

2005 Ford Focus ZX4 S

2005 RESTRAINTS Supplemental Restraint System - Focus

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Supplemental Restraint System - Focus

SPECIFICATIONS

TORQUE SPECIFICATIONS

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Description	Nm	lb-ft	lb-in
Driver air bag module retaining screws	5	-	44
Passenger air bag module-to-instrument panel retaining bolts	11	8	-
Passenger air bag module trim cover retaining bolts	11	8	-
Side air bag module retaining nuts	5	-	44
Restraints control module retaining bolts	11	8	-
Side impact sensor retaining bolts	9	-	80
Front impact severity sensor retaining bolts	6	-	53

DESCRIPTION AND OPERATION

AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

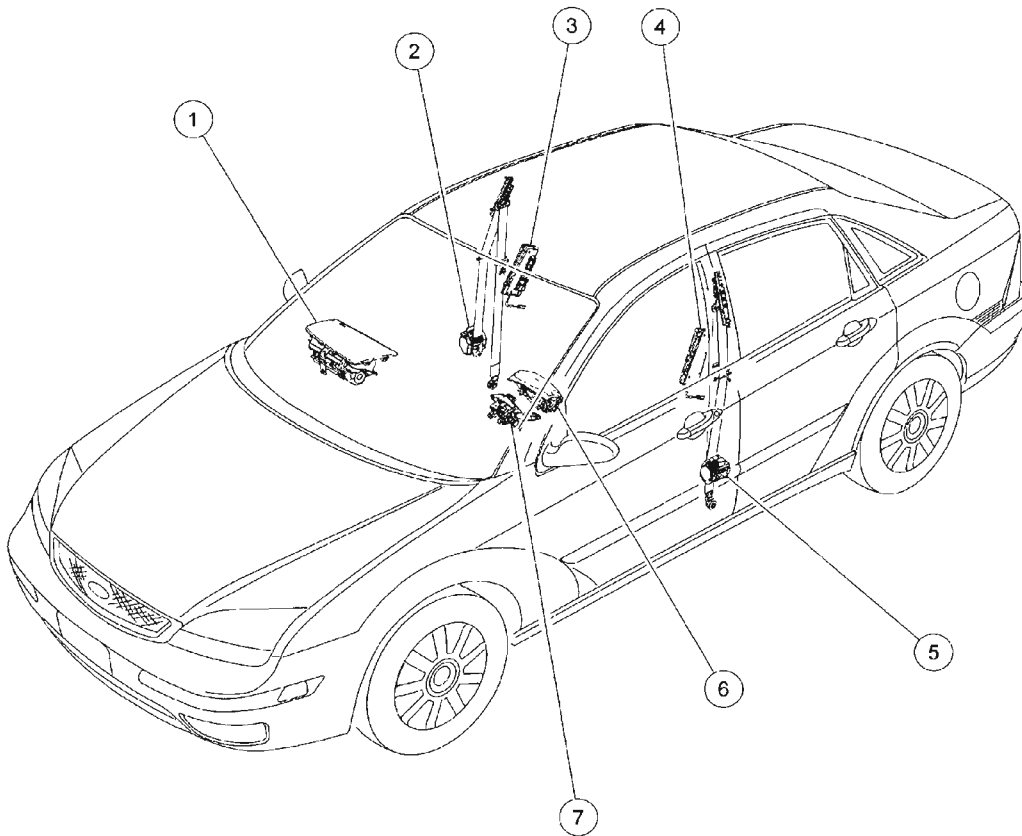
The air bag supplemental restraint system (SRS) is designed to provide increased collision protection for front seat and second row outboard occupants in addition to that provided by the three-point safety belt system. Safety belt use is necessary to obtain the best occupant protection and to receive the full advantage of the SRS.

This vehicle line contains dual stage deployment (advanced restraint system) driver and front passenger air bag modules, also driver and passenger safety belt retractor pretensioners. This vehicle can also be equipped with optional seat side air bags. In addition, this vehicle line is equipped with:

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- A front impact severity sensor, mounted on the radiator opening grille panel.
- Side impact sensors (when equipped with seat side air bags), located on the rocker panel near the base of the B-pillars.
- A driver seat position sensor, mounted to the driver seat track.
- Usage detection switches that are part of the driver and front passenger safety belt buckles.
- A safety belt tension sensor that is part of the front passenger safety belt buckle.
- An occupant classification sensor (OCS) system, located in the front passenger seat cushion.



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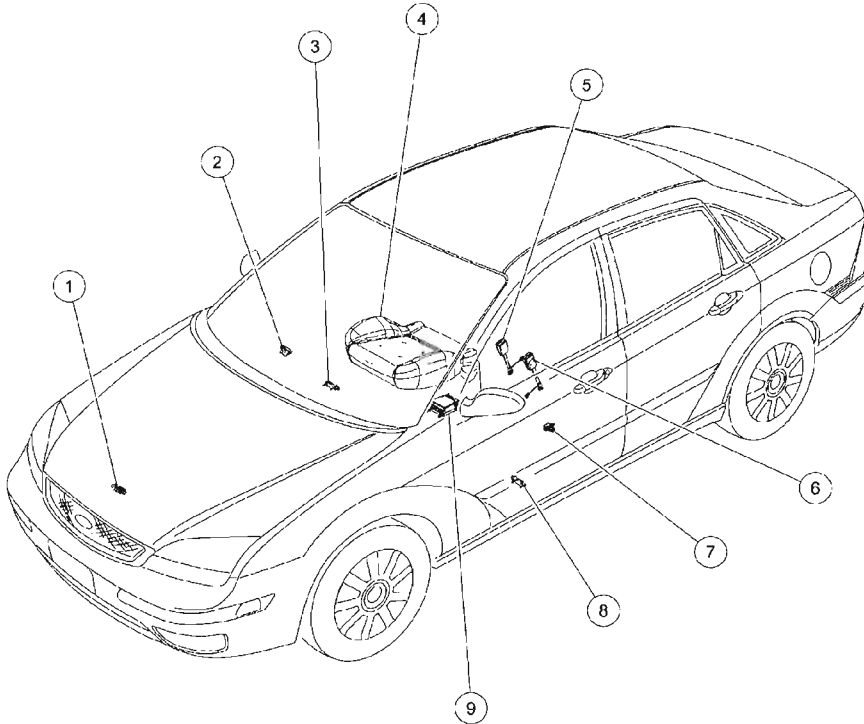
Item	Part Number	Description
1	044A74	Passenger air bag module
2	611B09	Passenger safety belt retractor pretensioner
3	611D10	Passenger seat side air bag (if equipped)
4	611D11	Driver seat side air bag (if equipped)

Item	Part Number	Description
5	611B08	Driver safety belt retractor pretensioner
6	043B13	Driver air bag module
7	14A664	Clockspring

Fig. 1: Identifying Air Bag And Safety Belt Pretensioner Supplemental Restraint

System (SRS) Components (1 Of 2)

Courtesy of FORD MOTOR CO.



N0004631

Item	Part Number	Description
1	14B004	Front impact severity sensor
2	—	Hazard flasher switch (includes passenger air bag deactivation (PAD) indicator)
3	14B345	Passenger side impact sensor (if equipped)
4	603B02	Occupant classification sensor (OCS) system
5	61202	Passenger safety belt buckle (includes safety belt buckle switch and belt tension sensor)
6	61203	Driver safety belt buckle (includes safety belt buckle switch)
7	—	Driver seat position sensor (part of 61704)
8	14B345	Driver side impact sensor (if equipped)
9	14B321	Restraints control module

Fig. 2: Identifying Air Bag And Safety Belt Pretensioner Supplemental Restraint System (SRS) Components (2 Of 2)
 Courtesy of FORD MOTOR CO.

Clockspring

The clockspring:

- Is mounted on the steering column, behind the steering wheel.
- Continuously transfers electrical signals from the restraints control module (RCM) to the driver air bag module.

Driver Air Bag Module

NOTE: The air bag supplemental restraint system (SRS) utilizes DC firing for air bag and pretensioner deployment.

The driver air bag module:

- Is installed new as an assembly.
- Is mounted in the center of the steering wheel.
- Will deploy upon receiving a flow of current from the restraints control module (RCM).

Electrical System

The electrical system that supports the air bag SRS:

- Is powered from the battery through the ignition circuit.
- Provides the electrical path from the restraints control module (RCM) to the SRS components.
- Provides the electrical path from the RCM to the data link connector (DLC).

High Speed Controller Area Network (HS-CAN)

This vehicle utilizes a communication system called a high-speed controller area network (HS-CAN). The HS-CAN consists of a twisted pair of wires connected to the following:

- ABS module
- Data link connector (DLC)
- Generic electronic module (GEM)
- Instrument cluster module
- Occupant classification sensor (OCS) system
- Powertrain control module (PCM)
- Restraints control module (RCM)

The HS-CAN circuits use a bias voltage of approximately 2.5 volts, one is a positive 2.5

volts while the other is a negative 2.5 volts. The HS-CAN also uses two terminating resistors, one contained within the PCM, the other in the instrument cluster module. The terminating resistors are not serviced separately. The terminating resistors have a value of 120 ohms each, for a total normal operating system total of 60 ohms. The HS-CAN will operate with only one terminating resistor and has the capability to communicate some messages to some of the control modules with only one circuit functioning, but at a reduced rate of performance. Refer to **MODULE CONFIGURATION** for additional information.

Occupant Classification Sensor

CAUTION: It is necessary to rezero the OCS system when a front passenger seat cushion is disassembled, a new trim cover installed, or an OCS service kit is installed. A scan tool is used to trigger the active command to carry out rezeroing of the OCS system.

CAUTION: Make sure the seat is completely assembled before rezeroing.

CAUTION: The following precautions must be taken before rezeroing of the OCS system.

- Make sure the OCS system components are connected and no faults are present.
- Make sure the OCS system is not at a temperature below 0°C (32°F) or above 45°C (113°F) when initiating the rezeroing process. If the vehicle has been exposed to extreme cold or hot temperatures, the vehicle must be exposed and kept at a temperature within the limits, 0°C to 45°C (32°F to 113°F) for a minimum of 30 minutes.
- Make sure nothing is present on the passenger seat before rezeroing and nothing is placed on the seat during the rezeroing process.
- Make sure a minimum five second time period has passed after cycling the ignition switch ON before the rezeroing process.

NOTE: For best results in rezeroing, the OCS system should be at or near room temperature, 10°C to 29°C (50°F to 85°F).

NOTE: When using a NGS+ (NGS with Vehicle Communication Module

(VCM) and the latest software update) to rezero the OCS system:

- Select "FUNCTION TESTS"
- Select "SYSTEM RESET"
- View the on-screen information, then press "TRIGGER"

The NGS+ screen will then display "OCS RESET: REZERO." Press "DONE" (button 8) to rezero the OCS system. The NGS+ will display "TEST/FUNCTION SUCCESSFUL" once rezeroing of the OCS system is complete.

NOTE: To rezero the OCS system using the Worldwide Diagnostic System (WDS):

- Select the "Toolbox" icon
- Select "Body" from the menu
- Select "Restraints" from the menu
- Select "Seat Weight Sensor ReZero"

After selecting "Seat Weight Sensor ReZero", follow the on-screen prompts to carry out rezeroing of the OCS system.

NOTE: To identify between a production OCS system and a OCS system service kit, inspect the OCS ECU electrical connector.

A production OCS system allows disconnection of the electrical connector from the OCS electronic control unit (ECU).

An OCS system service kit (OCS service kit) has the OCS ECU electrical connector glued to the ECU, it cannot and should not be disconnected or altered. An OCS system service kit also has an in-line 10-pin connector between the OCS ECU and the seat wiring harness.

NOTE: If the first attempt to rezero the OCS system is unsuccessful, a second attempt must be made.

The seat occupant classification sensor system is found only on the front passenger seat. The front passenger seat occupant classification sensor (OCS) system is comprised of a silicone gel-filled bladder mounted in the seat cushion, a pressure sensor that is mounted to the seat frame and an electronic control unit which is also mounted to the seat frame. Pressure is applied to the OCS bladder when weight of any occupant or object in the front passenger seat is present. The pressure is then transferred through a tube, is sensed by the OCS pressure sensor, then electronically communicated to the OCS electronic control unit. Based on programmed limits, the OCS electronic control unit will inform the restraints control module

(RCM), via the High Speed Controller Area Network (HS-CAN), of the necessary information. The RCM uses this information in determining if the passenger air bag module or passenger seat side air bag module is to be deployed in the event of a deployable collision. The OCS system components (seat pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) are calibrated to each other and are serviced as an assembly. **OCS system components are not to be installed separately** . If installing a new OCS system, OCS system component or seat cushion foam pad, a new OCS system service kit (seat pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) must be installed as an assembly.

The OCS system, if equipped, is also used for operation of the passenger Belt Minder. For additional information on the passenger Belt Minder feature, Refer to **SAFETY BELT SYSTEM** . To deactivate or reactivate the passenger Belt Minder feature, Refer to **WARNING DEVICES** or the owner's literature.

Passenger Air Bag Deactivation (PAD) Indicator

The passenger air bag deactivation (PAD) indicator is a visual indicator used to inform the front seat occupants of the passenger air bag deactivation state. The PAD indicator is part of the hazard switch, installed into the vehicle instrument panel in a position visible to each front seat occupant.

The restraints control module (RCM) controls the state of the PAD indicator through a direct hardwire connection, based on information provided by the occupant classification sensor (OCS) system. The PAD indicator is lit to indicate the passenger air bag module is disabled. An exemption to this is when the front passenger seat is determined to be empty, and therefore indication of a deactivated passenger air bag module is not necessary. In all other cases, the PAD indicator is unlit when the passenger air bag module is enabled.

When the ignition switch is in the ON position, the PAD indicator prove-out period is initiated by the RCM. The RCM briefly activates the PAD indicator to prove-out the indicator function and verify to the front occupants correct functional operation of the PAD indicator.

The PAD indicator will be lit/unlit within 1.0 to 1.5 seconds of a change of state from the OCS system.

When an OCS system fault is present the SRS defaults the passenger air bag module to enabled status regardless of the size of the occupant in the front outboard passenger seat. The PAD indicator will be unlit. For additional information on the OCS system, refer to **OCCUPANT CLASSIFICATION SENSOR**.

The following table indicates the passenger air bag status and the PAD indicator status based the size of the front outboard passenger occupant.

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Passenger Air Bag and PAD Indicator Status

PASSENGER AIR BAG AND PAD INDICATOR STATUS

Occupant Size	Passenger Safety Belt Buckle Status	Passenger Air Bag Status	PAD Indicator Status
None	Unbuckled	Disabled	Unlit
None	Buckled	Disabled	Lit
Small	Buckled/Unbuckled	Disabled	Lit
Large	Buckled/Unbuckled	Enabled	Unlit

Passenger Air Bag Module

NOTE: The air bag supplemental restraint system (SRS) utilizes DC firing for air bag and pretensioner deployment.

The passenger air bag module:

- Is installed new as an assembly.
- Is mounted in the passenger side of the instrument panel.

Restraints Control Module (RCM)

WARNING: The RCM orientation is critical for correct system operation. If a vehicle equipped with an air bag supplemental restraint system (SRS) has been involved in a collision in which the center tunnel area has been damaged, inspect the mounting and bracket for deformation. If damaged, a new RCM must be installed whether or not the air bags have deployed. In addition, make sure the area of the RCM mounting is restored to its original condition.

CAUTION: Prior to removal of the module, it is necessary to upload module configuration information to the diagnostic tool. This information needs to be downloaded into the new module once installed. For additional information, Refer to MODULE CONFIGURATION .

NOTE: When installing a new restraints control module (RCM), always make sure the correct RCM is being installed. If an incorrect RCM is installed, erroneous DTCs will result.

NOTE: The air bag supplemental restraint system (SRS) utilizes DC firing

for air bag and pretensioner deployment.

The restraints control module carries out the following functions:

- Deploys the air bag(s) in the event of a deployed crash.
- Activates the safety belt retractor pretensioners to remove slack from the safety belt.
- Monitors the SRS for faults.
- Communicates to the instrument cluster module, over the HS-CAN bus, to illuminate the air bag indicator if a fault is detected.
- Communicates over the HS-CAN bus through the data link connector (DLC) the current or historical diagnostic trouble codes (DTCs).

The RCM monitors the SRS for possible faults. If a fault is detected while the ignition switch is in the ON position, the RCM will communicate over the HS-CAN bus to the instrument cluster to illuminate the air bag indicator, located in the instrument cluster.

When the ignition is cycled (turned off and then on), the air bag indicator will prove out by lighting for six seconds and then off for two seconds. After the prove out, the air bag indicator will then remain lit if a SRS fault exists and will remain illuminated for the rest of the key cycle. The RCM will also communicate, over the HS-CAN bus, the current and historical DTCs through the DLC to the scan tool. If the air bag indicator does not function and the system detects a fault condition, the RCM will signal the instrument cluster module to activate an audible chime, located in the GEM. The chime is a series of five sets of five tone bursts. If the chime is heard, the SRS and the air bag indicator require repair.

The RCM includes a backup power supply. This feature provides 150 ms of backup power to deploy the front air bags and pretensioners in the event that the ignition circuit is lost or damaged during impact.

The backup power supply will deplete its stored energy approximately one minute after the battery ground cable is disconnected.

Safety Belt Buckle Switches

As part of the supplemental restraint system (SRS), the front safety belt buckles are equipped with safety belt buckle switches. The safety belt buckle switches are comprised of integrated circuits called Hall-effect sensors. The safety belt buckle switches (Hall-effect sensors) are located in the driver and passenger safety belt buckles. The safety belt buckle switches indicate to the restraints control module (RCM) whether the safety belts are connected or disconnected. The RCM uses this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. The RCM also communicates the driver safety belt buckle switch status to the instrument cluster module, which monitors the information to control the safety belt warning indicator. Refer to **WARNING DEVICES** for additional information.

Safety Belt Pretensioners

NOTE: **The air bag supplemental restraint system (SRS) utilizes DC firing for air bag and pretensioner deployment.**

As part of the SRS, the safety belt retractors are equipped with pretensioners. The safety belt retractor pretensioners remove excess slack from the safety belt webbing. The pretensioners are activated by the restraints control module (RCM) when the module detects a crash event force exceeding a programmed limit.

Safety Belt Tension Sensor

The safety belt tension sensor:

- Is part of the front passenger safety belt buckle assembly.
- Is used in conjunction with the occupant classification sensor (OCS) system.
- Is a three-wire Hall-effect sensor that is part of the front passenger safety belt and retractor assembly.

The safety belt tension sensor is used by the OCS system to identify the presence of a child safety seat on the front outboard passenger seat, when the child safety seat is installed according to manufacturer instructions. The safety belt tension sensor senses the tension on the safety belt assembly then provides an output to the OCS system electronic control unit (ECU), indicating that the safety belt assembly is cinched. After sensing the weight applied to the seat by the occupant and using the safety belt tension sensor input, the OCS system determines how the occupant should be classified and communicates this information to the restraints control module (RCM). If the occupant is classified to be a child, the RCM will then automatically deactivate the passenger air bag module.

Seat Track Position Sensor

The seat track position sensor is a Hall-effect sensor located on the driver seat track. The seat track position sensor informs the restraints control module (RCM) of the driver seat position. Based on programmed limits, the seat track position sensor will inform the RCM of the driver seat position. The RCM uses this information in determining the deployment rate of the dual-stage driver air bag module. The seat track position sensor is serviced with the seat track assembly. To install a new seat track position sensor, Refer to **SEATING** .

Impact Sensors

WARNING: Vehicle sensor orientation is critical for correct system operation. If a vehicle equipped with an air bag supplemental restraint system (SRS) is involved in a collision, inspect the sensor mounting bracket and wiring pigtail for deformation. Install and correctly position a new

sensor or any other damaged supplemental restraint system (SRS) components whether or not the air bag is deployed.

For these vehicles, the SRS may use up to three satellite sensors in addition to the RCM. The RCM is mounted to the center tunnel between the front seats under the center console. All vehicles will have a front impact severity sensor and it is located in the front-center of the vehicle, mounted on the radiator support bracket. Vehicles equipped with seat side air bags are equipped with two side impact sensors, located on the rocker panel near the base of the B-pillars. Mounting orientation is critical for correct operation of all impact sensors.

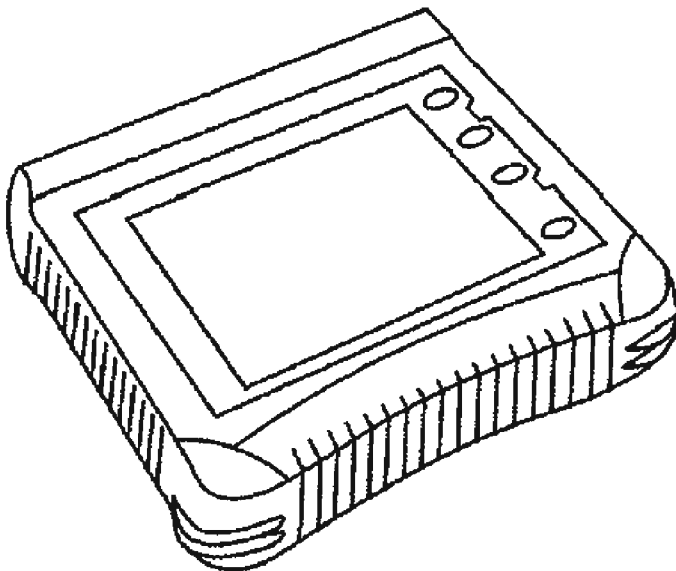
DIAGNOSIS AND TESTING

AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Refer to **SYSTEM WIRING DIAGRAMS** article for schematic and connector information.

Special Tool(s)

SPECIAL TOOLS DESCRIPTION



ST2332-A

Worldwide Diagnostic System (WDS)
Vehicle Communication Module (VCM) with appropriate adapters, or equivalent diagnostic tool

Restraint System Diagnostic Tool Warning

WARNING: Restraint system diagnostic tools are for service only.

Remove from vehicle prior to road use. Failure to remove could result in personal injury and possible violation of vehicle safety standards.

Diagnostic Tool Note

NOTE: This vehicle utilizes a communication system called a high-speed controller area network (HS-CAN). When diagnosing the supplemental restraint system (SRS), use an NGS+ (NGS with Vehicle Communication Module (VCM) and the latest software update) Worldwide Diagnostic System (WDS) and the latest software update or equivalent scan tool with the capability of communicating over the HS-CAN bus.

Air Bag Module Second Stage Deployment Check

Because the driver and passenger front air bags each have two deployment stages, it is possible that stage one has deployed and the second stage has not.

If a front air bag module has deployed, it is **mandatory** that the front air bag module be remotely deployed using the appropriate air bag disposal procedure.

- For additional information on driver air bag module and/or passenger air bag module remote deployment, refer to **PYROTECHNIC DEVICE DISPOSAL**.

Diagnosing Customer Concerns Without Hard DTCs

If a lamp fault code is reported by the customer but is not present when the vehicle comes in for service, follow the Diagnostic Instruction procedures in this article to identify the intermittent DTC.

Once the DTC is known, read Normal Operation of the pinpoint test for the DTC involved.

- Follow the **DEACTIVATION** or **DEPOWERING PROCEDURE** as directed in this article.
- Determine the location of components involved in creating the DTC.
- Carry out a thorough visual inspection of:
 - Components.
 - Connectors.
 - Splices and wiring harnesses.
 - Insulation on conductors.

Refer to the **POSSIBLE CAUSES** for the DTC involved, which lists the common concerns that relate to the DTC. Concerns are listed according to priority.

Diagnosing Customer Concerns with Hard DTCs

Most Supplemental Restraint System (SRS) diagnostic procedures will require deactivation and reactivation or depowering and repowering of the system. Deactivation and reactivation requires the disconnection of most SRS components and the installation of restraint system diagnostic tools. Depowering and repowering requires disconnecting of the battery and removal of the restraints control module (RCM) fuse. This reduces the risk of inadvertent deployment of SRS components while diagnostic procedures are being carried out.

Restraint system diagnostic tools are required for the diagnosis and testing of the SRS. It is not acceptable to short-circuit the air bag module connections with a jumper wire. If a jumper wire is used to short-circuit the air bag module connections, a fault code (DTC) will be displayed.

Prove Out Procedure

Turn the ignition switch from the OFF to the ON position and visually monitor the air bag indicator with all SRS components connected or restraint system diagnostic tools installed. The air bag indicator will light continuously for approximately six seconds and then turn off. If an SRS fault is present, the air bag indicator will either:

- Fail to light.
- Remain lit continuously.
- Flash at a 5Hz rate (RCM not configured).

The air bag indicator may not illuminate until approximately 30 seconds after the ignition switch has been turned from the OFF to the ON position. This is the time required for the restraints control module (RCM) to complete the testing of the SRS. If the air bag indicator is inoperative and an SRS fault exists, a chime will sound in a pattern of five sets of five beeps. If this occurs, the air bag indicator will need to be repaired before diagnosis can continue.

Glossary**Secondary Air Bag Warning**

The secondary air bag warning is an audible fault format that consists of five sets of five tone bursts, with each set of five tone bursts separated by a five second quiet period. One tone burst cycle will consist of one second ON and one second OFF. This series of five activations is repeated every 30 minutes.

Air Bag/Pretensioner Restraint System Diagnostic Tools

Air bag/pretensioner restraint system diagnostic tools are used to simulate the equivalent resistance of an air bag module or safety belt pretensioner during certain diagnostic procedures.

Disconnect the Component

Disconnect the component means to disconnect the component vehicle harness connector, not to remove the component. Do not reconnect a disconnected component unless instructed to do so.

Deactivate the System

Deactivate the system means to carry out a deactivation procedure. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**.

Depower the System

Depower the system means to disconnect the battery and remove the restraints control module (RCM) fuse. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

Prove Out the System

Prove out the system means to turn the ignition switch from the OFF to the ON position, and to visually monitor the air bag indicator with the air bag modules and safety belt pretensioners or restraint system diagnostic tools installed. For additional information, refer to **PROVE OUT PROCEDURE**.

Reactivate the System

Reactivate the system means to carry out the reactivation procedure. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**.

Repower the System

Repower the system means to remove any restraint system diagnostic tools that may have been installed, turn the ignition ON, install the RCM fuse, and connect the battery ground cable. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

Reconnect the System

Reconnect the system means to reconnect all system components. For additional information, refer to **AIR BAG SYSTEM RECONNECT CHECKLIST**.

Install a New Component

Install a new component means to remove the existing component and install a new authorized part obtained from Ford Customer Service Division.

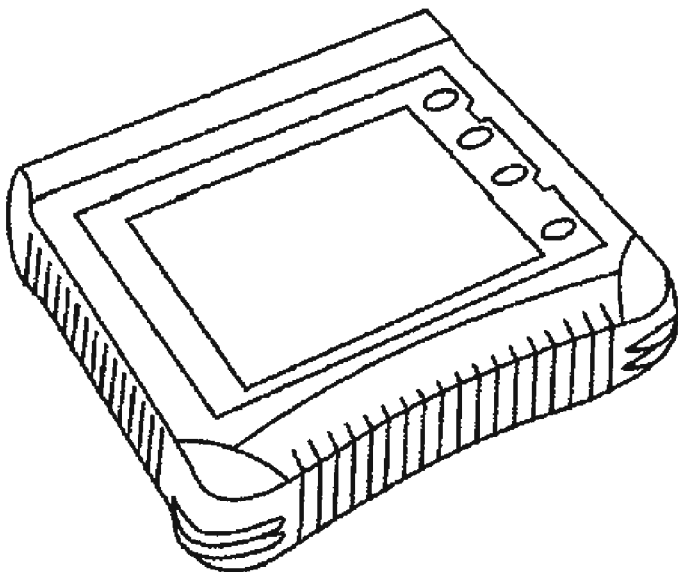
Verify the System

Verify the system means to prove out the system with restraint system diagnostic tools installed in place of the SRS components.

Air Bag Reconnect Checklist

The checklist below should be completed following diagnosis or repair of any air bag system concern:

- All restraint system diagnostic tools removed?
- All in-seat harness connectors connected?
- All air bag modules connected?
- Safety belt pretensioner connectors connected?
- Restraints control module (RCM) connected?
- All sensors (front and side impact sensors) connected?
- Battery connected?

DIAGNOSTIC INSTRUCTIONS - AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**Special Tool(s)****SPECIAL TOOLS DESCRIPTION****ST2332-A**

Worldwide Diagnostic System (WDS)
Vehicle Communication Module (VCM) with appropriate adapters, or equivalent scan tool

NOTE: This vehicle utilizes a communication system called a high-speed controller area network (HS-CAN). When diagnosing the supplemental restraint system (SRS), use an NGS+ (NGS with Vehicle Communication Module (VCM) and the latest software update) Worldwide Diagnostic System (WDS) and the latest software update or equivalent scan tool with the capability of communicating over the HS-CAN bus.

The symptom chart can be used to help locate supplemental restraint system (SRS) concerns if no diagnostic trouble codes (DTCs) are retrieved and the listed symptoms are observed. Whether or not the listed symptoms are observed, always carry out the following:

1. Retrieve all DTCs stored in the restraints control module (RCM) memory. Refer to **RETRIEVE/CLEAR CONTINUOUS DTCS**.
2. Run the On-Demand Self Test to determine what DTCs are currently being sensed by the RCM. Refer to **ON-DEMAND SELF TEST**.
3. If the stored DTCs are different than the current DTCs, always repair the current DTCs first.
4. If memory displays different continuous DTCs than the On-Demand Self Test, carry out in the following order:
 - On-Demand Self Test
 - Memory (Retrieve/Clear Continuous DTCs)

A DTC can indicate several concerns. The DTCs are to assist in system diagnosis and are not to be considered definitive. Always refer to the pinpoint test corresponding to the DTC to determine where the concern lies and to repair the concern correctly.

The SRS diagnostics can be divided into three sections:

- **DIAGNOSTIC TEST MODES**
- **PID/DATA MONITOR AND RECORD**
- **ACTIVE COMMANDS** modes

Diagnostic Test Modes

Two menu options are available under the diagnostic test modes:

- **ON-DEMAND SELF TEST**
- **RETRIEVE/CLEAR CONTINUOUS DTCS**

Retrieve/Clear Continuous DTCs

During vehicle operation the restraints control module (RCM) will detect and store both

intermittent and hard failure DTCs in nonvolatile memory. The DTC strategy employed by the RCM incorporates a time-out scheme for determining when a concern exists in the system. This requires a concern to exist for up to one minute in the system before the RCM will detect it. For the RCM to determine that a concern no longer exists, the concern must be absent for up to one minute. The actual detection time-outs vary with each DTC. The DTCs can be retrieved with a scan tool, using the Retrieve/Clear Continuous DTCs option. Any DTCs stored in the RCM will be displayed on the scan tool along with a brief description of the DTC. If no DTCs are present, the scan tool will display a SYSTEM PASSED message. This option can also be used to clear DTCs from the RCM memory, as long as the concern no longer exists. Once 128 key cycles have been recorded since the concern was last detected, the DTC will automatically be removed from memory.

To retrieve or clear DTCs, follow these steps:

1. Connect the scan tool to the data link connector (DLC).
2. Turn the ignition switch to the ON position.
3. Follow the manufacturer's instructions for the scan tool being used.

NOTE: Before proceeding with the clearing operation, make note of the DTCs displayed. Once cleared, DTCs cannot be retrieved.

4. All continuous DTCs will be displayed on the screen.
5. Clear the DTCs. After clearing the DTCs, cycle the key OFF, then ON.
 - Continuous DTCs that have been cleared will **not** reoccur as "continuous" in the same key cycle. Only new DTCs which were **not** present before clearing can occur as "continuous" after clearing.

On-Demand Self Test

The On-Demand Self Test option is used to verify that no electrical concerns exist with the air bag SRS. Upon entering the self test, the restraints control module (RCM) will make an electrical check of each electrical component in the system. If a concern is detected, a DTC is displayed on the scan tool with a brief description of the DTC. Concerns detected during the self test are not stored in memory, unless the same concern was also detected during normal vehicle operation. The self test should always be run after any repair to verify that the repair was successful.

To run the On-Demand Self Test, follow these steps:

1. Connect the scan tool to the data link connector (DLC).
2. Turn the ignition switch to the ON position.
3. Follow the manufacturer's instructions for the scan tool being used.
4. The RCM will run the On-Demand Self Test and display on-demand DTCs (reflecting

hard system concerns) on the scan tool.

Bit-Mapped Diagnostic Trouble Codes (DTCs)

Some of the continuous and on-demand DTCs that can be present in the RCM are bit-mapped DTCs that utilize PIDs (flagged faults). Bit-mapped DTCs are conceptually different from the previous style of DTCs. Previously, DTCs identified a specific concern for a given component and pointed to a particular diagnostic path. In the diagnostic path, PIDs are sometimes used to determine the root cause. Bit-mapped DTCs do not identify the specific concern. A bit-mapped DTC identifies the component(s) in which the concern exists. The next level (PIDs or flagged faults) identifies the specific concern.

A scan tool must be used to view the PIDs (flagged faults) of a bit-mapped DTC. Once a scan tool has retrieved a bit-mapped DTC, the scan tool will provide the option to FLAG that DTC. When the option to FLAG the DTC is available, it must be carried out to identify the specific concern that is present. When the option to FLAG the DTC has been carried out, the scan tool will then display the PIDs (flagged faults) for that DTC, including the status or state that exists (on-demand DTC) or existed (continuous DTC).

To view and flag bit-mapped DTCs, follow these steps:

1. Connect the scan tool to the data link connector (DLC).
2. Turn the ignition switch to the ON position.
3. Follow the manufacturer's instructions for the scan tool being used.
4. Carry out an On-Demand Self Test or retrieve continuous DTCs.
5. Select the DTC and the FLAG option on the scan tool.
6. The scan tool will display PIDs for the DTC. Record all flagged faults.

PID/Data Monitor and Record

The PID/Data Monitor and Record option allows the scan tool operator to read the state of several parameter IDs (PIDs) to aid in diagnosing the system. PIDs are real-time measurements of parameters such as voltages, resistances, etc., calculated by the restraints control module (RCM) and sent to the scan tool for display. Many of the PIDs supported by the RCM are calculated periodically and are, therefore, not true real-time readings.

To retrieve PIDs, follow these steps:

1. Connect the scan tool to the data link connector (DLC).
2. Turn the ignition switch to the ON position.
3. Follow the manufacturer's instructions for the scan tool being used.
4. Record all PIDs that are to be retrieved and initiate PID retrieval. PIDs are updated continuously on the display.

Active Commands**Instrument Cluster Module**

These commands allow the technician to verify the operation of instrument cluster module components and subsystems.

Restraints Control Module (RCM)

This command allows the technician to rezero the occupant classification sensor (OCS) system.

Inspection and Verification

1. Verify the customer concern by checking the air bag indicator in the instrument cluster module. Refer to **PROVE OUT THE SYSTEM**.
2. Visually inspect for obvious signs of mechanical and electrical damage, using the following chart.

VISUAL INSPECTION CHART

Mechanical	Electrical
<ul style="list-style-type: none">• Damaged front air bags• Damaged restraints control module (RCM) bracket• Damaged front crash severity sensor or bracket• Damaged side impact sensors and surrounding area• Damaged OCS system components	<ul style="list-style-type: none">• Open fuse(s)• Damaged wiring harness• Loose or corroded connectors• Circuitry open/shorted• Damaged shorting bars

3. If the concern is not visually evident, use the scan tool to retrieve diagnostic trouble codes (DTCs) and carry out the on-demand self test.
4. If the on-demand self test is passed and no DTCs are retrieved, GO to **SYMPTOM CHART**.
5. If DTCs are retrieved, refer to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)**.

Diagnostic Trouble Codes (DTCs)

The DTCs can be retrieved from the restraints control module (RCM) with a scan tool via the data link connector (DLC).

RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX

DTC ⁽¹⁾	Description	Action To Take
-	The Air Bag Warning Indicator is Illuminated Continuously, RCM Disconnected or Inoperative, Loss of Battery Feed, or Loss of Signal Ground	GO to <u>PINPOINT TEST A.</u>
B104B ⁽²⁾	Driver Side Crash Sensor Cross Link to Another Sensor	GO to <u>PINPOINT TEST B.</u>
B104C ⁽²⁾	Passenger Side Crash Sensor Cross Link to Another Sensor	GO to <u>PINPOINT TEST B.</u>
B104D ⁽²⁾	Front Crash Sensor Cross Link to Another Sensor	GO to <u>PINPOINT TEST B.</u>
B104E	Driver Side Crash Sensor Short to Gnd/VBatt	GO to <u>PINPOINT TEST C.</u>
B104F	Passenger Side Crash Sensor Internal Fault	INSTALL a new passenger side impact sensor. Refer to <u>SIDE IMPACT SENSOR.</u>
B105A	Crash Counter-Reached Maximum	INSTALL a new RCM and impact sensors. Refer to <u>INSPECTION AND REPAIR AFTER A SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPLOYMENT.</u>
B1013	Occupant Classification System (OCS) Calibration Fault	GO to <u>PINPOINT TEST AR.</u>
B1047 ⁽²⁾	Driver Side, Side Mount Air Bag Cross Link to Another Firing Loop	GO to <u>PINPOINT TEST D.</u>
B1048 ⁽²⁾	Passenger Side Air Bag Cross Link to Another Firing Loop	GO to <u>PINPOINT TEST E.</u>
B1049 ⁽²⁾	Passenger Seat Belt	GO to <u>PINPOINT TEST F.</u>

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	Pretensioner Cross Link to Another Firing Loop	
B1050	Passenger Side Crash Sensor Short to Gnd/VBatt Fault	GO to <u>PINPOINT TEST G.</u>
B1051	Driver Side Crash Sensor Internal Fault	INSTALL a new driver side impact sensor. Refer to <u>SIDE IMPACT SENSOR.</u>
B1052 ⁽²⁾	Passenger Seat Belt Buckle Switch Cross Link to Another Sensor	GO to <u>PINPOINT TEST H.</u>
B1053 ⁽²⁾	Driver Seat Belt Buckle Switch Cross Link to Another Sensor	GO to <u>PINPOINT TEST I.</u>
B1054 ⁽²⁾	Driver Seat Belt Pretensioner Cross Link to Another Firing Loop	GO to <u>PINPOINT TEST J.</u>
B1055 ⁽²⁾	Passenger Side, Side Mount Air Bag Cross Link to Another Firing Loop	GO to <u>PINPOINT TEST K.</u>
B1057 ⁽²⁾	Driver Air Bag Cross Link to Another Firing Loop	GO to <u>PINPOINT TEST L.</u>
B1058 ⁽²⁾	Driver Air Bag Cross Link to Another Firing Loop - Loop #2	GO to <u>PINPOINT TEST M.</u>
B1059 ⁽²⁾	Passenger Air Bag Cross Link to Another Firing Loop - Loop #2	GO to <u>PINPOINT TEST N.</u>
B1231	Longitudinal Acceleration Threshold Exceeded	INSTALL a new RCM and impact sensors. Refer to <u>INSPECTION AND REPAIR AFTER A SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPLOYMENT.</u>
B1317	Battery Voltage High	CHECK battery voltage; to be below 16 volts. Refer to <u>CHARGING SYSTEM - GENERAL INFORMATION .</u>
B1318	Battery Voltage Low	CHECK battery voltage; to be above 9.0 volts. Refer to <u>CHARGING SYSTEM -</u>

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		<u>GENERAL INFORMATION .</u>
B1342	RCM Is Faulted	INSTALL a new RCM. Refer to <u>RESTRAINTS CONTROL MODULE (RCM).</u>
B1868	Lamp Air Bag Warning Indicator Circuit Failure	GO to <u>PINPOINT TEST O.</u>
B1877	Seat Belt Driver Pretensioner Circuit Open Fault	GO to <u>PINPOINT TEST P.</u>
B1878	Seat Belt Driver Pretensioner Circuit Short to Battery Fault	GO to <u>PINPOINT TEST Q.</u>
B1879	Seat Belt Driver Pretensioner Circuit Short to Ground Fault	GO to <u>PINPOINT TEST R.</u>
B1881	Seat Belt Passenger Pretensioner Circuit Open Fault	GO to <u>PINPOINT TEST S.</u>
B1882	Seat Belt Passenger Pretensioner Circuit Short to Battery Fault	GO to <u>PINPOINT TEST T.</u>
B1883	Seat Belt Passenger Pretensioner Circuit Short to Ground Fault	GO to <u>PINPOINT TEST U.</u>
B1884	PAD Warning Lamp Circuit Failure Fault	GO to <u>PINPOINT TEST V.</u>
B1885	Seat Belt Driver Pretensioner Circuit Low Resistance on Squib Fault	GO to <u>PINPOINT TEST P.</u>
B1886	Seat Belt Passenger Pretensioner Circuit Low Resistance on Squib Fault	GO to <u>PINPOINT TEST S.</u>
B1890	PAD Warning Lamp Circuit Short to Battery Fault	GO to <u>PINPOINT TEST W.</u>
B1916	Air Bag Driver Circuit Short to Battery Fault	GO to <u>PINPOINT TEST X.</u>
B1921	Air Bag Diagnostic Monitor Ground Circuit Open	GO to <u>PINPOINT TEST Y.</u>
B1925	Air Bag Passenger Circuit Short to Battery Fault	GO to <u>PINPOINT TEST Z.</u>

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B1932	Air Bag Driver Circuit Open Fault	GO to <u>PINPOINT TEST AA.</u>
B1933	Air Bag Passenger Circuit Open Fault	GO to <u>PINPOINT TEST AB.</u>
B1934	Air Bag Driver Inflator Circuit Resistance Low on Squib Fault	GO to <u>PINPOINT TEST AA.</u>
B1935	Air Bag Passenger Inflator Circuit Resistance Low on Squib Fault	GO to <u>PINPOINT TEST AB.</u>
B1936	Air Bag Driver Circuit Short to Ground Fault	GO to <u>PINPOINT TEST AC.</u>
B1938	Air Bag Passenger Circuit Short to Ground Fault	GO to <u>PINPOINT TEST AD.</u>
B1992	Driver Side, Side Mount Air Bag Circuit Short to VBatt Fault	GO to <u>PINPOINT TEST AE.</u>
B1993	Driver Side Mount Air Bag Circuit Short to Ground Fault	GO to <u>PINPOINT TEST AF.</u>
B1994	Driver Side, Side Mount Air Bag Circuit Open Fault	GO to <u>PINPOINT TEST AG.</u>
B1995	Driver Side, Side Mount Air Bag Circuit Low Resistance on Squib Fault	GO to <u>PINPOINT TEST AG.</u>
B1996	Passenger Side, Side Mount Air Bag Circuit Short to VBatt Fault	GO to <u>PINPOINT TEST AH.</u>
B1997	Passenger Side, Side Mount Air Bag Circuit Short to Ground Fault	GO to <u>PINPOINT TEST AI.</u>
B1998	Passenger Side, Side Mount Air Bag Circuit Open Fault	GO to <u>PINPOINT TEST AJ.</u>
B1999	Passenger Side, Side Mount Air Bag Circuit Low Resistance on Squib Fault	GO to <u>PINPOINT TEST AJ.</u>
B2226	Front Crash Sensor Internal Fault	INSTALL a new front impact severity sensor. Refer to <u>FRONT IMPACT SEVERITY SENSOR.</u>
B2227	Front Crash Sensor Driver Communications Fault	GO to <u>PINPOINT TEST AK.</u>

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B2228	Air Bag Driver Circuit Short to Ground Loop #2 Fault	GO to <u>PINPOINT TEST AL.</u>
B2229	Air Bag Passenger Circuit Short to Ground Loop #2 Fault	GO to <u>PINPOINT TEST AM.</u>
B2230	Air Bag Driver Circuit Short to Battery Loop #2 Fault	GO to <u>PINPOINT TEST AN.</u>
B2231	Air Bag Passenger Circuit Short to Battery Loop #2 Fault	GO to <u>PINPOINT TEST AO.</u>
B2232	Air Bag Driver Circuit Open Loop #2 Fault	GO to <u>PINPOINT TEST AP.</u>
B2233	Air Bag Passenger Circuit Open Loop #2 Fault	GO to <u>PINPOINT TEST AQ.</u>
B2234	Air Bag Driver Inflator Circuit Resistance Low on Squib Loop #2 Fault	GO to <u>PINPOINT TEST AP.</u>
B2235	Air Bag Passenger Inflator Circuit Resistance Low on Squib Loop #2 Fault	GO to <u>PINPOINT TEST AQ.</u>
B2290	Occupant Classification System Fault ⁽³⁾	GO to <u>PINPOINT TEST AR.</u>
B2432	Drivers Seat Belt Buckle Switch Circuit Open Fault	GO to <u>PINPOINT TEST AS.</u>
B2433	Drivers Seat Belt Buckle Switch Circuit Short to Battery Fault	GO to <u>PINPOINT TEST AT.</u>
B2434	Drivers Seat Belt Buckle Switch Circuit Short to Ground Fault	GO to <u>PINPOINT TEST AU.</u>
B2435	Drivers Seat Belt Buckle Switch Resistance out of Range Fault	GO to <u>PINPOINT TEST AV.</u>
B2436	Passengers Seat Belt Buckle Switch Circuit Open Fault	GO to <u>PINPOINT TEST AW.</u>
B2437	Passengers Seat Belt Buckle Switch Circuit Short to Battery Fault	GO to <u>PINPOINT TEST AX.</u>
B2438	Passengers Seat Belt Buckle Switch Circuit Short to Ground Fault	GO to <u>PINPOINT TEST AY.</u>

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B2439	Passengers Seat Belt Buckle Switch Resistance out of Range Fault	GO to <u>PINPOINT TEST AZ.</u>
B2477	Module Configuration Failure	CONFIGURE the RCM. CLEAR the DTC. If the DTC does not clear, CONFIGURE the RCM once again. CLEAR the DTC. If the DTC does not clear, INSTALL a new RCM and CONFIGURE. Refer to <u>RESTRAINTS CONTROL MODULE (RCM).</u>
B2855	Front Crash Sensor Circuit Short to Gnd/VBatt Fault	GO to <u>PINPOINT TEST BA.</u>
B2856	Front Crash Sensor ID Fault	GO to <u>PINPOINT TEST BB.</u>
B2886	Passenger Side Crash Sensor ID Fault	GO to <u>PINPOINT TEST BC.</u>
B2887	Driver Side Crash Sensor ID Fault	GO to <u>PINPOINT TEST BD.</u>
B2909	Belt Tension Sensor Fault	GO to <u>PINPOINT TEST BE.</u>
C1946	Driver Seat Track Position Sensor Circuit Open Fault	GO to <u>PINPOINT TEST BF.</u>
C1947	Driver Seat Track Position Sensor Circuit Short to Ground Fault	GO to <u>PINPOINT TEST BG.</u>
C1948	Seat Track Position Sensor Circuit Resistance Out of Range Fault	GO to <u>PINPOINT TEST BH.</u>
C1981	Front Driver's Seat Track Position Switch Circuit Fault	GO to <u>PINPOINT TEST BI.</u>
C1982	Seat Track Position Switch Circuit Short to VBatt Fault	GO to <u>PINPOINT TEST BJ.</u>
U0073 ⁽⁴⁾	Control Module Communication Bus Off	GO to <u>PINPOINT TEST BK.</u>
U1900	CAN Communication Bus Fault - Receive Error	GO to <u>PINPOINT TEST BL.</u>
U2017	Driver Side Crash Sensor Communication Fault	GO to <u>PINPOINT TEST BM.</u>
U2018	Passenger Side Crash Sensor Communication Fault	GO to <u>PINPOINT TEST BN.</u>

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-	No communication with the restraints control module (RCM)	GO to <u>PINPOINT TEST BO.</u>
(1) DTC: Diagnostic trouble code, retrieved using scan tool.		
(2) Cross link DTCs will be retrieved in pairs to identify the two cross linked components.		
(3) DTC has associated bit-mapped PIDs.		
(4) DTC U0073 can only be retrieved as a continuous fault.		

Symptom Chart**SYMPTOM CHART**

Condition	Possible Sources	Action
<ul style="list-style-type: none">• Air bag warning indicator is illuminated continuously	<ul style="list-style-type: none">• Fuse to RCM.• Wiring, terminals or connectors.• Faulty diagnostic connector.• RCM.	<ul style="list-style-type: none">• GO to <u>PINPOINT TEST B.</u>
<ul style="list-style-type: none">• Air bag warning indicator is illuminated continuously after 6 second prove out	<ul style="list-style-type: none">• Air bag SRS system fault.	<ul style="list-style-type: none">• Refer to <u>DIAGNOSTIC TROUBLE CODES (DTCS).</u>
<ul style="list-style-type: none">• Audible tone - DTCs retrieved	<ul style="list-style-type: none">• Air bag SRS system fault.	<ul style="list-style-type: none">• Refer to <u>DIAGNOSTIC TROUBLE CODES (DTCS).</u>
<ul style="list-style-type: none">• Air bag warning indicator is flashing (5 Hz)	<ul style="list-style-type: none">• RCM.	<ul style="list-style-type: none">• Configure the RCM. Refer to <u>MODULE CONFIGURATION .</u>
<ul style="list-style-type: none">• No communication with the restraints control module (RCM)	<ul style="list-style-type: none">• Scan tool.• Data link connector (DLC).	<ul style="list-style-type: none">• GO to <u>PINPOINT TEST BO.</u>

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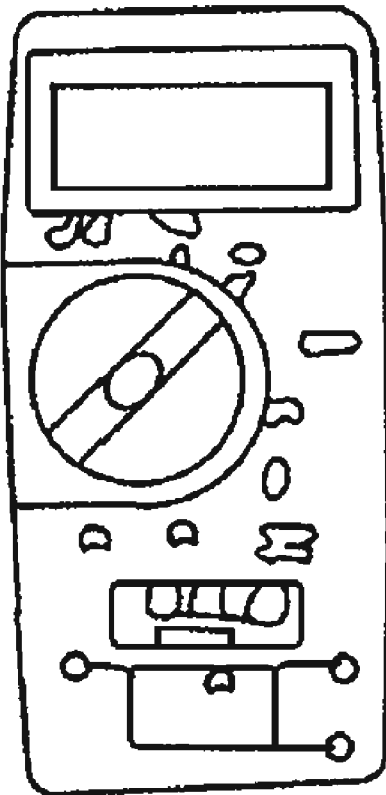
- RCM.
- Circuitry.

PINPOINT TESTS - AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Refer to **SYSTEM WIRING DIAGRAMS** article for schematic and connector information.

Special Tool(s)

SPECIAL TOOLS DESCRIPTION



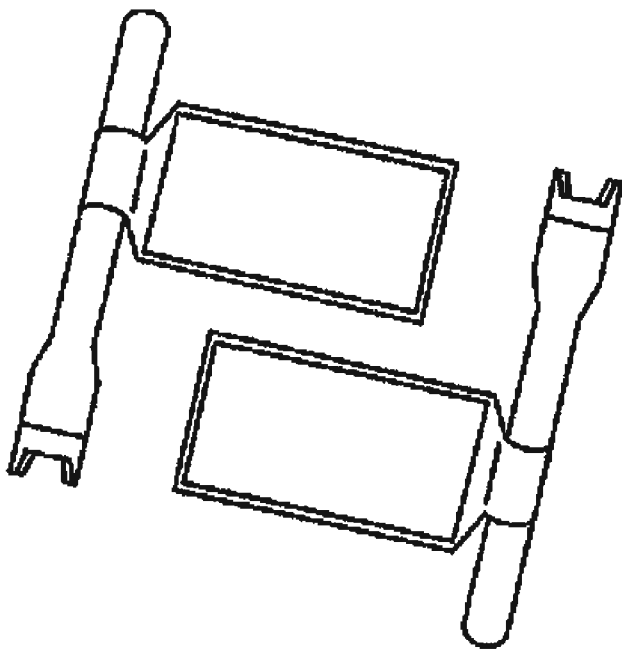
ST1137-A

FLUKE 73III Automotive Meter
105-R0057 or equivalent

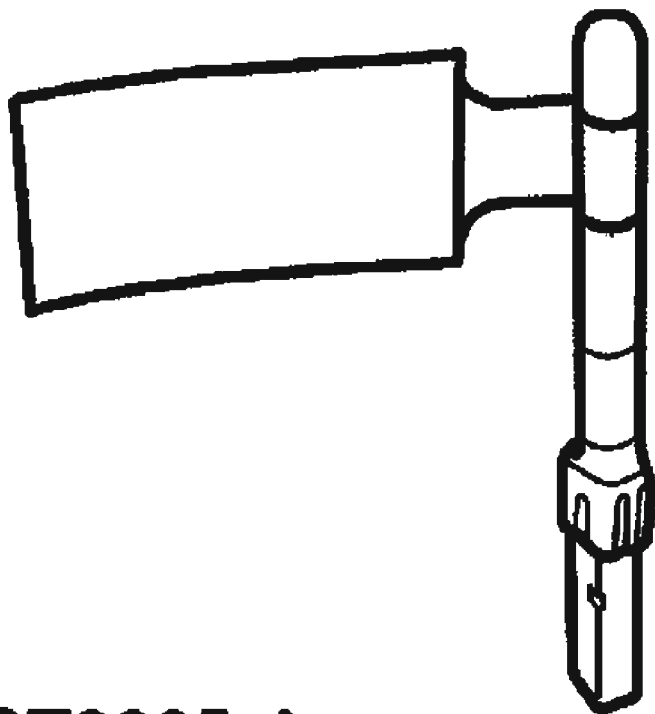
Diagnostic Tool, Restraint System
(4 required) 418-F395

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ST2621-A

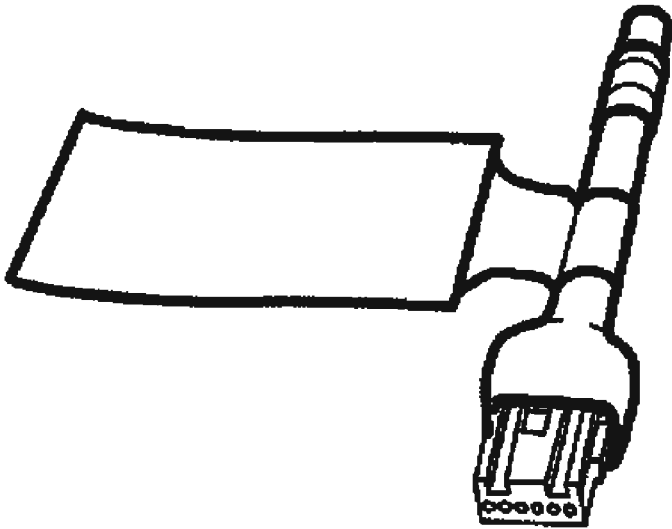


ST2865-A

Diagnostic Tool, Restraint System
(2 required) 501-109

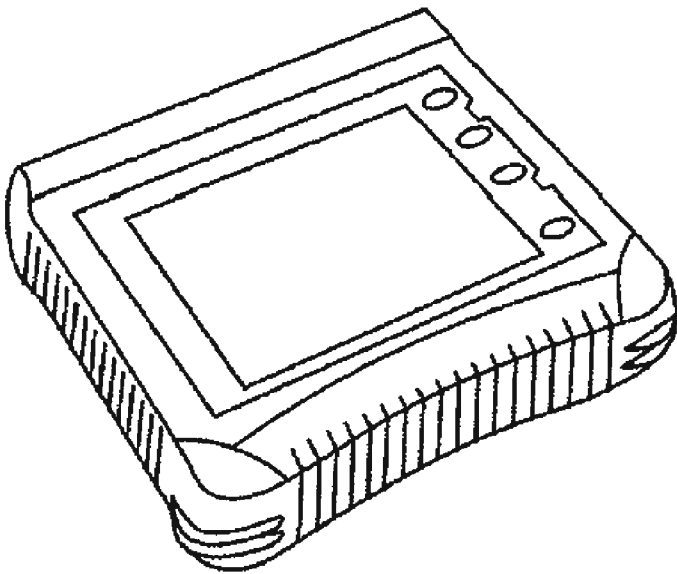
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2005 RESTRAINTS Supplemental Restraint System - Focus



ST2866-A

Diagnostic Tool, Restraint System
(1 required) 501-110



ST2332-A

Worldwide Diagnostic System
(WDS)
Vehicle Communication Module
(VCM) with appropriate adapters,
or equivalent diagnostic tool

Restraint System Diagnostic Tool Warning

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic

tools could result in injury and possible violation of vehicle safety standards.

Diagnostic Tool Note

NOTE: This vehicle utilizes a communication system called a high-speed controller area network (HS-CAN). When diagnosing the supplemental restraint system (SRS), use an NGS+ (NGS with Vehicle Communication Module (VCM) and the latest software update) Worldwide Diagnostic System (WDS) and the latest software update or equivalent scan tool with the capability of communicating over the HS-CAN bus.

Pinpoint Test A: The Air Bag Warning Indicator is Illuminated Continuously - RCM Disconnected or Inoperative, Loss of Battery Feed, or Loss of Signal Ground

Normal Operation

NOTE: During normal operation, the air bag indicator will illuminate continuously for 6-seconds after the ignition switch is placed to the RUN or ON position. Be sure to cycle the ignition switch and look for a 6-second indicator prove-out without DTCs.

The restraints control module (RCM) will communicate diagnostic trouble codes (DTCs) to the scan tool through the data link connector (DLC). If the scan tool displays NO COMMUNICATION when retrieving continuous DTCs, GO to [**PINPOINT TEST BO**](#).

Possible Causes

An air bag indicator that is illuminated continuously can be caused by one of the following:

- Damaged ignition circuit.
- RCM disconnected from the vehicle harness.
- A loss of RCM signal ground.
- Damaged wiring, terminals or connectors.
- Loss of RCM battery feed.
- Instrument cluster.
- A faulted RCM.

PINPOINT TEST A: THE AIR BAG WARNING INDICATOR IS ILLUMINATED CONTINUOUSLY - RCM DISCONNECTED OR INOPERATIVE, LOSS OF BATTERY FEED, OR LOSS OF SIGNAL GROUND

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with

the Pinpoint Test.

A1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Were any continuous or on-demand self test DTCs retrieved?**
Yes : If continuous DTCs were retrieved, GO to A2. If on-demand DTCs were retrieved, GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.
No : GO to A2.

A2 CHECK THE RCM CONNECTION

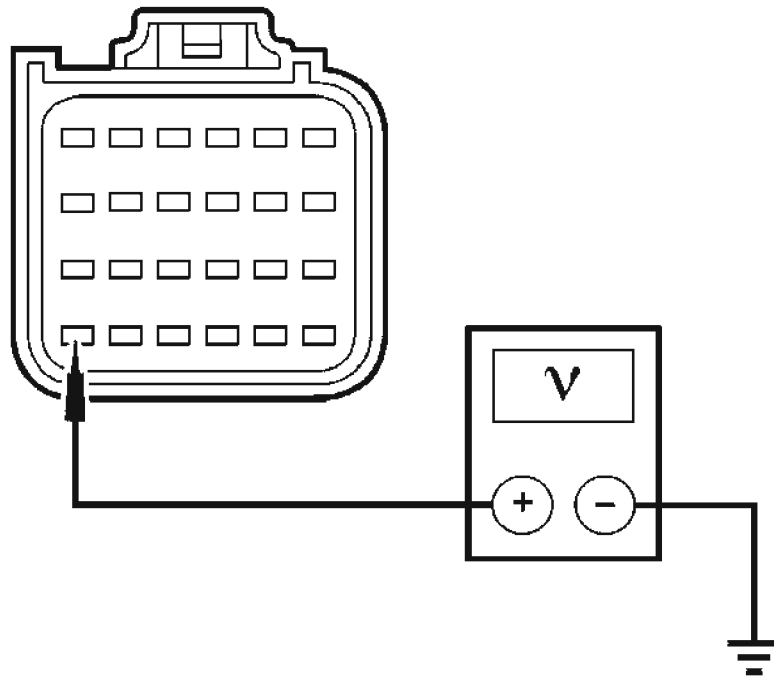
- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Connect: RCM C2041b.
- **Is RCM C2041b fully connected and the connector locking tab engaged?**
Yes : GO to A3.

No : CONNECT C2041b and ENGAGE the locking tab. GO to A7.

A3 CHECK CIRCUIT 15-JA10 (GN/OG) FOR AN OPEN

- Deactivate the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**.
- Disconnect: RCM C2041a and C2041b.
- Key in ON position.
- Measure the voltage between RCM C2041b pin 24, circuit 15-JA10 (GN/OG), harness side and ground.



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Fig. 3: Measuring Voltage Between RCM C2041b Pin 24, Circuit 15-JA10 (GN/OG), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- **Is the voltage between 9 and 16 volts?**
Yes : GO to A4.
No : REPAIR circuit 15-JA10 (GN/OG). GO to A7.

A4 CHECK THE RCM CASE GROUND

- Key in OFF position.
- Measure the resistance between the RCM case and a good chassis ground.
- **Is the resistance less than 25 ohms?**

Yes : GO to A5.

No : REPAIR RCM case ground as necessary. GO to A7.

A5 CHECK HS-CAN CIRCUITS BETWEEN THE RCM AND THE INSTRUMENT CLUSTER MODULE FOR AN OPEN

- Disconnect: Instrument Cluster Module C2220.
- Measure the resistance between RCM C2041b pin 19, circuit 4-EC18 (GY/BK), harness side and instrument cluster module C2220 pin 31, circuit 4-EC7A (GY/RD), harness side; and between RCM C2041b pin 20, circuit 5-EC18 (BU/BK), harness side and instrument cluster module C2220 pin 15, circuit 5-EC7A (BU/RD), harness side.

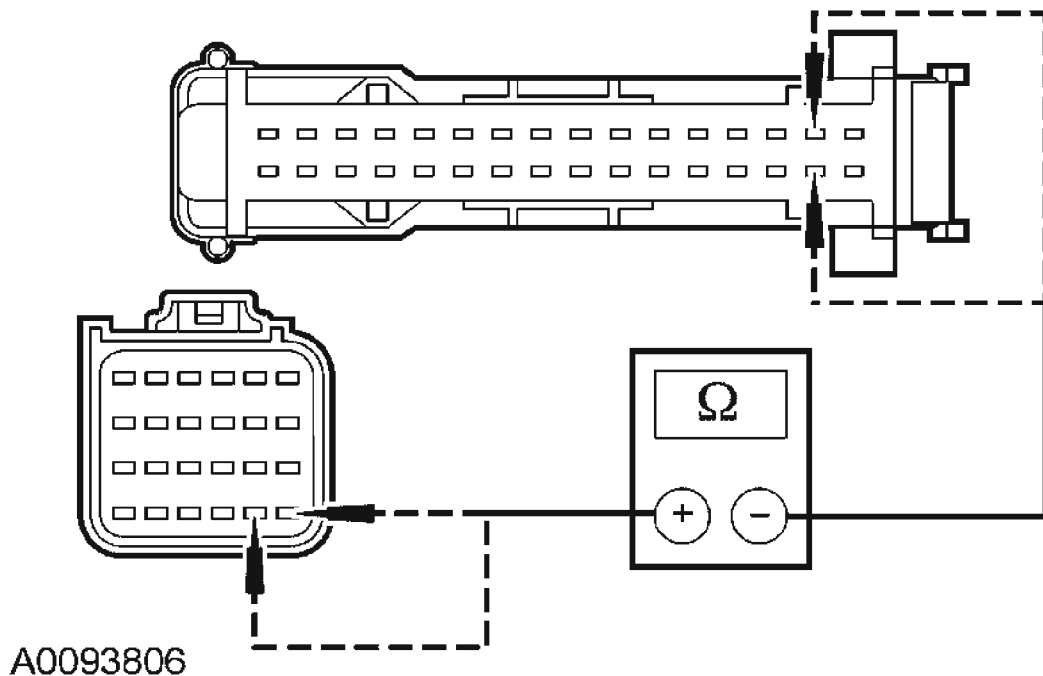


Fig. 4: Checking HS-CAN Circuits Between RCM And Instrument Cluster Module For An Open

Courtesy of FORD MOTOR CO.

- **Are the resistances less than 0.5 ohm?**

Yes : GO to A6.

No : REPAIR circuit 4-EC18 (GY/BK), 4-EC7A (GY/RD), 5-EC18 (BU/BK) or

circuit 5-EC7A (BU/RD). GO to A7.

A6 CHECK THE RCM

- Connect: Instrument Cluster Module C2220.
- Connect: RCM C2041a and C2041b.
- Enter the following diagnostic mode on the scan tool: Instrument Cluster Module Active Command - Warning Lamps.
- **Does the air bag warning indicator turn on and off when using the active command?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to A7.

No : INSTALL a new instrument cluster module. Refer to **INSTRUMENT CLUSTER** . GO to A7.

A7 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step A1.
- **Were any continuous DTCs retrieved during Step A1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test B: DTC B104B - Driver Side Crash Sensor Cross Link to Another Sensor, B104C - Passenger Side Crash Sensor Cross Link to Another Sensor Or B104D - Front Crash Sensor Cross Link to Another Sensor

Normal Operation

The restraints control module (RCM) monitors the all the impact sensors for a cross link between circuits. If the RCM detects a short between any of the impact sensor feed circuits, it will store two diagnostic trouble code in memory and illuminate the air bag indicator.

Possible Causes

An impact sensor cross link to another sensor fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST B: DTC B104B - DRIVER SIDE CRASH SENSOR CROSS LINK TO ANOTHER SENSOR, B104C - PASSENGER SIDE CRASH SENSOR CROSS LINK TO ANOTHER SENSOR OR B104D - FRONT CRASH SENSOR CROSS LINK TO ANOTHER SENSOR

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough INSPECTION AND VERIFICATION before proceeding with the Pinpoint Test.

B1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B104B, B104C or B104D retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B104B and B104C, GO to B2.

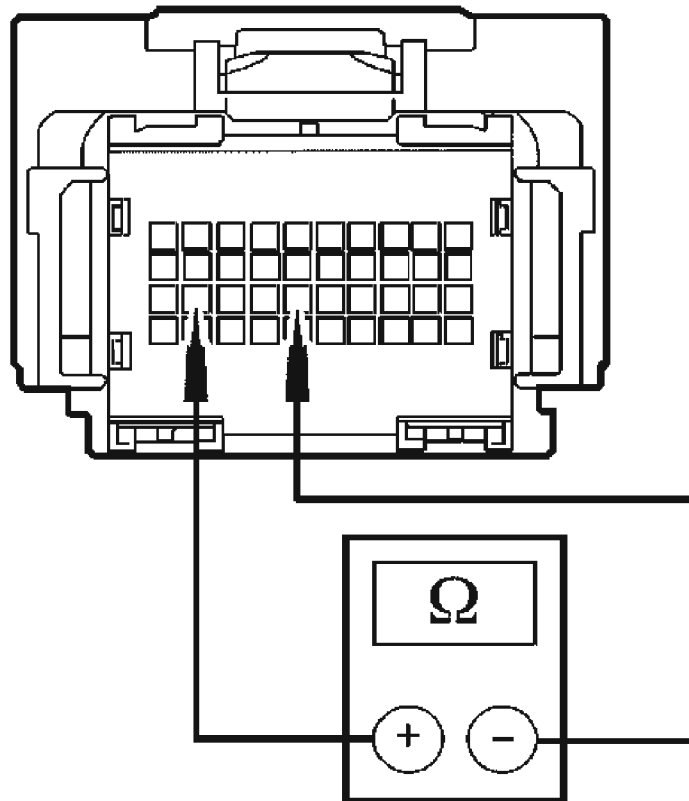
For DTC B104B and B104D, GO to B3.

For DTC B104C and B104D, GO to B4.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to B6.

B2 CHECK THE DRIVER SIDE IMPACT SENSOR CROSS LINK TO PASSENGER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Side Impact Sensor C305.
- Disconnect: Passenger Side Impact Sensor C304.
- Measure the resistance between RCM C2041a pin 29, circuit 8-JA40 (WH/VT), harness side and RCM C2041a pin 26, circuit 8-JA39 (WH), harness side.



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Fig. 5: Checking Driver Side Impact Sensor Cross Link To Passenger Side Impact Sensor

Courtesy of FORD MOTOR CO.

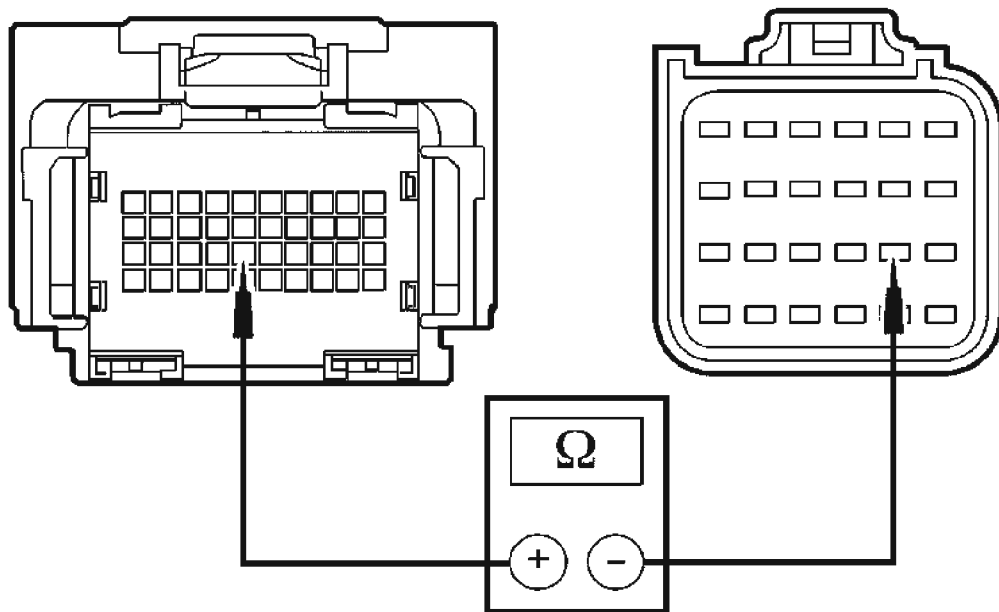
- Is the resistance greater than 10,000 ohms?

Yes : GO to B5.

No : REPAIR circuit 8-JA40 (WH/VT) and circuit 8-JA39 (WH). GO to B7.

B3 CHECK THE DRIVER SIDE IMPACT SENSOR CROSS LINK TO FRONT IMPACT SEVERITY SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Side Impact Sensor C305.
- Disconnect: Front Impact Severity Sensor C177.
- Measure the resistance between RCM C2041a pin 26, circuit 8-JA39 (WH), harness side and RCM C2041b pin 14, circuit 8-JA49 (WH) harness side.



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Fig. 6: Checking Driver Side Impact Sensor Cross Link To Front Impact Severity Sensor

Courtesy of FORD MOTOR CO.

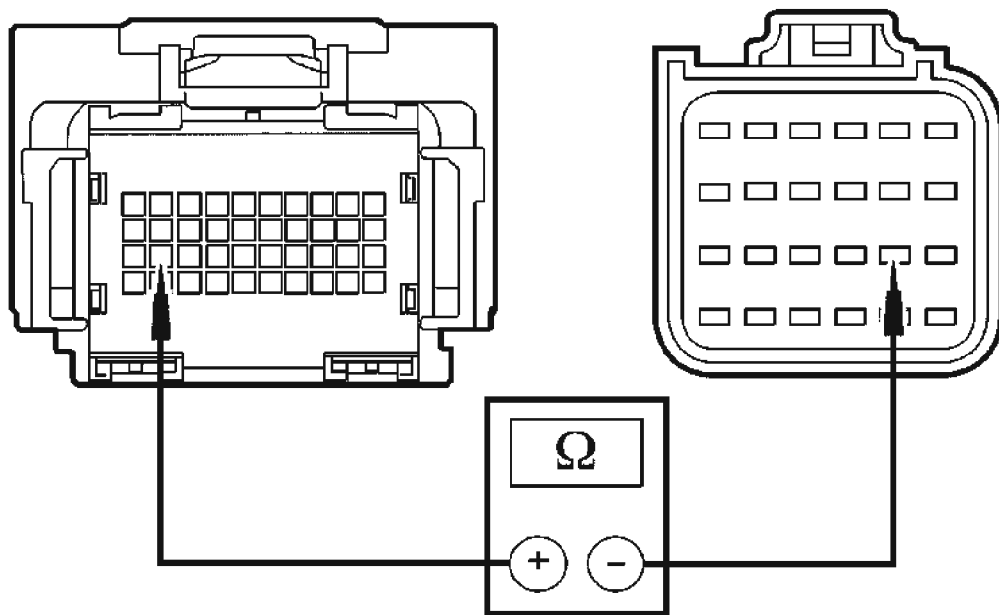
- Is the resistance greater than 10,000 ohms?

Yes : GO to B5

No : REPAIR circuit 8-JA39 (WH) and circuit 8-JA49 (WH). GO to B7.

B4 CHECK THE PASSENGER SIDE IMPACT SENSOR CROSS LINK TO THE FRONT IMPACT SEVERITY SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Side Impact Sensor C304.
- Disconnect: Front Impact Severity Sensor C177.
- Measure the resistance between RCM C2041a pin 29, circuit 8-JA40 (WH/VT), harness side and RCM C2041b pin 14, circuit 8-JA49 (WH) harness side.



A0093810

Fig. 7: Measuring Resistance Between RCM C2041a Pin 29 And RCM C2041b Pin 14

Courtesy of FORD MOTOR CO.

- Is the resistance greater than 10,000 ohms?

Yes : GO to B5.

No : REPAIR circuit 8-JA40 (WH/VT) and circuit 8-JA49 (WH). GO to B7.

B5 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Front Impact Severity Sensor C177 (If previously disconnected).
- Connect: Passenger Side Impact Sensor C304 (If previously disconnected).
- Connect: Driver Side Impact Sensor C305 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B104B, B104C or B104D retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to B7.
No : CHECK for causes of intermittent cross link between impact sensor circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to.

B6 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B104B, B104C or B104D retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B104B and B104C, GO to B2.

For DTC B104B and B104D, GO to B3.

For DTC B104C and B104D, GO to B4.

No : CHECK for causes of intermittent cross link between impact sensor circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to B7.

B7 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step B1.
- **Were any continuous DTCs retrieved during Step B1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test C: DTC B104E- Driver Side Crash Sensor Short to Gnd/VBatt

Normal Operation

The restraints control module (RCM) checks the driver side impact sensor circuits for faults. If the RCM detects a short to ground or voltage on the driver side impact sensor circuits, it will store diagnostic trouble code (DTC) B104E in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit short to voltage.
- Circuit short to ground.

Possible Causes

A driver side impact sensor short to ground or voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST C: DTC B104E - DRIVER SIDE IMPACT SENSOR SHORT TO GND/VBATT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

C1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible

violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B104E retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

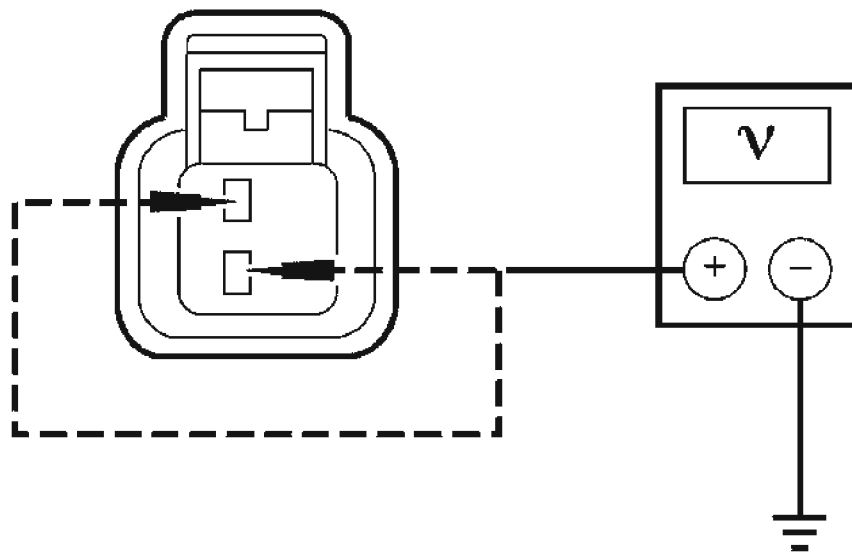
GO to C2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to C5.

C2 CHECK CIRCUIT 8-JA39 (WH) AND CIRCUIT 9-JA39 (BN) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE DRIVER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Side Impact Sensor C305.

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between driver side impact sensor C305 pin 2, circuit 8-JA39 (WH), harness side and ground; and between driver side impact sensor C305 pin 1, circuit 9-JA39 (BN), harness side and ground.



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Fig. 8: Measuring Voltage Between Driver Side Impact Sensor C305 Pin 2, Circuit 8-JA39 (WH), Harness Side And Ground
Courtesy of FORD MOTOR CO.

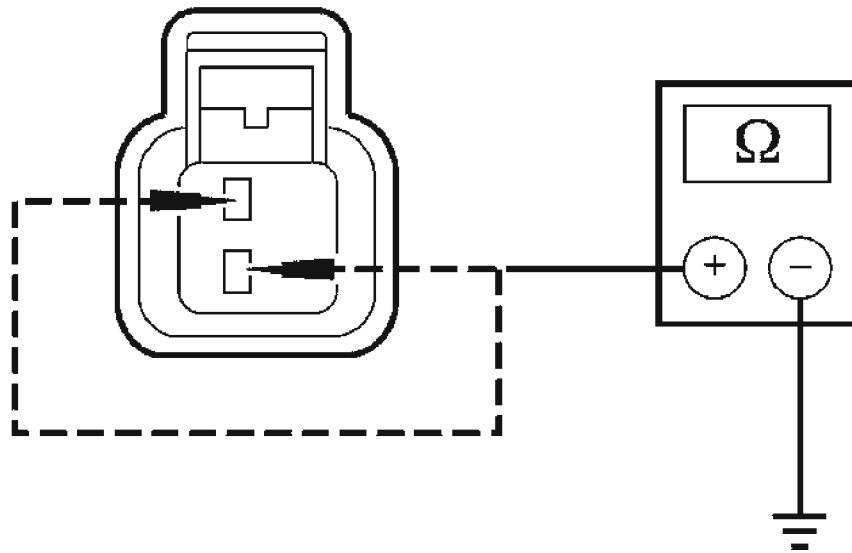
- Are the voltages less than 0.2 volt?
Yes : GO to C3.

No : REPAIR circuit 8-JA39 (WH) or circuit 9-JA39 (BN). GO to C6.

C3 CHECK CIRCUIT 8-JA39 (WH) AND CIRCUIT 9-JA39 (BN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE DRIVER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Measure the resistance between driver side impact sensor C305 pin 2, circuit 8-JA39 (WH), harness side and ground; and between driver side impact sensor C305 pin 1, circuit 9-JA39 (BN), harness side and ground.0



A0093812

Fig. 9: Measuring Resistance Between Driver Side Impact Sensor C305 Pin 2, Circuit 8-JA39 (WH), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to C4.

No : REPAIR circuit 8-JA39 (WH) or circuit 9-JA39 (BN). GO to C6.

C4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: RCM C2041a and C2041b.
- Connect: Driver Side Impact Sensor C305.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND**

REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B104E retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to C6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to C6.

C5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B104E retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. The fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to C2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to C6.

C6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step C1.
- **Were any continuous DTCs retrieved during Step C1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test D: DTC B1047 - Driver Side, Side Mount Air Bag Cross Link to Another Firing Loop

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link between the circuits of another deployable device. If the RCM detects a short between the circuits of the driver side air bag module and another deployable device, it will store a diagnostic trouble code (DTC) B1047 along with the DTC of the component it is cross

linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the driver side air bag module and another deployable device can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST D: DTC B1047 - DRIVER SIDE, SIDE MOUNT AIR BAG CROSS LINK TO ANOTHER FIRING LOOP FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

D1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1047 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1047 and DTC: B1048, GO to D2.

B1049, GO to D3.

B1054, GO to D4.

B1055, GO to D5. B1057, GO to D6.

B1058, GO to D7.

B1059, GO to D8.

No : This is an intermittent fault. The fault condition is not present at this time. GO to D10.

D2 CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.

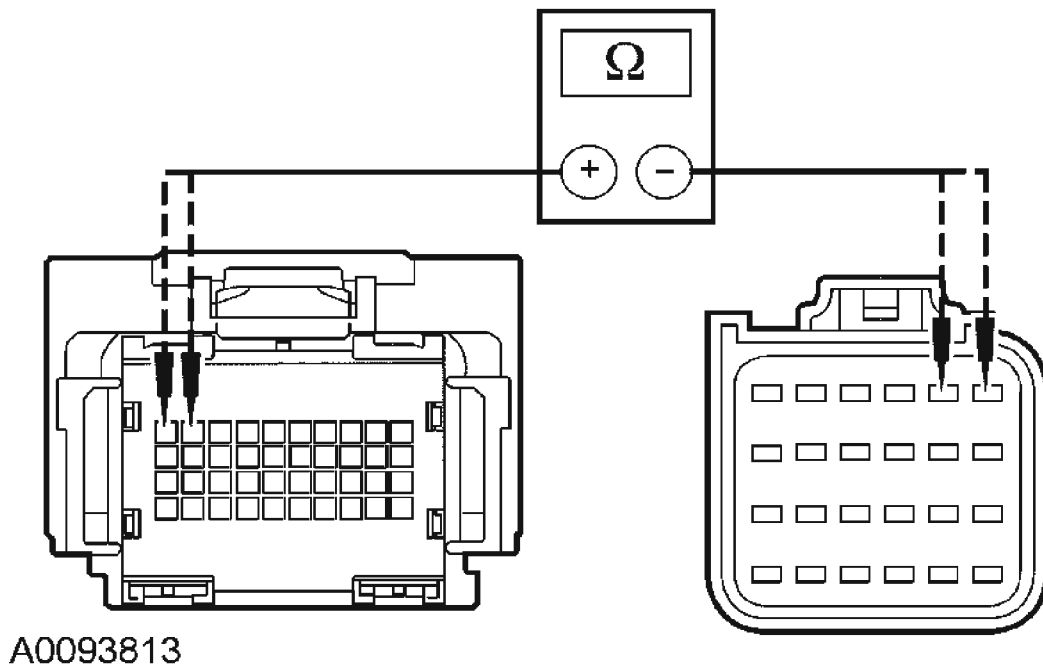


Fig. 10: Measuring Resistance Between RCM C2041a Pin 10 And RCM C2041b Pin 1

Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

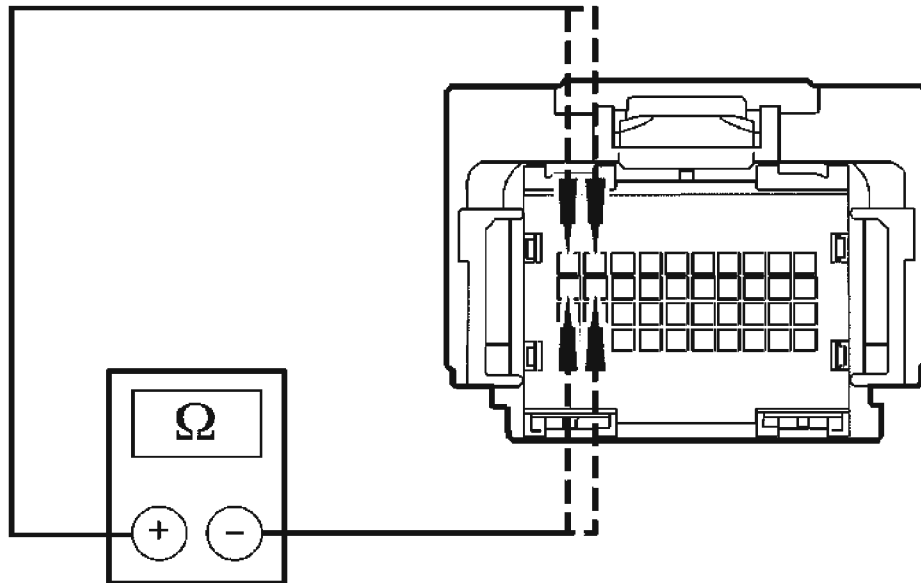
Yes : GO to D9.

No : REPAIR the affected circuits. GO to D11.

D3 CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Measure the resistance between RCM C2041a:
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.

- Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
- Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.



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Fig. 11: Measuring Resistance Between RCM C2041a Pin 10 And RCM C2041a Pin 20

Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to D9.

No : REPAIR the affected circuits. GO to D11.

D4 CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041a:

- Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.
- Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
- Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.
- Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.

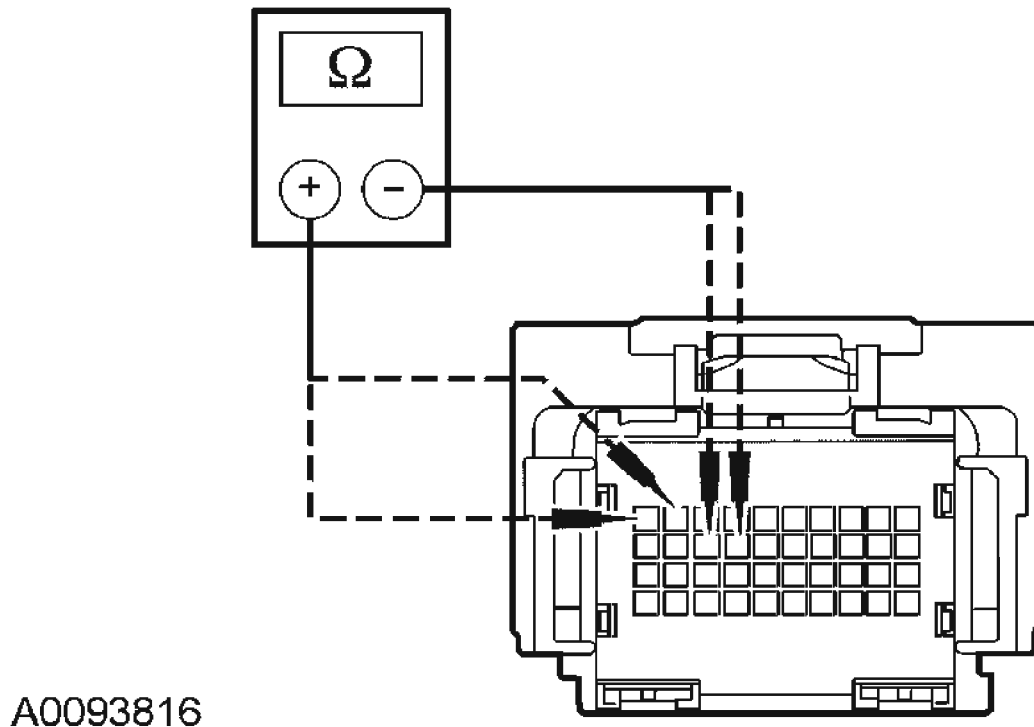


Fig. 12: Measuring Resistance Between RCM C2041a Pin 10 And RCM C2041a Pin 18

Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

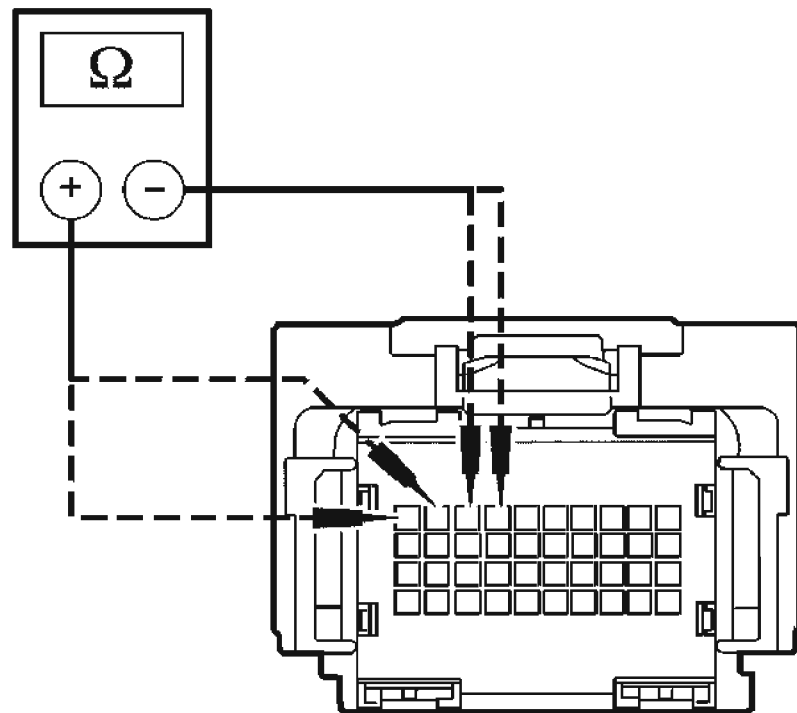
Yes : GO to D9.

No : REPAIR the affected circuits. GO to D11.

D5 CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE PASSENGER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041a:
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.



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Fig. 13: Checking Resistance Between Driver Side Air Bag Module Circuits And Passenger Side Air Bag Module Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to D9.

No : REPAIR the affected circuits. GO to D11.

D6 CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.

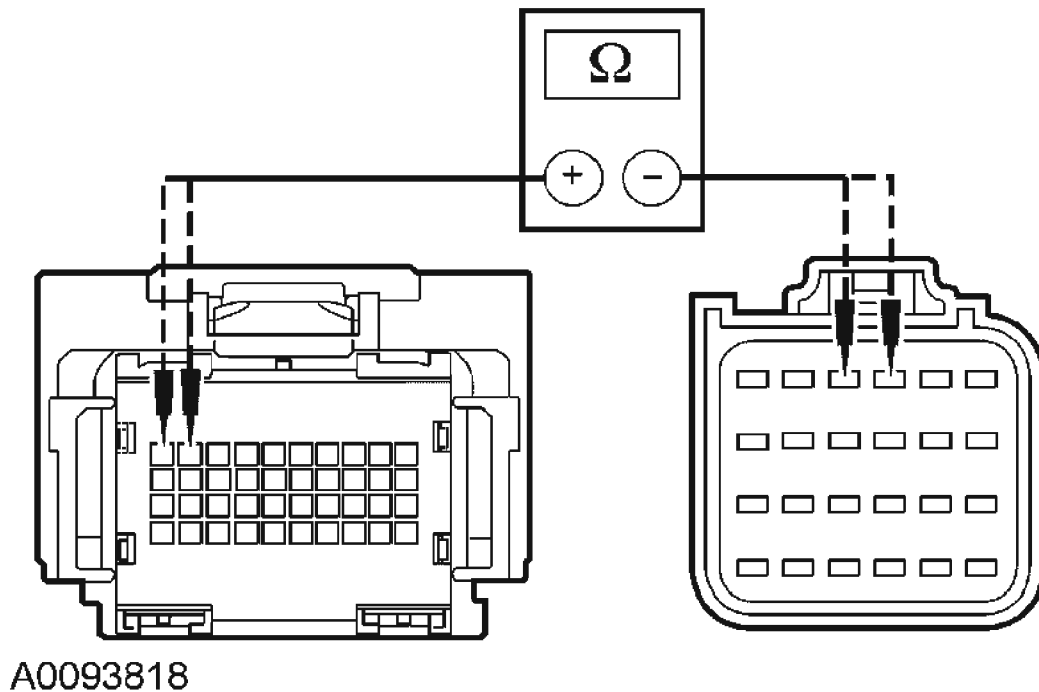


Fig. 14: CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to D9.

No : REPAIR the affected circuits. GO to D11.

D7 CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.

- Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.
- Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
- Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.

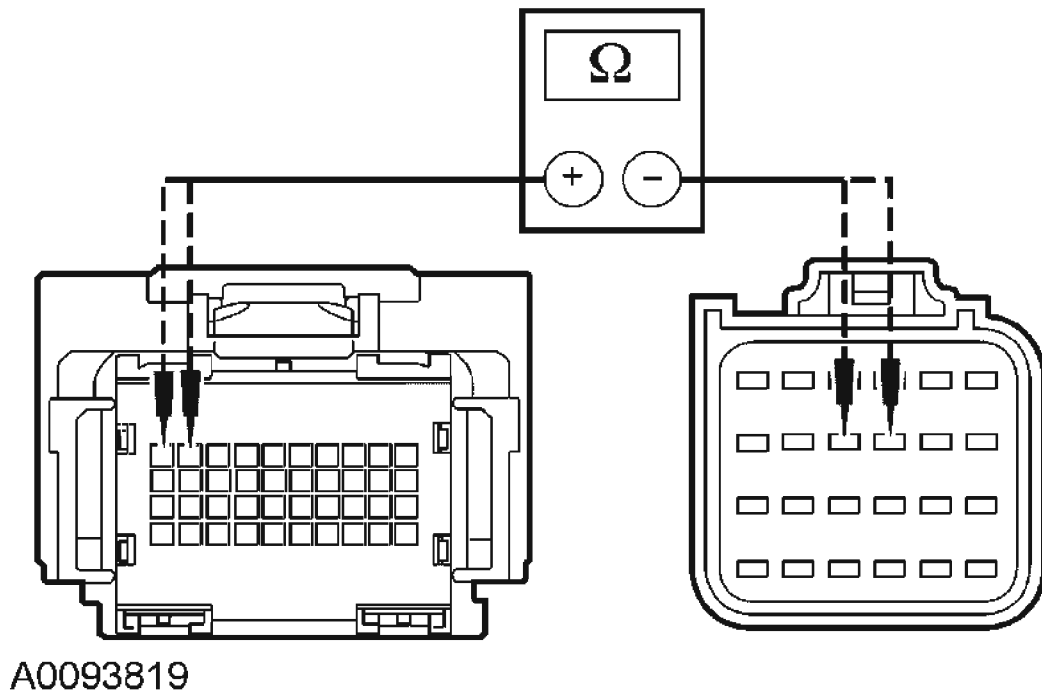


Fig. 15: Measuring Resistance Between RCM C2041a And RCM C2041b
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to D9.

No : REPAIR the affected circuits. GO to D11.

D8 CHECK RESISTANCE BETWEEN THE DRIVER SIDE AIR BAG MODULE CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.

- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 9, circuit 91S-JA37 (BK/GN), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 10, circuit 15S-JA37 (GN/BK), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.

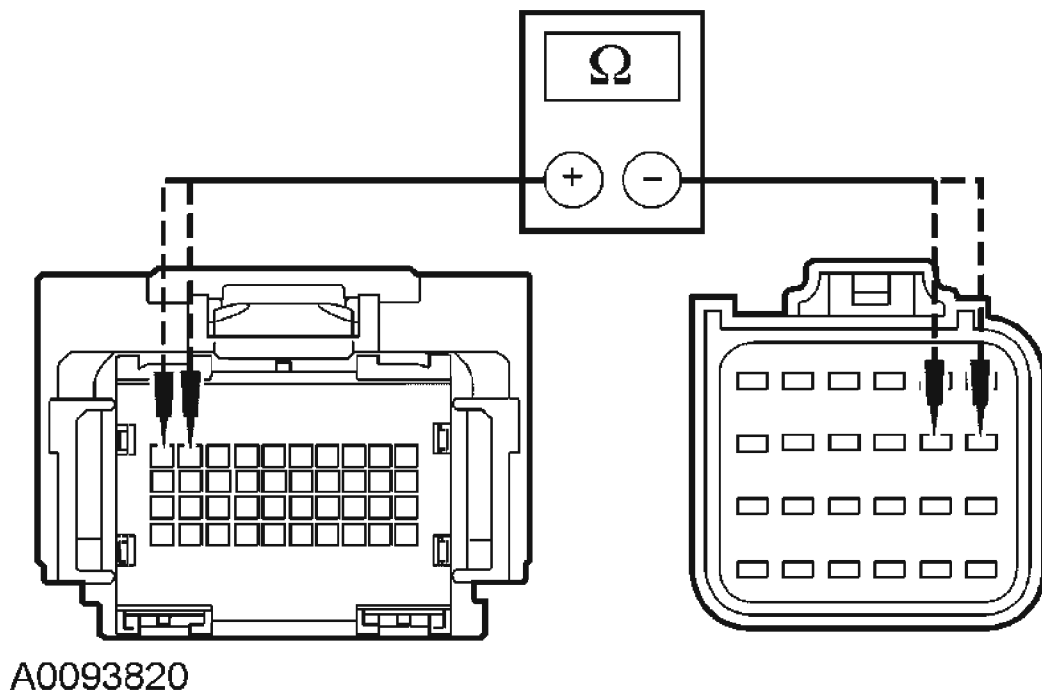


Fig. 16: Measuring Resistance Between RCM C2041a And RCM C2041b
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to D9.

No : REPAIR the affected circuits. GO to D11.

D9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is

disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector (If previously disconnected).
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e (If passenger seat C312 previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323 (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1047 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to D11.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to D11.

D10 CHECK FOR AN INTERMITTENT FAULT

NOTE: **When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.

- If DTC B1048 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1049 is also present continuous:
 - Disconnect the passenger safety belt pretensioner C303.
 - Connect restraint system diagnostic tool F418-395 to passenger safety belt pretensioner C303.
- If DTC B1054 is also present continuous:
 - Disconnect the driver safety belt pretensioner C323.
 - Connect restraint system diagnostic tool F418-395 to driver safety belt pretensioner C323.
- If DTC B1055 is also present continuous:
 - Disconnect passenger Seat C312.
 - Connect restraint system diagnostic tool 501-109 to passenger seat C312e.
- If DTC B1057 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- If DTC B1058 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- If DTC B1059 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1047 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-

demand self test.

For DTC B1047 and DTC: B1048, GO to D2.

B1049, GO to D3.

B1054, GO to D4.

B1055, GO to D5.

B1057, GO to D6.

B1058, GO to D7.

B1059, GO to D8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to D11.

D11 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step D1.
- **Were any continuous DTCs retrieved during Step D1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test E: DTC B1048 - Passenger Side Air Bag Cross Link to Another Firing Loop

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link between the circuits of another deployable device. If the RCM detects a short between the circuits of the passenger air bag module and another deployable device, it will store a diagnostic trouble code (DTC) B1048 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the passenger air bag module and another deployable device can

be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST E: DTC B1048 - PASSENGER SIDE AIR BAG CROSS LINK TO ANOTHER FIRING LOOP

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

E1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- Was DTC B1048 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1048 and DTC:

B1047, GO to E2.

B1049, GO to E3.

B1054, GO to E4.

B1055, GO to E5.

B1057, GO to E6.

B1058, GO to E7.

B1059, GO to E8.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to E10.

E2 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE DRIVER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
- Measure the resistance between RCM C2041b:
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

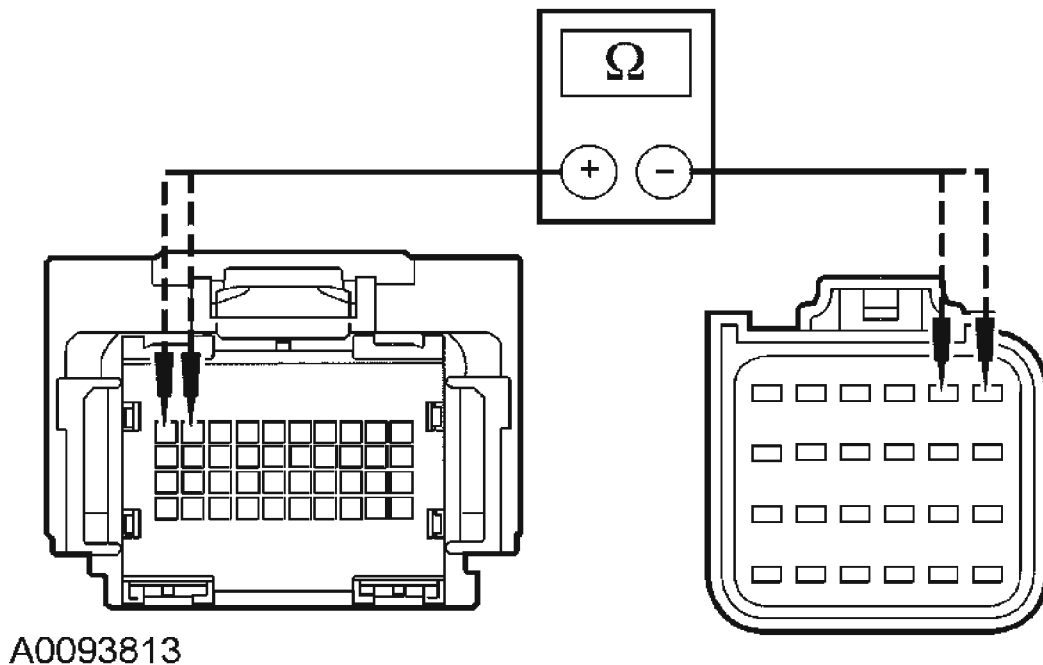


Fig. 17: Checking Resistance Between Passenger Air Bag Module Squib 1 Circuits And Driver Side Air Bag Module Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to E9.

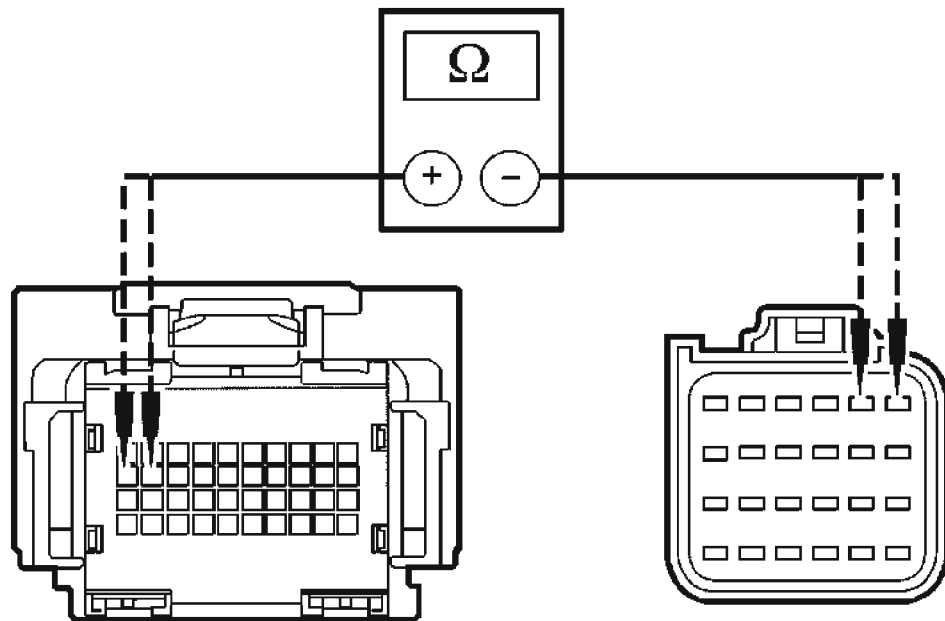
No : REPAIR the affected circuits. GO to E11.

E3 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 20,

circuit 15S-JA34 (GN/OG), harness side.

- Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
- Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.



A0094112

Fig. 18: Checking Resistance Between Passenger Air Bag Module Squib 1 Circuits And Passenger Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to E9.

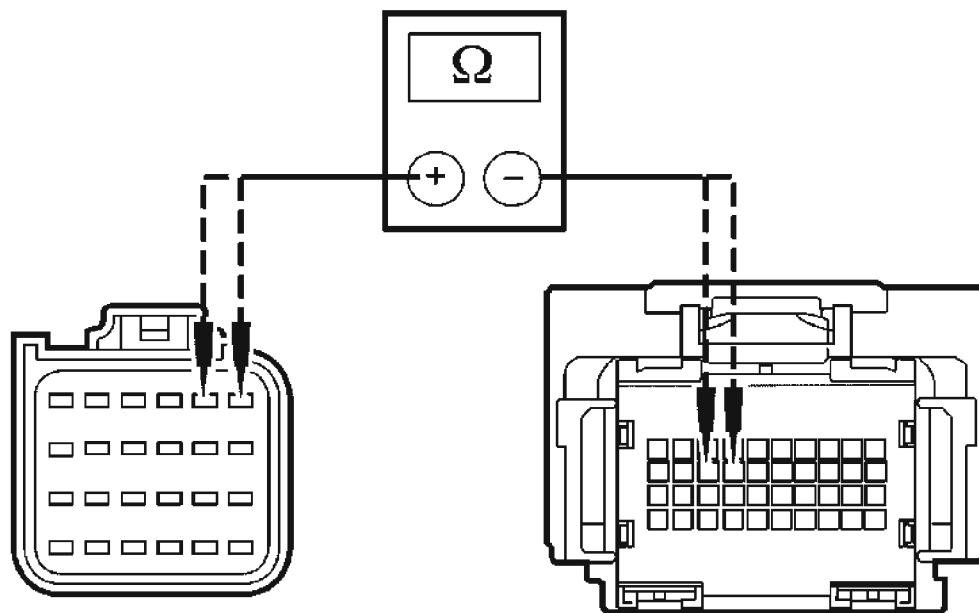
No : REPAIR the affected circuits. GO to E11.

E4 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG**

MODULE.

- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041b:
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.



A0094117

Fig. 19: Checking Resistance Between Passenger Air Bag Module Squib 1 Circuits And Driver Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

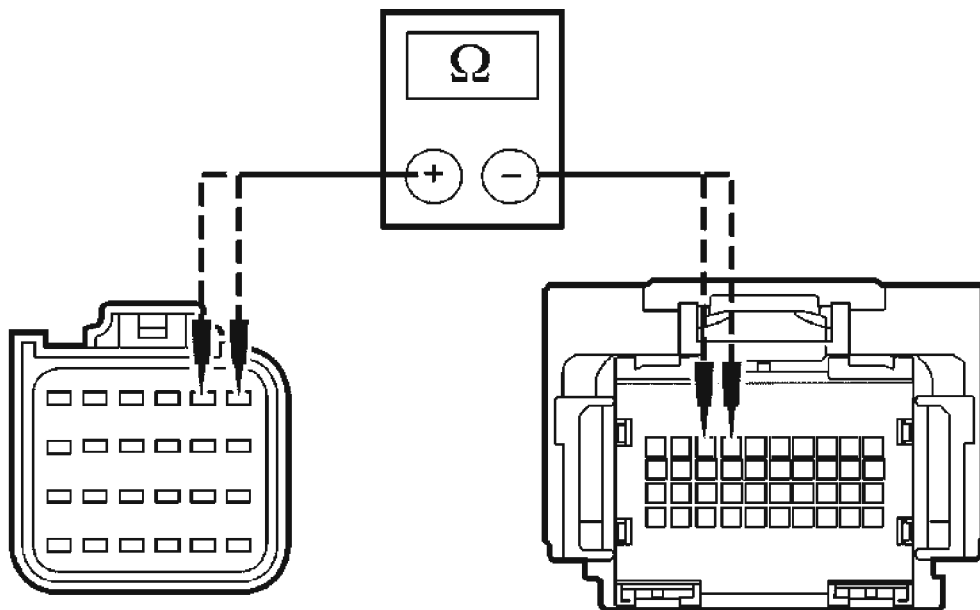
- Are the resistances greater than 1,000,000 ohms?

Yes : GO to E9.

No : REPAIR the affected circuits. GO to E11.

E5 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE PASSENGER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041b:
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.



A0094116

Fig. 20: Checking Resistance Between Passenger Air Bag Module Squib 1 Circuits And Passenger Side Air Bag Module Circuits
Courtesy of FORD MOTOR CO.

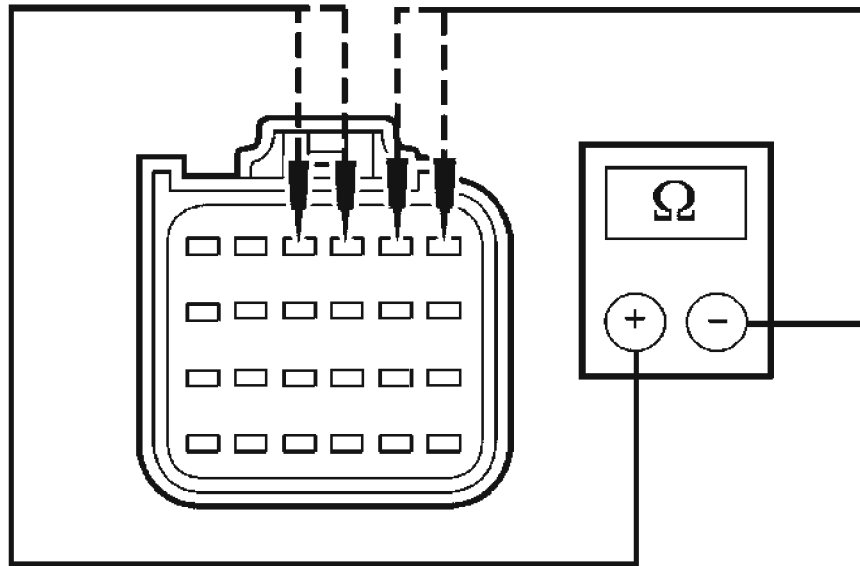
- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to E9.

No : REPAIR the affected circuits. GO to E11.

E6 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Measure the resistance between RCM C2041b:
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.



A0094115

Fig. 21: Checking Resistance Between Passenger Air Bag Module Squib 1 Circuits And Driver Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to E9.

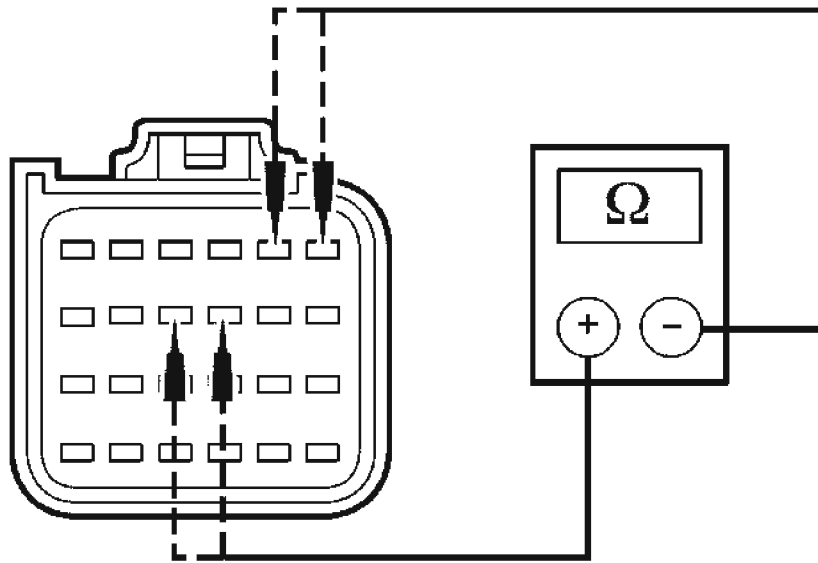
No : REPAIR the affected circuits. GO to E11.

E7 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041b pin 10,

circuit 91S-JA48 (BK/GN), harness side.

- Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
- Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.



A0094114

Fig. 22: Checking Resistance Between Passenger Air Bag Module Squib 1 Circuits And Driver Air Bag Module Squib 2 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to E9.

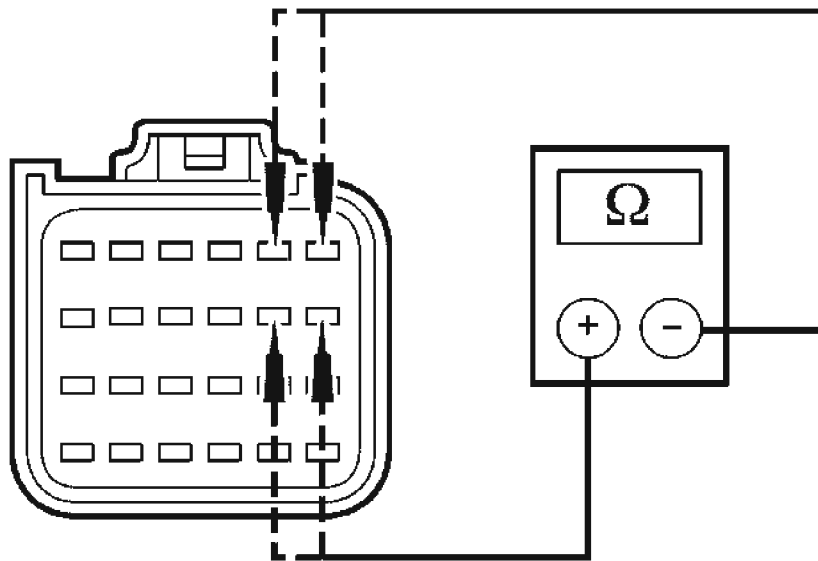
No : REPAIR the affected circuits. GO to E11.

E8 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG**

MODULE.

- Measure the resistance between RCM C2041b:
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 1, circuit 91S-JA31 (BK/WH), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 2, circuit 15S-JA31 (GN/WH), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.



A0094113

Fig. 23: Checking Resistance Between Passenger Air Bag Module Squib 1 Circuits And Passenger Air Bag Module Squib 2 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to E9.

No : REPAIR the affected circuits. GO to E11.

E9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is

disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector (If previously disconnected).
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e (If driver seat C311 previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e (If passenger seat C312 previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323 (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1048 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to E11.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to E11.

E10 CHECK FOR AN INTERMITTENT FAULT

NOTE: **When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG**

MODULE.

- Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1047 is also present continuous:
 - Disconnect the driver seat C311.
 - Connect restraint system diagnostic tool 501-109 to driver seat C311e.
- If DTC B1049 is also present continuous:
 - Disconnect the passenger safety belt pretensioner C303.
 - Connect restraint system diagnostic tool F418-395 to passenger safety belt pretensioner C303.
- If DTC B1054 is also present continuous:
 - Disconnect the driver safety belt pretensioner C323.
 - Connect restraint system diagnostic tool F418-395 to driver safety belt pretensioner C323.
- If DTC B1055 is also present continuous:
 - Disconnect passenger Seat C312.
 - Connect restraint system diagnostic tool 501-109 to passenger seat C312e.
- If DTC B1057 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- If DTC B1058 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- If DTC B1059 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1048 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be

cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1048 and DTC:

B1047, GO to E2.

B1049, GO to E3.

B1054, GO to E4.

B1055, GO to E5.

B1057, GO to E6.

B1058, GO to E7.

B1059, GO to E8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to E11.

E11 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step E1.
- **Were any continuous DTCs retrieved during Step E1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test F: DTC B1049 - Passenger Seat Belt Pretensioner Cross Link to Another Firing Loop

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link between the circuits of another deployable device. If the RCM detects a short between the circuits of the passenger safety belt pretensioner and another deployable device, it will store a diagnostic trouble code (DTC) B1049 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the passenger safety belt pretensioner and another deployable device can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST F: DTC B1049 - PASSENGER SEAT BELT PRETENSIONER CROSS LINK TO ANOTHER FIRING LOOP

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

F1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1049 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1049 and DTC:

B1047, GO to F2.

B1048, GO to F3.

B1054, GO to F4.

B1055, GO to F5.

B1057, GO to F6.

B1058, GO to F7.

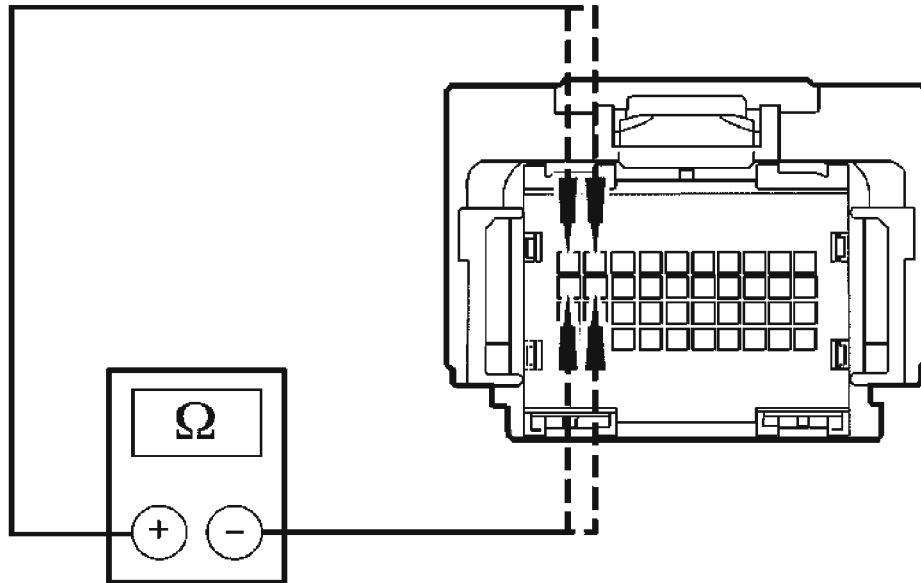
B1059, GO to F8.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to F10.

F2 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS AND THE DRIVER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Measure the resistance between RCM C2041a:
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.

- Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.



A0093814

Fig. 24: Checking Resistance Between Passenger Safety Belt Pretensioner Circuits And Driver Side Air Bag Module Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to F9.

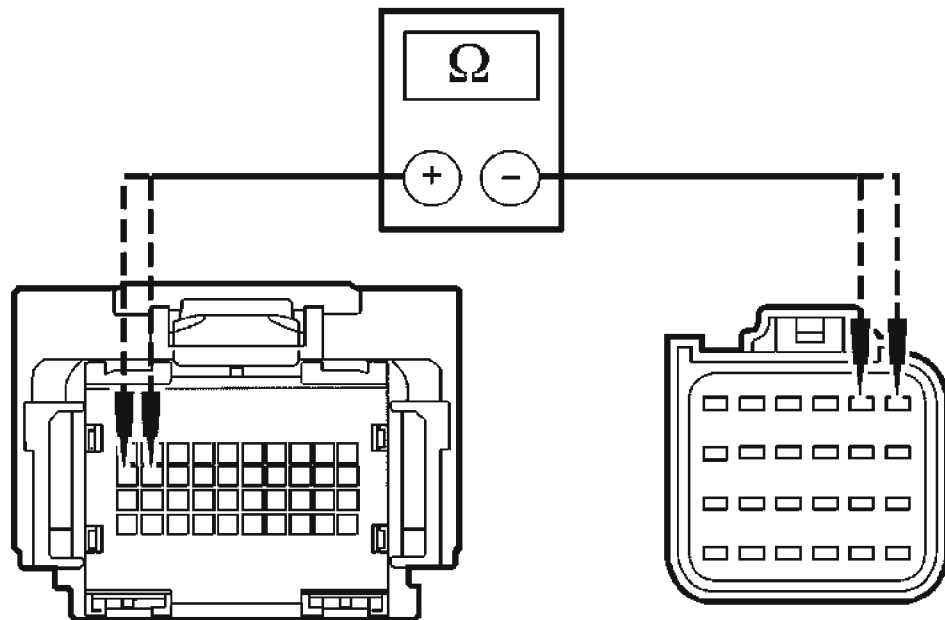
No : REPAIR the affected circuits. GO to F11.

F3 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 2,

circuit 15S-JA31 (GN/WH) harness side.

- Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.
- Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
- Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH) harness side.



A0094112

Fig. 25: Checking Resistance Between Passenger Safety Belt Pretensioner Circuits And Passenger Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

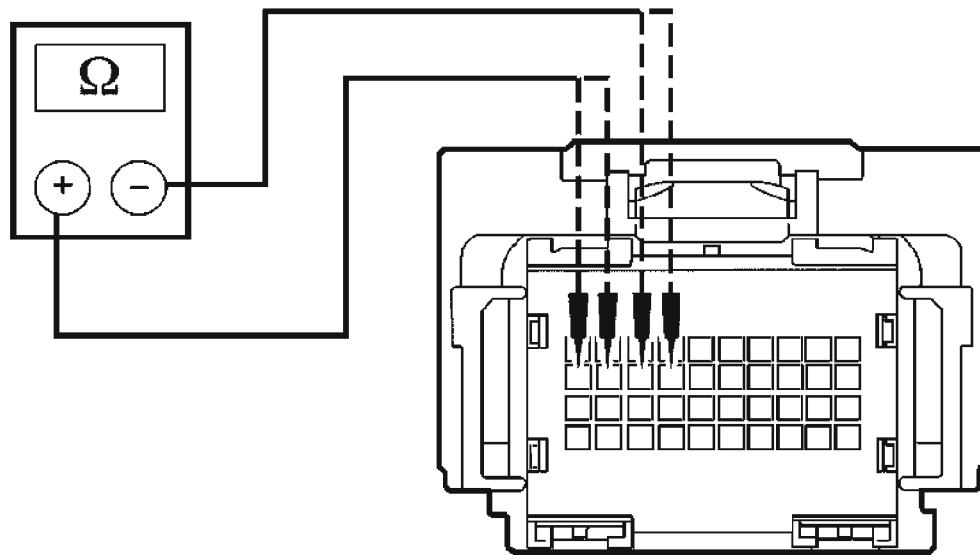
Yes : GO to F9.

No : REPAIR the affected circuits. GO to F11.

F4 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS AND THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**

- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041a:
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.



A0094187

Fig. 26: Checking Resistance Between Passenger Safety Belt Pretensioner Circuits And Driver Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

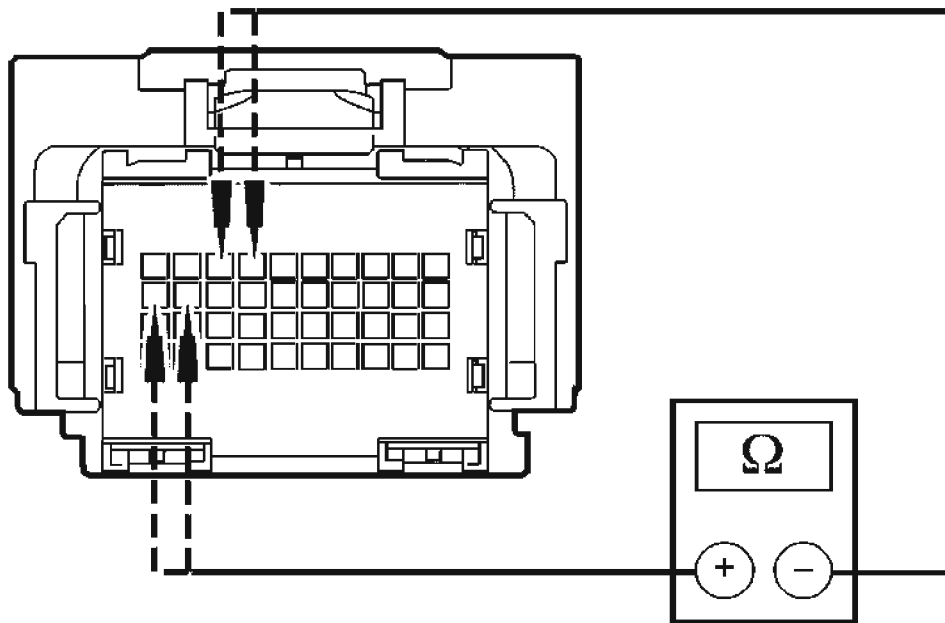
Yes : GO to F9.

No : REPAIR the affected circuits. GO to F11.

F5 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS AND THE PASSENGER SIDE AIR BAG

MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041a:
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.



A0094110

Fig. 27: Checking Resistance Between Passenger Safety Belt Pretensioner Circuits And Passenger Side Air Bag Module Circuits
Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to F9.

No : REPAIR the affected circuits. GO to F11.

