repair Procedures

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

- **Seat Switch Replacement - Power**
- **Control Module References** for memory seat module replacement, setup, and programming

DTC B1825, B1850, B1860, B2355, B2365, OR B2375

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DTC Descriptors

DTC B1825 01

Driver Seat Recline Position Sensor Circuit Short to Battery

DTC B1825 06

Driver Seat Recline Position Sensor Circuit Short to Ground or Open

DTC B1825 5A

Driver Seat Recline Position Sensor Circuit Plausibility Failure

DTC B1850 01

Driver Seat Lumbar Horizontal Position Sensor Circuit Short to Battery

DTC B1850 06

Driver Seat Lumbar Horizontal Position Sensor Circuit Short to Ground or Open

DTC B1850 5A

Driver Seat Lumbar Horizontal Position Sensor Circuit Plausibility Failure

DTC B1860 01

Driver Seat Lumbar Vertical Position Sensor Circuit Short to Battery

DTC B1860 06

Driver Seat Lumbar Vertical Position Sensor Circuit Short to Ground or Open

DTC B1860 5A

Driver Seat Lumbar Vertical Position Sensor Circuit Plausibility Failure

DTC B2355 01

Driver Seat Front Vertical Position Sensor Circuit Short to Battery

DTC B2355 06

Driver Seat Front Vertical Position Sensor Circuit Short to Ground or Open

DTC B2355 5A

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Driver Seat Front Vertical Position Sensor Circuit Plausibility Failure

DTC B2365 01

Driver Seat Rear Vertical Position Sensor Circuit Short to Battery

DTC B2365 06

Driver Seat Rear Vertical Position Sensor Circuit Short to Ground or Open

DTC B2365 5A

Driver Seat Rear Vertical Position Sensor Circuit Plausibility Failure

DTC B2375 01

Driver Seat Assembly Horizontal Position Sensor Circuit Short to Battery

DTC B2375 06

Driver Seat Assembly Horizontal Position Sensor Circuit Short to Ground or Open

DTC B2375 5A

Driver Seat Assembly Horizontal Position Sensor Circuit Plausibility Failure

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

Circuit Description

The position sensor that sets this diagnostic trouble code (DTC) is either attached to the seat directional motor drive cable or directly to the motor it monitors. It receives a 5-volt reference and ground from the memory seat module (MSM). The sensor sends a voltage signal that varies with the movement of the seat through the signal circuit to the MSM. Then based on this voltage signal, the MSM determines the position of the seat.

Conditions for Running the DTC

The memory seat module must be powered.

Conditions for Setting the DTC

B1825/B1850/B1860/B2355/B2365/B2375 01

If the MSM sees the analog input from this sensor is greater than 4.65 volts, the sensor will be considered out of range and the MSM will set this DTC.

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B1825/B1850/B1860/B2355/B2365/B2375 06

If the MSM sees the analog input from this sensor is less than 0.27 volt, the sensor will be considered out of range and the MSM will set this DTC.

B1825/B1850/B1860/B2355/B2365/B2375 5A

This DTC will set, if the MSM is controlling a motor in one direction and it's position sensor is tracking the motor in the opposite direction. The sensor is either mounted or wired incorrectly, or the polarity of the motor control circuits are reversed.

Action Taken When the DTC Sets

The MSM disables the memory recall and easy exit/entry action commands of the motor monitored by the sensor. The motor will respond to manual positioning commands.

Conditions for Clearing the DTC

- The current DTC will clear and set to history, when the MSM sees the analog input from the sensor as between 0.27-4.65 volts and the ignition is cycled OFF then back to ACC or RUN.
- A history DTC will clear after 50 ignition cycles or with a scan tool using the clear DTCs function.

Diagnostic Aids

- All position sensors use common ground and 5-volt reference circuits.
- If the 5-volt reference circuit is shorted to voltage, multiple codes will set.
- If the 5-volt reference circuit is shorted to ground, multiple codes will set.
- If the sensor ground circuit is open, multiple codes will set.

Reference Information

Schematic Reference

Rear Seat Schematics

Connector End View Reference

Power Seat Connector End Views

Electrical Information Reference

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

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Scan Tool Reference

Scan Tool Data List

Circuit/System Verification

Ignition ON, observe the scan tool Driver Seat and Lumbar position sensor parameters. The readings should be between 0.27-2.65 volts and change while adjusting seat and lumbar positions.

Circuit/System Testing

B1825

1. Ignition OFF, disconnect the C2 harness connector at the seat recline motor.
2. Ignition OFF, test for less than 2 ohms of resistance between the low reference circuit terminal 1 and ground.
    - If greater than 2 ohms, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the MSM.
3. Ignition ON, test for 4.8-5.2 volts between the 5-volt reference circuit terminal 3 and ground.
    - If less than 4.8 volts, test the 5-volt reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the MSM.
    - If greater than 5.2 volts, test the 5-volt reference circuit for a short to voltage. If the circuit tests normal, replace the MSM.
4. Verify the scan tool Driver Seat Recline Sensor parameter is less than 2.0 volts.
    - If greater than 2.0 volts, test the signal circuit terminal 2 for a short to voltage. If the circuit tests normal, replace the MSM.
5. Install a 3A fused jumper wire between the signal circuit terminal 2 and the 5-volt reference circuit terminal 3. Verify the scan tool Driver Seat Recline Sensor parameter is greater than 4.65 volts.
    - If less than 4.65 volts, test the signal circuit for short to ground or an open/high resistance. If the circuit tests normal, replace the MSM.
6. If all circuits test normal, test or replace the seat recline position sensor.

B2355/B2365/B2375

1. Ignition OFF, disconnect the C2 harness connector at the seat adjuster motor assembly.
2. Ignition OFF, test for less than 2 ohms of resistance between the low reference circuit terminal 2 and ground.
    - If greater than 2 ohms, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the MSM.
3. Ignition ON, test for 4.8-5.2 volts between the 5-volt reference circuit terminal 6 and ground.
    - If less than 4.8 volts, test the 5-volt reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the MSM.
    - If greater than 5.2 volts, test the 5-volt reference circuit for a short to voltage. If the circuit tests normal, replace the MSM.

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4. Verify the appropriate scan tool Driver Seat Sensor parameter is less than 2.0 volts.
    - If greater than 2.0 volts, test the appropriate signal circuit for a short to voltage. If the circuit tests normal, replace the MSM.
    - Seat front vertical position sensor terminal 1
    - Seat rear vertical position sensor terminal 5
    - Seat horizontal position sensor terminal 3
5. Install a 3A fused jumper wire between the signal circuit and the 5-volt reference circuit terminal 6. Verify the appropriate scan tool Driver Seat position sensor parameter is greater than 4.65 volts.
    - Seat front vertical position sensor terminal 1
    - Seat rear vertical position sensor terminal 5
    - Seat horizontal position sensor terminal 3
    - If less than 4.65 volts, test the signal circuit for short to ground or an open/high resistance. If the circuit tests normal, replace the MSM.
6. If all circuits test normal, test or replace the seat adjuster motor assembly.

B1850/B1860

1. Ignition OFF, disconnect the C2 harness connector at the seat lumbar motor assembly.
2. Ignition OFF, test for less than 2 ohms of resistance between the low reference circuit terminal C and ground.
    - If greater than 2 ohms, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the MSM.
3. Ignition ON, test for 4.8-5.2 volts between the 5-volt reference circuit terminal A and ground.
    - If less than 4.8 volts, test the 5-volt reference circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the MSM.
    - If greater than 5.2 volts, test the 5-volt reference circuit for a short to voltage. If the circuit tests normal, replace the MSM.
4. Verify the appropriate scan tool Lumbar Sensor parameter is less than 2.0 volts.
    - If greater than 2.0 volts, test the appropriate signal circuit for a short to voltage. If the circuit tests normal, replace the MSM.
    - Lumbar vertical position sensor terminal B
    - Lumbar horizontal position sensor terminal D
5. Install a 3A fused jumper wire between the signal circuit and the 5-volt reference circuit terminal C. Verify the appropriate scan tool Lumbar Sensor parameter is greater than 4.65 volts.
    - Lumbar vertical position sensor terminal B
    - Lumbar horizontal position sensor terminal D
    - If less than 4.65 volts, test the signal circuit for short to ground or an open/high resistance. If the circuit tests normal, replace the MSM.
6. If all circuits test normal, test or replace the lumbar motor assembly.

Repair Procedures

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

- **Front Seat Adjuster Replacement (Power)**
- **Lumbar Replacement - Front Seat (Power)**
- **Power Recliner Motor Replacement - Front Seat**
- **Control Module References** for MSM replacement, setup, and programming

DTC B2765

Circuit Description

Battery positive voltage is supplied to the memory function switch from the driver door switch (DDS). When a memory switch is pressed, battery voltage is applied through the switch contacts, a series of resistors and thorough the memory switch signal circuit to the DDS for the selected memory recall function. The door control module then sends a GMLAN message to the memory seat module (MSM) indicating the memory recall request. The MSM then commands the appropriate seat motors to move to the pre-recorded seat position stored in memory in response to the switch input.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2765 00 Memory Set Switch Circuit

Conditions for Running the DTC

The door module must be powered and can not have B1327 - Battery Voltage Low or B1328 - Battery Voltage High set as an active DTC for this DTC to set.

Conditions for Setting the DTC

If the DDS detects that the memory switch input circuit is active for 30 continuous seconds, the switch will be considered shorted and the DTC will set.

Action Taken When the DTC Sets

After the initial memory activation, no other memory switch activations shall be recognized as a result of this switch circuit being active.

Conditions for Clearing the DTC

The DTC automatically clears when the switch circuit setting the DTC is no longer active.

Test Description

The number below refers to the step number on the diagnostic table.

