

SECTION 9J

SUPPLEMENTAL INFLATABLE RESTRAINT (SIR) SYSTEM

CAUTION: This vehicle is equipped with Supplemental Inflatable Restraint (SIR). Refer to **CAUTIONS** in this section under "ON-VEHICLE SERVICE" and the SIR Component and Wiring Location view in this section before performing service on or around SIR components or wiring. Failure to follow **CAUTIONS** could result in possible air bag deployment, personal injury, or otherwise unneeded SIR system repairs.

NOTICE: When fasteners are removed, always reinstall them at the same location from which they were removed. If a fastener needs to be replaced, use the correct part number fastener for that application. If the correct part number fastener is not available, a fastener of equal size and strength (or stronger) may be used. Fasteners that are not reused, and those requiring thread-locking compound will be called out. The correct torque value must be used when installing fasteners that require it. If the above conditions are not followed, parts or system damage could result.

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GENERAL DESCRIPTION

RESTRAINT DEVICES

Figures 1 and 2

The Supplemental Inflatable Restraint (SIR) system helps supplement the protection offered by the driver and front passenger seat belts by deploying an air bag from the center of the steering wheel and from the top of the right side of the instrument panel (Figure 1).

The air bag deploys when the vehicle is involved in a frontal crash of sufficient force up to 30 degrees off the centerline of the vehicle (Figure 2). To further absorb the crash energy there is a knee bolster located beneath the instrument panel for both the driver and passenger and the steering column is collapsible.

SYSTEM DESCRIPTION

Figure 3

The main portions of the SIR system are the deployment loops and the Diagnostic Energy Reserve Module (DERM).

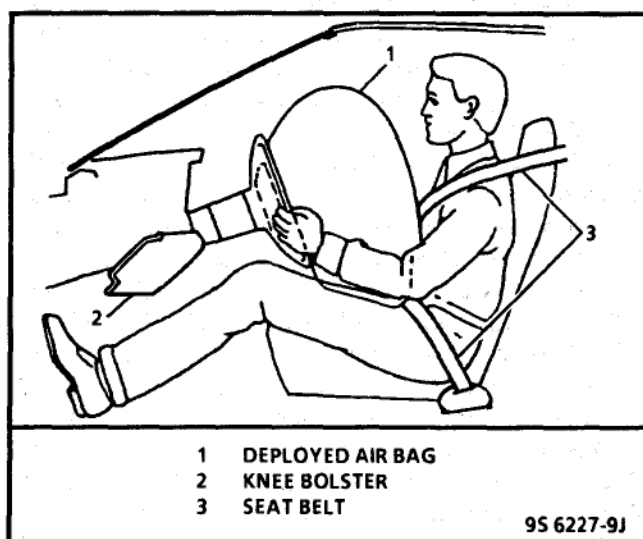


Figure 1 - Restraint Devices

The main function of the deployment loops is to supply current through the inflator modules, which will cause deployment of the air bags in the event of a frontal crash of sufficient force, up to 30 degrees off the centerline of the vehicle.

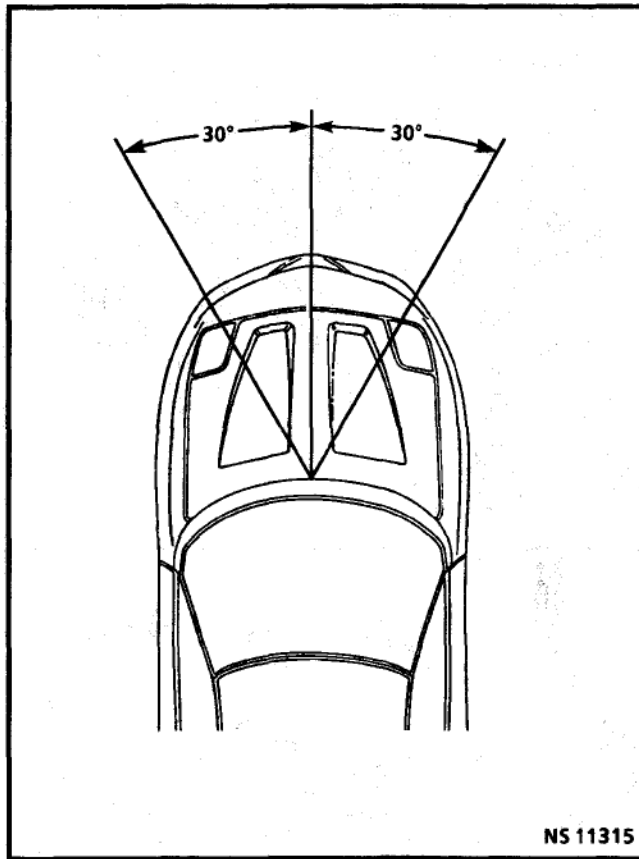


Figure 2 - SIR System "Deployment Window"

The dual pole arming sensor, SIR coil assembly (driver side only), inflator modules, passenger compartment discriminating sensor and forward discriminating sensor make up the deployment loops. The dual pole arming sensor switches power to the inflator modules on the high side (power side) of the deployment loops. Either of the discriminating sensors can supply ground to the inflator modules on the low side (ground side) of the loops. The inflator modules are only supplied sufficient current to deploy when the dual pole arming sensor and at least one of the discriminating sensors are closed simultaneously.

A function of the DERM is to supply the deployment loops with a 36 Volt Loop Reserve (36 VLR) to ensure sufficient energy to deploy the air bags if the ignition feed to the dual pole arming sensor is lost during a frontal crash.

Another function of the DERM is electrical system diagnostics. The DERM monitors the deployment loops in conjunction with the resistors in the dual pole arming sensor, passenger compartment discriminating sensor and forward discriminating sensor. These resistors make it possible for the DERM to detect circuit and component malfunctions within the deployment loops. The DERM monitors the voltage drop across each component within the loops during normal non-deployment operation.

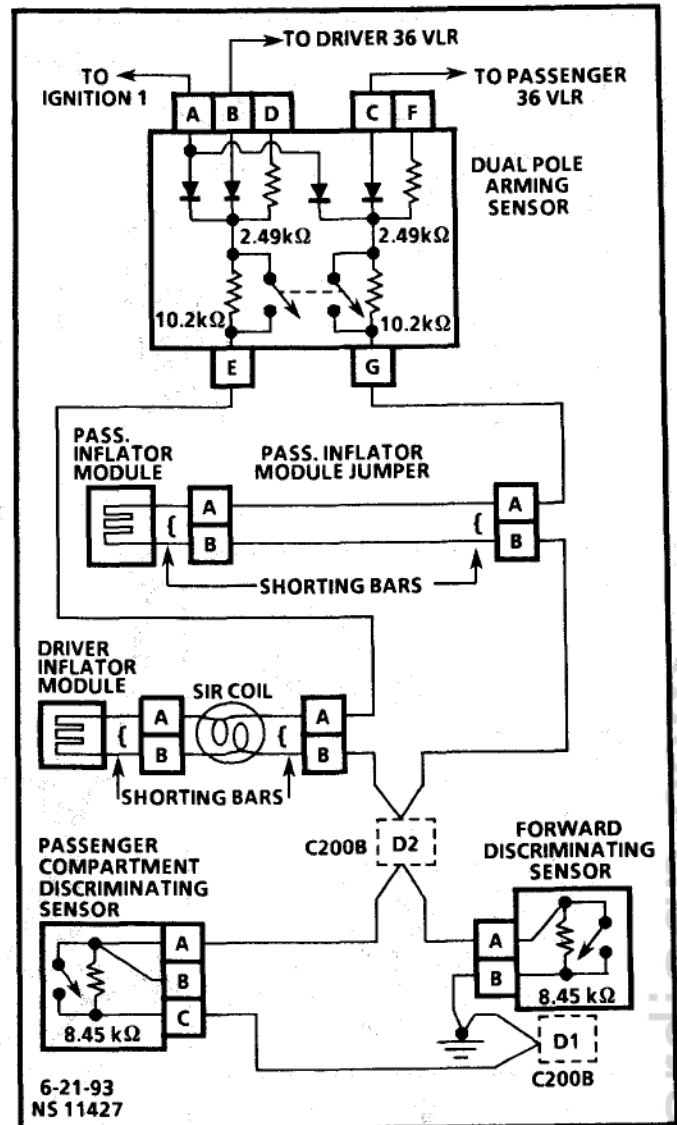


Figure 3 - Deployment Loops

If the monitored voltages fall outside of expected limits, the DERM will indicate a malfunction through the storage of a diagnostic trouble code and the illumination of the "AIR BAG" warning lamp.

COMPONENT DESCRIPTION

Figure 4

DERM

NOTICE: Do not open the DERM case for any reason. Touching the connector pins or soldered components may cause electrostatic discharge damage. Repair of a malfunctioning DERM is by replacement only.

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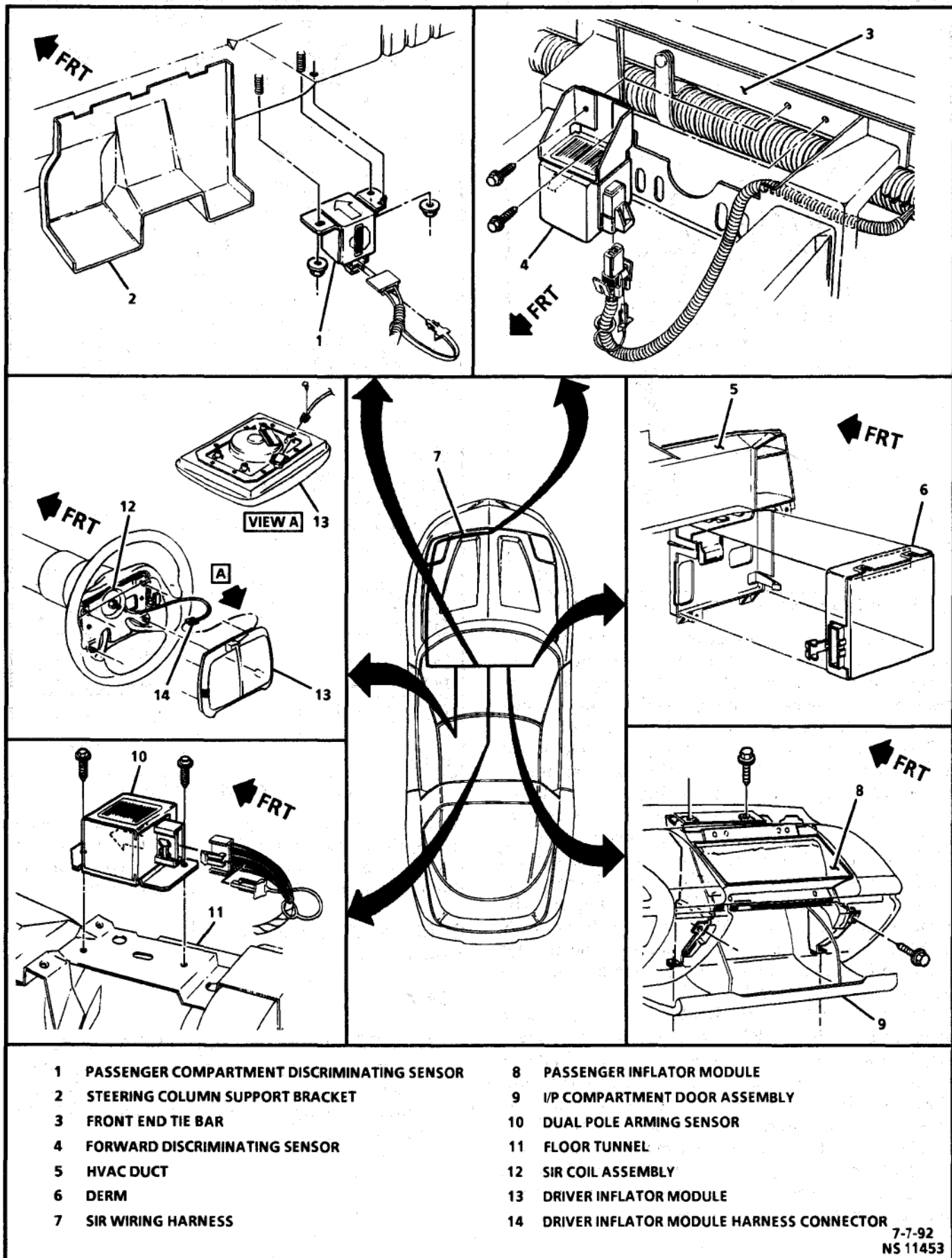


Figure 4 - SIR Component and Wiring Location View

The DERM is designed to perform the following functions in the SIR system:

1. **Energy Reserve** - The DERM maintains two 36 Volt Loop Reserve (36 VLR) energy supplies to provide deployment energy when the vehicle voltage is low or lost in a frontal crash.
2. **Malfunction Detection** - The DERM performs diagnostic monitoring of SIR system electrical components.
3. **Malfunction Recording** - The DERM provides SIR system diagnostic trouble code information through a scan tool.
4. **Driver Notification** - The DERM warns the vehicle driver of SIR system malfunctions by controlling the "AIR BAG" warning lamp.
5. **Frontal Crash Recording** - The DERM records the SIR system status during a frontal crash.

The DERM is connected to the SIR wiring harness by a 24-way connector. This harness connector uses a shorting bar across certain terminals in the contact area. This shorting bar connects the "AIR BAG" warning lamp to ground when the DERM harness connector is disconnected. This will cause the "AIR BAG" warning lamp to come "ON" steady whenever the ignition switch is at the RUN, BULB TEST or START positions with the DERM disconnected.

"AIR BAG" Warning Lamp

Ignition voltage is applied to the "AIR BAG" warning lamp when the ignition switch is at the RUN, BULB TEST or START positions. The DERM controls the lamp by providing ground with a lamp driver. The "AIR BAG" warning lamp is used in the SIR system to do the following:

1. Verify lamp and DERM operation by flashing seven times when the ignition switch is first turned "ON."
2. Warn the vehicle driver of SIR electrical system malfunctions which could potentially affect the operation of the SIR system. These malfunctions could result in non-deployment in case of a frontal crash or deployment for conditions less severe than intended.

The "AIR BAG" warning lamp is the key to driver notification of SIR system malfunctions. For proper lamp operation, refer to the "SIR Diagnostic System Check" in this section.

Dual Pole Arming Sensor

The dual pole arming sensor is a protective switch located in the high side (power side) of the deployment loops. The dual pole arming sensor is calibrated to close at low level velocity changes (lower than the discriminating sensors).

This ensures that the inflator modules are connected directly to the "36 VLR" outputs of the DERM or "Ignition 1" voltage when any discriminating sensor closes.

The dual pole arming sensor consists of: a sensing element, two sets of normally open switch contacts, diagnostic resistors and diodes. The sensing element closes both sets of switch contacts when the velocity of the vehicle changes at a rate indicating a potential need for deployment.

Two of the diagnostic resistors are connected in parallel with the switch contacts. This allows a small amount of current to flow through each of the deployment loops during normal, non-deployment operation. This current flow results in voltage drops across each component in the deployment loops. The DERM monitors these voltage drops to detect circuit or component malfunctions. There are two additional diagnostic resistors within the dual pole arming sensor which allow the DERM to monitor the voltage supplied to the high side of the deployment loops. These monitored voltages are used by the diagnostic logic of the DERM to make a more precise determination of the actual deployment loop malfunction.

The diodes within the dual pole arming sensor provide isolation between the "36 VLR" outputs of the DERM and the vehicle electrical system "Ignition 1" voltage. The presence of the diodes prevents a direct continuity measurement through the dual pole arming sensor resistors to terminals "A", "B" or "C".

Discriminating Sensors

The discriminating sensors are protective switches wired in parallel on the low side (ground side) of the deployment loops. These sensors are calibrated to close with velocity changes which are severe enough to warrant deployment.

The discriminating sensors consist of a sensing element and normally open switch contacts. The sensing element closes the switch contacts when the vehicle velocity changes are severe enough to warrant deployment.

A diagnostic resistor is connected in parallel with the switch contacts within the passenger compartment discriminating sensor and forward discriminating sensor. These parallel resistors supply the ground path for the current passing through the deployment loops during normal, non-deployment operation. This current flow results in voltage drops across each component within the deployment loops. The DERM monitors these voltage drops to detect circuit or component malfunctions.

SIR Coil Assembly Figure 5

The SIR coil assembly consists of two current carrying coils. They are attached to the steering column and allow rotation of the steering wheel while maintaining continuous contact of the driver deployment loop to the driver inflator module.

There is a shorting bar on the yellow 2-way connector near the base of the steering column which connects the SIR coil to the SIR wiring harness. The shorting bar shorts the circuits to the SIR coil and driver inflator module when the yellow 2-way connector is disconnected. The circuit to the driver inflator module is shorted in this way to help prevent unwanted deployment of the air bag when servicing the steering column or other SIR system components.

Inflator Modules Figures 6 and 7

The inflator modules consist of an inflatable bag and an inflator (a canister of gas-generating material and an initiating device). When the vehicle is in a frontal crash of sufficient force to close the dual pole arming sensor and at least one of the discriminating sensors simultaneously, current flows through the deployment loops. Current passing through the initiator ignites the material in the inflator module. The gas produced from this reaction rapidly inflates the air bag.

There is a shorting bar on the driver inflator module side of the upper steering column connector which connects the SIR coil assembly to the driver inflator module. The shorting bar shorts across the driver inflator module circuits when the upper steering column connector is disconnected. The circuit to the driver inflator module is shorted in this way to help prevent unwanted deployment of the air bag when servicing the driver inflator module, the steering column or other SIR system components.

There is a shorting bar on the passenger inflator module connector which connects to the passenger inflator module jumper. The shorting bar shorts across the passenger inflator module circuit when the passenger inflator module connector is disconnected. The circuit to the passenger inflator module is shorted in this way to help prevent unwanted deployment of the air bag when servicing the passenger inflator module, the instrument panel or other SIR system components.

Steering Column

The steering column is energy absorbing and is designed to compress in a frontal crash to decrease the chance of injury to the driver. A steering column reinforcement is also used for additional support.

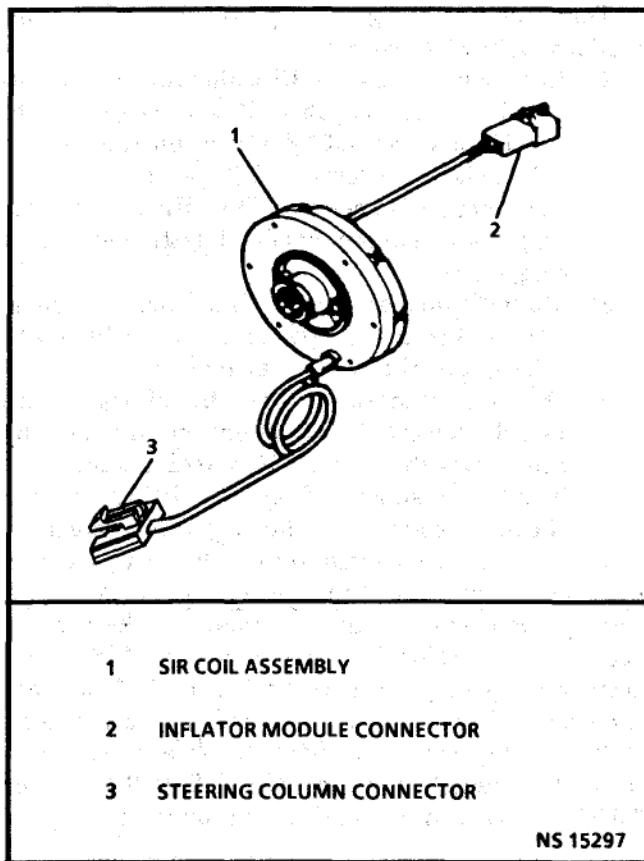


Figure 5 - SIR Coil Assembly

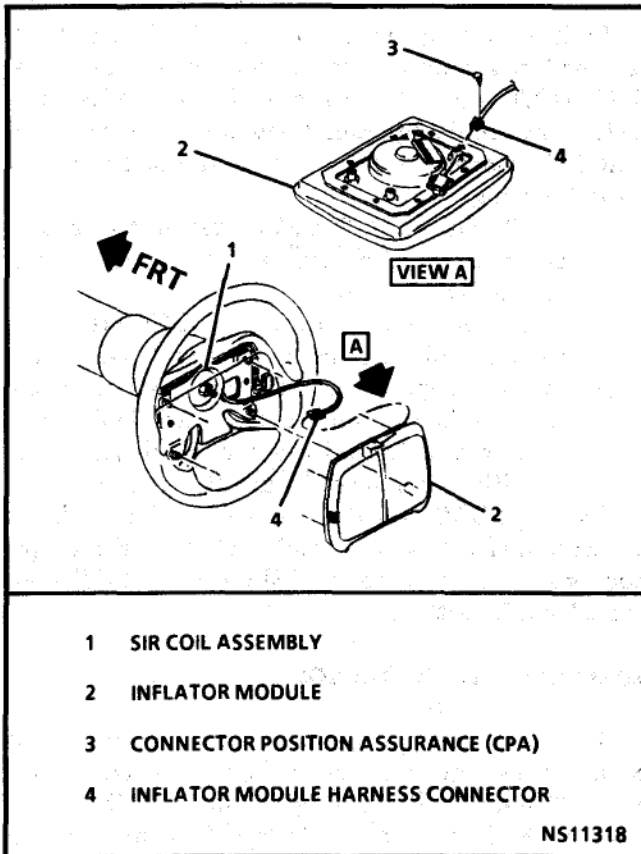


Figure 6A - Driver Inflator Module (Camaro)

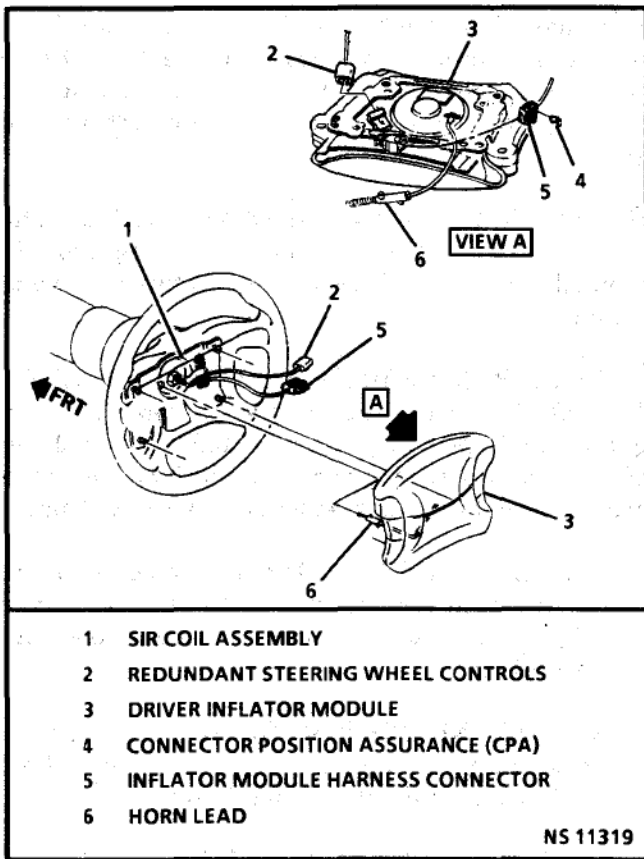


Figure 6B - Driver Inflator Module (Firebird)

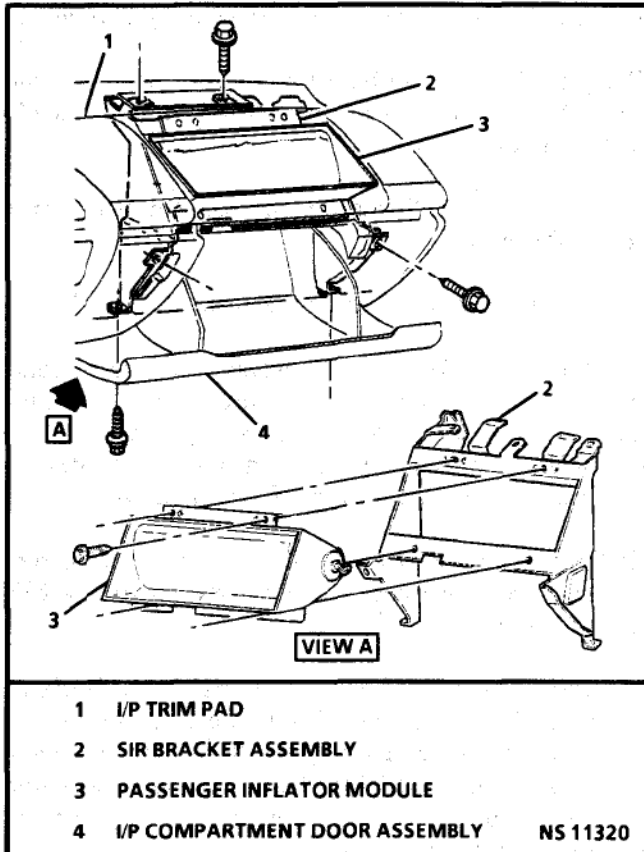


Figure 7 - Passenger Inflator Module

Knee Bolster

The knee bolsters are used to absorb energy and control the forward movement of the vehicle's front seat occupants during a frontal crash, by limiting leg movement.

DEFINITIONS:

AIR BAG - An inflatable cloth cushion designed to deploy in certain frontal crashes. It supplements the protection offered by the seat belts by distributing the impact load more evenly over the vehicle occupant's head and torso.

ASYNCHRONOUS - Performed in a non-periodic fashion, i.e. no defined time or interval.

B+ - Battery voltage, the voltage available at the battery at the time of the indicated measurement. With the key "ON" and the engine not running, the system voltage will likely be between 12 and 12.5 volts. At idle the voltage may be 14 to 16 volts. The voltage could be as low as 10 volts during engine cranking.

BULB CHECK - The DERM will cause the "AIR BAG" warning lamp to flash seven times and then go "OFF" whenever the ignition switch transitions to the RUN position from any other ignition switch position and no malfunctions are detected.

"CONTINUOUS MONITORING" - Tests performed by the DERM on the SIR system every 100 milliseconds while "Ignition 1" voltage is in the normal operating voltage range at the DERM.

DATA LINK CONNECTOR (DLC) - Formerly "ALDL", a connector which is connected by wires to multiple on-board computers allowing communication with an off-board computer, such as a scan tool.

DATUM LINE - A base line parallel to the plane of the underbody or frame from which all vertical measurements originate.

DEPLOY - To inflate the air bag.

DEPLOYMENT LOOPS - The circuits which supply current to the inflator modules to deploy the air bags.

DERM - Diagnostic energy reserve module which provides reserve energy to the deployment loops and performs diagnostic monitoring of all SIR system components.

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DIAGNOSTIC TROUBLE CODE (DTC) - Formerly "Code," a numerical designator used by the DERM to indicate specific SIR system malfunctions.

DRIVER CURRENT SOURCE - An output of the DERM which injects current into the driver inflator module circuit during the "Initiator Assembly Resistance Test."

DRIVER INFLATOR MODULE - An assembly located in the steering wheel hub consisting of an inflatable bag, an inflator and an initiator.

DUAL POLE ARMING SENSOR - A sensor on the high side (power side) of the deployment loops that is calibrated to supply voltage to the inflator modules when the vehicle velocity changes are severe enough to warrant arming of the air bags in preparation for deployment.

EEPROM - Electrically Erasable Programmable Read Only Memory. Memory which retains its contents when power is removed from the DERM.

FORWARD DISCRIMINATING SENSOR - A sensor on the low side (ground side) of the deployment loops which is calibrated to ground the inflator modules when the vehicle velocity changes are severe enough to warrant deployment of the air bags.

HIGHER PRIORITY FAULT - Each diagnostic trouble code is assigned a priority based on the detectability with other DTCs present. The priority corresponds to the detectability of the malfunction ONLY, and does NOT relate to the criticality of the malfunction with respect to deployment or non-deployment under any given condition.

IGNITION CYCLE - The voltage at the DERM "Ignition 1" inputs, with ignition switch "ON," is within the normal operating voltage range for at least ten seconds before turning ignition switch "OFF."

IGNITION 1 - A battery voltage (B+) circuit which is only powered with the ignition switch in the RUN, BULB TEST, or START positions.

INITIATOR - The electrical component inside the inflator module which, when sufficient current flows, sets off the chemical reaction that inflates the air bag.

"INITIATOR ASSEMBLY RESISTANCE TEST" - Tests performed once each ignition cycle when no malfunctions are detected during "Turn-ON" or "Continuous Monitoring." This test checks for the correct DERM configuration for the vehicle, shorts to "Ignition 1" in the deployment loops, high resistance or opens in the "Driver Side High," "Driver Side Low,"

"Passenger Side High" and "Passenger Side Low" circuits and measures the resistance of the inflator assembly consisting of: 1) Initiators, 2) SIR coil assembly (driver side only), 3) Connectors and associated wiring.

NORMAL OPERATING VOLTAGE RANGE - The voltage measured between the DERM "Ignition 1" terminals and "Ground" terminals is between 7.25 and 16 volts.

PASSENGER COMPARTMENT DISCRIMINATING SENSOR - A sensor on the low side (ground side) of the deployment loops which is calibrated to ground the inflator modules when the vehicle velocity changes are severe enough to warrant deployment of the air bags.

PASSENGER CURRENT SOURCE - An output of the DERM which injects current into the passenger inflator module circuit during the "Initiator Assembly Resistance Test."

PASSENGER INFLATOR MODULE - An assembly located in the right side of the I/P consisting of an inflatable bag, an inflator and an initiator.

PASSENGER INFLATOR MODULE JUMPER - An assembly of two current carrying wires which connects the passenger inflator module to the deployment loop.

SCAN TOOL - An off-board computer used to read diagnostic information from on-board computers via the data link connector.

SERIAL DATA - Information representing the status of the SIR system.

SIR - Supplemental inflatable restraint.

SIR COIL ASSEMBLY - An assembly of two current-carrying coils in the driver deployment loop that allows the rotation of the steering wheel while maintaining the continuous contact of the driver deployment loop to the driver inflator module.

SIR WIRING HARNESS - The wires and connectors that electrically connect the components in the SIR system.

"10 MINUTE LOOP TEST" - Portions of the "Initiator Assembly Resistance Test" are repeated every ten minutes during an ignition cycle. These are the check for shorts to "Ignition 1" in the deployment loops and the check for an open discriminating sensor interconnect circuit.

"TURN-ON" - Test which the DERM performs on the SIR system once during each ignition cycle immediately after "Ignition 1" voltage is applied to the DERM and before "Continuous Monitoring."

36 VLR - The 36 volt loop reserve energy supplies from the DERM which provide deployment power when vehicle voltage is low or lost in a frontal crash.

36 VLR DELAY - Charging of the 36 VLR power supplies is inhibited briefly during "Turn-ON." This allows detection of certain malfunctions related to "Ignition 1" voltage which cannot be tested with 36 volts present.

DIAGNOSIS

CAUTION: To avoid deployment when troubleshooting the SIR system, do not use electrical test equipment such as a battery powered or ac powered voltmeter, ohmmeter, etc., or any type of electrical equipment other than that specified in this manual. Do not use a non-powered probe type tester. Instructions in this manual must be followed carefully, otherwise personal injury may result.

DIAGNOSTIC TROUBLE CODES

The "SIR Diagnostic System Check" must always be the starting point of any SIR system diagnosis. The "SIR Diagnostic System Check" checks for proper "AIR BAG" warning lamp operation and checks for SIR diagnostic trouble codes using the scan tool.

1. Current diagnostic trouble codes - Malfunctions that are presently being detected. Current diagnostic trouble codes are stored in RAM (Random Access Memory).
2. History diagnostic trouble codes - All malfunctions detected since the last time the history memory was cleared. History diagnostic trouble codes are stored in EEPROM.

Scan Tool Diagnostics

A scan tool is used to read current and history diagnostic trouble codes and to clear all diagnostic trouble codes after a repair is completed. The scan tool must be updated to communicate with the SIR system through a replaceable cartridge before it can be used for SIR diagnostics. To use the scan tool, connect it to the data link connector and turn the ignition switch "ON." The scan tool reads serial data from the DERM "Serial Data" line terminal "B11" to the data link connector terminal "M".

USE OF SPECIAL TOOLS

CAUTION: To avoid deployment when troubleshooting the SIR system, do not use electrical test equipment such as a battery powered or ac powered voltmeter, ohmmeter, etc., or any type of electrical equipment other than that specified in this manual. Do not use a non-powered probe type tester. Instructions in this manual must be followed carefully, otherwise personal injury may result.

You should be familiar with the tools listed in this section under the heading "SIR SPECIAL TOOLS." You should be able to measure voltage and resistance. You should be familiar with proper use of a scan tool such as the Tech 1 Diagnostic Computer TK-0, SIR Driver/Passenger Load Tool J 38715, Connector Test Adapter Kit J 35616-A, and the DVM (Digital Multimeter) J 39200.

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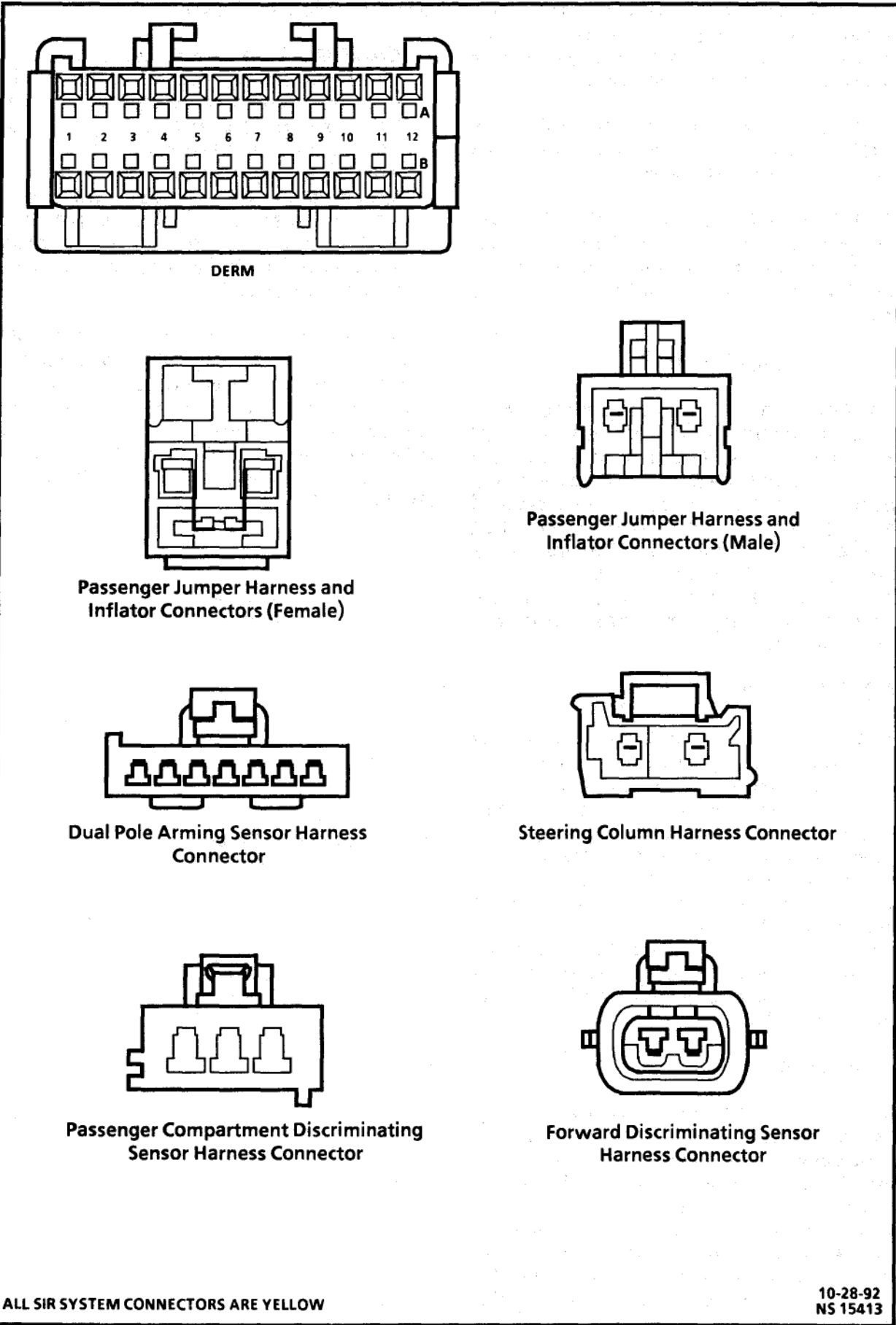


Figure 8 - SIR Connector Body Face Views

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CAUTION: To avoid deployment when troubleshooting the SIR system, do not use electrical test equipment such as a battery powered or ac powered voltmeter, ohmmeter, etc., or any type of electrical equipment other than that specified in this manual. Do not use a non-powered probe type tester. Instructions in this manual must be followed carefully, otherwise personal injury may result.

SIR DIAGNOSTIC SYSTEM CHECK

The diagnostic procedures used in this section are designed to find and repair SIR system malfunctions. To get the best results, it is important to use the diagnostic charts and follow the sequence listed below.

A. PERFORM THE "SIR DIAGNOSTIC SYSTEM CHECK."

The "SIR Diagnostic System Check" must be the starting point of any SIR diagnostics. The "SIR Diagnostic System Check" checks for proper "AIR BAG" warning lamp operation, the ability of the DERM to communicate through the "Serial Data" line and whether SIR diagnostic trouble codes exist.

B. REFER TO THE PROPER DIAGNOSTIC CHART AS DIRECTED BY THE "SIR DIAGNOSTIC SYSTEM CHECK."

The "SIR Diagnostic System Check" will lead you to the correct chart to diagnose any SIR system malfunctions. **Bypassing these procedures may result in extended diagnostic time, incorrect diagnosis and incorrect parts replacement.**

C. REPEAT THE "SIR DIAGNOSTIC SYSTEM CHECK" AFTER ANY REPAIR OR DIAGNOSTIC PROCEDURES HAVE BEEN PERFORMED.

Performing the "SIR Diagnostic System Check" after all repair or diagnostic procedures will ensure that the repair has been made correctly and that no other malfunctions exist.

CIRCUIT DESCRIPTION

When the ignition switch is first turned "ON," "Ignition 1" voltage is applied from the "SIR" fuse to the DERM at the "Ignition 1" input terminals "A9" and "A10" and from the "IGN" fuse to the DERM at the "Redundant Indicator Ignition 1" input terminal "B2". The DERM responds by flashing the "AIR BAG" warning lamp seven times while performing tests on the SIR system.

When the engine is being cranked, "Ignition 1" voltage is applied from the "CRANK" fuse to the DERM at the "Crank" input terminal "B10".

The DERM responds by grounding the "SIR Indicator" output terminal "B1" until "Ignition 1" voltage is removed from the "Crank" input. This results in the "AIR BAG" warning lamp being "ON" steady during cranking.

After cranking the DERM will flash the "AIR BAG" warning lamp six times and perform tests on the SIR system.

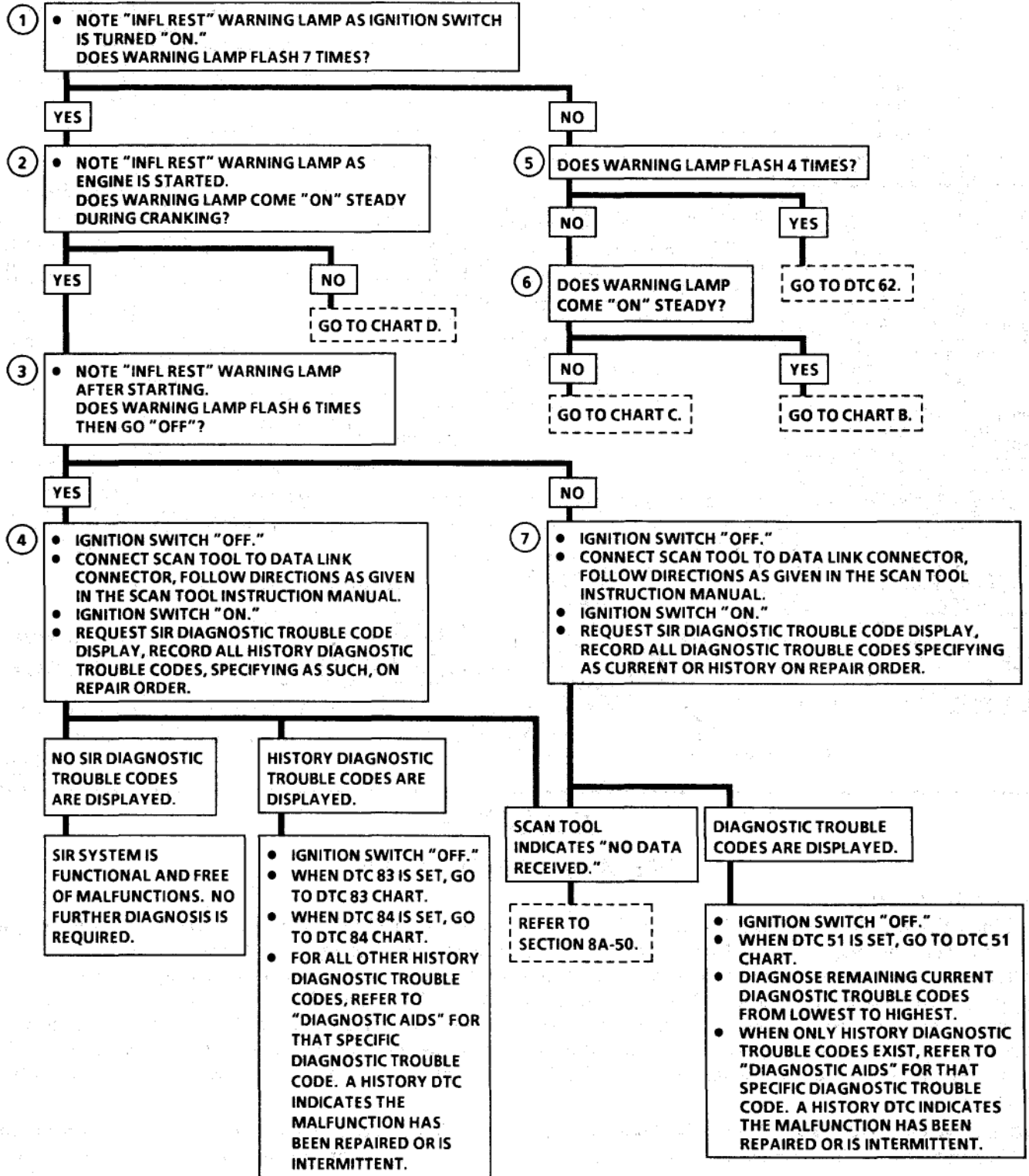
NOTES ON SYSTEM CHECK CHART:

1. The "AIR BAG" warning lamp should flash seven times after ignition is first turned "ON."
2. The "AIR BAG" warning lamp should remain "ON" steady during cranking.
3. After cranking, the "AIR BAG" warning lamp should flash six times then go "OFF."
4. This test checks for the proper operation of the "Serial Data" line. This test will also determine whether history diagnostic trouble codes are stored and, if so, identify them.
5. When the "AIR BAG" warning lamp flashes four times during "Bulb Check" this indicates a malfunction in the redundant lamp driver circuitry. These malfunctions are diagnosed by DTC 62 chart.
6. Improper operation of the "AIR BAG" warning lamp is indicated. This test differentiates a warning lamp stays "ON" condition from a warning lamp does not come "ON" condition.
7. This test checks for proper operation of the "Serial Data" line. This test will also identify the stored diagnostic trouble codes and whether they are current or history.

DIAGNOSTIC AIDS:

The order in which diagnostic trouble codes are diagnosed is very important. Failure to diagnose the diagnostic trouble codes in the order specified may result in extended diagnostic time, incorrect diagnosis and incorrect parts replacement.

SIR DIAGNOSTIC SYSTEM CHECK



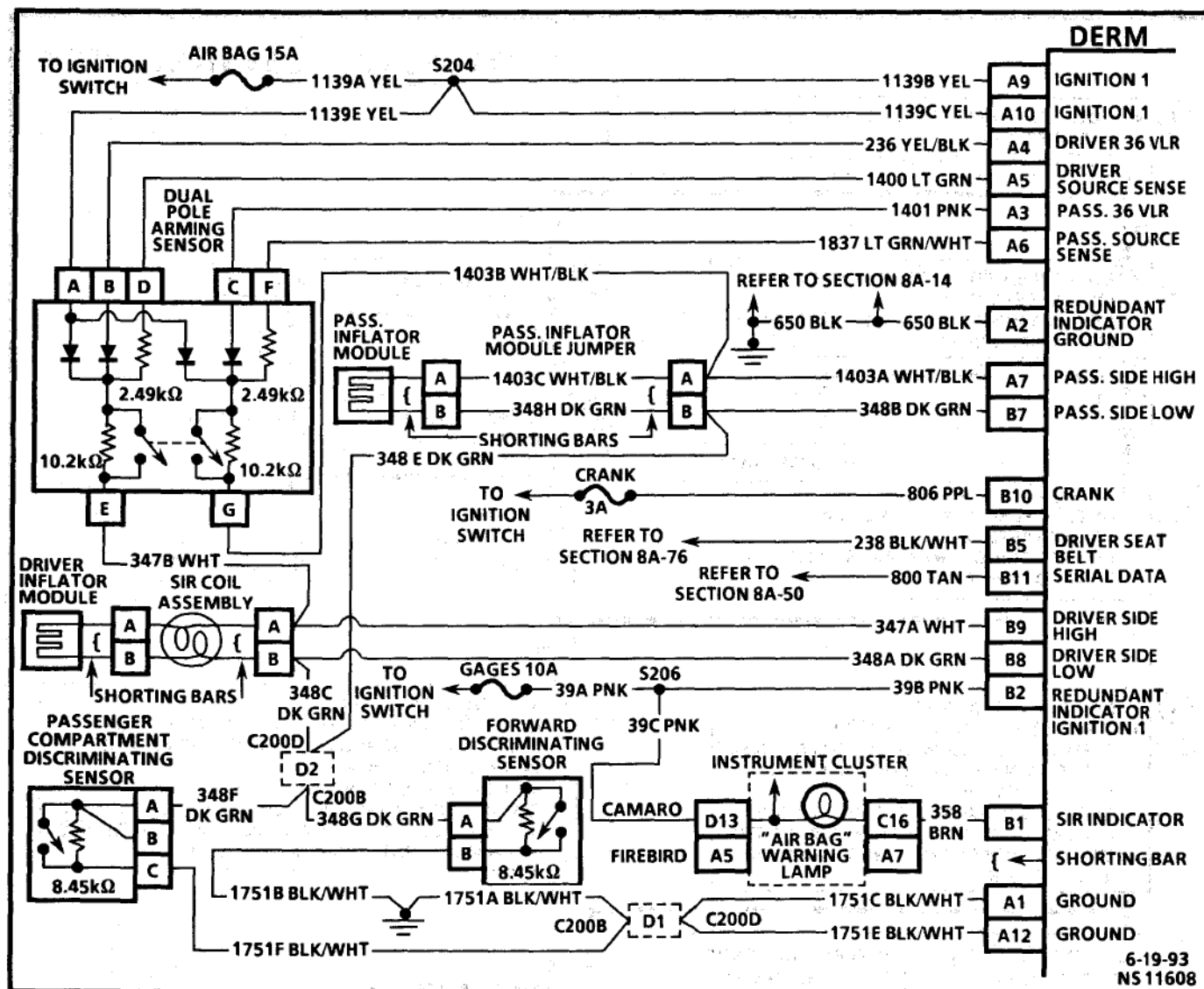


CHART A
DERM INTEGRITY CHECK

Circuit Description:

When the DERM recognizes "Ignition 1" voltage, applied to terminals "A9" and "A10", is in the normal operating voltage range, the "AIR BAG" warning lamp is flashed 7 times to verify operation. At this time the DERM performs "Turn-ON" tests followed by "Continuous Monitoring" tests. When no malfunctions are detected the DERM proceeds to the "Initiator Assembly Resistance Test." When a malfunction is detected the DERM sets a current diagnostic trouble code and illuminates the "AIR BAG" warning lamp. The DERM will clear current diagnostic trouble codes and move them to a history file when the malfunction is no longer detected and/or the ignition switch is cycled, except for DTC 51. DTC 51 can only be cleared using a scan tool "Clear Codes" command.

Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test confirms a current malfunction. If no current malfunction is occurring (history DTC set) the "Diagnostic Aids" for the appropriate diagnostic trouble code should be referenced. The DERM should not be replaced for a history diagnostic trouble code.

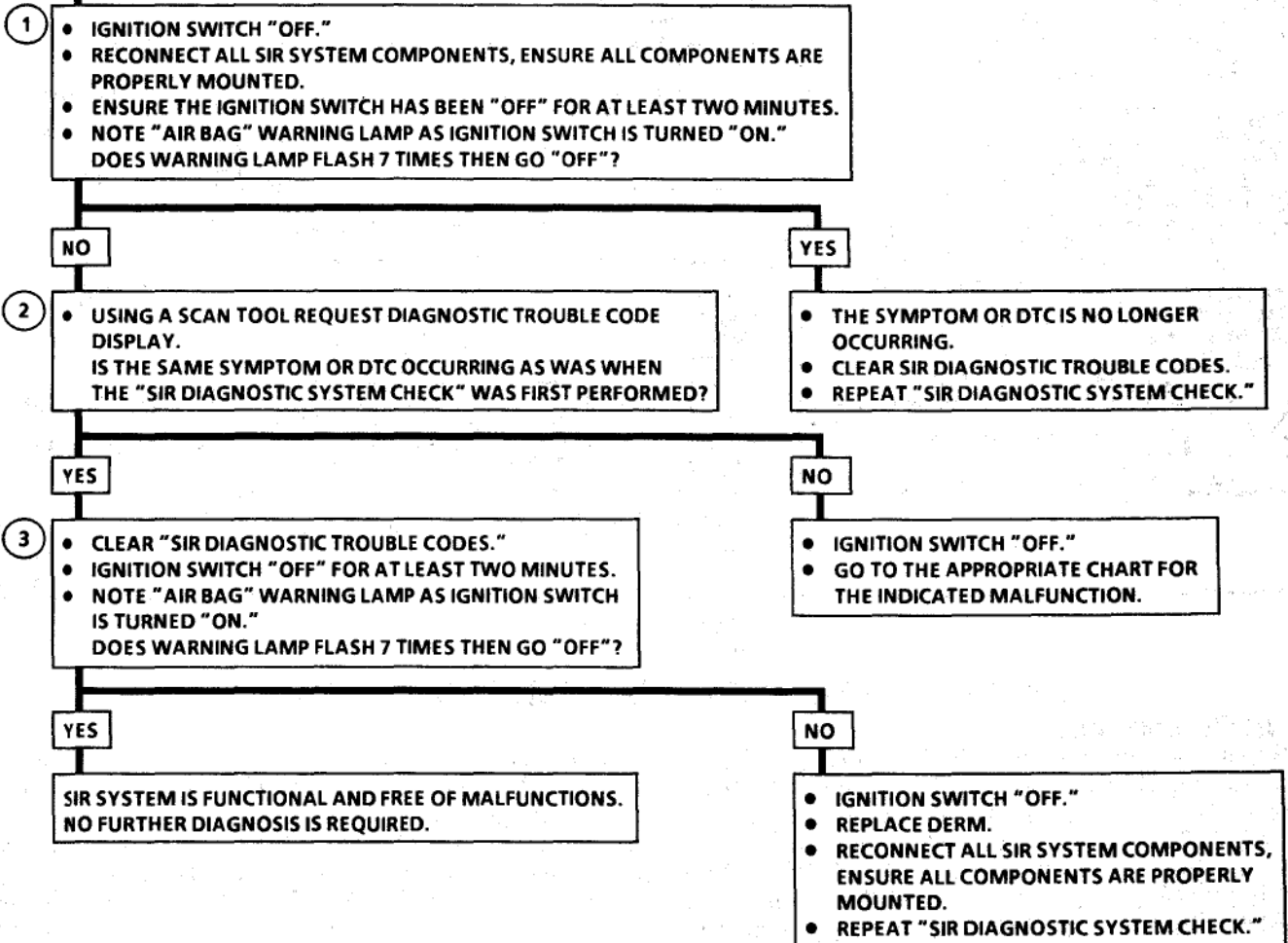
2. This test checks for a malfunction introduced into the SIR system during the diagnostic process. It is extremely unlikely that a malfunctioning DERM would cause a new malfunction to occur during the diagnostic process.

3. When all circuitry outside the DERM has been found to operate properly, as indicated by the appropriate diagnostic chart, then and only then should the DERM be replaced.