F6 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Measure the resistance between RCM C2041a:
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.

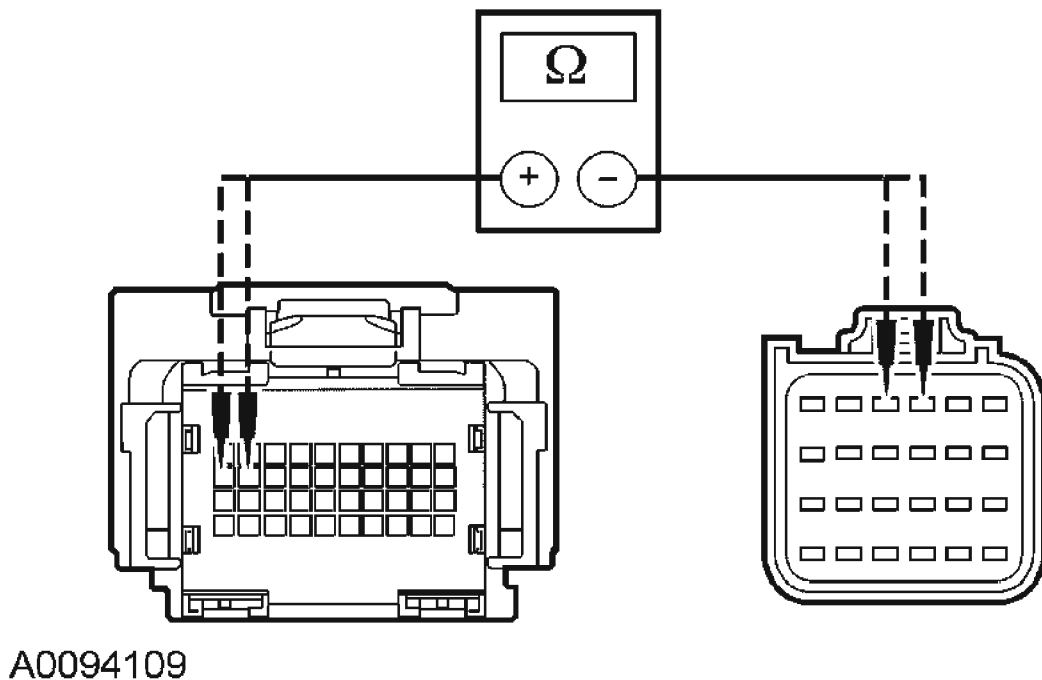


Fig. 28: Checking Resistance Between Passenger Safety Belt Pretensioner Circuits And Driver Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

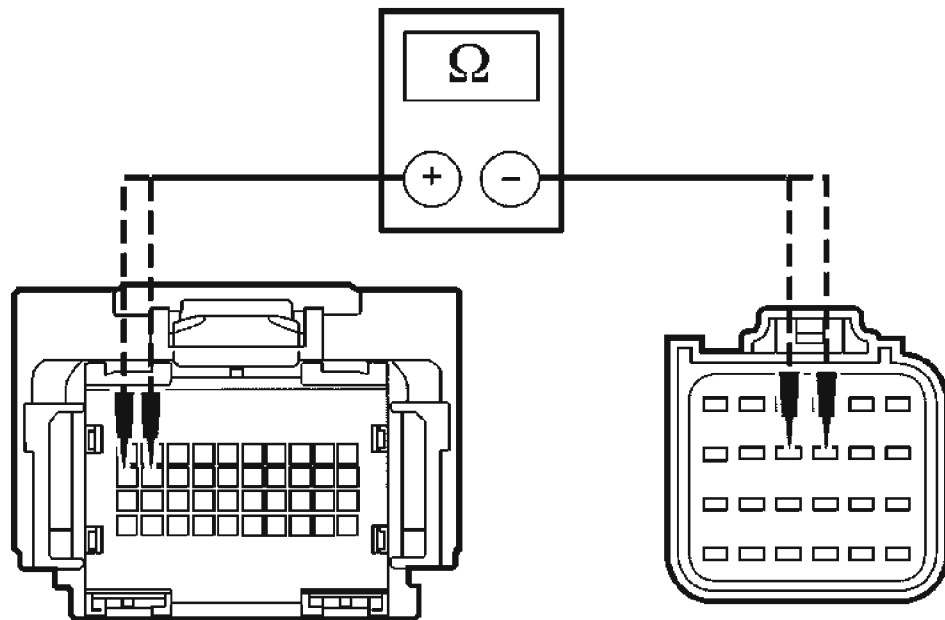
Yes : GO to F9.

No : REPAIR the affected circuits. GO to F11.

F7 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.

- Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
- Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.



A0094108

Fig. 29: Checking Resistance Between Passenger Safety Belt Pretensioner Circuits And Driver Air Bag Module Squib 2 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

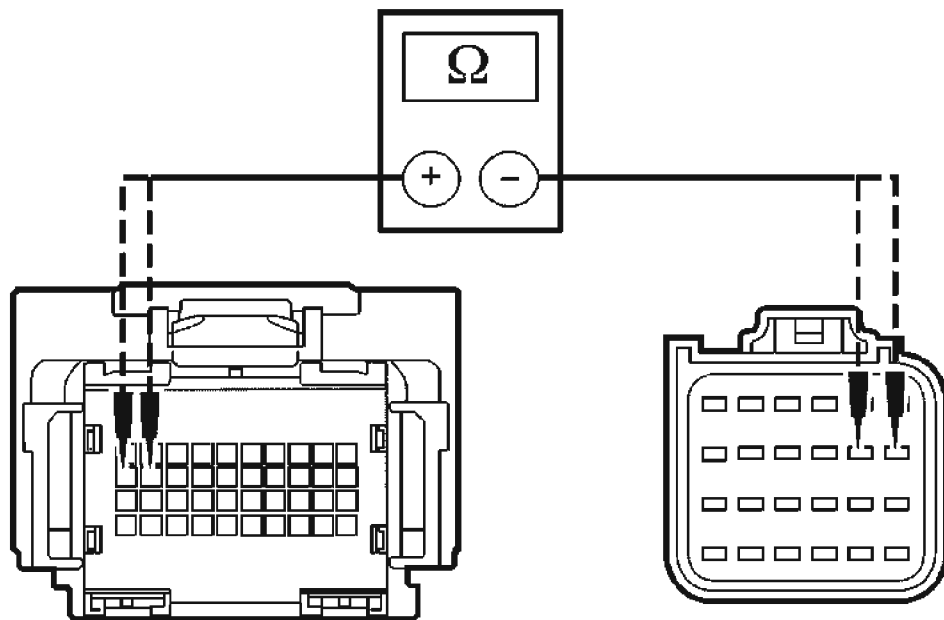
Yes : GO to F9.

No : REPAIR the affected circuits. GO to F11.

F8 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to PASSENGER AIR BAG MODULE.

- Disconnect: Passenger Safety Belt Pretensioner C303.
- Measure the resistance between RCM C2041a:
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 19, circuit 91S-JA34 (BK/RD), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 20, circuit 15S-JA34 (GN/OG), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.



A0094107

Fig. 30: Checking Resistance Between Passenger Safety Belt Pretensioner Circuits And Passenger Air Bag Module Squib 2 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to F9.

No : REPAIR the affected circuits. GO to F11.

F9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is

disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector (If previously disconnected).
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e (If driver seat C311 previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e (If passenger seat C312 previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323 (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1049 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to F11.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to F11.

F10 CHECK FOR AN INTERMITTENT FAULT

NOTE: **When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Safety Belt Pretensioner C303.

- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- If DTC B1047 is also present continuous:
 - Disconnect driver seat C311.
 - Connect restraint system diagnostic tool 501-109 to driver seat C311e.
- If DTC B1048 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1054 is also present continuous:
 - Disconnect the driver safety belt pretensioner C323.
 - Connect restraint system diagnostic tool F418-395 to driver safety belt pretensioner C323.
- If DTC B1055 is also present continuous:
 - Disconnect passenger Seat C312.
 - Connect restraint system diagnostic tool 501-109 to passenger seat C312e.
- If DTC B1057 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- If DTC B1058 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- If DTC B1059 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1049 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be

cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1049 and DTC:

B1047, GO to F2.

B1048, GO to F3.

B1054, GO to F4.

B1055, GO to F5.

B1057, GO to F6.

B1058, GO to F7.

B1059, GO to F8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to F11.

F11 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step F1.
- **Were any continuous DTCs retrieved during Step F1 ?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test G: DTC B1050- Passenger Side Crash Sensor Short to Gnd/VBatt Fault

Normal Operation

The restraints control module (RCM) checks the passenger side impact sensor circuits for faults. If the RCM detects a short to ground or voltage on the passenger side impact sensor circuits, it will store diagnostic trouble code (DTC) B1050 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit short to voltage.
- Circuit short to ground.

Possible Causes

A passenger side impact sensor short to ground/voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST G: DTC B1050 - PASSENGER SIDE CRASH SENSOR SHORT TO GND/VBATT FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

G1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before

releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

- **Was DTC B1050 retrieved during the on-demand self test?**

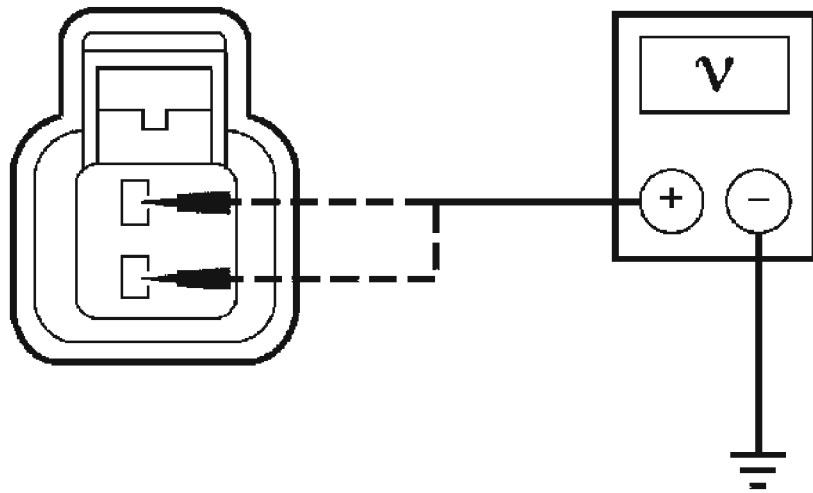
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to G2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to G5.

G2 CHECK CIRCUIT 8-JA40 (WH/VT) AND CIRCUIT 9-JA40 (BN/WH) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE PASSENGER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Side Impact Sensor C304.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between passenger side impact sensor C304 pin 2, circuit 8-JA40 (WH/VT), harness side and ground; and between passenger side impact sensor C304 pin 1, circuit 9-JA40 (BN/WH), harness side and ground.



A0093821

Fig. 31: Checking Circuit 8-JA40 (WH/VT) And Circuit 9-JA40 (BN/WH) For Short To Voltage Between RCM And Passenger Side Impact Sensor Courtesy of FORD MOTOR CO.

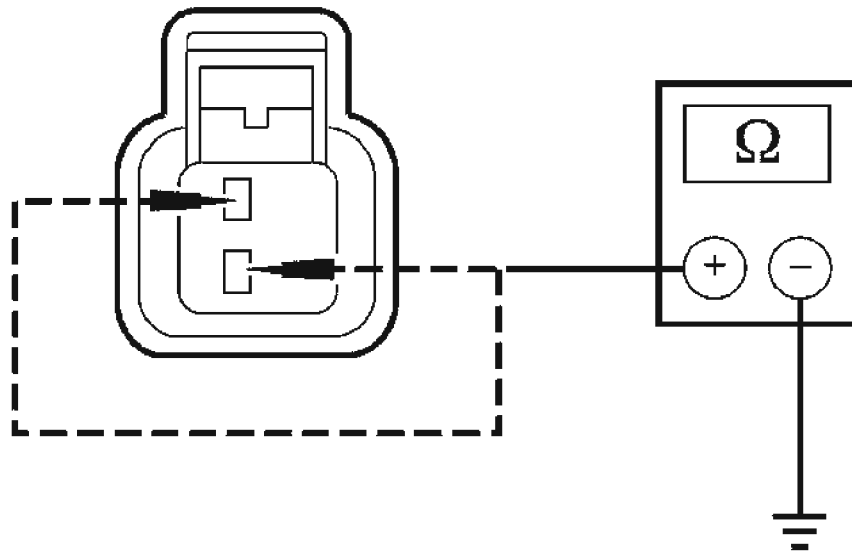
- Are the voltages less than 0.2 volt?

Yes : GO to G3.

No : REPAIR circuit 8-JA40 (WH/VT) or circuit 9-JA40 (BN/WH). GO to G6.

G3 CHECK CIRCUIT 8-JA40 (WH/VT) AND CIRCUIT 9-JA40 (BN/WH) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE PASSENGER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Measure the resistance between passenger side impact sensor C304 pin 2, circuit 8-JA40 (WH/VT), harness side and ground; and between passenger side impact sensor C304 pin 1, circuit 9-JA40 (BN/WH), harness side and ground.



A0093812

Fig. 32: Checking Circuit 8-JA40 (WH/VT) And Circuit 9-JA40 (BN/WH) For Short To Ground Between RCM And Passenger Side Impact Sensor
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to G4.

No : REPAIR circuit 8-JA40 (WH/VT) or circuit 9-JA40 (BN/WH). GO to G6.

G4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: RCM C2041a and C2041b.
- Connect: Passenger Side Impact Sensor C304.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Was DTC B1050 retrieved during the on-demand self test?

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to G6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to G6.

G5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1050 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. The fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to G2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to G6.

G6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step G1.
- **Were any continuous DTCs retrieved during Step G1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test H: DTC B1052 - Passenger Seat Belt Buckle Switch Cross Link to Another Sensor

Normal Operation

The restraints control module (RCM) monitors the safety belt buckle switches for a cross link between the feed circuits of the safety belt buckle switches. If the RCM detects a short between the feed circuits of two safety belt buckle switches, it will store a diagnostic trouble code (DTC) B1052 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between safety belt buckle switches can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST H: DTC B1052 - PASSENGER SEAT BELT BUCKLE SWITCH CROSS LINK TO ANOTHER SENSOR

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

H1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

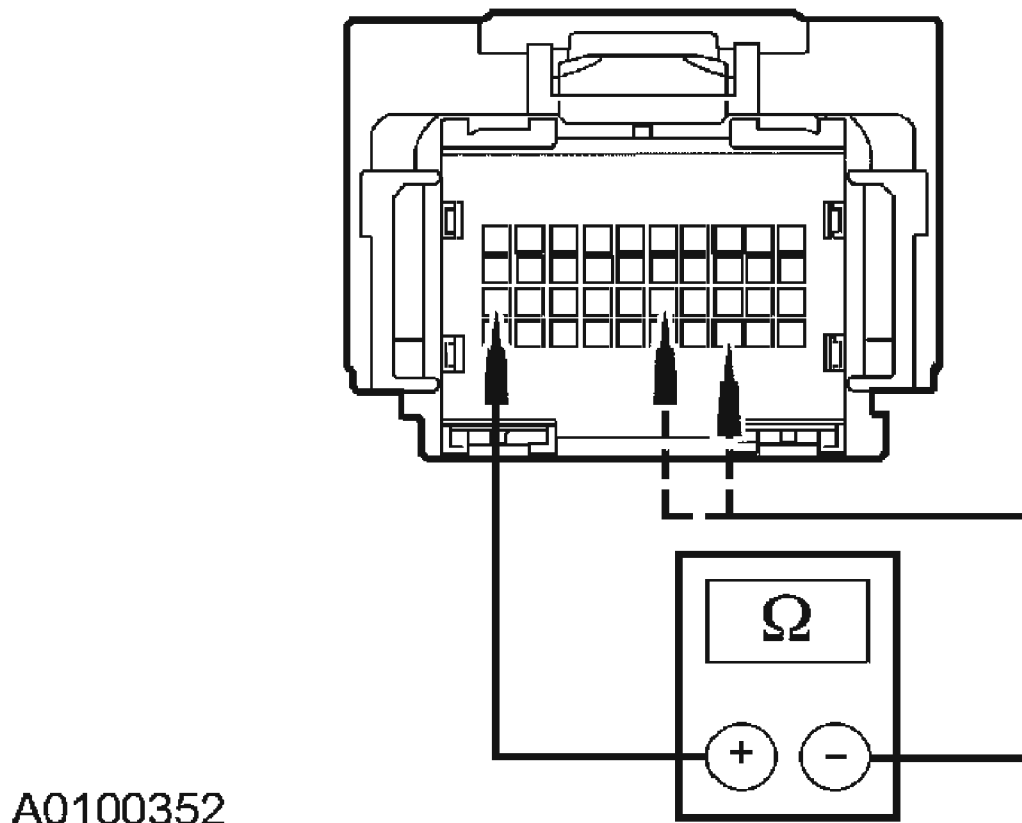
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- Was DTC B1052 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to H2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to H4.

H2 CHECK RESISTANCE BETWEEN THE PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT, DRIVER SEAT TRACK POSITION CIRCUIT AND THE DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041a pin 30, circuit 15S-JA55 (GN/OG), harness side and RCM C2041a pin 25, circuit 15S-JA54 (GN/YE), harness side; and between RCM C2041a pin 30, circuit 15S-JA55 (GN/OG), harness side and RCM C2041a pin 33, circuit 15S-JA53 (GN/BU), harness side.



A0100352

Fig. 33: Checking Resistance Between Passenger Safety Belt Buckle Switch Circuit, Driver Seat Track Position Circuit And Driver Safety Belt Buckle Switch Circuit

Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to H3.

No : REPAIR the affected circuits. GO to H5.

H3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Driver Seat C311.
- Connect: Passenger Seat C312.

- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1052 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to H5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to H5.

H4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1052 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to H2.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to H5.

H5 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step H1.
- **Were any continuous DTCs retrieved during Step H1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test I: DTC B1053 - Driver Seat Belt Buckle Switch Cross Link to Another Sensor

Normal Operation

The restraints control module (RCM) monitors the safety belt buckle switches for a cross link between the feed circuits of the safety belt buckle switches. If the RCM detects a short between the feed circuits of two safety belt buckle switches, it will store a diagnostic trouble

code (DTC) B1053 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between safety belt buckle switches can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST I: DTC B1053 - DRIVER SEAT BELT BUCKLE SWITCH CROSS LINK TO ANOTHER SENSOR

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

I1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

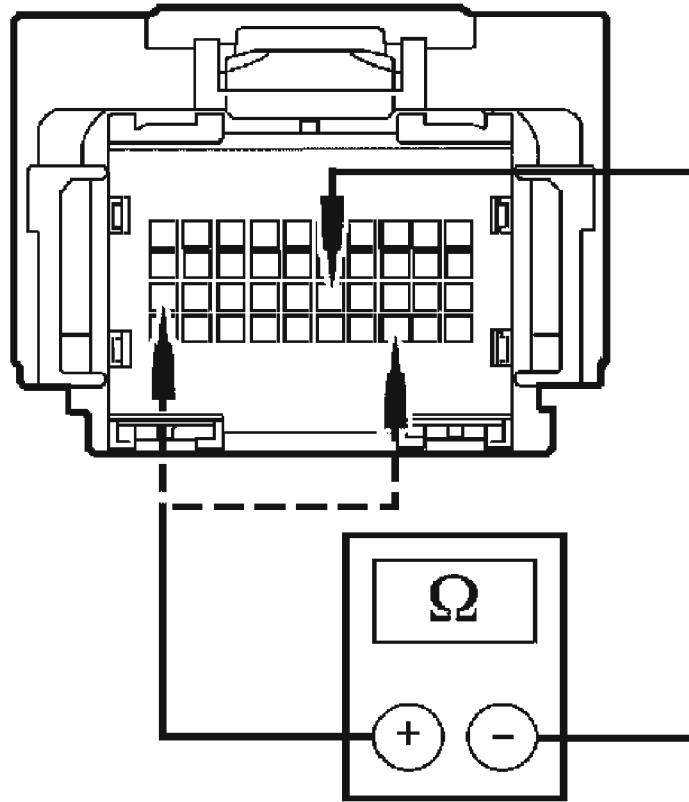
- **Was DTC B1053 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to I2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to I4.

I2 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT, DRIVER SEAT TRACK POSITION CIRCUIT AND THE PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041a pin 25, circuit 15S-JA54 (GN/YE), harness side and RCM C2041a pin 30, circuit 15S-JA55 (GN/OG), harness side; and between RCM C2041a pin 25, circuit 15S-JA54 (GN/YE), harness side and RCM C2041a pin 33, circuit 15S-JA53 (GN/BU), harness side.



A0100360

Fig. 34: Checking Resistance Between Driver Safety Belt Buckle Switch Circuit, Driver Seat Track Position Circuit And Passenger Safety Belt Buckle Switch Circuit

Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to I3.

No : REPAIR the affected circuits. GO to I5.

I3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Driver Seat C311.
- Connect: Passenger Seat C312.

- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1053 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to I5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to I5.

I4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1053 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to I2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to I5.

I5 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step I1.
- Were any continuous DTCs retrieved during Step I1?
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test J: DTC B1054 - Driver Seat Belt Pretensioner Cross Link to Another Firing Loop

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link between the circuits of another deployable device. If the RCM detects a short between the circuits of the driver safety belt pretensioner and another deployable device, it will store a diagnostic trouble code (DTC) B1054 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the driver safety belt pretensioner and another deployable device can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST J: DTC B1054 - DRIVER SEAT BELT PRETENSIONER CROSS LINK TO ANOTHER FIRING LOOP

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

J1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1054 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1054 and DTC:

B1047, GO to J2.

B1048, GO to J3.

B1049, GO to J4.

B1055, GO to J5.

B1057, GO to J6.

B1058, GO to J7.

B1059, GO to J8.

No : This is an intermittent fault. The fault condition is not present at this time. GO to J10.

J2 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS AND THE DRIVER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041a:
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041a pin 9,

- circuit 91S-JA37 (BK/GN), harness side.
- Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

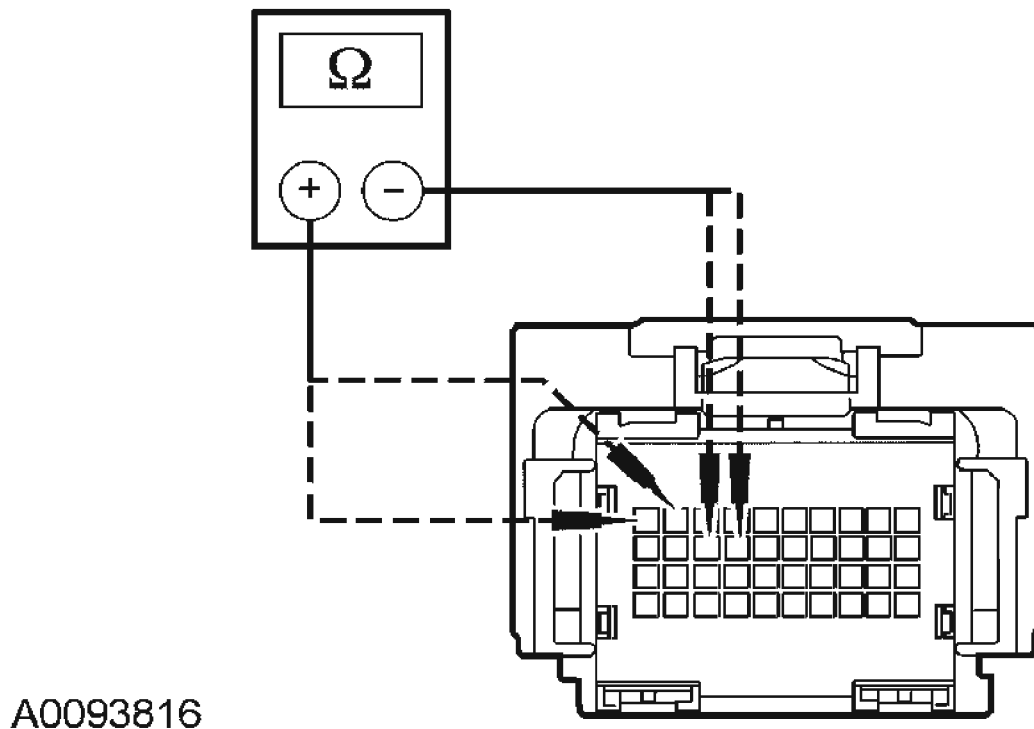


Fig. 35: Checking Resistance Between Driver Safety Belt Pretensioner Circuits And Driver Side Air Bag Module Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

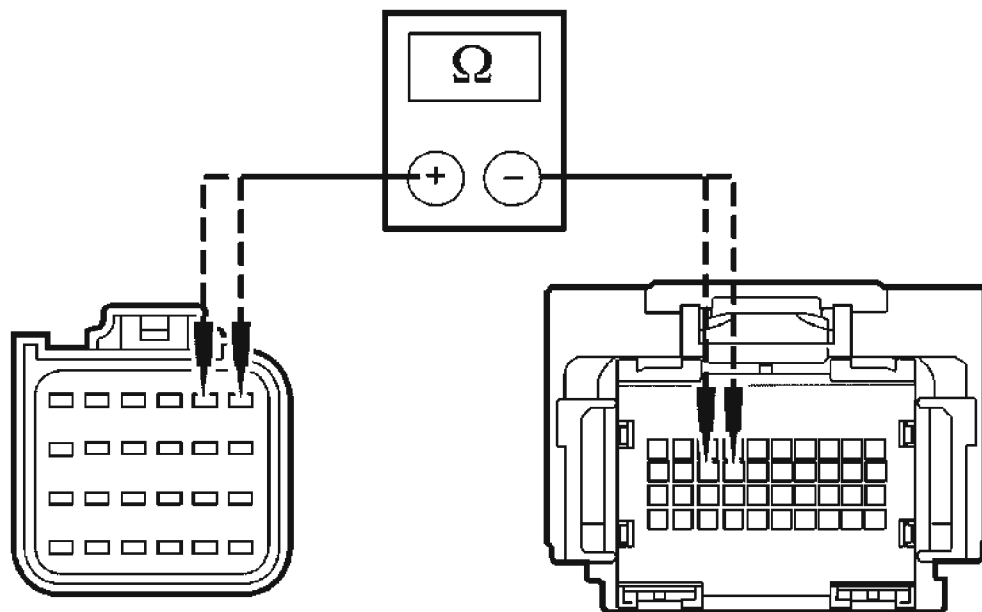
Yes : GO to J9.

No : REPAIR the affected circuits. GO to J11.

J3 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.

- Disconnect: Driver Safety Belt Pretensioner C323.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH) harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH) harness side.



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Fig. 36: Checking Resistance Between Driver Safety Belt Pretensioner Circuits And Passenger Air Bag Module Squib 1 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

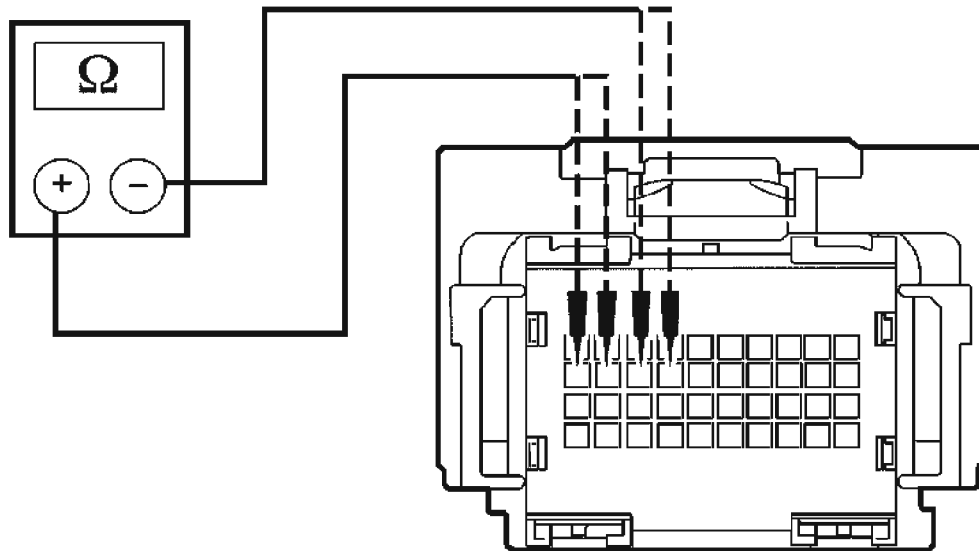
Yes : GO to J9.

No : REPAIR the affected circuits. GO to J11.

J4 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT

PRETENSIONER CIRCUITS AND THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041a:
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.



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Fig. 37: Checking Resistance Between Driver Safety Belt Pretensioner Circuits And Passenger Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

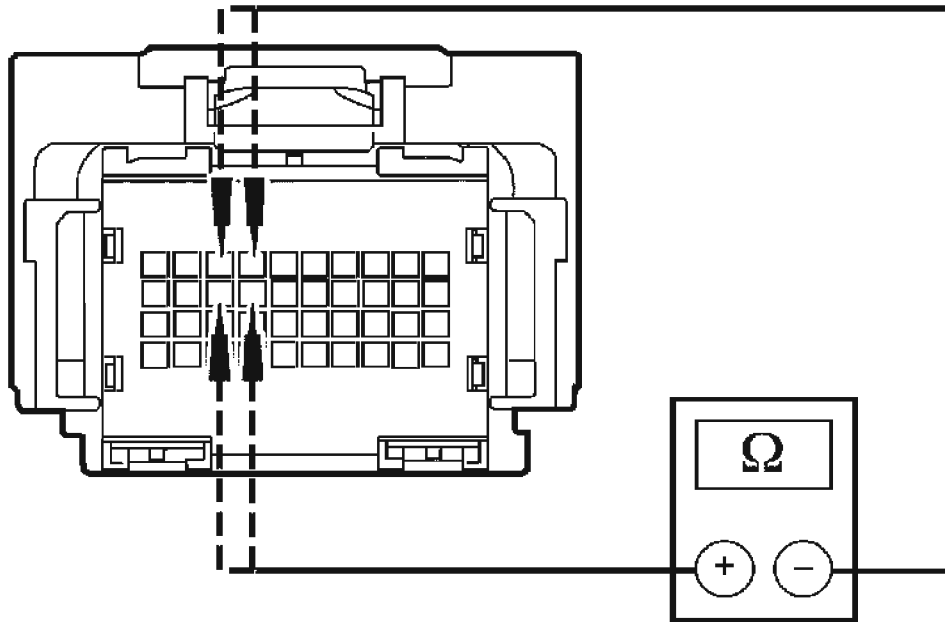
- Are the resistances greater than 1,000,000 ohms?

Yes : GO to J9.

No : REPAIR the affected circuits. GO to J11.

J5 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS AND THE PASSENGER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041a:
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.
 - Pin 17, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
 - Pin 17, circuit 15S-JA34 (GN/OG), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.



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Fig. 38: Checking Resistance Between Driver Safety Belt Pretensioner Circuits And Passenger Side Air Bag Module Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

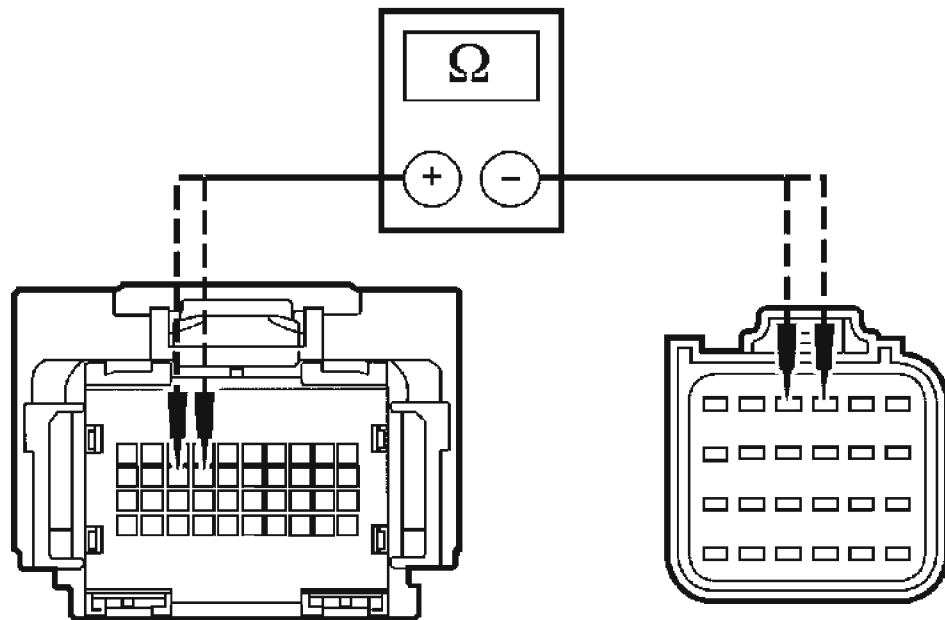
Yes : GO to J9.

No : REPAIR the affected circuits. GO to J11.

J6 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.

- Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
- Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.



A0094105

Fig. 39: Checking Resistance Between Driver Safety Belt Pretensioner Circuits And Driver Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

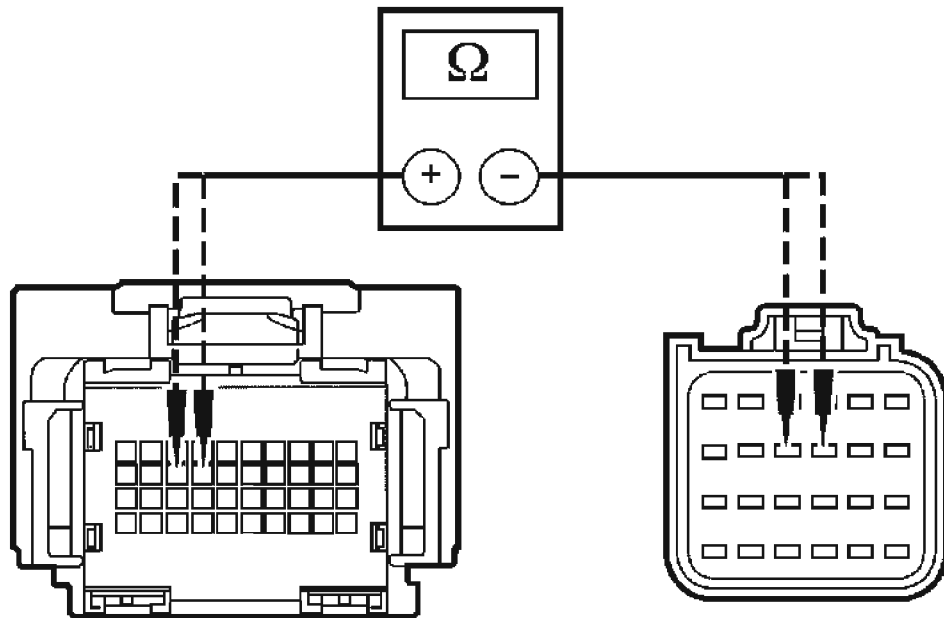
Yes : GO to J9.

No : REPAIR the affected circuits. GO to J11.

J7 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**

- Measure the resistance between RCM C2041a:
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.



A0094104

Fig. 40: Checking Resistance Between Driver Safety Belt Pretensioner Circuits And Driver Air Bag Module Squib 2 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to J9.

No : REPAIR the affected circuits. GO to J11.

J8 CHECK RESISTANCE BETWEEN THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041a:
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.

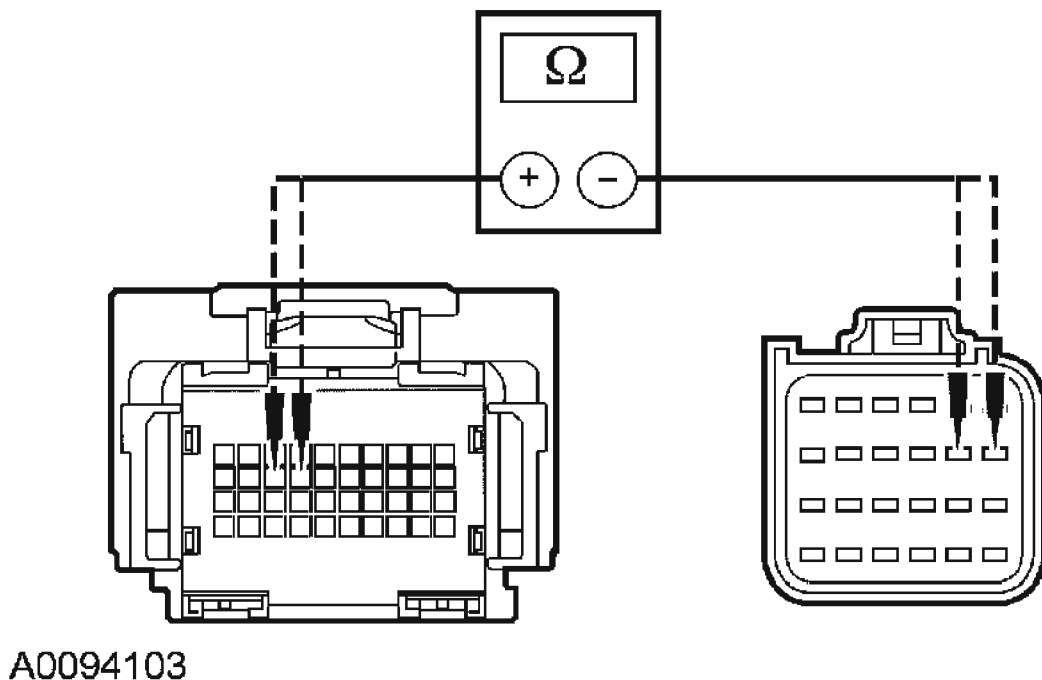


Fig. 41: Checking Resistance Between Driver Safety Belt Pretensioner Circuits And Passenger Air Bag Module Squib 2 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to J9.

No : REPAIR the affected circuits. GO to J11.

J9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector (If previously disconnected).
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e (If driver seat C311 previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e (If passenger seat C312 previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1054 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to J11.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to J11.

J10 CHECK FOR AN INTERMITTENT FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- If DTC B1047 is also present continuous:
 - Disconnect driver seat C311.
 - Connect restraint system diagnostic tools 501-109 to driver seat C311e.
- If DTC B1048 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1049 is also present continuous:
 - Disconnect the passenger safety belt pretensioner C303.
 - Connect restraint system diagnostic tool F418-395 to passenger safety belt pretensioner C303.
 - If DTC B1055 is also present continuous:
 - Disconnect passenger seat C312.
 - Connect restraint system diagnostic tool 501-109 to passenger seat C312e.
 - If DTC B1057 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
 - If DTC B1058 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
 - If DTC B1059 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
 - Repower the system. **Do not** prove out the system at this time. Refer to

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1054 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1054 and DTC:

B1047, GO to J2.

B1048, GO to J3.

B1049, GO to J4.

B1055, GO to J5.

B1057, GO to J6.

B1058, GO to J7.

B1059, GO to J8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to J11.

- **J11 CHECK FOR ADDITIONAL DTCs**

- Refer to the continuous DTCs recorded during Step J1.
- **Were any continuous DTCs retrieved during Step J1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test K: DTC B1055 - Passenger Side, Side Mount Air Bag Cross Link to Another Firing Loop

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link between the circuits of another deployable device. If the RCM detects a short between the circuits of the passenger side air bag module and another deployable device, it will store a diagnostic trouble code (DTC) B1055 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the passenger side air bag module and another deployable device can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST K: DTC B1055 - PASSENGER SIDE, SIDE MOUNT AIR BAG CROSS LINK TO ANOTHER FIRING LOOP

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

K1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1055 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1055 and DTC:

B1047, GO to K2.

B1048, GO to K3.

B1049, GO to K4.

B1054, GO to K5.

B1057, GO to K6.

B1058, GO to K7.

B1059, GO to K8.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to K10.

K2 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041a:
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041a pin 9,

- circuit 91S-JA37 (BK/GN), harness side.
- Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

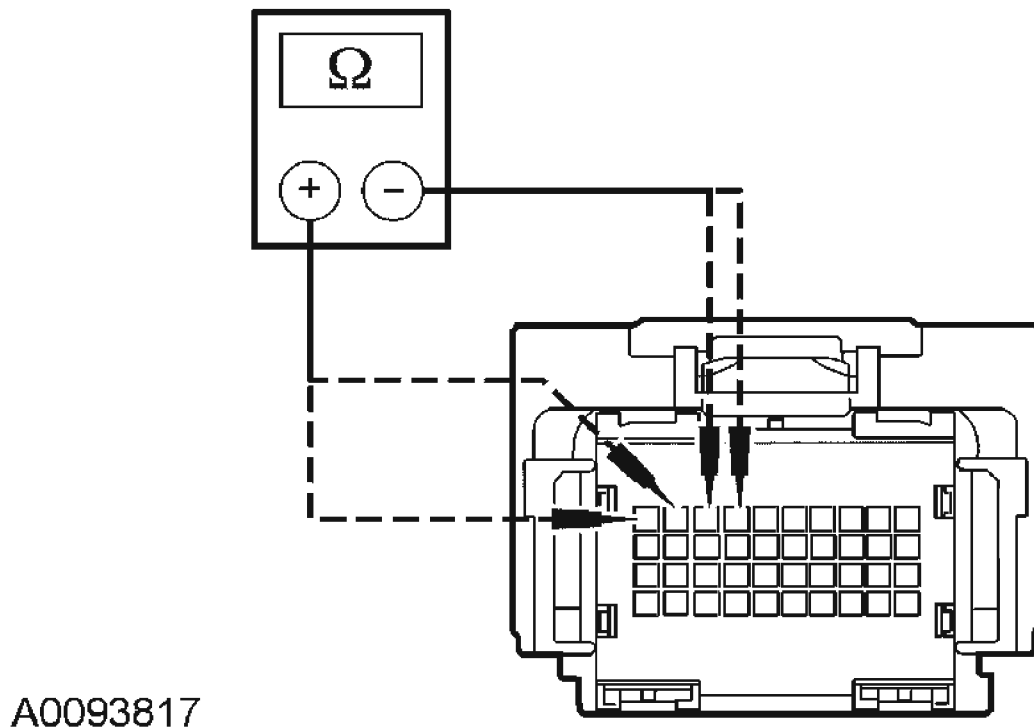


Fig. 42: Checking Resistance Between Passenger Side Air Bag Module Circuits And Driver Side Air Bag Module Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

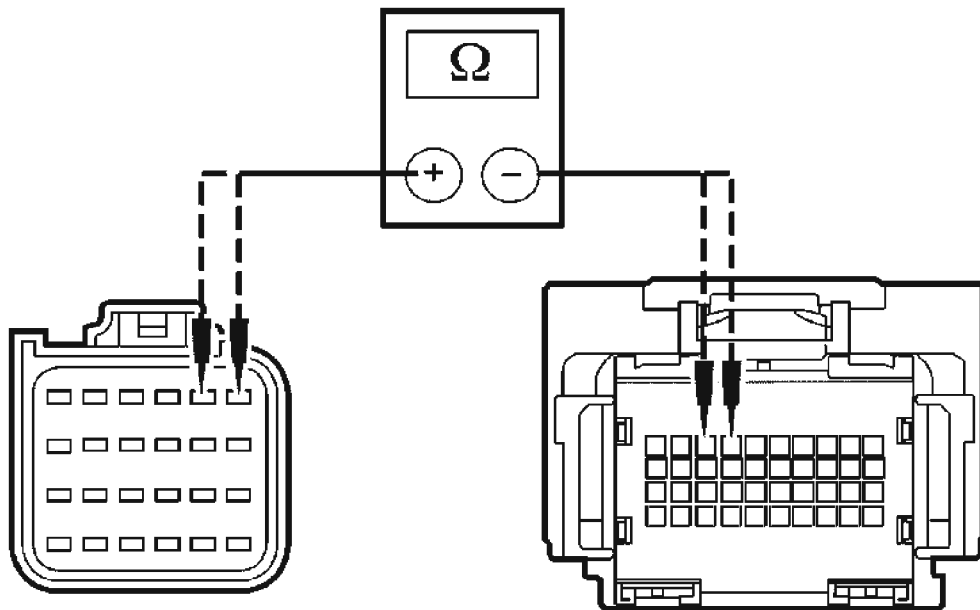
Yes : GO to K9.

No : REPAIR the affected circuits. GO to K11.

K3 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG MODULE CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.

- Disconnect: Passenger Seat C312.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH) harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH) harness side.



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Fig. 43: Checking Resistance Between Passenger Side Air Bag Module Circuits And Passenger Air Bag Module Squib 1 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

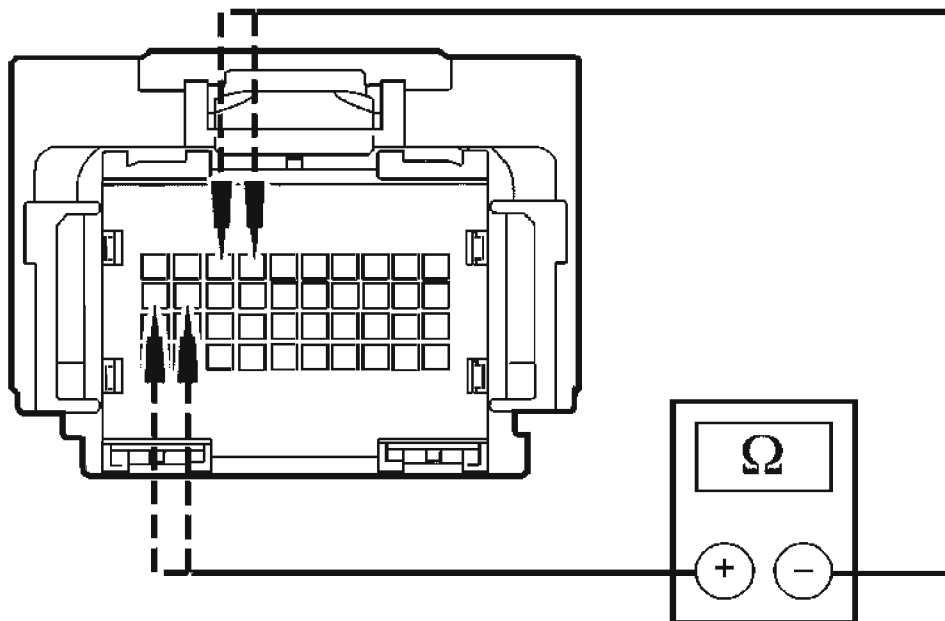
Yes : GO to K9.

No : REPAIR the affected circuits. GO to K11.

K4 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG

MODULE CIRCUITS AND THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041a:
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.



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Fig. 44: Checking Resistance Between Passenger Side Air Bag Module Circuits And Passenger Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

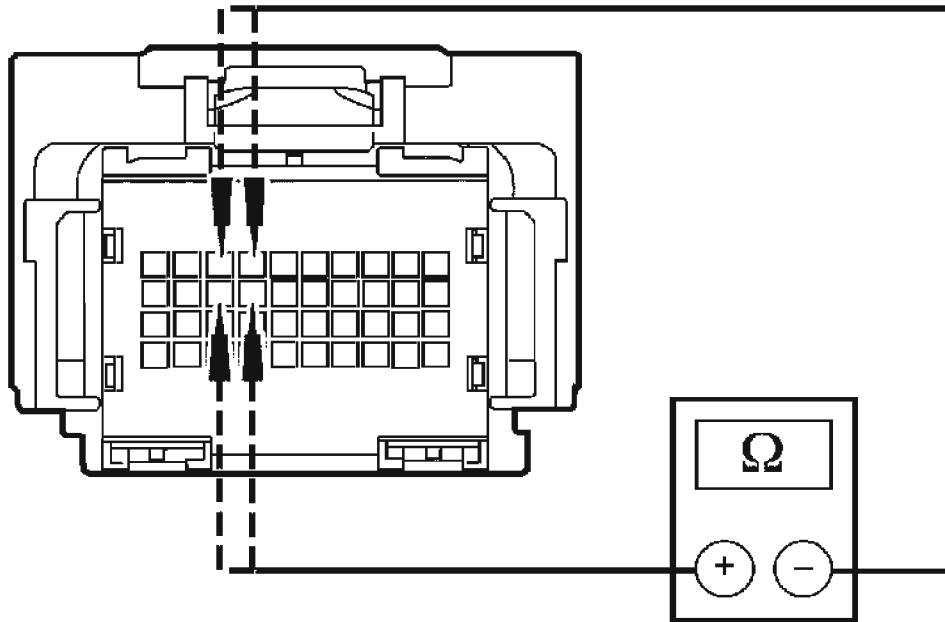
- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to K9.

No : REPAIR the affected circuits. GO to K11.

K5 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041a:
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU) harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.



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Fig. 45: Checking Resistance Between Passenger Side Air Bag Module Circuits And Driver Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to K9.

No : REPAIR the affected circuits. GO to K11.

K6 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.

- Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
- Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.

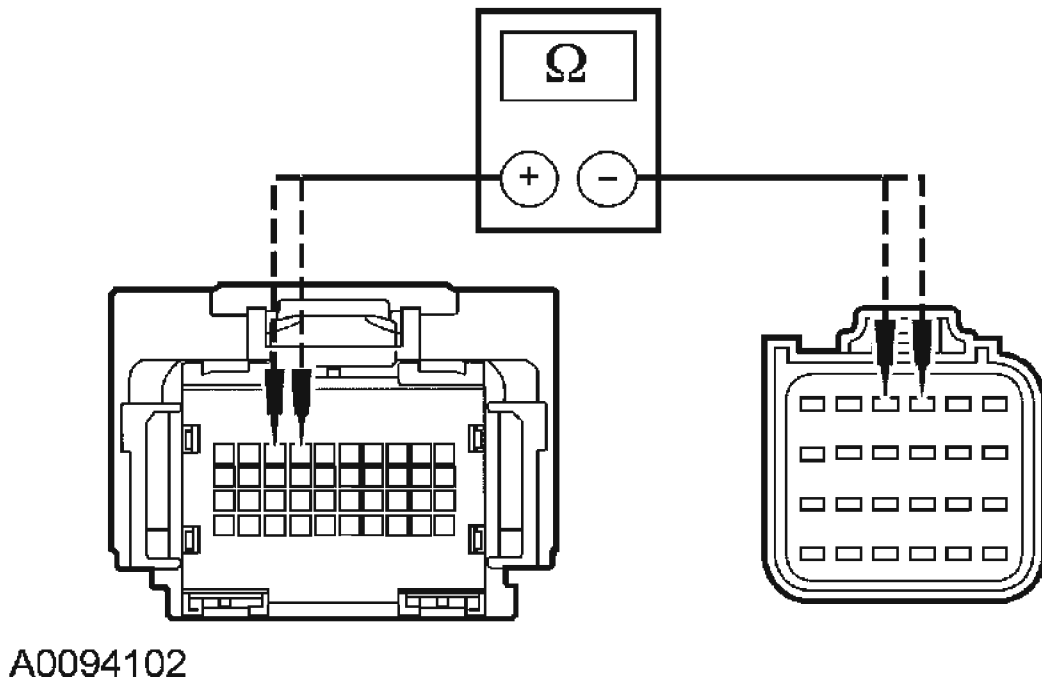


Fig. 46: Checking Resistance Between Passenger Side Air Bag Module Circuits And Driver Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to K9.

No : REPAIR the affected circuits. GO to K11.

K7 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Remove the driver air bag module. Refer to DRIVER AIR BAG MODULE.

- Measure the resistance between RCM C2041a:
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.

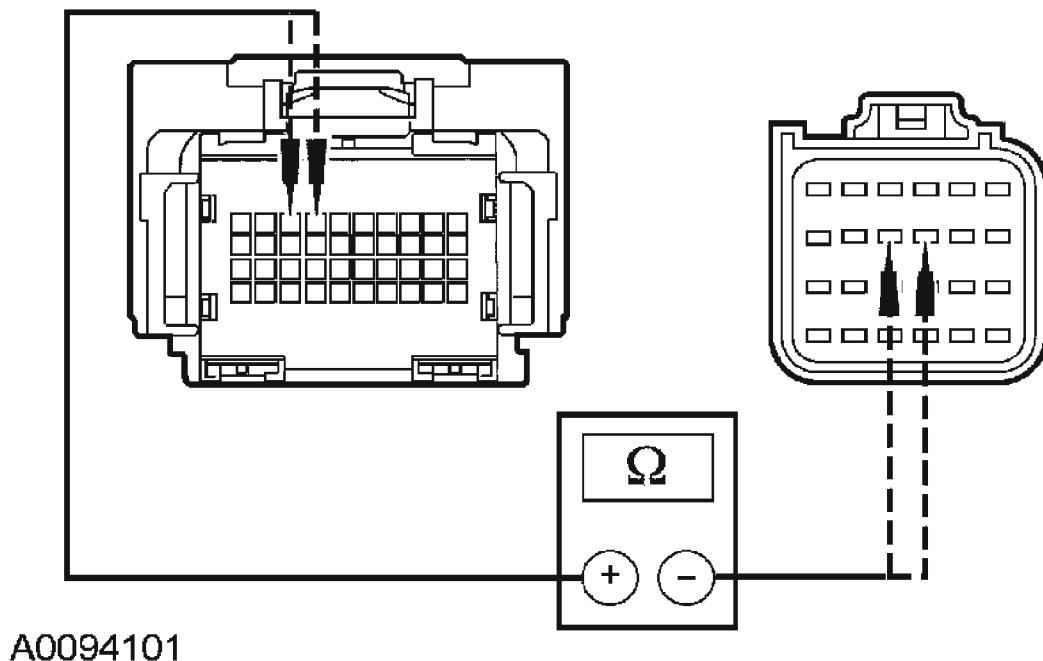


Fig. 47: Checking Resistance Between Passenger Side Air Bag Module Circuits And Driver Air Bag Module Squib 2 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?
 Yes : GO to K9.
 No : REPAIR the affected circuits. GO to K11.

K8 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG MODULE CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Disconnect: Passenger Seat C311.
- Measure the resistance between RCM C2041a:
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.

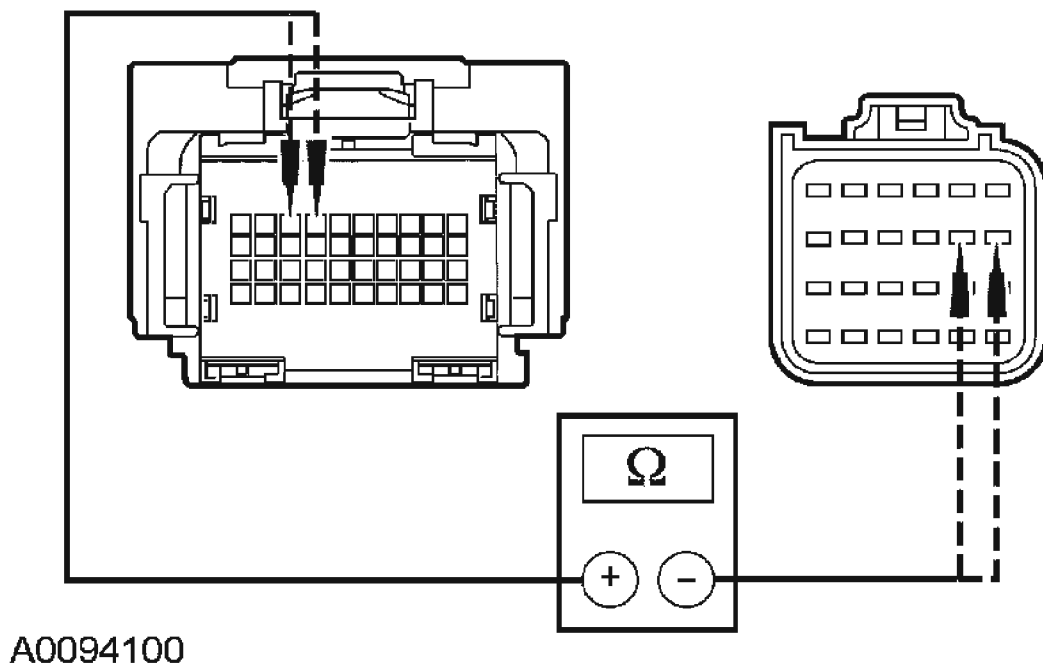


Fig. 48: Checking Resistance Between Passenger Side Air Bag Module Circuits And Passenger Air Bag Module Squib 2 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to K9.

No : REPAIR the affected circuits. GO to K11.

K9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector (If previously disconnected).
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e (If driver seat C311 previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323 (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1055 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to K11.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to K11.

K10 CHECK FOR AN INTERMITTENT FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e.
- If DTC B1047 is also present continuous:
 - Disconnect driver seat C311.
 - Connect restraint system diagnostic tools 501-109 to driver seat C311e.
- If DTC B1048 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1049 is also present continuous:
 - Disconnect the passenger safety belt pretensioner C303.
 - Connect restraint system diagnostic tool F418-395 to passenger safety belt pretensioner C303.
 - If DTC B1054 is also present continuous:
 - Disconnect the driver safety belt pretensioner C323.
 - Connect restraint system diagnostic tool F418-395 to driver safety belt pretensioner C323.
 - If DTC B1057 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
 - If DTC B1058 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
 - If DTC B1059 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
 - Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING**

AND REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1055 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1055 and DTC:

B1047, GO to K2.

B1048, GO to K3.

B1049, GO to K4.

B1054, GO to K5.

B1057, GO to K6.

B1058, GO to K7.

B1059, GO to K8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to K11.

- **K11 CHECK FOR ADDITIONAL DTCs**

- Refer to the continuous DTCs recorded during Step K1.

- **Were any continuous DTCs retrieved during Step K1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test L: DTC B1057 - Driver Air Bag Cross Link to Another Firing Loop

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link

between the circuits of another deployable device. If the RCM detects a short between the circuits of the driver air bag module squib 1 and another deployable device, it will store a diagnostic trouble code (DTC) B1057 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the driver air bag module squib 1 and another deployable device can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST L: DTC B1057 - DRIVER AIR BAG CROSS LINK TO ANOTHER FIRING LOOP

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

L1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1057 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1057 and DTC:

B1047, GO to L2.

B1048, GO to L3.

B1049, GO to L4.

B1054, GO to L5.

B1055, GO to L6.

B1058, GO to L7.

B1059, GO to L8.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to L10.

L2 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE DRIVER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041b:
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

- Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
- Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

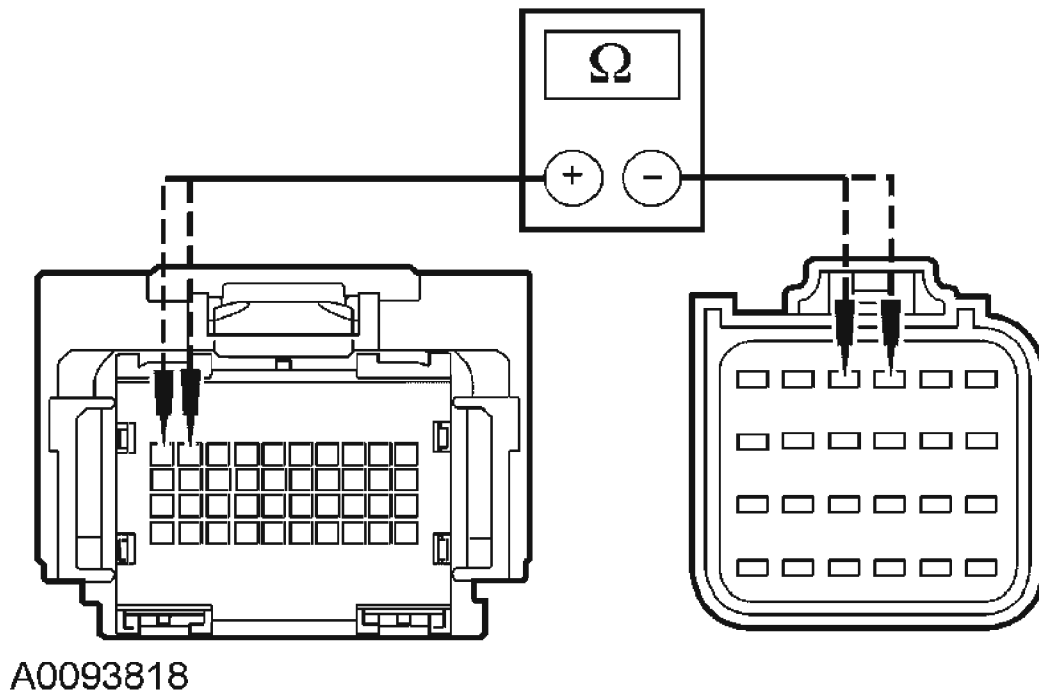


Fig. 49: Checking Resistance Between Driver Air Bag Module Squib 1 Circuits And Driver Side Air Bag Module Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to L9.

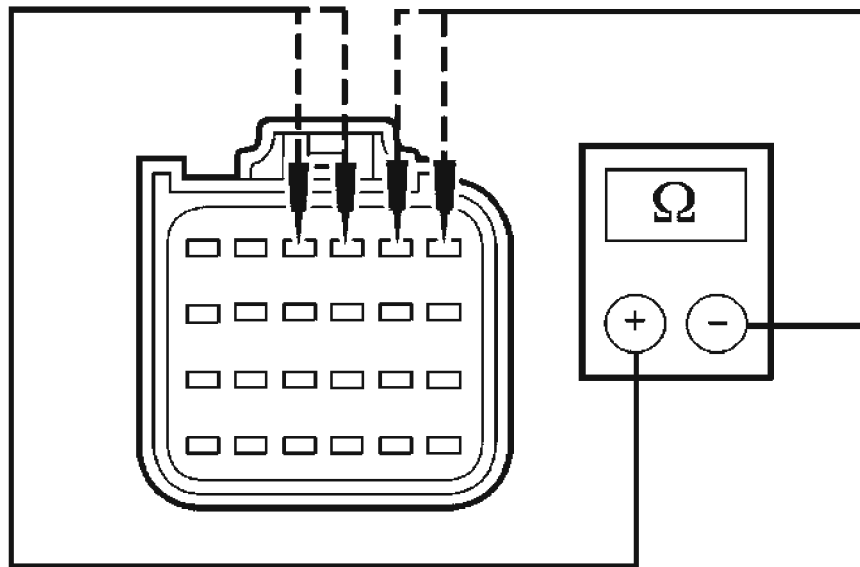
No : REPAIR the affected circuits. GO to L11.

L3 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG**

MODULE.

- Measure the resistance between RCM C2041b:
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH) harness side.
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.
 - Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
 - Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH) harness side.



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Fig. 50: Checking Resistance Between Driver Air Bag Module Squib 1 Circuits And Passenger Air Bag Module Squib 1 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to L9.

No : REPAIR the affected circuits. GO to L11.

L4 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Measure the resistance between RCM C2041b:
 - Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.

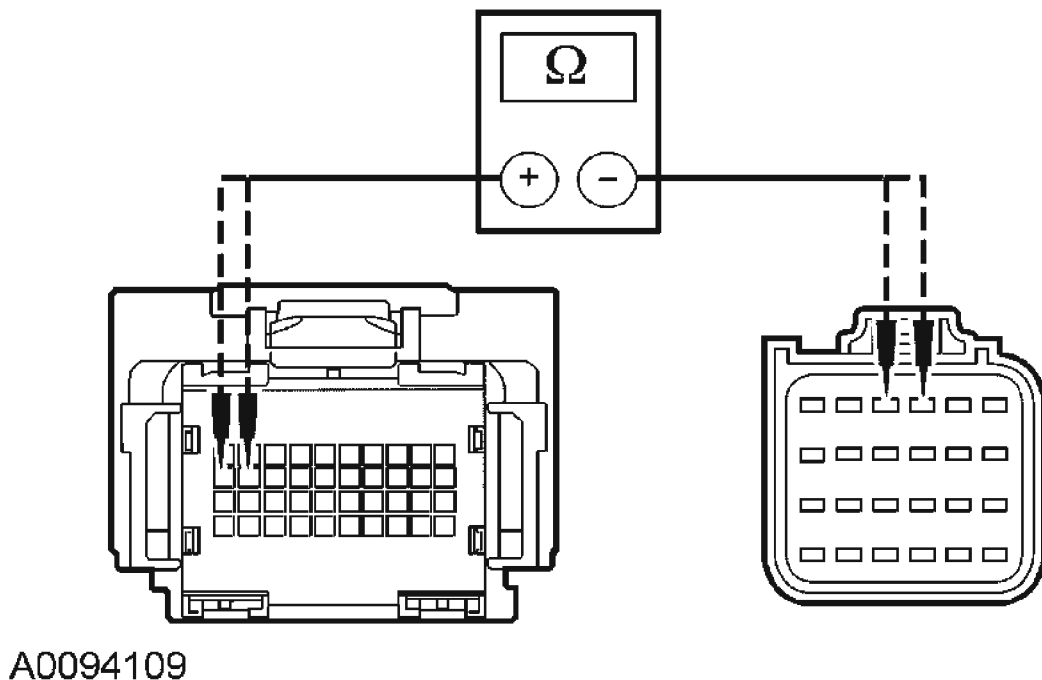


Fig. 51: Checking Resistance Between Driver Air Bag Module Squib 1 Circuits And Passenger Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to L9.

No : REPAIR the affected circuits. GO to L11.

L5 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041a:
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 18, circuit 91S-JA33 (BK/BU), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 17, circuit 15S-JA33 (GN/BU), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.

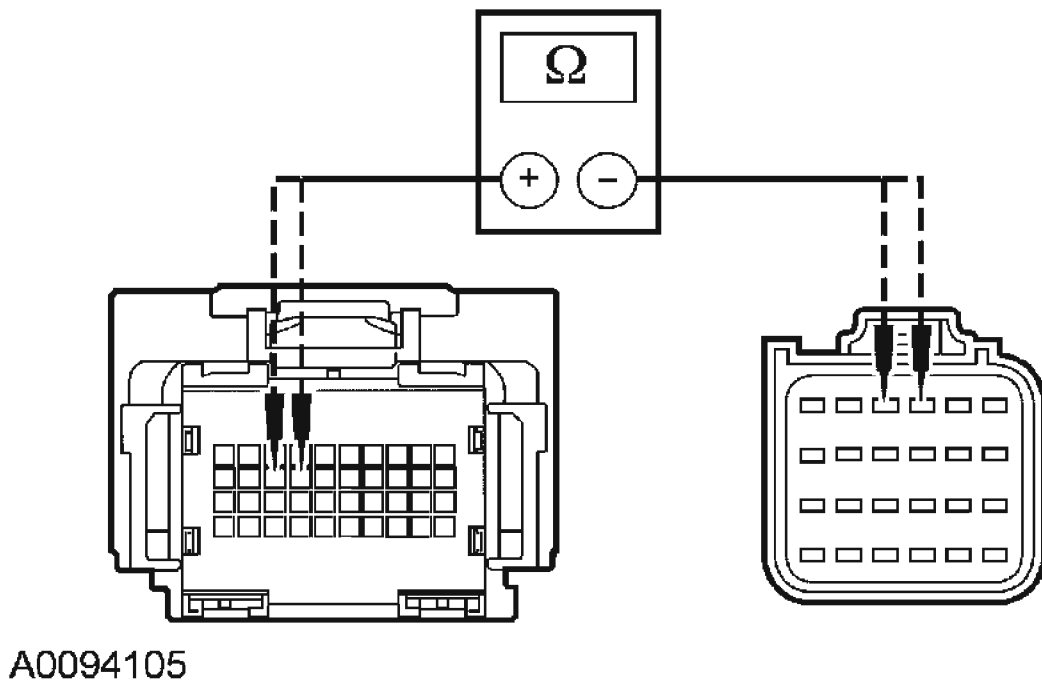


Fig. 52: Checking Resistance Between Driver Air Bag Module Squib 1 Circuits And Driver Safety Belt Pretensioner Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

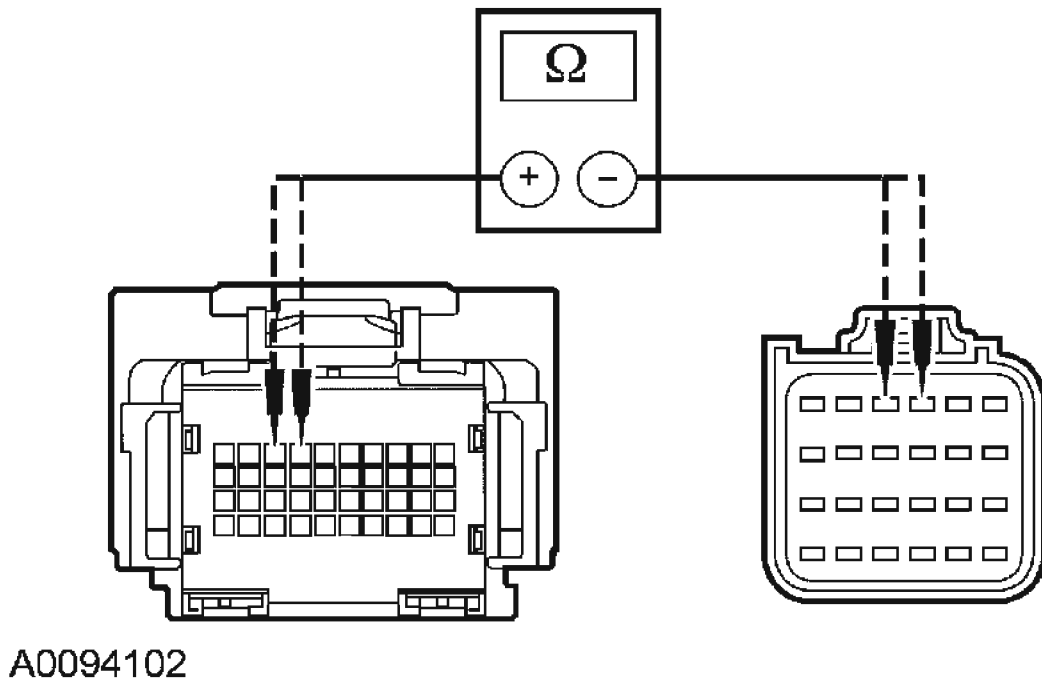
Yes : GO to L9.

No : REPAIR the affected circuits. GO to L11.

L6 CHECK RESISTANCE BETWEEN THE PASSENGER SIDE AIR BAG MODULE CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041a:
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 8, circuit 91S-JA38 (BK/RD), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.

- Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
- Pin 7, circuit 15S-JA38 (GN/OG), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.



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Fig. 53: Checking Resistance Between Passenger Side Air Bag Module Circuits And Driver Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

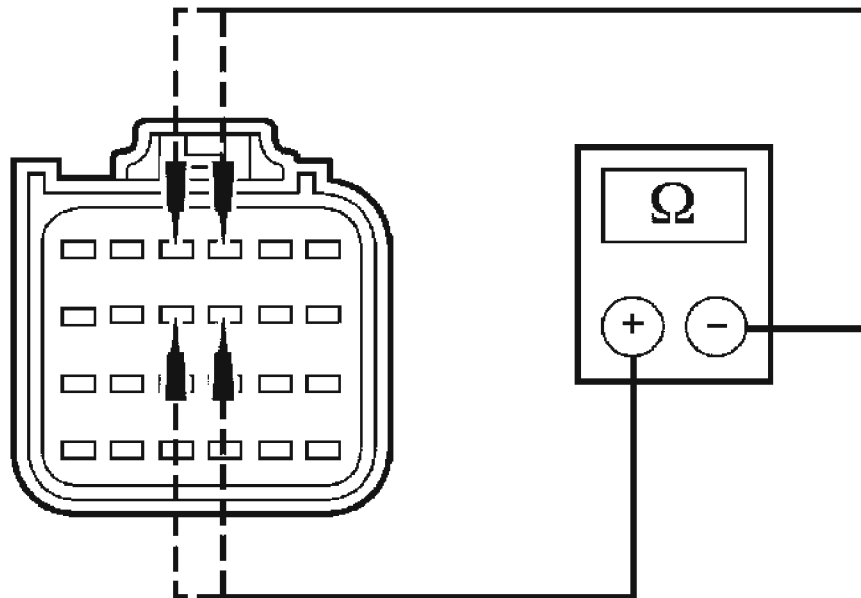
Yes : GO to L9.

No : REPAIR the affected circuits. GO to L11.

L7 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to DRIVER AIR BAG MODULE.
- Measure the resistance between RCM C2041b:

- Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
- Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.
- Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
- Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.



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Fig. 54: Checking Resistance Between Driver Air Bag Module Squib 1 Circuits And Driver Air Bag Module Squib 2 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to L9.

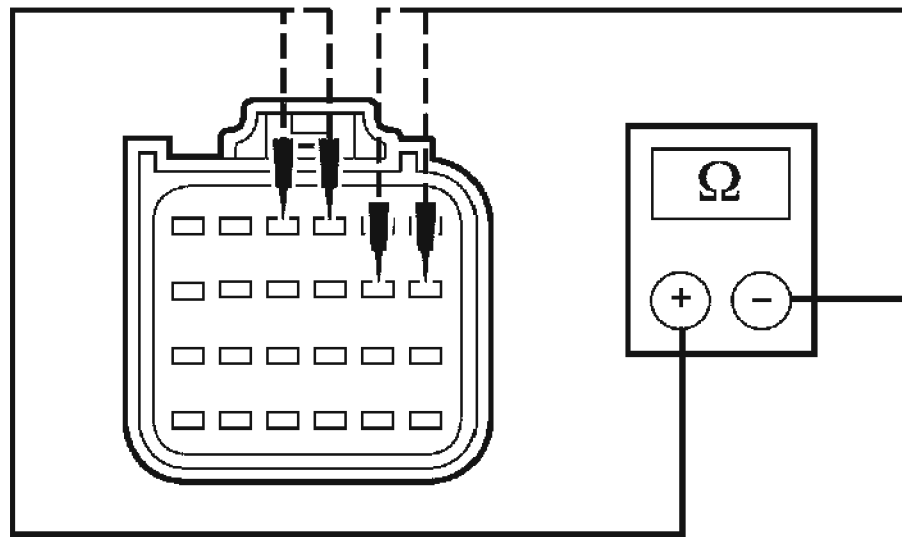
No : REPAIR the affected circuits. GO to L11.

L8 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM**

(SRS) DEPOWERING AND REPOWERING.

- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.
 - Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.



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Fig. 55: Checking Resistance Between Driver Air Bag Module Squib 1 Circuits And Passenger Air Bag Module Squib 2 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?
Yes : GO to L9.
No : REPAIR the affected circuits. GO to L11.

L9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e (If driver seat C311 previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e (If passenger seat C312 previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323 (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1057 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM).** GO to L11.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to L11.

L10 CHECK FOR AN INTERMITTENT FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- If DTC B1047 is also present continuous:
 - Disconnect driver seat C311.
 - Connect restraint system diagnostic tools 501-109 to driver seat C311e.
- If DTC B1048 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1049 is also present continuous:
 - Disconnect the passenger safety belt pretensioner C303.
 - Connect restraint system diagnostic tool F418-395 to passenger safety belt pretensioner C303.
 - If DTC B1054 is also present continuous:
 - Disconnect the driver safety belt pretensioner C323.
 - Connect restraint system diagnostic tool F418-395 to driver safety belt pretensioner C323.
 - If DTC B1055 is also present continuous:
 - Disconnect passenger seat C312.
 - Connect restraint system diagnostic tool 501-109 to passenger seat C312e.
 - If DTC B1058 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
 - If DTC B1059 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1057 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1057 and DTC:

B1047, GO to L2.

B1048, GO to L3.

B1049, GO to L4.

B1054, GO to L5.

B1055, GO to L6.

B1058, GO to L7.

B1059, GO to L8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to L11.

- **L11 CHECK FOR ADDITIONAL DTCs**

- Refer to the continuous DTCs recorded during Step L1.
- **Were any continuous DTCs retrieved during Step L1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test M: DTC B1058 - Driver Air Bag Cross Link to Another Firing Loop-Loop #2

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link between the circuits of another deployable device. If the RCM detects a short between the

circuits of the driver air bag module squib 2 and another deployable device, it will store a diagnostic trouble code (DTC) B1058 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the driver air bag module squib 2 and another deployable device can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST M: DTC B1058 - DRIVER AIR BAG CROSS LINK TO ANOTHER FIRING LOOP-LOOP #2

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

M1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before

releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1058 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1058 and DTC:

B1047, GO to M2.

B1048, GO to M3.

B1049, GO to M4.

B1054, GO to M5.

B1055, GO to M6.

B1057, GO to M7.

B1059, GO to M8.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to M10.

M2 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE DRIVER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041b:
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

- Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
- Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

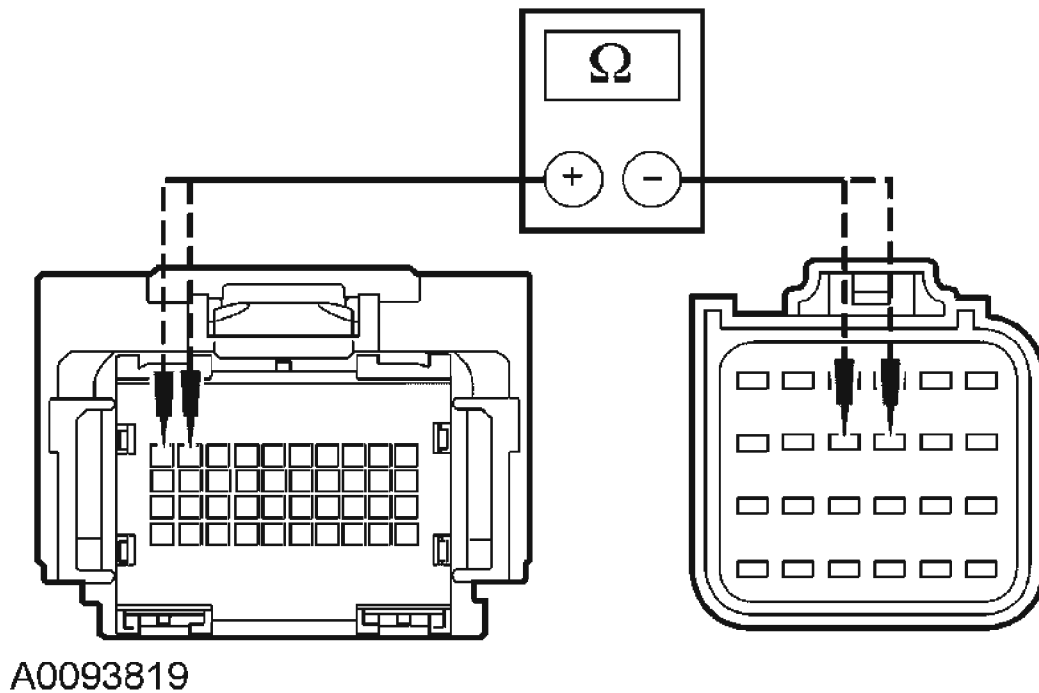


Fig. 56: Checking Resistance Between Driver Air Bag Module Squib 2 Circuits And Driver Side Air Bag Module Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to M9.

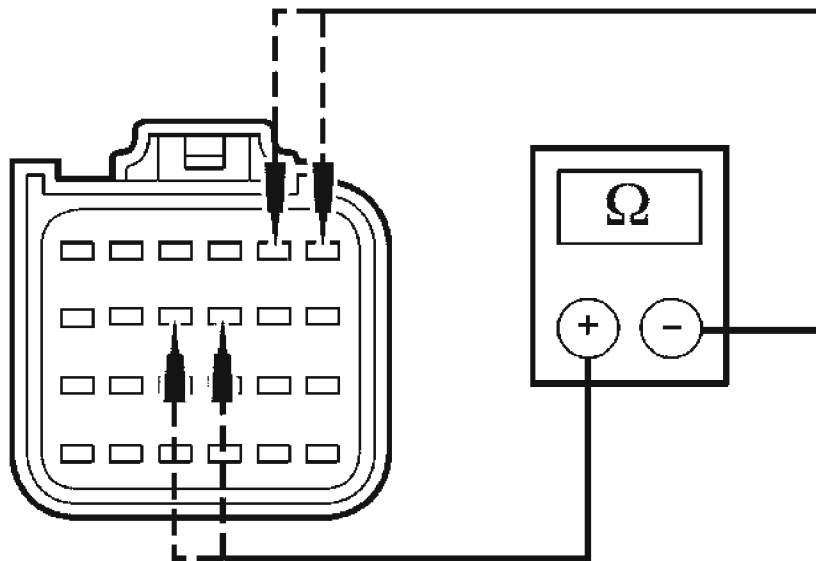
No : REPAIR the affected circuits. GO to M11.

M3 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG**

MODULE.

- Measure the resistance between RCM C2041b:
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH) harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH) harness side.



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Fig. 57: Checking Resistance Between Driver Air Bag Module Squib 2 Circuits And Passenger Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to M9.

No : REPAIR the affected circuits. GO to M11.

M4 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Measure the resistance between RCM C2041b:
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.

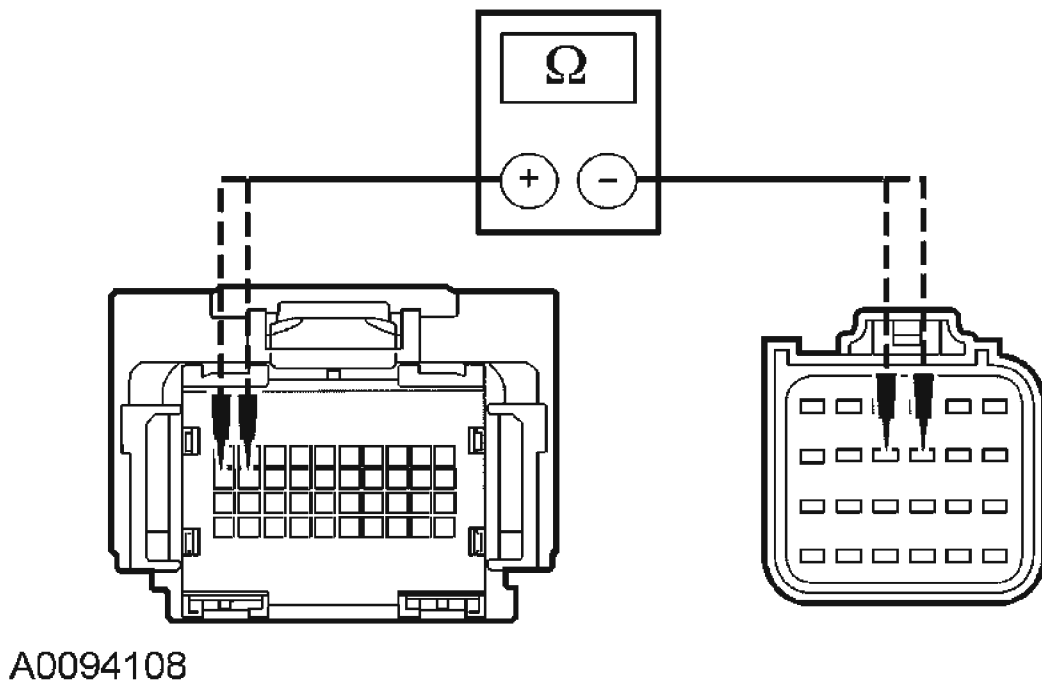


Fig. 58: Checking Resistance Between Driver Air Bag Module Squib 2 Circuits And Passenger Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to M9.

No : REPAIR the affected circuits. GO to M11.

M5 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041b:
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU) harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.

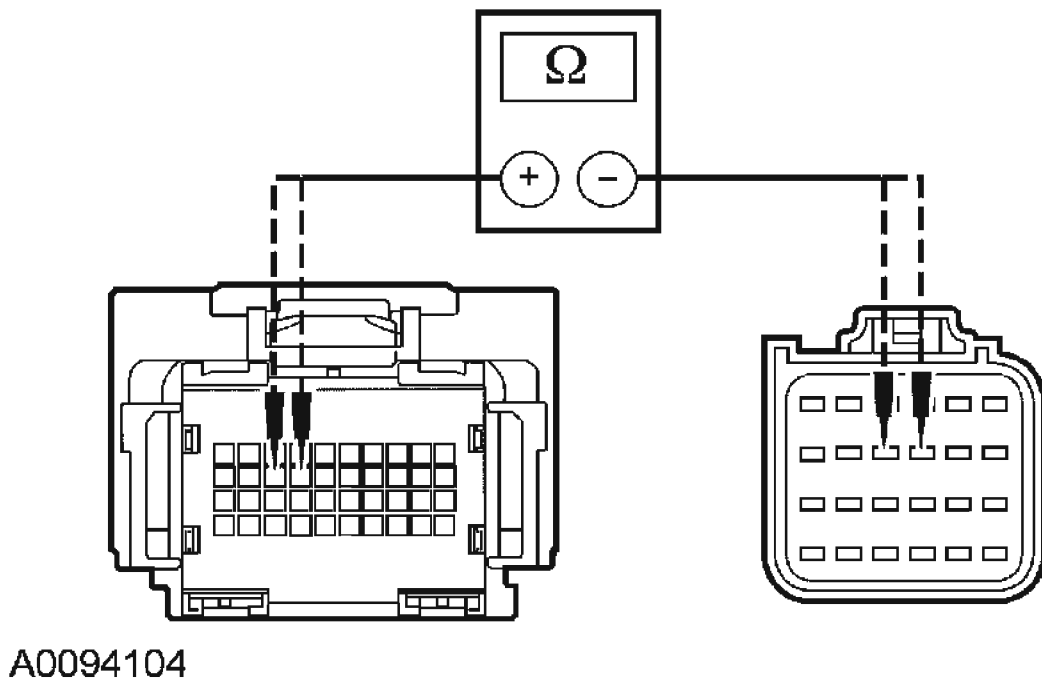


Fig. 59: Checking Resistance Between Driver Air Bag Module Squib 2 Circuits And Driver Safety Belt Pretensioner Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to M9.

No : REPAIR the affected circuits. GO to M11.

M6 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE PASSENGER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.

- Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
- Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.

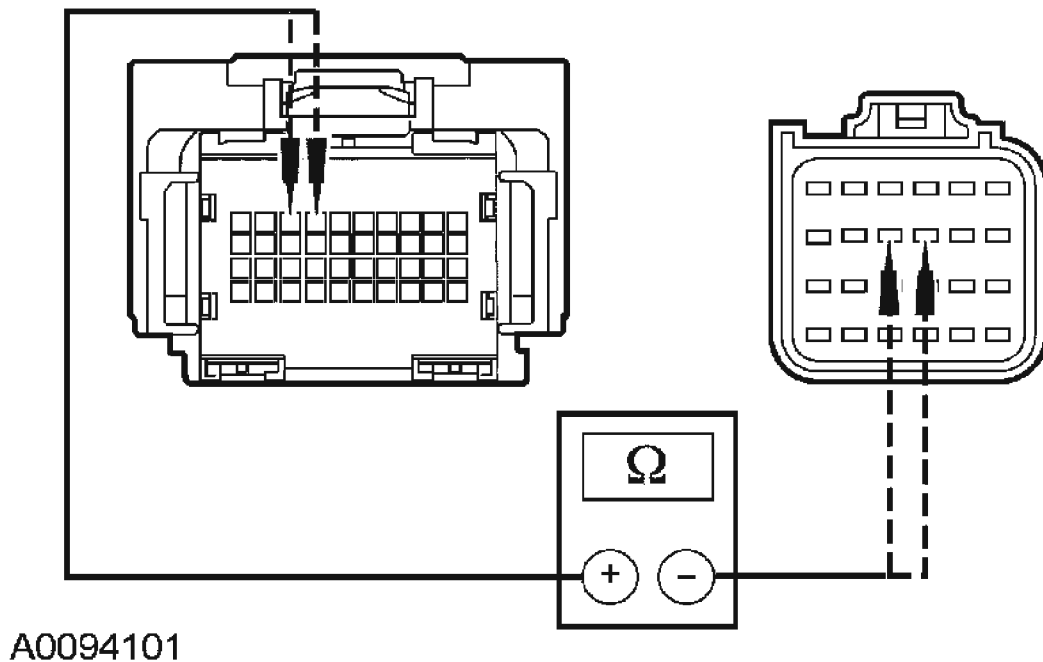


Fig. 60: Checking Resistance Between Driver Air Bag Module Squib 2 Circuits And Passenger Side Air Bag Module Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

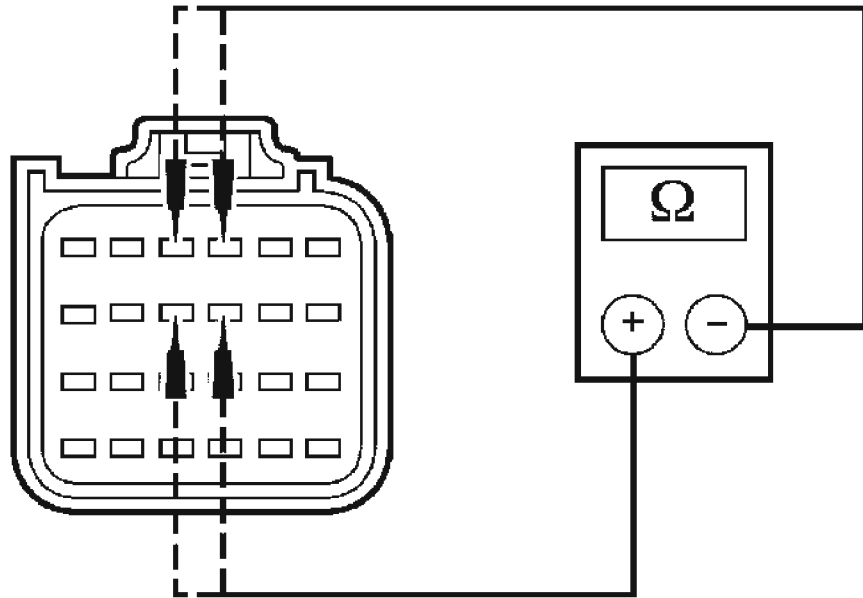
Yes : GO to M9.

No : REPAIR the affected circuits. GO to M11.

M7 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Measure the resistance between RCM C2041b:

- Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
- Pin 4, circuit 91S-JA8 (BK/OG), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.
- Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
- Pin 3, circuit 15S-JA8 (GN/RD), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.



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Fig. 61: Checking Resistance Between Driver Air Bag Module Squib 2 Circuits And Driver Air Bag Module Squib 1 Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to M9.

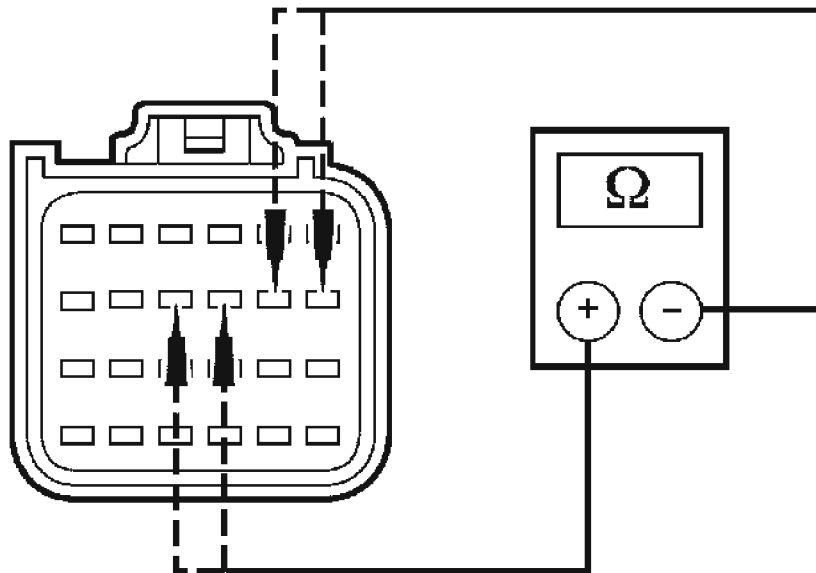
No : REPAIR the affected circuits. GO to M11.

M8 CHECK RESISTANCE BETWEEN THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM**

(SRS) DEPOWERING AND REPOWERING.

- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 10, circuit 91S-JA48 (BK/GN), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side.
 - Pin 9, circuit 15S-JA48 (GN/BK), harness side and RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side.



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Fig. 62: Checking Resistance Between Driver Air Bag Module Squib 2 Circuits And Passenger Air Bag Module Squib 2 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?
Yes : GO to M9.

No : REPAIR the affected circuits. GO to M11.

M9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Connect: Restraint System Diagnostic Tool 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e (If driver seat C311 previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e (If passenger seat C312 previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323 (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1058 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to M11.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to M11.

M10 CHECK FOR AN INTERMITTENT FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- If DTC B1047 is also present continuous:
 - Disconnect driver seat C311.
 - Connect restraint system diagnostic tools 501-109 to driver seat C311e.
- If DTC B1048 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1049 is also present continuous:
 - Disconnect the passenger safety belt pretensioner C303.
 - Connect restraint system diagnostic tool F418-395 to passenger safety belt pretensioner C303.
 - If DTC B1054 is also present continuous:
 - Disconnect the driver safety belt pretensioner C323.
 - Connect restraint system diagnostic tool F418-395 to driver safety belt pretensioner C323.
 - If DTC B1055 is also present continuous:
 - Disconnect passenger seat C312.
 - Connect restraint system diagnostic tool 501-109 to passenger seat C312e.
 - If DTC B1057 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
 - If DTC B1059 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
 - Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING**

AND REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1058 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1058 and DTC:

B1047, GO to M2.

B1048, GO to M3.

B1049, GO to M4.

B1054, GO to M5.

B1055, GO to M6.

B1057, GO to M7.

B1059, GO to M8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to M11.

- **M11 CHECK FOR ADDITIONAL DTCs**

- Refer to the continuous DTCs recorded during Step M1.

- **Were any continuous DTCs retrieved during Step M1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test N: DTC B1059 - Passenger Air Bag Cross Link to Another Firing Loop-Loop #2

Normal Operation

The restraints control module (RCM) monitors all the deployable devices for a cross link

between the circuits of another deployable device. If the RCM detects a short between the circuits of the passenger air bag module squib 2 and another deployable device, it will store a diagnostic trouble code (DTC) B1059 along with the DTC of the component it is cross linked to in memory and illuminate the air bag indicator.

Possible Causes

A cross link fault between the passenger air bag module squib 2 and another deployable device can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST N: DTC B1059 - PASSENGER AIR BAG CROSS LINK TO ANOTHER FIRING LOOP-LOOP #2

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

N1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1059 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1059 and DTC:

B1047, GO to N2.

B1048, GO to N3.

B1049, GO to N4.

B1054, GO to N5.

B1055, GO to N6.

B1057, GO to N7.

B1058, GO to N8.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to N10.

N2 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE DRIVER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041b:
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 9,

circuit 91S-JA37 (BK/GN), harness side.

- Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 10, circuit 15S-JA37 (GN/BK), harness side.
- Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 9, circuit 91S-JA37 (BK/GN), harness side.

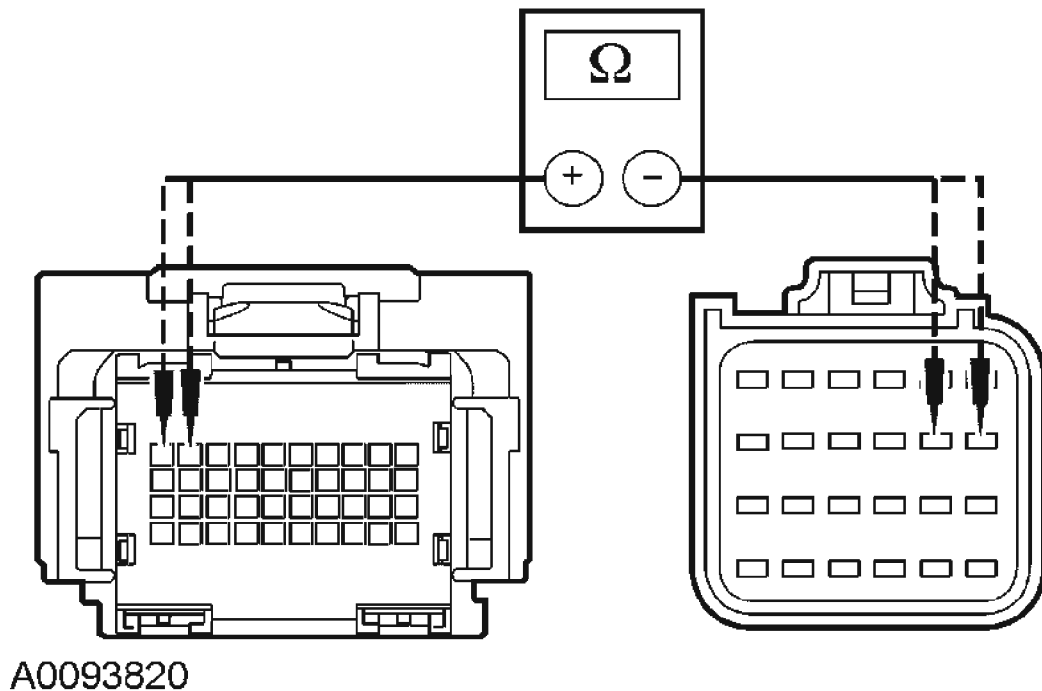


Fig. 63: Checking Resistance Between Passenger Air Bag Module Squib 2 Circuits And Driver Side Air Bag Module Squib 2
Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to N9.

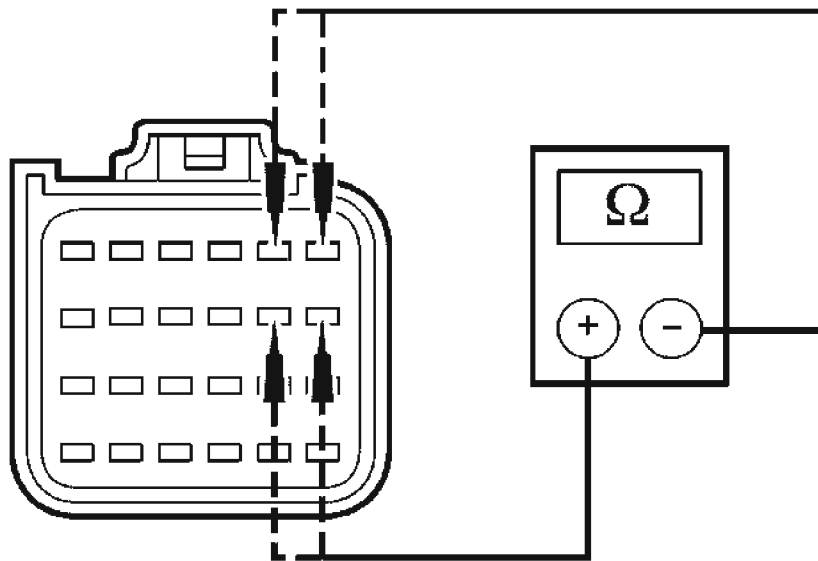
No : REPAIR the affected circuits. GO to N11.

N3 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE PASSENGER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG**

MODULE.

- Measure the resistance between RCM C2041b:
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH) harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041b pin 2, circuit 15S-JA31 (GN/WH), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041b pin 1, circuit 91S-JA31 (BK/WH) harness side.



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Fig. 64: Checking Resistance Between Passenger Air Bag Module Squib 2 Circuits And Passenger Air Bag Module Squib 1 Circuits
Courtesy of FORD MOTOR CO.

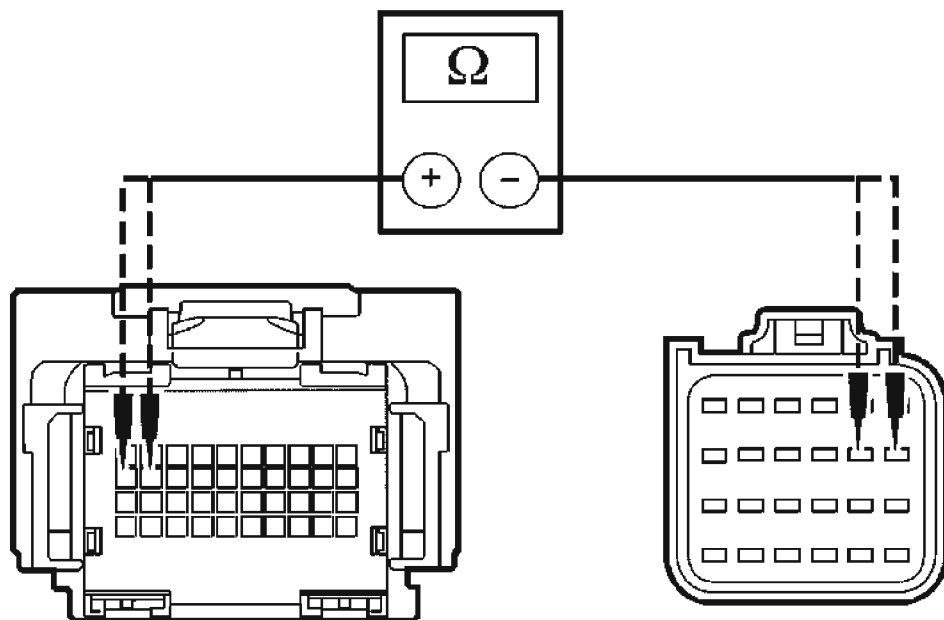
- Are the resistances greater than 1,000,000 ohms?

Yes : GO to N9.

No : REPAIR the affected circuits. GO to N11.

N4 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Measure the resistance between RCM C2041b:
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 20, circuit 15S-JA34 (GN/OG), harness side.



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Fig. 65: Checking Resistance Between Passenger Air Bag Module Squib 2 Circuits And Passenger Safety Belt Pretensioner Circuits
Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to N9.

No : REPAIR the affected circuits. GO to N11.

N5 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
- Disconnect: Driver Safety Belt Pretensioner C323.
- Measure the resistance between RCM C2041b:
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU) harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side.

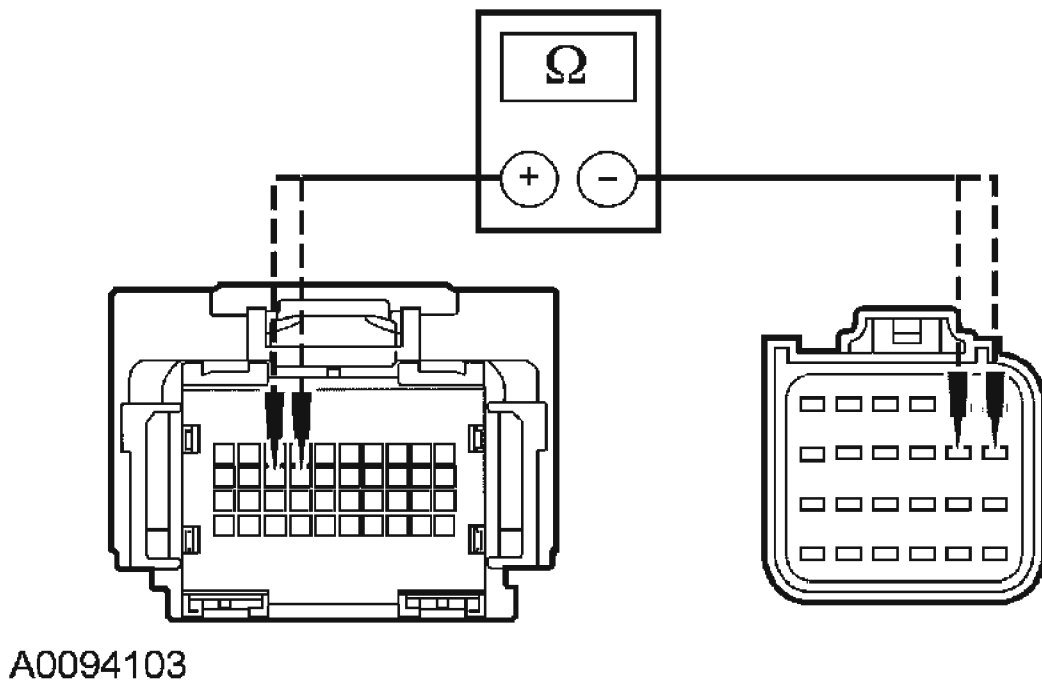


Fig. 66: Checking Resistance Between Passenger Air Bag Module Squib 2 Circuits And Driver Safety Belt Pretensioner Circuits
 Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to N9.

No : REPAIR the affected circuits. GO to N11.

N6 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE PASSENGER SIDE AIR BAG MODULE CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 8,

circuit 91S-JA38 (BK/RD), harness side.

- Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.
- Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side.

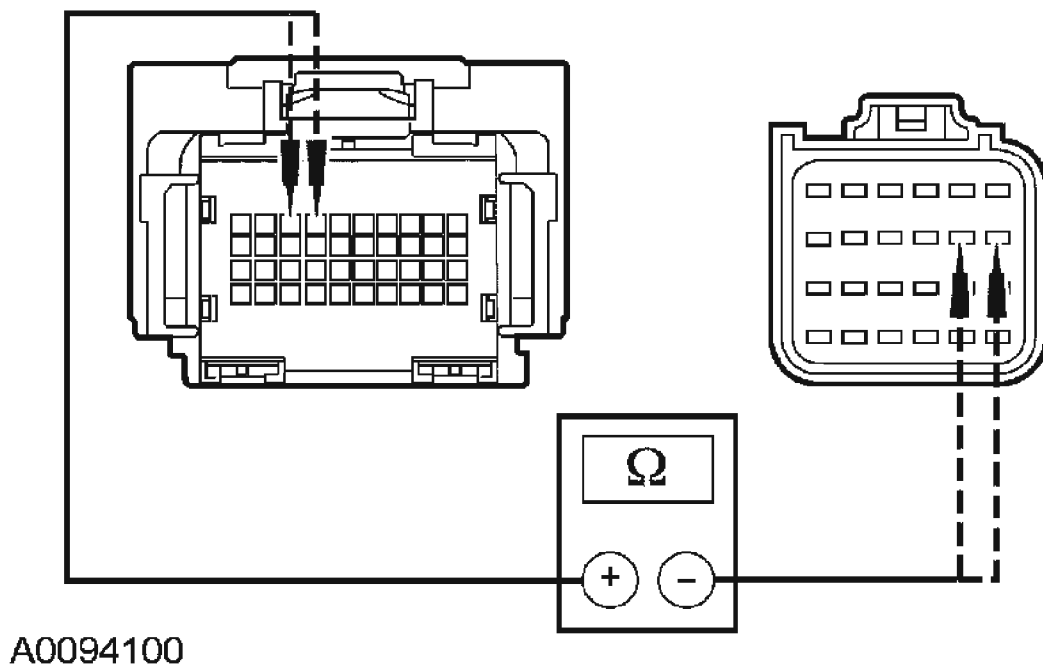


Fig. 67: Checking Resistance Between Passenger Air Bag Module Squib 2 Circuits And Passenger Side Air Bag Module Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

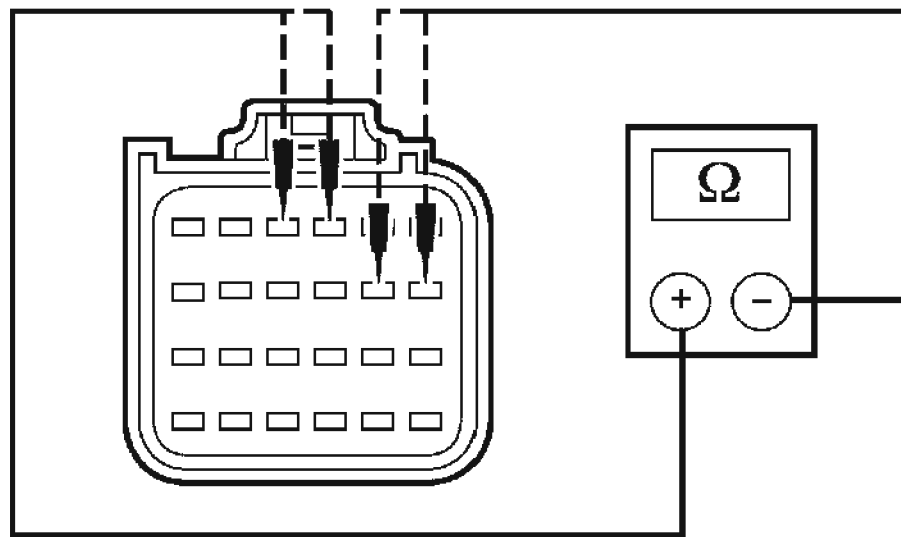
Yes : GO to N9.

No : REPAIR the affected circuits. GO to N11.

N7 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 1 CIRCUITS

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.

- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side.



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Fig. 68: Checking Resistance Between Passenger Air Bag Module Squib 2 Circuits And Driver Air Bag Module Squib 1 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

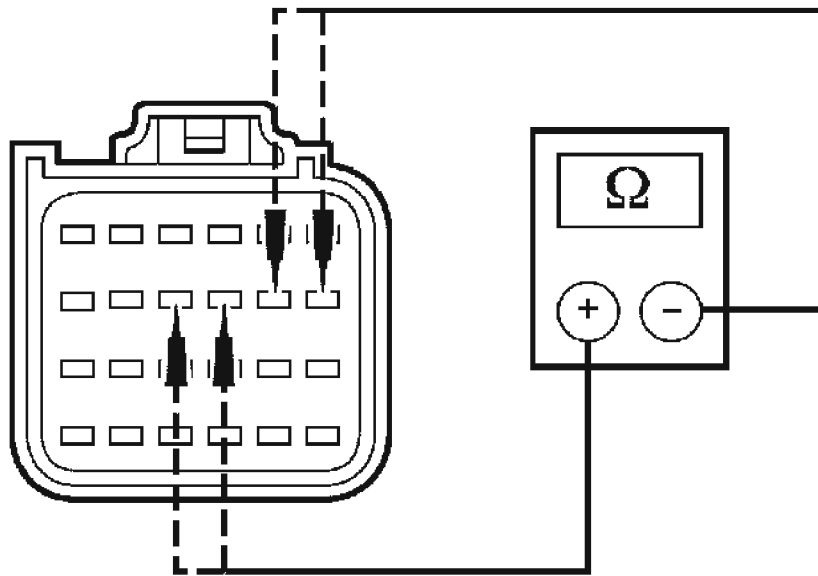
Yes : GO to N9.

No : REPAIR the affected circuits. GO to N11.

N8 CHECK RESISTANCE BETWEEN THE PASSENGER AIR BAG MODULE SQUIB 2 CIRCUITS AND THE DRIVER AIR BAG MODULE SQUIB 2 CIRCUITS

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Measure the resistance between RCM C2041b:
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 7, circuit 91S-JA32 (BK/YE), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side.
 - Pin 8, circuit 15S-JA32 (GN/YE), harness side and RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side.



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Fig. 69: Checking Resistance Between Passenger Air Bag Module Squib 2 Circuits And Driver Air Bag Module Squib 2 Circuits
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to N9.

No : REPAIR the affected circuits. GO to N11.

N9 CONFIRM THE RCM FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector (If previously disconnected).
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) To Passenger Air Bag Module C256a and C256b.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e (If driver seat C311 previously disconnected).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e (If passenger seat C312 previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323 (If previously disconnected).
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1059 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to N11.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to N11.

N10 CHECK FOR AN INTERMITTENT FAULT

NOTE: When the driver seat C311 or passenger seat C312 is disconnected and restraint system diagnostic tool is installed at C311e or C312e additional DTCs will be set and system prove out will not be possible. All DTCs must be cleared before the vehicle is returned to service.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 Req'd) To Passenger Air Bag Module C256a and C256b.
- If DTC B1047 is also present continuous:
 - Disconnect driver seat C311.
 - Connect restraint system diagnostic tools 501-109 to driver seat C311e.
- If DTC B1048 is also present continuous:
 - Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
 - Connect restraint system diagnostic tools 418-F395 (2 required) to passenger air bag module C256a and C256b.
- If DTC B1049 is also present continuous:
 - Disconnect the passenger safety belt pretensioner C303.
 - Connect restraint system diagnostic tool F418-395 to passenger safety belt pretensioner C303.
- If DTC B1054 is also present continuous:
 - Disconnect the driver safety belt pretensioner C323.
 - Connect restraint system diagnostic tool F418-395 to driver safety belt pretensioner C323.
- If DTC B1055 is also present continuous:
 - Disconnect passenger seat C312.
 - Connect restraint system diagnostic tool 501-109 to passenger seat C312e.
- If DTC B1057 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- If DTC B1058 is also present continuous:
 - Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
 - Connect restraint system diagnostic tool 501-110 to driver air bag module electrical connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND**

REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1059 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1059 and DTC:

B1047, GO to N2.

B1048, GO to N3.

B1049, GO to N4.

B1054, GO to N5.

B1055, GO to N6.

B1057, GO to N7.

B1058, GO to N8.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to N11.

N11 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step N1.
- **Were any continuous DTCs retrieved during Step N1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test O: DTC B1868 - Lamp Air Bag Warning Indicator Circuit Failure

Normal Operation

During normal operation, the air bag warning indicator will illuminate continuously for

approximately 6 seconds and then go out after the ignition switch is placed in the ON position and no air bag fault exists. Control of the air bag warning indicator is a function of the instrument cluster module based on information it receives from the restraints control module (RCM) over the HS-CAN. The default mode for the air bag warning indicator is on. The RCM sends a message to the instrument cluster module to turn the indicator off if no air bag fault exists. If the RCM detects a problem with the supplemental restraints system it will send a message to the instrument cluster module to turn the air bag indicator warning lamp on.

If the instrument cluster module detects a problem with the air bag warning indicator it will send a fault message to the RCM and the RCM will store diagnostic trouble code (DTC) B1868 in memory.

Possible Causes

An lamp air bag warning indicator circuit failure can be caused by one of the following:

- A faulted instrument cluster.
- A faulted RCM.

PINPOINT TEST O: DTC B1868 - LAMP AIR BAG WARNING INDICATOR CIRCUIT FAILURE

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

O1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air

bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• Was DTC B1868 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to O2.

No : This is an intermittent fault. The fault condition is not present at this time. CHECK the instrument cluster module for DTCs and REPAIR as needed. Refer to **INSTRUMENT CLUSTER** . GO to O4.

O2 CHECK THE INSTRUMENT CLUSTER MODULE

- Enter the following diagnostic mode on the scan tool: Instrument Cluster Module Active Command - Warning Lamps.
- **Does the air bag warning indicator turn on and off when using the active command?**

Yes : GO to O3.

No : Refer to **INSTRUMENT CLUSTER** . GO to O4.

O3 CHECK THE RCM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Instrument Cluster Module C2220.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1868 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS**

CONTROL MODULE (RCM). GO to O4.

No : INSTALL a new instrument cluster module. Refer to **INSTRUMENT CLUSTER** . GO to O4.

O4 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step O1.
- **Were any continuous DTCs retrieved during Step O1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test P: DTC B1877/B1885 - Seat Belt Driver Pretensioner Circuit Open Fault/Seat Belt Driver Pretensioner Circuit Resistance Low On Squib Fault

Normal Operation

The restraints control module (RCM) checks all of the safety belt pretensioners for faults. If the RCM detects a low resistance or open on the driver safety belt pretensioner circuits, it will store diagnostic trouble code (DTC) B1877 or B1885 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Low resistance.
- Circuit open.

Possible Causes

A driver safety belt pretensioner circuit open/driver safety belt pretensioner circuit low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty pretensioner.
- A faulted RCM.

PINPOINT TEST P: DTC B1877/B1885 - SEAT BELT DRIVER PRETENSIONER CIRCUIT OPEN FAULT/SEAT BELT DRIVER PRETENSIONER CIRCUIT LOW RESISTANCE ON SQUIB FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

P1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• **Was DTC B1877 or B1885 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to P2.

No : This is an intermittent fault. The fault condition is not present at this time.

GO to P7.

P2 CHECK THE DRIVER SAFETY BELT PRETENSIONER CIRCUITS RESISTANCE

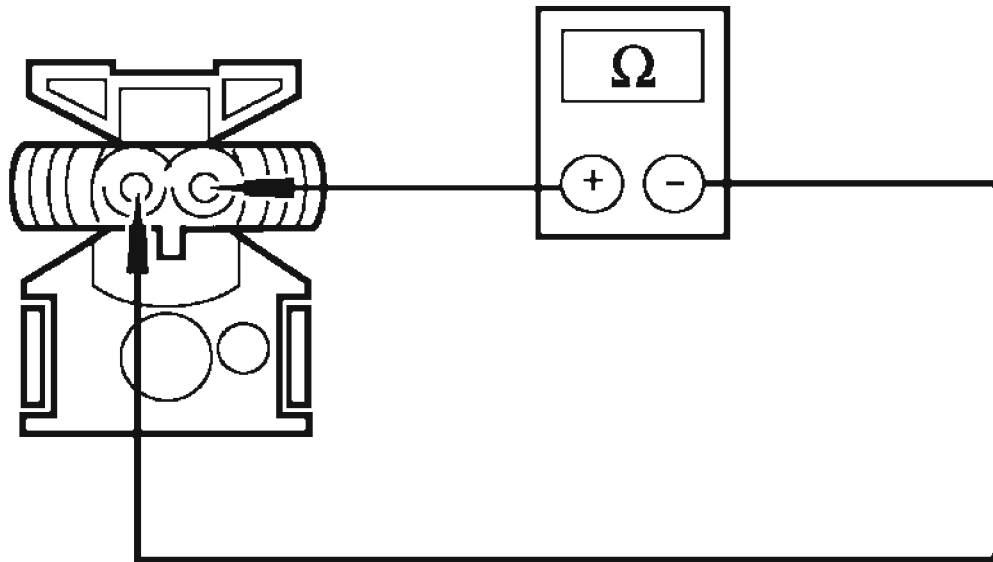
- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1877 or B1885 retrieved during the on-demand self test?**
Yes : For DTC B1877, GO to P4.

For DTC B1885, GO to P3.

No : INSTALL a new driver safety belt pretensioner. Refer to **SAFETY BELT SYSTEM** . GO to P8.

P3 CHECK THE DRIVER SAFETY BELT PRETENSIONER CIRCUIT 91S-JA33 (BK/BU) AND CIRCUIT 15S-JA33 (GN/BU) FOR LOW RESISTANCE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Driver Safety Belt Pretensioner C323.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between driver safety belt pretensioner C323 pin 1, circuit 15S-JA33 (GN/BU), harness side and pin 2, circuit 91S-JA33 (BK/BU), harness side.



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Fig. 70: Checking Driver Safety Belt Pretensioner Circuit 91S-JA33 (BK/BU) And Circuit 15S-JA33 (GN/BU) For Low Resistance
Courtesy of FORD MOTOR CO.

- Is the resistance greater than 1,000,000 ohms?

Yes : GO to P6.

No : REPAIR circuit 91S-JA33 (BK/BU) and circuit 15S-JA33 (GN/BU). GO to P8.

P4 CHECK CIRCUIT 91S-JA33 (BK/BU) FOR AN OPEN

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Restraint System Diagnostic Tool From Driver Safety Belt Pretensioner C323.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041a pin 18, circuit 91S-JA33 (BK/BU), harness side and driver safety belt pretensioner C323 pin 2, circuit 91S-JA33 (BK/BU), harness side.

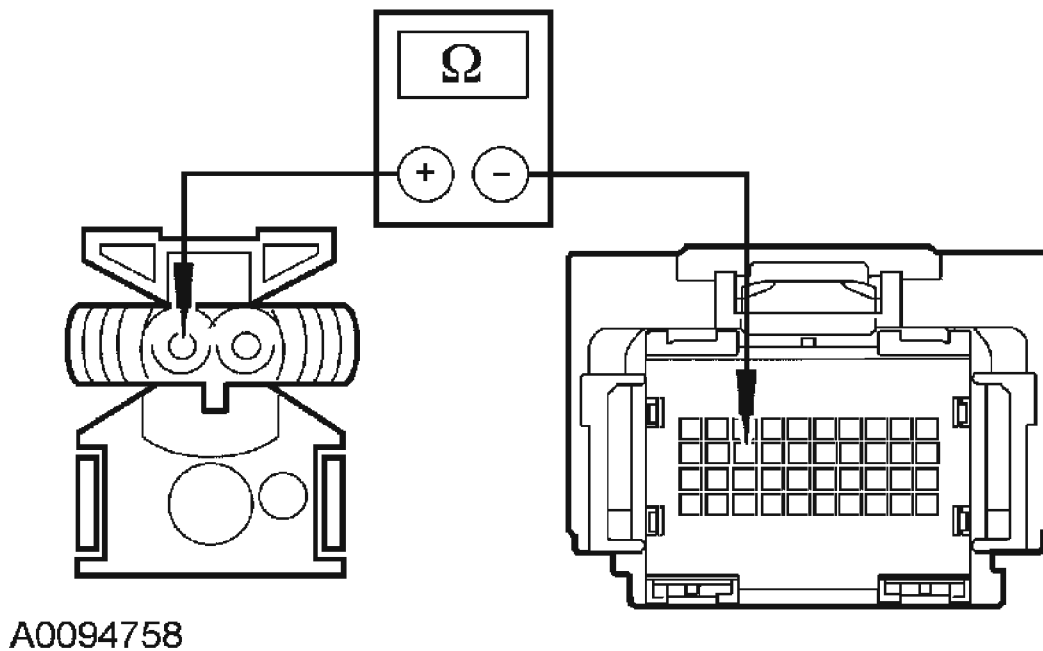


Fig. 71: Checking Circuit 91S-JA33 (BK/BU) For An Open
Courtesy of FORD MOTOR CO.

- Is the resistance less than 0.5 ohm?

Yes : GO to P5.

No : REPAIR circuit 91S-JA33 (BK/BU). GO to P8.

P5 CHECK CIRCUIT 15S-JA33 (GN/BU) FOR AN OPEN

- Measure the resistance between RCM C2041a pin 17, circuit 15S-JA33 (GN/BU), harness side and driver safety belt buckle pretensioner C323 pin 1, circuit 15S-JA33 (GN/BU), harness side.

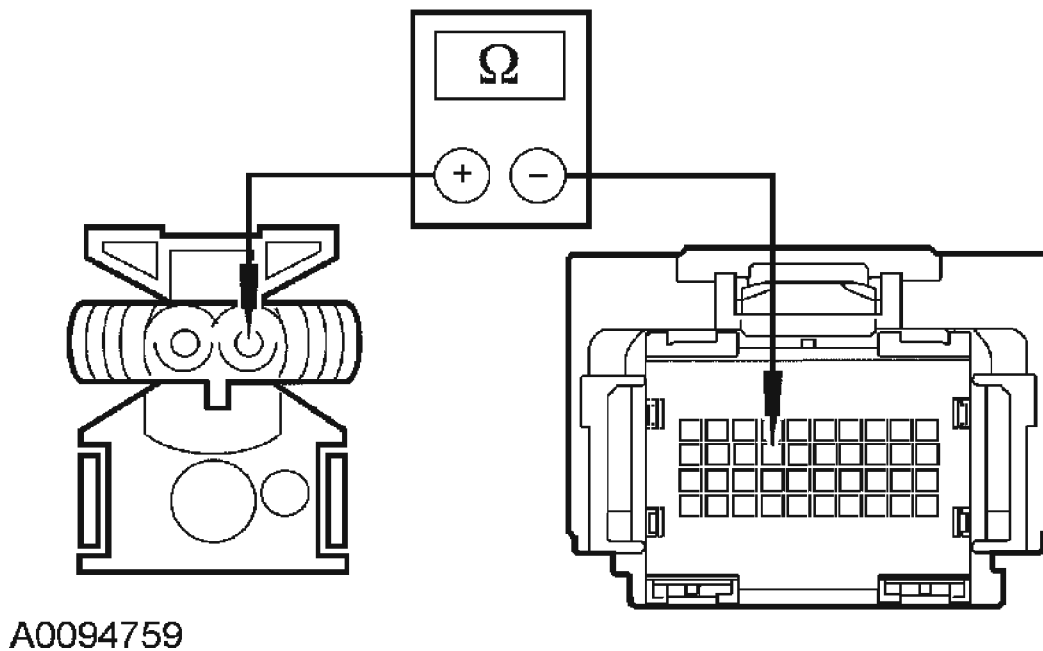


Fig. 72: Checking Circuit 91S-JA33 (BK/BU) For An Open
Courtesy of FORD MOTOR CO.