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DTC B2765

Step	Action	Yes	No
Schematic Reference: Driver Seat Schematics **Connector End View Reference: Power Seat Connector End Views**			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to **Step 2**	Go to **Diagnostic System Check - Vehicle**
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the Memory Recall Switches parameter in the DDS Input data list. Does the scan tool display Idle?	Go to **Step 3**	Go to **Step 4**
3	1. Activate the any one of the memory switches. 2. With a scan tool, observe the Memory Recall Switches parameter. Did the Memory Recall Switches parameter change state?	Go to **Testing for Intermittent Conditions and Poor Connections**	Go to **Step 4**
4	1. Turn OFF the ignition. 2. Disconnect the memory switch connector. 3. Turn ON the ignition, with the engine OFF. 4. With a scan tool, observe the Memory Recall Switches parameter. Does the scan tool display battery voltage?	Go to **Step 7**	Go to **Step 5**
5	Test the memory switch signal circuit for a short to ground. Refer to **Circuit Testing** and **Wiring Repairs** . Did you find and correct the condition?	Go to **Step 10**	Go to **Step 6**
6	Inspect for poor connections at the harness connector of the DDS. Refer to **Testing for Intermittent Conditions and Poor Connections** and **Connector Repairs** . Did you find and correct the condition?	Go to **Step 10**	Go to **Step 8**
7	Inspect for poor connections at the harness connector of the memory switch. Refer to **Testing for Intermittent Conditions and Poor Connections** and **Connector Repairs** . Did you find and correct the condition?	Go to **Step 10**	Go to **Step 9**
8	Replace the DDS. Refer to **Control Module References** for replacement, setup, and programming. Did you complete the replacement?	Go to **Step 10**	-

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9	Replace the memory switch. Refer to **Driver Seat Adjuster Memory Switch Replacement**. Did you complete the replacement?	Go to **Step 10**	-
10	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	Go to **Step 2**	System OK

DTC B3920 OR B3921

DTC Descriptors

DTC B3920 01

Group 1 Seat Motors Circuit Shorted to Battery or Open

DTC B3920 02

Group 1 Seat Motors Circuit Shorted to Ground

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

DTC B3920 or B3921

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Seat Front Vertical Motor Down Control	B3920 02	1	B3920 01	-
Driver Seat Front Vertical Motor Up Control	B3920 02	1	B3920 01	-
Driver Seat Rear Vertical Motor Down Control	B3920 02	1	B3920 01	-
Driver Seat Rear Vertical Motor Up Control	B3920 02	1	B3920 01	-
Driver Seat Horizontal Motor Forward Control	B3920 02	1	B3920 01	-
Driver Seat Horizontal Motor Rearward Control	B3920 02	1	B3920 01	-
Driver Seat Recline Motor Forward Control	B3920 02	1	B3920 01	-
Driver Seat Recline Motor Rearward Control	B3920 02	1	B3920 01	-

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Driver Seat Lumbar Motor Down Control	B3920 02	1	B3920 01	-
Driver Seat Lumbar Motor Forward Control	B3920 02	1	B3920 01	-
Driver Seat Lumbar Motor Up Control	B3920 02	1	B3920 01	-
Driver Seat Lumbar Motor Rearward Control	B3920 02	1	B3920 01	-
Adjustable Pedal Motor Forward Down Control	B3920 02	1	B3920 01	-
Adjustable Pedal Motor Rearward Control	B3920 02	1	B3920 01	-
1. Power seat motor inoperative				

Circuit/System Description

The memory seat module (MSM) controls the seat, lumbar, and adjustable pedal motors via half bridges that are connected to a common power rail internal to the module. Group 1 includes the following motors:

- Seat front vertical motor
- Seat rear vertical motor
- Seat horizontal motor
- Seat recline motor
- Seat lumbar horizontal motor
- Seat lumbar vertical motor
- Adjustable pedal motor

When a power seat switch is pressed or when a memory recall is requested, each seat or lumbar motor receives battery voltage and ground from the MSM via the motor control circuits. All seat and lumbar motors are reversible, so the direction the seat moves depends on which control circuit voltage is applied and which control circuit the ground is applied. For example, to move the seat in the forward direction, the module applies voltage to the seat horizontal motor forward control circuit, and ground to the seat horizontal motor rearward control circuit. When the seat is operated in the opposite direction, the module reverses the polarity and applies voltage and ground to the opposite circuits to move the seat in the rearward direction. All seat and lumbar motors are powered this way.

Conditions for Running the DTC

The MSM must be powered.

Conditions for Setting the DTC

B3920 01

The MSM detects a short to battery voltage on a group 1 motor control circuit.

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B3920 02

The MSM detects a short to ground on a group 1 motor control circuit.

Action Taken When the DTC Sets

The MSM disables all motors in the group for which the DTC was set.

Conditions for Clearing the DTC

- The current DTC clears when the malfunction is no longer present, and the power mode changes to OFF then back to ACC or RUN.
- A history DTC will clear after 50 ignition cycles or with a scan tool using the clear DTCs function.

Reference Information

Schematic Reference

- **Driver Seat Schematics**
- **Passenger Seat Schematics**
- **Adjustable Pedal Schematics**

Connector End View Reference

- **Power Seat Connector End Views**
- **Adjustable Pedal Connector End Views**

Electrical Information Reference

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

Scan Tool Reference

- **Scan Tool Output Controls**
- **Scan Tool Data List**
- **Scan Tool Data Definitions**

Circuit/System Testing

1. Ignition OFF, disconnect the C1 harness connector at the MSM.
2. Ignition ON, verify that a test does not illuminate between any of the following motor control circuits and ground:

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- Front vertical motor terminal 12
- Front vertical motor terminal 13
- Rear vertical motor terminal 15
- Rear vertical motor terminal 16
- Seat horizontal motor terminal 9
- Seat horizontal motor terminal 10
  - If the test lamp illuminates, test the control circuit for a short to voltage.

3. Test for infinite resistance between the following motor control circuits and ground:
   - Front vertical motor terminal 12
   - Front vertical motor terminal 13
   - Rear vertical motor terminal 15
   - Rear vertical motor terminal 16
   - Seat horizontal motor terminal 9
   - Seat horizontal motor terminal 10
     - If less than infinite resistance, test the motor control circuit for a short to ground.
4. Test for greater resistance values than specified between the following motor control circuits:
   - 1 ohm for front vertical motor terminal 12 and terminal 13
   - 1 ohm for rear vertical motor terminal 15 and terminal 16
   - 10 ohms for seat horizontal motor terminal 9 and terminal 10
     - If less than the specified resistance, test the control circuits for a short together or shorted motor.
5. Ignition OFF, disconnect the C4 harness connector at the MSM.
6. Ignition ON, verify that a test does not illuminate between any of the following motor control circuits and ground:
   - Lumbar vertical motor terminal 1
   - Lumbar vertical motor terminal 2
   - Lumbar horizontal motor terminal 12
   - Lumbar horizontal motor terminal 13
   - Seat recline motor terminal 15
   - Seat recline motor terminal 16
   - Adjustable pedal motor terminal 9
   - Adjustable pedal motor terminal 10
     - If the test lamp illuminates, test the control circuit for a short to voltage.
7. Test for infinite resistance between the following motor control circuits and ground:
   - Lumbar vertical motor terminal 1
   - Lumbar vertical motor terminal 2
   - Lumbar horizontal motor terminal 12
   - Lumbar horizontal motor terminal 13

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- Seat recline motor terminal 15
- Seat recline motor terminal 16
- Adjustable pedal motor terminal 9
- Adjustable pedal motor terminal 10
  - If less than infinite resistance, test the motor control circuit for a short to ground.

8. Test for greater resistance values than specified between the following motor control circuits:
   - 10 ohms for lumbar horizontal motor terminal 12 and terminal 13
   - 1 ohm for recline motor terminal 15 and terminal 16
     - If less than the specified resistance, test the control circuits for a short together or shorted motor.
9. If all circuits test normal, replace the MSM.

Repair Procedures

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

- **Front Seat Adjuster Replacement (Power)**
- **Power Recliner Motor Replacement - Front Seat**
- **Lumbar Replacement - Front Seat (Power)**
- **Brake Pedal Assembly Replacement**
- **Control Module References** for the memory seat module replacement, programming and setup

SYMPTOMS - POWER SEATS

IMPORTANT: 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 link.
2. Review the system operation in order to familiarize yourself with the system functions. Refer to the following system descriptions:
   - **Memory Seats Description and Operation**
   - **Power Seats System Description and Operation (Front)Power Seats System Description and Operation (Rear Folding)**

Visual/Physical Inspection

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

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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:

- **Memory Seat Feature Inoperative**
- **Power Folding Seat Inoperative (Rear)**
- **Power Seat Inoperative (w/o Memory)** or **Power Seat Inoperative (w/Memory)**

MEMORY SEAT FEATURE INOPERATIVE

Memory Seat Feature Inoperative

Step	Action	Values	Yes	No
Schematic Reference: Driver Seat Schematics **Connector End View Reference: Power Seat Connector End Views** DEFINITION: One or more of the memory recall functions are inoperative.				
1	Did you perform the Diagnostic System Check - Vehicle?	-	Go to **Step 2**	Go to **Diagnostic System Check - Vehicle**
2	Attempt to set and recall memory 1, memory 2, and exit seat position settings. Does the system operate normally?	-	Go to **Testing for Intermittent Conditions and Poor Connections**	Go to **Step 3**
3	1. Install a scan tool. 2. Observe the Memory Switch parameter in the driver door switch data list. 3. Press the memory 1 switch. Does the scan tool display the memory 1 switch as Active only while the switch is pressed?	-	Go to **Step 4**	Go to **Step 6**
4	1. Observe the Memory Switch parameter in the driver door switch data list. 2. Press the memory 2 switch. Does the scan tool display the memory 2 switch as Active only while the switch is pressed?	-	Go to **Step 5**	Go to **Step 7**
	1. Observe the Memory Switch parameter in			

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5	the driver door switch data list. 2. Press the EXIT switch. Does the scan tool display the EXIT switch as Active only while the switch is pressed?	-	Go to **Step 11**	Go to **Step 8**
6	1. Disconnect the memory switch connector from the driver door switch. 2. Using a DMM, test the resistance through the memory switch from the switch supply voltage circuit terminal to the memory switch signal circuit terminal in the pigtail connector. Refer to **Circuit Testing** and to **Wiring Repairs** . 3. Press the memory 1 switch. Is the resistance at or near the specified value only while the switch is pressed?	2.26K ohms	Go to **Step 12**	Go to **Step 10**
7	1. Disconnect the memory switch connector from the driver door module. 2. Using a DMM, test the resistance through the memory switch from the switch supply voltage circuit terminal to the memory switch signal circuit terminal in the pigtail connector. Refer to **Circuit Testing** and to **Wiring Repairs** . 3. Press the memory 2 switch. Is the resistance at or near the specified value only while the switch is pressed?	4.26K ohms	Go to **Step 12**	Go to **Step 10**
8	1. Disconnect the memory switch connector from the driver door module. 2. Using a DMM, test the resistance through the memory switch from the switch supply voltage circuit terminal to the memory switch signal circuit terminal in the pigtail connector. Refer to **Circuit Testing** and to **Wiring Repairs** . 3. Press the EXIT switch. Is the resistance at or near the specified value only while the switch is pressed?	9.25K ohms	Go to **Step 9**	Go to **Step 10**
9	Test the memory switch signal circuits in the switch harness for a short to ground or voltage. Refer to **Circuit Testing** .	-		