CHART A

DERM INTEGRITY CHECK

THIS CHART ASSUMES THAT THE "SIR DIAGNOSTIC SYSTEM CHECK" AND EITHER A SYMPTOM CHART OR A DIAGNOSTIC TROUBLE CODE CHART DIAGNOSIS HAVE BEEN PERFORMED. WHEN ALL CIRCUITRY OUTSIDE THE DERM HAS BEEN FOUND TO OPERATE PROPERLY, AS INDICATED BY THE APPROPRIATE DIAGNOSTIC CHART, AND THE SYMPTOM OR DTC REMAINS CURRENT, THE FOLLOWING DIAGNOSTIC PROCEDURES MUST BE PERFORMED TO VERIFY THE NEED FOR DERM REPLACEMENT.



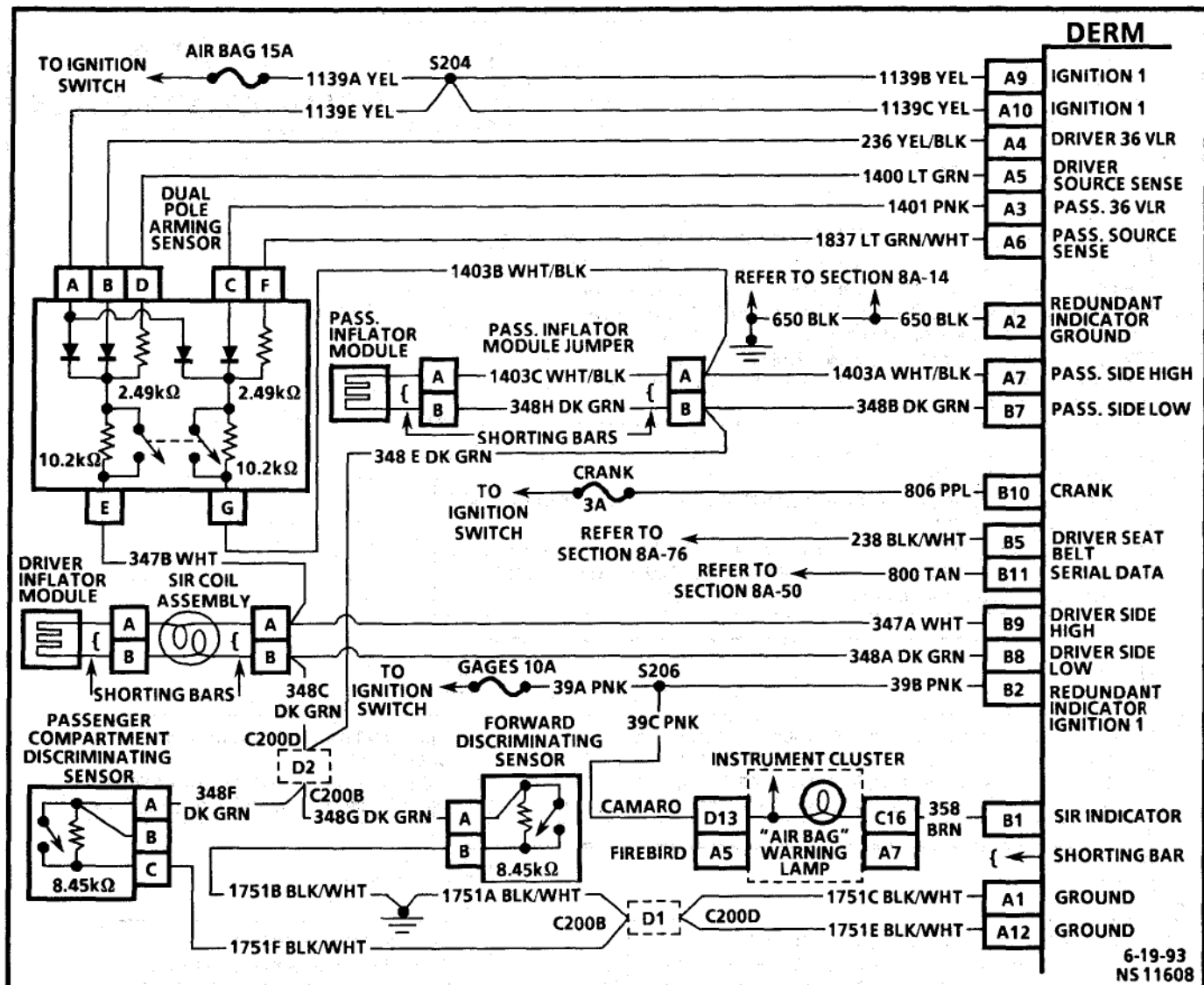


CHART B

"AIR BAG" WARNING LAMP COMES "ON" STEADY**Circuit Description:**

When the ignition switch is first turned "ON," "Ignition 1" voltage is applied from the "GAGES" fuse to "Redundant Indicator Ignition 1," terminal "B2," and to the "AIR BAG" warning lamp which is connected to "SIR Indicator," terminal "B1". The "AIR BAG" fuse applies system voltage to the "Ignition 1" inputs, terminals "A9" and "A10". The DERM responds by flashing the "AIR BAG" warning lamp 7 times. If "Ignition 1" is outside of the normal operating voltage range, the "AIR BAG" warning lamp will come "ON" solid with no DTCs set.

When the engine is being cranked, "Ignition 1" voltage is applied from the "CRANK" fuse to the DERM at the "Crank" input. The DERM responds by grounding the "SIR Indicator" output until "Ignition 1" voltage is removed from the "Crank" input. This results in the "AIR BAG" warning lamp being "ON" during cranking.

After cranking, the DERM will flash the "AIR BAG" warning lamp 6 times.

Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. An open "AIR BAG" fuse would cause the "AIR BAG" warning lamp to come "ON" steady.
2. A disconnected DERM harness connector will cause the warning lamp to come "ON" steady via the shorting bar from terminal "A1" to terminal "B1".
3. This test checks for an open in the ground circuitry to the DERM.

4. This test checks for an open in the "Ignition 1" circuitry to the DERM.
5. This test checks for a short from the "SIR Indicator" circuit to ground.
6. This test checks for a short from the "Crank" input circuit to B+.
7. This test checks whether a short to ground caused the "CRANK" fuse to open.
8. This test determines whether the short to ground is due to a malfunctioning dual pole arming sensor or a short in the wiring.

```

graph TD
    Start([START]) --> 1
    1["1 • IGNITION SWITCH 'OFF.'  
• REMOVE AND INSPECT AIR BAG FUSE.  
IS FUSE GOOD?"] -- YES --> 2
    1 -- NO --> 7
    2["2 • INSPECT DERM HARNESS CONNECTOR CONNECTION TO DERM.  
IS IT SECURELY CONNECTED TO THE DERM?"] -- YES --> 3
    2 -- NO --> 7
    3["3 • DISCONNECT DERM.  
• CHECK FOR PROPER CONNECTION TO DERM AT TERMINALS 'A1', 'A9', 'A10' AND 'A12'.  
• IF OK, THEN MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL 'A1' TO 'A2'.  
IS RESISTANCE 5.0Ω OR LESS?"] -- YES --> 4
    3 -- NO --> 7
    4["4 • INSTALL AIR BAG FUSE.  
• IGNITION SWITCH 'ON.'  
• MEASURE VOLTAGE FROM DERM HARNESS CONNECTOR TERMINAL 'A1' (GROUND) TO TERMINAL 'A9'.  
IS VOLTAGE 1 VOLT OR LESS?"] -- YES --> 5
    4 -- NO --> 7
    5["5 • INSTALL AIR BAG FUSE.  
• DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.  
• CONNECT DERM HARNESS CONNECTOR TO J 38715 SIR DRIVER/PASSENGER LOAD TOOL.  
• IGNITION SWITCH 'ON.'  
DOES THE 'AIR BAG' WARNING LAMP COME 'ON'?"] -- YES --> 6
    5 -- NO --> 7
    6["6 • IGNITION SWITCH 'OFF.'  
• DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL.  
• IGNITION SWITCH 'ON.'  
• MEASURE VOLTAGE ON DERM HARNESS CONNECTOR FROM TERMINAL 'B10' TO TERMINAL 'A1' (GROUND).  
IS VOLTAGE 1 VOLT OR LESS?"] -- YES --> End([END])
    6 -- NO --> 7
    7["7 • REPLACE AIR BAG FUSE.  
• IGNITION SWITCH 'ON,' WAIT 10 SECONDS, THEN IGNITION SWITCH 'OFF.'  
• REMOVE AND INSPECT AIR BAG FUSE.  
IS FUSE GOOD?"] -- YES --> 8
    7 -- NO --> 8
    8["8 • DISCONNECT DUAL POLE ARMING SENSOR.  
• REPLACE AIR BAG FUSE.  
• IGNITION SWITCH 'ON,' WAIT 10 SECONDS, THEN IGNITION SWITCH 'OFF.'  
• REMOVE AND INSPECT AIR BAG FUSE.  
IS FUSE GOOD?"] -- YES --> 9
    8 -- NO --> 10
    9["9 • INSTALL AIR BAG FUSE.  
• REPEAT 'SIR DIAGNOSTIC SYSTEM CHECK.'"] --> End
    10["10 • REPAIR SHORT TO GROUND IN CKT 1139, REFER TO SECTION 8A-11.  
• RECONNECT DUAL POLE ARMING SENSOR.  
• REPLACE AIR BAG FUSE.  
• REPEAT 'SIR DIAGNOSTIC SYSTEM CHECK.'"] --> End
    11["11 • REPAIR OPEN IN CKT 1751.  
• RECONNECT DERM.  
• INSTALL AIR BAG FUSE.  
• REPEAT 'SIR DIAGNOSTIC SYSTEM CHECK.'"] --> End
    12["12 • REPAIR SHORT FROM CKT 358 TO GROUND."] --> End
    13["13 • REPAIR SHORT FROM CKT 806 TO B +."] --> End
    14["14 • RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.  
• REPEAT 'SIR DIAGNOSTIC SYSTEM CHECK.'"] --> End

```

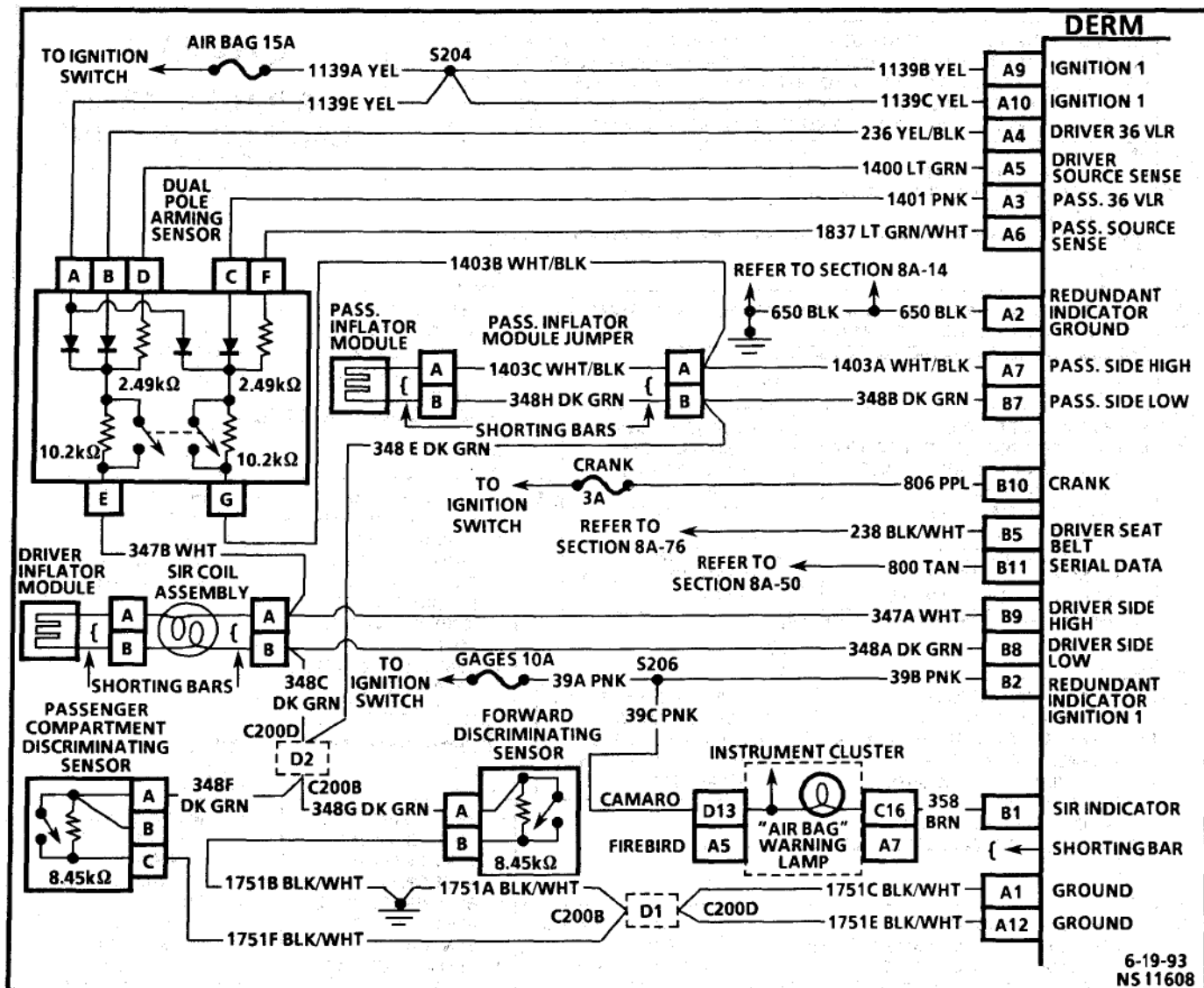


CHART C

(Page 1 of 2)

"AIR BAG" WARNING LAMP DOES NOT COME "ON"

Circuit Description:

When the ignition switch is first turned "ON," "Ignition 1" voltage is applied from the "GAGES" fuse to "Redundant Indicator Ignition 1," terminal "B2," and to the "AIR BAG" warning lamp which is connected to "SIR Indicator," terminal "B1". The "AIR BAG" fuse applies system voltage to the "Ignition 1" inputs, terminals "A9" and "A10". The DERM responds by flashing the "AIR BAG" warning lamp seven times.

When the engine is being cranked, "Ignition 1" voltage is applied from the "CRANK" fuse to the DERM at the "Crank" input. The DERM responds by grounding the "SIR Indicator" output until "Ignition 1" voltage is removed from the "Crank" input. This results in the "AIR BAG" warning lamp being "ON" during cranking.

After cranking, the DERM will flash the "AIR BAG" warning lamp six times.

Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

- This test determines whether the malfunction is in the DERM circuitry or in the instrument panel cluster power feed circuitry.
- This test confirms the integrity of the "Redundant Indicator Ignition 1" circuit.
- This test checks for an open in the "SIR Indicator" circuit, instrument panel cluster circuitry, and "AIR BAG" warning lamp bulb.

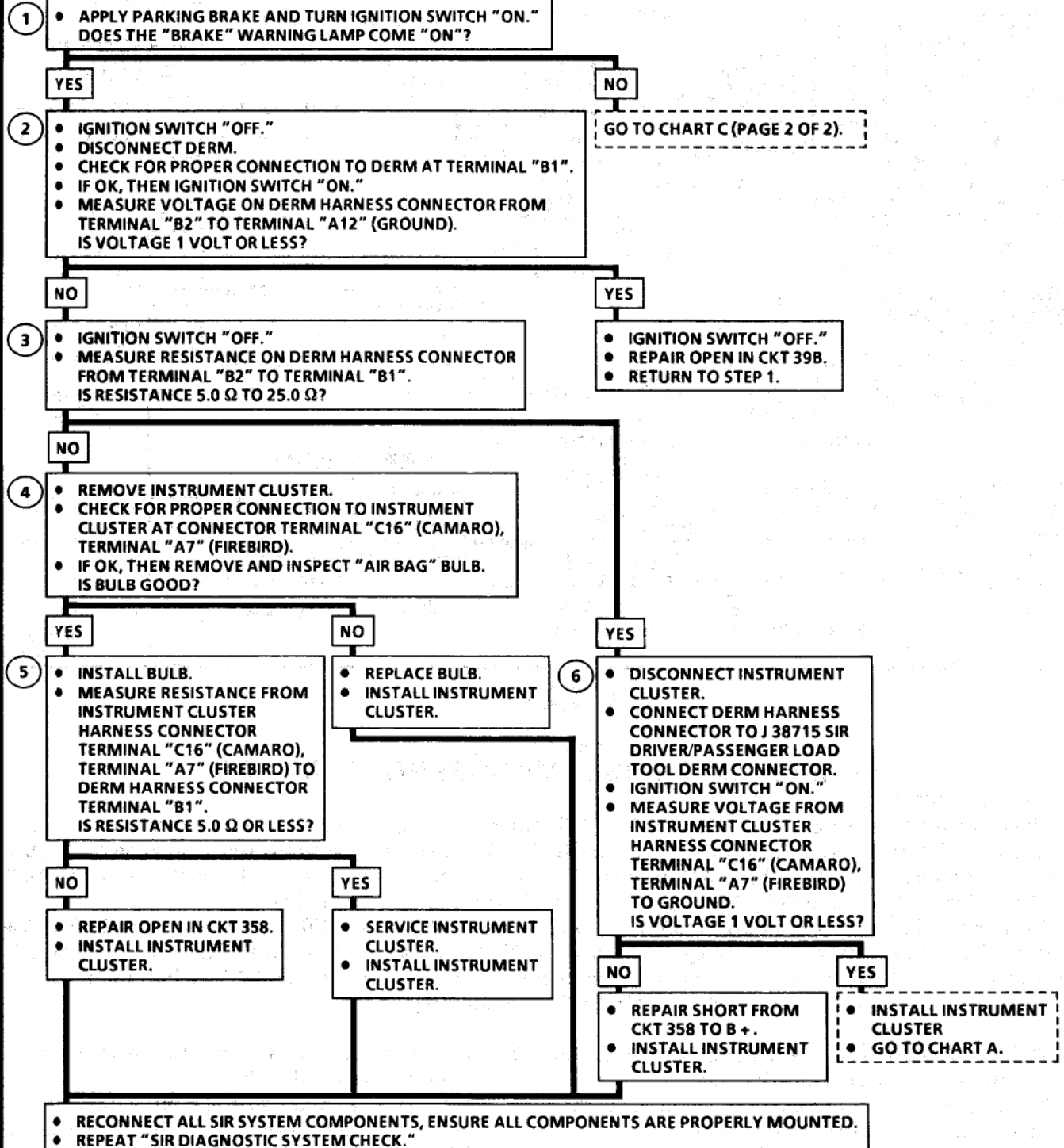
- This test checks whether the open is due to a bad bulb.
- This test determines whether the malfunction is an open in the "SIR Indicator" circuit or an open in the instrument panel cluster.
- This test determines whether the malfunction is a short from the "SIR Indicator" circuit to B +.

CHART C

(Page 1 of 2)

**"AIR BAG" WARNING LAMP
DOES NOT COME "ON"**

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.



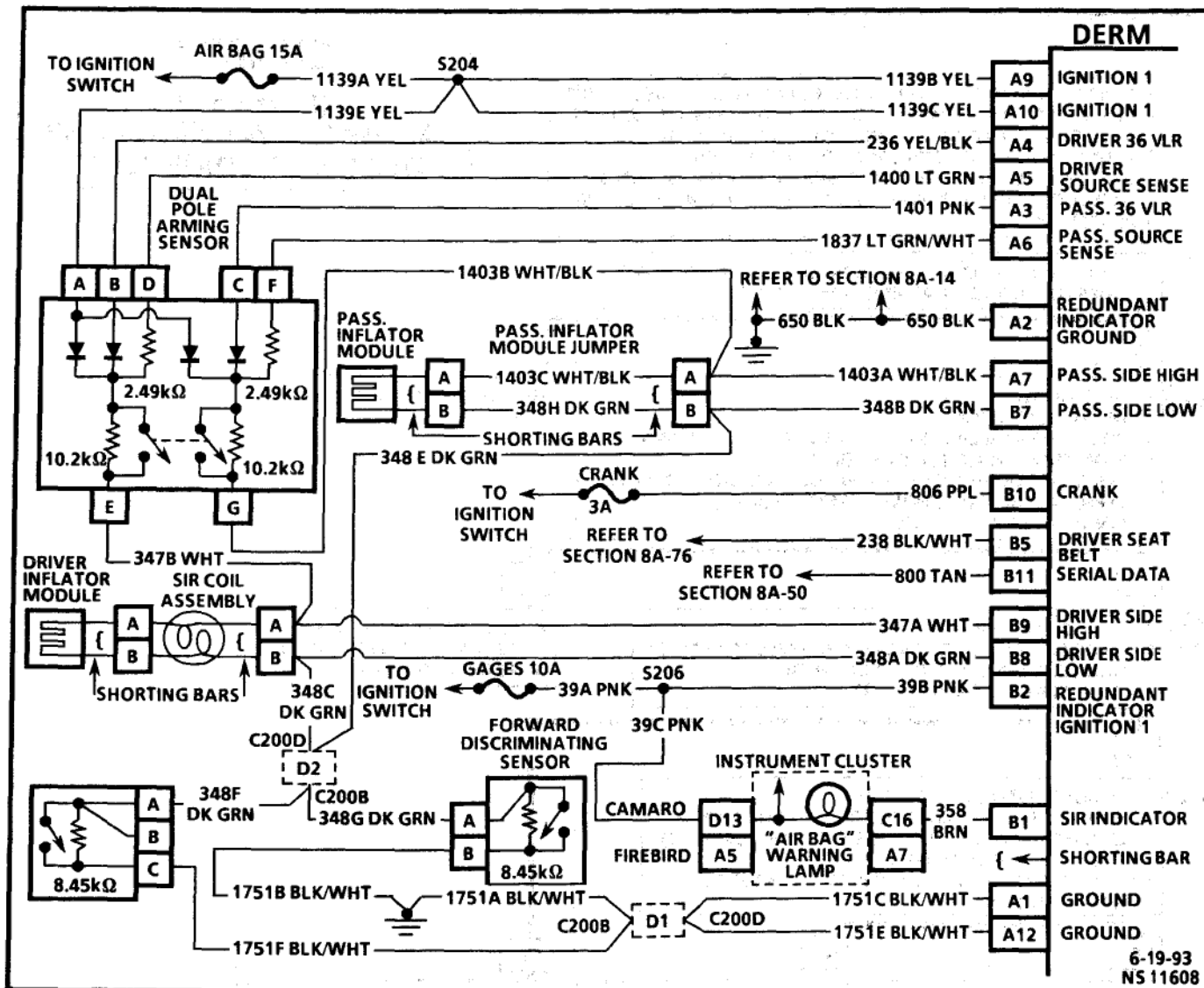


CHART C

(Page 2 of 2)

"AIR BAG" WARNING LAMP DOES NOT COME "ON"**Circuit Description:**

When the ignition switch is first turned "ON," "Ignition 1" voltage is applied from the "GAGES" fuse to "Redundant Indicator Ignition 1," terminal "B2", and to the "AIR BAG" warning lamp which is connected to "SIR Indicator," terminal "B1". The "AIR BAG" fuse applies system voltage to the "Ignition 1" inputs, terminals "A9" and "A10". The DERM responds by flashing the "AIR BAG" warning lamp seven times.

When the engine is being cranked, "Ignition 1" voltage is applied from the "CRANK" fuse to the DERM at the "Crank" input. The DERM responds by grounding the "SIR Indicator" output until "Ignition 1" voltage is removed from the "Crank" input. This results in the "AIR BAG" warning lamp being "ON" during cranking.

After cranking, the DERM will flash the "AIR BAG" warning lamp six times.

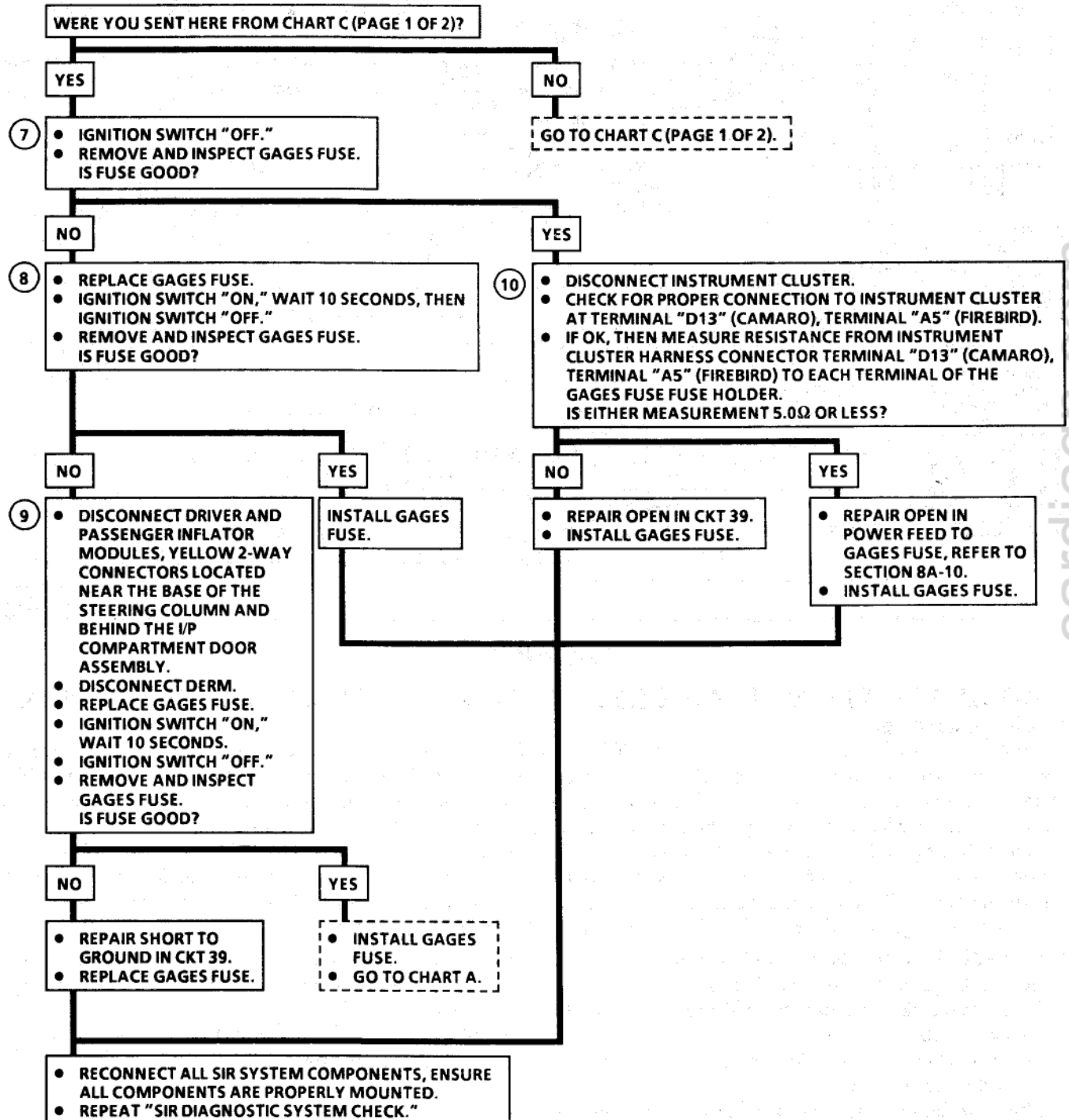
Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

- This test checks whether power is available to the instrument panel cluster power feed circuit.
- This test checks for a short from the instrument panel cluster power feed circuit to ground.

- This test determines whether the short to ground is due to a short in the wiring.
- This test determines whether the malfunction is due to an open power feed circuit from the "GAGES" fuse to the instrument panel cluster or an open power feed to the "GAGES" fuse.

CHART C

(Page 2 of 2)

"AIR BAG" WARNING LAMP DOES NOT COME "ON"

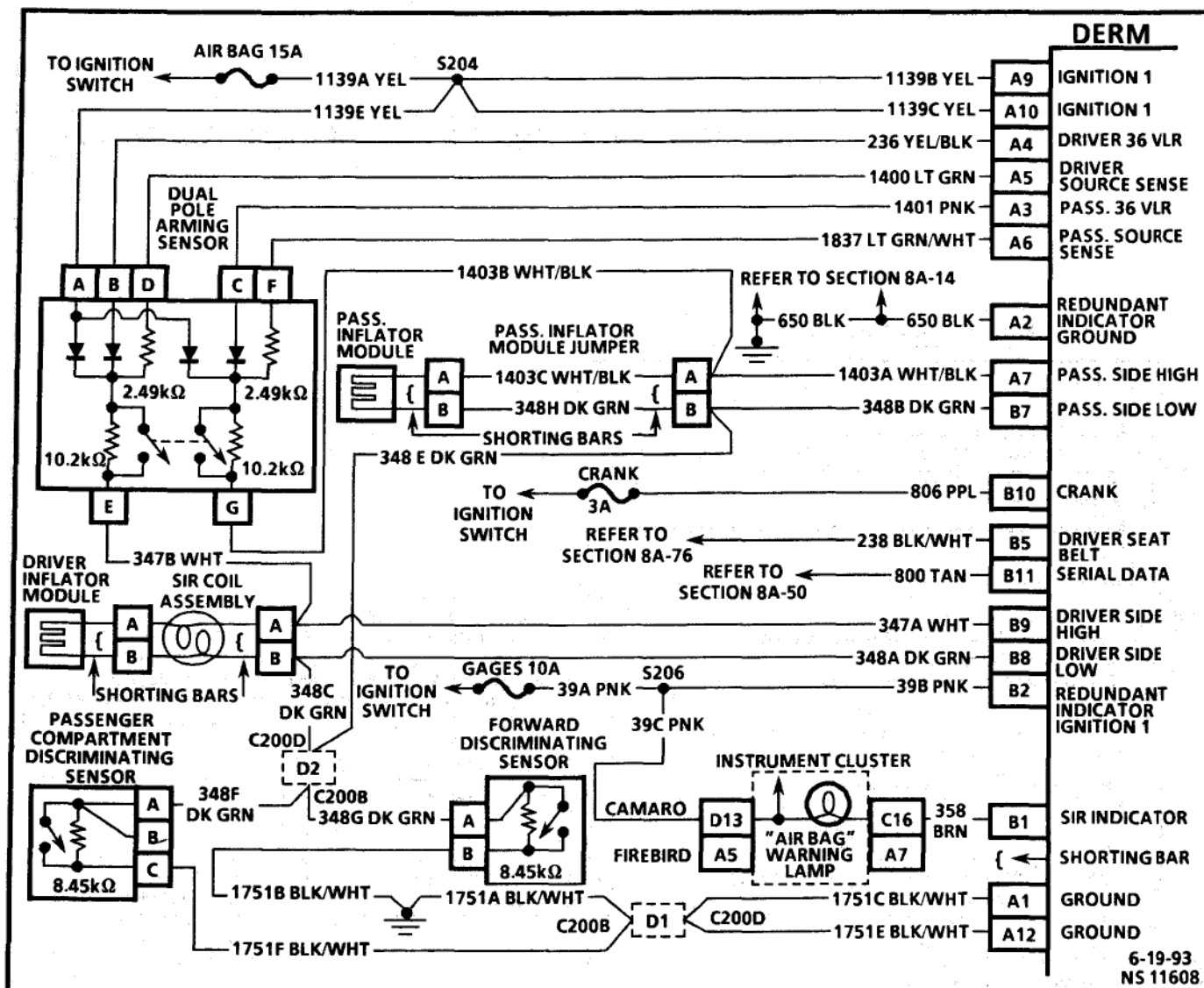


CHART D

"AIR BAG" WARNING LAMP DOES NOT COME "ON" STEADY DURING CRANK

Circuit Description:

When the ignition switch is first turned "ON," "Ignition 1" voltage is applied from the "GAGES" fuse to "Redundant Indicator Ignition 1," terminal "B2", and to the "AIR BAG" warning lamp which is connected to "SIR Indicator," terminal "B1". The "AIR BAG" fuse applies system voltage to the "Ignition 1" inputs, terminals "A9" and "A10". The DERM responds by flashing the "AIR BAG" warning lamp seven times.

When the engine is being cranked, "Ignition 1" voltage is applied from the "CRANK" fuse to the DERM at the "Crank" input. The DERM responds by grounding the "SIR Indicator" output until "Ignition 1" voltage is removed from the "Crank" input. This results in the "AIR BAG" warning lamp being "ON" during cranking.

After cranking, the DERM will flash the "AIR BAG" warning lamp six times.

Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

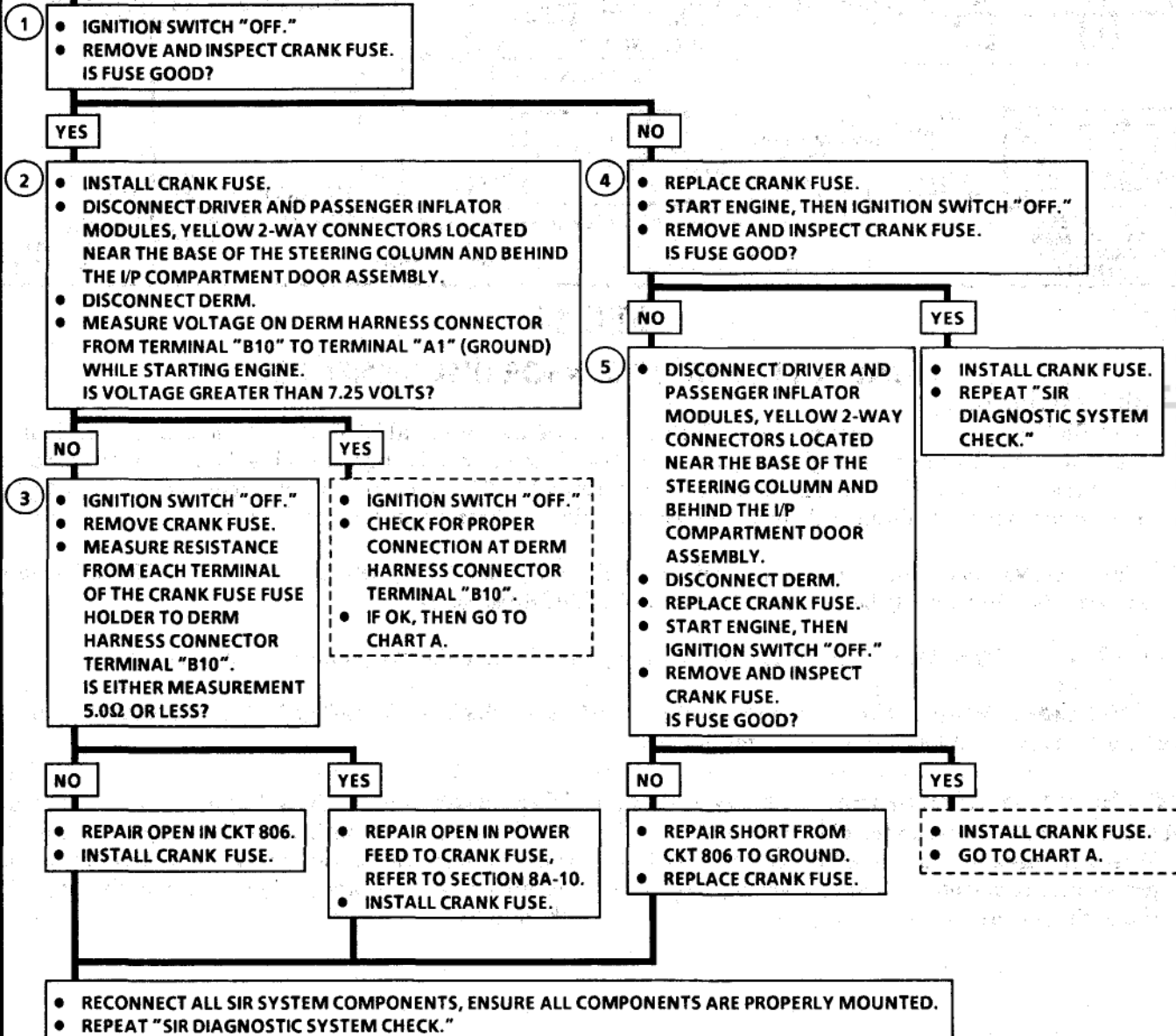
1. This test checks whether the malfunction is due to an open "CRANK" fuse.
2. This test checks for a proper signal to the "Crank" input during cranking.
3. This test determines whether the lack of a proper crank signal is due to an open "Crank" input circuit or an open power feed to the "CRANK" fuse.

4. This test checks whether the "CRANK" fuse is open due to a short to ground in the "Crank" input circuit.
5. This test determines whether the short to ground is in the wiring harness.

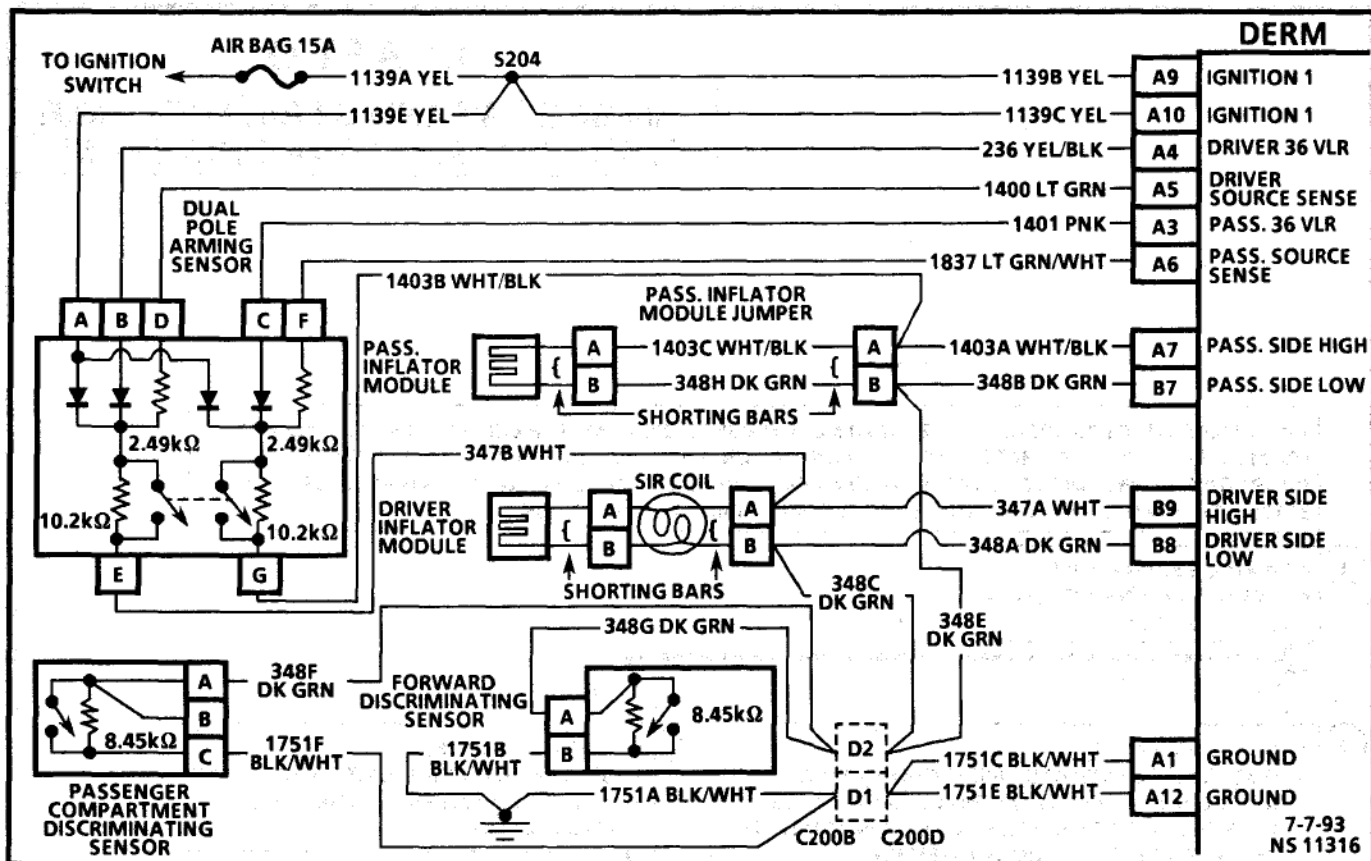
CHART D

"AIR BAG" WARNING LAMP DOES NOT COME "ON" STEADY DURING CRANK

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.



9J-24 SUPPLEMENTAL INFLATABLE RESTRAINT (SIR) SYSTEM



DTC 14

DUAL POLE ARMING SENSOR DISCONNECTED

Circuit Description:

The DERM monitors the voltage at the "Driver Source Sense" terminal "A5", the "Passenger Source Sense" terminal "A6", the "Driver Side High" terminal "B9", the "Passenger Side High" terminal "A7", the "Driver Side Low" terminal "B8" and the "Passenger Side Low" terminal "B7" during the "Continuous Monitoring" tests. When all voltages are simultaneously below a specified value for 500 milliseconds DTC 14 sets.

DTC Will Set When: The voltages at terminals "A5", "A6", "B9", "A7", "B8" and "B7" of the DERM harness connector are simultaneously below a specified value for 500 milliseconds.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage at terminal "A5", "A6", "B9", "A7", "B8" or "B7" of the DERM harness connector is above specified value for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for a situation which prevents a proper connection of the dual pole arming sensor to the wiring harness.

Diagnostic Aids: It is highly unlikely that an intermittent condition has set this diagnostic trouble code as this would require a poor connection at terminals "A", "B" and "C" or at terminals "D", "E", "F" and "G".

DTC 14**DUAL POLE ARMING SENSOR DISCONNECTED**

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

1

- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - DISCONNECT DUAL POLE ARMING SENSOR HARNESS CONNECTOR FROM DUAL POLE ARMING SENSOR AND RECONNECT.
 - IGNITION SWITCH "ON."
- IS DTC 14 CURRENT?

YES

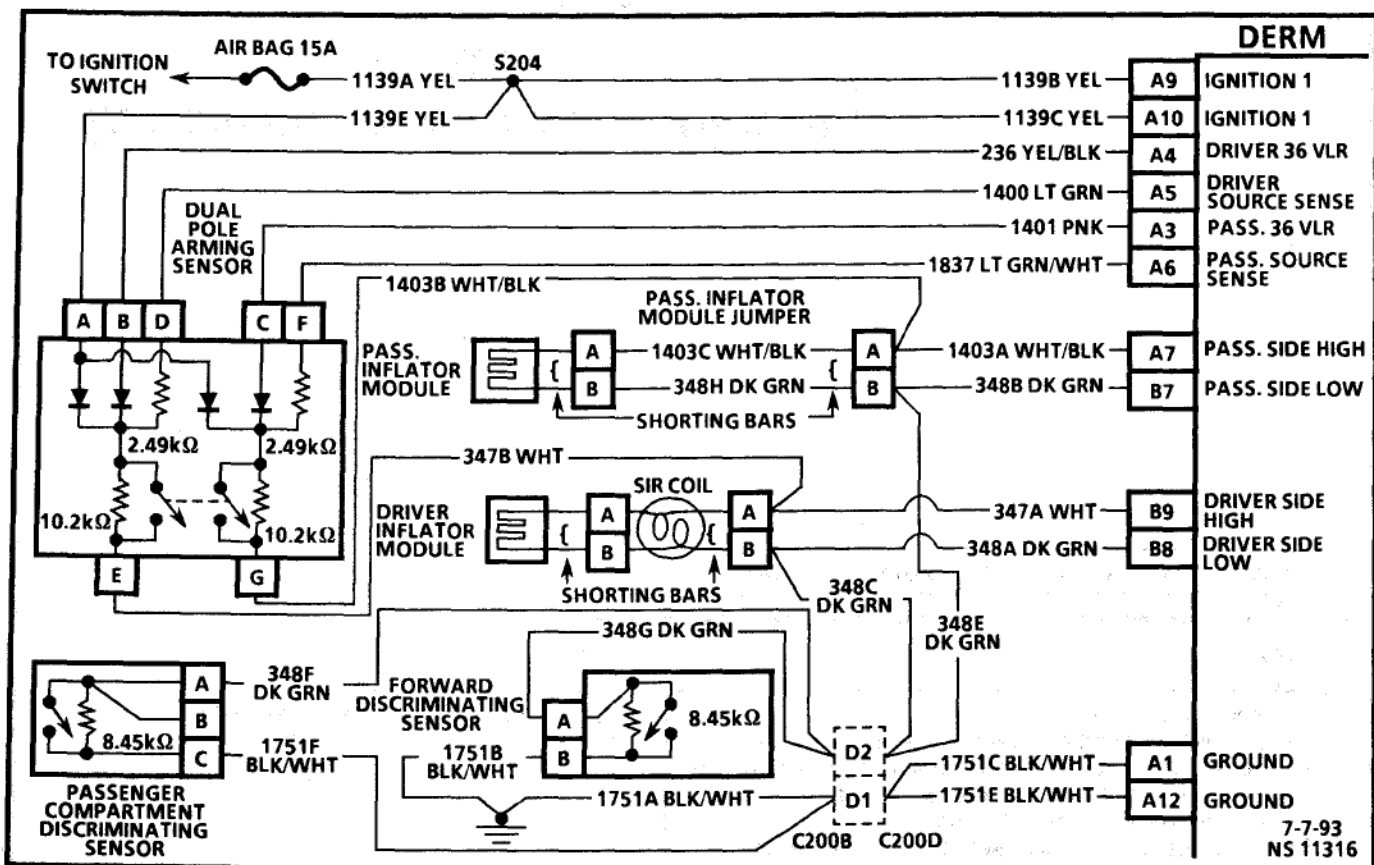
- IGNITION SWITCH "OFF."
- GO TO CHART A.

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK"

NO

- IGNITION SWITCH "OFF."
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 15

PASSENGER INITIATOR CIRCUIT RESISTANCE HIGH

Circuit Description:

During the "Initiator Assembly Resistance Test" the DERM grounds the "Driver Side Low" terminal "B8" and turns "ON" the passenger current source at the "Passenger Side High" terminal "A7". This causes a known amount of current to flow through the passenger initiator circuit. By monitoring the difference between the voltage at the "Passenger Side High" terminal "A7" and the "Passenger Side Low" terminal "B7" the DERM calculates the combined resistance of the passenger inflator module, passenger inflator module jumper, harness wiring CKTs 1403A and 348B and connector terminal contact.

DTC Will Set When: The combined resistance of the passenger inflator module, harness wiring CKT 1403A and connector terminal contact is above a specified value. This test is run once each ignition cycle during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test determines whether the malfunction is in the passenger inflator module circuitry or in the DERM wiring harness circuitry.
2. This test determines whether the malfunction is an open in CKT 1403A.
3. This test determines whether the malfunction is in the passenger inflator module jumper or in the passenger inflator module.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection to the passenger inflator module at terminal "A" or terminal "B", a poor connection to the passenger inflator module jumper terminal "A" or terminal "B" or a poor connection to the DERM at terminal "A7". The test for this diagnostic trouble code is only run while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the next ignition cycle.

DTC 15

PASSENGER INITIATOR CIRCUIT RESISTANCE HIGH

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- CHECK FOR PROPER CONNECTION TO PASSENGER INFLATOR MODULE JUMPER AT TERMINALS "A" AND "B".
- IF OK THEN CONNECT J 38715 SIR DRIVER/PASSENGER LOAD TOOL TO STEERING COLUMN HARNESS CONNECTOR AND PASSENGER INFLATOR MODULE HARNESS CONNECTOR.
- IGNITION SWITCH "ON."
- IS DTC 15 CURRENT?

YES

NO

2

- IGNITION SWITCH "OFF."
- DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL.
- DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINAL "A7".
- IF OK THEN MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "A7" TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR TERMINAL "A".
- IS RESISTANCE 2.0Ω OR LESS?

3

- IGNITION SWITCH "OFF."
- DISCONNECT PASSENGER INFLATOR MODULE PIGTAIL CONNECTOR FROM PASSENGER INFLATOR MODULE JUMPER.
- CHECK FOR PROPER CONNECTION TO PASSENGER INFLATOR MODULE AT TERMINALS "A" AND "B".
- IF OK THEN DISCONNECT PASSENGER INFLATOR MODULE HARNESS CONNECTOR FROM SIR DRIVER/PASSENGER LOAD TOOL AND RECONNECT TO PASSENGER INFLATOR MODULE JUMPER.
- CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO INFLATOR MODULE SIDE OF PASSENGER INFLATOR MODULE JUMPER.
- IGNITION SWITCH "ON."
- IS DTC 15 CURRENT?

YES

NO

YES

NO

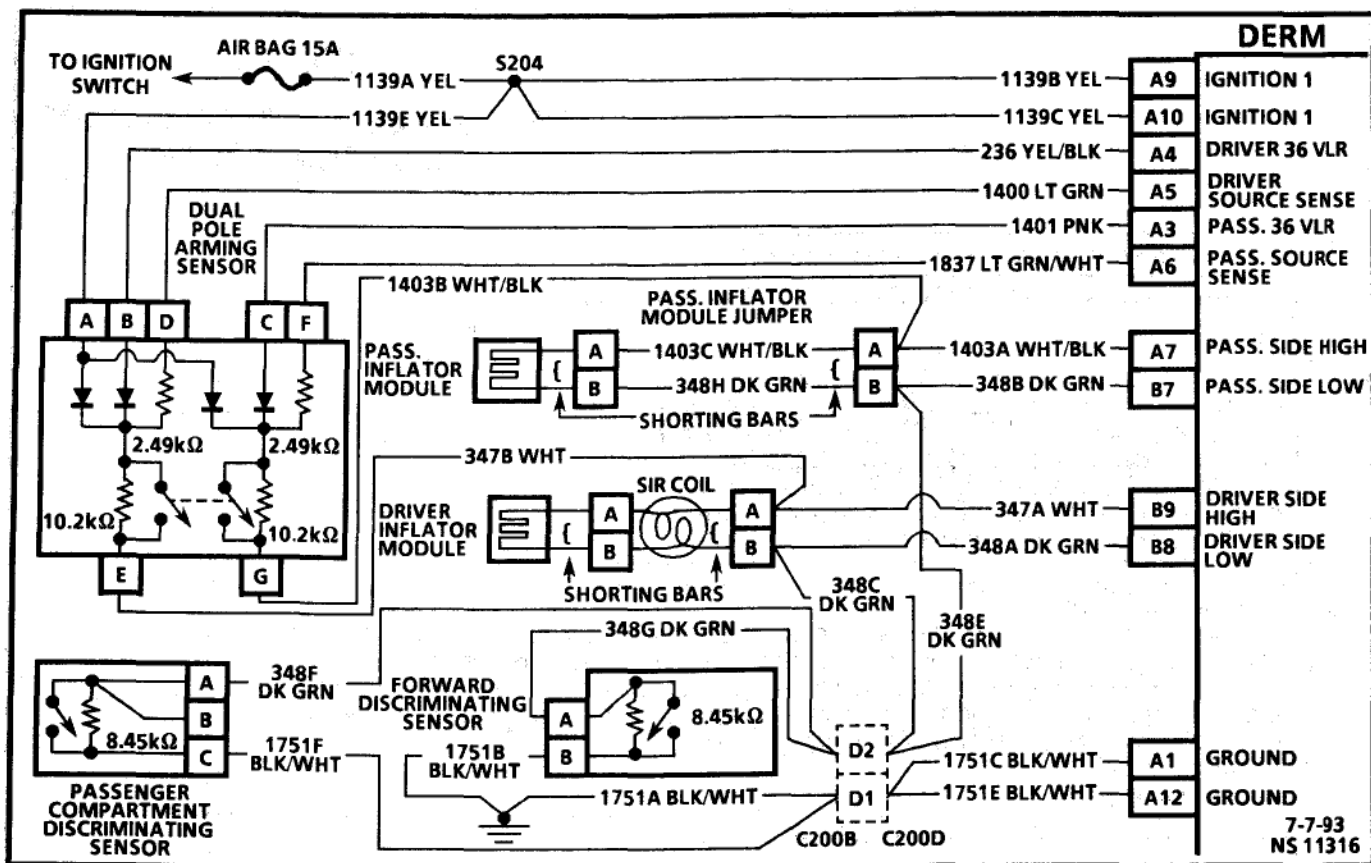
GO TO CHART A.

REPAIR OPEN IN
CKT 1403A.

- IGNITION SWITCH "OFF."
- REPAIR HIGH RESISTANCE IN PASSENGER INFLATOR MODULE JUMPER.