- Is the resistance less than 0.5 ohm?
Yes : GO to P6.
No : REPAIR circuit 15S-JA33 (GN/BU). GO to P8.

P6 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1877 or B1885 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS**

CONTROL MODULE (RCM). GO to P8.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [P8](#).

P7 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Driver Safety Belt Pretensioner C323.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1877 or B1885 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver safety belt pretensioner electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to P8.

If an intermittent concern **was not** found and repaired, GO to for DTC B1885, GO to P4 for DTC B1877.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to P8.

P8 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step P1.
- **Were any continuous DTCs retrieved during Step P1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION.** REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**

DEPOWERING AND REPOWERING. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test Q: DTC B1878 - Seat Belt Driver Pretensioner Circuit Short to Battery Fault

Normal Operation

The restraints control module (RCM) checks all of the safety belt pretensioners for faults. If the RCM detects a short to voltage on a driver safety belt pretensioner circuit, it will store diagnostic trouble code (DTC) B1878 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to voltage.

Possible Causes

A driver safety belt pretensioner short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST Q: DTC B1878 - SEAT BELT DRIVER PRETENSIONER CIRCUIT SHORT TO BATTERY FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

Q1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt

buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1878 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to Q2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to Q4.

Q2 CHECK CIRCUIT 15S-JA33 (GN/BU) AND CIRCUIT 91S-JA33 (BK/BU) FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Driver Safety Belt Pretensioner C323.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Measure the voltage between driver safety belt pretensioner C323 pin 2, circuit 91S-JA33 (BK/BU), harness side and ground; and between driver safety belt pretensioner C323 pin 1, circuit 15S-JA33 (GN/BU), harness side and ground.

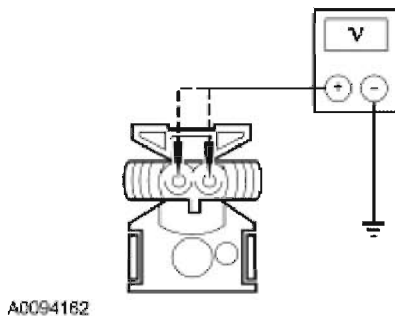


Fig. 73: Measuring Voltage Between connector Terminals And Ground
Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : GO to Q3.

No : REPAIR circuit 91S-JA33 (BK/BU) or circuit 15S-JA33 (GN/BU). GO to Q5.

Q3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1878 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to Q5.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [Q5](#).

Q4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1878 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver safety belt pretensioner electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to Q5.

If an intermittent concern was not found and repaired, GO to Q3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to Q5.

Q5 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step Q1.
- **Were any continuous DTCs retrieved during Step Q1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test R: DTC B1879 - Seat Belt Driver Pretensioner Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) checks all of the safety belt pretensioners for faults. If

the RCM detects a short to ground on a driver safety belt pretensioner circuit, it will store diagnostic trouble code (DTC) B1879 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A driver safety belt pretensioner short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted pretensioner.
- A faulted RCM.

PINPOINT TEST R: DTC B1879 - SEAT BELT DRIVER PRETENSIONER CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

R1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system

diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1879 retrieved during the on-demand self test?**
 - Yes :** This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to R2.
 - No :** This is an intermittent fault. The fault condition is not present at this time. GO to R5.

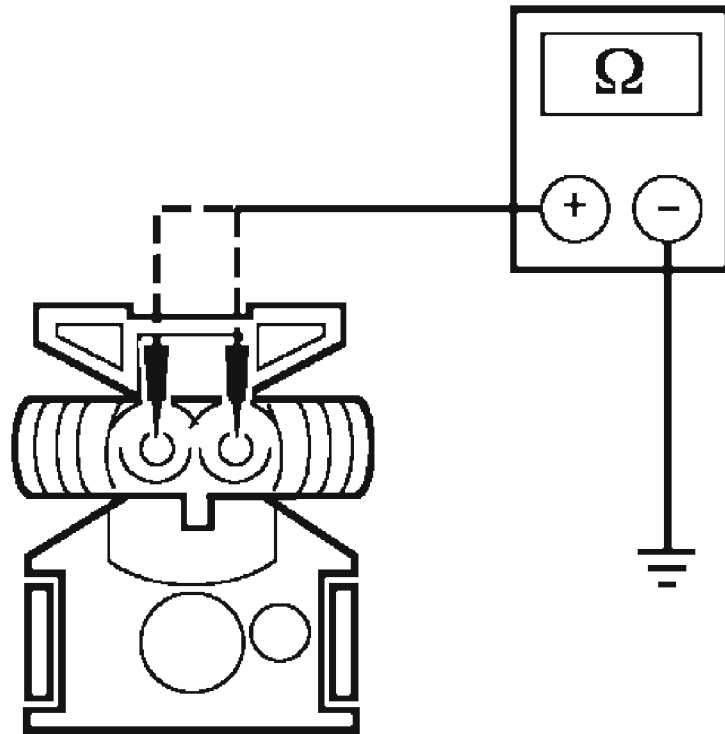
R2 CHECK THE DRIVER SAFETY BELT PRETENSIONER

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1879 retrieved during the on-demand self test?**
 - Yes :** GO to R3.
 - No :** INSTALL a new driver safety belt pretensioner. Refer to **SAFETY BELT SYSTEM** . GO to R6.

R3 CHECK CIRCUIT 15S-JA33 (GN/BU) AND CIRCUIT 91S-JA33 (BK/BU) FOR A SHORT TO GROUND

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Driver Safety Belt Pretensioner C323.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between driver safety belt pretensioner C323 pin 2, circuit

91S-JA33 (BK/BU), harness side and ground; and between driver safety belt pretensioner C323 pin 1, circuit 15S-JA33 (GN/BU), harness side and ground.



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Fig. 74: Checking Circuit 15S-JA33 (GN/BU) And Circuit 91S-JA33 (BK/BU) For A Short To Ground
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to R4.

No : REPAIR circuit 91S-JA33 (BK/BU) or circuit 15S-JA33 (GN/BU). GO to R6.

R4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt

Pretensioner C323.

- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1879 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to R6.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [R6](#).

R5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Safety Belt Pretensioner C323.
- Connect: Restraint System Diagnostic Tool 418-F395 to Driver Safety Belt Pretensioner C323.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1879 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver safety belt pretensioner electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to R6.

If an intermittent concern was not found and repaired, GO to R3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to R6.

R6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step R1.

- **Were any continuous DTCs retrieved during Step R1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table in the pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test S: DTC B1881/B1886 - Seat Belt Passenger Pretensioner Circuit Open Fault/Seat Belt Passenger Pretensioner Circuit Resistance Low On Squib Fault

Normal Operation

The restraints control module (RCM) checks all of the safety belt pretensioners for faults. If the RCM detects a low resistance or open on the passenger safety belt pretensioner circuits, it will store diagnostic trouble code (DTC) B1881 or B1886 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Low resistance.
- Circuit open.

Possible Causes

A seat belt passenger pretensioner circuit open/seat belt passenger pretensioner circuit low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty pretensioner.
- A faulted RCM.

PINPOINT TEST S: DTC B1881/B1886 - SEAT BELT PASSENGER PRETENSIONER CIRCUIT OPEN FAULT/SEAT BELT PASSENGER PRETENSIONER CIRCUIT RESISTANCE LOW ON SQUIB FAULT

NOTE: **Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.**

S1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1881 or B1886 retrieved during the on-demand self test?**
 - Yes :** This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to S2.
 - No :** This is an intermittent fault. The fault condition is not present at this time. GO to S7.

S2 CHECK THE PASSENGER SAFETY BELT PRETENSIONER CIRCUITS RESISTANCE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt

Pretensioner C303.

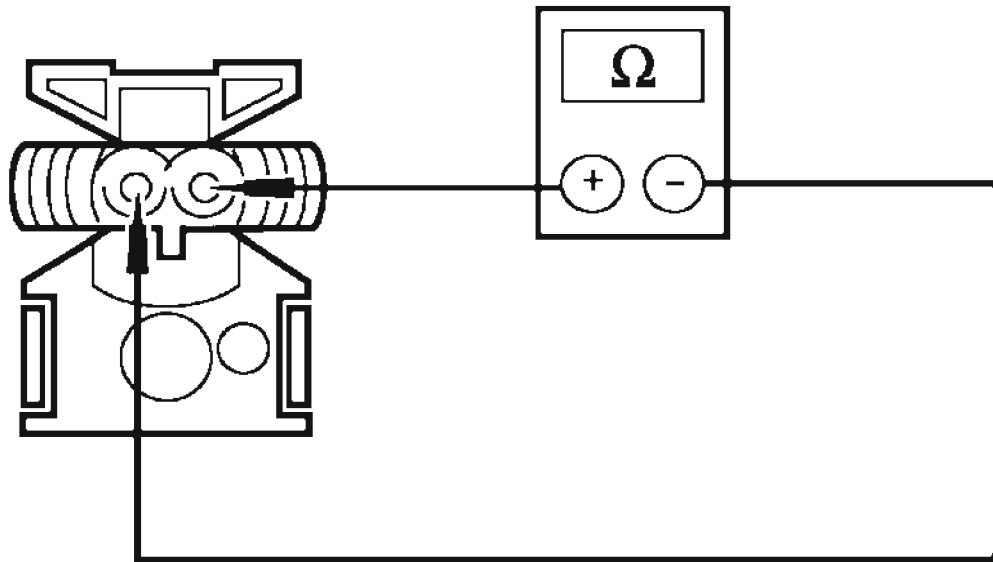
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-demand Self Test.
- **Was DTC B1881 or B1886 retrieved during the on-demand self test?**
Yes : For DTC B1881, GO to S4.

For DTC B1886, GO to S3.

No : INSTALL a new passenger safety belt pretensioner. Refer to **SAFETY BELT SYSTEM** . GO to S8.

S3 CHECK THE PASSENGER SAFETY BELT PRETENSIONER CIRCUIT 91S-JA34 (BK/RD) AND CIRCUIT 15S-JA34 (GN/OG) FOR LOW RESISTANCE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Passenger Safety Belt Pretensioner C303.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between passenger safety belt pretensioner C303 pin 1, circuit 15S-JA34 (GN/OG), and pin 2, circuit 91S-JA34 (BK/RD), harness side.



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Fig. 75: Measuring Resistance Across Connector Terminals
Courtesy of FORD MOTOR CO.

- Is the resistance greater than 1,000,000 ohms?

Yes : GO to S6.

No : REPAIR circuit 91S-JA34 (BK/RD) and circuit 15S-JA34 (GN/OG). GO to S8.

S4 CHECK CIRCUIT 91S-JA34 (BK/RD) FOR AN OPEN

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Passenger Safety Belt Pretensioner C303.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041a pin 19, circuit 91S-JA34 (BK/RD), harness side and passenger safety belt buckle pretensioner C303 pin 2, circuit 91S-JA34 (BK/RD), harness side.

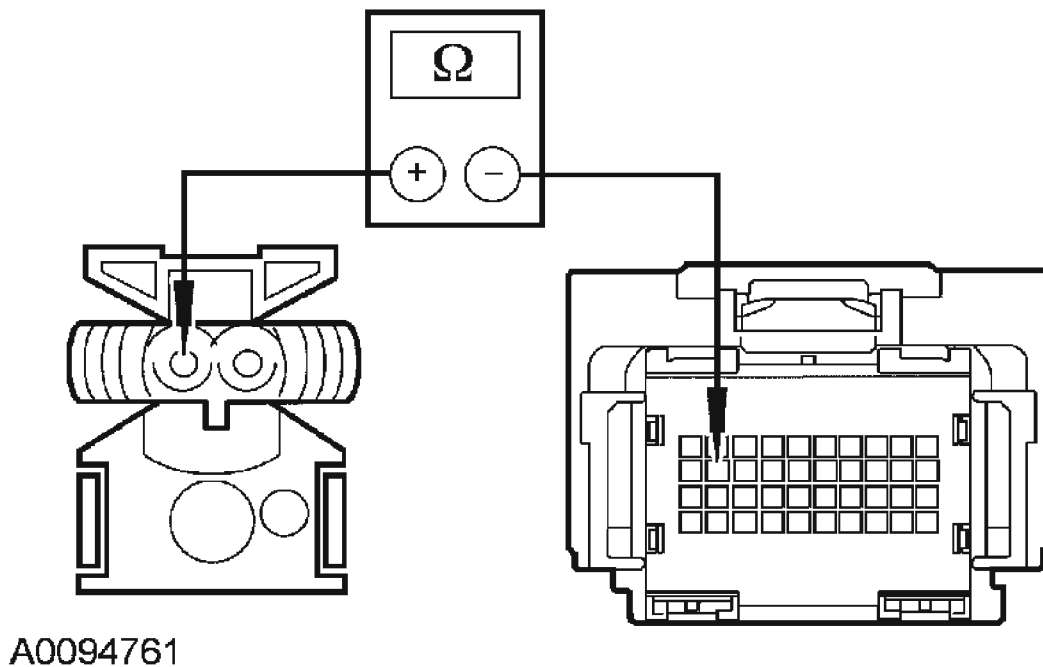


Fig. 76: Measuring Resistance Between RCM C2041a Pin 19 And Passenger Safety Belt Buckle Pretensioner C303 Pin 2
 Courtesy of FORD MOTOR CO.

- Is the resistance less than 0.5 ohm?

Yes : GO to S5.

No : REPAIR circuit 91S-JA34 (BK/RD). GO to S8.

S5 CHECK CIRCUIT 15S-JA34 (GN/OG) FOR AN OPEN

- Measure the resistance between RCM C2041a pin 10, circuit 15S-JA34 (GN/OG), harness side and passenger safety belt buckle pretensioner C303 pin 1, circuit 15S-JA34 (GN/OG), harness side.

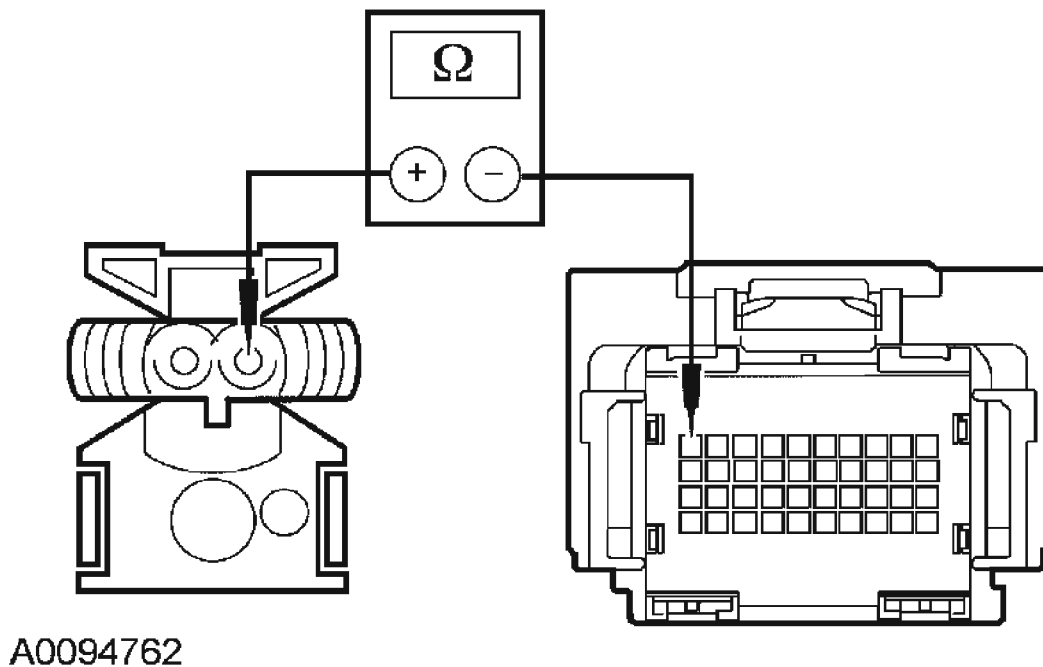


Fig. 77: Measuring Resistance Between RCM C2041a Pin 10 And Passenger Safety Belt Buckle Pretensioner C303 Pin 1
 Courtesy of FORD MOTOR CO.

- Is the resistance less than 0.5 ohm?

Yes : INSTALL a new passenger safety belt pretensioner. Refer to **SAFETY BELT SYSTEM** . GO to S8.

No : REPAIR circuit 15S-JA34 (GN/OG). GO to S8.

S6 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1881 or B1886 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to S8.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [S8](#).

S7 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was B1881 or B1886 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger safety belt pretensioner electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to S8.

If an intermittent concern **was not** found and repaired, USE the faults recorded and GO to the appropriate pinpoint test step GO to S3 for DTC B1886, GO to S4 for DTC B1881.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to S8.

S8 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step S1.
- **Were any continuous DTCs retrieved during Step S1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test T: DTC B1882 - Seat Belt Passenger Pretensioner Circuit Short to Battery Fault**Normal Operation**

The restraints control module (RCM) checks all of the safety belt pretensioners for faults. If the RCM detects a short to voltage on a passenger safety belt pretensioner circuit, it will store diagnostic trouble code (DTC) B1882 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to voltage.

Possible Causes

A passenger seat belt pretensioner circuit short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST T: DTC B1882 - SEAT BELT PASSENGER PRETENSIONER CIRCUIT SHORT TO BATTERY FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

T1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• **Was DTC B1882 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to T2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to T4.

T2 CHECK CIRCUIT 15S-JA34 (GN/OG) AND CIRCUIT 91S-JA34 (BK/RD) FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between passenger safety belt pretensioner C303 pin 2, circuit 91S-JA34 (BK/RD), harness side and ground; and between passenger safety belt pretensioner C303 pin 1, circuit 15S-JA34 (GN/OG), harness side and

ground.

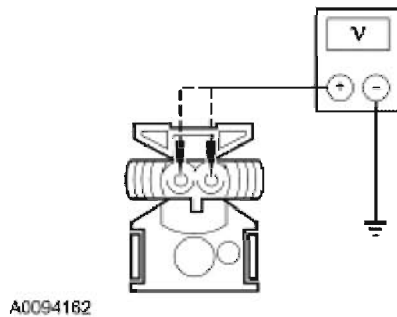


Fig. 78: Measuring Voltage Between connector Terminals And Ground
Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : GO to T3.

No : REPAIR circuit 91S-JA34 (BK/RD) or circuit 15S-JA34 (GN/OG). GO to T5.

T3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1882 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to T5.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [T5](#).

T4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1882 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger safety belt pretensioner electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to T5.

If an intermittent concern was not found and repaired, GO to T3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to T5.

T5 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step T1.
- **Were any continuous DTCs retrieved during Step T1 ?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test U: DTC B1883 - Seat Belt Passenger Pretensioner Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) checks all of the safety belt pretensioners for faults. If the RCM detects a short to ground on a passenger safety belt pretensioner circuit, it will store diagnostic trouble code (DTC) B1883 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A passenger seat belt pretensioner short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty pretensioner.
- A faulted RCM.

PINPOINT TEST U: DTC B1883 - SEAT BELT PASSENGER PRETENSIONER CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

U1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1883 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to U2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to U5.

U2 CHECK THE PASSENGER SAFETY BELT PRETENSIONER

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1883 retrieved during the on-demand self test?**

Yes : GO to U3.

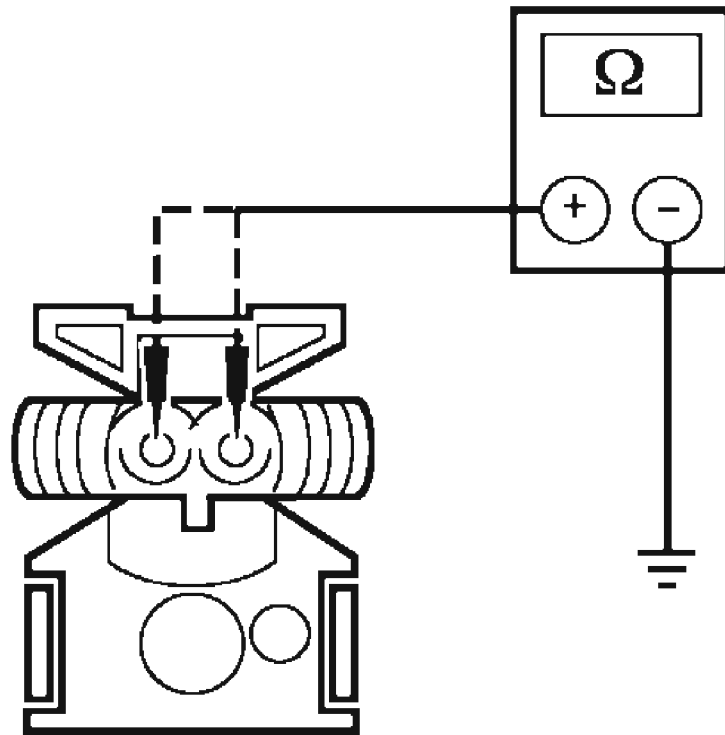
No : INSTALL a new passenger safety belt pretensioner. Refer to **SAFETY BELT SYSTEM** . GO to U6.

U3 CHECK CIRCUIT 15S-JA34 (GN/OG) AND CIRCUIT 91S-JA34 (BK/RD) FOR A SHORT TO GROUND

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Passenger Safety Belt

Pretensioner C303.

- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between passenger safety belt pretensioner C303 pin 2, circuit 91S-JA34 (BK/RD), harness side and ground; and between passenger safety belt pretensioner C303 pin 1, circuit 15S-JA34 (GN/OG), harness side and ground.



A0094161

Fig. 79: Checking Circuit 15S-JA34 (GN/OG) And Circuit 91S-JA34 (BK/RD) For A Short To Ground
Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**
Yes : GO to U4.
No : REPAIR circuit 91S-JA34 (BK/RD) or circuit 15S-JA34 (GN/OG). GO to U6.

U4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor

electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1883 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to U6.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [U6](#).

U5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Safety Belt Pretensioner C303.
- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Safety Belt Pretensioner C303.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1883 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger safety belt pretensioner electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to U6.

If an intermittent concern was not found and repaired, GO to U3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard

fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to U6.

U6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step U1.
- **Were any continuous DTCs retrieved during Step U1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test V: DTC B1884 - PAD Warning Lamp Circuit Fault

Normal Operation

When the ignition is in the ON position, the PAD indicator prove-out period is initiated by the RCM. The RCM briefly activates the PAD indicator to verify to the occupants correct functional operation of the PAD indicator. For additional information, refer to **AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**.

If the restraints control module detects an open or short to ground on the PAD indicator circuit, it will store diagnostic trouble code (DTC) B1884 in memory and illuminate the air bag indicator.

Possible Causes

A PAD indicator circuit open or short to ground can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty PAD indicator.
- A faulted RCM.

PINPOINT TEST V: DTC B1884 - PAD WARNING LAMP CIRCUIT FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

V1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• **Was DTC B1884 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If the PAD indicator **does** illuminate, GO to V2.

If the PAD indicator does not illuminate, GO to V4.

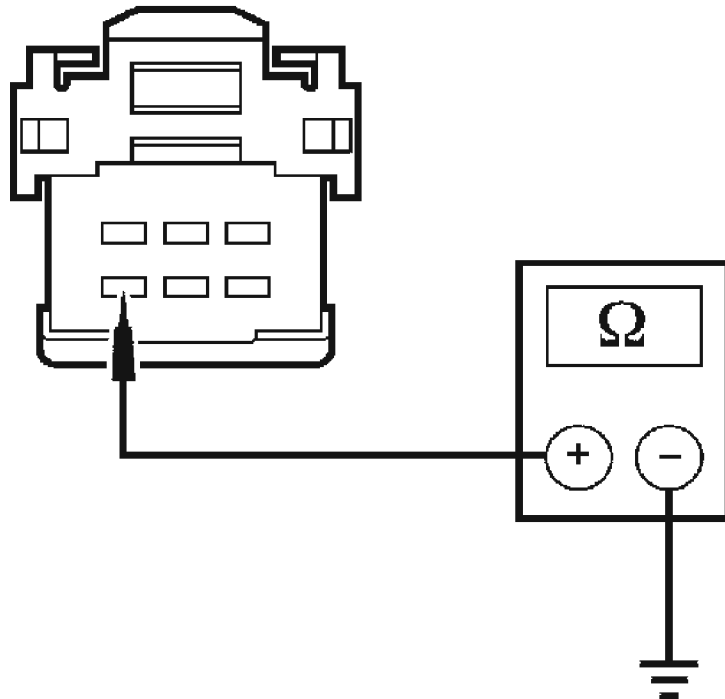
No : This is an intermittent fault. The fault condition is not present at this time. GO to V8.

V2 CHECK CIRCUIT 31S-JA56 (BK/RD) FOR SHORT TO GROUND

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM**

(SRS) DEPOWERING AND REPOWERING.

- Disconnect: PAD Indicator C2039.
- Measure the resistance between PAD indicator C2039 pin 6, circuit 31S-JA56 (BK/RD), harness side and ground.



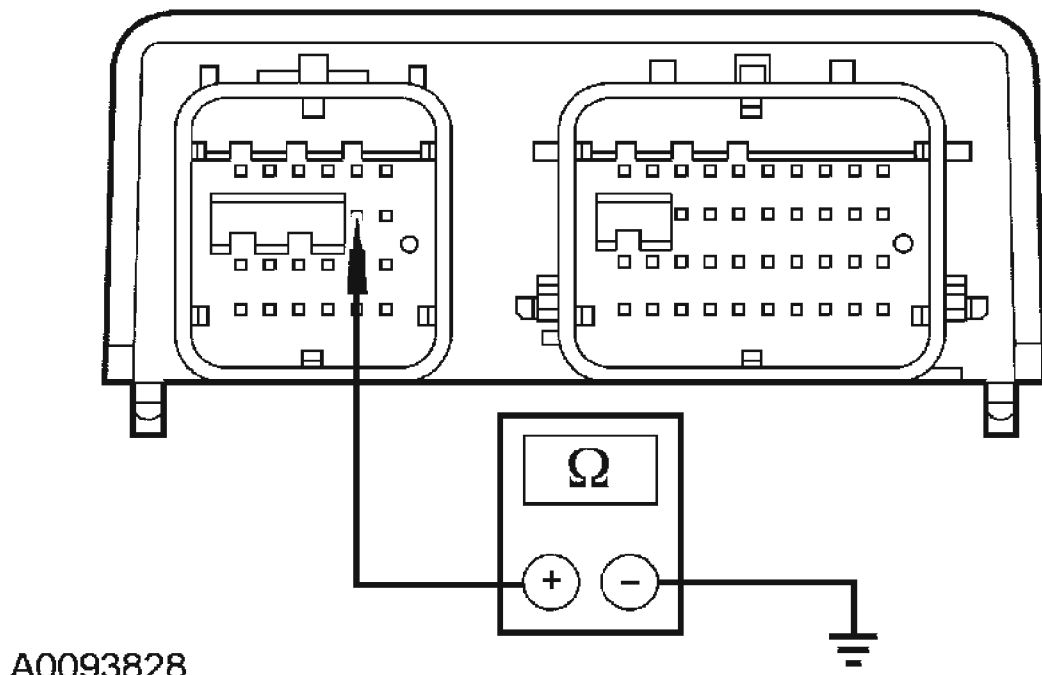
A0093827

Fig. 80: Measuring Resistance Between PAD Indicator C2039 Pin 6, Circuit 31S-JA56 (BK/RD), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- Is the resistance greater than 10,000 ohms?
Yes : GO to V7.
No : GO to V3.

V3 CHECK THE RCM

- Measure the resistance between RCM C2041b pin 17, circuit 31S-JA56 (BK/RD), component side and ground.



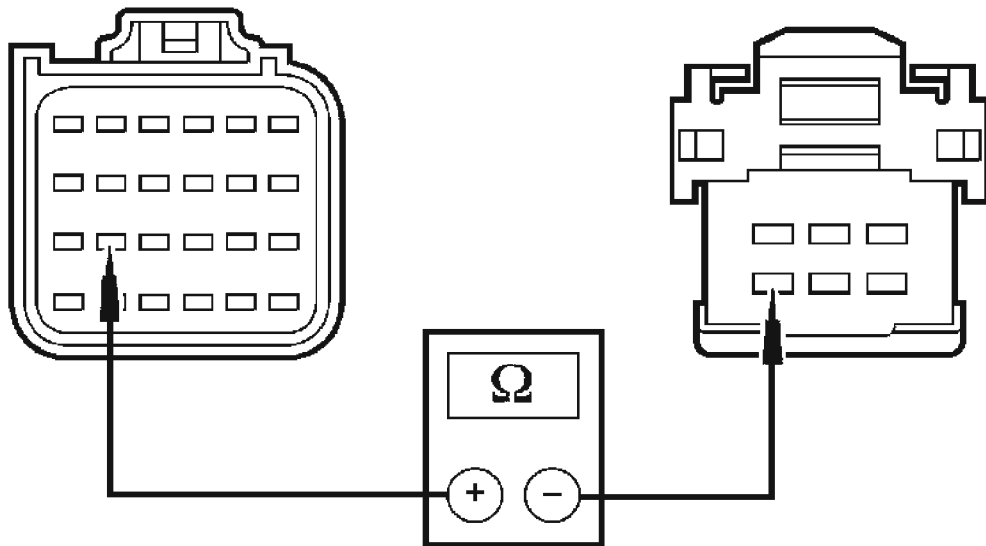
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Fig. 81: Measuring Resistance Between RCM C2041b Pin 17, Circuit 31S-JA56 (BK/RD), Component Side And Ground
Courtesy of FORD MOTOR CO.

- Is the resistance greater than 10,000 ohms?
Yes : REPAIR circuit 31S-JA56 (BK/RD). GO to V9.
No : GO to V7.

V4 CHECK CIRCUIT 31S-JA56 (BK/RD) FOR AN OPEN

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: PAD Indicator C2039.
- Measure the resistance between PAD indicator C2039 pin 6, circuit 31S-JA56 (BK/RD), harness side and RCM C2041b pin 17, circuit 31S-JA56 (BK/RD), harness side.



A0093829

Fig. 82: Checking Circuit 31S-JA56 (BK/RD) For An Open
Courtesy of FORD MOTOR CO.

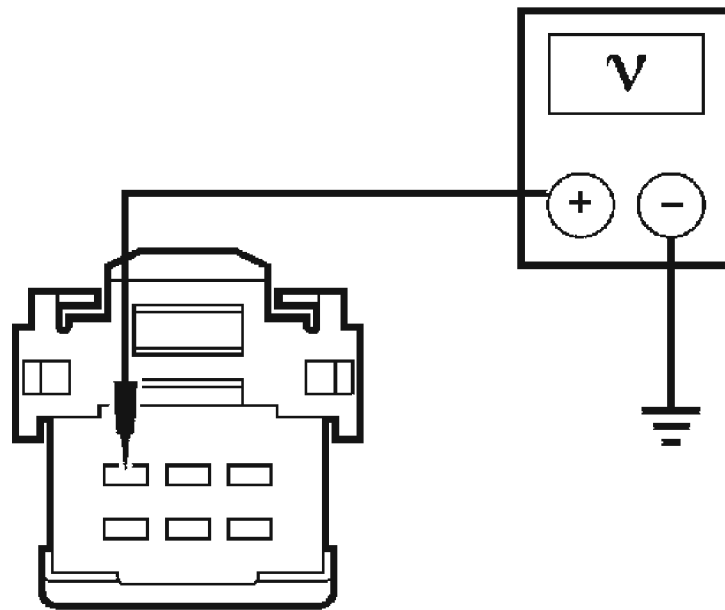
- Is the resistance less than 0.5 ohm?

Yes : GO to V5.

No : REPAIR circuit 31S-JA56 (BK/RD). GO to V9.

V5 CHECK CIRCUIT 15-JA56 (GN/OG) FOR AN OPEN

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between PAD indicator C2039 pin 3, circuit 15-JA56 (GN/OG), harness side and ground.



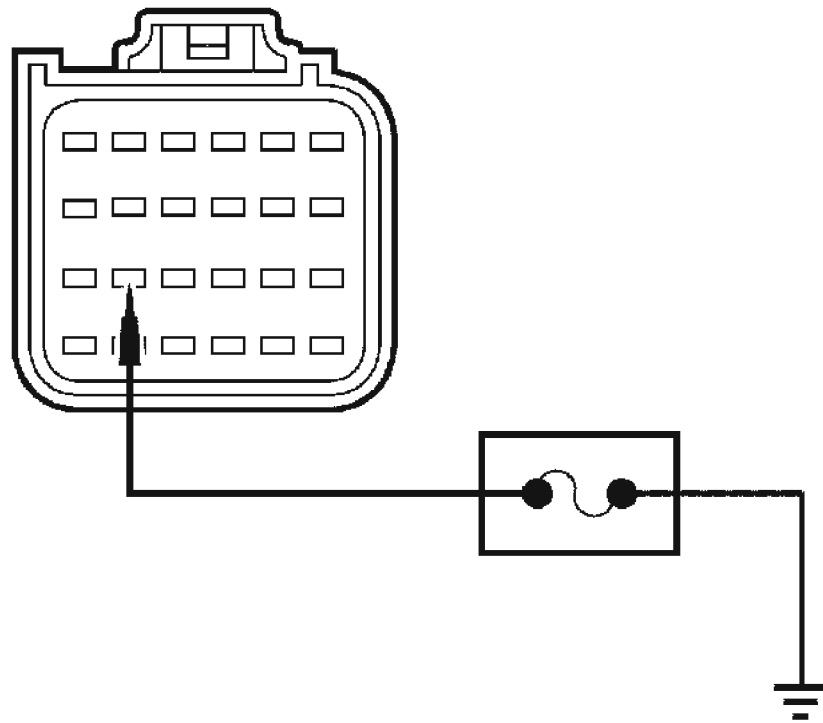
A0093830

Fig. 83: Measuring Voltage Between PAD Indicator C2039 Pin 3, Circuit 15-JA56 (GN/OG), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- Is the voltage greater than 10 volts?
Yes : GO to V6.
No : REPAIR circuit 15-JA56 (GN/OG). GO to V9.

V6 CHECK THE PAD INDICATOR LAMP

- Key in OFF position.
- Deactivate the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION.**
- Connect: PAD Indicator C2039.
- Key in ON position.
- Connect a fused jumper wire between RCM C2041b pin 17, circuit 31S-JA56 (BK/RD), harness side and ground.



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Fig. 84: Connecting Fused Jumper Wire Between RCM C2041b Pin 17, Circuit 31S-JA56 (BK/RD), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- Does the PAD indicator illuminate?

Yes : GO to V7.

No : INSTALL a new PAD indicator. Refer to **PASSENGER AIR BAG DEACTIVATION (PAD) INDICATOR**. GO to V9.

V7 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: PAD Indicator C2039 (if disconnected in prior step).
- Connect: RCM C2041a and C2041b (if disconnected in prior step).

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1884 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to V9.

No : CHECK for causes of intermittent open or short to ground on circuit 31S-JA56 (BK/RD). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to V9.

V8 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1884 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to V2.

No : CHECK for causes of intermittent open or short to ground on circuit 31S-JA56 (BK/RD). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to V9.

V9 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step V1.
- **Were any continuous DTCs retrieved during Step V1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Priority Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

When the ignition is in the ON position, the PAD indicator prove-out period is initiated by the RCM. The RCM briefly activates the PAD indicator to verify to the occupants correct functional operation of the PAD indicator. Refer to **AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**.

If the restraints control module detects a short to battery on the PAD indicator circuit, it will store diagnostic trouble code (DTC) B1890 in memory and illuminate the air bag indicator.

Possible Causes

A PAD indicator circuit short to battery fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty PAD indicator.
- A faulted RCM.

PINPOINT TEST W: DTC B1890 - PAD WARNING LAMP CIRCUIT SHORT TO BATTERY FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

W1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system

diagnostic tools must be removed before operating the vehicle over the road.

NOTE: **The SRS must be fully operational and free of faults before releasing the vehicle to the customer.**

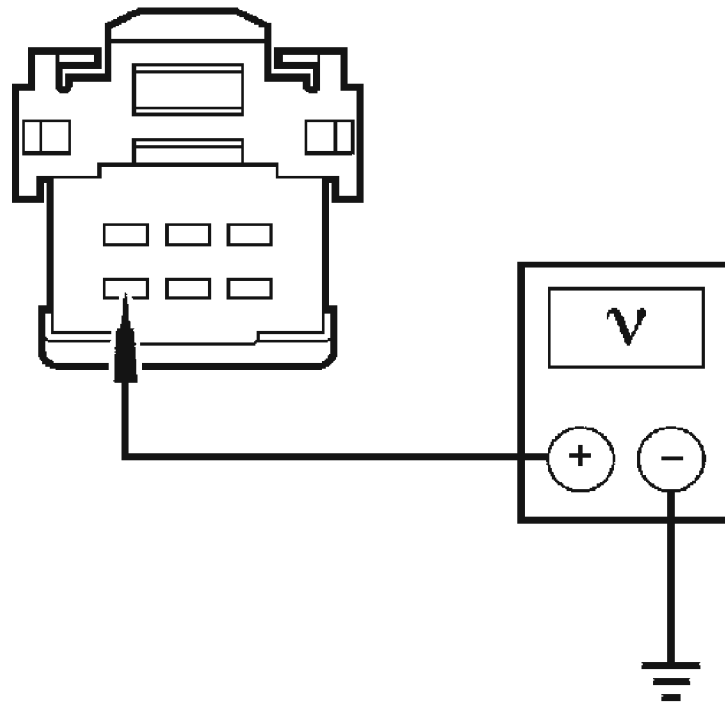
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1890 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to W2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to W4.

W2 CHECK CIRCUIT 31S-JA56 (BK/RD) FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: PAD Indicator C2039.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Measure the voltage between PAD indicator C2039 pin 6, circuit 31S-JA56 (BK/RD), harness side and ground.



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Fig. 85: Measuring Voltage Between PAD Indicator C2039 Pin 6, Circuit 31S-JA56 (BK/RD), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- Is the voltage less than 0.2 volt?
Yes : GO to W3.
No : REPAIR circuit 31S-JA56 (BK/RD). GO to W5.

W3 CHECK THE RCM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

NOTE: DTC B1884 should be retrieved when carrying out the

on-demand self test due to an open on circuit 31S-JA56 (BK/RD). DTC B1890 should not be retrieved at this time.

- **Was DTC B1890 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to W5.

No : INSTALL a new PAD indicator. GO to W5.

W4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1890 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to W2.

No : CHECK for causes of intermittent short to battery on circuit 31S-JA56 (BK/RD). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to W5.

W5 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step W1.
- **Were any continuous DTCs retrieved during Step W1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test X: DTC B1916 - Air Bag Driver Circuit Short to Battery Fault

Normal Operation

The restraints control module (RCM) checks all of the driver air bag module circuits for faults. If the RCM detects a short to voltage on a driver air bag module squib 1 circuit, it will store diagnostic trouble code (DTC) B1916 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit short to voltage.

Possible Causes

A driver air bag module squib 1 short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty clockspring.
- A faulted RCM.

PINPOINT TEST X: DTC B1916 - AIR BAG DRIVER CIRCUIT MODULE SHORT TO BATTERY FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

X1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

- **Was DTC B1916 retrieved during the on-demand self test?**

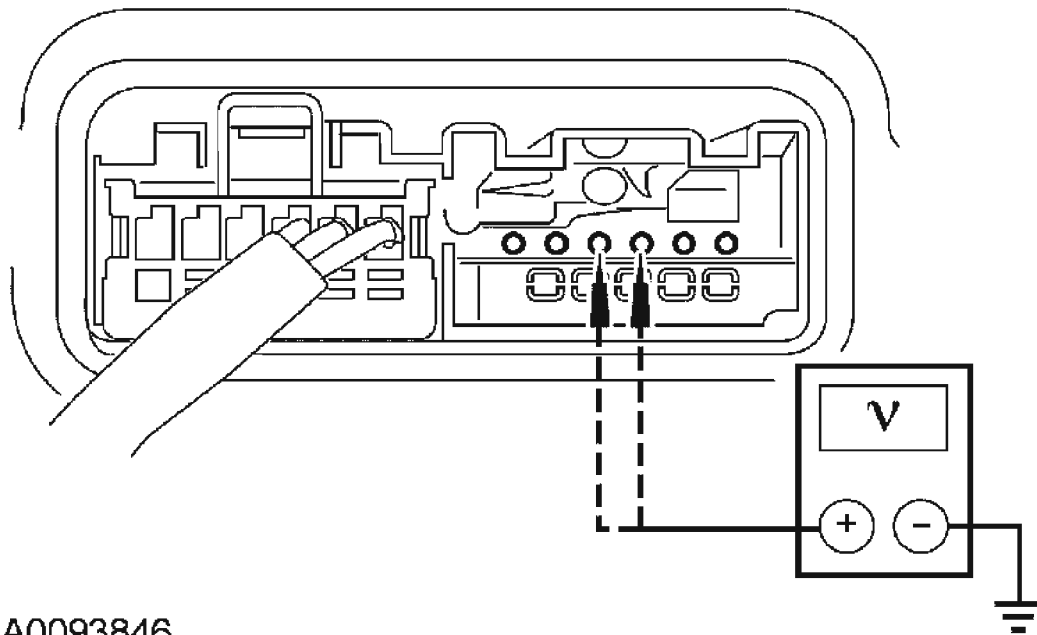
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to X2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to X5.

X2 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.

CAUTION: Take care not to damage the pins when probing the clockspring.



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Fig. 86: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG) For A Short To Voltage Between RCM And Driver Air Bag Module
Courtesy of FORD MOTOR CO.

- Measure the voltage between driver air bag module electrical connector pin 3, circuit 15S-JA8 (GN/RD), clockspring side and ground; and between driver air bag module electrical connector pin 4, circuit 91S-JA8 (BK/OG), clockspring side and ground.

- **Are the voltages less than 0.2 volt?**

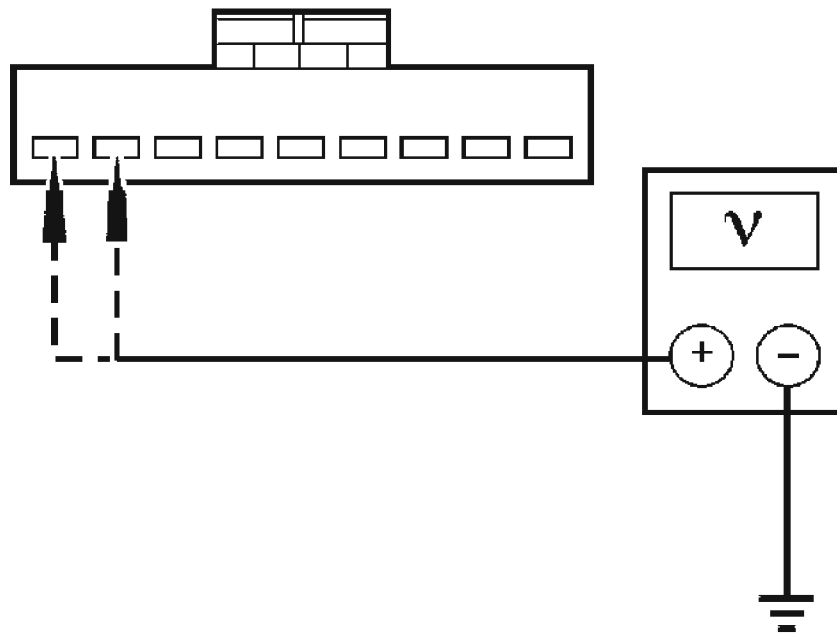
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to X4.

No : GO to X3.

X3 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE CLOCKSPRING

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Clockspring C2274.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.

- Measure the voltage between clockspring C2274 pin 9, circuit 15S-JA8 (GN/RD), harness side and ground; and between clockspring C2274 pin 8, circuit 91S-JA8 (BK/OG), harness side and ground.



A0088722

Fig. 87: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG) For A Short To Voltage Between RCM And Clockspring
Courtesy of FORD MOTOR CO.

- **Are the voltages less than 0.2 volt?**

Yes : INSTALL a new clockspring. Refer to **CLOCKSPRING**. GO to X6.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA8 (GN/RD) or circuit 91S-JA8 (BK/OG). GO to X6.

X4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Restraint System Diagnostic Tools 501-110 to Driver Air Bag Module Electrical Connector.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1916 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to X5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to X5.

X5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was the DTC B1916 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to X6.

If an intermittent concern was not found and repaired, GO to X2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard

fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to X6.

X6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step X1.
- **Were any continuous DTCs retrieved during Step X1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test Y: DTC B1921 - Air Bag Diagnostic Monitor Ground Circuit Open

Normal Operation

WARNING: The tightening torque of the restraints control module (RCM) retaining bolts is critical for correct air bag supplemental restraint system (SRS) operation. Refer to **RESTRAINTS CONTROL MODULE (RCM)** for correct torque values.

NOTE: A resistance difference as low as 25 ohms can set the DTC.

The restraints control module (RCM) monitors the resistance of the case ground. If the RCM detects a difference in resistance, it will store diagnostic trouble code (DTC) B1921 in memory and illuminate the air bag indicator.

Possible Causes

An air bag diagnostic monitor ground circuit open can be caused by:

- An RCM or RCM bracket that is not securely mounted.
- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST Y: DTC B1921 - AIR BAG DIAGNOSTIC MONITOR CIRCUIT OPEN

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with

the Pinpoint Test.

• Y1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

- **Was DTC B1921 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to Y2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to Y5.

• Y2 INSPECT THE RCM MOUNTING, MOUNTING BRACKET AND MOUNTING SURFACE

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Inspect the RCM mounting and make sure that the retaining bolts are fully seated and tightened correctly.
- Remove the RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**.
- Visually inspect the RCM, mounting bracket and mounting surface for damage, corrosion or dirt.
- **Was a significant amount of corrosion or dirt found, the RCM mounting bracket attached to the mounting surface incorrectly or were the RCM bolts not fully seated and tightened correctly?**

Yes : CLEAN and TIGHTEN bolts or REPAIR the mounting surface as necessary. REINSTALL the RCM and mounting bracket to the mounting surface. GO to Y6.

No : GO to Y3.

• **Y3 INSTALL THE RCM AND CARRY OUT THE ON-DEMAND SELF TEST**

- Clean the RCM mounting surfaces and bolts.
- Install the RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1921 retrieved during the on-demand self test?**

Yes : GO to Y4.

No : Fault corrected. GO to Y6.

• **Y4 CHECK THE RCM CASE GROUND FOR HIGH RESISTANCE**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Measure the resistance between the RCM case and a good sheet metal ground.
- **Is the resistance less than 25 ohms?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to Y6.

No : REPAIR as necessary. GO to Y6.

• **Y5 CHECK FOR AN INTERMITTENT FAULT**

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1921 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be

cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to Y2.

No : CHECK for causes of intermittent high resistance on the chassis ground. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [Y6](#).

• **Y6 CHECK FOR ADDITIONAL DTCs**

- Refer to the continuous DTCs recorded during Step Y1.
- **Were any continuous DTCs retrieved during Step Y1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test Z: DTC B1925 - Air Bag Passenger Circuit Short to Battery Fault

Normal Operation

The restraints control module (RCM) checks all of the passenger air bag circuits for faults. If the RCM detects a short to voltage on a passenger air bag module squib 1 circuit, it will store diagnostic trouble code (DTC) B1925 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit short to voltage.

Possible Causes

A passenger air bag module squib 1 short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST Z: DTC B1925 - AIR BAG PASSENGER CIRCUIT SHORT TO BATTERY FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry

out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

Z1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1925 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to Z2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to Z4.

Z2 CHECK CIRCUIT 15S-JA31 (GN/WH) AND CIRCUIT 91S-JA31 (BK/WH) FOR A SHORT TO BATTERY BETWEEN THE RCM AND THE PASSENGER

AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between passenger air bag module C256a pin 1, circuit 15S-JA31 (GN/WH), harness side and ground; and between passenger air bag module C256a pin 2, circuit 91S-JA31 (BK/WH), harness side and ground.

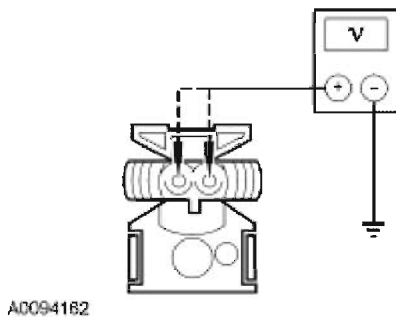


Fig. 88: Measuring Voltage Between connector Terminals And Ground
Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : GO to Z3.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA31 (GN/WH) or circuit 91S-JA31 (BK/WH). GO to Z5.

Z3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1925 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to Z5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to Z5.

Z4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was the DTC B1925 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to Z5.

If an intermittent concern **was not** found and repaired, GO to Z2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard

fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to Z5.

Z5 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step Z1.
- **Were any continuous DTCs retrieved during Step Z1 ?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AA: DTC B1932/B1934 - Air Bag Driver Circuit Open Fault/Air Bag Driver Inflator Circuit Resistance Low On Squib Fault

Normal Operation

The restraints control module (RCM) checks all of the driver air bag module squib 1 circuits for faults. If the RCM detects an open or low resistance on the driver air bag module squib 1 circuit, it will store diagnostic trouble code (DTC) B1932 or B1934 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit open.
- Low resistance.

Possible Causes

A driver air bag module squib 1 circuit open/low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty clockspring.
- A faulted driver air bag module.
- A faulted RCM.

PINPOINT TEST AA: DTC B1932/B1934 - AIR BAG DRIVER CIRCUIT OPEN FAULT/AIR BAG DRIVER INFLATOR CIRCUIT RESISTANCE LOW ON SQUIB FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry

out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AA1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• Was DTC B1932 or B1934 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AA2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AA9.

AA2 CHECK THE DRIVER AIR BAG MODULE

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1932 or B1934 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B1934, GO to AA3.

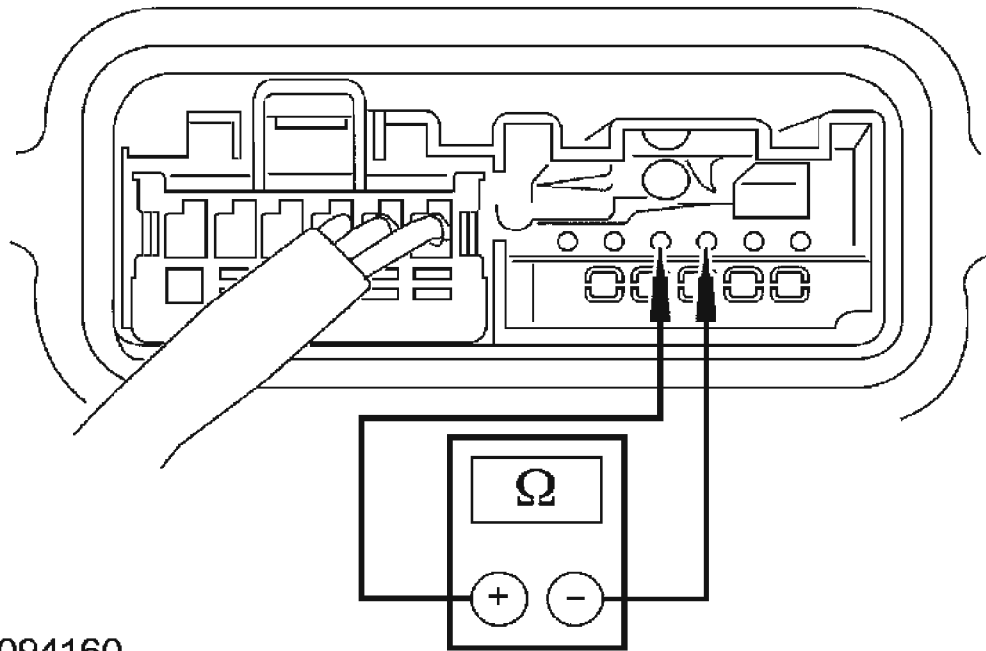
For DTC B1932, GO to AA6.

No : INSTALL a new driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
GO to AA10

**AA3 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG)
FOR LOW RESISTANCE BETWEEN THE RCM AND THE DRIVER AIR
BAG MODULE**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Driver Air Bag Module Electrical Connector.

CAUTION: Take care not to damage the pins when probing the clockspring.



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Fig. 89: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG) For Low Resistance Between RCM And Driver Air Bag Module
Courtesy of FORD MOTOR CO.

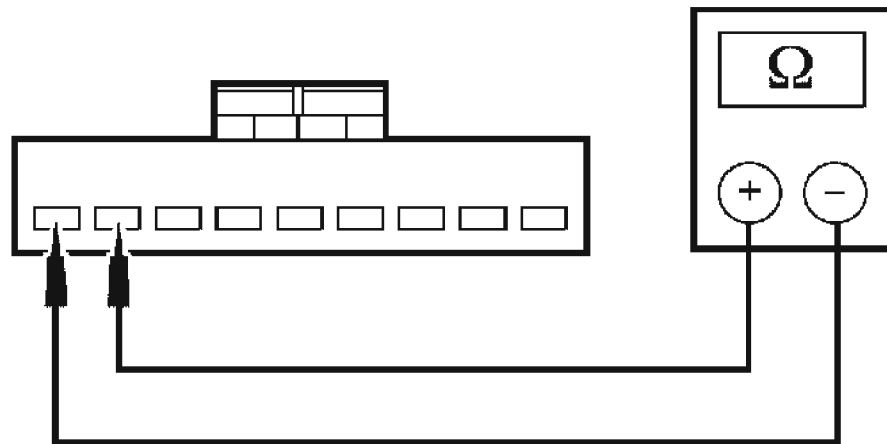
- Measure the resistance between the driver air bag module electrical connector pin 3, circuit 15S-JA8 (GN/RD), clockspring side and driver air bag module electrical connector pin 4, circuit 91S-JA8 (BK/OG), clockspring side.
- **Is the resistance greater than 10,000 ohms?**

Yes : GO to AA8.

No : GO to AA4.

AA4 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG) FOR LOW RESISTANCE BETWEEN THE RCM AND THE CLOCKSPrING

- Disconnect: Clockspring C2274.
- Measure the resistance between clockspring C2274 pin 9, circuit 15S-JA8 (GN/RD), harness side and clockspring C2274 pin 8, circuit 91S-JA8 (BK/OG), harness side.



A0088725

**Fig. 90: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG)
For Low Resistance Between RCM And Clockspring
Courtesy of FORD MOTOR CO.**

- **Is the resistance greater than 10,000 ohms?**

Yes : INSTALL a new clockspring. Refer to **CLOCKSPRING**. GO to AA10.

No : GO to AA5.

AA5 MEASURE THE RESISTANCE BETWEEN RCM CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG)

- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), and pin 4, circuit 91S-JA8 (BK/OG), component side.

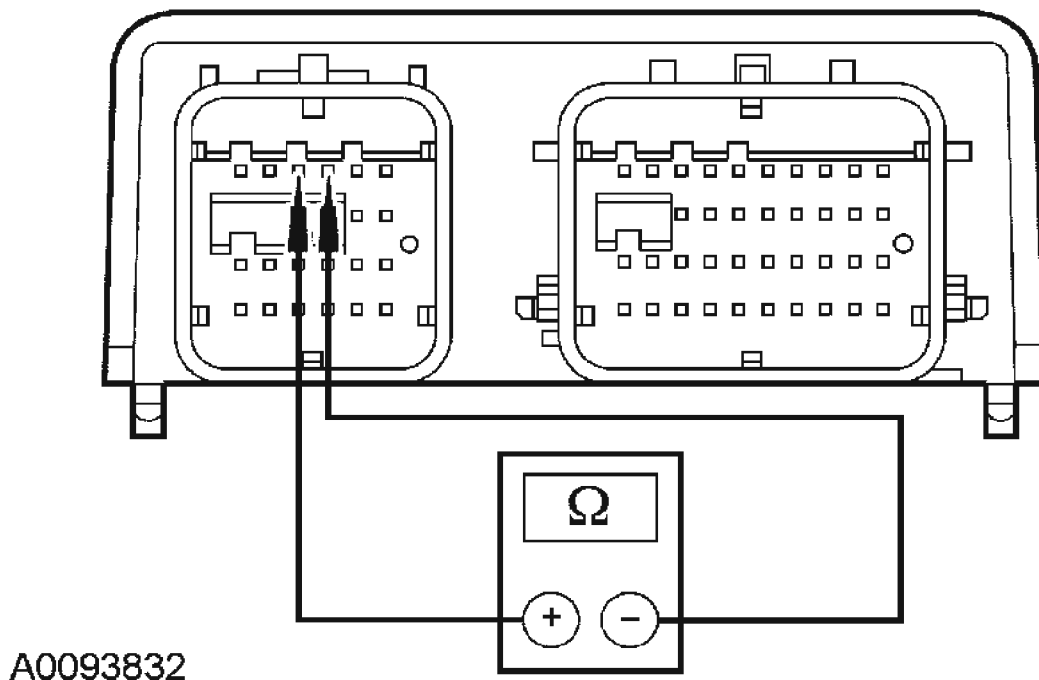


Fig. 91: Measuring Resistance Between RCM C2041b Pin 3, Circuit 15S-JA8 (GN/RD), And Pin 4, Circuit 91S-JA8 (BK/OG), Component Side
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 10,000 ohms?**

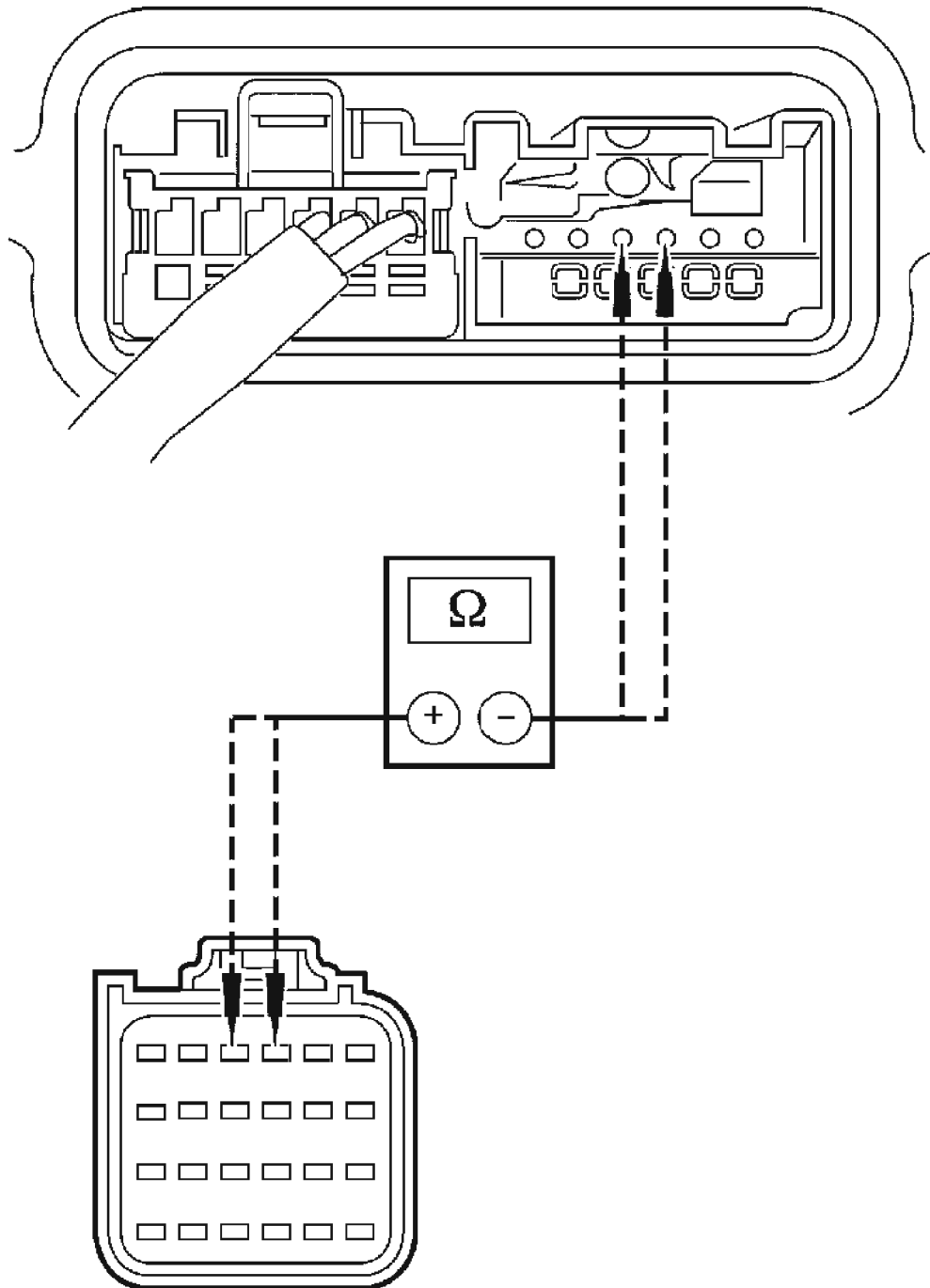
Yes : REPAIR circuit 15S-JA8 (GN/RD) and circuit 91S-JA8 (BK/OG). GO to AA10.

No : GO to AA8.

AA6 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG) FOR AN OPEN BETWEEN THE RCM AND THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Driver Air Bag Module Electrical Connector.
- Disconnect: RCM C2041a and C2041b.

CAUTION: Take care not to damage the pins when probing the clockspring.



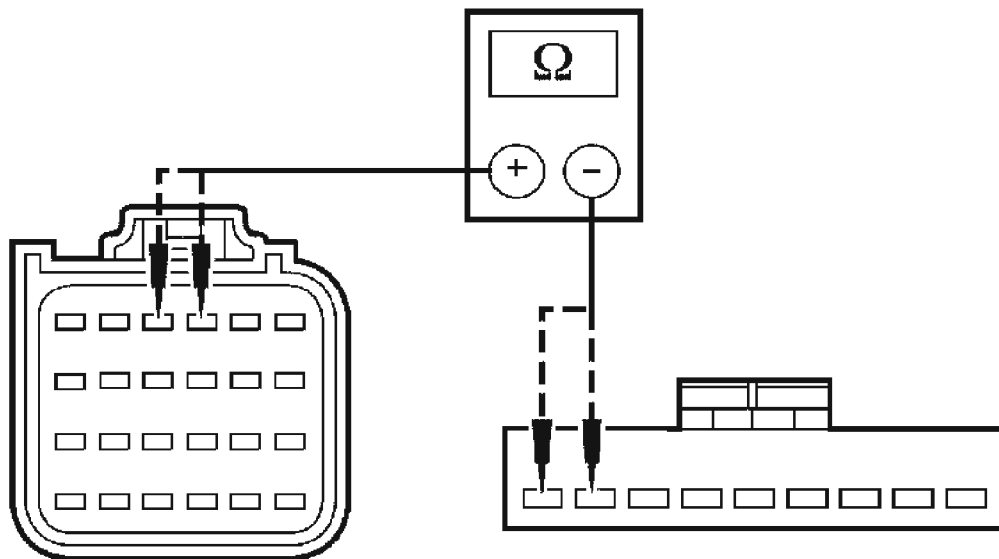
A0094159

**Fig. 92: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG)
For An Open Between RCM And Driver Air Bag Module**
Courtesy of FORD MOTOR CO.

- Measure the resistance between RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side and driver air bag module electrical connector pin 3, circuit 15S-JA8 (GN/RD), clockspring side; and between RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side and driver air bag module electrical connector pin 4, circuit 91S-JA8 (BK/OG), clockspring side.
- **Are the resistances less than 0.5 ohm?**
Yes : GO to AA8.
No : GO to AA7.

AA7 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG) FOR AN OPEN BETWEEN THE RCM AND THE CLOCKSPRING

- Disconnect: Clockspring C2274.
- Measure the resistance between RCM C2041b pin 3, circuit 15S-JA8 (GN/RD), harness side and clockspring C2274 pin 9, circuit 15S-JA8 (GN/RD), harness side; and between RCM C2041b pin 4, circuit 91S-JA8 (BK/OG), harness side and clockspring C2274 pin 8, circuit 91S-JA8 (BK/OG).



A0094780

Fig. 93: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG) For An Open Between RCM And Clockspring
Courtesy of FORD MOTOR CO.

- **Are the resistances less than 0.5 ohm?**
Yes : INSTALL a new clockspring. Refer to CLOCKSPRING. GO to AA10.

No : REPAIR circuit 15S-JA8 (GN/RD) or circuit 91S-JA8 (BK/OG). GO to AA10.

AA8 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded**

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Connect: Clockspring C2274 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1932 or B1934 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to AA10.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AA10.

AA9 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Remove the driver air bag module. Refer to DRIVER AIR BAG MODULE.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1932 or B1934 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver air bag module

connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AA10.

If an intermittent concern **was not** found and repaired, for DTC B1934 GO to AA3.

For DTC B1932, GO to AA4.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AA10.

AA10 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AA1.
- **Were any continuous DTCs retrieved during Step AA1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AB: DTC B1933/B1935- Air Bag Passenger Circuit Open Fault/Air Bag Passenger Inflator Circuit Resistance Low On Squib Fault

Normal Operation

The restraints control module (RCM) checks all of the passenger air bag module circuits for faults. If the RCM detects an open or low resistance on the passenger air bag module squib 1 circuits, it will store diagnostic trouble code (DTC) B1933 or B1935 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit open.
- Low resistance.

Possible Causes

A passenger air bag module squib 1 circuit open/low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted passenger air bag module.
- A faulted RCM.

PINPOINT TEST AB: DTC B1933/B1935 - AIR BAG PASSENGER CIRCUIT OPEN FAULT/AIR BAG PASSENGER INFLATOR CIRCUIT RESISTANCE LOW ON SQUIB FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AB1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- Was DTC B1933 or B1935 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AB2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AB7.

AB2 CHECK THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Remove passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
- Connect: Restraint System Diagnostic Tool 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1933 or B1935 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

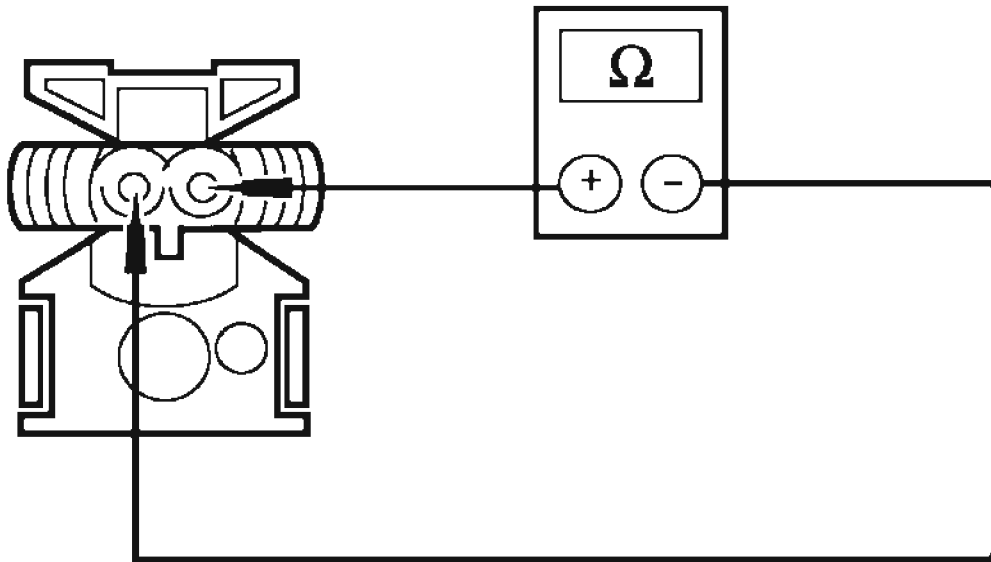
For DTC B1935, GO to AB3.

For DTC B1933, GO to AB5.

No : INSTALL a new passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.** GO to AB8.

AB3 CHECK CIRCUIT 15S-JA31 (GN/WH) AND CIRCUIT 91S-JA31 (BK/WH) FOR LOW RESISTANCE BETWEEN THE RCM AND THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Restraint System Diagnostic Tool From Passenger Air Bag Module C256a.
- Measure the resistance between passenger air bag module C256a pin 1, circuit 15S-JA31 (GN/WH), harness side and passenger air bag module C256a pin 2, circuit 91S-JA31 (BK/WH), harness side.



A0030495

Fig. 94: Checking Circuit 15S-JA31 (GN/WH) And Circuit 91S-JA31 (BK/WH) For Low Resistance Between RCM And Passenger Air Bag Module

Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 10,000 ohms?**

Yes : GO to AB6.

No : GO to AB4.

AB4 MEASURE THE RESISTANCE BETWEEN RCM CIRCUIT 15S-JA31 (GN/WH) AND CIRCUIT 91S-JA31 (BK/WH)

- **Disconnect: RCM C2041a and C2041b.**
- **Measure the resistance between RCM C2041b pin 1, circuit 15S-JA31 (GN/WH), and pin 2, circuit 91S-JA31 (BK/WH), component side.**

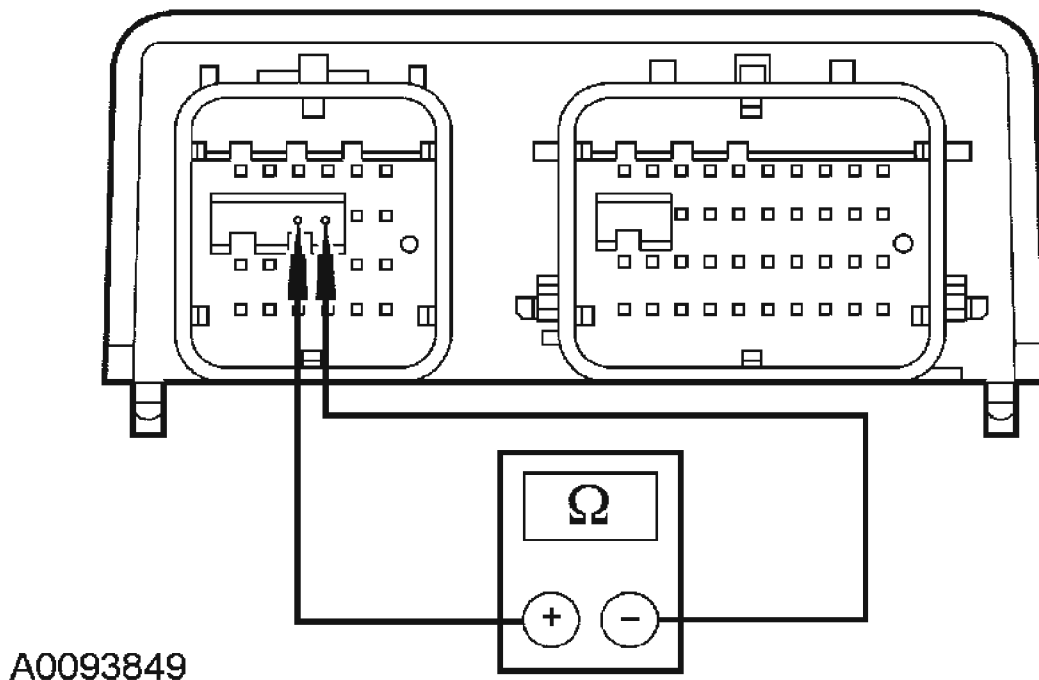


Fig. 95: Measuring Resistance Between RCM C2041b Pin 1, Circuit 15S-JA31 (GN/WH), And Pin 2, Circuit 91S-JA31 (BK/WH), Component Side
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 10,000 ohms?**

Yes : REPAIR circuit 15S-JA31 (GN/WH) and circuit 91S-JA31 (BK/WH). GO to AB8.

No : GO to AB6.

AB5 CHECK CIRCUIT 15S-JA31 (GN/WH) AND CIRCUIT 91S-JA31 (BK/WH) FOR AN OPEN BETWEEN THE RCM AND THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool From Passenger Air Bag Module C256a.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041b pin 1, circuit 15S-JA31 (GN/WH), harness side and passenger air bag module C256a pin 1, circuit 15S-JA31 (GN/WH), harness side; and between RCM C2041b pin 2, circuit 91S-JA31 (BK/WH), harness side and passenger air bag module C256a pin 2, circuit 91S-

JA31 (BK/WH).

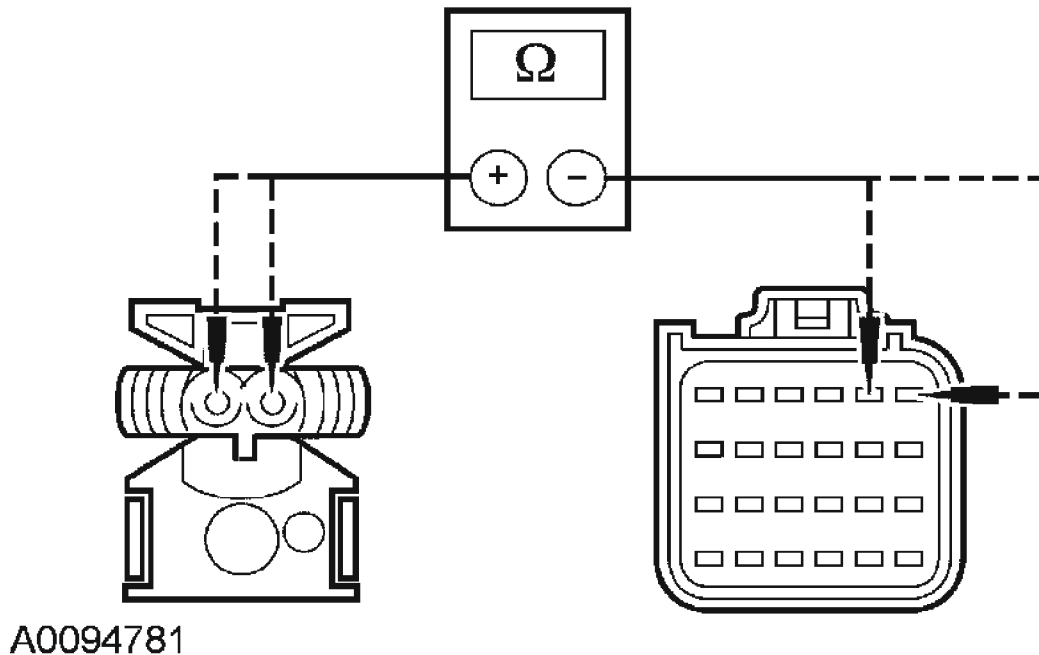


Fig. 96: Checking Circuit 15S-JA31 (GN/WH) And Circuit 91S-JA31 (BK/WH) For An Open Between RCM And Passenger Air Bag Module
Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

Yes : GO to AB6.

No : REPAIR circuit 15S-JA31 (GN/WH) or circuit 91S-JA31 (BK/WH). GO to AB8.

AB6 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Air Bag Module C256a.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1932 or B1934 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to AB8.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AB8.

AB7 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Remove the passenger air bag module. Refer to PASSENGER AIR BAG MODULE.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1933 or B1935 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AB8.

If an intermittent concern **was not** found and repaired, for DTC B1935 GO to AB3.

For DTC B1933, GO to AB4.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AB8.

AB8 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AB1.
- **Were any continuous DTCs retrieved during Step AB1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AC: DTC B1936 - Air Bag Driver Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) checks all of the driver air bag circuits for faults. If the RCM detects a short to ground on the driver air bag module squib 1 circuits, it will store diagnostic trouble code (DTC) B1936 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A driver air bag module squib 1 short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty clockspring.
- A faulty driver air bag module.
- A faulted RCM.

PINPOINT TEST AC: DTC B1936 - AIR BAG DRIVER CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AC1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible

violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1936 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AC2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to AC6.

AC2 CHECK THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Remove driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1936 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AC3.

No : INSTALL a new driver air bag module. Refer to **DRIVER AIR BAG MODULE**. GO to AC7.

AC3 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Air Bag Module Restraint System Diagnostic Tool From Driver Air Bag Module Electrical Connector.

CAUTION: Take care not to damage the pins when probing the clockspring.

- Measure the resistance between the driver air bag module electrical connector pin 3, circuit 15S-JA8 (GN/RD), clockspring side and ground; and between driver air bag module electrical connector pin 4, circuit 91S-JA8 (BK/OG), clockspring side and ground.

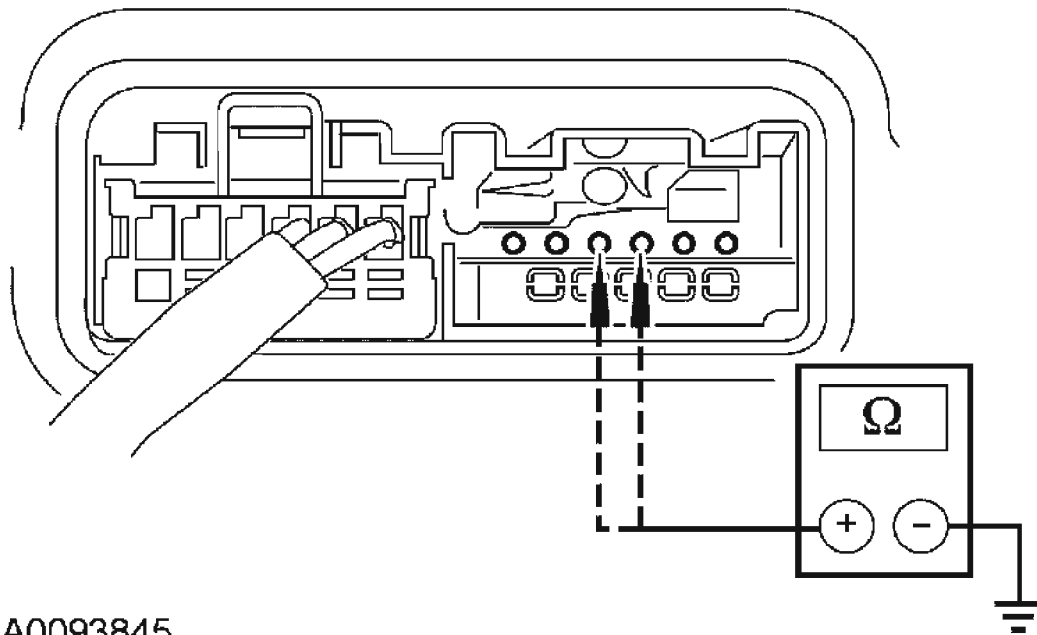


Fig. 97: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG) For A Short To Ground Between RCM And Driver Air Bag Module
Courtesy of FORD MOTOR CO.

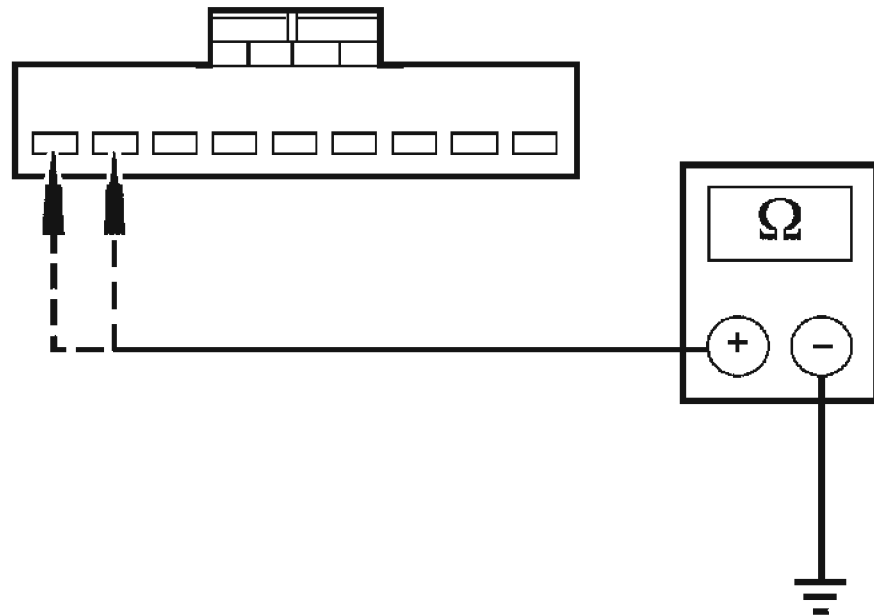
- Are the resistances greater than 1,000,000 ohms?

Yes : GO to AC5.

No : GO to AC4.

AC4 CHECK CIRCUIT 15S-JA8 (GN/RD) AND CIRCUIT 91S-JA8 (BK/OG) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE CLOCKSPrING

- Disconnect: Clockspring C2274.
- Measure the resistance between clockspring C2274 pin 9, circuit 15S-JA8 (GN/RD), harness side and ground; and between clockspring C2274 pin 8, circuit 91S-JA8 (BK/OG), harness side and ground.



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**Fig. 98: Checking Circuit 15S-JA8 (GN/RD) And Circuit 91S-JA8 (BK/OG)
For A Short To Ground Between RCM And Clockspring
Courtesy of FORD MOTOR CO.**

- **Are the resistances greater than 1,000,000 ohms?**

Yes : INSTALL a new clockspring. Refer to **CLOCKSPRING**. GO to AC7.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA8 (GN/RD) or circuit 91S-JA8 (BK/OG). GO to AC7.

AC5 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1936 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AC7.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AC7.

AC6 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1936 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the affected air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AC7.

If an intermittent concern **was not** found and repaired, GO to AC3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AC7.

AC7 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AC1.
- **Were any continuous DTCs retrieved during Step AC1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE**

CODE (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AD: DTC B1938 - Air Bag Passenger Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) checks all of the passenger air bag circuits for faults. If the RCM detects a short to ground on any of the passenger air bag module squib 1 circuits, it will store diagnostic trouble code (DTC) B1938 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A passenger air bag module squib 1 circuit short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger air bag module.
- A faulted RCM.

PINPOINT TEST AD: DTC B1938 - AIR BAG PASSENGER CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AD1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1938 retrieved during the on-demand self test?**
 - Yes :** This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AD2.
 - No :** This is an intermittent fault. The fault condition is not present at this time. GO to AD5.

AD2 CHECK THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

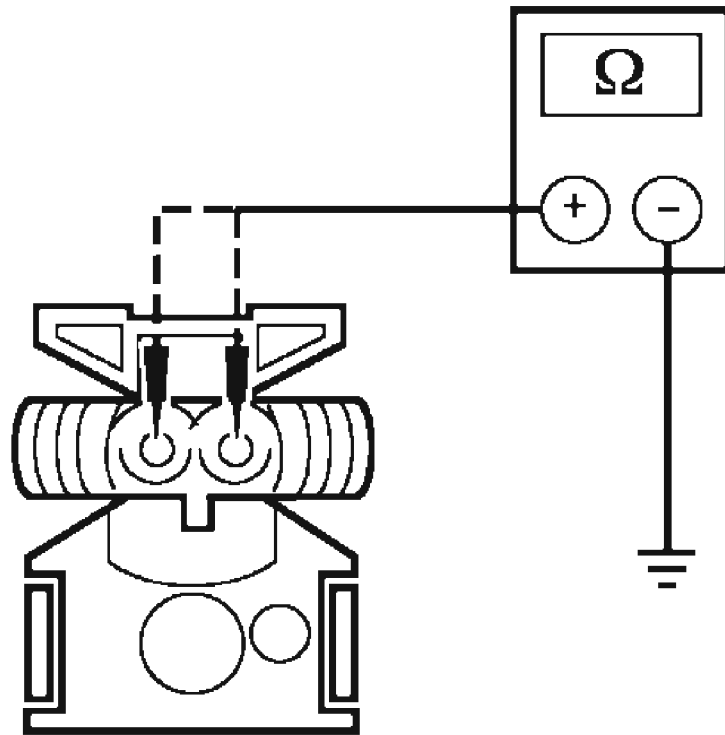
- **Was DTC B1938 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AD3.

No : INSTALL a new passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**. GO to AD6.

AD3 CHECK CIRCUIT 15S-JA31 (GN/WH) AND CIRCUIT 91S-JA31 (BK/WH) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool From Passenger Air Bag Module C256a.
- Measure the resistance between passenger air bag module C256a pin 1, circuit 15S-JA31 (GN/WH), harness side and ground; and between passenger air bag module C256a pin 2, circuit 91S-JA31 (BK/WH), harness side and ground.



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Fig. 99: Checking Circuit 15S-JA31 (GN/WH) And Circuit 91S-JA31 (BK/WH) For A Short To Ground Between RCM And Passenger Air Bag Module

Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to AD4.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA31 (GN/WH) or circuit 91S-JA31 (BK/WH). GO to AD6.

AD4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Connect: Passenger Air Bag Module Restraint System Diagnostic Tool 418-F395 to Passenger Air Bag Module C256a.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1938 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM).** GO to AD6.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AD6.

AD5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1938 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the affected air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AD6.

If an intermittent concern **was not** found and repaired, GO to AD3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AD6.

AD6 CHECK FOR ADDITIONAL DTCs

- Key in OFF position.
- Refer to the continuous DTCs recorded during Step AD1.
- **Were any continuous DTCs retrieved during Step AD1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AE: DTC B1992 - Driver Side, Side Mount Air Bag Circuit Short to VBatt Fault

Normal Operation

The restraints control module (RCM) checks all of the driver side air bag module circuits for faults. If the RCM detects a short to voltage on the driver side air bag module circuits, it will store diagnostic trouble code (DTC) B1992 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to voltage.

Possible Causes

A driver side air bag short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST AE: DTC B1992 - DRIVER SIDE, SIDE MOUNT AIR BAG CIRCUIT SHORT TO VBATT FAULT

NOTE: **Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.**

AE1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only.

Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• Was DTC B1992 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AE2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AE5.

AE2 CHECK CIRCUIT 15S-JA37 (GN/BK) AND CIRCUIT 91S-JA37 (BK/GN) FOR A SHORT TO BATTERY BETWEEN THE RCM AND THE DRIVER SIDE AIR BAG

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Driver Seat C311e.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

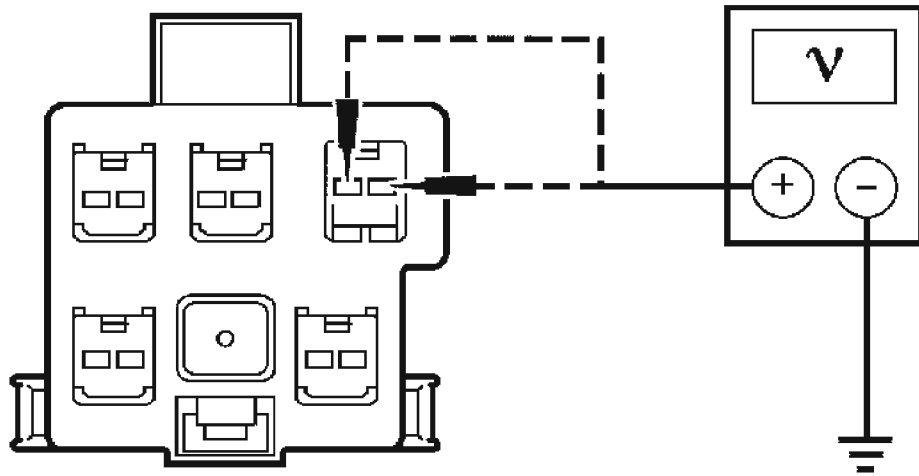
- **Was DTC B1992 retrieved during the on-demand self test?**

Yes : GO to AE3.

No : REMOVE and INSPECT the seat side air bag module harness for damage. REPAIR the harness or INSTALL a new driver side air bag module as needed. Refer to **SIDE AIR BAG MODULE**. GO to AE6.

AE3 CHECK CIRCUIT 15S-JA37 (GN/BK) AND CIRCUIT 91S-JA37 (BK/GN) FOR A SHORT TO BATTERY BETWEEN THE RCM AND THE DRIVER SEAT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Seat C311.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between driver seat C311e pin 9, circuit 15S-JA37 (GN/BK), harness side and ground; and between driver seat C311e pin 10, circuit 91S-JA37 (BK/GN), harness side and ground.



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Fig. 100: Checking Circuit 15S-JA37 (GN/BK) And Circuit 91S-JA37 (BK/GN) For A Short To Battery Between RCM And Driver Seat
Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : GO to AE4.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA37 (GN/BK) or circuit 91S-JA37 (BK/GN). GO to AE6.

AE4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.

- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1992 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM).** GO to AE6.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AE6.

AE5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1992 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver side air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AE6.

If an intermittent concern **was not** found and repaired, GO to AE3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AE6.

AE6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AE1.
- **Were any continuous DTCs retrieved during Step AE1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the

RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AF: DTC B1993 - Driver Side, Side Mount Air Bag Circuit Short to Ground Fault**Normal Operation**

The restraints control module (RCM) checks the driver side air bag circuits for faults. If the RCM detects a short to ground on a driver side air bag module circuit, it will store diagnostic trouble code (DTC) B1993 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A driver side air bag module short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- Driver side air bag module is faulted.
- A faulted RCM.

PINPOINT TEST AF: DTC B1993 - DRIVER SIDE, SIDE MOUNT AIR BAG CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AF1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1993 retrieved during the on-demand self test?**
 - Yes :** This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AF2.
 - No :** This is an intermittent fault. The fault condition is not present at this time. GO to AF5.

AF2 CHECK CIRCUIT 15S-JA37 (GN/BK) AND CIRCUIT 91S-JA37 (BK/GN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE DRIVER SIDE AIR BAG

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

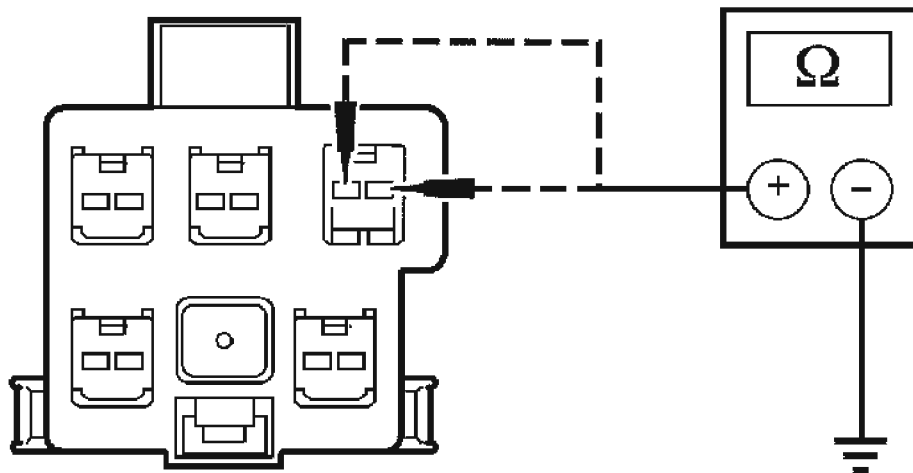
- Was DTC B1993 retrieved during the on-demand self test?

Yes : GO to AF3.

No : REMOVE and INSPECT the seat side air bag module harness for damage. REPAIR the harness as needed. If no problem is found in the harness, INSTALL a new driver side air bag module. Refer to **SIDE AIR BAG MODULE**. GO to AF6.

AF3 CHECK CIRCUIT 15S-JA37 (GN/BK) AND CIRCUIT 91S-JA37 (BK/GN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE DRIVER SEAT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Seat C311.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between driver seat C311 pin 9, circuit 15S-JA37 (GN/BK), harness side and ground; and between driver seat C311 pin 10, circuit 91S-JA37 (BK/GN), harness side and ground.



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Fig. 101: Checking Circuit 15S-JA37 (GN/BK) And Circuit 91S-JA37 (BK/GN) For A Short To Ground Between RCM And Driver Seat
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to AF4.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA37 (GN/BK) or circuit 91S-JA37 (BK/GN). GO to AF6.

AF4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded**

- Connect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool to Driver Seat C311e.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1993 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to AF6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AF6.

AF5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Disconnect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1993 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver side air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AF6.

If an intermittent concern **was not** found and repaired, GO to AF3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AF6.

AF6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AF1.
- **Were any continuous DTCs retrieved during Step AF1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AG: DTC B1994/B1995 - Driver Side, Side Mount Air Bag Circuit Open Fault/Driver Side, Side Mount Air Bag Circuit Low Resistance On Squib Fault

Normal Operation

The restraints control module (RCM) checks the driver side air bag module for faults. If the RCM detects an open or low resistance on the driver side air bag module circuits, it will store diagnostic trouble code (DTC) B1994 or B1995 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Low resistance.
- Circuit open.

Possible Causes

A driver side air bag module circuit open/driver side air bag module circuit low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty driver side air bag module.
- A faulted RCM.

PINPOINT TEST AG: B1994/B1995 - DRIVER SIDE, SIDE MOUNT AIR BAG CIRCUIT OPEN FAULT/DRIVER SIDE, SIDE MOUNT AIR BAG CIRCUIT LOW RESISTANCE ON SQUIB FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AG1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- Was DTC B1994 or B1995 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to AG2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to AG6.

AG2 CHECK THE DRIVER SIDE AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-demand Self Test.
- **Was DTC B1994 or B1995 retrieved during the on-demand self test?**

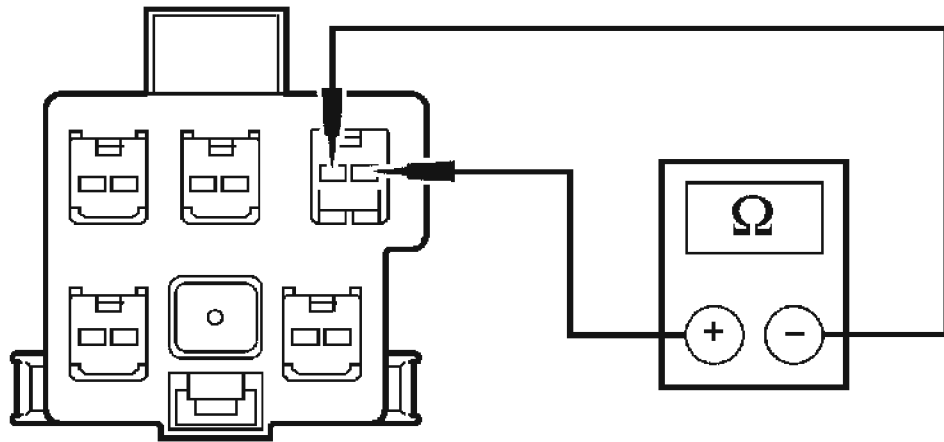
Yes : For DTC B1994, GO to AG4.

For DTC B1995, GO to AG3.

No : REMOVE and INSPECT the seat side air bag module harness for damage. If a concern is found, REPAIR harness as needed. If no problem is found in the harness, INSTALL a new driver side air bag module. REFER **SIDE AIR BAG MODULE.** GO to AG7.

AG3 CHECK THE DRIVER SIDE AIR BAG CIRCUIT 91S-JA37 (BK/GN) AND CIRCUIT 15S-JA37 (GN/BK) FOR LOW RESISTANCE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Driver Seat C311.
- Measure the resistance between driver seat C311 pin 9, circuit 15S-JA37 (GN/BK), harness side and pin 10, circuit 91S-JA37 (BK/GN), harness side.



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Fig. 102: Checking Driver Side Air Bag Circuit 91S-JA37 (BK/GN) And Circuit 15S-JA37 (GN/BK) For Low Resistance
 Courtesy of FORD MOTOR CO.

- Is the resistance greater than 10,000 ohms?

Yes : GO to AG5.

No : REPAIR circuit 91S-JA37 (BK/GN) and circuit 15S-JA37 (GN/BK). GO to AG7.

AG4 CHECK CIRCUIT 91S-JA37 (BK/GN) FOR AN OPEN

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Driver Seat C311.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041a pin 10, circuit 91S-JA37 (BK/GN), harness side and driver seat C311 pin 10, circuit 91S-JA37 (BK/GN), harness side; and between RCM C2041a pin 9, circuit 15S-JA37 (GN/BK), harness side and driver seat C311 pin 9, circuit 15S-JA37 (GN/BK), harness side.

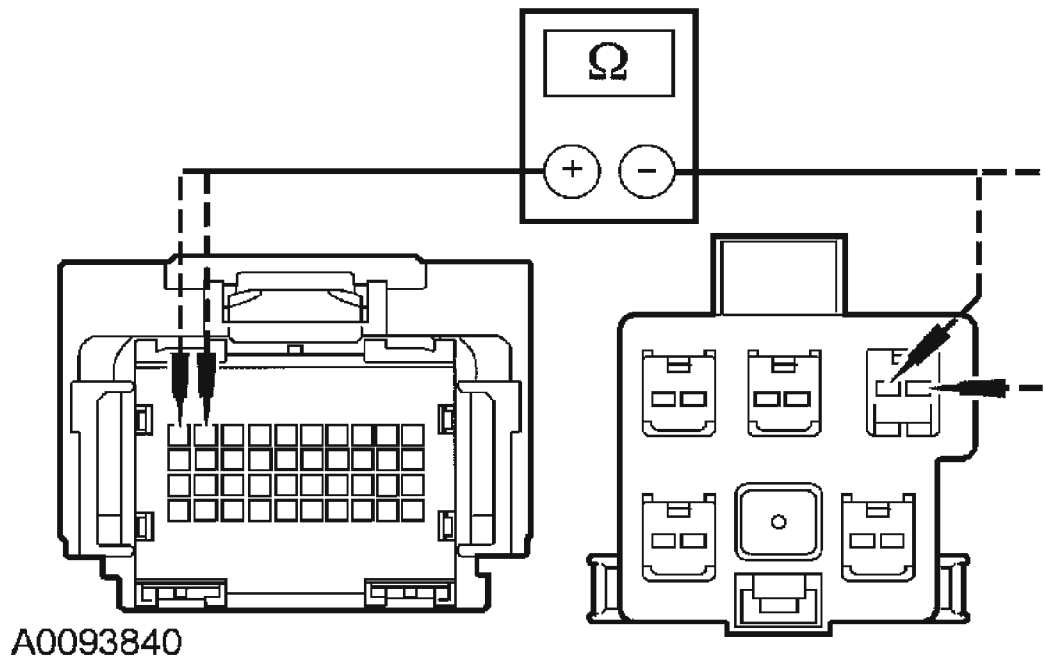


Fig. 103: Checking Circuit 91S-JA37 (BK/GN) For An Open
 Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

Yes : GO to AG5.

No : REPAIR circuit 91S-JA37 (BK/GN) or circuit 15S-JA37 (GN/BK). GO to AG7.

AG5 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Was DTC B1994 or B1995 retrieved during the on-demand self test?

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AG7.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [AG7](#).

AG6 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Seat C311.
- Connect: Restraint System Diagnostic Tool 501-109 to Driver Seat C311e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1994 or B1995 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver side air bag module electrical connectors. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to AG7.

If an intermittent concern **was not** found and repaired, GO to AG3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AG7.

AG7 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AG1.
- **Were any continuous DTCs retrieved during Step AG1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all

DTCs.

Pinpoint Test AH: DTC B1996 - Passenger Side, Side Mount Air Bag Circuit Short to VBatt Fault

Normal Operation

The restraints control module (RCM) checks the passenger side air bag circuits for faults. If the RCM detects a short to voltage on a passenger side air bag module circuit, it will store diagnostic trouble code (DTC) B1996 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to voltage.

Possible Causes

A passenger side air bag module short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST AH: DTC B1996 - PASSENGER SIDE, SIDE MOUNT AIR BAG CIRCUIT SHORT TO VBATT FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AH1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor

pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• Was DTC B1996 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AH2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AH5.

AH2 CHECK CIRCUIT 15S-JA38 (GN/OG) AND CIRCUIT 91S-JA38 (BK/RD) FOR A SHORT TO BATTERY BETWEEN THE PASSENGER SEAT AND THE PASSENGER SIDE AIR BAG

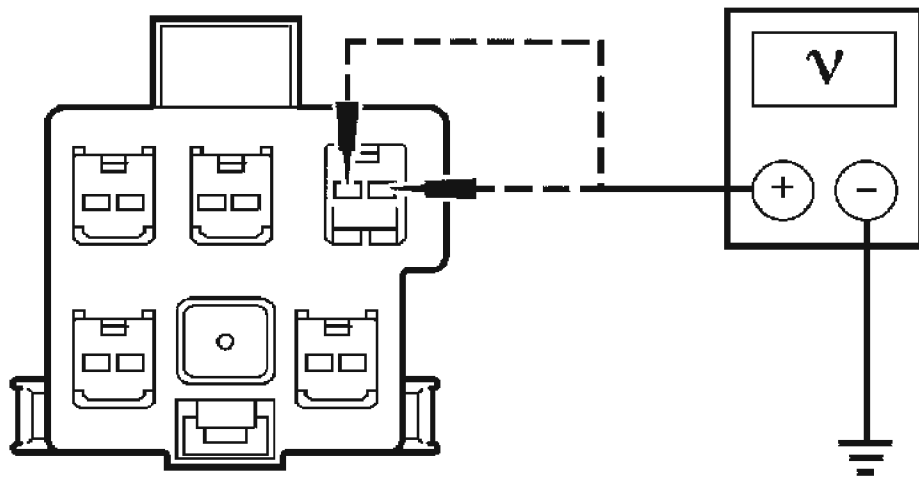
- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1996 retrieved during the on-demand self test?**

Yes : GO to AH3.

No : REMOVE and INSPECT the seat side air bag module harness for damage. REPAIR the harness or INSTALL a new passenger side air bag module as needed. REFER **SIDE AIR BAG MODULE.** GO to AH6.

AH3 CHECK CIRCUIT 15S-JA38 (GN/OG) AND CIRCUIT 91S-JA38 (BK/RD) FOR A SHORT TO BATTERY BETWEEN THE RCM AND THE PASSENGER SEAT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Seat C312.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between passenger seat C312 pin 9, circuit 15S-JA38 (GN/OG), harness side and ground; and between passenger seat C312 pin 10, circuit 91S-JA38 (BK/RD), harness side and ground.



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Fig. 104: Checking Circuit 15S-JA38 (GN/OG) And Circuit 91S-JA38 (BK/RD) For A Short To Battery Between RCM And Passenger Seat
Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?
Yes : GO to AH4.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA38 (GN/OG) or circuit 91S-JA38 (BK/RD). GO to AH6.

AH4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1996 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AH6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AH6.

AH5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1996 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver side air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AH6.

If an intermittent concern **was not** found and repaired, GO to AH3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AH6.

AH6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AH1.

- **Were any continuous DTCs retrieved during Step AH1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AI: DTC B1997 - Passenger Side, Side Mount Air Bag Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) checks the passenger side air bag circuits for faults. If the RCM detects a short to ground on a passenger side air bag module circuit, it will store diagnostic trouble code (DTC) B1997 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A passenger side air bag module short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- Passenger side air bag module is faulted.
- A faulted RCM.

PINPOINT TEST AI: DTC B1997 - PASSENGER SIDE, SIDE MOUNT AIR BAG CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AI1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- Was DTC B1997 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be

cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AI2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AI5.

AI2 CHECK CIRCUIT 15S-JA38 (GN/OG) AND CIRCUIT 91S-JA38 (BK/RD) FOR A SHORT TO GROUND BETWEEN THE PASSENGER SEAT AND THE PASSENGER SIDE AIR BAG

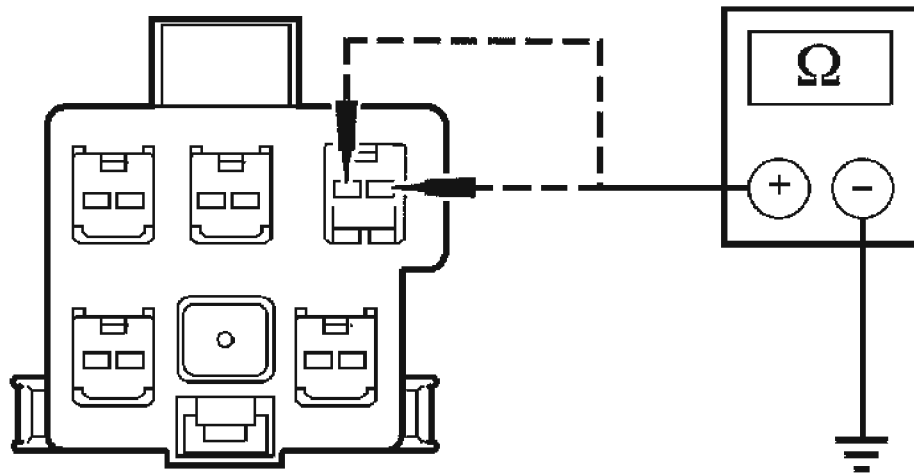
- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Key in ON position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1997 retrieved during the on-demand self test?**

Yes : GO to AI3.

No : REMOVE and INSPECT the seat side air bag module jumper harness for damage. If a concern is found, REPAIR the harness as needed. If no problem is found in the harness, INSTALL a new passenger side air bag module. REFER SIDE AIR BAG MODULE. GO to AI6.

AI3 CHECK CIRCUIT 15S-JA38 (GN/OG) AND CIRCUIT 91S-JA38 (BK/RD) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE PASSENGER SEAT

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Disconnect: Passenger Seat C312.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between passenger seat C312 pin 9, circuit 15S-JA38 (GN/OG), harness side and ground; and between passenger seat C312 pin 10, circuit 91S-JA38 (BK/RD), harness side and ground.



A0093838

Fig. 105: Checking Circuit 15S-JA38 (GN/OG) And Circuit 91S-JA38 (BK/RD) For A Short To Ground Between RCM And Passenger Seat
Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to AI4.

No : Due to the shorting bar feature in the electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar.

REPAIR circuit 15S-JA38 (GN/OG) or circuit 91S-JA38 (BK/RD). GO to AI6.

AI4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded**

- Connect: Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND**

REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1997 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AI6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AI6.

AI5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was the DTC B1997 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger side air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AI6.

If an intermittent concern **was not** found and repaired, GO to AI3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AI6.

AI6 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AI1.
- **Were any continuous DTCs retrieved during Step AI1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AJ: DTC B1998/B1999 - Passenger Side, Side Mount Air Bag Circuit Open Fault/Passenger Side, Side Mount Air Bag Circuit Low Resistance On Squib Fault

Normal Operation

The restraints control module (RCM) checks passenger side air bag module for faults. If the RCM detects an open or low resistance on passenger side air bag module circuits, it will store diagnostic trouble code (DTC) B1998 or B1999 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Low resistance.
- Circuit open.

Possible Causes

A passenger side air bag module open circuit or low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger side air bag module.
- A faulted RCM.

PINPOINT TEST AJ: B1998/B1999 - PASSENGER SIDE, SIDE MOUNT AIR BAG CIRCUIT OPEN FAULT/PASSENGER SIDE, SIDE MOUNT AIR BAG CIRCUIT LOW RESISTANCE ON SQUIB FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AJ1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B1998 or B1999 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to AJ2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to AJ6.

AJ2 CHECK THE PASSENGER SIDE AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

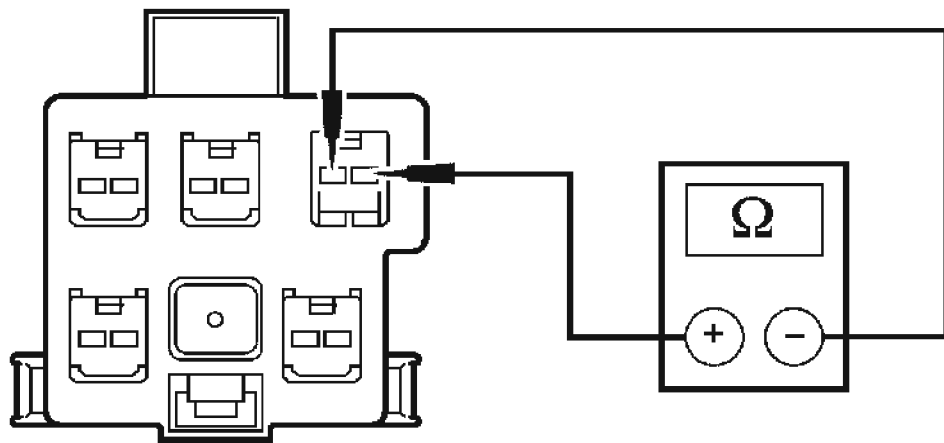
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1998 or B1999 retrieved during the on-demand self test?**
Yes : For DTC B1998, GO to AJ4.

For DTC B1999, GO to AJ3.

No : REMOVE and INSPECT the seat side air bag module harness for damage. If a concern is found, REPAIR the harness as needed. If no problem is found in the harness, INSTALL a new passenger seat side air bag module. Refer to **SIDE AIR BAG MODULE**. GO to AJ7.

AJ3 CHECK THE PASSENGER SIDE AIR BAG CIRCUIT 91S-JA38 (BK/RD) AND CIRCUIT 15S-JA38 (GN/OG) FOR LOW RESISTANCE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Seat C312.
- Measure the resistance between passenger seat C312 pin 9, circuit 15S-JA38 (GN/OG), harness side and pin 10, circuit 91S-JA38 (BK/RD), harness side.



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Fig. 106: Checking Passenger Side Air Bag Circuit 91S-JA38 (BK/RD) And Circuit 15S-JA38 (GN/OG) For Low Resistance
Courtesy of FORD MOTOR CO.

- Is the resistance greater than 10,000 ohms?

Yes : GO to AJ5.

No : REPAIR circuit 91S-JA38 (BK/RD) and circuit 15S-JA38 (GN/OG). GO to AJ7.

AJ4 CHECK CIRCUIT 91S-JA38 (BK/RD) FOR AN OPEN

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Seat C312.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041a pin 8, circuit 91S-JA38 (BK/RD), harness side and passenger seat C312 pin 10, circuit 91S-JA38 (BK/RD), harness side; and between RCM C2041a pin 7, circuit 15S-JA38 (GN/OG), harness side and passenger seat C312 pin 9, circuit 15S-JA38 (GN/OG), harness side.

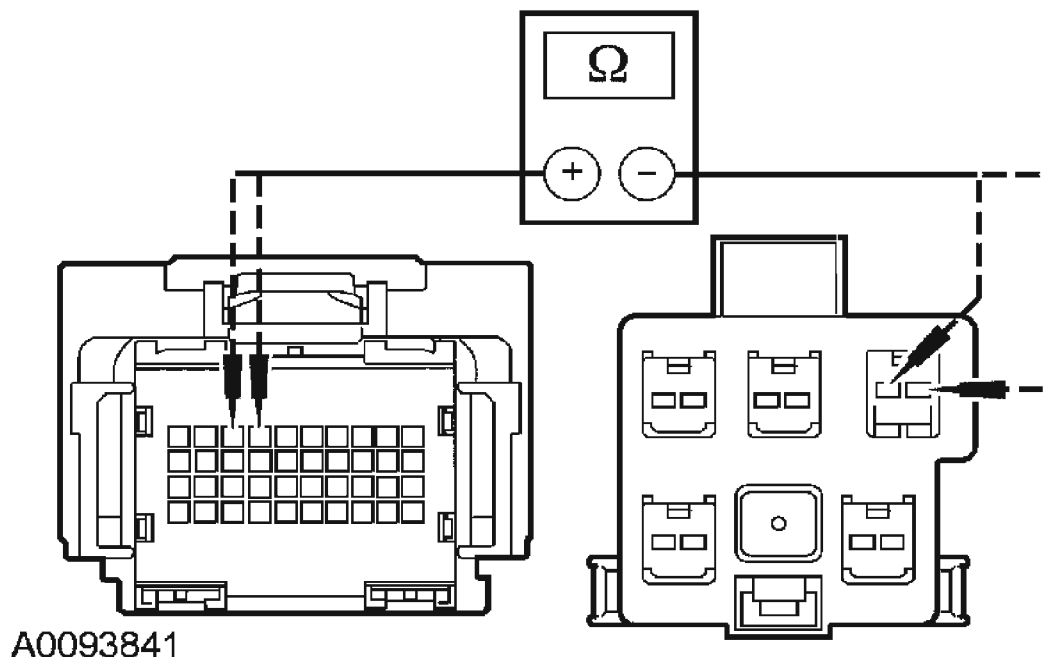


Fig. 107: Checking Circuit 91S-JA38 (BK/RD) For An Open
Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

Yes : GO to AJ5.

No : REPAIR circuit 91S-JA38 (BK/RD) or circuit 15S-JA38 (GN/OG). GO to

AJ7.

AJ5 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B1998 or B1999 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AJ7.

No : CHECK for causes of the intermittent fault on the pretensioner circuits. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to [AJ7](#).

AJ6 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B1998 or B1999 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger side air bag module electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to AJ7.

If an intermittent concern **was not** found and repaired, GO to AJ3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AJ7.

AJ7 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AJ1.
- **Were any continuous DTCs retrieved during Step AJ1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AK: DTC B2227 - Front Crash Sensor Driver Communications Fault

Normal Operation

The restraints control module (RCM) checks the front impact severity sensor circuits for faults. If the RCM detects one of the following faults on the front impact severity sensor circuits, it will store diagnostic trouble code (DTC) B2227 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Low resistance.
- Circuit open.
- Circuit short to voltage.
- Circuit short to ground.

Possible Causes

A front crash sensor driver communications fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty front impact severity sensor.

- Incorrect sensor mounting.
- A faulted RCM.

PINPOINT TEST AK: DTC B2227 - FRONT CRASH SENSOR DRIVER COMMUNICATIONS FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AK1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2227 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-

demand self test.

GO to AK.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to AK12.

AK2 INSPECT THE FRONT IMPACT SEVERITY SENSOR MOUNTING SURFACE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Inspect the front impact severity sensor mounting and make sure that the retaining bolts are fully seated and tightened correctly.
- Remove the front impact severity sensor. Refer to **FRONT IMPACT SEVERITY SENSOR**.
- Visually inspect the front impact severity sensor and mounting surface for damage, corrosion or dirt.
- **Was a significant amount of corrosion or dirt found, the front impact severity sensor attached to the mounting surface incorrectly or were the front impact severity sensor bolts were fully seated and tightened correctly?**

Yes : CLEAN and TIGHTEN bolts or REPAIR the mounting surface as necessary. REINSTALL the front impact severity sensor. GO to AK13.

No : GO to AK3.

AK3 INSTALL THE FRONT IMPACT SEVERITY SENSOR AND CARRY OUT THE ON-DEMAND SELF TEST

- Clean and repair the mounting surface as necessary.
- Clean the front impact severity sensor mounting bolts.
- Install the front impact severity sensor. Refer to **FRONT IMPACT SEVERITY SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2227 retrieved during the on-demand self test?**

Yes : GO to AK4.

No : Fault corrected. GO to AK13.

AK4 CHECK THE FRONT IMPACT SEVERITY SENSOR GROUND CIRCUIT 9-JA49 (BN) FOR HIGH RESISTANCE

- Key in OFF position.

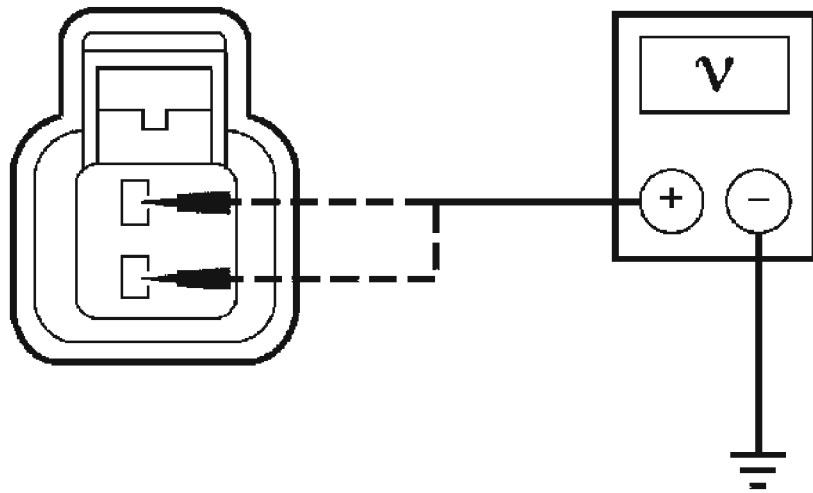
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Front Impact Severity Sensor C177.
- Measure the resistance between front impact severity sensor C177 pin 1, circuit 9-JA49 (BN), harness side and the front impact severity sensor case ground.
- **Is the resistance less than 10 ohms?**
Yes : GO to AK6.
No : GO to AK5.

AK5 CLEAN THE FRONT IMPACT SEVERITY SENSOR MOUNTING SURFACE AND CARRY OUT THE ON-DEMAND SELF TEST

- Remove the front impact severity sensor. Refer to **FRONT IMPACT SEVERITY SENSOR**.
- Clean and repair the mounting surface as necessary.
- Clean the front impact severity sensor mounting bolts.
- Install the front impact severity sensor. Refer to **FRONT IMPACT SEVERITY SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2227 retrieved during the on-demand self test?**
Yes : GO to AK6.
No : Fault corrected. GO to AK13.

AK6 CHECK CIRCUIT 8-JA49 (WH) AND CIRCUIT 9-JA49 (BN) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE FRONT IMPACT SEVERITY SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Front Impact Severity Sensor C177.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between front impact severity sensor C177 pin 2, circuit 8-JA49 (WH), harness side and ground; and between front impact severity sensor C177 pin 1, circuit 9-JA49 (BN), harness side and ground.



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Fig. 108: Checking Circuit 8-JA49 (WH) And Circuit 9-JA49 (BN) For A Short To Voltage Between RCM And Front Impact Severity Sensor
Courtesy of FORD MOTOR CO.

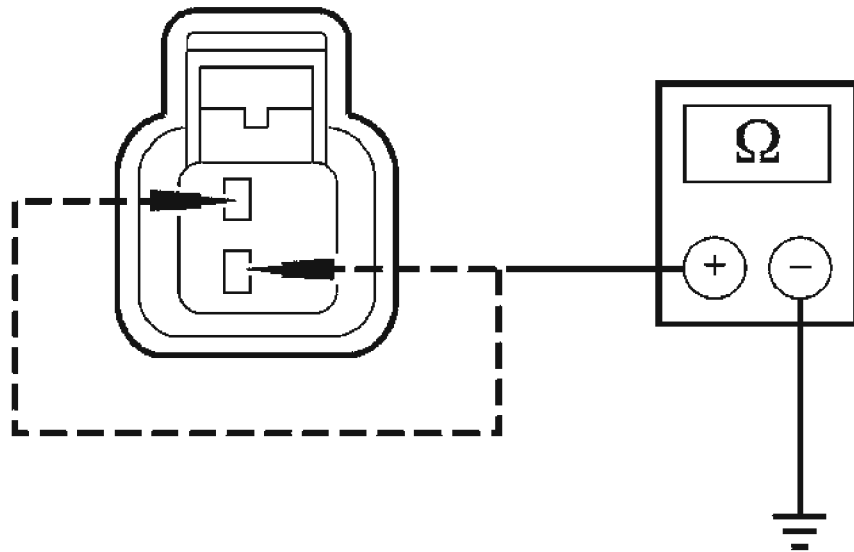
- Are the voltages less than 0.2 volt?

Yes : GO to AK9.

No : REPAIR circuit 8-JA49 (WH) or circuit 9-JA49 (BN). GO to AK13.

AK7 CHECK CIRCUIT 8-JA49 (WH) AND CIRCUIT 9-JA49 (BN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE FRONT IMPACT SEVERITY SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Measure the resistance between front impact severity sensor C177 pin 2, circuit 8-JA49 (WH), harness side and ground; and between front impact severity sensor C177 pin 1, circuit 9-JA49 (BN), harness side and ground.



A0093812

Fig. 109: Checking Circuit 8-JA49 (WH) And Circuit 9-JA49 (BN) For A Short To Ground Between RCM And Front Impact Severity Sensor
Courtesy of FORD MOTOR CO.

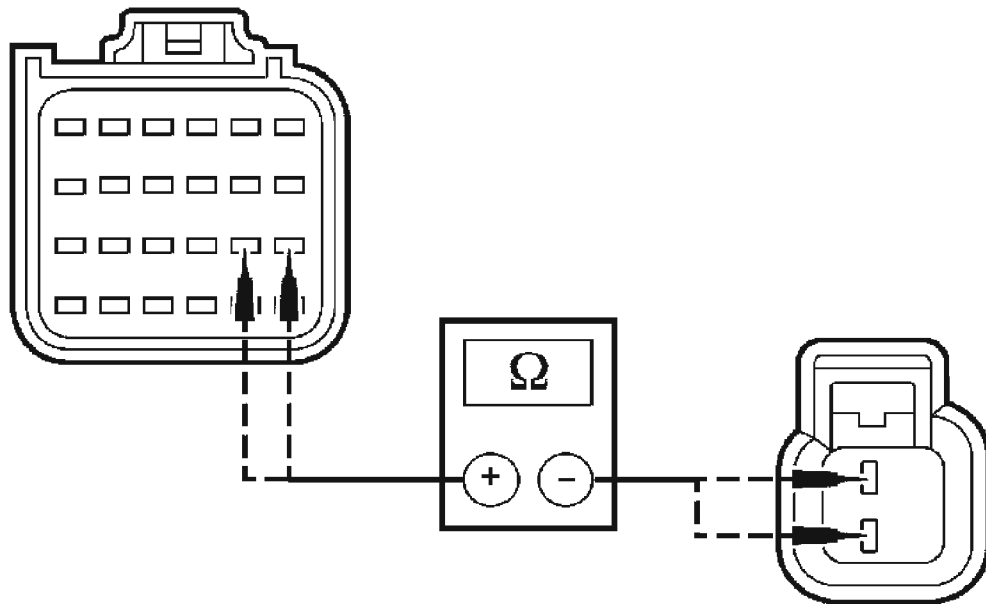
- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to AK8.

No : REPAIR circuit 8-JA49 (WH) or circuit 9-JA49 (BN). GO to AK13.

AK8 CHECK CIRCUIT 8-JA49 (WH) AND CIRCUIT 9-JA49 (BN) FOR AN OPEN BETWEEN THE RCM AND THE FRONT IMPACT SEVERITY SENSOR

- Measure the resistance between RCM C2041b pin 14, circuit 8-JA49 (WH), harness side and front impact severity sensor C177 pin 2, circuit 8-JA49 (WH), harness side; and between RCM C2041b pin 13, circuit 9-JA49 (BN), harness side and front impact severity sensor C177 pin 1, circuit 9-JA49 (BN), harness side.



A0093844

Fig. 110: Checking Circuit 8-JA49 (WH) And Circuit 9-JA49 (BN) For An Open Between RCM And Front Impact Severity Sensor
 Courtesy of FORD MOTOR CO.