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	Are either of the switch signal circuits shorted to ground or voltage?		Go to **Step 13**	Go to **Step 12**
10	Inspect for poor connections at the memory switch connector. Refer to **Testing for Intermittent Conditions and Poor Connections** and to **Connector Repairs** . Did you find and correct the condition?	-	Go to **Step 16**	Go to **Step 13**
11	Inspect for poor connections at the driver seat module connectors. Refer to **Testing for Intermittent Conditions and Poor Connections** and to **Connector Repairs** . Did you find and correct the condition?	-	Go to **Step 16**	Go to **Step 14**
12	Inspect for poor connections at the driver door switch connector. Refer to **Testing for Intermittent Conditions and Poor Connections** and to **Connector Repairs** . Did you find and correct the condition?	-	Go to **Step 16**	Go to **Step 15**
13	Replace the memory switch. Refer to **Heated Seat Switch Replacement - Front (w/o KB6)** . Is the repair complete?	-	Go to **Step 16**	-
14	Replace the driver seat module. Refer to **Control Module References** for replacement, setup, and programming. Is the repair complete?	-	Go to **Step 16**	-
15	Replace the driver door switch. Refer to **Control Module References** for replacement, setup, and programming. Is the repair complete?	-	Go to **Step 16**	-
16	Operate the memory seat system to verify the repair. Did you correct the condition?	-	System OK	Go to **Step 3**

POWER FOLDING SEAT INOPERATIVE (REAR)

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

Power Folding Seat Inoperative (Rear)

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Park Enable Relay Supply	1	1	-	-
Switch Supply	1	2, 4	-	-
Folding Seat Motor Supply	1	3	-	-
Switch Signal	1	3, 4	-	-

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Folding Seat Motor Ground	-	3	-	-

1. Both seats inoperative from both switches
2. Both seats inoperative from one switch
3. One seat inoperative from both switches
4. One seat inoperative from one switch

Circuit/System Description

The power fold and tumble second row seats are operated from the power fold switches in the overhead console or the rear switches on the panels behind the rear doors. Voltage to the power fold switches is supplied through the park enable relay while in a de-energized state. The park enable relay is controlled by the body control module (BCM) through a high side drive control circuit and will be energized whenever the ignition is in the accessory, run, or crank positions and the transmission is not in park. The folding seat motors are supplied battery voltage from the REAR SEAT 20A fuse and grounded at the B pillars. When a folding seat switch is pressed battery voltage is applied the switch signal circuit causing the power fold motor to initiate the power fold cycle.

Reference Information

Schematic Reference

Rear Seat Schematics

Connector End View Reference

Power Seat Connector End Views

Electrical Information Reference

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

Circuit/System Testing

Both Seats Inoperative from Both Switches

1. Disconnect the left instrument panel (I/P) junction block connector C2.
2. Verify that a test lamp illuminates when connected from the park enable relay supply circuit terminal E2 in the harness connector to ground.
    - If the test lamp does not illuminate repair the park enable relay supply circuit for an open or short to ground. If the circuit tests normal and the EAP fuse #73 is open, test the switch supply and signal circuits for a short to ground.

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3. Disconnect one of the folding seat motor connectors.
4. Verify that a test lamp illuminates when connected from the battery supply circuit terminal in the harness connector to ground.
    - If the test lamp does not illuminate repair the battery supply circuit for an open or short to ground.
5. If the circuits test normal replace the left I/P junction block.

Both Seats Inoperative from One Switch

1. Disconnect the inoperative switch connector.
2. Verify that a test lamp illuminates when connected from the switch supply circuit terminal in the harness connector to ground.
    - If the test lamp does not illuminate test the switch supply circuit for an open or high resistance. If the circuit tests normal replace the left I/P junction block.
3. If the circuits test normal replace the inoperative switch.

One Seat Inoperative from Both Switches

1. Disconnect the inoperative folding seat motor connector.
2. Verify that a test lamp illuminates when connected from battery voltage to the ground circuit terminal in the harness connector.
    - If the test lamp does not illuminate repair the ground circuit for an open or high resistance.
3. Verify that a test lamp illuminates when connected from the battery supply circuit terminal in the harness connector to ground.
    - If the test lamp does not illuminate repair the battery supply circuit for an open or high resistance.
4. Connect a test lamp from the switch signal circuit terminal in the harness connector to ground.
5. Verify that the test lamp illuminates when a power fold switch is pressed.
    - If the test lamp does not illuminate repair the switch signal circuit for an open or high resistance.
6. If the circuits test normal replace the folding seat motor.

One Seat Inoperative from One Switch

1. Disconnect the inoperative switch connector.
2. Verify that a test lamp illuminates when connected from the switch supply circuit terminal in the harness connector to ground.
    - If the test lamp does not illuminate repair the switch supply circuit for an open or high resistance.
3. Connect a fused jumper wire to the switch signal circuit terminal in the harness connector.
4. Verify that the seat power folds when the other end of the jumper wire is momentarily applied to battery voltage.
    - If the seat does not power fold repair the switch signal circuit for an open or high resistance.
5. If the circuits test normal replace the power fold switch.

Repair Procedures

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

Instrument Panel Electrical Center or Junction Block Replacement - Left Side

POWER SEAT INOPERATIVE (W/O MEMORY)

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

Circuit/System Description

Power seats without memory are completely controlled through the power seat switch. Battery voltage is supplied to the power seat switch through the power seat circuit breaker. While the seat adjuster switches are in an inactive state the switch contacts are closed to the power seat switch ground circuit. When a power seat switch is pressed to an active state the switch contact is closed to the battery voltage supply circuit. Each seat adjuster motor is controlled by the power seat switch through 2 motor control circuits. The seat adjuster motors are bidirectional and the direction of adjuster motor rotation is determined by which of the adjuster motor control circuits is switched to battery voltage while the other remains grounded.

Reference Information

Schematic Reference

- **Driver Seat Schematics**
- **Passenger Seat Schematics**

Connector End View Reference

Power Seat Component Views

Electrical Information Reference

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

Circuit/System Testing

1. Disconnect the seat adjuster or power lumbar switch connector.
2. Verify that a test lamp illuminates when connected from battery voltage to the ground circuit terminal.
    - If the test lamp does not illuminate, repair the ground circuit for an open/high resistance.
3. Verify that a test lamp illuminates when connected from the battery supply circuit terminal to ground.
    - If the test lamp does not illuminate, repair the battery supply circuit for an open/high resistance or

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short to ground.

4. Connect the seat adjuster or power lumbar switch connector and disconnect the inoperative motor assembly connector.
5. Connect a test lamp across the inoperative motor control circuit terminals.
6. Verify that the test lamp illuminates when the appropriate switch is pressed.
    - If the test lamp does not illuminate, repair the motor circuits for an open/high resistance or short to ground. If the circuits test normal replace the seat adjuster or power lumbar switch.
7. If the circuits test normal, replace the inoperative motor assembly.

Repair Procedures

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

- **Seat Switch Replacement - Power**
- **Front Seat Adjuster Replacement (Power)**
- **Lumbar Switch Replacement**
- **Lumbar Replacement - Front Seat (Power)**
- **Power Recliner Motor Replacement - Front Seat**

POWER SEAT INOPERATIVE (W/MEMORY)

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

Circuit/System Description

The 8-way power driver seat with memory is controlled by the memory seat module (MSM). The low current battery supply circuit from the DSM 10A fuse supplies the logic power and reference voltages to the MSM. The high current battery supply circuit from the DRIVER SEAT 2 25A circuit breaker supplies the MSM power rail 1 which is used to drive the power seat motors, adjustable pedals motor, and seat heater elements with heated seats only. The MSM supplies a battery voltage reference circuit to the seat adjuster and lumbar switches. The switch signal circuits are referenced from ground within the MSM and when a switch is activated the signal circuit goes high. Each seat adjuster motor is controlled by the MSM through 2 motor control circuits. While the seat adjuster motors are in an inactive state the motor control circuits are closed to ground circuit contacts within the MSM. The MSM operates the seat adjuster motors by switching one of a motors control circuits to battery voltage. The seat adjuster motors are bidirectional and the direction of adjuster motor rotation is determined by which of the adjuster motor control circuits is switched to battery voltage while the other remains grounded.

Reference Information

Schematic Reference

Driver Seat Schematics

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Connector End View Reference

Power Seat Connector End Views

Electrical Information Reference

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

Scan Tool Reference

Scan Tool Data List

Circuit/System Verification

1. Install a scan tool and display the MSM switch inputs.
2. Verify that none of the switches are displayed as Active while in an inactive state.
    - If any of the switch inputs are Active, perform the affected Switch Circuit Test.
3. Verify that the switch inputs are displayed as Active while the switch is pressed.
    - If any of the switch inputs remain Inactive while the switch is pressed, perform the affected Switch Circuit Test.
4. If the switch inputs to the MSM function normal, perform the Motor Control Circuit Test.

Circuit/System Testing

Seat Adjuster Switch Circuit Test

1. Disconnect the MSM connector C7 and verify that none of the adjuster switch inputs are displayed as Active.
    - If any of the switch inputs are Active, replace the MSM.
2. Verify that battery voltage is not present at the affected switch signal circuit terminal while the switch is inactive.
    - If battery voltage is present while the switch is not pressed, replace the seat adjuster switch.
3. Verify that battery voltage is present at the affected switch signal circuit terminal while pressing the switch.
    - If battery voltage is not present while the switch is pressed, repair the switch supply circuit for an open/high resistance. If the circuit tests normal replace the seat adjuster switch.
4. If the circuits test normal replace the MSM.

Lumbar Switch Circuit Test

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1. Disconnect the MSM connector C6 and verify that none of the lumbar switch inputs are displayed as Active.
    - If any of the switch inputs are Active, replace the MSM.
2. Verify that battery voltage is not present at the affected switch signal circuit terminal while the switch is inactive.
    - If battery voltage is present while the switch is not pressed, replace the lumbar switch.
3. Verify that battery voltage is present at the affected switch signal circuit terminal while pressing the switch.
    - If battery voltage is not present while the switch is pressed, repair the switch supply circuit for an open/high resistance. If the circuit tests normal replace the lumbar switch.
4. If the circuits test normal replace the MSM.

Motor Control Circuit Test

1. Disconnect the MSM connector C3.
2. Verify that a test lamp illuminates when connected from the high current battery supply circuit terminal 5 to ground.
    - If the test lamp does not illuminate, repair the high current battery supply circuit for an open or short to ground.
3. Connect the MSM connector C3 and disconnect the seat adjuster assembly or lumbar adjuster assembly connector C2.
4. Connect a test lamp across the affected motor control circuit terminals.
5. Verify that the test lamp illuminates while the affected switch is pressed.
    - If the test lamp does not illuminate, repair the motor control circuits for an open/high resistance. If the circuits test normal replace the MSM.
6. If the circuits test normal replace the affected adjuster assembly.