- IGNITION SWITCH "OFF."
- REPLACE PASSENGER INFLATOR MODULE.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

**DTC 16****PASSENGER INITIATOR CIRCUIT RESISTANCE LOW****Circuit Description:**

During the "Initiator Assembly Resistance Test" the DERM grounds the "Driver Side Low" terminal "B8" and turns "ON" the passenger current source at the "Passenger Side High" terminal "A7". This causes a known amount of current to flow through the passenger initiator circuit. By monitoring the difference between the voltage at the "Passenger Side High" terminal "A7" and the "Passenger Side Low" terminal "B7" the DERM calculates the combined resistance of the passenger inflator module, passenger inflator module jumper, harness wiring CKTs 1403A and 348B and connector terminal contact.

DTC Will Set When: The combined resistance of the passenger inflator module, harness wiring CKTs 1403 and 348 and connector terminal contact is below a specified value. This test is run once each ignition cycle during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. DTC 16 and 22 will set simultaneously when the "Driver Side High" circuit is shorted to the "Passenger Side High" circuit due to parallel current paths.
2. This test determines whether the malfunction is in the passenger inflator module circuitry or in the DERM wiring harness circuitry.
3. This test checks for a short from the "Passenger Side High" circuit to the "Passenger Side Low" circuit.

4. This test determines whether the malfunction is in the passenger inflator module or the passenger inflator module jumper.

Diagnostic Aids: An intermittent condition is likely to be caused by a short between CKT 1403 and CKT 347 or CKT 348. The test for this diagnostic trouble code is only run while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the next ignition cycle.

DTC 16

PASSENGER INITIATOR CIRCUIT RESISTANCE LOW

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1 IS DTC 22 ALSO CURRENT?

NO

- 2
- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - CONNECT J 38715 SIR DRIVER/PASSENGER LOAD TOOL TO STEERING COLUMN HARNESS CONNECTOR AND PASSENGER INFLATOR MODULE HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 16 CURRENT?

YES

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- REPAIR SHORT FROM CKT 347 TO CKT 1403.

YES

- 3
- IGNITION SWITCH "OFF."
 - DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL.
 - DISCONNECT DERM.
 - MEASURE RESISTANCE ON DERM HARNESS CONNECTOR FROM TERMINAL "A7" TO TERMINAL "B7". DOES J 39200 DISPLAY "OL" (INFINITE)?

NO

- 4
- IGNITION SWITCH "OFF."
 - DISCONNECT PASSENGER INFLATOR MODULE PIGTAIL CONNECTOR FROM PASSENGER INFLATOR MODULE JUMPER,
 - DISCONNECT PASSENGER INFLATOR MODULE HARNESS CONNECTOR FROM SIR DRIVER/PASSENGER LOAD TOOL AND RECONNECT TO PASSENGER INFLATOR MODULE JUMPER.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO INFLATOR MODULE SIDE OF PASSENGER INFLATOR MODULE JUMPER.
 - IGNITION SWITCH "ON."
- IS DTC 16 CURRENT?

YES

GO TO CHART A.

NO

REPAIR SHORT FROM CKT 1403 TO CKT 348.

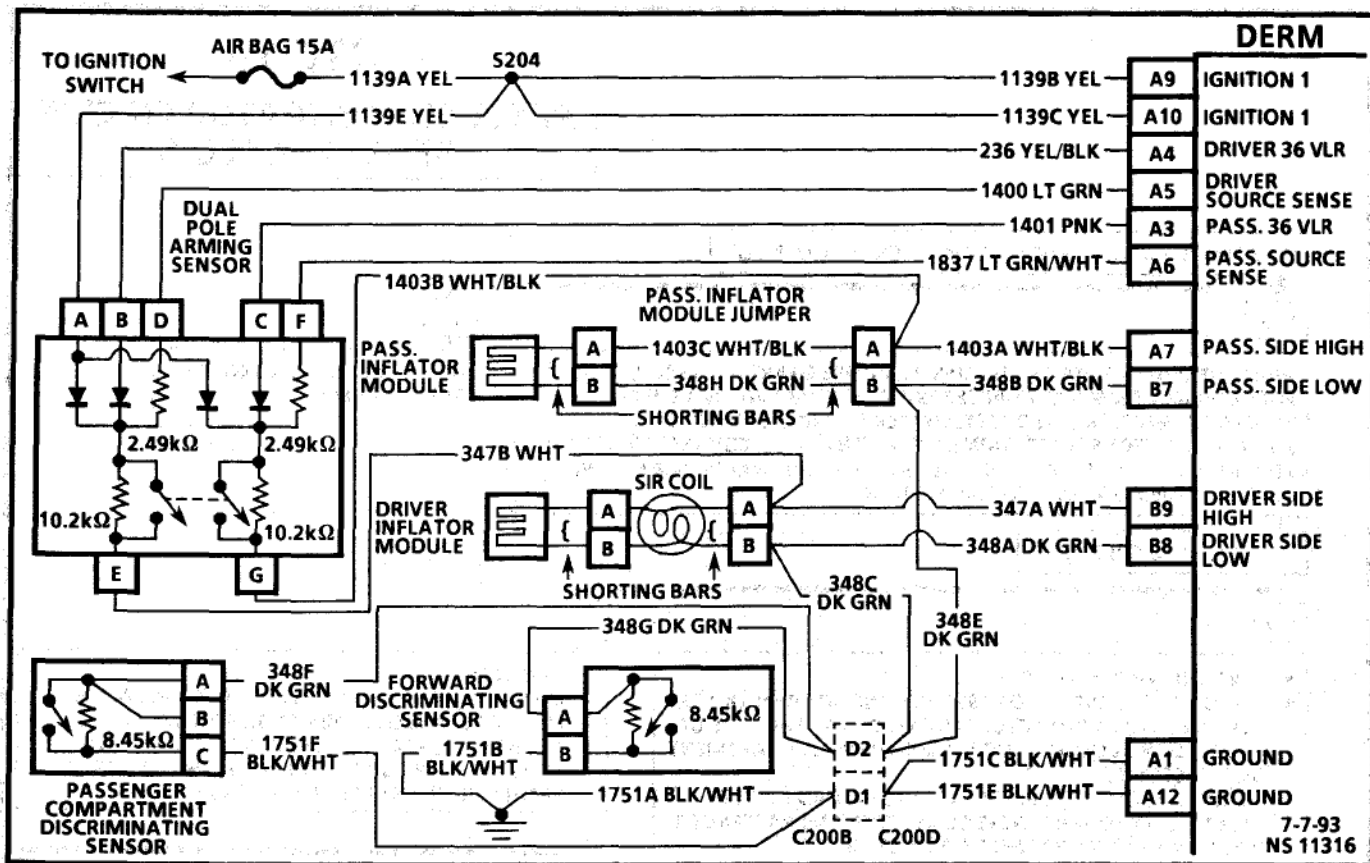
YES

- IGNITION SWITCH "OFF."
- REPAIR SHORT FROM CKT 1403C TO CKT 348H.

NO

- IGNITION SWITCH "OFF."
- REPLACE PASSENGER INFLATOR MODULE.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 17

PASSENGER INITIATOR CIRCUIT OPEN

Circuit Description:

When there is an open in the passenger inflator module the resistance between "Passenger Side High" terminal "A7" and "Passenger Side Low" terminal "B7" increases. This causes a larger voltage drop from the "Passenger Side High" to the "Passenger Side Low" across a resistor inside the DERM which connects these two terminals together. The increase in the voltage difference between "Passenger Side High" and "Passenger Side Low" is detected by the DERM during the "Continuous Monitoring" tests and DTC 17 is set.

DTC Will Set When: The voltage difference between "Passenger Side High" terminal "A7" and "Passenger Side Low" terminal "B7" is above or equal to a specified value for 500 milliseconds.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage difference between "Passenger Side High" terminal "A7" and "Passenger Side Low" terminal "B7" is below a specified value for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test determines whether the malfunction is in the passenger inflator module circuitry.
2. This test determines whether the malfunction is in the passenger inflator module or the passenger inflator module jumper.

Diagnostic Aids: This diagnostic trouble code will only set when there is an improper connection to the passenger inflator module, an improper connection to the passenger inflator module jumper or an open in the passenger inflator module or pigtail.

DTC 17

PASSENGER INITIATOR CIRCUIT OPEN

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- CHECK FOR PROPER CONNECTION TO PASSENGER INFLATOR MODULE JUMPER AT TERMINALS "A" AND "B".
- IF OK THEN CONNECT J 38715 SIR DRIVER/PASSENGER LOAD TOOL TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR.
- IGNITION SWITCH "ON."
- IS DTC 17 CURRENT? (DTC 26 WILL BE CURRENT DUE TO DISCONNECTED DRIVER INFLATOR MODULE.)

NO

2

- IGNITION SWITCH "OFF."
- DISCONNECT PASSENGER INFLATOR MODULE PIGTAIL CONNECTOR FROM PASSENGER INFLATOR MODULE JUMPER.
- CHECK FOR PROPER CONNECTION TO PASSENGER INFLATOR MODULE AT TERMINALS "A" AND "B".
- IF OK, THEN DISCONNECT PASSENGER INFLATOR MODULE HARNESS CONNECTOR FROM SIR DRIVER/PASSENGER LOAD TOOL AND RECONNECT TO PASSENGER INFLATOR MODULE JUMPER.
- CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO INFLATOR MODULE SIDE OF PASSENGER INFLATOR MODULE JUMPER.
- IGNITION SWITCH "ON."
- IS DTC 17 CURRENT? (DTC 26 WILL BE CURRENT DUE TO DISCONNECTED DRIVER INFLATOR MODULE.)

YES

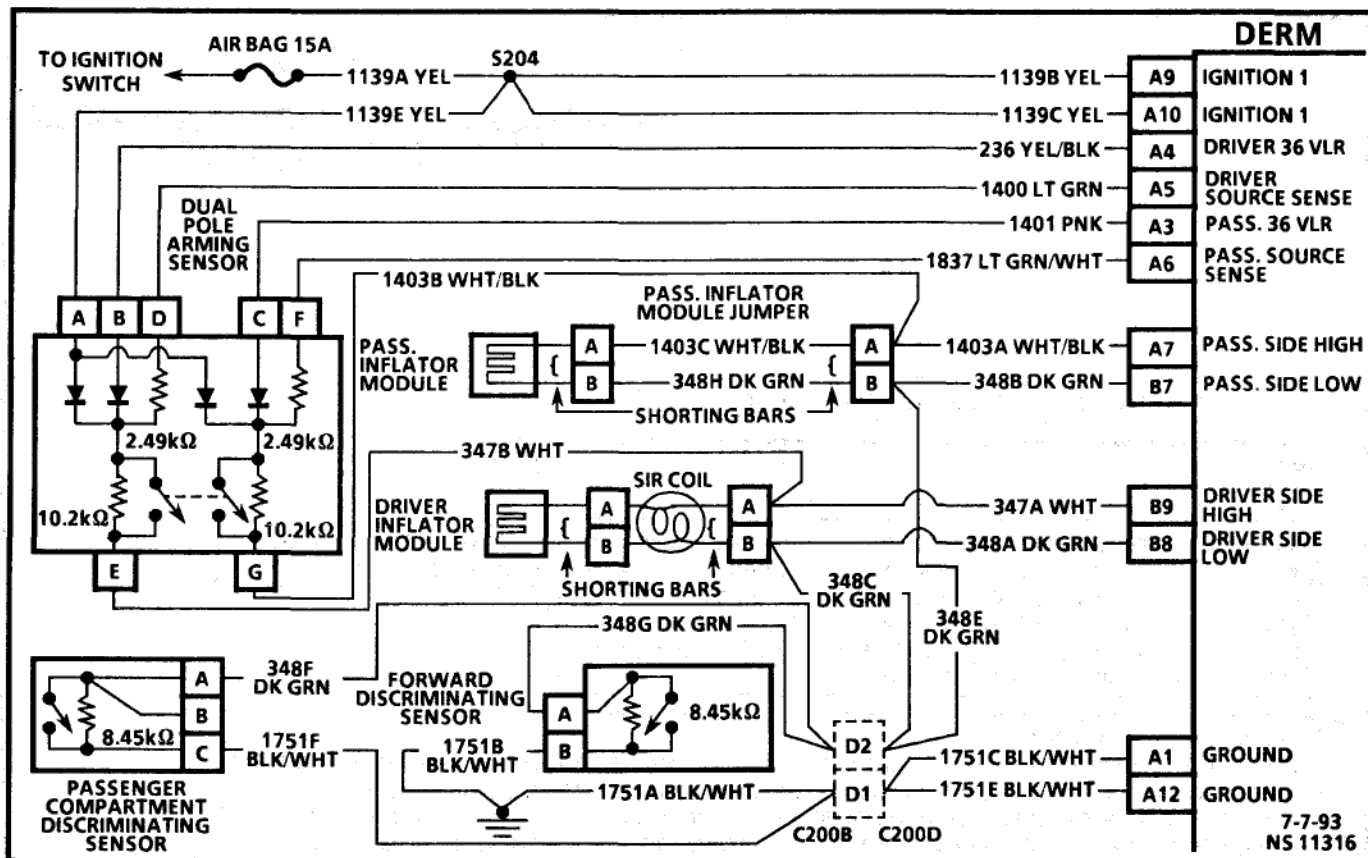
- IGNITION SWITCH "OFF."
- GO TO CHART A.

NO

- IGNITION SWITCH "OFF."
- REPLACE PASSENGER INFLATOR MODULE.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

YES

- IGNITION SWITCH "OFF."
- REPAIR OPEN IN PASSENGER INFLATOR MODULE JUMPER.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 18

DISCRIMINATING SENSOR INTERCONNECT OPEN

Circuit Description:

During the "Initiator Assembly Resistance Test" the DERM grounds the "Driver Side Low" terminal "B8" and measures the voltage at "Driver Side Low" and "Passenger Side Low." The DERM then grounds "Passenger Side Low" terminal "B7" and again measures the voltage at "Driver Side Low" and "Passenger Side Low." For a properly operating circuit the voltage measurements during each of these tests will be below a specified value. When the voltage measured at either "Driver Side Low" or "Passenger Side Low," but not both, is above a specified value during either test DTC 18 is set.

DTC Will Set When: The voltage measured at either "Driver Side Low" or "Passenger Side Low," but not both, is above a specified value while the DERM attempts to ground either of these terminals. This test is run during the "Initiator Assembly Resistance Test" and the "10 Minute Loop Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltages measured at both "Driver Side Low" and "Passenger Side Low" are below specified value while the DERM grounds each of the terminals.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks whether the malfunction is in the wiring harness. The wiring harness malfunction would be a high resistance rather than an open. An open would set a different diagnostic trouble code.
2. This test determines whether the malfunction is in the wiring harness. The wiring harness malfunction would be a high resistance rather than an open. An open would set a different diagnostic trouble code.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor wire to terminal connection in CKT 348C or 348E. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear for ten minutes or until the next ignition cycle.

DTC 18

DISCRIMINATING SENSOR INTERCONNECT OPEN

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT CONNECTOR C200B FROM CONNECTOR C200D.
- MEASURE RESISTANCE FROM C200D TERMINAL "D2" TO STEERING COLUMN HARNESS CONNECTOR TERMINAL "B".
IS RESISTANCE 5.0 Ω OR LESS?

YES

2

- MEASURE RESISTANCE FROM C200D TERMINAL "D2" TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR TERMINAL "B".
IS RESISTANCE 5.0 Ω OR LESS?

YES

GO TO CHART A.

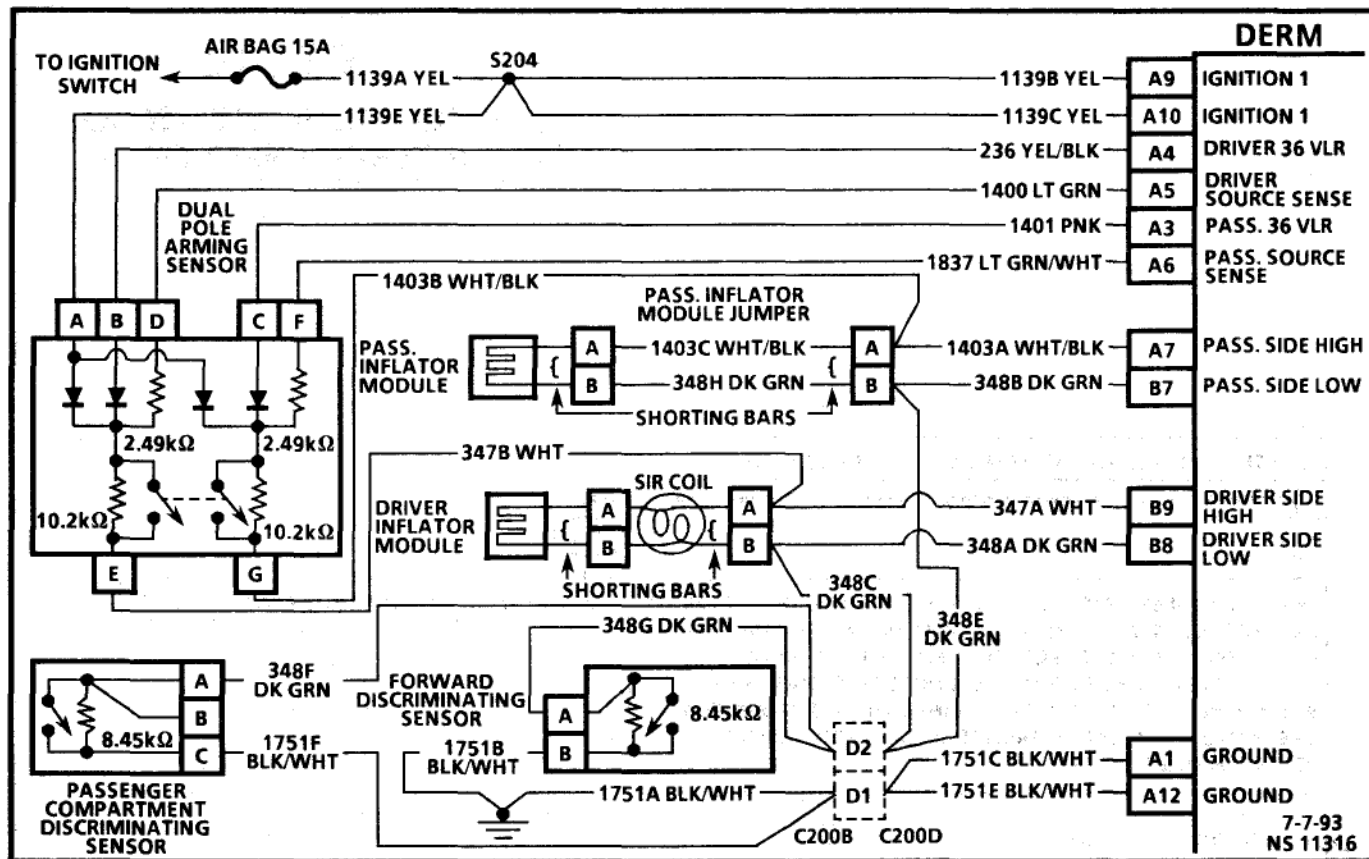
NO

REPAIR HIGH RESISTANCE IN CKT 348C.

NO

REPAIR HIGH RESISTANCE IN CKT 348E.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 19

(Page 1 of 3)

PASSENGER INITIATOR CIRCUIT VOLTAGE HIGH

Circuit Description:

During normal, non-deployment operation of the SIR system, a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltage at "Passenger Side Low" terminal "B7" to detect shorts or opens within the passenger deployment loop. When the measured voltage is above a specified percentage of "Passenger 36 VLR" for 500 milliseconds DTC 19 is set.

DTC Will Set When: The voltage measured at "Passenger Side Low" terminal "B7" is above a specified percentage of "Passenger 36 VLR" for 500 milliseconds and DTC 35 is not set. This test is run every 100 milliseconds during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Passenger Side Low" terminal "B7" is within a specified percentage of "Passenger 36 VLR" for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. DTC 19 and 24 together means that there is an open between the passenger inflator module harness connector and the discriminating sensor interconnect.
2. This test checks for decreased resistance in driver side diagnostic resistors of the dual pole arming sensor.
3. This test checks for decreased resistance in the passenger side diagnostic resistors of the dual pole arming sensor.

4. This test checks for a short from the high side of the driver deployment loop to "Driver 36 VLR."
5. This test determines whether the malfunction is an open in CKT 348E.

Diagnostic Aids: An open between the passenger inflator module and the forward discriminating sensor causes the voltage to increase at "Passenger Side Low" due to the loss of a ground path. This also causes the voltage to decrease at "Driver Side Low" due to decreased current flow through the discriminating sensor network. Refer to DTC 19 (Page 3 of 3).

DTC 19

(Page 1 of 3)

PASSENGER INITIATOR CIRCUIT VOLTAGE HIGH

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1 IS DTC 24 ALSO CURRENT?

NO

YES

- 2
- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - DISCONNECT DERM AND DUAL POLE ARMING SENSOR.
 - INSPECT DUAL POLE ARMING SENSOR HARNESS CONNECTOR FOR BACKED OUT AND/OR SHORTED TERMINALS.
 - IF OK THEN MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR FROM TERMINAL "D" TO TERMINAL "E". IS RESISTANCE 12.5 k Ω OR LESS?

- 5
- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - MEASURE RESISTANCE FROM DRIVER INFLATOR MODULE HARNESS CONNECTOR TERMINAL "B" TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR TERMINAL "B". IS RESISTANCE 5.0 Ω OR LESS?

NO

YES

- 3
- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR FROM TERMINAL "F" TO TERMINAL "G". IS RESISTANCE 12.5 k Ω OR LESS?

REPLACE DUAL POLE ARMING SENSOR.

NO REPAIR OPEN IN CKT 348E.

YES GO TO CHART A.

NO

YES

- 4
- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR HARNESS CONNECTOR FROM TERMINAL "E" TO TERMINAL "B". DOES J 39200 DISPLAY "OL" (INFINITE)?

REPLACE DUAL POLE ARMING SENSOR.

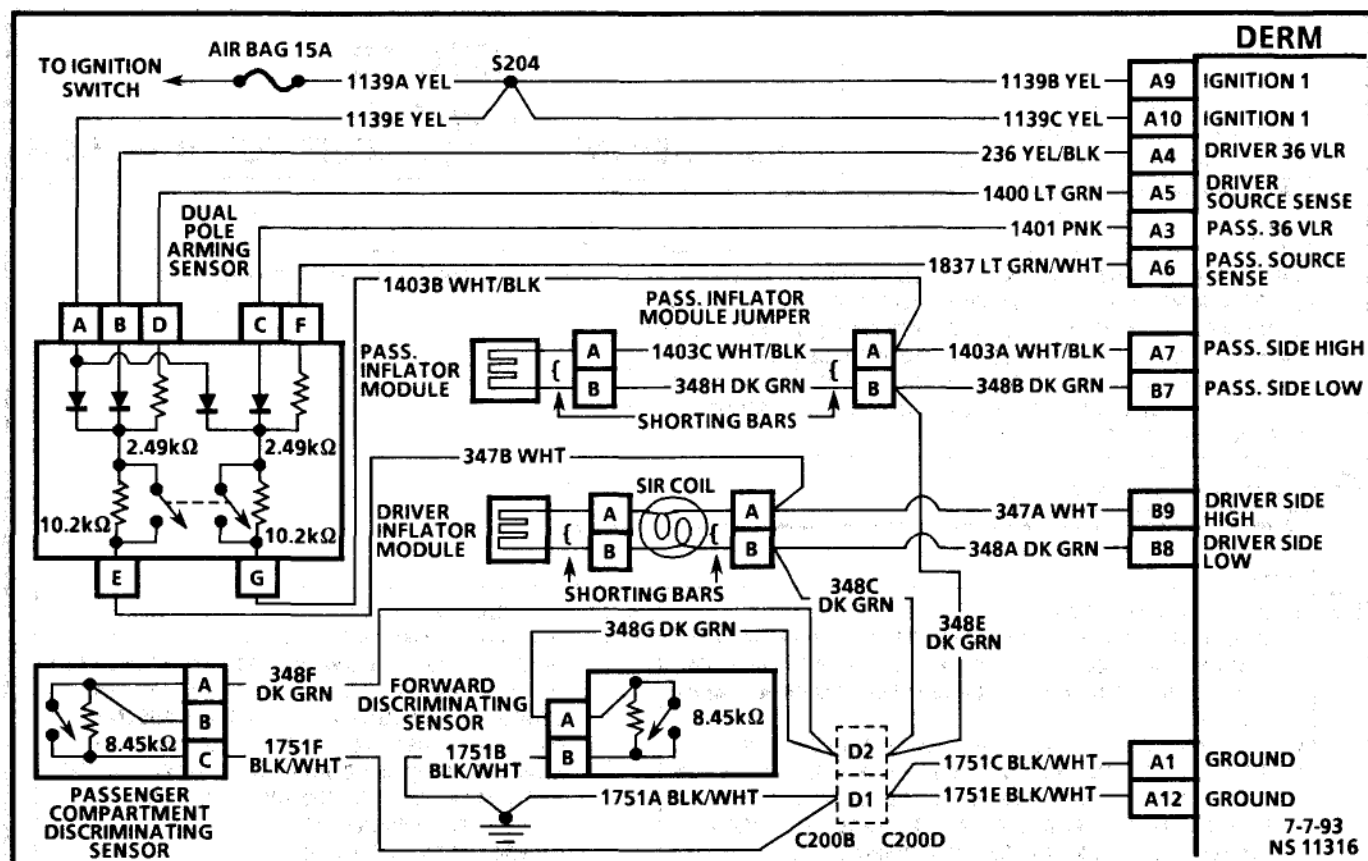
YES

NO

CONTINUE WITH DIAGNOSIS ON NEXT PAGE.

REPAIR SHORT FROM CKT 347 TO CKT 236.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

**DTC 19**

(Page 2 of 3)

PASSENGER INITIATOR CIRCUIT VOLTAGE HIGH**Circuit Description:**

During normal, non-deployment operation of the SIR system, a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltage at "Passenger Side Low" terminal "B7" to detect shorts or opens within the passenger deployment loop. When the measured voltage is above a specified percentage of "Passenger 36 VLR" for 500 milliseconds DTC 19 is set.

DTC Will Set When: The voltage measured at "Passenger Side Low" terminal "B7" is above a specified percentage of "Passenger 36 VLR" for 500 milliseconds and DTC 35 is not set. This test is run every 100 milliseconds during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

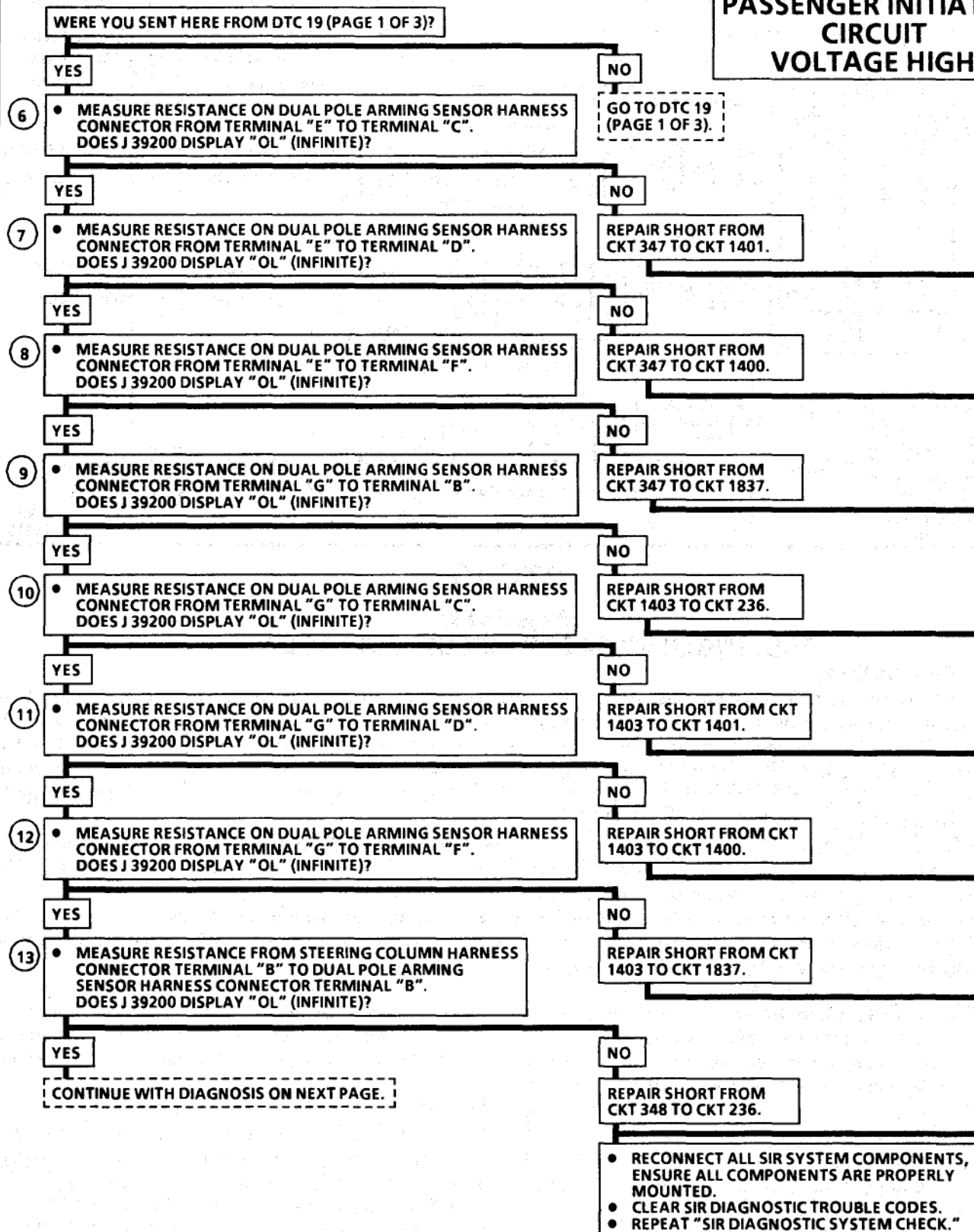
DTC Will Clear When: The voltage measured at "Passenger Side Low" terminal "B7" is within a specified percentage of "Passenger 36 VLR" for 500 milliseconds.

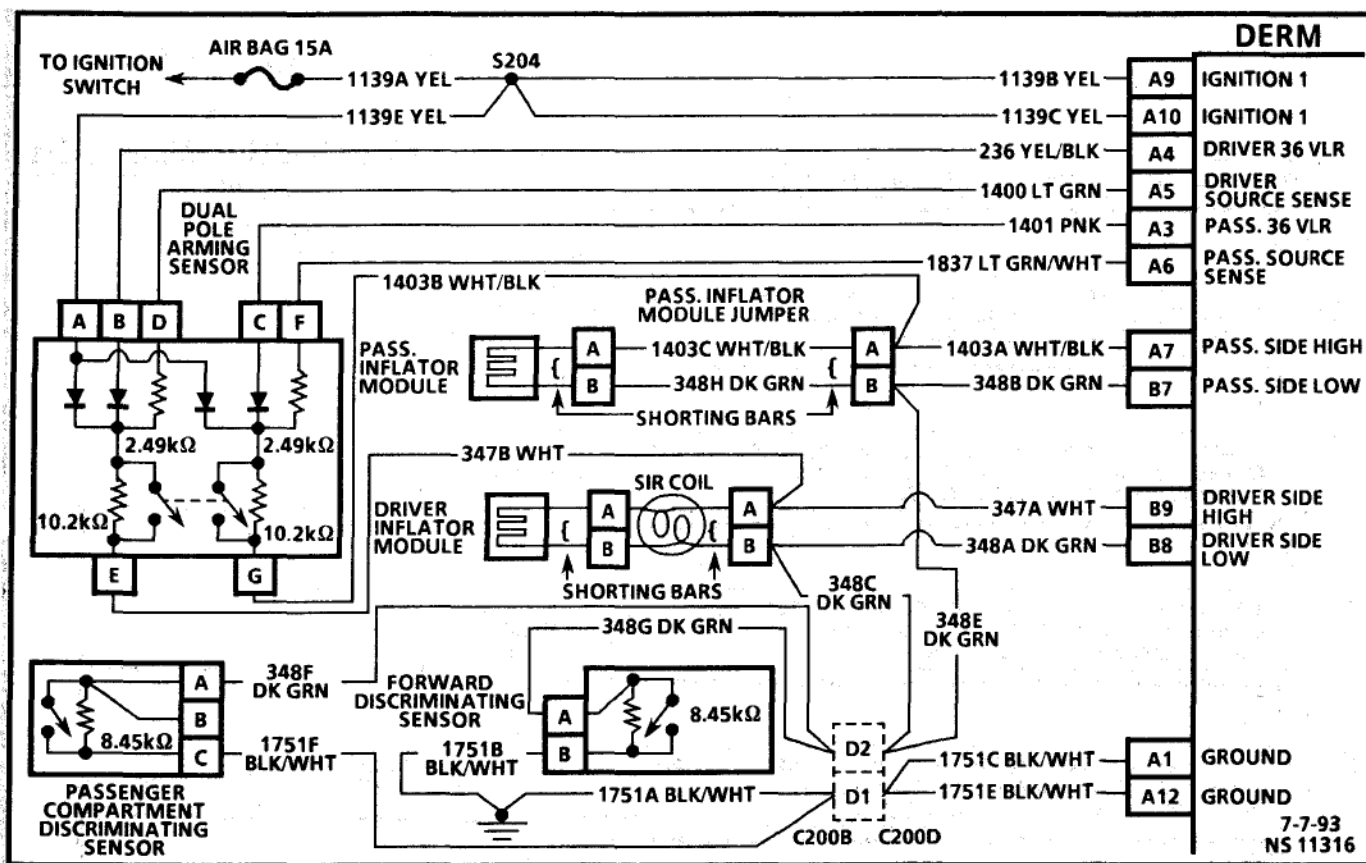
DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

- This test checks for a short from the high side of the driver deployment loop to "Passenger 36 VLR."
- This test checks for a short from the high side of the driver deployment loop to "Driver Source Sense."
- This test checks for a short from the high side of the driver deployment loop to "Passenger Source Sense."
- This test checks for a short from the high side of the passenger deployment loop to "Driver 36 VLR."

- This test checks for a short from the high side of the passenger deployment loop to "Passenger 36 VLR."
- This test checks for a short from the high side of the passenger deployment loop to "Driver Source Sense."
- This test checks for a short from the high side of the passenger deployment loop to "Passenger Source Sense."
- This test checks for a short from the low side of the driver deployment loop to "Driver 36 VLR."

Diagnostic Aids: Refer to DTC 19 (Page 3 of 3).

DTC 19**(Page 2 of 3)
PASSENGER INITIATOR
CIRCUIT
VOLTAGE HIGH**



DTC 19

(Page 3 of 3)

PASSENGER INITIATOR CIRCUIT VOLTAGE HIGH

Circuit Description:

During normal, non-deployment operation of the SIR system, a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltage at "Passenger Side Low" terminal "B7" to detect shorts or opens within the passenger deployment loop. When the measured voltage is above a specified percentage of "Passenger 36 VLR" for 500 milliseconds DTC 19 is set.

DTC Will Set When: The voltage measured at "Passenger Side Low" terminal "B7" is above a specified percentage of "Passenger 36 VLR" for 500 milliseconds and DTC 35 is not set. This test is run every 100 milliseconds during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Passenger Side Low" terminal "B7" is within a specified percentage of "Passenger 36 VLR" for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

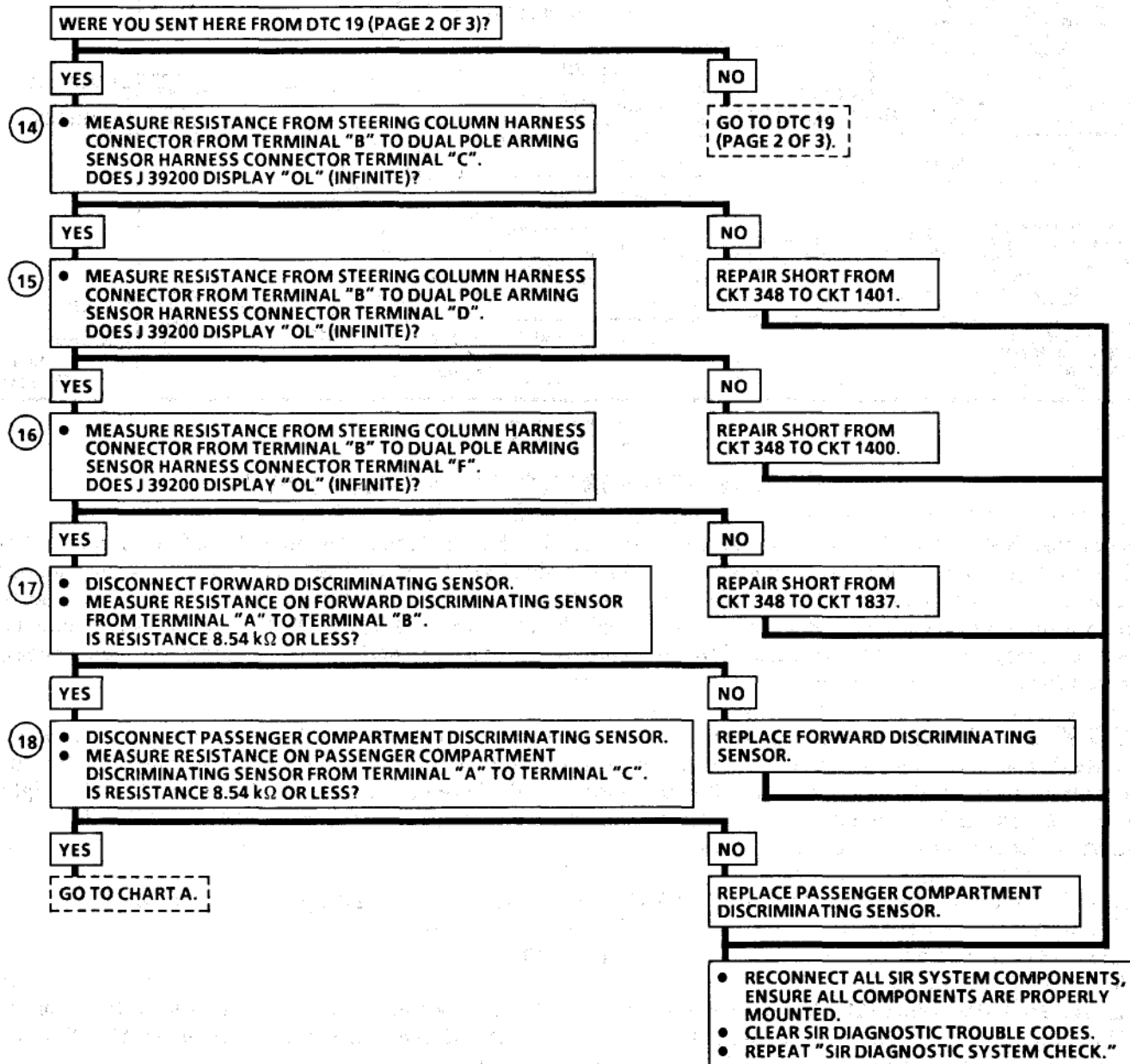
- This test checks for a short from the low side of the driver deployment loop to "Passenger 36 VLR."
- This test checks for a short from the low side of the driver deployment loop to "Driver Source Sense."
- This test checks for a short from the low side of the driver deployment loop to "Passenger Source Sense."
- This test checks for increased resistance of the diagnostic resistor in the forward discriminating sensor.

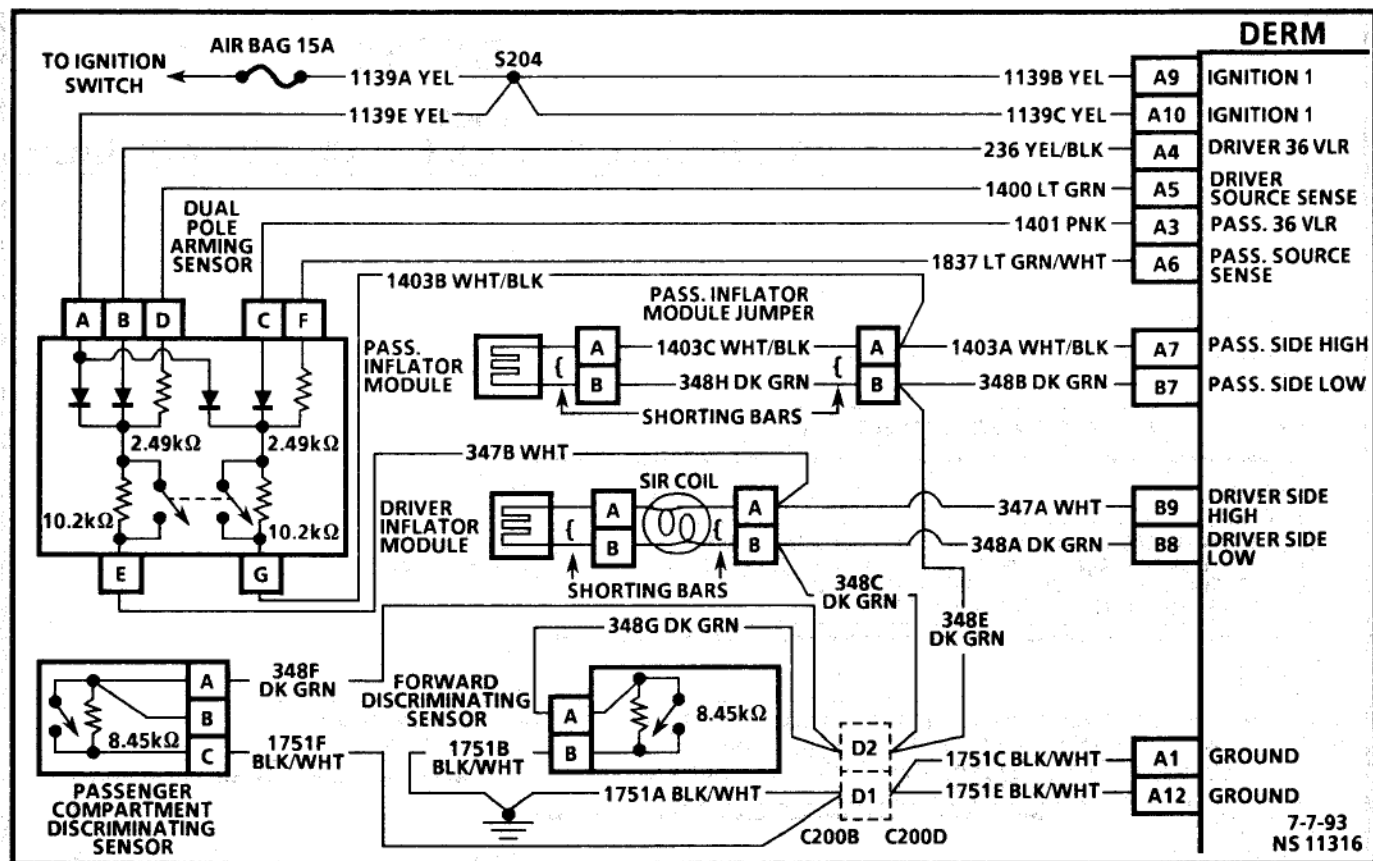
- This test determines whether the malfunction is increased resistance of the diagnostic resistor in the passenger compartment discriminating sensor.

Diagnostic Aids: An intermittent condition is likely to be caused by backed out/shorted terminals on the arming sensor harness connector, poor connection at any of the discriminating sensor terminals, a short from CKT 236 or CKT 1401 to CKT 347, CKT 348 or CKT 1403, a short from CKT 1400 or CKT 1837 to CKT 347, CKT 348 or CKT 1403.

DTC 19

(Page 3 of 3)

PASSENGER INITIATOR CIRCUIT VOLTAGE HIGH



DTC 21

DRIVER INITIATOR CIRCUIT RESISTANCE HIGH

Circuit Description:

During the "Initiator Assembly Resistance Test" the DERM grounds the "Passenger Side Low" terminal "B7" and turns "ON" the driver current source at the "Driver Side High" terminal "B9". This causes a known amount of current to flow through the driver initiator circuit. By monitoring the difference between the voltage at the "Driver Side High" terminal "B9" and the "Driver Side Low" terminal "B8" the DERM calculates the combined resistance of the driver inflator module, SIR coil assembly, harness wiring CKTs 347A and 348A and connector terminal contact.

DTC Will Set When: The combined resistance of the driver inflator module, SIR coil assembly, harness wiring CKT 347A and connector terminal contact is above a specified value. This test is run during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test determines whether the malfunction is in the driver inflator module circuitry or in the DERM wiring harness circuitry.
2. This test determines whether the malfunction is an open in CKT 347A.
3. This test determines whether the malfunction is in the driver inflator module or the SIR coil assembly.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection at: the yellow 2-way connector near the base of the steering column, DERM terminals "B8 or "B9", or the connection at the top of steering column to the driver inflator module.

DTC 21

DRIVER INITIATOR CIRCUIT RESISTANCE HIGH

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

NO

GO TO THE "SIR
DIAGNOSTIC SYSTEM
CHECK".

1

- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND I/P COMPARTMENT DOOR ASSEMBLY.
 - CHECK FOR PROPER CONNECTION TO STEERING COLUMN CONNECTOR AT TERMINALS "A" AND "B".
 - IF OK THEN CONNECT J 38715 SIR DRIVER/PASSENGER LOAD TOOL TO STEERING COLUMN HARNESS CONNECTOR AND PASSENGER INFLATOR MODULE HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 21 CURRENT?

YES

2

- IGNITION SWITCH "OFF."
 - DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL.
 - DISCONNECT DERM.
 - CHECK FOR PROPER CONNECTION TO DERM AT TERMINAL "B9".
 - IF OK THEN MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "B9" TO STEERING COLUMN HARNESS CONNECTOR TERMINAL "A".
- IS RESISTANCE 2.0Ω OR LESS?

YES

GO TO CHART A.

NO

REPAIR OPEN IN
CKT 347A.

NO

3

- IGNITION SWITCH "OFF."
 - DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL FROM STEERING COLUMN HARNESS CONNECTOR.
 - REMOVE INFLATOR MODULE FROM STEERING WHEEL, REFER TO SECTION 3F.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO INFLATOR MODULE CONNECTOR ON STEERING COLUMN.
 - RECONNECT STEERING COLUMN CONNECTOR TO STEERING COLUMN HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 21 CURRENT?

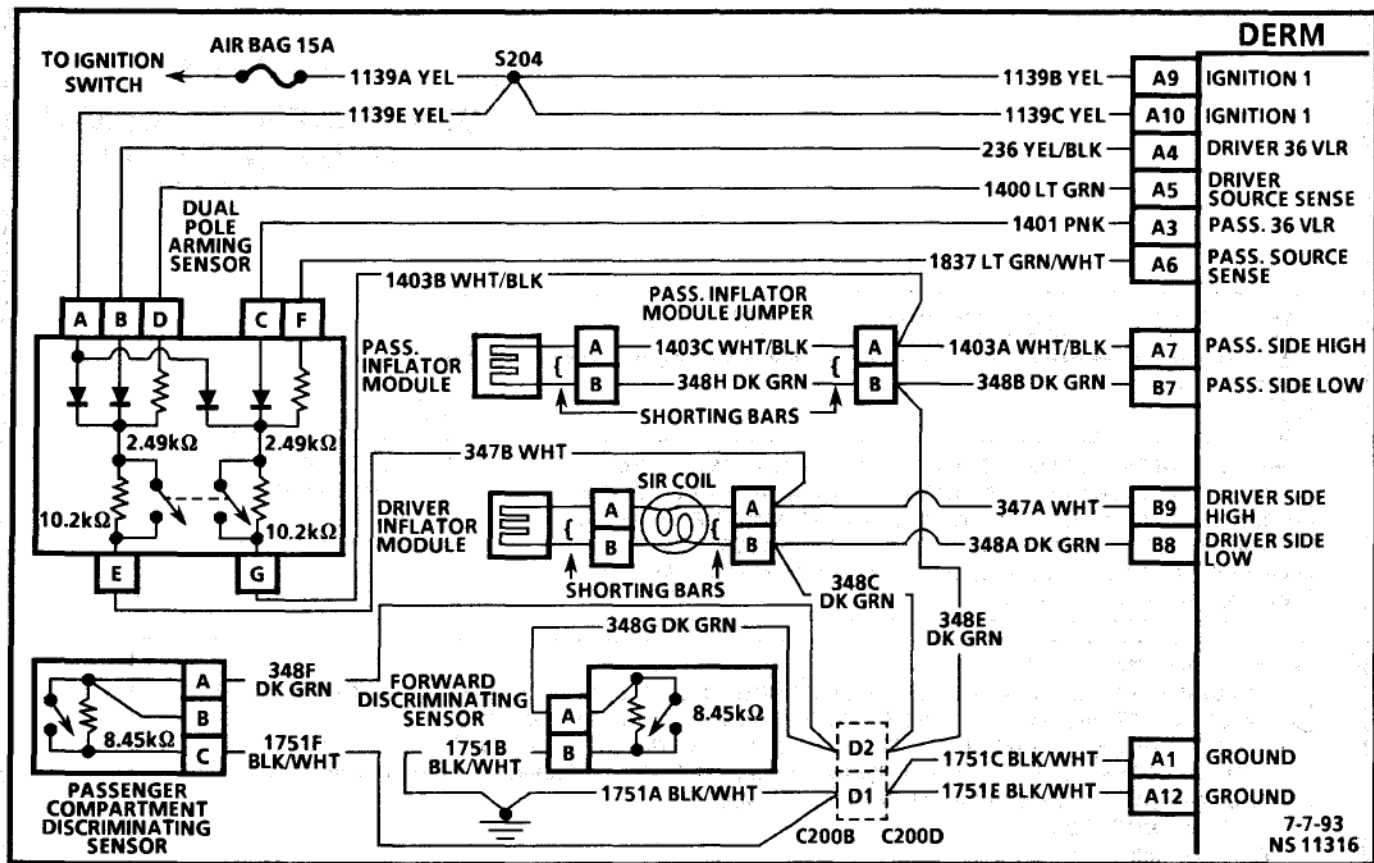
YES

- IGNITION SWITCH "OFF."
- REPLACE SIR COIL, REFER TO SECTION 3F5B.

NO

- IGNITION SWITCH "OFF."
- REPLACE DRIVER INFLATOR MODULE, REFER TO SECTION 3F.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK".



DTC 22

DRIVER INITIATOR CIRCUIT RESISTANCE LOW

Circuit Description:

During the "Initiator Assembly Resistance Test" the DERM grounds the "Passenger Side Low" terminal "B7" and turns "ON" the driver current source at the "Driver Side High" terminal "B9". This causes a known amount of current to flow through the driver initiator circuit. By monitoring the difference between the voltage at the "Driver Side High" terminal "B9" and the "Driver Side Low" terminal "B8" the DERM calculates the combined resistance of the driver inflator module, SIR coil assembly, harness wiring CKTs 347A and 348A and connector terminal contact.

DTC Will Set When: The combined resistance of the driver inflator module, SIR coil assembly, harness wiring CKTs 347 and 348 and connector terminal contact is below a specified value. This test is run during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. DTC 16 and 22 will set simultaneously when the "Driver Side High" circuit is shorted to the "Passenger Side High" circuit due to parallel current paths.
2. This test determines whether the malfunction is in the driver inflator module circuitry or in the DERM wiring harness circuitry.
3. This test checks for a short from the "Driver Side High" circuit to the "Driver Side Low" circuit.
4. This test determines whether the malfunction is in the driver inflator module or the SIR coil assembly.

Diagnostic Aids: An intermittent condition is likely to be caused by a short between CKT 347 and CKT 348 or CKT 1403, or a malfunctioning shorting clip at the base of the steering column. The test for this diagnostic trouble code is only run while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the next ignition cycle.

DTC 22

DRIVER INITIATOR CIRCUIT RESISTANCE LOW

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1 IS DTC 16 ALSO CURRENT?

NO

- 2
- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - CONNECT J 38715 SIR DRIVER/PASSENGER LOAD TOOL TO STEERING COLUMN HARNESS CONNECTOR AND PASSENGER INFLATOR MODULE HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 22 CURRENT?

YES

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- REPAIR SHORT FROM CKT 347 TO CKT 1403.

YES

- 3
- IGNITION SWITCH "OFF."
 - DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL.
 - DISCONNECT DERM.
 - MEASURE RESISTANCE ON DERM HARNESS CONNECTOR FROM TERMINAL "B8" TO TERMINAL "B9".
- DOES J 39200 DISPLAY "OL" (INFINITE)?

NO

- 4
- IGNITION SWITCH "OFF."
 - DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL FROM STEERING COLUMN HARNESS CONNECTOR.
 - REMOVE INFLATOR MODULE FROM STEERING WHEEL, REFER TO SECTION 3F.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO INFLATOR MODULE CONNECTOR ON STEERING COLUMN.
 - RECONNECT STEERING COLUMN CONNECTOR TO STEERING COLUMN HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 22 CURRENT?

