

Airbag and Safety Belt Pretensioner Supplemental Restraint System (SRS)

Principles of Operation

The Restraints Control Module (RCM) continuously receives/monitors all inputs from the following Supplemental Restraint System (SRS) components:

- Front impact severity sensor (frontal restraints sensor)
- First row side impact sensor (left/right side restraints sensor 1)
- Safety belt buckle switches (driver and passenger)
- Driver seat track position sensor
- Occupant Classification System Module (OCSM)

If the RCM detects sudden vehicle deceleration and/or lateral deceleration based on the information received from all sensors and switches and determines that deployment is required, the RCM sends voltage and current to deploy the appropriate SRS components.

During a frontal or side crash, the RCM may deploy the following SRS components, based on crash severity and sensor input.

- Safety belt retractor pretensioner(s)
- Seat side air bag(s)
- Driver/passenger dual-stage air bag (one or both stages)

The fact that the safety belt retractor pretensioner(s) or air bags did not activate for both front seat occupants in a crash does not mean that something is wrong with the system.

The RCM performs a self-test of the complete SRS during each startup. If a SRS fault exists, the air bag warning indicator will illuminate and remain illuminated for the rest of the ignition cycle. In addition to the self-test at start up, the RCM continuously monitors all of its SRS components and circuitry for correct operation.

Air Bag Warning Indicator

The air bag warning indicator:

- located in the Instrument Panel Cluster (IPC) will prove out by lighting for 6 seconds and then turn off.
- will flash and/or illuminate based on the message the IPC receives from the RCM .
- will illuminate if the IPC does not receive a message from the RCM .

Air Bag Module Second Stage Deployment Check

Because the driver and passenger front air bags each have 2 deployment stages, it is possible that Stage 1 has deployed and 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.

- For information on driver air bag module and/or passenger air bag module remote deployment, refer to [Pyrotechnic Device Disposal](#) in this section.

Clockspring

The clockspring:

- allows for continuous electrical connections between the driver air bag module and the RCM when the steering wheel is turned.

Driver Air Bag Module

The driver air bag module:

- is a dual-stage air bag, upon receiving a flow of current from the RCM , deploying at 1 of 2 different rates depending upon vehicle impact severity and sensor input.

Event Notification Signal

In the event of a crash, the RCM provides an event notification signal to the fuel pump driver module(s) to disable the fuel system.

The RCM does not monitor the event notification signal circuit for faults and will not set a DTC if a fault occurs.

High Speed Controller Area Network (HS-CAN)

This vehicle utilizes a communication system called a High Speed Controller Area Network (HS-CAN) . The RCM communicates with various modules for required information about the vehicle. Refer to [Section 418-00](#) for information about the HS-CAN .

Impact Sensor

The SRS uses 3 satellite sensors in addition to the RCM . The RCM is mounted to the center tunnel beneath the console. The front impact severity sensor (frontal restraint sensor) is located in the front of the vehicle, behind the grille, mounted on the radiator support. The side impact sensors are mounted in each of the doors, behind the trim panel. Mounting orientation is critical for correct operation of all impact sensors.

Occupant Classification System (OCS)

The Occupant Classification System (OCS) is found only on the front passenger seat. The front passenger seat OCS is comprised of a silicone gel-filled bladder mounted between the seat cushion foam and pan. An integrated OCSM with pressure sensor is attached to the bladder by a flexible hose. The integrated OCSM with pressure sensor is 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 and is sensed by the OCS pressure sensor. The OCSM communicates front passenger classification information to the RCM via the HS-CAN . The RCM uses this information when determining if the passenger air bag module is to be deployed in the event of a deployable crash. The RCM also uses this information for Passenger Air Bag Deactivation (PAD) indicator illumination strategy.

The OCSM monitors the OCS for faults.

The OCS is also used for operation of the passenger Belt Minder®. For information on the passenger Belt Minder® feature, refer to [Section 501-20A](#). To deactivate or reactivate the passenger Belt Minder® feature, refer to [Section 413-01](#) or the Owner's Literature.

Belt Tension Sensor (BTS)

The Belt Tension Sensor (BTS) :

- is a 3-wire Hall-effect sensor located at the safety belt anchor point and is part of the front passenger safety belt and retractor assembly.
- is used in conjunction with the OCS .

The BTS is used by the OCS to identify the presence of a child safety seat on the front passenger seat. The BTS senses the tension on the safety belt assembly then provides an output to the OCSM , indicating that the safety belt assembly is cinched. After sensing the weight applied to the seat by the occupant and using the BTS input, the OCSM determines how the occupant should be classified and communicates the information to the RCM . If the occupant is classified as a child, the RCM then automatically deactivates the passenger air bag module and illuminates the PAD indicator.

Passenger Air Bag Deactivation (PAD) Indicator

The Restraints Control Module (RCM) controls the state of the Passenger Air Bag Deactivation (PAD) indicator through a direct hard-wire connection, based on information provided by the OCS system. 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 off when the passenger air bag module is enabled.

When the ignition is ON, 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 following table indicates the passenger air bag status and the PAD indicator status based on the size of the front passenger occupant.

Passenger Air Bag and Passenger Air Bag Deactivation (PAD) Indicator Status


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

Passenger Air Bag Module

The passenger air bag module:

- is a dual-stage air bag, deploying at 1 of 2 different rates depending upon vehicle impact severity and sensor input.

Restraints Control Module (RCM)

 **WARNING: If a vehicle has been in a crash, inspect the restraints control module (RCM) and the impact sensor (if equipped) mounting areas for deformation. If damaged, restore the mounting areas to the original production configuration. A new RCM and sensors must be installed whether or not the airbags have deployed. Failure to follow these instructions may result in serious personal injury or death in a crash.**

NOTE: Carrying out Programmable Module Installation (PMI) will not enable the 911 assist option that is disabled.

The RCM carries out the following functions:

- Activates the driver, passenger and/or side air bag modules depending upon vehicle impact severity and the sensor inputs.
- Activates the driver and passenger retractor pretensioner(s) to control the tension of the driver and passenger safety belts in the event of a deployable crash
- Monitors the SRS for faults
- Sends a message to the IPC to illuminate the air bag warning indicator if a fault is detected
- Communicates through the Data Link Connector (DLC) the current or historical DTCs

The RCM monitors the SRS for possible faults. If a fault is detected, the RCM will request the IPC to illuminate the air bag warning indicator. When the ignition is turned OFF and then ON, the IPC will prove out the air bag warning indicator by lighting for 6 seconds. If no faults are detected by the RCM, the IPC will turn the air bag warning indicator off and it will remain off. If the RCM detects a fault, it will send a message to the IPC to turn the air bag warning indicator on and it will remain on for the rest of the ignition cycle. If the RCM requests illumination of the air bag warning indicator and the air bag warning indicator does not function, the IPC will automatically activate an audible chime. The chime is a series of 5 sets of 5 tone bursts. If the chime is heard, the SRS and the air bag warning indicator require repair.

The RCM includes a backup power supply. This feature provides sufficient backup power to deploy the air bags 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 power and/or ground has been removed from the RCM.

Safety Belt Buckle Switches

The safety belt buckles are comprised of integrated circuits called Hall-effect switches. The safety belt buckle switches indicate to the RCM whether the safety belts are buckled or unbuckled.

The RCM supplies current to the safety belt buckle switch. Current flows through the switch, buckled or unbuckled to ground. The RCM will sense the difference in this current draw, approximately 6 mA (unbuckled) or 15 mA (buckled), and use this information in determining the deployment rate of the dual-stage driver and passenger air bag modules. If the RCM detects current out of this range, it will set a DTC.

The RCM also communicates the driver safety belt buckle switch status to the IPC, which monitors the information to control the safety belt warning indicator. For information on the safety belt warning indicator, refer to [Section 413-01](#).

Safety Belt Retractor Pretensioner

Safety belt retractor pretensioners are pyrotechnic devices integrated to the safety belt retractor assemblies. Safety belt retractor pretensioners control the tension of the driver and passenger safety belts in the event of a deployable crash.

Seat Track Position Sensors

The seat track position sensors are comprised of integrated circuits called Hall-effect switches. The seat track position sensors indicate to the RCM the position of the driver and passenger seat. The RCM uses this information in determining the deployment rate of the dual-stage air bag modules.

Secondary Air Bag Warning (Chime)

The secondary air bag warning chime is an audible chime located in and controlled by the IPC. If a fault is detected with the air bag warning indicator, a DTC will be stored in memory of the IPC. Upon receiving the message from the RCM that a SRS fault has been detected, the IPC will sound the secondary air bag warning chime in a pattern of 5 sets of 5 beeps.

Seat Side Air Bag Module

The side air bag module is mounted in the seat backrest and will deploy upon receiving a flow of current from the RCM .

Fault PIDs

There are 2 types of fault PIDs that can be reported by the OCSM . The first type, considered conventional, has only one level of fault reporting and identifies a specific concern for a given component and points to a particular diagnostic path, example: DTC B1317 (Battery Voltage High).

The second type uses a process within the software of the controller that maps the byte and bit to name a specific device and fault condition. This process is called bit-mapping and is referred to as fault PIDs in the diagnosis of the vehicle. This type does not identify the specific concern or component on the first level of fault reporting, example: DTC B2909 (BTS Fault). DTC B2909 can have up to 3 specific on-demand fault PIDs (areas of concern) associated with this DTC.

Those associated fault PIDs are an extension of the information provided by the DTC and are identified by the same DTC number. A scan tool must be used to view DTCs and their fault PIDs. Once a scan tool has retrieved a DTC, use the scan tool to view the fault PIDs. In the diagnostic path, other types of PIDs are sometimes used to determine the root cause (example: resistance or voltage PIDs).

When viewing fault PIDs, the scan tool can display the PIDs associated with that DTC, including the status or state that exists (on-demand [active] DTC) or existed (continuous memory [historic] DTC). Refer to the manufacturer instructions for the scan tool being used on how to view fault PIDs.

NOTE: Do not mistake status information displayed with DTCs for fault PID information. Fault PIDs are only retrieved in the DataLogger function of the scan tool.

While the RCM **does not** utilize fault PIDs for this vehicle, the OCSM has fault PIDs for certain faults.

Prove Out Procedure

Turn ignition from OFF to the ON position and monitor the air bag warning indicator with all SRS components connected. The IPC will illuminate the air bag warning indicator continuously for approximately 6 seconds and then turn off. If a SRS fault is present, the air bag warning indicator will:

- fail to light.
- remain lit continuously.
- flash.

The air bag warning indicator may not illuminate to indicate a fault is present until approximately 30 seconds after the ignition has been turned from the OFF to the ON position. This is the time required for the RCM to complete the testing of the SRS . If the air bag warning indicator is inoperative and a SRS fault is detected, a chime will sound in a pattern of 5 sets of 5 beeps. If this occurs, the air bag warning indicator will need to be repaired before diagnosis can continue.

Inspection and Verification

1. Verify the customer concern by checking the air bag warning indicator in the IPC . Refer to Prove Out the System in this section.
2. Visually inspect for obvious signs of mechanical or electrical damage. Do not disconnect electrical connectors until directed to do so within the pinpoint test.

Visual Inspection Chart

Mechanical	Electrical
<ul style="list-style-type: none"> • Damaged Restraints Control Module (RCM) or loose mounting • Damaged front impact severity sensor(s) or loose mounting • Damaged side impact sensor(s) or loose mounting • Damaged or disconnected Passenger Air Bag Deactivation (PAD) indicator • Damaged or disconnected Occupant Classification System Module (OCSM) or loose mounting 	<ul style="list-style-type: none"> • Open Smart Junction Box (SJB) fuse 31 (10A) (<u>RCM</u>) or fuse 46 (7.5A) (<u>OCSM</u> and <u>PAD</u> indicator) • Damaged wiring harness • Loose, damaged or corroded connectors • Circuitry open/shorted • Damaged shorting bars • Loose, damaged or pinched passenger seat wire harness

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

4. **NOTE:** Make sure to use the latest scan tool software release.

If the cause is not visually evident, connect the scan tool to the [DLC](#) .

5. **NOTE:** The Vehicle Communication Module (VCM) LED prove out confirms power and ground from the [DLC](#) are provided to the [VCM](#) .

If the scan tool does not communicate with the [VCM](#) :

- check the [VCM](#) connection to the vehicle.
- check the scan tool connection to the [VCM](#) .
- refer to [Section 418-00](#), No Power To The Scan Tool, to diagnose no power to the scan tool.

6. If the scan tool does not communicate with the vehicle:

- verify the ignition is ON.
- verify the scan tool operation with a known good vehicle.
- refer to [Section 418-00](#) to diagnose no response from the PCM.

7. Carry out the network test.

- If the scan tool responds with no communication for one or more modules, refer to [Section 418-00](#).
- If the network test passes, retrieve and record on-demand and Continuous Memory Diagnostic Trouble Codes (CMDTCs) from the [RCM](#) and [OCSM](#) .

8. If the DTCs retrieved are related to the concern, go to the [RCM](#) DTC chart or the [OCSM](#) DTC chart in this section.

9. If no DTCs related to the concern are retrieved, GO to [Symptom Chart](#).

DTC Charts

The DTCs can be retrieved from the [RCM](#) and the [OCSM](#) with a scan tool via the [DLC](#) .

Restraints Control Module (RCM) DTC Chart

NOTE: Always make sure the correct Supplemental Restraint System (SRS) component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect [SRS](#) component is installed, DTCs may set.

NOTE: This module utilizes a 5-character DTC followed by a 2-character failure type code. The failure type code provides information about specific fault conditions such as opens or shorts to ground. Continuous Memory Diagnostic Trouble Codes (CMDTCs) have an additional 2-character DTC status code suffix to assist in determining DTC history.

DTC	Description	Action To Take
B0001:11	Driver Frontal Stage 1 Deployment Control: Circuit Short to Ground	GO to Pinpoint Test B.
B0001:12	Driver Frontal Stage 1 Deployment Control: Circuit Short to Battery	GO to Pinpoint Test B.
B0001:13	Driver Frontal Stage 1 Deployment Control: Circuit Open	GO to Pinpoint Test B.
B0001:1A	Driver Frontal Stage 1 Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test B.
B0001:2B	Driver Frontal Stage 1 Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B0001:4A	Driver Frontal Stage 1 Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
B0002:11	Driver Frontal Stage 2 Deployment	GO to Pinpoint Test C.

DTC	Description	Action To Take
	Control: Circuit Short to Ground	
B0002:12	Driver Frontal Stage 2 Deployment Control: Circuit Short to Battery	GO to Pinpoint Test C.
B0002:13	Driver Frontal Stage 2 Deployment Control: Circuit Open	GO to Pinpoint Test C.
B0002:1A	Driver Frontal Stage 2 Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test C.
B0002:2B	Driver Frontal Stage 2 Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B0002:4A	Driver Frontal Stage 2 Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
B0010:11	Passenger Frontal Stage 1 Deployment Control: Circuit Short to Ground	GO to Pinpoint Test D.
B0010:12	Passenger Frontal Stage 1 Deployment Control: Circuit Short to Battery	GO to Pinpoint Test D.
B0010:13	Passenger Frontal Stage 1 Deployment Control: Circuit Open	GO to Pinpoint Test D.
B0010:1A	Passenger Frontal Stage 1 Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test D.
B0010:2B	Passenger Frontal Stage 1 Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B0010:4A	Passenger Frontal Stage 1 Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
B0011:11	Passenger Frontal Stage 2 Deployment Control: Circuit Short to Ground	GO to Pinpoint Test E.
B0011:12	Passenger Frontal Stage 2 Deployment Control: Circuit Short to Battery	GO to Pinpoint Test E.
B0011:13	Passenger Frontal Stage 2 Deployment Control: Circuit Open	GO to Pinpoint Test E.
B0011:1A	Passenger Frontal Stage 2 Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test E.
B0011:2B	Passenger Frontal Stage 2 Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B0011:4A	Passenger Frontal Stage 2 Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
B0020:11	Left Side Airbag Deployment Control: Circuit Short to Ground	GO to Pinpoint Test F.
B0020:12	Left Side Airbag Deployment Control: Circuit Short to Battery	GO to Pinpoint Test F.
B0020:13	Left Side Airbag Deployment Control: Circuit Open	GO to Pinpoint Test F.
B0020:1A	Left Side Airbag Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test F.
B0020:2B	Left Side Airbag Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B0020:4A	Left Side Airbag Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
B0028:11	Right Side Airbag Deployment Control: Circuit Short to Ground	GO to Pinpoint Test G.

DTC	Description	Action To Take
B0028:12	Right Side Airbag Deployment Control: Circuit Short to Battery	GO to Pinpoint Test G.
B0028:13	Right Side Airbag Deployment Control: Circuit Open	GO to Pinpoint Test G.
B0028:1A	Right Side Airbag Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test G.
B0028:2B	Right Side Airbag Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B0028:4A	Right Side Airbag Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
B0050:11	Driver Seatbelt Sensor: Circuit Short to Ground	GO to Pinpoint Test H.
B0050:12	Driver Seatbelt Sensor: Circuit Short to Battery	GO to Pinpoint Test H.
B0050:13	Driver Seatbelt Sensor: Circuit Open	GO to Pinpoint Test H.
B0050:1D	Driver Seatbelt Sensor: Circuit Current Out of Range	GO to Pinpoint Test H.
B0050:2B	Driver Seatbelt Sensor: Signal Cross Coupled	GO to Pinpoint Test S.
B0050:4A	Driver Seatbelt Sensor: Incorrect Component Installed	GO to Pinpoint Test T.
B0052:11	Passenger Seatbelt Sensor: Circuit Short to Ground	GO to Pinpoint Test I.
B0052:12	Passenger Seatbelt Sensor: Circuit Short to Battery	GO to Pinpoint Test I.
B0052:13	Passenger Seatbelt Sensor: Circuit Open	GO to Pinpoint Test I.
B0052:1D	Passenger Seatbelt Sensor: Circuit Current Out of Range	GO to Pinpoint Test I.
B0052:2B	Passenger Seatbelt Sensor: Signal Cross Coupled	GO to Pinpoint Test S.
B0052:4A	Passenger Seatbelt Sensor: Incorrect Component Installed	GO to Pinpoint Test T.
B0090:11	Left Frontal Restraints Sensor: Circuit Short to Ground	GO to Pinpoint Test J.
B0090:4A	Left Frontal Restraints Sensor: Incorrect Component Installed	GO to Pinpoint Test T.
B0090:81	Left Frontal Restraints Sensor: Invalid Serial Data Received	INSTALL a new front impact severity sensor. REFER to Front Impact Severity Sensor in this section.
B0090:93	Left Frontal Restraints Sensor: No Operation	GO to Pinpoint Test J.
B0090:96	Left Frontal Restraints Sensor: Component Internal Failure	INSTALL a new front impact severity sensor. REFER to Front Impact Severity Sensor in this section.
B0091:11	Left Side Restraints Sensor 1: Circuit Short to Ground	GO to Pinpoint Test K.
B0091:4A	Left Side Restraints Sensor 1: Incorrect Component Installed	GO to Pinpoint Test T.
B0091:81	Left Side Restraints Sensor 1: Invalid Serial Data Received	INSTALL a new driver side impact sensor. REFER to Side Impact Sensor in this section.
B0091:93	Left Side Restraints Sensor 1: No Operation	GO to Pinpoint Test K.