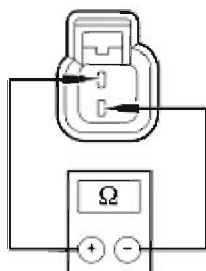
- Are the resistances less than 0.5 ohm?

Yes : GO to AK9.

No : REPAIR circuit 8-JA49 (WH) or circuit 9-JA49 (BN). GO to AK13.

AK9 CHECK CIRCUIT 8-JA49 (WH) FOR A SHORT TO CIRCUIT 9-JA49 (BN) BETWEEN THE RCM AND THE FRONT IMPACT SEVERITY SENSOR

- Measure the resistance between front impact severity sensor C177 pin 2, circuit 8-JA49 (WH), harness side and pin 1, circuit 9-JA49 (BN), harness side.



A0093859

Fig. 111: Measuring Resistance Between Connector Terminals
 Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 1,000,000 ohms?**

Yes : GO to AK10.

No : REPAIR circuit 8-JA49 (WH) and circuit 9-JA49 (BN). GO to AK13.

AK10 CHECK THE FRONT IMPACT SEVERITY SENSOR

- Connect: RCM C2041a and C2041b.
- Install a known good front impact severity sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2227 retrieved during the on-demand self test?**

Yes : GO to AK11.

No : Fault corrected. GO to AK13.

AK11 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Install the original impact sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2227 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AK13.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AK13.

AK12 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2227 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AK2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AK13.

AK13 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AK1.
- **Were any continuous DTCs retrieved during Step AK1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AL: DTC B2228 - Air Bag Driver Circuit Short to Ground Loop #2 Fault

Normal Operation

The restraints control module (RCM) checks all of the driver air bag circuits for faults. If the RCM detects a short to ground on any of the driver air bag module squib 2 circuits, it will store diagnostic trouble code (DTC) B2228 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A driver air bag module squib 2 circuit short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty clockspring.
- A faulty driver air bag module.
- A faulted RCM.

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AL1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2228 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AL2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AL6.

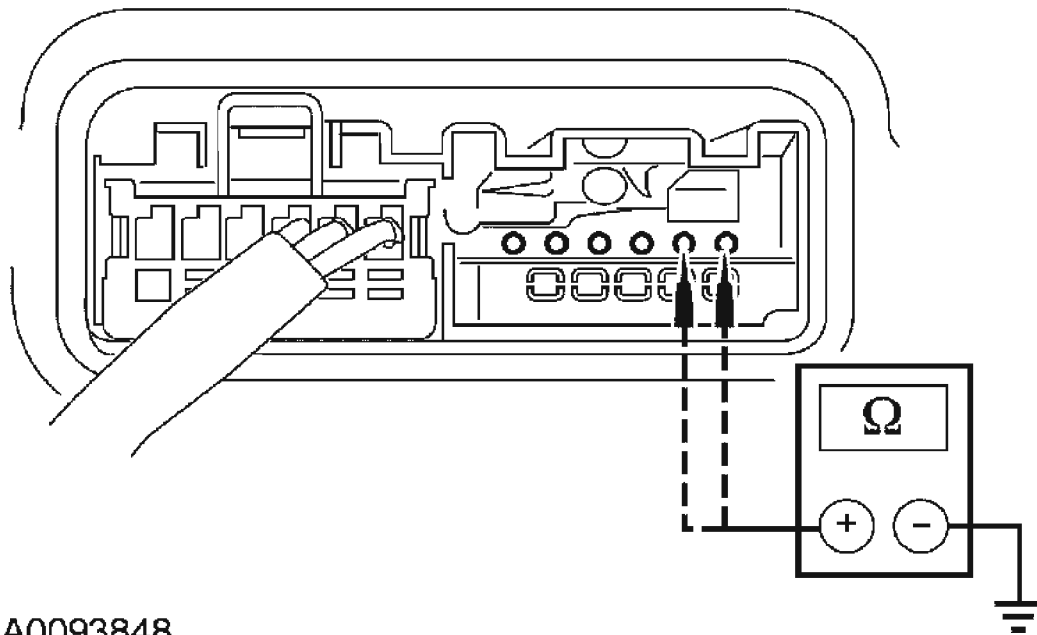
AL2 CHECK THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2228 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AL3.
No : INSTALL a new driver air bag module. Refer to **DRIVER AIR BAG MODULE**. GO to AL7.

AL3 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Air Bag Module Restraint System Diagnostic Tool From Driver Air Bag Module Electrical Connector.

CAUTION: Take care not to damage the pins when probing the clockspring.



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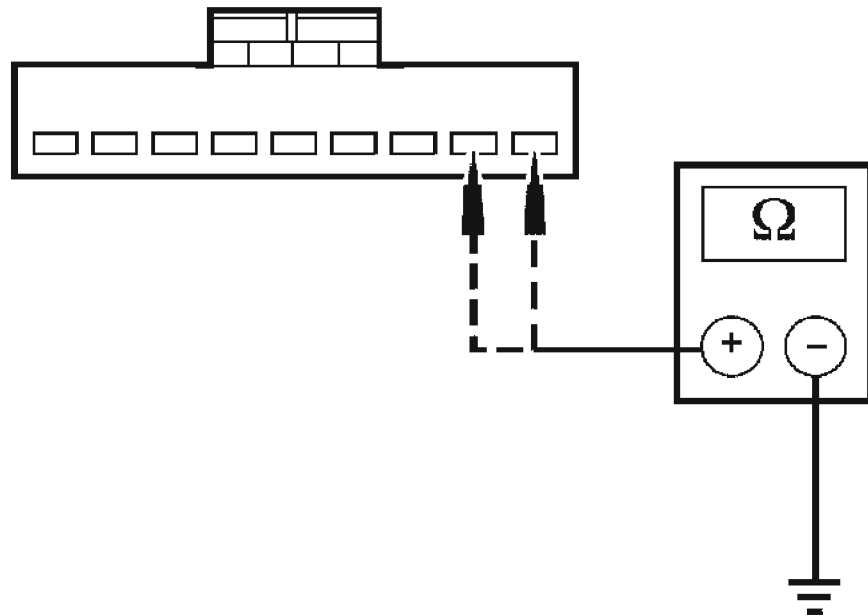
Fig. 112: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA48 (BK/GN) For A Short To Ground Between RCM And Driver Air Bag Module

Courtesy of FORD MOTOR CO.

- Measure the resistance between driver air bag module electrical connector pin 6, circuit 15S-JA48 (GN/BK), clockspring side and ground; and between driver air bag module electrical connector pin 5, circuit 91S-JA48 (BK/GN), clockspring side and ground.
- **Are the resistances greater than 1,000,000 ohms?**
Yes : GO to AL5.
No : GO to AL4.

AL4 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE CLOCKSPRING

- Disconnect: Clockspring C2274.
- Measure the resistance between clockspring C2274 pin 1, circuit 15S-JA48 (GN/BK), harness side and ground; and between clockspring C2274 pin 2, circuit 91S-JA48 (BK/GN), harness side and ground.



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Fig. 113: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA48 (BK/GN) For A Short To Ground Between RCM And Clockspring
Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**
Yes : INSTALL a new clockspring. Refer to **CLOCKSPRING**. GO to AL7.
No : REPAIR circuit 15S-JA48 (GN/BK) or circuit 91S-JA48 (BK/GN). GO to AL7.

AL5 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2228 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to AL7.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AL7.

AL6 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Remove the driver air bag module. Refer to DRIVER AIR BAG MODULE.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2228 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the affected air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AL7.

If an intermittent concern **was not** found and repaired, GO to AL3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AL7.

AL7 CHECK FOR ADDITIONAL DTCs

- Refer to the continuous DTCs recorded during Step AL1
- **Were any continuous DTCs retrieved during Step AL1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system,

REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AM: DTC B2229 - Air Bag Passenger Circuit Short to Ground Loop #2 Fault**Normal Operation**

The restraints control module (RCM) checks all of the passenger air bag circuits for faults. If the RCM detects a short to ground on any of the passenger air bag module squib 2 circuits, it will store diagnostic trouble code (DTC) B2229 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to ground.

Possible Causes

A passenger air bag module squib 2 circuit short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger air bag module.
- A faulted RCM.

PINPOINT TEST AM: DTC B2229 - AIR BAG PASSENGER CIRCUIT SHORT TO GROUND LOOP # 2 FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AM1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can

result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2229 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AM2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to AM5.

AM2 CHECK THE PASSENGER AIR BAG MODULE

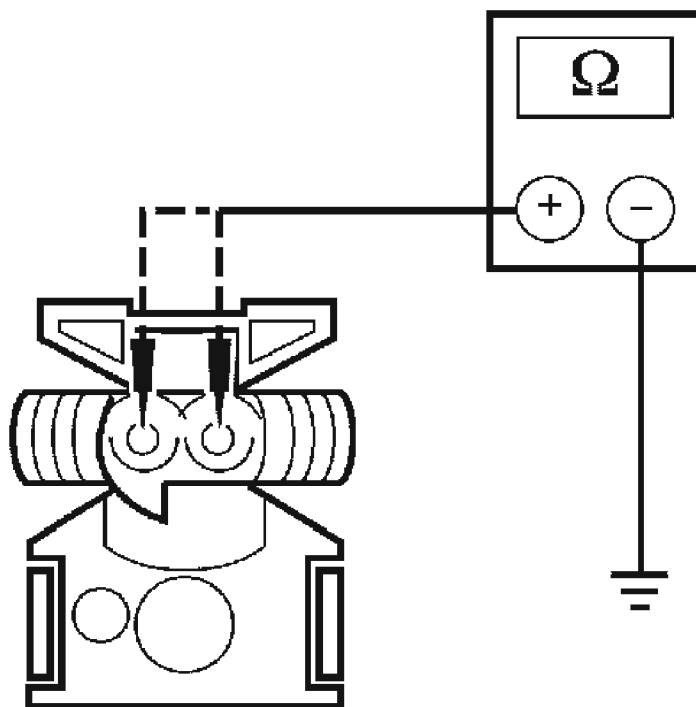
- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE.**
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2229 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be

cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AM3.

No : INSTALL a new passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**. GO to AM6.

AM3 CHECK CIRCUIT 15S-JA32 (GN/YE) AND CIRCUIT 91S-JA32 (BK/YE) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool From Passenger Air Bag Module C256b.
- Measure the resistance between passenger air bag module C256b pin 1, circuit 15S-JA32 (GN/YE), harness side and ground; and between passenger air bag module C256b pin 2, circuit 91S-JA32 (BK/YE), harness side and ground.



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Fig. 114: Checking Circuit 15S-JA32 (GN/YE) And Circuit 91S-JA32

(BK/YE) For A Short To Ground Between RCM And Passenger Air Bag Module

Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to AM4.

No : REPAIR circuit 15S-JA32 (GN/YE) or circuit 91S-JA32 (BK/YE) GO to AM6.

AM4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded**

- Connect: Passenger Air Bag Module Restraint System Diagnostic Tool 418-F395 to Passenger Air Bag Module C256b.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2229 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AM6.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AM6.

AM5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B2229 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the affected air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AM6.

If an intermittent concern **was not** found and repaired, GO to AM3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AM6.

AM6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AM1.
- **Were any continuous DTCs retrieved during Step AM1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AN: DTC B2230 - Air Bag Driver Circuit Short to Battery Loop #2 Fault

Normal Operation

The restraints control module (RCM) checks all of the driver air bag module circuits for faults. If the RCM detects a short to voltage on a driver air bag module squib 2 circuit, it will store diagnostic trouble code (DTC) B2230 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to voltage.

Possible Causes

A driver air bag module squib 2 short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty clockspring.
- A faulted RCM.

PINPOINT TEST AN: DTC B2230 - AIR BAG DRIVER CIRCUIT SHORT TO BATTERY LOOP #2 FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AN1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2230 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be

cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AN2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AN5.

AN2 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Remove the driver air bag module. Refer to DRIVER AIR BAG MODULE.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Key in ON position.

CAUTION: Take care not to damage the pins when probing the clockspring.

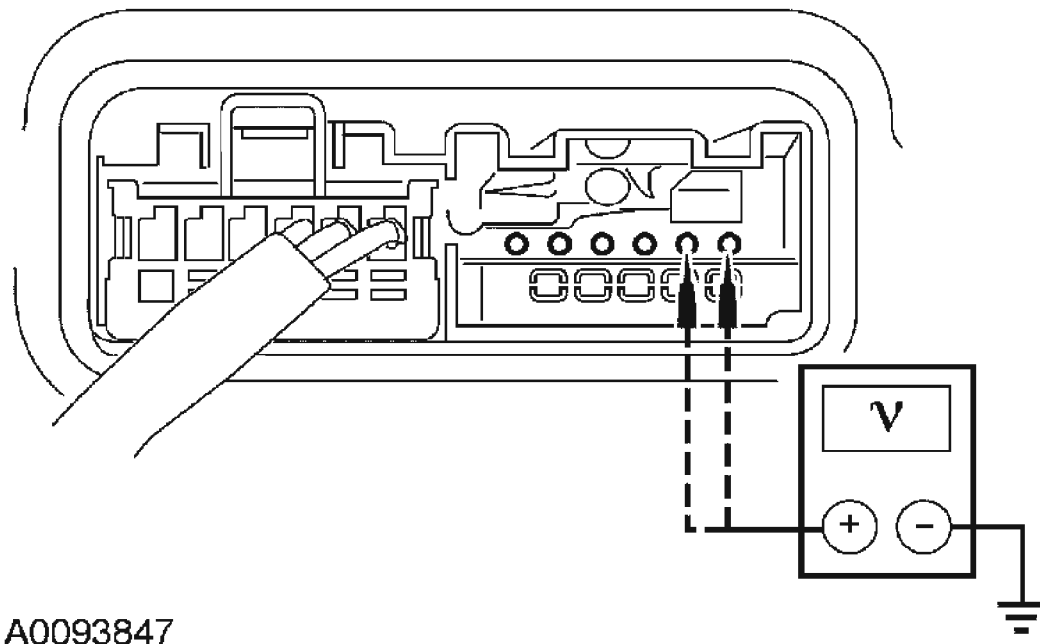


Fig. 115: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA48 (BK/GN) For A Short To Voltage Between RCM And Driver Air Bag Module

Courtesy of FORD MOTOR CO.

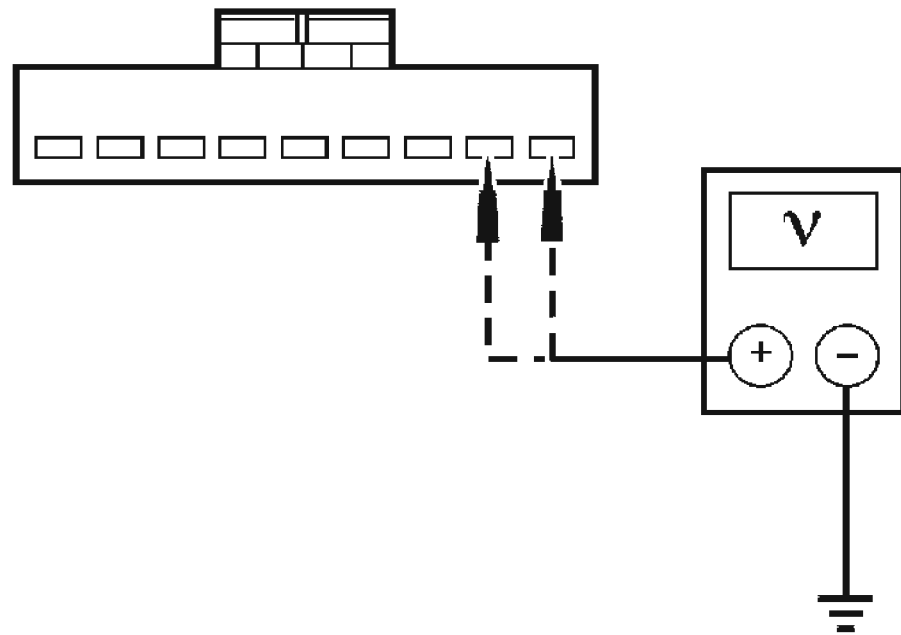
- Measure the voltage between driver air bag module electrical connector pin 6, circuit 15S-JA48 (GN/BK), clockspring side and ground; and between driver air bag module electrical connector pin 5, circuit 91S-JA48 (BK/GN), clockspring side and ground.
- **Are the voltages less than 0.2 volt?**

Yes : GO to AN4.

No : GO to AN3.

AN3 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE CLOCKSPrING

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: Clockspring C2274.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Measure the voltage between clockspring C2274 pin 1, circuit 15S-JA48 (GN/BK), harness side and ground; and between clockspring C2274 pin 2, circuit 91S-JA48 (BK/GN), harness side and ground.



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Fig. 116: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA48 (BK/GN) For A Short To Voltage Between RCM And Clockspring
Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : INSTALL a new clockspring. Refer to **CLOCKSPRING**. GO to AN6.

No : REPAIR circuit 15S-JA48 (GN/BK) or circuit 91S-JA48 (BK/GN). GO to AN6.

AN4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Clockspring C2274.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module

Electrical Connector.

- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B2230 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AN6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AN6.

AN5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2230 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AN6.

If an intermittent concern **was not** found and repaired, GO to AN3.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AN6.

AN6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AN1.

- **Were any continuous DTCs retrieved during Step AN1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AO: DTC B2231 - Air Bag Passenger Circuit Short to Battery Loop #2 Fault

Normal Operation

The restraints control module (RCM) checks all of the passenger air bag circuits for faults. If the RCM detects a short to voltage on a passenger air bag module squib 2 circuit, it will store diagnostic trouble code (DTC) B2231 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault condition:

- Circuit short to voltage.

Possible Causes

A passenger air bag module squib 2 short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST AO: DTC B2231 - AIR BAG PASSENGER CIRCUIT SHORT TO BATTERY LOOP #2 FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AO1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

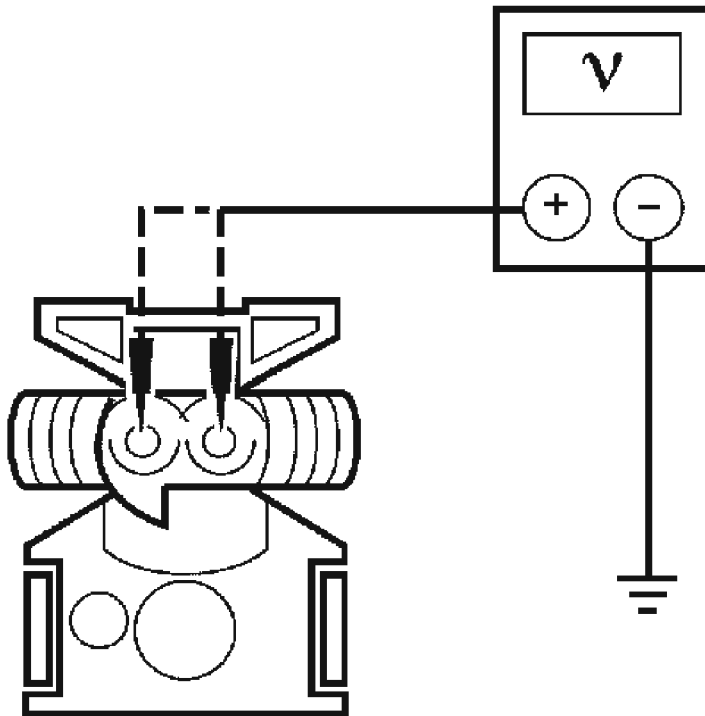
NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2231 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AO2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to AO4.

AO2 CHECK CIRCUIT 15S-JA32 (GN/YE) AND CIRCUIT 91S-JA32 (BK/YE) FOR A SHORT TO BATTERY BETWEEN THE RCM AND THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Remove the passenger air bag module. Refer to PASSENGER AIR BAG MODULE.
- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

- Key in ON position.
- Measure the voltage between passenger air bag module C256b pin 1, circuit 15S-JA32 (GN/YE), harness side and ground; and between passenger air bag module C256b pin 2, circuit 91S-JA32 (BK/YE), harness side and ground.



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Fig. 117: Checking Circuit 15S-JA32 (GN/YE) And Circuit 91S-JA32 (BK/YE) For A Short To Battery Between RCM And Passenger Air Bag Module

Courtesy of FORD MOTOR CO.

- **Are the voltages less than 0.2 volt?**

Yes : GO to AO3.

No : REPAIR circuit 15S-JA32 (GN/YE) or circuit 91S-JA32 (BK/YE). GO to AO5.

AO3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are

connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2231 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AO5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AO5.

AO4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2231 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AO5.

If an intermittent concern **was not** found and repaired, GO to AO2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AO5.

AO5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AO1.
- **Were any continuous DTCs retrieved during Step AO1 ?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AP: DTC B2232/B2234- Air Bag Driver Circuit Open Fault/Air Bag Driver Inflator Circuit Resistance Low On Squib Loop #2 Fault

Normal Operation

The restraints control module (RCM) checks all of the driver air bag module circuits for faults. If the RCM detects an open or low resistance on the driver air bag module squib 2 circuits, it will store diagnostic trouble code (DTC) B2232 or B2234 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit open.
- Low resistance.

Possible Causes

A driver air bag module squib 2 circuit open/low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty clockspring.
- A faulty driver air bag module.
- A faulted RCM.

PINPOINT TEST AP: DTC B2232/B2234- AIR BAG DRIVER CIRCUIT OPEN FAULT/AIR BAG DRIVER INFLATOR CIRCUIT RESISTANCE LOW ON SQUIB LOOP #2 FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AP1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2232 or B2234 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AP2.

No : This is an intermittent fault. The fault condition is not present at this time.

GO to AP9.

AP2 CHECK DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2232 or B2234 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

For DTC B2234, GO to AP3.

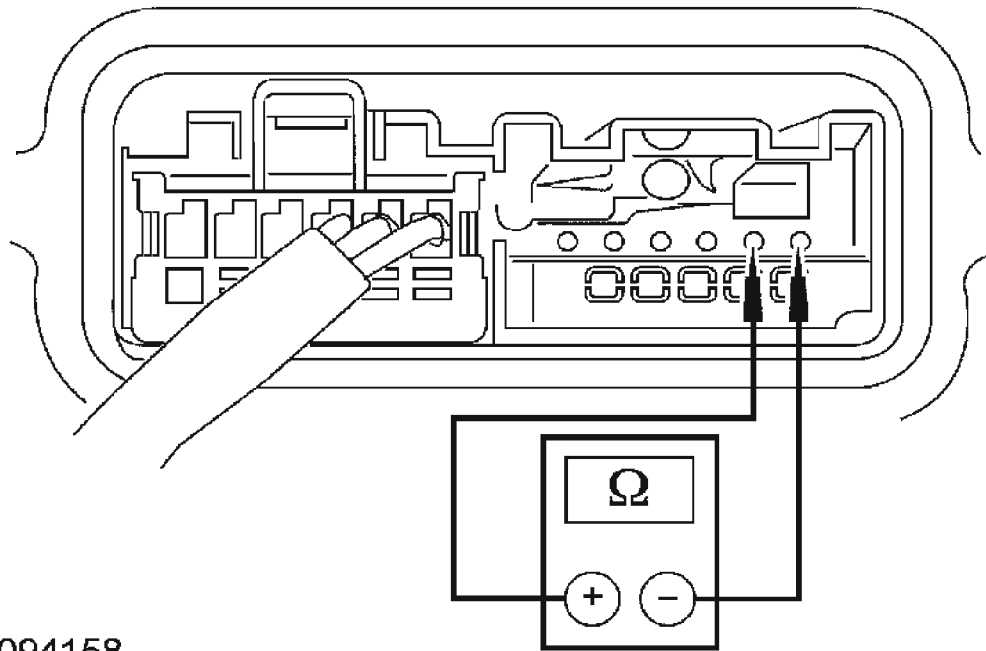
For DTC B2232, GO to AP6.

No : INSTALL a new driver air bag module. Refer to **DRIVER AIR BAG MODULE**. GO to AP10.

AP3 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA8 (BK/GN) FOR LOW RESISTANCE BETWEEN THE RCM AND THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Driver Air Bag Module Electrical Connector.

CAUTION: Take care not to damage the pins when probing the clockspring.



A0094158

Fig. 118: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA8 (BK/GN) For Low Resistance Between RCM And Driver Air Bag Module
Courtesy of FORD MOTOR CO.

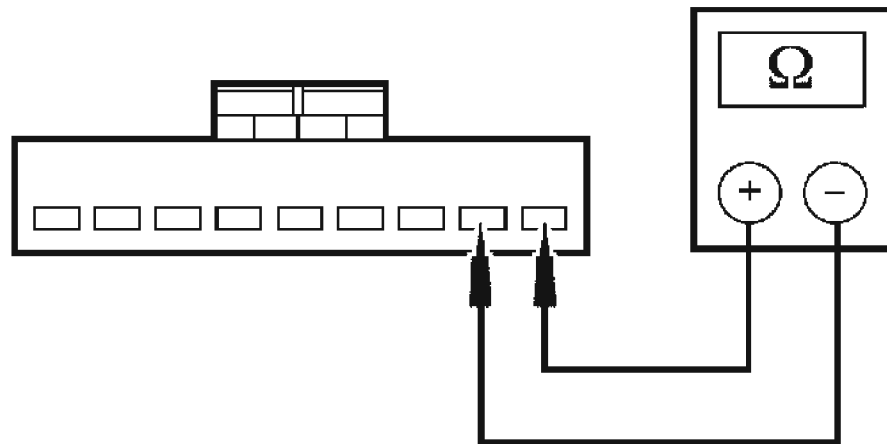
- Measure the resistance between driver air bag module electrical connector pin 6, circuit 15S-JA48 (GN/BK), clockspring side and driver air bag module electrical connector pin 5, circuit 91S-JA48 (BK/GN), clockspring side.
- **Is the resistance greater than 10,000 ohms?**

Yes : GO to AP8.

No : GO to AP4.

AP4 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN) FOR LOW RESISTANCE BETWEEN THE RCM AND THE CLOCKSPring

- Disconnect: Clockspring C2274.
- Measure the resistance between clockspring C2274 pin 1, circuit 15S-JA48 (GN/BK), harness side and clockspring C2274 pin 2, circuit 91S-JA48 (BK/GN), harness side.



A0088719

Fig. 119: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA48 (BK/GN) For Low Resistance Between RCM And Clockspring
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 10,000 ohms?**
Yes : INSTALL a new clockspring. Refer to **CLOCKSPRING**. GO to AP10.
No : GO to AP5.

AP5 MEASURE THE RESISTANCE BETWEEN RCM CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN)

- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), and pin 10, circuit 91S-JA48 (BK/GN), component side.

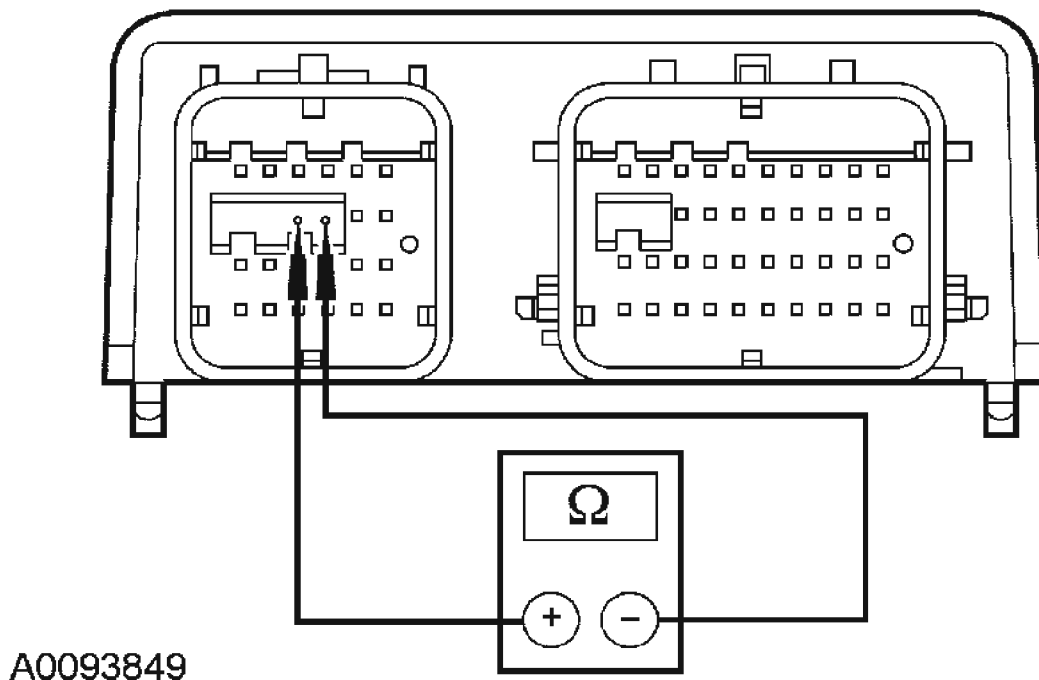


Fig. 120: Measuring Resistance Between RCM C2041b Pin 9, Circuit 15S-JA48 (GN/BK), And Pin 10, Circuit 91S-JA48 (BK/GN), Component Side
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 10,000 ohms?**

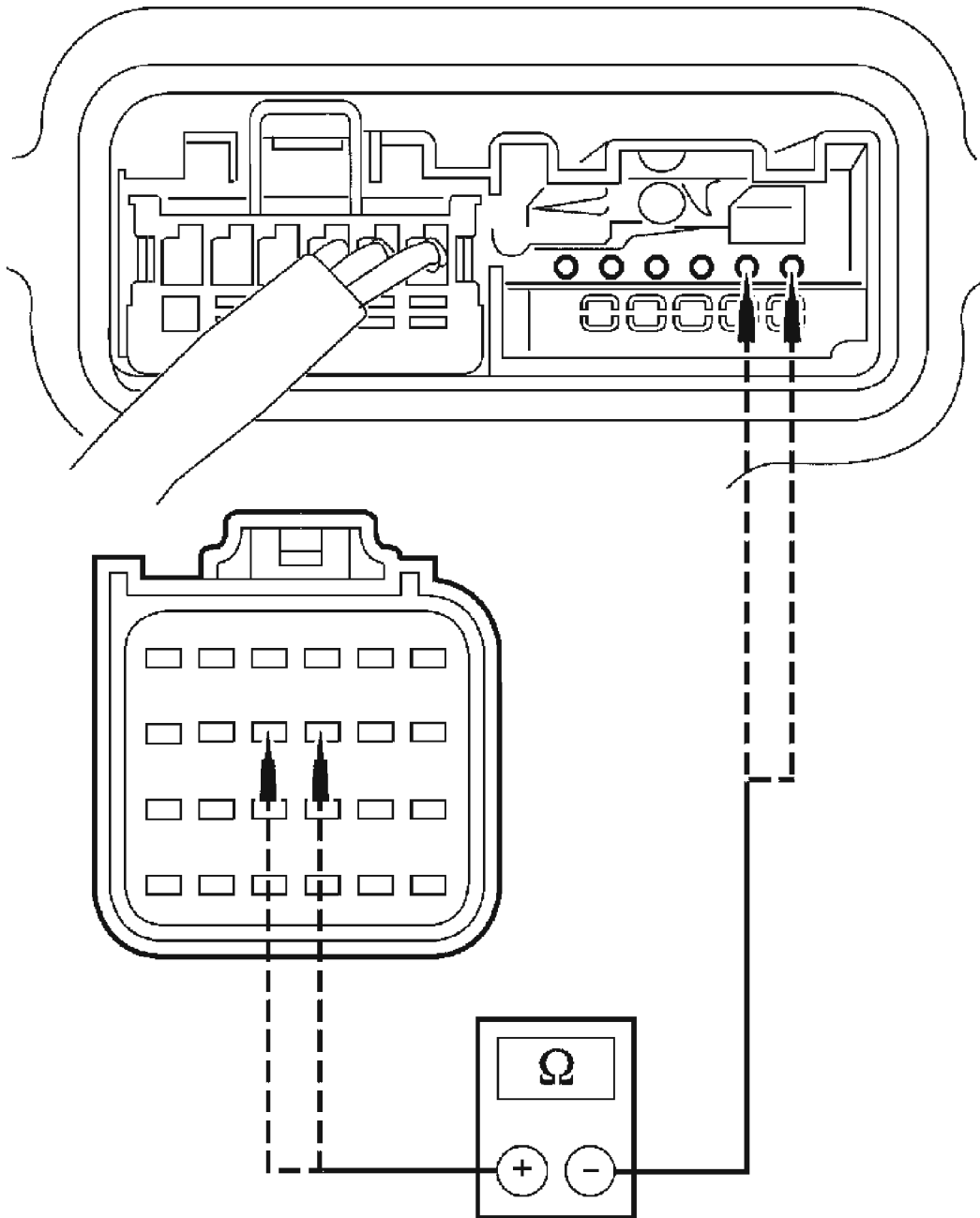
Yes : REPAIR circuit 15S-JA48 (GN/BK) and circuit 15S-JA48 (BK/GN). GO to AP10.

No : GO to AP8.

AP6 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN) FOR AN OPEN BETWEEN THE RCM AND THE DRIVER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Air Bag Module Restraint System Diagnostic Tool From Driver Air Bag Module Electrical Connector.
- Disconnect: RCM C2041a and C2041b.

CAUTION: Take care not to damage the pins when probing the clockspring.



A0093850

Fig. 121: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA48 (BK/GN) For An Open Between RCM And Driver Air Bag Module
Courtesy of FORD MOTOR CO.

- Measure the resistance between RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side and driver air bag module electrical connector pin 6, circuit 15S-JA48 (GN/BK), clockspring side; and between RCM C2041b pin 10, circuit 91S-

JA48 (BK/GN), harness side and driver air bag module electrical connector pin 5, circuit 91S-JA8 (BK/GN), clockspring side.

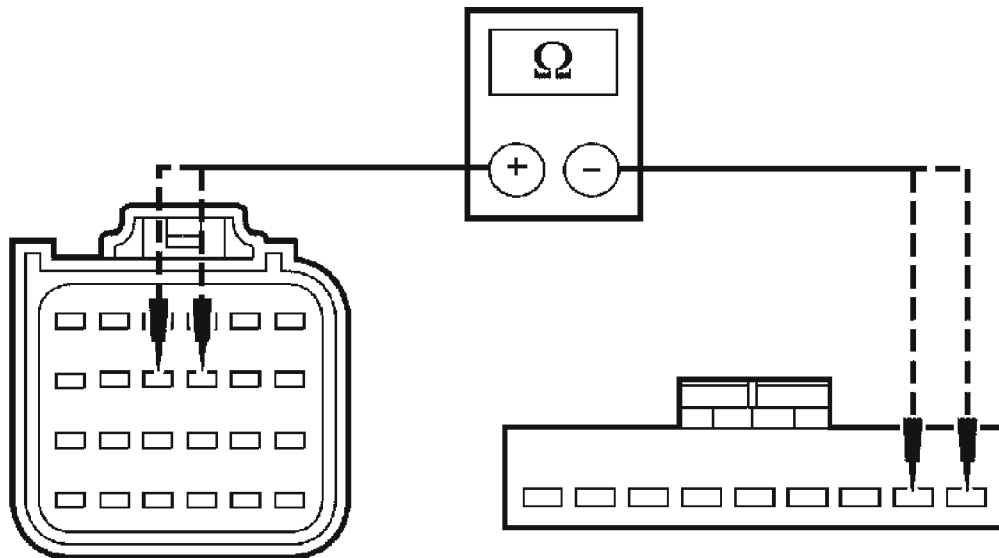
- **Are the resistances less than 0.5 ohm?**

Yes : GO to AP8.

No : GO to AP7.

AP7 CHECK CIRCUIT 15S-JA48 (GN/BK) AND CIRCUIT 91S-JA48 (BK/GN) FOR AN OPEN BETWEEN THE RCM AND THE CLOCKSPRING

- Disconnect: Clockspring C2274.
- Measure the resistance between RCM C2041b pin 9, circuit 15S-JA48 (GN/BK), harness side and clockspring C2274 pin 1, circuit 15S-JA48 (GN/BK), harness side; and between RCM C2041b pin 10, circuit 91S-JA48 (BK/GN), harness side and clockspring C2274 pin 2, circuit 91S-JA48 (BK/GN).



A0093851

Fig. 122: Checking Circuit 15S-JA48 (GN/BK) And Circuit 91S-JA48 (BK/GN) For An Open Between RCM And Clockspring
Courtesy of FORD MOTOR CO.

- **Are the resistances less than 0.5 ohm?**

Yes : INSTALL a new clockspring. Refer to CLOCKSPRING. GO to AP10.

No : REPAIR circuit 15S-JA48 (GN/BK) or circuit 91S-JA48 (BK/GN). GO to AP10.

AP8 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded**

- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Connect: Clockspring C2274 (If previously disconnected).
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2232 or B2234 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM).** GO to AP10.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AP10.

AP9 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Remove the driver air bag module. Refer to **DRIVER AIR BAG MODULE.**
- Connect: Restraint System Diagnostic Tool 501-110 to Driver Air Bag Module Electrical Connector.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was the DTC B2232 or B2234 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the driver air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AP10.

If an intermittent concern **was not** found and repaired, for DTC B2234 GO to AP3.

For DTC B2232, GO to AP4.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AP10.

AP10 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AP1.
- **Were any continuous DTCs retrieved during Step AP1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AQ: DTC B2233/B2235-Air Bag Passenger Circuit Open Fault/Air Bag Inflator Passenger Circuit Resistance Low On Squib Loop #2 Fault

Normal Operation

The restraints control module (RCM) checks all of the passenger air bag module circuits for faults. If the RCM detects an open or low resistance on the passenger air bag module squib 2 circuits, it will store diagnostic trouble code (DTC) B2233 or B2235 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit open.
- Low resistance.

Possible Causes

A passenger air bag module squib 2 circuit open/low resistance fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger air bag module.

- A faulted RCM.

PINPOINT TEST AQ: DTC B2233/B2235 - AIR BAG PASSENGER CIRCUIT OPEN FAULT/AIR BAG PASSENGER INFLATOR CIRCUIT RESISTANCE LOW ON SQUIB LOOP #2 FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AQ1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2233 or B2235 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-

demand self test. GO to AQ2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to AQ7.

AQ2 CHECK THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2233 or B2235 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

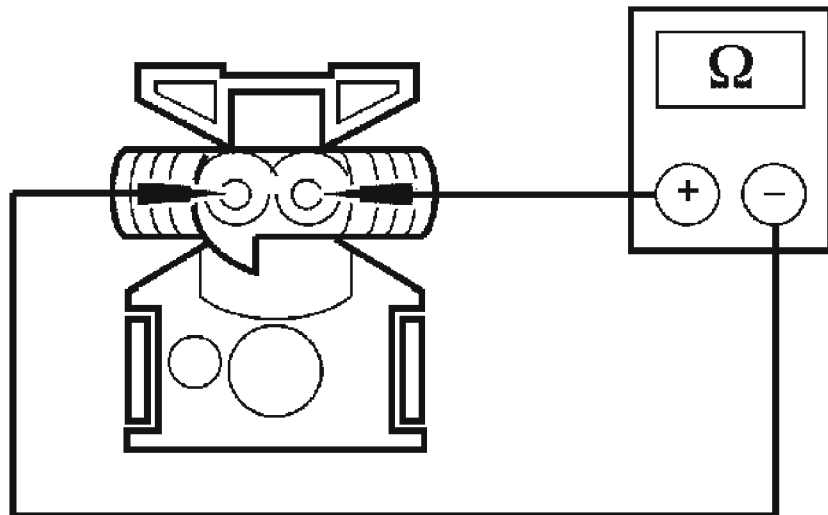
For DTC B2235, GO to AQ3.

For DTC B2233, GO to AQ5.

No : INSTALL a new passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**. GO to AQ8.

AQ3 CHECK CIRCUIT 15S-JA32 (GN/YE) AND CIRCUIT 91S-JA32 (BK/YE) FOR LOW RESISTANCE BETWEEN THE RCM AND THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Restraint System Diagnostic Tool From Passenger Air Bag Module C256b.
- Measure the resistance between passenger air bag module C256b pin 1, circuit 15S-JA32 (GN/YE), harness side and passenger air bag module C256b pin 2, circuit 91S-JA32 (BK/YE), harness side.



A0094833

Fig. 123: Checking Circuit 15S-JA32 (GN/YE) And Circuit 91S-JA32 (BK/YE) For Low Resistance Between RCM And Passenger Air Bag Module
Courtesy of FORD MOTOR CO.

- Is the resistance greater than 10,000 ohms?

Yes : GO to AQ6.

No : GO to AQ4.

AQ4 MEASURE THE RESISTANCE BETWEEN RCM CIRCUIT 15S-JA32 (GN/YE) AND CIRCUIT 91S-JA32 (BK/YE)

- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), and pin 7, circuit 91S-JA32 (BK/YE), component side.

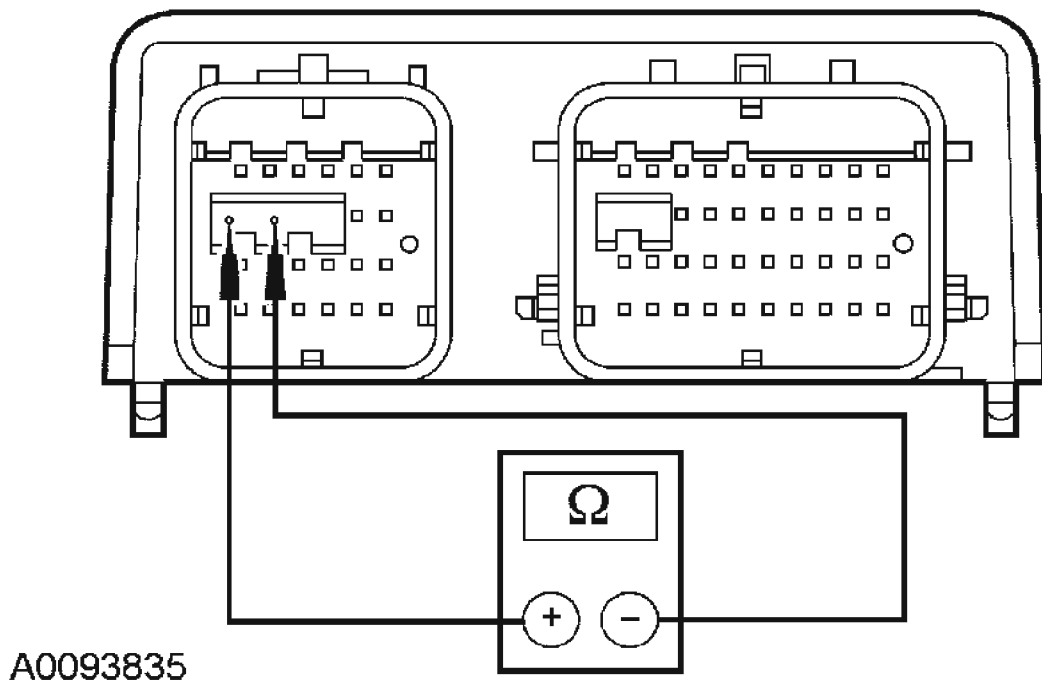


Fig. 124: Measuring Resistance Between RCM Circuit 15S-JA32 (GN/YE) And Circuit 91S-JA32 (BK/YE)
 Courtesy of FORD MOTOR CO.

• **Is the resistance greater than 10,000 ohms?**

Yes : REPAIR circuit 15S-JA32 (GN/YE) and circuit 91S-JA32 (BK/YE). GO to AQ8.

No : GO to AQ6.

AQ5 CHECK CIRCUIT 15S-JA32 (GN/YE) AND CIRCUIT 91S-JA32 (BK/YE) FOR AN OPEN BETWEEN THE RCM AND THE PASSENGER AIR BAG MODULE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Air Bag Module Restraint System Diagnostic Tool From Passenger Air Bag Module C256b.
- Disconnect: RCM C2041a and C2041b.
- Measure the resistance between RCM C2041b pin 8, circuit 15S-JA32 (GN/YE), harness side and passenger air bag module C256b pin 1, circuit 15S-JA32 (GN/YE), harness side; and between RCM C2041b pin 7, circuit 91S-JA32 (BK/YE), harness side and passenger air bag module C256b pin 2, circuit 91S-

JA32 (BK/YE), harness side.

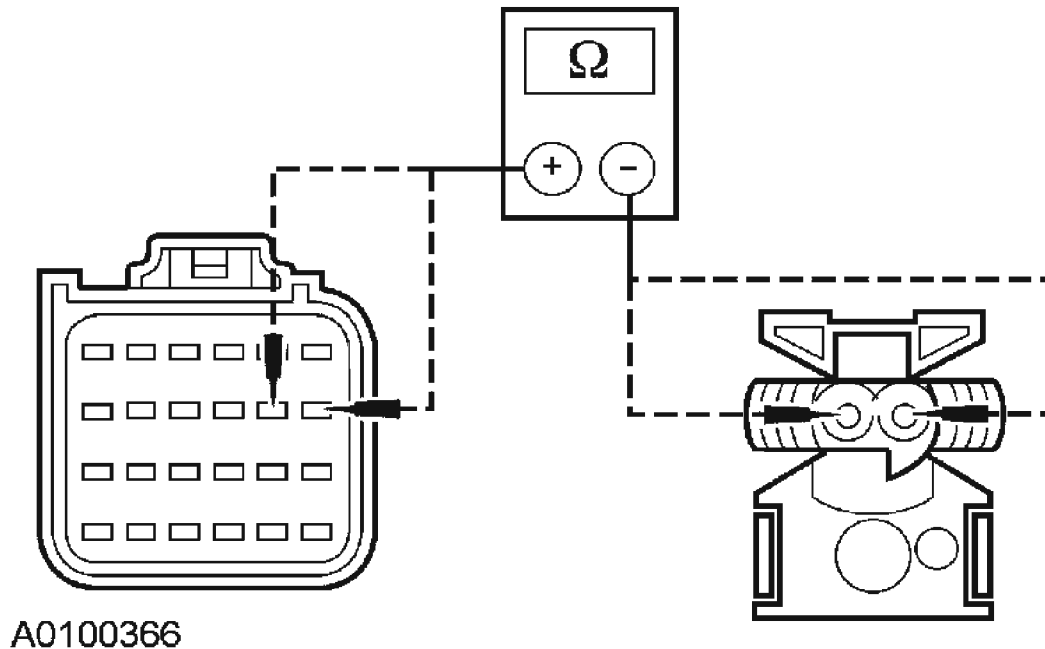


Fig. 125: Checking Circuit 15S-JA32 (GN/YE) And Circuit 91S-JA32 (BK/YE) For An Open Between RCM And Passenger Air Bag Module
Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

Yes : GO to AQ6.

No : REPAIR circuit 15S-JA32 (GN/YE) and circuit 91S-JA32 (BK/YE). GO to AQ8.

AQ6 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded

- Connect: Restraint System Diagnostic Tool 418-F395 to Passenger Air Bag Module C256b.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2232 or B2234 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AQ8.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AQ8.

AQ7 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Remove the passenger air bag module. Refer to **PASSENGER AIR BAG MODULE**.
- Connect: Restraint System Diagnostic Tools 418-F395 (2 required) to Passenger Air Bag Module C256a and C256b..
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2233 or B2235 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the passenger air bag module connector. REPAIR any intermittent concerns found.

If an intermittent concern **was** found and repaired, GO to AQ8.

If an intermittent concern **was not** found and repaired, for DTC B2235 GO to AQ3.

For DTC B2233, GO to AQ4.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AQ8.

AQ8 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AQ1.
- **Were any continuous DTCs retrieved during Step AQ1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AR: DTC B2290 - Occupant Classification System (OCS) Fault

Normal Operation

NOTE: If DTCs U1900 or U0073 are present in the RCM, they must be diagnosed before attempting to diagnose B2290.

The occupant classification sensor (OCS) system components (seat cushion pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) are calibrated to each other and are serviced as an assembly. The OCS system components are not to be installed separately. If a new OCS system, OCS system component or seat cushion foam pad are needed, a new OCS system service kit (seat cushion pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) must be installed as an assembly.

The OCS is used to classify the front passenger seat occupant in the event of a deployable impact. Refer to **AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**.

The belt tension sensor is part of the OCS system. The OCS system interprets a variable voltage signal provided by the safety belt tension sensor to identify the possible presence of a child safety seat in the front passenger seat. The voltage output of the belt tension sensor is proportional to the amount of tension applied to the sensor by the belt, no tension low voltage (approximately 0.95 volt), high tension high voltage (approximately 3.8 volts). Refer to **AIR BAG AND SAFETY BELT PRETENSIONER SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**.

The restraints control module (RCM) monitors for fault conditions reported by the OCS system. If the RCM detects one of the following faults reported by the OCS system, it will store diagnostic trouble code (DTC) B2290 in memory and illuminate the air bag indicator.

Fault Conditions

The restraints control module (RCM) monitors communications from the OCS system. It will store diagnostic trouble code (DTC) B2290 in memory if a fault is present in the OCS system.

NOTE: **PID Module Version Status will not display when flagging DTC B2290, it must be monitored independently from B2290.**

The OCS system reports the following fault conditions to the RCM:

- A mounting fault.
- An ECU (internal) fault.
- A communication fault.
- A calibration fault.
- A pressure sensing fault.
- A module version status-RCM version conflicts with OCS version.

Possible Causes

An occupant classification sensor (OCS) fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty OCS system component.
- A faulted RCM.

PINPOINT TEST AR: DTC B2290 - OCCUPANT CLASSIFICATION SYSTEM (OCS) FAULT

NOTE: **To identify between a production OCS system and a service OCS system (OCS service kit), inspect the OCS electronic control unit (ECU) electrical connector. A production OCS system allows disconnection of the electrical connector from the OCS ECU. A service OCS system (OCS service kit) has the OCS ECU electrical connector glued to the ECU. It cannot and should not be disconnected or altered.**

NOTE: **Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.**

AR1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

NOTE: Mounting and orientation of the OCS ECU is critical for correct system operation. Failure to correctly position and securely fasten the OCS ECU can set a diagnostic trouble code (DTC) in the restraints control module (RCM). If the vehicle has been in a collision in which the passenger seat may have been damaged, inspect the OCS ECU mounting area for deformation. If damaged, a new OCS service kit must be installed. In addition, make sure the mounting area of the OCS system is restored to the original production configuration (install new as necessary).

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Flag DTC B2290/Record All Faults.
- Enter the following diagnostic mode on the scan tool: Monitor PID Module Version Status-RCM Version Conflicts with OCS Version.
- Enter the following diagnostic mode on the scan tool: Retrieve/Flag/Record Continuous DTCs.
- **Was DTC B2290 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If a flagged fault of "?" was recorded, multiple faults exist and the entire pinpoint test must be carried out.

Vehicles with a production OCS system

For PID Module Version Status that shows RCM Version Conflicts with OCS Version, GO to AR24.

For OCS system with a mounting fault, GO to AR2.

For OCS system with an internal fault, INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

For OCS system with a communications fault, GO to AR3.

For OCS system with a calibration fault, GO to AR9.

For OCS system with a pressure sensor fault, GO to AR10.

Vehicles with a service OCS system

For PID Module Version Status that shows RCM Version Conflicts with OCS Version, GO to AR24.

For OCS system with a mounting fault, GO to AR2.

For OCS system with an internal fault, INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

For OCS system with a communications fault, GO to AR18.

For OCS system with a calibration fault, GO to AR9.

For OCS system with a pressure sensor fault, INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AR27.

AR2 CHECK FOR AN OCS MOUNTING FAULT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

NOTE: **The ECU must be correctly positioned and securely**

fastened in place. Failure to do so can set a diagnostic trouble code (DTC) in the restraints control module (RCM).

- Inspect the OCS ECU for correct mounting location and direction, the OCS ECU fasteners are tight, no damage to the OCS ECU, and no damage to the seat cushion pan.
- **Is the OCS ECU correctly located and are the fasteners tight with no damage to components?**

Yes : INSTALL a new OCS system service kit. Refer to OCCUPANT CLASSIFICATION SENSOR. GO to AR28.

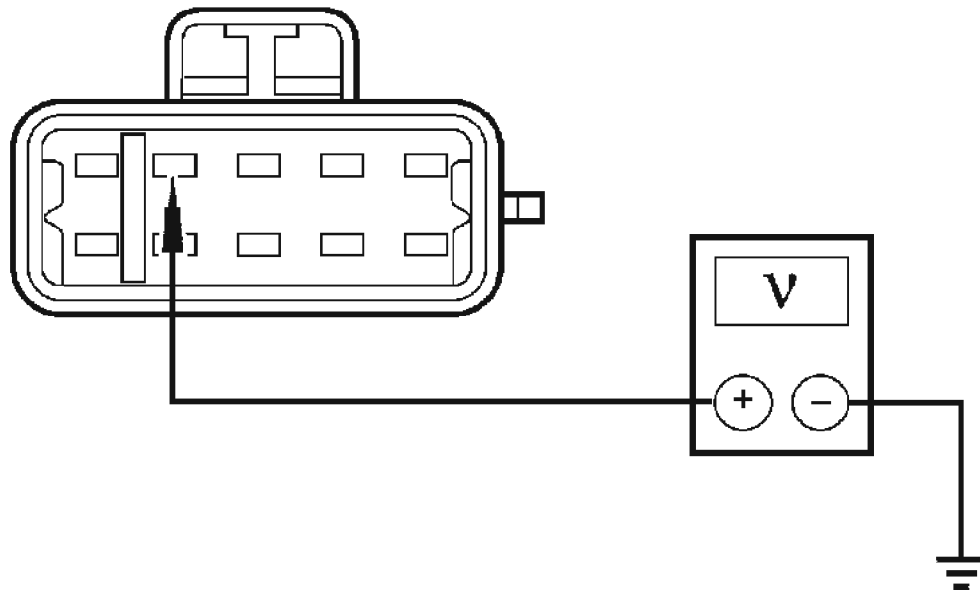
No : REPAIR as necessary. Refer to OCCUPANT CLASSIFICATION SENSOR. GO to AR28.

AR3 CHECK THE SEAT WIRING AND CONNECTORS - PRODUCTION OCS SYSTEM

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Carry out a thorough visual inspection of the OCS system wiring, terminals and connectors, and the related seat wiring harness and body wiring harness terminals and connectors.
- **Were any problems noted?**
Yes : REPAIR the connectors and wiring as needed. GO to AR28.
No : GO to AR4.

AR4 CHECK IGNITION CIRCUIT 15-JA60 (GN/RD) FOR AN OPEN PRODUCTION OCS SYSTEM

- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312 (Vehicles equipped with side air bags).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e (Vehicles equipped with side air bags).
- Disconnect: OCS ECU C3043.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Key in ON position.
- Measure the voltage between OCS ECU C3043 pin G, circuit 15-JA60 (GN/RD), harness side and ground.



A0029324

Fig. 126: Measuring Voltage Between OCS ECU C3043 Pin G, Circuit 15-JA60 (GN/RD), Harness Side And Ground
Courtesy of FORD MOTOR CO.

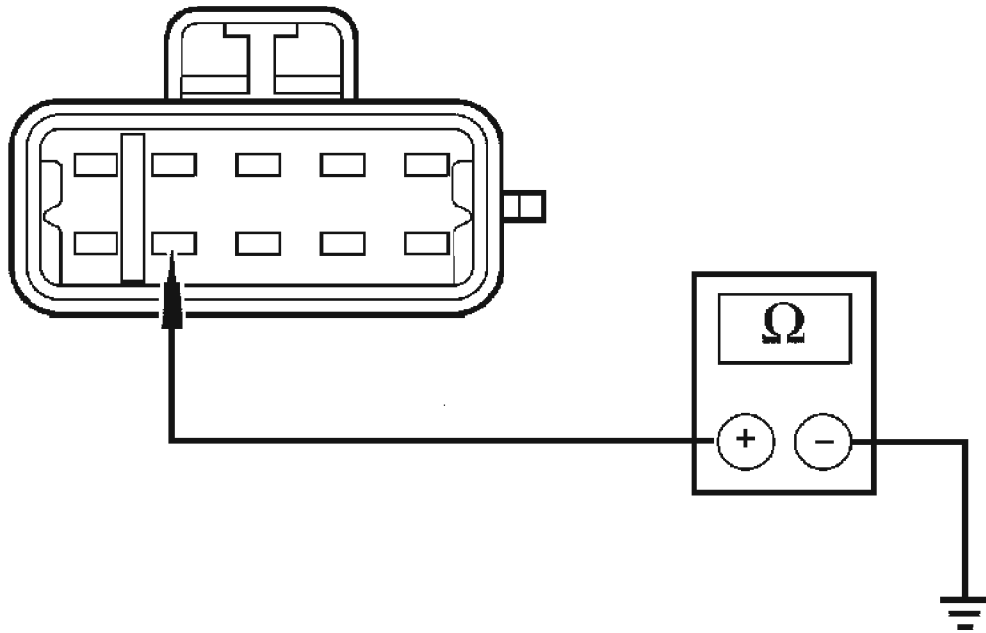
- Is the voltage greater than 10 volts?

Yes : GO to AR5.

No : REPAIR circuit 15-JA60 (GN/RD). GO to AR28.

AR5 CHECK GROUND CIRCUIT 91-JA60 (BU/BK) FOR AN OPEN PRODUCTION OCS SYSTEM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Measure the resistance between OCS ECU C3043 pin D, circuit 91-JA60 (BK/OG), harness side and ground.



A0029325

Fig. 127: Measuring Resistance Between OCS ECU C3043 Pin D, Circuit 91-JA60 (BK/OG), Harness Side And Ground
Courtesy of FORD MOTOR CO.

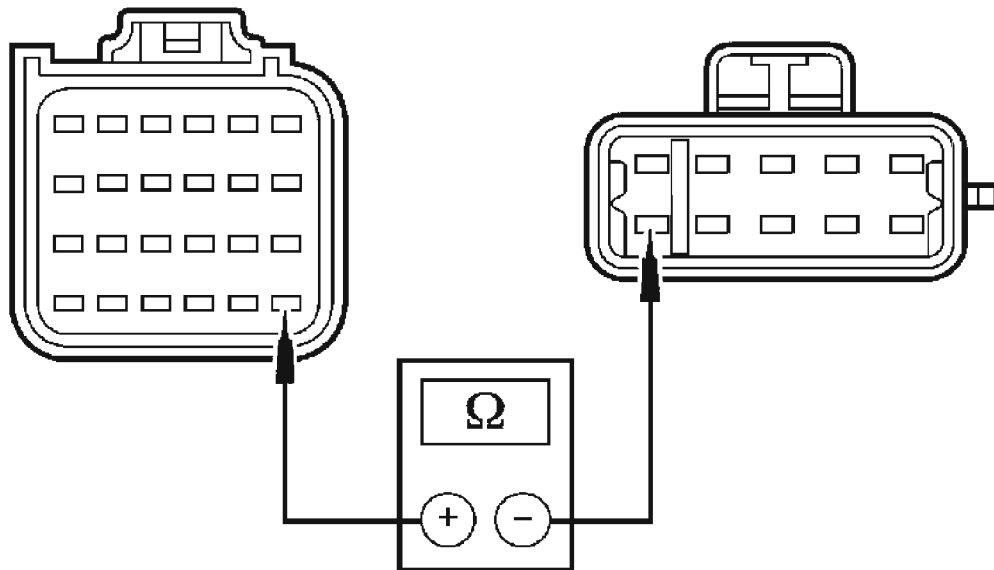
- Is the resistance less than 5 ohms?

Yes : GO to AR6.

No : REPAIR circuit 91-JA60 (BK/OG). GO to AR28.

AR6 CHECK CIRCUIT 4-EC17 (GY/BK) OR 4-EC18 (GY/BK) FOR AN OPEN BETWEEN THE OCS AND THE RCM - PRODUCTION OCS SYSTEM

- Measure the resistance between RCM C2041b pin 19, circuit 4-EC18 (GY/BK), harness side and OCS ECU C3043 pin E, circuit 4-EC17 (GY/BK), harness side.



A0093853

Fig. 128: Checking Circuit 4-EC17 (GY/BK) Or 4-EC18 (GY/BK) For An Open Between OCS And RCM - Production OCS System
Courtesy of FORD MOTOR CO.

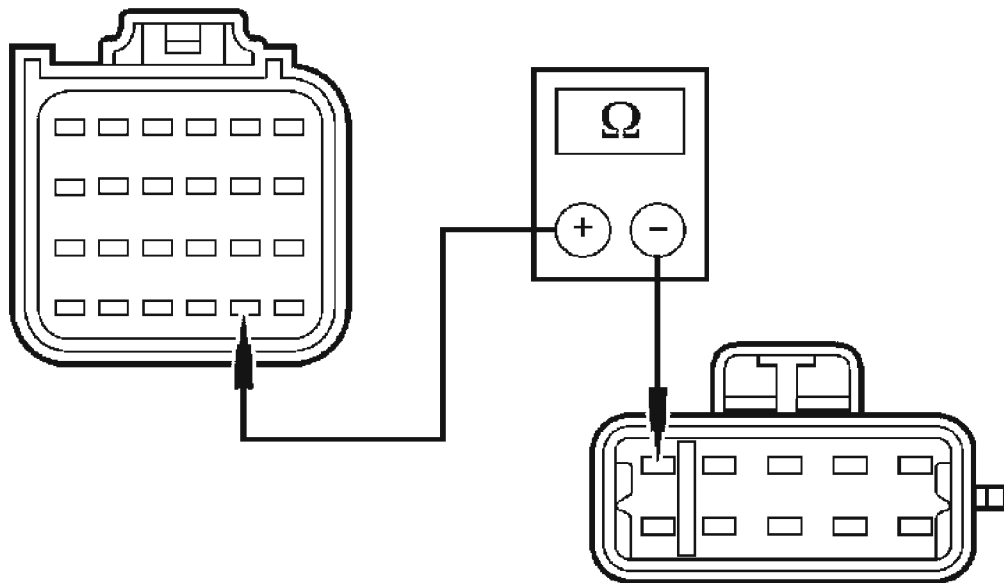
- Is the resistance less than 0.5 ohm?

Yes : GO to AR7.

No : REPAIR circuit 4-EC17 (GY/BK) or circuit 4-EC18 (GY/BK). GO to AR28.

AR7 CHECK CIRCUIT 5-EC17 (BU/YE)/5-EC18 (BU/YE) FOR AN OPEN BETWEEN THE OCS AND THE RCM - PRODUCTION OCS SYSTEM

- Measure the resistance between RCM C2041b pin 20, circuit 5-EC18 (BU/BK), harness side and OCS ECU C3043 pin F, circuit 5-EC17 (BU/YE), harness side.



A0093854

Fig. 129: Checking Circuit 5-EC17 (BU/YE)/5-EC18 (BU/YE) For An Open Between OCS And RCM - Production OCS System
Courtesy of FORD MOTOR CO.

- Is the resistance less than 0.5 ohm?

Yes : GO to AR8.

No : REPAIR circuit 5-EC17 (BU/YE) or circuit 5-EC18 (BU/BK). GO to AR28.

AR8 CHECK THE RCM

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Install a known good RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**.
- Connect: RCM C2041a and C2041b.
- Connect: OCS ECU C3043.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- Enter the following diagnostic mode on the scan tool: Flag DTC B2290/Record All Faults.
- **Was DTC B2290 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If a flagged fault of "? " was recorded, multiple faults exist and the entire pinpoint test must be carried out.

INSTALL a new OCS service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

No : Fault corrected. GO to AR28.

AR9 CHECK THE OCS SYSTEM - PRODUCTION OCS SYSTEM

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: OCS Rezeroing.

CAUTION: It is necessary to rezero the OCS system when a front passenger seat cushion is disassembled, a new trim coyer installed, or an OCS service kit is installed. A scan tool is used to trigger the active command to carry out rezeroing of the OCS system.

CAUTION: Make sure the seat is completely assembled before rezeroing.

CAUTION: The following precautions must be taken before rezeroing of the OCS system:

- Make sure the OCS system components are connected and no faults are present.
- Make sure the OCS system is not at a temperature below 0°C (32°F) or above 45°C (113°F) when initiating the rezeroing process.

If the vehicle has been exposed to extreme cold or hot temperatures, the vehicle must be exposed and kept at a temperature within the limits, 0°C to 45°C (32°F to 113°F) for a minimum of 30 minutes.

- **Make sure nothing is present on the passenger seat before rezeroing and nothing is placed on the seat during the rezeroing process.**
- **Make sure a minimum eight-second time period has passed after cycling the ignition switch ON before the rezeroing process.**

NOTE: For best results in rezeroing, the OCS system should be at or near room temperature, 10°C to 29°C (50°F to 85°F).

NOTE: When using an NGS+ (NGS with Vehicle Communication Module (VCM) and the latest software update) to rezero the OCS system:

NOTE: To rezero the OCS system using the Worldwide Diagnostic System (WDS):

NOTE: If the first attempt to rezero the OCS system is unsuccessful, a second attempt must be made.

- - Select "FUNCTION TESTS"
 - Select "SYSTEM RESET"
 - View the on-screen information then press "TRIGGER" The NGS+ screen will then display "OCS RESET: REZERO." Press "DONE" (button 8) to rezero the OCS system. The NGS+ will display "TEST/FUNCTION SUCCESSFUL" once rezeroing of the OCS system is complete.
 - Select the "Toolbox" icon
 - Select "Body" from the menu
 - Select "Restraints" from the menu
 - Select "Seat Weight Sensor ReZero"

After selecting "Seat Weight Sensor ReZero", follow the on-screen prompts to carry out rezeroing of the OCS system.

Using the scan tool, carry out rezeroing of the OCS system.

- Key in OFF position.

NOTE: **The ignition switch must be cycled after rezeroing the OCS system.**

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Flag DTC B2290/Record All Faults.
- **Was DTC B2290 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If a flagged fault of "? " was recorded, multiple faults exist and the entire pinpoint test must be carried out.

INSTALL a new OCS service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

No : Fault corrected. GO to AR28.

AR10 CHECK THE SEAT WIRING AND CONNECTORS PRODUCTION OCS SYSTEM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Carry out a thorough visual inspection of the OCS system wiring, terminals and connectors, and the related seat wiring harness and body wiring harness terminals and connectors.
- **Were any problems noted?**

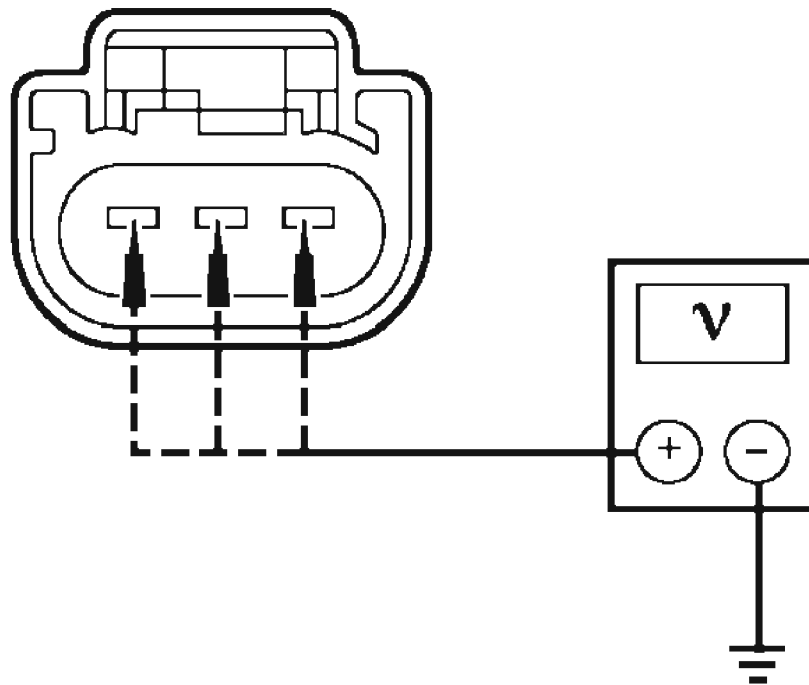
Yes : REPAIR the seat connectors and wiring as needed. GO to AR28.

No : GO to AR11.

AR11 CHECK CIRCUITS 7-JA52 (YE/GN), 8-JA52 (WH/GN) AND 9-JA52 (BN/GN) FOR A SHORT TO VOLTAGE - PRODUCTION OCS SYSTEM

- Disconnect: RCM C2041a and C2041b.
- Disconnect: OCS Pressure Sensor C3042.
- Disconnect: OCS ECU C3043.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Key in ON position.
- Measure the voltage between OCS pressure sensor C3042 pin 1, circuit 7-JA52 (YE/GN), harness side and ground; between OCS pressure sensor C3042 pin 2, circuit 8-JA52 (WH/GN), harness side and ground; and between OCS pressure sensor C3042 pin 3, circuit 9-JA52 (BN/GN), harness side and ground.



A0074066

Fig. 130: Checking Circuits 7-JA52 (YE/GN), 8-JA52 (WH/GN) And 9-JA52 (BN/GN) For A Short To Voltage - Production OCS System
 Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

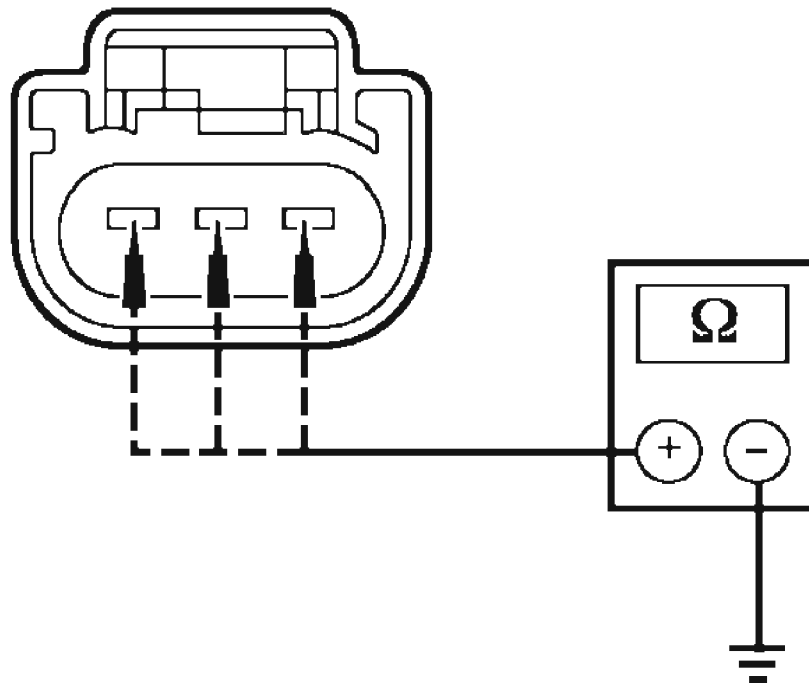
Yes : GO to AR12.

No : REPAIR circuit 7-JA52 (YE/GN), circuit 8-JA52 (WH/GN) or circuit 9-JA52 (BN/GN). GO to AR28.

AR12 CHECK CIRCUITS 7-JA52 (YE/GN), 8-JA52 (WH/GN) AND 9-JA52 (BN/GN) FOR A SHORT TO GROUND - PRODUCTION OCS SYSTEM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Measure the resistance between OCS pressure sensor C3042 pin 1, circuit 7-JA52

(YE/GN), harness side and ground; between OCS pressure sensor C3042 pin 2, circuit 8-JA52 (WH/GN), harness side and ground; and between OCS pressure sensor C3042 pin 3, circuit 9-JA52 (BN/GN), harness side and ground.



A0074067

Fig. 131: Checking Circuits 7-JA52 (YE/GN), 8-JA52 (WH/GN) And 9-JA52 (BN/GN) For A Short To Ground - Production OCS System
 Courtesy of FORD MOTOR CO.

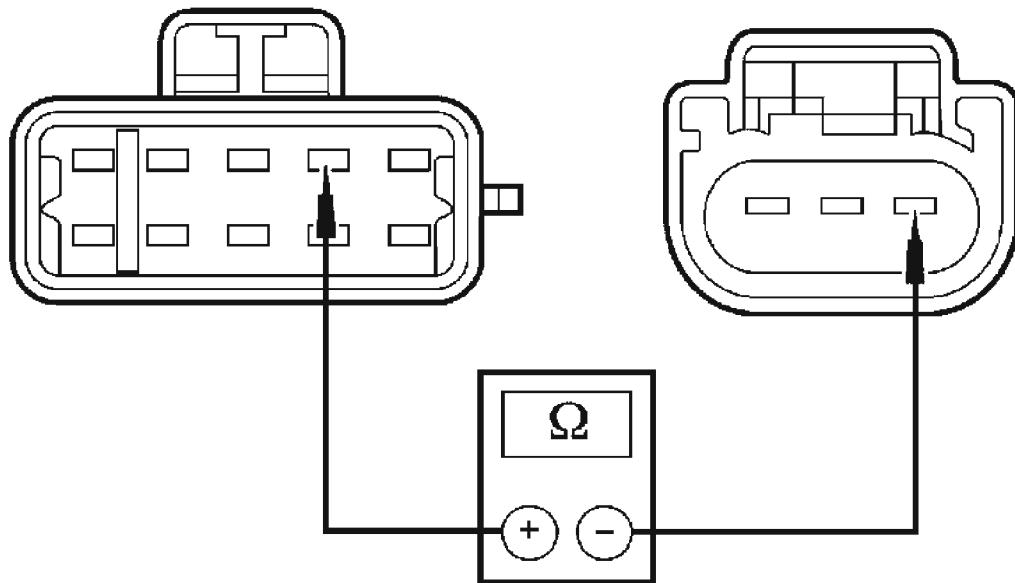
- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to AR13.

No : REPAIR circuit 7-JA52 (YE/GN), circuit 8-JA52 (WH/GN) or circuit 9-JA52 (BN/GN). GO to AR28.

AR13 CHECK CIRCUIT 7-JA52 (YE/GN) FOR AN OPEN BETWEEN THE OCS ECU AND THE PRESSURE SENSOR - PRODUCTION OCS SYSTEM

- Measure the resistance between OCS ECU C3043 pin J, circuit 7-JA52 (YE/GN), harness side and OCS pressure sensor C3042 pin 1, circuit 7-JA52 (YE/GN), harness side.



A0074068

Fig. 132: Checking Circuit 7-JA52 (YE/GN) For An Open Between OCS ECU And Pressure Sensor - Production OCS System
Courtesy of FORD MOTOR CO.

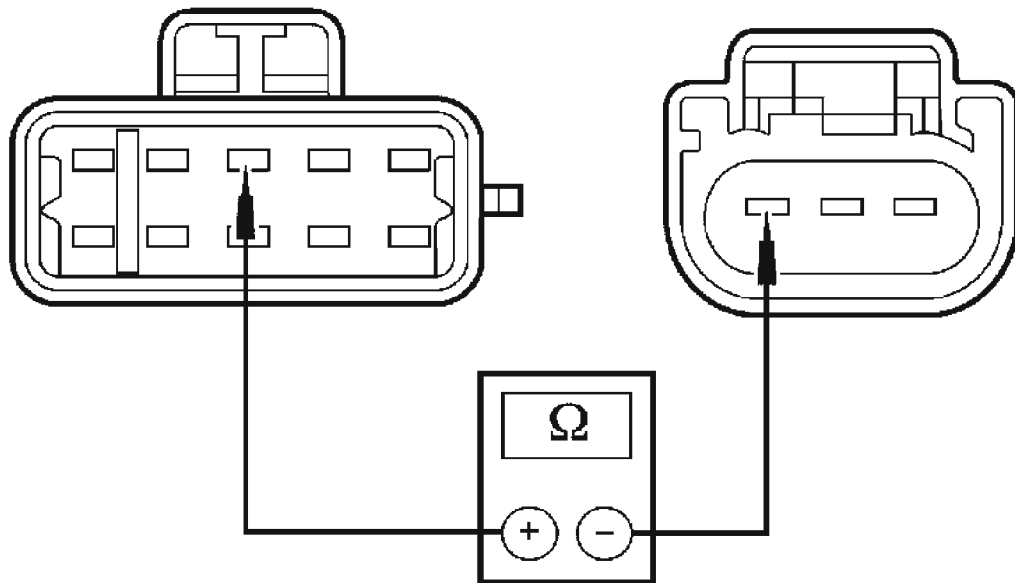
- Is the resistance less than 0.5 ohm?

Yes : GO to AR14.

No : REPAIR circuit 7-JA52 (YE/GN). GO to AR28.

AR14 CHECK CIRCUIT 9-JA52 (BN/GN) FOR AN OPEN BETWEEN THE OCS ECU AND THE PRESSURE SENSOR - PRODUCTION OCS SYSTEM

- Measure the resistance between OCS ECU C3043 pin H, circuit 9-JA52 (BN/GN), harness side and OCS pressure sensor C3042 pin 3, circuit 9-JA52 (BN/GN), harness side.



A0074069

Fig. 133: Checking Circuit 9-JA52 (BN/GN) For An Open Between OCS ECU And Pressure Sensor - Production OCS System
Courtesy of FORD MOTOR CO.

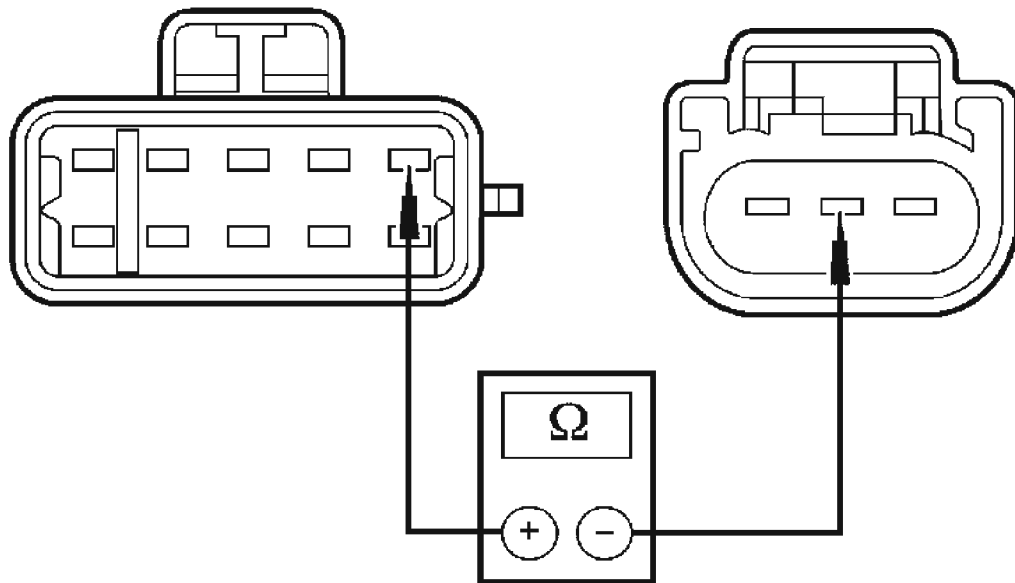
- Is the resistance less than 0.5 ohm?

Yes : GO to AR15.

No : REPAIR circuit 9-JA52 (BN/GN). GO to AR28.

AR15 CHECK CIRCUIT 8-JA52 (WH/GN) FOR AN OPEN BETWEEN THE OCS ECU AND THE PRESSURE SENSOR - PRODUCTION OCS SYSTEM

- Measure the resistance between OCS ECU C3043 pin K, circuit 8-JA52 (WH/GN), harness side and OCS pressure sensor C3042 pin 2, circuit 8-JA52 (WH/GN), harness side.



A0074070

Fig. 134: Checking Circuit 8-JA52 (WH/GN) For An Open Between OCS ECU And Pressure Sensor - Production OCS System
Courtesy of FORD MOTOR CO.

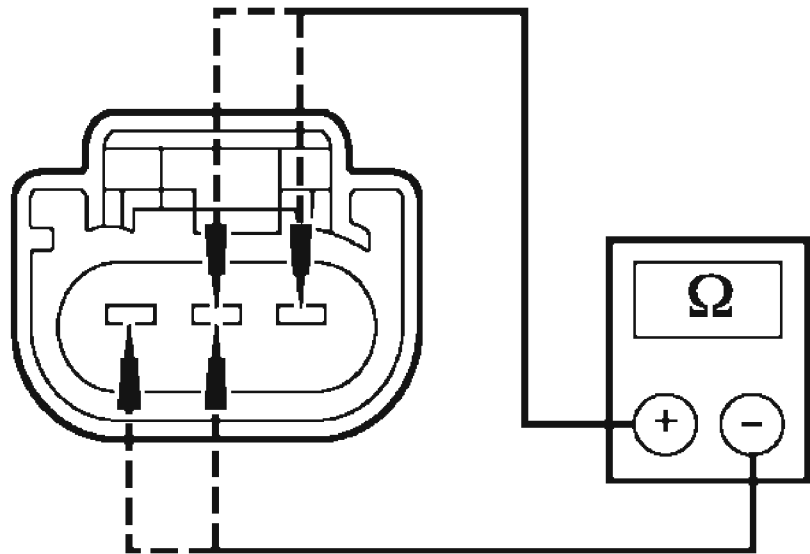
- Is the resistance less than 0.5 ohm?

Yes : GO to AR16.

No : REPAIR circuit 8-JA52 (WH/GN). GO to AR28.

AR16 CHECK CIRCUITS 7-JA52 (YE/GN), 8-JA52 (WH/GN) AND 9-JA52 (BN/GN) FOR A SHORT - PRODUCTION OCS SYSTEM

- Measure the resistance between OCS pressure sensor C3042:
 - Pin 1, circuit 7-JA52 (YE/GN), harness side and pin 2, circuit 8-JA52 (WH/GN), harness side.
 - Pin 1, circuit 7-JA52 (YE/GN), harness side and pin 3, circuit 9-JA52 (BN/GN), harness side.
 - Pin 2, circuit 8-JA52 (WH/GN), harness side and pin 3, circuit 9-JA52 (BN/GN), harness side.



A0074071

Fig. 135: Checking Circuits 7-JA52 (YE/GN), 8-JA52 (WH/GN) And 9-JA52 (BN/GN) For A Short - Production OCS System
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to AR17.

No : REPAIR circuit 7-JA52 (YE/GN), circuit 8-JA52 (WH/GN) or circuit 9-JA52 (BN/GN). GO to AR28.

AR17 CHECK THE OCS SYSTEM - PRODUCTION OCS SYSTEM

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Install a known good OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: OCS Rezeroing.

CAUTION: It is necessary to rezero the OCS system when a front passenger seat cushion is disassembled, a new trim cover installed, or an OCS service kit is installed. A scan tool is used to trigger the active command to carry out rezeroing of the OCS system.

CAUTION: Make sure the seat is completely assembled before rezeroing.

CAUTION: The following precautions must be taken before rezeroing of the OCS system:

- Make sure the OCS system components are connected and no faults are present.
- Make sure the OCS system is not at a temperature below 0°C (32°F) or above 45°C (113°F) when initiating the rezeroing process. If the vehicle has been exposed to extreme cold or hot temperatures, the vehicle must be exposed and kept at a temperature within the limits, 0°C to 45°C (32°F to 113°F) for a minimum of 30 minutes.
- Make sure nothing is present on the passenger seat before rezeroing and nothing is placed on the seat during the rezeroing process.
- Make sure a minimum eight-second time period has passed after cycling the ignition switch ON before the rezeroing process.

NOTE: For best results in rezeroing, the OCS system should be at or near room temperature, 10°C to 29°C (50°F to 85°F).

NOTE: When using an NGS+ (NGS with Vehicle Communication Module (VCM) and the latest software update) to rezero the OCS system:

NOTE: To rezero the OCS system using the Worldwide Diagnostic System (WDS):

- - Select "FUNCTION TESTS"
 - Select "SYSTEM RESET"
 - View the on-screen information then press "TRIGGER" The NGS+ screen will then display "OCS RESET: REZERO." Press "DONE" (button 8) to rezero the OCS system. The NGS+ will display "TEST/FUNCTION SUCCESSFUL" once rezeroing of the OCS system is complete.
 - Select the "Toolbox" icon
 - Select "Body" from the menu
 - Select "Restraints" from the menu
 - Select "Seat Weight Sensor ReZero"

After selecting "Seat Weight Sensor ReZero", follow the on-screen prompts to carry out rezeroing of the OCS system.

NOTE: **If the first attempt to rezero the OCS system is unsuccessful, a second attempt must be made.**

Using the scan tool, carry out rezeroing of the OCS system. Key in OFF position.

NOTE: **The ignition switch must be cycled after rezeroing the OCS system.**

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Flag DTC B2290/Record All Faults.
- **Was DTC B2290 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If a flagged fault of "?" was recorded, multiple faults exist and the entire pinpoint test must be carried out.

INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AR28.

No : Fault corrected. GO to AR28.

AR18 CHECK THE SEAT WIRING AND CONNECTORS - OCS SERVICE KIT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Carry out a thorough visual inspection of the OCS system wiring, terminals and connectors, and the related seat wiring harness and body wiring harness terminals and connectors.
- **Were any problems noted?**
Yes : REPAIR the connectors and wiring as needed. GO to AR28.
No : GO to AR19.

AR19 CHECK IGNITION CIRCUIT 15-JA60 (GN/RD) FOR AN OPEN - OCS SERVICE KIT

- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between passenger seat C312 pin 8, circuit 15-JA60 (GN/RD), harness side and ground.

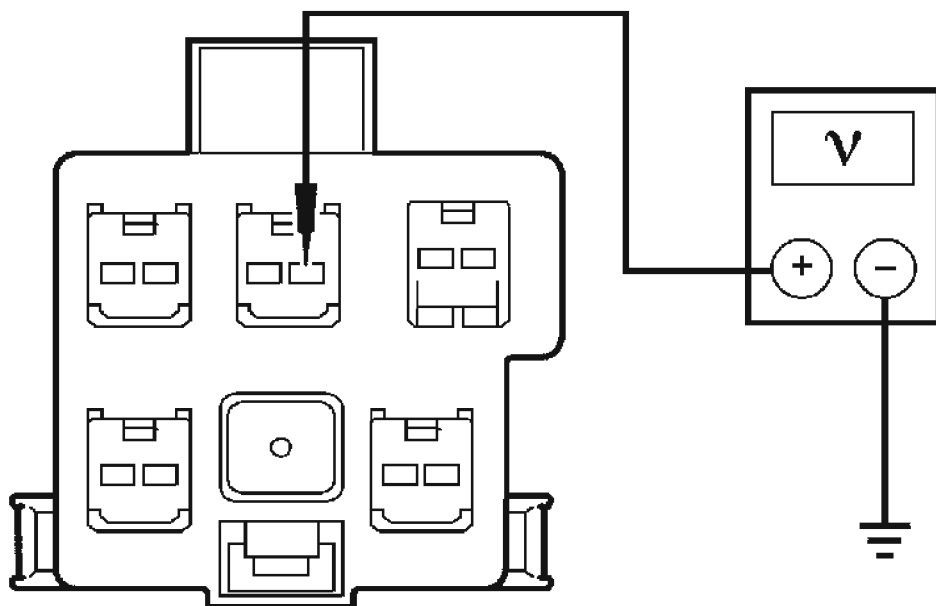


Fig. 136: Measuring Voltage Between Passenger Seat C312 Pin 8, Circuit 15-JA60 (GN/RD), Harness Side And Ground
Courtesy of FORD MOTOR CO.

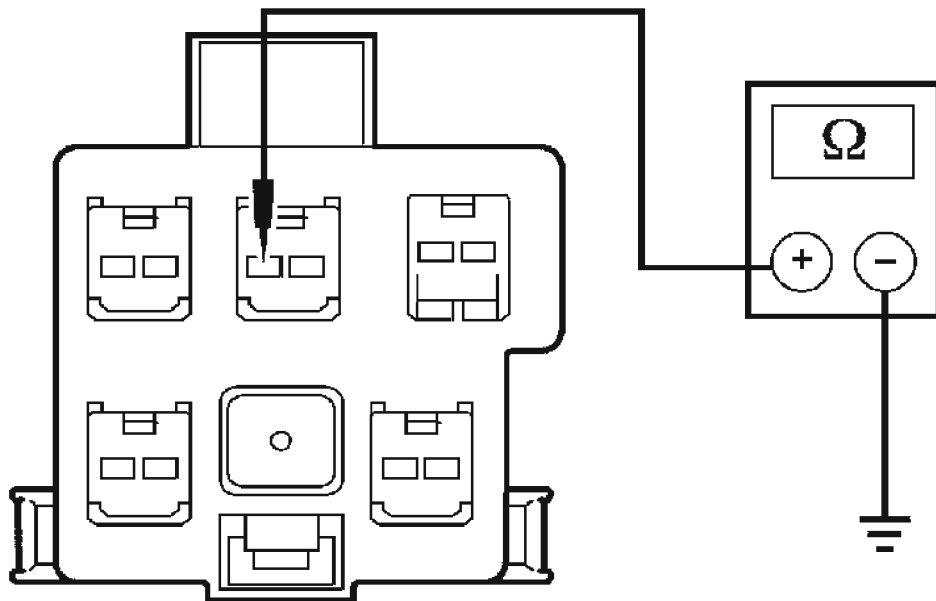
- Is the voltage greater than 10 volts?

Yes : GO to AR20.

No : REPAIR circuit 15-JA60 (GN/RD). GO to AR28.

AR20 CHECK GROUND CIRCUIT 91-JA60 (BK/OG) FOR AN OPEN OCS SERVICE KIT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. Measure the resistance between passenger seat C312 pin 7, circuit 91-JA60 (BK/OG), harness side and ground.



A0094877

Fig. 137: Measuring Resistance Between Passenger Seat C312 Pin 7, Circuit 91-JA60 (BK/OG), Harness Side And Ground
Courtesy of FORD MOTOR CO.

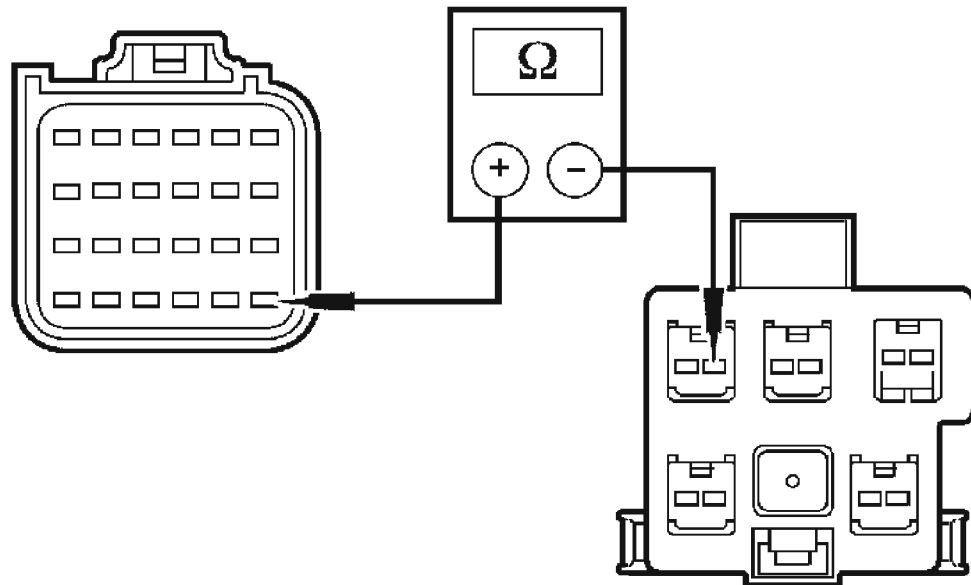
- Is the resistance less than 5 ohms?

Yes : GO to AR21.

No : REPAIR circuit 91-JA60 (BK/OG). GO to AR28.

AR21 CHECK CIRCUIT 4-EC18 (GY/BK)/4-EC7 (GY/RD) FOR AN OPEN BETWEEN THE OCS AND THE RCM - OCS SERVICE KIT

- Measure the resistance between RCM C2041b pin 19, circuit 4-EC18 (GY/BK), harness side and passenger seat C312 pin 6, circuit 4-EC7 (GY/RD), harness side.



A0094874

Fig. 138: Checking Circuit 4-EC18 (GY/BK)/4-EC7 (GY/RD) For An Open Between OCS And RCM - OCS Service Kit
Courtesy of FORD MOTOR CO.

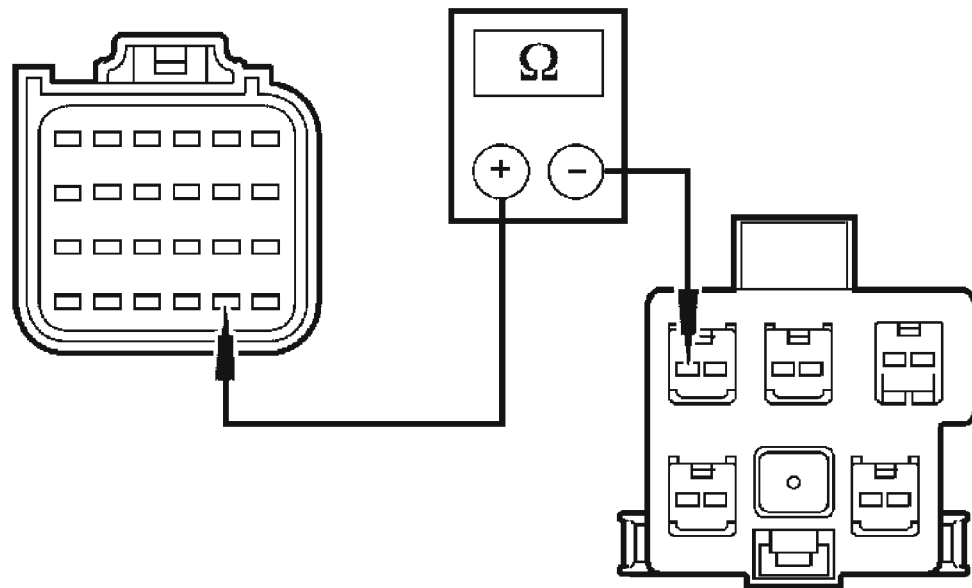
- Is the resistance less than 0.5 ohm?

Yes : GO to AR22.

No : REPAIR circuit 4-EC18 (GY/BK) or circuit 4-EC7 (GY/RD). GO to AR28.

AR22 CHECK CIRCUIT 5-EC18 (BU/BK)/5-EC7 (BU/RD) FOR AN OPEN BETWEEN THE OCS AND THE RCM - OCS SERVICE KIT

- Measure the resistance between RCM C2041b pin 20, circuit 5-EC18 (BU/BK), harness side and passenger seat C312 pin 5, circuit 5-EC7 (BU/RD), harness side.



A0094875

Fig. 139: Checking Circuit 5-EC18 (BU/BK)/5-EC7 (BU/RD) For An Open Between OCS And RCM - OCS Service Kit
Courtesy of FORD MOTOR CO.

- Is the resistance less than 0.5 ohm?

Yes : GO to AR23.

No : REPAIR circuit 5-EC18 (BU/BK) or circuit 5-EC7 (BU/RD). GO to AR28.

AR23 CHECK THE RCM - OCS SERVICE KIT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Install a known good RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**.
- Connect: RCM C2041a and C2041b.
- Connect: Passenger Seat C312.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Flag DTC B2290/Record

All Faults.

- **Was DTC B2290 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If a flagged fault of "? " was recorded, multiple faults exist and the entire pinpoint test must be carried out.

INSTALL a new OCS service kit. Refer to OCCUPANT CLASSIFICATION SENSOR. GO to AR28.

No : Fault corrected. GO to AR28.

AR24 CHECK OCS PART NUMBER

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Check the part number on the OCS against the part number listed in the master parts catalog.
- **Did the part number on the OCS match the part number listed in the master parts catalog?**

Yes : GO to AR25.

No : INSTALL a new OCS with the correct part number. Refer to OCCUPANT CLASSIFICATION SENSOR. GO to AR28.

AR25 CHECK RCM PART NUMBER

- Check the part number on the RCM against the part number listed in the master parts catalog.
- **Did the part number on the RCM match the part number listed in the master parts catalog?**

Yes : GO to AR26.

No : INSTALL and CONFIGURE a new RCM with the correct part number. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to AR28.

AR26 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connector are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND

REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Flag DTC B2290/Record All Faults.
- **Was the DTC B2290 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If a flagged fault of "? " was recorded, multiple faults exist and the entire pinpoint test must be carried out.

INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AR28.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to AR28.

AR27 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Flag DTC B2290/Record All Faults.
- **Was DTC B2290 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

If a flagged fault of "? " was recorded, multiple faults exist and the entire pinpoint test must be carried out.

Vehicles with a production OCS system

For OCS system with a module version status-RCM version conflicts with OCS version, GO to AR24.

For OCS system with a mounting fault, GO to AR2.

For OCS system with an internal fault, INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

For OCS system with a communications fault, GO to AR3.

For OCS system with a calibration fault, GO to AR9.

For OCS system with a pressure sensor fault, GO to AR10.

Vehicles with a service OCS system

For OCS system with a module version status-RCM version conflicts with OCS version, GO to AR24.

For OCS system with a mounting fault, GO to AR2.

For OCS system with an internal fault, INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

For OCS system with a communications fault, GO to AR18.

For OCS system with a calibration fault, GO to AR9.

For OCS system with a pressure sensor fault, INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to AR28.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to AR28.

AR28 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AR1.
- **Were any continuous DTCs retrieved during Step AR1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AS: DTC B2432 - Drivers Seat Belt Buckle Switch Circuit Open Fault

Normal Operation

The restraints control module (RCM) checks the safety belt buckle switch circuits for faults. If the RCM detects an open circuit fault, it will store diagnostic trouble code (DTC) B2432 in memory and illuminate the air bag indicator.

Possible Causes

A driver safety belt buckle switch open circuit fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty driver safety belt buckle switch.
- A faulted RCM.

PINPOINT TEST AS: DTC B2432 - DRIVERS SEAT BELT BUCKLE SWITCH CIRCUIT OPEN FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AS1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before

releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

- **Was DTC B2432 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AS2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AS5.

AS2 CHECK CIRCUIT 15S-JA54 (GN/YE) AND CIRCUIT 91-JA54 (BK/YE)/91-JA53 (BK/BU) FOR AN OPEN BETWEEN THE RCM AND THE DRIVER SAFETY BELT BUCKLE SWITCH

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041a pin 25, circuit 15S-JA54 (GN/YE), harness side and driver seat C311 pin 3, circuit 15S-JA54 (GN/YE), harness side; and between RCM C2041a pin 34, circuit 91-JA53 (BK/BU), harness side and driver seat C311 pin 4, circuit 91-JA54 (BK/YE), harness side

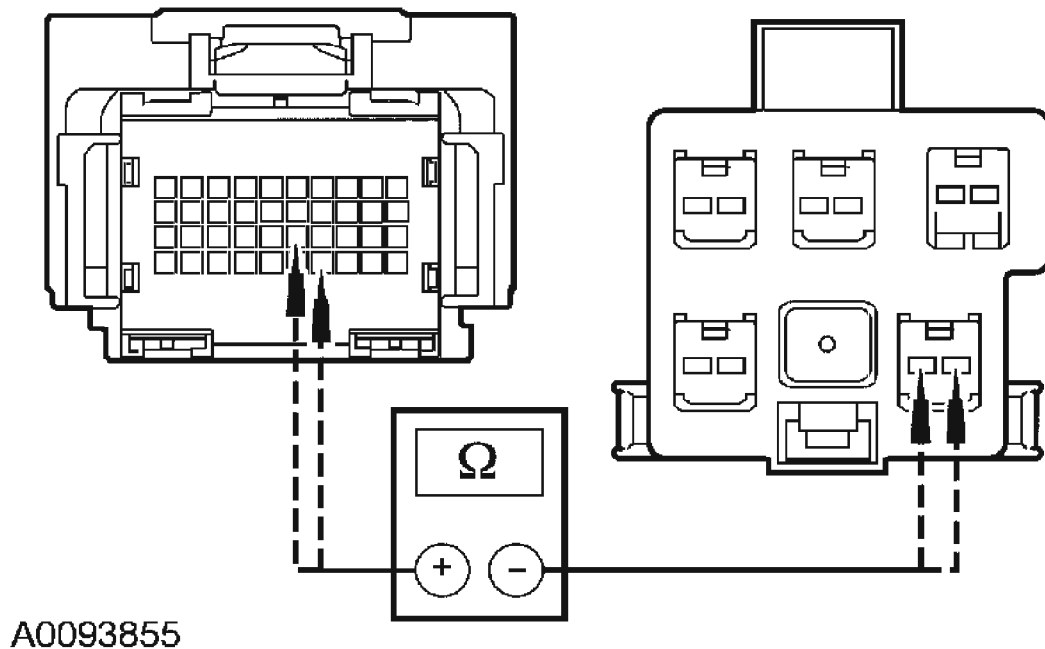


Fig. 140: Checking Circuit 15S-JA54 (GN/YE) And Circuit 91-JA54 (BK/YE)/91-JA53 (BK/BU) For An Open Between RCM And Driver Safety Belt Buckle Switch
 Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

Yes : GO to AS3.

No : REPAIR circuit 15S-JA54 (GN/YE) or circuit 91-JA54 (BK/YE)/91-JA53 (BK/BU). GO to AS6.

AS3 CHECK THE DRIVER SAFETY BELT BUCKLE SWITCH

- Connect: RCM C2041a and C2041b.
- Install a known good driver safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Connect: Driver Seat C311.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2432 retrieved during the on-demand self test?**
 Yes : GO to AS4.
 No : Fault corrected. GO to AS6.

AS4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Reinstall the original driver safety belt buckle assembly. Refer to SAFETY BELT SYSTEM.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2432 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to AS6.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AS6.

AS5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2432 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to AS2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AS6.

AS6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AS1.
- **Were any continuous DTCs retrieved during Step AS1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE

CODE (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AT: DTC B2433 - Drivers Seat Belt Buckle Switch Circuit Short to Battery Fault

Normal Operation

The restraints control module (RCM) checks the driver safety belt buckle switch circuits for faults. If the RCM detects a short to voltage fault, it will store diagnostic trouble code (DTC) B2433 in memory and illuminate the air bag indicator.

Possible Causes

A driver safety belt buckle switch short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST AT: DTC B2433 - DRIVERS SEAT BELT BUCKLE SWITCH CIRCUIT SHORT TO BATTERY FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AT1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt

buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2433 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AT2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to AT4.

AT2 CHECK CIRCUIT 15S-JA54 (GN/YE) AND CIRCUIT 91-JA54 (BK/YE)/91-JA53 (BK/BU) FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Measure the voltage between driver seat C311 pin 3, circuit 15S-JA54 (GN/YE), harness side and ground; and between driver seat C311 pin 4, circuit 91-JA54 (BK/YE), harness side and ground.

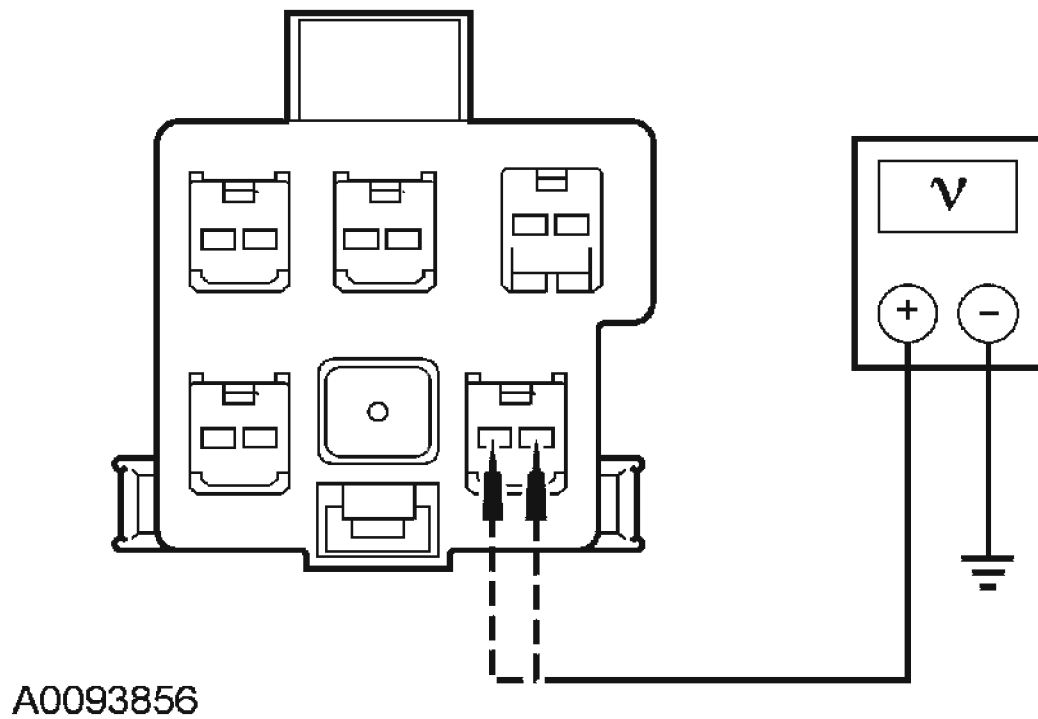


Fig. 141: Checking Circuit 15S-JA54 (GN/YE) And Circuit 91-JA54 (BK/YE)/91-JA53 (BK/BU) For A Short To Voltage
 Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : GO to AT3.

No : REPAIR circuit 15S-JA54 (GN/YE) or circuit 91-JA54 (BK/YE)/91-JA53 (BK/BU). GO to AT5.

AT3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Driver Seat C311.
- Connect: RCM C2041a and C2041b.

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2433 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AT5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AT5.

AT4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2433 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AT2.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AT5.

AT5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AT1.
- **Were any continuous DTCs retrieved during Step AT1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AU: DTC B2434 - Drivers Seat Belt Buckle Switch Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) checks the driver safety belt buckle switch circuits for faults. If the RCM detects a short to ground fault, it will store diagnostic trouble code (DTC) B2434 in memory and illuminate the air bag indicator.

Possible Causes

A driver safety belt buckle switch circuit fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty driver safety belt buckle switch.
- A faulted RCM.

PINPOINT TEST AU: DTC B2434 - DRIVERS SEAT BELT BUCKLE SWITCH CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AU1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record

Continuous DTCs.

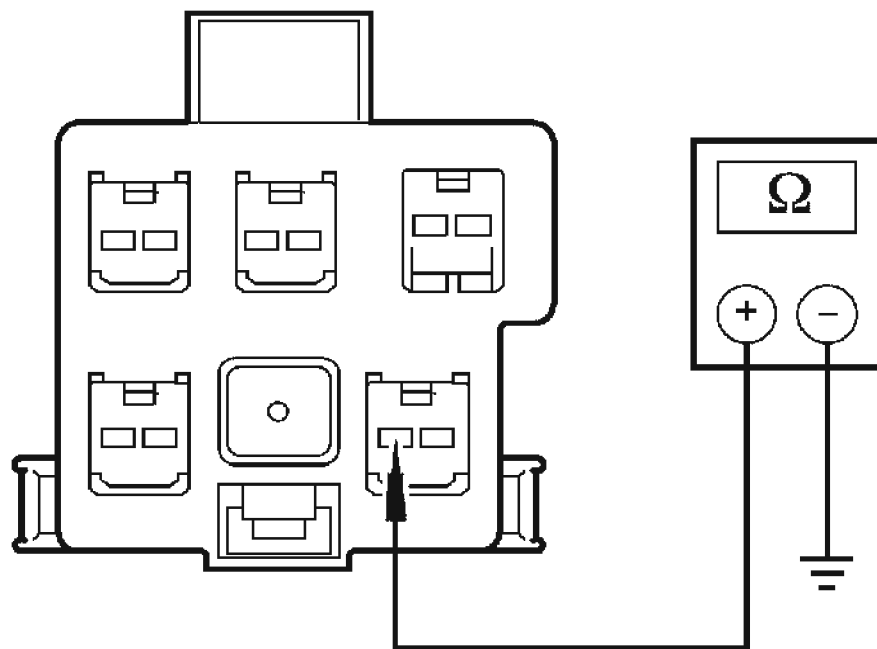
- **Was DTC B2434 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AU2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AU5.

AU2 CHECK CIRCUIT 15S-JA54 (GN/YE) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE DRIVER SAFETY BELT BUCKLE SWITCH

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Seat C311.
- Disconnect: RCM C2041 b and C2041 b.
- Measure the resistance between driver seat C311 pin 3, circuit 15S-JA54 (GN/YE), harness side and ground.



A0093857

Fig. 142: Measuring Resistance Between Driver Seat C311 Pin 3, Circuit 15S-JA54 (GN/YE), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 1,000,000 ohms?**

Yes : GO to AU3.

No : REPAIR circuit 15S-JA54 (GN/YE). GO to AU6.

AU3 CHECK THE DRIVER SAFETY BELT BUCKLE SWITCH

- Connect: RCM C2041a and C2041b.
- Install a known good driver safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Connect: Driver Seat C311.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2434 retrieved during the on-demand self test?**

Yes : GO to AU4.

No : Fault corrected. GO to AU6.

AU4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Reinstall the original driver safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2434 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AU6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AU6.

AU5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B2434 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AU2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AU6.

AU6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AU1.

- **Were any continuous DTCs retrieved during Step AU1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AV: DTC B2435 - Drivers Seat Belt Buckle Switch Resistance Out of Range Fault

Normal Operation

The restraints control module (RCM) checks the driver safety belt buckle switch circuits for faults. If the RCM detects a current out of range fault, it will store diagnostic trouble code (DTC) B2435 in memory and illuminate the air bag indicator.

Possible Causes

A driver safety belt buckle switch current out of range fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty driver safety belt buckle switch.
- A faulted RCM.

PINPOINT TEST AV: DTC B2435 - DRIVERS SEAT BELT BUCKLE SWITCH RESISTANCE OUT OF RANGE FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AV1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

• Was DTC B2435 retrieved during the on-demand self test?

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AV2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AV4.

AV2 CHECK THE SAFETY BELT BUCKLE SWITCH

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Install a known good driver safety belt buckle assembly. Refer to **SAFETY**

BELT SYSTEM .

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2435 retrieved during the on-demand self test?**

Yes : GO to AV3.

No : Fault corrected. GO to AV5.

AV3 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Reinstall the original driver safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM** .
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2435 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AV4.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AV4.

AV4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2435 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AV2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR

any intermittent concerns found. GO to AV5.

AV5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AV1.
- **Were any continuous DTCs retrieved during Step AV1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AW: DTC B2436 - Passengers Seat Belt Buckle Switch Circuit Open Fault

Normal Operation

The restraints control module (RCM) checks the passenger safety belt buckle switch circuits for faults. If the RCM detects an open circuit fault, it will store diagnostic trouble code (DTC) B2436 in memory and illuminate the air bag indicator.

Possible Causes

A passenger safety belt buckle switch open circuit fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger safety belt buckle switch.
- A faulted RCM.

PINPOINT TEST AW: DTC B2436 - PASSENGERS SEAT BELT BUCKLE SWITCH CIRCUIT OPEN FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AW1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2436 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AW2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to AW5.

AW2 CHECK CIRCUIT 15S-JA55 (GN/OG) AND CIRCUIT 91-JA55 (BK/RD)/91-JA53 (BK/BU) FOR AN OPEN BETWEEN THE RCM AND THE PASSENGER SAFETY BELT BUCKLE SWITCH

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041a pin 30, circuit 15S-JA55 (GN/OG), harness side and passenger seat C312 pin 3, circuit 15S-JA55 (GN/OG), harness side; and between RCM C2041a pin 34, circuit 91-JA53 (BK/BU), harness side and passenger seat C312 pin 4, circuit 91-JA55 (BK/RD), harness side

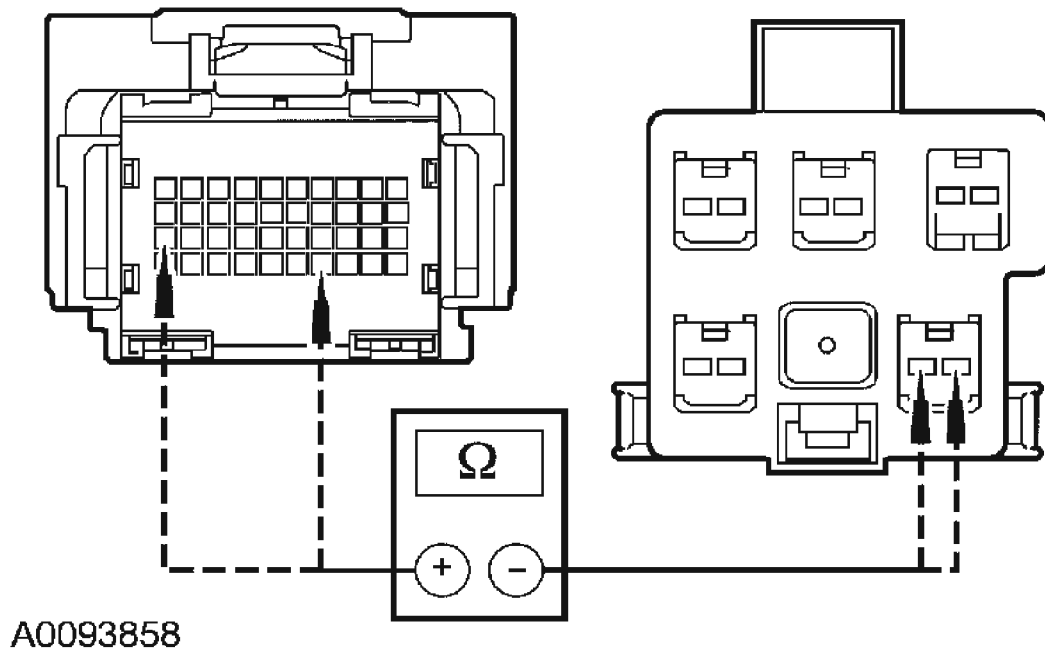


Fig. 143: Checking Circuit 15S-JA55 (GN/OG) And Circuit 91-JA55 (BK/RD)/91-JA53 (BK/BU) For An Open Between RCM And Passenger Safety Belt Buckle Switch
 Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

Yes : GO to AW3.

No : REPAIR circuit 15S-JA55 (GN/OG) or circuit 91-JA55 (BK/RD)/91-JA53 (BK/BU). GO to AW6.

AW3 CHECK THE PASSENGER SAFETY BELT BUCKLE SWITCH

- Connect: RCM C2041a and C2041b.
- Install a known good passenger safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Connect: Passenger Seat C312.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2436 retrieved during the on-demand self test?**
 Yes : GO to AW4.
 No : Fault corrected. GO to AW6.

AW4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Reinstall the original passenger safety belt buckle assembly. Refer to SAFETY BELT SYSTEM.
- Repower the system. Do not prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B2436 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to AW6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AW6.

AW5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2436 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AW2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AW6.

AW6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AW1.
- **Were any continuous DTCs retrieved during Step AW1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system,

REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AX: DTC B2437 - Passengers Seat Belt Buckle Switch Circuit Short to Battery Fault**Normal Operation**

The restraints control module (RCM) checks the passenger safety belt buckle switch circuits for faults. If the RCM detects a short to voltage fault, it will store diagnostic trouble code (DTC) B2437 in memory and illuminate the air bag indicator.

Possible Causes

A passenger safety belt buckle switch short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST AX: DTC B2437 - PASSENGERS SEAT BELT BUCKLE SWITCH CIRCUIT SHORT TO BATTERY FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AX1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical

connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2437 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AX2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to AX4.

AX2 CHECK CIRCUIT 15S-JA55 (GN/OG) AND CIRCUIT 91-JA55 (BK/RD)/91-JA53 (BK/BU) FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Seat C312.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Measure the voltage between passenger seat C312 pin 3, circuit 15S-JA55 (GN/OG), harness side and ground; and between passenger seat C312 pin 4, circuit 91-JA55 (BK/RD)/91-JA53 BK/BU), harness side and ground

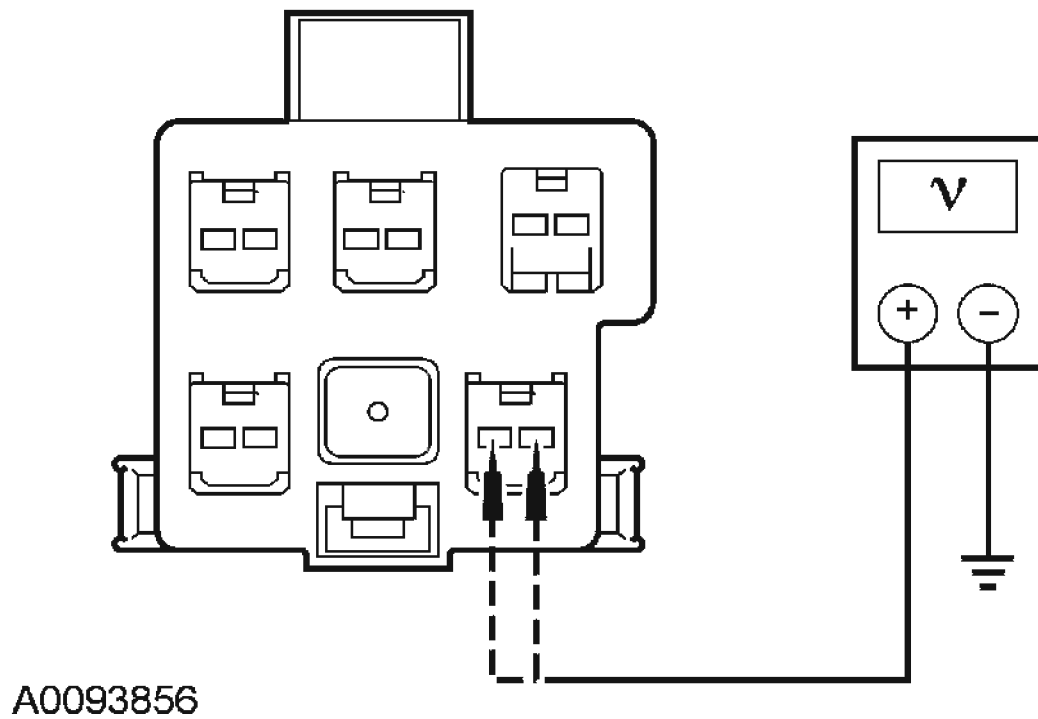


Fig. 144: Checking Circuit 15S-JA55 (GN/OG) And Circuit 91-JA55 (BK/RD)/91-JA53 (BK/BU) For A Short To Voltage
 Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : GO to AX3.

No : REPAIR circuit 15S-JA55 (GN/OG) or circuit 91-JA55 (BK/RD)/91-JA53 (BK/BU). GO to AX5.

AX3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Passenger Seat C312.
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Side Air Bag Module C312e.

- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2437 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AX5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AX5.

AX4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2437 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AX2.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AX5.

AX5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AX1.
- **Were any continuous DTCs retrieved during Step AX1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC)** Table for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AY: DTC B2438 - Passengers Seat Belt Buckle Switch Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) checks the passenger safety belt buckle switch circuits for faults. If the RCM detects a short to ground fault, it will store diagnostic trouble code (DTC) B2438 in memory and illuminate the air bag indicator.

Possible Causes

A passenger safety belt buckle switch circuit fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger safety belt buckle switch.
- A faulted RCM.

PINPOINT TEST AY: DTC B2438 - PASSENGERS SEAT BELT BUCKLE SWITCH CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AY1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

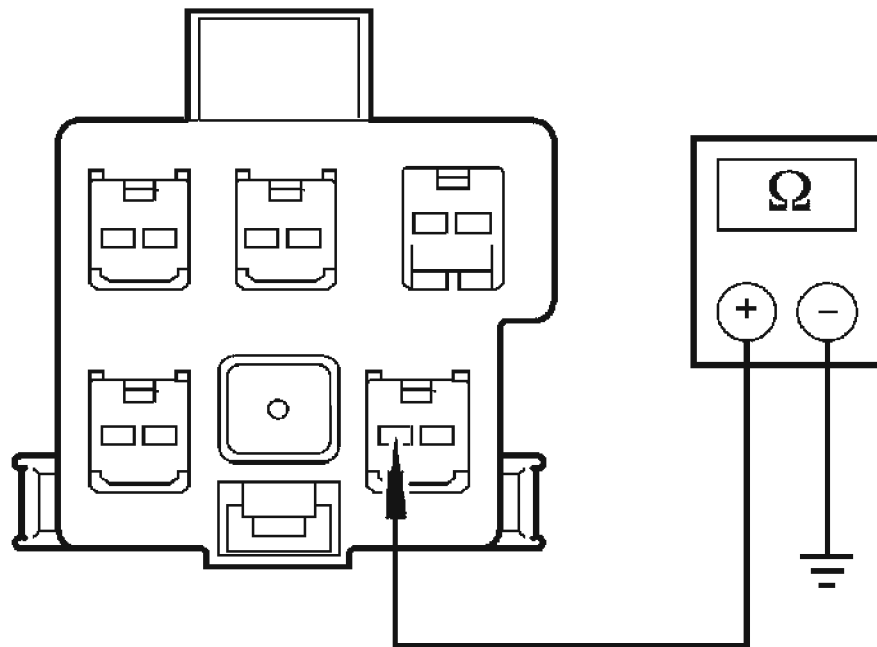
NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2438 retrieved during the on-demand self test?**
 - Yes** : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AY2.
 - No** : This is an intermittent fault. The fault condition is not present at this time. GO to AY5.

AY2 CHECK CIRCUIT 15S-JA55 (GN/OG) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE PASSENGER SAFETY BELT BUCKLE SWITCH

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Passenger Seat C312.
- Disconnect: RCM C2041 b and C2041b.
- Measure the resistance between passenger seat C312 pin 3, circuit 15S-JA55 (GN/OG), harness side and ground.



A0093857

Fig. 145: Measuring Resistance Between Passenger Seat C312 Pin 3, Circuit

15S-JA55 (GN/OG), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 1,000,000 ohms?**

Yes : GO to AY3.

No : REPAIR circuit 15S-JA55 (GN/OG). GO to AY6.

AY3 CHECK THE PASSENGER SAFETY BELT BUCKLE SWITCH

- Connect: RCM C2041a and C2041b.
- Install a known good passenger safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Connect: Passenger Seat C312.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2438 retrieved during the on-demand self test?**

Yes : GO to AY4.

No : Fault corrected. GO to AY6.

AY4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Reinstall the original passenger safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2438 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AY6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR

any intermittent concerns found. GO to AY6.

AY5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2438 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AY2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AY6.

AY6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AY1.
- **Were any continuous DTCs retrieved during Step AY1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test AZ: DTC B2439 - Passengers Seat Belt Buckle Switch Resistance Out of Range Fault**Normal Operation**

The restraints control module (RCM) checks the passenger safety belt buckle switch circuits for faults. If the RCM detects a current out of range fault, it will store diagnostic trouble code (DTC) B2439 in memory and illuminate the air bag indicator.

Possible Causes

A passenger safety belt buckle switch current out of range fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger safety belt buckle switch.
- A faulted RCM.

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

AZ1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2439 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AZ2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to AZ4.

AZ2 CHECK THE SAFETY BELT BUCKLE SWITCH

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Install a known good passenger safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2439 retrieved during the on-demand self test?**
Yes : GO to AZ3.
No : Fault corrected. GO to AZ5.