YES

GO TO CHART A.

NO

REPAIR SHORT FROM
CKT 347 TO CKT 348.

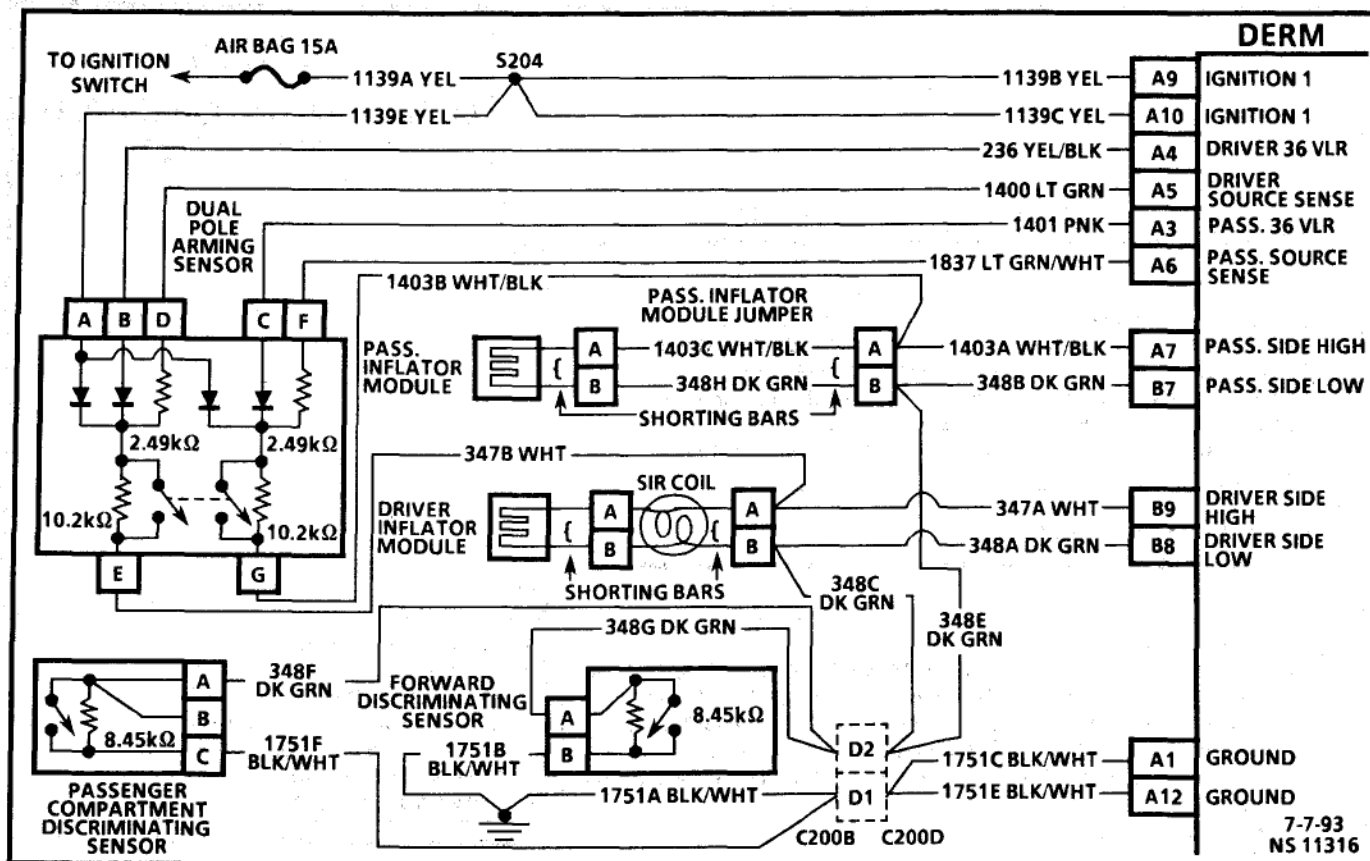
YES

- IGNITION SWITCH "OFF."
- REPLACE SIR COIL, REFER TO SECTION 3F5B.

NO

- IGNITION SWITCH "OFF."
- REPLACE DRIVER INFLATOR MODULE, REFER TO SECTION 3F.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 23

DRIVER INITIATOR CIRCUIT VOLTAGE HIGH

Circuit Description:

During normal, non-deployment operation of the SIR system, a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltage at "Driver Side Low" terminal "B8" to detect shorts or opens within the driver deployment loop. When the measured voltage is above a specified percentage of "Driver 36 VLR" for 500 milliseconds DTC 23 is set.

DTC Will Set When: The voltage measured at "Driver Side Low" terminal "B8" is above a specified percentage of "Driver 36 VLR" for 500 milliseconds and DTC 35 is not set. This test is run during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Driver Side Low" terminal "B8" is within a specified percentage of "Driver 36 VLR" for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. DTC 23 and 24 together means that there is an open between the driver inflator module harness connector and the discriminating sensor interconnect.
2. This test determines whether the malfunction is an open in CKT 348C.

Diagnostic Aids: An open between the driver inflator module harness connector and the discriminating sensor interconnect causes the voltage to increase at "Driver Side Low" due to the loss of a ground path. This also causes the voltage to decrease at "Passenger Side Low" due to decreased current flow through the discriminating sensor network. Refer to DTC 19 (Page 3 of 3) to diagnose history DTC 23.

DTC 23

DRIVER INITIATOR CIRCUIT VOLTAGE HIGH

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1 IS DTC 24 ALSO CURRENT?

YES

NO

- 2
- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - MEASURE RESISTANCE FROM DRIVER INFLATOR MODULE HARNESS CONNECTOR TERMINAL "B" TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR TERMINAL "B". IS RESISTANCE 5.0Ω OR LESS?

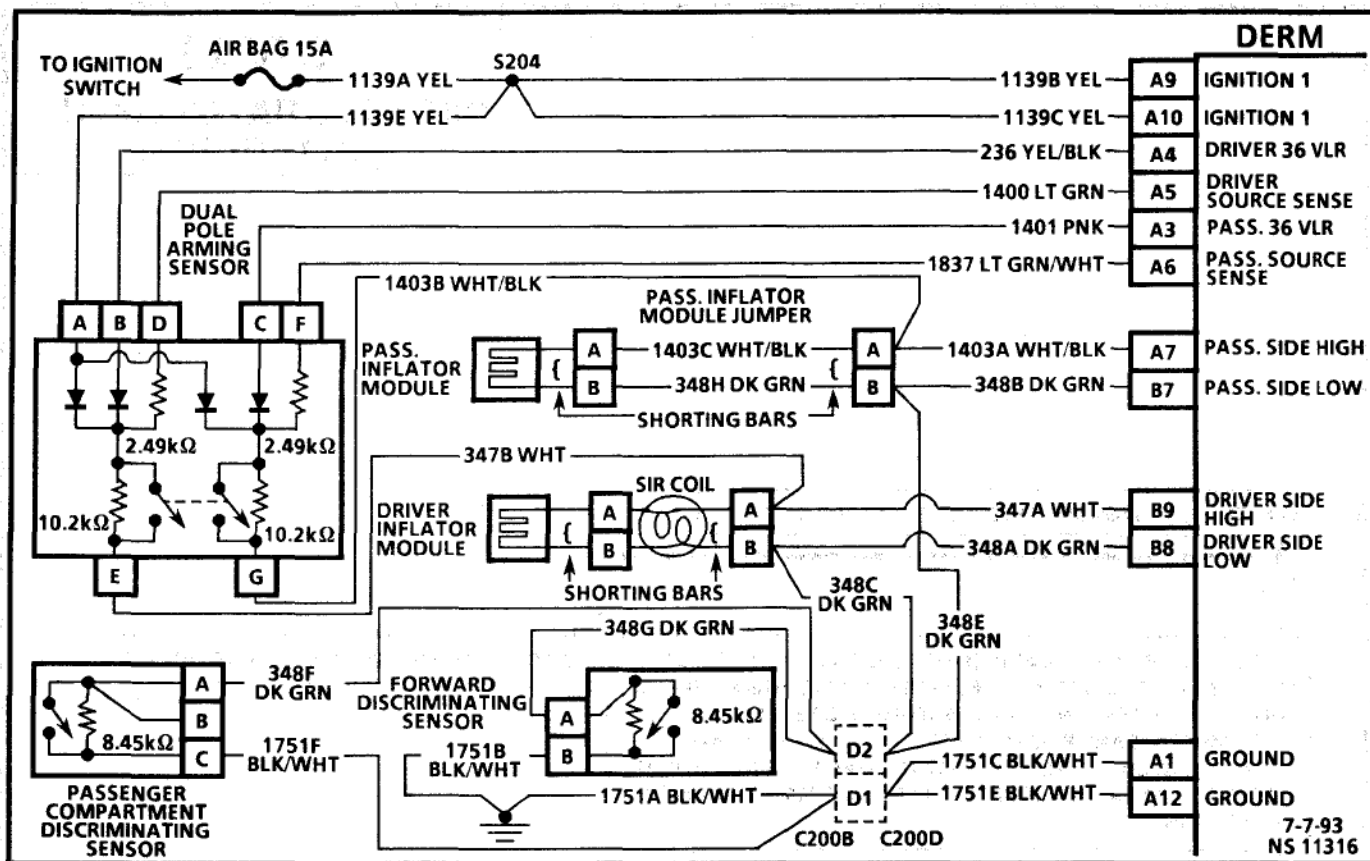
GO TO AND FOLLOW DTC 19 (PAGE 1 OF 3). MALFUNCTIONS WHICH SET DTC 19 AND DTC 23 SIMULTANEOUSLY ARE DIAGNOSED IN DTC 19 CHARTS.

YES

NO

GO TO CHART A.

- REPAIR OPEN IN CKT 348C.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 24

(Page 1 of 3)

INITIATOR CIRCUIT VOLTAGE LOW

Circuit Description:

During normal, non-deployment operation of the SIR system, a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltages at "Driver Side Low" terminal "B8" and "Passenger Side Low" terminal "B7" to detect shorts or opens within the deployment loops. When the measured voltage at terminal "B8" or "B7" is below a specified percentage of its respective 36 VLR power supply voltage for 500 milliseconds DTC 24 is set.

DTC Will Set When: The voltage measured at "Driver Side Low" terminal "B8" is below a specified percentage of "Driver 36 VLR" or when the voltage measured at "Passenger Side Low" terminal "B7" is below a specified percentage of "Passenger 36 VLR" for 500 milliseconds. This test is run during the "Continuous Monitoring" test.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Driver Side Low" terminal "B8" is within a specified percentage of "Driver 36 VLR" and the voltage measured at "Passenger Side Low" terminal "B7" is within a specified percentage of "Passenger 36 VLR" for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test determines whether the malfunction is occurring in the steering column circuitry.
2. This test determines whether the malfunction is occurring in the passenger inflator module circuitry.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection at DERM terminals "A3" and "A4", dual pole arming sensor terminals "B", "C", "E" or "G", water intrusion in any discriminating sensor, an open in CKT 1403B or CKT 347B, or a short to ground in CKT 347, CKT 348 or CKT 1403. Refer to DTC 25 to diagnose a possible short to B+. When the malfunction occurs during an ignition cycle DTC 24 will set. If the malfunction is present at the beginning of the next ignition cycle DTC 25 will set and DTC 24 will be moved to a history file.

DTC 24

(Page 1 of 3)

INITIATOR CIRCUIT VOLTAGE LOW

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

1

- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER INFLATOR MODULE, YELLOW 2-WAY CONNECTOR AT THE BASE OF THE STEERING COLUMN, LEAVE PASSENGER INFLATOR MODULE CONNECTED.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL J 38715 TO DRIVER INFLATOR MODULE HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 24 CURRENT?

YES

NO

2

- IGNITION SWITCH "OFF."
 - DISCONNECT PASSENGER INFLATOR MODULE, YELLOW 2-WAY CONNECTOR LOCATED BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR, LEAVE DRIVER INFLATOR MODULE HARNESS CONNECTOR CONNECTED TO LOAD TOOL.
 - IGNITION SWITCH "ON."
- IS DTC 24 CURRENT?

- IGNITION SWITCH "OFF."
- REMOVE INFLATOR MODULE FROM STEERING WHEEL, REFER TO SECTION 3F.
- REMOVE AND INSPECT SIR COIL AND CONNECTING WIRES FOR DAMAGE. DETERMINE AND REPAIR THE CAUSE OF DAMAGE AND REPLACE SIR COIL, REFER TO SECTION 3F5B.

YES

NO

CONTINUE WITH DIAGNOSIS ON NEXT PAGE.

- IGNITION SWITCH "OFF."
- REMOVE LOWER SOUND INSULATOR PANEL-RH, REFER TO SECTION 8C, TO ACCESS PASSENGER INFLATOR MODULE.
- INSPECT INFLATOR MODULE WIRES AND CONNECTOR FOR CUTTING OR PINCHING WHICH COULD CAUSE A SHORT. IF ANY DAMAGE IS DETECTED REPLACE INFLATOR MODULE, DETERMINE AND REPAIR THE CAUSE OF DAMAGE.
- IF INFLATOR MODULE IS OK, INSPECT PASSENGER INFLATOR MODULE JUMPER WIRES FOR DAMAGE. DETERMINE AND REPAIR THE CAUSE OF DAMAGE AND REPAIR THE JUMPER WIRE.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK".



INITIATOR CIRCUIT VOLTAGE LOW

During normal, non-deployment operation of the SIR system, a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltages at "Driver Side Low" terminal "B8" and "Passenger Side Low" terminal "B7" to detect shorts or opens within the deployment loops. When the measured voltage at terminal "B8" or "B7" is below a specified percentage of its respective 36 VLR power supply voltage for 500 milliseconds DTC 24 is set.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

3. This test checks for a partial short across the diagnostic resistor in the forward discriminating sensor.
4. This test checks for a partial short across the diagnostic resistor in the passenger compartment discriminating sensor.

5. This test checks for a short from the discriminating sensor interconnect circuit to ground.
6. This test checks for a short from the low side of the passenger deployment loop to ground.
7. This test checks for a short from the high side of the driver deployment loop to ground.

Diagnostic Aids: Refer to DTC 24 (Page 1 of 3).

DTC 24

(Page 2 of 3)

INITIATOR CIRCUIT VOLTAGE LOW

WERE YOU SENT HERE FROM DTC 24 (PAGE 1 OF 3)?

YES

NO

GO TO DTC 24 (PAGE 1 OF 3).

3

- IGNITION SWITCH "OFF."
- DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL.
- DISCONNECT FORWARD DISCRIMINATING SENSOR.
- MEASURE RESISTANCE OF FORWARD DISCRIMINATING SENSOR FROM TERMINAL "A" TO TERMINAL "B". IS RESISTANCE LESS THAN 8.36 k Ω ?

NO

YES

4

- DISCONNECT PASSENGER COMPARTMENT DISCRIMINATING SENSOR.
- MEASURE RESISTANCE OF PASSENGER COMPARTMENT DISCRIMINATING SENSOR FROM TERMINAL "A" TO TERMINAL "C". IS RESISTANCE LESS THAN 8.36 k Ω ?

REPLACE FORWARD DISCRIMINATING SENSOR.

NO

YES

5

- DISCONNECT CONNECTOR C200B FROM CONNECTOR C200D.
- MEASURE RESISTANCE ON PASSENGER COMPARTMENT DISCRIMINATING SENSOR HARNESS CONNECTOR FROM TERMINAL "A" TO TERMINAL "C" (GROUND). IS RESISTANCE 5.0 Ω OR LESS?

REPLACE PASSENGER COMPARTMENT DISCRIMINATING SENSOR.

NO

YES

6

- RECONNECT CONNECTOR C200B TO CONNECTOR C200D.
- DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINALS "A3" AND "A4".
- IF OK, THEN MEASURE RESISTANCE ON DERM HARNESS CONNECTOR FROM TERMINAL "B8" TO TERMINAL "A1" (GROUND). IS RESISTANCE 5.0 Ω OR LESS?

REPAIR SHORT FROM CKT 348F OR CKT 348G TO GROUND.

NO

YES

7

- MEASURE RESISTANCE ON DERM HARNESS CONNECTOR FROM TERMINAL "B9" TO TERMINAL "A1" (GROUND). IS RESISTANCE 5.0 Ω OR LESS?

REPAIR SHORT FROM CKT 348A, 348B, 348C OR 348E TO GROUND.

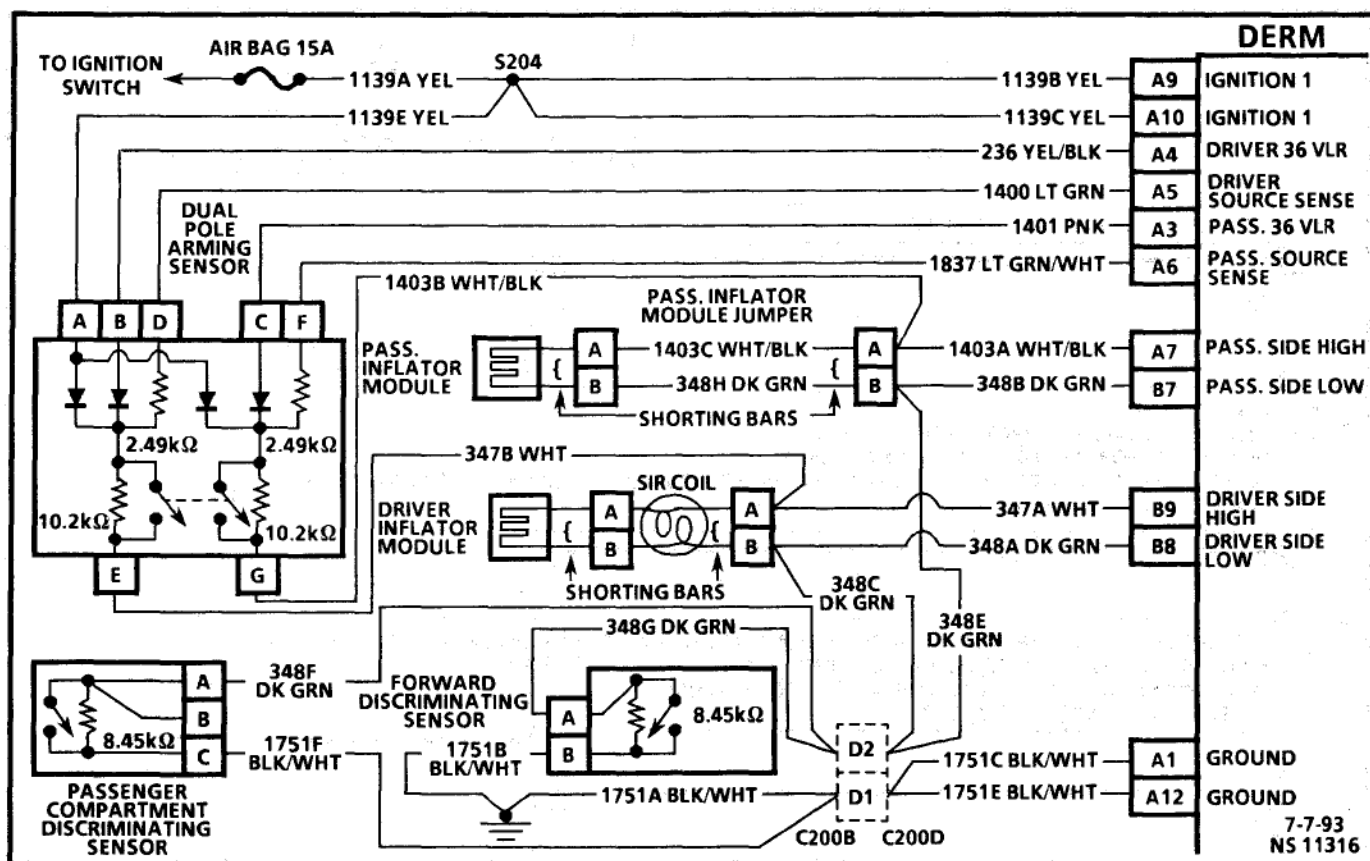
NO

YES

CONTINUE WITH DIAGNOSIS ON NEXT PAGE.

REPAIR SHORT FROM CKT 347 TO GROUND.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

**DTC 24**

(Page 3 of 3)

INITIATOR CIRCUIT VOLTAGE LOW**Circuit Description:**

During normal, non-deployment operation of the SIR system, a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltages at "Driver Side Low" terminal "B8" and "Passenger Side Low" terminal "B7" to detect shorts or opens within the deployment loops. When the measured voltage at terminal "B8" or "B7" is below a specified percentage of its respective 36 VLR for 500 milliseconds DTC 24 is set.

DTC Will Set When: The voltage measured at "Driver Side Low" terminal "B8" is below a specified percentage of "Driver 36 VLR" or when the voltage measured at "Passenger Side Low" terminal "B7" is below a specified percentage of "Passenger 36 VLR" for 500 milliseconds. This test is run during the "Continuous Monitoring" test.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Driver Side Low" terminal "B8" is within a specified percentage of "Driver 36 VLR" and the voltage measured at "Passenger Side Low" terminal "B7" is within a specified percentage of "Passenger 36 VLR" for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

- This test determines whether the malfunction is a short from the high side of the passenger deployment loop to ground.
- This test checks for an open in the driver deployment loop diagnostic resistor of the dual pole arming sensor.
- This test checks for an open in the passenger deployment loop diagnostic resistor of the dual pole arming sensor.

- This test checks for high resistance in the "Driver 36 VLR" circuit.
- This test checks for high resistance in the "Passenger 36 VLR" circuit.
- This test checks for an open in the high side of the driver deployment loop.
- This test checks for an open in the high side of the passenger deployment loop.

Diagnostic Aids: Refer to DTC 24 (Page 1 of 3).

DTC 24

(Page 3 of 3)
**INITIATOR CIRCUIT
 VOLTAGE LOW**

WERE YOU SENT HERE FROM DTC 24 (PAGE 2 OF 3)?

YES

NO

GO TO DTC 24 (PAGE 2 OF 3).

- 8 • MEASURE RESISTANCE ON DERM HARNESS CONNECTOR FROM TERMINAL "A7" TO TERMINAL "A1" (GROUND). DOES J 39200 DISPLAY "OL" (INFINITE)?

YES

NO

REPAIR SHORT FROM CKT 1403 TO GROUND.

- 9 • DISCONNECT DUAL POLE ARMING SENSOR.
 • CHECK FOR PROPER CONNECTION TO THE DUAL POLE ARMING SENSOR AT TERMINAL "B", "C", "E" AND "G".
 • IF OK THEN MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR CONNECTOR FROM TERMINAL "D" TO TERMINAL "E". IS RESISTANCE GREATER THAN 12.9 k Ω ?

NO

YES

REPLACE DUAL POLE ARMING SENSOR.

- 10 • MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR CONNECTOR FROM TERMINAL "F" TO TERMINAL "G". IS RESISTANCE GREATER THAN 12.9 k Ω ?

NO

YES

REPLACE DUAL POLE ARMING SENSOR.

- 11 • MEASURE RESISTANCE FROM DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "B" TO DERM HARNESS CONNECTOR TERMINAL "A4". IS RESISTANCE 5.0 Ω OR LESS?

YES

NO

REPAIR HIGH RESISTANCE IN CKT 236.

- 12 • MEASURE RESISTANCE FROM DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "C" TO DERM HARNESS CONNECTOR TERMINAL "A3". IS RESISTANCE 5.0 Ω OR LESS?

YES

NO

REPAIR HIGH RESISTANCE IN CKT 1401.

- 13 • MEASURE RESISTANCE FROM DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "E" TO DERM HARNESS CONNECTOR TERMINAL "B9". IS RESISTANCE 5.0 Ω OR LESS?

YES

NO

REPAIR OPEN IN CKT 347B.

- 14 • MEASURE RESISTANCE FROM DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "G" TO DERM HARNESS CONNECTOR TERMINAL "A7". IS RESISTANCE 5.0 Ω OR LESS?

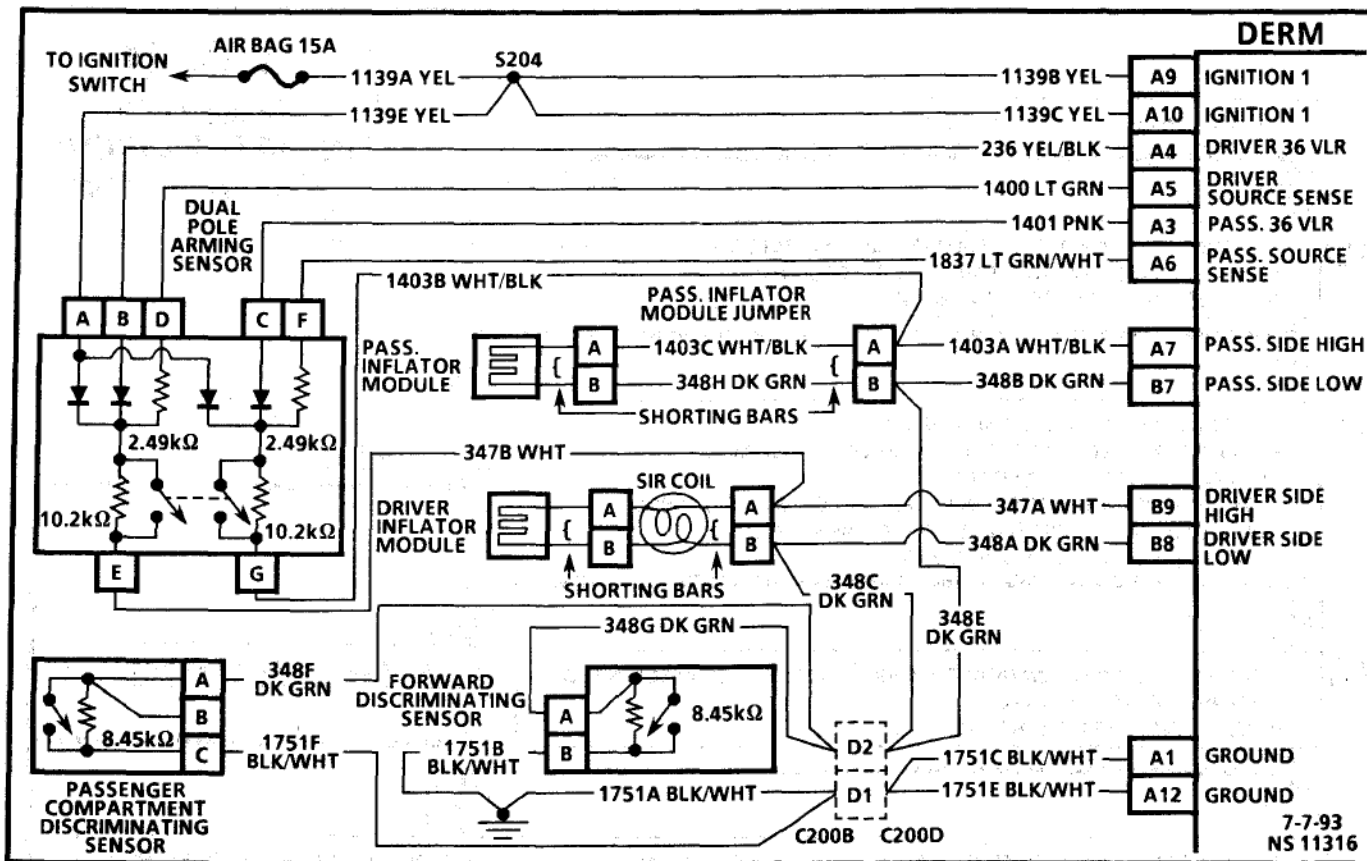
YES

NO

REPAIR OPEN IN CKT 1403B.

GO TO CHART A.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

**DTC 25**

(Page 1 of 2)

INITIATOR CIRCUIT SHORT TO IGNITION**Circuit Description:**

During the "Initiator Assembly Resistance Test" the DERM grounds the "Driver Side Low" terminal "B8" and measures the voltage at "Driver Side Low" and "Passenger Side Low." The DERM then grounds "Passenger Side Low" terminal "B7" and again measures the voltage at "Driver Side Low" and "Passenger Side Low." For a properly operating circuit the voltage measurements during each of these tests will be below a specified value. When the voltages measured at both "Driver Side Low" and "Passenger Side Low" are above a specified value during both tests DTC 25 is set.

DTC Will Set When: The voltages measured at both "Driver Side Low" and "Passenger Side Low" are above a specified value while the DERM attempts to ground each of these terminals. This test is run during the "Initiator Assembly Resistance Test" and the "10 Minute Loop Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at either "Driver Side Low" or "Passenger Side Low" is below a specified value while the DERM grounds either of these terminals.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

Diagnostic Aids: Refer to DTC 25 (Page 2 of 2).

1. This test determines whether the malfunction is occurring in the steering column circuitry.
2. This test determines whether the malfunction is occurring in the passenger inflator module circuitry.

DTC 25

(Page 1 of 2)

INITIATOR CIRCUIT SHORT TO IGNITION

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

1

- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER INFLATOR MODULE, YELLOW 2-WAY CONNECTOR AT THE BASE OF THE STEERING COLUMN, LEAVE PASSENGER INFLATOR MODULE CONNECTED.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL J 38715 TO DRIVER INFLATOR MODULE HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 25 CURRENT?

YES

NO

2

- IGNITION SWITCH "OFF."
 - DISCONNECT PASSENGER INFLATOR MODULE, YELLOW 2-WAY CONNECTOR LOCATED BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR, LEAVE DRIVER INFLATOR MODULE HARNESS CONNECTOR CONNECTED TO LOAD TOOL.
 - IGNITION SWITCH "ON."
- IS DTC 25 CURRENT?

- IGNITION SWITCH "OFF."
- REMOVE INFLATOR MODULE FROM STEERING WHEEL, REFER TO SECTION 3F.
- REMOVE AND INSPECT SIR COIL AND CONNECTING WIRES FOR DAMAGE. DETERMINE AND REPAIR THE CAUSE OF DAMAGE AND REPLACE SIR COIL, REFER TO SECTION 3F5B.

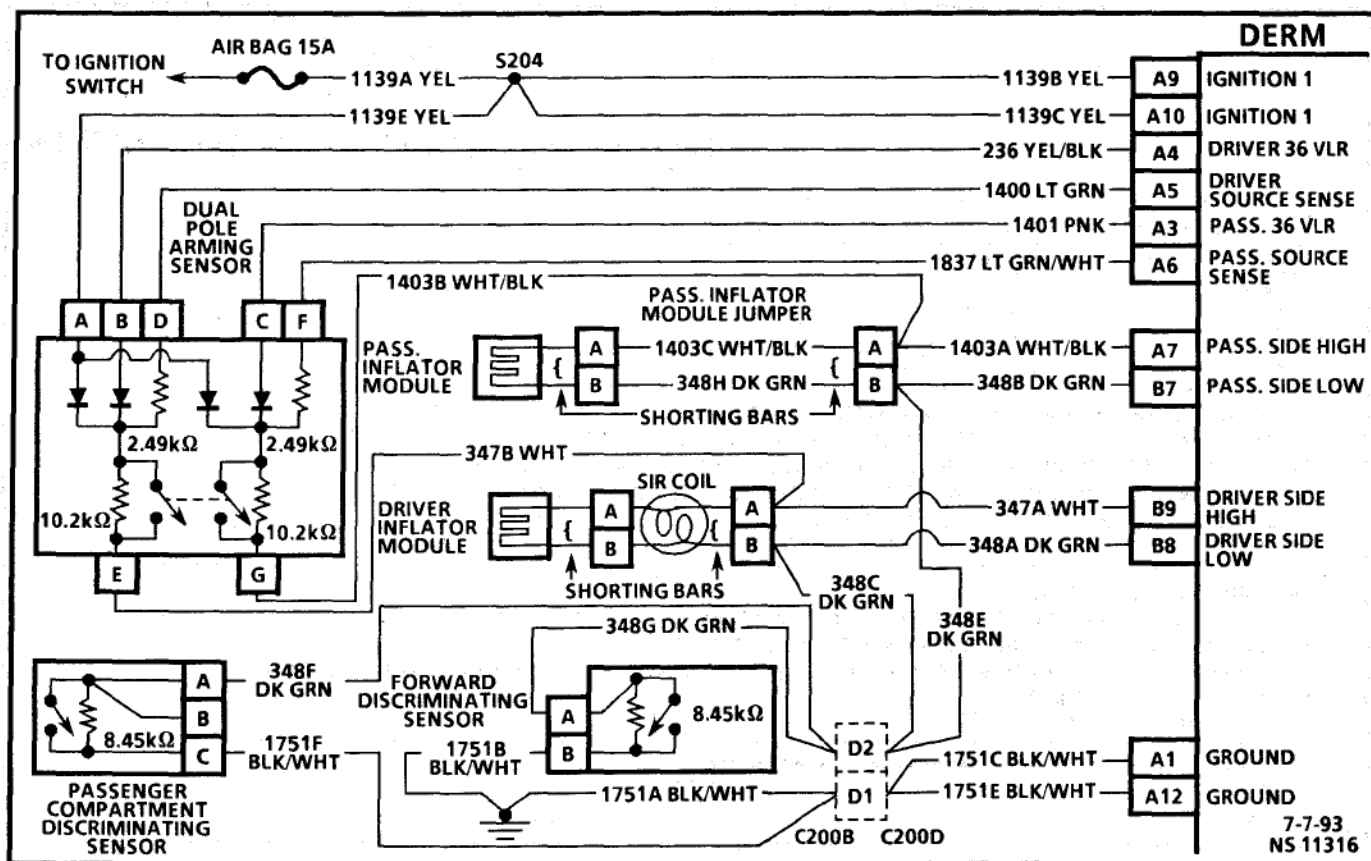
YES

NO

CONTINUE WITH DIAGNOSIS ON NEXT PAGE.

- IGNITION SWITCH "OFF."
- REMOVE LOWER SOUND INSULATOR PANEL-RH, REFER TO SECTION 8C, TO ACCESS PASSENGER INFLATOR MODULE.
- INSPECT INFLATOR MODULE WIRES AND CONNECTOR FOR CUTTING OR PINCHING WHICH COULD CAUSE A SHORT. IF ANY DAMAGE IS DETECTED REPLACE INFLATOR MODULE, DETERMINE AND REPAIR THE CAUSE OF DAMAGE.
- IF INFLATOR MODULE IS OK, INSPECT PASSENGER INFLATOR MODULE JUMPER WIRES FOR DAMAGE. DETERMINE AND REPAIR THE CAUSE OF DAMAGE AND REPAIR THE JUMPER WIRE.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK".

**DTC 25**

(Page 2 of 2)

INITIATOR CIRCUIT SHORT TO IGNITION**Circuit Description:**

During the "Initiator Assembly Resistance Test" the DERM grounds the "Driver Side Low" terminal "B8" and measures the voltage at "Driver Side Low" and "Passenger Side Low." The DERM then grounds "Passenger Side Low" terminal "B7" and again measures the voltage at "Driver Side Low" and "Passenger Side Low." For a properly operating circuit the voltage measurements during each of these tests will be below a specified value. When the voltages measured at both "Driver Side Low" and "Passenger Side Low" are above a specified value during both tests DTC 25 is set.

DTC Will Set When: The voltages measured at both "Driver Side Low" and "Passenger Side Low" are above a specified value while the DERM attempts to ground each of these terminals. This test is run during the "Initiator Assembly Resistance Test" and the "10 Minute Loop Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at either "Driver Side Low" or "Passenger Side Low" is below a specified value while the DERM grounds either of these terminals.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

- This test checks for a short from the high side of the driver deployment loop to B+.
- This test checks for a short from the high side of the passenger deployment loop to B+.
- This test checks for a short from the low side of the driver deployment loop or passenger deployment loop to B+.

Diagnostic Aids: This diagnostic trouble code can only be set when the malfunction is present as the ignition switch is turned "ON." After the "Initiator Assembly Resistance Test" is completed a short to B+ in the steering column, CKT 347, CKT 348 or CKT 1403 will cause DTC 24 to set. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear for ten minutes or until the next ignition cycle.

DTC 25

(Page 2 of 2)

INITIATOR CIRCUIT SHORT TO IGNITION

WERE YOU SENT HERE FROM DTC 25 (PAGE 1 OF 2)?

YES

3

- IGNITION SWITCH "OFF."
- DISCONNECT DERM, DUAL POLE ARMING SENSOR AND SIR DRIVER/PASSENGER LOAD TOOL.
- IGNITION SWITCH "ON."
- MEASURE VOLTAGE ON DERM HARNESS CONNECTOR FROM TERMINAL "B9" TO TERMINAL "A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

YES

4

- MEASURE VOLTAGE ON DERM HARNESS CONNECTOR FROM TERMINAL "A7" TO TERMINAL "A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

YES

5

- MEASURE VOLTAGE ON DERM HARNESS CONNECTOR FROM TERMINAL "B8" TO TERMINAL "A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

YES

- IGNITION SWITCH "OFF."
- GO TO CHART A.

NO

GO TO DTC 25 (PAGE 1 OF 2).

NO

- IGNITION SWITCH "OFF."
- REPAIR SHORT FROM CKT 347 TO B+.

NO

- IGNITION SWITCH "OFF."
- REPAIR SHORT FROM CKT 1403 TO B+.

NO

- IGNITION SWITCH "OFF."
- REPAIR SHORT FROM CKT 348 TO B+.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



Diagnostic Aids: This diagnostic trouble code will only set when there is an improper connection of either the yellow 2-way connector near the base of the steering column or the yellow 2-way connector at the top of the steering column, an open SIR coil assembly or an open inflator module.

DTC 26

DRIVER INITIATOR CIRCUIT OPEN

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

NO

1

- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
 - CHECK FOR PROPER CONNECTION TO STEERING COLUMN CONNECTOR AT TERMINALS "A" AND "B".
 - IF OK THEN CONNECT J 38715 SIR DRIVER/PASSENGER LOAD TOOL TO STEERING COLUMN HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 26 CURRENT? (DTC 17 WILL BE CURRENT DUE TO DISCONNECTED PASSENGER INFLATOR MODULE).

NO

YES

2

- IGNITION SWITCH "OFF."
 - DISCONNECT SIR DRIVER/PASSENGER LOAD TOOL.
 - REMOVE DRIVER INFLATOR MODULE FROM STEERING WHEEL, REFER TO SECTION 3F.
 - CONNECT SIR DRIVER/PASSENGER LOAD TOOL TO INFLATOR MODULE CONNECTOR ON STEERING COLUMN.
 - RECONNECT STEERING COLUMN CONNECTOR TO STEERING COLUMN HARNESS CONNECTOR.
 - IGNITION SWITCH "ON."
- IS DTC 26 CURRENT? (DTC 17 WILL BE CURRENT DUE TO DISCONNECTED PASSENGER INFLATOR MODULE).

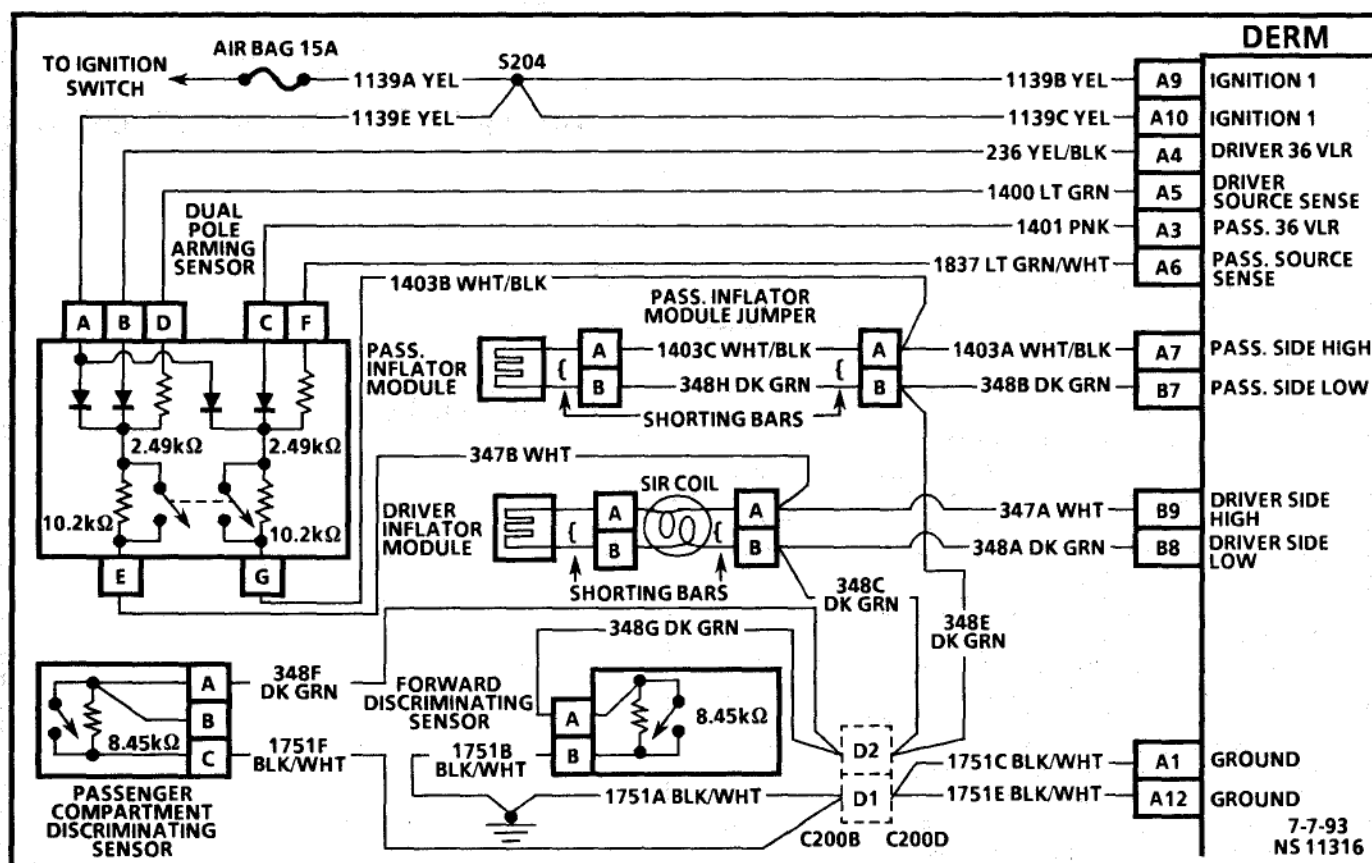
- IGNITION SWITCH "OFF."
- GO TO CHART A.

NO

YES

- IGNITION SWITCH "OFF."
- REPLACE DRIVER INFLATOR MODULE, REFER TO SECTION 3F.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

- IGNITION SWITCH "OFF."
- REPLACE SIR COIL ASSEMBLY, REFER TO SECTION 3F5B.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 28

CURRENT SINK OR SOURCE FAILURE

Circuit Description:

During the "Initiator Assembly Resistance Test" the DERM grounds the "Passenger Side Low" terminal "B7" and turns "ON" the driver current source at the "Driver Side High" terminal "B9". The DERM then grounds the "Driver Side Low" terminal "B8" and turns "ON" the passenger current source at the "Passenger Side High" terminal "A7". During each of these tests the DERM monitors voltage at "Driver Side Low," "Passenger Side Low," the difference between "Driver Side High" and "Driver Side Low" and the difference between "Passenger Side High" and "Passenger Side Low." When the measured values are outside the expected range DTC 28 is set.

DTC Will Set When: The voltage measured at "Driver Side Low" or "Passenger Side Low" is below a specified value while its respective initiator resistance is in range or when the voltage measured at "Driver Side Low" or "Passenger Side Low" is above a specified value. This test is run once each ignition cycle during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks whether malfunction is in the wiring harness. The wiring harness malfunction would be a high resistance rather than an open. An open would set a different diagnostic trouble code.
2. This test determines whether the malfunction is in the wiring harness. The wiring harness malfunction would be a high resistance rather than an open. An open would set a different diagnostic trouble code.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor wire to terminal connection in CKT 348C or CKT 348E. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear for ten minutes or until the next ignition cycle.

DTC 28

CURRENT SINK OR SOURCE FAILURE

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT CONNECTOR C200B FROM CONNECTOR C200D.
- MEASURE RESISTANCE FROM C200D TERMINAL "D2" TO STEERING COLUMN HARNESS CONNECTOR TERMINAL "B".
IS RESISTANCE 5.0 Ω OR LESS?

YES

NO

2

- MEASURE RESISTANCE FROM C200D TERMINAL "D2" TO PASSENGER INFLATOR MODULE HARNESS CONNECTOR TERMINAL "B".
IS RESISTANCE 5.0 Ω OR LESS?

REPAIR HIGH RESISTANCE IN CKT 348C.

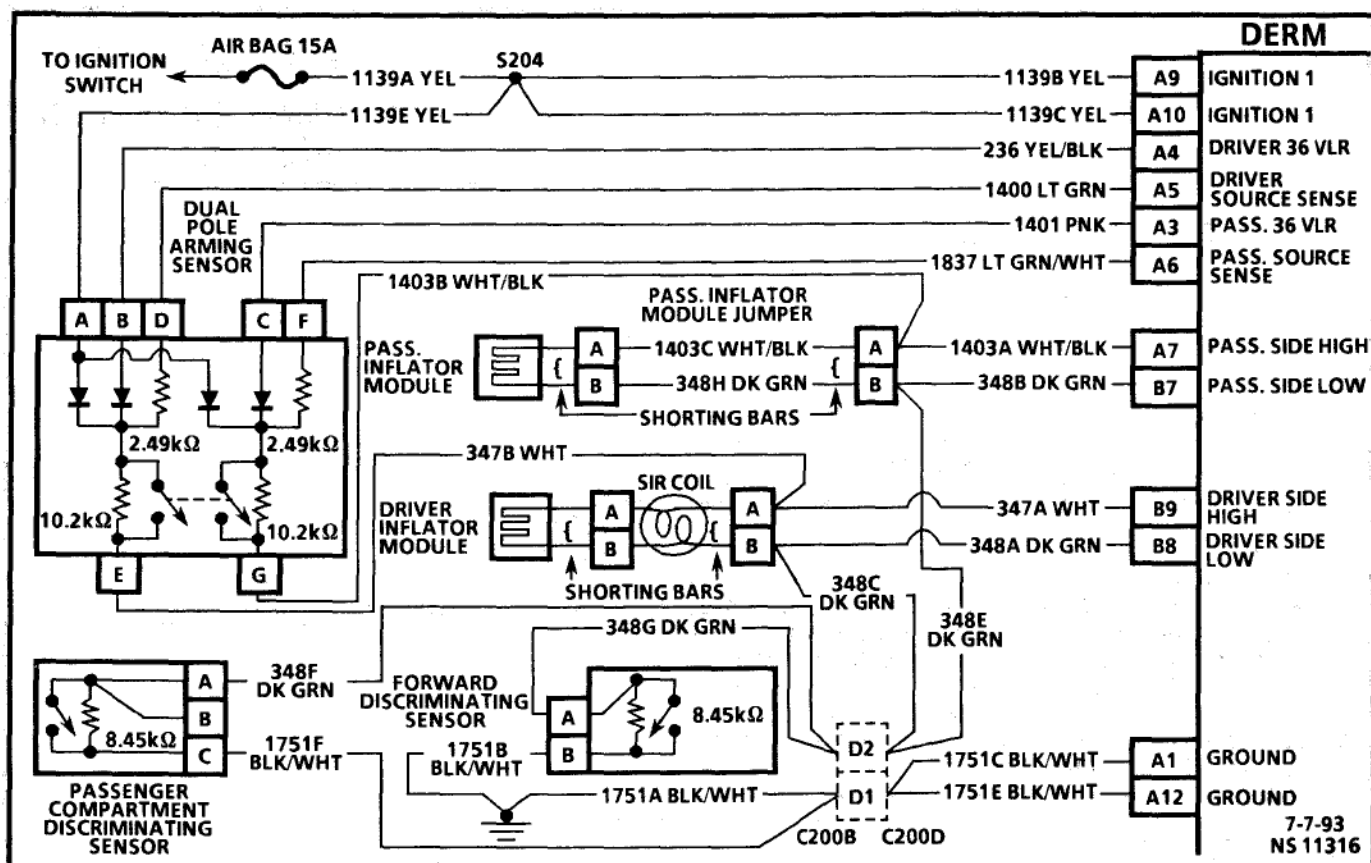
YES

NO

GO TO CHART A.

REPAIR HIGH RESISTANCE IN CKT 348E.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 31

DRIVER LOOP ENERGY RESERVE FEED OPEN

Circuit Description:

During the "Continuous Monitoring" tests the DERM monitors the voltage at "Driver Source Sense" terminal "A5." When the circuit is operating normally the measured voltage will be slightly less than "Driver 36 VLR." If the "Driver 36 VLR" circuit opens the voltage measured at "Driver Source Sense" will decrease to slightly less than "Ignition 1" voltage. When the voltage measured at "Driver Source Sense" is within a specified range of "Ignition 1" for 500 milliseconds DTC 31 is set.

DTC Will Set When: The voltage measured at "Driver Source Sense" terminal "A5" is within a specified range of "Ignition 1" for 500 milliseconds. This test is run every 100 milliseconds during "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Driver Source Sense" terminal "A5" is outside the specified range of "Ignition 1" which sets the diagnostic trouble code, for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for an open in the "Driver 36 VLR" circuit.
2. This test checks for a high resistance, but not an open, in the "Driver Source Sense" circuit.
3. This test checks for a short from the "Driver Source Sense" circuit to B+.
4. This test determines whether the malfunction is due to the dual pole arming sensor.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection at arming sensor terminal "B" or "D", poor connection at DERM terminal "A4" or "A5", an open in CKT 236 or CKT 1400, or an open inside the dual pole arming sensor.

DTC 31

DRIVER LOOP ENERGY RESERVE FEED OPEN

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DUAL POLE ARMING SENSOR.
- CHECK FOR PROPER CONNECTION TO DUAL POLE ARMING SENSOR AT TERMINALS "B" AND "D".
- IF OK, THEN DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINALS "A4" AND "A5".
- IF OK THEN MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "A4" TO DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "B".
- IS RESISTANCE 5.0Ω OR LESS?

YES

2

- MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "A5" TO DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "D".
- IS RESISTANCE 5.0Ω OR LESS?

NO

REPAIR OPEN IN CKT 236.

YES

3

- IGNITION SWITCH "ON."
- MEASURE VOLTAGE ON DERM HARNESS CONNECTOR FROM TERMINAL "A5" TO TERMINAL "A12" (GROUND).
- IS VOLTAGE 1 VOLT OR LESS?

NO

REPAIR HIGH RESISTANCE IN CKT 1400.

YES

4

- IGNITION SWITCH "OFF."
- RECONNECT DERM AND DUAL POLE ARMING SENSOR.
- IGNITION SWITCH "ON."
- USING TECH 1 DATA LIST FUNCTION, SELECT "DRIVER SOURCE."
- IS VOLTAGE GREATER THAN 31 VOLTS?

NO

- IGNITION SWITCH "OFF."
- REPAIR SHORT FROM CKT 1400 TO B +.

YES

- IGNITION SWITCH "OFF."
- GO TO CHART A.

NO

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



Circuit Description:

DTC Will Set When: With both "36 VLR" power supplies in a discharged state, the voltage measured at "Driver Source Sense" terminal "A5" and "Passenger Source Sense" terminal "A6" are simultaneously a specified amount below "Ignition 1" voltage and no "higher priority faults" are detected. This test is run once each ignition cycle during the "Turn-ON" tests while the "36 VLR Delay" is active.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: With both "36 VLR" power supplies in a discharged state, the voltage measured at "Driver Source Sense" terminal "A5" and "Passenger Source Sense" terminal "A6" are simultaneously within specified range of "Ignition 1" voltage. When neither the failure nor clear conditions are met, the state of the diagnostic trouble code from the previous ignition cycle is used.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for an open in the "Ignition 1" circuit between the splice and the dual pole arming sensor.
2. This test determines whether the malfunction is internal to the dual pole arming sensor.

Diagnostic Aids: An intermittent condition is likely to be caused by an improper connection at dual pole arming sensor terminal "A" or "D" and "F", improper connection at DERM terminal "A5" or "A6", open ignition feed to the dual pole arming sensor, open

"Driver Source Sense" circuit and open "Passenger Source Sense" circuit, or malfunctioning dual pole arming sensor ignition diodes. The test for this diagnostic trouble code is only run while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the ignition switch is turned "OFF" for at least two minutes with the entire SIR system connected and then the ignition switch is turned "ON."

DTC 34

DUAL POLE ARMING SENSOR IGNITION FEED OPEN

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DUAL POLE ARMING SENSOR.
- CHECK FOR PROPER CONNECTION TO DUAL POLE ARMING SENSOR AT TERMINAL "A".
- IF OK THEN DISCONNECT DERM.
- MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "A9" TO DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "A".
- IS RESISTANCE 5.0Ω OR LESS?