Repair Procedures

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

- **Seat Switch Replacement - Power**
- **Lumbar Switch Replacement**
- **Front Seat Adjuster Replacement (Power)**
- **Lumbar Replacement - Front Seat (Power)**
- **Power Recliner Motor Replacement - Front Seat**
- **Control Module References** for MSM replacement, setup, and programming

REPAIR INSTRUCTIONS

FRONT SEAT ADJUSTER SWITCH KNOB REPLACEMENT

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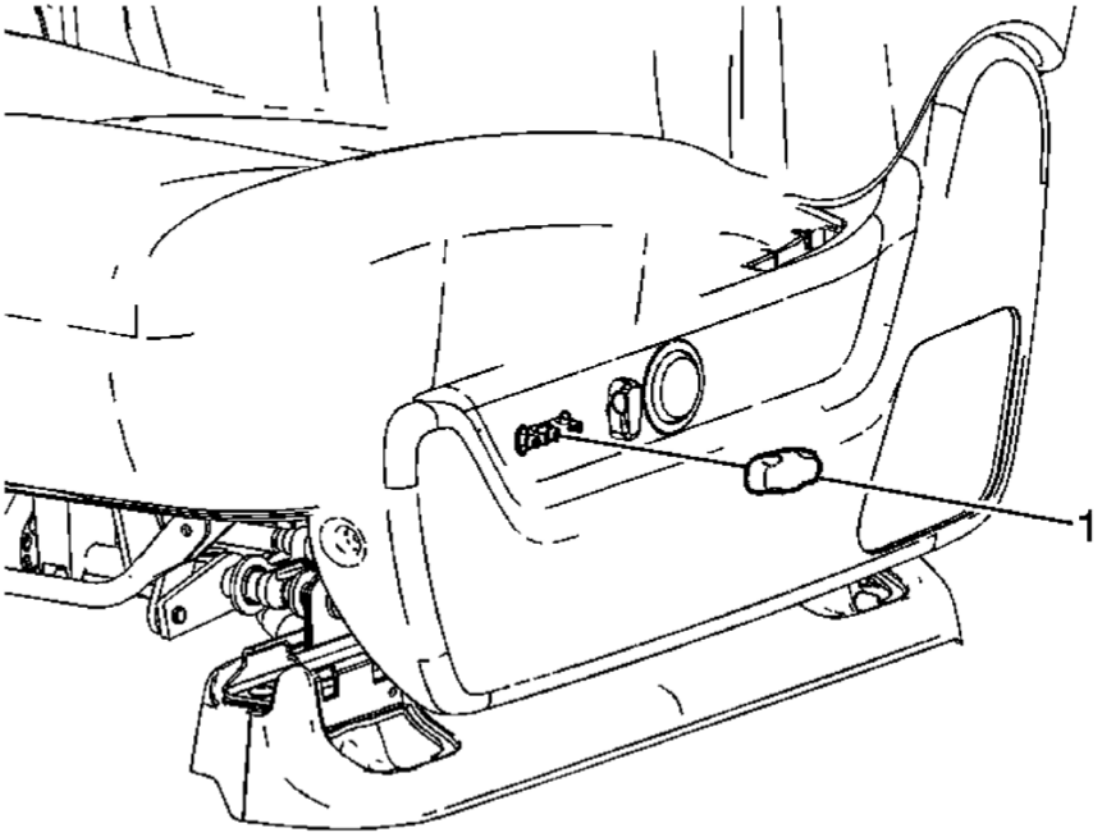


Fig. 40: View Of Front Seat Adjuster Switch Knob
Courtesy of GENERAL MOTORS CORP.

Front Seat Adjuster Switch Knob Replacement

Callout	Component Name
1	Front Seat Adjuster Switch Knob **Tip:** Pull outward from seat to remove. If too tight, a flat-bladed tool may be used to help disengage the knob from the switch.

SEAT SWITCH REPLACEMENT - POWER

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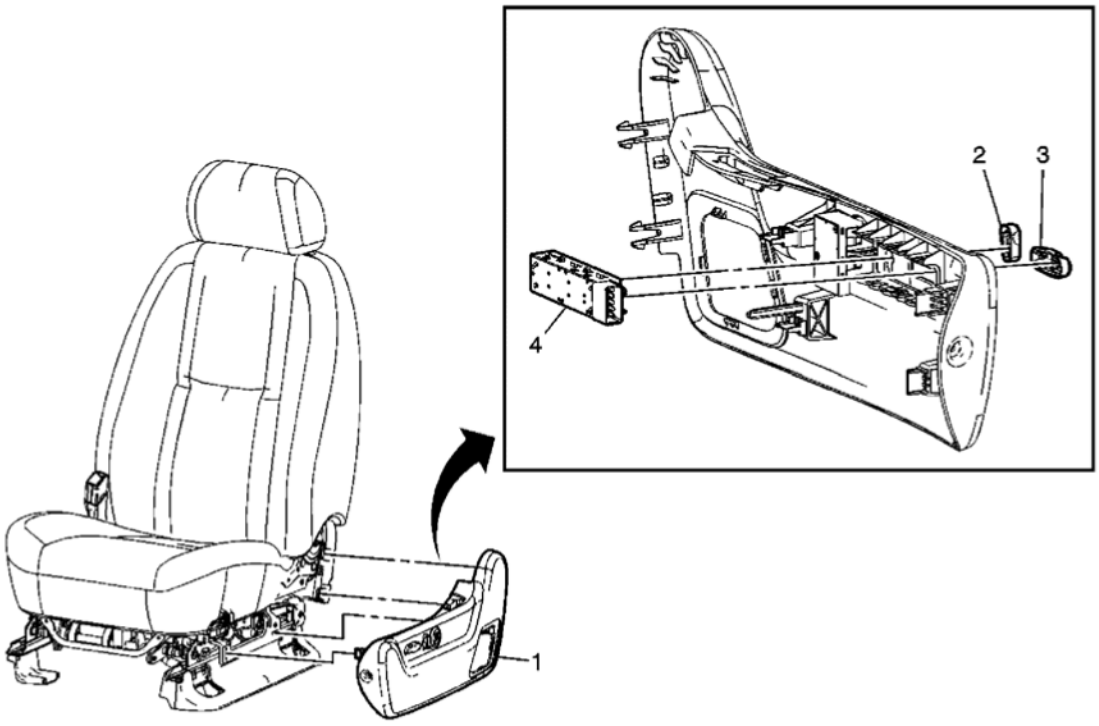


Fig. 41: View Of Front Seat Adjuster Switch & Components
Courtesy of GENERAL MOTORS CORP.

Seat Switch Replacement - Power

Callout	Component Name
1	Front Seat Adjuster Outer Finish Cover Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (Manual)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (Power)** .
2	Front Seat Recliner Switch Knob **Tip:** Pull off to remove.
3	Front Seat Adjuster Switch Knob **Tip:** Pull off to remove.
4	Front Seat Adjuster and Recliner Switch **Tip:** Use a small flat bladed tool to disengage the switch from the outer finish cover.

DRIVER SEAT ADJUSTER MEMORY SWITCH REPLACEMENT

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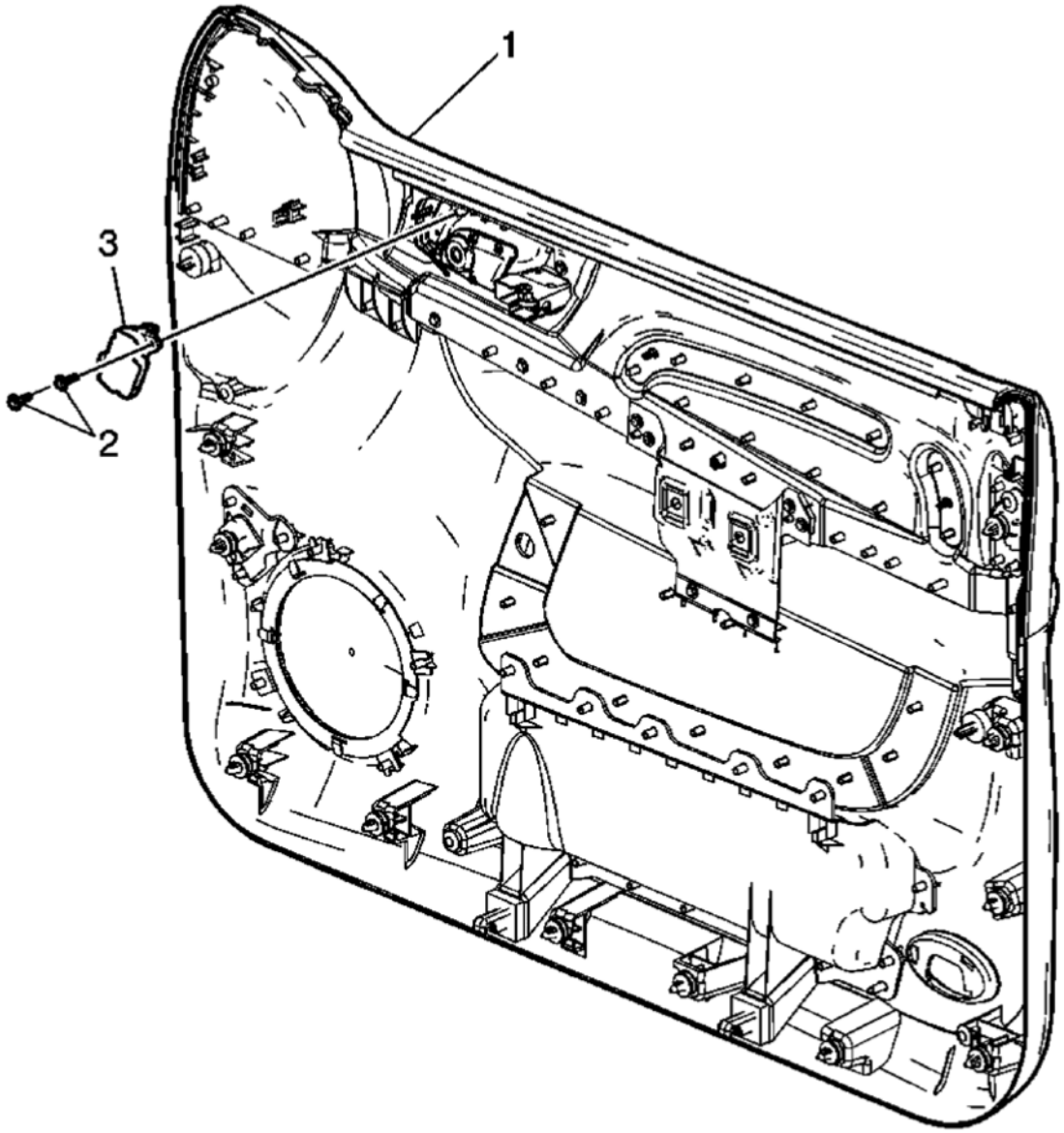


Fig. 42: View Of Front Memory Seat Switch Assembly
Courtesy of GENERAL MOTORS CORP.