AZ3 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Reinstall the original passenger safety belt buckle assembly. Refer to **SAFETY BELT SYSTEM**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2439 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to AZ4.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AZ4.

AZ4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2439 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be

cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to AZ2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to AZ5.

AZ5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step AZ1.
- **Were any continuous DTCs retrieved during Step AZ1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BA: DTC B2855 - Front Crash Sensor Circuit Short to Gnd/VBatt Fault

Normal Operation

The restraints control module (RCM) checks the front impact severity sensor circuits for faults. If the RCM detects a short to ground or voltage on any of the front impact severity sensor circuits, it will store diagnostic trouble code (DTC) B2855 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Circuit short to voltage.
- Circuit short to ground.

Possible Causes

A front impact severity sensor circuit short to ground/voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty front impact severity sensor.
- Incorrect sensor mounting.
- A faulted RCM.

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BA1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

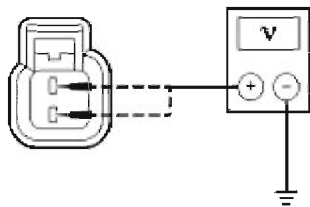
- **Was DTC B2855 retrieved during the on-demand self test?**

Yes : GO to BA2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to BA5.

BA2 CHECK CIRCUIT 8-JA49 (WH) AND CIRCUIT 9-JA49 (BN) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE FRONT IMPACT SEVERITY SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Front Impact Severity Sensor C177.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between front impact severity sensor C177 pin 2, circuit 8-JA49 (WH), harness side and ground; and between front impact severity sensor C177 pin 1, circuit 9-JA49 (BN), harness side and ground.



A0093842

Fig. 146: Measuring Voltage Between Connector Terminals And Ground
Courtesy of FORD MOTOR CO.

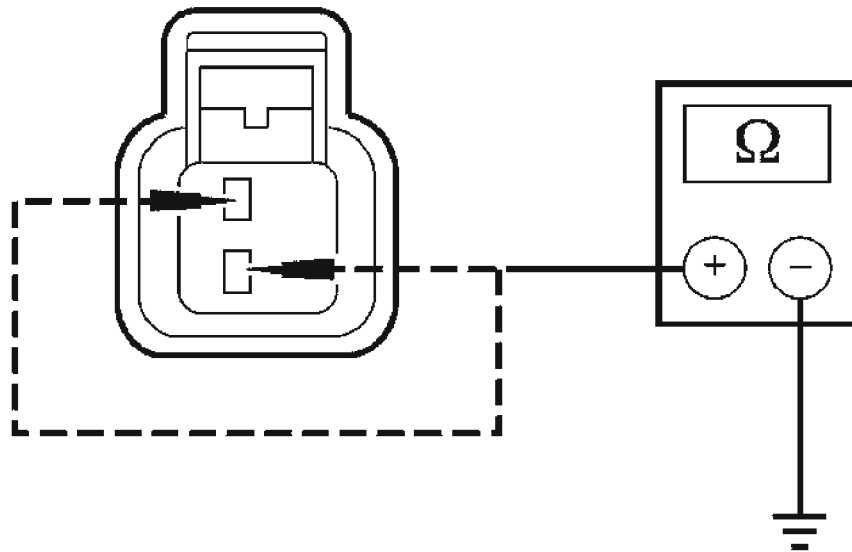
- **Are the voltages less than 0.2 volt?**

Yes : GO to BA3.

No : REPAIR circuit 8-JA49 (WH) or circuit 9-JA49 (BN). GO to BA6.

BA3 CHECK CIRCUIT 8-JA49 (WH) AND CIRCUIT 9-JA49 (BN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE FRONT IMPACT SEVERITY SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Measure the resistance between front impact severity sensor C177 pin 2, circuit 8-JA49 (WH), harness side and ground; and between front impact severity sensor C177 pin 1, circuit 9-JA49 (BN), harness side and ground.



A0093812

Fig. 147: Checking Circuit 8-JA49 (WH) And Circuit 9-JA49 (BN) For A Short To Ground Between RCM And Front Impact Severity Sensor
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to BA4.

No : REPAIR circuit 8-JA49 (WH) or circuit 9-JA49 (BN). GO to BA6.

BA4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: RCM C2041a and C2041b.
- Connect: Front Impact Severity Sensor C177.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Was DTC B2855 retrieved during the on-demand self test?

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BA6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BA6.

BA5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2855 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BA2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BA6.

BA6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BA1.
- **Were any continuous DTCs retrieved during Step BA1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BB: DTC B2856 - Front Crash Sensor ID Fault

Normal Operation

The restraints control module (RCM) checks the front impact severity sensor for correct application. If the RCM detects an incorrect front impact severity sensor, it will store diagnostic trouble code (DTC) B2856 in memory and illuminate the air bag indicator.

Possible Causes

A front impact severity sensor ID fault can be caused by:

- A faulty impact sensor.
- A faulted RCM.

PINPOINT TEST BB: DTC B2856 - FRONT CRASH SENSOR ID FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BB1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2856 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to BB2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to BB5.

BB2 CHECK THE FRONT IMPACT SEVERITY SENSOR PART NUMBER

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Check the part number on the front impact severity sensor against the part number listed in the master parts catalog.
- **Did the part number on the front impact severity sensor match the part number listed in the master parts catalog?**

Yes : GO to BB3.

No : INSTALL a new front impact severity sensor. Refer to **FRONT IMPACT SEVERITY SENSOR**. GO to BB6.

BB3 CHECK THE FRONT IMPACT SEVERITY SENSOR

- Install a known good front impact severity sensor. Refer to **FRONT IMPACT SEVERITY SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2856 retrieved during the on-demand self test?**

Yes : GO to BB4.

No : Fault corrected. GO to BB6.

BB4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Reinstall the original front impact severity sensor. Refer to **FRONT IMPACT SEVERITY SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B2856 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BB6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BB6.

BB5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2856 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BB2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BB6.

BB6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BB1.
- **Were any continuous DTCs retrieved during Step BB1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX** for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BC: DTC B2886 - Passenger Side Crash Sensor ID Fault

Normal Operation

The restraints control module (RCM) checks the passenger side impact sensor for correct application. If the RCM detects an incorrect passenger side impact sensor, it will store diagnostic trouble code (DTC) B2886 in memory and illuminate the air bag indicator.

Possible Causes

A passenger side impact sensor ID fault can be caused by:

- A faulty impact sensor.

- A faulted RCM.

PINPOINT TEST BC: DTC B2856 - PASSENGER SIDE CRASH SENSOR ID FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BC1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road .

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2886 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to BC2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to BC5.

BC2 CHECK THE PASSENGER SIDE IMPACT SENSOR PART NUMBER

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Check the part number on the passenger side impact sensor against the part number listed in the master parts catalog.
- **Did the part number on the passenger side impact sensor match the part number listed in the master parts catalog?**

Yes : GO to BC3.

No : INSTALL a new passenger side impact sensor. REFER to SIDE IMPACT SENSOR. GO to BC6.

BC3 CHECK THE PASSENGER SIDE IMPACT SENSOR

- Install a known good passenger side impact sensor. Refer to SIDE IMPACT SENSOR.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2886 retrieved during the on-demand self test?**

Yes : GO to BC4.

No : Fault corrected. GO to BC6.

BC4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Reinstall the original passenger side impact sensor. Refer to SIDE IMPACT SENSOR.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC B2886 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BC6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BC6.

BC5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2886 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BC2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BC6.

BC6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BC1.
- **Were any continuous DTCs retrieved during Step BC1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BD: DTC B2887 - Driver Side Crash Sensor ID Fault

Normal Operation

The restraints control module (RCM) checks the driver side impact sensor for correct application. If the RCM detects an incorrect driver side impact sensor, it will store diagnostic trouble code (DTC) B2887 in memory and illuminate the air bag indicator.

Possible Causes

A driver side impact sensor ID fault can be caused by:

- A faulty impact sensor.
- A faulted RCM.

PINPOINT TEST BD: DTC B2887 - DRIVER SIDE CRASH SENSOR ID FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BD1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2887 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-

demand self test.

GO to BD2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to BD5.

BD2 CHECK THE DRIVER SIDE IMPACT SENSOR PART NUMBER

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Check the part number on the driver side impact sensor against the part number listed in the master parts catalog.
- **Did the part number on the driver side impact sensor match the part number listed in the master parts catalog?**

Yes : GO to BD3.

No : INSTALL a new driver side impact sensor. REFER **SIDE IMPACT SENSOR**. GO to BD6.

BD3 CHECK THE DRIVER SIDE IMPACT SENSOR

- Install a known good driver side impact sensor. Refer to **SIDE IMPACT SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2887 retrieved during the on-demand self test?**

Yes : GO to BD4.

No : Fault corrected. GO to BD6.

BD4 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Reinstall the original driver side impact sensor. Refer to **SIDE IMPACT SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2887 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BD6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BD6.

BD5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2887 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BD2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BD6.

BD6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BD1.
- **Were any continuous DTCs retrieved during Step BD1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX** for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BE: DTC B2909 - Belt Tension Sensor Fault

Normal Operation

The belt tension sensor is part of the occupant classification sensor (OCS) system. The OCS system interprets a variable voltage signal provided by the safety belt tension sensor to identify the possible presence of a child safety seat in the front passenger seat. The voltage output of the belt tension sensor is proportional to the amount of tension applied to the sensor by the belt, no tension low voltage (approximately 0.95 volt), high tension high

voltage (approximately 3.8 volts).

The occupant classification sensor (OCS) system checks the belt tension sensor circuits for faults. If the OCS detects one of the following faults on any of the belt tension sensor circuits, it will report the failure to the RCM. The RCM will store diagnostic trouble code (DTC) B2909 in memory and illuminate the air bag indicator.

The occupant classification sensor (OCS) system components (seat cushion pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) are calibrated to each other and are serviced as an assembly. The OCS system components are not to be installed separately with the exception of the belt tension sensor. If a new OCS system, OCS system component or seat cushion foam pad are needed, a new OCS system service kit (seat cushion pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) must be installed as an assembly.

Possible Causes

A belt tension sensor circuit fault can be caused by one of the following:

- Damaged wiring, terminals or connectors.
- A faulted belt tension sensor.
- A faulted OCS ECU.

PINPOINT TEST BE: DTC B2909 - BELT TENSION SENSOR FAULT

NOTE: To identify between a production OCS system and a service OCS system (OCS service kit) inspect the OCS electronic control unit (ECU) electrical connector. A production OCS system allows disconnection of the electrical connector from the OCS ECU. A service OCS system (OCS service kit) has the OCS ECU electrical connector glued to the ECU, it cannot and should not be disconnected or altered.

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BE1 CHECK FOR CONTINUOUS OR ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC B2909 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

Vehicles with a production OCS system, GO to BE2. Vehicles with a service OCS system, GO to BE9.

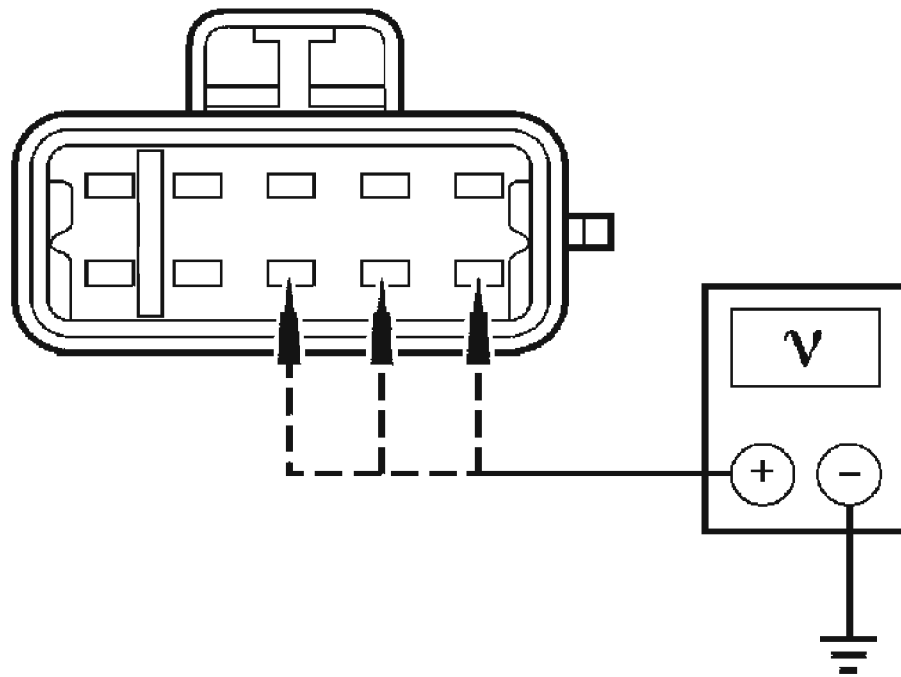
No : This is an intermittent fault. The fault condition is not present at this time. GO to BE13.

BE2 CHECK THE BELT TENSION SENSOR CIRCUITS FOR A SHORT TO VOLTAGE - PRODUCTION OCS SYSTEM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Side Air Bag Module C312e From Passenger Seat C312 (Vehicles equipped with side air bags).
- Connect: Restraint System Diagnostic Tool 501-109 to Passenger Seat C312e

(Vehicles equipped with side air bags).

- Disconnect: Belt Tension Sensor C389.
- Disconnect: OCS ECU C3043.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between OCS ECU C3043 pin B, circuit 7-JA59 (YE/RD), harness side and ground; pin C, circuit 9-JA59 (BN/RD), harness side and ground; and pin A, circuit 8-JA59 (WH/RD), harness side and ground.



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Fig. 148: Checking Belt Tension Sensor Circuits For A Short To Voltage - Production OCS System
Courtesy of FORD MOTOR CO.

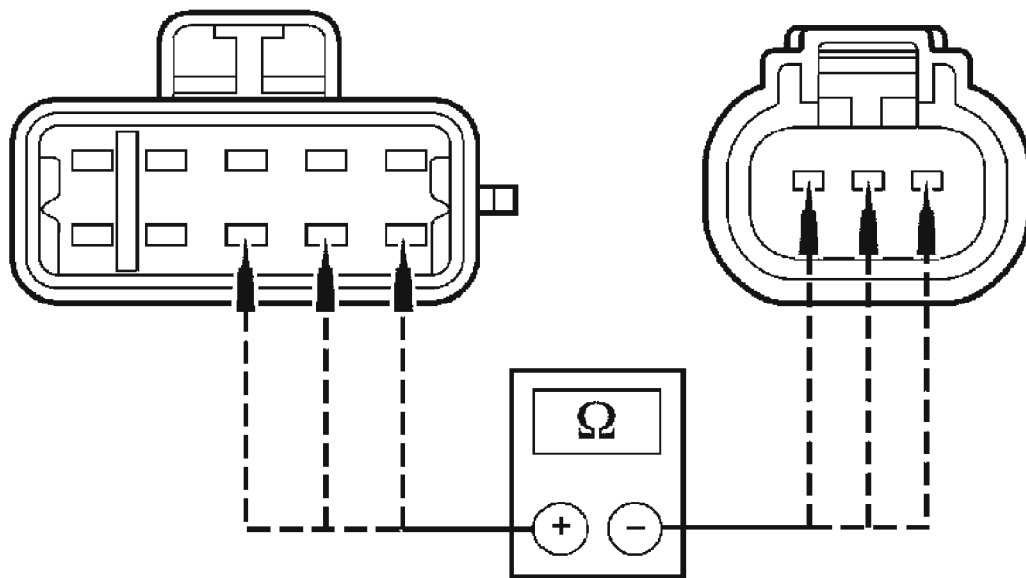
- Are the voltages less than 0.2 volt?

Yes : GO to BE3.

No : REPAIR circuit 7-JA59 (YE/RD), circuit 8-JA59 (WH/RD) or circuit 9-JA59 (BN/RD). GO to BE14.

BE3 CHECK THE BELT TENSION SENSOR CIRCUITS FOR AN OPEN - PRODUCTION OCS SYSTEM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Measure the resistance between OCS ECU C3043 pin B, circuit 7-JA59 (YE/RD), harness side and belt tension sensor C389 pin 1, circuit 7-JA59 (YE/RD), harness side; and between OCS ECU C3043 pin C, circuit 9-JA59 (BN/RD), harness side and belt tension sensor C389 pin 2, circuit 9-JA59 (BN/RD), harness side; and between the OCS ECU C3043 pin A, circuit 8-JA59 (WH/RD), harness side and belt tension sensor C389 pin 3, circuit 8-JA59 (WH/RD), harness side.



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Fig. 149: Checking Belt Tension Sensor Circuits For An Open - Production OCS System

Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

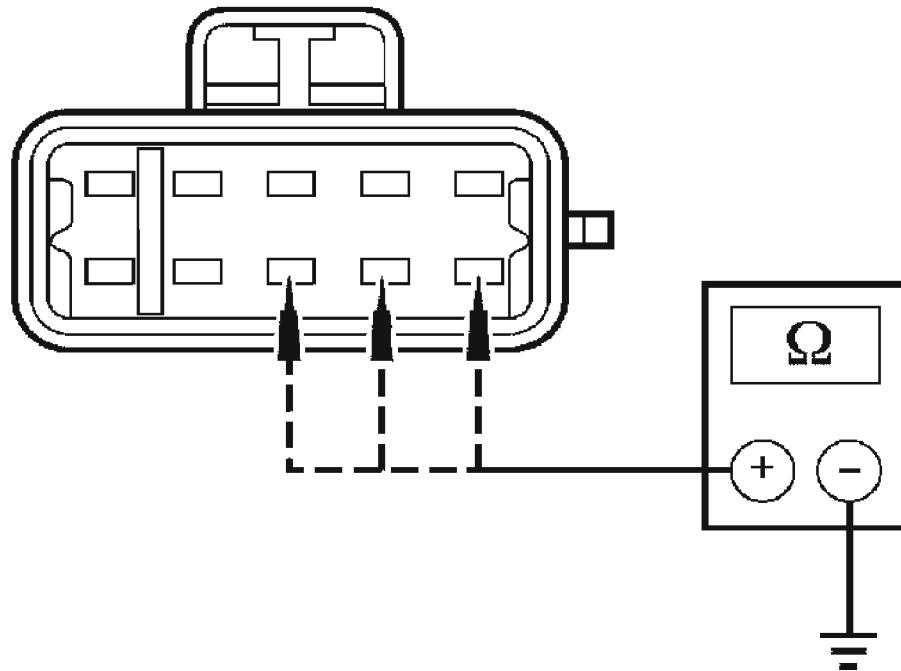
Yes : GO to BE4.

No : REPAIR circuit 7-JA59 (YE/RD), circuit 8-JA59 (WH/RD) or circuit 9-JA59 (BN/RD). GO to BE14.

BE4 CHECK CIRCUITS 7-JA59 (YE/RD), 8-JA59 (WH/RD) and 9-JA59 (BN/RD) FOR A SHORT TO GROUND - PRODUCTION OCS SYSTEM

- Measure the resistance between OCS ECU C3043 pin B, circuit 7-JA59 (YE/RD),

harness side and ground; and between OCS ECU C3043 pin A, circuit 8-JA59 (WH/RD) harness side and ground; and between OCS ECU C3043 pin C, circuit 9-JA59 (BN/RD), harness side and ground.



A0074130

Fig. 150: Checking Circuits 7-JA59 (YE/RD), 8-JA59 (WH/RD) And 9-JA59 (BN/RD) For A Short To Ground - Production OCS System
 Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 10,000 ohms?**

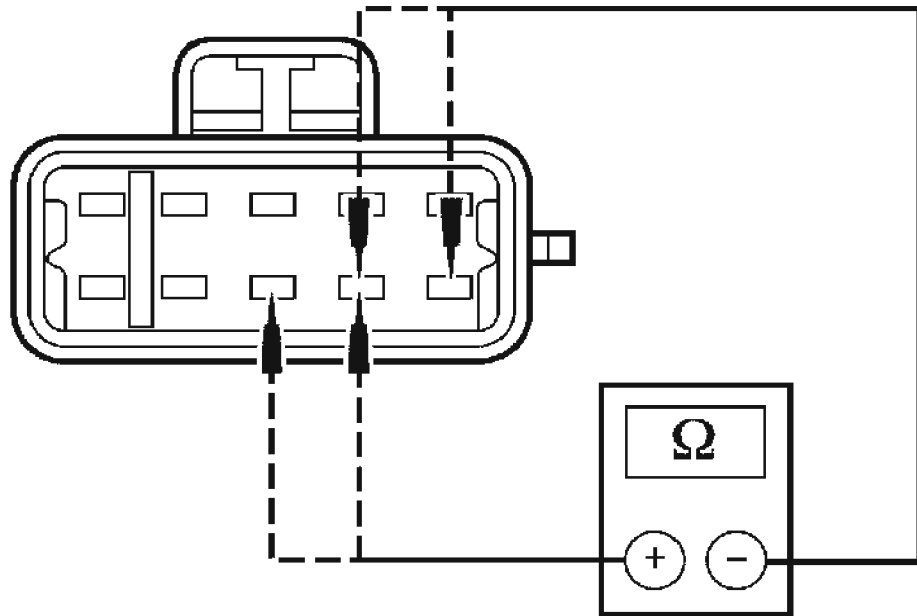
Yes : GO to BE5.

No : REPAIR circuit 7-JA59 (YE/RD), circuit 8-JA59 (WH/RD) or circuit 9-JA59 (BN/RD). GO to BE14.

BE5 CHECK CIRCUITS 7-JA59 (YE/RD), 8-JA59 (WH/RD) AND 9-JA59 (BN/RD) FOR A SHORT - PRODUCTION OCS SYSTEM

- Measure the resistance between OCS ECU C3043:
 - Pin B, circuit 7-JA59 (YE/RD), harness side and pin A, circuit 8-JA59 (WH/RD), harness side.
 - Pin B, circuit 7-JA59 (YE/RD), harness side and pin C, circuit 9-JA59 (BN/RD), harness side.
 - Pin A, circuit 8-JA59 (WH/RD), harness side and pin C, circuit 9-JA59

(BN/RD), harness side.



A0074129

Fig. 151: Checking Circuits 7-JA59 (YE/RD), 8-JA59 (WH/RD) And 9-JA59 (BN/RD) For A Short - Production OCS System
 Courtesy of FORD MOTOR CO.

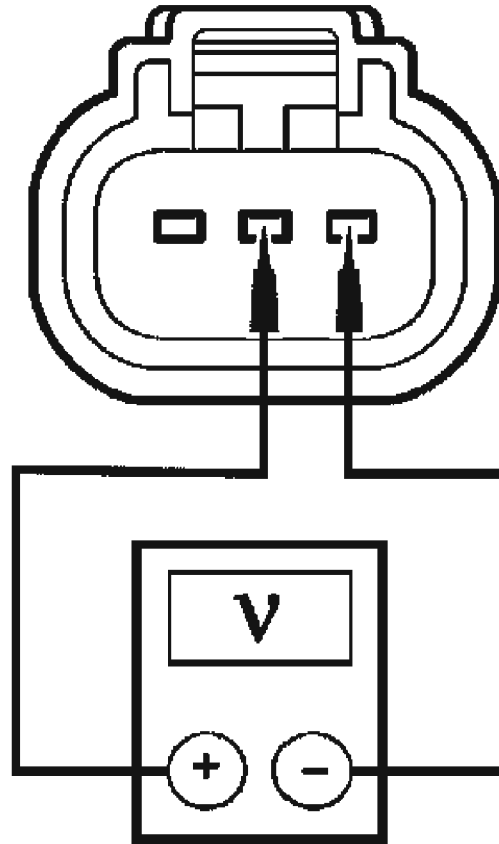
- Are the resistances greater than 10,000 ohms?

Yes : GO to BE6.

No : REPAIR circuit 7-JA59 (YE/RD), circuit 9-JA59 (BN/RD) and/or circuit 8-JA59 (WH/RD). GO to BE14.

BE6 CHECK THE OCS ECU OUTPUT - PRODUCTION OCS SYSTEM

- Connect: OCS ECU C3043.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between belt tension sensor C389 pin 1, circuit 7-JA59 (YE/RD), harness side and pin 2, circuit 9-JA59 (BN/RD), harness side.



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Fig. 152: Checking OCS ECU Output - Production OCS System
Courtesy of FORD MOTOR CO.

- Is the voltage approximately 5 volts?

Yes : GO to BE7.

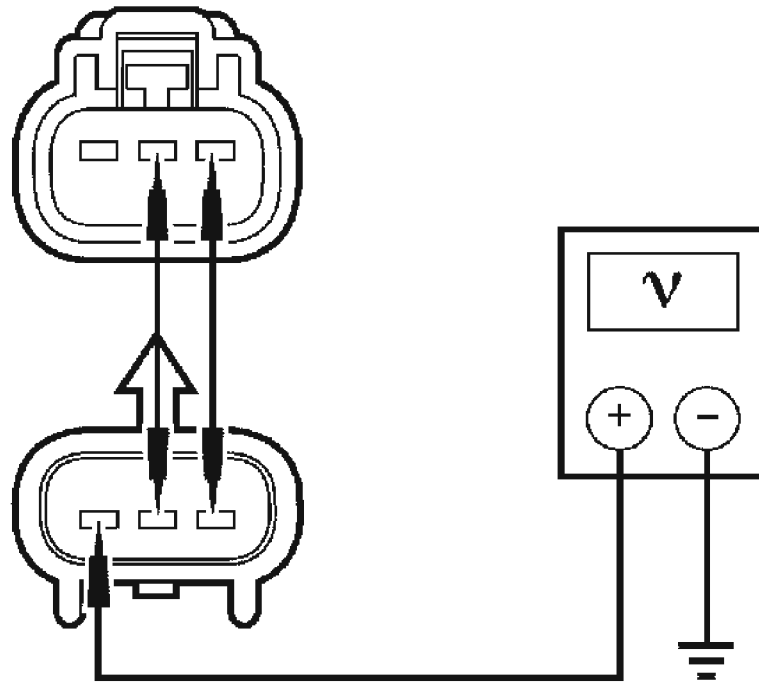
No : INSTALL a new OCS service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to BE14.

BE7 CHECK THE BELT TENSION SENSOR SIGNAL VOLTAGE OUTPUT - PRODUCTION OCS SYSTEM

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect a fused jumper lead between belt tension sensor C389 pin 1, circuit 7-JA59 (YE/RD), harness side and pin 1, circuit 7-JA59 (YE/RD), component side.
- Connect a fused jumper lead between belt tension sensor C389 pin 2, circuit 9-

JA59 (BN/RD), harness side and pin 2, circuit 9-JA59 (BN/RD), component side.

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between belt tension sensor C389 pin 3, circuit 8-JA59 (WH/RD), component side and ground as you vary the tension of the belt tension sensor.



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Fig. 153: Checking Belt Tension Sensor Signal Voltage Output - Production OCS System

Courtesy of FORD MOTOR CO.

- Does the voltage vary from approximately 0.95 volt with no tension applied to the sensor, to approximately 3.8 volts with full tension applied to the sensor?

Yes : GO to BE8.

No : INSTALL a new passenger safety belt buckle and belt tension sensor assembly. Refer to **SAFETY BELT SYSTEM** . GO to BE14.

BE8 CONFIRM THE BELT TENSION SENSOR FAULT - PRODUCTION OCS

SYSTEM

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Belt Tension Sensor C389.
- Repower the system. Do not prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2290 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to BE14.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to BE14.

BE9 CHECK THE SEAT WIRING AND CONNECTORS - OCS SERVICE KIT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Carry out a thorough visual inspection of the OCS system wiring and the belt tension sensor wiring terminals and connectors.
- **Were any problems noted?**

Yes : REPAIR the seat connectors and wiring as needed. GO to BE14.

No : GO to BE10.

BE10 CHECK THE OCS ECU OUTPUT - OCS SERVICE KIT

- Disconnect: Belt Tension Sensor C389.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

REPOWERING.

- Key in ON position.
- Measure the voltage between belt tension sensor C389 pin 1, circuit 7-JA59 (YE/RD), harness side and pin 2, circuit 9-JA59 (BN/RD), harness side.

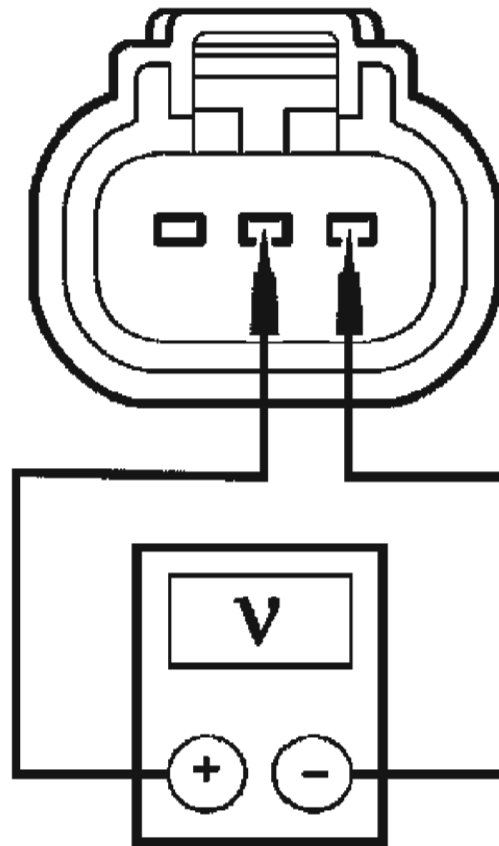
**A0074734**

Fig. 154: Checking OCS ECU Output - OCS Service Kit
Courtesy of FORD MOTOR CO.

- **Is the voltage approximately 5 volts?**

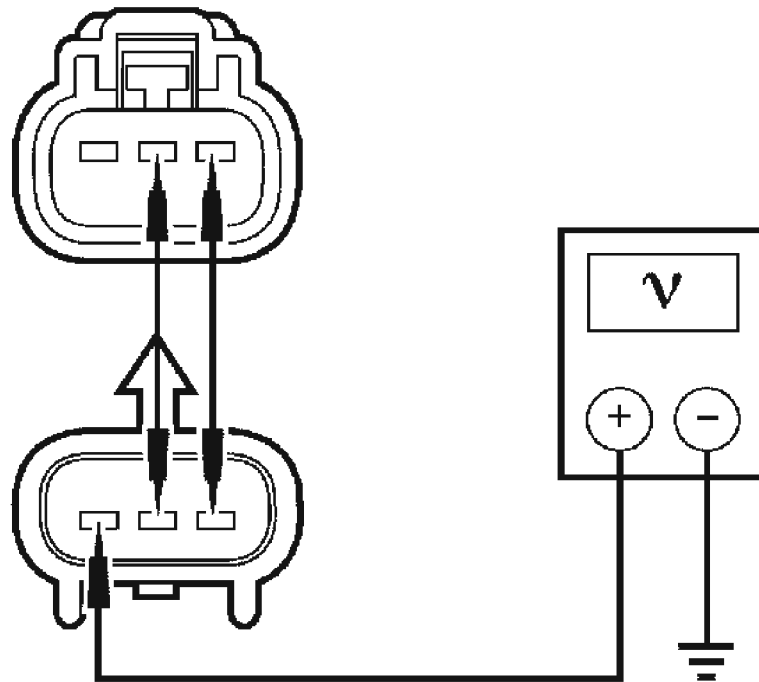
Yes : GO to BE11.

No : INSTALL a new OCS service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to BE14.

BE11 CHECK THE BELT TENSION SENSOR SIGNAL VOLTAGE OUTPUT - OCS SERVICE KIT

- Key in OFF position.

- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect a fused jumper lead between belt tension sensor C389 pin 1, circuit 7-JA59 (YE/RD), harness side and pin 1, circuit 7-JA59 (YE/RD), component side.
- Connect a fused jumper lead between belt tension sensor C389 pin 2, circuit 9-JA59 (BN/RD), harness side and pin 2, circuit 9-JA59 (BN/RD), component side.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between belt tension sensor C389 pin 3, circuit 8-JA59 (WH/RD), component side and ground as you vary the tension of the belt tension sensor.



A0074128

Fig. 155: Measuring Voltage Between Belt Tension Sensor C389 Pin 3, Circuit 8-JA59 (WH/RD), Component Side And Ground
Courtesy of FORD MOTOR CO.

- Does the voltage vary from approximately 0.95 volt with no tension applied to the sensor, to approximately 3.8 volts with full tension applied to the

sensor?

Yes : GO to BE12.

No : INSTALL a new passenger safety belt buckle and belt tension sensor assembly. Refer to **SAFETY BELT SYSTEM** . GO to BE14.

BE12 CONFIRM THE BELT TENSION SENSOR FAULT - OCS SERVICE KIT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: Belt Tension Sensor C389.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2290 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

INSTALL a new OCS system service kit. Refer to **OCCUPANT CLASSIFICATION SENSOR**. GO to BE14.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to BE14.

BE13 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC B2909 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

Vehicles with a production OCS system, GO to BE2. Vehicles with a service OCS system, GO to BE2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently.

ACTIVATE other systems in the same wire harness. REPAIR any intermittent concerns found. GO to BE14.

BE14 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BE1.
- **Were any continuous DTCs retrieved during Step BE1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BF: DTC C1946 - Driver Seat Track Position Sensor Circuit Open Fault

Normal Operation

The restraints control module (RCM) monitors the driver seat track position sensor circuits. If the RCM detects an open, it will store diagnostic trouble code (DTC) C1946 in memory and illuminate the air bag indicator.

Possible Causes

A driver seat track position sensor open circuit fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty seat track position sensor.
- A faulted RCM.

PINPOINT TEST BF: DTC C1946 - DRIVER SEAT TRACK POSITION SENSOR CIRCUIT OPEN FAULT

NOTE: **Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.**

BF1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle

over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

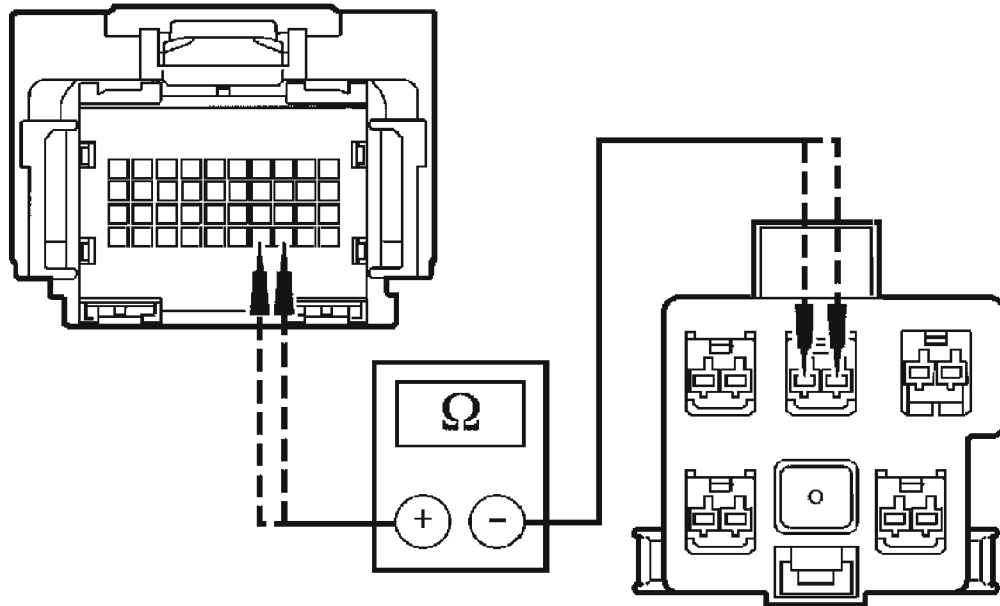
NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC C1946 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BF2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to BF5.

BF2 CHECK CIRCUIT 15S-JA53 (GN/BU) AND CIRCUIT 91-JA53 (BK/BU) FOR AN OPEN

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Measure the resistance between RCM C2041a pin 33, circuit 15S-JA53 (GN/BU),

harness side and driver seat C311 pin 7, circuit 15S-JA53 (GN/BU), harness side;
and between RCM C2041a pin 34, circuit 91-JA53 (BK/BU), harness side and
driver seat C311 pin 8, circuit 91-JA53 (BK/BU), harness side



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Fig. 156: Checking Circuit 15S-JA53 (GN/BU) And Circuit 91-JA53 (BK/BU) For An Open
Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm?

Yes : GO to BF3.

No : REPAIR circuit 15S-JA53 (GN/BU) or 91-JA53 (BK/BU). GO to BF6.

BF3 CHECK THE SEAT TRACK POSITION SENSOR

- Connect: RCM C2041a and C2041b.
- Install a known good seat track position sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Was DTC C1946 retrieved during the on-demand self test?

Yes : GO to BF4.

No : Fault corrected. GO to BF6.

BF4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Reinstall the original seat track position sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC C1946 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BF6.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BF6.

BF5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1946 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BF2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BF6.

BF6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BF1.
- **Were any continuous DTCs retrieved during Step BF1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX** for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**

DEPOWERING AND REPOWERING. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BG: DTC C1947 - Driver Seat Track Position Sensor Circuit Short to Ground Fault

Normal Operation

The restraints control module (RCM) monitors the driver seat track position sensor circuits. If the RCM detects a short to ground, it will store diagnostic trouble code (DTC) C1947 in memory and illuminate the air bag indicator.

Possible Causes

A driver seat track position sensor short to ground fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty driver seat track position sensor.
- A faulted RCM.

PINPOINT TEST BG: DTC C1947 - DRIVER SEAT TRACK POSITION SENSOR CIRCUIT SHORT TO GROUND FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BG1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

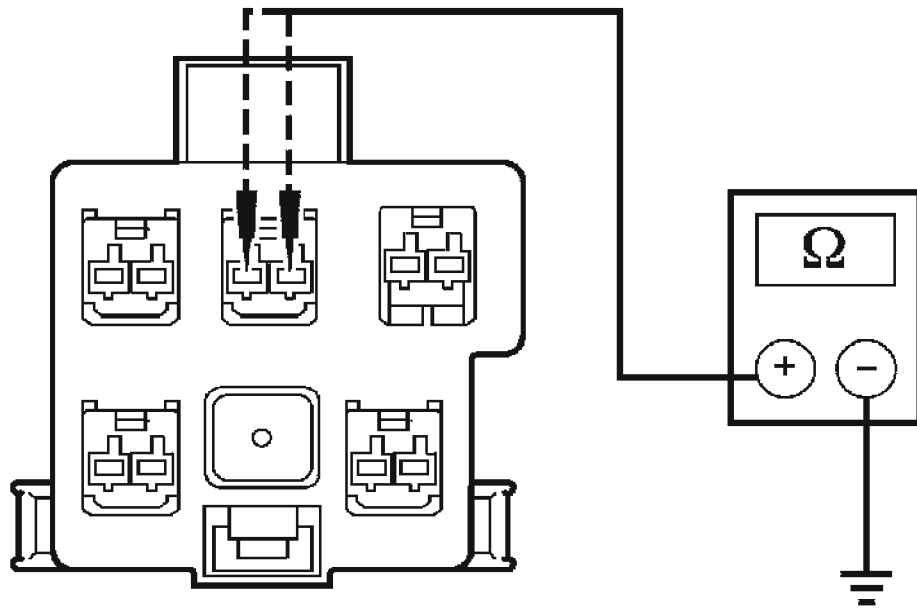
NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC C1947 retrieved during the on-demand self test?**
 - Yes :** This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BG2.
 - No :** This is an intermittent fault. The fault condition is not present at this time. GO to BG5.

BG2 CHECK CIRCUIT 15S-JA53 (GN/BU) AND CIRCUIT 91-JA53 (BK/BU) FOR A SHORT TO GROUND

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Measure the resistance between driver seat C311 pin 7, circuit 15S-JA53 (GN/BU), harness side and ground; and between driver seat C311 pin 8, circuit 91-JA53 (BK/BU) and ground.



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Fig. 157: Checking Circuit 15S-JA53 (GN/BU) And Circuit 91-JA53 (BK/BU) For A Short To Ground

Courtesy of FORD MOTOR CO.

- Are the resistances greater than 1,000,000 ohms?

Yes : GO to BG3.

No : REPAIR circuit 15S-JA53 (GN/BU) or circuit 91-JA53 (BK/BU). GO to BG6.

BG3 CHECK THE SEAT TRACK POSITION SENSOR

- Install a known good driver seat track position sensor.
- Connect: Driver Seat C311.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1947 retrieved during the on-demand self test?**

Yes : GO to BG4.

No : Fault corrected. GO to BG6.

BG4 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Reinstall the original driver seat track position sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1947 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to RESTRAINTS CONTROL MODULE (RCM). GO to BG6.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BG6.

BG5 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1947 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BG2.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BG6.

BG6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BG1.
- **Were any continuous DTCs retrieved during Step BG1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION. REPOWER the system. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

DEPOWERING AND REPOWERING. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BH: DTC C1948 - Driver Seat Track Position Sensor Circuit Resistance Out of Range Fault

Normal Operation

The restraints control module (RCM) monitors the driver seat track position sensor circuits. If the RCM detects a resistance out of range condition, it will store diagnostic trouble code (DTC) C1948 in memory and illuminate the air bag indicator.

Possible Causes

A driver seat track position sensor circuit resistance out of range fault can be caused by:

- A faulty driver seat track position sensor.
- A faulted RCM.

PINPOINT TEST BH: DTC C1948 - DRIVER SEAT TRACK POSITION SENSOR CIRCUIT RESISTANCE OUT OF RANGE FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BH1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC C1948 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BH2.
No : This is an intermittent fault. The fault condition is not present at this time. GO to BH4.

BH2 CHECK THE SEAT TRACK POSITION SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Install a known good driver seat track position sensor.
- Repower the system. Do not prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Was DTC C1948 retrieved during the on-demand self test?
Yes : GO to BH3.
No : Fault corrected. GO to BH5.

BH3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Reinstall the original driver seat track position sensor.

- Repower the system. **Do not prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1948 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM).** GO to BH5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BH5.

BH4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1948 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BH2.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BH2.

BH5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BH1.
- **Were any continuous DTCs retrieved during Step BH1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX** for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION.** REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.** PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BI: DTC C1981 - Driver Seat Track Position Switch Circuit Fault

Normal Operation

The restraints control module (RCM) monitors the driver seat track position sensor circuits for a cross link to safety belt buckle switch circuits. If the RCM detects a cross link between sensor circuits, it will store diagnostic trouble code (DTC) C1981 in memory and illuminate the air bag indicator.

Possible Causes

A driver seat track position sensor circuit cross link fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST BI: DTC C1981 - DRIVER SEAT TRACK POSITION SWITCH CIRCUIT FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BI1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.

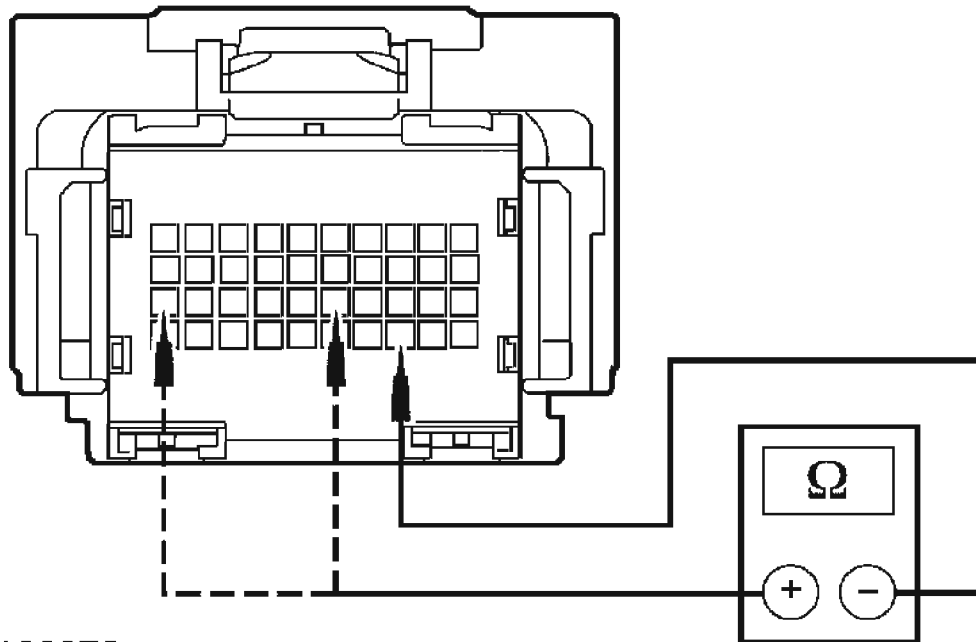
- **Was DTC C1981 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BI2.

No : This is an intermittent fault. The fault condition is not present at this time. GO to BI4.

BI2 CHECK DRIVER SEAT POSITION SENSOR FOR A CROSS LINK TO ANOTHER SENSOR CIRCUIT

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Disconnect: Passenger Seat C312.
- Measure the resistance between RCM C2041a pin 33, circuit 15S-JA53 (GN/BU), harness side and RCM C2041a pin 25, circuit 15S-JA54 (GN/YE), harness side; and between RCM



A0100372

Fig. 158: Checking Driver Seat Position Sensor For A Cross Link To Another Sensor Circuit

Courtesy of FORD MOTOR CO.

- **Are the resistances greater than 1,000,000 ohms?**

Yes : GO to BI3.

No : REPAIR the affected circuits. GO to BI5.

BI3 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Connect: Driver Seat C311.
- Connect: Passenger Seat C312.
- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1981 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BI5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BI5.

BI4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1981 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

CHECK for causes of the intermittent fault at or near the seat track position sensor electrical connector. REPAIR any intermittent concern found.

If an intermittent concern **was** found and repaired, GO to BI5.

If an intermittent concern **was not** found and repaired, GO to BI2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR

any intermittent concerns found. GO to BI5.

BI5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BI1.
- **Were any continuous DTCs retrieved during Step BI1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BJ: DTC C1982 - Driver Seat Track Position Switch Circuit Short to VBatt Fault

Normal Operation

The restraints control module (RCM) monitors the driver seat track position sensor circuits. If the RCM detects a short to voltage on the driver seat track position sensor circuits, it will store diagnostic trouble code (DTC) C1982 in memory and illuminate the air bag indicator.

Possible Causes

A driver seat track position sensor short to voltage fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted RCM.

PINPOINT TEST BJ: DTC C1982 - DRIVER SEAT TRACK POSITION SWITCH CIRCUIT SHORT TO VBATT FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BJ1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module.

Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

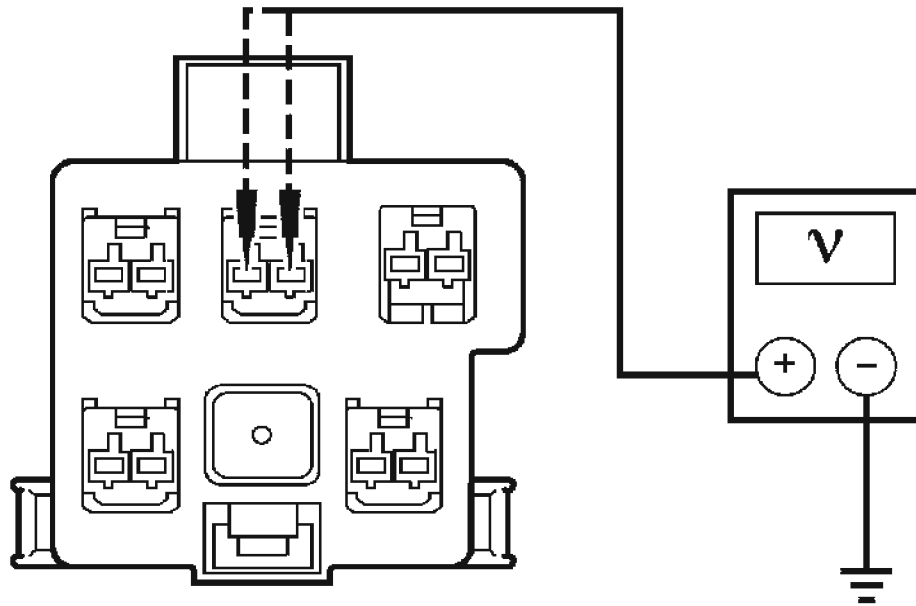
NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC C1982 retrieved during the on-demand self test?**
 - Yes :** This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BJ2.
 - No :** This is an intermittent fault. The fault condition is not present at this time. GO to BJ4.

BJ2 CHECK CIRCUIT 15S-JA53 (GN/BU) AND CIRCUIT 91-JA53 (BK/BU) FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Driver Seat C311.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Measure the voltage between driver seat C311 pin 7, circuit 15S-JA53 (GN/BU), harness side and ground; and between driver seat C311 pin 8, circuit 91-JA53

(BK/BU), harness side and ground.



A0094168

Fig. 159: Checking Circuit 15S-JA53 (GN/BU) And Circuit 91-JA53 (BK/BU) For A Short To Voltage
 Courtesy of FORD MOTOR CO.

- Are the voltages less than 0.2 volt?

Yes : GO to BJ3.

No : REPAIR circuit 15S-JA53 (GN/BU) or circuit 91-JA53 (BK/BU). GO to BJ5.

BJ3 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Connect: RCM C2041a and C2041b.
- Connect: Driver Seat C311.

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1982 retrieved during the on-demand self test?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BJ5.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BJ5.

BJ4 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC C1982 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BJ2.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BJ5.

BJ5 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BJ1.
- **Were any continuous DTCs retrieved during Step BJ1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX** for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BK: DTC U0073 - Control Module Communication Bus Off

Normal Operation

NOTE: DTC U0073 can only be retrieved as a continuous fault.

This vehicle utilizes a communication system called a high-speed controller area network (HS-CAN). The HS-CAN consists of a twisted pair of wires connected to various modules

on the vehicle.

The restraints control module (RCM) checks the HS-CAN circuits for faults. If the RCM detects a fault on the HS-CAN circuits, it will store diagnostic trouble code (DTC) U0073 in memory.

Fault Conditions

The RCM monitors the HS-CAN circuits for the following fault conditions:

- Open circuit.
- Short to ground.
- Short to voltage.

Possible Causes

A control module communication bus off fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted ABS module.
- A faulted generic electronic module (GEM).
- A faulted instrument cluster module.
- A faulted powertrain control module (PCM).
- A faulted RCM.

PINPOINT TEST BK: CONTROL MODULE COMMUNICATION BUS OFF

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BK1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

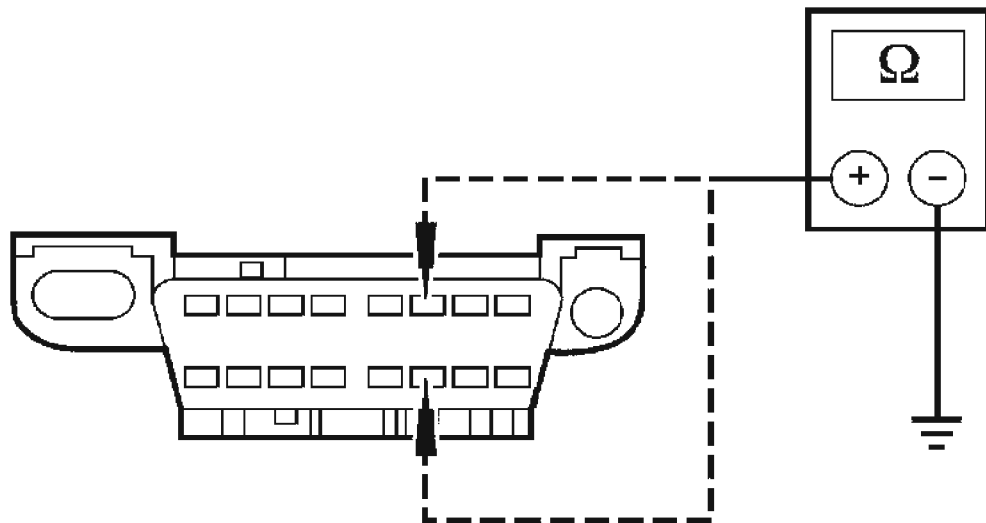
NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC U0073 retrieved during the Retrieve/Record Continuous DTCs?**
Yes : GO to BK2.
No : The fault condition is not present at this time. GO to BK6.

BK2 CHECK THE HS-CAN CIRCUITS FOR A SHORT TO GROUND

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- While monitoring the meter, attempt to recreate the hard fault by flexing the wire harness and measure the resistance between DLC C251 pin 6, circuit 4-EC7 (GY/RD), harness side and ground; and between DLC C251 pin 14, circuit 5-EC7 (BU/RD), harness side and ground.



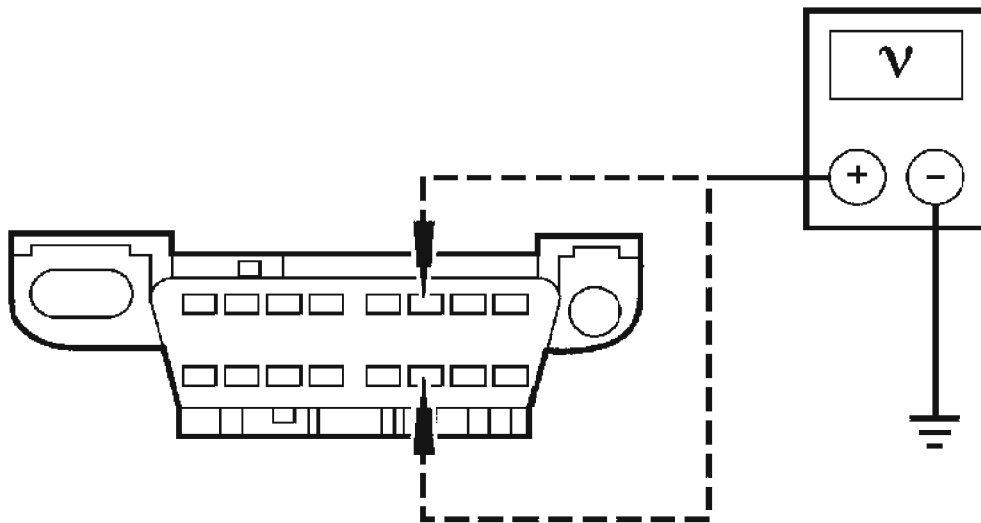
A0094858

Fig. 160: Checking HS-CAN Circuits For A Short To Ground
Courtesy of FORD MOTOR CO.

- Are the resistances greater than 10,000 ohms while flexing the wire harness?
Yes : GO to BK3.
No : REPAIR circuit 4-EC7 (GY/RD) or circuit 5-EC7 (BU/RD) as necessary.
GO to BK6.

BK3 CHECK THE HS-CAN CIRCUITS FOR VOLTAGE

- Disconnect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.
- Key in ON position.
- While monitoring the meter, attempt to recreate the hard fault by flexing the wire harness and measure the voltage between DLC C251 pin 6, circuit 4-EC7 (GY/RD), and ground; and between DLC C251 pin 14, circuit 5-EC7 (BU/RD), and ground.



A0094859

Fig. 161: Checking HS-CAN Circuits For Voltage
Courtesy of FORD MOTOR CO.

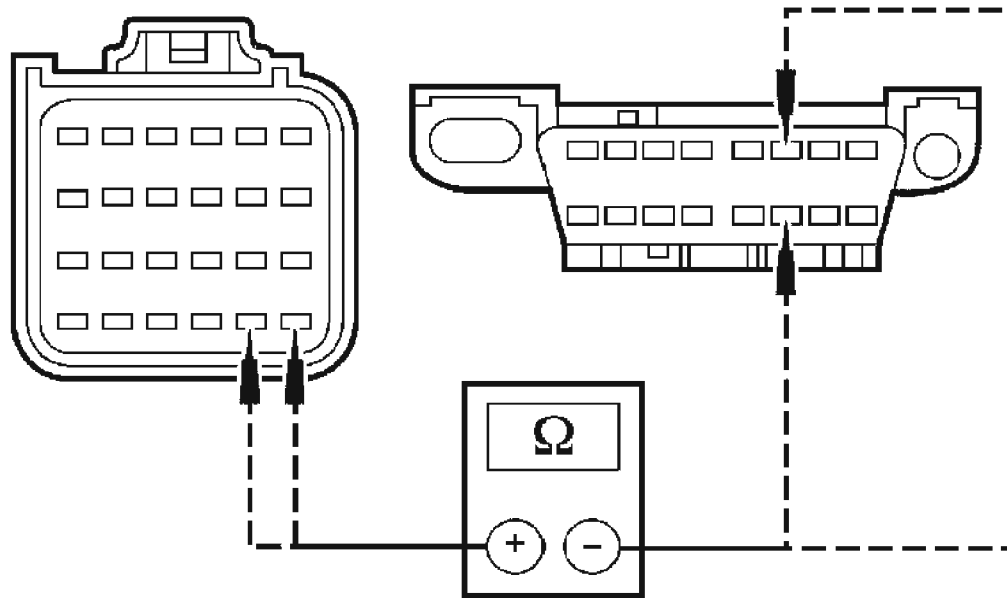
- Are the voltages greater than 2.5 volts and less than 3.0 volts while flexing the wire harness?

Yes : GO to BK4.

No : REPAIR circuit 4-EC7 (GY/RD) or circuit 5-EC7 (BU/RD) as necessary. If a wiring fault is not found and repaired, Refer to **MODULE COMMUNICATIONS NETWORK** for additional diagnostics of the HS-CAN. GO to BK6.

BK4 CHECK THE HS-CAN CIRCUITS BETWEEN THE RCM AND DLC C251 FOR AN OPEN

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- While monitoring the meter, attempt to recreate the hard fault by flexing the wire harness and measure the resistance between RCM C2041b pin 19, circuit 4-EC18 (GY/BK), harness side and DLC C251 pin 6, circuit 4-EC7 (GY/RD), harness side; and between RCM C2041b pin 20, circuit 5-EC18 (BU/BK), harness side and DLC C251 pin 14, circuit 5-EC7 (BU/RD), harness side.



A0094298

Fig. 162: Checking HS-CAN Circuits Between RCM And DLC C251 For An Open

Courtesy of FORD MOTOR CO.

- Are the resistances less than 0.5 ohm while flexing the wire harness?

Yes : GO to BK5.

No : REPAIR circuit 4-EC18 (GY/BK), 4-EC7 (GY/RD), 5-EC18 (BU/BK) or circuit 5-EC7 (BU/RD). GO to BK6.

BK5 CHECK THE HS-CAN NETWORK

NOTE: Make sure the safety belt pretensioner restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Connect: RCM C2041a and C2041b.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: Carry Out The Data Link Diagnostics.
- Did the Data Link Diagnostics test pass?

Yes : The condition that caused the fault can not be found at this time. GO to BK6.

No : Refer to **MODULE COMMUNICATIONS NETWORK** . GO to BK6.

BK6 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BK1.
- **Were any continuous DTCs retrieved during Step BK1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BL: DTC U1900 - CAN Communication Bus Fault - Receive Error

Normal Operation

The restraints control module (RCM) monitors the HS-CAN for messages from the instrument cluster module and the powertrain control module. If the RCM detects a communication bus fault or missing messages, it will store diagnostic trouble code (DTC) U1900 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Missing message from the instrument cluster module.
- Missing message from the powertrain control module (PCM).

Possible Causes

A CAN communication bus fault - receive error can be caused by:

- Damaged wiring, terminals or connectors.
- A faulted instrument cluster module.
- A faulted powertrain control module (PCM).
- A faulted RCM.

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BL1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC U1900 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to BL2.

No : This is an intermittent fault. The fault condition is not present at this time.

GO to BL3.

BL2 CHECK THE HS-CAN NETWORK

- Enter the following diagnostic mode on the scan tool: Carry Out The Data Link Diagnostics.
- **Did the Data Link Diagnostics test pass?**
Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BL4.
No : Refer to **MODULE COMMUNICATIONS NETWORK** . GO to BL4.

BL3 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U1900 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BL2.
No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BL4. Refer to **MODULE COMMUNICATIONS NETWORK** .

BL4 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BL1.
- **Were any continuous DTCs retrieved during Step BL1?**
Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the Restraints Control Module (RCM) Diagnostic Trouble Code (DTC) Table for pinpoint test direction.
No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BM: DTC U2017 - Driver Side Crash Sensor Communication Fault

Normal Operation

The restraints control module (RCM) checks the driver side impact sensor circuits for faults. If the RCM detects one of the following faults on the driver side impact sensor circuits, it will store diagnostic trouble code (DTC) U2017 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Low resistance.
- Circuit open.
- Circuit short to voltage.
- Circuit short to ground.

Possible Causes

A driver side impact sensor communication fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty driver side impact sensor.
- Incorrect sensor mounting.
- A faulted RCM.

PINPOINT TEST BM: DTC U2017 - DRIVER SIDE CRASH SENSOR COMMUNICATION FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BM1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC U2017 retrieved during the on-demand self test?**
Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test.

GO to BM2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to BM13.

BM2 INSPECT THE DRIVER SIDE IMPACT SENSOR MOUNTING SURFACE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Inspect the driver side impact sensor mounting and make sure that the retaining bolts are fully seated and tightened correctly.
- Remove the driver side impact sensor. Refer to **SIDE IMPACT SENSOR**.
- Visually inspect the driver side impact sensor and mounting surface for damage, corrosion or dirt.
- **Was a significant amount of corrosion or dirt found, the driver side impact sensor attached to the mounting surface incorrectly or were the driver side impact sensor bolts not fully seated and tightened correctly?**

Yes : CLEAN and TIGHTEN the bolts or REPAIR the mounting surface as necessary. REINSTALL the driver side impact sensor. GO to BM14.

No : GO to BM3.

BM3 INSTALL THE DRIVER SIDE IMPACT SENSOR AND CARRY OUT THE ON-DEMAND SELF TEST

- Clean and repair the mounting surface as necessary.
- Clean the driver side impact sensor mounting bolts.
- Install the driver side impact sensor. Refer to **SIDE IMPACT SENSOR**.

- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2017 retrieved during the on-demand self test?**
Yes : GO to BM4.
No : Fault corrected. GO to BM14.

BM4 CHECK THE DRIVER SIDE IMPACT SENSOR GROUND CIRCUIT 9-JA39 (BN) FOR HIGH RESISTANCE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: Driver Side Impact Sensor C305.
- Measure the resistance between driver side impact sensor C305 pin 1, circuit 9-JA39 (BN), harness side and the driver side impact sensor case ground.
- **Is the resistance less than 10 ohms?**
Yes : GO to BM6.
No : GO to BM5.

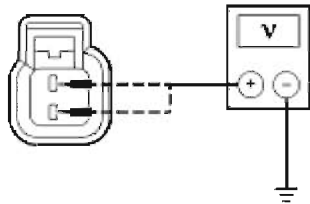
BM5 CLEAN THE DRIVER SIDE IMPACT SENSOR MOUNTING SURFACE AND CARRY OUT THE ON-DEMAND SELF TEST

- Remove the driver side impact sensor. Refer to **SIDE IMPACT SENSOR**.
- Clean and repair the mounting surface as necessary.
- Clean the driver side impact sensor mounting bolts.
- Install the driver side impact sensor. Refer to **SIDE IMPACT SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2017 retrieved during the on-demand self test?**
Yes : GO to BM6.
No : Fault corrected. GO to BM14.

BM6 CHECK CIRCUIT 8-JA39 (WH) AND CIRCUIT 9-JA39 (BN) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE DRIVER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b

- Disconnect: Driver Side Impact Sensor C305.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Key in ON position.
- Measure the voltage between driver side impact sensor C305 pin 2, circuit 8-JA39 (WH), harness side and ground; and between driver side impact sensor C305 pin 1, circuit 9-JA39 (BN), harness side and ground.



A0093842

Fig. 163: Measuring Voltage Between Connector Terminals And Ground
Courtesy of FORD MOTOR CO.

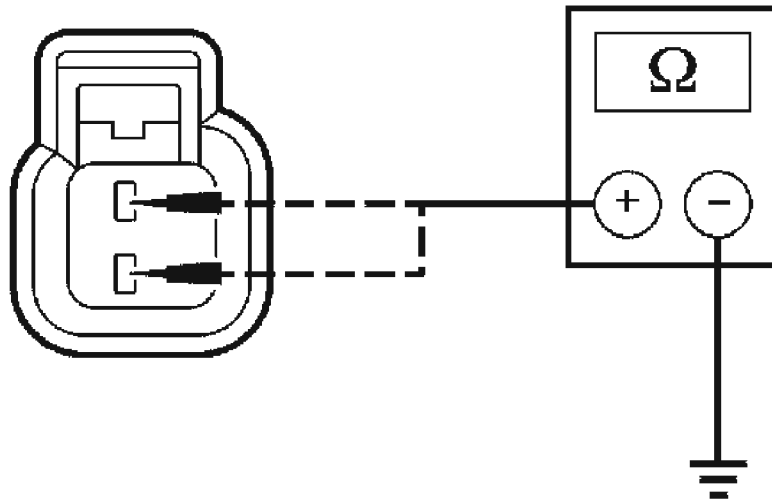
- Are the voltages less than 0.2 volt?

Yes : GO to BM7.

No : REPAIR circuit 8-JA39 (WH) or circuit 9-JA39 (BN). GO to BM14.

BM7 CHECK CIRCUIT 8-JA39 (WH) AND CIRCUIT 9-JA39 (BN) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE DRIVER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Measure the resistance between driver side impact sensor C305 pin 2, circuit 8-JA39 (WH), harness side and ground; and between driver side impact sensor C305 pin 1, circuit 9-JA39 (BN), harness side and ground.



A0093843

Fig. 164: Checking Circuit 8-JA39 (WH) And Circuit 9-JA39 (BN) For A Short To Ground Between RCM And Driver Side Impact Sensor
Courtesy of FORD MOTOR CO.

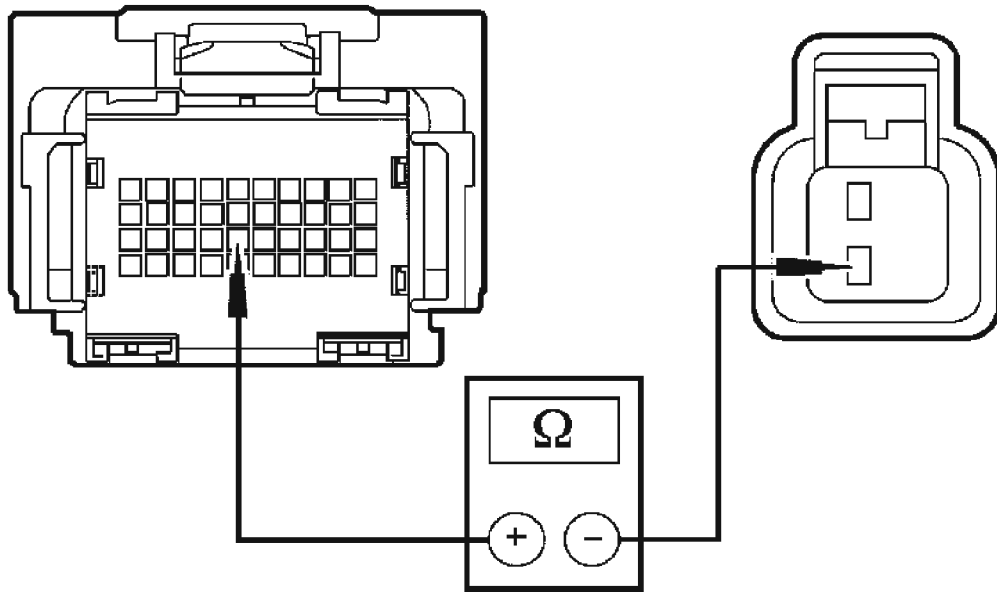
- Are the resistances greater than 1,000,000 ohms?

Yes : GO to BM8.

No : REPAIR circuit 8-JA39 (WH) or circuit 9-JA39 (BN). GO to BM14.

BM8 CHECK CIRCUIT 8-JA39 (WH) FOR AN OPEN BETWEEN THE RCM AND THE DRIVER SIDE IMPACT SENSOR

- Measure the resistance between RCM C2041a pin 26, circuit 8-JA39 (WH), harness side and driver side impact sensor C305 pin 2, circuit 8-JA39 (WH), harness side.



A0093863

Fig. 165: Checking Circuit 8-JA39 (WH) For An Open Between RCM And Driver Side Impact Sensor
Courtesy of FORD MOTOR CO.

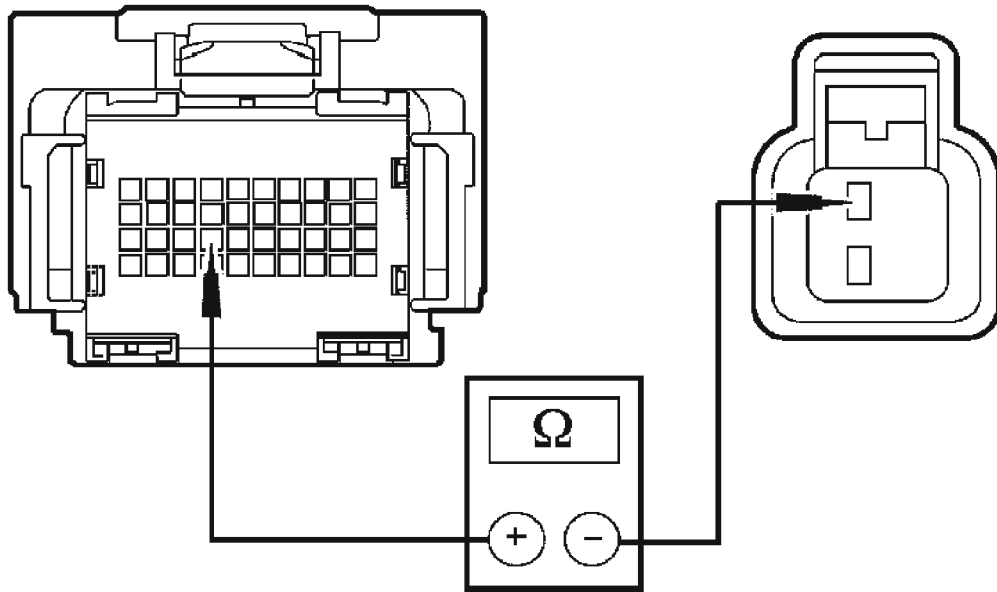
- Is the resistance less than 0.5 ohm?

Yes : GO to BM9.

No : REPAIR circuit 8-JA39 (WH). GO to BM14.

BM9 CHECK CIRCUIT 9-JA39 (BN) FOR AN OPEN BETWEEN THE RCM AND THE DRIVER SIDE IMPACT SENSOR

- Measure the resistance between RCM C2041a pin 27, circuit 9-JA39 (BN), harness side and driver side impact sensor C305 pin 1, circuit 9-JA39 (BN), harness side.



A0093864

Fig. 166: Checking Circuit 9-JA39 (BN) For An Open Between RCM And Driver Side Impact Sensor
Courtesy of FORD MOTOR CO.

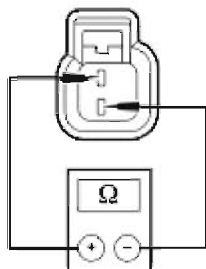
- Is the resistance less than 0.5 ohm?

Yes : GO to BM10.

No : REPAIR circuit 9-JA39 (BN). GO to BM14.

BM10 CHECK CIRCUIT 8-JA39 (WH) FOR A SHORT TO CIRCUIT 9-JA39 (BN) BETWEEN THE RCM AND THE DRIVER SIDE IMPACT SENSOR

- Measure the resistance between driver side impact sensor C305 pin 2, circuit 8-JA39 (WH), harness side and pin 1, circuit 9-JA39 (BN), harness side.



A0093859

Fig. 167: Measuring Resistance Between Connector Terminals
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 1,000,000 ohms?**

Yes : GO to BM11.

No : REPAIR circuit 8-JA39 (WH) and circuit 9-JA39 (BN). GO to BM14.

BM11 CHECK THE DRIVER SIDE IMPACT SENSOR

- Connect: RCM C2041a and C2041b.
- Install a known good driver side impact sensor.
- Repower the system. Do not prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2017 retrieved during the on-demand self test?**

Yes : GO to BM12.

No : Fault corrected. GO to BM14.

BM12 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Install the original impact sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2017 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. GO to BM14.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BM14.

BM13 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2017 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BM2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BM14.

BM14 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BM1.
- **Were any continuous DTCs retrieved during Step BM1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX** for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BN: DTC U2018 - Passenger Side Crash Sensor Communication Fault

Normal Operation

The restraints control module (RCM) checks the passenger side impact sensor circuits for faults. If the RCM detects one of the following faults on the passenger side impact sensor circuits, it will store diagnostic trouble code (DTC) U2018 in memory and illuminate the air bag indicator.

Fault Conditions

The RCM monitors for the following fault conditions:

- Low resistance.
- Circuit open.
- Circuit short to voltage.
- Circuit short to ground.

Possible Causes

A passenger side impact sensor communication fault can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty passenger side impact sensor.

- Incorrect sensor mounting.
- A faulted RCM.

PINPOINT TEST BN: DTC U2018 - PASSENGER SIDE CRASH SENSOR COMMUNICATION FAULT

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.

BN1 CHECK FOR CONTINUOUS AND ON-DEMAND DTCs

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- Enter the following diagnostic mode on the scan tool: Retrieve/Record Continuous DTCs.
- **Was DTC U2018 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is still present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-

demand self test.

GO to BN2.

No : This is an intermittent fault. The fault condition is not present at this time.
GO to BN13.

BN2 INSPECT THE PASSENGER SIDE IMPACT SENSOR MOUNTING SURFACE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Inspect the passenger side impact sensor mounting and make sure that the retaining bolts are fully seated and tightened correctly.
- Remove the passenger side impact sensor. Refer to **SIDE IMPACT SENSOR**.
- Visually inspect the passenger side impact sensor and mounting surface for damage, corrosion or dirt.
- **Was a significant amount of corrosion or dirt found, the passenger side impact sensor attached to the mounting surface incorrectly or were the passenger side impact sensor mounting bolts not fully seated and tightened correctly?**

Yes : CLEAN and TIGHTEN the bolts or REPAIR the mounting surface as necessary. REINSTALL the passenger side impact sensor. Go to BN14.

No : GO to BN3.

BN3 INSTALL THE PASSENGER SIDE IMPACT SENSOR AND CARRY OUT THE ON-DEMAND SELF TEST

- Clean and repair the mounting surface as necessary.
- Clean the passenger side impact sensor mounting bolts.
- Install the passenger side impact sensor. Refer to **SIDE IMPACT SENSOR**.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2018 retrieved during the on-demand self test?**

Yes : GO to BN4.

No : Fault corrected. Go to BN14.

BN4 CHECK THE PASSENGER SIDE IMPACT SENSOR GROUND CIRCUIT 9-JA40 (BN/WH) FOR HIGH RESISTANCE

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM**

(SRS) DEPOWERING AND REPOWERING.

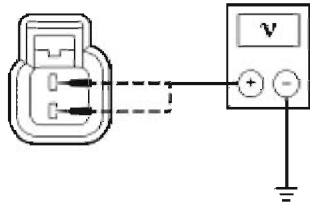
- Disconnect: Passenger Side Impact Sensor C304.
- Measure the resistance between passenger side impact sensor C304 pin 1, circuit 9-JA40 (BN/WH), harness side and the front impact severity sensor case ground.
- **Is the resistance less than 10 ohms?**
Yes : GO to BN6.
No : GO to BN5.

BN5 CLEAN THE PASSENGER SIDE IMPACT SENSOR MOUNTING SURFACE AND CARRY OUT THE ON-DEMAND SELF TEST

- Remove the passenger side impact sensor. Refer to **SIDE IMPACT SENSOR.**
- Clean and repair the mounting surface as necessary.
- Clean the passenger side impact sensor mounting bolts.
- Install the passenger side impact sensor. Refer to **SIDE IMPACT SENSOR.**
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2018 retrieved during the on-demand self test?**
Yes : GO to BN6.
No : Fault corrected. Go to BN14.

BN6 CHECK CIRCUIT 8-JA40 (WH/VT) AND CIRCUIT 9-JA40 (BN/WH) FOR A SHORT TO VOLTAGE BETWEEN THE RCM AND THE PASSENGER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Disconnect: RCM C2041a and C2041b.
- Disconnect: Passenger Side Impact Sensor C304.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Key in ON position.
- Measure the voltage between passenger side impact sensor C304 pin 2, circuit 8-JA40 (WH/VT), harness side and ground; and between passenger impact sensor C304 pin 1, circuit 9-JA40 (BN/WH), harness side and ground.



A0093842

Fig. 168: Measuring Voltage Between Connector Terminals And Ground
Courtesy of FORD MOTOR CO.

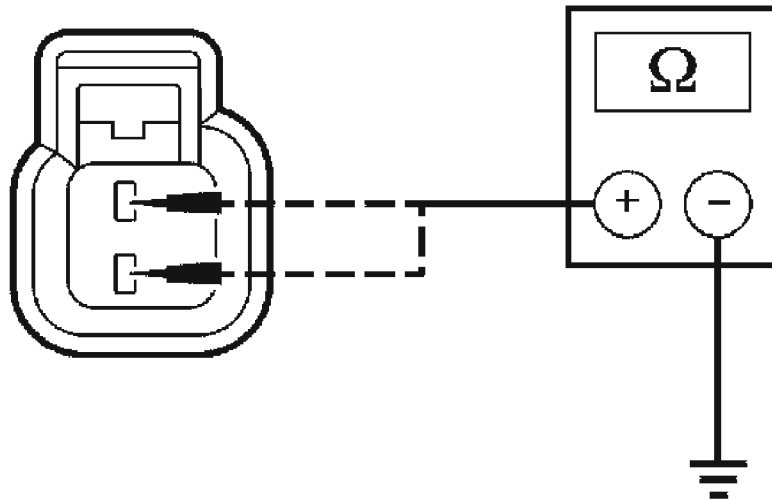
- Are the voltages less than 0.2 volt?

Yes : GO to BN7.

No : REPAIR circuit 8-JA40 (WH/VT) or circuit 9-JA40 (BN/VT). Go to BN14.

BN7 CHECK CIRCUIT 8-JA40 (WH/VT) AND CIRCUIT 9-JA40 (BN/WH) FOR A SHORT TO GROUND BETWEEN THE RCM AND THE PASSENGER SIDE IMPACT SENSOR

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
- Measure the resistance between passenger side impact sensor C304 pin 2, circuit 8-JA40 (WH/VT), harness side and ground; and between passenger impact sensor C304 pin 1, circuit 9-JA40 (BN/WH), harness side and ground.



A0093843

Fig. 169: Checking Circuit 8-JA40 (WH/VT) And Circuit 9-JA40 (BN/WH) For Short To Ground Between RCM And Passenger Side Impact Sensor
Courtesy of FORD MOTOR CO.

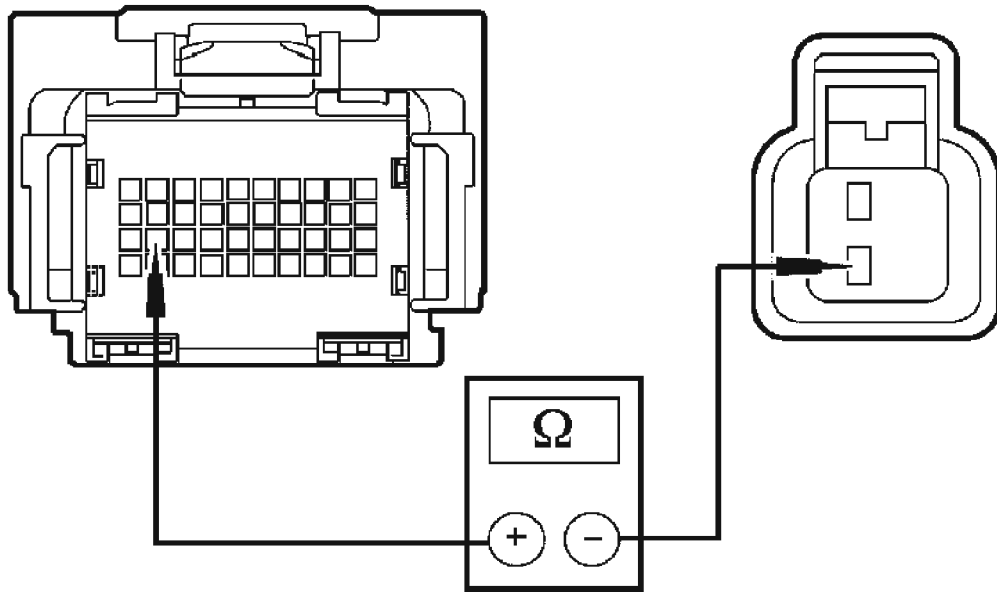
- Are the resistances greater than 1,000,000 ohms?

Yes : GO to BN8.

No : REPAIR circuit 8-JA40 (WH/VT) or circuit 9-JA40 (BN/WH). Go to BN14.

BN8 CHECK CIRCUIT 8-JA40 (WH/VT) FOR AN OPEN BETWEEN THE RCM AND THE PASSENGER SIDE IMPACT SENSOR

- Measure the resistance between RCM C2041a pin 29, circuit 8-JA40 (WH/VT), harness side and driver side impact sensor C304 pin 2, circuit 8-JA40 (WH/VT), harness side.



A0093865

Fig. 170: Checking Circuit 8-JA40 (WH/VT) For An Open Between RCM And Passenger Side Impact Sensor
Courtesy of FORD MOTOR CO.

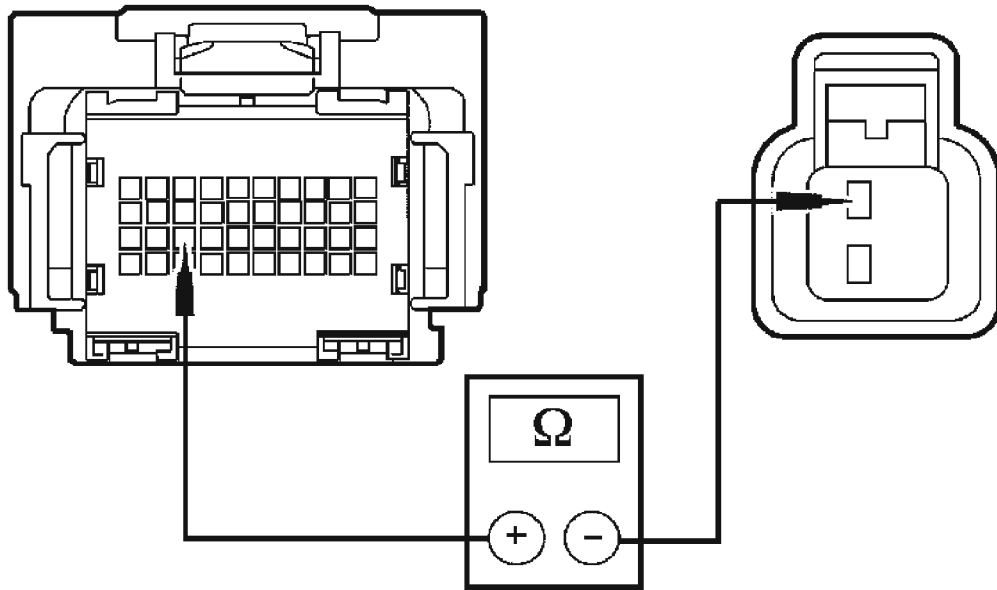
- Is the resistance less than 0.5 ohm?

Yes : GO to BN9.

No : REPAIR circuit 8-JA40 (WH/VT). Go to BN14.

BN9 CHECK CIRCUIT 9-JA40 (BN/WH) FOR AN OPEN BETWEEN THE RCM AND THE PASSENGER SIDE IMPACT SENSOR

- Measure the resistance between RCM C2041a pin 28, circuit 9-JA40 (BN/WH), harness side and passenger side impact sensor C304 pin 1, circuit 9-JA40 (BN/WH), harness side.



A0093866

Fig. 171: Measuring Resistance Between RCM C2041a Pin 28 And Passenger Side Impact Sensor C304 Pin 1
Courtesy of FORD MOTOR CO.

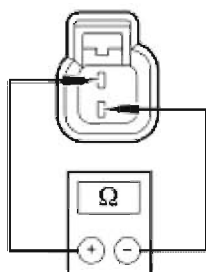
- Is the resistance less than 0.5 ohm?

Yes : GO to BN10.

No : REPAIR circuit 9-JA40 (BN/WH). Go to BN14.

BN10 CHECK CIRCUIT 8-JA40 (WH/VT) FOR A SHORT TO CIRCUIT 9-JA40 (BN/WH) BETWEEN THE RCM AND THE PASSENGER SIDE IMPACT SENSOR

- Checking Circuit 8-JA40 (WH/VT) For A Short To Circuit 9-JA40 (BN/WH) Between RCM And Passenger Side Impact Sensor



A0093859

Fig. 172: Measuring Resistance Between Connector Terminals
Courtesy of FORD MOTOR CO.

- **Is the resistance greater than 1,000,000 ohms?**

Yes : GO to BN11.

No : REPAIR circuit 8-JA40 (WH/VT) and circuit 9-JA40 (BN/WH). Go to BN14.

BN11 CHECK THE PASSENGER SIDE IMPACT SENSOR

- Connect: RCM C2041a and C2041b.
- Install a known good passenger side impact sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2018 retrieved during the on-demand self test?**

Yes : GO to BN12.

No : Fault corrected. Go to BN14.

BN12 CONFIRM THE RCM FAULT

NOTE: **Make sure all restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.**

- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Install the original impact sensor.
- Repower the system. **Do not** prove out the system at this time. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Was DTC U2018 retrieved during the on-demand self test?**

Yes : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM)**. Go to BN14.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. GO to BN14.

BN13 CHECK FOR AN INTERMITTENT FAULT

- Key in OFF position.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.

- **Was DTC U2018 retrieved during the on-demand self test?**

Yes : This is a hard fault. The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved during the on-demand self test. GO to BN2.

No : CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition key frequently. REPAIR any intermittent concerns found. Go to BN14.

BN14 CHECK FOR ADDITIONAL DTCs

- refer to the continuous DTCs recorded during Step BN1.
- **Were any continuous DTCs retrieved during Step BN1?**

Yes : Do not clear any DTCs until all DTCs have been resolved. GO to the **RESTRAINTS CONTROL MODULE (RCM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX** for pinpoint test direction.

No : RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

Pinpoint Test BO: No Communication With the Restraints Control Module (RCM)**Normal Operation**

The scan tool communicates via the HS-CAN with the restraints control module (RCM) through data link connector (DLC) C251 pins 6 and 14, circuits 4-EC7 (GY/RD) and 5-EC7 (BU/RD).

Possible Causes

A no communication fault with the RCM can be caused by:

- Damaged wiring, terminals or connectors.
- A faulty data link connector (DLC).
- A faulted RCM.

PINPOINT TEST BO: NO COMMUNICATION WITH THE RESTRAINTS CONTROL MODULE (RCM)

NOTE: **Most faults are due to connector and/or wiring concerns. Carry out a thorough Inspection and Verification before proceeding with the Pinpoint Test.**

BO1 CHECK THE RCM C2041b PIN 19 and 20 FOR DAMAGE

WARNING: Restraint system diagnostic tools are for service only. Tools must be removed prior to operating the vehicle over the road. Failure to remove restraint system diagnostic tools could result in injury and possible violation of vehicle safety standards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

NOTE: After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

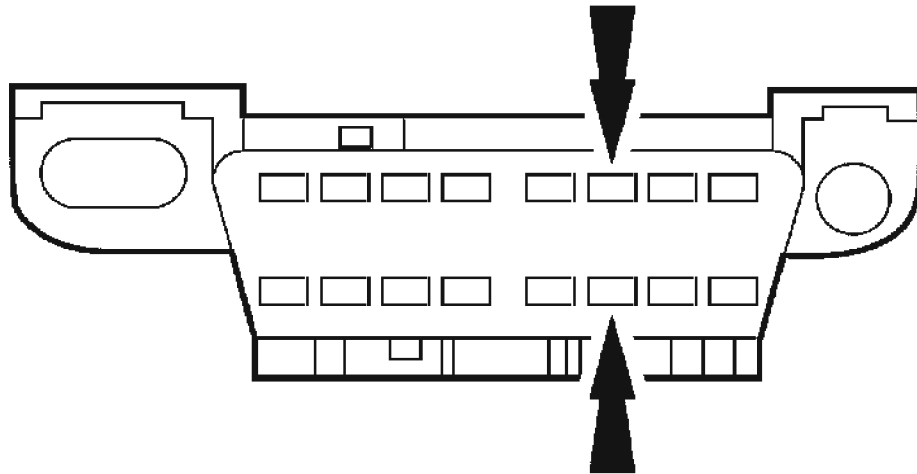
- Key in OFF position.
- Depower the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
- Disconnect: RCM C2041a and C2041b.
- Inspect RCM C2041b, harness side and RCM C2041b, component side, pin 19 and 20 for damage.
- **Are RCM C2041b and RCM C2041b pin 19 and 20 OK?**

Yes : GO to BO2.

No : REPAIR RCM C2041b or RCM C2041b pin 19 and 20 as necessary. RETEST the communication to the RCM. RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

BO2 CHECK DLC C251 PINS 6 AND 14 FOR DAMAGE

- Inspect DLC C251 and DLC C251 pins 6 and 14 for damage.



A0093867

Fig. 173: Inspecting DLC C251 And DLC C251 Pins 6 And 14 For Damage
Courtesy of FORD MOTOR CO.

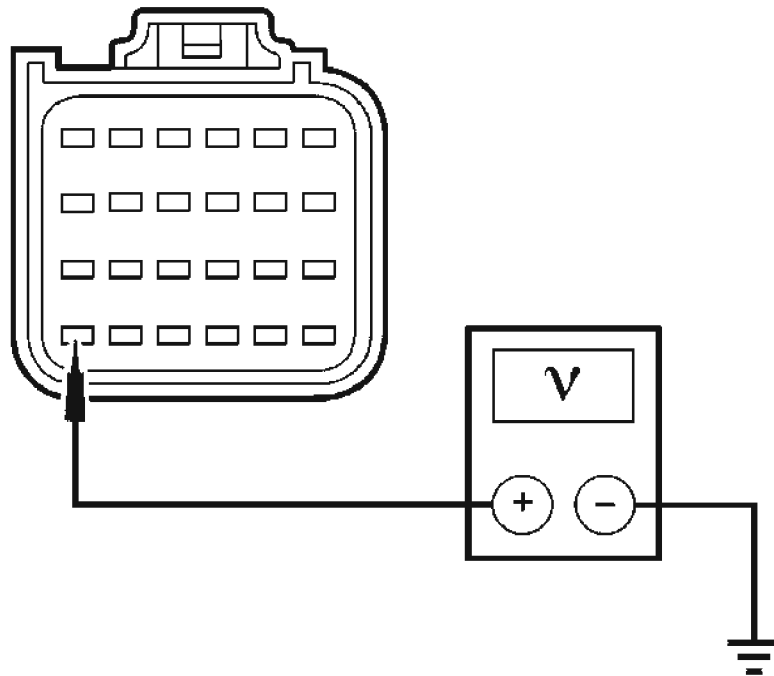
- Are DLC C251 and DLC C251 pins 6 and 14 OK?

Yes : GO to BO3.

No : REPAIR DLC C251 or DLC C251 pins 6 and 14 as necessary. RETEST the communication to the RCM. RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

BO3 CHECK THE IGNITION CIRCUIT 15-JA10 (GN/OG) FOR AN OPEN

- Key in OFF position.
- Deactivate the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**.
- Key in ON position.
- Measure the voltage between RCM C2041a pin 24, circuit 15-JA10 (GN/OG), harness side and ground.



A0093807

Fig. 174: Measuring Voltage Between RCM C2041a Pin 24, Circuit 15-JA10 (GN/OG), Harness Side And Ground
Courtesy of FORD MOTOR CO.

- **Is the voltage greater than 10 volts?**

Yes : GO to BO4.

No : REPAIR circuit 15-JA10 (GN/OG). RETEST the communication to the RCM. RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

BO4 CHECK THE RCM CASE GROUND

- Key in OFF position.
- Measure the resistance between the RCM case and a good sheet metal ground near the RCM.
- **Is the resistance less than 25 ohms?**

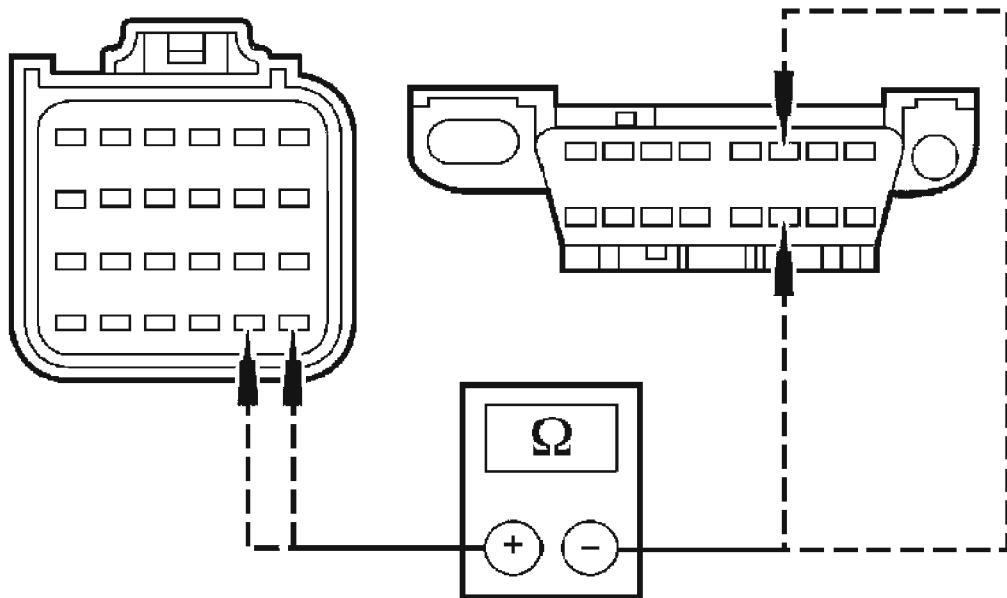
Yes : GO to BO5.

No : REPAIR ground as necessary. RETEST the communication to the RCM. RECONNECT the system. If previously directed to deactivate the system,

REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**. PROVE OUT the system. CLEAR all DTCs.

BO5 CHECK THE HS-CAN CIRCUITS BETWEEN THE RCM AND DLC C251 FOR AN OPEN

- Measure the resistance between RCM C2041b pin 19, circuit 4-EC18 (GY/BK), harness side and DLC C251 pin 6, circuit 4-EC7 (GY/RD), harness side; and between RCM C2041 b pin 20, circuit 5-EC18 (BU/BK), harness side and DLC C251 pin 14, circuit 5-EC7 (BU/RD), harness side.



A0094298

Fig. 175: Measuring Resistance Between RCM C2041b Pin 19 And DLC C251 Pin 6

Courtesy of FORD MOTOR CO.

- **Are the resistances less than 0.5 ohm?**

Yes : GO to BO6.

No : REPAIR circuit 4-EC18 (GY/BK), 4-EC7 (GY/RD), 5-EC18 (BU/BK) or circuit 5-EC7 (BU/RD). RETEST the communication to the RCM. RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION**. REPOWER the system. Refer to

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING. PROVE OUT the system. CLEAR all DTCs.**BO6 CONFIRM THE RCM FAULT**

NOTE: Make sure the safety belt pretensioner restraint system diagnostic tools, sensor electrical connectors, and the RCM electrical connectors are connected before carrying out the on-demand self test. If not, erroneous DTCs will be recorded.

- Key in OFF position.
- Connect: RCM C2041a and C2041b.
- Enter the following diagnostic mode on the scan tool: On-Demand Self Test.
- **Did the scan tool communicate with the RCM?**

Yes : Fault corrected. RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION.** REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.** PROVE OUT the system. CLEAR all DTCs.

No : INSTALL and CONFIGURE a new RCM. Refer to **RESTRAINTS CONTROL MODULE (RCM).** RETEST the communication to the RCM. RECONNECT the system. If previously directed to deactivate the system, REACTIVATE the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION.** REPOWER the system. Refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.** PROVE OUT the system. CLEAR all DTCs.

GENERAL PROCEDURES**SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING****Depowering Procedure**

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

NOTE: If a seat equipped with a supplemental restraint system (SRS) component is being serviced, the SRS must be depowered.

NOTE: The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

1. Turn all vehicle accessories OFF.
2. Turn the ignition switch to OFF.
3. At the central junction box (CJB), located below the LH side of the instrument panel, remove the cover and the restraints control module (RCM) fuse F2.60 (7.5A) from the CJB.
4. Turn the ignition ON and visually monitor the air bag indicator for at least 30 seconds. The air bag indicator will remain lit continuously (no flashing) if the correct RCM fuse has been removed. If the air bag indicator does not remain lit continuously, remove the correct RCM fuse before proceeding.
5. Turn the ignition OFF.

WARNING: To avoid accidental deployment and possible personal injury, the backup power supply must be depleted before repairing or replacing any front or side air bag supplemental restraint system (SRS) components and before servicing, replacing, adjusting or striking components near the front or side air bag sensors, such as doors, instrument panel, console, door latches, strikers, seats and hood latches.

6. The side impact sensors (if equipped) are located at or near the base of the B-pillars.

To deplete the backup power supply energy, disconnect the battery ground cable and wait at least one minute. Be sure to disconnect auxiliary batteries and power supplies (if equipped).

Disconnect the battery ground cable (14301) and wait at least one minute. For additional information, Refer to **BATTERY, MOUNTING AND CABLES** .

Repowering Procedure

WARNING: The restraint system diagnostic tool is for restraint system service only. Remove from vehicle prior to road use. Failure to remove could result in injury and possible violation of vehicle safety standards.

1. Make sure all restraint system diagnostic tool(s) that may have been installed during the repair have been removed from the vehicle and all SRS components are connected.
2. Turn the ignition switch from OFF to ON.
3. Install the RCM fuse F2.60 (7.5A) to the CJB and install the cover.

WARNING: Be sure that nobody is in the vehicle and that there is nothing blocking or set in front of any air bag module when the battery ground cable is connected.

4. Connect the battery ground cable.
5. Prove out the supplemental restraint system (SRS) as follows:

Turn the ignition key from ON to OFF. Wait 10 seconds, then turn the key back to ON and visually monitor the air bag indicator with the air bag modules installed. The air bag indicator will light continuously for approximately six seconds and then turn off. If an air bag supplemental restraint system (SRS) fault is present, the air bag indicator will either:

- Fail to light.
- Remain lit continuously.
- Flash at a 5 Hz rate (RCM not configured).

The air bag indicator may not illuminate until approximately 30 seconds after the ignition switch has been turned from the OFF to the ON position. This is the time required for the restraints control module (RCM) to complete the testing of the SRS. If the air bag indicator is inoperative and a SRS fault exists, a chime will sound in a pattern of five sets of five beeps. If this occurs, the air bag indicator and any SRS fault discovered must be diagnosed and repaired.

2005 Ford Focus ZX4 S

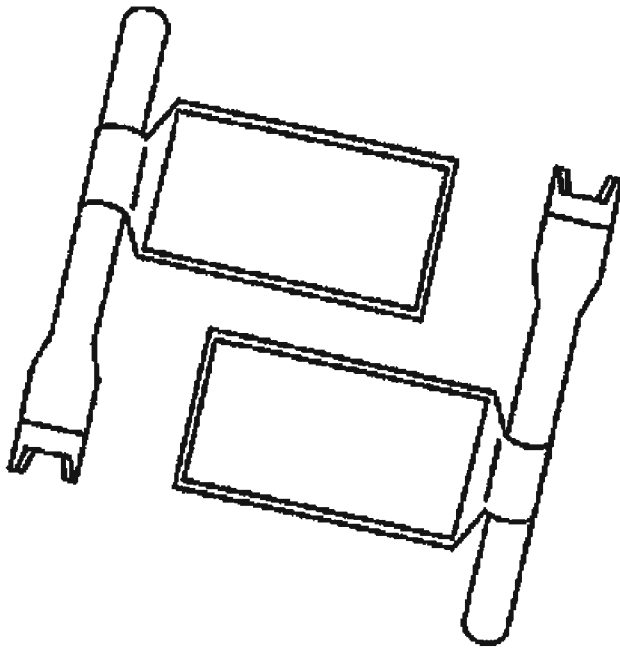
2005 RESTRAINTS Supplemental Restraint System - Focus

Clear all continuous DTCs from the restraints control module using a scan tool.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEACTIVATION AND REACTIVATION

Special Tool(s)

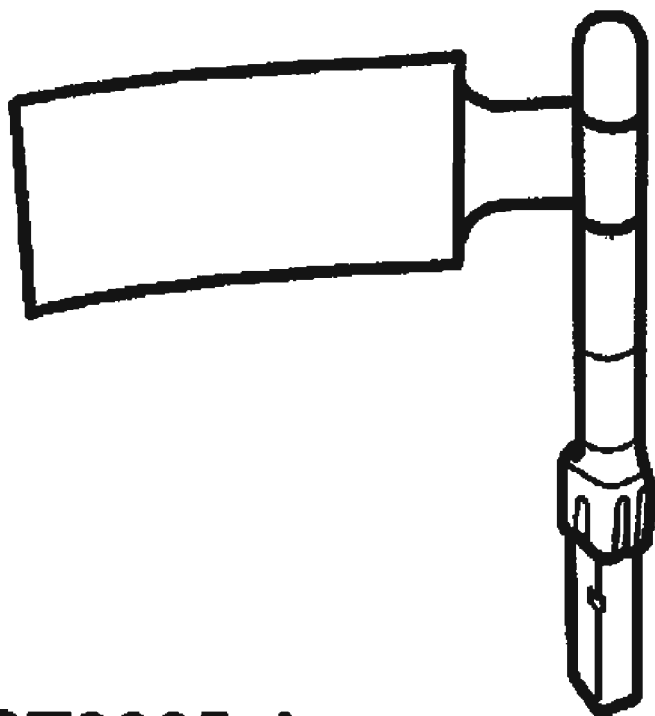
SPECIAL TOOLS DESCRIPTION



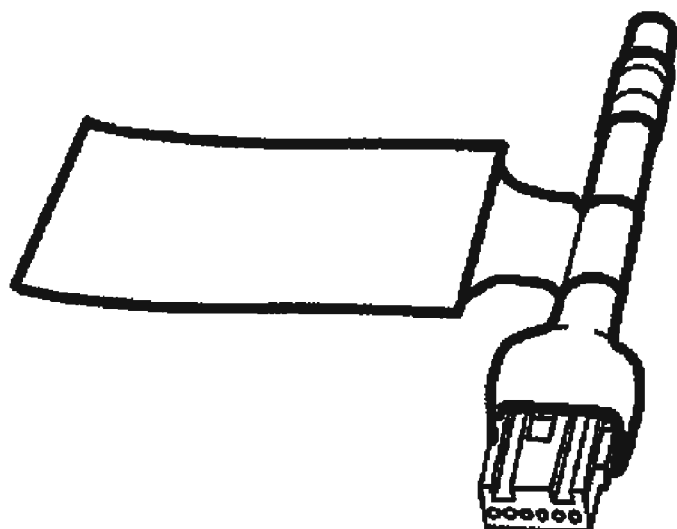
ST2621-A

Diagnostic Tool, Restraint System
(2 Req'd) 418-F395

Diagnostic Tool, Restraint System
(2 req'd) 501-109



ST2865-A



ST2866-A

Diagnostic Tool, Restraint System
(1 req'd) 501-110

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Carry a live air bag module with the air bag and trim cover pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Do not set a live air bag module down with the trim cover face down. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: After deployment, the air bag surface can contain deposits of sodium hydroxide, a product of the gas generant combustion that is irritating to the skin. Wash your hands with soap and water afterwards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

NOTE: The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

All vehicles

1. Turn all vehicle accessories OFF.
2. Turn the ignition switch to OFF.
3. At the central junction box (CJB), located below the LH side of the instrument panel, remove the cover and the restraints control module (RCM) fuse F2.60 (7.5A) from the CJB.
4. Turn the ignition ON and visually monitor the air bag indicator for at least 30 seconds.

The air bag indicator will remain lit continuously (no flashing) if the correct RCM fuse has been removed. If the air bag indicator does not remain lit continuously, remove the correct RCM fuse before proceeding.

5. Turn the ignition OFF.

WARNING: To avoid accidental deployment and possible personal injury, the backup power supply must be depleted before repairing or replacing any front or side air bag supplemental restraint system (SRS) components and before servicing, replacing, adjusting or striking components near the front or side air bag sensors, such as doors, instrument panel, console, door latches, strikers, seats and hood latches.

6. The side impact sensors (if equipped) are located at or near the base of the B-pillars.

To deplete the backup power supply energy, disconnect the battery ground cable and wait at least one minute. Be sure to disconnect auxiliary batteries and power supplies (if equipped).

Disconnect the battery ground cable (14301) and wait at least one minute. For additional information, Refer to **BATTERY, MOUNTING AND CABLES**.

CAUTION: To prevent damage to the driver air bag module, wiring harness or steering wheel do not insert any tool between the driver air bag module and the steering wheel.

NOTE: Turn the steering wheel to access the air bag captive bolts.

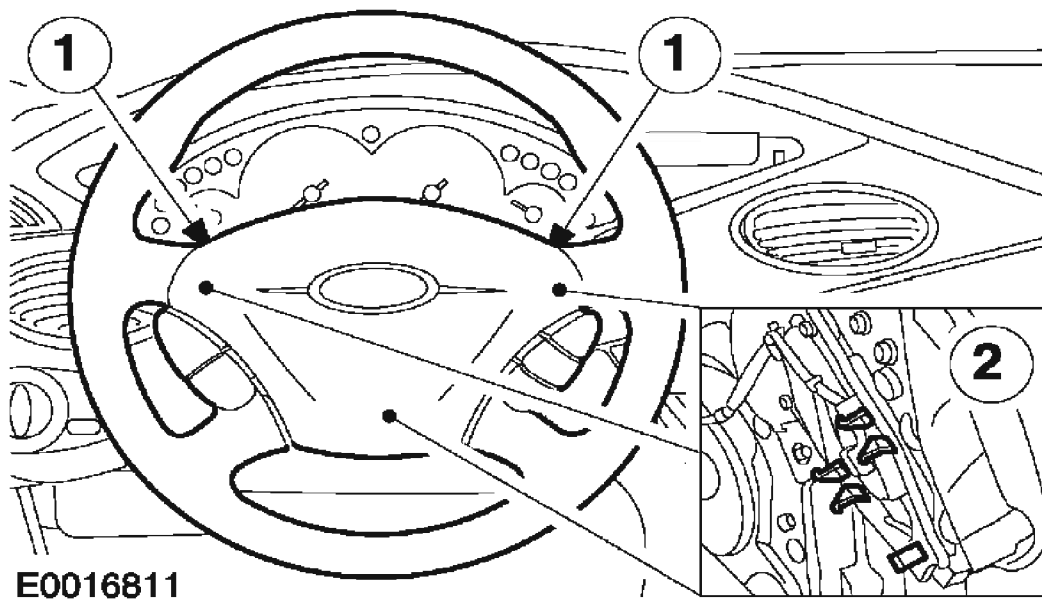


Fig. 176: Removing Driver Air Bag Module
Courtesy of FORD MOTOR CO.

7. Remove the driver air bag module.
 1. Remove the driver air bag module bolts.
 2. Release the driver air bag module retaining clips.
8. Remove the driver air bag module.
 - Disconnect the driver air bag module electrical connector.

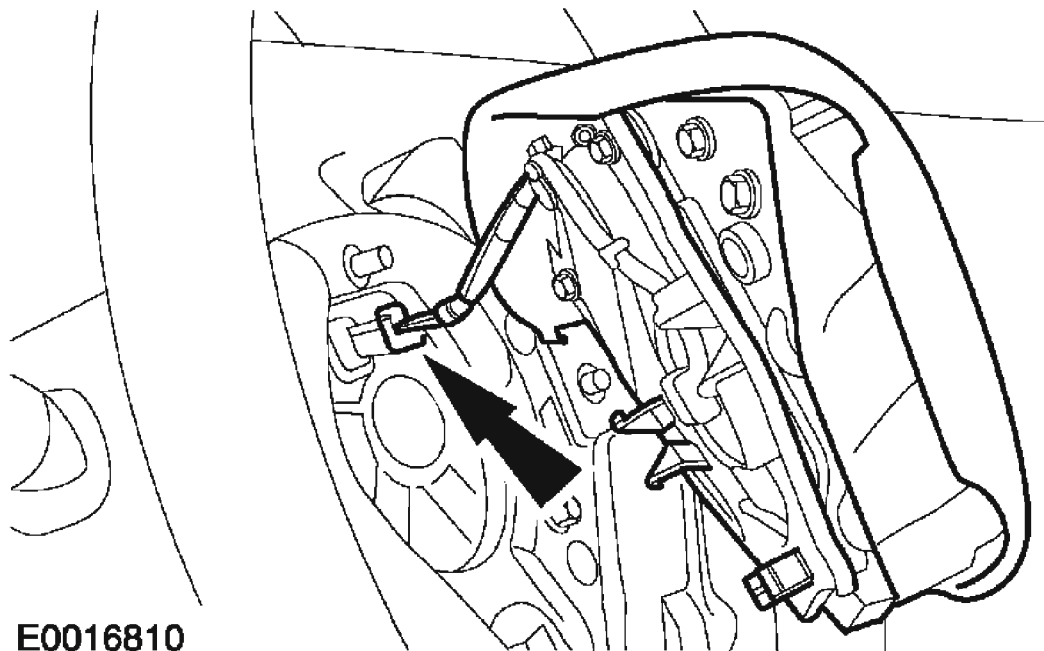
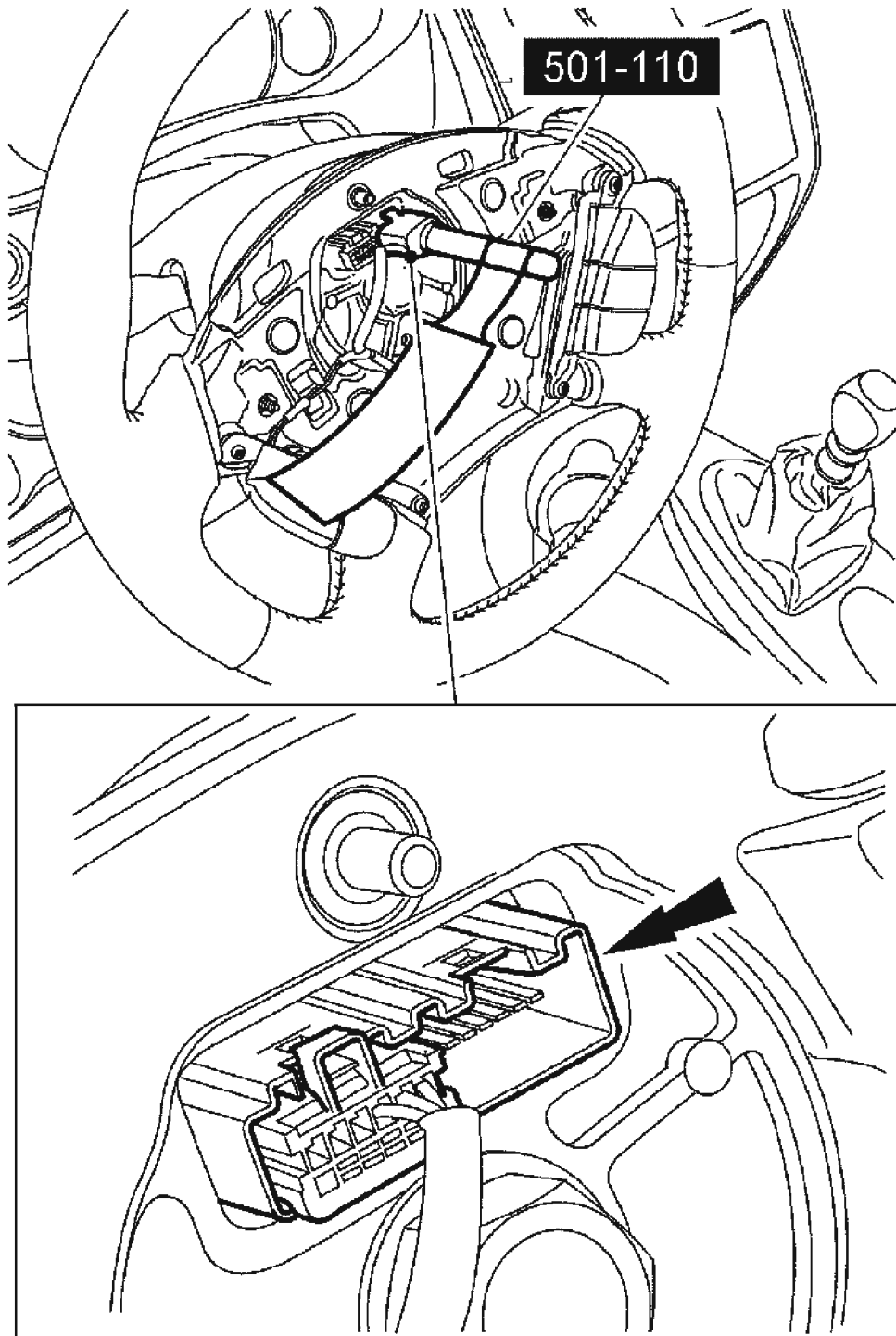


Fig. 177: Removing Driver Air Bag Module
Courtesy of FORD MOTOR CO.

9. Connect restraint system diagnostic tool to the driver air bag module electrical connector on the clockspring.



A0100453

Fig. 178: Connecting Restraint System Diagnostic Tool To Driver Air Bag Module Electrical Connector On Clockspring
Courtesy of FORD MOTOR CO.

10. Open the glove compartment door fully.
11. Remove the ventilation pipe.
 - Detach the retaining clip.

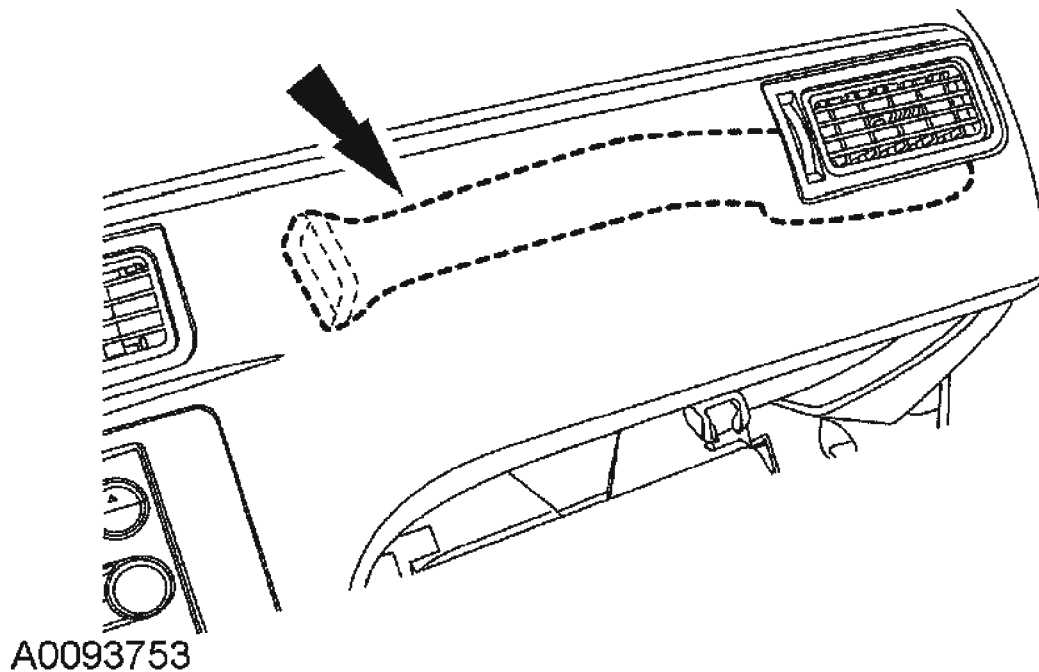


Fig. 179: Removing Ventilation Pipe
Courtesy of FORD MOTOR CO.

12. Detach the defroster pipe from the heater housing and defroster vent.

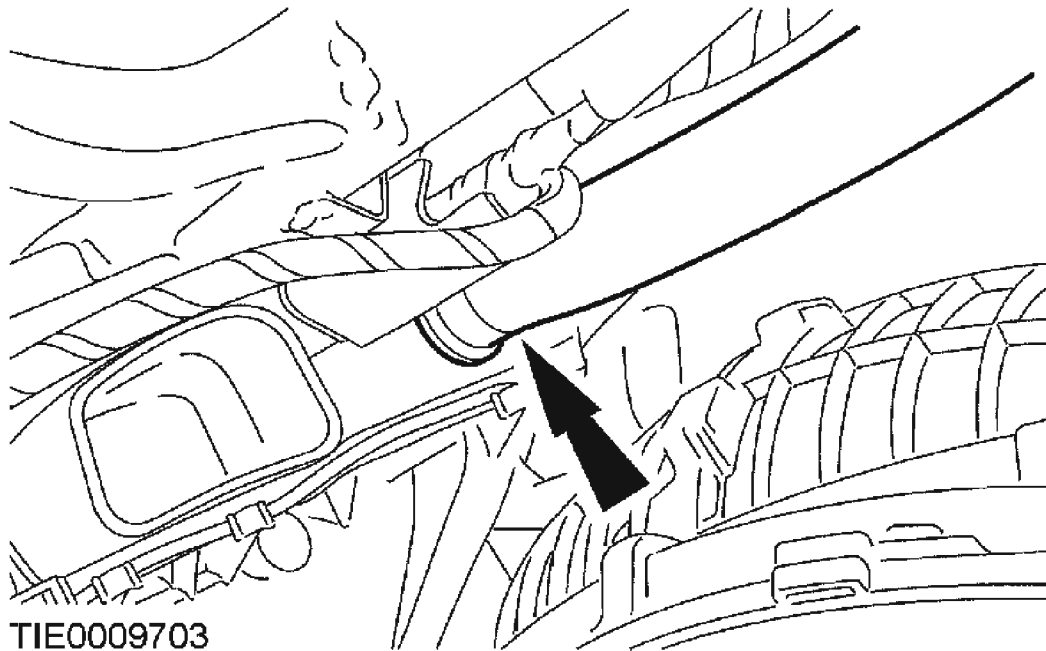


Fig. 180: Detaching Defroster Pipe From Heater Housing And Defroster Vent
Courtesy of FORD MOTOR CO.

13. Remove the passenger air bag module trim cover retaining bolts.

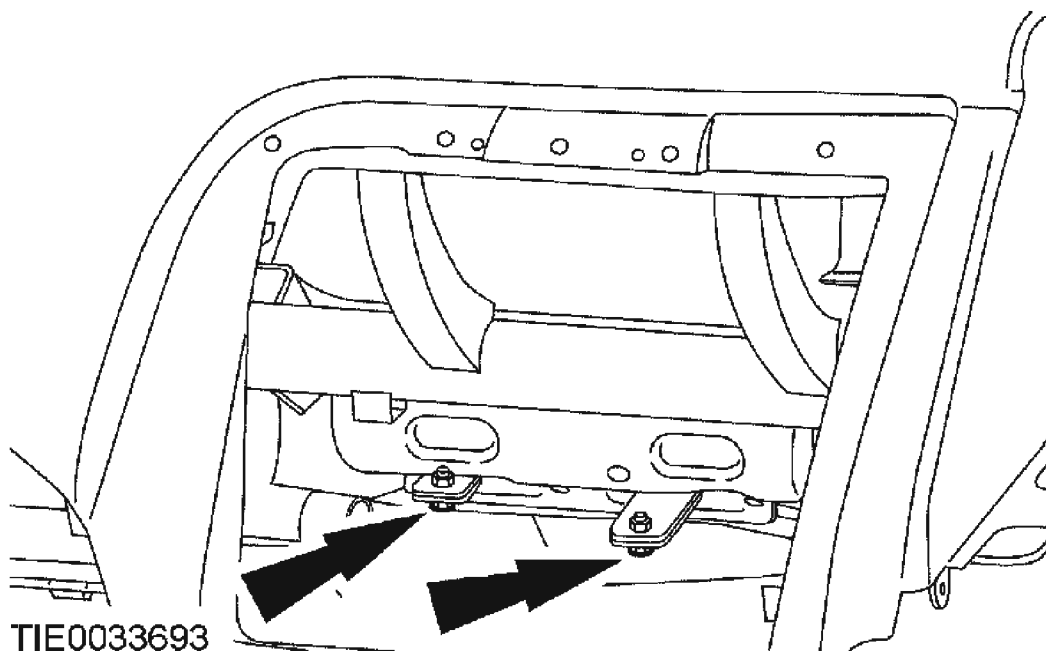


Fig. 181: Removing Passenger Air Bag Module Trim Cover Retaining Bolts
Courtesy of FORD MOTOR CO.

CAUTION: Use a protective covering (shop towel, etc.) between the instrument panel, passenger air bag trim cover and the trim tool to prevent damage to the instrument panel when removing the passenger air bag trim cover.