YES

NO

2

- RECONNECT DUAL POLE ARMING SENSOR.
- IGNITION SWITCH "ON."
- MEASURE VOLTAGE ON DERM HARNESS CONNECTOR FROM TERMINAL "A5" TO TERMINAL "A1" (GROUND).
- IS VOLTAGE 1 VOLT OR LESS?

REPAIR OPEN IN CKT 1139E.

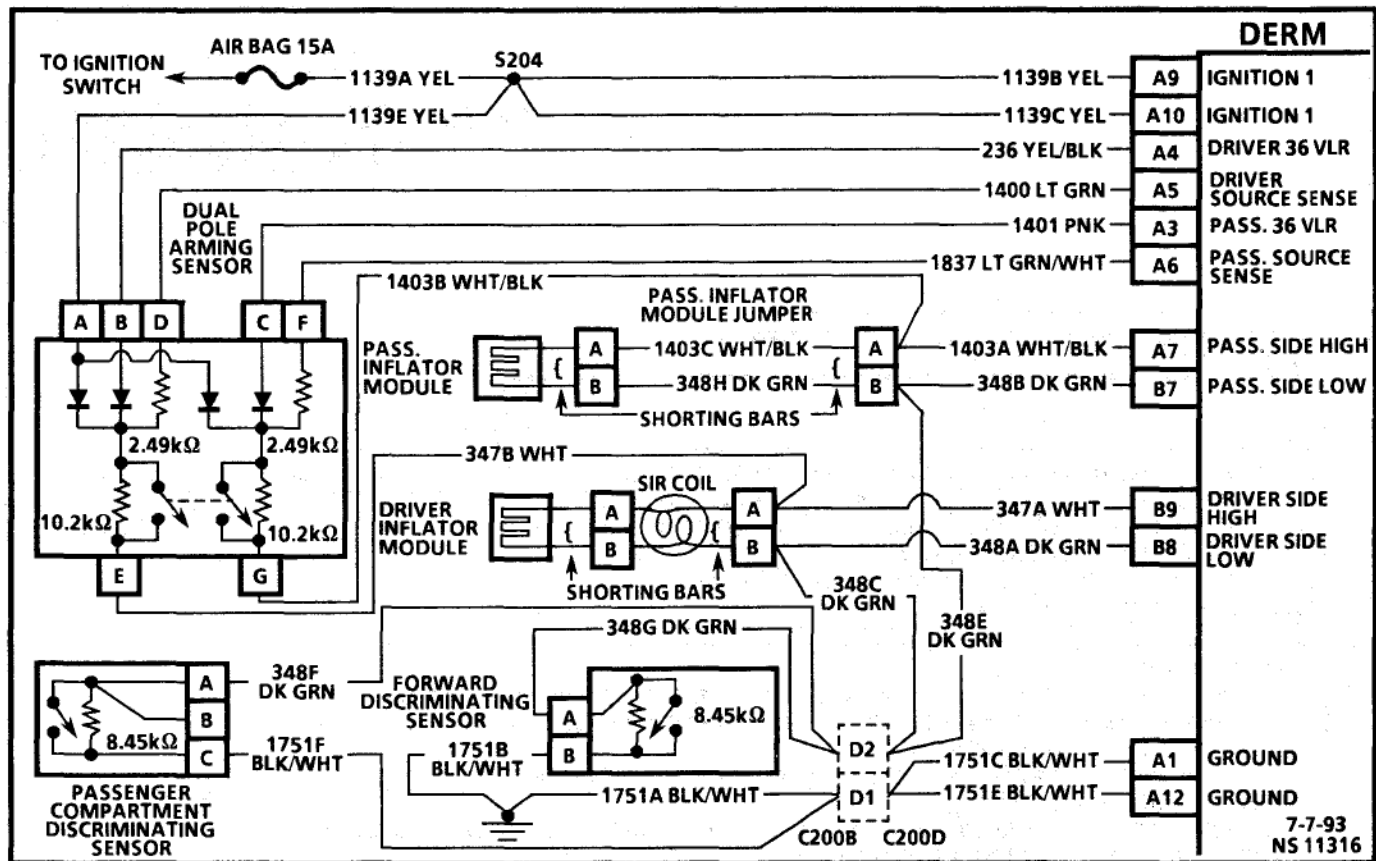
NO

YES

- IGNITION SWITCH "OFF."
- GO TO CHART A.

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

**DTC 35**

(Page 1 of 2)

DISCRIMINATING SENSOR OPEN OR MISSING**Circuit Description:**

During normal, non-deployment operation of the SIR system a small amount of current flows through both the driver and passenger deployment loops. The diagnostic resistors within the dual pole arming sensor and the discriminating sensors along with the resistance of the inflator modules cause voltage drops within the deployment loops. The DERM monitors the voltage at "Driver Side Low" terminal "B8" and "Passenger Side Low" terminal "B7" to detect shorts or opens within the deployment loops. When the measured voltage at either terminal is within a specified percentage of its respective "36 VLR" power supply voltage for 500 milliseconds DTC 35 is set.

DTC Will Set When: The voltage measured at "Driver Side Low" terminal "B8" or at "Passenger Side Low" terminal "B7" is within a specified percentage of its respective "36 VLR" power supply voltage for 500 milliseconds. This test is run every 100 milliseconds during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltages measured at "Driver Side Low" terminal "B8" and "Passenger Side Low" terminal "B7" are both above or below the percentage of their respective "36 VLR" power supply voltage which sets DTC 35.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for an open inside the forward discriminating sensor,
2. This test checks for an open ground feed to the forward discriminating sensor.
3. This test checks for an open inside the passenger compartment discriminating sensor.
4. This test checks for an open ground feed to the passenger compartment discriminating sensor.

Diagnostic Aids: Refer to DTC 35 (Page 2 of 2).

DTC 35

(Page 1 of 2)

DISCRIMINATING SENSOR OPEN OR MISSING

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT FORWARD DISCRIMINATING SENSOR.
- CHECK FOR PROPER CONNECTION TO FORWARD DISCRIMINATING SENSOR AT TERMINALS "A" AND "B".
- IF OK THEN MEASURE RESISTANCE ON FORWARD DISCRIMINATING SENSOR FROM TERMINAL "A" TO TERMINAL "B". IS RESISTANCE LESS THAN 8.54 k Ω ?

YES

NO

2

- MEASURE RESISTANCE FROM FORWARD DISCRIMINATING SENSOR HARNESS CONNECTOR TERMINAL "B" TO GROUND. IS RESISTANCE 5.0 Ω OR LESS?

REPLACE FORWARD DISCRIMINATING SENSOR.

YES

NO

3

- DISCONNECT PASSENGER COMPARTMENT DISCRIMINATING SENSOR.
- CHECK FOR PROPER CONNECTION TO PASSENGER COMPARTMENT DISCRIMINATING SENSOR AT TERMINALS "A" AND "C".
- IF OK, THEN MEASURE RESISTANCE ON PASSENGER COMPARTMENT DISCRIMINATING SENSOR FROM TERMINAL "A" TO TERMINAL "C". IS RESISTANCE LESS THAN 8.54 k Ω ?

REPAIR OPEN IN CKT 1751B.

YES

NO

4

- MEASURE RESISTANCE FROM PASSENGER COMPARTMENT DISCRIMINATING SENSOR HARNESS CONNECTOR TERMINAL "C" TO GROUND. IS RESISTANCE 5.0 Ω OR LESS?

REPLACE PASSENGER COMPARTMENT DISCRIMINATING SENSOR.

YES

NO

CONTINUE WITH DIAGNOSIS ON NEXT PAGE.

REPAIR OPEN IN CKT 1751F.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



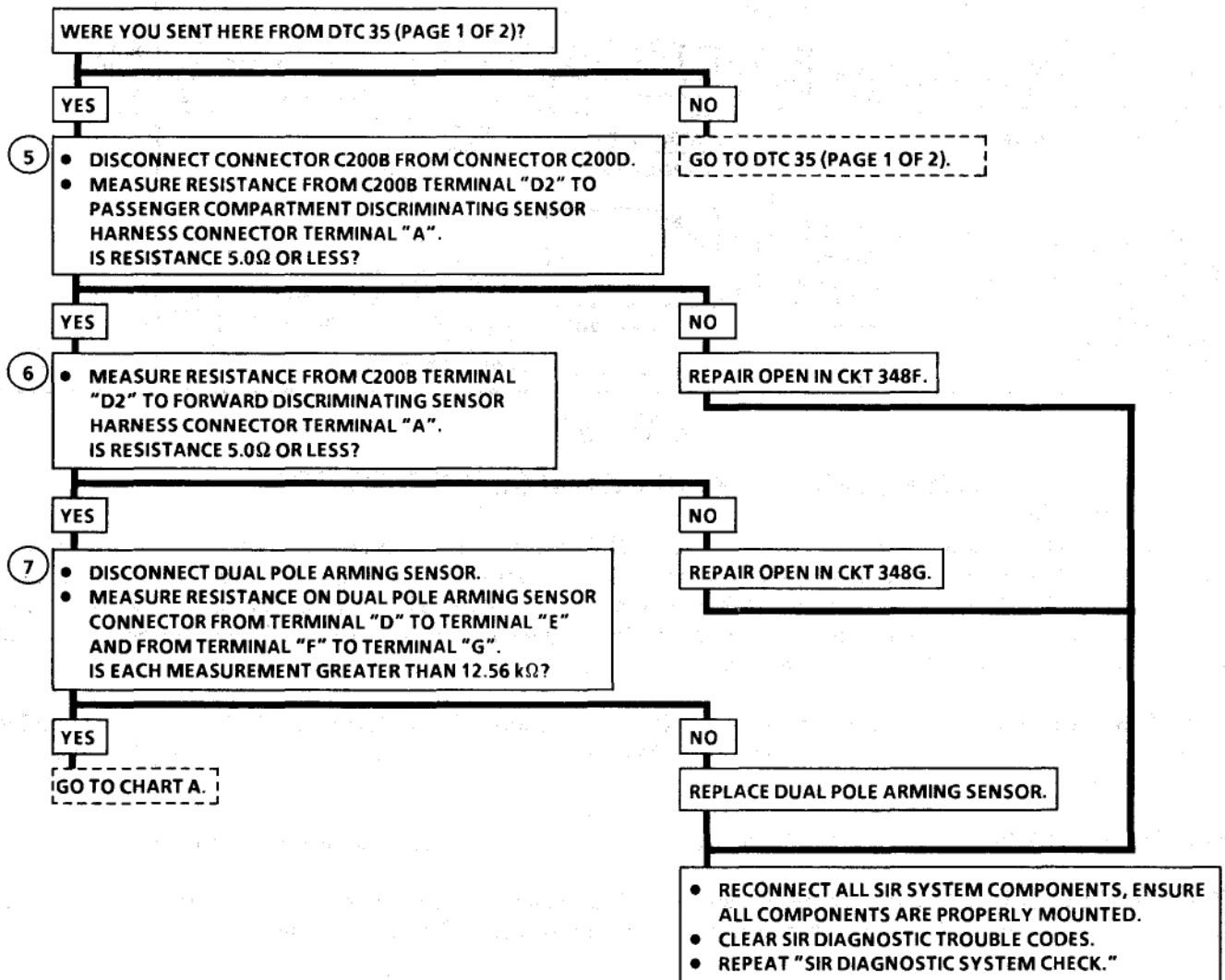
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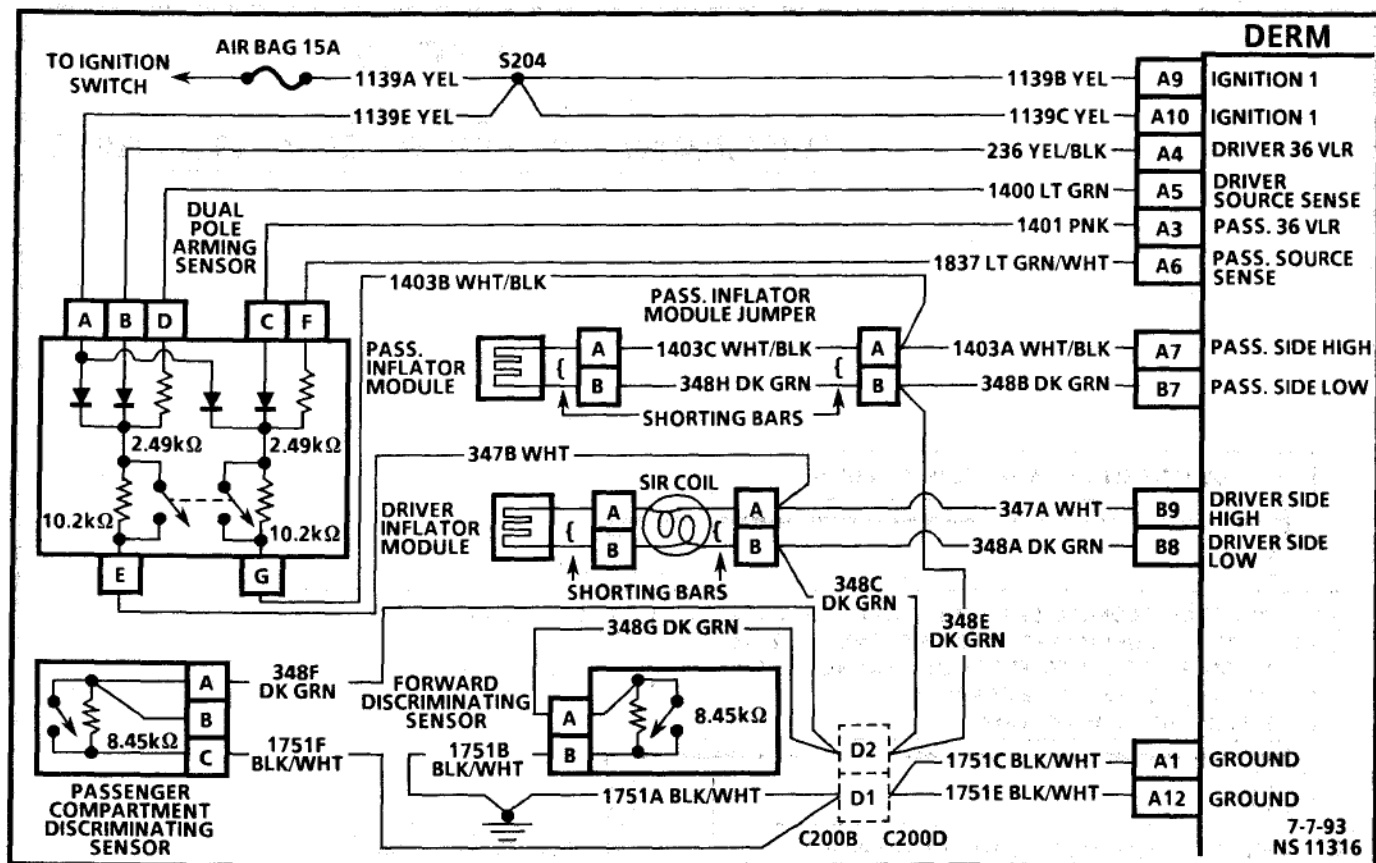
Circuit Description:

Diagnostic Aids: An intermittent condition is likely to be an improper connection at any of the discriminating sensor terminals, an open in either ground feed to the discriminating sensors, an open discriminating sensor interconnect circuit, increased resistance of any discriminating sensor or decreased resistance of the dual pole arming sensor.

DTC 35

(Page 2 of 2)

DISCRIMINATING SENSOR OPEN OR MISSING



DTC 36

PASSENGER LOOP ENERGY RESERVE FEED OPEN

Circuit Description:

During the "Continuous Monitoring" tests the DERM monitors the voltage at "Passenger Source Sense" terminal "A6". When the circuit is operating normally the measured voltage will be slightly less than "Passenger 36 VLR." If the "Passenger 36 VLR" circuit opens the voltage measured at "Passenger Source Sense" will decrease to slightly less than "Ignition 1" voltage. When the voltage measured at "Passenger Source Sense" is within a specified range of "Ignition 1" for 500 milliseconds DTC 36 is set.

DTC Will Set When: The voltage measured at "Passenger Source Sense" terminal "A6" is within a specified range of "Ignition 1" for 500 milliseconds. This test is run every 100 milliseconds during "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Passenger Source Sense" terminal "A6" is outside the specified range of "Ignition 1" which sets the diagnostic trouble code, for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for an open in the "Passenger 36 VLR" circuit.
2. This test determines whether the malfunction is due to high resistance in the "Passenger Source Sense" circuit.
3. This test checks for a short from the "Passenger Source Sense" circuit to B+.

4. This test determines whether the malfunction is due to a malfunction within the dual pole arming sensor.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection at dual pole arming sensor terminal "C" or "F", poor connection at DERM terminal "A3" or "A6", an open in CKT 1401 or CKT 1837, or an open inside the dual pole arming sensor.

DTC 36**PASSENGER LOOP ENERGY
RESERVE FEED OPEN**

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DUAL POLE ARMING SENSOR.
- CHECK FOR PROPER CONNECTION TO DUAL POLE ARMING SENSOR AT TERMINALS "C" AND "F".
- IF OK THEN DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINALS "A3" AND "A6".
- IF OK THEN MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "A3" TO DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "C". IS RESISTANCE 5.0 Ω OR LESS?

YES

NO

2

- MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "A6" TO DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "F". IS RESISTANCE 5.0 Ω OR LESS?

REPAIR OPEN IN CKT 1401.

YES

NO

3

- IGNITION SWITCH "ON."
- MEASURE VOLTAGE ON DERM HARNESS CONNECTOR FROM TERMINAL "A6" TO TERMINAL A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

REPAIR HIGH RESISTANCE IN CKT 1837.

YES

NO

4

- IGNITION SWITCH "OFF."
- RECONNECT DERM AND DUAL POLE ARMING SENSOR.
- IGNITION SWITCH "ON."
- USING TECH 1 DATA LIST FUNCTION, SELECT "PASS. SOURCE." IS VOLTAGE GREATER THAN 31 VOLTS?

- IGNITION SWITCH "OFF."
- REPAIR SHORT FROM CKT 1837 TO B +.

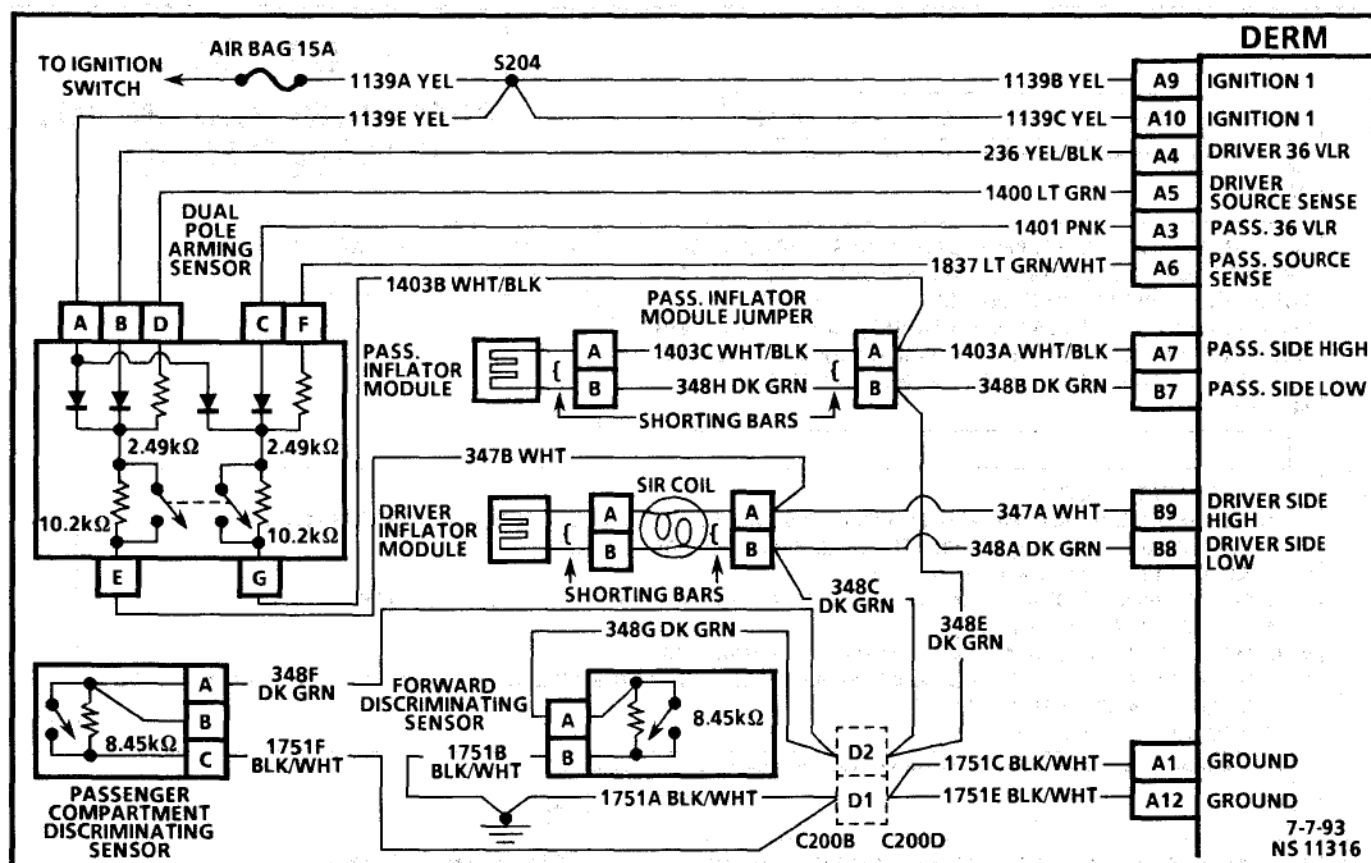
YES

NO

- IGNITION SWITCH "OFF."
- GO TO CHART A.

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 42

LOOP ENERGY RESERVE VOLTAGE LOW

Circuit Description:

During the "Turn-ON" tests, performed at the beginning of each ignition cycle, the DERM delays charging of the "Driver 36 VLR" terminal "A4" and "Passenger 36 VLR" terminal "A3" power supplies. After the delay has expired both "36 VLR" power supplies are allowed to charge. The DERM monitors each "36 VLR" power supply to ensure each has charged to a voltage above a specified value within 10 seconds after "Ignition 1" voltage is first applied to the DERM. When either "36 VLR" power supply does not reach the specified voltage within the allowed time or, once reaching the specified voltage, falls below it for 500 milliseconds, DTC 42 is set.

DTC Will Set When: The voltage at either "36 VLR" power supply does not exceed a specified value within 10 seconds after "Ignition 1" voltage is first applied to the DERM or, once having reached the specified value, either "36 VLR" power supply voltage falls below the specified value for 500 milliseconds. This test is run each ignition cycle at "Turn-ON" to detect a charge time failure and, after charging, tested every 100 milliseconds during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltages measured at "Driver 36 VLR" terminal "A4" and "Passenger 36 VLR" terminal "A3" are above a specified value for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks whether the DERM has set the diagnostic trouble code falsely.
2. This test checks whether a malfunctioning dual pole arming sensor is preventing the "Driver 36 VLR" or "Passenger 36 VLR" from charging.
3. This test checks for a short from the "Driver 36 VLR" or "Passenger 36 VLR" circuit to B+.

4. This test checks for a short from the "Driver 36 VLR" or "Passenger 36 VLR" circuit to ground.

Diagnostic Aids: An intermittent condition is likely to be caused by a short from "Driver 36 VLR" or "Passenger 36 VLR" to B+ or ground, or a short inside the dual pole arming sensor.

DTC 42

LOOP ENERGY RESERVE VOLTAGE LOW

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "ON."
 - USING TECH 1 SIR DATA LIST FUNCTION SELECT "DRIVER 36 VLR" AND "PASS. 36 VLR."
 - RECORD BOTH "DRIVER 36 VLR" AND "PASS. 36 VLR" VOLTAGES ON REPAIR ORDER.
- ARE BOTH RECORDED VOLTAGES 32.5 VOLTS OR MORE?

NO

YES

2

- IGNITION SWITCH "OFF."
 - DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BELOW THE I/P COMPARTMENT DOOR ASSEMBLY.
 - DISCONNECT DUAL POLE ARMING SENSOR.
 - IGNITION SWITCH "ON."
 - USING TECH 1 SIR DATA LIST FUNCTION SELECT "DRIVER 36 VLR" AND "PASS. 36 VLR."
- ARE THE DISPLAYED VOLTAGES ABOUT THE SAME AS THE RECORDED VOLTAGES?

- IGNITION SWITCH "OFF."
- GO TO CHART A.

YES

NO

3

- USING TECH 1 SIR DATA LIST FUNCTION SELECT "IGNITION."
- IS THE DISPLAYED VOLTAGE ABOUT THE SAME AS THE RECORDED "DRIVER 36 VLR" OR "PASS. 36 VLR" VOLTAGE?

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.

NO

YES

4

- IGNITION SWITCH "OFF."
- ARE EITHER OF THE RECORDED VOLTAGES 1 VOLT OR LESS?

- IGNITION SWITCH "OFF."
- REPAIR SHORT FROM EITHER CKT 236 (DRIVER 36 VLR) OR CKT 1401 (PASS. 36 VLR) TO B +.

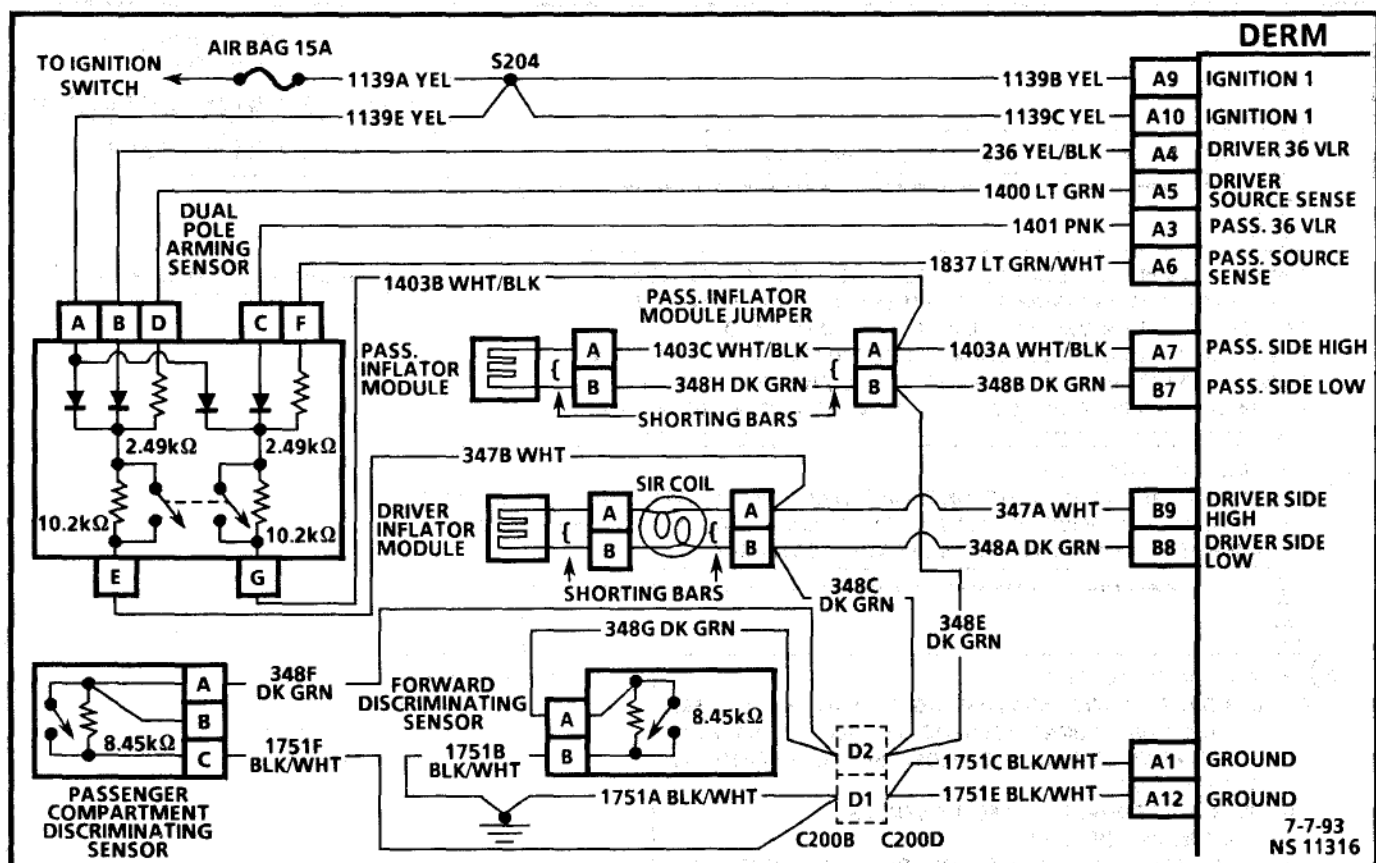
NO

YES

GO TO CHART A.

REPAIR SHORT FROM EITHER CKT 236 (DRIVER 36 VLR) OR CKT 1401 (PASS. 36 VLR) TO GROUND.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 43

DRIVER SOURCE FEED LOW

Circuit Description:

During normal, non-deployment operation of the SIR system the DERM monitors the voltage supplied through the dual pole arming sensor to the high side of the driver deployment loop at the "Driver Source Sense" terminal "A5". This measured voltage will have a value approximately equal to "Driver 36 VLR." When the voltage measured at "Driver Side Low" terminal "B8" is in its normal operating range, indicating driver deployment loop integrity has been maintained, while simultaneously the voltage measured at "Driver Source Sense" is a specified amount below "Driver 36 VLR" for 500 milliseconds DTC 43 is set.

DTC Will Set When: The voltage measured at "Driver Side Low" terminal "B8" is within a specified percentage of "Driver 36 VLR" while simultaneously the voltage measured at "Driver Source Sense" terminal "A5" is a specified amount below "Driver 36 VLR" for 500 milliseconds. This test is run every 100 milliseconds during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Driver Side Low" terminal "B8" is within a specified percentage of "Driver 36 VLR" while simultaneously the voltage measured at "Driver Source Sense" terminal "A5" is within a specified amount of "Driver 36 VLR" for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for an open in "Driver Source Sense" circuit.
2. This test checks for a short from the "Driver Source Sense" circuit to ground.
3. The test determines whether the malfunction is due to increased resistance across the "Driver

Source Sense" resistor in the dual pole arming sensor.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection to the DERM at terminal "A5", a poor connection to the dual pole arming sensor at terminal "D", an open or short to ground in CKT 1400 or a partial open inside the dual pole arming sensor.

DTC 43

DRIVER SOURCE FEED LOW

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINAL "A5".
- IF OK THEN DISCONNECT DUAL POLE ARMING SENSOR.
- CHECK FOR PROPER CONNECTION TO DUAL POLE ARMING SENSOR AT TERMINAL "D".
- IF OK, MEASURE RESISTANCE FROM DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "D" TO DERM HARNESS CONNECTOR TERMINAL "A5". IS RESISTANCE 5.0Ω OR LESS?

YES

NO

2

- MEASURE RESISTANCE ON DERM HARNESS CONNECTOR FROM TERMINAL "A5" TO TERMINAL "A1" (GROUND). DOES J 39200 DISPLAY "OL" (INFINITE)?

REPAIR OPEN IN CKT 1400.

YES

NO

3

- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR CONNECTOR FROM TERMINAL "D" TO TERMINAL "E". IS RESISTANCE 12.9 kΩ OR MORE?

REPAIR SHORT FROM CKT 1400 TO GROUND.

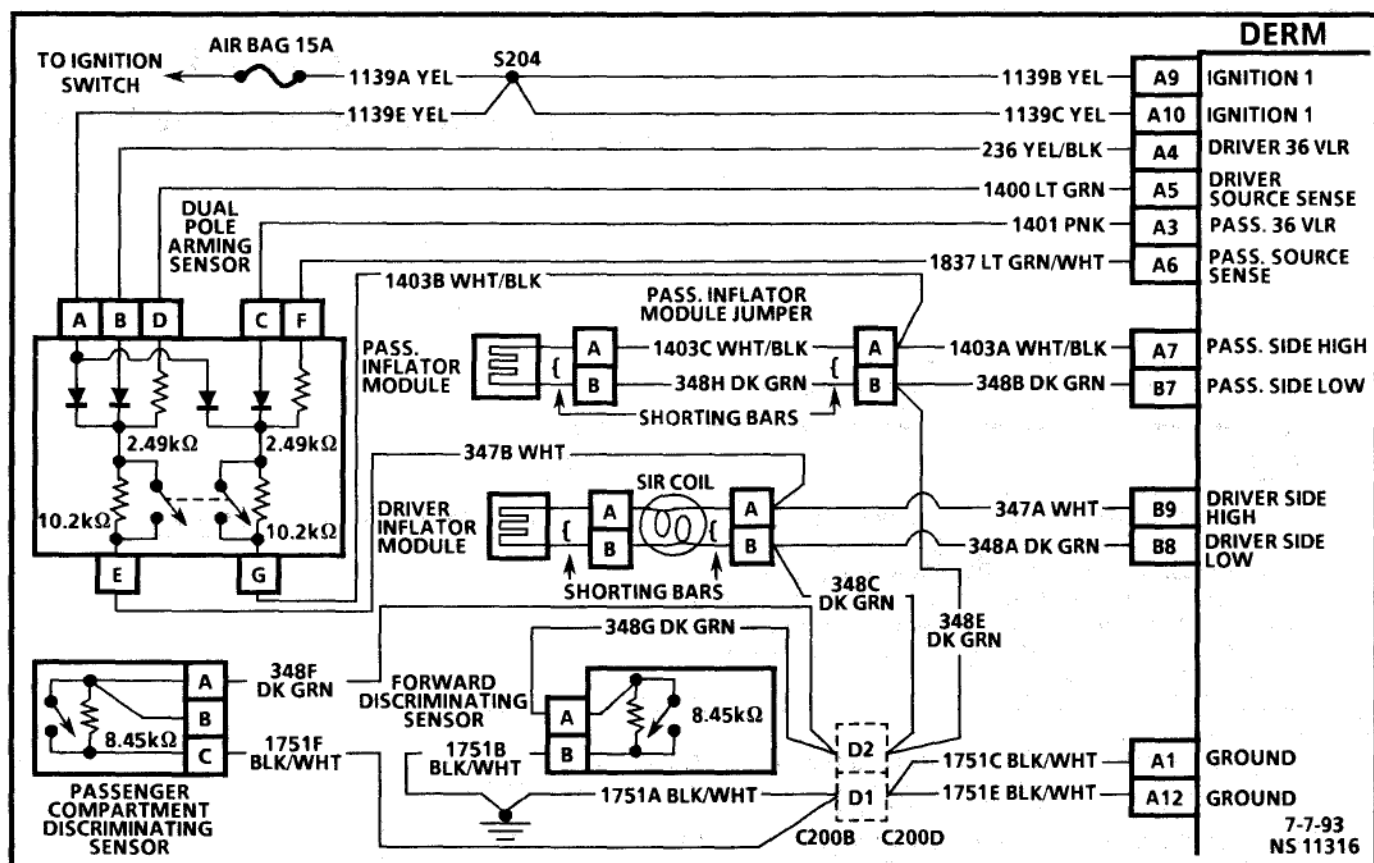
NO

YES

GO TO CHART A.

REPLACE DUAL POLE ARMING SENSOR.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK".

**DTC 44****PASSENGER SOURCE FEED LOW****Circuit Description:**

During normal, non-deployment operation of the SIR system the DERM monitors the voltage supplied through the dual pole arming sensor to the high side of the passenger deployment loop at the "Passenger Source Sense" terminal "A6". The measured voltage will have a value approximately equal to "Passenger 36 VLR." When the voltage measured at "Passenger Side Low" terminal "B7" is in its normal operating range, indicating passenger deployment loop integrity has been maintained, while simultaneously the voltage measured at "Passenger Source Sense" is a specified amount below "Passenger 36 VLR" for 500 milliseconds DTC 44 is set.

DTC Will Set When: The voltage measured at "Passenger Side Low" terminal "B7" is within a specified percentage of "Passenger 36 VLR" while simultaneously the voltage measured at "Passenger Source Sense" terminal "A6" is a specified amount below "Passenger 36 VLR" for 500 milliseconds. This test is run every 100 milliseconds during the "Continuous Monitoring" tests.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Passenger Side Low" terminal "B7" is within a specified percentage of "Passenger 36 VLR" while simultaneously the voltage measured at "Passenger Source Sense" terminal "A6" is within a specified amount of "Passenger 36 VLR" for 500 milliseconds.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for an open in the "Passenger Source Sense" circuit.
2. This test checks for a short from the "Passenger Source Sense" circuit to ground.
3. This test determines whether the malfunction is due to increased resistance across the "Passenger

Source Sense" resistor in the dual pole arming sensor.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection to the DERM at terminal "A6", a poor connection to the dual pole arming sensor at terminal "F", an open or short to ground in CKT 1837 or a partial open inside the dual pole arming sensor.

DTC 44

PASSENGER SOURCE FEED LOW

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINAL "A6".
- IF OK THEN DISCONNECT DUAL POLE ARMING SENSOR.
- CHECK FOR PROPER CONNECTION TO DUAL POLE ARMING SENSOR AT TERMINAL "F".
- IF OK, THEN MEASURE RESISTANCE FROM DUAL POLE ARMING SENSOR HARNESS CONNECTOR TERMINAL "F" TO DERM HARNESS CONNECTOR TERMINAL "A6". IS RESISTANCE 5.0Ω OR LESS?

YES

NO

2

- MEASURE RESISTANCE ON DERM HARNESS CONNECTOR FROM TERMINAL "A6" TO TERMINAL "A1" (GROUND). DOES J 39200 DISPLAY "OL" (INFINITE)?

REPAIR OPEN IN CKT 1837.

YES

NO

3

- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR CONNECTOR FROM TERMINAL "F" TO TERMINAL "G". IS RESISTANCE $12.9\text{ k}\Omega$ OR MORE?

REPAIR SHORT FROM CKT 1837 TO GROUND.

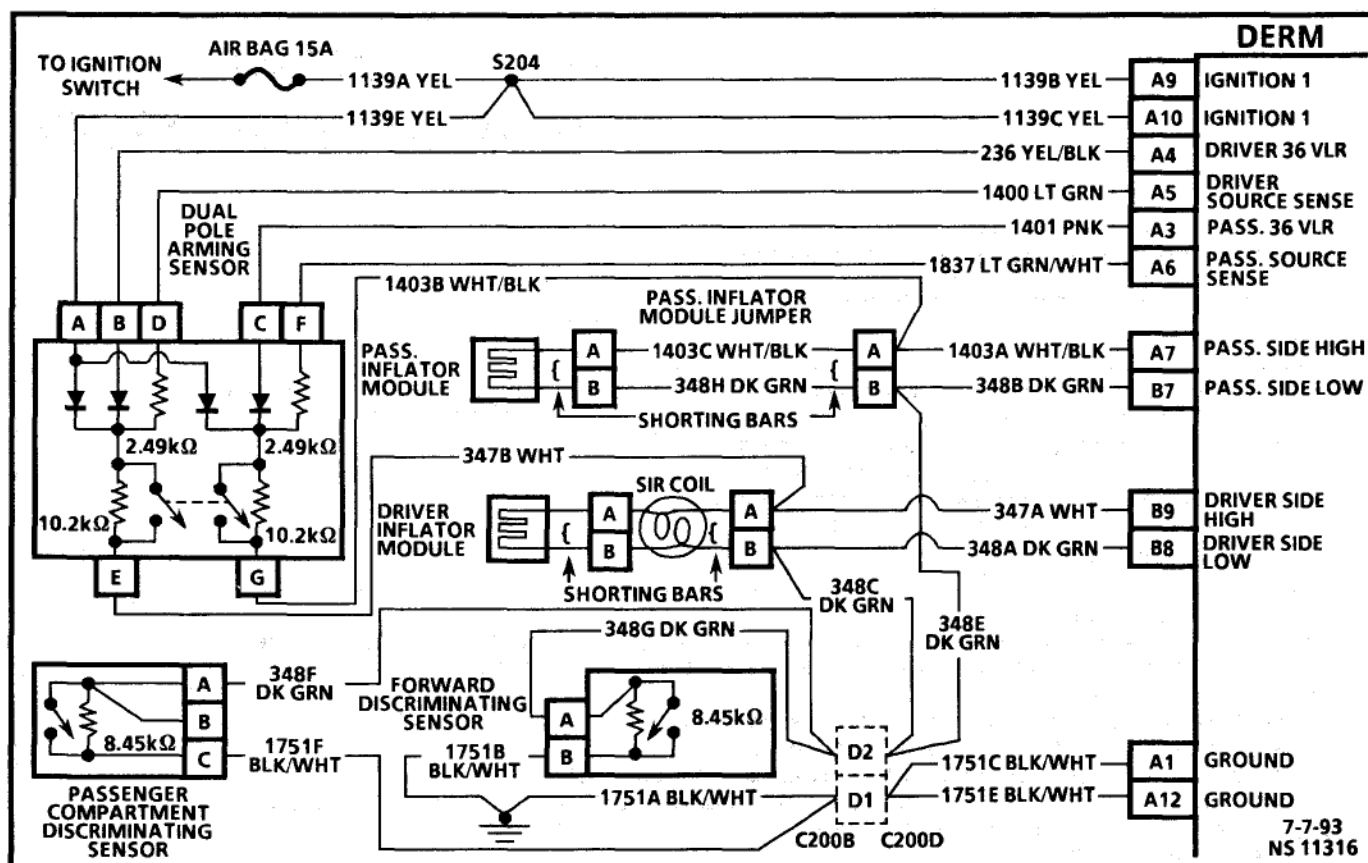
NO

YES

GO TO CHART A.

REPLACE DUAL POLE ARMING SENSOR.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK".

**DTC 51****FRONTAL CRASH DETECTED****Circuit Description:**

Closure of the dual pole arming sensor is detected when the voltage measured at "Driver Side High" terminal "B9" or at "Passenger Side High" terminal "A7" is within a specified amount of its respective deployment loop supply voltage. Closure of either discriminating sensor is detected when the voltage measured at "Driver Side Low" terminal "B8" or at "Passenger Side Low" terminal "B7" is within a specified amount of ground potential. When both conditions are met simultaneously on either the driver side or passenger side for not less than 250 microseconds "Crash Data" is recorded and DTC 51 is set.

DTC Will Set When: Closure of the dual pole arming sensor and at least one of the discriminating sensors is detected for not less than 250 microseconds on either the driver side or passenger side. Conditions are monitored whenever the DERM is functioning normally.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp, records "Crash Data," and sets a diagnostic trouble code.

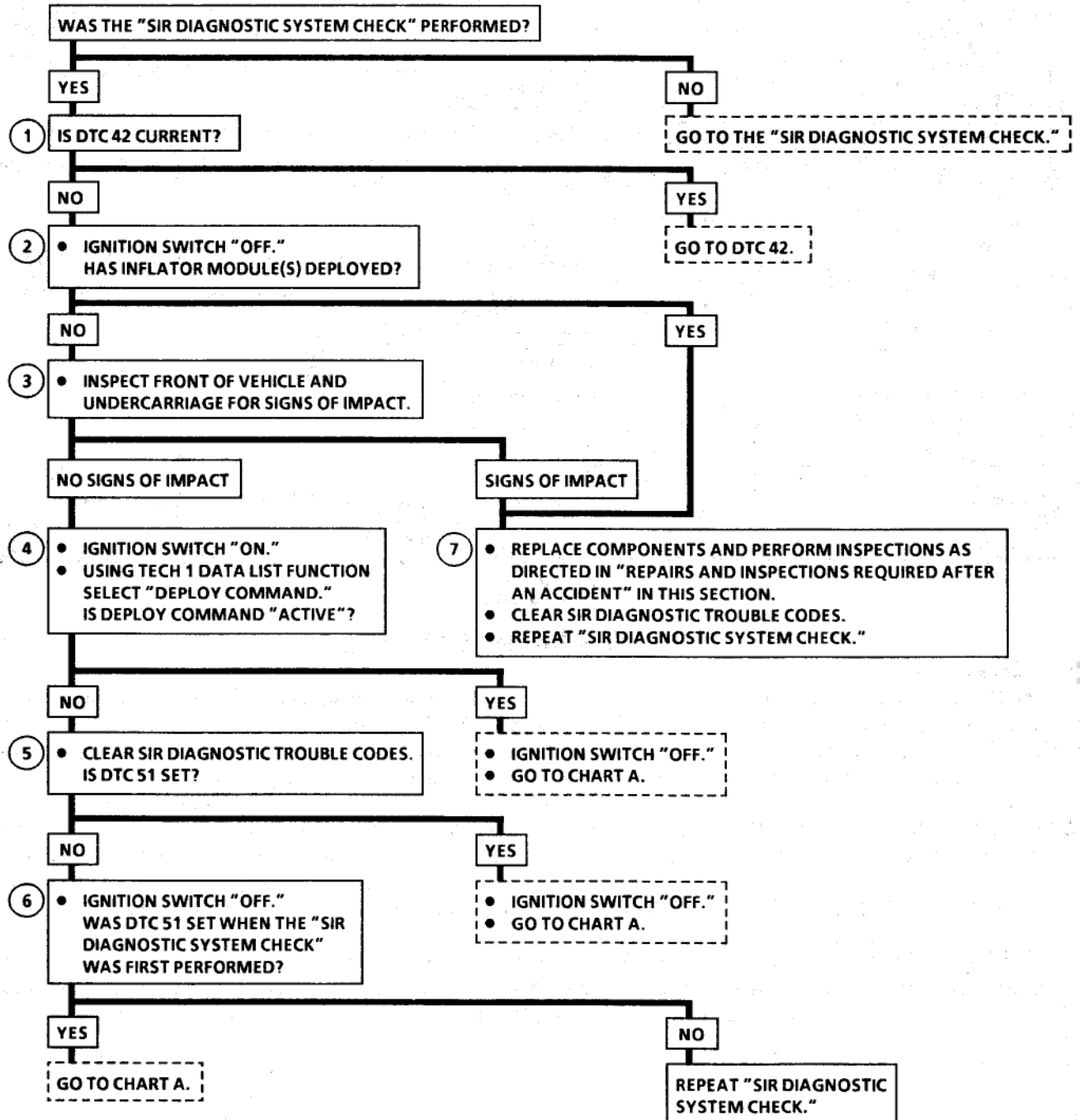
DTC Will Clear When: A scan tool "Clear Codes" command is received by the DERM.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

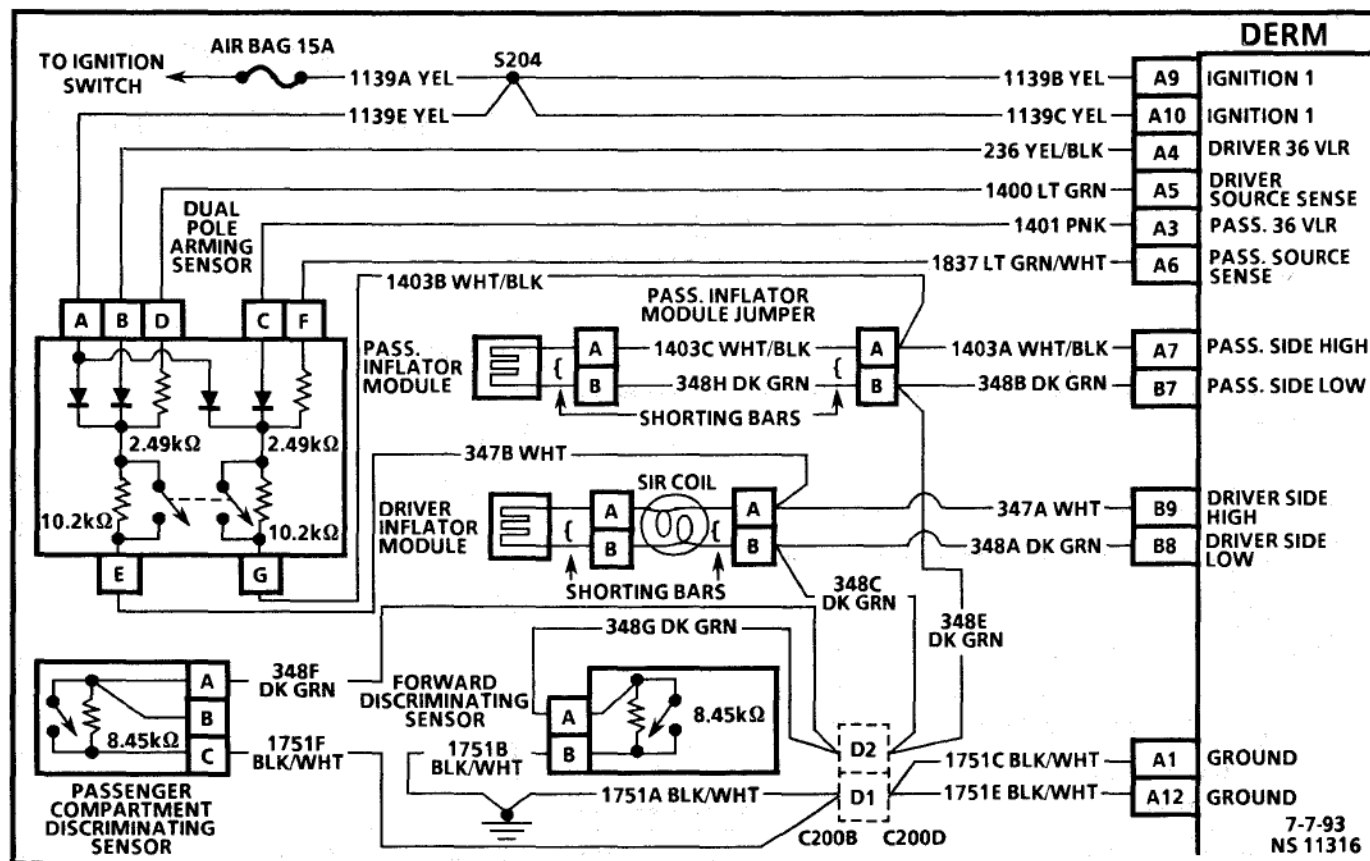
1. When DTC 42 and DTC 51 are set simultaneously, perform DTC 42 diagnosis first.
2. If inflator module(s) has not deployed, DTC 51 may have set falsely.
3. If DTC 51 has set with no signs of frontal impact, the diagnostic trouble code has set falsely.
4. This test checks for a DERM malfunction setting the diagnostic trouble code.

5. This test checks for a DERM malfunction setting the diagnostic trouble code.
6. This test determines whether the diagnostic trouble code was set inadvertently during diagnosis.
7. When a frontal crash has occurred, it is necessary to perform the indicated procedures to ensure the SIR system is fully functional.