Driver Seat Adjuster Memory Switch Replacement

Callout	Component Name
NOTE: Refer to **Fastener Notice** . **Fastener Tightening Specifications:** Refer to **Fastener Tightening Specifications**.	
1	Front Side Door Trim Panel Refer to **Front Side Door Trim Panel Replacement** .

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2	Front Memory Seat Switch Screw (Qty: 2) **Tighten:** 2 N.m (18 lb in)
3	Front Memory Seat Switch Assembly **Tip:** Disconnect the electrical connector.

MEMORY SEAT CONTROL MODULE REPLACEMENT

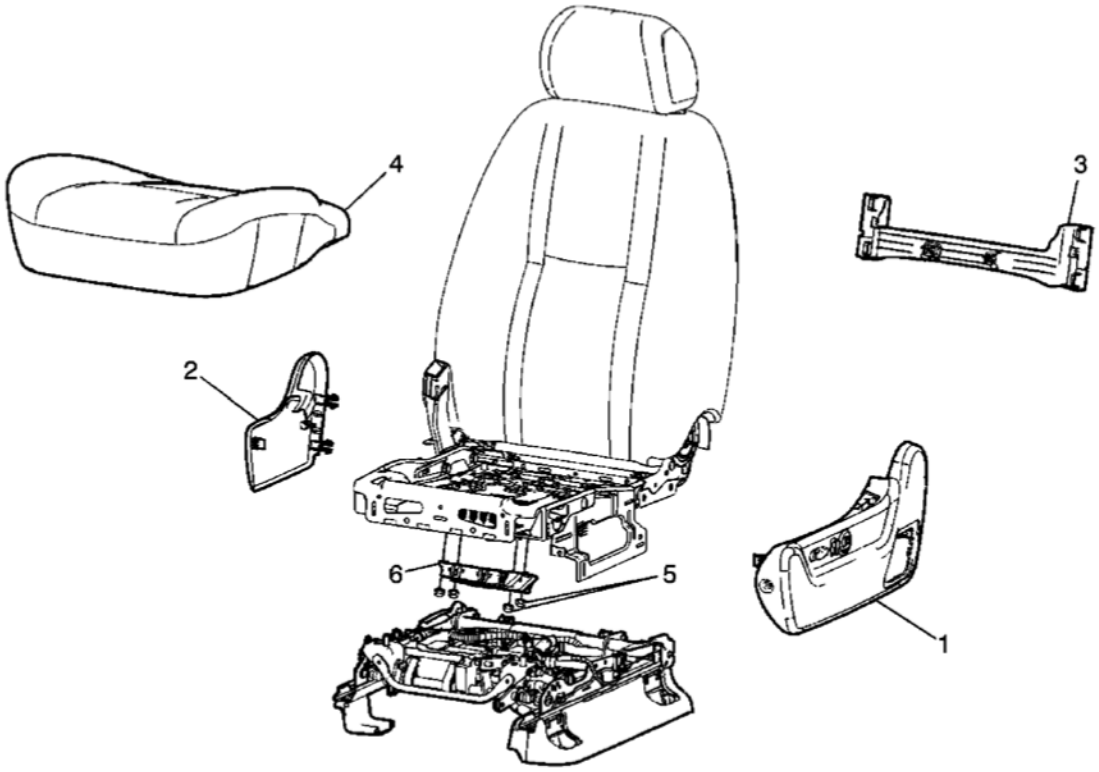


Fig. 43: View Of Memory Seat Control Module & Components
Courtesy of GENERAL MOTORS CORP.

Memory Seat Control Module Replacement

Callout	Component Name
Preliminary Procedure: Remove the front driver seat. Refer to **Front Seat Replacement - Bucket** .	
1	Driver Seat Adjuster Outer Finish Cover Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (Manual)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (Power)** .
2	Driver Seat Adjuster Inner Finish Cover Refer to **Seat Cushion Inner Trim Panel Replacement - Front** .
3	Driver Seat Riser Finish Cover **Tip:** Pull rearward to disengage the cover from the seat riser.

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4	Driver Seat Cushion Cover and Pad Refer to **Seat Cushion Trim Cover and Pad Replacement** .
5	Memory Seat Module Nut (Qty: 4) **NOTE:** **Refer to Fastener Notice .** **Tighten:** 9 N.m (80 lb in)
6	Memory Seat Module **Tip:** Disconnect the electrical connector.

FRONT SEAT ADJUSTER REPLACEMENT (POWER)

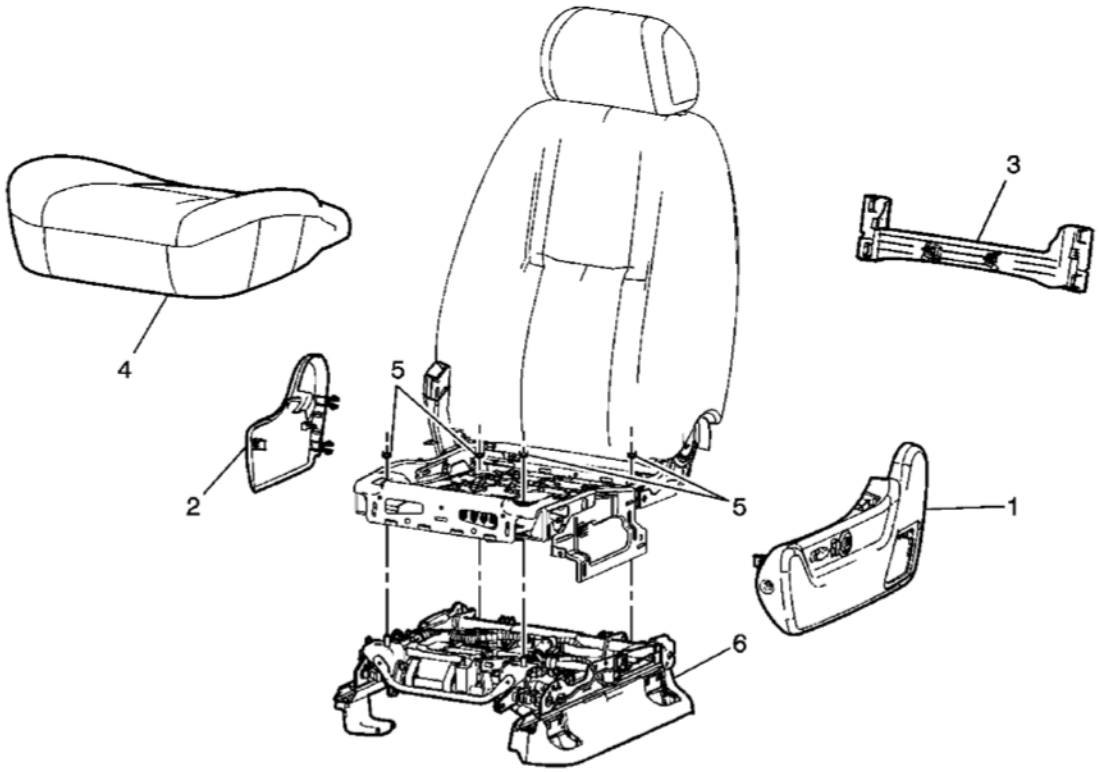


Fig. 44: View Of Front Seat Adjuster Assembly & Components
Courtesy of GENERAL MOTORS CORP.

Front Seat Adjuster Replacement (Power)

Callout	Component Name
Preliminary Procedure: Remove the front seat. Refer to **Front Seat Replacement - Bucket** .	
1	Front Seat Adjuster Outer Finish Cover Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (Manual)** or **Seat**

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	Cushion Outer Trim Panel Replacement - Front Seat (Power) .
2	Front Seat Adjuster Inner Finish Cover Refer to **Seat Cushion Inner Trim Panel Replacement - Front** .
3	Front Seat Riser Finish Cover **Tip:** Pull rearward to disengage the cover from the seat riser.
4	Seat Cushion Cover and Pad Refer to **Seat Cushion Trim Cover and Pad Replacement** .
5	Front Seat Cushion Frame Nut (Qty: 4) **NOTE:** **Refer to Fastener Notice .** **Tighten:** 9 N.m (80 lb in)
6	Front Seat Adjuster Assembly

LUMBAR SWITCH REPLACEMENT

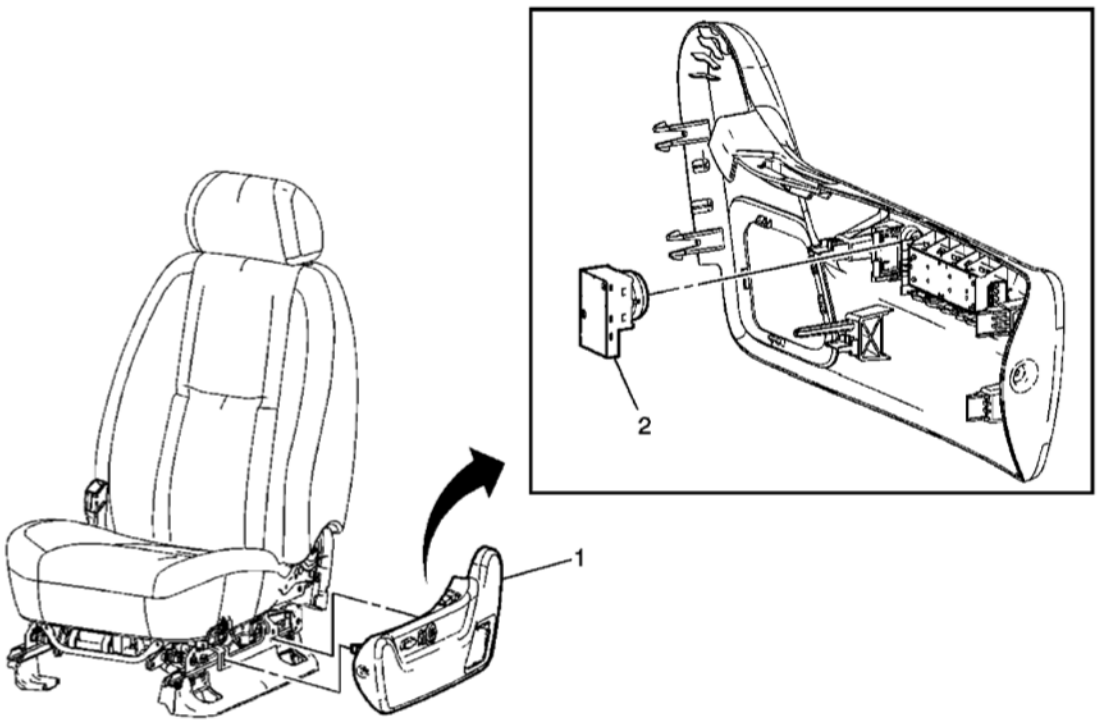


Fig. 45: View Of Lumbar Control Switch & Outer Finish Cover
Courtesy of GENERAL MOTORS CORP.