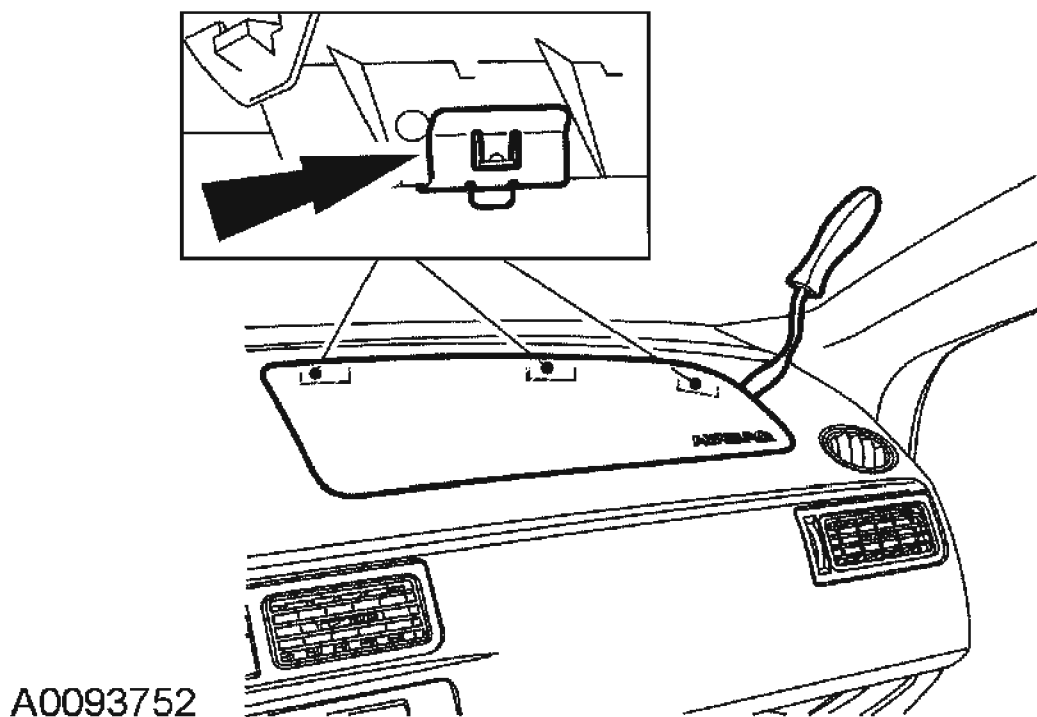
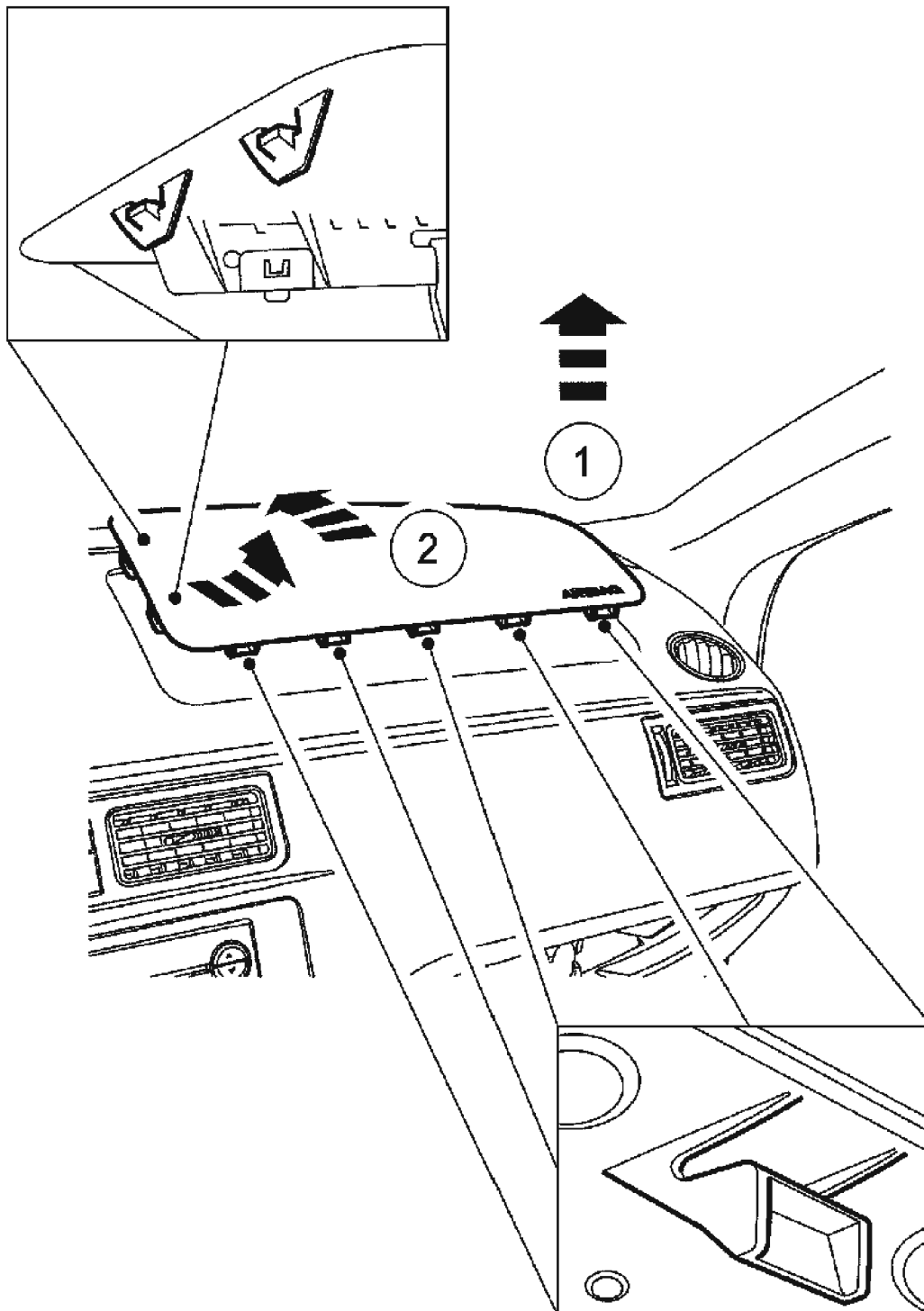


Fig. 182: Detaching Passenger Air Bag Module Trim Cover From Instrument Panel
Courtesy of FORD MOTOR CO.

14. Detach the passenger air bag module trim cover from the instrument panel.
 - Use a trim tool to carefully release the retaining clips, starting at the front outer edge.
15. Remove the passenger air bag module trim cover.
 1. Lift the outer edge.
 2. Lift the cover moving it towards the windshield to disengage the retaining clips.



A0093751

Fig. 183: Removing Passenger Air Bag Module Trim Cover
Courtesy of FORD MOTOR CO.

16. Detach the passenger air bag module and reinforcement bracket from the instrument

panel.

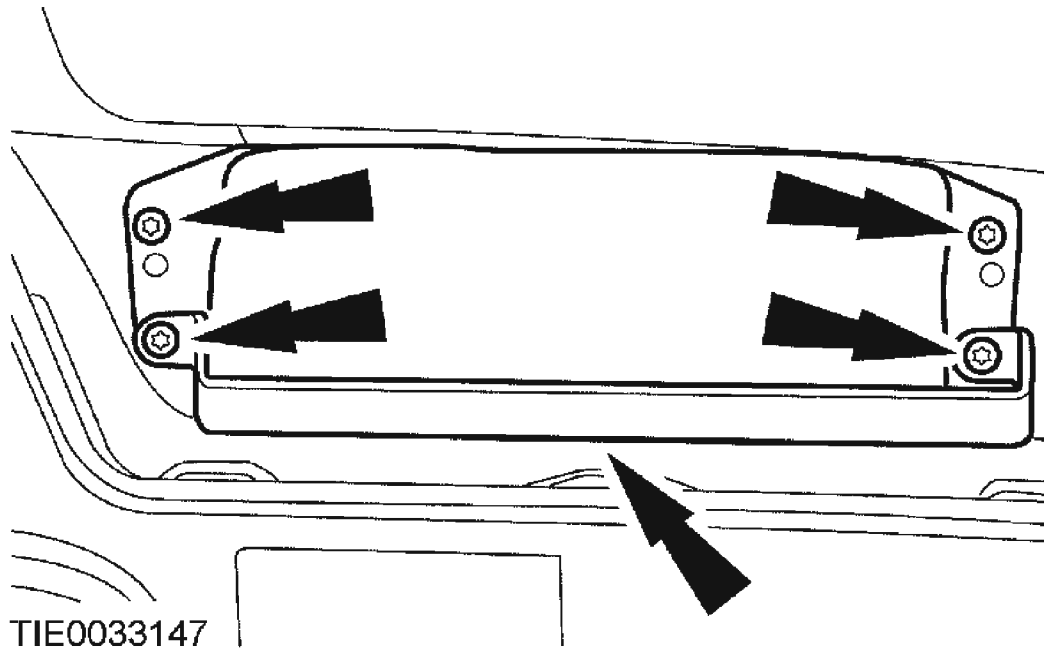


Fig. 184: Detaching Passenger Air Bag Module And Reinforcement Bracket From Instrument Panel

Courtesy of FORD MOTOR CO.

17. Remove the passenger air bag module.
 - Disconnect the passenger air bag module electrical connectors.

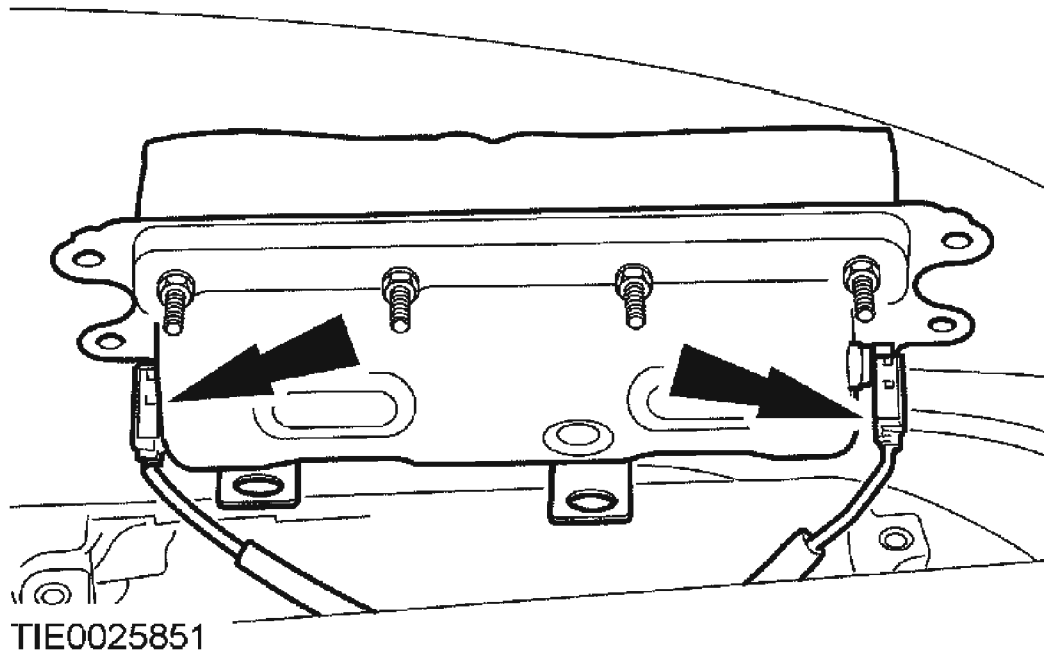


Fig. 185: Disconnecting Passenger Air Bag Module Electrical Connectors
Courtesy of FORD MOTOR CO.

18. Connect restraint system diagnostic tools (2 req'd) to the vehicle harness side of the passenger air bag module electrical connectors.

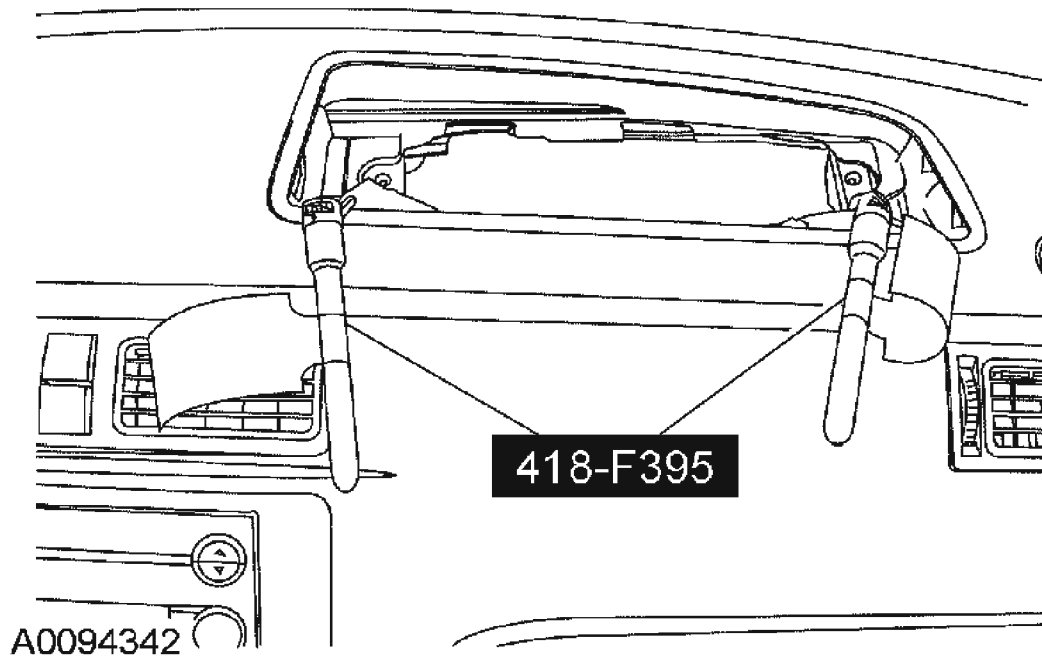


Fig. 186: Connecting Restraint System Diagnostic Tools To Vehicle Harness Side Of Passenger Air Bag Module Electrical Connectors
Courtesy of FORD MOTOR CO.

Vehicles with seat side air bags

19. Disconnect the passenger seat electrical connector located under the seat.

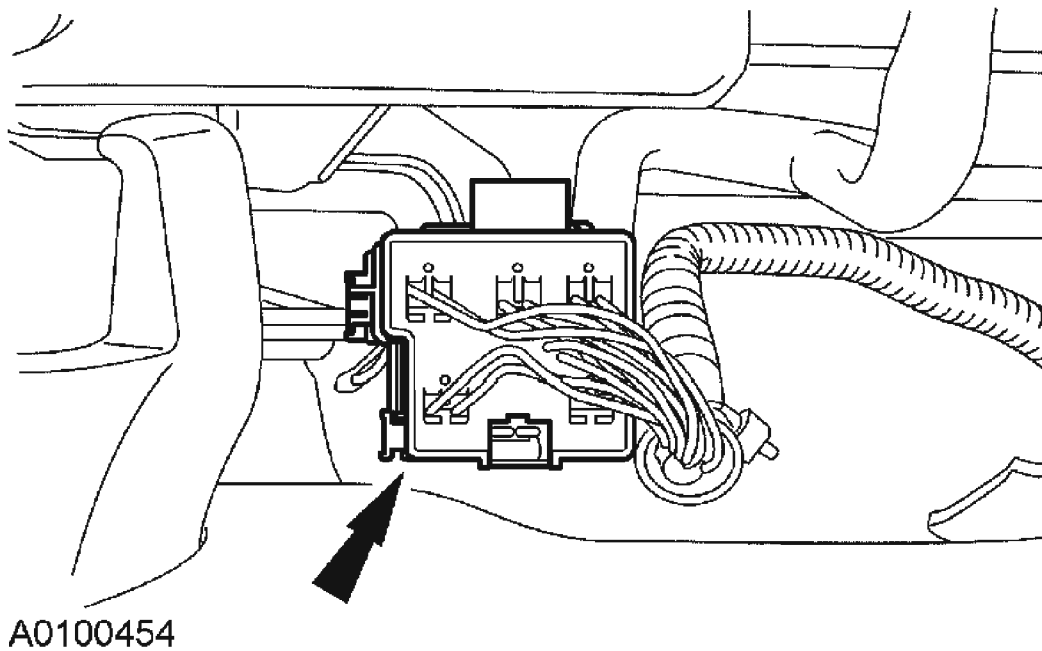


Fig. 187: Disconnecting Passenger Seat Electrical Connector Located Under Seat
Courtesy of FORD MOTOR CO.

20. Connect the restraint system diagnostic tool to the vehicle harness side of the passenger seat side air bag module electrical connector.

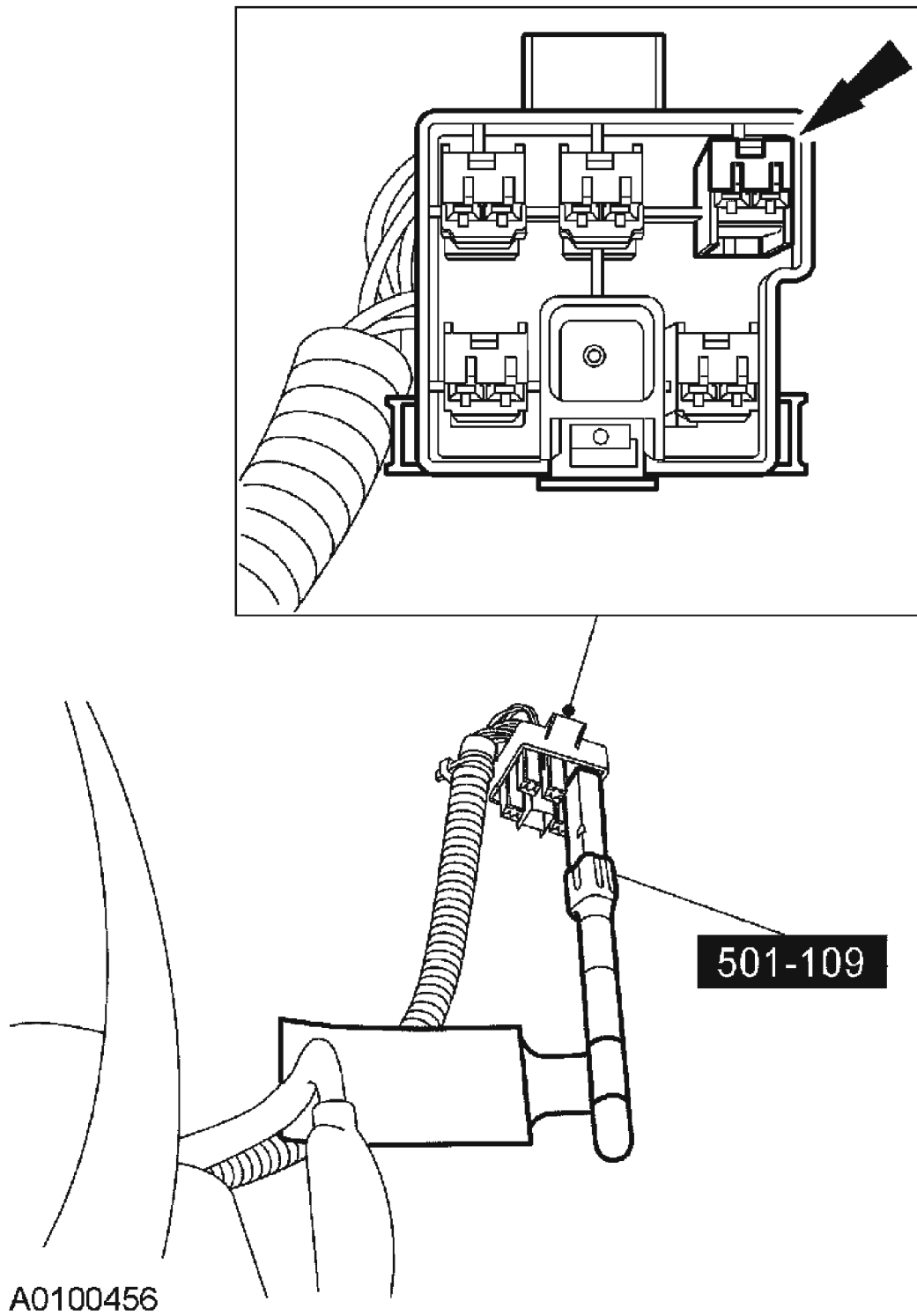
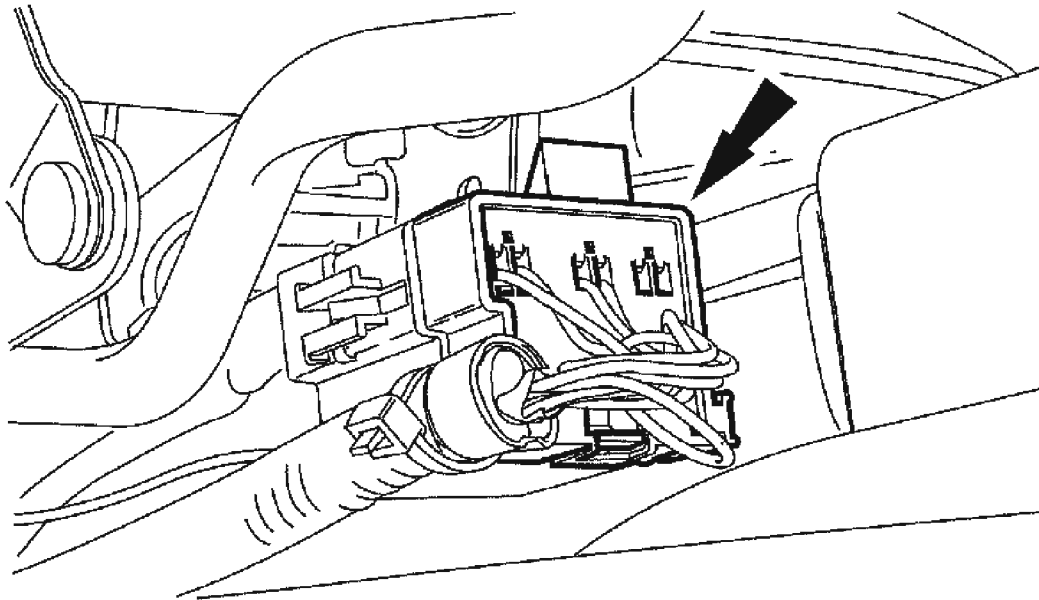


Fig. 188: Connecting Restraint System Diagnostic Tool To Vehicle Harness Side Of Passenger Seat Side Air Bag Module Electrical Connector
Courtesy of FORD MOTOR CO.

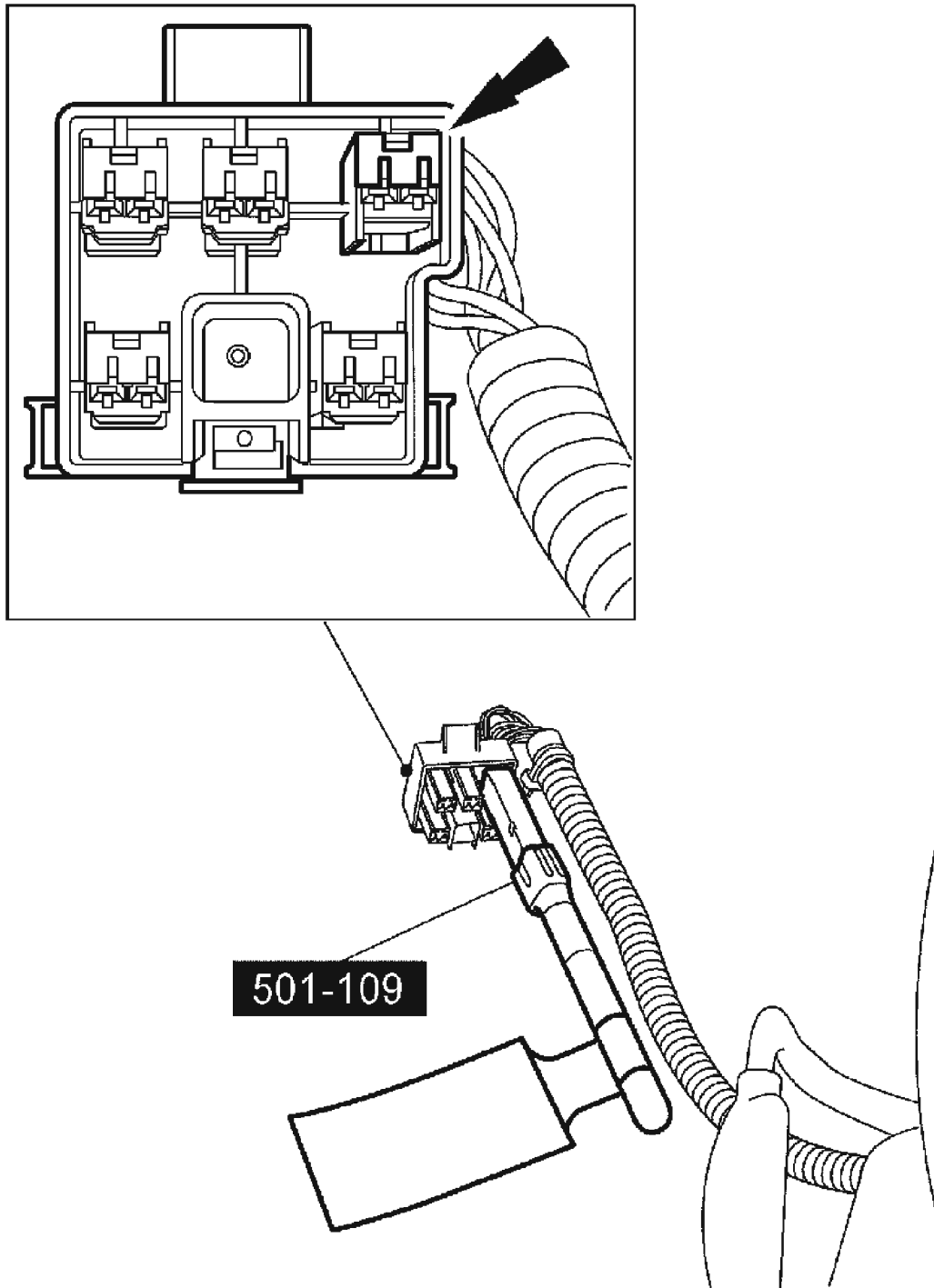
21. Disconnect the driver seat electrical connector located under the seat.



A0093343

Fig. 189: Disconnecting Driver Seat Electrical Connector
Courtesy of FORD MOTOR CO.

22. Connect the restraint system diagnostic tool to the vehicle harness side of the driver seat side air bag module electrical connector.



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Fig. 190: Connecting Restraint System Diagnostic Tool To Vehicle Harness Side Of Driver Seat Side Air Bag Module Electrical Connector
Courtesy of FORD MOTOR CO.

All vehicles

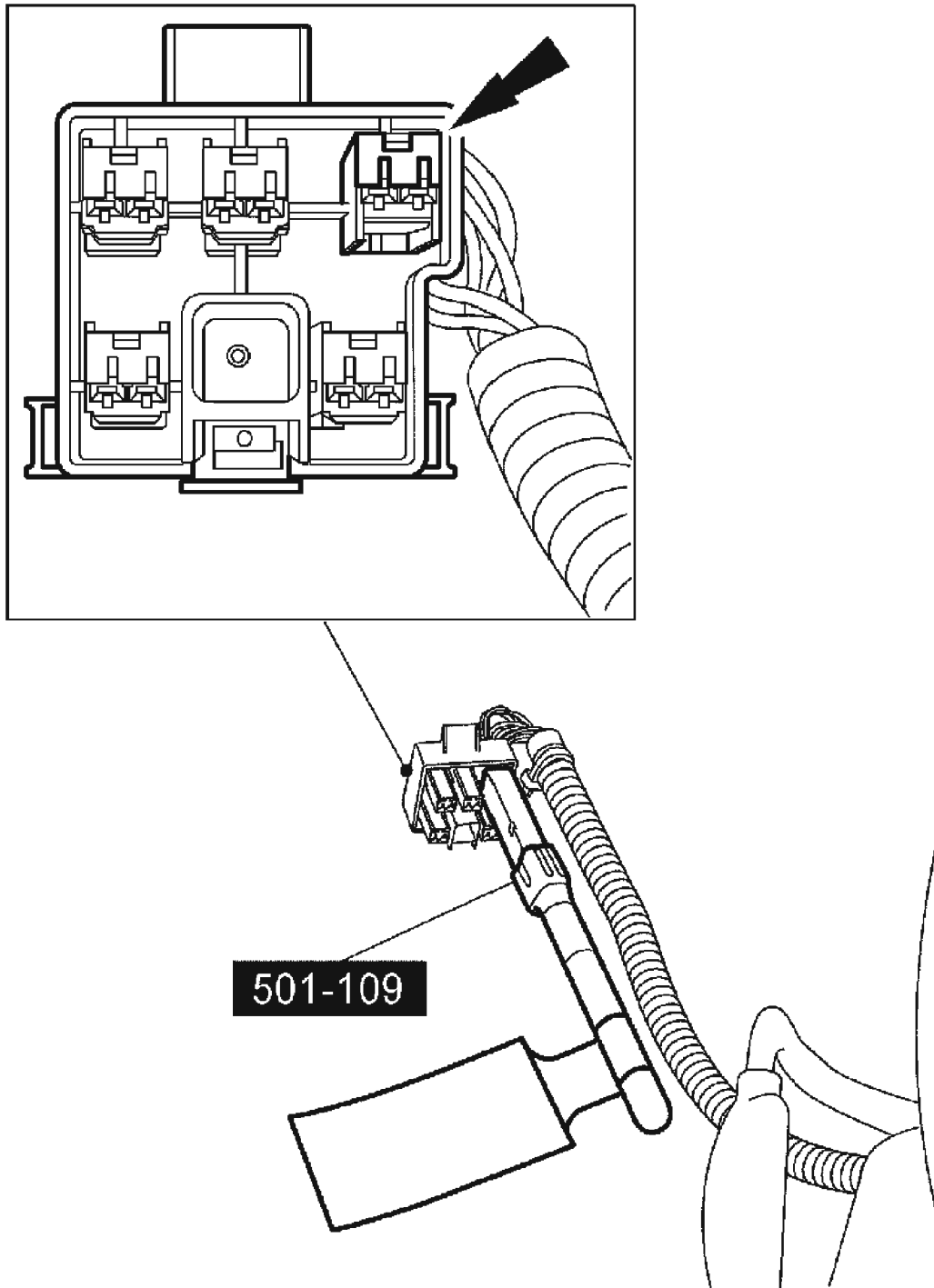
23. Install the restraints control module fuse F2.60 (7.5A) to the central junction box (CJB).
24. Connect the battery ground cable. For additional information, Refer to **BATTERY, MOUNTING AND CABLES** .

Reactivation**All vehicles**

1. Remove the restraints control module fuse F2.60 (7.5A) from the central junction box (CJB).
2. Disconnect the battery ground cable and wait at least one minute. For additional information, Refer to **BATTERY, MOUNTING AND CABLES** .

Vehicles with seat side air bags

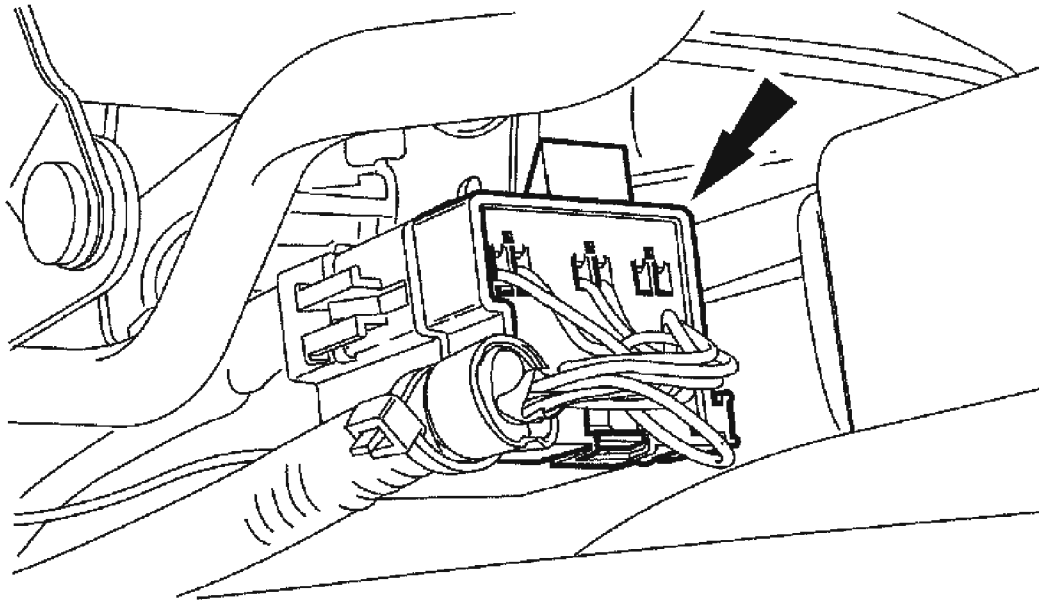
3. Remove the restraint system diagnostic tool from the vehicle harness side of the driver seat side air bag module electrical connector.



A0100455

Fig. 191: Removing Restraint System Diagnostic Tool From Vehicle Harness Side Of Driver Seat Side Air Bag Module Electrical Connector
Courtesy of FORD MOTOR CO.

4. Connect the driver seat electrical connector.



A0093343

Fig. 192: Connecting Driver Seat Electrical Connector
Courtesy of FORD MOTOR CO.

5. Remove the restraint system diagnostic tool from the vehicle harness side of the passenger seat side air bag module electrical connector.

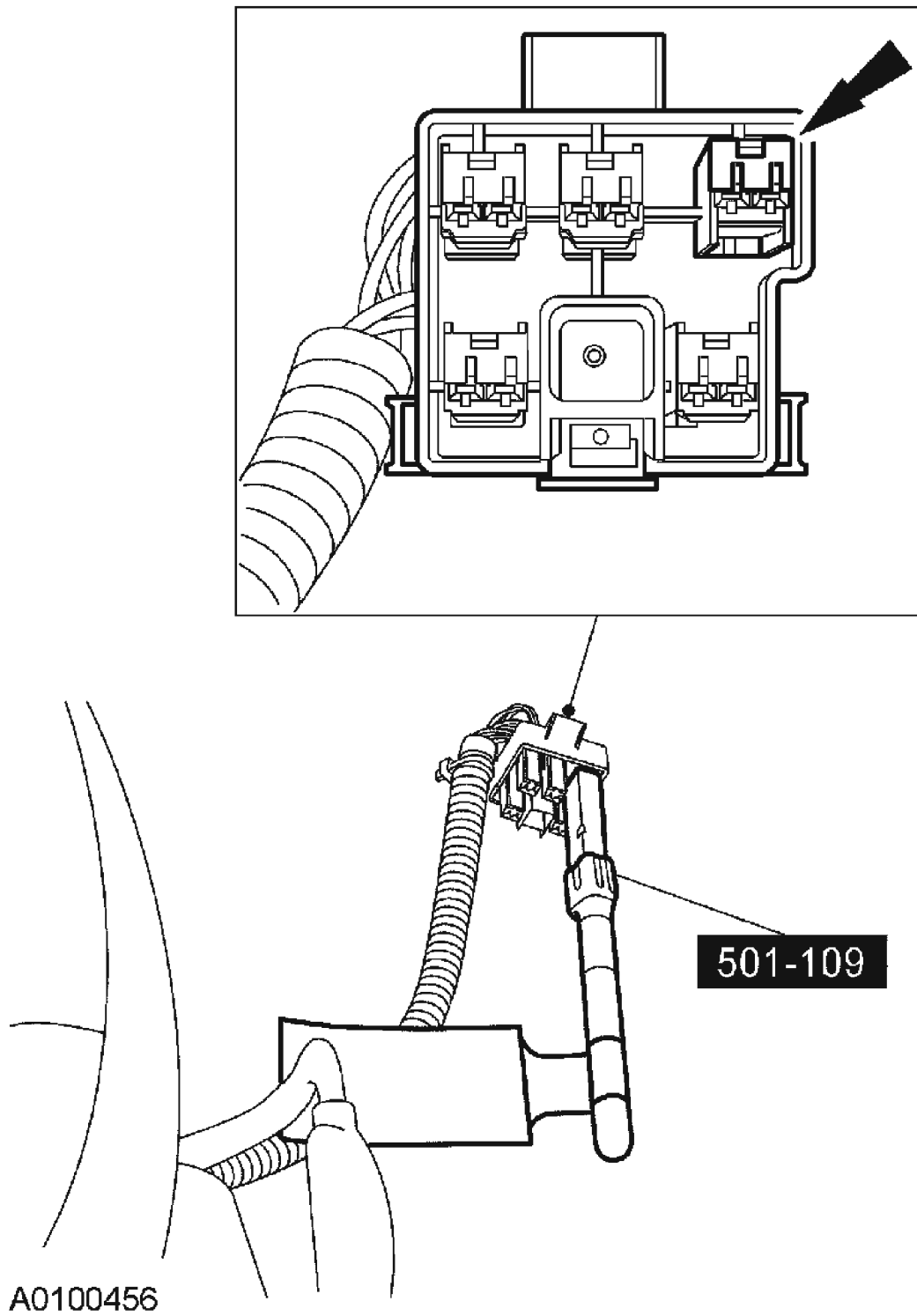


Fig. 193: Removing Restraint System Diagnostic Tool From Vehicle Harness Side Of Passenger Seat Side Air Bag Module Electrical Connector
Courtesy of FORD MOTOR CO.

6. Connect the passenger seat electrical connector.

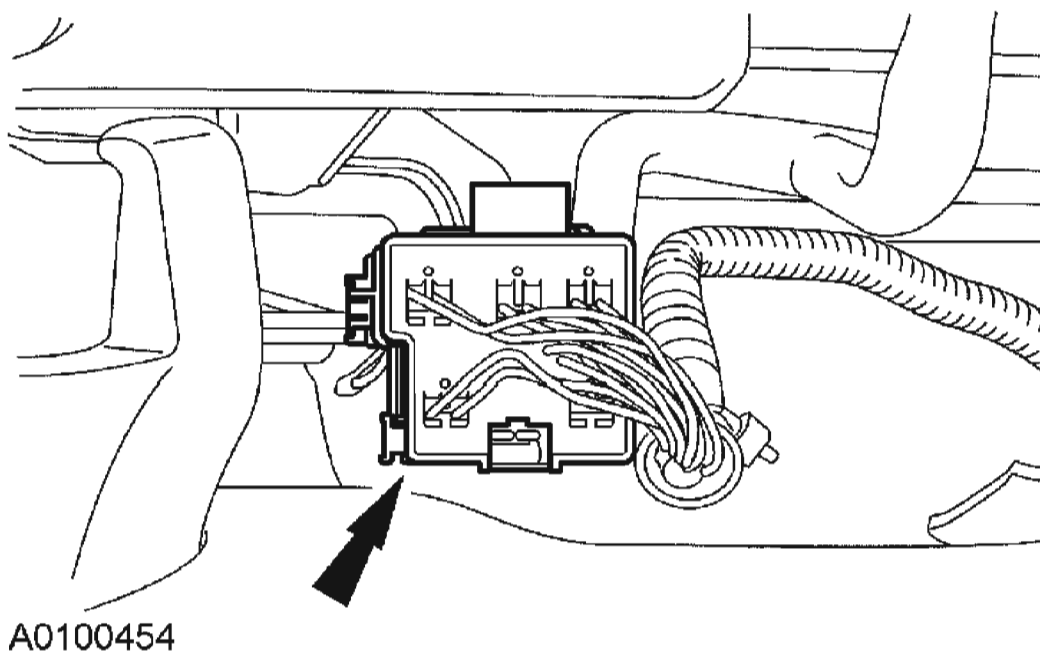
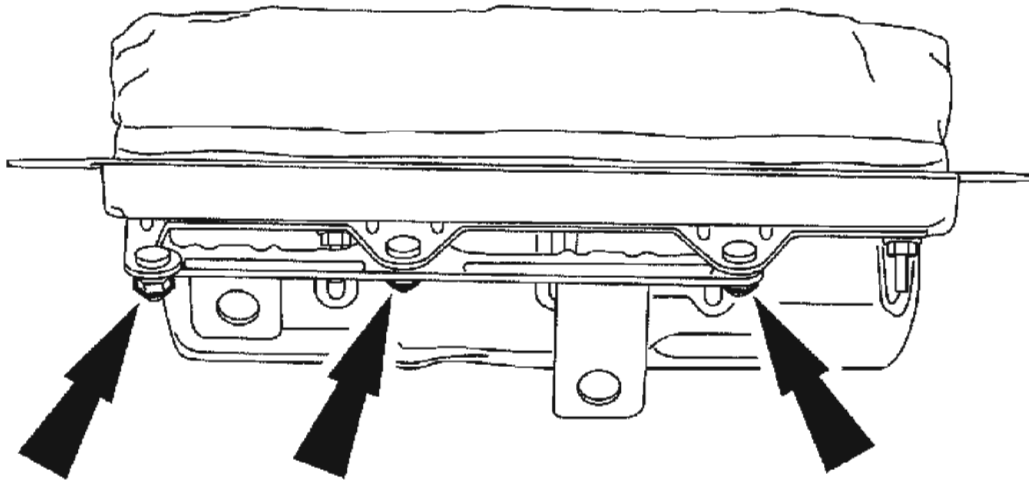


Fig. 194: Connecting Passenger Seat Electrical Connector
Courtesy of FORD MOTOR CO.

All vehicles

7. Loosen the passenger air bag module floating bracket retaining nuts.



TIE0033144

Fig. 195: Loosening Passenger Air Bag Module Floating Bracket Retaining Nuts
Courtesy of FORD MOTOR CO.

8. Remove the restraint system diagnostic tools from the vehicle harness side of the passenger air bag module electrical connectors.

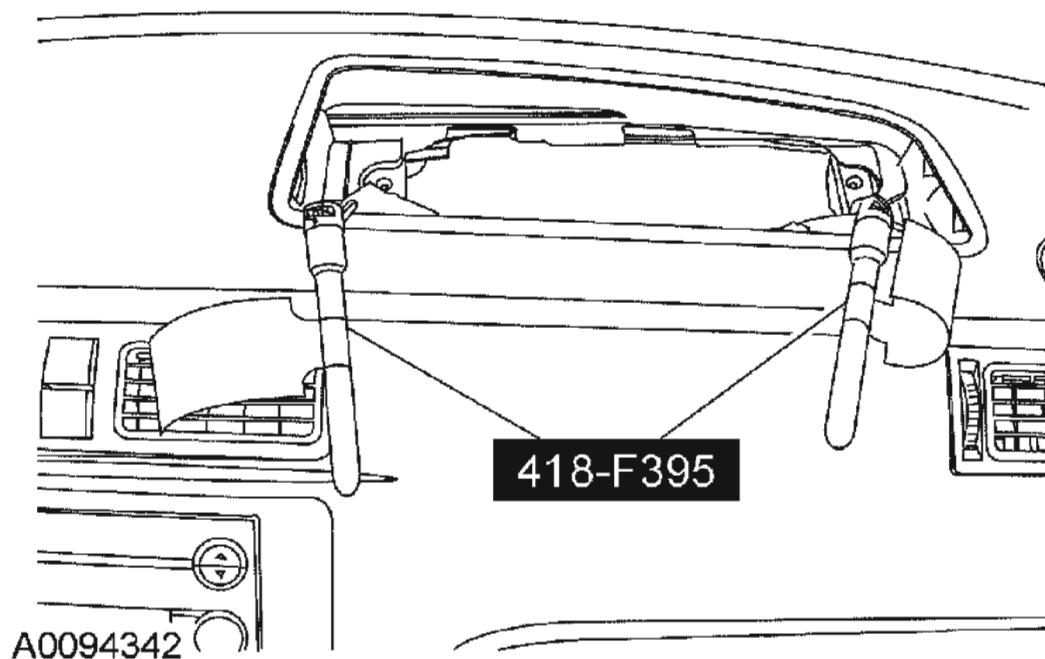


Fig. 196: Removing Restraint System Diagnostic Tools From Vehicle Harness Side Of Passenger Air Bag Module Electrical Connectors
Courtesy of FORD MOTOR CO.

9. Install the passenger air bag module.
 - Connect the passenger air bag module electrical connectors.

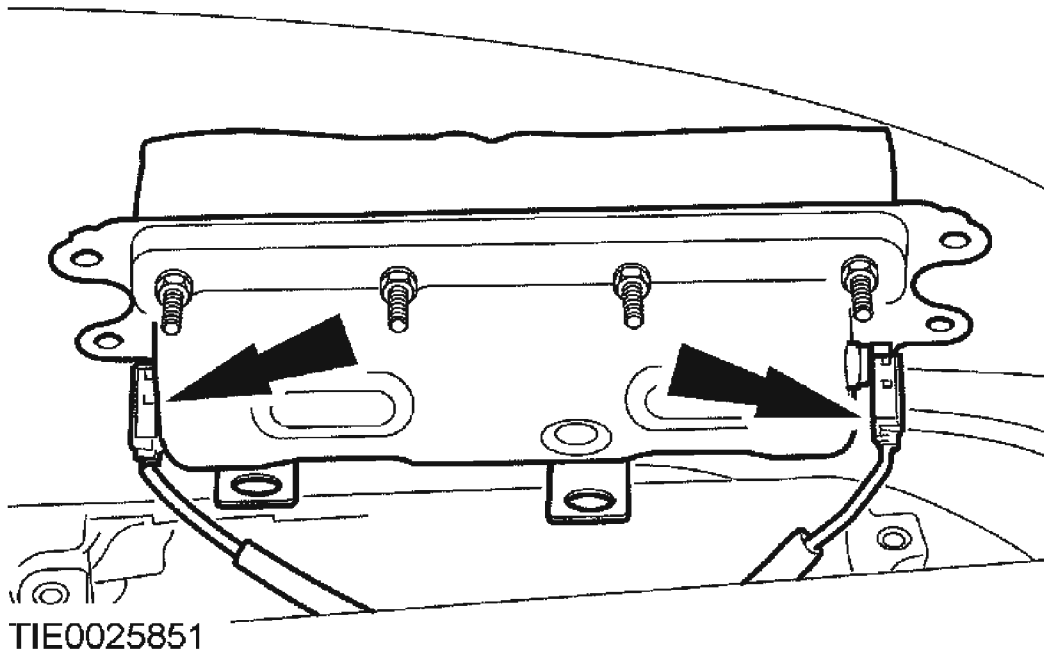


Fig. 197: Connecting Passenger Air Bag Module Electrical Connectors
Courtesy of FORD MOTOR CO.

10. Attach the passenger air bag module and reinforcement bracket to the instrument panel.

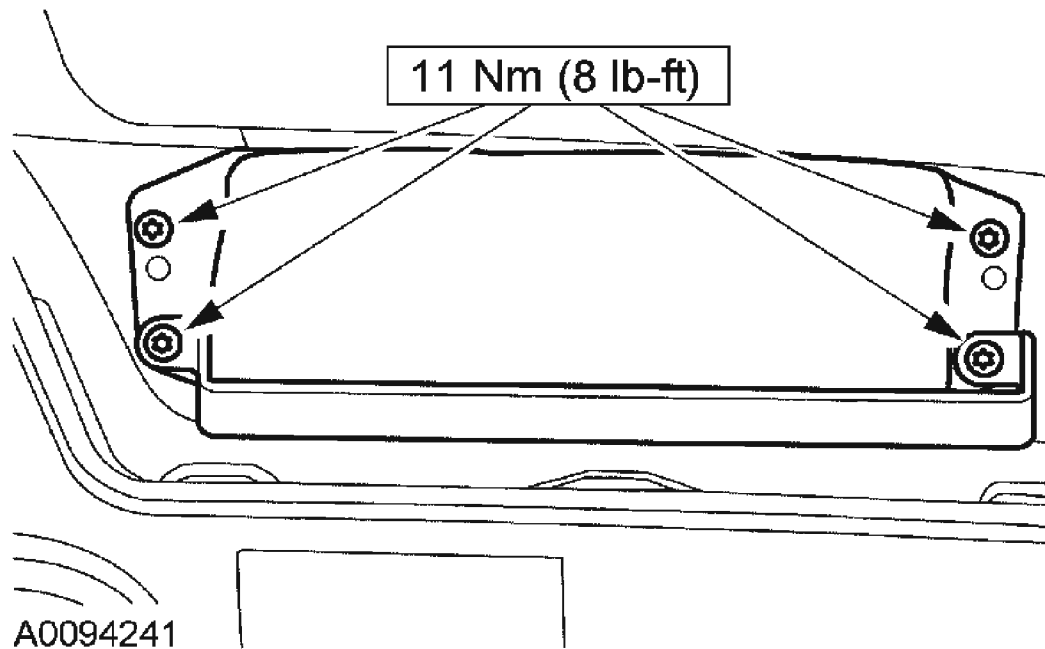
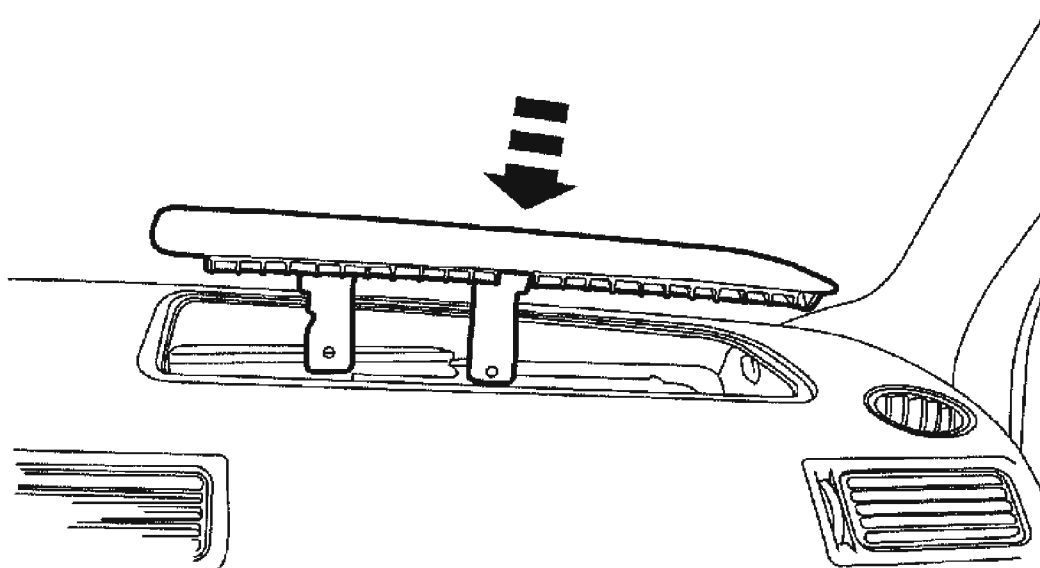


Fig. 198: Attaching Passenger Air Bag Module And Reinforcement Bracket To Instrument Panel

Courtesy of FORD MOTOR CO.

NOTE: Feed the trim cover brackets down through the passenger air bag module and floating bracket.



A0093745

Fig. 199: Installing Passenger Air Bag Module Trim Cover
Courtesy of FORD MOTOR CO.

11. Install the passenger air bag module trim cover.

NOTE: Do not fully tighten the passenger air bag module trim cover bolts at this time.

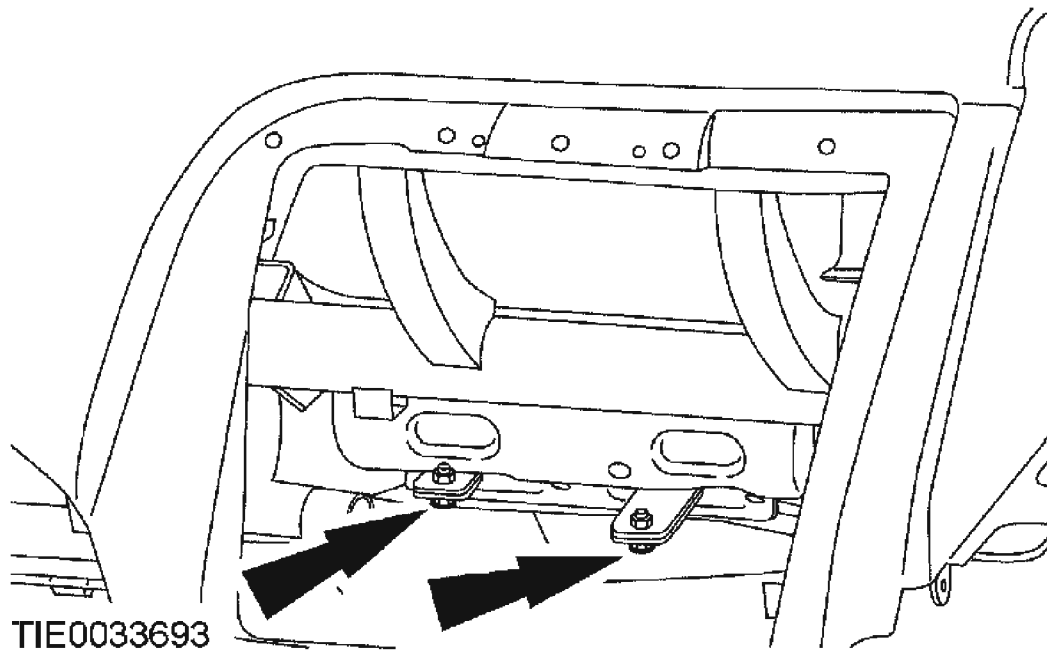


Fig. 200: Installing Passenger Air Bag Module Trim Cover Retaining Bolts
Courtesy of FORD MOTOR CO.

12. Install the passenger air bag module trim cover retaining bolts.

CAUTION: Make sure that all the passenger air bag module trim cover retaining clips are correctly engaged and that the trim cover is flush with the instrument panel.

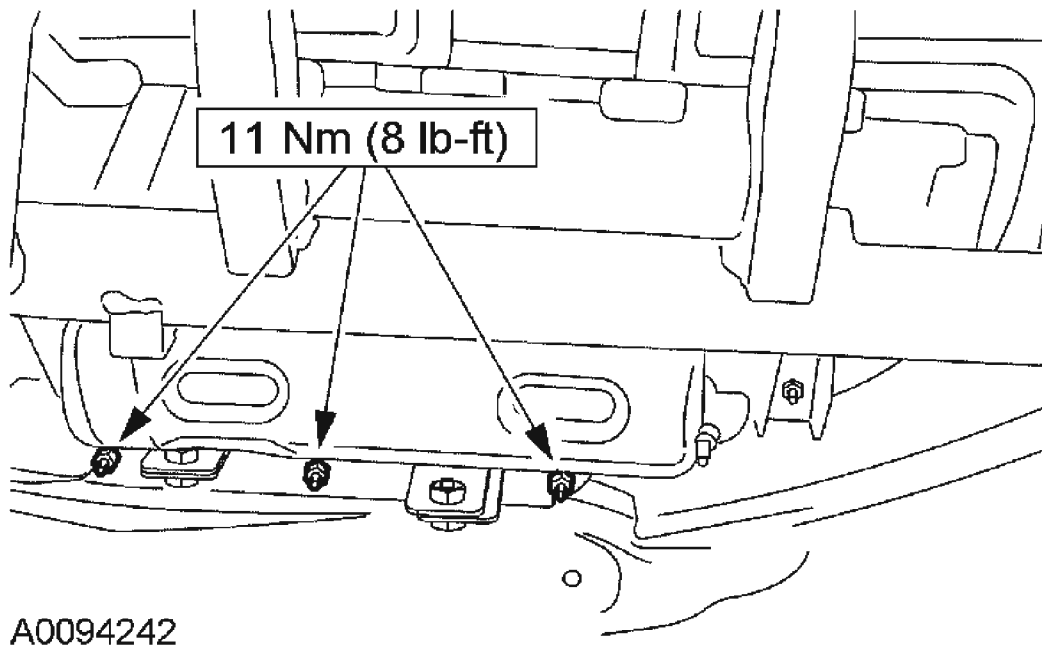


Fig. 201: Tightening Passenger Air Bag Module Floating Bracket Retaining Bolts
Courtesy of FORD MOTOR CO.

13. Tighten the passenger air bag module floating bracket retaining bolts.
14. Tighten the passenger air bag module trim cover retaining bolts.

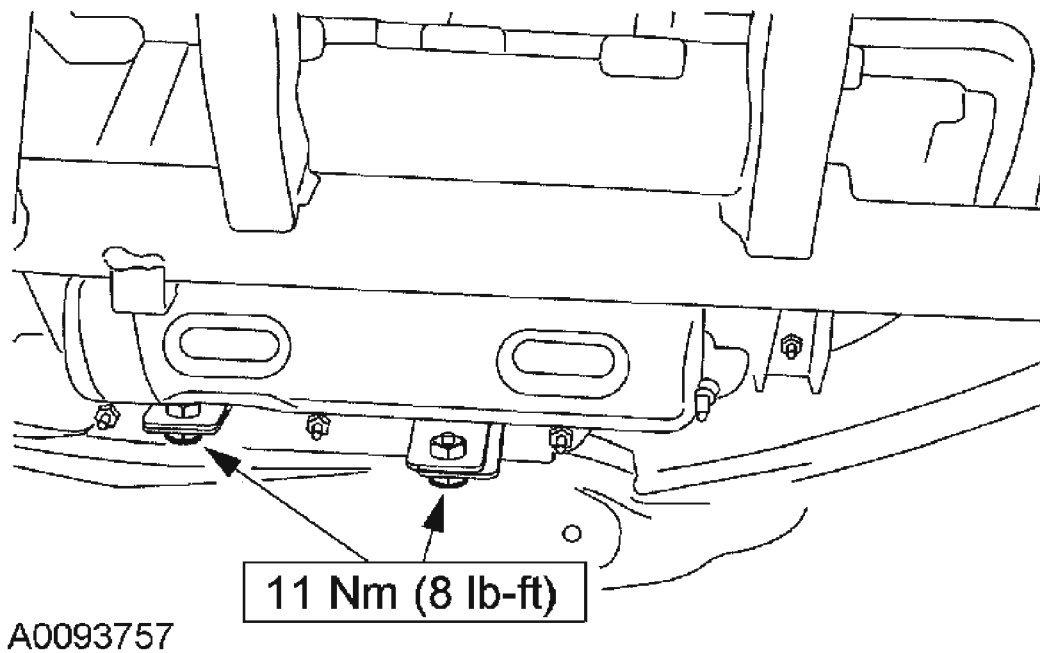


Fig. 202: Tightening Passenger Air Bag Module Trim Cover Retaining Bolts
Courtesy of FORD MOTOR CO.

15. Attach the defroster pipe to the heater housing and defroster vent.

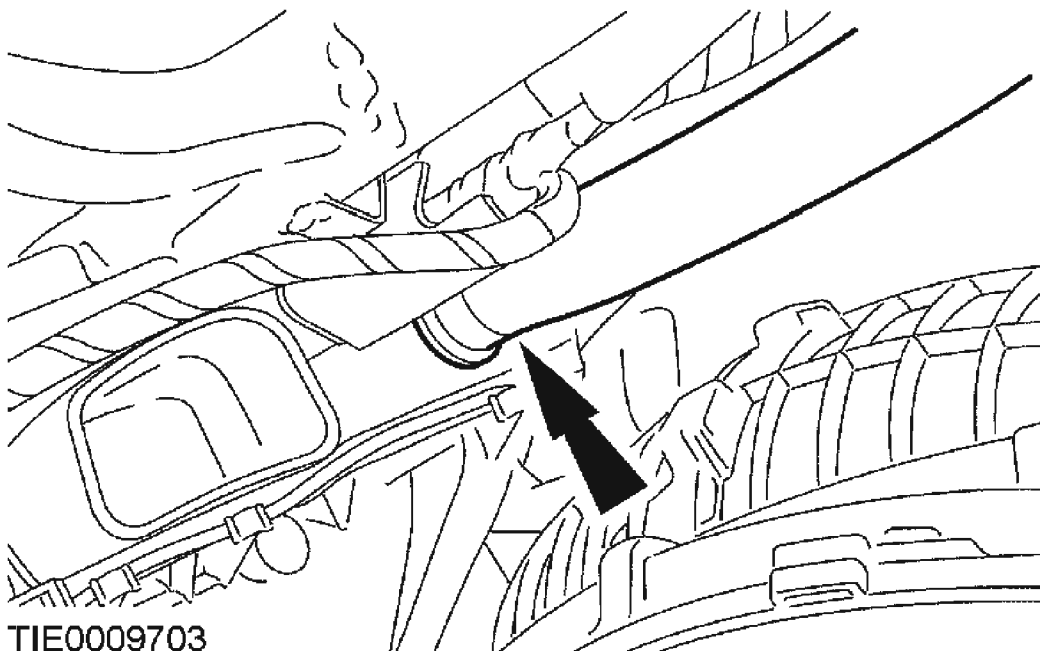


Fig. 203: Attaching Defroster Pipe To Heater Housing And Defroster Vent
Courtesy of FORD MOTOR CO.

16. Install the ventilation pipe.
 - Attach the retaining clip.

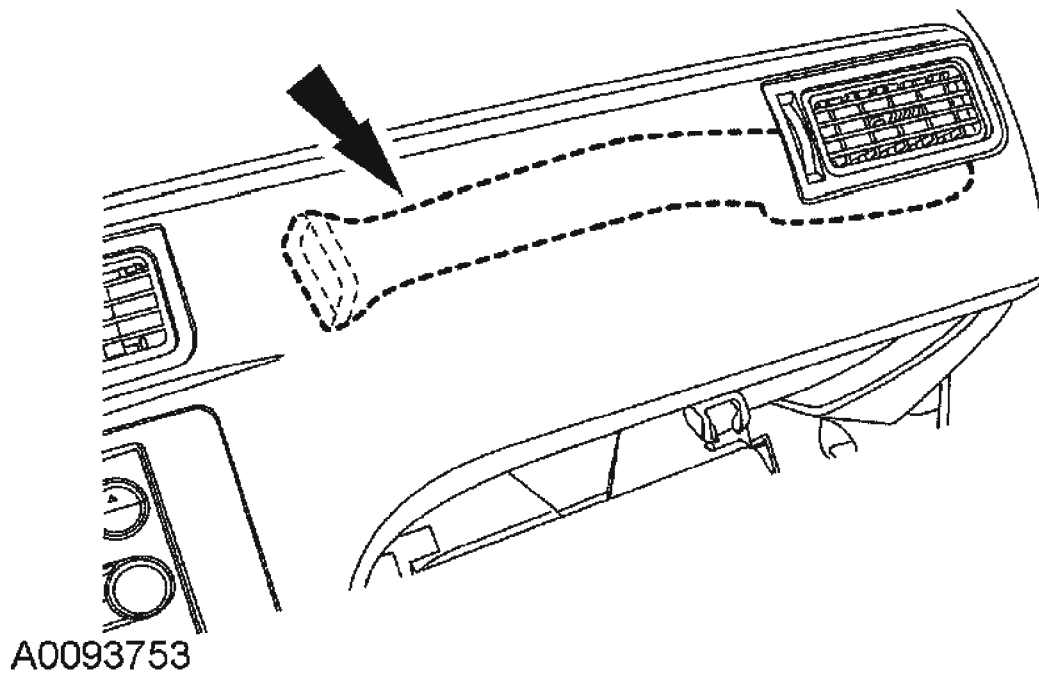
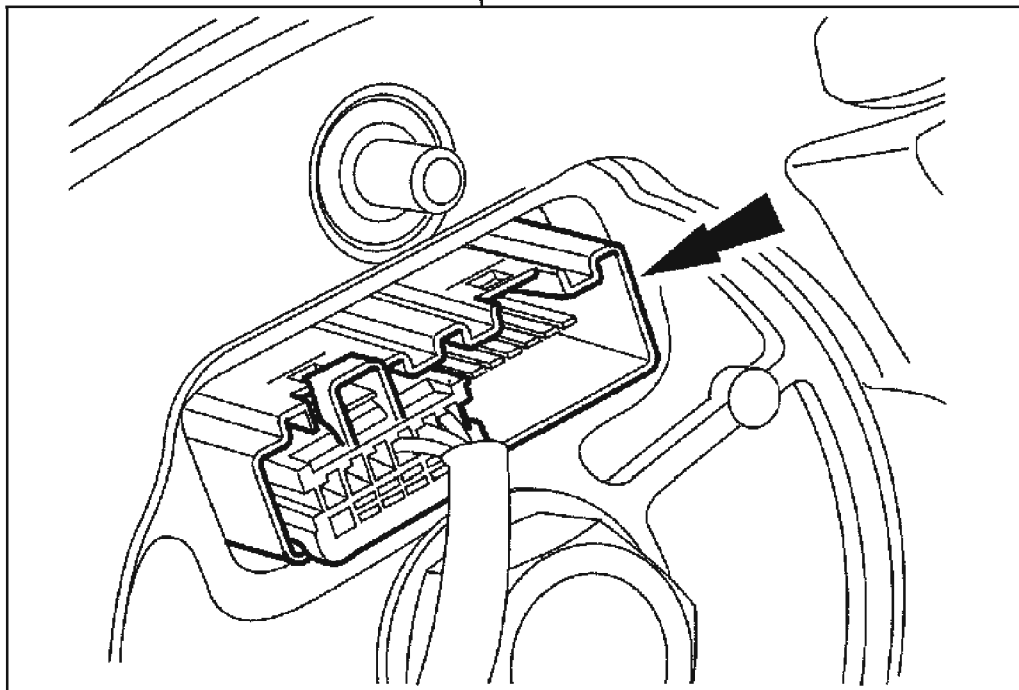
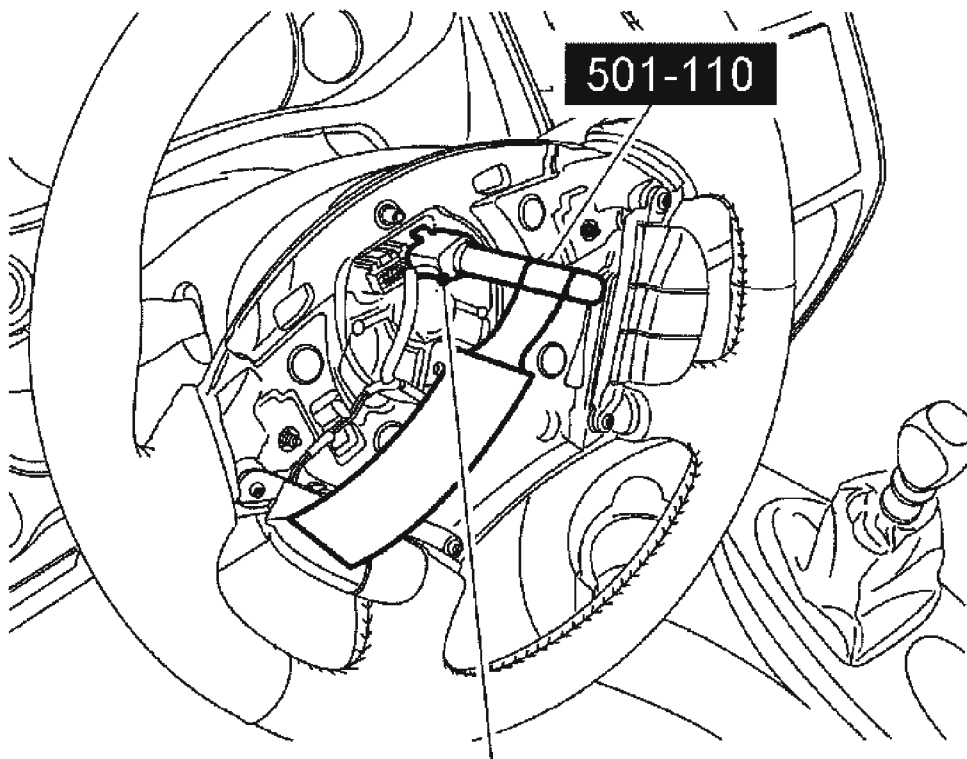


Fig. 204: Installing Ventilation Pipe
Courtesy of FORD MOTOR CO.

17. Close the glove compartment door.
18. Remove the restraint system diagnostic tool from the driver air bag module electrical connector at the clockspring.



A0100453

Fig. 205: Removing Restraint System Diagnostic Tool From Driver Air Bag Module Electrical Connector At Clockspring
Courtesy of FORD MOTOR CO.

19. Install the driver air bag module.
- Connect the driver air bag module electrical connector.

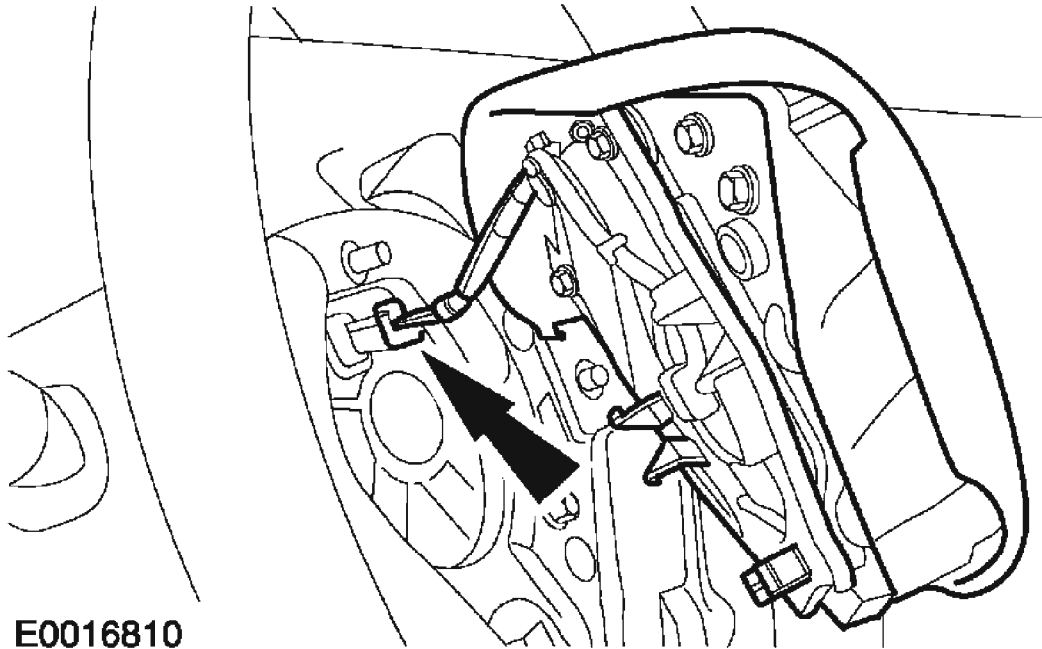


Fig. 206: Connecting Driver Air Bag Module Electrical Connector
Courtesy of FORD MOTOR CO.

20. Install the driver air bag module to the steering wheel.
1. Attach the driver air bag module retaining clips.
 2. Install the driver air bag module bolts.

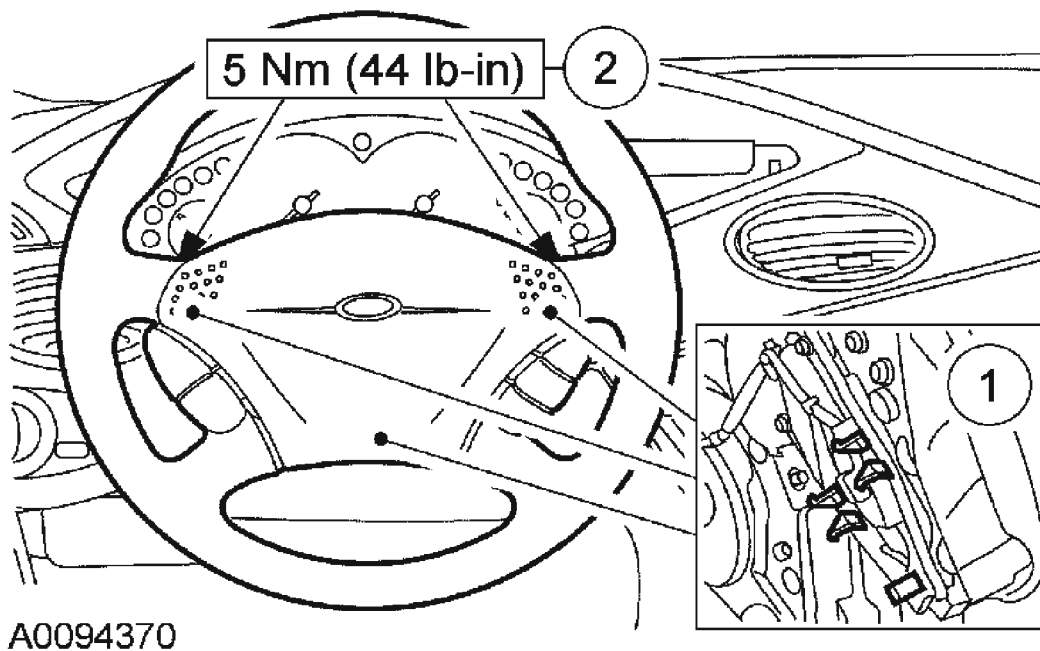


Fig. 207: Installing Driver Air Bag Module To Steering Wheel
Courtesy of FORD MOTOR CO.

WARNING: The restraint system diagnostic tool is for restraint system service only. Remove from vehicle prior to road use. Failure to remove could result in injury and possible violation of vehicle safety standards.

21. Make sure all restraint system diagnostic tool(s) that may have been installed during the repair have been removed from the vehicle and all SRS components are connected.
22. Turn the ignition switch from OFF to ON.
23. Install the RCM fuse F2.60 (7.5A) to the CJB and install the cover.

WARNING: Be sure that nobody is in the vehicle and that there is nothing blocking or set in front of any air bag module when the battery ground cable is connected.

24. Connect the battery ground cable.
25. Prove out the supplemental restraint system (SRS) as follows:

Turn the ignition key from ON to OFF. Wait 10 seconds, then turn the key back to ON and visually monitor the air bag indicator with the air bag modules installed. The air bag indicator will light continuously for approximately six seconds and then turn off. If an air

bag supplemental restraint system (SRS) fault is present, the air bag indicator will either:

- Fail to light.
- Remain lit continuously.
- Flash at a 5 Hz rate (RCM not configured).

The air bag indicator may not illuminate until approximately 30 seconds after the ignition switch has been turned from the OFF to the ON position. This is the time required for the restraints control module (RCM) to complete the testing of the SRS. If the air bag indicator is inoperative and a SRS fault exists, a chime will sound in a pattern of five sets of five beeps. If this occurs, the air bag indicator and any SRS fault discovered must be diagnosed and repaired.

Clear all continuous DTCs from the restraints control module using a scan tool.

INSPECTION AND REPAIR AFTER A SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPLOYMENT

WARNING: The restraint system diagnostic tool is for restraint system service only. Remove from vehicle prior to road use. Failure to remove could result in injury and possible violation of vehicle safety standards.

- NOTE:** After diagnosing or repairing an SRS, the restraint system diagnostic tools must be removed before operating the vehicle over the road .
- NOTE:** After diagnosing or repairing a seat system, the restraint system diagnostic tools must be removed before operating the vehicle over the road .
- NOTE:** Deployable devices (such as air bag modules, pretensioners) may deploy alone or in various combinations depending on the impact event.
- NOTE:** Always refer to the appropriate article prior to carrying out vehicle repairs affecting the supplemental restraint system (SRS) and safety belt system.
- NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

1. When any deployable device or combination of devices are deployed and/or the

restraints control module (RCM) has the diagnostic trouble code (DTC) B1231 (Crash Data Memory Full) in memory, the repair of the vehicle's SRS is to include the removal of all deployed devices and the installation of new deployable devices, the removal and installation of new impact sensors, and the removal and installation of a new RCM.

2. When any damage to the impact sensor mounting points or mounting hardware has occurred, repair or install new mounting points and mounting hardware as needed.
3. When the driver air bag module has deployed, a new clockspring must be installed.
4. Inspect the entire vehicle for damage, including the following components:
 - Steering column
 - Instrument panel knee bolsters and mounting points
 - Instrument panel braces and brackets
 - Instrument panel and mounting points
 - Seats and seat mounting points
 - Safety belts, safety belt buckles and safety belt retractors. For additional information, Refer to **SAFETY BELT SYSTEM** .
 - SRS wiring, wiring harnesses and connectors
5. After carrying out the review and inspection of the entire vehicle for damage, repair or install new components as needed.

PYROTECHNIC DEVICE DISPOSAL

Disposal of Deployable Devices and Pyrotechnic Devices That Are Undeployed/Inoperative

NOTE: **All inoperative air bag modules and safety belt pretensioners have been placed on the Mandatory Return List. All discolored or damaged air bag modules must be treated the same as any inoperative live air bag being returned.**

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Remove the undeployed/inoperative device. For additional information, refer to the appropriate procedure or **SAFETY BELT SYSTEM** .

NOTE: **When installing a new air bag module, a prepaid return postcard is provided with the replacement air bag module. The serial number for the new part and the vehicle identification number (VIN) must be recorded and sent to Ford Motor Company.**

3. If installing a new air bag module record the necessary information and return the inoperative air bag module to Ford Motor Company.

Disposal of Deployable Devices and Pyrotechnic Devices That Are Deployed

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Remove the deployed device. For additional information, refer to the appropriate procedure or **SAFETY BELT SYSTEM**.

NOTE: If a dual stage driver or passenger air bag module has deployed due to a crash event, the air bag module requires manual deployment to make sure both stages have deployed before scrapping the vehicle or disposing of the air bag module. To determine if a vehicle is equipped with dual stage driver or passenger air bag modules, refer to the **DESCRIPTION AND OPERATION**.

3. Dispose of the deployed device in the same manner as any other part to be scrapped.

Disposal of Deployable Devices and Pyrotechnic Devices That Require Manual Deployment

1. Safety and environmental concerns require consideration and treatment of restraints system deployable and pyrotechnic devices when disposing of vehicles, deployable devices or pyrotechnic devices. Deploying deployable and pyrotechnic devices before scrapping a vehicle or the device eliminates the potential for hazardous exposures or reactions during processing. If special handling procedures are followed, deployable and pyrotechnic devices can be deployed safely and recycled with the vehicle, shipped separately to a recycling facility or disposed of safely.

NOTE: To determine the deployable devices a vehicle is equipped with, refer to the **DESCRIPTION AND OPERATION**.

A vehicle equipped with any of the following deployable devices requires manual deployment of the devices before scrapping the vehicle or component. For additional information, refer to the appropriate portion of this procedure.

- Driver air bag module
- Passenger air bag module
- Seat side air bag modules
- Safety canopy modules
- Side air curtain modules

NOTE: To determine the pyrotechnic devices a vehicle is equipped with, refer to the **DESCRIPTION AND OPERATION**.

2. A vehicle equipped with any of the following pyrotechnic devices requires manual deployment of the devices before scrapping the vehicle or component. For additional information, refer to the appropriate portion of this procedure.
 - Safety belt buckle pretensioners
 - Safety belt retractor pretensioners
 - Adaptive load limiting retractors
 - Deployable steering column

NOTE: To determine if a vehicle is equipped with dual stage driver or passenger air bag modules, refer to the **DESCRIPTION AND OPERATION**.

3. If a dual stage driver or passenger air bag module has deployed due to a crash event, the air bag module requires manual deployment to make sure both stages have deployed before scrapping the vehicle or disposing of the air bag module. For additional information, refer to **DRIVER AIR BAG MODULE, PASSENGER AIR BAG MODULE AND SEAT SIDE AIR BAG MODULES - REMOTE DEPLOYMENT** in this procedure.

Driver Air Bag Module, Passenger Air Bag Module and Seat Side Air Bag Modules - Remote Deployment

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: Carry a live air bag module with the air bag and trim cover pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Do not set a live air bag module down with the trim cover face down. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Carry a live seat side air bag module with the air bag and tear seam pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Deployment is to be carried out outdoors with all personnel at least 9.14 meters (30 feet) away to make sure of personal safety. Due to the loud report which occurs when the air bag is deployed, hearing protection is required.

WARNING: After deployment, the air bag surface can contain deposits of sodium hydroxide, a product of the gas generant combustion that is irritating to the skin. Wash your hands with soap and water afterwards.

NOTE: For air bag modules with multiple squibs, all the squibs on the air bag module must be deployed.

NOTE: Some driver and passenger front air bags have 2 deployment stages. After a crash event it is possible that Stage 1 has deployed and the Stage 2 has not.

If a front air bag module has deployed, it is **mandatory** that the front air bag module be remotely deployed using the appropriate air bag disposal procedure.

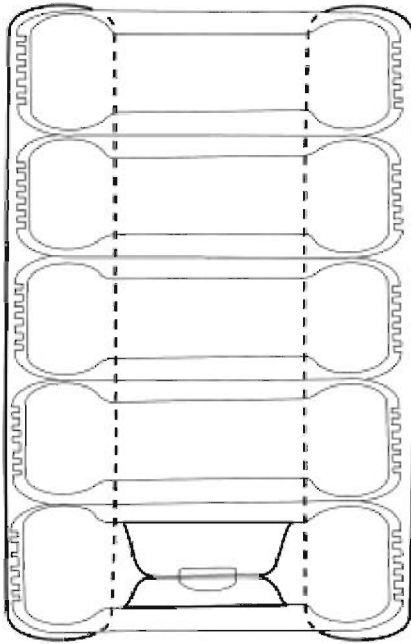
NOTE: A typical air bag disposal is shown that is similar for all vehicles.

All driver, passenger and seat side air bag modules

1. Make a container to house the air bag module for deployment.

NOTE: The tires must be of sufficient size to accommodate the air bag module.

- Obtain a tire and wheel assembly and an additional 4 tires (without wheels) of the same size.
- With the tire and wheel assembly on the bottom, stack the tires.
- Securely tie all of the tires together.



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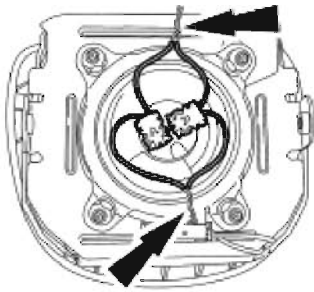
Fig. 208: Making Container To House Air Bag Module For Deployment
Courtesy of FORD MOTOR CO.

2. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
3. Remove the air bag module. For additional information, refer to the appropriate procedure.

NOTE: If the air bag module does not have a hard-wired pigtail, it will be necessary to cut the wires and connector(s) from the vehicle wire harness and reconnect to the air bag module.

4. Cut each of the air bag module wires near the electrical connector that connects to the vehicle wire harness.
5. Remove any sheathing (if present) and strip the insulation from the ends of the cut wires.

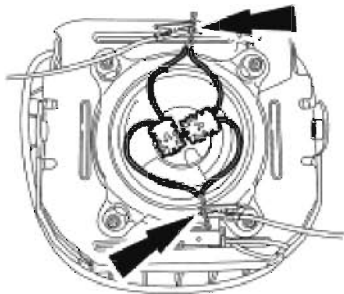
NOTE: Typical driver air bag module with 2 squibs shown, other air bag modules with multiple squibs similar.



A0043898

Fig. 209: Locating Air Bag Module Wire Squibs
Courtesy of FORD MOTOR CO.

6. For air bag modules with multiple squibs, twist together a wire from each squib then repeat for the remaining wires from each squib.
7. Make a jumper harness to deploy the air bag module.
 - Obtain 2 wires (20 gauge minimum) at least 9.14 meters (30 feet) long and strip both ends of each wire.
 - At one end of the jumper harness, connect the wires together.
8. Using the end of the jumper harness that the wires are not connected together, attach each wire of the jumper harness to each wire of the air bag module or to the twisted-together wires if multiple squibs. Use tape or other insulating material to make sure that the leads do not make contact with each other.

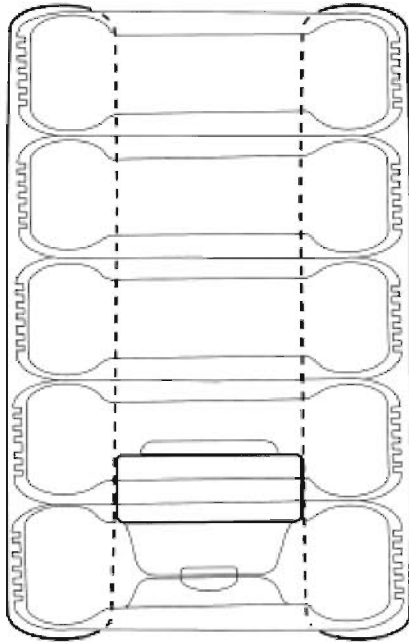


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Fig. 210: Connecting Jumper Wires To Squibs
Courtesy of FORD MOTOR CO.

Driver air bag modules

NOTE: Make sure to maintain the connections to the air bag module.



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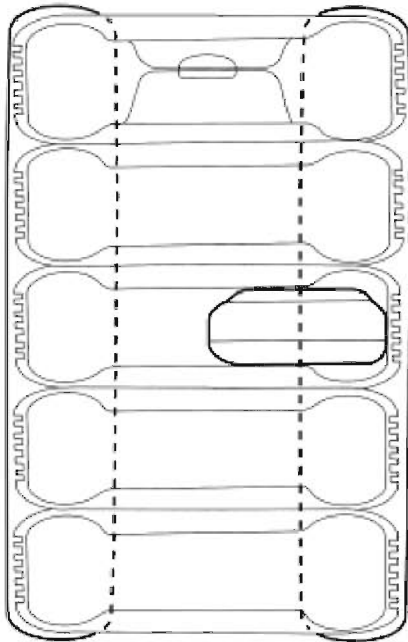
Fig. 211: View Of Air Bag Modules Inside Tires For Deployment
Courtesy of FORD MOTOR CO.

9. With the stack of tires upright and the wheel on the bottom, carefully place the driver air bag module, with the trim cover facing up, on the wheel.

Passenger and seat side air bag modules

NOTE: Make sure to maintain the connections to the air bag module.

10. Tip the stack of tires on its side and place the air bag module inside the center tire, making sure that there are 2 tires beneath the tire containing the air bag module and 2 tires (including the tire and wheel assembly) above the tire containing the air bag module.
11. Place the tire stack upright, with the wheel on top.



N0033194

Fig. 212: Identifying Passenger Or Seat Side Air Bag Modules Inside Center Tire
Courtesy of FORD MOTOR CO.

All driver, passenger and seat side air bag modules

12. Remain at least 9.14 meters (30 feet) away from the air bag module.
13. From the end of the jumper harness that is not connected to the air bag module, disconnect the 2 wires of the jumper harness from each other.
14. Deploy the air bag module by touching the ends of the 2 wires of the jumper harness to the terminals of a 12-volt battery.
15. To allow for cooling, wait at least 10 minutes before approaching the deployed air bag module.
16. Dispose of the deployed air bag module in the same manner as any other part to be scrapped.

Safety Belt Buckle Pretensioners, Safety Belt Retractor Pretensioners and Adaptive Load Limiting Safety Belt Retractors - Remote Deployment

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

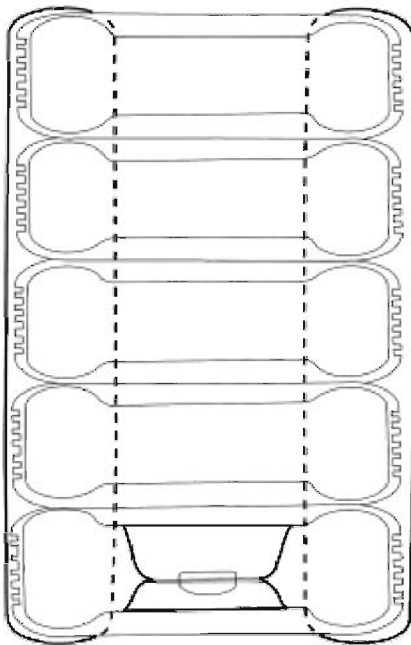
WARNING: Deployment is to be carried out outdoors with all personnel at least 9.14 meters (30 feet) away to make sure of personal safety. Due to the loud report which occurs when the pretensioner or adaptive load limiting retractor is deployed, hearing protection is required.

NOTE: A typical safety belt buckle and retractor disposal is shown that is similar for all vehicles.

1. Make a container to house the safety belt buckle or retractor for deployment.

NOTE: The tires must be of sufficient size to accommodate the safety belt buckle or retractor.

- Obtain a tire and wheel assembly and an additional 4 tires (without wheels) of the same size.
- With the tire and wheel assembly on the bottom, stack the tires.
- Securely tie all of the tires together.



N0033182

Fig. 213: Making Container To House Air Bag Module For Deployment
Courtesy of FORD MOTOR CO.

2. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
3. Remove the safety belt buckle or retractor. For additional information, refer to the

appropriate procedure in **SAFETY BELT SYSTEM** .

- When deploying a safety belt buckle pretensioner, install a nut and bolt of sufficient length and of the same diameter as was used to retain it to the seat.

NOTE: If the safety belt buckle or retractor does not have a hard-wired pigtail, it will be necessary to cut the wires and connector(s) from the vehicle wire harness and reconnect to the safety belt buckle or retractor.

4. Cut each of the safety belt buckle or retractor wires near the electrical connector that connects to the vehicle wire harness.
5. Remove any sheathing (if present) and strip the insulation from the ends of the cut wires.
6. Make a jumper harness to deploy the safety belt buckle or retractor.
 - Obtain 2 wires (20 gauge minimum) at least 9.14 meters (30 feet) long and strip both ends of each wire.
 - At one end of the jumper harness, connect the wires together.

NOTE: Typical safety belt retractor pretensioner shown, other safety belt buckle pretensioners and load limiting retractors are similar.

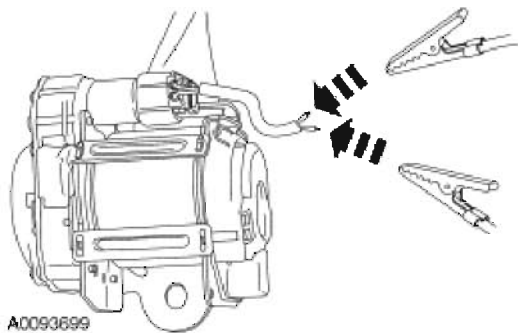


Fig. 214: Attaching Jumper Wires To Safety Belt Retractor Pretensioner
Courtesy of FORD MOTOR CO.

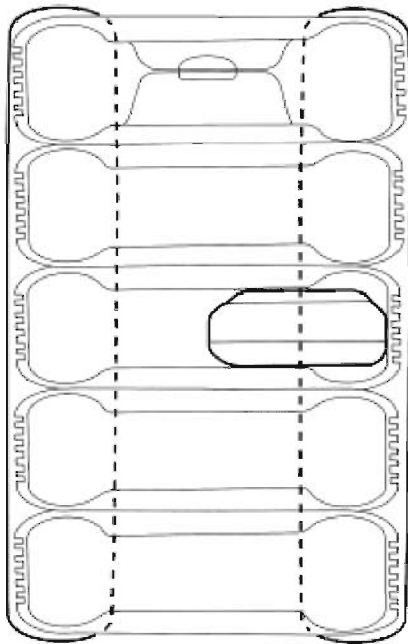
7. Using the end of the jumper harness that the wires are not connected together, attach each wire of the jumper harness to each wire of the safety belt buckle or retractor. Use tape or other insulating material to make sure that the leads do not make contact with each other.

NOTE: Make sure to maintain the connections to the safety belt buckle or retractor.

8. Tip the stack of tires on its side and place the safety belt buckle or retractor inside the

center tire, making sure that there are 2 tires beneath the tire containing the safety belt buckle or retractor and 2 tires (including the tire and wheel assembly) above the tire containing the safety belt buckle or retractor.

9. Place the tire stack upright, with the wheel on top.



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Fig. 215: Identifying Passenger Or Seat Side Air Bag Modules Inside Center Tire
Courtesy of FORD MOTOR CO.

10. Remain at least 9.14 meters (30 feet) away from the safety belt buckle or retractor.
11. From the end of the jumper harness that is not connected to the safety belt buckle or retractor, disconnect the 2 wires of the jumper harness from each other.
12. Deploy the safety belt buckle or retractor by touching the ends of the 2 wires of the jumper harness to the terminals of a 12-volt battery.
13. To allow for cooling, wait at least 10 minutes before approaching the deployed safety belt buckle or retractor.
14. Dispose of the deployed safety belt buckle or retractor in the same manner as any other part to be scrapped.

Safety Belt Buckle Pretensioners, Safety Belt Retractor Pretensioners and Load Limiting Safety Belt Retractors - In-Vehicle Deployment

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never

probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

WARNING: Deployment is to be carried out outdoors with all personnel at least 9.14 meters (30 feet) away to make sure of personal safety. Due to the loud report which occurs when the pretensioner or adaptive load limiting retractor is deployed, hearing protection is required.

NOTE: A typical safety belt buckle and retractor disposal is shown that is similar for all vehicles.

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Access the safety belt buckle or retractor electrical connectors. For additional information, Refer to **SAFETY BELT SYSTEM**.
3. Cut each of the safety belt buckle or retractor wires, leaving at least 4 inches to work with.
4. Remove any sheathing (if present) and strip the insulation from the ends of the cut wires.
5. Make a jumper harness to deploy the safety belt buckle or retractor.
 - Obtain 2 wires (20 gauge minimum) at least 9.14 meters (30 feet) long and strip both ends of each wire.
 - At one end of the jumper harness, connect the wires together.

NOTE: Typical safety belt retractor pretensioner shown, other safety belt buckle pretensioners and load limiting retractors are similar.

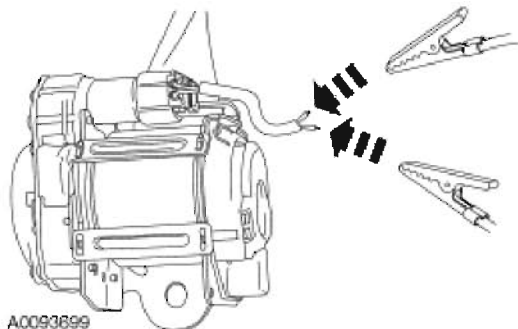


Fig. 216: Attaching Jumper Wires To Safety Belt Retractor Pretensioner
Courtesy of FORD MOTOR CO.

6. Using the end of the jumper harness that the wires are not connected together, attach each wire of the jumper harness to each wire of the safety belt buckle or retractor. Use tape or other insulating material to make sure that the leads do not make contact with each other.
7. Remain at least 9.14 meters (30 feet) away from the safety belt buckle or retractor.
8. From the end of the jumper harness that is not connected to the safety belt buckle or retractor, disconnect the 2 wires of the jumper harness from each other.
9. Deploy the safety belt buckle or retractor by touching the ends of the 2 wires of the jumper harness to the terminals of a 12-volt battery.
10. To allow for cooling, wait at least 10 minutes before approaching the deployed safety belt buckle or retractor.
11. Dispose of the deployed safety belt buckle or retractor in the same manner as any other part to be scrapped.

Safety Canopy Modules and Side Air Curtain Modules - In-Vehicle Deployment

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: After deployment, the air bag surface can contain deposits of sodium hydroxide, a product of the gas generant combustion that is irritating to the skin. Wash your hands with soap and water afterwards.

WARNING: Deployment is to be carried out outdoors with all personnel at least 9.14 meters (30 feet) away to make sure of personal safety. Due to the loud report which occurs when the safety canopy or side air curtain is deployed, hearing protection is required.

NOTE: The safety canopy module deployment for a scrapped vehicle will occur in its installed position in the vehicle.

NOTE: A typical safety canopy module disposal is shown that is similar for all vehicles.

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Access the safety canopy/side air curtain module electrical connectors. For additional information, refer to the appropriate procedure.

3. Cut each of the safety canopy/side air curtain module wires leaving at least 4 inches to work with.
4. Remove any sheathing (if present) and strip the insulation from the ends of the cut wires.

NOTE: Typical safety canopy/side air curtain module with 2 squibs shown, other safety canopy/side air curtain modules with 2 squibs are similar.

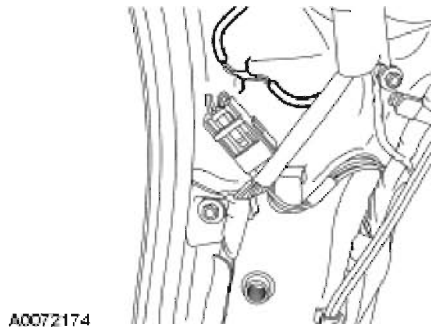


Fig. 217: Identifying Safety Canopy/Side Air Curtain Module Wire Squibs
Courtesy of FORD MOTOR CO.

5. For safety canopy/side air curtain modules with multiple squibs, twist together a wire from each squib then repeat for the remaining wires from each squib.
6. Make a jumper harness to deploy the safety canopy/side air curtain module.
 - Obtain 2 wires (20 gauge minimum) at least 9.14 meters (30 feet) long and strip both ends of each wire.
 - At one end of the jumper harness, connect the wires together.
7. Using the end of the jumper harness that the wires are not connected together, attach each wire of the jumper harness to each wire of the safety canopy/side air curtain module or to the twisted-together wires if multiple squibs. Use tape or other insulating material to make sure that the leads do not make contact with each other.



Fig. 218: Attaching Wire Of Jumper Harness To Wire Of Safety Canopy/Side Air Curtain Module

Courtesy of FORD MOTOR CO.

8. From the end of the jumper harness that is not connected to the safety canopy/side air curtain module, disconnect the 2 wires of the jumper harness from each other.
9. Deploy the safety canopy/side air curtain module by touching the ends of the 2 wires of the jumper harness to the terminals of a 12-volt battery.
10. To allow for cooling, wait at least 10 minutes before approaching the deployed safety canopy/side air curtain module.
11. Dispose of the deployed safety canopy/side air curtain module in the same manner as any other part to be scrapped.

Deployable Steering Column - In-Vehicle Deployment

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Deployment is to be carried out outdoors with all personnel at least 9.14 meters (30 feet) away to make sure of personal safety. Due to the loud report which occurs when the deployable steering column is deployed, hearing protection is required.

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

NOTE: It may be necessary to lower or remove the deployable steering column from the instrument panel to access the deployable steering column electrical connector.

2. Access the deployable steering column electrical connector.

NOTE: If the deployable steering column does not have a hard-wired pigtail, it will be necessary to cut the wires and connector(s) from the vehicle wire harness and reconnect to the deployable steering column.

3. Cut each of the deployable steering column wires, leaving at least 4 inches to work with.
4. Remove any sheathing (if present) and strip the insulation from the ends of the cut wires.
5. Make a jumper harness to deploy the deployable steering column

- Obtain 2 wires (20 gauge minimum) at least 9.14 meters (30 feet) long and strip both ends of each wire.
 - At one end of the jumper harness, connect the wires together.
6. Using the end of the jumper harness that the wires are not connected together, attach each wire of the jumper harness to each wire of the deployable steering column. Use tape or other insulating material to make sure that the leads do not make contact with each other.

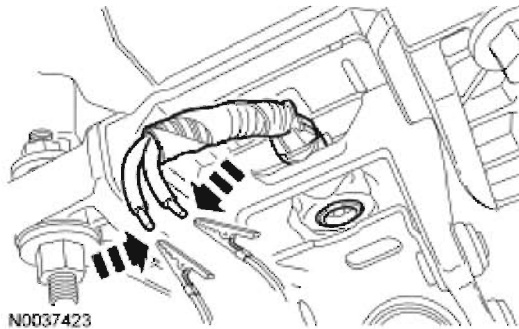


Fig. 219: Attaching Each Wire Of Jumper Harness To Each Wire Of Deployable Steering Column

Courtesy of FORD MOTOR CO.

7. Remain at least 9.14 meters (30 feet) away from the deployable steering column.
8. From the end of the jumper harness that is not connected to the deployable steering column, disconnect the 2 wires of the jumper harness from each other.
9. Deploy the deployable steering column by touching the ends of the 2 wires of the jumper harness to the terminals of a 12-volt battery.
10. To allow for cooling, wait at least 10 minutes before approaching the deployed steering column.
11. Dispose of the deployed steering column in the same manner as any other part to be scrapped.

WELD NUT REPAIR - MISSING WELD NUT

CAUTION: Installing a J-nut in place of a weld nut is not a recommended repair.

NOTE: C-pillar repair shown, others similar.

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Remove the component from where the weld nut is to be repaired. Refer to the appropriate **REMOVAL AND INSTALLATION** procedure.

3. Drill three equally spaced $\frac{5}{64}$ in (1.75 mm) holes in close proximity to where the weld nut face will be plug-welded back to the sheet metal.

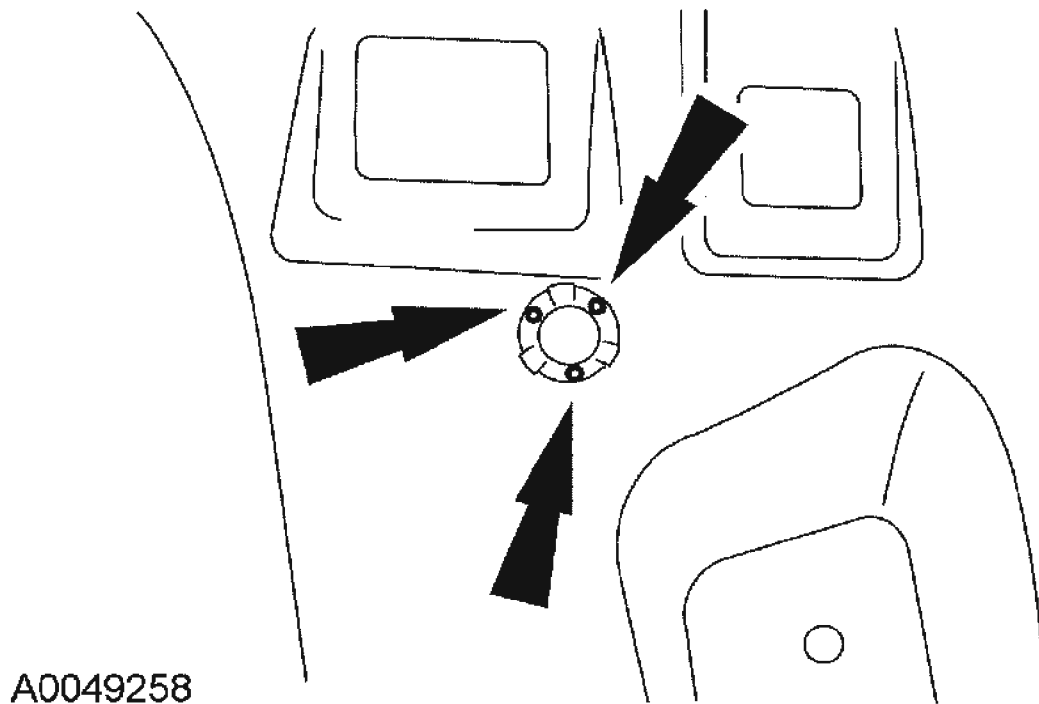


Fig. 220: Locating Drilled Holes
Courtesy of FORD MOTOR CO.

4. Obtain the appropriate 6 mm (0.24 in) or 8 mm (0.32 in) weld nut.
5. Obtain the appropriate 6 mm (0.24 in) by 1.0 or 8 mm (0.32 in) by 1.25 grounding screw (self-tapping).
6. Follow this set up for positioning the weld nut.
 1. Route a sufficient length of wire through the weld nut clearance hole and back out an adjacent access hole.
 2. Position a weld nut, shoulder end up, onto the wire.
 3. Position a flat washer onto the wire and secure it so it cannot be pulled off.

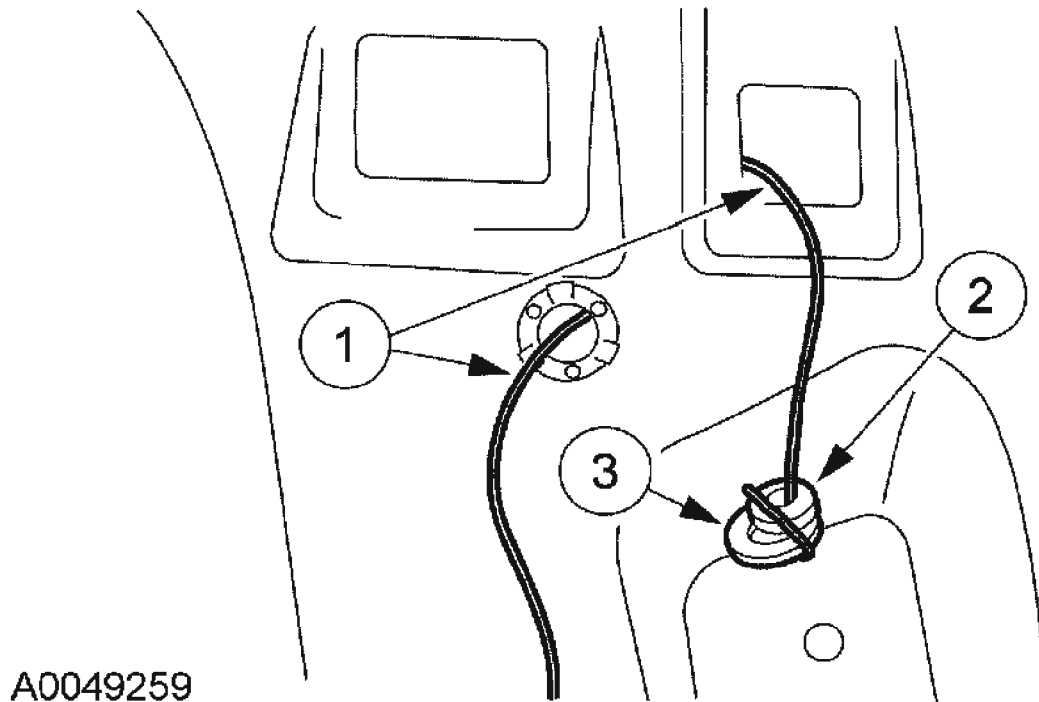


Fig. 221: Setting Up For Positioning Of Weld Nut
Courtesy of FORD MOTOR CO.

7. Plug-weld the weld nut into position.
 1. Pull the welding wire back through the clearance hole, allowing the weld nut and flat washer to follow the welding wire through and stop against the sheet metal.
 2. Make sure the weld nut shoulder is aligned through the clearance hole in the sheet metal.
 3. With the weld nut firmly held in position, plug-weld the weld nut at the three holes drilled previously.

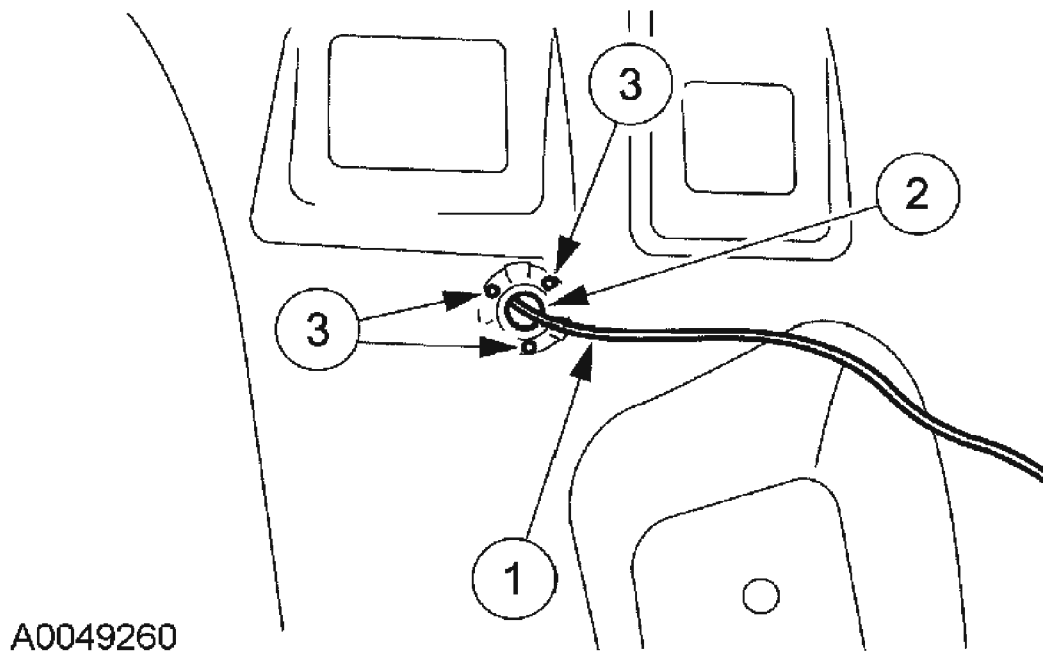


Fig. 222: Pulling Welding Wire Back Through Clearance Hole
Courtesy of FORD MOTOR CO.

8. Metal finish as required.
9. Verify the nut is securely in place.
10. Install the component with the previously obtained screw.
11. Tighten the attaching screws to specification. For additional information, refer to **SPECIFICATIONS**.

WELD NUT REPAIR - STRIPPED WELD NUT

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Remove the component from where the weld nut is to be repaired. Refer to the appropriate **REMOVAL AND INSTALLATION** procedure.
3. Inspect the weld nut and surrounding area for repair.
 - If there is not enough clearance for a larger bolt stud to go through or a larger bolt head to turn, then a threaded insert will have to be installed. Follow the instructions with the thread insert repair kit.
4. If a 6 mm weld nut is stripped, drill out the hole using a letter "H" or 0.26 in (6.5 mm) drill bit. Then tap, using an 8 mm by 1.25 bit.
 - Do not oversize a 6 mm weld nut by more than 8 mm.

5. If an 8 mm weld nut is stripped, drill the hole using a letter "R" or 0.3990 in (9.75 mm) drill bit. Then tap, using a 10 mm by 1.50 bit.
 - Do not oversize an 8 mm weld nut by more than 10 mm.
6. Obtain the appropriate oversized screw.
7. Install the attaching screw(s) to the component.
8. Tighten the attaching screws to specification. For additional information, refer to **SPECIFICATIONS**.

REMOVAL AND INSTALLATION

CLOCKSPRING

Removal

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

- NOTE:** The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.
- NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.
- NOTE:** Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Remove the steering wheel. For additional information, Refer to **STEERING COLUMN**.
3. Detach the instrument panel lower knee bolster from the instrument panel.
 1. Remove the retaining screws.
 2. Release the clip.

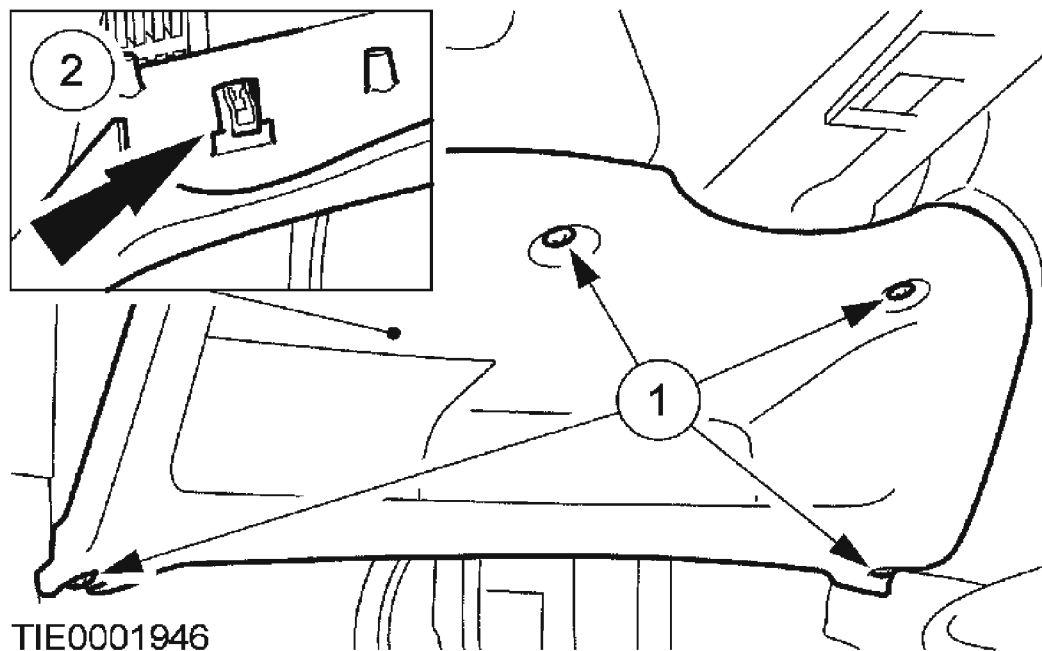


Fig. 223: Detaching Instrument Panel Lower Knee Bolster From Instrument Panel
Courtesy of FORD MOTOR CO.

4. Detach the steering column upper shroud from the steering column lower shroud.
 - Using a thin-bladed screwdriver, release the two clips (one on each side).

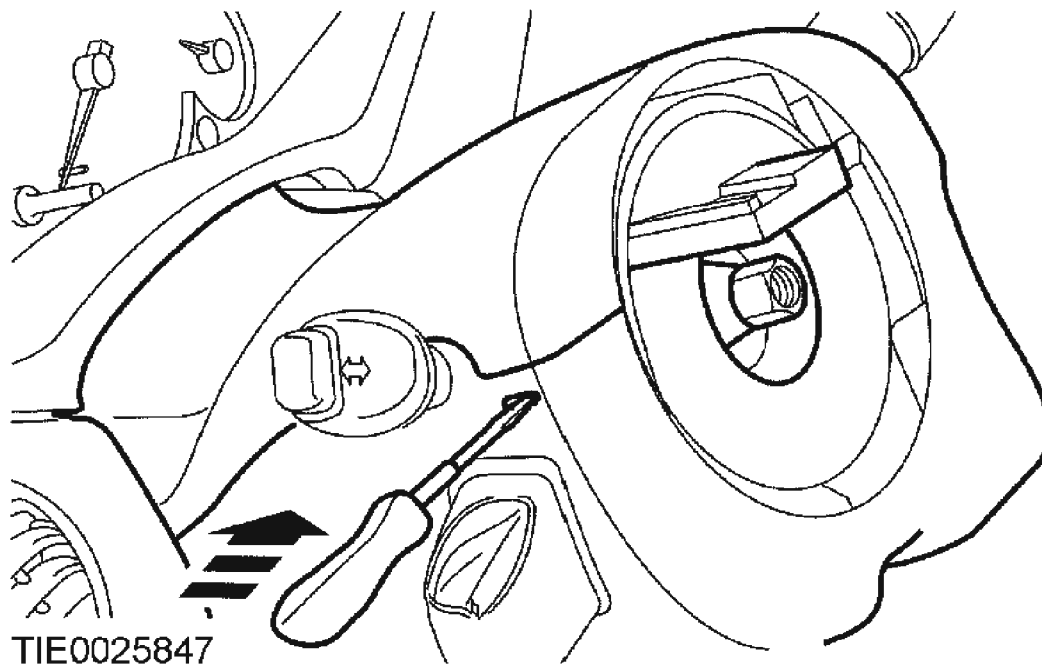


Fig. 224: Detaching Steering Column Upper Shroud From Steering Column Lower Shroud

Courtesy of FORD MOTOR CO.

5. Detach the audio control switch from the steering column lower shroud (if equipped).
 - Using a thin-bladed screwdriver, release the locking tab.

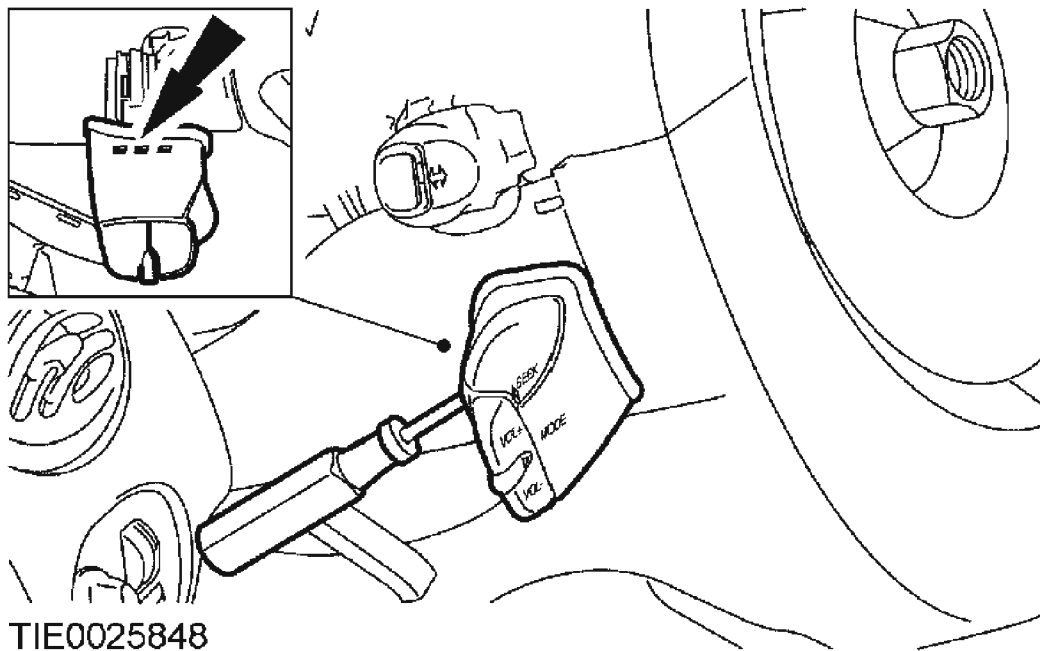


Fig. 225: Detaching Audio Control Switch From Steering Column Lower Shroud
Courtesy of FORD MOTOR CO.

6. Remove the audio control switches (if equipped).
 - Disconnect the electrical connector.

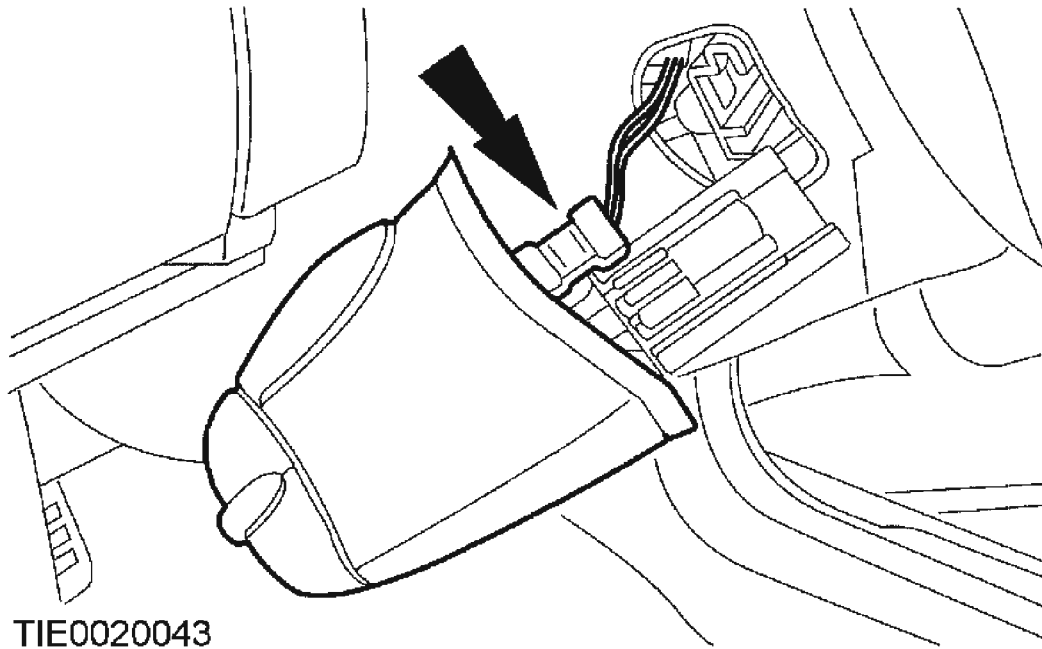


Fig. 226: Removing Audio Control Switch
Courtesy of FORD MOTOR CO.

7. Remove the steering column lower shroud.
 1. Release the steering column locking lever.
 2. Remove the retaining screws.

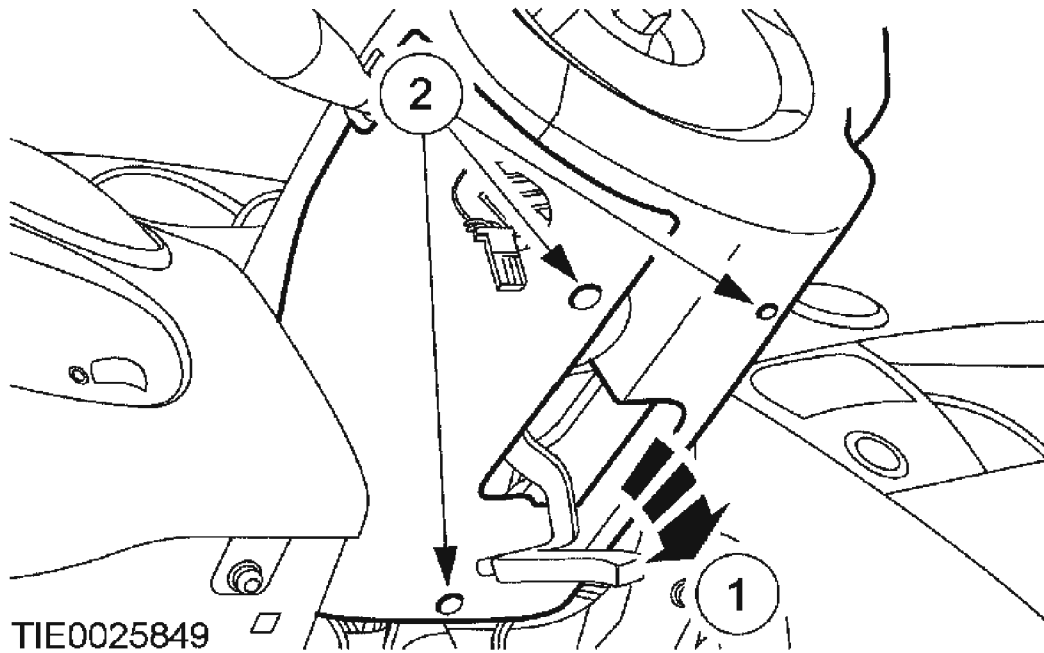
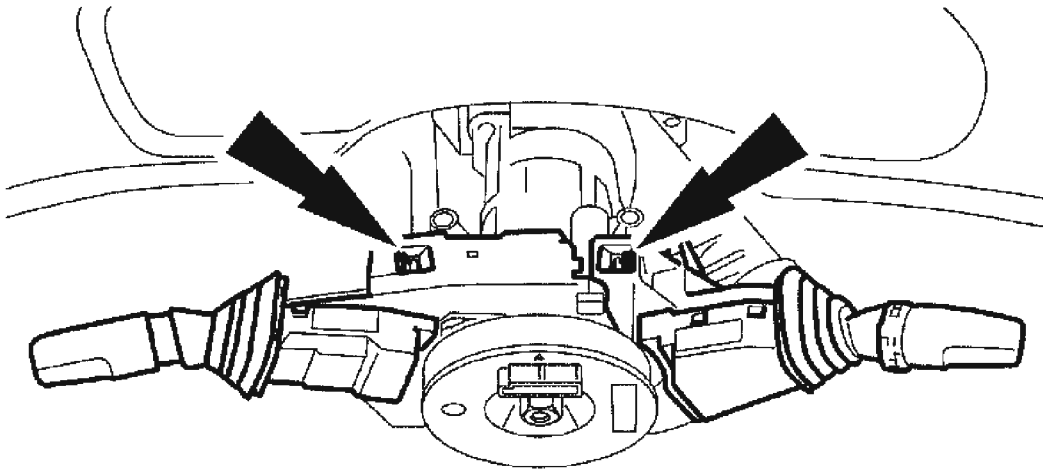


Fig. 227: Removing Steering Column Lower Shroud
Courtesy of FORD MOTOR CO.

8. If installing the same clockspring, apply two strips of masking tape across the clockspring rotor to the outer housing to prevent accidental rotation when the clockspring is removed.
9. Detach the multifunction switches from the clockspring and position them aside.
 - Depress the locking tabs and slide each switch upwards.



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Fig. 228: Detaching Multifunction Switches From Clockspring
Courtesy of FORD MOTOR CO.