DTC 51 FRONTAL CRASH DETECTED



9J-78 SUPPLEMENTAL INFLATABLE RESTRAINT (SIR) SYSTEM



DTC 52

DATA AREA FULL

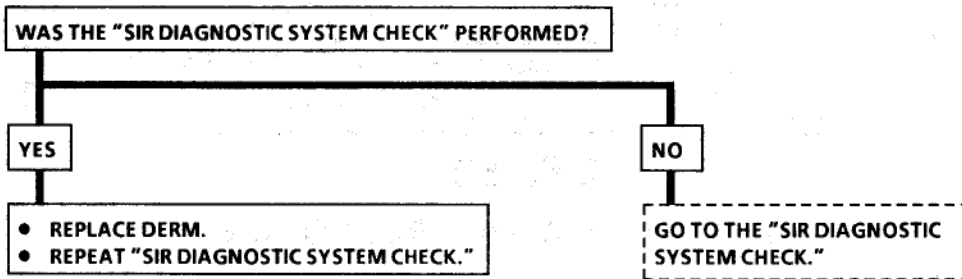
Circuit Description:

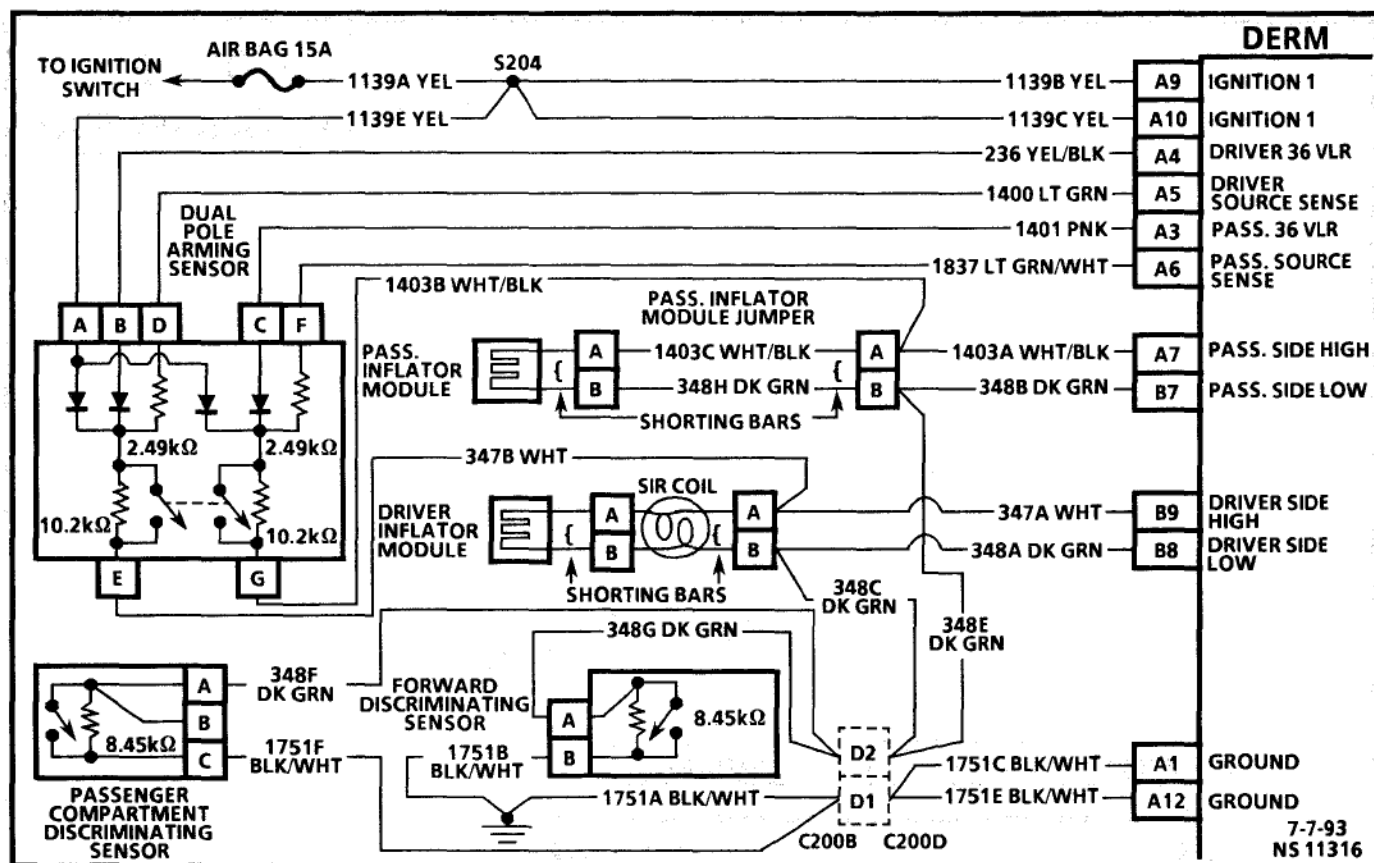
When there is a frontal crash of sufficient force to activate the dual pole arming sensor and at least one of the two discriminating sensors simultaneously, DTC 51 is set. At this time the DERM will record information regarding SIR system status and vehicle status in EEPROM. DTC 52 will set when the DERM has stored information regarding eight frontal crash events.

DTC Will Set When: The DERM attempts to store frontal crash information and finds the EEPROM data area full. This test is run each time the DERM stores or attempts to store information regarding a frontal crash event.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: A scan tool "Clear Codes" command is received by the DERM. If, at the next ignition "ON" after receiving a "Clear Codes" command, the DERM detects the data area is full, a history diagnostic trouble code is set. This allows the "AIR BAG" warning lamp to illuminate should any additional malfunctions be detected.

DTC 52
DATA AREA FULL



DTC 53

DRIVER SIDE LOW HIGH RESISTANCE

Circuit Description:

During the "Initiator Assembly Resistance Test" the DERM grounds the "Driver Side Low" terminal "B8" and turns "ON" the passenger current source at the "Passenger Side High" terminal "A7". This causes a known amount of current to flow through the passenger initiator circuit allowing this resistance to be calculated. The normal, non-deployment current flow through the driver deployment loop is also affected since the DERM is supplying ground through a resistor bypassing the ground supplied by the resistance of the discriminating sensor network. When the voltage difference between "Driver Side High" terminal "B9" and "Driver Side Low" terminal "B8" is above a specified value DTC 53 is set.

DTC Will Set When: The voltage difference between "Driver Side High" terminal "B9" and "Driver Side Low" terminal "B8" is above a specified value. This test is run once each ignition cycle during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test determines whether the malfunction is due to a high resistance or open in the "Driver Side Low" circuit between the DERM and the steering column harness connector.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection at DERM terminal "B8" or an open in CKT 348A. The test for this diagnostic trouble code is run only while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the next ignition cycle.

DTC 53
DRIVER SIDE LOW HIGH
RESISTANCE

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

①

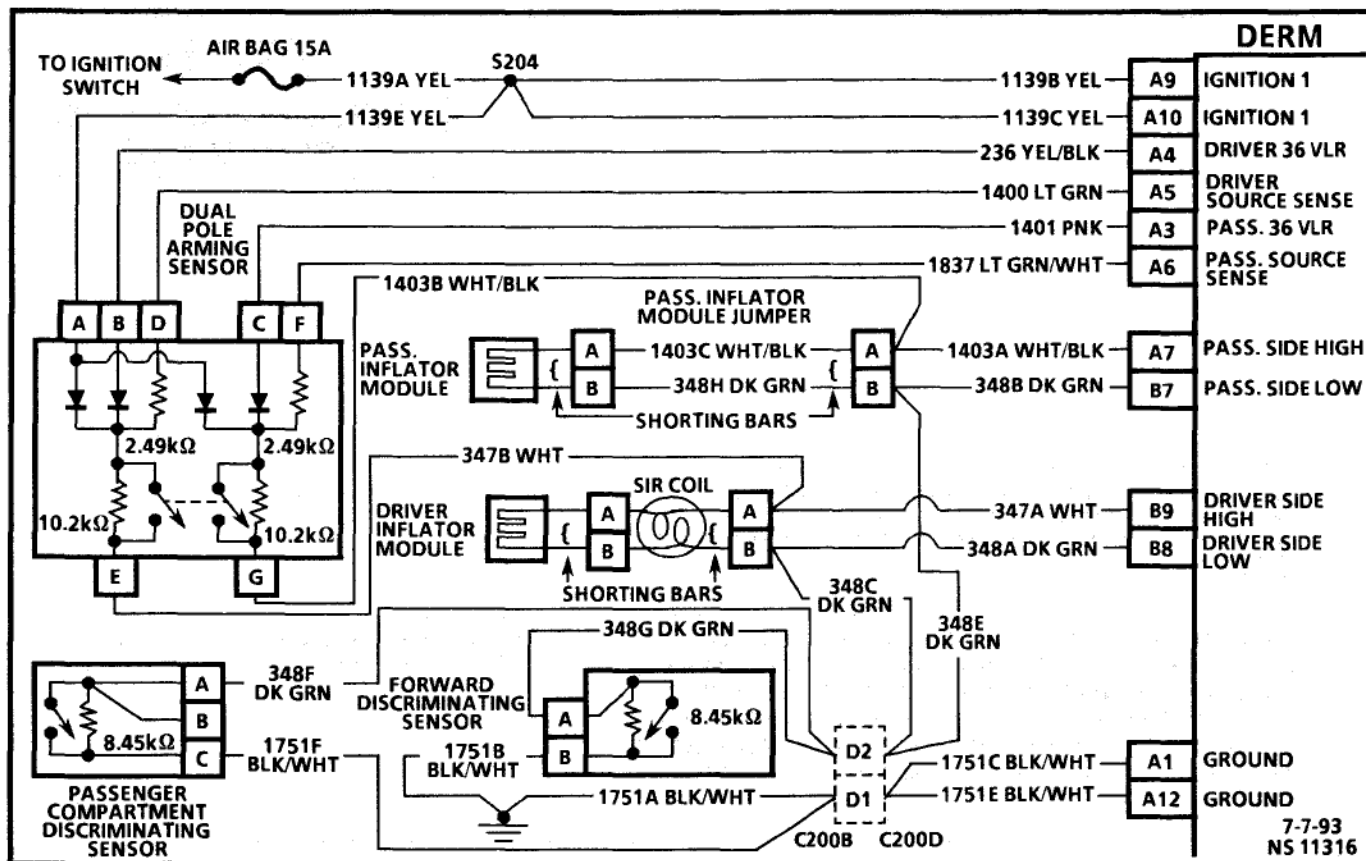
- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINAL "B8".
- IF OK THEN MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "B8" TO STEERING COLUMN HARNESS CONNECTOR TERMINAL "B". IS RESISTANCE 5.0Ω OR LESS?

YES

NO

GO TO CHART A.

- REPAIR OPEN OR HIGH RESISTANCE IN CKT 348A.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 54

PASSENGER SIDE LOW HIGH RESISTANCE

Circuit Description:

During the "Initiator Assembly Resistance Test" the DERM grounds the "Passenger Side Low" terminal "B7" and turns "ON" the driver current source at the "Driver Side High" terminal "B9". This causes a known amount of current to flow through the driver initiator circuit allowing the resistance to be calculated. The normal, non-deployment current flow through the passenger deployment loop is also affected since the DERM is supplying ground through a resistor bypassing the ground supplied by the resistance of the discriminating sensor network. When the voltage difference between "Passenger Side High" terminal "A7" and "Passenger Side Low" terminal "B7" is above a specified value DTC 54 is set.

DTC Will Set When: The voltage difference between "Passenger Side High" terminal "A7" and "Passenger Side Low" terminal "B7" is above a specified value. This test is run once each ignition cycle during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test determines whether the malfunction is due to a high resistance or open in the "Passenger Side Low" circuit between the DERM and the passenger inflator module harness connector.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection at DERM terminal "B7" or an open in CKT 348B. The test for this diagnostic trouble code is run only while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the next ignition cycle.

DTC 54**PASSENGER SIDE LOW
HIGH RESISTANCE**

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

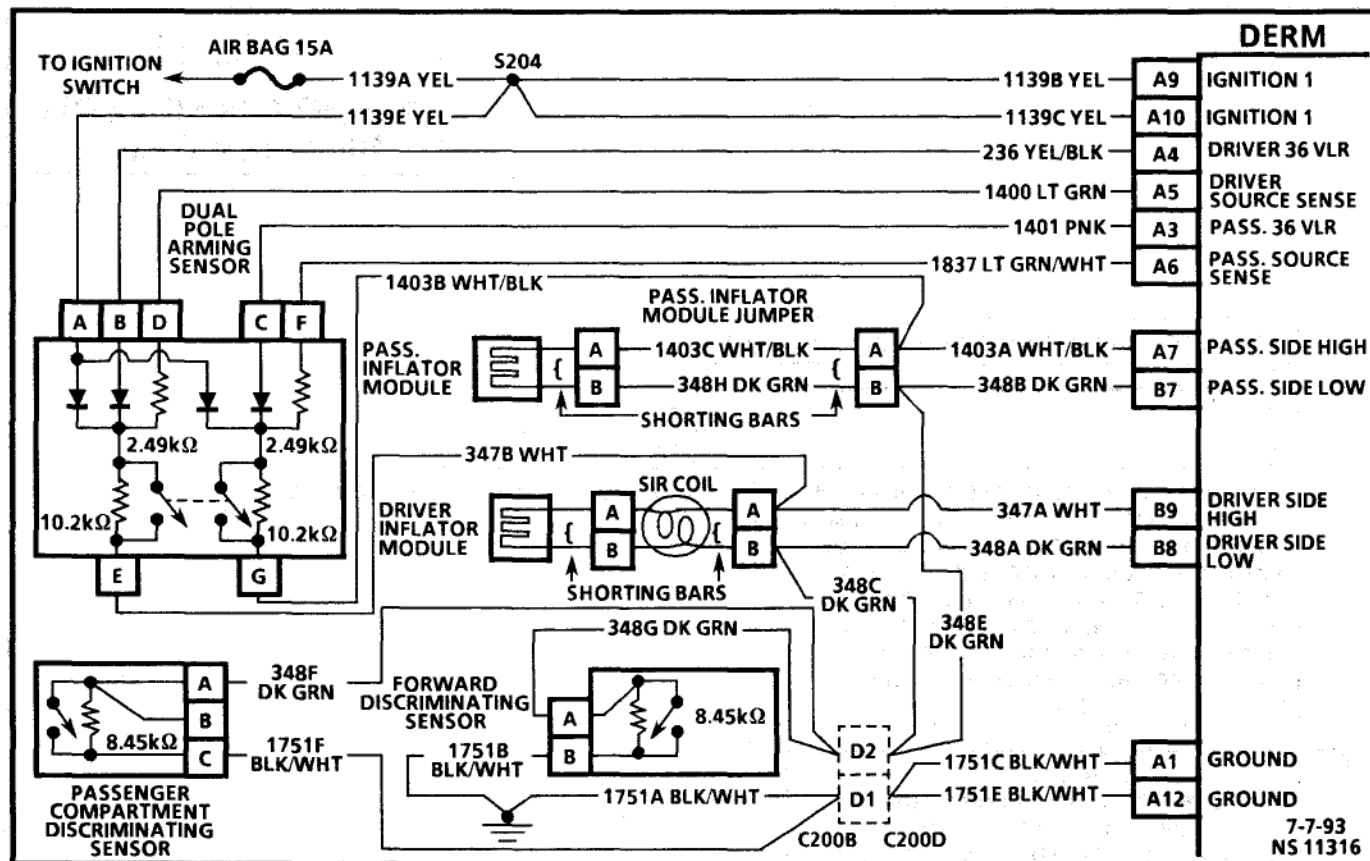
- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DERM.
- CHECK FOR PROPER CONNECTION TO DERM AT TERMINAL "B7".
- IF OK THEN MEASURE RESISTANCE FROM DERM HARNESS CONNECTOR TERMINAL "B7" TO PASSENGER INFLATOR MODULE JUMPER CONNECTOR TERMINAL "B". IS RESISTANCE 5.0Ω OR LESS?

YES

NO

GO TO CHART A.

- REPAIR OPEN OR HIGH RESISTANCE IN CKT 348B.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 55

DERM INCOMPATIBILITY

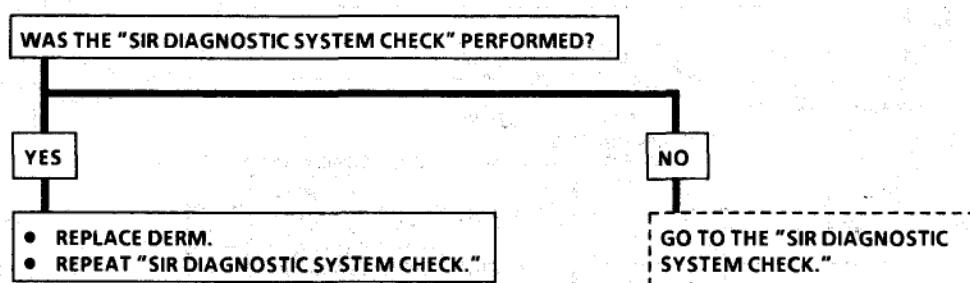
Circuit Description:

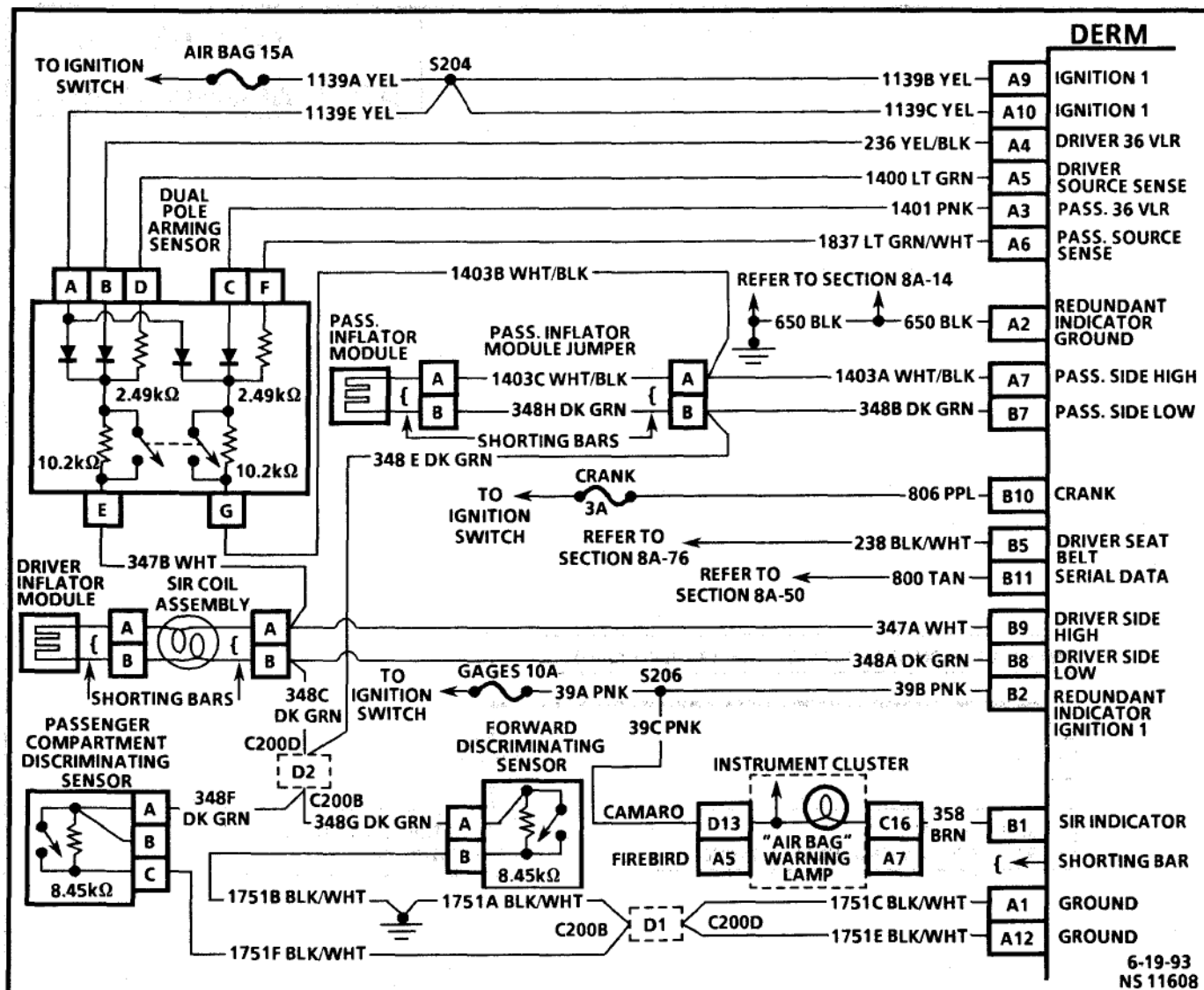
During the "Initiator Assembly Resistance Test" the DERM grounds the "Passenger Side Low" terminal "B7" and measures the voltage at "Driver Source Sense" terminal "A5", "Passenger Source Sense" terminal "A6" and "Driver Side Low" terminal "B8". The DERM monitors "Driver Source Sense" to ensure that "Driver 36 VLR" is fully charged and supplying voltage to the high side of the driver deployment loop. When this condition is met, the measurement at "Passenger Source Sense" indicates no voltage is being supplied to the high side of the passenger deployment loop and grounding "Passenger Side Low" does not ground "Driver Side Low," DTC 55 is set.

DTC Will Set When: The conditions described above indicate a driver only DERM has been installed in the vehicle. This test is run once each ignition cycle during the "Initiator Assembly Resistance Test" when: 1) No "higher priority faults" are detected during "Turn-ON," 2) No "higher priority faults" are detected during "Continuous Monitoring" for one second, 3) No "Crank" signal present, 4) "Ignition 1" voltage is above a specified value.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC 55
DERM INCOMPATIBILITY



DTC 61

SIR INDICATOR CIRCUIT FAILURE

Circuit Description:

When the ignition switch is first turned "ON" battery voltage is applied to the "AIR BAG" warning lamp and to the "Ignition 1" input terminals "A9" and "A10". The DERM responds by flashing the "AIR BAG" warning lamp seven times alternating between the primary and redundant lamp drivers. The DERM monitors the primary lamp driver output by comparing the output state at "SIR Indicator" terminal "B1" to the microprocessor commanded state. When "Ignition 1" is above a specified value and the output state does not match the commanded state of the primary lamp driver for 400 milliseconds DTC 61 is set.

DTC Will Set When: "Ignition 1" voltage is above a specified value and the output state at the "SIR Indicator" terminal "B1" does not match the commanded state of the primary lamp driver for 400 milliseconds. This test is run every 100 milliseconds during "Continuous Monitoring" tests.

Action Taken: DERM attempts to turn "ON" the "AIR BAG" warning lamp using the redundant lamp driver and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

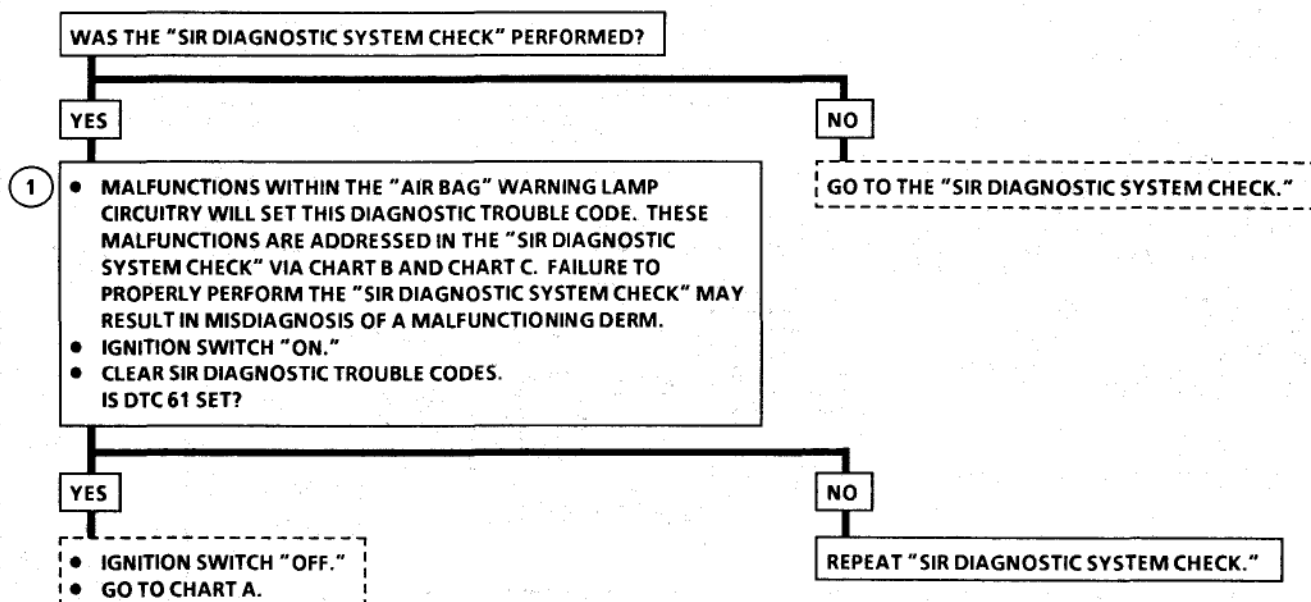
1. When the DERM is configured for a serial data controlled warning lamp (smart cluster) DTC 61 will set.

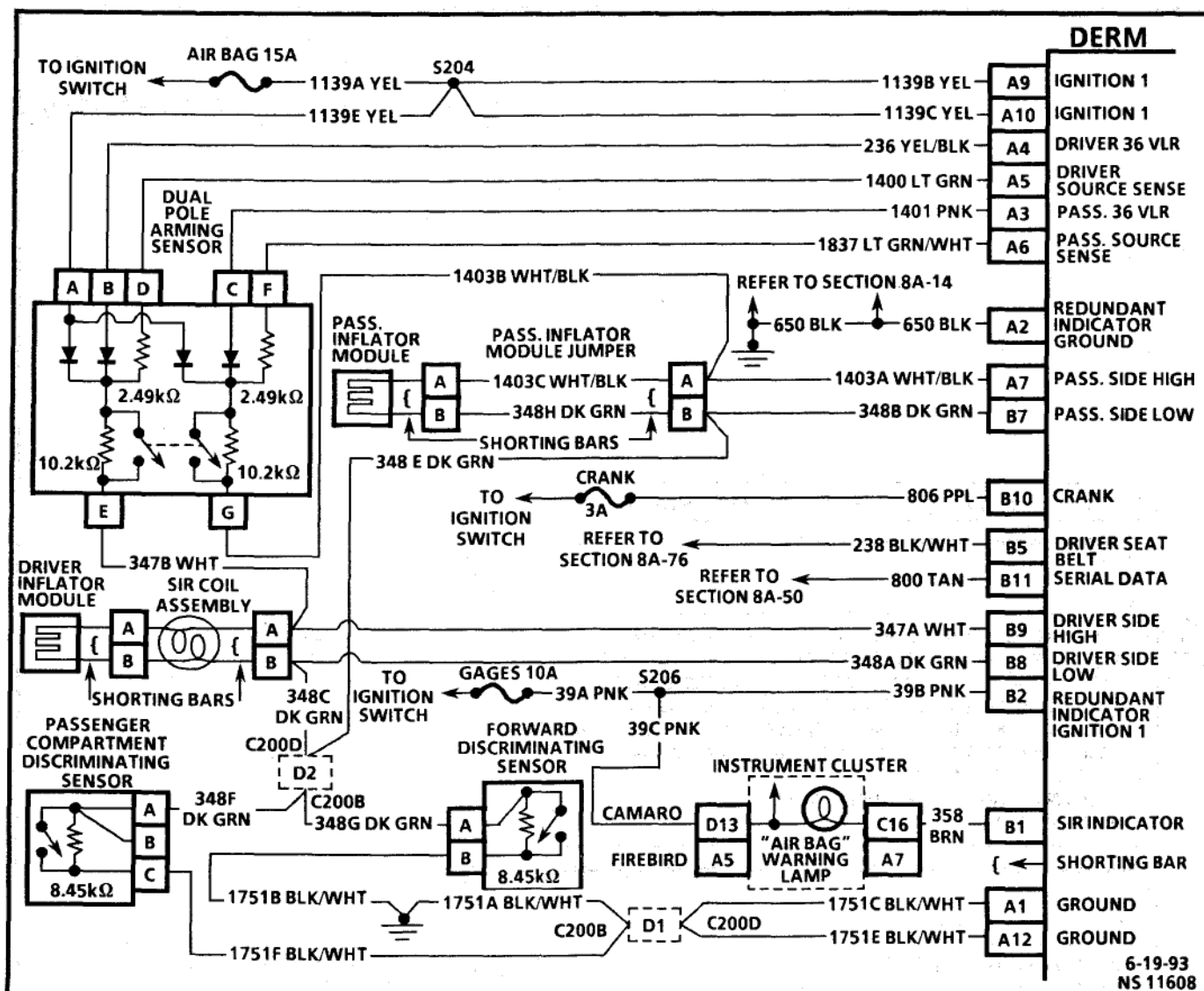
Clearing SIR diagnostic trouble codes will reset the DERM allowing the DERM to control the "AIR BAG" warning lamp.

Diagnostic Aids: Refer to CHARTs B and C to diagnose warning lamp circuit malfunctions.

DTC 61

SIR INDICATOR CIRCUIT FAILURE





DTC 62

REDUNDANT SIR INDICATOR CIRCUIT FAILURE

Circuit Description:

When the ignition switch is first turned "ON" battery voltage is applied to the "AIR BAG" warning lamp and to the "Ignition 1" input terminals "A9" and "A10". The DERM responds by flashing the "AIR BAG" warning lamp seven times alternating between the primary and redundant lamp drivers. The DERM monitors the redundant lamp driver output by comparing the output state at "SIR Indicator" terminal "B1" to the microprocessor commanded state. When "Ignition 1" is above a specified value and the output state does not match the commanded state of the redundant lamp driver for 400 milliseconds DTC 62 is set.

DTC Will Set When: "Ignition 1" voltage is above a specified value and the output state at the "SIR Indicator" terminal "B1" does not match the commanded state of the redundant lamp driver for 400 milliseconds. This test is run every 100 milliseconds during "Continuous Monitoring" tests.

Action Taken: DERM attempts to turn "ON" the "AIR BAG" warning lamp using the primary lamp driver and sets a diagnostic trouble code.

DTC Will Clear When: The ignition switch is turned "OFF."

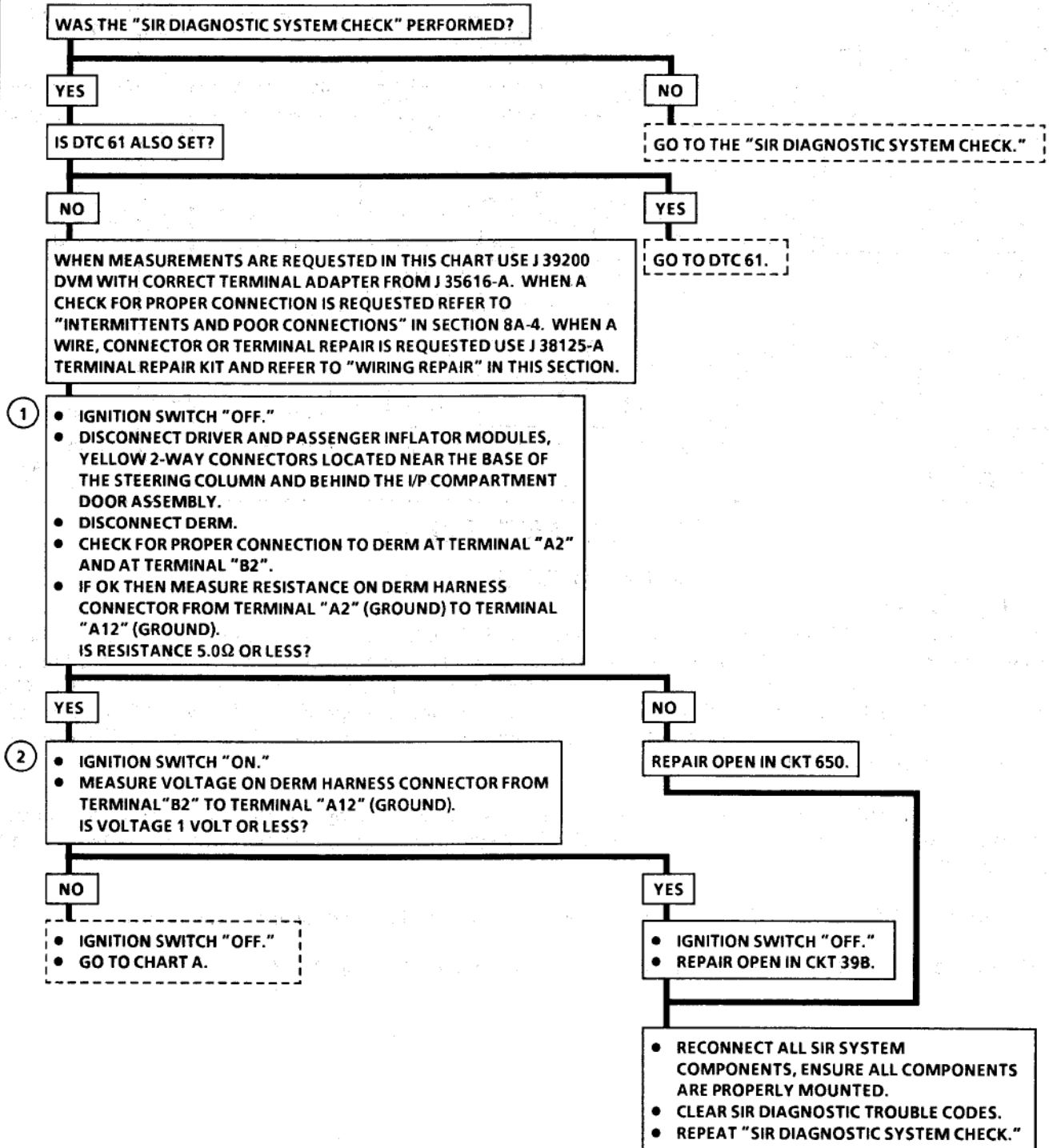
DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

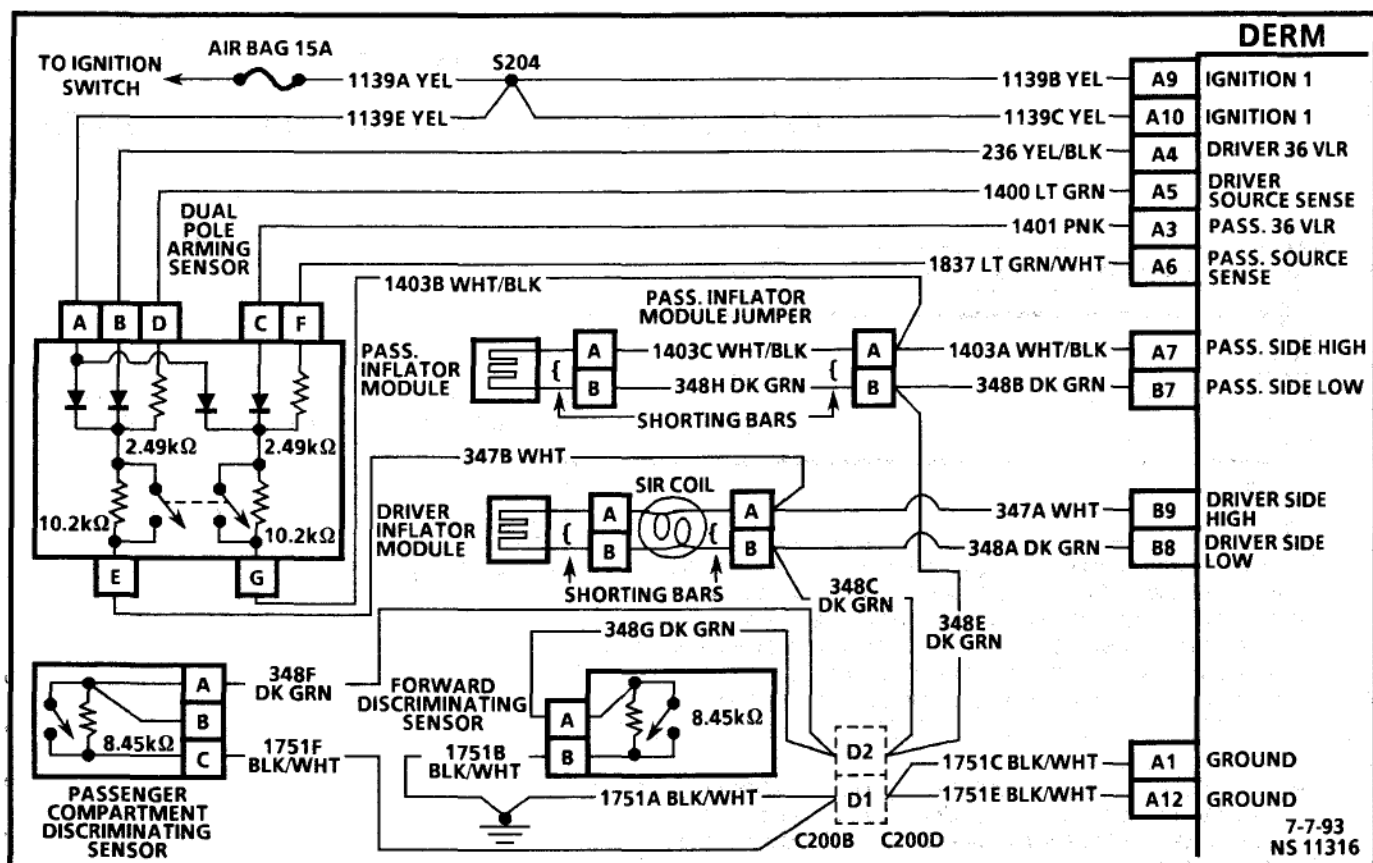
1. This test checks for an open in the "Redundant Indicator Ground" circuit.
2. This test determines whether the malfunction is due to an open in the "Redundant Indicator Ignition 1" circuit.

Diagnostic Aids: An intermittent condition is likely to be caused by a poor connection to the DERM at terminal "A2" or "B2", an open in CKT 650 or an open in CKT 39B.

DTC 62

REDUNDANT SIR INDICATOR CIRCUIT FAILURE





DTC 71 AND/OR 75 INTERNAL DERM FAULT

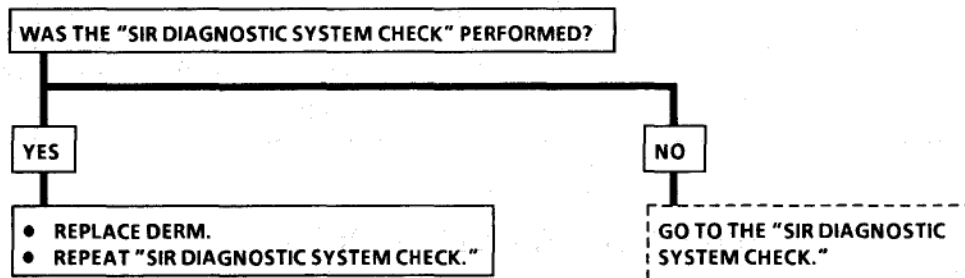
Circuit Description:

DTC 71 and/or DTC 75 is an indication of an internal DERM malfunction and will set if any of the following conditions are detected: 1) DERM energy reserve voltage discharge time failure for three consecutive ignition cycles ("Turn-ON" test), 2) DERM is unable to read from or write to EEPROM (tested during "EEPROM read/write cycle"), 3) Either "36 VLR" power supply voltage is above a specified value for 500 milliseconds ("Continuous Monitoring" test), 4) The DERM calculated number for the vehicle in which it is installed does not match the value stored in EEPROM.

DTC Will Set When: Any of the indicated malfunctions are detected by the DERM. Each of the failure conditions is tested at a different time: 1) At "Turn-ON," 2) Asynchronously, 3) During "Continuous Monitoring," 4) At "Turn-ON."

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: The indicated malfunctions are not detected by the DERM.

**DTC 71 AND/OR 75
INTERNAL DERM FAULT**



Circuit Description:

Diagnostic Aids: An intermittent condition is likely to be caused by a short between CKT 1400 and CKT 236, a short between CKT 1400 and CKT 1401, or an open inside the dual pole arming sensor. The test for this diagnostic trouble code is only run while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the ignition switch is turned "OFF" for at least two minutes with the entire SIR system connected and then the ignition switch is turned "ON."

DTC 81

DRIVER IGNITION DIODE OPEN

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

NO

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DUAL POLE ARMING SENSOR.
- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR HARNESS CONNECTOR FROM TERMINAL "D" TO TERMINAL "C". DOES J 39200 DISPLAY "OL" (INFINITE)?

YES

2

- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR HARNESS CONNECTOR FROM TERMINAL "D" TO TERMINAL "B". DOES J 39200 DISPLAY "OL" (INFINITE)?

NO

REPAIR SHORT FROM CKT 1400 TO CKT 1401.

YES

3

- RECONNECT DUAL POLE ARMING SENSOR.
- DISCONNECT DERM.
- IGNITION SWITCH "ON."
- MEASURE VOLTAGE FROM DERM HARNESS CONNECTOR TERMINAL "A5" TO TERMINAL "A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

NO

REPAIR SHORT FROM CKT 1400 TO CKT 236.

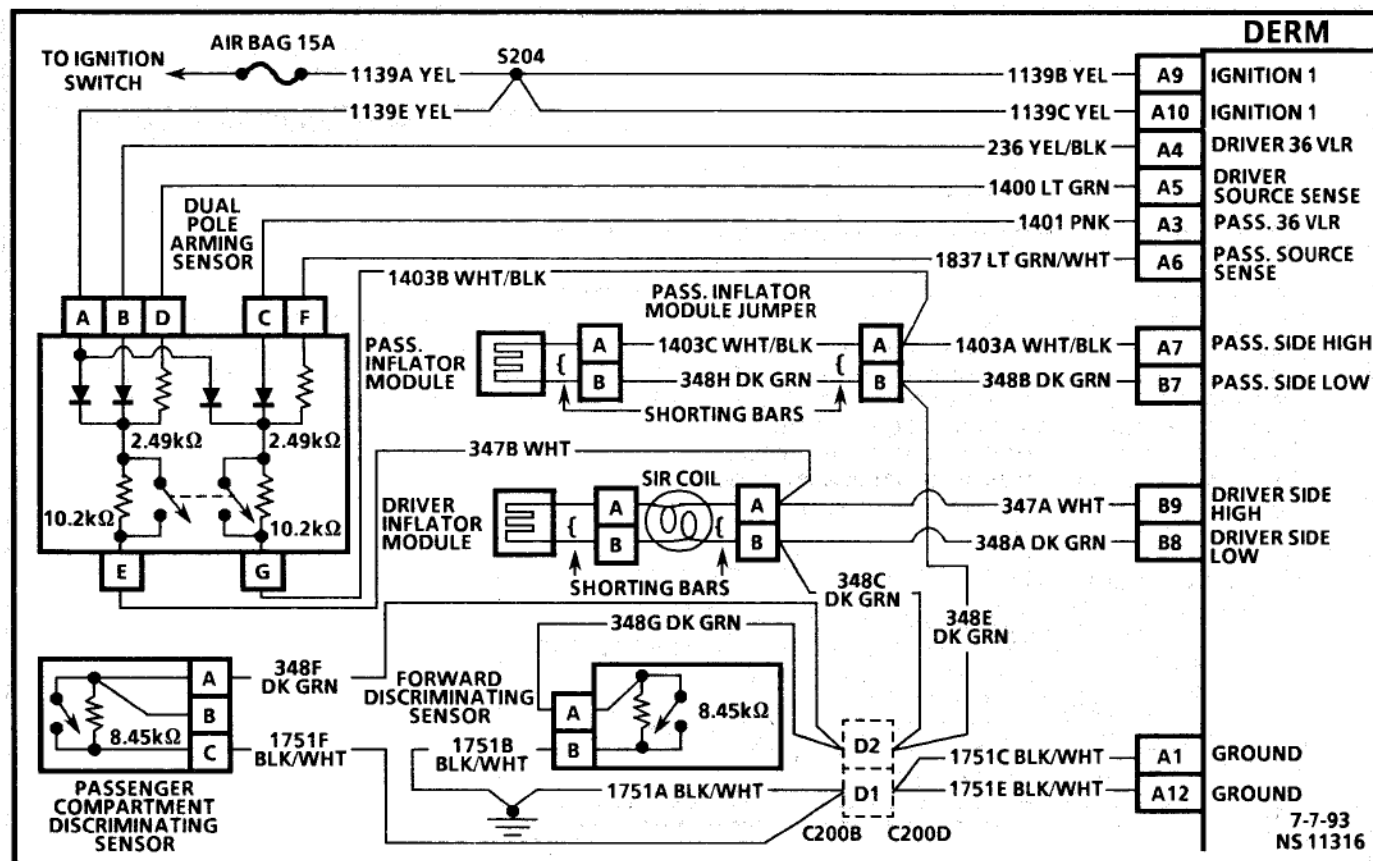
NO

- IGNITION SWITCH "OFF."
- GO TO CHART A.

YES

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



DTC 82

PASSENGER IGNITION DIODE OPEN

Circuit Description:

During the "Turn-ON" tests, performed at the beginning of each ignition cycle, the DERM delays the charging of the "Driver 36 VLR" and "Passenger 36 VLR" power supplies. While the delay is active the DERM measures the voltage at the "Driver 36 VLR" terminal "A4", "Passenger 36 VLR" terminal "A3", "Driver Source Sense" terminal "A5", and "Passenger Source Sense" terminal "A6". When the voltage measured at the two "36 VLR" power supplies indicates they are in a discharged state, the voltage measured at "Driver Source Sense" is within a specified range of "Ignition 1" voltage and the voltage measured at "Passenger Source Sense" is a specified amount below "Ignition 1" voltage DTC 82 is set.

DTC Will Set When: With both "36 VLR" power supplies in a discharged state, the DERM detects "Ignition 1" voltage at "Driver Source Sense" terminal "A5" while simultaneously the DERM does not detect "Ignition 1" voltage at "Passenger Source Sense" terminal "A6". This test is run once each ignition cycle during the "Turn-ON" tests while the "36 VLR Delay" is active.

Action Taken: DERM turns "ON" the "AIR BAG" warning lamp and sets a diagnostic trouble code.

DTC Will Clear When: With both "36 VLR" power supplies in a discharged state, the voltages measured at "Driver Source Sense" terminal "A5" and "Passenger Source Sense" terminal "A6" are simultaneously within a specified range of "Ignition 1" voltage. When neither the failure nor clear conditions are met, the state of the DTC from the previous ignition cycle is used.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test checks for a short from the "Passenger Source Sense" circuit to the "Passenger 36 VLR" circuit.
2. This test check for a short from the "Passenger Source Sense" circuit to the "Driver 36 VLR" circuit.
3. This test determines whether the malfunction is due to an open within the dual pole arming sensor.

Diagnostic Aids: An intermittent condition is likely to be caused by a short between CKT 1837 and CKT 236, a short between CKT 1837 and CKT 1401, or an open inside the dual pole arming sensor. The test for this diagnostic trouble code is only run while the "AIR BAG" warning lamp is performing the bulb check. When a scan tool "Clear Codes" command is issued and the malfunction is still present, the DTC will not reappear until the ignition switch is turned "OFF" for at least two minutes with the entire SIR system connected and then the ignition switch is turned "ON."

DTC 82

PASSENGER IGNITION DIODE OPEN

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DUAL POLE ARMING SENSOR.
- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR HARNESS CONNECTOR FROM TERMINAL "F" TO TERMINAL "C". DOES J 39200 DISPLAY "OL" (INFINITE)?

YES

NO

2

- MEASURE RESISTANCE ON DUAL POLE ARMING SENSOR HARNESS CONNECTOR FROM TERMINAL "F" TO TERMINAL "B". DOES J 39200 DISPLAY "OL" (INFINITE)?

REPAIR SHORT FROM CKT 1837 TO CKT 1401.

YES

NO

3

- RECONNECT DUAL POLE ARMING SENSOR.
- DISCONNECT DERM.
- IGNITION SWITCH "ON."
- MEASURE VOLTAGE FROM DERM HARNESS CONNECTOR TERMINAL "A6" TO TERMINAL "A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

REPAIR SHORT FROM CKT 1837 TO CKT 236.

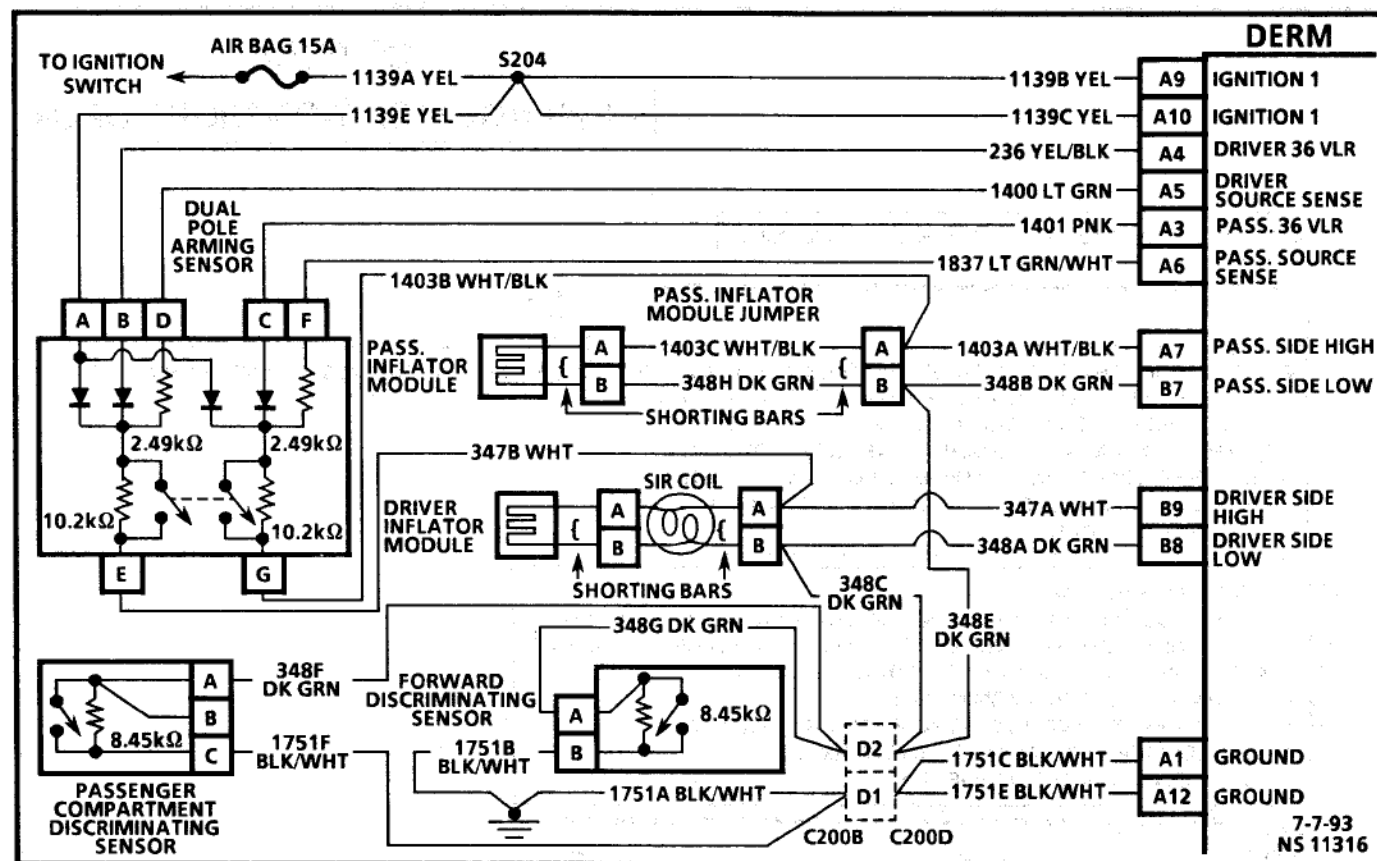
NO

YES

- IGNITION SWITCH "OFF."
- GO TO CHART A.

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.

- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



HISTORY DTC 83

DRIVER RESERVE DIODE SHORTED

Circuit Description:

During the "Turn-ON" tests, performed at the beginning of each ignition cycle, the DERM delays the charging of the "Driver 36 VLR" and "Passenger 36 VLR" power supplies. While the delay is active the DERM measures the voltage at the "Driver 36 VLR" terminal "A4", "Passenger 36 VLR" terminal "A3", "Driver Source Sense" terminal "A5", and "Passenger Source Sense" terminal "A6". When the driver reserve diode is shorted "Ignition 1" voltage is measured at "Driver 36 VLR" from the forward biased driver ignition diode. When the voltage measured at "Driver 36 VLR" is within a specified range of "Ignition 1" voltage for eight consecutive "Turn-ON" tests history DTC 83 is set.

DTC Will Set When: The voltage measured at "Driver 36 VLR" terminal "A4" is within a specified range of "Ignition 1" voltage for eight consecutive "Turn-ON" tests and no "higher priority faults" are detected. This test is run once each ignition during the "Turn-ON" test while the "36 VLR delay" is active.

Action Taken: DERM sets a history diagnostic trouble code.

DTC Will Clear When: The voltage measured at "Driver 36 VLR" terminal "A4" indicated that the power supply is in a discharged state during "Turn-ON" tests.

DTC Chart Test Description: Number(s) below refer to circled number(s) on the diagnostic chart.

1. This test determines whether the malfunction is due to a shorted driver reserve diode within the dual pole arming sensor.

Diagnostic Aids: This diagnostic trouble code will not set as a current DTC. Therefore follow the DTC chart to diagnose a history DTC 83.

HISTORY DTC 83

DRIVER RESERVE DIODE SHORTED

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK".

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DERM.
- IGNITION SWITCH "ON."
- MEASURE VOLTAGE ON DERM HARNESS CONNECTOR TERMINAL "A4" TO TERMINAL "A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

YES

NO

- IGNITION SWITCH "OFF."
- GO TO CHART A.

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."



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HISTORY DTC 84

PASSENGER RESERVE DIODE SHORTED

WAS THE "SIR DIAGNOSTIC SYSTEM CHECK" PERFORMED?

YES

NO

WHEN MEASUREMENTS ARE REQUESTED IN THIS CHART USE J 39200 DVM WITH CORRECT TERMINAL ADAPTER FROM J 35616-A. WHEN A CHECK FOR PROPER CONNECTION IS REQUESTED REFER TO "INTERMITTENTS AND POOR CONNECTIONS" IN SECTION 8A-4. WHEN A WIRE, CONNECTOR OR TERMINAL REPAIR IS REQUESTED USE J 38125-A TERMINAL REPAIR KIT AND REFER TO "WIRING REPAIR" IN THIS SECTION.