DTC	Description	Action To Take
B0091:96	Left Side Restraints Sensor 1: Component Internal Failure	INSTALL a new driver side impact sensor. REFER to Side Impact Sensor in this section.
B0095:11	Right Frontal Restraints Sensor: Circuit Short to Ground	<p>NOTE: <i>This vehicle is not equipped with this component. This DTC indicates the <u>RCM</u> is incorrectly configured or the incorrect <u>RCM</u> is installed to the vehicle.</i></p> <p>INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . Use as-built data when CARRYING OUT <u>PMI</u> . REFER to Restraints Control Module (RCM) in this section.</p>
B0095:4A	Right Frontal Restraints Sensor: Incorrect Component Installed	GO to Pinpoint Test T.
B0095:81	Right Frontal Restraints Sensor: Invalid Serial Data Received	<p>NOTE: <i>This vehicle is not equipped with this component. This DTC indicates the <u>RCM</u> is incorrectly configured or the incorrect <u>RCM</u> is installed to the vehicle.</i></p> <p>INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . Use as-built data when CARRYING OUT <u>PMI</u> . REFER to Restraints Control Module (RCM) in this section.</p>
B0095:93	Right Frontal Restraints Sensor: No Operation	<p>NOTE: <i>This vehicle is not equipped with this component. This DTC indicates the <u>RCM</u> is incorrectly configured or the incorrect <u>RCM</u> is installed to the vehicle.</i></p> <p>INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . Use as-built data when CARRYING OUT <u>PMI</u> . REFER to Restraints Control Module (RCM) in this section.</p>
B0095:96	Right Frontal Restraints Sensor: Component Internal Failure	<p>NOTE: <i>This vehicle is not equipped with this component. This DTC indicates the <u>RCM</u> is incorrectly configured or the incorrect <u>RCM</u> is installed to the vehicle.</i></p> <p>INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . Use as-built data when CARRYING OUT <u>PMI</u> . REFER to Restraints Control Module (RCM) in this section.</p>
B0096:11	Right Side Restraints Sensor 1: Circuit Short to Ground	GO to Pinpoint Test L.
B0096:4A	Right Side Restraints Sensor 1: Incorrect Component Installed	INSTALL a new passenger side impact sensor. REFER to Side Impact Sensor in this section.
B0096:81	Right Side Restraints Sensor 1: Invalid Serial Data Received	GO to Pinpoint Test L.
B0096:93	Right Side Restraints Sensor 1: No Operation	GO to Pinpoint Test L.
B0096:96	Right Side Restraints Sensor 1: Component Internal Failure	INSTALL a new passenger side impact sensor. REFER to Side Impact Sensor in this section.
B00A0:09	Occupant Classification System: Component Failure	GO to Pinpoint Test M.
B00A0:4A	Occupant Classification System: Incorrect Component Installed	GO to Pinpoint Test M.
B00A0:63	Occupant Classification System: Circuit / Component Protection Time-Out	GO to Pinpoint Test M.
B00A0:64	Occupant Classification System: Signal Plausibility Failure	GO to Pinpoint Test M.
B00A0:68	Occupant Classification System: Event Information	GO to Pinpoint Test M.
B00B5:11	Driver Seat Track Position Restraints Sensor: Circuit Short to Ground	GO to Pinpoint Test N.
B00B5:12	Driver Seat Track Position Restraints Sensor: Circuit Short to Battery	GO to Pinpoint Test N.

DTC	Description	Action To Take
B00B5:13	Driver Seat Track Position Restraints Sensor: Circuit Open	GO to Pinpoint Test N.
B00B5:1D	Driver Seat Track Position Restraints Sensor: Circuit Current Out of Range	GO to Pinpoint Test N.
B00B5:2B	Driver Seat Track Position Restraints Sensor: Signal Cross Coupled	GO to Pinpoint Test S.
B00B5:4A	Driver Seat Track Position Restraints Sensor: Incorrect Component Installed	GO to Pinpoint Test T.
B00C5:11	Passenger Seat Track Position Restraints Sensor: Circuit Short to Ground	GO to Pinpoint Test V.
B00C5:12	Passenger Seat Track Position Restraints Sensor: Circuit Short to Battery	GO to Pinpoint Test V.
B00C5:13	Passenger Seat Track Position Restraints Sensor: Circuit Open	GO to Pinpoint Test V.
B00C5:1D	Passenger Seat Track Position Restraints Sensor: Circuit Current Out of Range	GO to Pinpoint Test V.
B00C5:2B	Passenger Seat Track Position Restraints Sensor: Signal Cross Coupled	GO to Pinpoint Test S.
B00C5:4A	Passenger Seat Track Position Restraints Sensor: Incorrect Component Installed	GO to Pinpoint Test T.
B00D5:11	Restraint System Passenger Disable Indicator: Circuit Short to Ground	GO to Pinpoint Test O.
B00D5:12	Restraint System Passenger Disable Indicator: Circuit Short to Battery	GO to Pinpoint Test O.
B00D5:13	Restraint System Passenger Disable Indicator: Circuit Open	GO to Pinpoint Test O.
B00D5:4A	Restraint System Passenger Disable Indicator: Incorrect Component Installed	GO to Pinpoint Test T.
B1193:00	Crash Event Storage Full and Locked: No Sub Type Information	INSTALL a new RCM and impact sensors. REFER to Inspection and Repair After a Supplemental Restraint System (SRS) Deployment in this section.
B1211:11	Driver Seatbelt Retractor Pretensioner Deployment Control: Circuit Short to Ground	GO to Pinpoint Test P.
B1211:12	Driver Seatbelt Retractor Pretensioner Deployment Control: Circuit Short to Battery	GO to Pinpoint Test P.
B1211:13	Driver Seatbelt Retractor Pretensioner Deployment Control: Circuit Open	GO to Pinpoint Test P.
B1211:1A	Driver Seatbelt Retractor Pretensioner Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test P.
B1211:2B	Driver Seatbelt Retractor Pretensioner Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B1211:4A	Driver Seatbelt Retractor Pretensioner Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
B1214:11	Passenger Seatbelt Retractor Pretensioner Deployment Control:	GO to Pinpoint Test Q.

DTC	Description	Action To Take
	Circuit Short to Ground	
B1214:12	Passenger Seatbelt Retractor Pretensioner Deployment Control: Circuit Short to Battery	GO to Pinpoint Test Q.
B1214:13	Passenger Seatbelt Retractor Pretensioner Deployment Control: Circuit Open	GO to Pinpoint Test Q.
B1214:1A	Passenger Seatbelt Retractor Pretensioner Deployment Control: Circuit Resistance Below Threshold	GO to Pinpoint Test Q.
B1214:2B	Passenger Seatbelt Retractor Pretensioner Deployment Control: Signal Cross Coupled	GO to Pinpoint Test S.
B1214:4A	Passenger Seatbelt Retractor Pretensioner Deployment Control: Incorrect Component Installed	GO to Pinpoint Test T.
U0028:08	Vehicle Communication Bus A: Bus Signal / Message Failures	GO to Pinpoint Test U.
U0028:88	Vehicle Communication Bus A: Bus Off	GO to Pinpoint Test U.
U0154:00	Lost Communication With Restraints Occupant Classification System Module	<p>NOTE: The DTC will set in a module that is reporting a communication fault from another module on the data bus. The module that reports the fault is not the problem module. Do not install a new <u>RCM</u> as part of repair.</p> <p>REFER to Section 418-00 to diagnose the communication concern.</p>
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	<p>NOTE: The DTC will set in a module that is reporting a communication fault from another module on the data bus. The module that reports the fault is not the problem module. Do not install a new <u>RCM</u> as part of repair.</p> <p>REFER to Section 418-00 to diagnose the communication concern.</p>
U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	<p>NOTE: The DTC will set in a module that is reporting a communication fault from another module on the data bus. The module that reports the fault is not the problem module. Do not install a new <u>RCM</u> as part of repair.</p> <p>GO to Pinpoint Test W.</p>
U0300:00	Internal Control Module Software Incompatibility: No Sub Type Information	INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . REFER to Restraints Control Module (RCM) in this section.
U0554:00	Invalid Data Received From Accessory Protocol Interface Module: No Sub Type Information	<p>NOTE: This DTC indicates the <u>RCM</u> is incorrectly configured or the incorrect <u>RCM</u> is installed to the vehicle.</p> <p>INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . Use as-built data when CARRYING OUT <u>PMI</u> . REFER to Restraints Control Module (RCM) in this section.</p>
U2100:00	Initial Configuration Not Complete: No Sub Type Information	CARRY OUT Programmable Module Installation (PMI) . RETRIEVE <u>RCM</u> DTCs. If <u>RCM</u> DTC U2100:00 is retrieved on-demand, INSTALL a new <u>RCM</u> and CARRY OUT <u>PMI</u> . REFER to Restraints Control Module (RCM) in this section.
U2200:00	Control Module Configuration Memory Corrupt: No Sub Type Information	INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . Use as-built data when CARRYING out <u>PMI</u> for this DTC. REFER to Restraints Control Module (RCM) in this section.
U3000:46	Control Module: Calibration / Parameter Memory Failure	INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . REFER to Restraints Control Module (RCM) in this section.
U3000:49	Control Module: Internal Electronic Failure	INSTALL a new <u>RCM</u> and CARRY OUT Programmable Module Installation (PMI) . If DTC U2200:00 is also present, use as-built data when

DTC	Description	Action To Take
		CARRYING out <u>PMI</u> . REFER to Restraints Control Module (RCM) in this section.
U3000:4A	Control Module: Incorrect Component Installed	GO to Pinpoint Test T.
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test R.
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test R.

Occupant Classification System Module (OCSM) DTC Chart

NOTE: Do not mistake status information displayed with DTCs for fault PID information. Fault PIDs are only retrieved in the DataLogger function of the scan tool.

DTC	Description	Action To Take
B1231	Event Threshold Exceeded (Crash Data Memory Full)	INSPECT the passenger seat for damage. REFER to Inspection and Repair After a Supplemental Restraint System (SRS) Deployment in this section.
B1317	Battery Voltage High	GO to Pinpoint Test R.
B1318	Battery Voltage Low	GO to Pinpoint Test R.
B1342	ECU is Faulted	INSTALL an Occupant Classification System (OCS) sensor. REFER to Occupant Classification Sensor in this section.
B2290	Occupant Classification System (OCS) Fault	GO to Pinpoint Test X.
B2909	Belt Tension Sensor (BTS) Fault	GO to Pinpoint Test Y.
C1941	Zero Seat Weight Test Failure	This DTC is only reported when carrying out System Reset. GO to Pinpoint Test X.
U0151	Lost Communication with Restraints Control Module (RCM)	REFER to Section 418-00 to diagnose the communication concern.
U2050	No Application Present	INSTALL a new <u>OCS</u> sensor. REFER to Occupant Classification Sensor in this section.
U2051	One or More Calibration Files Missing/Corrupt	INSTALL a new <u>OCS</u> sensor. REFER to Occupant Classification Sensor in this section.

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 DTC Wiring, terminals or connectors Data Link Connector (DLC) Restraints Control Module (RCM) 	<ul style="list-style-type: none"> GO to Pinpoint Test A.
<ul style="list-style-type: none"> Air bag indicator flashing 	<ul style="list-style-type: none"> <u>RCM</u> not configured 	<ul style="list-style-type: none"> CARRY OUT the <u>RCM</u> self-test and REFER to the <u>RCM</u> DTC chart in this section.
<ul style="list-style-type: none"> Audible tone — DTCs retrieved 	<ul style="list-style-type: none"> Supplemental Restraint System (SRS) system fault and air bag warning indicator fault 	<ul style="list-style-type: none"> REFER to DTC Charts in this section.
<ul style="list-style-type: none"> The <u>RCM</u> does not respond to the scan tool 	<ul style="list-style-type: none"> Fuse Wiring, terminals or connectors 	<ul style="list-style-type: none"> REFER to Section 418-00 to diagnose the no communication

	<ul style="list-style-type: none"> • Scan tool • <u>DLC</u> • <u>RCM</u> 	concern.
<ul style="list-style-type: none"> • The Occupant Classification System Module (OCSM) does not respond to the scan tool 	<ul style="list-style-type: none"> • Fuse • Wiring, terminals or connectors • Scan tool • <u>DLC</u> • <u>OCSM</u> 	<ul style="list-style-type: none"> • REFER to Section 418-00 to diagnose the no communication concern.

Pinpoint Test — Restraints Control Module (RCM)

Pinpoint Test A: The Air Bag Warning Indicator is Illuminated Continuously

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.


Normal Operation

During normal operation, the Instrument Panel Cluster (IPC) module will illuminate the air bag indicator continuously for 6 seconds. If the Supplemental Restraint System (SRS) is fault free, the air bag warning indicator will turn off and remain off. If a fault is detected in the SRS , the air bag warning indicator will illuminate and remain illuminated for the rest of the ignition cycle until the fault is no longer detected. The Restraints Control Module (RCM) will communicate to the IPC via the High Speed Controller Area Network (HS-CAN) . The IPC will illuminate the air bag indicator based on messaging from the RCM or if there is no communication between the RCM and IPC .

This pinpoint test is intended to diagnose the following:

- IPC
- RCM

PINPOINT TEST A : THE AIR BAG WARNING INDICATOR IS ILLUMINATED CONTINUOUSLY

 WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.	
NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.	
NOTE: The <u>SRS</u> must be fully operational and free of faults before releasing the vehicle to the customer.	
A1 RETRIEVE RCM DTCS	
<ul style="list-style-type: none"> • Ignition ON. • Enter the following diagnostic mode on the scan tool: Self Test — <u>RCM</u> . 	
Were any DTCs retrieved on-demand during self-test?	
Yes	GO to the DTC Charts in this section for diagnostic direction. Do not clear any DTCs until all DTCs have been resolved.
No	If the <u>RCM</u> does communicate with the scan tool, REFER to Section 413-01 to diagnose the <u>IPC</u> concern. Do not clear any DTCs until all DTCs have been resolved.

Pinpoint Test B: DTCs B0001:11, B0001:12, B0001:13 and B0001:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the driver air bag module stage 1 and circuits for the following faults:

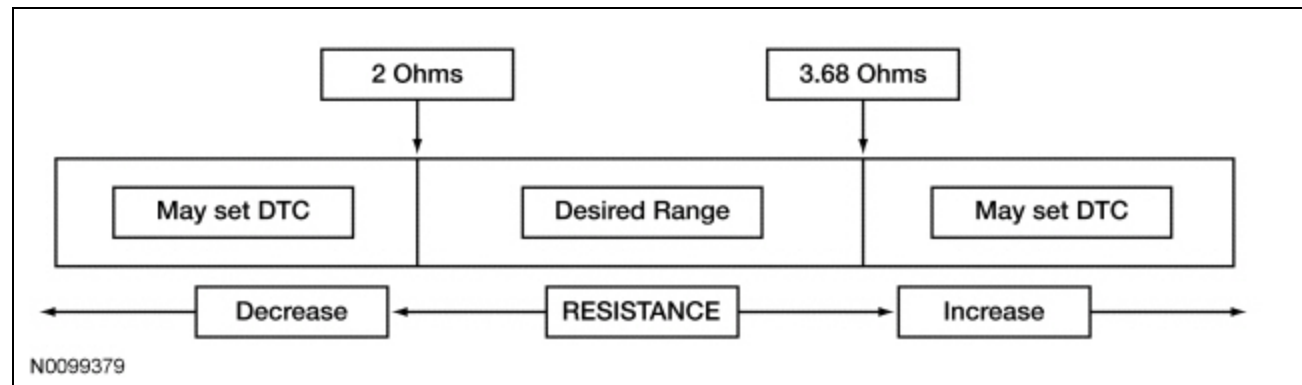
- Resistance out of range
- Unexpected voltage
- Short to ground

- Faulted driver air bag module

If a fault is detected, the RCM will store DTC B0001:11, B0001:12, B0001:13 or B0001:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Clockspring
- Driver air bag module
- RCM



DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B0001:11 — Driver Frontal Stage 1 Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either driver air bag stage 1 circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B0001:12 — Driver Frontal Stage 1 Deployment Control: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on either driver air bag stage 1 circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B0001:13 — Driver Frontal Stage 1 Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between driver air bag stage 1 circuits, a fault will be indicated.
<ul style="list-style-type: none"> • B0001:1A — Driver Frontal Stage 1 Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between driver air bag stage 1 circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Clockspring
- Driver air bag module
- RCM

PINPOINT TEST B : DTCS B0001:11, B0001:12, B0001:13 AND B0001:1A

⚠ WARNING: Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

B1 RETRIEVE RCM DTCs

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#).