10. Disconnect the clockspring electrical connector.
 - Using a thin-bladed screwdriver, release the locking tab.

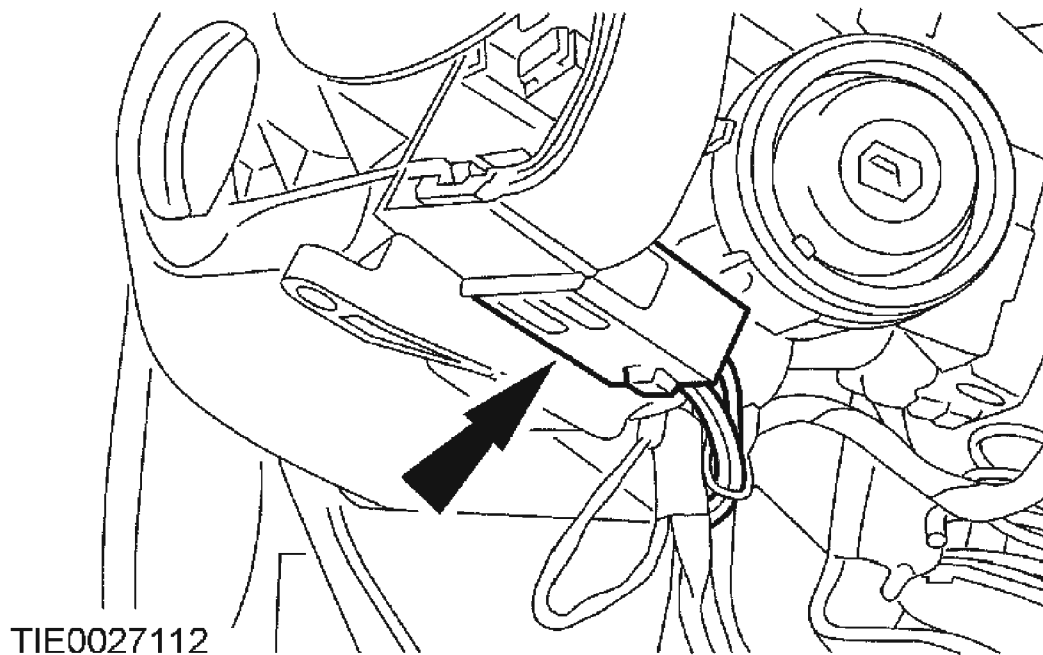


Fig. 229: Disconnecting Clockspring Electrical Connector
Courtesy of FORD MOTOR CO.

CAUTION: Note the position of the spacing collar within the center of the clockspring.

11. Remove the clockspring.
 - Release the locking tabs from the steering column.

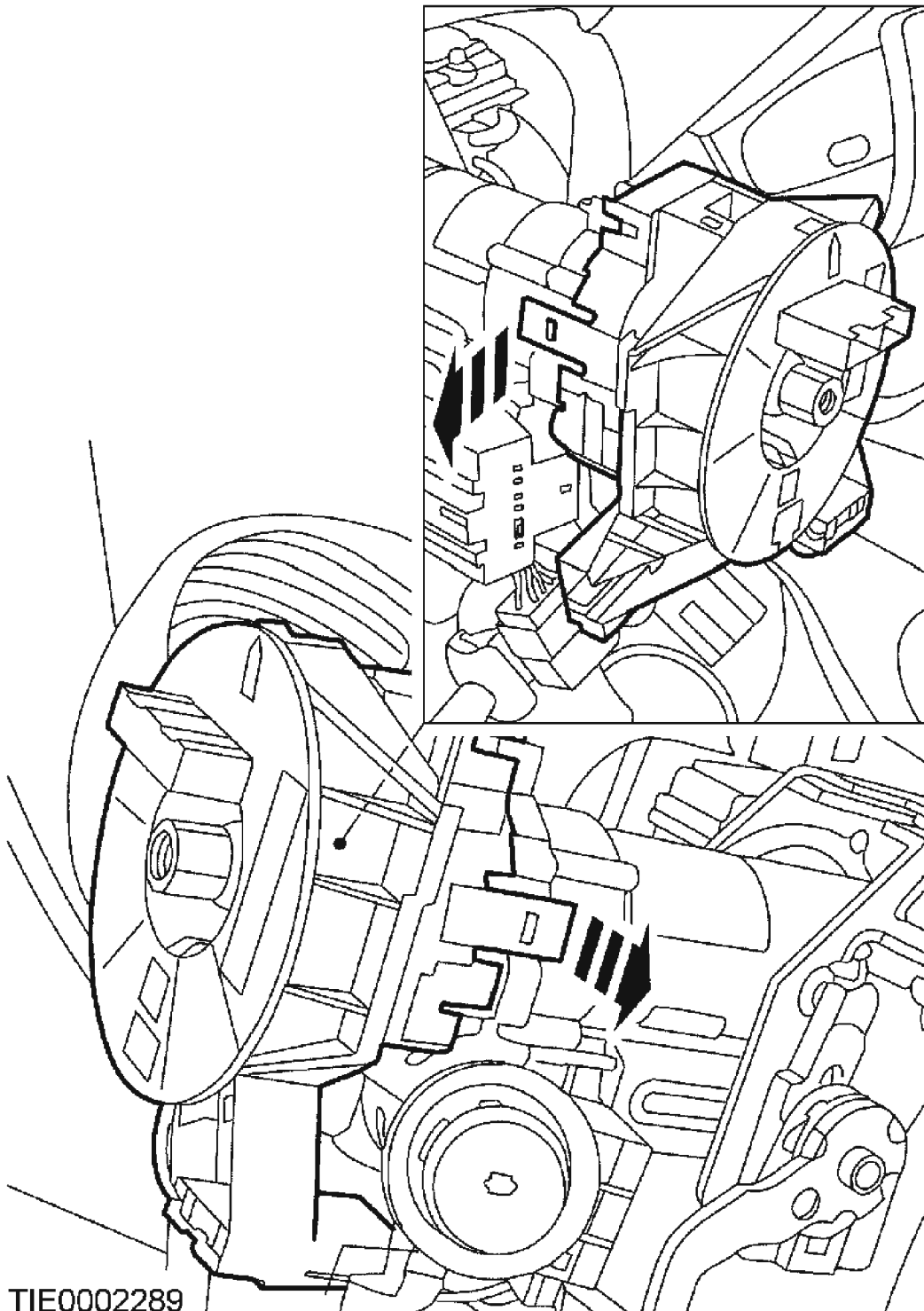


Fig. 230: Removing Clockspring
Courtesy of FORD MOTOR CO.

Vehicles needing clockspring recentering

WARNING: Incorrect centralization may result in premature component failure. If in doubt when centralizing the clockspring, repeat the centralizing procedure. Failure to follow this instruction may result in personal injury.

CAUTION: Make sure the road wheels are in the straight ahead position.

NOTE: If a clockspring has rotated out of center, carry out this step.

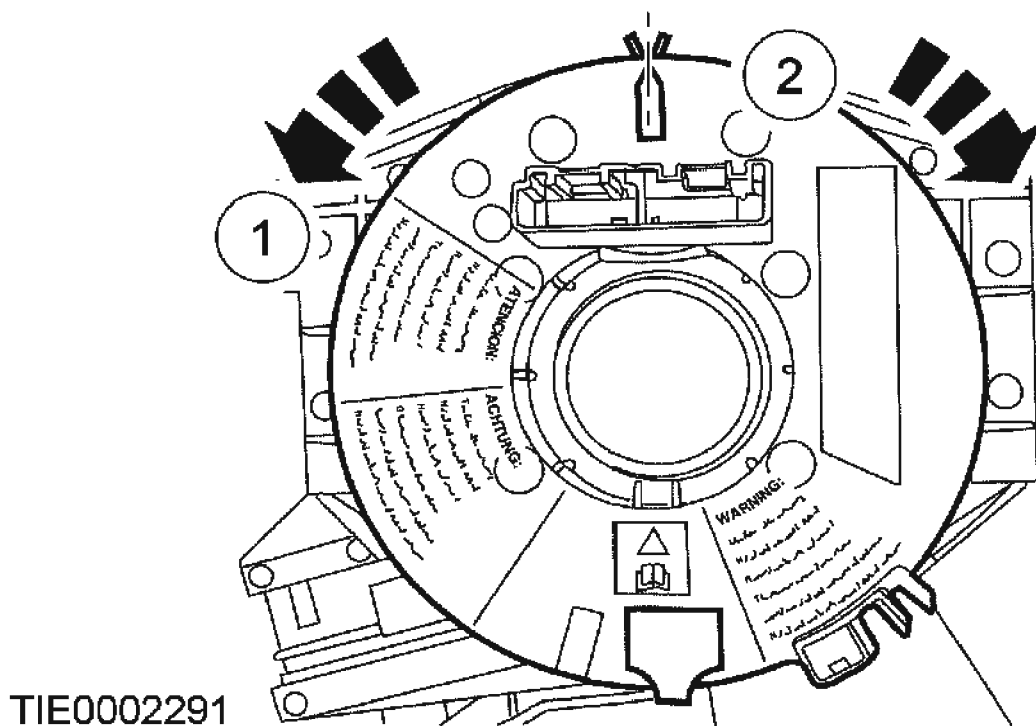


Fig. 231: Centralizing Clockspring
Courtesy of FORD MOTOR CO.

1. Centralize the clockspring.
 1. Turn the clockspring in a counterclockwise direction until resistance is felt.
 2. Turn the clockspring in a clockwise direction, until the arrow marked on the rotor of the clockspring aligns with the raised "V" section at the 12 o'clock position on the outer cover of the clockspring (approximately two and one half turns).

Vehicle repairs reusing the same clockspring

NOTE: When the tape is removed, do not allow the clockspring to turn.

2. Remove the tape applied during clockspring removal.

All vehicles

NOTE: Slight turning of the clockspring rotor is allowable for alignment purposes to the steering column.

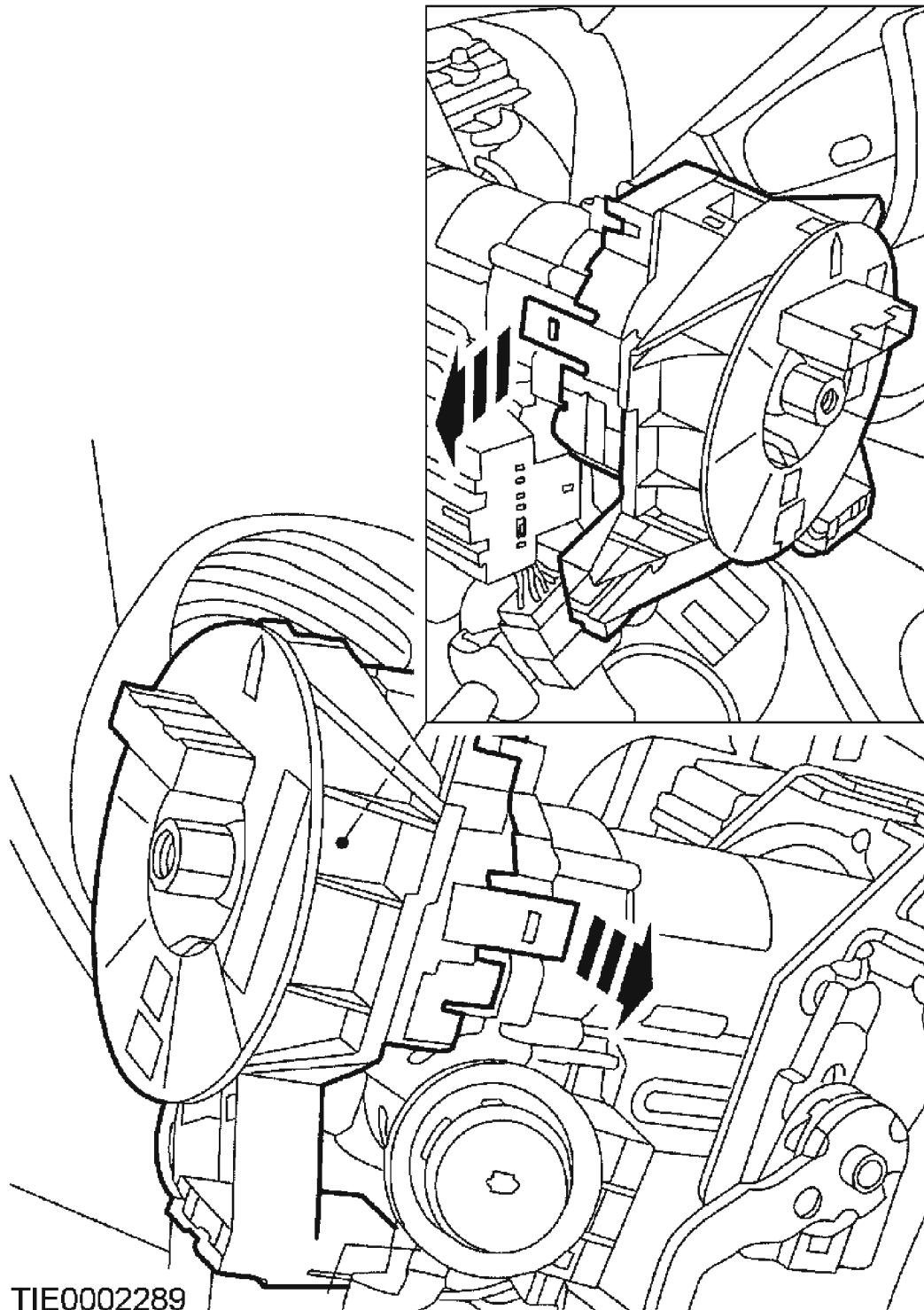


Fig. 232: Installing Clockspring
Courtesy of FORD MOTOR CO.

3. Install the clockspring.

- Make sure the retaining tabs lock into position on the steering column.

NOTE: An audible click will be heard when the locking tabs are fully engaged.

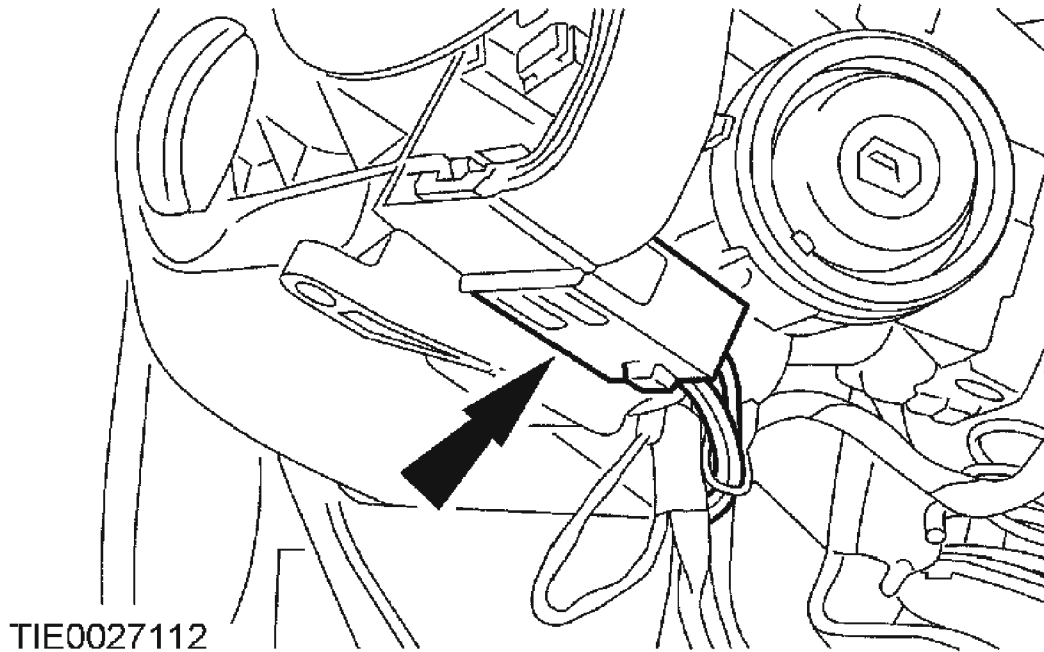
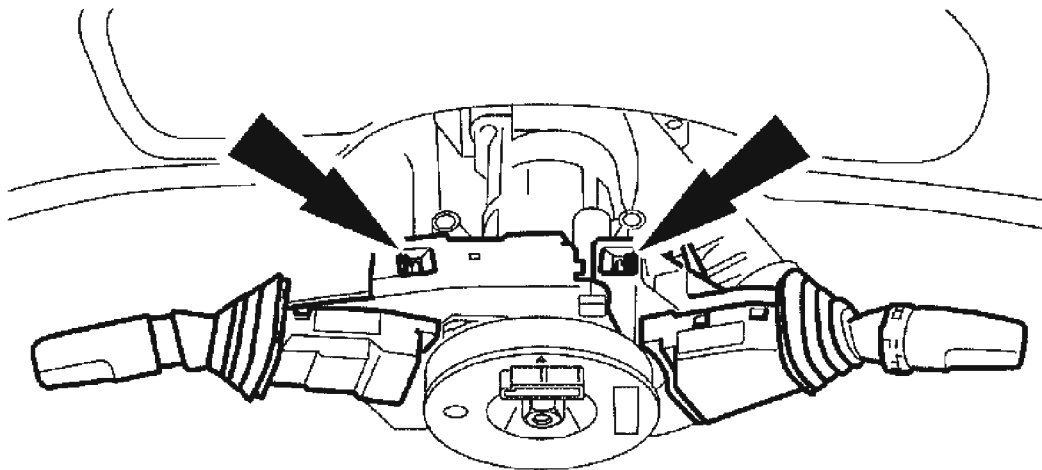


Fig. 233: Connecting Clockspring Electrical Connector
Courtesy of FORD MOTOR CO.

4. Connect the clockspring electrical connector.

NOTE: An audible click will be heard when the locking tabs are fully engaged.



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Fig. 234: Attaching Multifunction Switches To Clockspring
Courtesy of FORD MOTOR CO.

5. Attach the multifunction switches to the clockspring.
6. Install the steering column lower shroud.
 1. Install the screws.
 2. Lock the steering column locking lever.

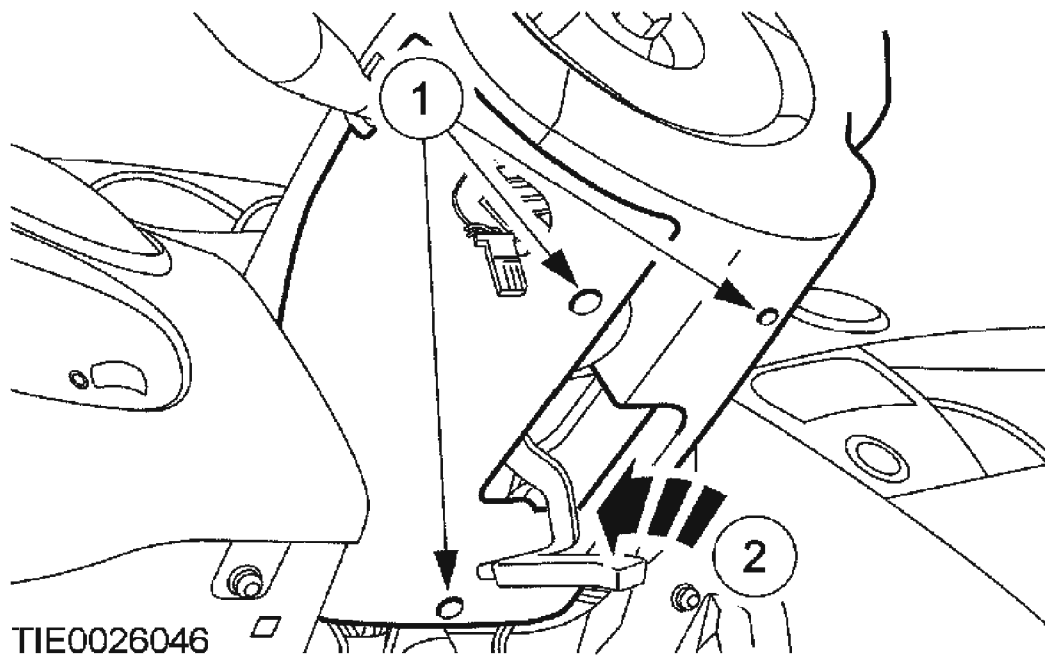


Fig. 235: Installing Steering Column Lower Shroud
Courtesy of FORD MOTOR CO.

NOTE: An audible click will be heard when the locking tabs are fully engaged.

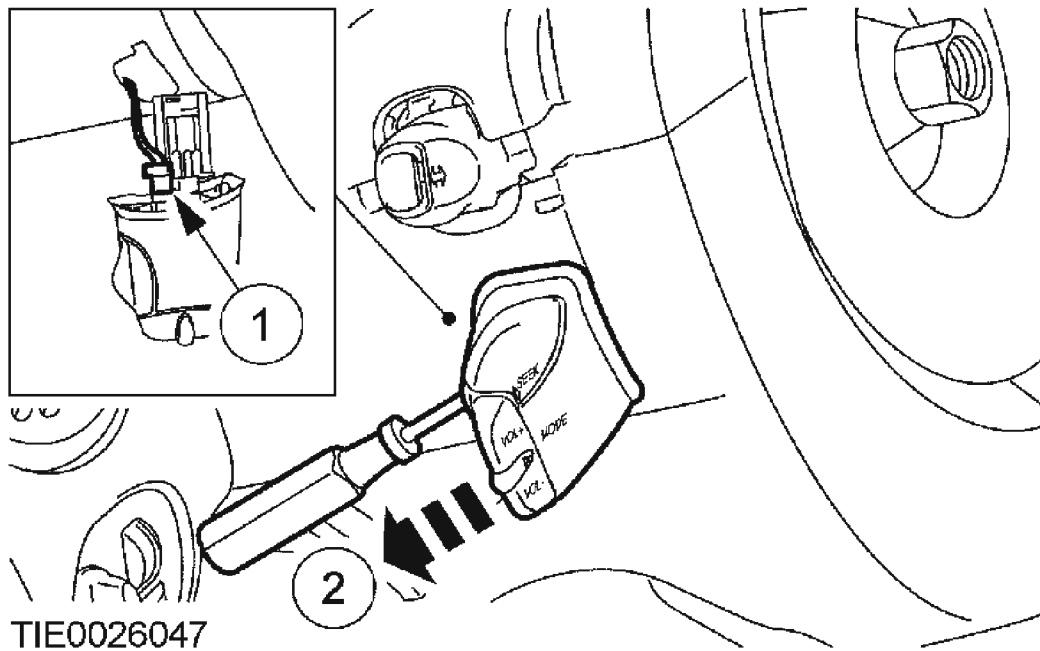


Fig. 236: Installing Audio Control Switch
Courtesy of FORD MOTOR CO.

7. Install the audio control switch (if equipped).
 1. Connect the audio control switch electrical connector.
 2. Install the audio control switch.
8. Install the steering column upper shroud.

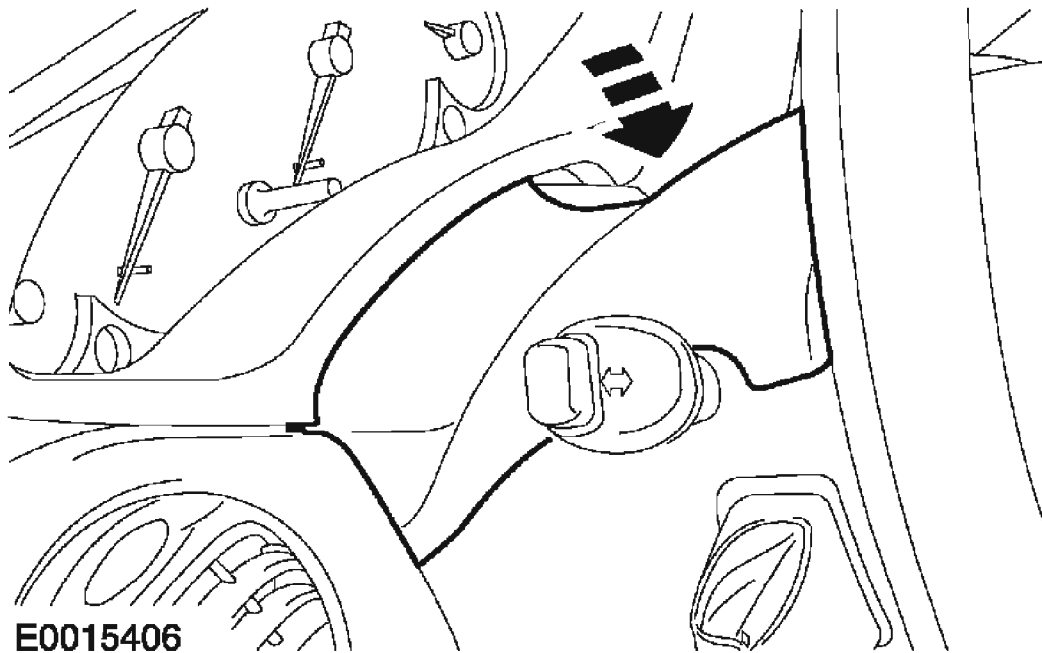


Fig. 237: Installing Steering Column Upper Shroud
Courtesy of FORD MOTOR CO.

9. Attach the instrument panel lower knee bolster to the instrument panel.
 1. Secure the clip.
 2. Install the screws.

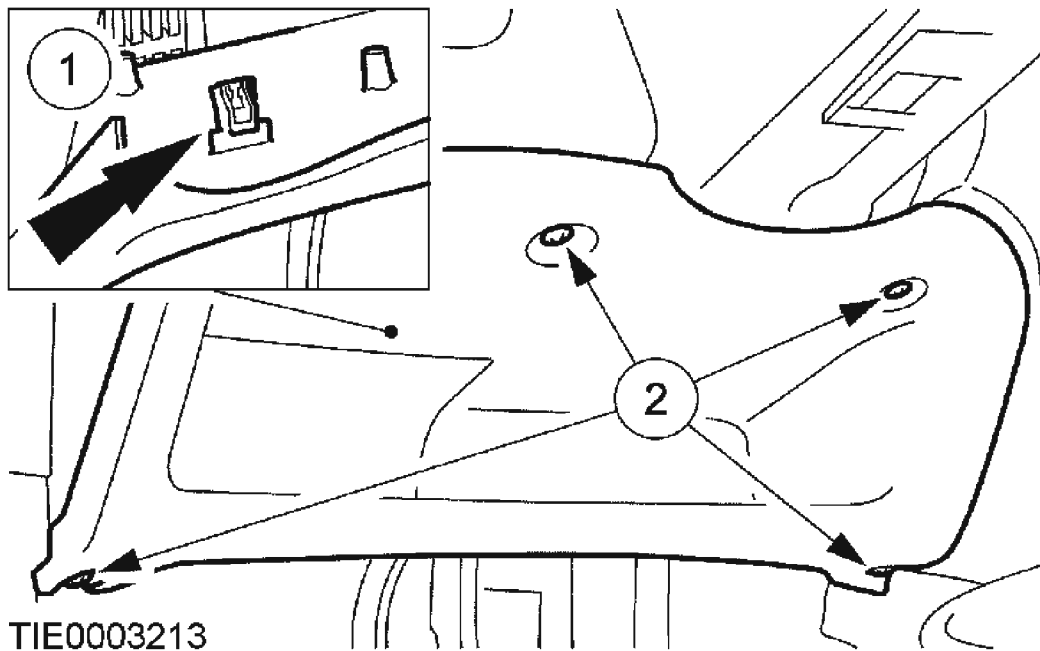


Fig. 238: Attaching Instrument Panel Lower Knee Bolster To Instrument Panel
Courtesy of FORD MOTOR CO.

CAUTION: Do not rotate the new clockspring between breaking the red sealing key and installing the steering wheel. If the vehicle is left unattended by the technician between breaking the red seal and installing the steering wheel, carry out the centralizing procedure.

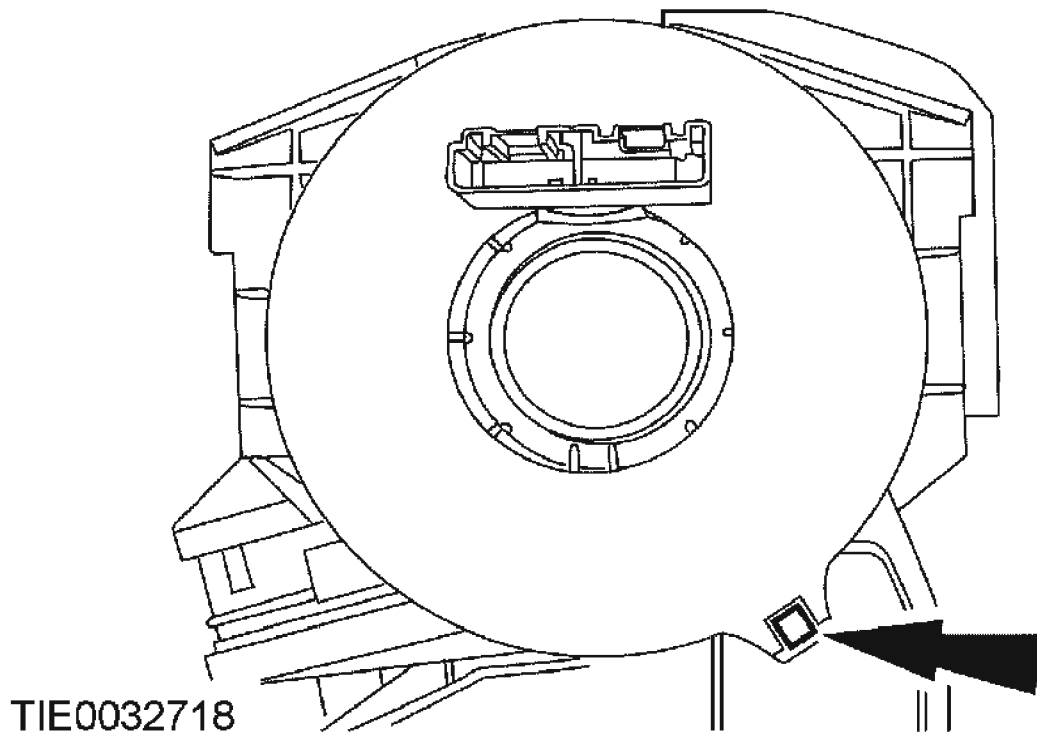


Fig. 239: Identifying Red Sealing Key
Courtesy of FORD MOTOR CO.

10. Break the red sealing key, if necessary.

CAUTION: Make sure the spacing collar is correctly located when installing the steering wheel. Do not install the steering wheel if the spacer collar is missing.

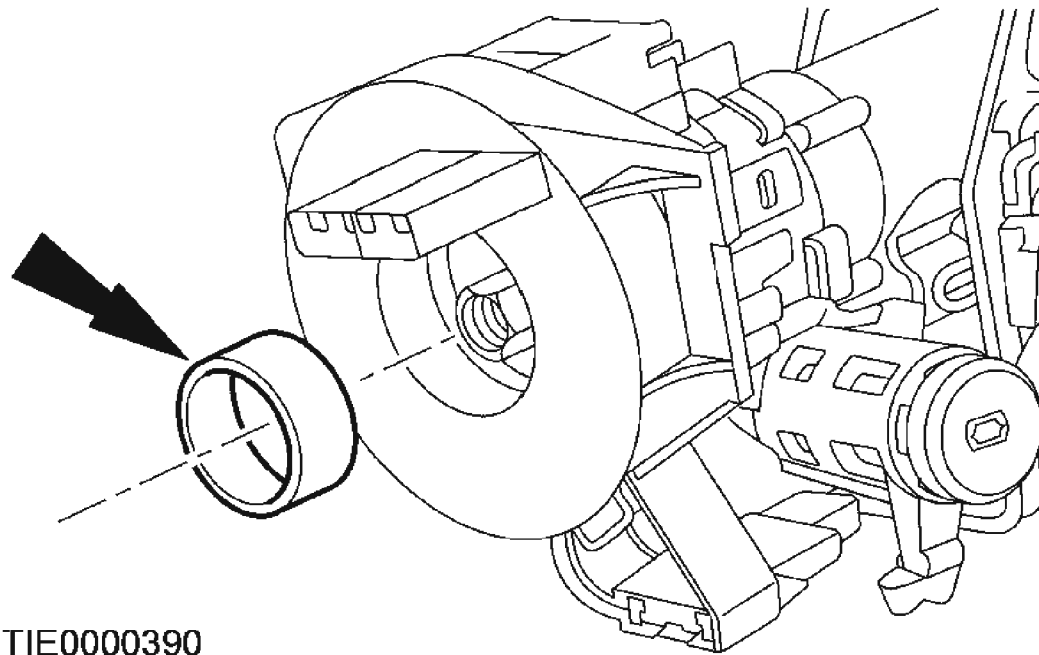


Fig. 240: Installing Spacing Collar
Courtesy of FORD MOTOR CO.

11. Install the spacing collar.

CAUTION: If the vehicle is left unattended by the technician between centralizing the clockspring and installing the steering wheel, the centralizing procedure must be repeated.

12. Install the steering wheel. For additional information, Refer to **STEERING COLUMN**.
13. Repower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

DRIVER AIR BAG MODULE

Removal and Installation

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Carry a live air bag module with the air bag and trim cover pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Do not set a live air bag module down with the trim cover face down. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: After deployment, the air bag surface can contain deposits of sodium hydroxide, a product of the gas generant combustion that is irritating to the skin. Wash your hands with soap and water afterwards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: Air bag modules with discolored or damaged trim covers must be replaced, not repainted.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

NOTE: The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

NOTE: Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.

1. Depower the system. For additional information, refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

NOTE: Turn the steering wheel to gain access to the air bag module bolts.

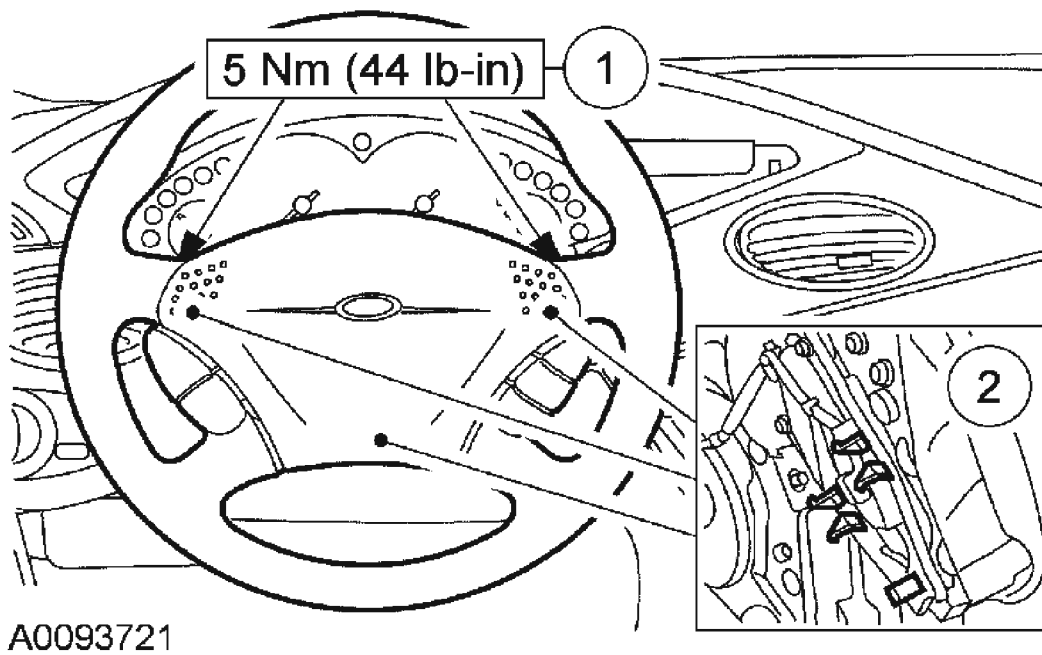
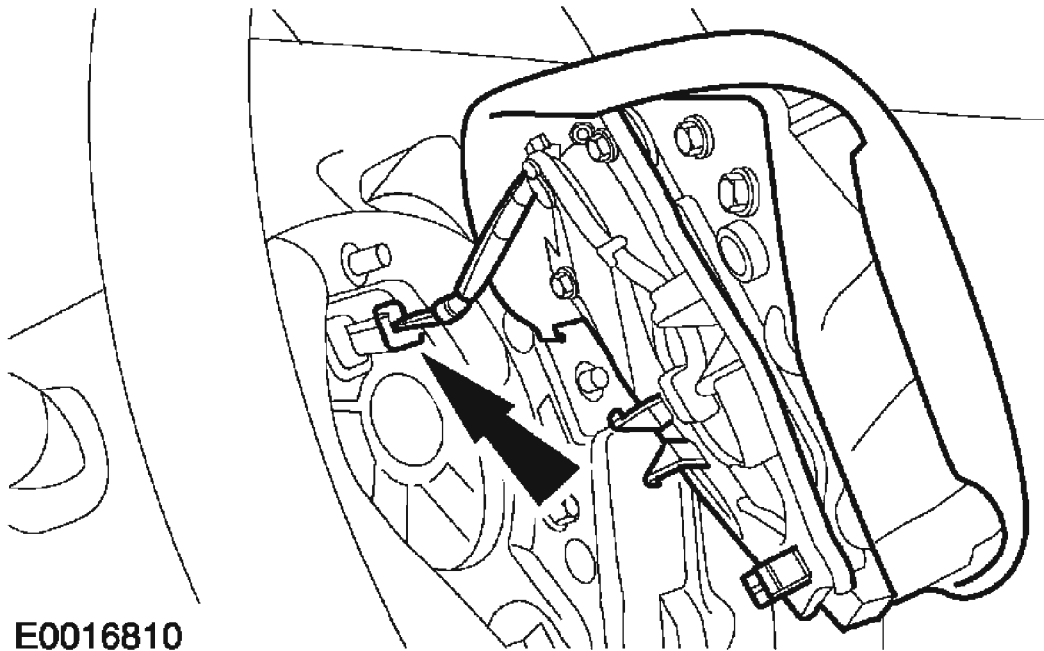


Fig. 241: Detaching Driver Air Bag Module From Steering Wheel
Courtesy of FORD MOTOR CO.

2. Detach the driver air bag module from the steering wheel.
 1. Remove the air bag module bolts.
 2. Detach the driver air bag module retaining clips.
3. Remove the driver air bag module.
 - Disconnect the driver air bag module electrical connector from the clockspring.



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Fig. 242: Removing Driver Air Bag Module
Courtesy of FORD MOTOR CO.

4. To install, reverse the removal procedure.
5. Repower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

FRONT IMPACT SEVERITY SENSOR

Removal and Installation

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Vehicle sensor orientation is critical for proper system operation. If a vehicle equipped with an air bag supplemental restraint system (SRS) is involved in a collision, inspect the sensor mounting bracket and wiring pigtail for deformation. Replace and properly position the sensor or any other damaged supplemental restraint system (SRS) components whether or not the air bag is deployed.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

- NOTE:** The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.
- NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.
- NOTE:** Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.
1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
 2. Remove the radiator right-hand support bracket retaining bolts and lower the right-hand side of the radiator.

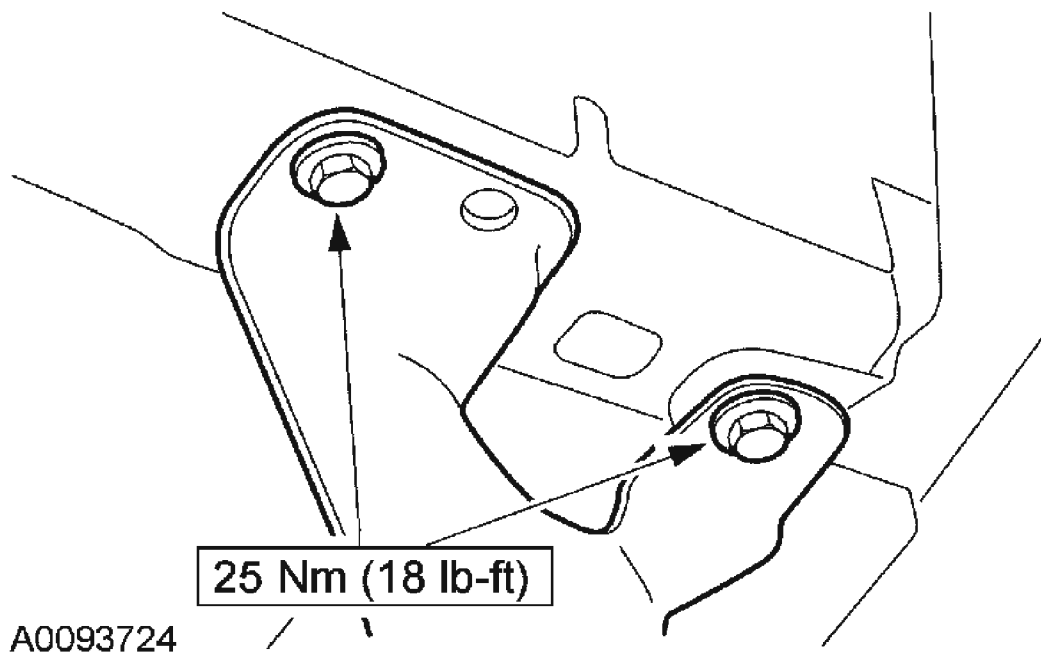


Fig. 243: Removing Radiator Right-Hand Support Bracket Retaining Bolts
Courtesy of FORD MOTOR CO.

3. Remove the radiator air deflector.

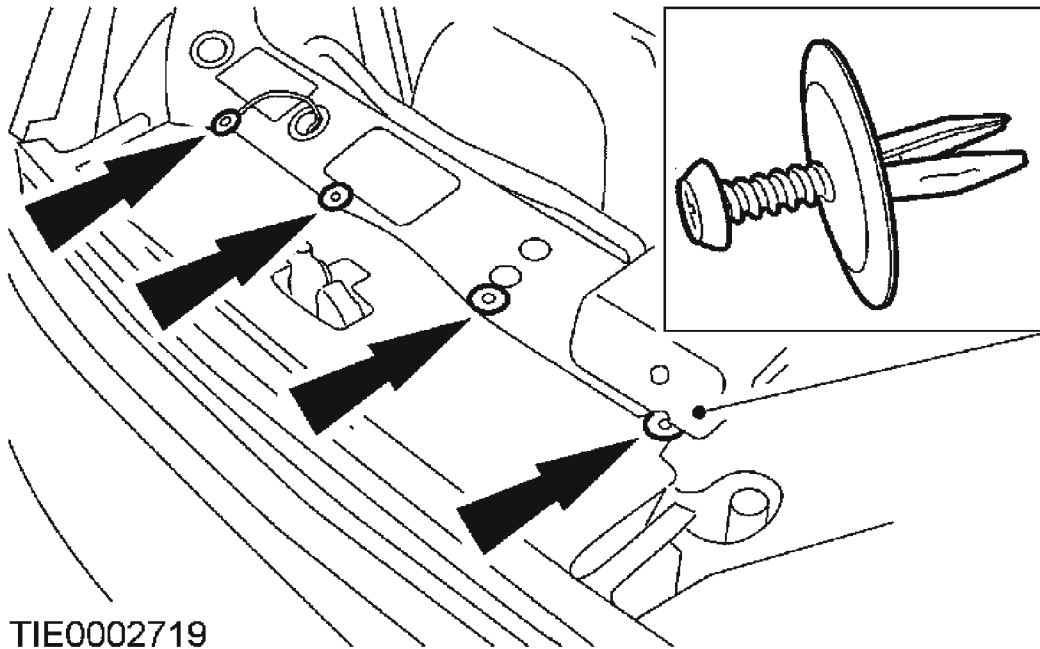


Fig. 244: Removing Radiator Air Deflector
Courtesy of FORD MOTOR CO.

4. Remove the front impact severity sensor bolts from the radiator grille opening panel.

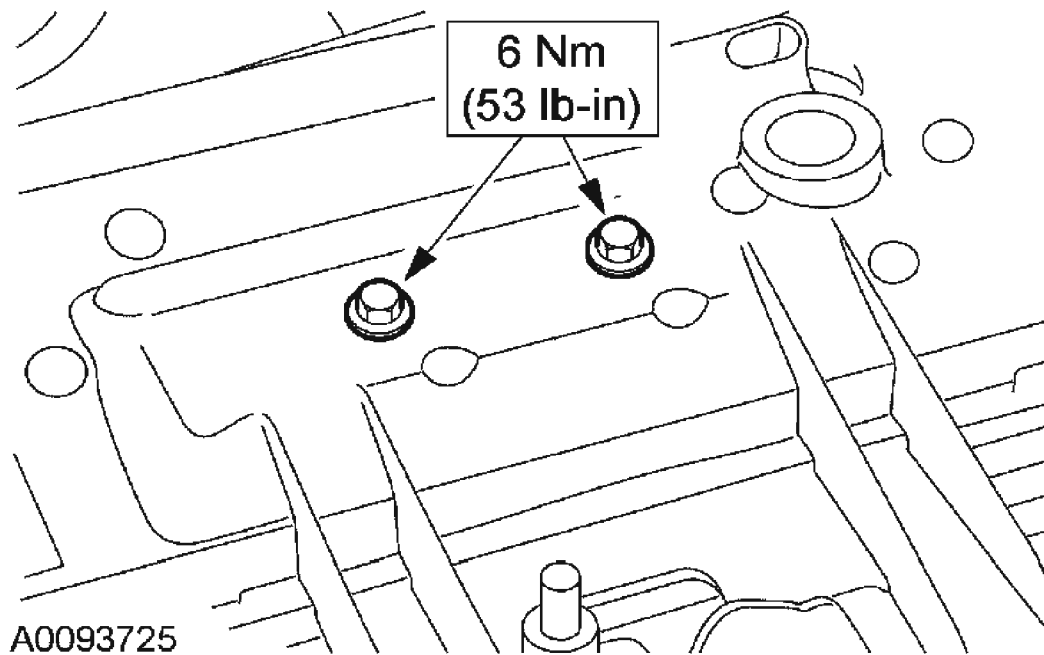


Fig. 245: Removing Front Impact Severity Sensor Bolts From Radiator Grille Opening Panel

Courtesy of FORD MOTOR CO.

5. Remove the front impact severity sensor.
 - Disconnect the front impact severity sensor electrical connector.

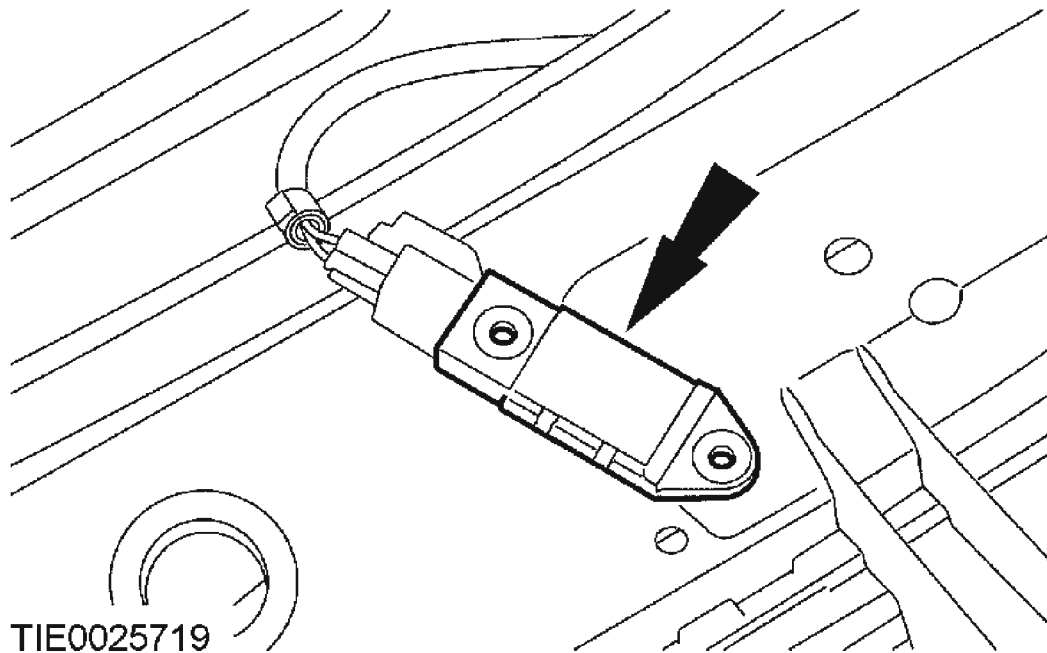


Fig. 246: Disconnecting Front Impact Severity Sensor Electrical Connector
Courtesy of FORD MOTOR CO.

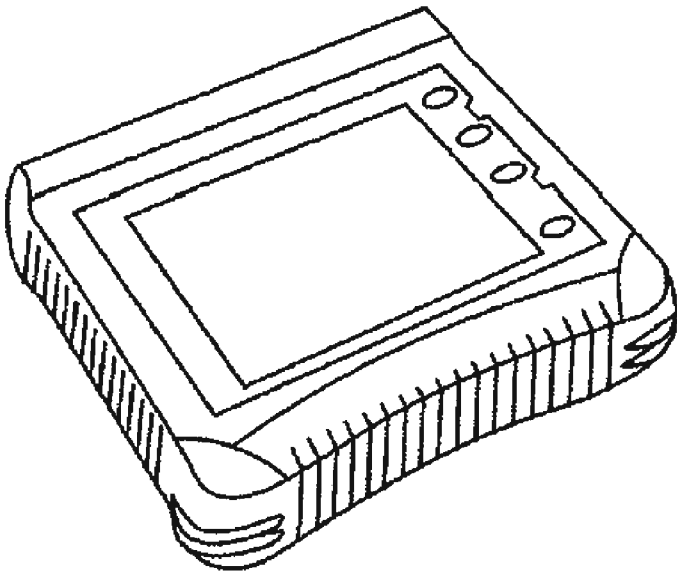
6. To install, reverse the removal procedure.
7. Repower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

OCCUPANT CLASSIFICATION SENSOR

Special Tool(s)

SPECIAL TOOLS DESCRIPTION

	<p>Worldwide Diagnostic System (WDS)</p> <p>Vehicle Communication Module (VCM) with appropriate adapters, or equivalent diagnostic tool</p>
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ST2332-A

Removal

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Do not separate components.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: The safety belt pretensioner is a pyrotechnic device. Always wear safety glasses when repairing an air bag equipped vehicle and when handling a safety belt buckle pretensioner or safety belt retractor pretensioner. Never probe a pretensioner electrical connector. Doing so could result in pretensioner or air bag deployment and could result in personal injury.

WARNING: The restraint system diagnostic tool is for restraint system service only. Remove from vehicle prior to road use. Failure to remove could result in injury and possible violation of vehicle safety standards.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

CAUTION: It is necessary to rezero the occupant classification sensor (OCS) system when a front passenger seat cushion is disassembled, a new trim cover installed, or an OCS service kit is installed. A scan tool is used to trigger the active command to carry out rezeroing of the OCS system.

NOTE: If a seat equipped with a supplemental restraint system (SRS) component is being serviced, the supplemental restraint system (SRS) must be depowered.

NOTE: The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.

NOTE: OCS system components (seat cushion pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) are calibrated to each other and are serviced as an assembly. The OCS system components are not to be installed separately. If a new OCS system, OCS system component or seat cushion pan, seat cushion foam pad are needed, a new OCS system service kit (wiring harness, seat cushion pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit) must be installed as an assembly.

NOTE: To identify between a production OCS system and a service OCS system (OCS service kit) inspect the electronic control unit (ECU) electrical connector. A production OCS system allows the disconnect of the ECU electrical connector. A service OCS system (OCS service kit) has the ECU electrical connector glued to the ECU, it cannot and should not be disconnected or altered.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

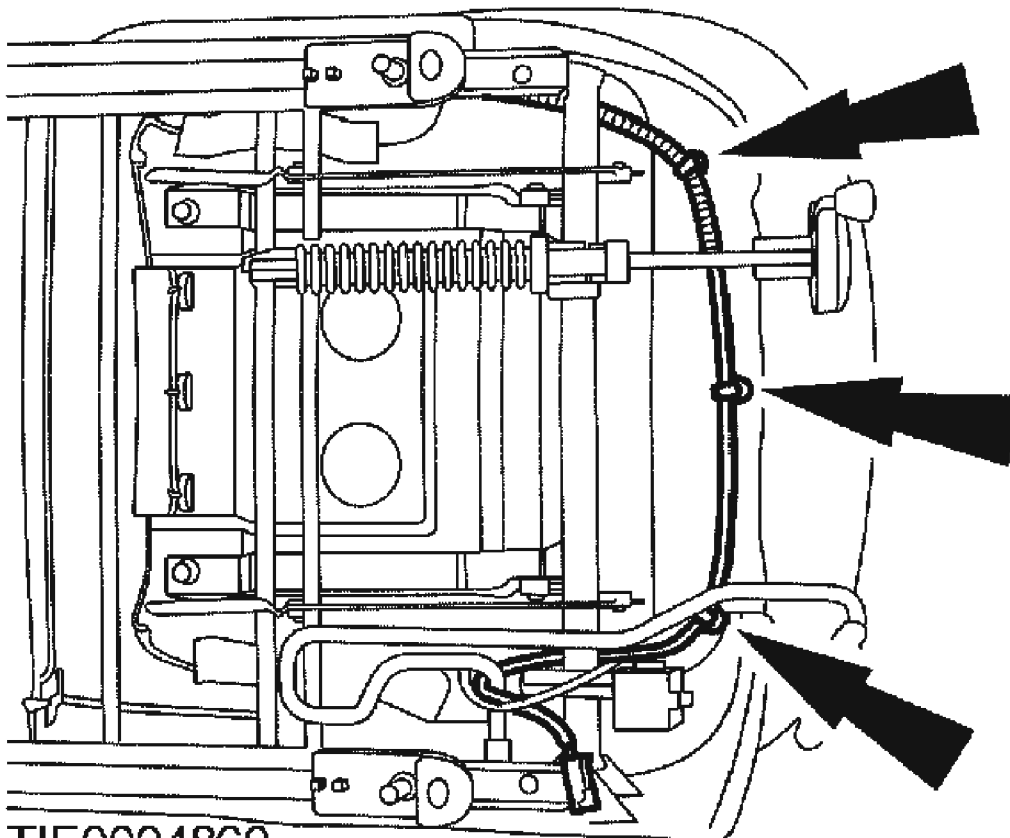
NOTE: Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.

NOTE: A production OCS system is shown, an OCS service kit is similar.

All seats

1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Remove the passenger seat. For additional information, Refer to **SEATING**.

CAUTION: Note the position and routing of the wiring harness(es) to aid installation. An incorrectly routed wiring harness may lead to the wires becoming damaged on the seat mechanism.



TIE0004860

Fig. 247: Detaching Safety Belt Buckle Switch Wiring Harness From Underside Of Cushion

Courtesy of FORD MOTOR CO.

3. Detach the safety belt buckle switch wiring harness from the underside of the cushion.

Heated seats

4. From the back of the large connector at the outboard side of the seat, release the tab at the top and remove the heated seat electrical connector insert from the large connector.
5. Disconnect the cushion-to-backrest feed heated seat electrical connector.

All seats

6. Disconnect the belt tension sensor and separate the connector from the cushion pan.

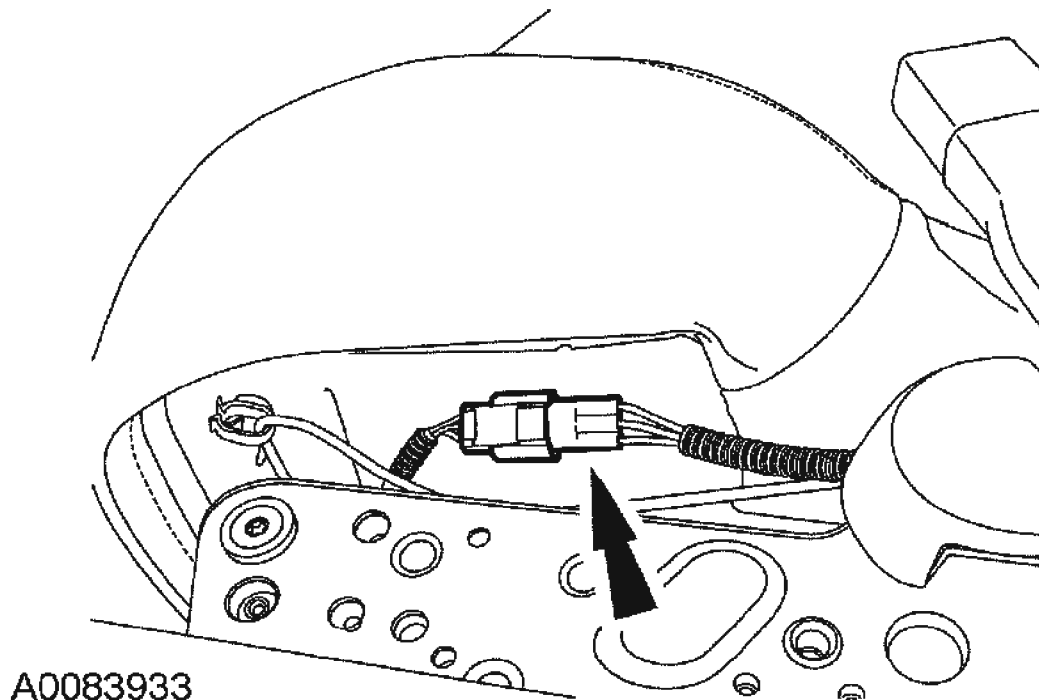
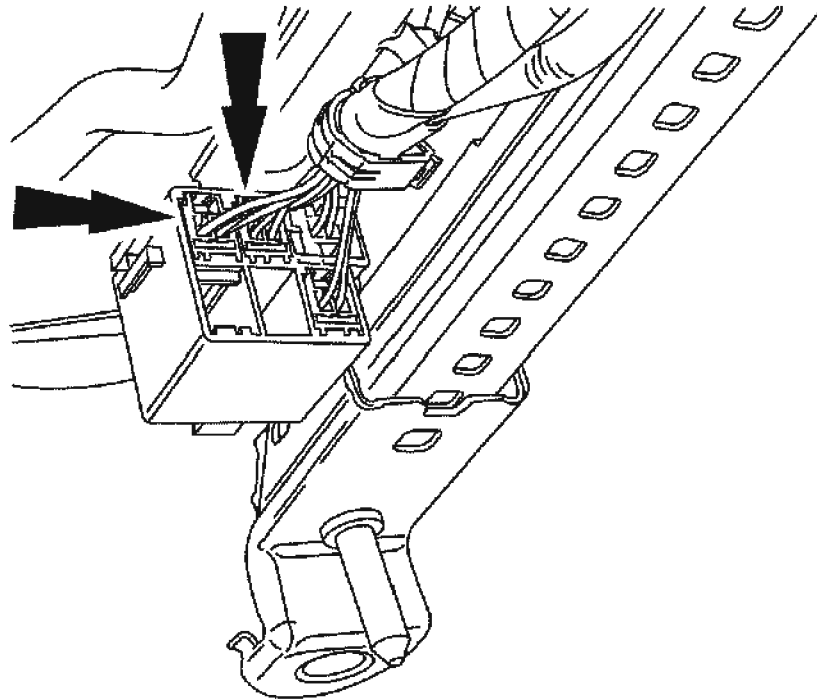


Fig. 248: Disconnecting Belt Tension Sensor

Courtesy of FORD MOTOR CO.

7. From the back of the large connector at the outboard side of the seat, release the tab at the top and remove the occupant classification sensor electrical connector inserts from the large connector.



A0093577

Fig. 249: Removing Occupant Classification Sensor Electrical Connector Inserts From Large Connector
Courtesy of FORD MOTOR CO.

8. Remove the bolts and the front seat cushion.

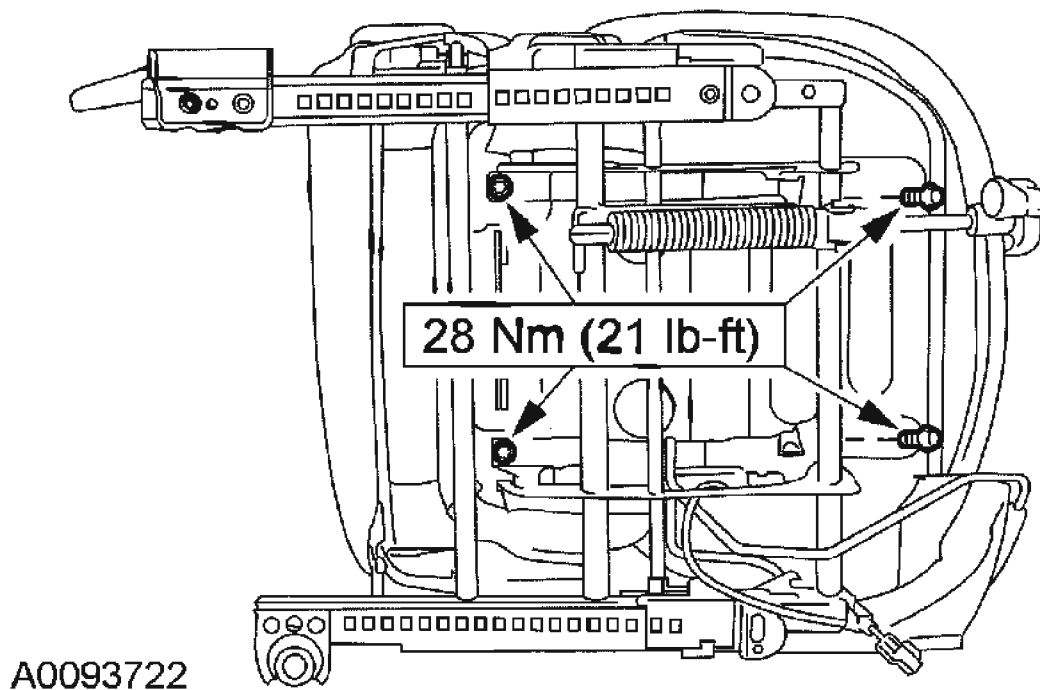
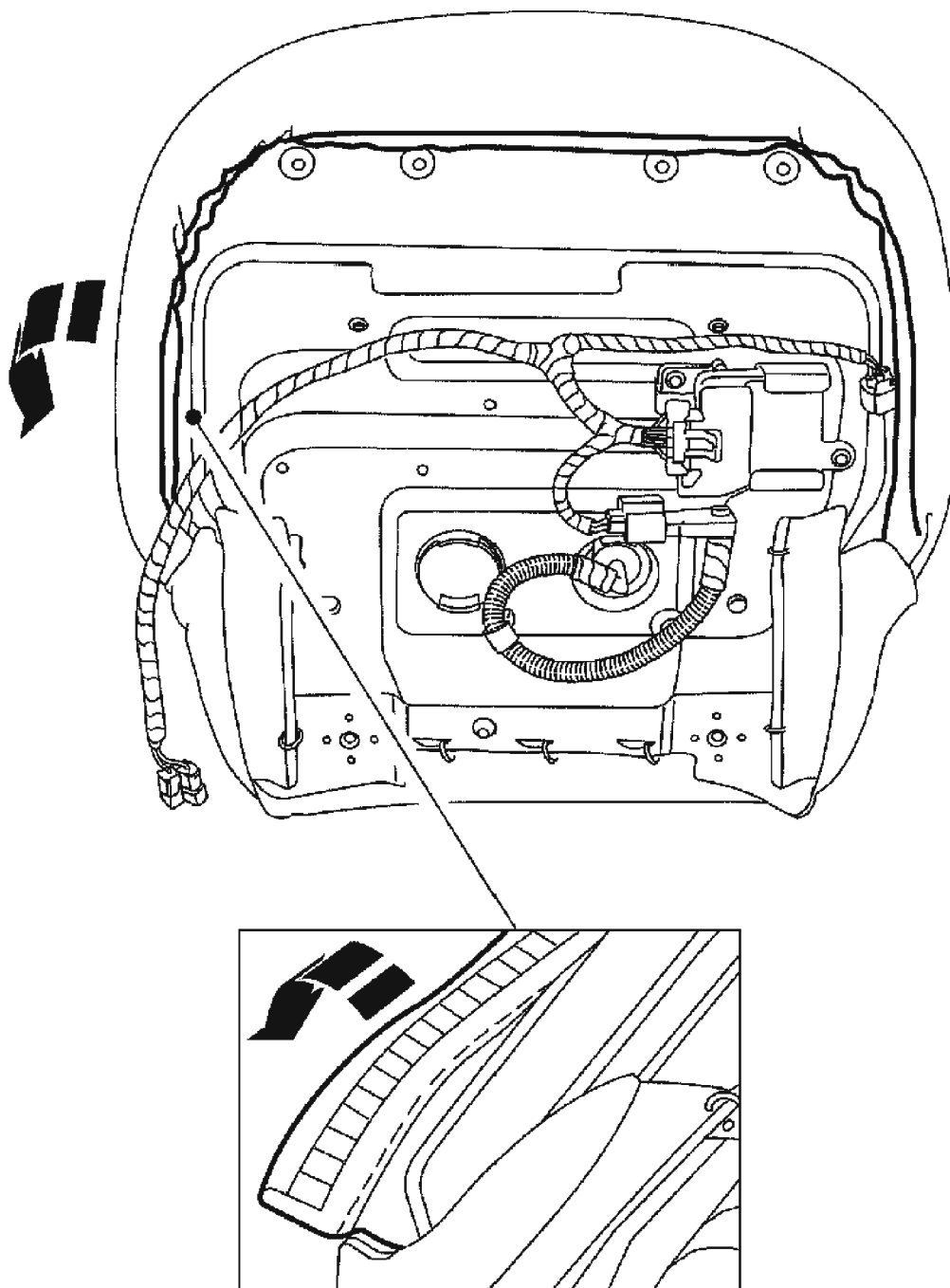


Fig. 250: Removing Bolts And Front Seat Cushion
Courtesy of FORD MOTOR CO.

CAUTION: While positioning the seat cushion pan and occupant classification sensor (OCS) assembly, be careful not to damage any of the components. Failure to do so can result in component failure.

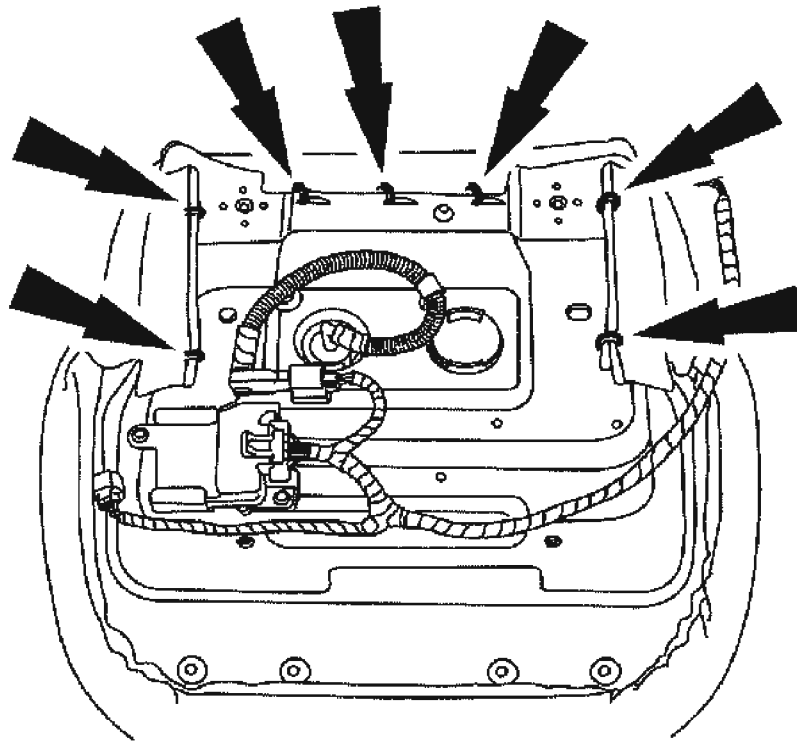


A0094093

Fig. 251: Detaching Front Edge Of Seat Cover
Courtesy of FORD MOTOR CO.

9. Detach the front edge of the seat cover.
 - Detach the retaining strip.

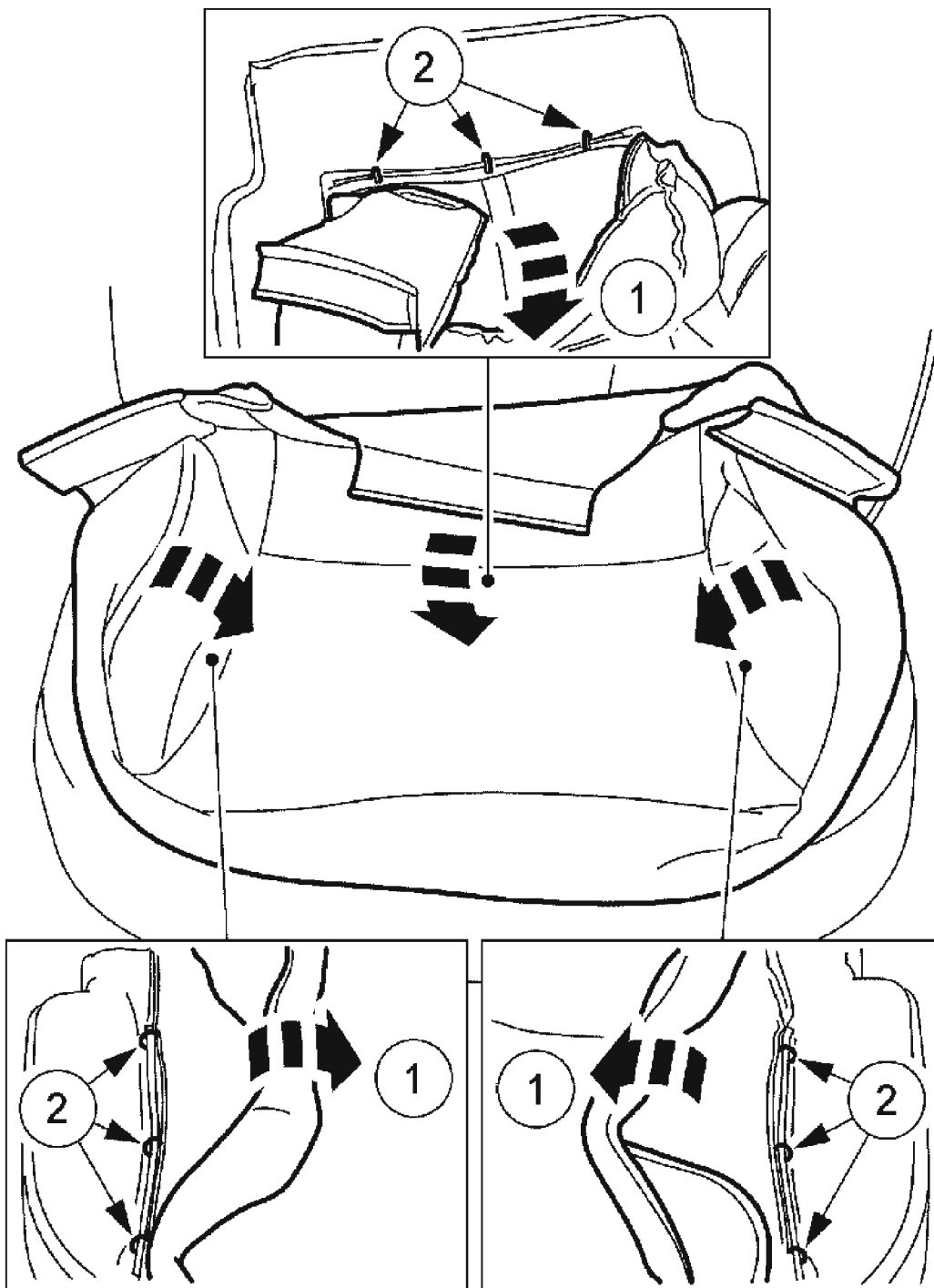
10. Remove the hog rings.



A0094094

Fig. 252: Removing Hog Rings
Courtesy of FORD MOTOR CO.

CAUTION: If installing only the front passenger seat cushion trim cover, the occupant classification sensor must be rezeroed.



A0005829

Fig. 253: Separating Trim Cover From Cushion Foam Pad
Courtesy of FORD MOTOR CO.

11. Separate the trim cover from the cushion foam pad.

1. Roll the trim cover back to access the hog rings.
2. Remove the hog rings and the cushion trim cover.

Heated seats

CAUTION: Remove the paper strips covering the adhesive before adhering the heater mat to the foam pad, otherwise damage to the seat may occur.

NOTE: A new heated seat mat can be attached to a foam pad where an old heated seat mat was removed. A used heated seat mat should not be reattached to any foam pad.

12. Separate the cushion heated seat element from the foam pad.

All seats

13. Remove the occupant classification sensor (OCS) as an assembly (wiring harness, seat cushion pan, seat cushion foam pad, bladder with pressure sensor and electronic control unit).

Installation

All seats

1. Make sure the belt tension sensor wire harness is routed between the OCS electronic control unit and the mounting bracket.

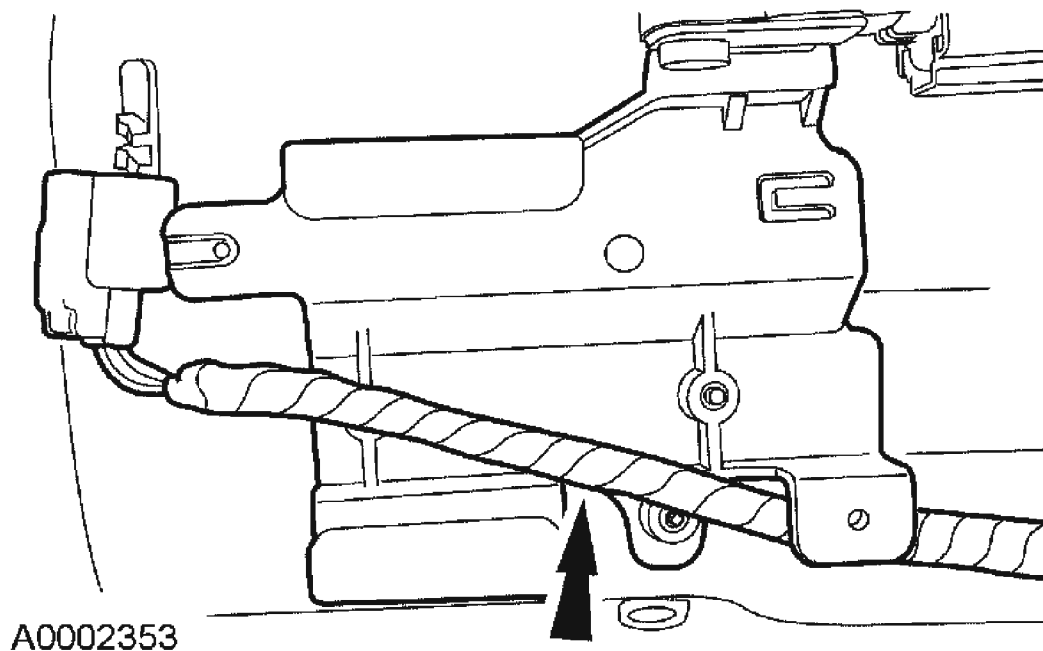
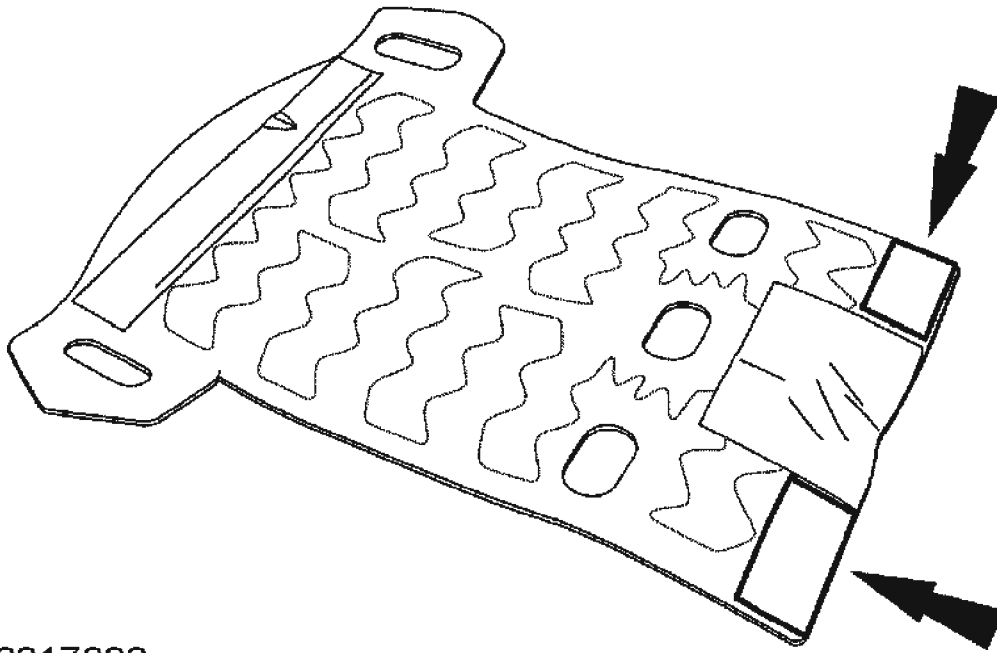


Fig. 254: Identifying Belt Tension Sensor Wire Harness Is Routed Between OCS Electronic Control Unit And Mounting Bracket
Courtesy of FORD MOTOR CO.

Heated seats

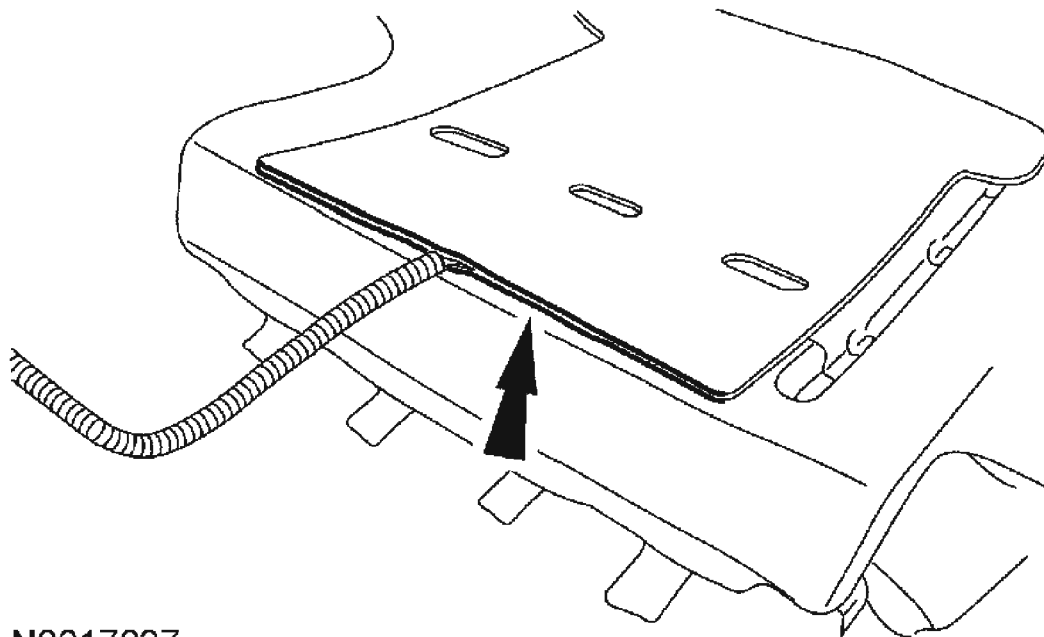
CAUTION: Remove the paper strip covering the adhesive before adhering the heater mat to the foam pad. Otherwise damage to the seat can occur.



N0017036

Fig. 255: Removing Paper Strips At Rear Of Cushion Heated Seat Element
Courtesy of FORD MOTOR CO.

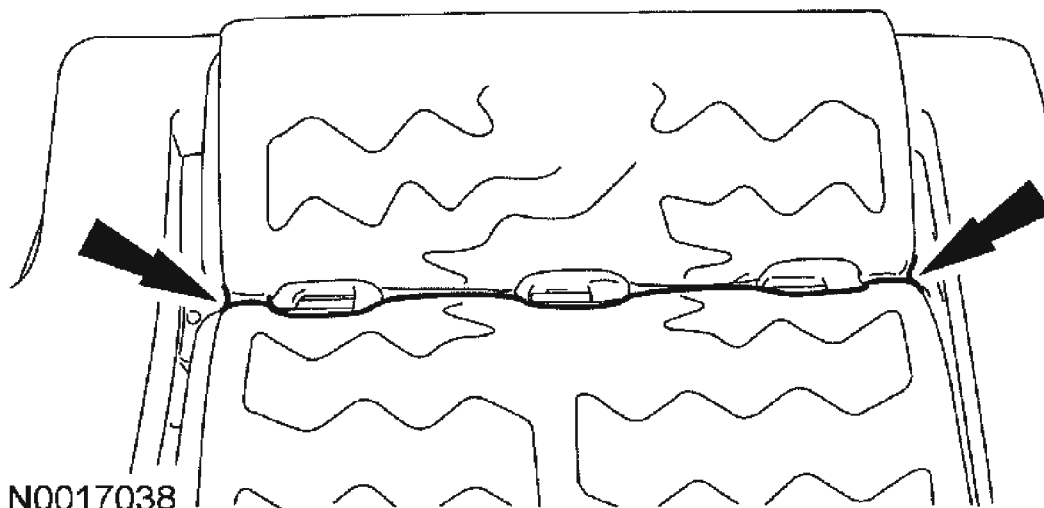
2. Remove the paper strips at the rear of the cushion heated seat element.
3. Center and align the cushion heated seat element to the rear edge of the cushion foam pad. Adhere the rear of the cushion heated seat element to the cushion foam pad.
 - Make sure the heater element ear openings align to the cushion foam pad front wire windows at each side for trim cover installation.



N0017037

Fig. 256: Checking Heater Element Ear Openings Align To Cushion Foam Pad Front Wire Windows
Courtesy of FORD MOTOR CO.

4. Tuck the cushion heated seat element into the cushion foam pad rear trench.

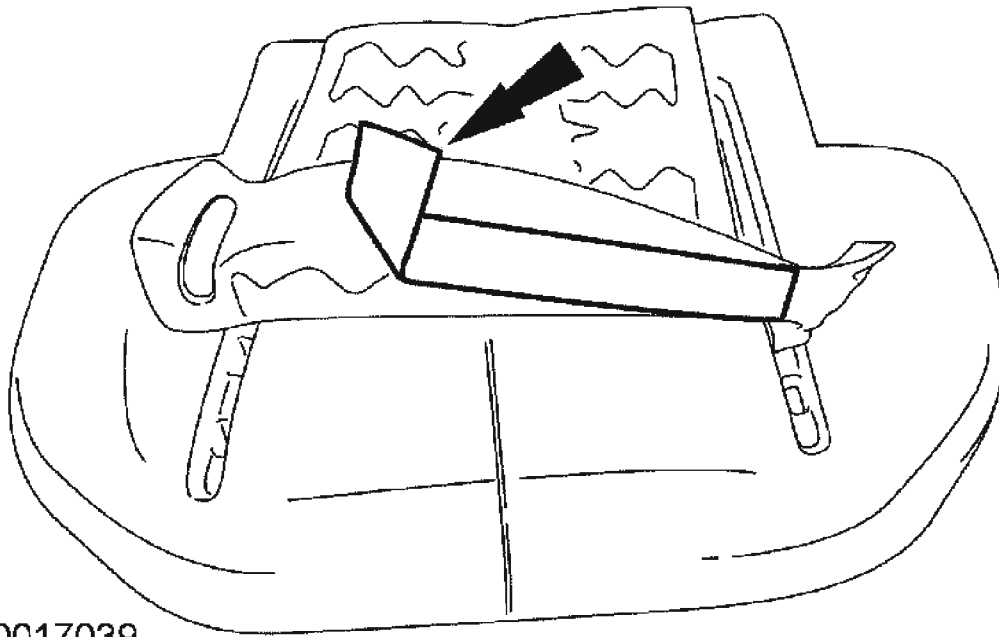


N0017038

Fig. 257: Tucking Cushion Heated Seat Element Into Cushion Foam Pad Rear Trench

Courtesy of FORD MOTOR CO.

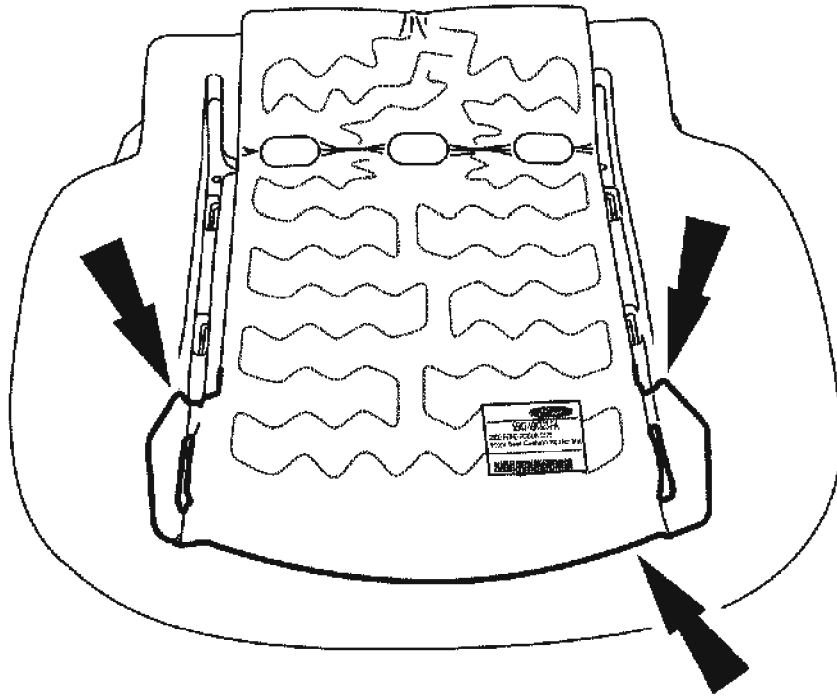
CAUTION: Remove the paper strip covering the adhesive before adhering the heater mat to the foam pad. Otherwise damage to the seat can occur.



N0017039

Fig. 258: Removing Paper Strip At Front Of Cushion Heated Seat Element
Courtesy of FORD MOTOR CO.

5. Remove the paper strip at the front of the cushion heated seat element.
6. Adhere the front of the cushion heated seat element to the cushion foam pad. Tuck the 2 cushion heated seat element side ears into the cushion foam pad side trenches.



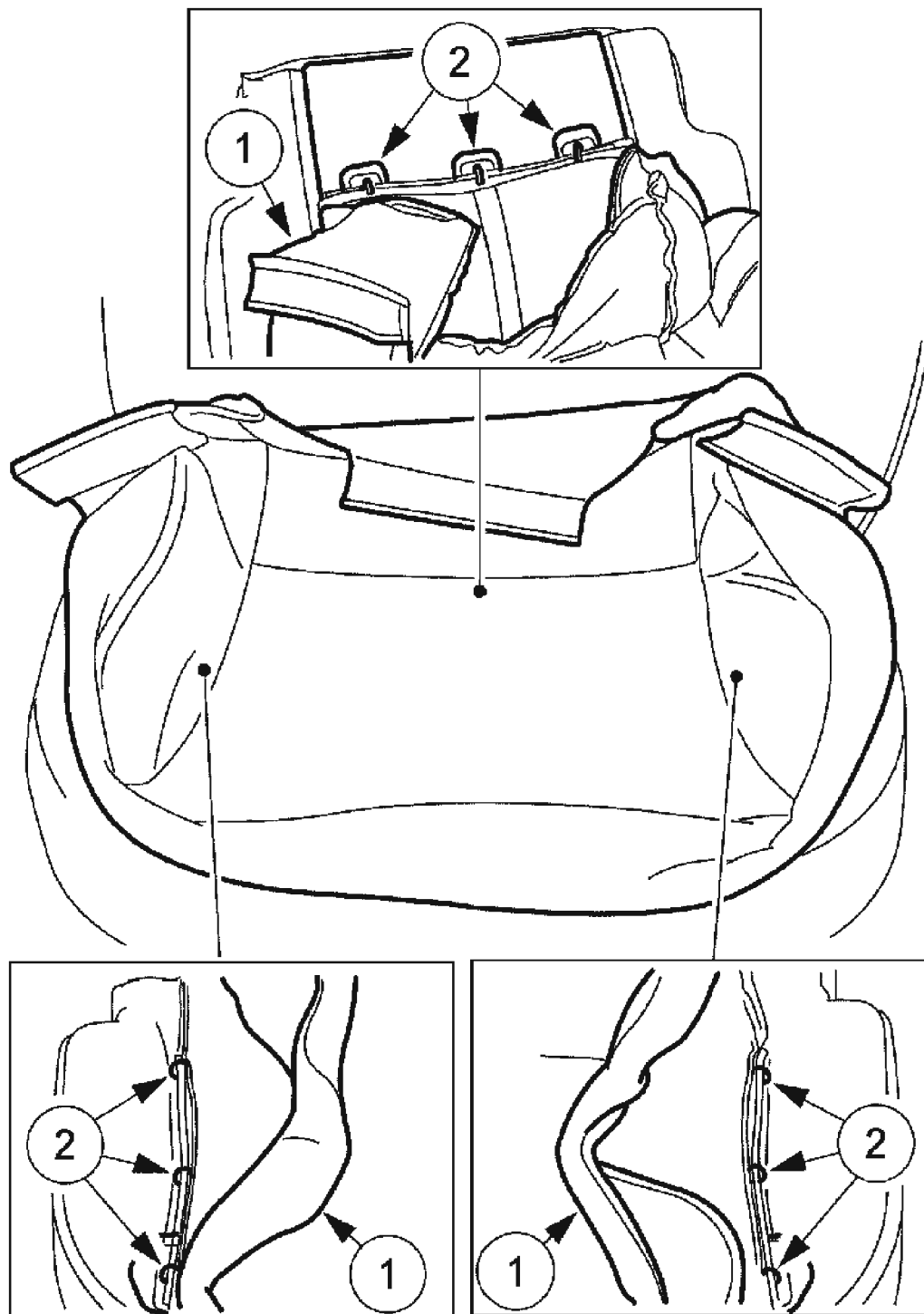
N0017040

Fig. 259: Tucking Cushion Heated Seat Element Side Ears Into Cushion Foam Pad Side Trenches

Courtesy of FORD MOTOR CO.

All seats

CAUTION: Inspect the components for any foreign objects before installing the seat cushion trim cover. If any foreign objects are found, remove them. Failure to do so may result in personal injury, in the event of an air bag deployment.

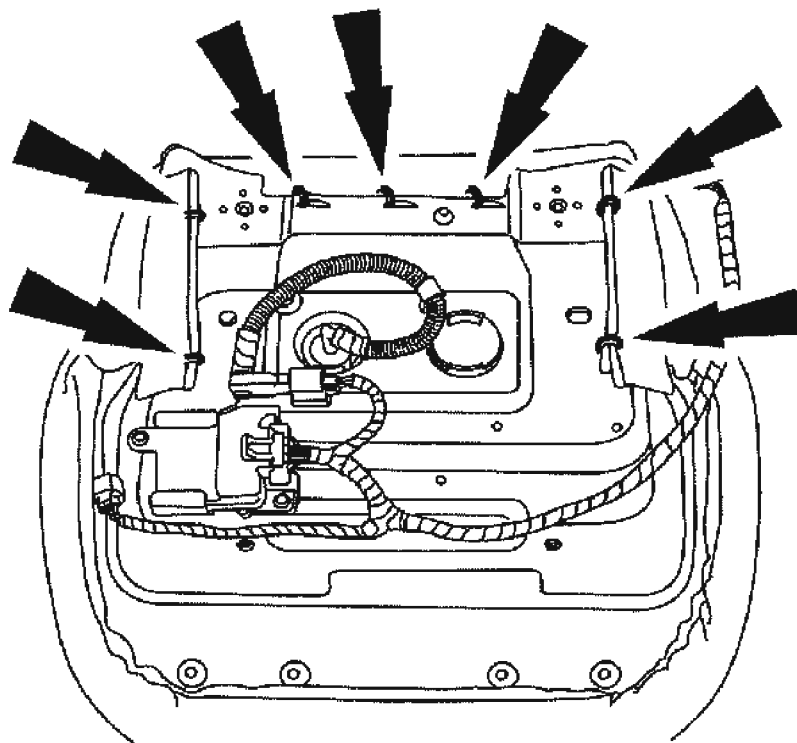


N0017041

Fig. 260: Attaching Cushion Trim Cover To Cushion Foam Pad
Courtesy of FORD MOTOR CO.

7. Attach the cushion trim cover to the cushion foam pad.

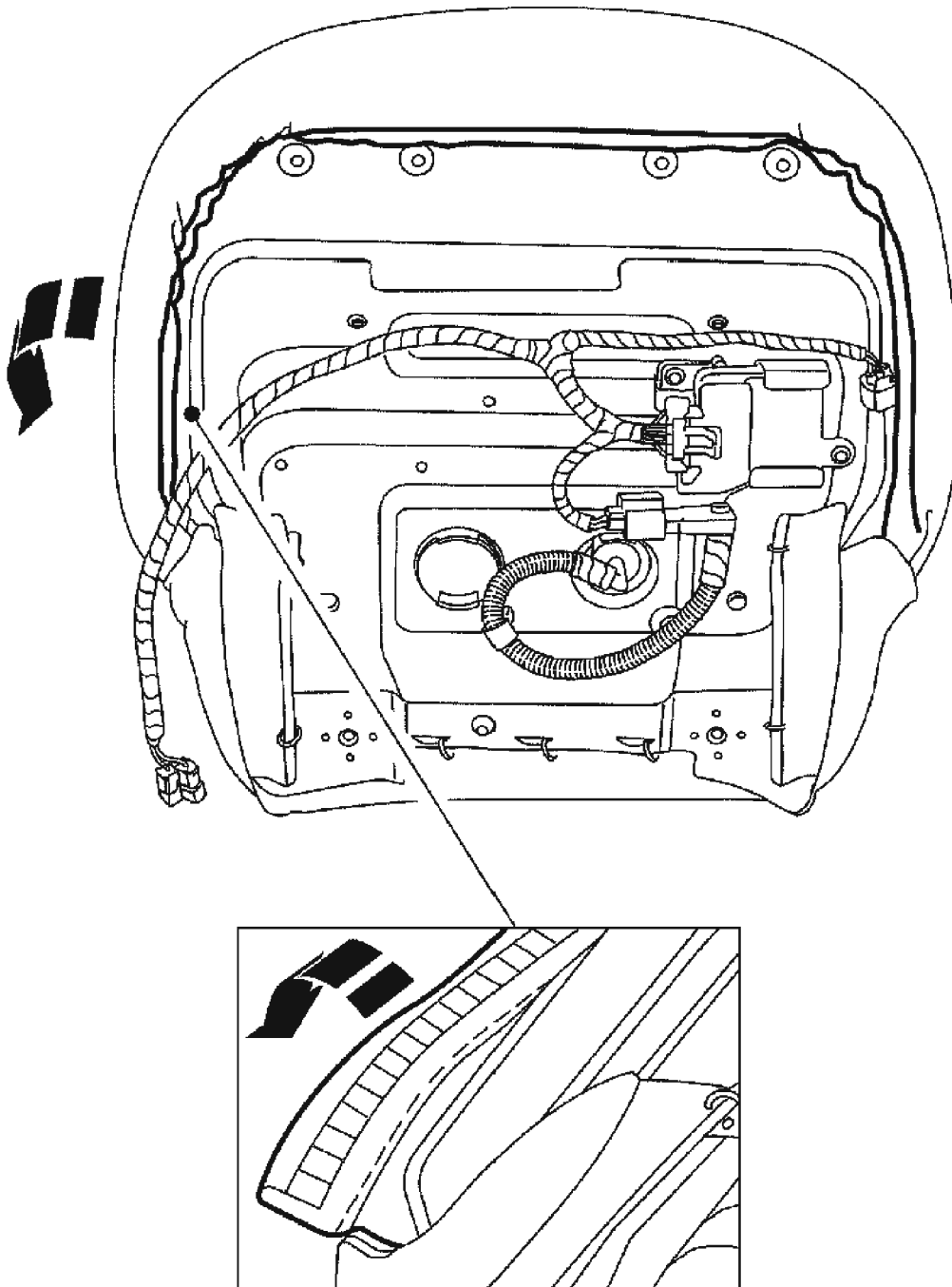
1. Position the cushion trim cover to the cushion foam pad
2. Install the hog rings.
 - If the seat is equipped with heat, make sure the hog rings attaching the wires from the cushion foam pad and cushion trim cover are attached through the cushion heated seat element windows.
8. Attach the trim cover to the seat cushion pan with hog rings.



A0094094

Fig. 261: Attaching Trim Cover To Seat Cushion Pan With Hog Rings
Courtesy of FORD MOTOR CO.

9. Attach the front edge J-clip of the cushion trim cover to the cushion pan.



A0094093

Fig. 262: Attaching Front Edge J-Clip Of Cushion Trim Cover To Cushion Pan
Courtesy of FORD MOTOR CO.

10. Install the bolts and the front seat cushion.

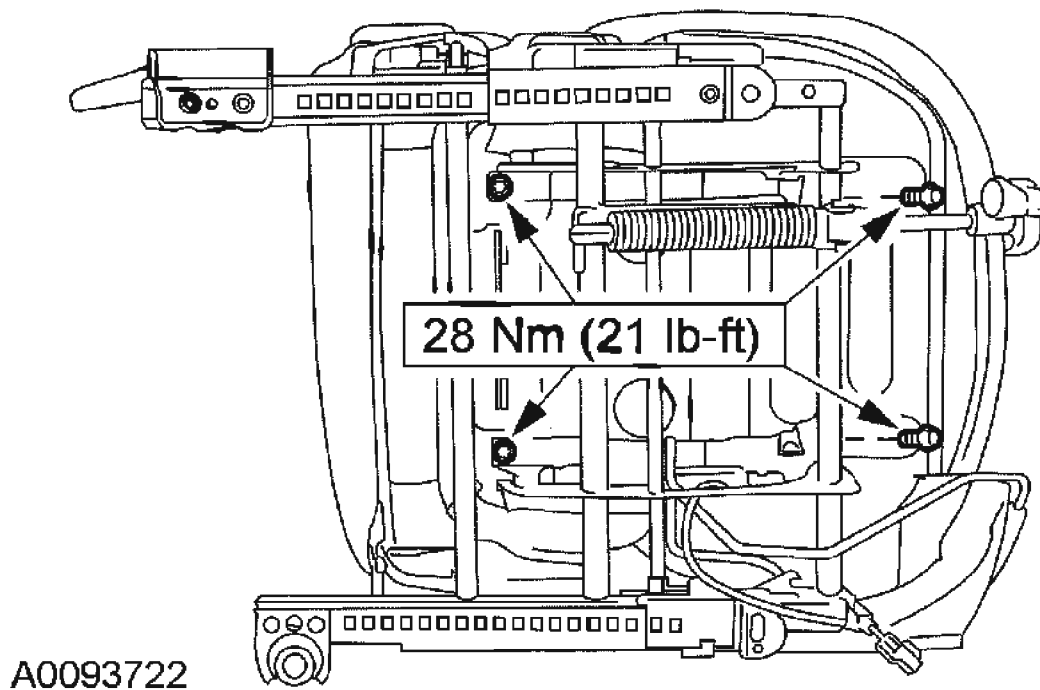
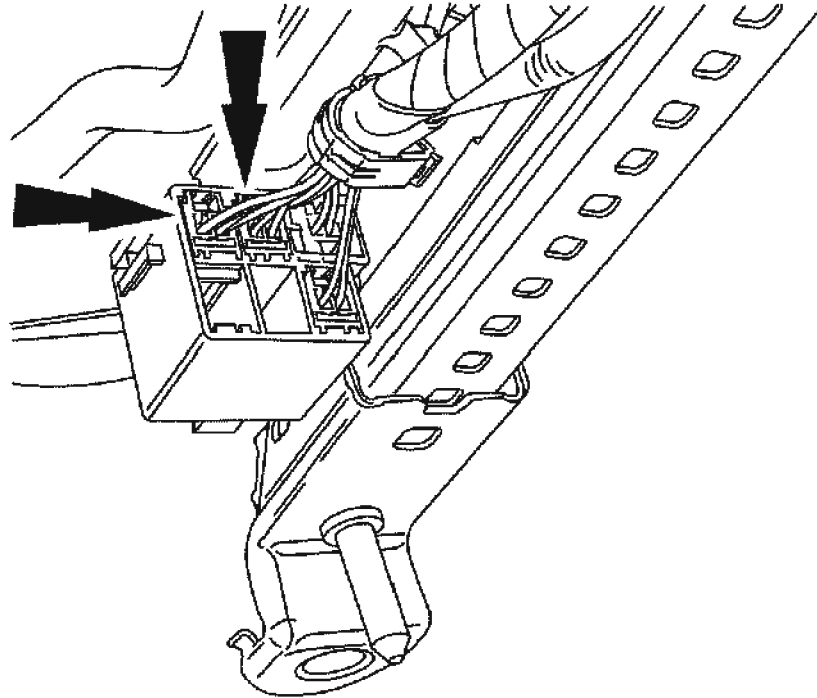


Fig. 263: Installing Bolts And Front Seat Cushion
Courtesy of FORD MOTOR CO.

11. Connect the occupant classification sensor electrical connector inserts back into the large connector.



A0093577

Fig. 264: Connecting Occupant Classification Sensor Electrical Connector Inserts Back Into Large Connector
Courtesy of FORD MOTOR CO.

12. Connect the belt tension sensor and attach the connector to the cushion pan.

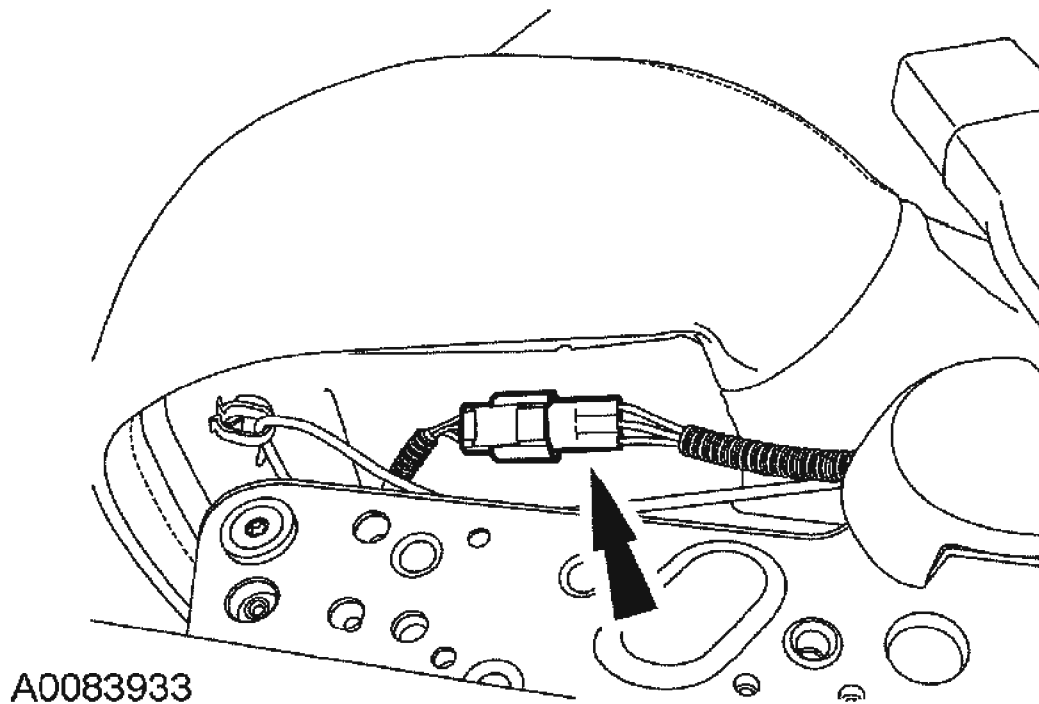


Fig. 265: Connecting Belt Tension Sensor And Attaching Connector To Cushion Pan

Courtesy of FORD MOTOR CO.

Heated seats

13. Install the heated seat electrical connector insert into the large connector.
14. Connect the cushion to backrest feed heated seat electrical connector.

All seats

15. Attach the safety belt buckle switch wiring harness from the underside of the cushion.

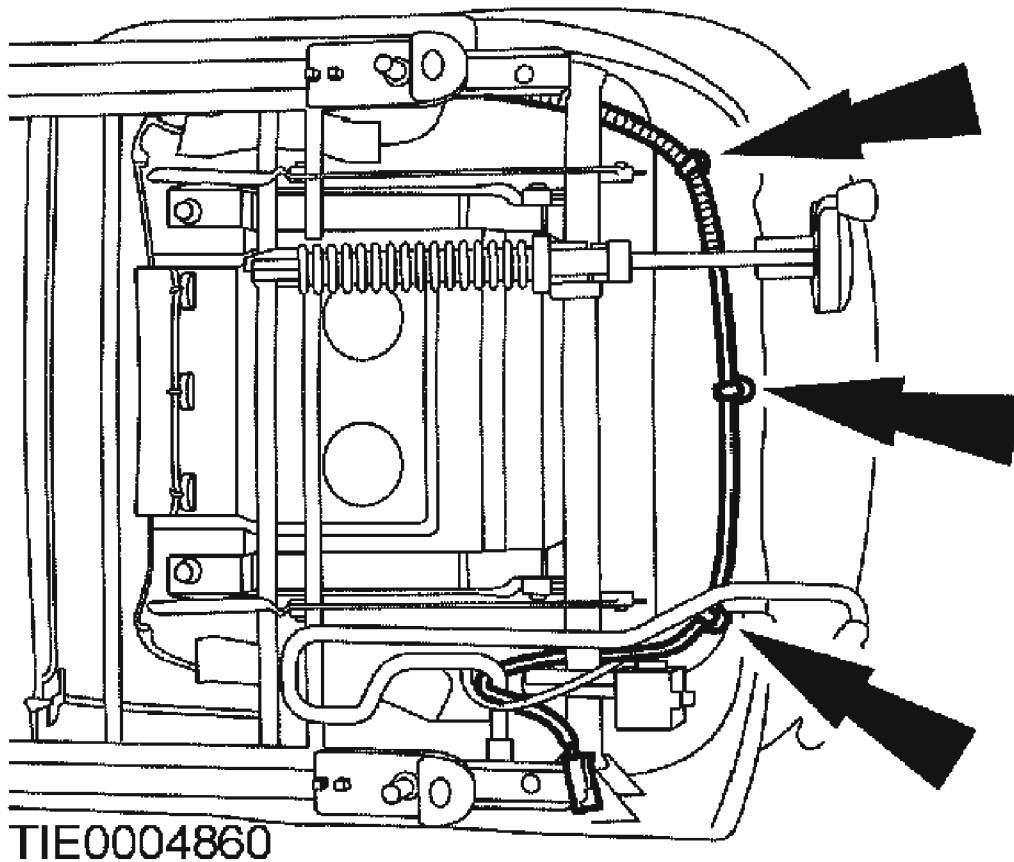


Fig. 266: Attaching Safety Belt Buckle Switch Wiring Harness From Underside Of Cushion

Courtesy of FORD MOTOR CO.

16. Install the passenger seat. For additional information, Refer to **SEATING** .
17. Repower the system. **Do not prove out the SRS at this time.** For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

WARNING: Do not separate components.

CAUTION: It is necessary to rezero the OCS system when a front passenger seat cushion is disassembled, a new trim cover installed, or an OCS service kit is installed. A scan tool is used to trigger the active command to carry out rezeroing of the OCS system.

CAUTION: Make sure the seat is completely assembled before rezeroing.

CAUTION: The following precautions must be taken before rezeroing the OCS system:

- Make sure the OCS system components are connected and no faults are present.
- Make sure the OCS system is not at a temperature below 0°C (32°F) or above 45°C (113°F) when initiating the rezeroing process. If the vehicle has been exposed to extreme cold or hot temperatures, the vehicle must be exposed and kept at a temperature within the limits, 0°C to 45°C (32°F to 113°F) for a minimum of 30 minutes.
- Make sure nothing is present on the passenger seat before rezeroing and nothing is placed on the seat during the rezeroing process.
- Make sure a minimum eight second time period has passed after cycling the ignition switch ON before the rezeroing process.

NOTE: For best results in rezeroing, the OCS system should be at or near room temperature, 10°C to 29°C (50°F to 85°F).

NOTE: When using an NGS+ (NGS with Vehicle Communication Module (VCM) and the latest software update) to rezero the OCS system:

NOTE: To rezero the OCS system using the Worldwide Diagnostic System (WDS):

NOTE: If the first attempt to rezero the OCS system is unsuccessful, a second attempt must be made.

18.

- Select "FUNCTION TEST"
- Select "SYSTEM RESET"
- View the on-screen information, then press "TRIGGER"

The NGS+ screen will then display "OCS RESET: REZERO." Press "DONE" (button

8) to rezero the OCS system. The NGS+ will display "TEST/FUNCTION SUCCESSFUL" once rezeroing of the OCS system is complete.

- Select the "Toolbox" icon
- Select "Body" from the menu
- Select "Restraints" from the menu
- Select "Seat Weight Sensor ReZero"

After selecting "Seat Weight Sensor ReZero", follow the on-screen prompts to carry out rezeroing of the OCS system.

Rezero the occupant classification sensor.

- With the front passenger seat empty, use a scan tool to trigger the active command and rezero the occupant classification sensor.

NOTE: The ignition switch must be cycled after rezeroing the OCS system.

19. Cycle the ignition switch from ON to OFF.

20. Prove out the supplemental restraint system (SRS) as follows:

Turn the ignition key from ON to OFF. Wait 10 seconds, then turn the key back to ON and visually monitor the air bag indicator with the air bag modules installed. The air bag indicator will light continuously for approximately six seconds and then turn off. If an air bag supplemental restraint system (SRS) fault is present, the air bag indicator will either:

- Fail to light.
- Remain lit continuously.
- Flash at a 5 Hz rate (RCM not configured).

The air bag indicator may not illuminate until approximately 30 seconds after the ignition switch has been turned from the OFF to the ON position. This is the time required for the restraints control module (RCM) to complete the testing of the SRS. If the air bag indicator is inoperative and a SRS fault exists, a chime will sound in a pattern of five sets of five beeps. If this occurs, the air bag indicator and any SRS fault discovered must be diagnosed and repaired.

Clear all continuous DTCs from the restraints control module using a scan tool.

PASSENGER AIR BAG DEACTIVATION (PAD) INDICATOR

Removal and Installation

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

- NOTE:** The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.
- NOTE:** Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.
- NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.
1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
 2. Carefully release the clips and remove the passenger air bag deactivation indicator (PAD)/hazard switch assembly and climate control registers.

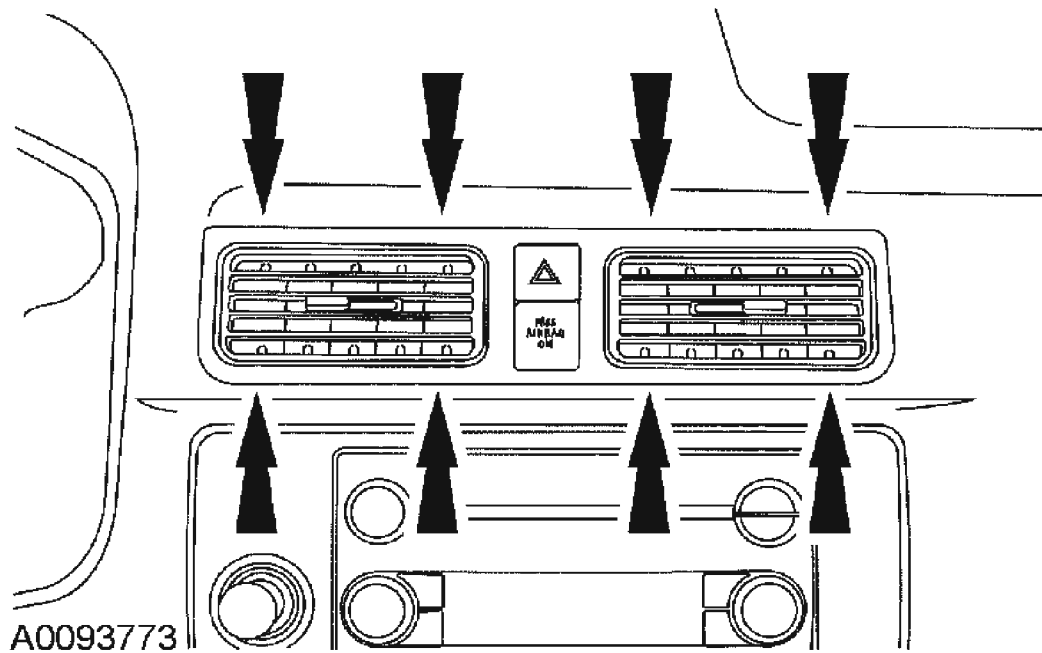


Fig. 267: Removing Passenger Air Bag Deactivation Indicator (PAD)/Hazard Switch Assembly And Climate Control Registers
Courtesy of FORD MOTOR CO.

3. Release the red deterrent tab and disconnect the electrical connector.

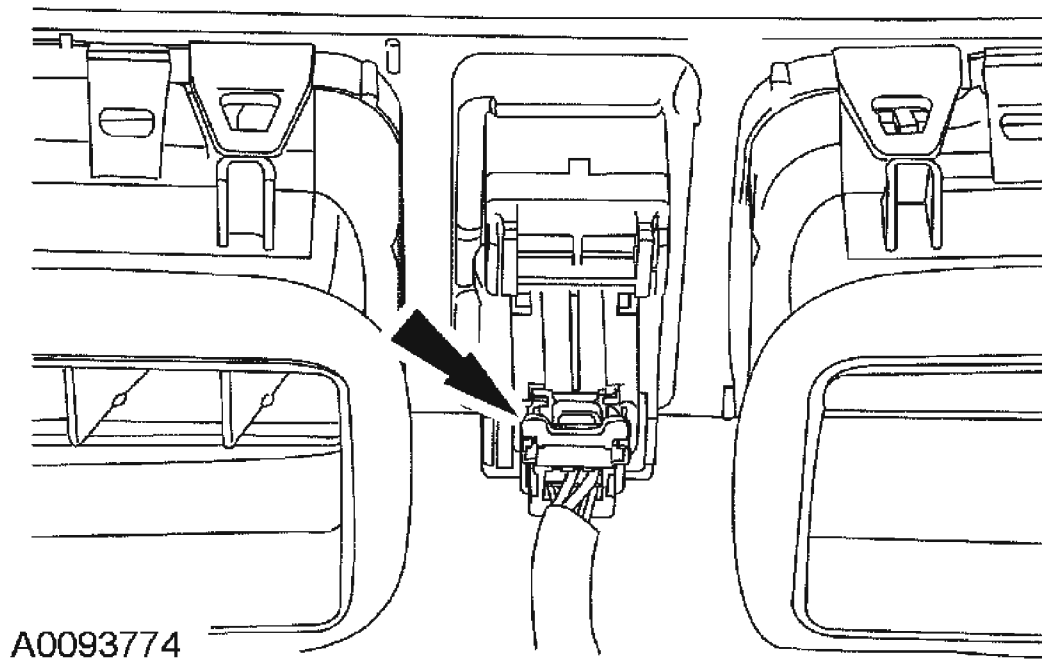
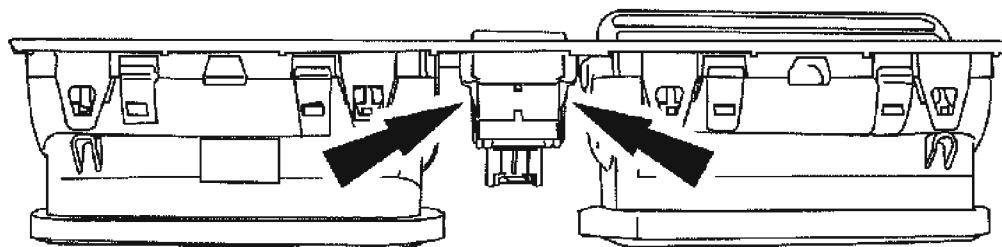


Fig. 268: Disconnecting Electrical Connector
Courtesy of FORD MOTOR CO.

4. Release the tabs and remove the PAD indicator from the climate control register assembly.



A0093775

Fig. 269: Removing PAD Indicator From Climate Control Register Assembly
Courtesy of FORD MOTOR CO.

5. To install, reverse the removal procedure.
6. Repower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

PASSENGER AIR BAG MODULE

Removal

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Carry a live air bag module with the air bag and deployment door pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Do not set a live air bag module down with the deployment door face down. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: After deployment, the air bag surface can contain deposits of sodium hydroxide, a product of the gas generant combustion that is irritating to the skin. Wash your hands with soap and water afterwards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: Air bag modules with discolored or damaged deployment doors must be replaced, not repainted.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

WARNING: A new instrument panel must be installed following a passenger air bag deployment. Failure to follow this instruction may result in personal injury.

NOTE: If a new passenger air bag module is being installed as a result of

the existing passenger air bag module being unserviceable, do not install a new instrument panel.

- NOTE:** The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.
- NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.
- NOTE:** Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.
1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
 2. Open the glove compartment door fully.
 3. Remove the ventilation pipe.
 - Detach the retaining clip.

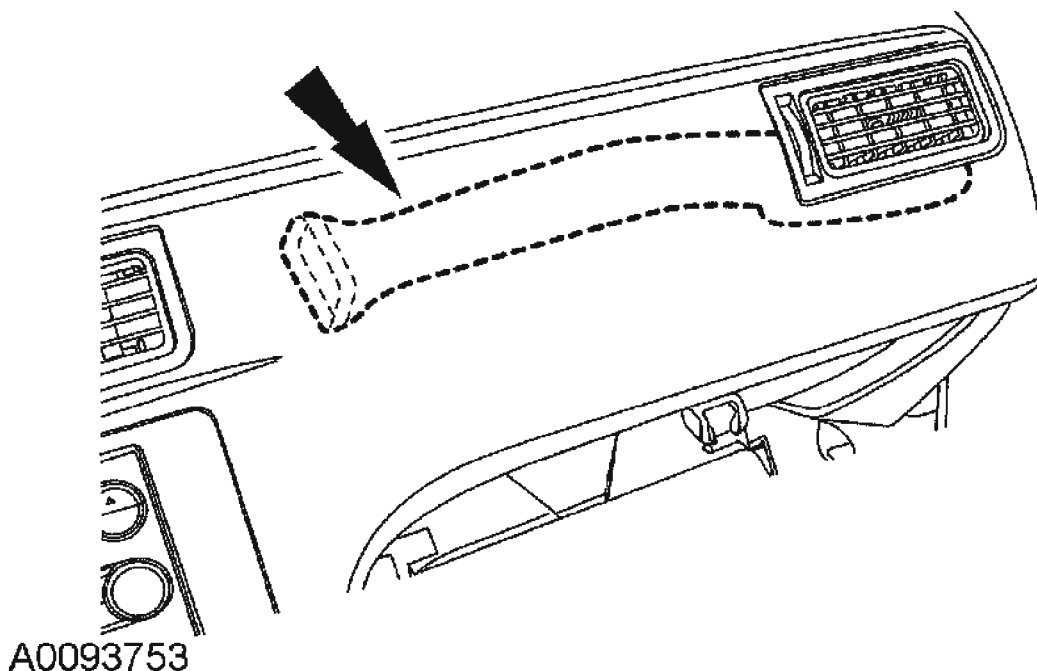


Fig. 270: Removing Ventilation Pipe

Courtesy of FORD MOTOR CO.

4. Detach the defroster pipe from the heater housing and defroster vent.
 - Detach the retaining clip.

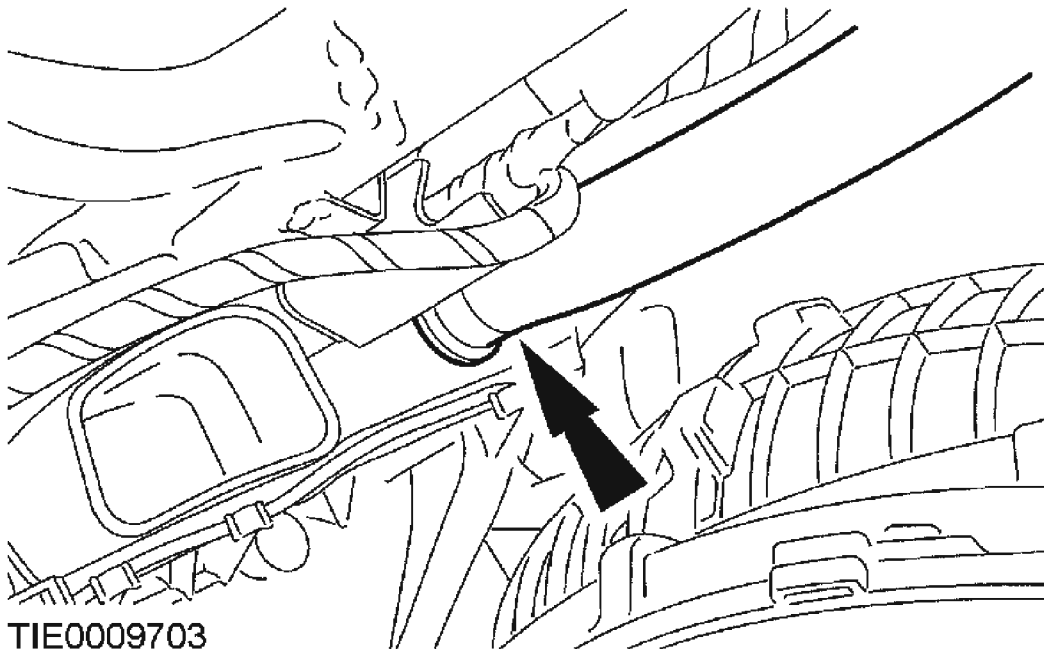


Fig. 271: Detaching Defroster Pipe From Heater Housing And Defroster Vent
Courtesy of FORD MOTOR CO.

5. Remove the passenger air bag module trim cover retaining bolts.

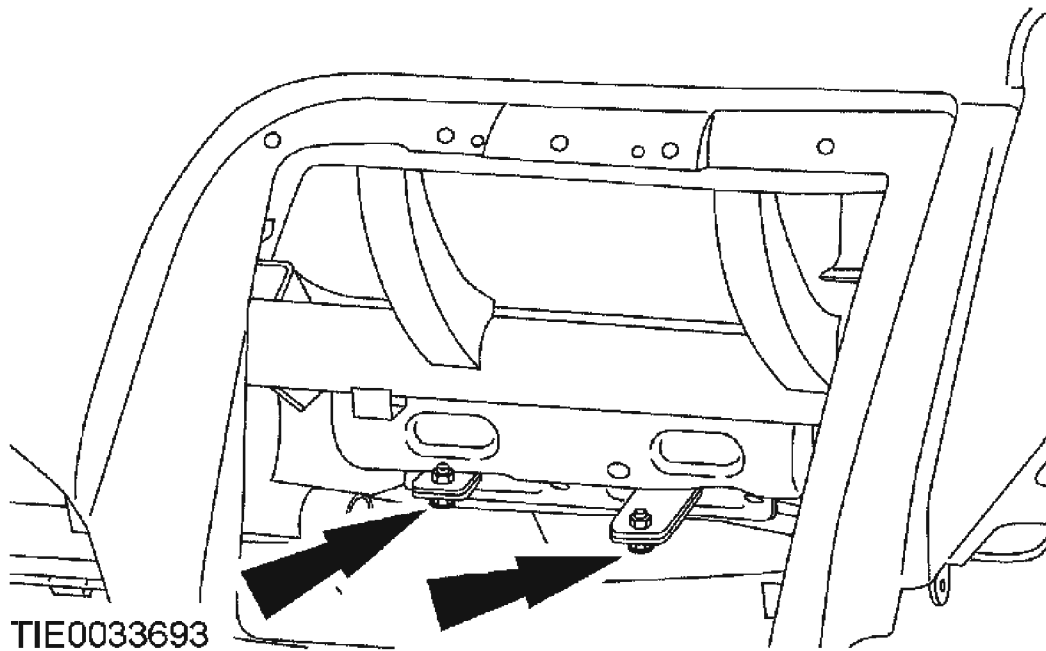


Fig. 272: Removing Passenger Air Bag Module Trim Cover Retaining Bolts
Courtesy of FORD MOTOR CO.