Lumbar Switch Replacement

Callout	Component Name
	Front Seat Adjuster Outer Finish Cover

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1	Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (Manual)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (Power)** .
2	Lumbar Control Switch **Tip:** Use a small flat bladed tool to disengage the lumbar control switch from the outer finish cover.

LUMBAR REPLACEMENT - FRONT SEAT (POWER)

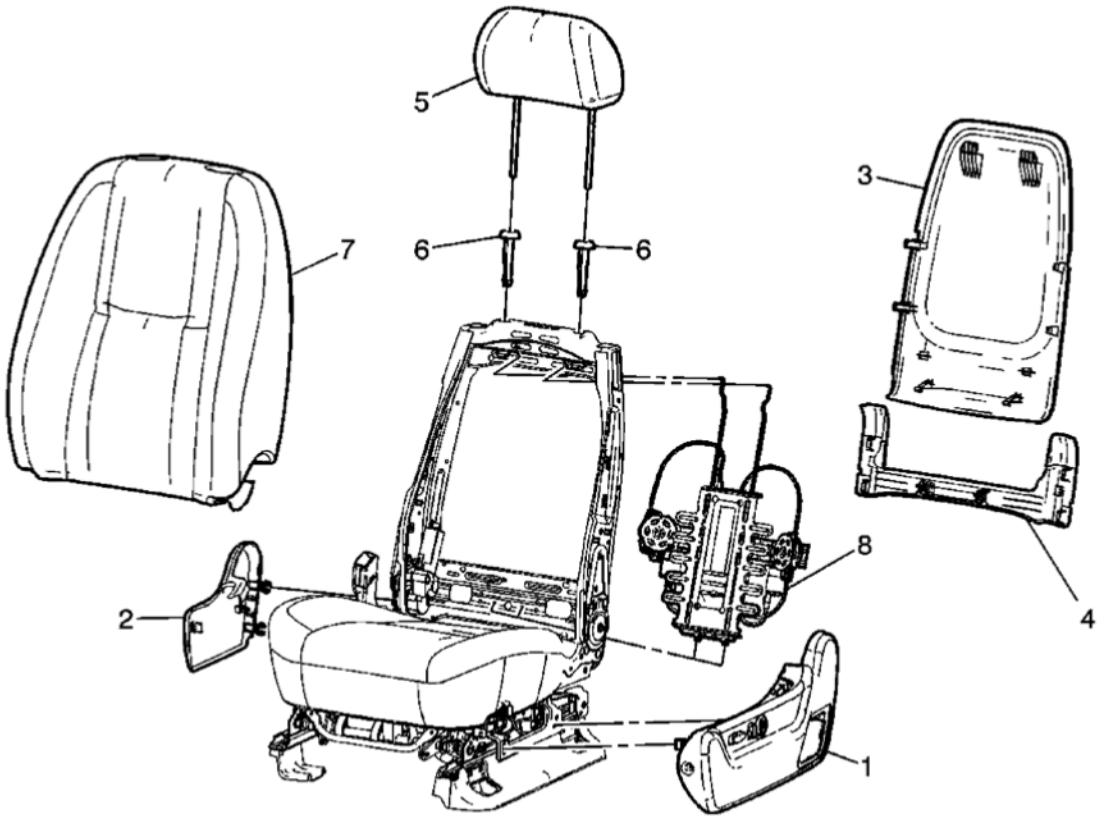


Fig. 46: View Of Front Seat Components
Courtesy of GENERAL MOTORS CORP.

Lumbar Replacement - Front Seat (Power)

Callout	Component Name
Preliminary Procedure: Remove the front seat. Refer to **Front Seat Replacement - Bucket** .	
1	Front Seat Adjuster Outer Finish Cover Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (Manual)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (Power)** .
2	Front Seat Adjuster Inner Finish Cover Refer to **Seat Cushion Inner Trim Panel Replacement - Front** .
	Front Seat Back Cushion Finish Panel

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3	**Tip:** Using a nylon flat bladed tool push the tabs in on the side of the panel to release from the seat back to remove.
4	Front Seat Riser Finish Cover **Tip:** Pull rearward to disengage the cover from the seat riser.
5	Front Seat Head Restraint Assembly **Tip:** 1. Depress the button on the inboard head restraint guide to raise the head restraint to the full up position. 2. Insert a small diameter tool into the hole on the inboard side of the outboard head restraint guide and pull upward to remove.
6	Front Seat Head Restraint Guide (Qty: 2) **Tip:** Squeeze the bottom of the guide together and push up to remove from the seat back.
7	Seat Back Cushion Cover and Pad Refer to **Front Seat Back Cover and Cushion Pad Replacement** .
8	Seat Lumbar Subsystem **Tip:** 1. Disconnect the electrical connector. 2. Pull the retainers out at the bottom and then slide the upper spring wire out from the top of the seat frame.

POWER RECLINER MOTOR REPLACEMENT - FRONT SEAT

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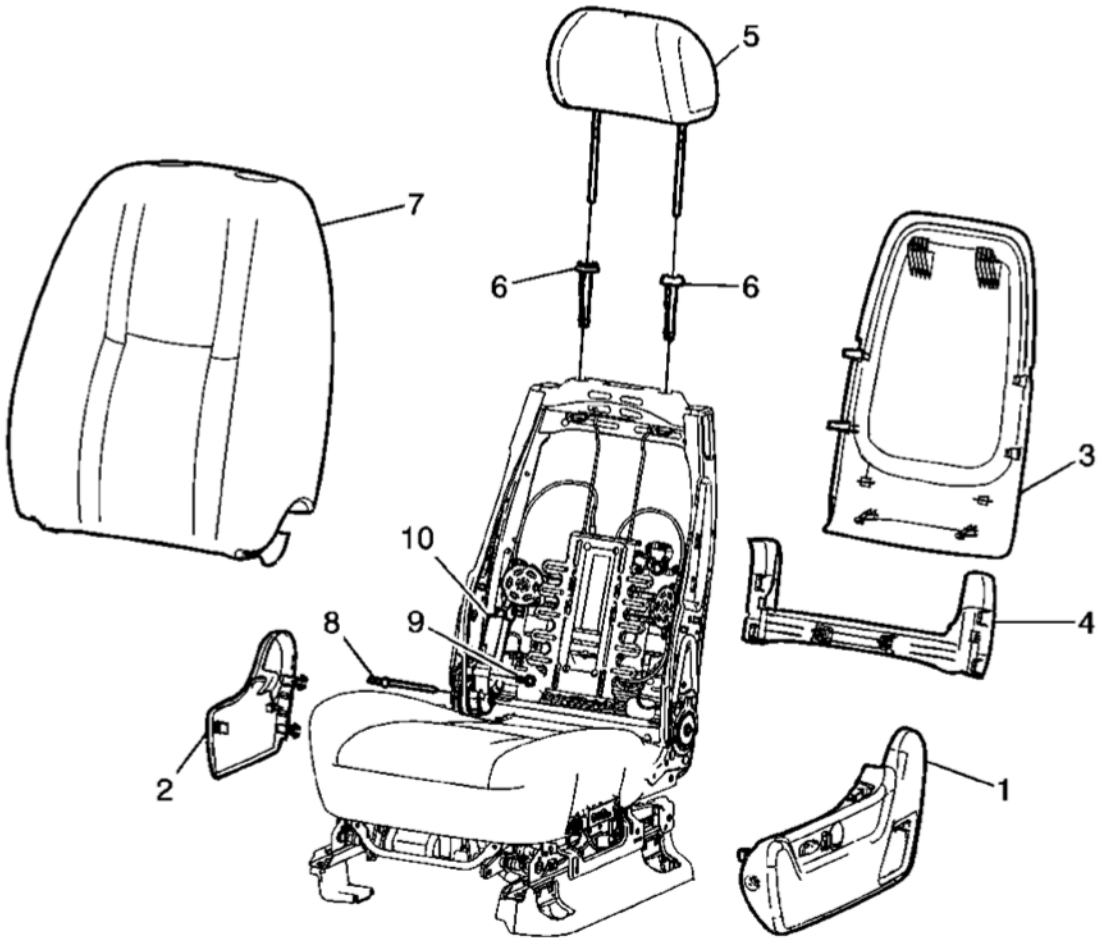


Fig. 47: View Of Front Seat Recliner Motor & Components
Courtesy of GENERAL MOTORS CORP.

Power Recliner Motor Replacement - Front Seat

Callout	Component Name
Preliminary Procedure: Remove the front seat. Refer to **Front Seat Replacement - Bucket** .	
1	Front Seat Adjuster Outer Finish Cover Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (Manual)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (Power)** .
2	Front Seat Adjuster Inner Finish Cover Refer to **Seat Cushion Inner Trim Panel Replacement - Front** .
3	Front Seat Back Cushion Finish Panel **Tip:** Using a nylon flat-bladed tool, push the tabs in on the side of the panel to release from the seat back to remove.
4	Front Seat Riser Finish Cover **Tip:** Pull rearward to disengage the cover from the seat riser.
	Front Seat Head Restraint Assembly

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5	**Tip:** 1. Depress the button on the inboard head restraint guide to raise the head restraint to the full up position. 2. Insert a small diameter tool into the hole on the inboard side of the outboard head restraint guide and pull upward to remove.
6	Front Seat Head Restraint Guide (Qty: 2) **Tip:** Squeeze the bottom of the guide together and push up to remove from the seat back.
7	Seat Back Cushion Cover and Pad Refer to **Front Seat Back Cover and Cushion Pad Replacement** .
8	Seat Recliner Shaft **Tip:** • Remove the recliner on the on the same side as the recliner motor. Refer to **Front Seat Back Hinge and Recliner Mechanism Replacement** . • Remove only the recliner shaft on the side of the recliner motor. • Do NOT rotate the recliner motor or seat back.
9	Front Seat Recliner Motor Bolt **NOTE:** **Refer to Fastener Notice .** **Tighten:** 10 N.m (89 lb in)
10	Front Seat Recliner Motor **Tip:** 1. Reinstall the recliner, tighten the recliner to seat back frame and recliner to seat cushion frame bolts to ensure the inner and outer recliners remain aligned. 2. Adjust the recliner motor when installing to ensure correct alignment.