Was DTC B0001:11, B0001:12, B0001:13 or B0001:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0001:13 or B0001:1A, GO to B2 . For DTC B0001:11, GO to B11 . For DTC B0001:12, GO to B14 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B0001:13 or B0001:1A, GO to B19 . For DTC B0001:11, GO to B20 . For DTC B0001:12, GO to B21 .

B2 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_00_R) PID

- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#).
 - DEPLOY_00_R PID
- Monitor and record the resistance value displayed by the DEPLOY_00_R PID.

Does the recorded PID value read between 2 and 3.68 ohms?

Yes	GO to B18 .
No	GO to B3 .

B3 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_00_R) PID WHILE CARRYING OUT THE HARNESS TEST

- Remove the lower steering column shroud to access the clockspring connectors.
- While monitoring the DEPLOY_00_R PID, carry out the harness test of the driver air bag circuits and accessible connectors (including any in-line connectors) by wiggling and flexing the wire harness, connectors, tilting and rotating the steering wheel frequently.

Does the PID value read between 2 and 3.68 ohms while carrying out the harness test?

Yes	DEPOWER the SRS and REPAIR the connector, terminals or wire harness or INSTALL a new clockspring as needed. REFER to Clockspring in this section. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to B23 .
No	For PID value less than 2 ohms, GO to B4 . For PID value greater than 3.68 ohms, GO to B7 .

B4 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0001:1A to B0001:13?

Yes	GO to B16 .
No	GO to B5 .

B5 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED) (CLOCKSPRING DISCONNECTED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

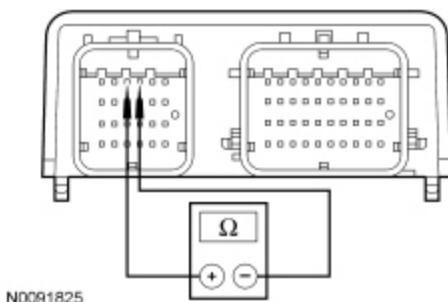
- Ignition OFF.
- Disconnect: Clockspring C2274 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module / clockspring disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0001:1A to B0001:13?

Yes	GO to B17 .
No	GO to B6 .

B6 CHECK THE RCM FOR LOW RESISTANCE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041A pins 3 and 4, component side.



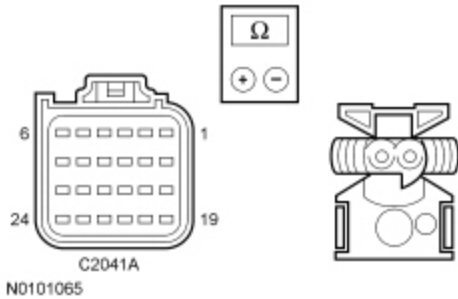
Is the resistance greater than 10,000 ohms?

Yes	REPAIR circuits CR101 (VT/BN) and RR101 (YE/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to B23 .
No	GO to B18 .

B7 CHECK THE DRIVER AIR BAG STAGE 1 CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041A, harness side and driver air bag module stage 1 electrical connector, harness side, using the following chart:

<u>RCM</u>	Circuit	Driver Air Bag Module Stage 1 Electrical Connector
C2041A Pin 4	CR101 (VT/BN)	Driver Air Bag Module Stage 1 electrical connector
C2041A Pin 3	RR101 (YE/GN)	Driver Air Bag Module Stage 1 electrical connector



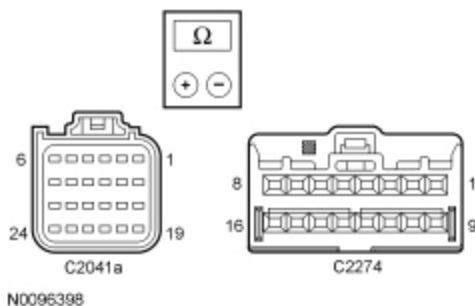
Are the resistances less than 1 ohm?

Yes	GO to B9 .
No	GO to B8 .

B8 CHECK THE DRIVER AIR BAG STAGE 1 CIRCUITS FOR AN OPEN (CLOCKSPRING DISCONNECTED)

- Disconnect: Clockspring C2274 .
- Measure the resistance between RCM C2041A, harness side and clockspring C2274, harness side using the following chart:

<u>RCM</u>	Circuit	Clockspring
C2041A Pin 4	CR101 (VT/BN)	C2274 Pin 1
C2041A Pin 3	RR101 (YE/GN)	C2274 Pin 9



Are the resistances less than 0.5 ohm?

Yes	GO to B17 .
No	REPAIR circuit CR101 (VT/BN) or RR101 (YE/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to B23 .

B9 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .
- Connect a fused jumper wire between driver air bag module stage 1 electrical connector pins 1 and 2, harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag stage 1 circuits shorted together, a low resistance fault would normally be retrieved on stage 1. Stage 2 will show an open circuit fault due to the driver air bag being disconnected.

Was DTC B0001:1A retrieved on-demand during self-test?

Yes	GO to B16 .
No	GO to B10 .

B10 CHECK THE DRIVER AIR BAG STAGE 1 CIRCUITS FOR AN OPEN (CLOCKSPRING DISCONNECTED)

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Clockspring C2274 .
- Connect a fused jumper wire between clockspring electrical connector C2274 pins 1 and 9, harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the clockspring stage 1 circuits shorted together, a low resistance fault would normally be retrieved on stage 1. Stage 2 will show an open circuit fault due to the driver air bag being disconnected.

Was DTC B0001:1A retrieved on-demand during self-test?

Yes	GO to B17 .
No	GO to B18 .

B11 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0001:11 to B0001:13?

Yes	GO to B16 .
No	GO to B12 .

B12 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED) (CLOCKSPRING DISCONNECTED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

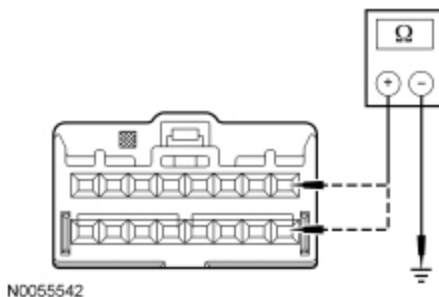
- Ignition OFF.
- Disconnect: Clockspring C2274 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the clockspring disconnected, open circuit faults would normally be retrieved on driver air bag stage 1 and 2.

Did the on-demand DTC change from B0001:11 to B0001:13?

Yes	GO to B17 .
No	GO to B13 .

B13 CHECK THE DRIVER AIR BAG STAGE 1 CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between clockspring:
 - [C2274](#) Pin 1, circuit CR101 (VT/BN), harness side and ground.
 - [C2274](#) Pin 9, circuit RR101 (YE/GN), harness side and ground.



Are the resistances greater than 10,000 ohms?

Yes	GO to B18 .
-----	-----------------------------

No	Due to the shorting bar feature in the <u>RCM</u> electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit CR101 (VT/BN) or RR101 (YE/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to B23 .
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B14 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO BATTERY INDICATED) (CLOCKSPRING DISCONNECTED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

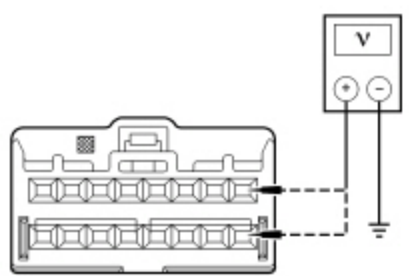
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Disconnect: Clockspring C2274 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module/clockspring disconnected, open circuit faults would normally be retrieved on driver air bag stage 1 and 2.

Did the on-demand DTC change from B0001:12 to B0001:13?

Yes	GO to B17 .
No	GO to B15 .

B15 CHECK THE DRIVER AIR BAG STAGE 1 CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between clockspring:
 - [C2274](#) Pin 1, circuit CR101 (VT/BN), harness side and ground.
 - [C2274](#) Pin 9, circuit RR101 (YE/GN), harness side and ground.



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Is voltage present on either circuit?

Yes	Due to the shorting bar feature in the <u>RCM</u> electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit CR101 (VT/BN) or RR101 (YE/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to B23 .
No	GO to B18 .

B16 CONFIRM THE DRIVER AIR BAG MODULE FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If installed previously, remove the fused jumper wire from the air bag electrical connector.
- Install the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new driver air bag module. REFER to Driver Airbag in this section. GO to B23 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0001:13 or B0001:1A, GO to B19 . For DTC B0001:11, GO to B20 . For DTC B0001:12, GO to B21 .

B17 CONFIRM THE CLOCKSPEED FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Connect: Clockspring C2274 .
- Install the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new clockspring. REFER to Clockspring in this section. GO to B23 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0001:13 or B0001:1A, GO to B19 . For DTC B0001:11, GO to B20 . For DTC B0001:12, GO to B21 .

B18 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damaged, pinched, cut or pierced wires.

- inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
- repair any concerns found.

Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information.

- If installed previously, remove the fused jumper wire from the air bag electrical connector.
- If previously removed, install the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Connect: Clockspring C2274 (if previously disconnected) .
- Connect: [RCM](#) C2041A and C2041B .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to B23 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0001:13 or B0001:1A, GO to B19 . For DTC B0001:11, GO to B20 . For DTC B0001:12, GO to B21 .

B19 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_00_R) PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#) .
 - DEPLOY_00_R PID
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness, tilting and rotating the steering wheel frequently.

Does the PID value read between 2 and 3.68 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to B22 .
No	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information. GO to B23 .

B20 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness, tilting and rotating the steering wheel frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0001:11 retrieved on-demand during self-test?

Yes	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information. GO to B23 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to B22 .

B21 CHECK THE DRIVER FRONTAL STAGE 1 DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO BATTERY FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness, tilting and rotating the steering wheel frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0001:12 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to B23 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to B22 .


B22 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module:
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
- Inspect RCM C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to B23 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to B23 .

B23 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test C: DTCs B0002:11, B0002:12, B0002:13 and B0002:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the driver air bag module stage 2 and circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted driver air bag module

If a fault is detected, the RCM will store DTC B0002:11, B0002:12, B0002:13 or B0002:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Clockspring
- Driver air bag module
- RCM



DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B0002:11 — Driver Frontal Stage 2 Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either driver air bag stage 2 circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B0002:12 — Driver Frontal Stage 2 Deployment Control: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on either driver air bag stage 2 circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B0002:13 — Driver Frontal Stage 2 Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between driver air bag stage 2 circuits, a fault will be indicated.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0002:1A — Driver Frontal Stage 2 Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between driver air bag stage 2 circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Clockspring
- Driver air bag module
- RCM

PINPOINT TEST C : DTCS B0002:11, B0002:12, B0002:13 AND B0002:1A

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

C1 RETRIEVE RCM DTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM.

Was DTC B0002:11, B0002:12, B0002:13 or B0002:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0002:13 or B0002:1A, GO to C2 . For DTC B0002:11, GO to C11 . For DTC B0002:12, GO to C14 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B0002:13 or B0002:1A, GO to C19 . For DTC B0002:11, GO to C20 . For DTC B0002:12, GO to C21 .

C2 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_01_R) PID

- Enter the following diagnostic mode on the scan tool: DataLogger — RCM.
 - DEPLOY_01_R PID
- Monitor and record the resistance value displayed by the DEPLOY_01_R PID.

Does the recorded PID value read between 2 and 3.68 ohms?

Yes	GO to C18 .
No	GO to C3 .

C3 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_01_R) PID WHILE CARRYING OUT THE HARNESS TEST

- Remove the lower steering column shroud to access the clockspring connector.
- While monitoring the DEPLOY_01_R PID, carry out the harness test of the driver air bag circuits and accessible connectors (including any in-line connectors), by wiggling and flexing the wire harness, connectors, tilting and rotating the steering wheel frequently.

Does the PID value read between 2 and 3.68 ohms while carrying out the harness test?

Yes	DEPOWER the <u>SRS</u> and REPAIR the connector, terminals or wire harness or INSTALL a new clockspring as needed. REFER to Clockspring in this section. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .
No	For PID value less than 2 ohms, GO to C4 . For PID value greater than 3.68 ohms, GO to C7 .

C4 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0002:1A to B0002:13?

Yes	GO to C16 .
No	GO to C5 .

C5 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED) (CLOCKSPRING DISCONNECTED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Disconnect: Clockspring C2274 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module/clockspring disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

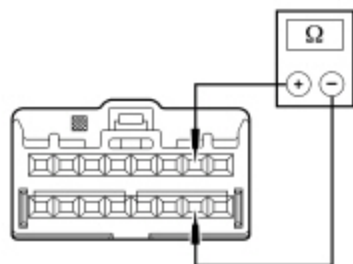
Did the on-demand DTC change from B0002:1A to B0002:13?

Yes	GO to C17 .
No	GO to C6 .

C6 CHECK FOR A SHORT BETWEEN DRIVER AIR BAG STAGE 2 CIRCUITS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.

- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between C2274 Pin 2, circuit CR102 (BU), harness side and C2274 Pin 10, circuit RR102 (WH), harness side.



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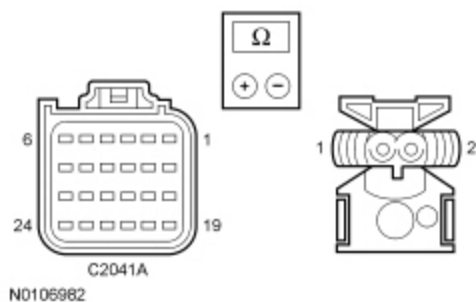
Is the resistance greater than 10,000 ohms?

Yes	GO to C18 .
No	REPAIR circuits CR102 (BU) and RR102 (WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .

C7 CHECK THE DRIVER AIR BAG STAGE 2 CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041A, harness side and driver air bag module stage 2 electrical connector, harness side using the following chart:

<u>RCM</u>	Circuit	Driver Air Bag Module Electrical Connector
C2041A Pin 7	CR102 (BU)	Driver Air Bag Module Stage 2 electrical connector
C2041A Pin 8	RR102 (WH)	Driver Air Bag Module Stage 2 electrical connector



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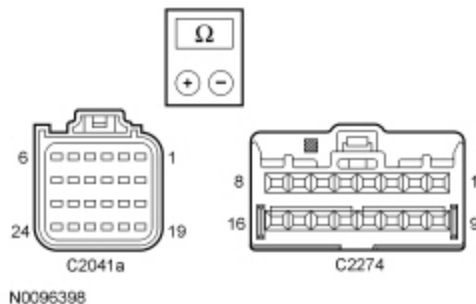
Are the resistances less than 1 ohm?

Yes	GO to C9 .
No	GO to C8 .

C8 CHECK THE DRIVER AIR BAG STAGE 2 CIRCUITS FOR AN OPEN (CLOCKSPRING DISCONNECTED)

- Disconnect: Clockspring C2274 .
- Measure the resistance between RCM C2041A, harness side and clockspring C2274, harness side using the following chart:

RCM	Circuit	Clockspring
C2041A Pin 7	CR102 (BU)	C2274 Pin 2
C2041A Pin 8	RR102 (WH)	C2274 Pin 10



Are the resistances less than 0.5 ohm?

Yes	GO to C17 .
No	REPAIR circuit CR102 (BU) or RR102 (WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .

C9 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .
- Connect a fused jumper wire between driver air bag module stage 2 electrical connector pins 1 and 2, harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with driver air bag module stage 2 circuits shorted together, a low resistance fault would normally be retrieved on stage 2. Stage 1 will show an open circuit fault due to the driver air bag being disconnected.

Was DTC B0002:1A retrieved on-demand during self-test?

Yes	GO to C16 .
No	GO to C10 .

C10 CHECK THE DRIVER AIR BAG STAGE 2 CIRCUITS FOR AN OPEN (CLOCKSPRING DISCONNECTED)

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Clockspring C2274 .
- Connect a fused jumper wire between clockspring electrical connector C2274 pins 2 and 10, harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the clockspring stage 2 circuits shorted together, a low resistance fault would normally be retrieved on stage 2. Stage 1 will show an open circuit fault due to the driver air bag being disconnected.

Was DTC B0002:1A retrieved on-demand during self-test?

Yes	GO to C17 .
No	GO to C18 .

C11 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0002:11 to B0002:13?

Yes	GO to C16 .
No	GO to C12 .

C12 CHECK DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED) (CLOCKSPRING DISCONNECTED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

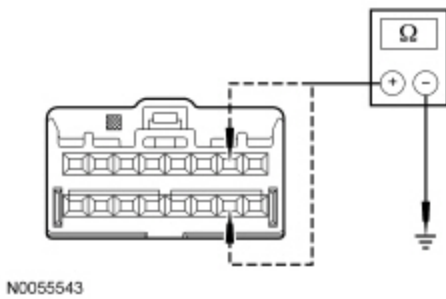
- Ignition OFF.
- Disconnect: Clockspring C2274 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module/clockspring disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0002:11 to B0002:13?

Yes	GO to C17 .
No	GO to C13 .

C13 CHECK THE DRIVER AIR BAG STAGE 2 CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between clockspring:
 - [C2274](#) Pin 2, circuit CR102 (BU), harness side and ground.
 - [C2274](#) Pin 10, circuit RR102 (WH), harness side and ground.



Are the resistances greater than 10,000 ohms?

Yes	GO to C18 .
No	REPAIR circuit CR102 (BU) or RR102 (WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .

C14 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO BATTERY INDICATED) (CLOCKSPRING DISCONNECTED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

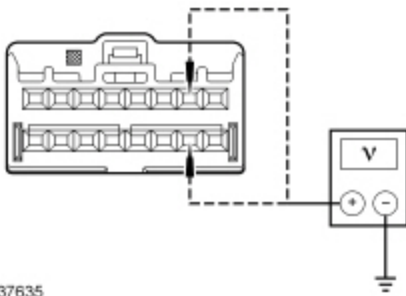
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Disconnect: Clockspring C2274 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver air bag module/clockspring disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0002:12 to B0002:13?