GO TO THE "SIR DIAGNOSTIC SYSTEM CHECK."

1

- IGNITION SWITCH "OFF."
- DISCONNECT DRIVER AND PASSENGER INFLATOR MODULES, YELLOW 2-WAY CONNECTORS LOCATED NEAR THE BASE OF THE STEERING COLUMN AND BEHIND THE I/P COMPARTMENT DOOR ASSEMBLY.
- DISCONNECT DERM.
- IGNITION SWITCH "ON."
- MEASURE VOLTAGE FROM DERM HARNESS CONNECTOR TERMINAL "A3" TO TERMINAL "A1" (GROUND). IS VOLTAGE 1 VOLT OR LESS?

YES

NO

- IGNITION SWITCH "OFF."
- GO TO CHART A.

- IGNITION SWITCH "OFF."
- REPLACE DUAL POLE ARMING SENSOR.
- RECONNECT ALL SIR SYSTEM COMPONENTS, ENSURE ALL COMPONENTS ARE PROPERLY MOUNTED.
- CLEAR SIR DIAGNOSTIC TROUBLE CODES.
- REPEAT "SIR DIAGNOSTIC SYSTEM CHECK."

ON-VEHICLE SERVICE

SERVICE PRECAUTIONS

CAUTION: When performing service on or around SIR components or SIR wiring, follow the procedures listed below to temporarily disable the SIR system. Failure to follow procedures could result in possible air bag deployment, personal injury or otherwise unneeded SIR system repairs.

The DERM in 1993 and previous Driver-Only SIR systems can maintain sufficient voltage to cause a deployment for up to 10 minutes after the ignition switch is turned "OFF," the battery is disconnected, or the fuse powering the DERM is removed.

The DERM in 1993 $\frac{1}{2}$ and later Driver-Only and the DERM in all Driver-Passenger SIR systems can maintain sufficient voltage to cause a deployment for up to 2 minutes after the ignition switch is turned "OFF," the battery is disconnected, or the fuse powering the DERM is removed.

Many of the service procedures require removal of the "AIR BAG" fuse, and disconnection of the inflator modules from the deployment loop to avoid an accidental deployment. If the inflator module is disconnected from the deployment loop as noted in the "Disabling the SIR System" procedure that follows, service can begin immediately without waiting for the 10 minute or 2 minute time period to expire.

Disabling the SIR System

Figure 9



Remove or Disconnect

- Turn the steering wheel so that the vehicle's wheels are pointing straight ahead.
- Turn the ignition switch to "LOCK" and remove key.
- 1. "AIR BAG" fuse from I/P fuse block.
- 2. Lower sound insulator panel - left side, refer to SECTION 8C.
- 3. Connector Position Assurance (CPA) and yellow 2-way connector located near the base of the steering column.
- 4. I/P compartment door assembly, refer to SECTION 8C.
- 5. CPA and yellow 2-way connector from passenger inflator module.



Important

- With the "AIR BAG" fuse removed and ignition switch "ON," the "AIR BAG" warning lamp will be "ON." This is normal operation and does not indicate an SIR system malfunction.

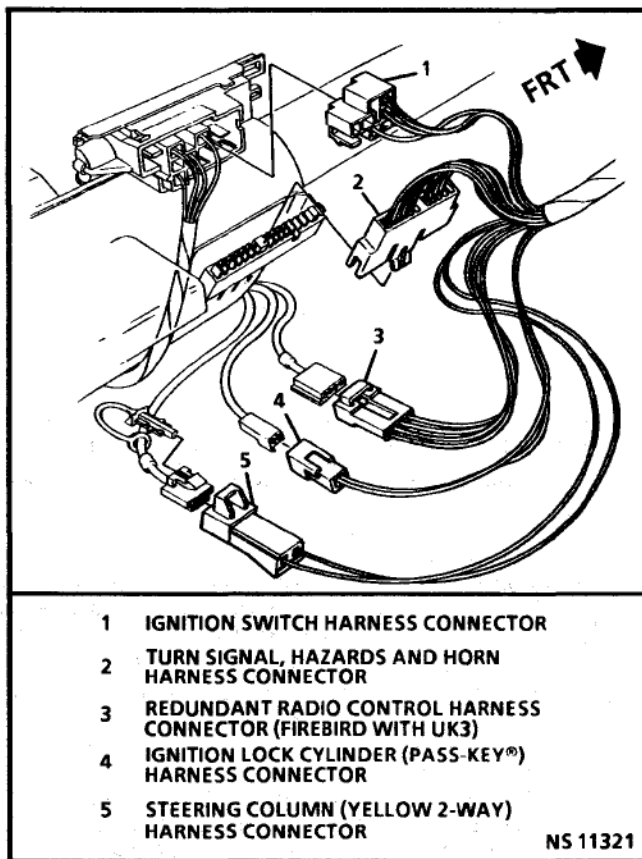


Figure 9 - Yellow 2-Way SIR Connector (Driver)

Enabling the SIR System

Figure 9



Install or Connect

- Turn ignition switch to "LOCK" and remove key.
- 1. Yellow 2-way connector and CPA passenger inflator module.
- 2. I/P compartment door assembly, refer to SECTION 8C.
- 3. Yellow 2-way connector and CPA near base of steering column.
- 4. Lower sound insulator panel - left side, refer to SECTION 8C.
- 5. "AIR BAG" fuse to I/P fuse block.
- Turn ignition switch to "RUN" and verify that the "AIR BAG" warning lamp flashes seven times and then turns "OFF." If it does not operate as described, perform the "SIR Diagnostic System Check" in SECTION 9J-A.

Handling/Installation/Diagnosis

1. Inflator modules should not be subjected to temperatures above 65°C (150°F).
2. Discriminating sensors, inflator modules, arming sensors, or DERMs should not be used if they have been dropped from a height of 91.4 centimeters (3 feet).

3. When a discriminating sensor or arming sensor is replaced, it **MUST** be oriented with the arrow on the sensor pointing toward the front of the vehicle. It is very important for the discriminating sensors and arming sensor to be located flat on the mounting surface, parallel to the vehicle datum line. It is important that the sensor mounting surface is free of any dirt or other foreign material.
4. Do not apply power to the SIR system unless all components are connected or a diagnostic chart requests it, as this will set a diagnostic trouble code.
5. The "SIR Diagnostic System Check" must be the starting point of any SIR diagnostics. The "SIR Diagnostic System Check" will verify proper "AIR BAG" warning lamp operation and will lead you to the correct chart to diagnose any SIR malfunctions. **Bypassing these procedures may result in extended diagnostic time, incorrect diagnosis, and incorrect parts replacements.**

REPAIRS AND INSPECTIONS REQUIRED AFTER AN ACCIDENT

Important

- If any SIR system components are damaged, they must be replaced. If SIR component mounting points are damaged, they must be repaired or replaced.
- Never use SIR parts from another vehicle. This does not include remanufactured parts purchased from an authorized GM dealer; they may be used for SIR repairs.
- Do not attempt to service discriminating sensors, the dual pole arming sensor, the DERM, the SIR coil assembly, or the inflator modules. Service of these items is by replacement only.
- Verify the part number of replacement inflator modules. Some GM inflator modules look identical but contain different internal components.

CAUTION: Proper operation of the sensors and Supplemental Inflatable Restraint (SIR) system requires that any repairs to the vehicle structure return it to the original production configuration. Deployment requires, at a minimum, replacement of the sensors in the area of accident damage, the inflator module, and dimensional inspection of the steering column. Any visible damage to the DERM mounting bracket(s) requires replacement, sensors in the area of accident damage must be replaced, and the steering column must be dimensionally inspected, whether deployment occurred or not.

Accident With Deployment - Component Replacement and Inspections

Certain SIR components must be replaced or inspected for damage after a frontal crash involving air bag deployment. Those components are:

- Inflator modules.
- Sensors, if in the area of accident damage.

Important

- Refer to "Sensor Replacement Guidelines" below for important information on sensor replacement in both deployment and non-deployment crashes.
- SIR coil assembly Inspect wiring and connector for any signs of scorching, melting, or damage due to excessive heat. Replace if damaged. Refer to SECTION 3F5B.

Accident With or Without Deployment - Component Inspections

Certain SIR and restraint system components must be inspected after any crash, whether the air bag deployed or not. Those components are:

- Steering column - Dimensionally inspect per "Checking Steering Column for Accident Damage" in SECTION 3F5B.
- Sensors, if in the area of accident damage.

Important

- Refer to "Sensor Replacement Guidelines" below for important information on sensor replacement in both deployment and non-deployment crashes.
- Knee bolsters and mounting points - Inspect for any distortion, bending, cracking, or other damage.
- I/P steering column reinforcement plate - Inspect for any distortion, bending, cracking, or other damage.
- I/P braces - Inspect for any distortion, bending, cracking, or other damage.
- Seat belts and mounting points - Refer to "Seat Belts" in SECTION 10-5.

Sensor Replacement Guidelines

SIR sensor replacement policy requires replacement of the sensors in the area of accident damage only.

The "area of accident damage" is defined as that area of the vehicle which is crushed, bent, or damaged in other ways. An example might be a significant front-end collision in which the forward portions of the vehicle have contacted another vehicle, tree, guardrail, etc.

In this example, a sensor on the front of the vehicle, such as the radiator tie bar, would require replacement, since that portion of the vehicle was damaged in the accident. A sensor in the passenger compartment, such as the dual pole arming sensor, would not require mandatory replacement. Of course, if the DERM sets a diagnostic trouble code and the diagnostic chart leads to a malfunctioning sensor that was not in the area of accident damage, that sensor should also be replaced.

Sensors in the area of accident damage should be replaced even if those sensors do not appear to be damaged. Do not attempt to determine whether a sensor is OK -- ALWAYS replace it if it is in the area of accident damage.

Also, if a sensor is in an area of accident damage, but the SIR system has NOT been deployed, replace the sensor.

DIAGNOSTIC ENERGY RESERVE MODULE

Figure 10

CAUTION: The following procedures must be followed in the order listed to temporarily disable the Supplemental Inflatable Restraint (SIR) system and prevent false diagnostic trouble codes from setting. Failure to follow procedures could result in possible air bag deployment, personal injury or otherwise unneeded SIR system repairs.

NOTICE: Do not open the DERM case for any reason, touching the connector pins or soldered components may cause electrostatic discharge damage. Repair of a malfunctioning DERM is by replacement only.

➡➡ Remove or Disconnect

- Disable the SIR system. Refer to "Disabling the SIR System" in this section.
- 1. Lower sound insulator pad - right side, refer to SECTION 8C.
- 2. I/P compartment door assembly.
- 3. Connector Position Assurance (CPA) and electrical connector.
- 4. DERM from vehicle.

➡➡ Install or Connect

- 1. DERM in vehicle.
- 2. Electrical connector and CPA.
- 3. I/P compartment door assembly.
- 4. Lower sound insulator pad - right side, refer to SECTION 8C.
- Enable SIR system, refer to "Enabling the SIR System" in this section.

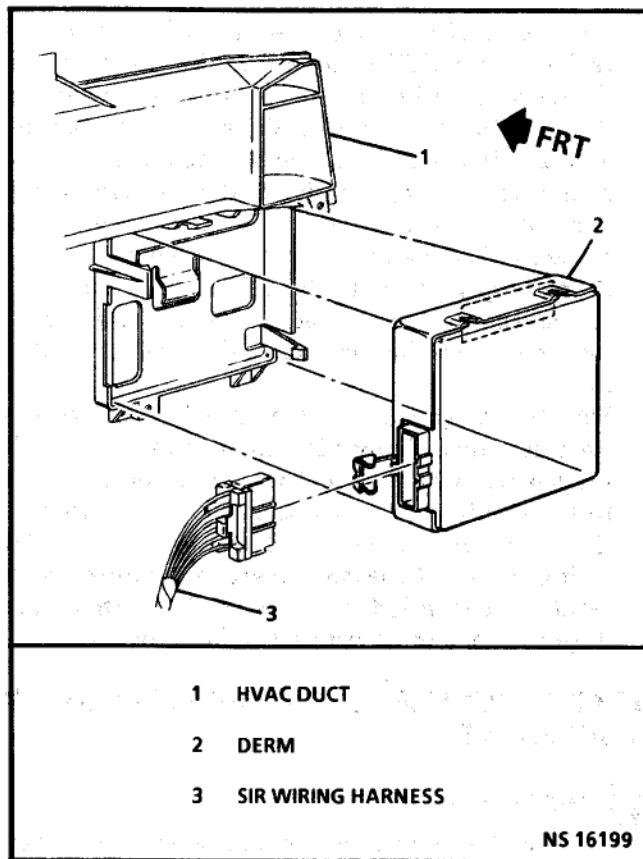


Figure 10 - Diagnostic Energy Reserve Module

DISCRIMINATING SENSORS

Figures 11 and 12

Caution should be used to assure proper location of sensors to the mounting brackets. The keying of the sensors through the wiring harness connectors must not be modified for any reason.

Forward Discriminating Sensor

Figure 11

CAUTION: During service procedures, be very careful when handling a sensor. Never strike or jar a sensor. Under some circumstances, it could cause deployment and result in personal injury or improper operation of the Supplemental Inflatable Restraint (SIR) system. All sensors and mounting bracket bolts must be carefully torqued to assure proper operation. Never power up the SIR system when any sensor is not rigidly attached to vehicle, since the sensor could be activated when not attached and could result in deployment.

➡➡ Remove or Disconnect

- Disable the SIR system. Refer to "Disabling the SIR System" in this section.
- 1. Sensor fasteners.

2. Sensor from vehicle.
3. Connector Position Assurance (CPA) and electrical connector.

Important

- The following procedures should be utilized in the event that sensor mounting holes or fasteners are damaged to the extent that the sensor can no longer be properly mounted.

First Repair

1. Drill 7.4 mm (19/64 inch) hole into clinch nut.
2. Install fastener (part #25529109).

Tighten

- Fastener to 15N·m (133 lb. in.).

Second Repair

1. Drill 8.5 mm (21/64 inch) hole into clinch nut.
2. Install fastener (part # 10082184).

Tighten

- fastener to 12.5 N·m (111 lb. in.).

CAUTION: Proper operation of the forward discriminating sensor requires the sensor be rigidly attached to the vehicle structure and that the arrow on the sensor be pointing toward the front of the vehicle.

Install or Connect

1. Electrical connector and CPA.
2. Sensor in vehicle.
3. Sensor fasteners.

Tighten

- Fasteners to 10 N·m (89 lb. ft.).
- Enable SIR system, refer to "Enabling the SIR System" in this section.

Passenger Compartment Discriminating Sensor Figure 12

CAUTION: During service procedures, be very careful when handling a sensor. Never strike or jar a sensor. Under some circumstances, it could cause deployment and result in personal injury or improper operation of the Supplemental Inflatable Restraint (SIR) system.

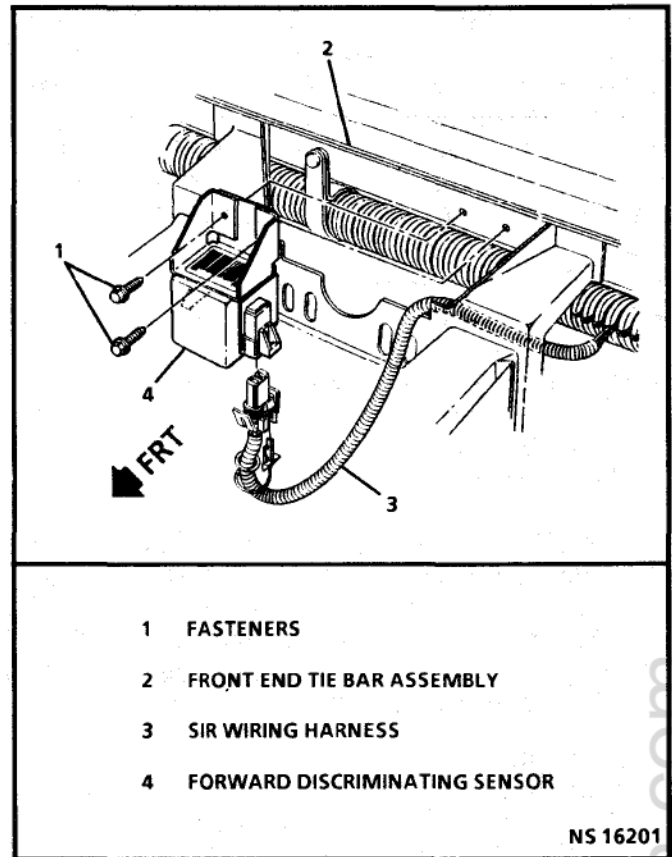


Figure 11 - Forward Discriminating Sensor

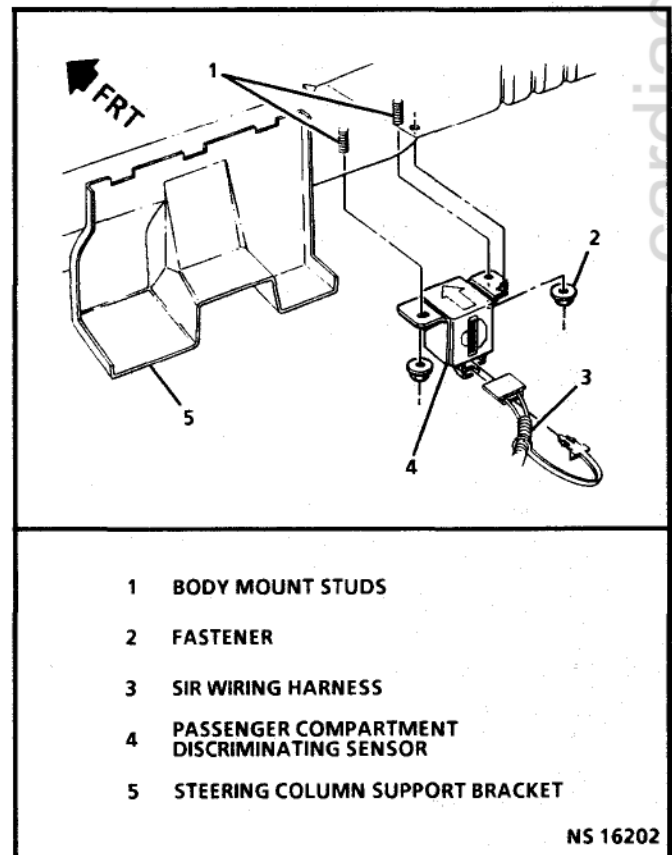


Figure 12 - Passenger Compartment Discriminating Sensor

All sensors and mounting bracket bolts must be carefully torqued to assure proper operation. Never power up the SIR system when any sensor is not rigidly attached to vehicle, since the sensor could be activated when not attached and could result in deployment.

Remove or Disconnect

- Disable the SIR system. Refer to "Disabling the SIR System" in this section.
1. Connector Position Assurance (CPA) and electrical connector.
 2. Sensor fasteners.
 3. Sensor from vehicle.

CAUTION: Proper operation of the passenger compartment discriminating sensor requires the sensor be rigidly attached to the vehicle structure and that the arrow on the sensor be pointing toward the front of the vehicle.

Important

- The following procedures should be utilized in the event that sensor mounting holes or fasteners are damaged to the extent that the sensor can no longer be properly mounted.
- It is important that the fasteners do not have any oil or other foreign material on them. Oil will damage the plastic on the I/P console.

First Repair

1. Drill 3.5 mm (1/8 inch) hole through sensor and cowl.
2. Enlarge sensor hole to 5 mm (3/16 inch).
3. Install fastener (part #11509709).

Tighten

- Fastener to 2.6 N·m (23 lb. in.).

Second Repair

1. Grind off stud flush with panel.
2. Drill 5.6 mm (7/32 inch) hole in center of stud.
3. Install fastener (part #10094385).

Tighten

- Fasteners to 6 N·m (53 lb. in.).

Install or Connect

1. Sensor in vehicle.
2. Sensor fasteners.

Tighten

- Fasteners to 10 N·m (89 lb. in.).
3. Electrical connector and CPA.
 - Enable SIR system, refer to "Enabling the SIR System" in this section.

DUAL POLE ARMING SENSOR

Figure 13

CAUTION: During service procedures, be very careful when handling a sensor. Never strike or jar a sensor. Under some circumstances, it could cause deployment and result in personal injury or improper operation of the Supplemental Inflatable Restraint (SIR) system. All sensors and mounting bracket bolts must be carefully torqued to assure proper operation. Never power up the SIR system when any sensor is not rigidly attached to vehicle, since the sensor could be activated when not attached and could result in deployment.

Remove or Disconnect

- Disable the SIR system. Refer to "Disabling the SIR System" in this section.
1. Center console, refer to SECTION 8C.
 2. Connector Position Assurance (CPA) and electrical connector.
 3. Sensor fasteners.
 4. Sensor from vehicle.

Important

- The following procedures should be utilized in the event that sensor mounting holes or fasteners are damaged to the extent that the sensor can no longer be properly mounted.
- It is important that the fasteners do not have any oil or other foreign material on them. Oil will damage the plastic on the I/P console.

First Repair

- Install fastener (part # 11504352).

Tighten

- Fastener to 6.5 N·m (58 lb. in.).

Second Repair

- Install fastener (part # 11504688).

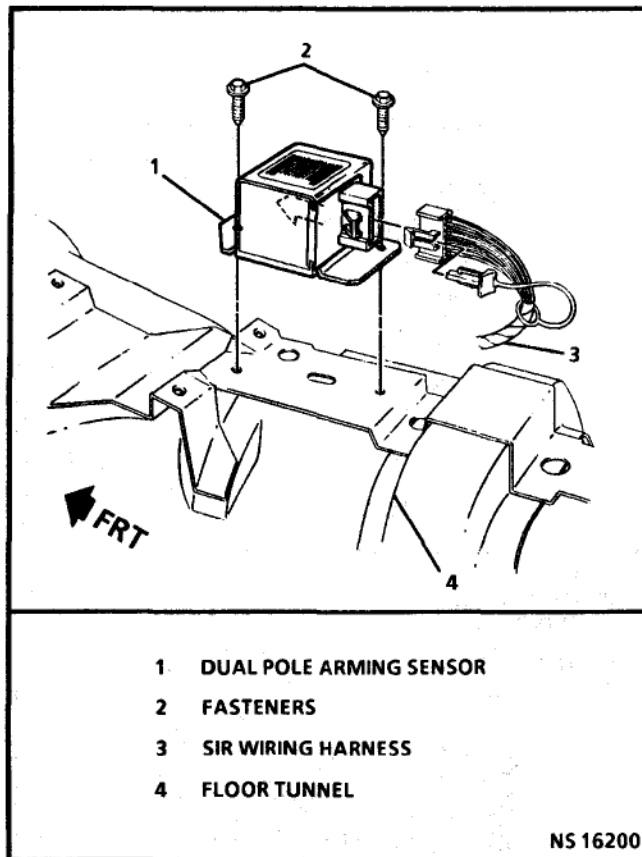


Figure 13 - Dual Pole Arming Sensor

Tighten

- Fastener to 3 N·m (27 lb. in.).

CAUTION: Proper operation of the dual pole arming sensor requires the sensor be rigidly attached to the vehicle structure and that the arrow on the sensor be pointing toward the front of the vehicle.

Install or Connect

1. Sensor in vehicle.
2. Sensor fasteners.

Tighten

- Fasteners to 4.5 N·m (40 lb. in.).
- 3. Electrical connector and CPA.
- 4. Center console, refer to SECTION 8C.
- Enable the SIR system, refer to "Enabling the SIR System" in this section.

PASSENGER INFLATOR MODULE

Figure 14

Live (Undeployed) Inflator Module

Refer to "Inflator Module Handling/Shipping/Scrapping" in this section.

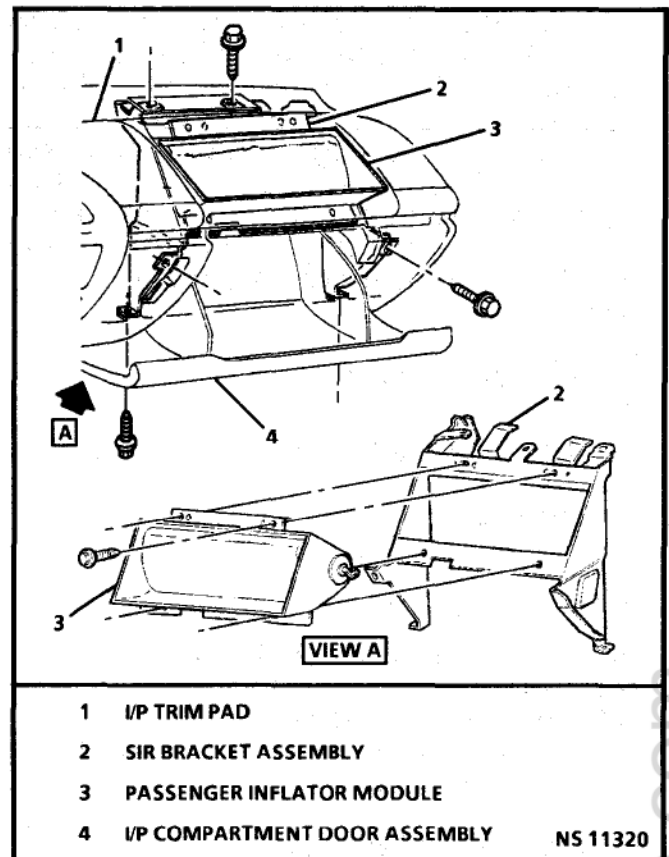


Figure 14 - Passenger Inflator Module

Deployed Inflator Module

After the inflator module has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of cornstarch (used to lubricate the bag as it inflates) and byproducts of the chemical reaction. Sodium hydroxide dust (similar to lye soap) is produced as a byproduct of the deployment reaction. The sodium hydroxide then quickly reacts with atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that sodium hydroxide will be present after deployment. As with any procedures, you should wear gloves and safety glasses.

Remove or Disconnect

- Disable the SIR system. Refer to "Disabling the SIR System" in this section.
- 1. I/P carrier assembly, refer to SECTION 8C.
- 2. Connector Position Assurance (CPA) and electrical connector.
- 3. Fasteners from inflator module.
- 4. Inflator module from vehicle.

CAUTION: When carrying a live inflator module, make sure the bag is pointed away from you. Never carry the inflator module by the wires or connector on the side of the module.

In case of an accidental deployment, the bag will then deploy with minimal chance of injury. When placing a live inflator module on a bench or other surface, always face the bag up, away from the surface. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Otherwise personal injury may result.

Install or Connect

NOTICE: Refer to "NOTICE" on Page 9J-1.

1. Inflator module in vehicle.
2. Fastener is on inflator module.

Tighten

- Fasteners to 2.8 N·m (25 lb. in.).
- 3. Electrical connector and CPA.
- 4. I/P carrier assembly, refer to SECTION 8C.
- Enable the SIR system, refer to "Enabling the SIR System" in this section.

"AIR BAG" WARNING LAMP

Refer to SECTION 8C.

DRIVER INFLATOR MODULE

Refer to SECTION 3F.

SIR COIL ASSEMBLY

Refer to SECTION 3F5B.

INFLATOR MODULE HANDLING/SHIPPING/SCRAPPING

Figure 15

Live (Undeployed) Inflator Module

Special care is necessary when handling and storing a live (undeployed) inflator module. The rapid gas generation produced during deployment of the air bag could cause the inflator module, or an object in front of the inflator module, to be thrown through the air in the unlikely event of an accidental deployment.

CAUTION: When carrying a live inflator module, make sure the bag opening is pointed away from you. In case of an accidental deployment, the bag will then deploy with minimal chance of injury. Never carry the inflator module by the wires or connector on the underside of the module.

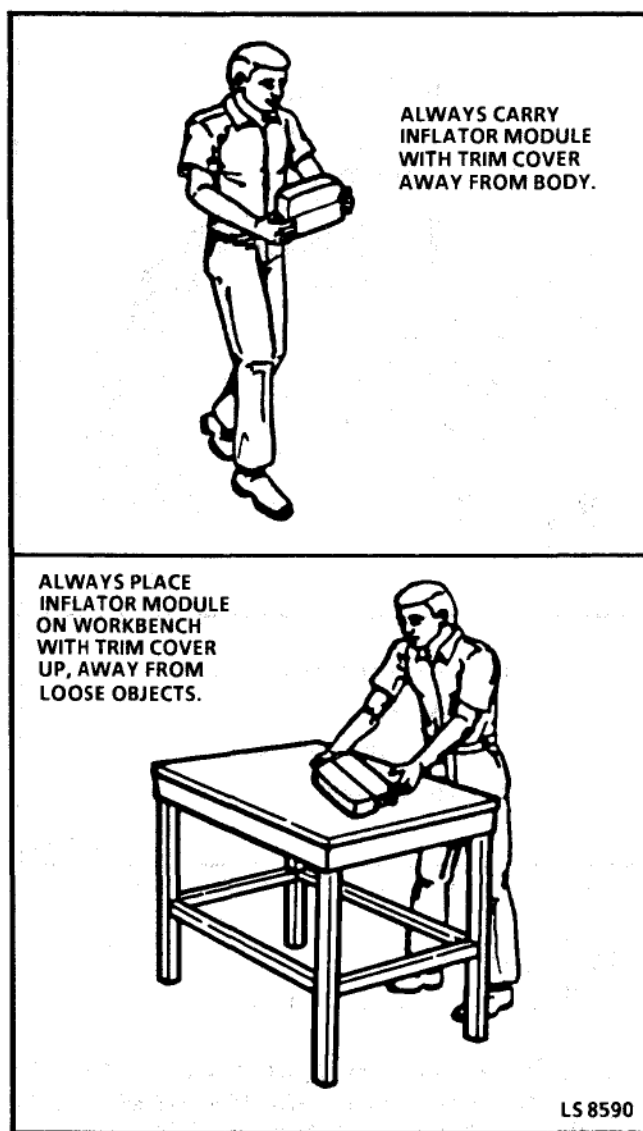


Figure 15 - Proper Live Inflator Module Handling

When placing a live inflator module on a bench or other surface, always face the bag and trim cover up, away from the surface. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Never rest a steering column assembly on the steering wheel with the inflator module face down and column vertical. Otherwise, personal injury may result.

Shipping Procedures For Live (Undeployed) Inflator Modules

Service personnel should refer to the latest Service Bulletins for proper SIR inflator module shipping procedures.

Inflator Module Scrapping Procedure

During the course of a vehicle's useful life, certain situations may arise which will necessitate the disposal of a live (undeployed) inflator module. This information covers proper procedures for disposing of a live inflator module.

Before a live inflator module can be disposed of, it must be deployed. Live inflator modules must not be disposed of through normal refuse channels.

CAUTION: Failure to follow proper Supplemental Inflatable Restraint (SIR) inflator module disposal procedures can result in air bag deployment which may cause personal injury. Undeployed inflator modules must not be disposed of through normal refuse channels. The undeployed inflator module contains substances that can cause severe illness or personal injury if the sealed container is damaged during disposal. Disposal in any manner inconsistent with proper procedures may be a violation of federal, state, and/or local laws.

If a vehicle is the subject of a Product Liability Report related to the SIR system and is subject to a Preliminary Investigation (GM-1241), DO NOT DEPLOY the inflator module and DO NOT ALTER the SIR system in any manner. Refer to the applicable service bulletin on SIR shipping procedures for details on handling SIR systems involved with GM-1241. If a vehicle is the subject of a campaign affecting inflator modules, DO NOT DEPLOY the inflator module. Follow instructions in the Campaign Service Bulletin for proper disposition of the inflator module.

If an inflator module is replaced under warranty, DO NOT DEPLOY the air bag. The inflator module may need to be returned, undeployed, to Inland Fisher Guide. Refer to procedures shown in the appropriate service bulletin regarding SIR shipping procedures.

In situations which require deployment of a live inflator module, deployment may be accomplished inside or outside the vehicle. The method employed depends upon the final disposition of the particular vehicle, as noted in "Deployment Outside Vehicle" and "Deployment Inside Vehicle" in this section.

Deployment Outside Vehicle (Driver Inflator Module) Figures 16 through 23

Deployment outside the vehicle is proper when the vehicle is to be returned to service. This includes, for example, situations in which the vehicle will be returned to useful service after a functionally or cosmetically deficient inflator module is replaced. Deployment and disposal of a malfunctioning inflator

module is, of course, subject to any required retention period.

For deployment of a live (undeployed) inflator module outside the vehicle, the deployment procedure must be followed exactly. Always wear safety glasses during this deployment procedure until a deployed inflator module is scrapped or until an undeployed inflator module is shipped. Before performing the procedures you should be familiar with servicing the SIR system and with proper handling of the inflator module. Procedures should be read fully before they are performed.

The following procedure requires use of J 38826 SIR deployment harness with appropriate pigtail adapter. Do not attempt procedure without J 38826 adapter.

CAUTION: Failure to follow procedures in the order listed may result in personal injury. Never connect deployment harness to any power source before connecting deployment harness to the driver inflator module. Deployment harness shall remain shorted and not be connected to a power source until the air bag is to be deployed. The inflator module will immediately deploy the air bag when a power source is connected to it. Wear safety glasses throughout this entire deployment and disposal procedure.

Important

- This information applies only to driver inflator modules. Refer to "Deployment Outside Vehicle (Passenger Inflator Module)" in this section for information on passenger inflator module scrapping.

1. Turn ignition switch to "LOCK," remove key and put on safety glasses.
2. Inspect J 38826 SIR Deployment Harness and appropriate pigtail adapter for damage. If harness or pigtail adapter is damaged, discard and obtain a replacement.
3. Short the two SIR deployment harness leads together by fully seating one banana plug into the other. SIR deployment harness shall remain shorted and not be connected to a power source until the air bag is to be deployed (Figure 16).
4. Connect the appropriate pigtail adapter to the SIR deployment harness (Figure 16).
5. Remove driver inflator module from vehicle. Refer to SECTION 3F.
6. Remove horn lead from the back of the driver inflator module.

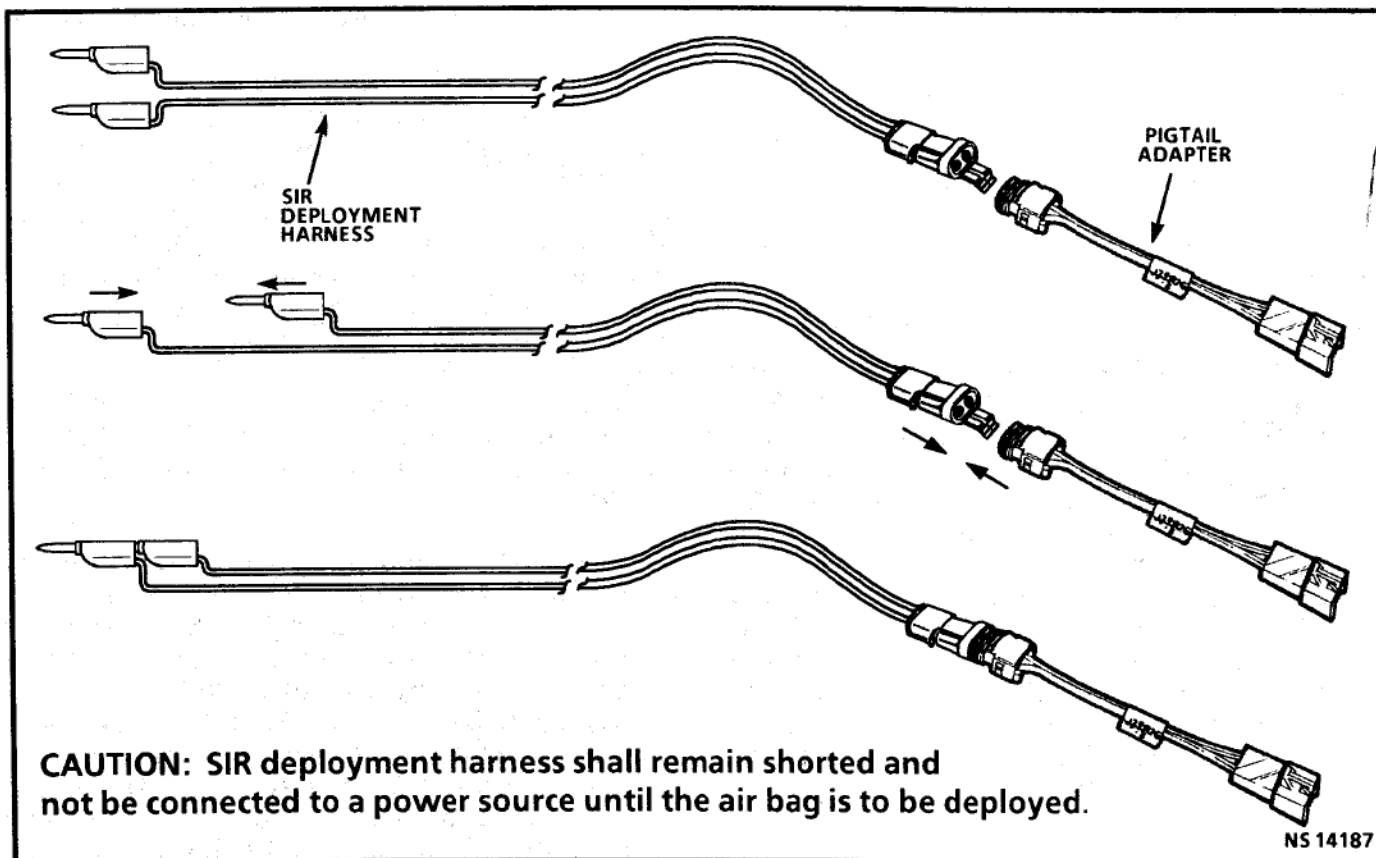


Figure 16 - Shorting the SIR Deployment Harness Wires

7. Remove all horn buttons and steering wheel control buttons from driver inflator module, if applicable.

CAUTION: When storing a live inflator module or when leaving a live inflator module unattended on a bench or other surface, always face the bag and trim cover up and away from the surface. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Failure to follow procedures may result in personal injury.

8. Place the driver inflator module on a work bench or other surface away from all loose or flammable objects with its vinyl trim cover facing up, away from the surface (Figure 17).
9. Clear a space on the ground about 185 cm (six feet) in diameter where the driver inflator module is to be deployed. A paved, outdoor location where there is no activity is preferred. If an outdoor location is not available, a space on the shop floor where there is no activity and sufficient ventilation is recommended. Ensure no loose or flammable objects are within the deployment area (Figure 18).

10. Place the driver inflator module, with its vinyl trim cover facing up, on the ground in the space just cleared (Figure 18).
11. Stretch the SIR deployment harness and pigtail adapter from the driver inflator module to its full length (Figure 19).
12. Place a power source near the shorted end of the SIR deployment harness. Recommended application: 12 volts minimum, 2 amps minimum. A vehicle battery is suggested.
13. Connect the driver inflator module to the pigtail adapter on the SIR deployment harness. Deployment harness shall remain shorted and not be connected to a power source until the air bag is to be deployed. The driver inflator module will immediately deploy the air bag when a power source is connected to it (Figure 20).

? Important

- Ensure that the pigtail adapter is firmly seated into the driver inflator module connector. Failure to fully seat the connectors may leave the shorting bar located in the driver inflator module connector functioning (shorted) and may result in non-deployment of the driver inflator module.

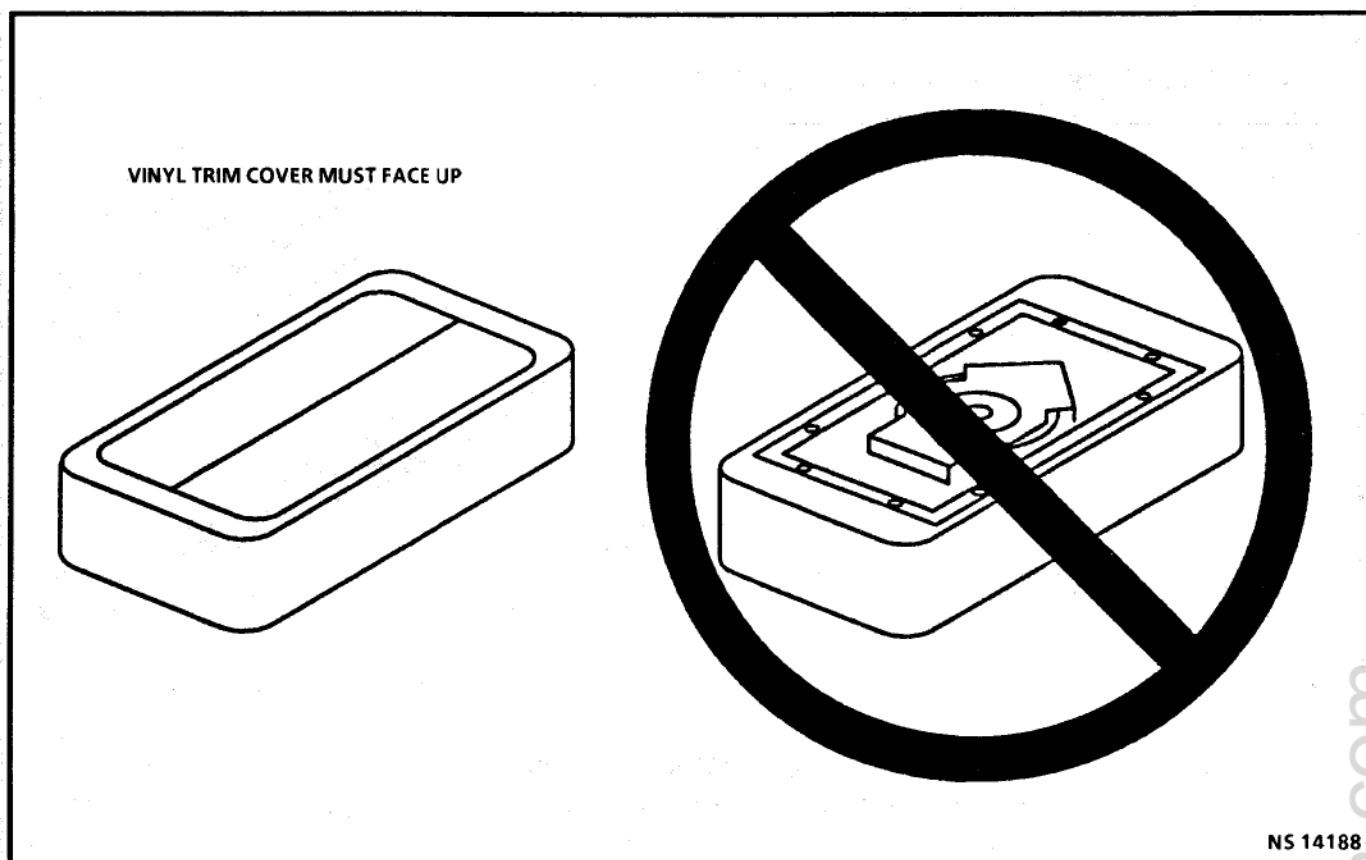


Figure 17 - Proper Storage of Inflator Module

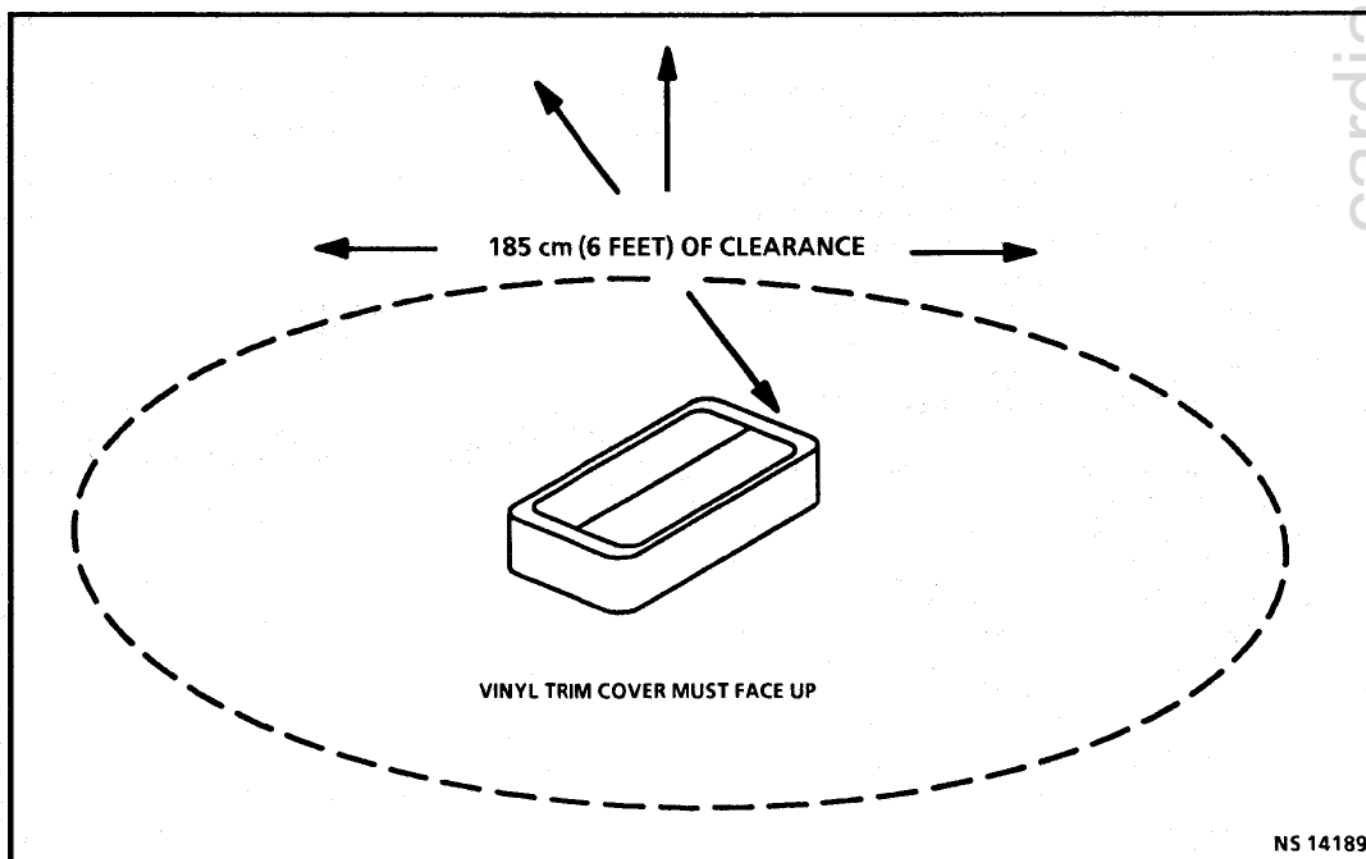
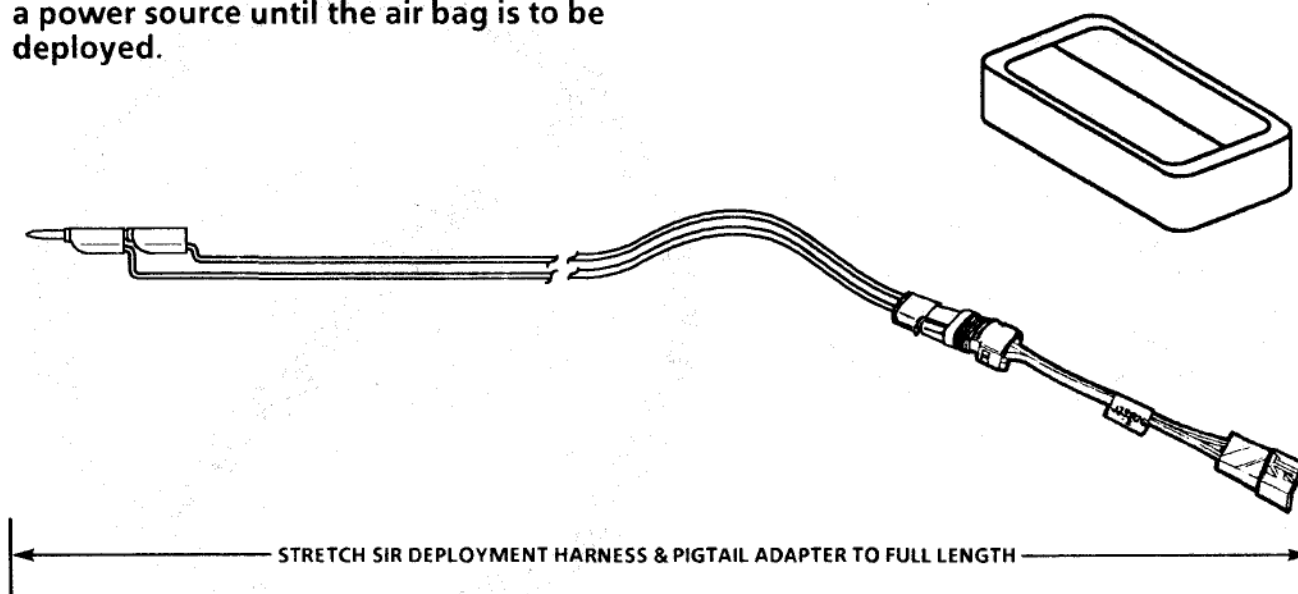


Figure 18 - Provide Adequate Clearance for the Air Bag to Deploy

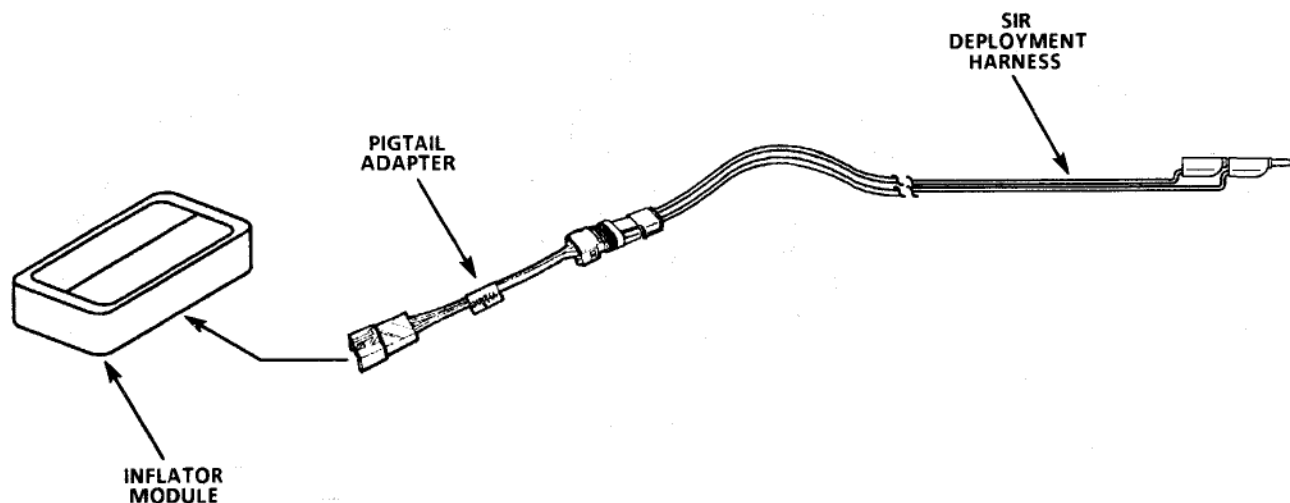
CAUTION: SIR deployment harness shall remain shorted and not be connected to a power source until the air bag is to be deployed.



NS 14190

Figure 19 - Stretching the SIR Deployment Harness and Pigtail Adapter

CAUTION: SIR deployment harness shall remain shorted and not be connected to a power source until the air bag is to be deployed.



NS 14191

Figure 20 - Connecting the SIR Deployment Harness to the Inflator Module

14. Verify that the area around the driver inflator module is clear of all people and loose or flammable objects.
15. Verify that the driver inflator module is resting with its vinyl trim cover facing up.
16. Notify all people in the immediate area that you intend to deploy the driver inflator module. The deployment will be accompanied by a substantial report which may startle the uninformed.
17. Separate the two banana plugs on the SIR deployment harness (Figure 21).

NOTICE: When the air bag deploys, the driver inflator module may jump about 30 cm (one foot) vertically. This is a normal reaction of the driver inflator module to the force of the rapid gas expansion inside the air bag.

NOTICE: When the air bag deploys, the rapid gas expansion will create a substantial report. Notify all people in the immediate area that you intend to deploy the driver inflator module.

CAUTION: Deployment harness shall remain shorted and not be connected to a power source until the air bag is to be deployed.

The driver inflator module will immediately deploy the air bag when a power source is connected to it. Connecting the deployment harness to the power source should always be the last step prior to deployment in the inflator module deployment procedure. Failure to follow procedures in the order listed may result in personal injury.