CAUTION: Use a protective covering (shop towel, etc.) between the instrument panel, passenger air bag trim cover and the trim tool to prevent damage to the instrument panel when removing the passenger air bag trim cover.

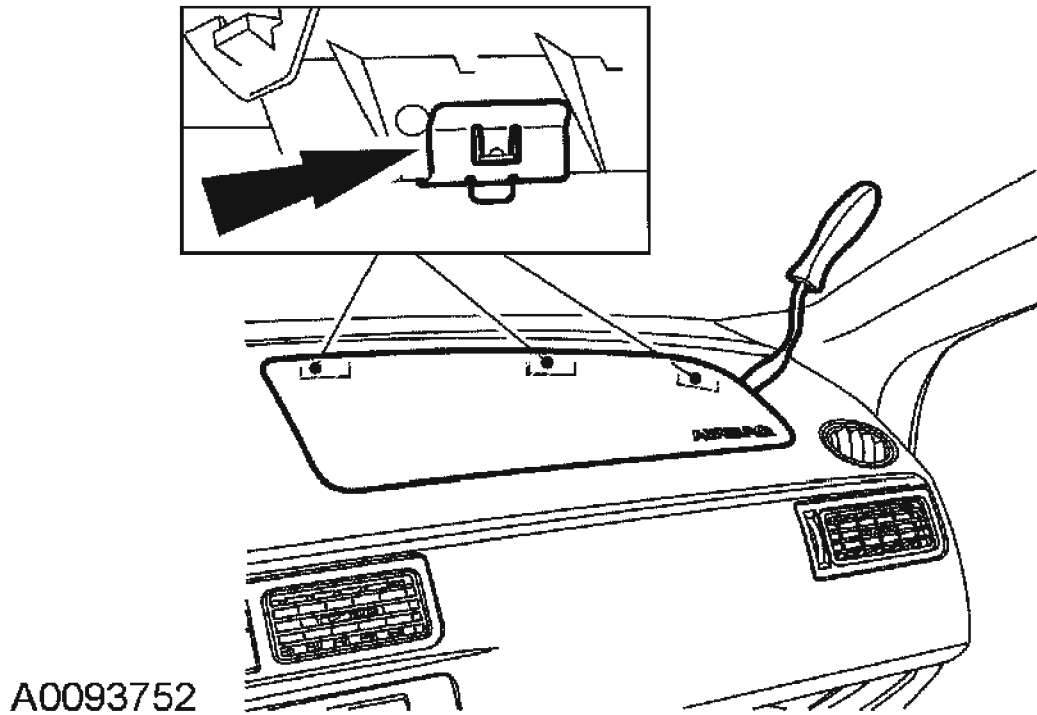
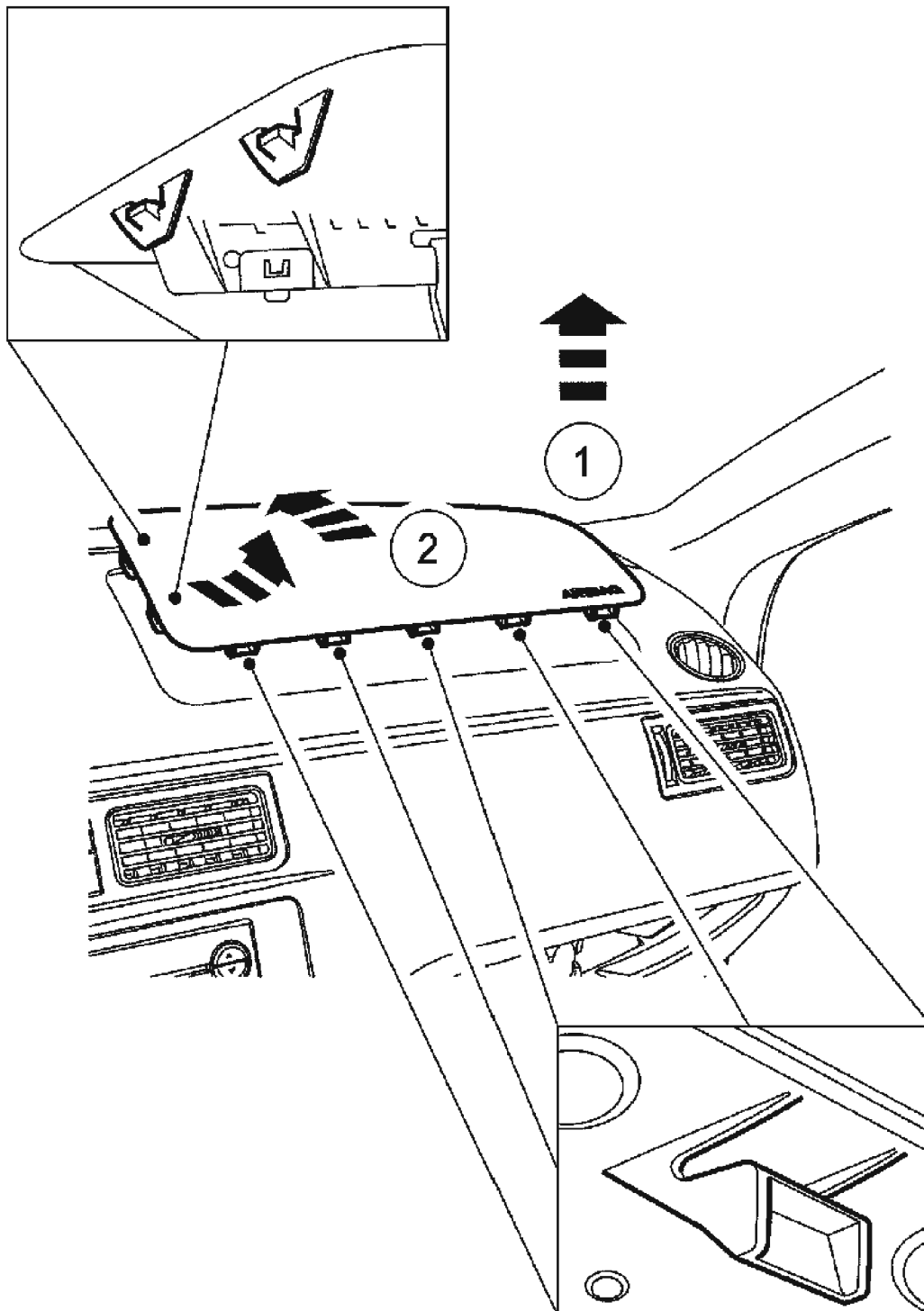


Fig. 273: Using Trim Tool To Carefully Release Retaining Clips, Starting At Front Outer Edge

Courtesy of FORD MOTOR CO.

6. Detach the passenger air bag module trim cover from the instrument panel.
 - Use a trim tool to carefully release the retaining clips, starting at the front outer edge.
7. Remove the passenger air bag module trim cover.
 1. Lift the outer edge.
 2. Lift the cover moving it towards the windshield to disengage the retaining clips.



A0093751

Fig. 274: Removing Passenger Air Bag Module Trim Cover
Courtesy of FORD MOTOR CO.

8. Detach the passenger air bag module and reinforcement bracket from the instrument

panel.

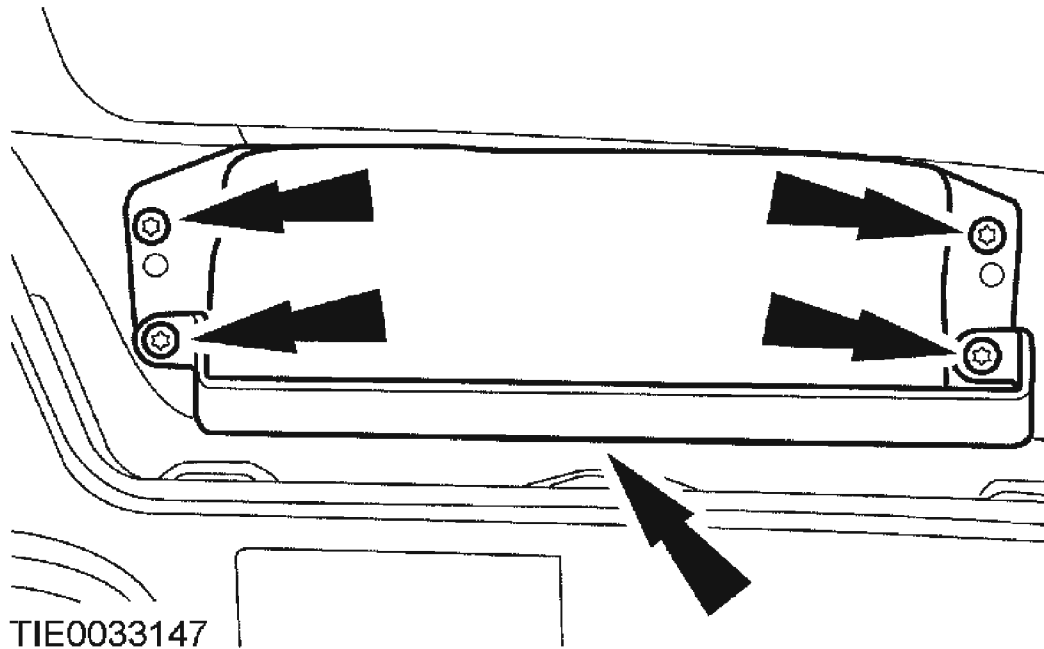


Fig. 275: Detaching Passenger Air Bag Module And Reinforcement Bracket From Instrument Panel

Courtesy of FORD MOTOR CO.

9. Remove the passenger air bag module.
 - Disconnect the electrical connectors.

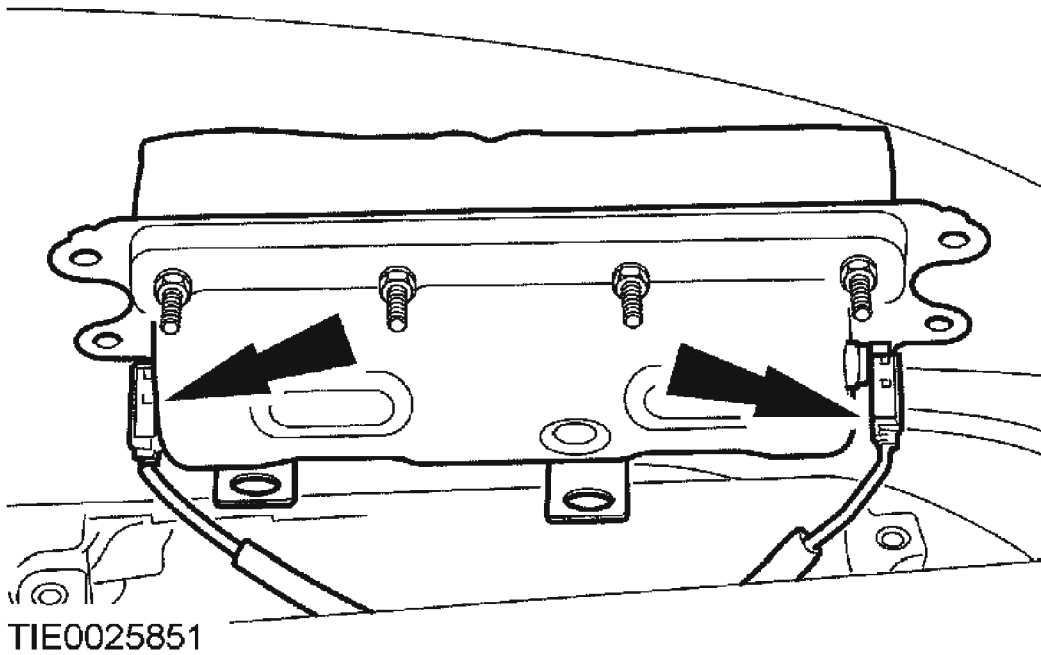
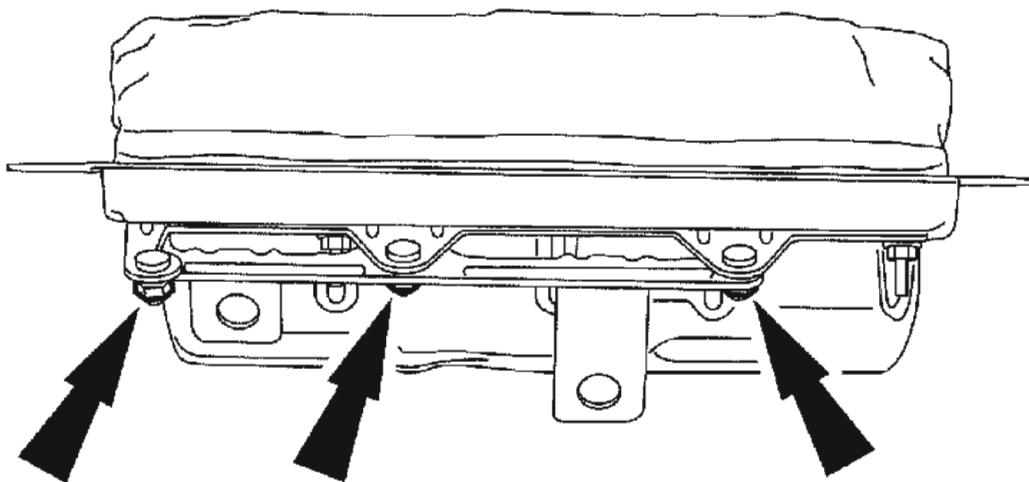


Fig. 276: Disconnecting Electrical Connectors
Courtesy of FORD MOTOR CO.

Installation

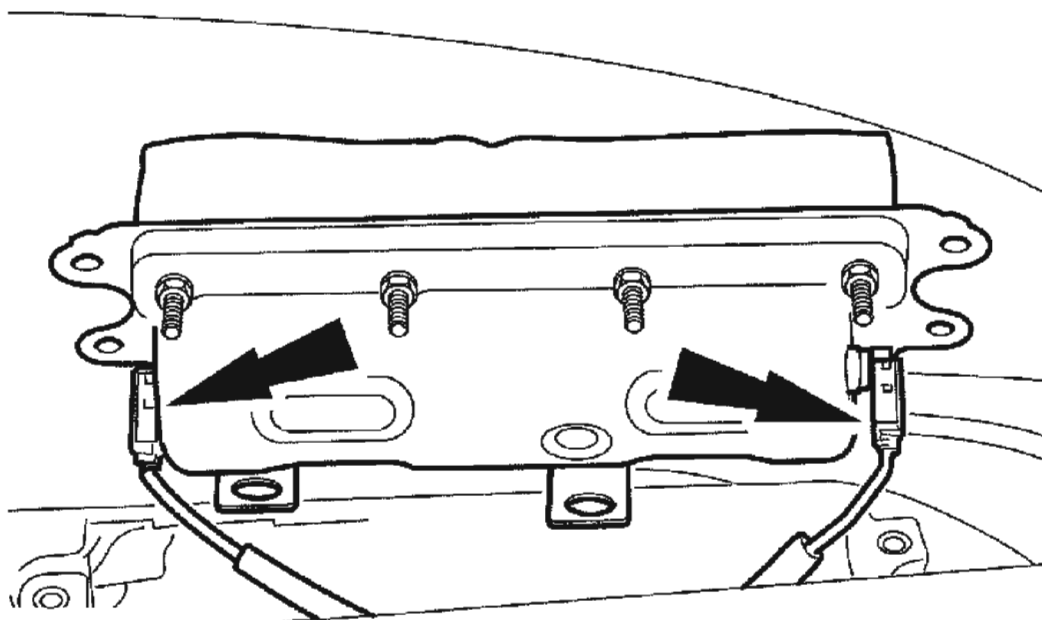
1. If the original passenger air bag is to be installed, loosen the passenger air bag module floating bracket retaining nuts.



TIE0033144

Fig. 277: Loosening Passenger Air Bag Module Floating Bracket Retaining Nuts
Courtesy of FORD MOTOR CO.

2. Install the passenger air bag module.
 - Connect the electrical connectors.



TIE0025851

Fig. 278: Installing Passenger Air Bag Module
Courtesy of FORD MOTOR CO.

3. Attach the passenger air bag module and reinforcement bracket to the instrument panel.

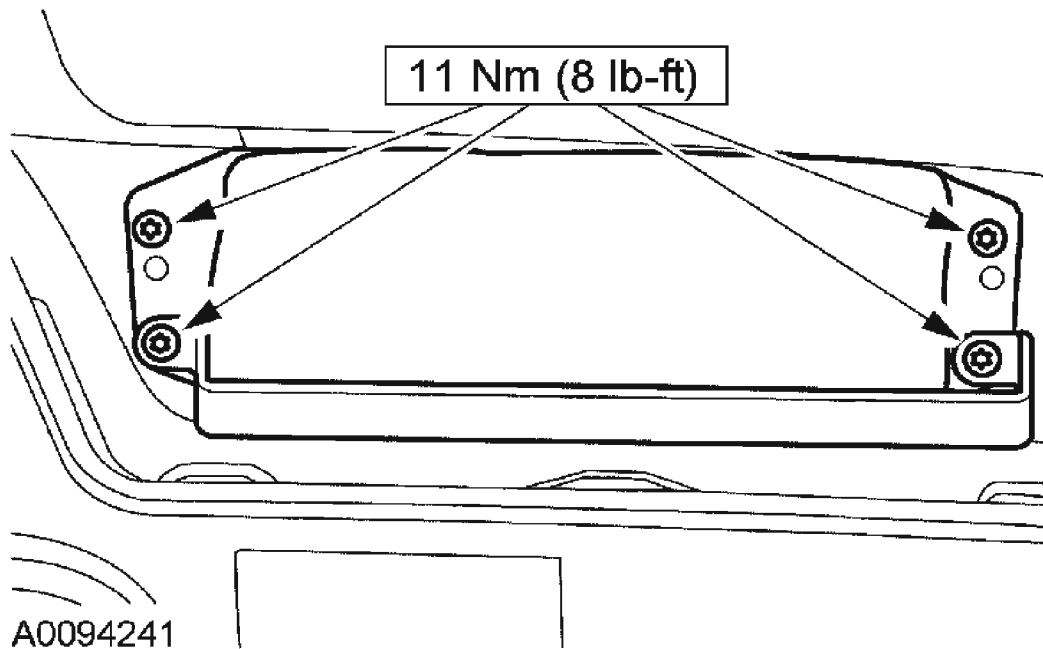
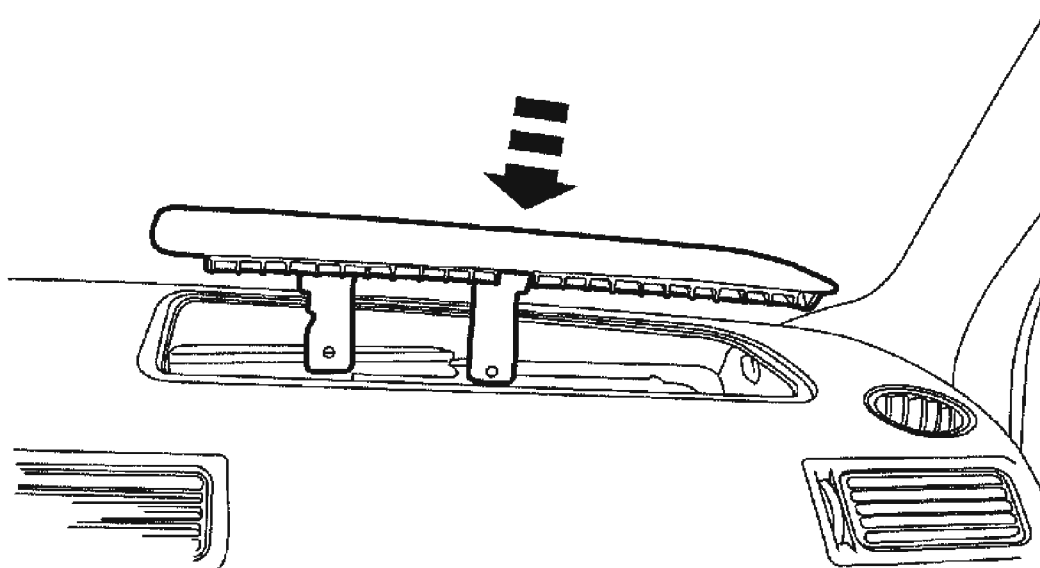


Fig. 279: Attaching Passenger Air Bag Module And Reinforcement Bracket To Instrument Panel
Courtesy of FORD MOTOR CO.

NOTE: Feed the trim cover brackets down through the passenger air bag module and floating bracket.



A0093745

Fig. 280: Installing Passenger Air Bag Module Trim Cover
Courtesy of FORD MOTOR CO.

4. Install the passenger air bag module trim cover.

NOTE: Do not fully tighten the passenger air bag module trim cover retaining bolts at this stage.

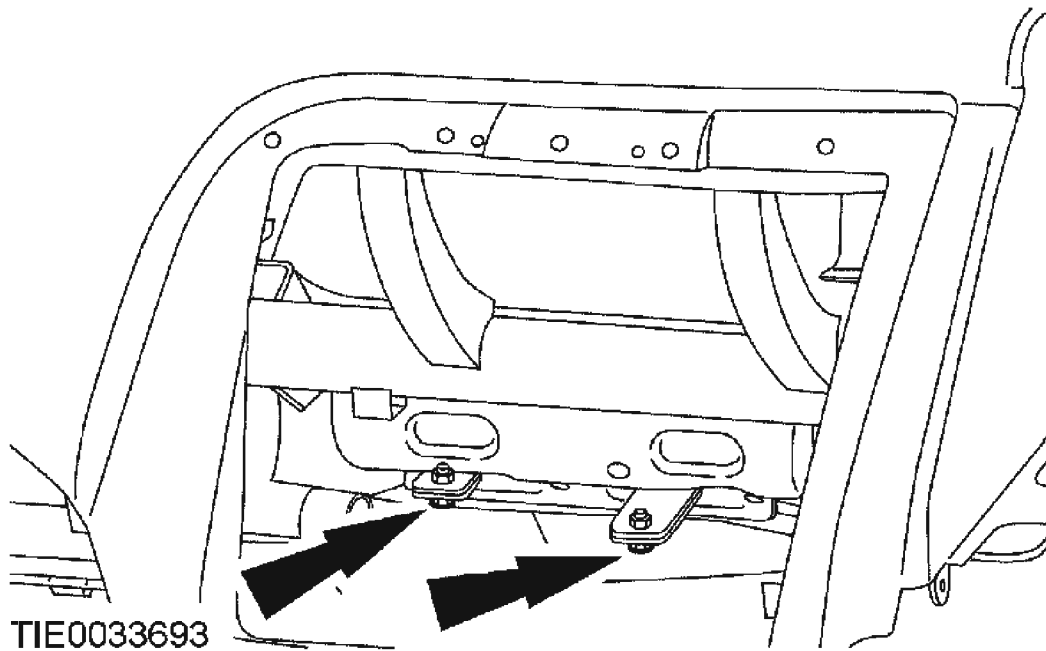


Fig. 281: Installing Passenger Air Bag Module Trim Cover Retaining Bolts
Courtesy of FORD MOTOR CO.

5. Install the passenger air bag module trim cover retaining bolts.

CAUTION: Make sure that all the passenger air bag module trim cover retaining clips are correctly engaged and that the trim cover is flush with the instrument panel.

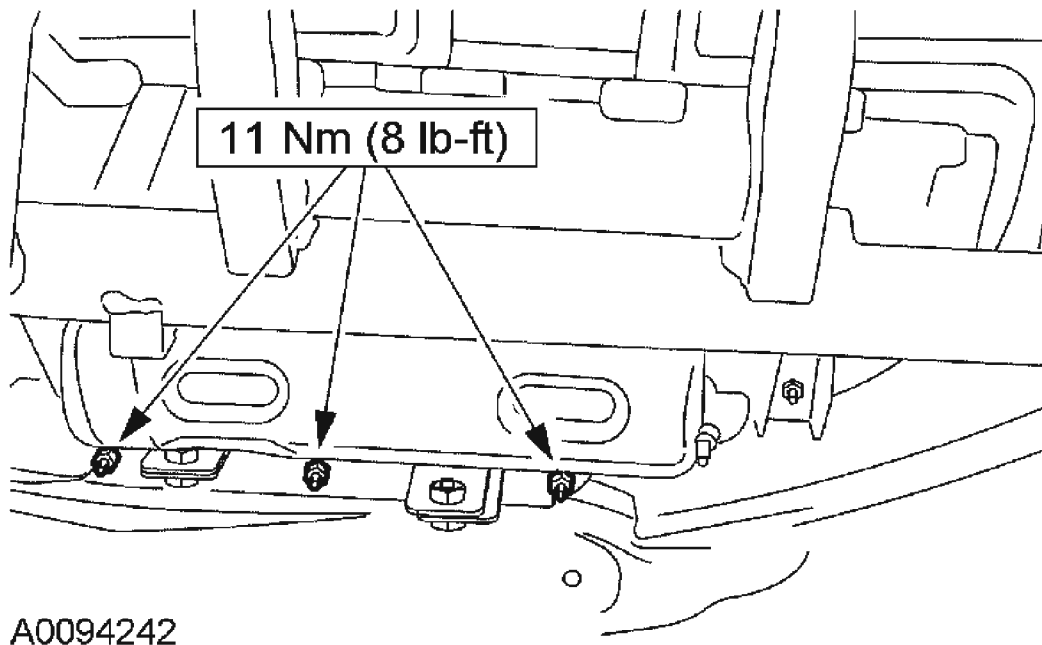


Fig. 282: Tightening Passenger Air Bag Module Floating Bracket Retaining Bolts
Courtesy of FORD MOTOR CO.

6. Tighten the passenger air bag module floating bracket retaining bolts.
7. Tighten the passenger air bag module trim cover retaining bolts.

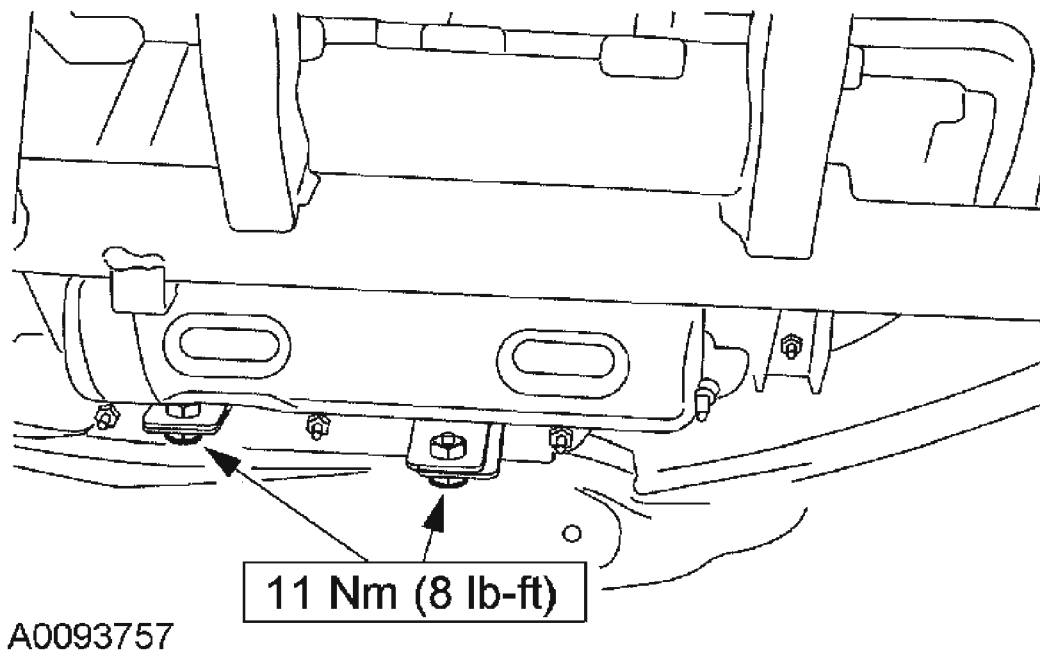


Fig. 283: Tightening Passenger Air Bag Module Trim Cover Retaining Bolts
Courtesy of FORD MOTOR CO.

8. Attach the defroster pipe to the heater housing and defroster vent.

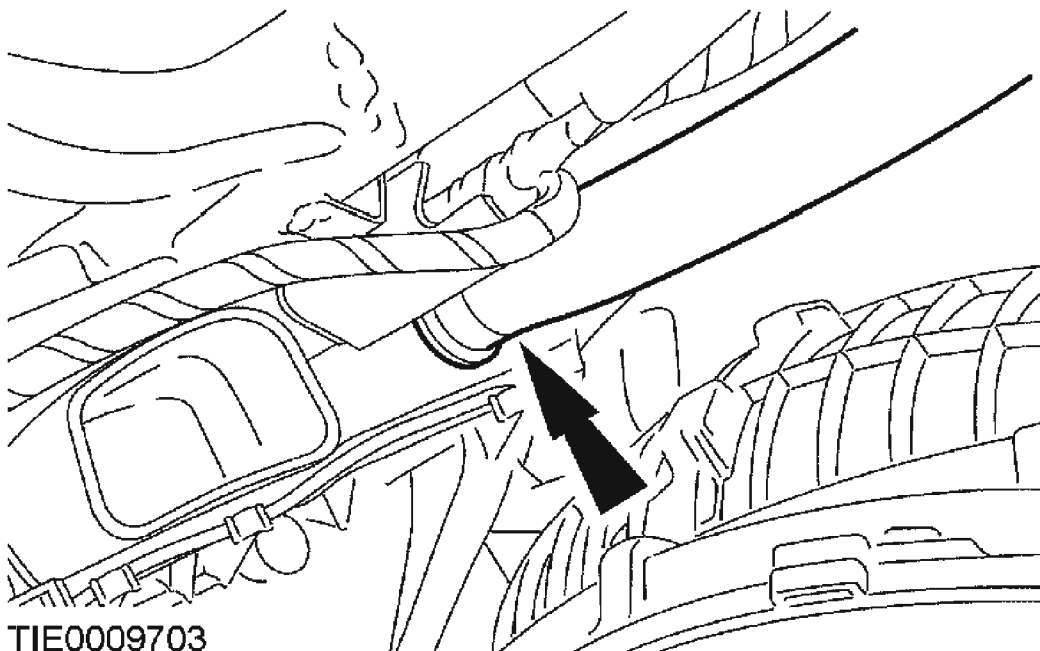


Fig. 284: Attaching Defroster Pipe To Heater Housing And Defroster Vent
Courtesy of FORD MOTOR CO.

9. Install the ventilation pipe.
 - Attach the retaining clip.

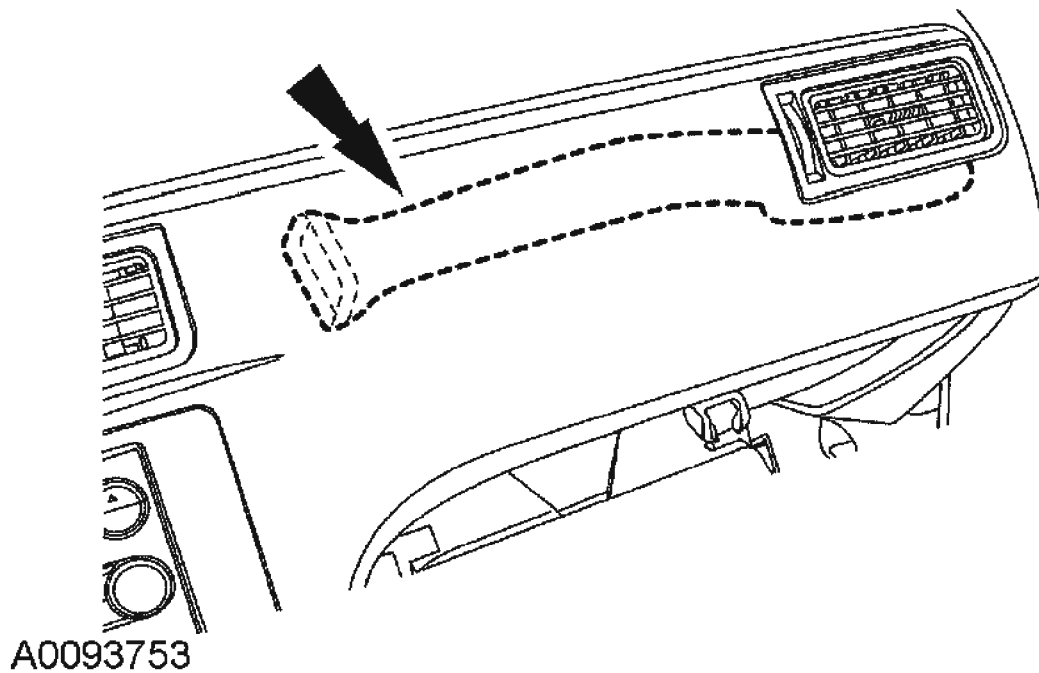


Fig. 285: Installing Ventilation Pipe
Courtesy of FORD MOTOR CO.

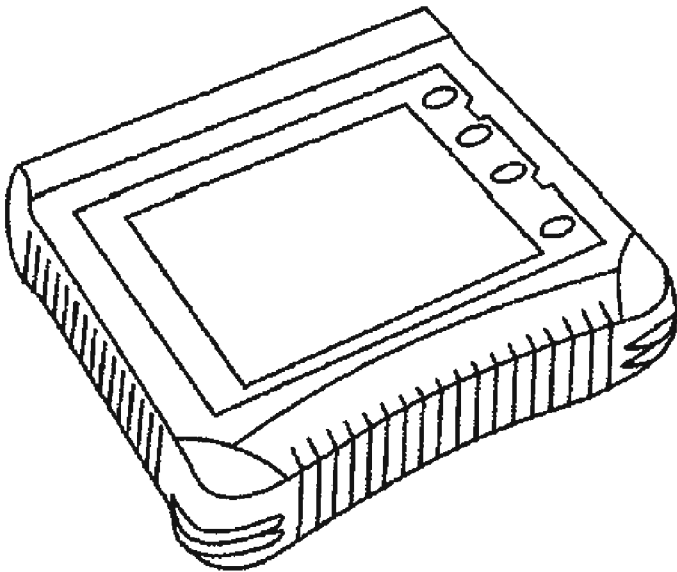
10. Close the glove compartment door.
11. Repower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

RESTRAINTS CONTROL MODULE (RCM)

Special Tool(s)

SPECIAL TOOLS DESCRIPTION

	Worldwide Diagnostic System (WDS) Vehicle Communication Module (VCM) with appropriate adapters, or equivalent diagnostic tool
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ST2332-A

Removal

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

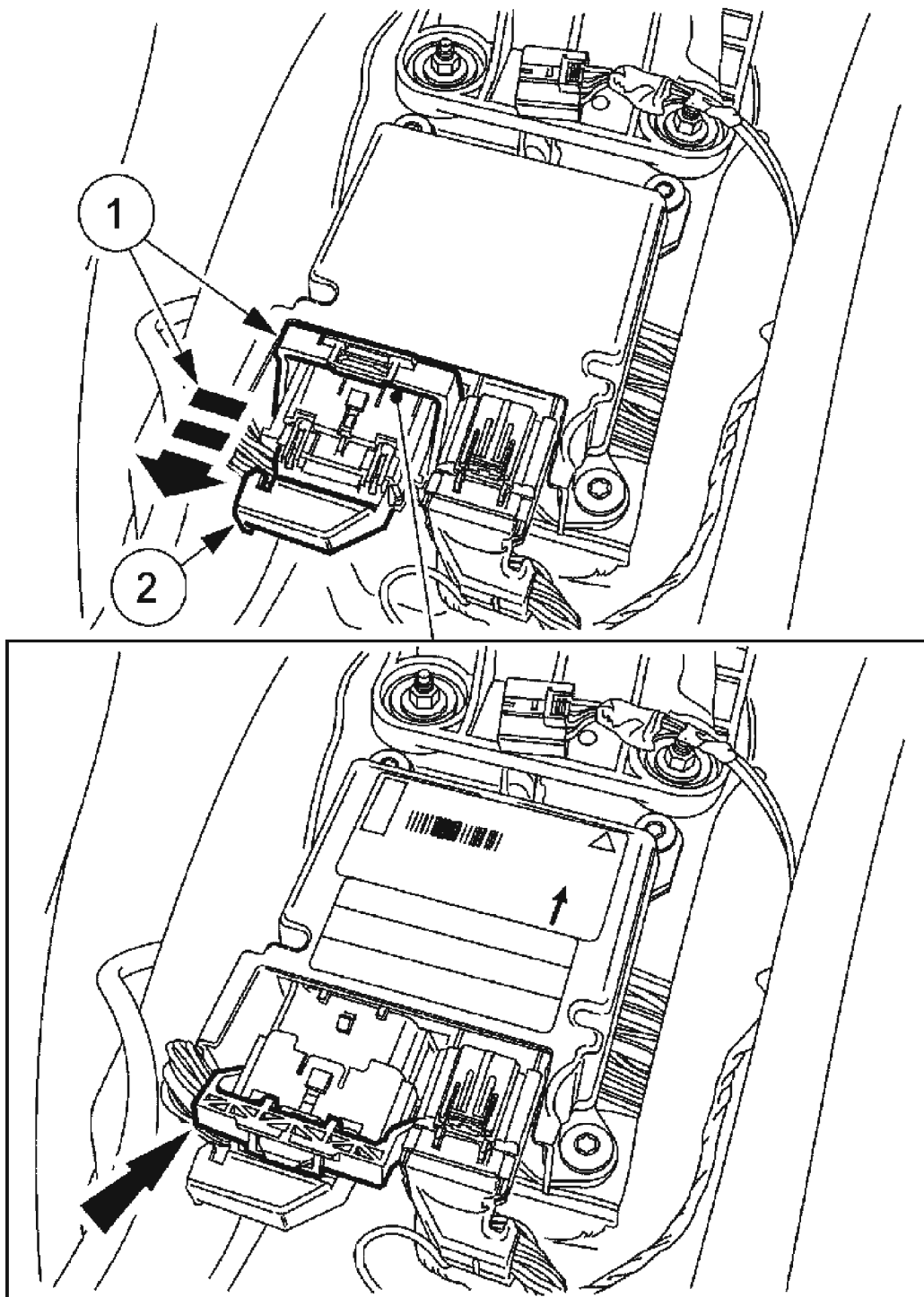
WARNING: The restraints control module (RCM) orientation is critical for correct air bag supplemental restraint system (SRS) operation. If a vehicle equipped with an SRS system has been involved in a collision in which the center tunnel area has been damaged, inspect the mounting and bracket for deformation. If damaged, the RCM must be replaced whether or not the air bags have deployed. In addition, make sure the area of the RCM is restored to its original condition.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

CAUTION: Electronic modules are sensitive to static electrical charges. If exposed to these charges, damage can result.

CAUTION: Prior to removal of the module, it is necessary to upload module configuration information to the diagnostic tool. This information needs to be downloaded into the new module once installed. For additional information, Refer to **MODULE COMMUNICATIONS NETWORK** .

- NOTE:** The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.
- NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.
- NOTE:** Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.
1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
 2. Remove the center console. For additional information, Refer to **INSTRUMENT PANEL AND CONSOLE** .
 3. Disconnect the large restraints control module (RCM) electrical connector.
 1. Pinch the thumb tab and pivot the connector position assurance lever all the way back until it stops.
 2. Pull out and disconnect the large RCM electrical connector.



A0093781

Fig. 286: Disconnecting Large RCM Electrical Connector
Courtesy of FORD MOTOR CO.

4. Disconnect the small RCM electrical connector.

5. Remove the restraints control module bolts.

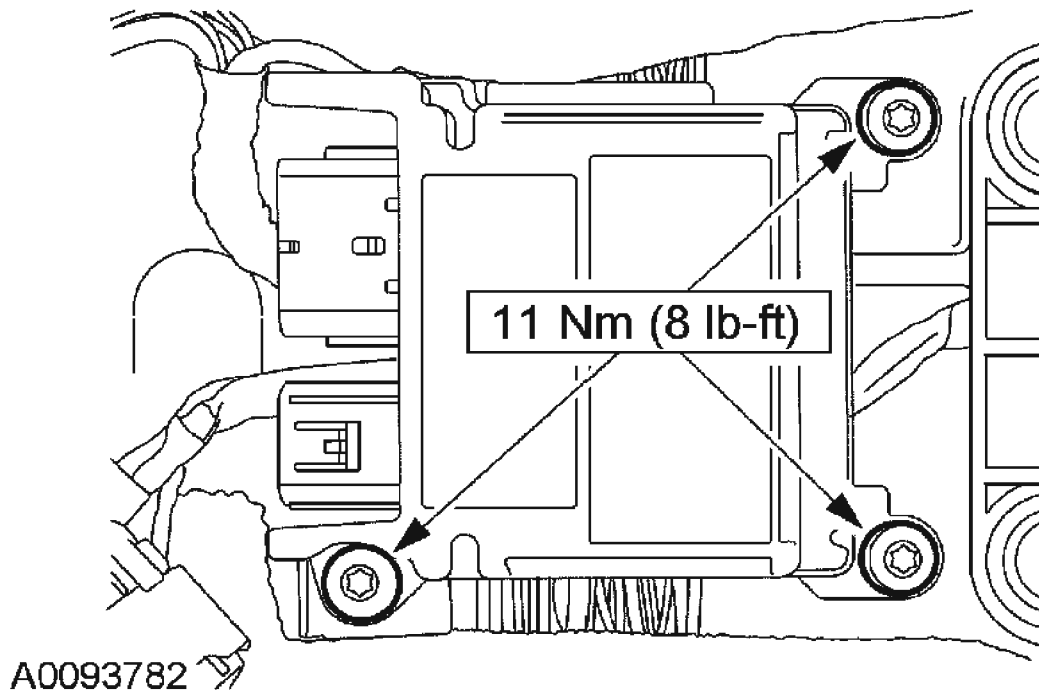


Fig. 287: Removing Restraints Control Module Bolts
Courtesy of FORD MOTOR CO.

6. Remove the restraints control module.

Installation

WARNING: A new RCM must be configured following installation. Failure to follow this instruction may result in personal injury.

1. Position the restraints control module.

WARNING: The tightening torque of the air bag RCM retaining bolts is critical for correct system operation.

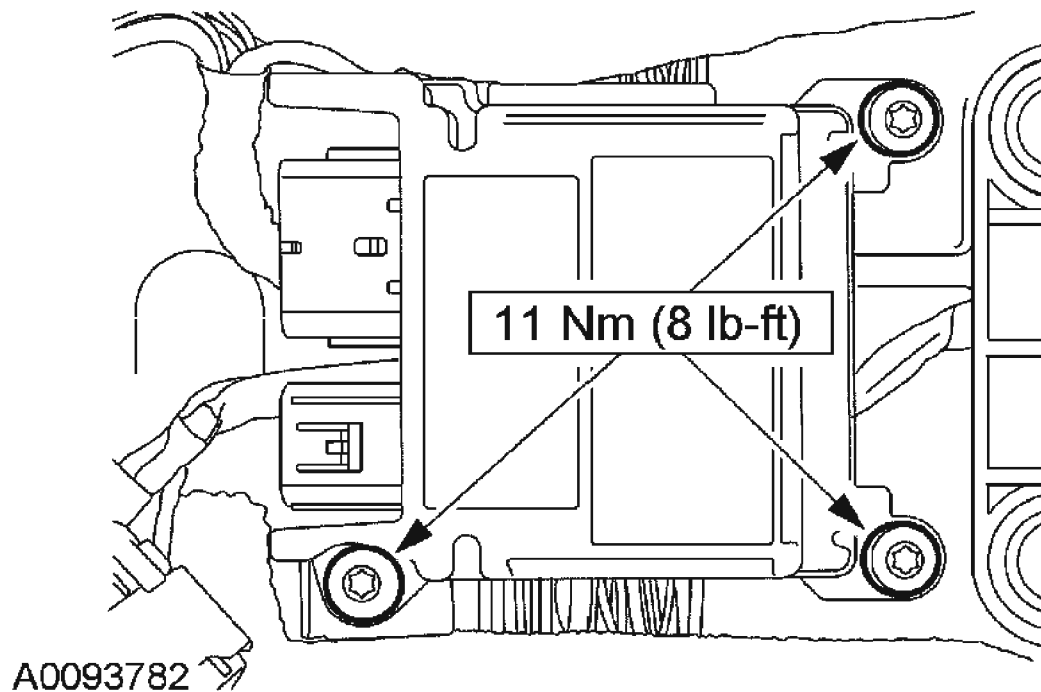
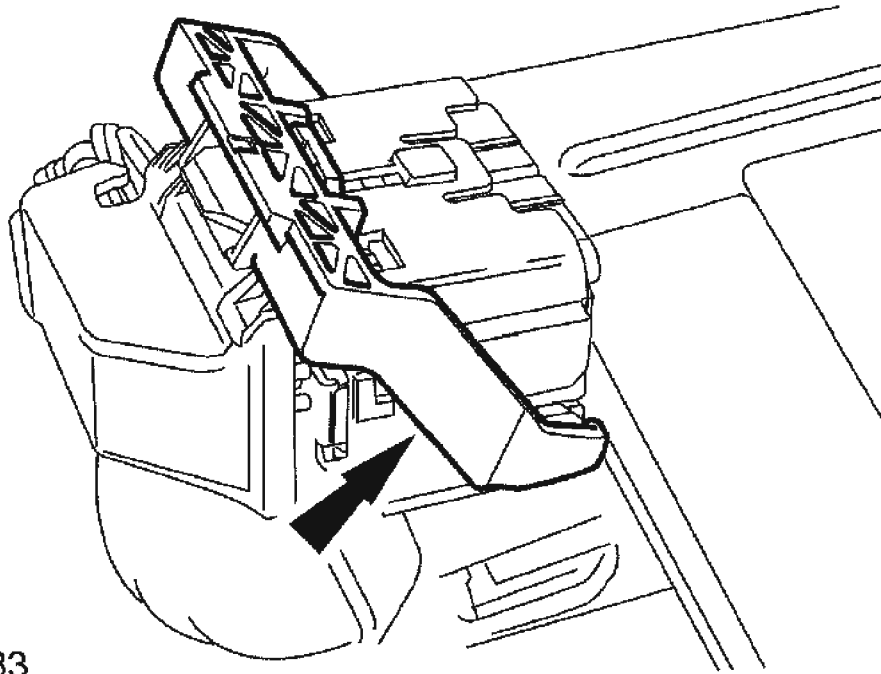


Fig. 288: Installing RCM Bolts
Courtesy of FORD MOTOR CO.

2. Install the RCM bolts.
3. Connect the small RCM electrical connector.
4. Make sure the large RCM electrical connector position assurance lever is in the full release position before attempting to connect the connector.

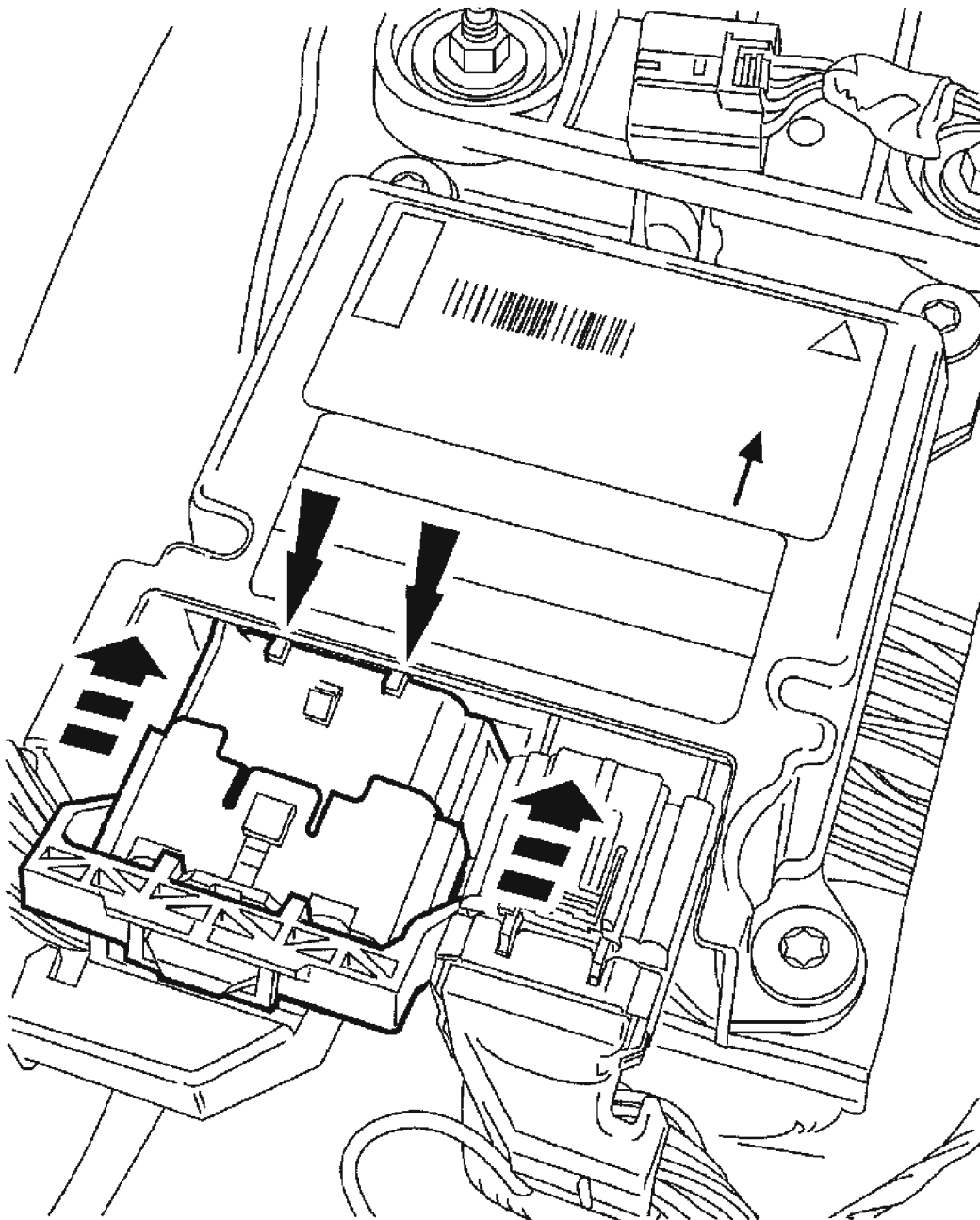


A0093783

Fig. 289: Checking Large RCM Electrical Connector Position Assurance Lever Is In Full Release Position

Courtesy of FORD MOTOR CO.

CAUTION: Placing the large RCM electrical wiring connector into the RCM at an angle can cause bad electrical connections and damage components.



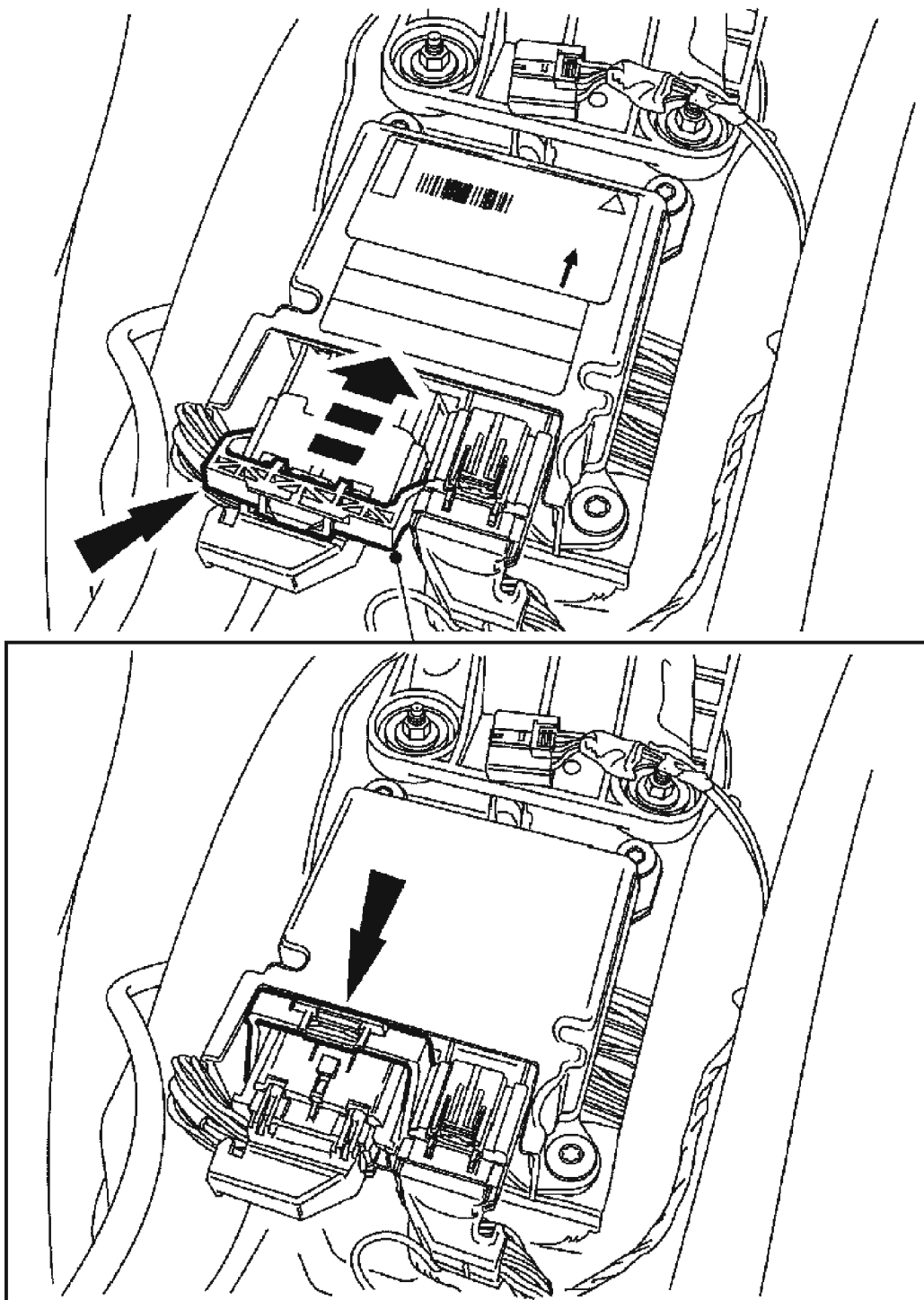
A0093784

Fig. 290: Installing Large RCM Electrical Wiring Connector
Courtesy of FORD MOTOR CO.

5. Position the large RCM electrical wiring connector into the RCM.

CAUTION: Do not push the connector to where the lever pivots and seats itself. Light pressure is needed to get the connector into position on the RCM before using the lever to fully seat the connector.

- With the large RCM electrical wiring connector uniformly aligned to the RCM, lightly push in until a subtle audible click is heard and a slight resistance is felt.
6. Connect the large RCM electrical wiring connector.
- Using the connector position assurance lever, pivot it toward the RCM, drawing the connector into the RCM.
 - Make sure the thumb tab is engaged to the retainer on the RCM and locked in place.



A0093785

Fig. 291: Connecting Large RCM Electrical Wiring Connector
Courtesy of FORD MOTOR CO.

7. Install the center console. For additional information, Refer to **INSTRUMENT**

PANEL AND CONSOLE .

8. Repower the system. **Do not prove out the SRS at this time.** For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**
9. When installing a new RCM, download the saved RCM module configuration information from the diagnostic tool to the new RCM. For additional information, Refer to **MODULE COMMUNICATIONS NETWORK .**
10. Prove out the supplemental restraint system (SRS) as follows:

Turn the ignition key from ON to OFF. Wait 10 seconds, then turn the key back to ON and visually monitor the air bag indicator with the air bag modules installed. The air bag indicator will light continuously for approximately six seconds and then turn off. If an air bag supplemental restraint system (SRS) fault is present, the air bag indicator will either:

- Fail to light.
- Remain lit continuously.
- Flash.

The flashing might not occur until approximately 30 seconds after the ignition switch has been turned from the OFF to the ON position. This is the time required for the restraints control module (RCM) to complete the testing of the SRS. If the air bag indicator is inoperative and a SRS fault exists, a chime will sound in a pattern of five sets of five beeps. If this occurs, the air bag indicator and any SRS fault discovered must be diagnosed and repaired.

Clear all continuous DTCs from the restraints control module using a scan tool.

SIDE AIR BAG MODULE**Removal**

WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Carry a live side air bag module with the air bag and tear seam pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Do not set a live side air bag module down on the cover tear seam. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: After deployment, the air bag surface can contain deposits of sodium hydroxide, a product of the gas generant combustion that is irritating to the skin. Wash your hands with soap and water afterwards.

WARNING: Never probe the connectors on the air bag module. Doing so can result in air bag deployment, which can result in personal injury.

WARNING: Side air bag modules with damaged covers must be replaced.

WARNING: Front seat back trim covers installed on seats equipped with side air bags cannot be repaired, they are to be replaced. Cleaning is permissible.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

NOTE: If a side air bag deployment took place a new seat back pad, trim cover, and side air bag module must be installed. The seat back frame should be replaced if necessary.

NOTE: When replacing the side air bag after deployment, Refer to SEATING for additional information concerning the installation of a new side air bag.

NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.

NOTE: The driver seat side air bag module is shown, the passenger side is similar.

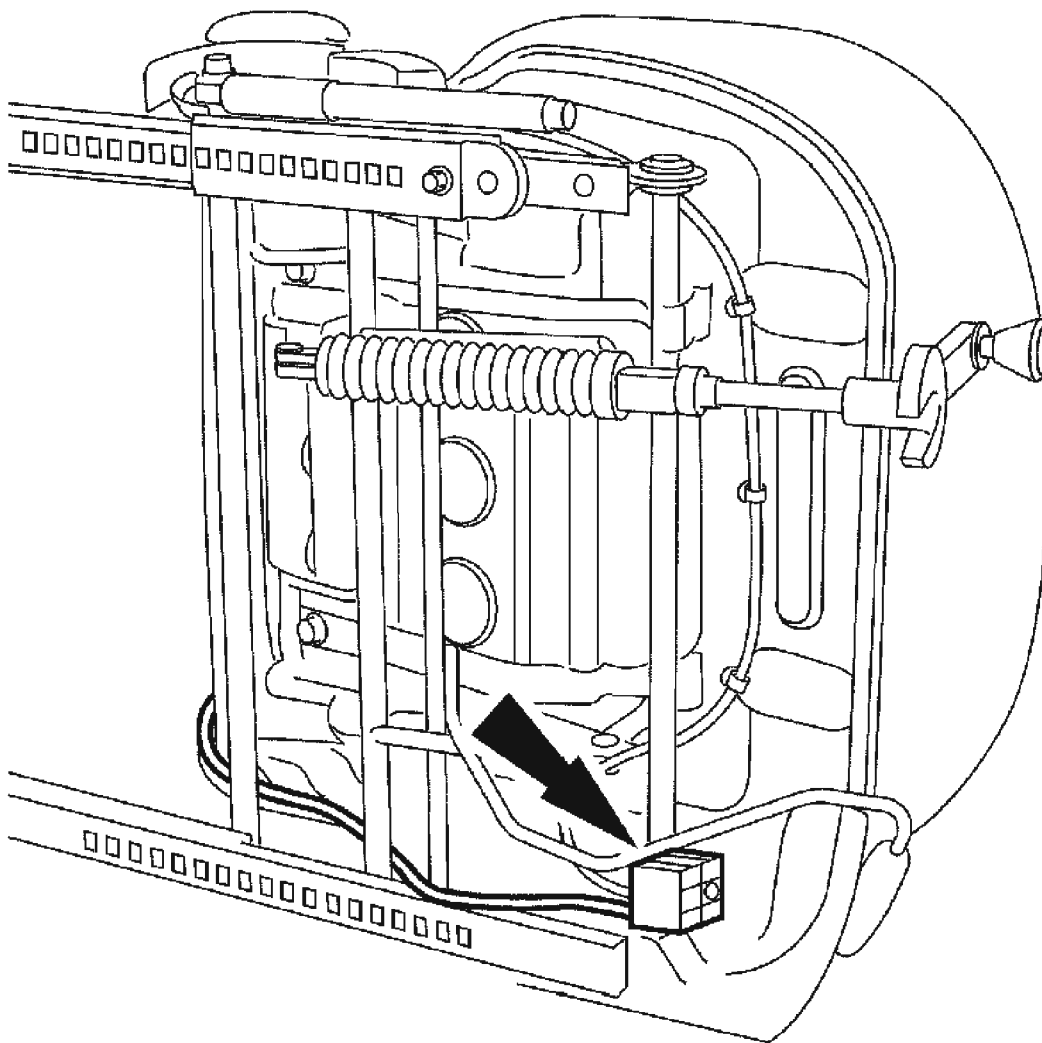
NOTE: Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.

All seats

1. Depower the system. For additional information, refer to SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.

2. Remove the front seat. For additional information, Refer to **SEATING** .

WARNING: Note the position of the wiring harness to aid installation. An incorrectly routed wiring harness could become damaged when the seat is moved. Failure to follow this instruction may result in personal injury.



TIE0003558

Fig. 292: Detaching Side Air Bag Module Electrical Connector From Seat

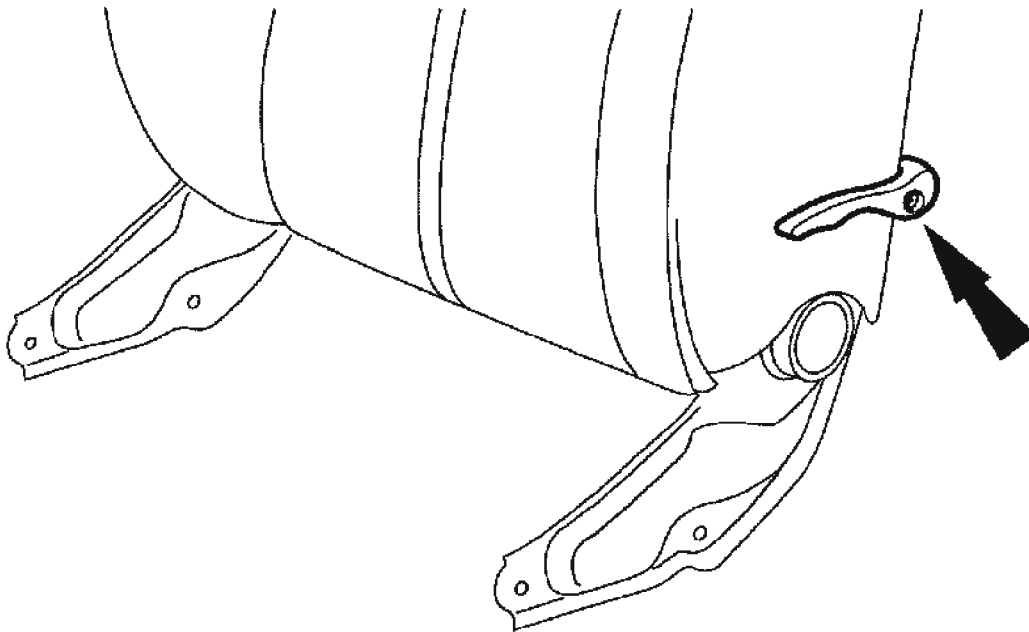
Bulkhead Connector

Courtesy of FORD MOTOR CO.

3. Detach the side air bag module electrical connector from the seat bulkhead connector.

Three-door

4. Remove the backrest release lever.



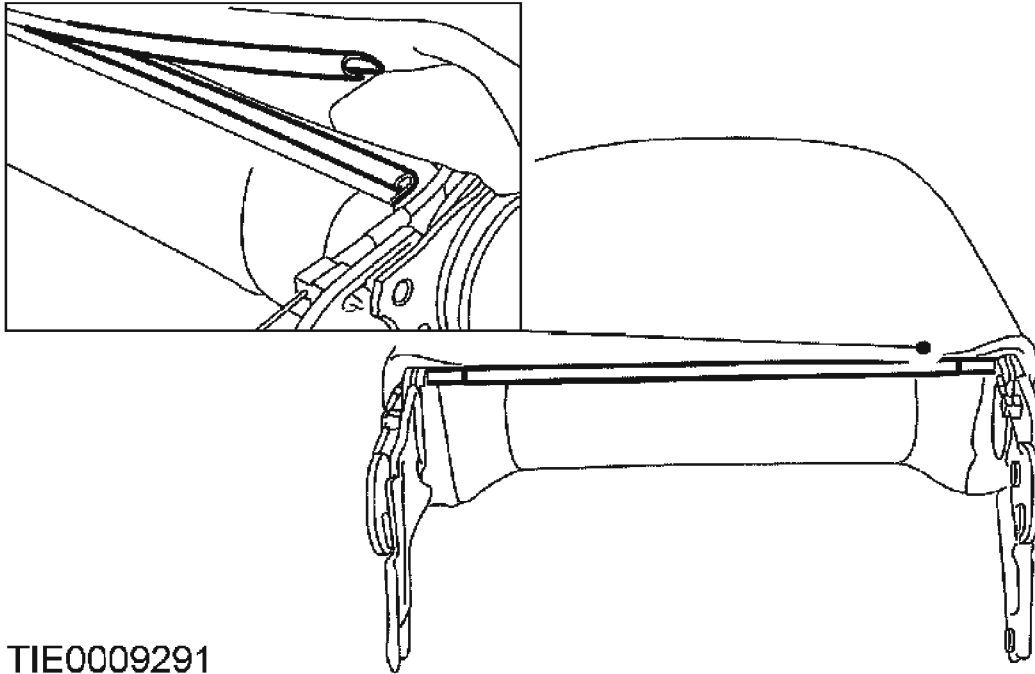
A0002360

Fig. 293: Removing Backrest Release Lever

Courtesy of FORD MOTOR CO.

All seats

5. Separate the trim cover J-clip.



TIE0009291

Fig. 294: Separating Trim Cover J-Clip
Courtesy of FORD MOTOR CO.

6. Roll the trim cover and the assembly aid bag up the backrest to access the lower ends of the tensioning rods.

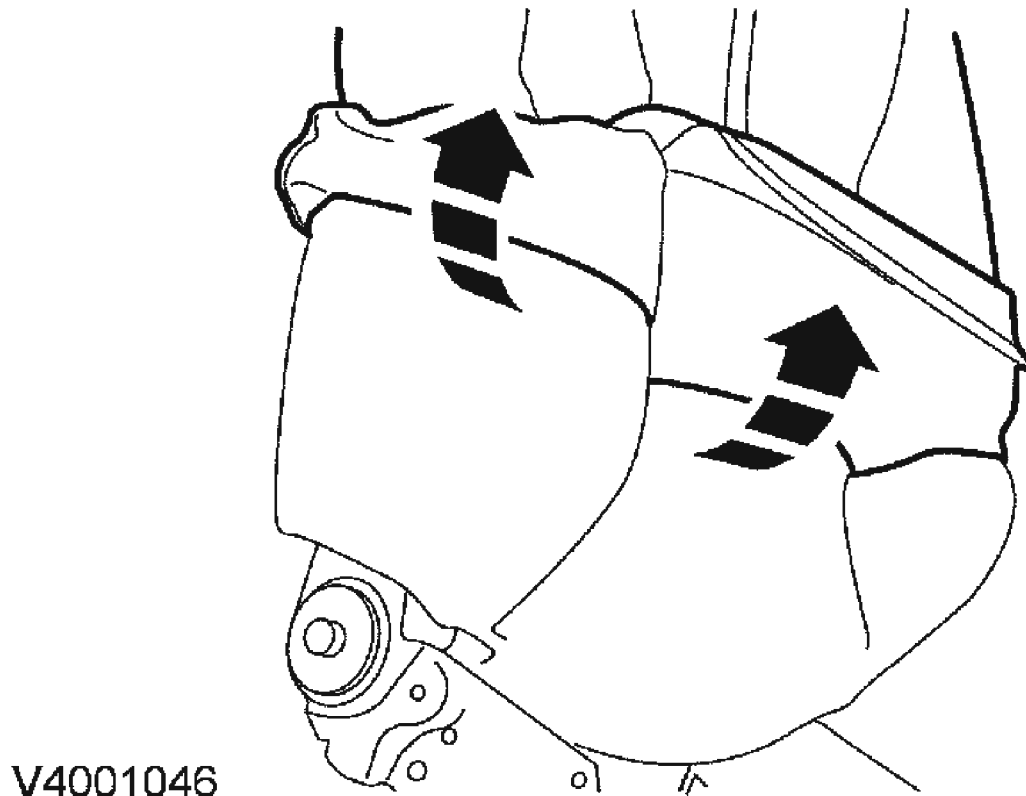


Fig. 295: Rolling Trim Cover And Assembly Aid Bag Up Backrest To Access Lower Ends Of Tensioning Rods
Courtesy of FORD MOTOR CO.

7. Detach the lower ends of the tensioning rods from the foam pad.

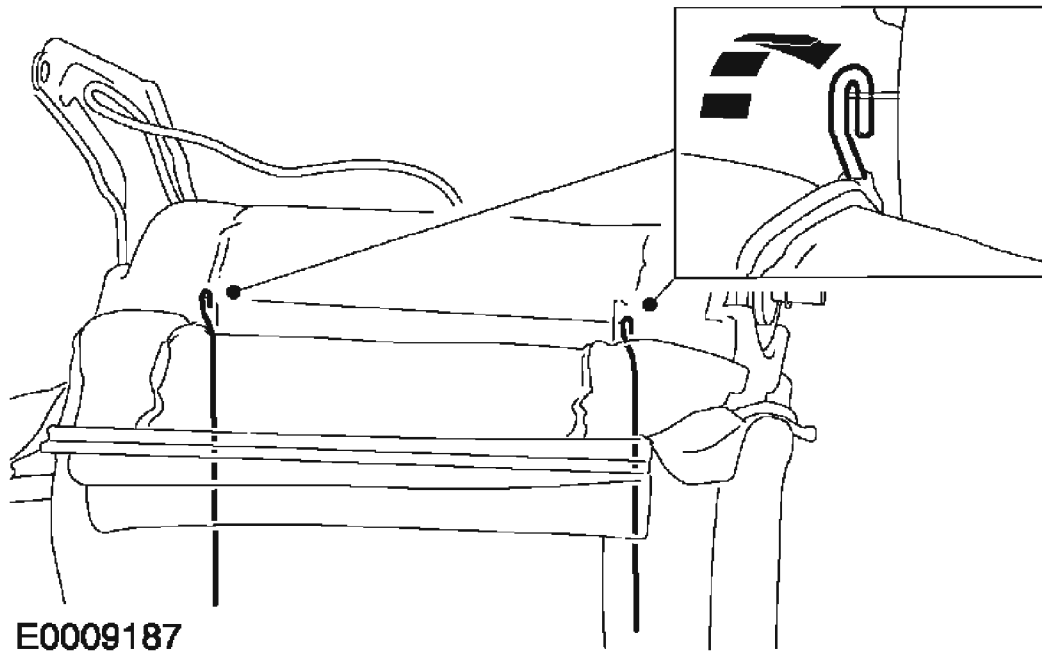
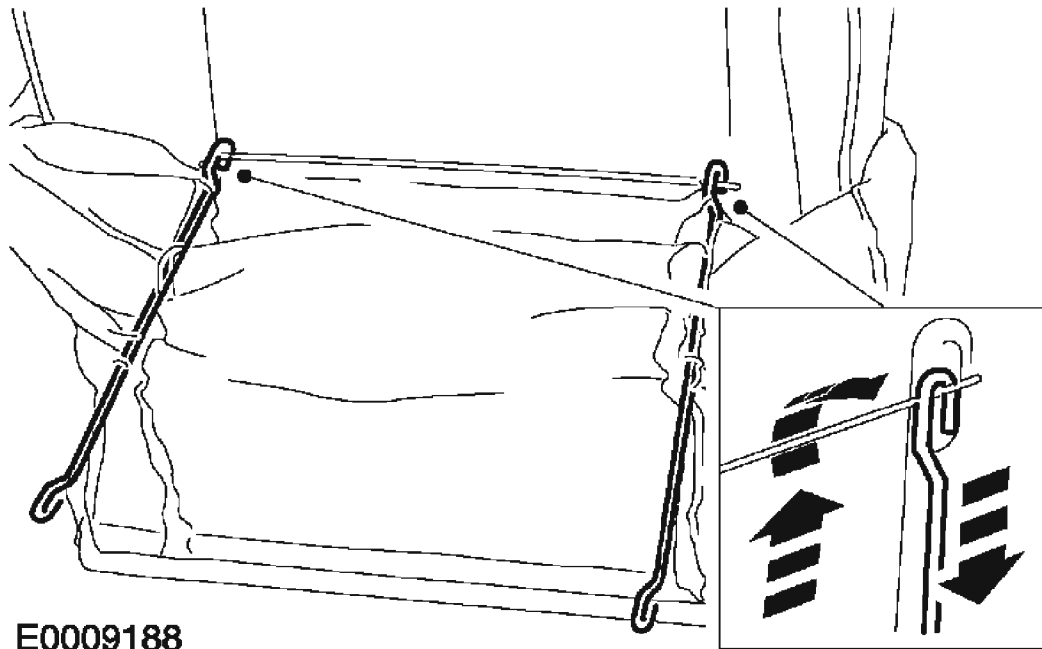


Fig. 296: Detaching Lower Ends Of Tensioning Rods From Foam Pad
Courtesy of FORD MOTOR CO.

8. Roll the trim cover and the assembly aid bag up the backrest to access the upper ends of the tensioning rods.
9. Detach the upper ends of the tensioning rods from the backrest foam pad.



E0009188

Fig. 297: Detaching Upper Ends Of Tensioning Rods From Backrest Foam Pad
Courtesy of FORD MOTOR CO.

10. Roll the trim cover and the assembly aid bag up the backrest to access the upper end of the backrest frame.
11. Remove the hog rings.

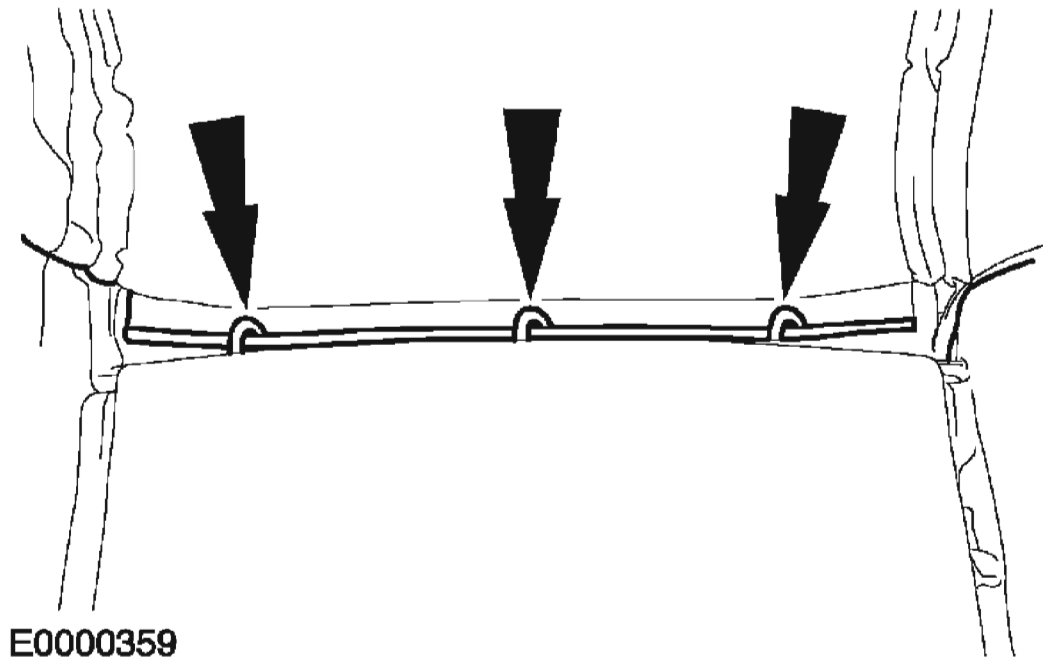


Fig. 298: Removing Hog Rings
Courtesy of FORD MOTOR CO.

WARNING: Do not re-use the plastic retaining rivets. Always install new rivets. Failure to follow this warning could impair the air bag deployment and may result in personal injury.

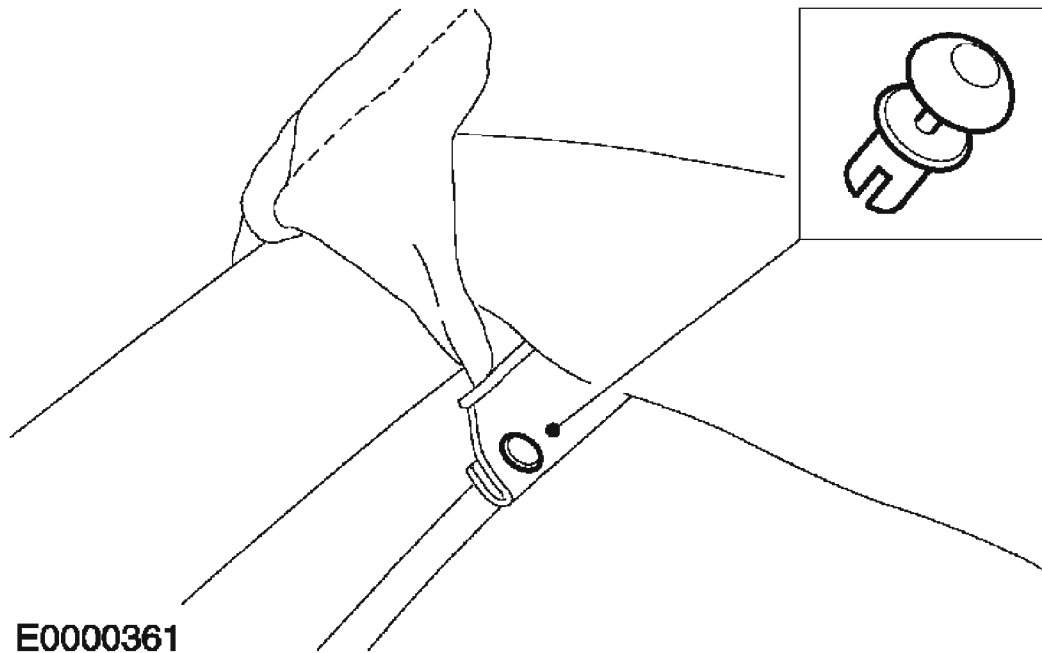


Fig. 299: Removing Side Air Bag Module Deployment Chute J-Clip Rivet
Courtesy of FORD MOTOR CO.

12. Remove and discard the side air bag module deployment chute J-clip rivet.

WARNING: Do not attempt to separate the plastic retaining strips in any other way than that detailed. Failure to follow this warning could impair the air bag deployment and may result in personal injury.

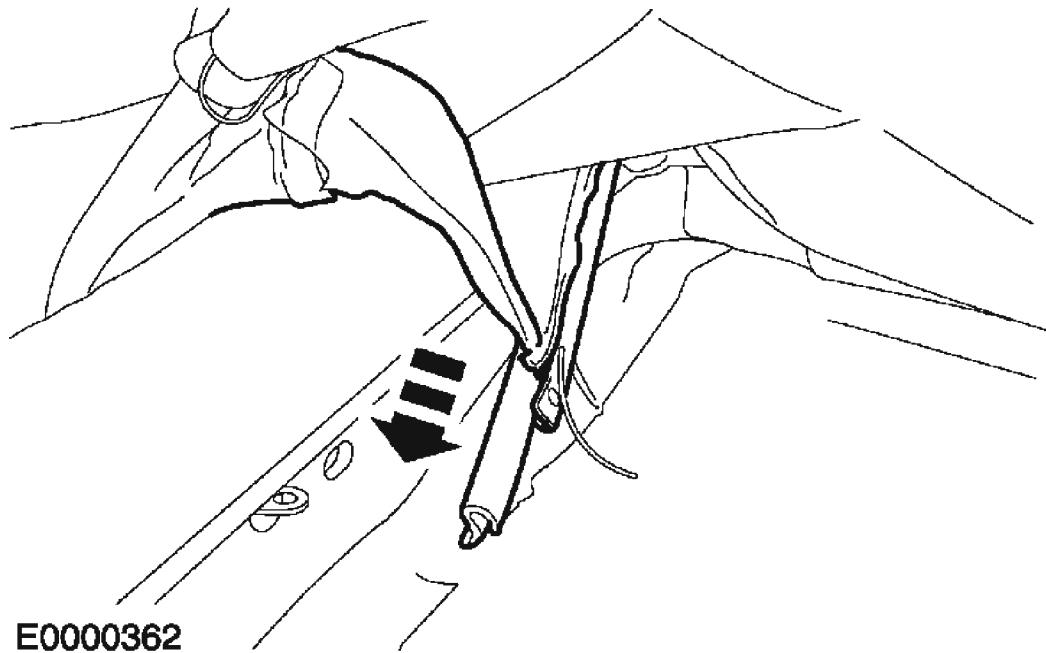


Fig. 300: Sliding Apart Plastic J-Clips Securing Side Air Bag Deployment Chute
Courtesy of FORD MOTOR CO.

13. Slide apart the plastic J-clips securing the side air bag deployment chute.
14. Roll the trim cover and the assembly aid bag up the backrest to access the side air bag module.
15. Remove the nuts, side air bag module and side air bag module liner.
 - Route the wiring harness out from between the backrest frame and the foam pad.

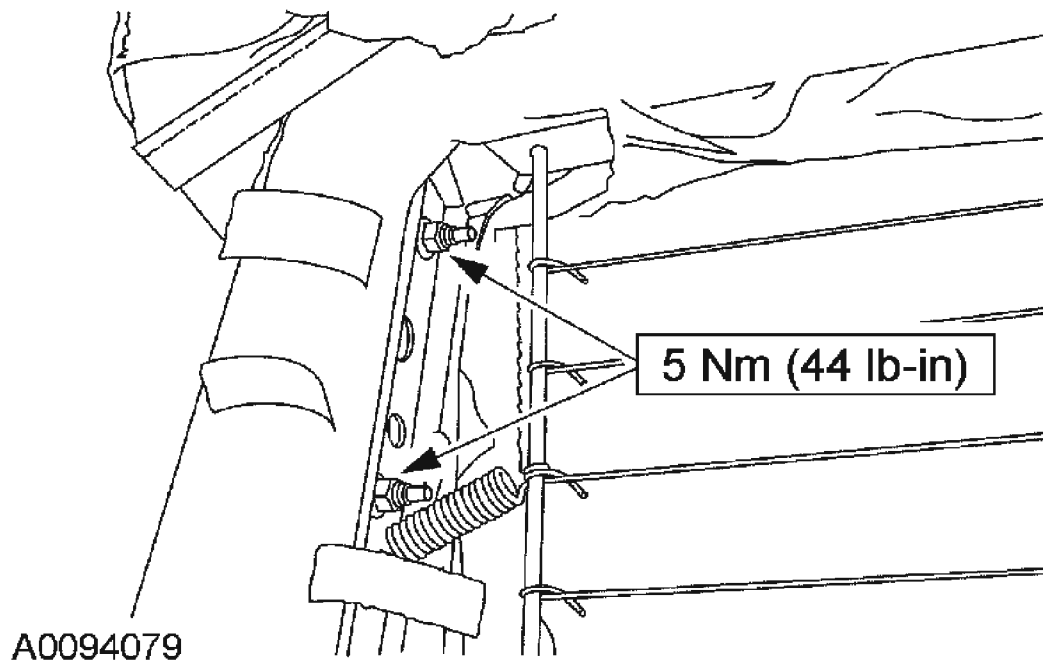


Fig. 301: Removing Nuts, Side Air Bag Module And Side Air Bag Module Liner
Courtesy of FORD MOTOR CO.

Installation

All seats

1. Align the holes in the side air bag module liner to the mounting holes in the backrest frame.

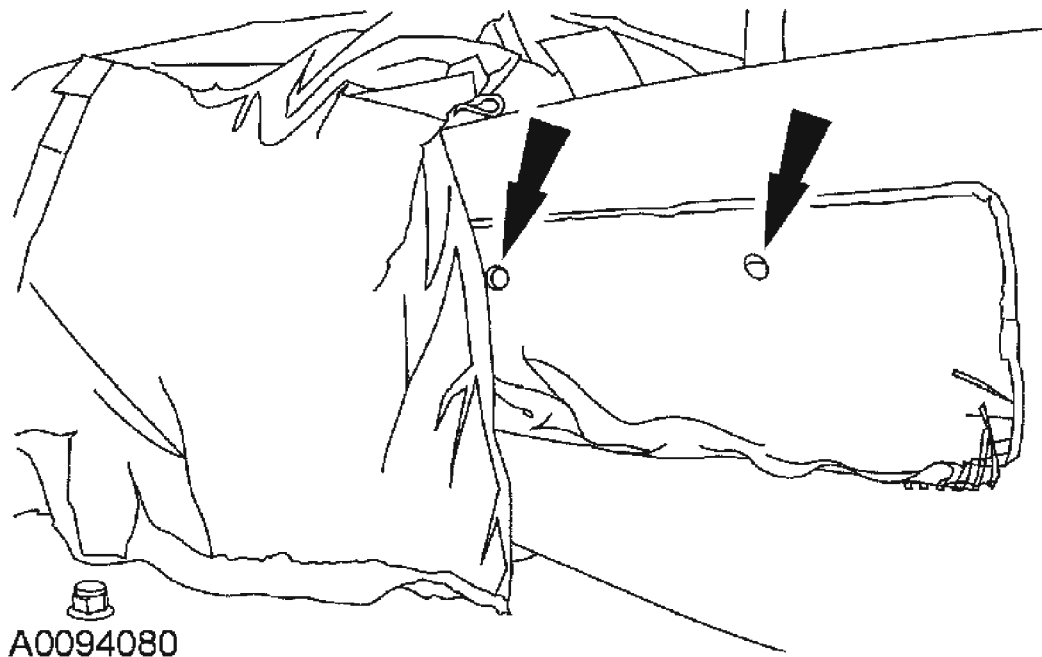


Fig. 302: Aligning Holes In Side Air Bag Module Liner To Mounting Holes In Backrest Frame

Courtesy of FORD MOTOR CO.

WARNING: Before installing the side air bag module, check it for damage and foreign objects. If the air bag module is damaged, replace it. If any foreign objects are found, remove them. Failure to do so may result in personal injury, in the event of an air bag deployment.

WARNING: If the air bag cover has separated or the air bag material has been exposed, install a new side air bag module. Do not attempt to repair the air bag module. Failure to do so may result in personal injury in the event of an air bag deployment.

WARNING: Inspect the mounting surfaces of the side air bag module and the seat back frame mounting area for any foreign objects, before installing the side air bag module. If any foreign objects are found, remove them. Failure to do so may result in personal injury, in the event of an air bag deployment.

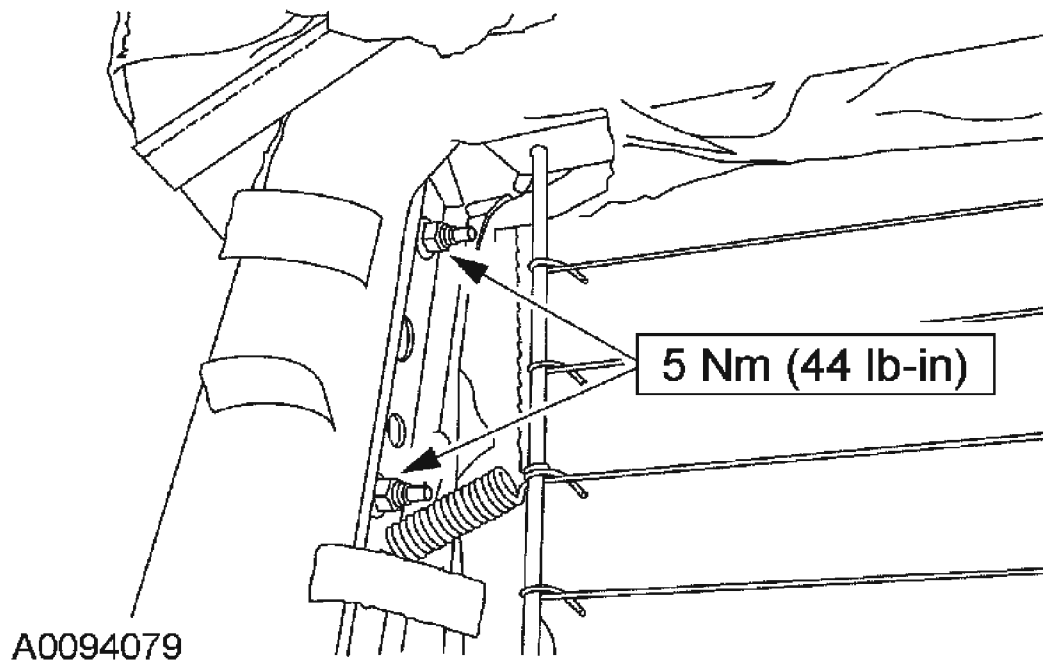


Fig. 303: Positioning Side Air Bag Module Studs Through Side Air Bag Module Liner And Backrest Frame And Installing Nuts
Courtesy of FORD MOTOR CO.

2. Position the side air bag module studs through the side air bag module liner and backrest frame and install the nuts.
 - Make sure the side air bag module studs go through the holes in the side air bag module liner and then through the backrest frame holes.
 - Route the wiring harness back through the backrest frame and the foam pad.
3. Align the trim cover and the assembly aid bag to the backrest frame and foam pad and roll it down into position.

WARNING: Check the air bag deployment chute and J-clips for damage. The air bag deployment chute and J-clips must not be repaired. If there is any damage to the deployment chute or J-clips, a new seat back trim cover and deployment chute must be installed as a unit.

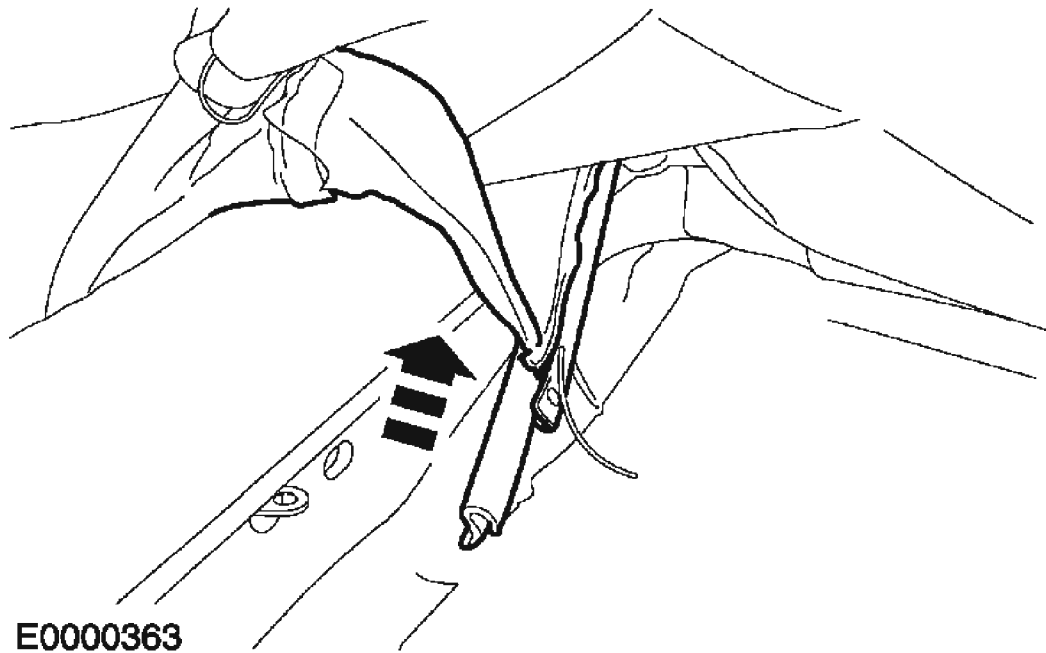


Fig. 304: Attaching Side Air Bag Module Deployment Chute J-Clips
Courtesy of FORD MOTOR CO.

4. Wrap the outboard end of the deployment chute around the outboard end of the side air bag module. Slide together and attach the two side air bag module deployment chute J-clips.

WARNING: Do not re-use the plastic retaining rivets. Always install new rivets. Failure to follow this warning could impair the air bag deployment and may result in personal injury.

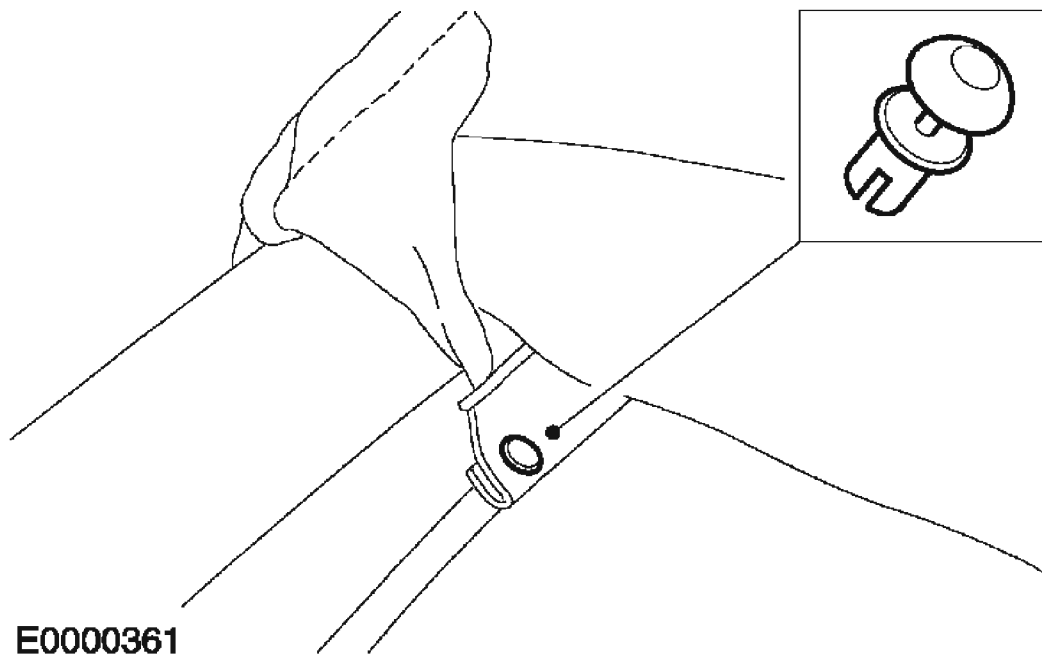
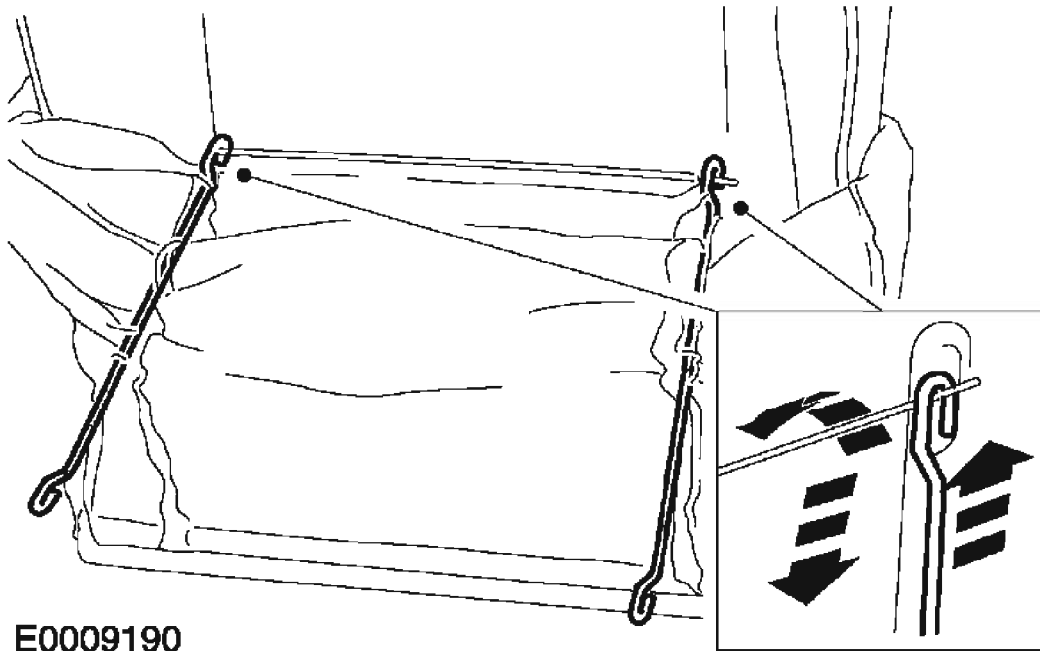


Fig. 305: Installing Side Air Bag Module Deployment Chute Retainer
Courtesy of FORD MOTOR CO.

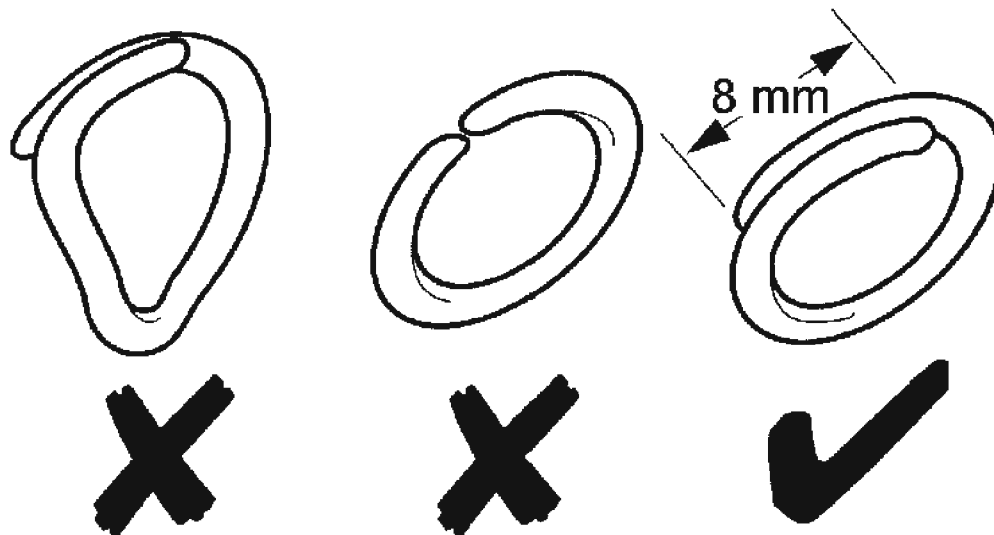
5. Install the side air bag module deployment chute retainer.
 - Assemble the plastic rivet into the deployment chute J-clips.
6. Attach the upper ends of the tensioning rods to the backrest foam pad.



E0009190

Fig. 306: Attaching Upper Ends Of Tensioning Rods To Backrest Foam Pad
Courtesy of FORD MOTOR CO.

NOTE: Use hog ring pliers to close the hog rings. Do not use any other tool. The hog rings must be closed to overlap as illustrated.



A0065511

Fig. 307: Identifying Hog Rings Are Closed To Overlap
Courtesy of FORD MOTOR CO.

7. Position the trim cover to install the hog rings.
8. Install the hog rings.

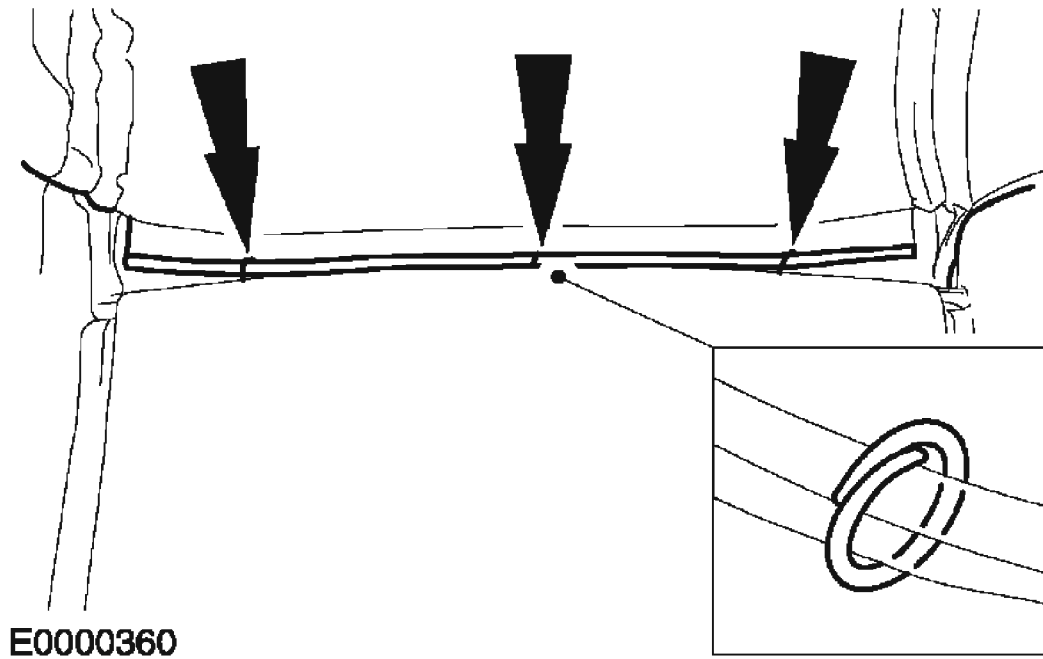
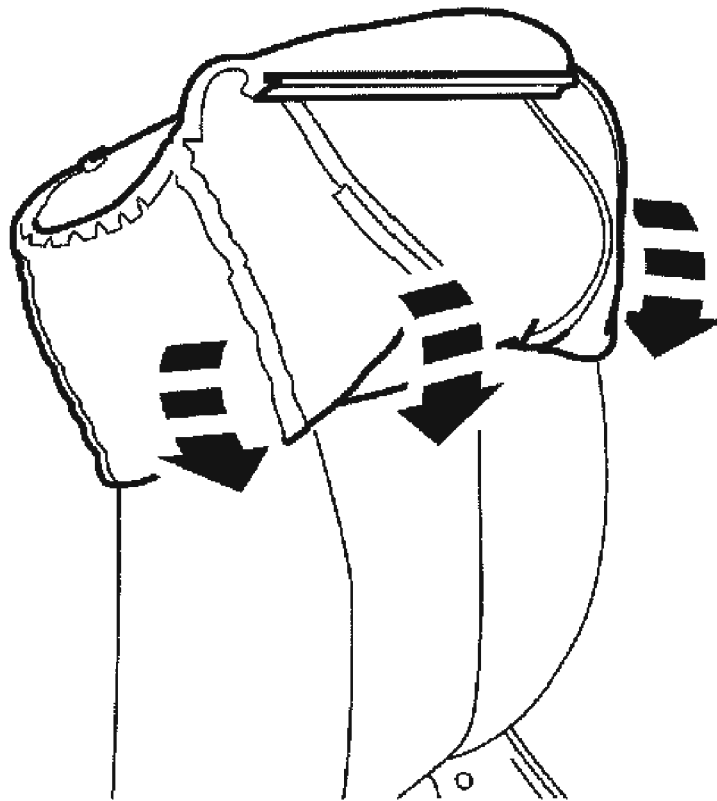


Fig. 308: Installing Hog Rings
Courtesy of FORD MOTOR CO.

9. Roll the trim cover and the assembly aid bag down the backrest to the lower end of the spring frame.



TIE0000358

Fig. 309: Rolling Trim Cover And Assembly Aid Bag Down Backrest To Lower End Of Spring Frame
Courtesy of FORD MOTOR CO.

10. Attach the lower ends of the tensioning rods to the backrest foam pad.

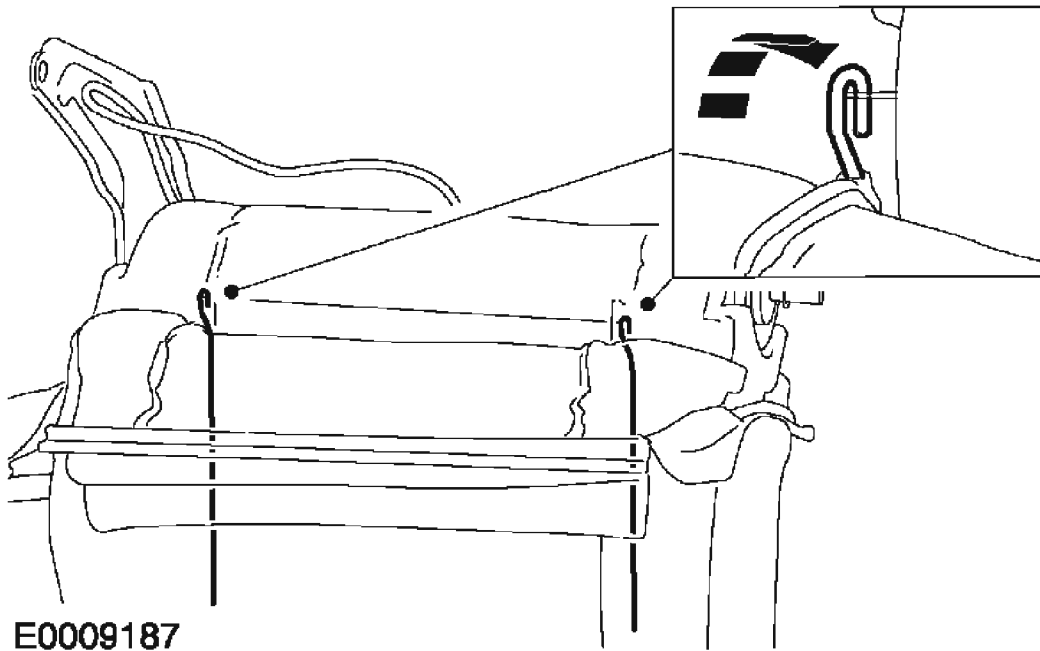
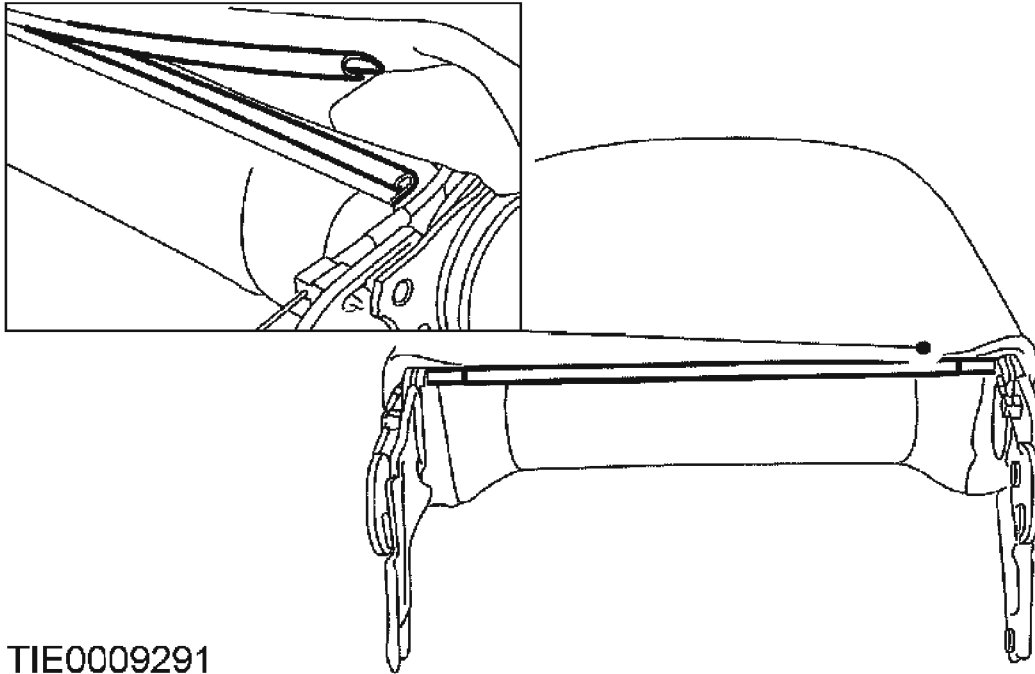


Fig. 310: Attaching Lower Ends Of Tensioning Rods To Backrest Foam Pad
Courtesy of FORD MOTOR CO.

11. Roll the trim cover and the assembly aid bag down the backrest and attach the trim cover J-clips.

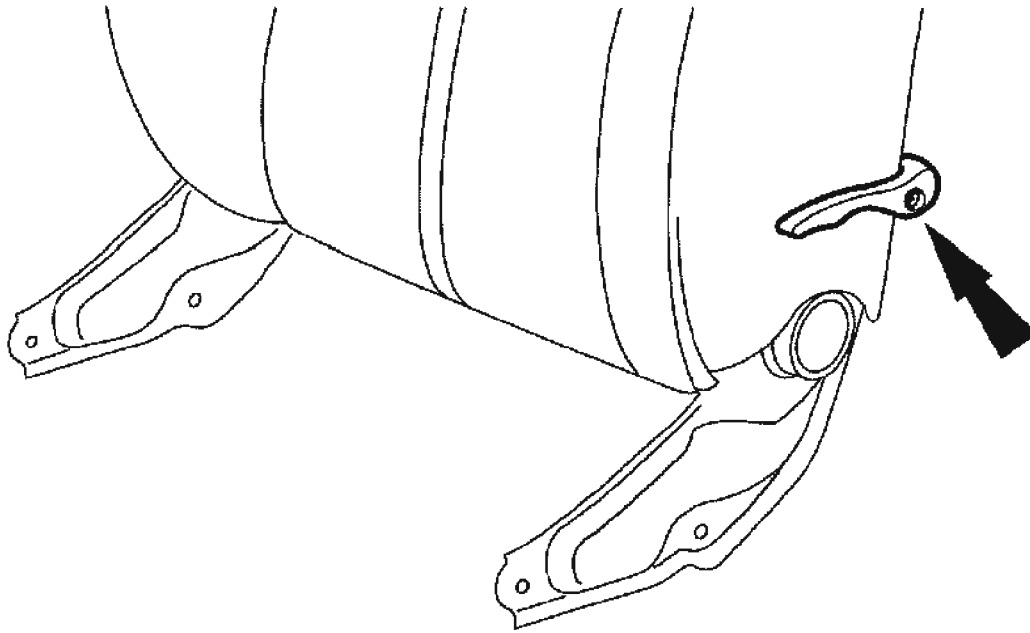


TIE0009291

Fig. 311: Rolling Trim Cover And Assembly Aid Bag Down Backrest And Attaching Trim Cover J-Clips
Courtesy of FORD MOTOR CO.

Three-door

12. Install the backrest release lever.

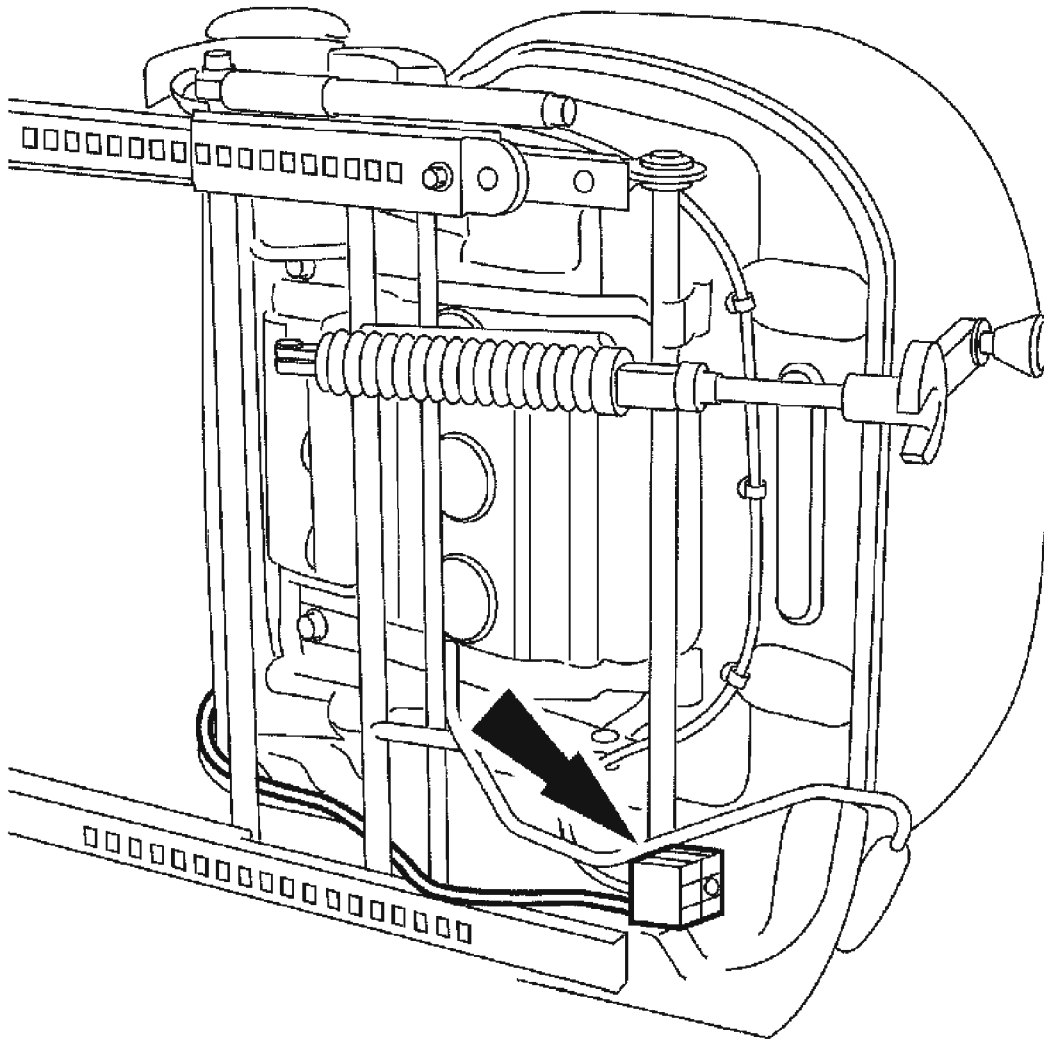


A0002360

Fig. 312: Installing Backrest Release Lever
Courtesy of FORD MOTOR CO.

All seats

13. Attach the side air bag module electrical connector back in the seat bulkhead connector.



TIE0003558

Fig. 313: Attaching Side Air Bag Module Electrical Connector Back In Seat Bulkhead Connector

Courtesy of FORD MOTOR CO.

14. Install the front seat. For additional information, Refer to **SEATING** .
15. Repower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.

Removal and Installation

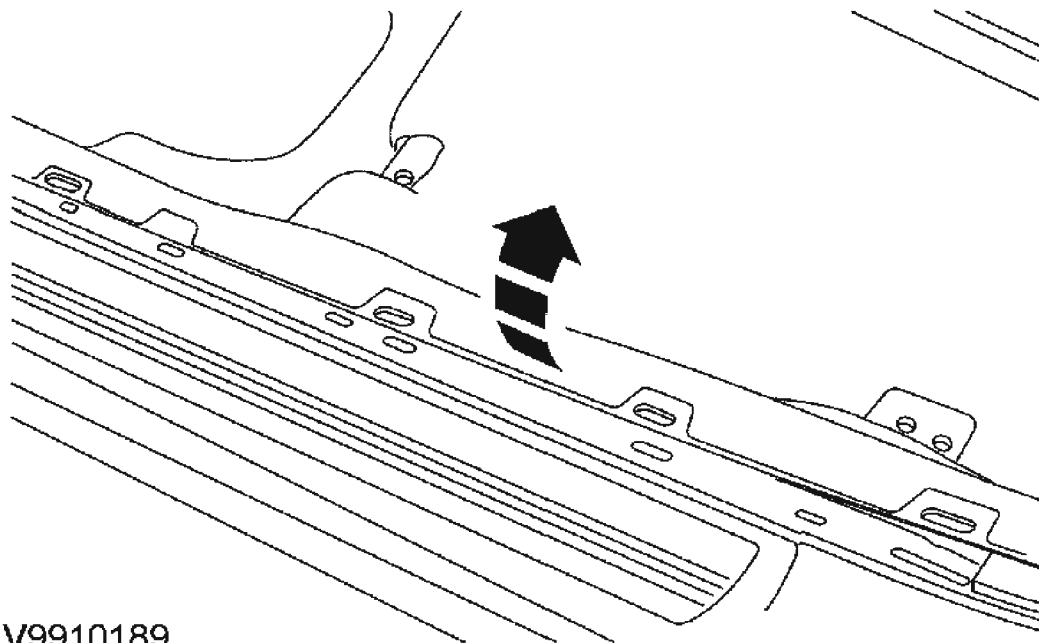
WARNING: Always wear safety glasses when repairing an air bag supplemental restraint system (SRS) vehicle and when handling an air bag module. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Vehicle sensor orientation is critical for proper system operation. If a vehicle equipped with an air bag supplemental restraint system (SRS) is involved in a collision, inspect the sensor mounting bracket and wiring pigtail for deformation. Replace and properly position the sensor or any other damaged supplemental restraint system (SRS) components whether or not the air bag is deployed.

WARNING: To reduce the risk of personal injury, do not use any memory saver devices.

- NOTE:** The air bag warning lamp illuminates when the RCM fuse is removed and the ignition switch is ON. This is normal operation and does not indicate a supplemental restraint system (SRS) fault.
- NOTE:** The SRS must be fully operational and free of faults before releasing the vehicle to the customer.
- NOTE:** Repair is made by installing a new part only. If the new part does not correct the condition, install the original part and carry out the diagnostic procedure again.
- NOTE:** Driver side shown, passenger side similar.

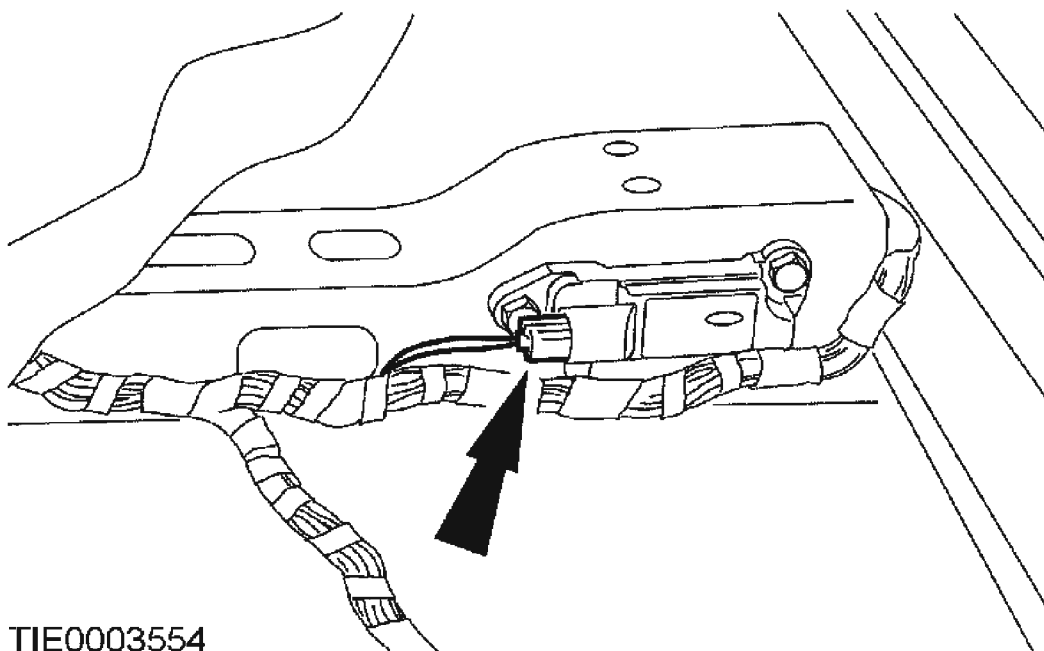
1. Depower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING**.
2. Remove the front seat. For additional information, Refer to **SEATING**.
3. Remove the front and rear scuff plates. For additional information, Refer to **INTERIOR TRIM AND ORNAMENTATION**.
4. Detach the floor covering from the floor panel.



V9910189

Fig. 314: Detaching Floor Covering From Floor Panel
Courtesy of FORD MOTOR CO.

5. Disconnect the side impact sensor electrical connector.



TIE0003554

Fig. 315: Disconnecting Side Impact Sensor Electrical Connector
Courtesy of FORD MOTOR CO.

NOTE: Note the position of the side impact sensor locating tabs for installation.

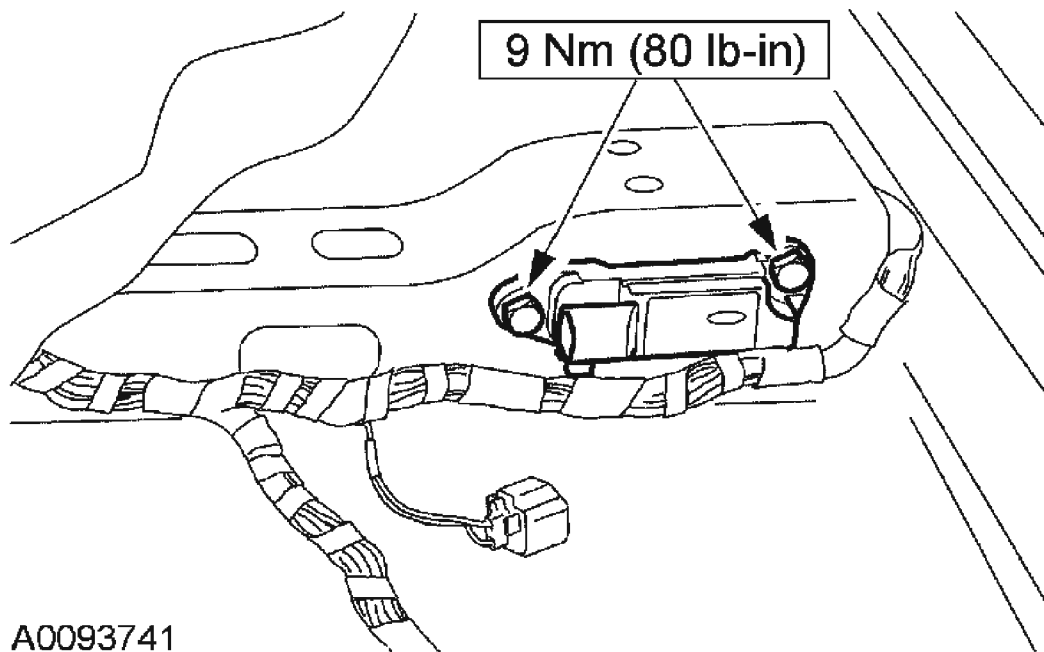


Fig. 316: Removing Bolts And Side Impact Sensor
Courtesy of FORD MOTOR CO.

6. Remove the bolts and the side impact sensor.
7. To install, reverse the removal procedure.
8. Repower the system. For additional information, refer to **SUPPLEMENTAL RESTRAINT SYSTEM (SRS) DEPOWERING AND REPOWERING.**