Yes	GO to C17 .
No	GO to C15 .

C15 CHECK THE DRIVER AIR BAG STAGE 2 CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between clockspring:
 - [C2274](#) Pin 2, circuit CR102 (BU), harness side and ground.
 - [C2274](#) Pin 10, circuit RR102 (WH), harness side and ground.



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Is voltage present on either circuit?

Yes	REPAIR circuit CR102 (BU) or RR102 (WH). Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information. GO to C23 .
No	GO to C18 .

C16 CONFIRM THE DRIVER AIR BAG MODULE FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If installed previously, remove the fused jumper wire from the driver air bag electrical connector.
- Install the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new driver air bag module. REFER to Driver Airbag in this section. GO to C23 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. For DTC B0002:13 or B0002:1A, GO to C19 . For DTC B0002:11, GO to C20 . For DTC B0002:12, GO to C21 .

C17 CONFIRM THE CLOCKSPEED FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Connect: Clockspring C2274 .
- If installed previously, remove the fused jumper wire from the air bag electrical connector.
- Install the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new clockspring. REFER to Clockspring in this section. GO to C23 .
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No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0002:13 or B0002:1A, GO to C19 . For DTC B0002:11, GO to C20 . For DTC B0002:12, GO to C21 .
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C18 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- If installed previously, remove the fused jumper wire from the driver air bag electrical connector.
- If previously removed, install the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Connect: Clockspring C2274 (if previously disconnected) .
- Connect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to C23 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0002:13 or B0002:1A, GO to C19 . For DTC B0002:11, GO to C20 . For DTC B0002:12, GO to C21 .

C19 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_01_R) PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — RCM .
 - DEPLOY_01_R PID
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness, tilting and rotating the steering wheel frequently.

Does the PID value read between 2 and 3.68 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to C22 .
No	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .

C20 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness, tilting and rotating the steering wheel frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0002:11 retrieved on-demand during self-test?

Yes	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to C22 .

C21 CHECK THE DRIVER FRONTAL STAGE 2 DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO BATTERY FAULT

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module. Refer to [Driver Airbag](#) in this section.
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness, tilting and rotating the steering wheel frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0002:12 retrieved on-demand during self-test?

Yes	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to C22 .

C22 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Remove the driver air bag module.
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
- Inspect [RCM](#) C2041A and C2041B [CPA](#) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to C23 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to C23 .

C23 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF. **⚠️ WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test D: DTCs B0010:11, B0010:12, B0010:13 and B0010:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the passenger air bag module stage 1 and circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted passenger air bag module

If a fault is detected, the RCM will store DTC B0010:11, B0010:12, B0010:13 or B0010:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Passenger air bag module
- RCM



DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0010:11 — Passenger Frontal Stage 1 Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either passenger air bag stage 1 circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0010:12 — Passenger Frontal Stage 1 Deployment Control: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on either passenger air bag stage 1 circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0010:13 — Passenger Frontal Stage 1 Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between passenger air bag stage 1 circuits, a fault will be indicated.
<ul style="list-style-type: none"> B0010:1A — Passenger Frontal Stage 1 Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between passenger air bag stage 1 circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger air bag module
- RCM

PINPOINT TEST D : DTCS B0010:11, B0010:12, B0010:13 AND B0010:1A

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

D1 RETRIEVE RCM DTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0010:11, B0010:12, B0010:13 or B0010:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0010:13 or B0010:1A, GO to D2 . For DTC B0010:11, GO to D9 . For DTC B0010:12, GO to D11 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B0010:13 or B0010:1A, GO to D14 . For DTC B0010:11, GO to D15 . For DTC B0010:12, GO to D16 .

D2 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_05_R) PID

- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#) .
 - DEPLOY_05_R PID
- Monitor and record the resistance value displayed by the DEPLOY_05_R PID.

Does the recorded PID value read between 1.7 and 2.78 ohms?

Yes	GO to D13 .
No	GO to D3 .

D3 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_05_R) PID WHILE CARRYING OUT THE HARNESS TEST

- While monitoring the DEPLOY_05_R PID, carry out the harness test of the passenger air bag module circuits and accessible connectors (including any in-line connectors), by wiggling connectors and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms while carrying out the harness test?

Yes	DEPOWER the SRS and REPAIR the connector, terminals or wire harness as needed. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .
No	For PID value less than 1.7 ohms, GO to D4 . For PID value greater than 2.78 ohms, GO to D7 .

D4 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the [RCM](#) by inducing a different fault condition. If the fault reported changes, this indicates the [RCM](#) is functioning correctly and is not the source of the fault.

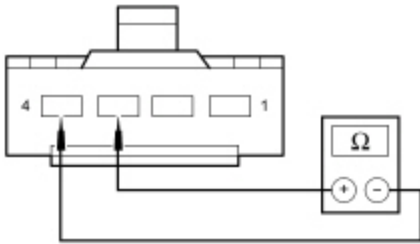
- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger air bag module disconnected, open circuit faults would normally be retrieved on passenger air bag stage 1 and 2.

Did the on-demand DTC change from B0010:1A to B0010:13?

Yes	GO to D12 .
No	GO to D5 .

D5 CHECK FOR A SHORT BETWEEN PASSENGER AIR BAG STAGE 1 CIRCUITS

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Measure the resistance between passenger air bag [C256](#) Pin 3, circuit CR103 (GY/BU), harness side and [C256](#) Pin 4, circuit RR103 (VT/GN), harness side.



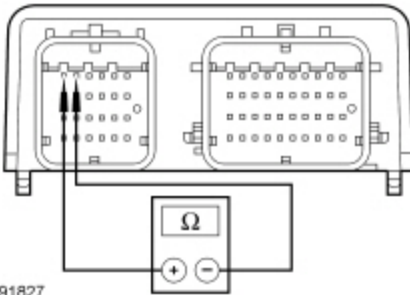
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Is the resistance greater than 10,000 ohms?

Yes	GO to D13 .
No	GO to D6 .

D6 CHECK THE RCM FOR LOW RESISTANCE

- Disconnect: [RCM](#) C2041A and C2041B .
- Measure the resistance between [RCM](#) C2041A pins 1 and 2, component side.



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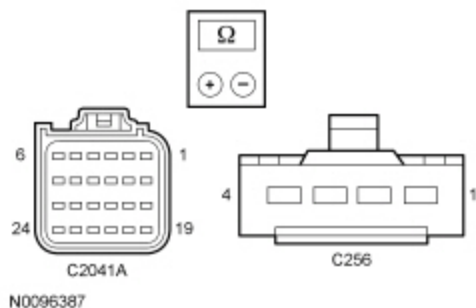
Is the resistance greater than 10,000 ohms?

Yes	REPAIR circuits CR103 (GY/BU) and RR103 (VT/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .
No	GO to D13 .

D7 CHECK THE PASSENGER AIR BAG STAGE 1 CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Disconnect: [RCM](#) C2041A and C2041B .
- Measure the resistance between [RCM](#) C2041A, harness side and passenger air bag module C256, harness side using the following chart:

RCM	Circuit	Passenger Air Bag Module
C2041A Pin 1	CR103 (GY/BU)	C256 Pin 3
C2041A Pin 2	RR103 (VT/GN)	C256 Pin 4



Are the resistances less than 0.5 ohm?

Yes	GO to D8 .
No	REPAIR circuit CR103 (GY/BU) or RR103 (VT/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .

D8 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .
- Connect a fused jumper wire between passenger air bag module [C256](#) Pin 3, circuit CR103 (GY/BU), harness side and [C256](#) Pin 4, circuit RR103 (VT/GN), harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger air bag module stage 1 circuits shorted together, a low resistance fault would normally be retrieved on stage 1. Stage 2 will show an open circuit fault due to the passenger air bag being disconnected.

Did the on-demand DTC change from B0010:13 to B0010:1A?

Yes	GO to D12 .
No	GO to D13 .

D9 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

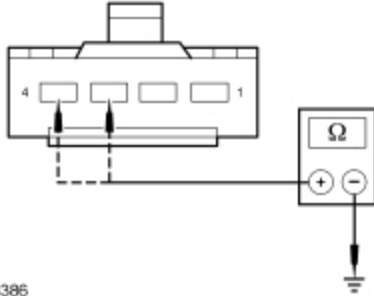
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger air bag module disconnected, open circuit faults would normally be retrieved on passenger air bag stage 1 and 2.

Did the on-demand DTC change from B0010:11 to B0010:13?

Yes	GO to D12 .
No	GO to D10 .

D10 CHECK THE PASSENGER AIR BAG STAGE 1 CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between passenger air bag module:
 - [C256](#) Pin 3, circuit CR103 (GY/BU), harness side and ground.
 - [C256](#) Pin 4, circuit RR103 (VT/GN), harness side and ground.

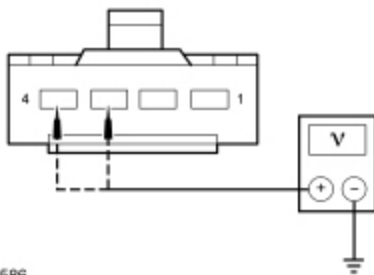


Are the resistances greater than 10,000 ohms?

Yes	GO to D13 .
No	Due to the shorting bar feature in the <u>RCM</u> electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit CR103 (GY/BU) or RR103 (VT/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .

D11 CHECK THE PASSENGER AIR BAG STAGE 1 CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Measure the voltage between passenger air bag module:
 - [C256](#) Pin 3, circuit CR103 (GY/BU), harness side and ground.
 - [C256](#) Pin 4, circuit RR103 (VT/GN), harness side and ground.



Is voltage present on either circuit?

Yes	Due to the shorting bar feature in the <u>RCM</u> electrical connector, the fault can exist in either circuit. Do not remove or defeat the shorting bar. REPAIR circuit CR103 (GY/BU) or RR103 (VT/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .
No	GO to D13 .

D12 CONFIRM THE PASSENGER AIR BAG MODULE FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire between the passenger air bag module electrical connector.
- Connect: Passenger Air Bag Module C256 (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new passenger air bag module. REFER to Passenger Airbag in this section. GO to D18 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0010:13 or B0010:1A, GO to D14 . For DTC B0010:11, GO to D15 . For DTC B0010:12, GO to D16 .

D13 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- If previously installed, remove the fused jumper wire from the passenger air bag module electrical connector.
- Connect: Passenger Air Bag Module C256 (if previously disconnected) .
- Connect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to D18 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0010:13 or B0010:1A, GO to D14 . For DTC B0010:11, GO to D15 . For DTC B0010:12, GO to D16 .

D14 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_05_R) PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — RCM .

- DEPLOY_05_R PID

- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to D17.
No	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .

D15 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL CIRCUITS FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0010:11 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to D17.

D16 CHECK THE PASSENGER FRONTAL STAGE 1 DEPLOYMENT CONTROL CIRCUITS FOR AN INTERMITTENT SHORT TO BATTERY FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0010:12 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to D17.


D17 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect the passenger air bag module C256 (if not previously disconnected).
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect [RCM](#) C2041A and C2041B [CPA](#) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to D18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to D18 .

D18 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and Occupant Classification System Module (OCSM) .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test E: DTCs B0011:11, B0011:12, B0011:13 and B0011:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

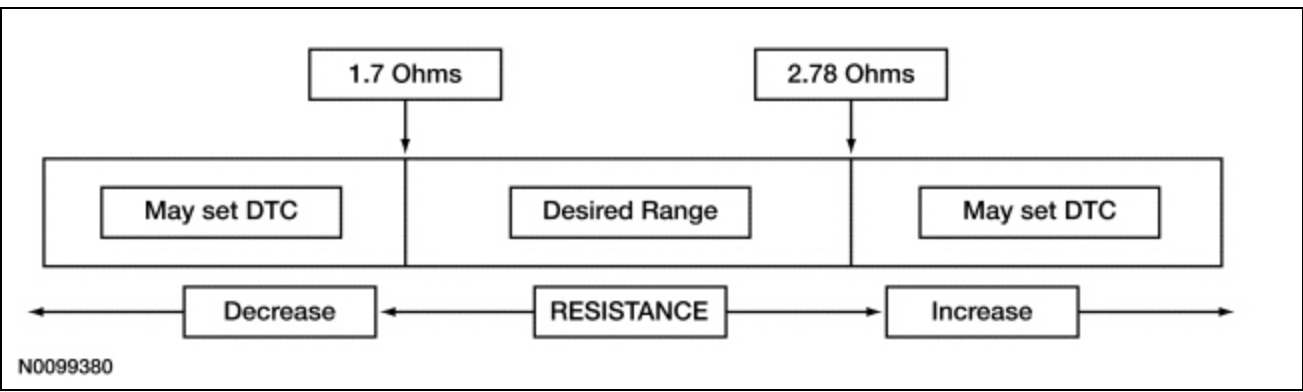
The Restraints Control Module (RCM) continuously monitors the passenger air bag module and stage 2 circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted passenger air bag module

If a fault is detected, the RCM will store DTC B0011:11, B0011:12, B0011:13 or B0011:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Passenger air bag module
- RCM



DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0011:11 — Passenger Frontal Stage 2 Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either passenger air bag stage 2 circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0011:12 — Passenger Frontal Stage 2 Deployment Control: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on either passenger air bag stage 2 circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0011:13 — Passenger Frontal Stage 2 Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between passenger air bag stage 2 circuits, a fault will be indicated.
<ul style="list-style-type: none"> B0011:1A — Passenger Frontal Stage 2 Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between passenger air bag stage 2 circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger air bag module
- RCM

PINPOINT TEST E : DTCS B0011:11, B0011:12, B0011:13 AND B0011:1A

⚠ WARNING: Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

E1 RETRIEVE RCM DTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0011:11, B0011:12, B0011:13 or B0011:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0011:13 or B0011:1A, GO to E2 . For DTC B0011:11, GO to E8 . For DTC B0011:12, GO to E10 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B0011:13 or B0011:1A, GO to E13 . For DTC B0011:11, GO to E14 . For DTC B0011:12, GO to E15 .

E2 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_06_R) PID

- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#) .
 - DEPLOY_06_R PID
- Monitor and record the resistance value displayed by the DEPLOY_06_R PID.

Does the recorded PID value read between 1.7 and 2.78 ohms?

Yes	GO to E12 .
No	GO to E3 .

E3 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_06_R) PID WHILE CARRYING OUT THE HARNESS TEST

- While monitoring the DEPLOY_06_R PID, carry out the harness test of the passenger air bag module circuits and accessible connectors (including any in-line connectors), by wiggling connectors and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms while carrying out the harness test?

Yes	DEPOWER the SRS and REPAIR the connector, terminals or wire harness as needed. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .
No	For PID value less than 1.7 ohms, GO to E4 . For PID value greater than 2.78 ohms, GO to E6 .

E4 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the [RCM](#) by inducing a different fault condition. If the fault reported changes, this indicates the [RCM](#) is functioning correctly and is not the source of the fault.

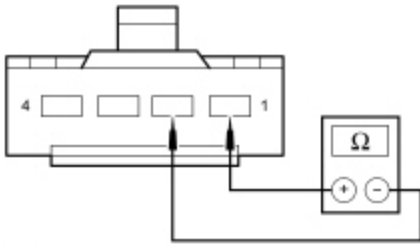
- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- DIAGNOSTIC TIP:** When viewing DTCs with the passenger air bag module disconnected, open circuit faults would normally be retrieved on passenger air bag stage 1 and 2.

Did the on-demand DTC change from B0011:1A to B0011:13?

Yes	GO to E11 .
No	GO to E5 .

E5 CHECK FOR A SHORT BETWEEN PASSENGER AIR BAG STAGE 2 CIRCUITS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between C256 Pin 1, circuit CR104 (YE/GY), harness side and C256 Pin 2, circuit RR104 (WH/BU), harness side.



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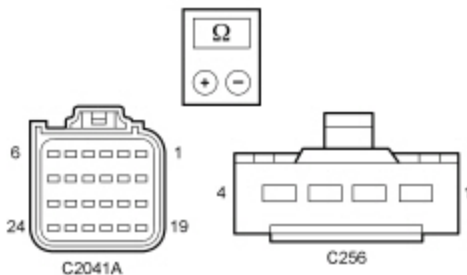
Is the resistance greater than 10,000 ohms?

Yes	GO to E12 .
No	REPAIR circuits CR104 (YE/GY) and RR104 (WH/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .

E6 CHECK THE PASSENGER AIR BAG STAGE 2 CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041A, harness side and passenger air bag module C256, harness side using the following chart:

<u>RCM</u>	Circuit	Passenger Air Bag Module
C2041A Pin 10	CR104 (YE/GY)	C256 Pin 1
C2041A Pin 9	RR104 (WH/BU)	C256 Pin 2



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Are the resistances less than 0.5 ohm?

Yes	GO to E7 .
No	REPAIR circuit CR104 (YE/GY) or RR104 (WH/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .

E7 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .
- Connect a fused jumper wire between passenger air bag module C256 Pin 1, circuit CR104 (YE/GY), harness side and C256 Pin 2, circuit RR104 (WH/BU), harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger air bag module stage 2 circuits shorted together, a low resistance fault would normally be retrieved on stage 2. Stage 1 will show an open circuit fault due to the passenger air bag module being disconnected.

Did the on-demand DTC change from B0011:13 to B0011:1A?

Yes	GO to E11 .
No	GO to E12 .

E8 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

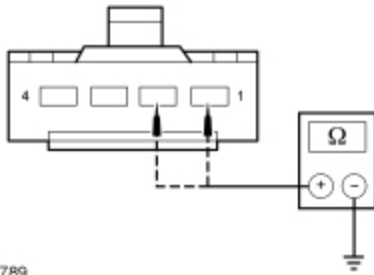
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger air bag module disconnected, open circuit faults would normally be retrieved on stage 1 and 2.