18. Connect the SIR deployment harness wires to the power source to immediately deploy the driver inflator module. Recommended application: 12 volts minimum, 2 amps minimum. A vehicle battery is suggested (Figure 22).
19. Disconnect the SIR deployment harness from the power source.
20. Short the two SIR deployment harness leads together by fully seating one banana plug into the other (Figure 16).
21. In the unlikely event that the driver inflator module did not deploy after following these procedures, proceed immediately with Steps 26 through 29. If the driver inflator module did deploy, proceed with Steps 22 through 25.

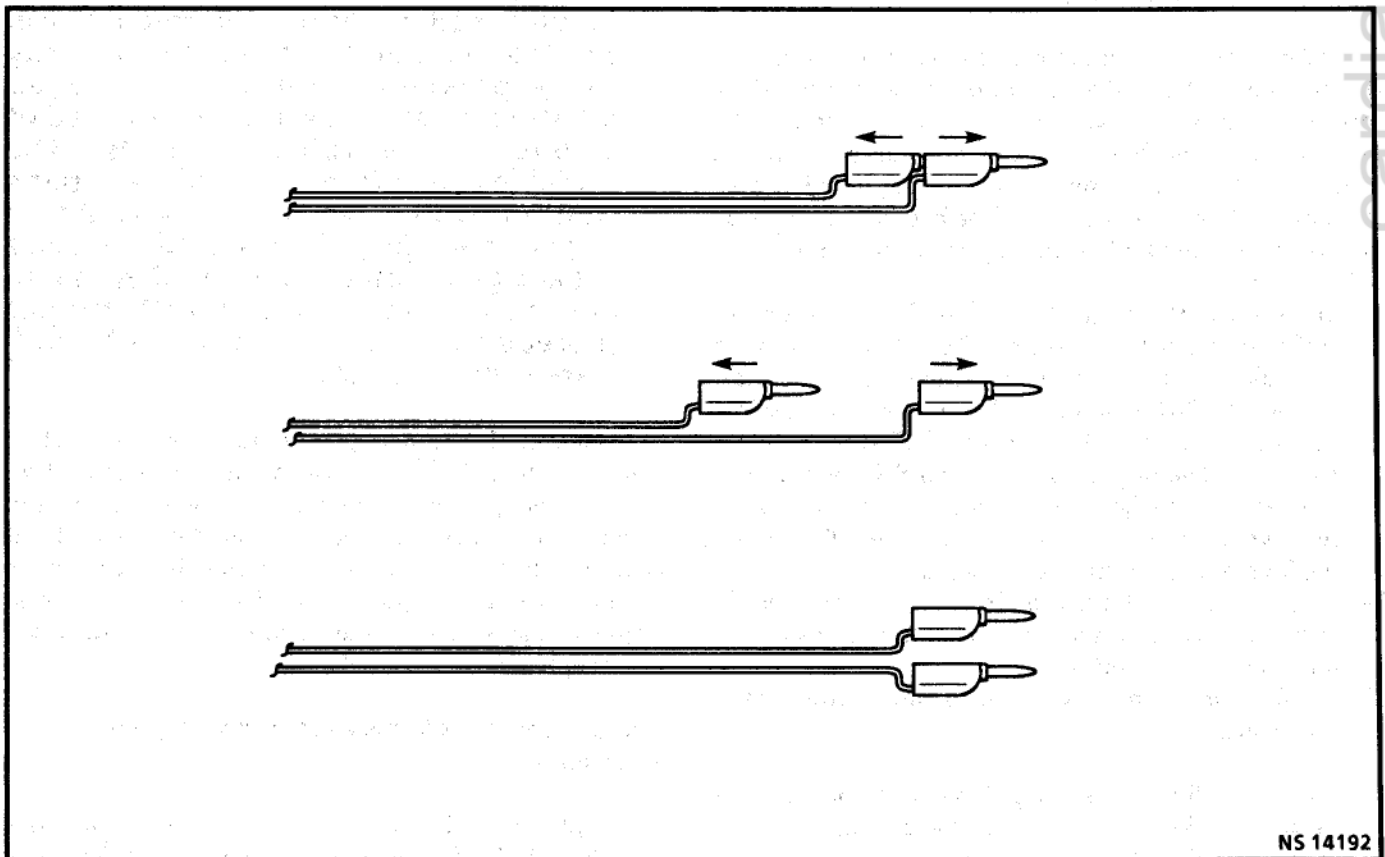


Figure 21 - Separating the Two Shorted Banana Plugs

22. Put on a pair of shop gloves to protect your hands from possible irritation and heat when handling the deployed driver inflator module.

After the driver inflator module has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of cornstarch (used to lubricate the bag as it inflates) and byproducts of the chemical reaction. Sodium hydroxide dust (similar to lye soap) is produced as a byproduct of the deployment reaction. The sodium hydroxide then quickly reacts with the atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that sodium hydroxide will be present after deployment. As a precaution, however, gloves and safety glasses are recommended to prevent any possible irritation of the skin or eyes.

CAUTION: Safety precautions must be observed when handling a deployed inflator module. After deployment, the metal surfaces of the inflator module will be very hot. Allow the inflator module to cool before handling any metal portion of it. Do not place the deployed inflator module near any flammable objects. Failure to follow procedures may result in fire or personal injury.

After a driver inflator module has been deployed, the metal canister and surrounding areas of the driver inflator module will be very hot. Do not touch the metal areas of the driver inflator module for about ten minutes after deployment. If the deployed driver inflator module must be moved before it is cool, wear gloves and handle by the air bag or vinyl trim (Figure 23).

23. Disconnect the pigtail adapter from the driver inflator module as soon after deployment as possible. This will prevent damage to the pigtail adapter or SIR deployment harness due to possible contact with the hot driver inflator module canister. The pigtail adapter and SIR deployment harness are designed to be reused. They should, however, be inspected for damage after each deployment and replaced if necessary.
24. Dispose of the deployed driver inflator module through normal refuse channels after it has cooled for at least 10 minutes.
25. Wash your hands with mild soap and water afterward.

NOTICE: The remaining steps are to be followed in the unlikely event that the driver inflator module did not deploy after following these procedures.

26. Ensure that the SIR deployment harness has been disconnected from the power source and that its two banana plugs have been shorted together by fully seating one banana plug into the other (Figure 16).
27. Disconnect the pigtail adapter from the driver inflator module.

CAUTION: When storing a live inflator module or when leaving a live inflator module unattended on a bench or other surface, always face the bag and trim cover up and away from the surface. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Failure to follow procedures may result in personal injury.

28. Temporarily store the driver inflator module with its vinyl trim cover facing up, away from the surface upon which it rests.
29. Call the Technical Assistance group for further assistance.

Deployment Outside Vehicle (Passenger Inflator Module)

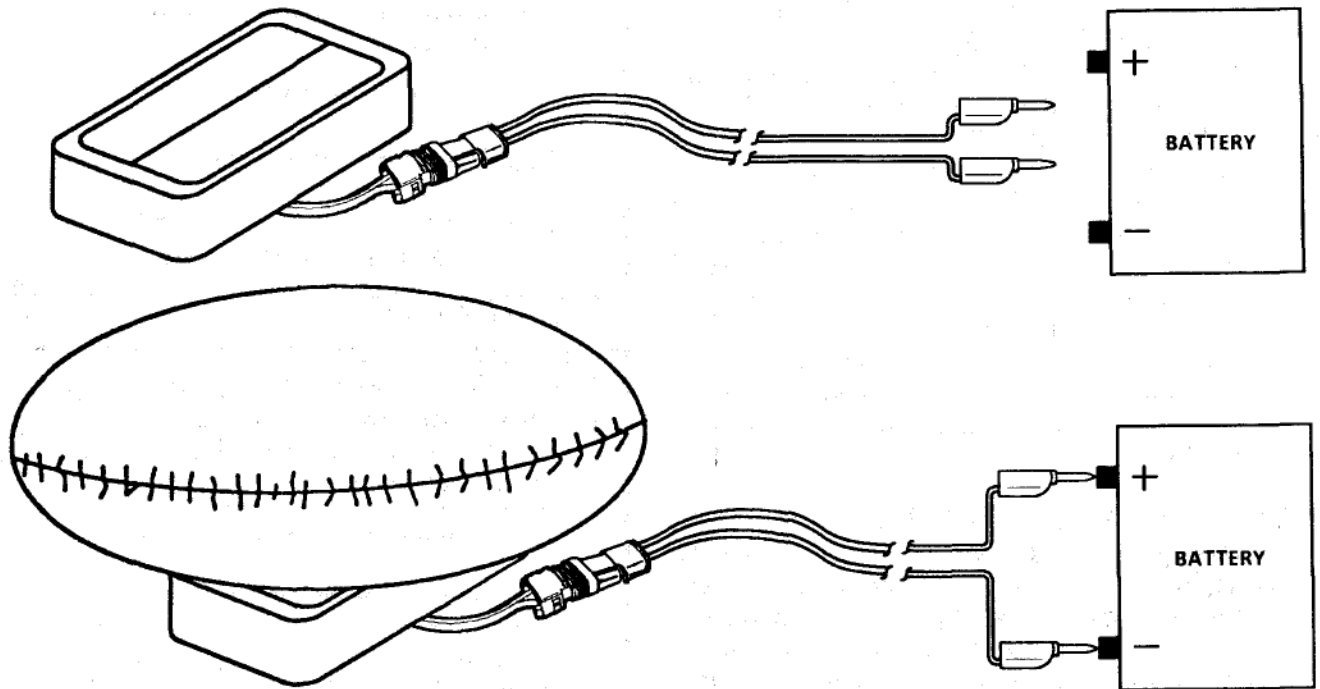
CAUTION: Failure to follow proper SIR inflator module disposal procedures can result in air bag deployment which may cause personal injury. Undeployed inflator modules must not be disposed of through normal refuse channels. The undeployed inflator module contains substances that can cause severe illness or personal injury if the sealed container is damaged during disposal. Disposal in any manner inconsistent with proper procedures may be a violation of federal, state and/or local laws.

General Motors dealers should refer to the latest General Motors Service Bulletins for proper live (undeployed) passenger inflator module scrapping and disposal procedures. All others should contact a local General Motors dealership for proper live passenger inflator module scrapping and disposal procedures. Deployed passenger inflator modules may be disposed of through normal refuse channels.

Deployment Inside Vehicle (Vehicle Scrapping Procedure)

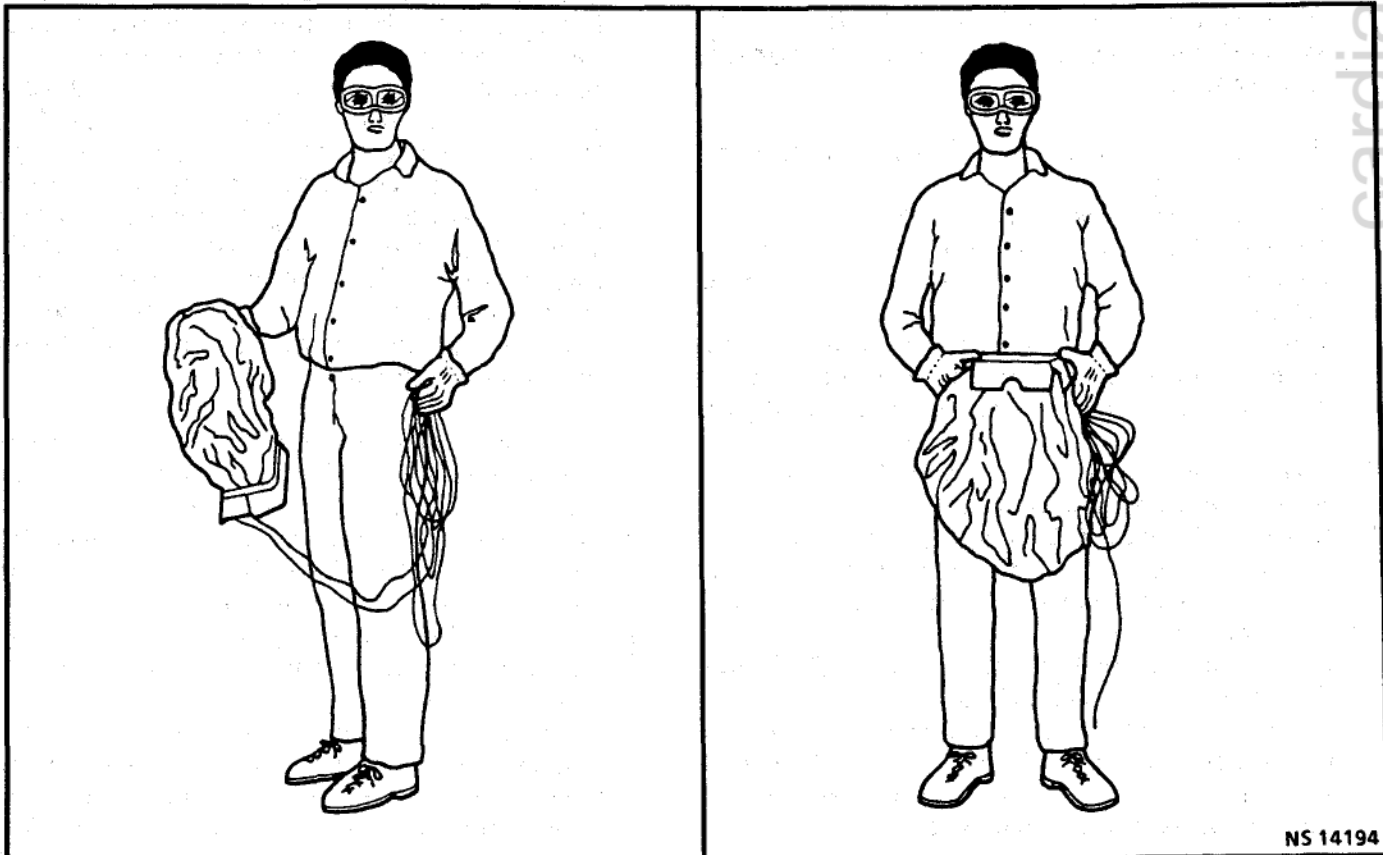
Deployment inside vehicle is proper when the vehicle is to be destroyed or salvaged for component parts. This includes, but is not limited to, the following situations:

CAUTION: The Inflator Module will immediately deploy the air bag when a power source is connected to it.



NS 14193

Figure 22 - Connecting to a Power Source



NS 14194

Figure 23 - Handling a Hot, Deployed Inflator Module

1. The vehicle has completed its useful life.
2. The vehicle has been damaged beyond repair in a non-deployment type accident.
3. The vehicle has been stripped or damaged beyond repair in a theft.
4. The vehicle will be salvaged for component parts to be used on a vehicle with a different Vehicle Identification Number (VIN) as opposed to being rebuilt as the same VIN. Never use SIR components from another vehicle. This is done to ensure SIR system integrity since only new SIR system components, with the exception of remanufactured parts as noted below, may be used in servicing an SIR equipped vehicle. Remanufactured parts purchased from an authorized General Motors dealer may be used for SIR repairs.

CAUTION: Failure to follow proper SIR inflator module disposal procedures can result in air bag deployment which may cause personal injury. Undeployed inflator modules must not be disposed of through normal refuse channels. The undeployed inflator module contains substances that can cause severe illness or personal injury if the sealed container is damaged during disposal. Disposal in any manner inconsistent with proper procedures may be a violation of federal, state and/or local laws.

1. Turn ignition switch to "LOCK," remove key and put on safety glasses.
2. Remove all loose objects from front seats.
3. Disconnect driver inflator module, yellow 2-way connector located at the base of the steering column.
4. Cut the driver inflator module yellow 2-way harness connector from the vehicle leaving at least 16 cm (six inches) of wire at the connector (Figure 24).
5. Strip 13 mm (1/2 inch) of insulation from each wire lead of the connector (Figure 24).
6. Cut two 460 cm (15 feet) deployment wires from 0.8 mm² (18 gauge) or thicker multi-strand wire. These wires will be used to fabricate the driver deployment harness.
7. Strip 13 mm (1/2 inch) of insulation from both ends of the wires cut in the previous step.
8. Short the wires by twisting together one end from each (Figure 25). Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed.

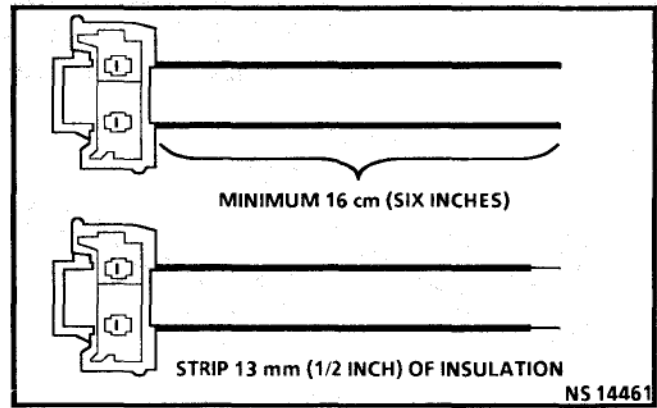


Figure 24 - Cutting the Harness Connector Wires

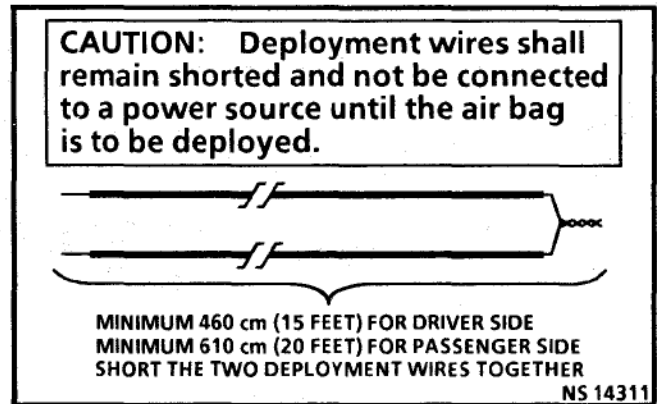


Figure 25 - Shorting the Deployment Wires

CAUTION: Failure to follow procedures in the order listed could result in personal injury. Never connect deployment wires to any power source before connecting deployment wires to the inflator module leads. Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed. The inflator module will immediately deploy the air bag when a power source is connected to it. Wear safety glasses throughout this entire deployment and disposal procedure.

9. Twist together one connector wire lead to one deployment wire. The connection should be mechanically secure (Figure 26-A).
10. Bend twisted connection made in the previous step flat and wrap tightly with electrical tape to insulate and secure (Figure 26-B).
11. Twist together, bend and tape the remaining connector wire lead to the remaining deployment wire (Figure 26-C).
12. Connect the deployment harness to the driver inflator module, yellow 2-way connector at the base of the steering column. Route deployment harness out the driver side of the vehicle (Figure 27).

CAUTION: Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed.

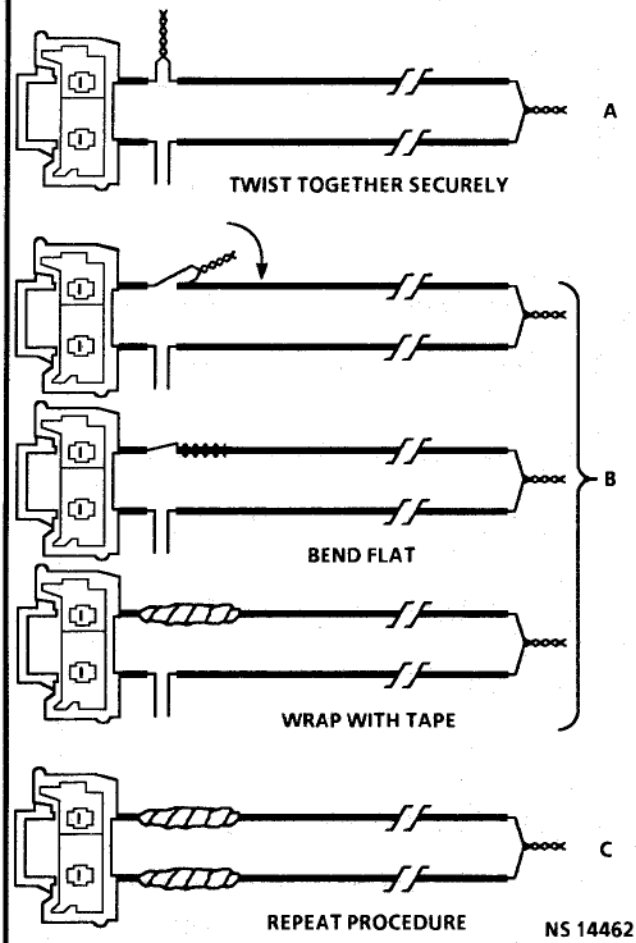


Figure 26 - Fabricating the Deployment Harness

CAUTION: Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed. The inflator module will immediately deploy the air bag when a power source is connected to it.

Connecting the deployment wires to the power source should always be the final step in the inflator module deployment procedure. Failure to follow procedures in the order listed could result in personal injury.

13. Disconnect passenger inflator module, yellow 2-way connector located behind I/P compartment door assembly.
14. Cut the passenger inflator module harness connector from the vehicle leaving at least 16 cm (six inches) of wire at the connector (Figure 28).
15. Strip 13 mm (1/2 inch) of insulation from each wire lead of the connector (Figure 28).
16. Cut two 610 cm (20 feet) deployment wires from 0.8mm² (18 gauge) or thicker multi-strand wire. These wires will be used to fabricate the passenger deployment harness.
17. Strip 13 mm (1/2 inch) of insulation from both ends of the wires cut in the previous step.
18. Short the wires by twisting together one end from each (Figure 25). Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed.

CAUTION: Failure to follow procedures in the order listed could result in personal injury. Never connect deployment wires to any power source before connecting deployment wires to the inflator module leads. Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed. The inflator module will immediately deploy the air bag when a power source is connected to it. Wear safety glasses throughout this entire deployment and disposal procedure.

19. Twist together one connector wire lead to one deployment wire. The connection should be mechanically secure (Figure 29-A).

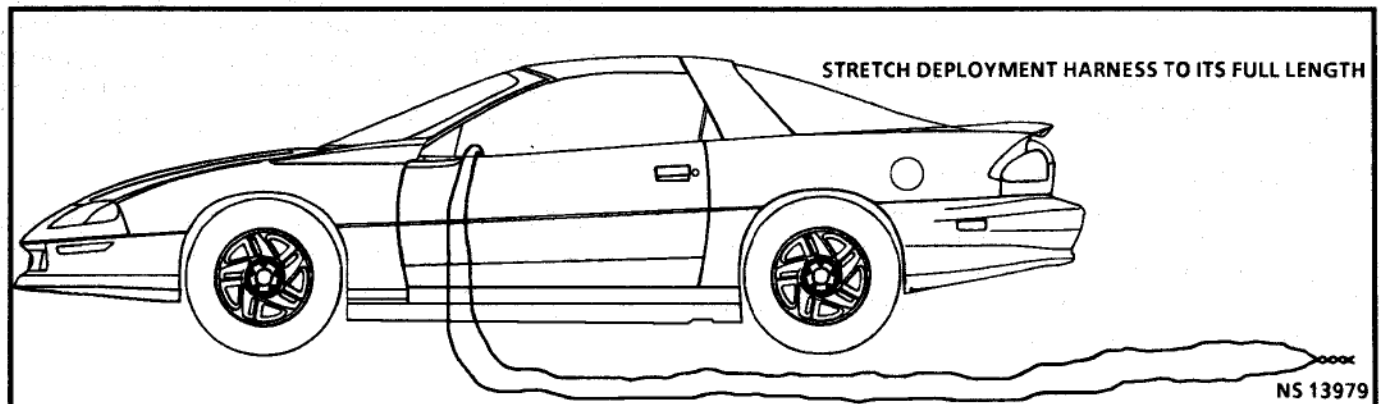


Figure 27 - Prepare Deployment Harness for In-Vehicle Deployment (Driver)

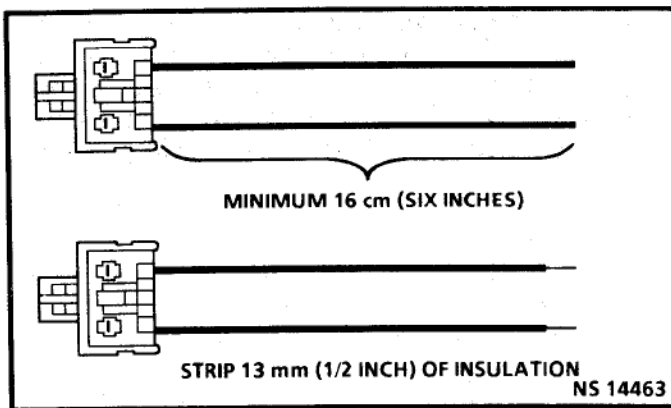


Figure 28 - Cutting the Harness Connector Wires

20. Bend twisted connection made in the previous step flat and wrap tightly with electrical tape to insulate and secure (Figure 29-B).
21. Twist together, bend and tape the remaining connector wire lead to the remaining deployment wire (Figure 29-C).
22. Connect the deployment harness to the passenger inflator module jumper, yellow 2-way connector located behind the I/P compartment door assembly. Route deployment harness out the passenger side of the vehicle (Figure 30).

CAUTION: Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed. The inflator module will immediately deploy the air bag when a power source is connected to it. Connecting the deployment wires to the power source should always be the final step in the inflator module deployment procedure. Failure to follow procedures in the order listed could result in personal injury.

23. Verify that the inside of the vehicle and the area surrounding the vehicle are clear of all people and loose or flammable objects.
24. Stretch the driver and passenger deployment harnesses to their full length (Figure 27 and 30).
25. Completely cover windshield area and front door window openings with a drop cloth, blanket or similar item. This reduces the possibility of injury due to possible fragmentation of the vehicle's glass or interior.
26. Notify all people in the immediate area that you intend to deploy the air bags. The deployment will be accompanied by a substantial report which may startle the uninformed.
27. Separate the two ends of the driver deployment harness wires (Figure 31).

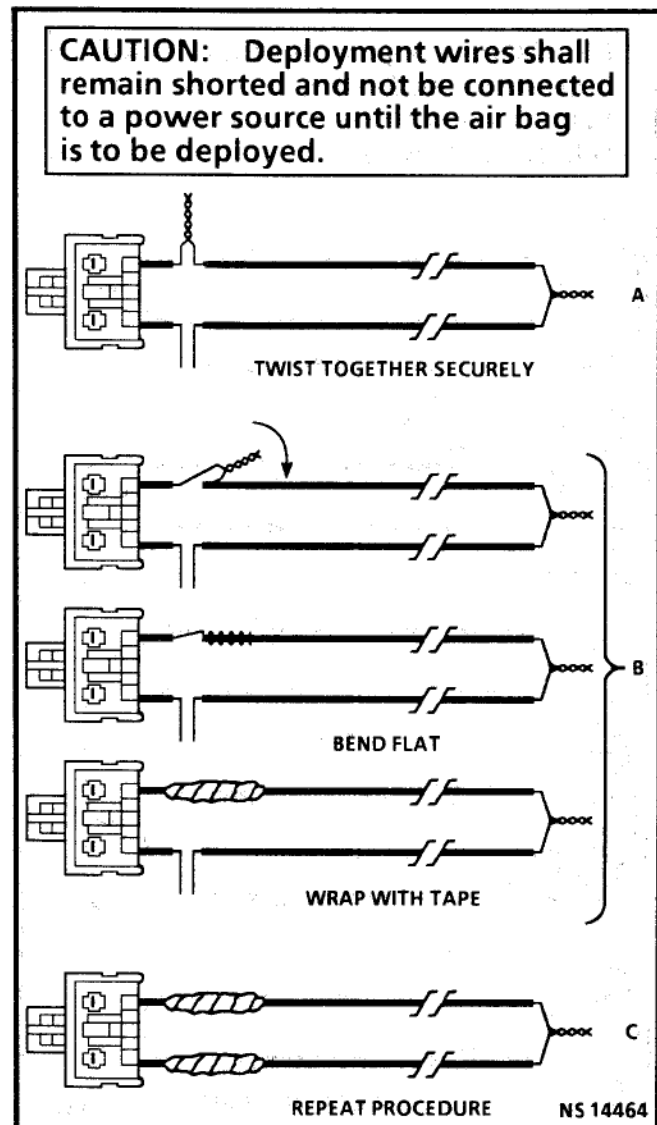


Figure 29 - Fabricating the Deployment Harness

CAUTION: Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed. The inflator module will immediately deploy the air bag when a power source is connected to it. Connecting the deployment wires to the power source should always be the final step in the inflator module deployment procedure. Failure to follow procedures in the order listed could result in personal injury.

NOTICE: When the air bag deploys, the rapid gas expansion will create a substantial report. Notify all people in the immediate area that you intend to deploy the air bags.

28. Connect the driver deployment harness wires to a power source to immediately deploy the driver inflator module. Recommended application: 12 volts minimum, 2 amps minimum. A vehicle battery is suggested (Figure 31).
29. Separate the two ends of the passenger deployment harness wires (Figure 32).

CAUTION: Deployment wires shall remain shorted and not be connected to a power source until the air bag is to be deployed. The inflator module will immediately deploy the air bag when a power source is connected to it. Connecting the deployment wires to the power source should always be the final step in the inflator module deployment procedure. Failure to follow procedures in the order listed could result in personal injury.

30. Connect the passenger deployment harness wires to a power source to immediately deploy the passenger inflator module. Recommended application: 12 volts minimum, 2 amps minimum. A vehicle battery is suggested (Figure 32).

After an inflator module has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of cornstarch (used to lubricate the bag as it inflates) and byproducts of the chemical reaction. Sodium hydroxide dust (similar to lye soap) is produced as a byproduct of the deployment reaction. The sodium hydroxide then quickly reacts with atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that sodium hydroxide will be present after deployment. As a precaution, however, gloves and safety glasses are recommended to prevent any possible irritation of the skin or eyes.

CAUTION: Safety precautions must be observed when handling a deployed inflator module. After deployment, the metal surfaces of the inflator module will be very hot. Allow the inflator module to cool before handling any metal portion of it. Do not place the hot deployed inflator module near any flammable objects. Failure to follow procedures could result in fire or personal injury.

After an inflator module has been deployed, the metal canister and surrounding areas of the inflator module will be very hot. Do not touch the metal areas of the inflator module for about 10 minutes after deployment. If the deployed inflator module must be moved before it is cool, wear gloves and handle by the air bag or vinyl trim.

31. Short the driver deployment harness wires by twisting together one end from each. Repeat this procedure for the passenger deployment harness.
32. Carefully remove drop cloth from vehicle and clean off any fragments or discard drop cloth entirely.
33. Disconnect driver deployment harness and passenger deployment harness from vehicle and discard.
34. In the unlikely event that either or both of the inflator modules did not deploy after following these procedures, proceed immediately with Steps 36 through 38.
35. With both air bags deployed the vehicle may be scrapped in the same manner as a non-SIR equipped vehicle.
36. Remove the undeployed inflator module(s) from the vehicle. For driver inflator module refer to SECTION 3F, for passenger inflator module refer to "On-Vehicle Service" in this section.

CAUTION: When storing a live inflator module or when leaving a live inflator module unattended on a bench or other surface, always face the bag and trim cover up, away from the surface. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Failure to follow procedures could result in personal injury.

37. Temporarily store the inflator module with the air bag opening facing up, away from the surface upon which it rests.
38. Call the Technical Assistance group for further assistance.

Deployed Inflator Module Handling

After the inflator module has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of cornstarch (used to lubricate the bag as it inflates) and byproducts of the chemical reaction. Sodium hydroxide dust (similar to lye soap) is produced as a byproduct of the deployment reaction. The sodium hydroxide then quickly reacts with atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that sodium hydroxide will be present after deployment. As with many service procedures, you should wear gloves and safety glasses.

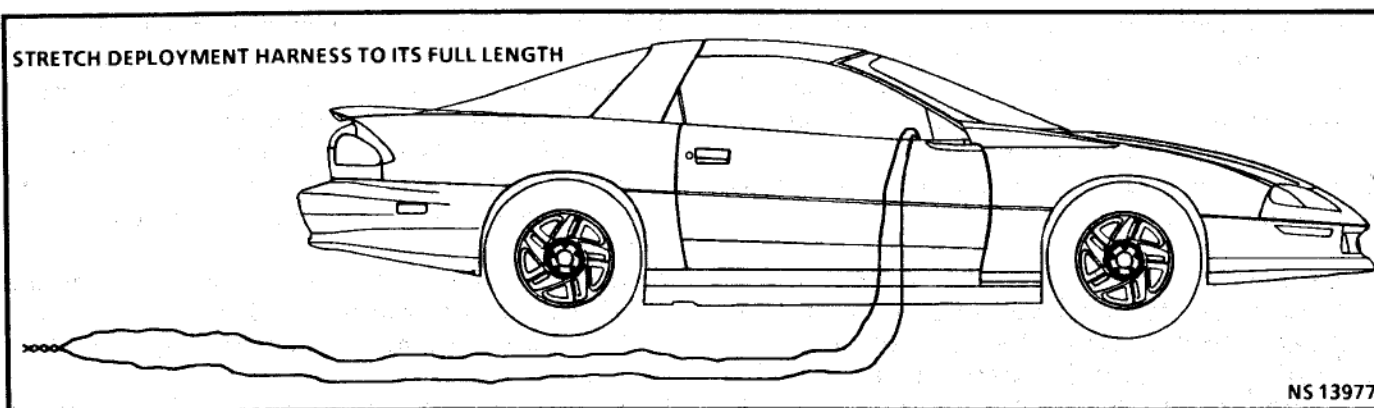


Figure 30 - Prepare Deployment Harness for In-Vehicle Deployment

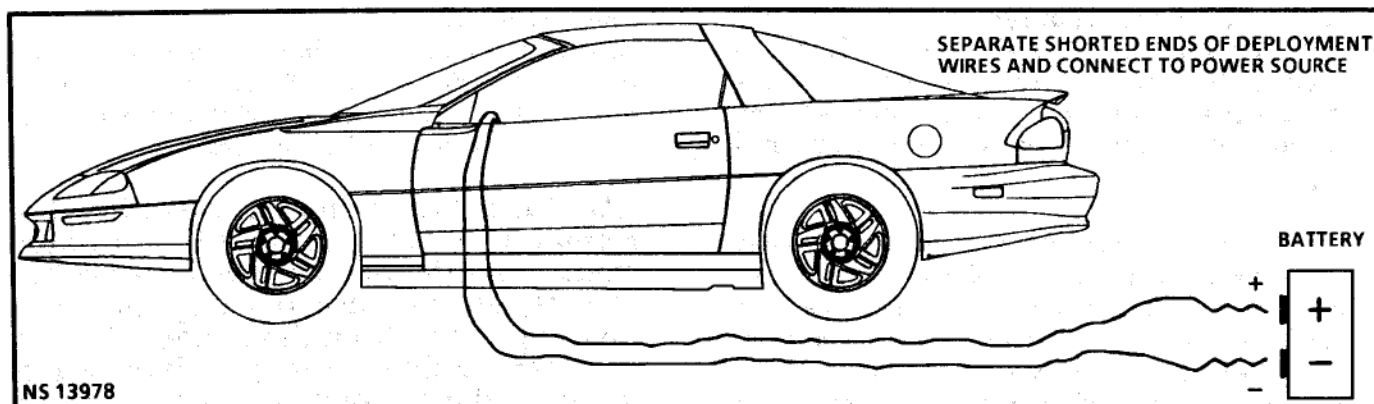


Figure 31 - Separate Shorted End of Deployment Harness and Connect to Power Source

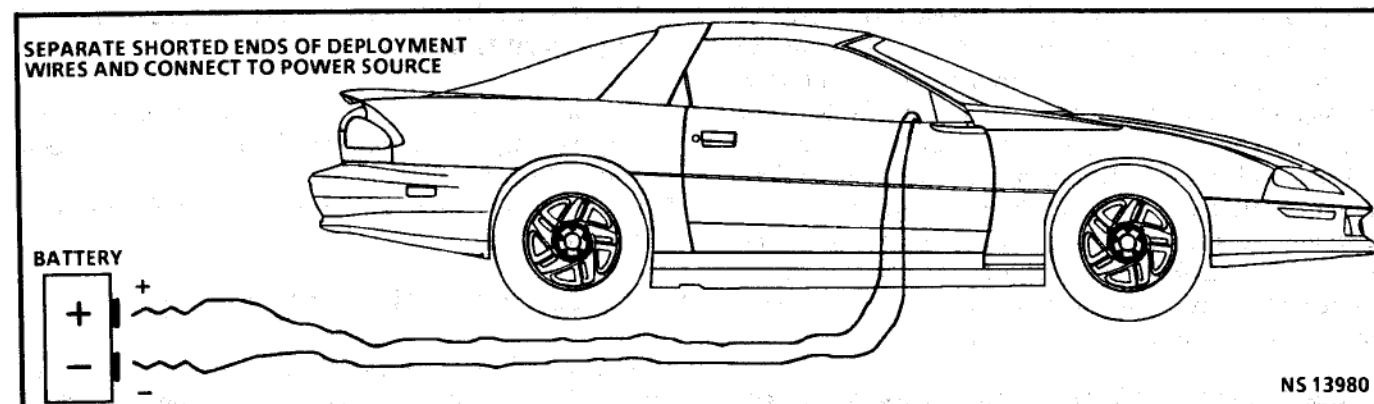


Figure 32 - Separate Shorted End of Deployment Harness and Connect to Power Source

WIRING REPAIR

Special wiring repair procedures have been developed for use on the Supplemental Inflatable Restraint (SIR) system due to the sensitive nature of the circuitry. These specific procedures and instructions must be followed when working with SIR system wiring, and wiring components (such as connectors and terminals).

TERMINAL REPAIR KIT J 38125-A

Essential tool kit J 38125-A contains special "sealed splices" for use in repairing SIR system wiring. A special crimping tool, heat torch, and instruction manual for these splices are also included.

Two critical features of the sealed splices are a special heat shrink sleeve with sealing adhesive to produce an environmentally sealed splice and a cross hatched (knurled) core crimp to provide necessary contact integrity for the sensitive, low energy circuits.

Terminal Repair Kit J 38125-A also serves as a generic terminal repair kit. The kit contains a large sampling of common GM electrical terminals and the correct tools to attach them to wires and remove them from connectors. **The terminals in the kit are not to be used to replace damaged SIR system terminals unless specifically indicated by the terminal package.** The DERM terminal repair assembly pack is included in J 38125-A for SIR use.

SIR CONNECTOR (PLASTIC BODY AND TERMINAL METAL PIN) REPAIR

If any connector or terminal in the SIR wire harness (except pigtails) is damaged, it should be repaired using one of the connector repair assembly packs. These kits include an instruction sheet and the sealed splices which will be used to splice the new wires, connector, and terminals to the harness. The splice crimping tool, which is color keyed to match the splices from Terminal Repair Kit J 38125-A, must be used to apply these splices.

The terminals in the SIR system are made of a special metal to provide necessary contact integrity for the sensitive, low energy circuits. These terminals are only available in the connector repair assembly packs, do not substitute any other terminals for those in the assembly packs.

If individual terminals are damaged on the DERM connector, they should be repaired using the DERM terminal repair assembly pack. If individual terminals are damaged on any other SIR connection, the entire connection should be replaced using the appropriate connector repair assembly pack. It may be necessary to replace the entire SIR wiring harness.

SIR WIRE PIGTAIL REPAIR

If the wiring pigtail (a wire or wires attached directly to the device, not by a connector) is damaged, the entire component (with pigtail) must be replaced. Examples of "pigtail" components are the passenger inflator module, the discriminating sensors, the dual pole arming sensor and the SIR coil assembly. Absolutely no wire, connector, or terminal repairs are to be attempted on the arming sensor, the discriminating sensors or the SIR coil assembly.

SIR WIRE REPAIR

If any wire except the pigtail is damaged, the wire should be repaired by splicing in a new section of wire of the same gauge size (.5, .8, 1.0, etc.). The sealed splices and splice crimping tool from Terminal Repair Kit J 38125-A must be used for these repairs. The following wiring repair procedures must be used to ensure the integrity of the sealed splice application.

Step One: Open the Harness

If the harness is taped, remove the tape. To avoid wire insulation damage use a sewing "seam ripper" (available from sewing supply stores) to cut open the harness. The crimp and sealed splice sleeves may be used on all types of insulation except tefzel and coaxial and may only be used to form a one-to-one splice.

Step Two: Cut the Wire

Begin by cutting as little wire off the harness as possible. You may need the extra length of wire later if you decide to cut more wire to change the location of a splice. You may have to adjust splice locations to make certain that each splice is at least 40 mm (1.5 in.) away from other splices, harness branches, or connectors.

Step Three: Strip the Insulation

NOTICE: The following procedures must be followed in the order listed. If wire strands are damaged, the procedure must be repeated until a clean strip with all wire strands intact is obtained.

If it is necessary to add a length of wire to the existing harness, be certain to use the same size as the original wire.

To find the correct wire size either find the wire on the schematic and convert the metric size to the equivalent AWG size or use an AWG wire gage.

If unsure about the wire size, begin with the largest opening in the wire stripper and work down until achieving a clean strip of the insulation. Strip approximately 7.5 mm (5/16 in.) of insulation from each wire to be spliced. Be careful to avoid nicking or cutting any of the strands. Check the stripped wire for nicks or cut strands. If the wire is damaged, repeat this procedure after removing the damaged section.

Step Four: Select and Position the Splice Sleeve

Select the proper sealed splice sleeve according to wire size. The splice sleeves and tool nests are color coded (see following chart).

Using the J 38125-A Splice Crimp Tool (Figure 33), position the splice sleeve in the proper color nest of the hand crimp tool. Place the splice sleeve in the nest so that the crimp falls midway between the end of the barrel and the stop.

The sleeve has a stop in the middle of the barrel to prevent the wire from going further (Figure 34). Close the hand crimper handles slightly to hold the splice sleeve firmly in the proper nest.

Step Five: Insert Wires Into Splice Sleeve and Crimp

Insert the wire into the splice sleeve until it hits the barrel stop and close the handles of the crimp tool tightly until the crimper handles open when released (Figure 34). The crimper handles will not open until the proper amount of pressure is applied to the splice sleeve. Repeat Steps 4 and 5 for opposite end of the splice.

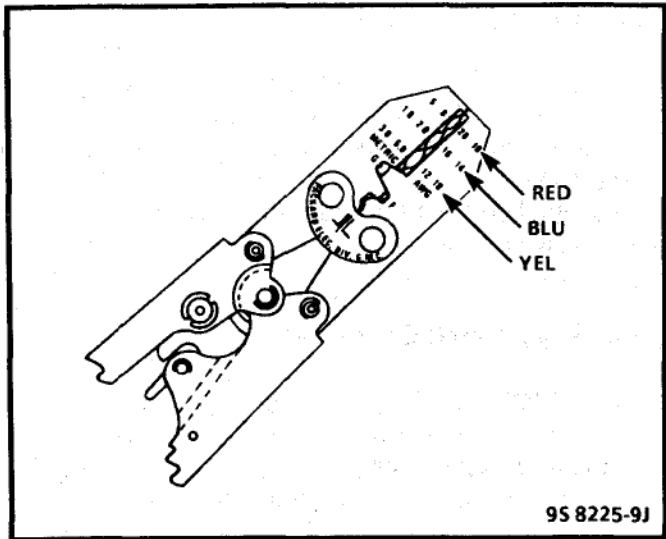


Figure 33 - Splice Crimp Tool J 38125-A

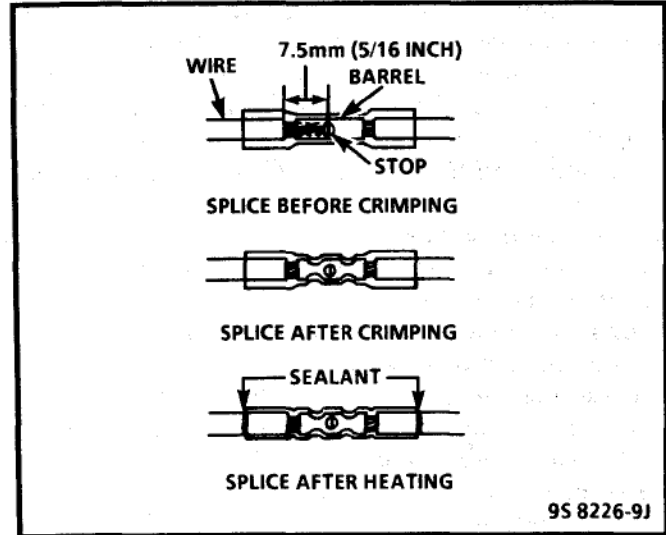


Figure 34 - Seal Splice Sequence

Color Splice sleeve	Crimp tool nest color	Wire gage AWG/ (metric)
Salmon (yellow-pink)	Red	20, 18/ (0.5, 0.8)
Blue	Blue	16, 14/ (1.0, 2.0)
Yellow	Yellow	12, 10/ (3.0, 5.0)

Crimp and Seal Splice Chart

Step Six: Shrink the Insulation Around the Splice

Using the heat torch apply heat where the barrel is crimped. Gradually move the heat barrel to the open end of the tubing, shrinking the tubing completely as the heat is moved along the insulation. A small amount of sealant will come out of the end of the tubing when sufficient shrinking is achieved (Figure 34).

SIR SYSTEM WIRE SPLICE REPAIR

If any of the original equipment splices (three wires or more) in the SIR system wiring are damaged they should be repaired by applying a new splice (not sealed) from the Terminal Repair Kit J 38125-A. Carefully follow the instructions included in the kit for proper splice clip application. Cloth duct tape may be substituted for splice tape if necessary.

ALTERNATIVE REPAIR METHODS

No alternative repair methods are available for the SIR system wiring and components.

CONNECTOR POSITION ASSURANCE (CPA)

The Connector Position Assurance (CPA) is a small plastic insert that is inserted through the locking tabs of all of the SIR system connectors. The purpose of the CPA is to assure the connector halves are securely connected and they cannot vibrate apart. The CPA must be in place to ensure good contact between the SIR mating terminals.

TERMINAL POSITION ASSURANCE (TPA)

The Terminal Position Assurance (TPA) insert is similar to the plastic "combs" used in ECM connectors. The function of the TPA is to keep the terminal securely seated in the connector body. The TPA is not to be removed from the connector body unless a terminal must be removed for replacement.

SPECIAL TOOLS

CAUTION: To avoid deployment when troubleshooting the SIR system, do not use electrical test equipment such as a battery powered or ac powered voltmeter, ohmmeter, etc., or any type of electrical equipment other than that specified in this manual. Do not use a non-powered probe type tester. Instructions in this manual must be followed carefully, otherwise personal injury may result.

SIR DRIVER/PASSENGER LOAD TOOL

The SIR Driver/Passenger Load Tool J 38715 is used only when called for in this section. It is used as a diagnostic aid and safety device to prevent inadvertent inflator module deployment.

The load tool has four yellow connectors attached to its case.

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The three small connectors are electrically functional and serve as resistive load substitutions. The large dummy connector does not serve as a load substitution but merely takes the physical place of the DERM connector when needed.

No more than two connectors are used at any time. One of the small connectors is used to substitute the load of the driver inflator module when it is connected at the top of the column to the SIR coil assembly. Another small connector is used to substitute the load of the driver inflator module and the SIR coil assembly when it is connected at the base of the column to the SIR wiring harness. The third small connector is used to substitute for the load of the passenger inflator module when connected to the passenger inflator module harness connector. The large dummy connector separates the shorting bar in the DERM harness connector when it is connected to it in place of the DERM.

By substituting the resistance of the load tool when called for, a determination can be made as to whether an inflator circuit component is causing system malfunction and which component is causing the malfunction. The load tool should be used only when specifically called for in the diagnostic procedures.

J 39200 DVM

The J 39200 DVM is the preferred DVM for use in SIR diagnosis and repair. However, J 34029-A may be used if J 39200 is not available. No other DVMs are approved for SIR diagnosis and repair.

SCAN TOOL

The Tech 1 is used to read and clear SIR system Diagnostic Trouble Codes (DTCs). Refer to the Tech 1 Operator's Manual for specific information on how to use the Tech 1.

Scan tools from other manufacturers may be used. Refer to the Operator's Manual for the tool for specific instructions.

J 35616-A CONNECTOR TEST ADAPTER KIT

The J 35616-A Connector Test Adapter Kit must be used whenever a diagnostic procedure requests checking or probing a terminal. Using the appropriate adapter will ensure that no damage to the terminal will occur from the DVM probe, such as spreading or bending. The adapter will also give an idea of whether contact tension is sufficient, helping to find an open or intermittent open due to poor terminal contact.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Driver Inflator Module	
Fasteners	2.8 N·m (25 lb. in.)
Dual Pole Arming	
Sensor Fasteners	4.5 N·m (40 lb. in.)
Forward Discriminating	
Sensor Fasteners	10 N·m (89 lb. in.)
Passenger Compartment	
Discriminating Sensor	
Fasteners	10 N·m (89 lb. in.)
Passenger Inflator	
Module Fasteners	2.8 N·m (25 lb. in.)

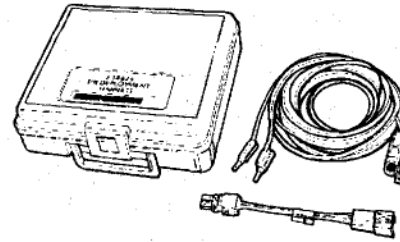
SERVICE PARTS INFORMATION

PART NAME	SERVICE PARTS CATALOG REFERENCE NAME	SERVICE PARTS CATALOG GROUP
COMPONENTS		
DERM	MODULE, INFL RST RESV ENGY	14.865
Driver Inflator Module	MODULE, INFL RST STRG WHL	14.865
Dual Pole Arming Sensor	SENSOR, INFL RST ARMING	14.865
Forward Discriminating Sensor	SENSOR, INFL RST F/END SH MET	14.865
Passenger Compartment		
Discriminating Sensor	SENSOR, INFL RST PASS COMPT	14.865
Passenger Inflator Module	MODULE, INFL REST I/P	14.865
SIR Coil Assembly	COIL KIT, INFL RST STRG WHL MDL	14.865
Warning Lamp "AIR BAG"		9.744
(Standard Parts Cat.)		

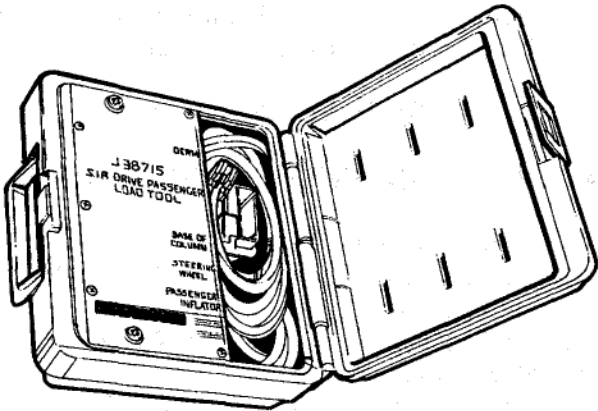
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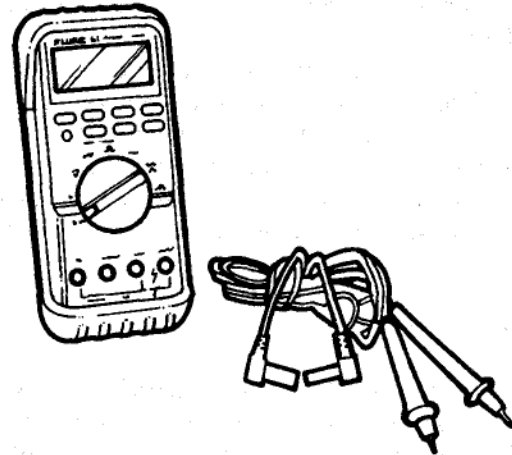
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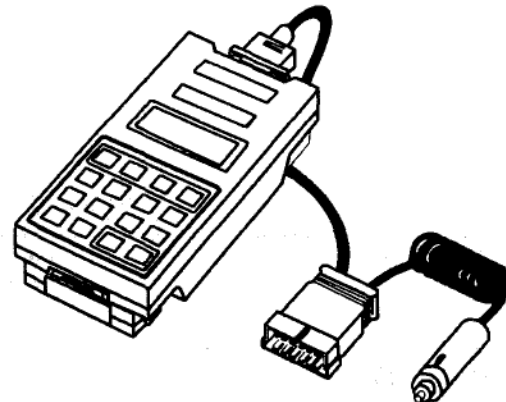
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1 J 38125-A - TERMINAL REPAIR KIT

4 J 39200 - DIGITAL MULTIMETER

2 J 38826 - SIR DEPLOYMENT HARNESS

5 J 35616-A - CONNECTOR TEST ADAPTER KIT

3 J 38715 - SIR DRIVER/PASSENGER
LOAD TOOL

6 SCAN TOOL