REAR SEAT RECLINER SWITCH REPLACEMENT - OVERHEAD CONSOLE

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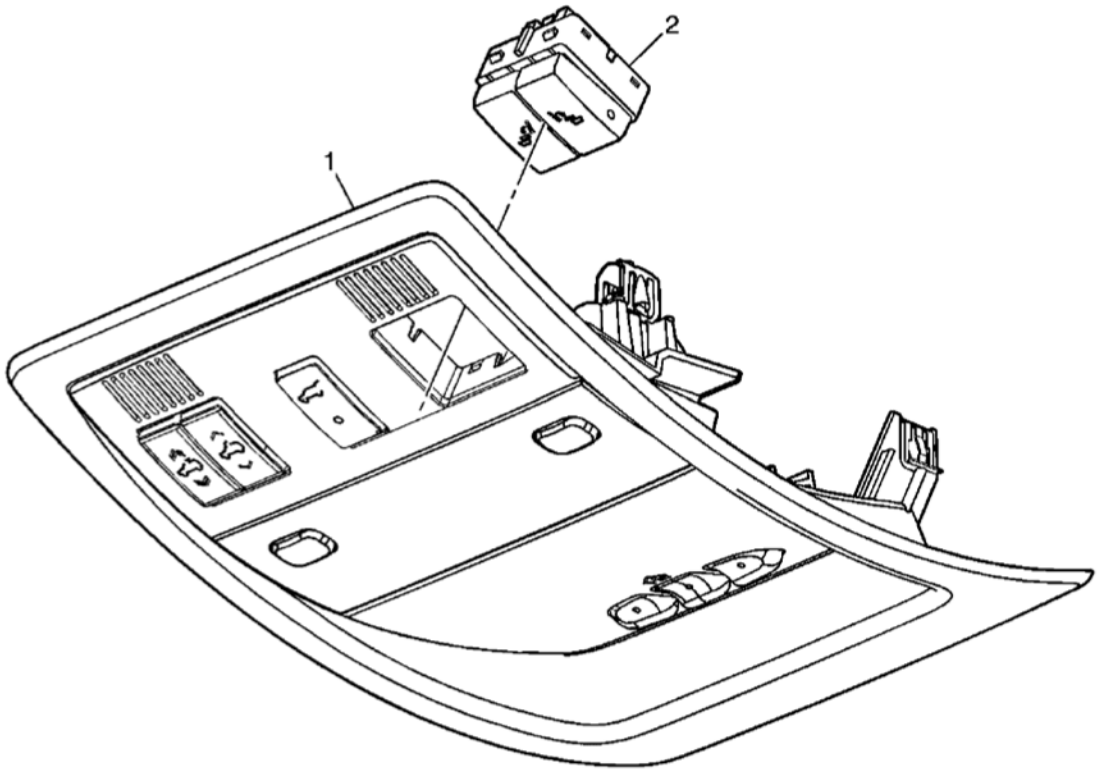


Fig. 48: View Of Roof Console Assembly & Rear Seat No. 2 Folding Actuator Switch Assembly
Courtesy of GENERAL MOTORS CORP.

Rear Seat Recliner Switch Replacement - Overhead Console

Callout	Component Name
Fastener Tightening Specifications: Refer to **Fastener Tightening Specifications**.	
1	Roof Console Assembly Refer to **Roof Console Replacement** .
2	Rear Seat #2 Folding Actuator Switch Assembly **Tip:** Disconnect the electrical connector.

REAR SEAT RECLINER SWITCH REPLACEMENT - LOCK PILLAR TRIM

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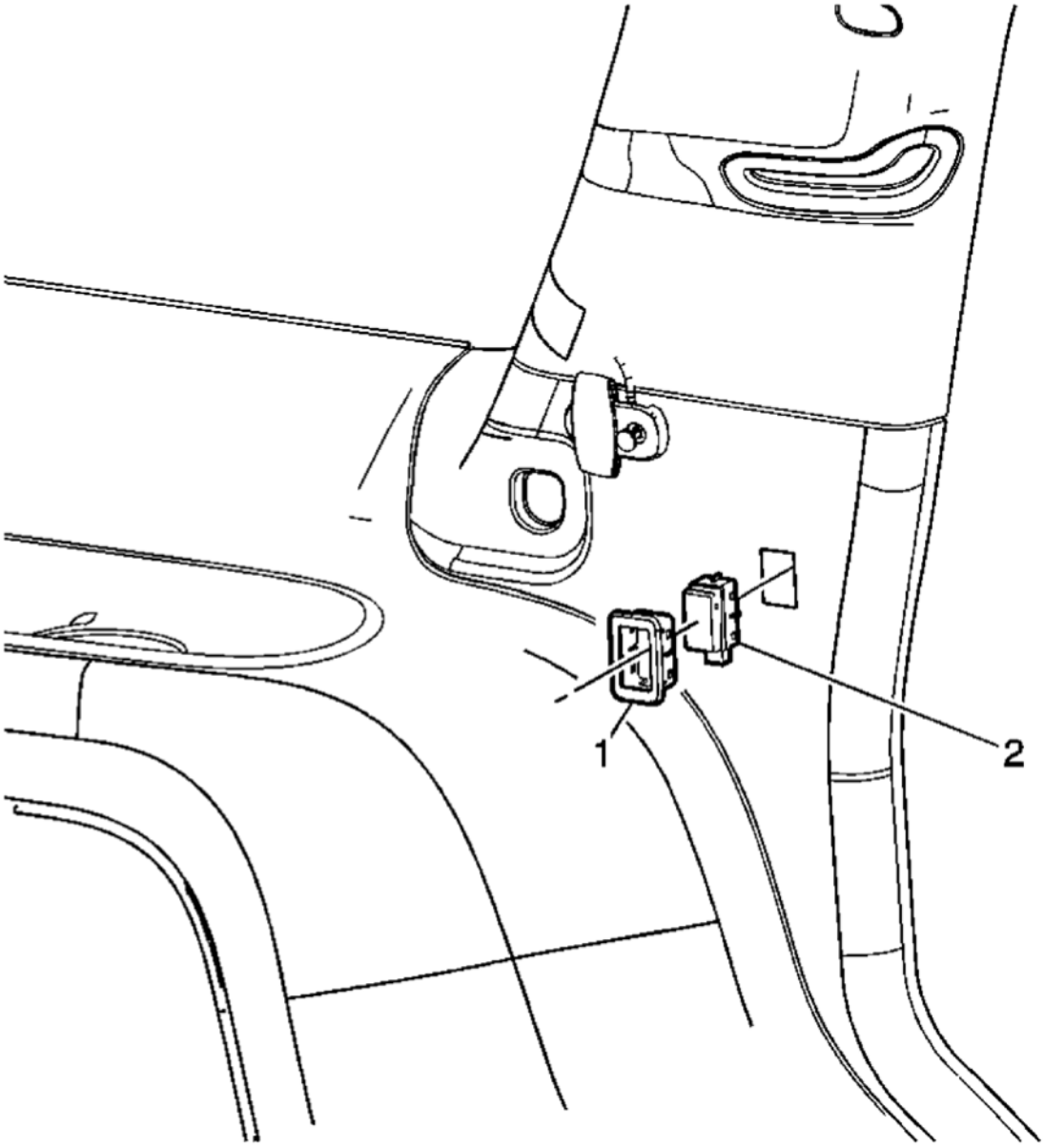


Fig. 49: View Of Rear Seat No. 1 Folding Actuator Switch Assembly & Bezel
Courtesy of GENERAL MOTORS CORP.

Rear Seat Recliner Switch Replacement - Lock Pillar Trim

Callout	Component Name
1	Rear Seat No. 1 Folding Actuator Switch Bezel **Tip:** Pull away from the lock pillar to release.
2	Rear Seat No. 1 Folding Actuator Switch Assembly **Tip:** Disconnect the electrical connector and separate from the bezel to replace.

REAR SEAT RECLINER ACTUATOR REPLACEMENT (WITH BUCKET SEAT)

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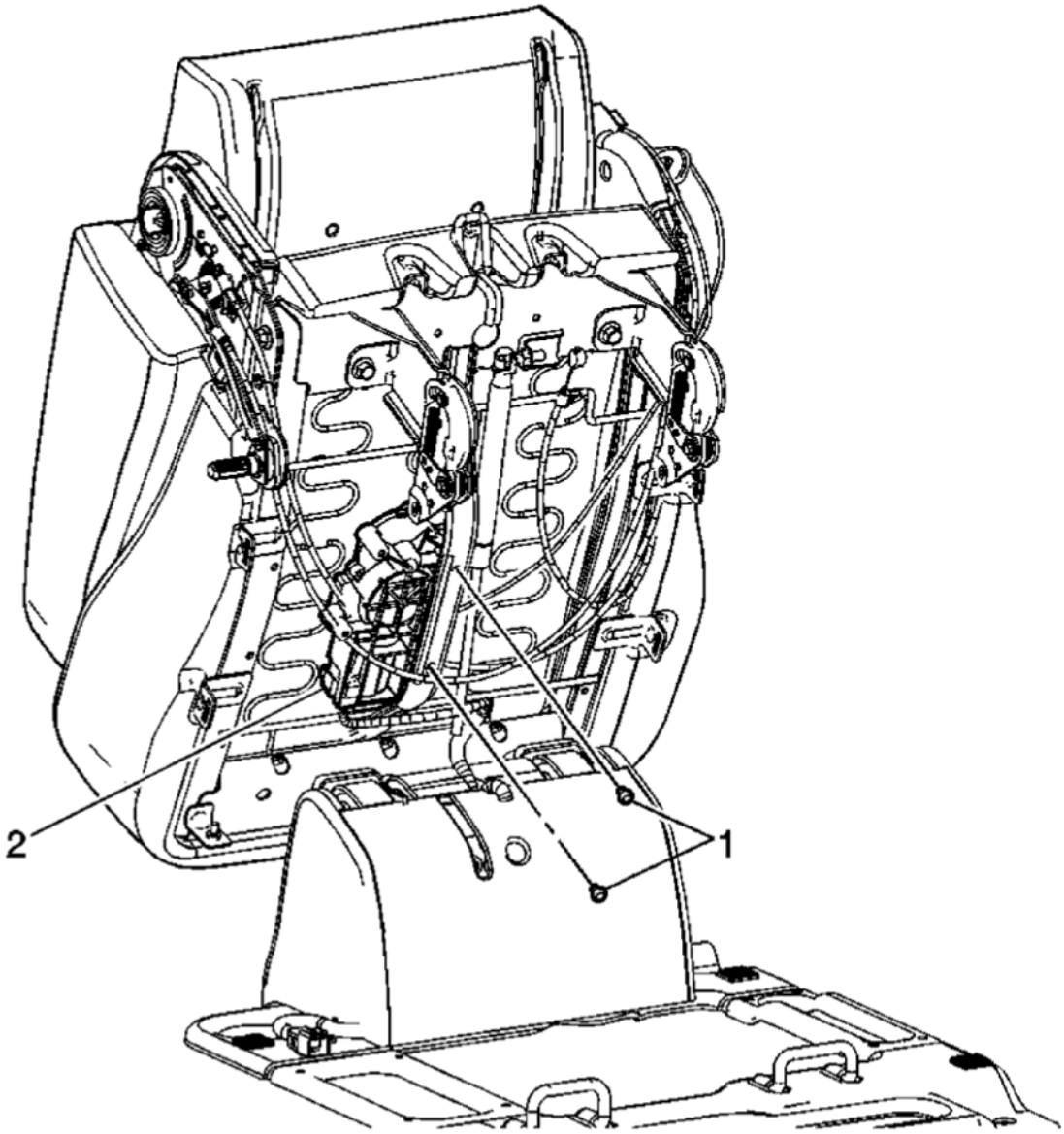


Fig. 50: View Of Rear Seat Recliner Actuator Assembly
Courtesy of GENERAL MOTORS CORP.