Did the on-demand DTC change from B0011:11 to B0011:13?

Yes	GO to E11 .
No	GO to E9 .

E9 CHECK THE PASSENGER AIR BAG STAGE 2 CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between passenger air bag module:
 - C256 Pin 1, circuit CR104 (YE/GY), harness side and ground.
 - C256 Pin 2, circuit RR104 (WH/BU), harness side and ground.



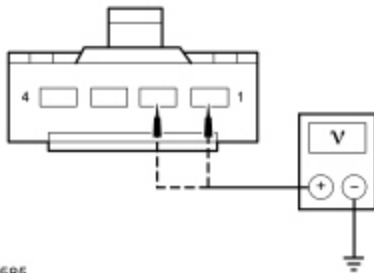
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Are the resistances greater than 10,000 ohms?

Yes	GO to E12 .
No	REPAIR circuit CR104 (YE/GY) or RR104 (WH/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .

E10 CHECK THE PASSENGER AIR BAG STAGE 2 CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between passenger air bag module:
 - [C256](#) Pin 1, circuit CR104 (YE/GY), harness side and ground.
 - [C256](#) Pin 2, circuit RR104 (WH/BU), harness side and ground.



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Is voltage present on either circuit?

Yes	REPAIR circuit CR104 (YE/GY) or RR104 (WH/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .
No	GO to E12 .

E11 CONFIRM THE PASSENGER AIR BAG MODULE FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from the passenger air bag module electrical connector.
- Connect: Passenger Air Bag Module C256 (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new passenger air bag module. REFER to Passenger Airbag in this section. GO to E17 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0011:13 or B0011:1A, GO to E13 . For DTC B0011:11, GO to E14 . For DTC B0011:12, GO to E15 .

E12 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system components and the [RCM](#) electrical connectors are connected before carrying out the self-test. If not, DTCs will be recorded.

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected [SRS](#) component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect [RCM](#) C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- If previously installed, remove the fused jumper wire from the passenger air bag module electrical connector.
- Connect: Passenger Air Bag Module C256 (if previously disconnected) .
- Connect: [RCM](#) C2041A and C2041B .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to E17 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0011:13 or B0011:1A, GO to E13 . For DTC B0011:11, GO to E14 . For DTC B0011:12, GO to E15 .

E13 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL RESISTANCE (DEPLOY_06_R) PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#) .
 - DEPLOY_06_R PID
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to E16 .
No	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .

E14 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0011:11 retrieved on-demand during self-test?

Yes	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to E16 .

E15 CHECK THE PASSENGER FRONTAL STAGE 2 DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO BATTERY FAULT

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Air Bag Module C256 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0011:12 retrieved on-demand during self-test?

Yes	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to E16 .

E16 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect the passenger air bag module C256.
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect [RCM](#) C2041A and C2041B [CPA](#) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to E17 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to E17 .

E17 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF. **⚠️ WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test F: DTCs B0020:11, B0020:12, B0020:13 and B0020:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the driver seat side air bag module and circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted driver seat side air bag module

If a fault is detected, the RCM will store DTC B0020:11, B0020:12, B0020:13 or B0020:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Driver seat side air bag module
- RCM




DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0020:11 — Left Side Airbag Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either driver seat side air bag circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0020:12 — Left Side Airbag Deployment Control: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on either driver seat side air bag circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0020:13 — Left Side Airbag Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between the driver seat side air bag circuits, a fault will be indicated.
<ul style="list-style-type: none"> B0020:1A — Left Side Airbag Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between the driver seat side air bag circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver seat side air bag module
- RCM

PINPOINT TEST F : DTCS B0020:11, B0020:12, B0020:13 AND B0020:1A

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

 **WARNING:** Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

F1 RETRIEVE RCM DTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM.

Was DTC B0020:11, B0020:12, B0020:13 or B0020:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0020:13 or B0020:1A, GO to F2 . For DTC B0020:11, GO to F8 . For DTC B0020:12, GO to F10 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B0020:13 or B0020:1A, GO to F13 .

For DTC B0020:11, GO to [F14](#).
For DTC B0020:12, GO to [F15](#).

F2 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL RESISTANCE (DEPLOY_10_R) PID

- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#) .
 - DEPLOY_10_R PID
- Monitor and record the resistance value displayed by the DEPLOY_10_R PID.

Does the recorded PID value read between 1.7 and 2.78 ohms?

Yes	GO to F12 .
No	GO to F3 .

F3 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL RESISTANCE (DEPLOY_10_R) PID WHILE CARRYING OUT THE HARNESS TEST

- While monitoring the DEPLOY_10_R PID, carry out the harness test of the driver seat side air bag circuits and accessible connectors (including any in-line connectors) by wiggling connectors and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms while carrying out the harness test?

Yes	DEPOWER the SRS and REPAIR the connector, terminals or wire harness as needed. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .
No	For PID value less than 1.7 ohms, GO to F4 . For PID value greater than 2.78 ohms, GO to F6 .

F4 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the [RCM](#) by inducing a different fault condition. If the fault reported changes, this indicates the [RCM](#) is functioning correctly and is not the source of the fault.

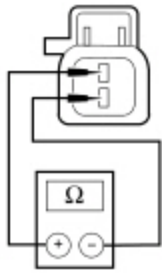
- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag Module C367 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver seat side air bag module disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B0020:1A to B0020:13?

Yes	GO to F11 .
No	GO to F5 .

F5 CHECK FOR A SHORT BETWEEN DRIVER SEAT SIDE AIR BAG CIRCUITS

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: [RCM](#) C2041A and C2041B .
- Measure the resistance between driver seat side air bag module [C367](#) Pin 1, circuit CR105 (GN/BU), harness side and [C367](#) Pin 2, circuit RR105 (GY/YE), harness side.



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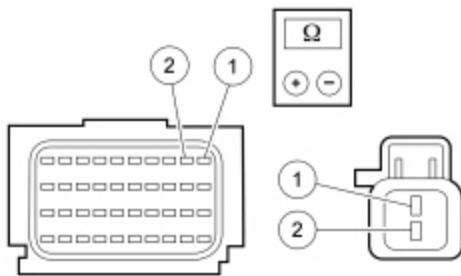
Is the resistance greater than 10,000 ohms?

Yes	GO to F12 .
No	REPAIR circuits CR105 (GN/BU) and RR105 (GY/YE). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .

F6 CHECK THE DRIVER SEAT SIDE AIR BAG CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag Module C367 .
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041B, harness side and driver seat side air bag module C367, harness side using the following chart:

<u>RCM</u>	Circuit	Driver Seat Side Air Bag Module
C2041B Pin 2	CR105 (GN/BU)	C367 Pin 1
C2041B Pin 1	RR105 (GY/YE)	C367 Pin 2



N0119895

Are the resistances less than 0.5 ohm?

Yes	GO to F7 .
No	REPAIR circuit CR105 (GN/BU) or RR105 (GY/YE). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .

F7 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .

- Connect a fused jumper wire between driver seat side air bag [C367](#) Pin 1, circuit CR105 (GN/BU), harness side and [C367](#) Pin 2, circuit RR105 (GY/YE), harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver seat side air bag module circuits shorted together, a low resistance fault would normally be retrieved.

Did the on-demand DTC change from B0020:13 to B0020:1A?

Yes	GO to F11 .
No	GO to F12 .

F8 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

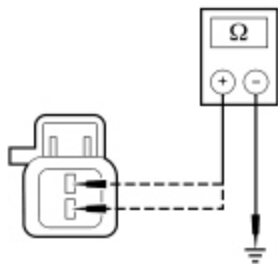
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag Module C367 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver seat side air bag module disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B0020:11 to B0020:13?

Yes	GO to F11 .
No	GO to F9 .

F9 CHECK THE DRIVER SEAT SIDE AIR BAG CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between driver seat side air bag module:
 - [C367](#) Pin 1, circuit CR105 (GN/BU), harness side and ground.
 - [C367](#) Pin 2, circuit RR105 (GY/YE), harness side and ground.

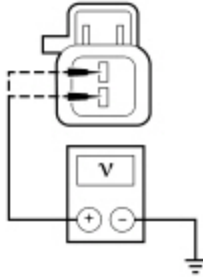


Are the resistances greater than 10,000 ohms?

Yes	GO to F12 .
No	REPAIR circuit CR105 (GN/BU) or RR105 (GY/YE). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information.

F10 CHECK THE DRIVER SEAT SIDE AIR BAG CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag Module C367 .
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between driver seat side air bag module:
 - [C367](#) Pin 1, circuit CR105 (GN/BU), harness side and ground.
 - [C367](#) Pin 2, circuit RR105 (GY/YE), harness side and ground.



N0005052

Is voltage present on either circuit?

Yes	REPAIR circuit CR105 (GN/BU) or RR105 (GY/YE). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .
No	GO to F12 .

F11 CONFIRM THE DRIVER SEAT SIDE AIR BAG MODULE FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from the driver seat side air bag C367.
- Connect: Driver Seat Side Air Bag Module C367 .
- Connect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	REMOVE and INSPECT the driver seat side air bag module harness for damage. REFER to Side Airbag in this section. If a concern is found, REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. If a concern was not found, INSTALL a new driver seat side air bag module. REFER to Side Airbag in this section. GO to F17 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0020:13 or B0020:1A, GO to F13 .

For DTC B0020:11, GO to [F14](#).
For DTC B0020:12, GO to [F15](#).

F12 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- If previously installed, remove the fused jumper wire from the driver seat side air bag C367.
- Connect: Driver Seat Side Air Bag Module C367 .
- Connect: RCM C2041A and C2041B (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to F17 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. For DTC B0020:13 or B0020:1A, GO to F13 . For DTC B0020:11, GO to F14 . For DTC B0020:12, GO to F15 .

F13 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL RESISTANCE (DEPLOY_10_R) PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — RCM .
 - DEPLOY_10_R PID
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to F16 .
No	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .

F14 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0020:11 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to F16 .

F15 CHECK THE LEFT SIDE AIRBAG DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO BATTERY FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag Module C367 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0020:12 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to F16 .


F16 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect the driver seat side air bag module C367:
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to F17 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to F17 .

F17 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test G: DTCs B0028:11, B0028:12, B0028:13 and B0028:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the passenger seat side air module and bag circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted passenger seat side air bag module

If a fault is detected, the RCM will store DTC B0028:11, B0028:12, B0028:13 or B0028:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Passenger seat side air bag module
- RCM



DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B0028:11 — Right Side Airbag Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either passenger seat side air bag circuit, a fault will be indicated.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0028:12 — Right Side Airbag Deployment Control: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on either passenger seat side air bag circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0028:13 — Right Side Airbag Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between the passenger seat side air bag circuits, a fault will be indicated.
<ul style="list-style-type: none"> B0028:1A — Right Side Airbag Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between the passenger seat side air bag circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger seat side air bag module
- RCM

PINPOINT TEST G : DTCS B0028:11, B0028:12, B0028:13 AND B0028:1A

 **WARNING:** Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

G1 RETRIEVE RCM DTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM.

Was DTC B0028:11, B0028:12, B0028:13 or B0028:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0028:13 or B0028:1A, GO to G2 . For DTC B0028:11, GO to G8 . For DTC B0028:12, GO to G10 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B0028:13 or B0028:1A, GO to G13 . For DTC B0028:11, GO to G14 . For DTC B0028:12, GO to G15 .

G2 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL RESISTANCE (DEPLOY_13_R) PID

- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#) .
 - DEPLOY_13_R PID
- Monitor and record the resistance value displayed by the DEPLOY_13_R PID.

Does the recorded PID value read between 1.7 and 2.78 ohms?

Yes	GO to G12 .
No	GO to G3 .

G3 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL RESISTANCE (DEPLOY_13_R) PID WHILE CARRYING OUT THE HARNESS TEST

- While monitoring the DEPLOY_13_R PID, carry out the harness test of the passenger side air bag circuits and accessible connectors (including any in-line connectors) by wiggling connectors and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms while carrying out the harness test?

Yes	DEPOWER the SRS and REPAIR the connector, terminals or wire harness as needed. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to G17 .
No	For PID value less than 1.7 ohms, GO to G4 . For PID value greater than 2.78 ohms, GO to G6 .

G4 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the [RCM](#) by inducing a different fault condition. If the fault reported changes, this indicates the [RCM](#) is functioning correctly and is not the source of the fault.

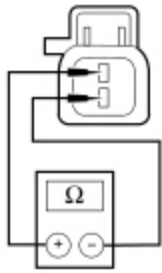
- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger seat side air bag module disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B0028:1A to B0028:13?

Yes	GO to G11 .
No	GO to G5 .

G5 CHECK FOR A SHORT BETWEEN PASSENGER SEAT SIDE AIR BAG CIRCUITS

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: [RCM](#) C2041A and C2041B .
- Measure the resistance between passenger seat side air bag [C337](#) Pin 1, circuit CR106 (VT/GY), harness side and [C337](#) Pin 2, circuit RR106 (YE/OG), harness side.



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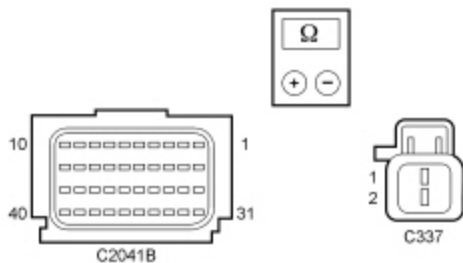
Is the resistance greater than 10,000 ohms?

Yes	GO to G12 .
No	REPAIR circuits CR106 (VT/GY) and RR106 (YE/OG). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to G17 .

G6 CHECK THE PASSENGER SEAT SIDE AIR BAG CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041B, harness side and passenger seat side air bag module C337, harness side using the following chart:

<u>RCM</u>	Circuit	Passenger Seat Side Air Bag Module
C204B Pin 12	CR106 (VT/GY)	C337 Pin 1
C204B Pin 11	RR106 (YE/OG)	C337 Pin 2



N0096388

Are the resistances less than 0.5 ohm?

Yes	GO to G7 .
No	REPAIR circuit CR106 (VT/GY) or RR106 (YE/OG). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to G17 .

G7 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .

- Connect a fused jumper wire between passenger seat side air bag [C337](#) Pin 1, circuit CR106 (VT/GY), harness side and [C337](#) Pin 2, circuit RR106 (YE/OG), harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger side air bag circuits shorted together, a low resistance fault would normally be retrieved.

Did the on-demand DTC change from B0028:13 to B0028:1A?

Yes	GO to G11 .
No	GO to G12 .

G8 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

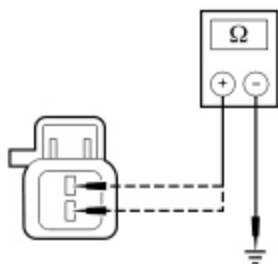
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger seat side air bag module disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B0028:11 to B0028:13?

Yes	GO to G11 .
No	GO to G9 .

G9 CHECK THE PASSENGER SEAT SIDE AIR BAG CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between passenger seat side air bag:
 - [C337](#) Pin 1, circuit CR106 (VT/GY), harness side and ground.
 - [C337](#) Pin 2, circuit RR106 (YE/OG), harness side and ground.

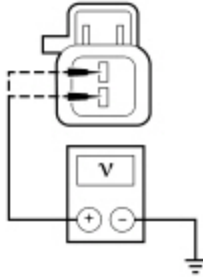


Are the resistances greater than 10,000 ohms?

Yes	GO to G12 .
No	REPAIR circuit CR106 (VT/GY) or RR106 (YE/OG). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information.

G10 CHECK THE PASSENGER SEAT SIDE AIR BAG CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between passenger seat side air bag:
 - [C337](#) Pin 1, circuit CR106 (VT/GY), harness side and ground.
 - [C337](#) Pin 2, circuit RR106 (YE/OG), harness side and ground.



N0005052

Is voltage present on either circuit?

Yes	REPAIR circuit CR106 (VT/GY) or RR106 (YE/OG). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to G17 .
No	GO to G12 .

G11 CONFIRM THE PASSENGER SEAT SIDE AIR BAG MODULE FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from the passenger seat side air bag C337.
- Connect: Passenger Seat Side Air Bag Module C337 .
- Connect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	REMOVE and INSPECT the passenger seat side air bag module wire harness for damage. REFER to Side Airbag in this section. If a concern is found, REPAIR the seat side air bag wire harness. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. If a concern was not found, INSTALL a new passenger seat side air bag module. REFER to Side Airbag in this section. GO to G17 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B0028:13 or B0028:1A, GO to G13 .

For DTC B0028:11, GO to [G14](#).
For DTC B0028:12, GO to [G15](#).

G12 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- If previously installed, remove the fused jumper wire from the passenger seat side air bag C337.
- Connect: Passenger Seat Side Air Bag Module C337 .
- Connect: RCM C2041A and C2041B (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to G17 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. For DTC B0028:13 or B0028:1A, GO to G13 . For DTC B0028:11, GO to G14 . For DTC B0028:12, GO to G15 .

G13 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL RESISTANCE (DEPLOY_13_R) PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — RCM .
 - DEPLOY_13_R PID
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to G16 .
No	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to G17 .

G14 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0028:11 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell <u>5</u> , Connector Repair Procedures for schematic and connector information. GO to <u>G17</u> .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to <u>G16</u> .

G15 CHECK THE RIGHT SIDE AIRBAG DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO BATTERY FAULT

- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0028:12 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell <u>5</u> , Connector Repair Procedures for schematic and connector information. GO to <u>G17</u> .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to <u>G16</u> .


G16 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect the passenger seat side air bag module C337:
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell <u>5</u> , Connector Repair Procedures for schematic and connector information. GO to <u>G17</u> .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to <u>G17</u> .

G17 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test H: DTCs B0050:11, B0050:12, B0050:13 and B0050:1D

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors the driver safety belt buckle switch and circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Current out of range
- Faulted driver safety belt buckle switch



If a fault is detected, the RCM will store DTC B0050:11, B0050:12, B0050:13 or B0050:1D in memory and will send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B0050:11 — Driver Seatbelt Sensor: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on the driver safety belt buckle switch circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B0050:12 — Driver Seatbelt Sensor: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on the driver safety belt buckle switch circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B0050:13 — Driver Seatbelt Sensor: Circuit Open 	When the <u>RCM</u> senses an open on either driver safety belt buckle switch circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B0050:1D — Driver Seatbelt Sensor: Circuit Current Out of Range 	When the <u>RCM</u> senses current out of an acceptable range between the driver safety belt buckle switch circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver safety belt buckle and pretensioner
- RCM

PINPOINT TEST H : DTCS B0050:11, B0050:12, B0050:13 AND B0050:1D

 WARNING: Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.
 WARNING: Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

H1 RETRIEVE RCM DTCS


- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0050:11, B0050:12, B0050:13 or B0050:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0050:11 or B0050:1D, GO to H2 . For DTC B0050:12, GO to H4 . For DTC B0050:13, GO to H5 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to H10 .

H2 CHECK THE DRIVER SEATBELT SENSOR DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND OR CURRENT OUT OF RANGE INDICATED)

NOTE: *This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.*

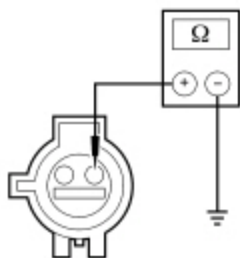
- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Disconnect: Driver Safety Belt Buckle Switch C323 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver safety belt buckle switch disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B0050:11 or B0050:1D to B0050:13?

Yes	GO to H8 .
No	For DTC B0050:11, GO to H3 . For DTC B0050:1D, GO to H9 .

H3 CHECK THE DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: [RCM](#) C2041A and C2041B .
- Measure the resistance between driver safety belt buckle switch [C323](#) Pin 2, circuit CR201 (GN/BU), harness side and ground.



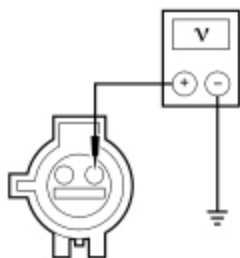
N0010350

Is the resistance greater than 10,000 ohms?

Yes	GO to H9 .
No	REPAIR circuit CR201 (GN/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to H11 .

H4 CHECK THE DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag Module C367 .
- Disconnect: Driver Safety Belt Buckle Switch C323 .
- Disconnect: **RCM** C2041A and C2041B .
- Repower the **SRS** . **Do not** prove out the **SRS** at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between driver safety belt buckle switch [C323](#) Pin 2, circuit CR201 (GN/BU), harness side and ground.



N0010351

Is any voltage present?

Yes	REPAIR circuit CR201 (GN/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to H11 .
No	GO to H9 .

H5 CHECK THE DRIVER SEATBELT SENSOR DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the **RCM** by inducing a different fault condition. If the fault reported changes, this indicates the **RCM** is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag Module C367 .
- Disconnect: Driver Safety Belt Buckle Switch C323 .
- Connect a fused jumper wire between driver safety belt buckle switch [C323](#) Pin 2, circuit CR201 (GN/BU), harness side and [C323](#) Pin 1, circuit GD138 (BK/WH), harness side.

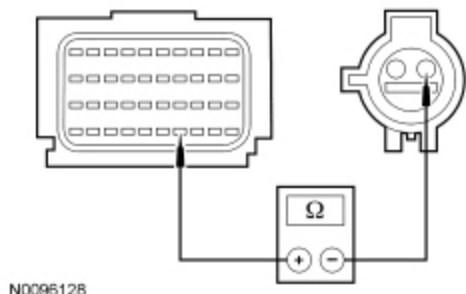
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver safety belt buckle switch circuits shorted together, a short to ground fault would normally be retrieved.

Did the on-demand DTC change from B0050:13 to B0050:11?

Yes	GO to H8 .
No	GO to H6 .

H6 CHECK THE DRIVER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Remove the fused jumper wire from the driver safety belt buckle switch connector.
- Measure the resistance between RCM [C2041B](#) Pin 34, circuit CR201 (GN/BU), harness side and driver safety belt buckle switch [C323](#) Pin 2, circuit CR201 (GN/BU), harness side.

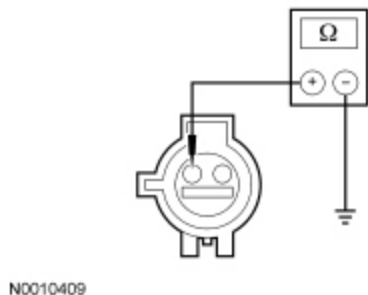


Is the resistance less than 0.5 ohm?

Yes	GO to H7 .
No	REPAIR circuit CR201 (GN/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to H11 .

H7 CHECK THE DRIVER SAFETY BELT BUCKLE SWITCH GROUND CIRCUIT FOR AN OPEN

- Measure the resistance between driver safety belt buckle switch [C323](#) Pin 1, circuit GD138 (BK/WH), harness side and ground.



Is the resistance less than 5 ohms?

Yes	GO to H9 .
No	REPAIR circuit GD138 (BK/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to H11 .

H8 CONFIRM THE DRIVER SAFETY BELT BUCKLE SWITCH FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from driver safety belt buckle switch C323.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new driver safety belt buckle. REFER to Section 501-20A . GO to H11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to H10 .

H9 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Connect: RCM C2041A and C2041B (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to H11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to H10 .


H10 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Safety Belt Buckle Switch C323 .
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: Driver Safety Belt Buckle Switch C323 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0050:11, B0050:12, B0050:13 or B0050:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0050:11 or B0050:1D, GO to H2 . For DTC B0050:12, GO to H4 . For DTC B0050:13, GO to H5 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to H11 .

H11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test I: DTCs B0052:11, B0052:12, B0052:13 and B0052:1D

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors the passenger safety belt buckle switch and circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Current out of range
- Faulted passenger safety belt buckle switch


If a fault is detected, the RCM will store DTC B0052:11, B0052:12, B0052:13 or B0052:1D in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0052:11 — Passenger Seatbelt Sensor: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on the passenger safety belt buckle switch circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0052:12 — Passenger Seatbelt Sensor: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on the passenger safety belt buckle switch circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0052:13 — Passenger Seatbelt Sensor: Circuit Open 	When the <u>RCM</u> senses an open on either passenger safety belt buckle switch circuit, a fault will be indicated.
<ul style="list-style-type: none"> B0052:1D — Passenger Seatbelt Sensor: Circuit Current Out of Range 	When the <u>RCM</u> senses current out of an acceptable range between the passenger safety belt buckle switch circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger safety belt buckle and pretensioner
- RCM

PINPOINT TEST I : DTCS B0052:11, B0052:12, B0052:13 AND B0052:1D

 **WARNING:** Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

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

I1 RETRIEVE RCM DTCS

- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0052:11, B0052:12, B0052:13 or B0052:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0052:11 or B0052:1D, GO to I2 . For DTC B0052:12, GO to I4 . For DTC B0052:13, GO to I5 .
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No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to I10 .
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12 CHECK THE PASSENGER SEATBELT SENSOR DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND OR CURRENT OUT OF RANGE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

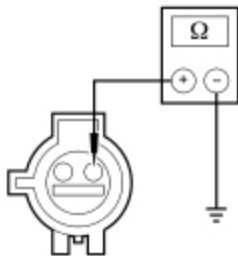
- Ignition OFF. **⚠️WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Disconnect: Passenger Safety Belt Buckle Switch C3066 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- DIAGNOSTIC TIP:** When viewing DTCs with the passenger safety belt buckle switch disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B0052:11 or B0052:1D to B0052:13?

Yes	GO to I8 .
No	For DTC B0052:11, GO to I3 . For DTC B0052:1D, GO to I9 .

13 CHECK THE PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between passenger safety belt buckle switch [C3066](#) Pin 2, circuit CR203 (GY/VT), harness side and ground.



N0010350

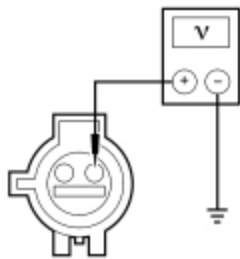
Is the resistance greater than 10,000 ohms?

Yes	GO to I9 .
No	REPAIR circuit CR203 (GY/VT). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to I11 .

14 CHECK THE PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Disconnect: Passenger Safety Belt Buckle Switch C3066 .
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.

- Measure the voltage between passenger safety belt buckle switch [C3066](#) Pin 2, circuit CR203 (GY/VT), harness side and ground.



N0010351

Is any voltage present?

Yes	REPAIR circuit CR203 (GY/VT). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to I11 .
No	GO to I9 .

15 CHECK THE PASSENGER SEATBELT SENSOR DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

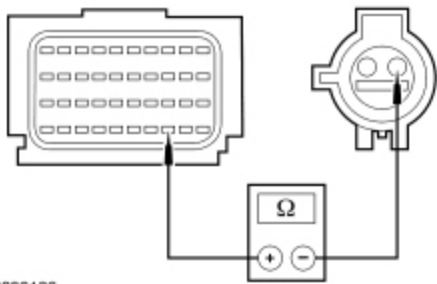
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Disconnect: Passenger Safety Belt Buckle Switch C3066 .
- Connect a fused jumper wire between passenger safety belt buckle switch [C3066](#) Pin 2, circuit CR203 (GY/VT), harness side and [C3066](#) Pin 1, circuit GD138 (BK/WH), harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger safety belt buckle switch circuits shorted together, a short to ground fault would normally be retrieved.

Did the on-demand DTC change from B0052:13 to B0052:11?

Yes	GO to I8 .
No	GO to I6 .

16 CHECK THE PASSENGER SAFETY BELT BUCKLE SWITCH CIRCUIT FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Remove the fused jumper wire from the passenger safety belt buckle switch connector.
- Measure the resistance between RCM [C2041B](#) Pin 33, circuit CR203 (GY/VT), harness side and the passenger safety belt buckle switch [C3066](#) Pin 2, circuit CR203 (GY/VT), harness side.



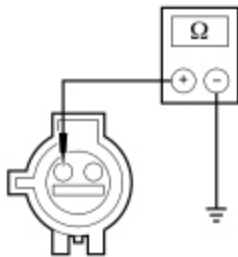
N0095125

Is the resistance less than 0.5 ohm?

Yes	GO to I7 .
No	REPAIR circuit CR203 (GY/VT). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to I11 .

17 CHECK THE PASSENGER SAFETY BELT BUCKLE SWITCH GROUND CIRCUIT FOR AN OPEN

- Measure the resistance between passenger safety belt buckle switch [C3066](#) Pin 1, circuit GD138 (BK/WH), harness side and ground.



N0010409

Is the resistance less than 5 ohms?

Yes	GO to I9 .
No	REPAIR circuit GD138 (BK/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to I11 .

18 CONFIRM THE PASSENGER SAFETY BELT BUCKLE SWITCH FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from the passenger safety belt buckle switch C3066.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.

Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.

- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new passenger safety belt buckle. REFER to Section 501-20A . GO to I11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to I10 .

I9 CONFIRM THE RCM FAULT

NOTE: Make sure all restraint system components and the [RCM](#) electrical connectors are connected before carrying out the self-test. If not, DTCs will be recorded.

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected [SRS](#) component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect C2041A and C2041B [CPA](#) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to I11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to I10 .

I10 CHECK FOR AN INTERMITTENT FAULT


- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Safety Belt Buckle Switch C3066 .
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: Passenger Safety Belt Buckle Switch C3066 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0052:11, B0052:12, B0052:13 or B0052:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0052:11 or B0052:1D, GO to I2 . For DTC B0052:12, GO to I4 . For DTC B0052:13, GO to I5 .
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No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to I11.
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I11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** *When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .*

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test J: DTCs B0090:11 or B0090:93

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors the front impact severity sensor and circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Incorrect sensor installed
- Faulted front impact severity sensor

If a fault is detected, the RCM will store DTC B0090:11 or B0090:93 in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

- DTC B0090:11 (Left Frontal Restraints Sensor: Circuit Short to Ground) — When the RCM senses a short to ground on the feed circuit of the front impact severity sensor, a fault will be indicated.
- DTC B0090:93 (Left Frontal Restraints Sensor: No Operation) — When the RCM senses a faulted sensor, a short to voltage on the feed or return circuit, or an open feed or return circuit, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Front impact severity sensor
- RCM

PINPOINT TEST J : DTCS B0090:11 OR B0090:93

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .*

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

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Master Parts Catalog to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

NOTE: Do not probe any impact sensor. The impact sensor cannot be tested using a multi-meter.

J1 RETRIEVE THE RCM DTCS

- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0090:11 or B0090:93 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0090:11, GO to <u>J2</u> . For DTC B0090:93, GO to <u>J5</u> .
No	The fault is intermittent when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to <u>J10</u> .

J2 CHECK THE LEFT FRONTAL RESTRAINTS SENSOR DTC FOR FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

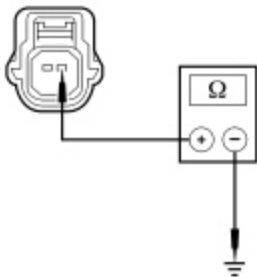
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Front Impact Severity Sensor C1598 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Did the on-demand DTC change from B0090:11 to B0090:93?

Yes	INSTALL a new front impact severity sensor. REFER to Front Impact Severity Sensor in this section. GO to <u>J11</u> .
No	GO to <u>J3</u> .

J3 CHECK FRONT IMPACT SEVERITY SENSOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between front impact severity sensor C1598 Pin 1, circuit VR213 (VT/GN), harness side and ground.



N0092553

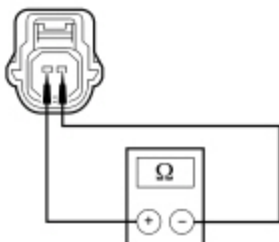
Is the resistance greater than 10,000 ohms?

Yes	GO to <u>J4</u> .
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No	REPAIR circuit VR213 (VT/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to J11 .
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J4 CHECK FOR A SHORT BETWEEN FRONT IMPACT SEVERITY SENSOR CIRCUITS

- Measure the resistance between front impact severity sensor [C1598](#) Pin 1, circuit VR213 (VT/GN), harness side and [C1598](#) Pin 2, circuit RR129 (YE/GY), harness side.



N0036987

Is the resistance greater than 10,000 ohms?

Yes	GO to J9 .
No	REPAIR circuits VR213 (VT/GN) and RR129 (YE/GY). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to J11 .

J5 CHECK THE LEFT FRONT IMPACT SEVERITY SENSOR AND RCM CONNECTIONS (NO OPERATION INDICATED)

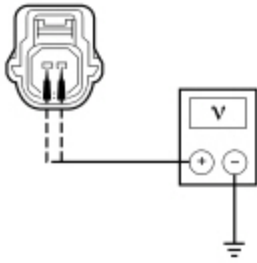
- Ignition OFF. **⚠️WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Inspect the front impact severity sensor connector to be fully seated and locked. Seat and lock connector as necessary.
- Gain access to the [RCM](#) and inspect [C2041A](#) and [C2041B](#) to be fully seated and locked. Seat and lock the connector(s) as necessary. Refer to [Restraints Control Module \(RCM\)](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0090:93 retrieved on-demand during self-test?

Yes	GO to J6 .
No	Fault corrected. GO to J11 .

J6 CHECK THE FRONT IMPACT SEVERITY SENSOR CIRCUITS FOR A SHORT TO VOLTAGE (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Front Impact Severity Sensor [C1598](#) .
- Disconnect: [RCM](#) [C2041A](#) and [C2041B](#) .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between front impact severity sensor:
 - [C1598](#) Pin 1, circuit VR213 (VT/GN), harness side and ground.
 - [C1598](#) Pin 2, circuit RR129 (YE/GY), harness side and ground.



N0035990

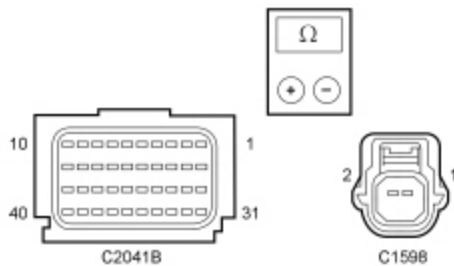
Is voltage present on either circuit?

Yes	REPAIR circuit VR213 (VT/GN) or RR129 (YE/GY). Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information. GO to J11 .
No	GO to J7 .

J7 CHECK THE FRONT IMPACT SEVERITY SENSOR CIRCUITS FOR AN OPEN (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Measure the resistance between RCM C2041B, harness side and front impact severity sensor C1598, harness side using the following chart:

RCM	Circuit	Front Impact Severity Sensor
C2041B Pin 27	VR213 (VT/GN)	C1598 Pin 1
C2041B Pin 28	RR129 (YE/GY)	C1598 Pin 2



N0113507

Are the resistances less than 0.5 ohm?

Yes	GO to J8 .
No	REPAIR circuit VR213 (VT/GN) or RR129 (YE/GY). Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information. GO to J11 .

J8 CHECK THE LEFT FRONTAL RESTRAINTS SENSOR DTC FOR A FAULT STATUS CHANGE (NO OPERATION INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .
- Connect a fused jumper wire between front impact severity sensor C1598 Pin 1, circuit VR213 (VT/GN), harness side and circuit C1598 Pin 2, circuit RR129 (YE/GY), harness side.

- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Did the on-demand DTC change from B0090:93 to B0090:11?

Yes	INSTALL a new front impact severity sensor. REFER to Front Impact Severity Sensor in this section. GO to J11 .
No	GO to J9 .

J9 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect [C2041A](#) and [C2041B](#) Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: RCM [C2041A](#) and [C2041B](#) .
- Connect: Front Impact Severity Sensor [C1598](#) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to J11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to J10 .