Rear Seat Recliner Actuator Replacement (with Bucket Seat)

Callout	Component Name
NOTE: **Refer to Fastener Notice .** **Fastener Tightening Specifications:** Refer to **Fastener Tightening Specifications**. **Preliminary Procedures**	

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	1. Fold the seat forward. 2. Remove the rear seat cushion trim panel. Refer to **Seat Cushion Trim Panel Replacement - Rear No.1 (Avalanche/Escalade EXT)** or **Seat Cushion Trim Panel Replacement - Rear No.1 (Tahoe/Yukon/Escalade with Bucket)** or **Seat Cushion Trim Panel Replacement - Rear No.1 (Tahoe/Yukon/Escalade with Split Bench)** .
1	Rear Seat Recliner Actuator Screw (Qty: 2) **Tighten:** 3 N.m (25 lb in)
2	Rear Seat Recliner Actuator Assembly **Tip:** 1. Disconnect the electrical connector. 2. Disconnect the actuator cable assembly.

REAR SEAT RECLINER ACTUATOR REPLACEMENT (WITH SPLIT BENCH SEAT)

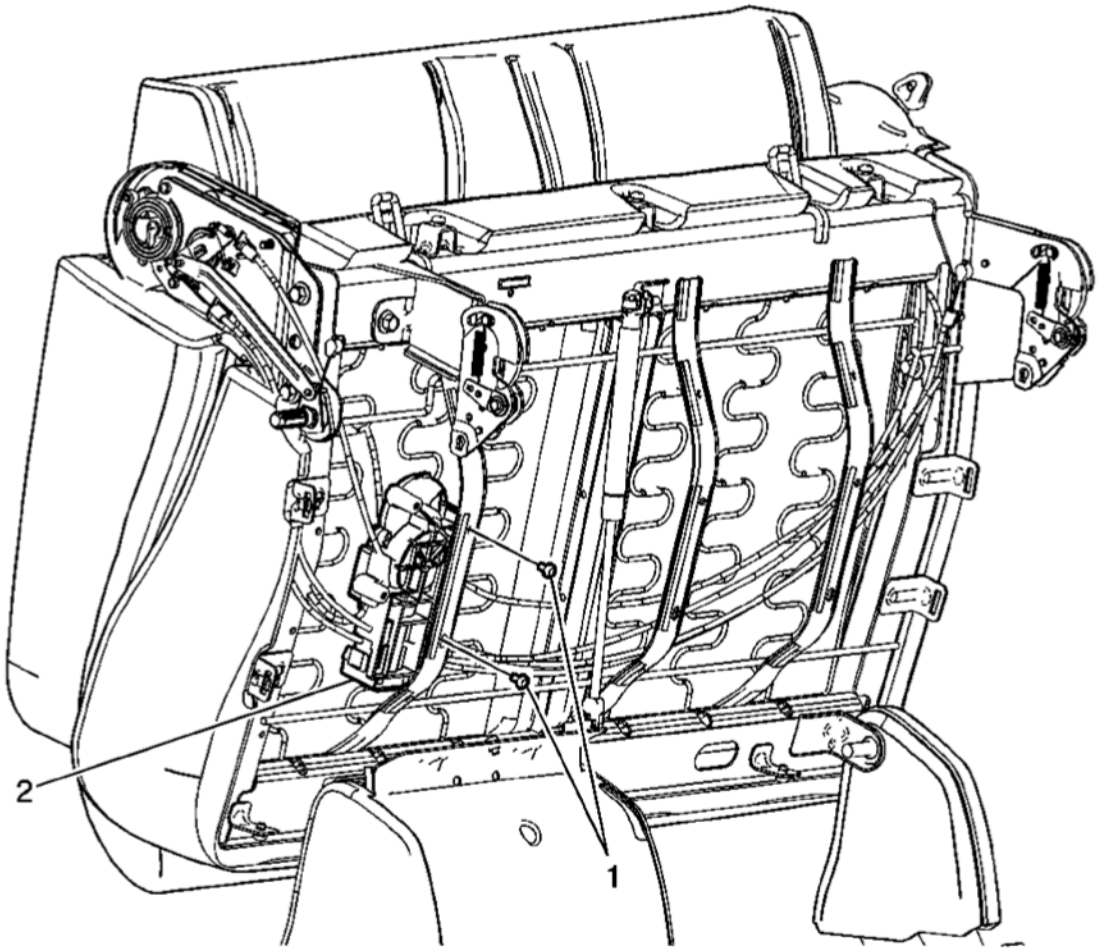


Fig. 51: View Of Rear Seat Recliner Actuator Assembly & Screws

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Courtesy of GENERAL MOTORS CORP.

Rear Seat Recliner Actuator Replacement (with Split Bench Seat)

Callout	Component Name
NOTE: **Refer to Fastener Notice .** **Fastener Tightening Specifications:** Refer to **Fastener Tightening Specifications**. **Preliminary Procedures** 1. Fold the seat forward. 2. Remove the rear seat cushion trim panel. Refer to **Seat Cushion Trim Panel Replacement - Rear No.1 (Avalanche/Escalade EXT)** or **Seat Cushion Trim Panel Replacement - Rear No.1 (Tahoe/Yukon/Escalade with Bucket)** or **Seat Cushion Trim Panel Replacement - Rear No.1 (Tahoe/Yukon/Escalade with Split Bench)** . **Tip:** The 60 percent seat is shown, the 40 percent seat is similar.	
1	Rear Seat Recliner Actuator Screw (Qty: 2) **Tighten:** 3 N.m (25 lb in)
2	Rear Seat Recliner Actuator Assembly **Tip:** 1. Disconnect the electrical connector. 2. Disconnect the actuator cable assembly.

DESCRIPTION AND OPERATION

MEMORY SEATS DESCRIPTION AND OPERATION

Battery voltage is supplied to the driver seat module through a 25 A circuit breaker. The driver seat module supplies the seat adjuster switch assembly with a battery positive reference voltage. While the seat adjuster switches are in an inactive state the switch contacts are closed to the adjuster switch common circuit. When a seat adjuster switch is pressed to an active state the switch contact is closed to the reference voltage circuit. Battery voltage on a switch signal circuit indicates to the driver seat module the switch status is active. Each seat adjuster motor is controlled by the driver seat module through 2 motor control circuits. While the seat adjuster motors are in an inactive state the motor control circuits are closed to ground circuit contacts within the driver seat module. The driver seat module operates the seat adjuster motors by switching one of a motors control circuits to battery voltage. The seat adjuster motors are bidirectional and the direction of adjuster motor rotation is determined by which of the adjuster motor control circuits is switched to battery voltage while the other remains grounded.

Memory Set/Recall Operation

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The seat adjuster motors are equipped with internal position sensors. The adjuster motor position sensors are monitored by the driver seat module and are used to determine the seat position when storing or recalling memory settings. The driver seat adjuster motors use potentiometer type position sensors. The position sensors are supplied with a 5-volt positive reference and ground circuits from the driver seat module. The position sensor signal circuits return to an analog input within the driver seat module. During adjuster motor operation the position sensor provides a voltage change proportional to the change in revolution of the adjuster motor shaft. The driver seat module monitors the voltage from the position sensor signal circuits to determine the adjuster motor positions when storing or recalling memory seat position settings.

The memory recall switch assembly on the driver door provides inputs to the driver door module. Battery voltage is supplied to the memory recall switch assembly from the driver door module. When a RCL 1, RCL 2, or EXIT switch is pressed, the switch contacts close the appropriate switch signal circuit to the battery voltage supply circuit within the memory recall switch assembly. When the driver door module receives active switch signals from the memory recall switch assembly, the appropriate commands are sent to the driver seat module using the GMLAN Serial Data circuit. The Body Control Module software version determines the personalization features available.

Memory seat recall operation is allowed only with the transmission selector lever in the PARK position while the ignition is on. The transmission selector lever position data is provided to the driver seat module by a message through the GMLAN Serial Data circuit.

POWER SEATS SYSTEM DESCRIPTION AND OPERATION (FRONT)

There are 2 options of power seat systems available in full size trucks. The first is 6 way driver and passenger power seats without memory. The second is an 8-way driver seat plus 4-way lumbar with memory, heat and optional cool function. While the passenger has 8-way power seats with heat and optional cool function. For the driver memory seat operation, refer to **Memory Seats Description and Operation**. Power seats without memory are completely controlled through the power seat switch. Battery voltage is supplied to the power seat switch through the power seat circuit breaker. While the seat adjuster switches are in an inactive state the switch contacts are closed to the power seat switch ground circuit. When a power seat switch is pressed to an active state the switch contact is closed to the battery voltage supply circuit. Each seat adjuster motor is controlled by the power seat switch through 2 motor control circuits. The seat adjuster motors are bidirectional and the direction of adjuster motor rotation is determined by which of the adjuster motor control circuits is switched to battery voltage while the other remains grounded.

POWER SEATS SYSTEM DESCRIPTION AND OPERATION (REAR FOLDING)

The power fold and tumble second row seats are operated from the power fold switches in the overhead console or the rear switches on the panels behind the rear doors. Voltage to the power fold switches is supplied through the park enable relay while in a de-energized state. The park enable relay is controlled by the BCM through a high side drive control circuit and will be energized whenever the ignition is in the accessory, run, or crank positions and the transmission is not in park. The folding seat motors are supplied battery voltage from the REAR SEAT 20A fuse and grounded at the B pillars. When a folding seat switch is pressed battery voltage is applied the switch signal circuit causing the power fold motor to initiate the power fold cycle.

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