J10 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Front Impact Severity Sensor [C1598](#) .
- Disconnect: RCM [C2041A](#) and [C2041B](#) .
- Inspect for the following:
 - inspect harness and component connectors for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM [C2041A](#) and [C2041B](#) CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0090:11 or B0090:93 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0090:11, GO to J2 . For DTC B0090:93, GO to J5 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to J11 .

J11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS, repower the SRS. **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and Occupant Classification System Module (OCSM) .**

Was the original DTC retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test K: DTCs B0091:11 or B0091:93

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The RCM monitors the driver side impact sensor and circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Faulted driver front door side impact sensor

If a fault is detected, the RCM stores DTC B0091:11 or B0091:93 in memory and sends a message to the IPC to illuminate the air bag warning indicator.

- DTC B0091:11 (Left Side Restraints Sensor 1: Circuit Short to Ground) — A fault is indicated when the RCM senses a short to ground on the driver front door side impact sensor feed circuit.
- DTC B0091:93 (Left Side Restraints Sensor 1: No Operation) — A fault is indicated when the RCM senses a faulted driver front door side impact sensor, a short to voltage on the feed or return circuit, or an open on the feed or return circuit.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver front door side impact sensor
- RCM

PINPOINT TEST K : DTCS B0091:11 OR B0091:93

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

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

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Master Parts Catalog to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

NOTE: Do not probe any impact sensor. The impact sensor cannot be tested using a multi-meter.

K1 RETRIEVE THE RCM DTCs

- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0091:11 or B0091:93 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0091:11, GO to K2 . For DTC B0091:93, GO to K5 .
No	The fault is intermittent when present as a <u>CMDTC</u> only. GO to K10 .

K2 CHECK THE LEFT SIDE RESTRAINTS SENSOR 1 DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step attempts to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

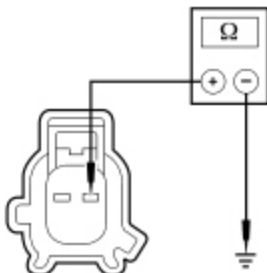
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Front Door Side Impact Sensor [C567](#) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Did the on-demand DTC change from B0091:11 to B0091:93?

Yes	INSTALL a new driver front door side impact sensor. REFER to Side Impact Sensor in this section. GO to K11 .
No	GO to K3 .

K3 CHECK THE DRIVER FRONT DOOR SIDE IMPACT SENSOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM [C2041A](#) and [C2041B](#) .
- Measure the resistance between driver front door side impact sensor [C567](#) Pin 1, circuit VR217 (GY/YE), harness side and ground.



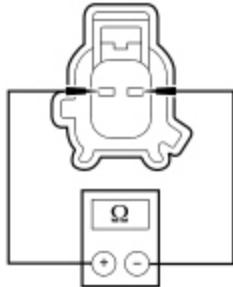
N0092805

Is the resistance greater than 10,000 ohms?

Yes	GO to K4 .
No	REPAIR the circuit. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to K11 .

K4 CHECK FOR A SHORT BETWEEN DRIVER FRONT DOOR SIDE IMPACT SENSOR CIRCUITS

- Measure the resistance between driver front door side impact sensor [C567](#) Pin 1, circuit VR217 (GY/YE), harness side and [C567](#) Pin 2, circuit RR131 (VT/GY), harness side.



N0052821

Is the resistance greater than 10,000 ohms?

Yes	GO to K9 .
No	REPAIR the circuits. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to K11 .

K5 CHECK THE DRIVER FRONT DOOR SIDE IMPACT SENSOR AND RCM CONNECTIONS (NO OPERATION INDICATED)

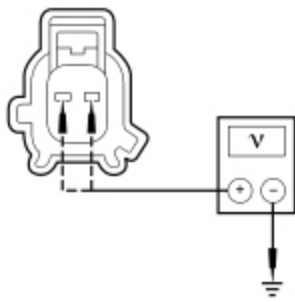
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Gain access to the driver front door side impact sensor [C567](#) and inspect the connector to be fully seated and locked. Seat and lock connector as necessary. Refer to [Side Impact Sensor](#) in this section.
- Gain access to the RCM and inspect [C2041A](#) and [C2041B](#) to be fully seated and locked. Seat and lock the connector(s) as necessary. Refer to [Restraints Control Module \(RCM\)](#) in this section.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0091:93 retrieved on-demand during self-test?

Yes	GO to K6 .
No	Fault corrected. GO to K11 .

K6 CHECK THE DRIVER FRONT DOOR SIDE IMPACT SENSOR CIRCUITS FOR A SHORT TO VOLTAGE (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Front Door Side Impact Sensor [C567](#) .
- Disconnect: RCM [C2041A](#) and [C2041B](#) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between driver front door side impact sensor:
 - [C567](#) Pin 1, circuit VR217 (GY/YE), harness side and ground.
 - [C567](#) Pin 2, circuit RR131 (VT/GY), harness side and ground.



N0052817

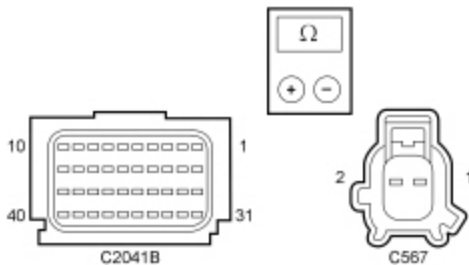
Is voltage present on either circuit?

Yes	REPAIR the affected circuit. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to K11 .
No	GO to K7 .

K7 CHECK THE DRIVER FRONT DOOR SIDE IMPACT SENSOR CIRCUITS FOR AN OPEN (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Measure the resistance between [RCM](#) C2041B, harness side and driver front door side impact sensor [C567](#), harness side using the following chart:

RCM	Circuit	Driver Front Door Side Impact Sensor
C2041B Pin 36	VR217 (GY/YE)	C567 Pin 1
C2041B Pin 35	RR131 (VT/GY)	C567 Pin 2



N0132339

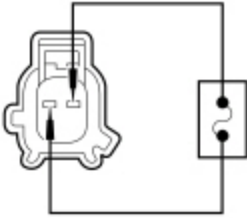
Are the resistances less than 0.5 ohm?

Yes	GO to K8 .
No	REPAIR the affected circuit. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to K11 .

K8 CHECK THE LEFT SIDE RESTRAINTS SENSOR 1 DTC FOR A FAULT STATUS CHANGE (NO OPERATION INDICATED)

NOTE: This pinpoint test step attempts to change the fault reported by the [RCM](#) by inducing a different fault condition. If the fault reported changes, this indicates the [RCM](#) is functioning correctly and is not the source of the fault.

- Connect: [RCM](#) [C2041A](#) and [C2041B](#) .
- Connect a fused jumper wire between driver front door side impact sensor [C567](#) Pin 1, circuit VR217 (GY/YE), harness side and [C567](#) Pin 2 circuit RR131 (VT/GY), harness side.



ND109792

- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Did the on-demand DTC change from B0091:93 to B0091:11?

Yes	INSTALL a new driver front door side impact sensor. REFER to Side Impact Sensor in this section. GO to K11 .
No	GO to K9 .

K9 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect [C2041A](#) and [C2041B](#) CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: RCM [C2041A](#) and [C2041B](#) .
- Connect: Driver Front Door Side Impact Sensor [C567](#) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to K11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to K10 .

K10 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Front Door Side Impact Sensor [C567](#) .
- Disconnect: RCM [C2041A](#) and [C2041B](#) .
- Inspect for the following:
 - inspect harness and component connectors for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM [C2041A](#) and [C2041B](#) CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

- repair any concerns found.


Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.

- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0091:11 or B0091:93 retrieved on-demand during self-test?

Yes	The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0091:11, GO to K2 . For DTC B0091:93, GO to K5 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found. Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to K11 .

K11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs are retrieved from the RCM and QCSM .**

Was the original DTC retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. REFER to DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>QCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test L: DTC B0096:11 or DTC B0096:93

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The RCM monitors the passenger front door side impact sensor and circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Faulted passenger front door side impact sensor

If a fault is detected, the RCM stores DTC B0096:11 or B0096:93 in memory and sends a message to the IPC to illuminate the air bag warning indicator.

- DTC B0096:11 (Right Side Restraints Sensor: Circuit Short to Ground) — A fault is indicated when the RCM senses a short to ground on the passenger front door side impact sensor feed circuit.
- DTC B0096:93 (Right Side Restraints Sensor: No Operation) — A fault is indicated when the RCM senses a faulted passenger front door side impact sensor, a short to voltage on the feed or return circuit, or an open feed or return circuit.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger front door side impact sensor
- RCM

PINPOINT TEST L : DTC B0096:11 OR DTC B0096:93

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

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

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Master Parts Catalog to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

NOTE: Do not probe any impact sensor. The impact sensor cannot be tested using a multi-meter.

L1 RETRIEVE THE RCM DTCS

- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0096:11 or B0096:93 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0096:11, GO to L2 . For DTC B0096:93, GO to L5 .
No	The fault is intermittent when present as a <u>CMDTC</u> only. GO to L10 .

L2 CHECK THE RIGHT SIDE RESTRAINTS SENSOR DTC FOR FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

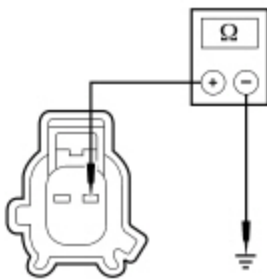
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Front Door Side Impact Sensor [C644](#) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Did the on-demand DTC change from B0096:11 to B0096:93?

Yes	INSTALL a new passenger front door side impact sensor. REFER to Side Impact Sensor in this section. GO to L11 .
No	GO to L3 .

L3 CHECK THE PASSENGER FRONT DOOR SIDE IMPACT SENSOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM [C2041A](#) and [C2041B](#) .
- Measure the resistance between passenger front door side impact sensor [C644](#) Pin 1, circuit VR218 (YE/OG), harness side and ground.



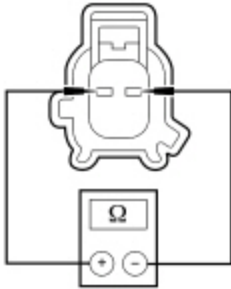
N0092805

Is the resistance greater than 10,000 ohms?

Yes	GO to L4 .
No	REPAIR the circuit. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to L11 .

L4 CHECK FOR A SHORT BETWEEN PASSENGER FRONT DOOR SIDE IMPACT SENSOR CIRCUITS

- Measure the resistance between passenger front door side impact sensor [C644](#) Pin 1, circuit VR218 (YE/OG), harness side and [C644](#) Pin 2, circuit RR132 (BU/WH), harness side.



N0052821

Is the resistance greater than 10,000 ohms?

Yes	GO to L9 .
No	REPAIR the circuits. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to L11 .

L5 CHECK THE PASSENGER FRONT DOOR SIDE IMPACT SENSOR AND RCM CONNECTIONS (NO OPERATION INDICATED)

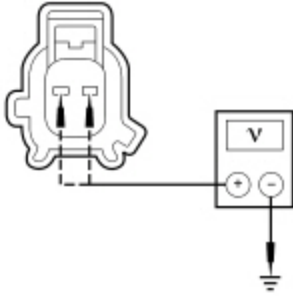
- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Gain access to passenger front door side impact sensor [C644](#) and inspect the connector to be fully seated and locked. Seat and lock connector as necessary. Refer to [Side Impact Sensor](#) in this section.
- Gain access to the **RCM** and inspect [C2041A](#) and [C2041B](#) to be fully seated and locked. Seat and lock the connector(s) as necessary. Refer to [Restraints Control Module \(RCM\)](#) in this section.
- Repower the **SRS** . **Do not** prove out the **SRS** at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B0096:93 retrieved on-demand during self-test?

Yes	GO to L6 .
No	Fault corrected. GO to L11 .

L6 CHECK THE PASSENGER FRONT DOOR SIDE IMPACT SENSOR CIRCUITS FOR A SHORT TO VOLTAGE (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Front Door Side Impact Sensor [C644](#) .
- Disconnect: RCM [C2041A](#) and [C2041B](#) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between passenger front door side impact sensor:
 - [C644](#) Pin 1, circuit VR218 (YE/OG), harness side and ground.
 - [C644](#) Pin 2, circuit RR132 (BU/WH), harness side and ground.



N0052817

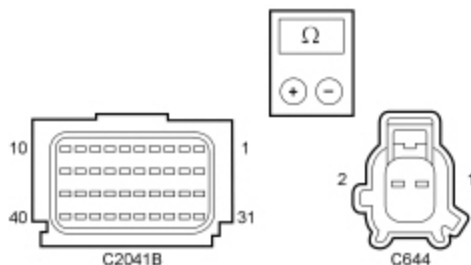
Is voltage present on either circuit?

Yes	REPAIR the affected circuit. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to L11 .
No	GO to L7 .

L7 CHECK THE PASSENGER FRONT DOOR SIDE IMPACT SENSOR CIRCUITS FOR AN OPEN (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Measure the resistance between RCM [C2041B](#), harness side and passenger front door side impact sensor [C644](#), harness side using the following chart:

<u>RCM</u>	<u>Circuit</u>	<u>Passenger Front Door Side Impact Sensor</u>
C2041B Pin 22	VR218 (YE/OG)	C644 Pin 1
C2041B Pin 21	RR132 (BU/WH)	C644 Pin 2



N0132338

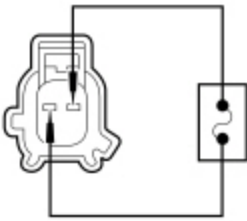
Are the resistances less than 0.5 ohm?

Yes	GO to L8 .
No	REPAIR the affected circuit. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to L11 .

L8 CHECK THE RIGHT SIDE RESTRAINTS SENSOR 1 DTC FOR A FAULT STATUS CHANGE (NO OPERATION INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM [C2041A](#) and [C2041B](#) .
- Connect a fused jumper wire between passenger front door side impact sensor [C644](#) Pin 1, circuit VR218 (YE/OG), harness side and [C644](#) Pin 2, circuit RR132 (BU/WH), harness side.



ND109792

- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Did the on-demand DTC change from B0096:93 to B0096:11?

Yes	INSTALL a new passenger front door side impact sensor. REFER to Side Impact Sensor in this section. GO to L11 .
No	GO to L9 .

L9 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect [C2041A](#) and [C2041B](#) CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: RCM [C2041A](#) and [C2041B](#) .
- Connect: Passenger Front Door Side Impact Sensor [C644](#) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to L11 .
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No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to L10.
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L10 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Front Door Side Impact Sensor [C644](#) .
- Disconnect: RCM [C2041A](#) and [C2041B](#) .
- Inspect for the following:
 - inspect harness and component connectors for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM [C2041A](#) and [C2041B](#) CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B0096:11 or B0096:93 retrieved on-demand during self-test?

Yes	The fault condition is now present. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B0096:11, GO to L2 . For DTC B0096:93, GO to L5 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to L11 .

L11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Was the original DTC retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation



The Restraints Control Module (RCM) is in constant communication with various control modules on the High Speed Controller Area Network (HS-CAN) , one of them is the Occupant Classification System Module (OCSM) . The RCM continuously monitors the HS-CAN for fault messages reported by the OCSM system. The RCM also checks for the correct identification of the OCSM . If the RCM receives fault message(s) from the OCSM system, it will store DTC B00A0:09, B00A0:4A, B00A0:63, B00A0:64 or B00A0:68 in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

This pinpoint test is intended to diagnose the following:

- OCSM
- RCM

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B00A0:09 — Occupant Classification System: Component Failures 	When the <u>RCM</u> receives a message from the <u>OCSM</u> that a fault exists within the <u>OCS</u> system, a fault will be indicated.
<ul style="list-style-type: none"> • B00A0:4A — Occupant Classification System: Incorrect Component Installed 	When the <u>RCM</u> senses the <u>OCSM</u> is present but not configured, a fault will be indicated.
<ul style="list-style-type: none"> • B00A0:63 — Occupant Classification System: Circuit / Component Protection Time-Out 	When the <u>RCM</u> receives 8 or more invalid states from the <u>OCSM</u> , a fault will be indicated.
<ul style="list-style-type: none"> • B00A0:64 — Occupant Classification System: Signal Plausibility Failure 	When the <u>RCM</u> receives messages containing upper or lower data limits other than limits stored in memory, a fault will be indicated.
<ul style="list-style-type: none"> • B00A0:68 — Occupant Classification System: Event Information 	When the <u>RCM</u> receives a message from the <u>OCSM</u> containing incorrect data, a fault will be indicated.

PINPOINT TEST M : DTCS B00A0:09, B00A0:4A, B00A0:63, B00A0:64 AND B00A0:68

<p> WARNING: Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.</p>
<p> WARNING: Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.</p>
<p>NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.</p> <p>Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.</p>
<p>NOTE: <i>Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .</i></p>
<p>NOTE: <i>Always make sure the correct <u>SRS</u> component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect <u>SRS</u> component is installed, DTCs may set.</i></p>
<p>NOTE: <i>The <u>SRS</u> must be fully operational and free of faults before releasing the vehicle to the customer.</i></p>


M1 RETRIEVE RCM DTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC **B00A0:09**, **B00A0:4A**, **B00A0:63**, **B00A0:64** or **B00A0:68** retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B00A0:09, B00A0:63 and B00A0:68, RETRIEVE DTCs from the OCSM and REFER to the Occupant Classification System Module (OCSM) DTC Chart for diagnostic direction. For DTC B00A0:4A or B00A0:64, GO to M2 .
No	CHECK for causes of the intermittent fault. Refer to Wiring Diagrams Cell 46 , Supplemental Restraint System for schematic and connector information. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to M5 .

M2 CHECK THE OCSM

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Verify the correct [OCS](#) is present in the vehicle. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is present.

Is the correct [OCS](#) sensor installed?

Yes	GO to M3 .
No	INSTALL the correct OCS sensor. REFER to Occupant Classification Sensor in this section. GO to M5 .

M3 CHECK THE RCM

- Verify the correct [RCM](#) is present in the vehicle.

Is the correct [RCM](#) installed?

Yes	GO to M4 .
No	INSTALL the correct RCM . REFER to Restraints Control Module (RCM) in this section. GO to M5 .


M4 CHECK THE RCM

- Ignition ON.
- Carry out Programmable Module Installation (PMI) for the [RCM](#) . Manually enter as-built data. Refer to [Section 418-01](#).
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC **B00A0:4A** retrieved on-demand during self-test?

Yes	INSTALL a new RCM . REFER to Restraints Control Module (RCM) in this section. GO to M5 .
No	Fault corrected. GO to M5 .

M5 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all [SRS](#) components (if previously disconnected).

- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** *When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .*

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test N: DTCs B00B5:11, B00B5:12, B00B5:13 and B00B5:1D

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors the driver seat track position sensor and circuits for the following faults:

- Short to ground
- Short to voltage
- Open circuit
- Current out of range
- Faulted driver seat track position sensor


If a fault is detected, the RCM will store DTC B00B5:11, B00B5:12, B00B5:13 or B00B5:1D in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B00B5:11 — Driver Seat Track Position Restraints Sensor: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on the driver seat track position sensor circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B00B5:12 — Driver Seat Track Position Restraints Sensor: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on the driver seat track position sensor circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B00B5:13 — Driver Seat Track Position Restraints Sensor: Circuit Open 	When the <u>RCM</u> senses an open on the driver seat track position sensor circuit, a fault will be indicated. An open driver seat track position sensor ground circuit will set this fault.
<ul style="list-style-type: none"> • B00B5:1D — Driver Seat Track Position Restraints Sensor: Circuit Current Out of Range 	When the <u>RCM</u> senses current out of an acceptable range between the driver seat track position sensor circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver seat track position sensor
- RCM

PINPOINT TEST N : DTCS B00B5:11, B00B5:12, B00B5:13 AND B00B5:1D

 **WARNING:** Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

N1 RETRIEVE RCM DTCs


- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B00B5:11, B00B5:12, B00B5:13 or B00B5:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B00B5:11 or B00B5:1D, GO to N2 . For DTC B00B5:12, GO to N4 . For DTC B00B5:13, GO to N5 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to N10 .

N2 CHECK THE DRIVER SEAT TRACK POSITION RESTRAINTS SENSOR DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND OR CURRENT OUT OF RANGE INDICATED)

NOTE: *This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.*

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Disconnect: Driver Seat Track Position Sensor C356 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver seat track position sensor disconnected, an open circuit fault would normally be retrieved.

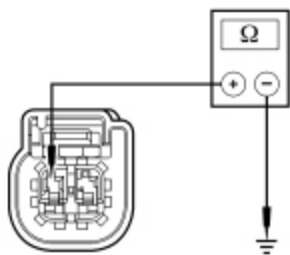
Did the on-demand DTC change from B00B5:11 or B00B5:1D to B00B5:13?

Yes	GO to N8 .
No	For DTC B00B5:1D, GO to N9 . For DTC B00B5:11, GO to N3 .

N3 CHECK THE DRIVER SEAT TRACK POSITION SENSOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: [RCM C2041A](#) and [C2041B](#) .

- Measure the resistance between driver seat track position sensor [C356](#) Pin 2, circuit VR215 (YE/VT), harness side and ground.



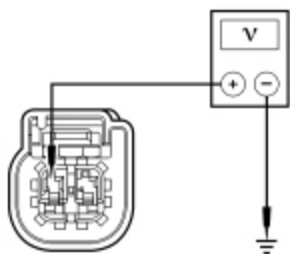
N0105590

Is the resistance greater than 10,000 ohms?

Yes	GO to N9 .
No	REPAIR circuit VR215 (YE/VT). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to N11 .

N4 CHECK THE DRIVER SEAT TRACK POSITION SENSOR CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Side Air Bag C367 .
- Disconnect: [RCM](#) C2041A and C2041B .
- Disconnect: Driver Seat Track Position Sensor C356 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between driver seat track position sensor [C356](#) Pin 2, circuit VR215 (YE/VT), harness side and ground.



N0105589

Is any voltage present?

Yes	REPAIR circuit VR215 (YE/VT). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to N11 .
No	GO to N9 .

N5 CHECK THE DRIVER SEAT TRACK POSITION RESTRAINTS SENSOR DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the [RCM](#) by inducing a different fault condition. If the fault reported changes, this indicates the [RCM](#) is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Drive Seat Side Air Bag Module C367 .
- Disconnect: Driver Seat Track Position Sensor C356 .

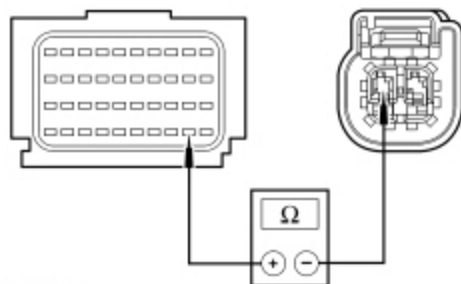
- Connect a fused jumper wire between driver seat track position sensor [C356](#) Pin 2, circuit VR215 (YE/VT), harness side and [C356](#) Pin 1, circuit GD138 (BK/WH), harness side.
- Repower the **SRS** . **Do not** prove out the system at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver seat track position sensor circuits shorted together, a short to ground fault would normally be retrieved.

Did the on-demand DTC change from B00B5:13 to B00B5:11?

Yes	GO to N8 .
No	GO to N6 .

N6 CHECK THE DRIVER SEAT TRACK POSITION SENSOR CIRCUIT FOR AN OPEN

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: [RCM](#) C2041A and C2041B .
- Remove the fused jumper wire from driver seat track position sensor C356.
- Measure the resistance between [RCM C2041B](#) Pin 32, circuit VR215 (YE/VT), harness side and driver seat track position sensor [C356](#) Pin 2, circuit VR215 (YE/VT), harness side.



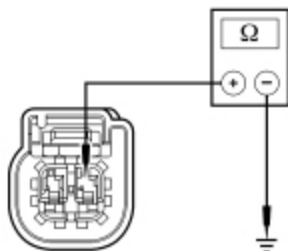
N0105586

Is the resistance less than 0.5 ohm?

Yes	GO to N7 .
No	REPAIR circuit VR215 (YE/VT). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to N11 .

N7 CHECK THE DRIVER SEAT TRACK POSITION SENSOR GROUND CIRCUIT FOR AN OPEN

- Measure the resistance between driver seat track position sensor [C356](#) Pin 1, circuit GD138 (BK/WH), harness side, and ground.



N0105588

Is the resistance less than 5 ohm?

Yes	GO to N9 .
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No	REPAIR circuit GD138 (BK/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to N11 .
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N8 CONFIRM THE DRIVER SEAT TRACK POSITION SENSOR FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from driver seat track position sensor C356.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new driver seat track position sensor. REFER to Seat Position Sensor in this section. GO to N11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to N10 .

N9 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to N11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to N10 .


N10 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Seat Track Position Sensor C356 .
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: Driver Seat Track Position Sensor C356 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B00B5:11, B00B5:12, B00B5:13 or B00B5:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B00B5:11 or B00B5:1D, GO to N2 . For DTC B00B5:12, GO to N4 . For DTC B00B5:13, GO to N5 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to N11.

N11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test O: DTCs B00D5:11, B00D5:12 and B00D5:13

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The RCM briefly activates the Passenger Air Bag Deactivation (PAD) indicator to prove-out and verify to the occupants correct functional operation of the PAD indicator.

The RCM monitors the PAD indicator circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Faulted PAD indicator

If a fault is detected, the RCM will store DTC B00D5:11, B00D5:12 or B00D5:13 in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

- DTC B00D5:11 (Restraint System Passenger Disable Indicator: Circuit Short to Ground) — When the RCM senses a short to ground on the PAD indicator circuit, a fault will be indicated.
- DTC B00D5:12 (Restraint System Passenger Disable Indicator: Circuit Short to Battery) — When the RCM senses a short to voltage on the PAD indicator circuit, a fault will be indicated.
- DTC B00D5:13 (Restraint System Passenger Disable Indicator: Circuit Open) — When the RCM senses an open circuit on the PAD indicator, a fault will be indicated. An open ignition circuit to the PAD indicator can set this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- PAD indicator
- RCM

PINPOINT TEST O : DTCS B00D5:11, B00D5:12 AND B00D5:13

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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


O1 RETRIEVE RCM DTCS

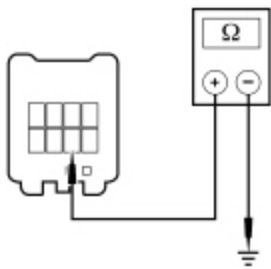
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B00D5:11, B00D5:12 or B00D5:13 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B00D5:11, GO to <u>O2</u> . For DTC B00D5:13, GO to <u>O4</u> . For DTC B00D5:12, GO to <u>O7</u> .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to <u>O10</u> .

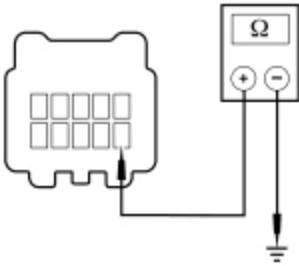
O2 CHECK THE PAD INDICATOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Disconnect: PAD Indicator C930 (hard top) or C9013 (convertible) .
- For hard tops, measure the resistance between PAD indicator C930 Pin 7, circuit CR116 (GN/WH), harness side and ground.



N0097069

- For convertibles, measure the resistance between PAD indicator [C9013](#) Pin 10, circuit CR116 (GN/WH), harness side and ground.



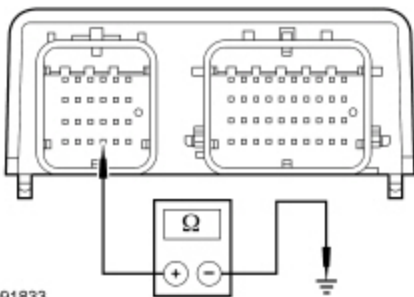
N0097068

Is the resistance greater than 10,000 ohms?

Yes	GO to O9 .
No	GO to O3 .

O3 CHECK THE RCM FOR LOW RESISTANCE

- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041A pin 22, component side and ground.



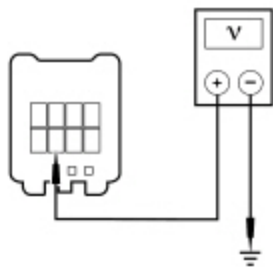
N0091833

Is the resistance greater than 10,000 ohms?

Yes	REPAIR circuit CR116 (GN/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to O11 .
No	GO to O9 .

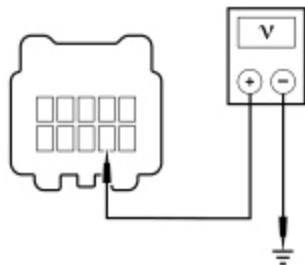
O4 CHECK THE IGNITION CIRCUIT AT PAD INDICATOR FOR VOLTAGE

- Ignition OFF. **⚠️WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Disconnect: PAD Indicator C930 (Hard Top) or C9013 (Convertible) .
- For hard tops, measure the voltage between PAD indicator [C930](#) Pin 6, circuit CBP46 (WH/BU), harness side and ground.



N0097073

- For convertibles, measure the voltage between PAD indicator C9013 Pin 9, circuit CBP46 (WH/BU), harness side and ground.



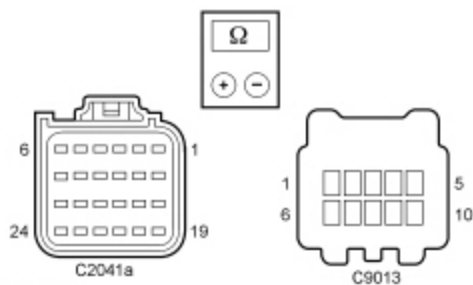
N0097072

Is the voltage greater than 10 volts?

Yes	GO to Q5 .
No	VERIFY Smart Junction Box (SJB) fuse 46 (7.5A) is OK. If OK, REPAIR circuit CBP46 (WH/BU). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. GO to Q11 .

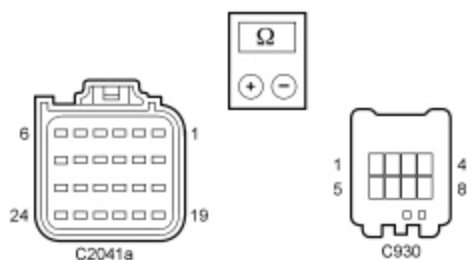
O5 CHECK THE PAD INDICATOR CIRCUIT FOR AN OPEN

- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- For convertibles, measure the resistance between PAD indicator C9013 Pin 10, circuit CR116 (GN/WH), harness side and RCM C2041A Pin 22, circuit CR116 (GN/WH), harness side.



N0097070

- For hard tops, measure the resistance between PAD indicator C930 Pin 7, circuit CR116 (GN/WH), harness side and C2041A Pin 22, circuit CR116 (GN/WH), harness side.



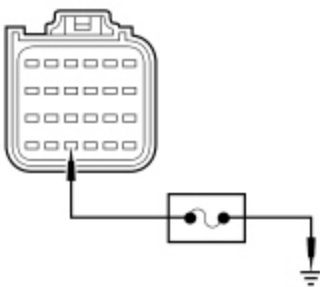
N0097071

Is the resistance less than 0.5 ohm?

Yes	GO to O6 .
No	REPAIR circuit CR116 (GN/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to O11 .

O6 CHECK THE PAD INDICATOR

- Connect: PAD Indicator C930 (hard top) or C9013 (convertible) .
- Connect a fused jumper wire between RCM [C2041A](#) Pin 22, circuit CR116 (GN/WH), harness side and ground.



N0091819

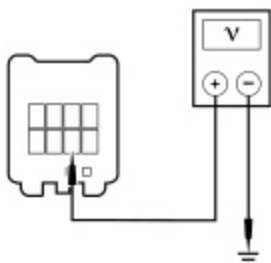
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.

Does the PAD indicator illuminate?

Yes	GO to O9 .
No	INSTALL a new <u>PAD</u> indicator. REFER to Passenger Airbag Deactivation (PAD) Indicator in this section. GO to O11 .

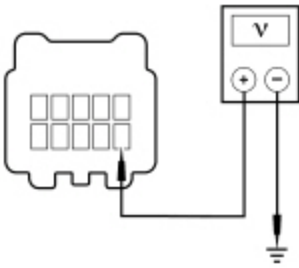
O7 CHECK THE PAD INDICATOR CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: PAD C930 (hard top) or C9013 (convertible) .
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- For hard tops, measure the voltage between PAD indicator [C930](#) Pin 7, circuit CR116 (GN/WH), harness side and ground.



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- For convertibles, measure the voltage between PAD indicator [C9013](#) Pin 10, circuit CR116 (GN/WH), harness side and ground.



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Is any voltage present?

Yes	REPAIR circuit CR116 (GN/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to O11 .
No	GO to O8 .

O8 CHECK THE RCM

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Connect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the PAD indicator disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B00D5:12 to B00D5:13?

Yes	INSTALL a new <u>PAD</u> indicator. REFER to Passenger Airbag Deactivation (PAD) Indicator in this section.
No	GO to O9 .

O9 CONFIRM THE RCM FAULT


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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: PAD Indicator C930 (hard top) or C9013 (convertible) (if previously disconnected) .
- Connect: RCM C2041A and C2041B (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to O11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to O10 .

O10 CHECK FOR AN INTERMITTENT FAULT


 **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**

- Ignition OFF.
- Disconnect the PAD Indicator C930 (hard top) or C9013 (convertible) (if previously disconnected):
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Disconnect: PAD Indicator C930 (hard top) or C9013 (convertible) .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B00D5:11, B00D5:12 or B00D5:13 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B00D5:11, GO to O2 . For DTC B00D5:13, GO to O4 . For DTC B00D5:12, GO to O7 .
No	CHECK for causes of intermittent open, short to ground or short to voltage on circuit CR116 (GN/WH). ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to O11 .

O11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test P: DTCs B1211:11, B1211:12, B1211:13 and B1211:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) continuously monitors driver safety belt retractor pretensioner and circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted driver safety belt retractor pretensioner

If a fault is detected, the RCM will set and store DTC B1211:11, B1211:12, B1211:13 or B1211:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Driver safety belt retractor pretensioner
- RCM



DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B1211:11 — Driver Seatbelt Retractor Pretensioner Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either driver safety belt retractor pretensioner circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B1211:12 — Driver Seatbelt Retractor Pretensioner Deployment Control: Short to Battery 	When the <u>RCM</u> senses a short to battery on either driver safety belt retractor pretensioner circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B1211:13 — Driver Seatbelt Retractor Pretensioner Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between the driver safety belt retractor pretensioner circuits, a fault will be indicated.
<ul style="list-style-type: none"> • B1211:1A — Driver Seatbelt Retractor Pretensioner Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between the driver safety belt retractor pretensioner circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Driver safety belt retractor pretensioner
- RCM

PINPOINT TEST P : DTCS B1211:11, B1211:12, B1211:13 AND B1211:1A

WARNING: Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

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

P1 RETRIEVE THE RCM DTCS

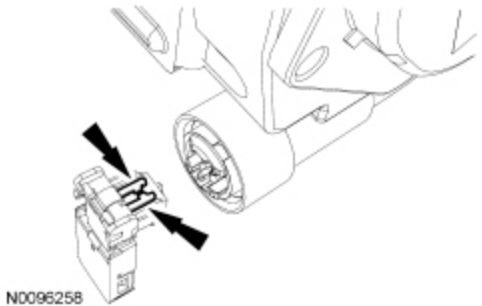
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B1211:11, B1211:12, B1211:13 or B1211:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B1211:13 or B1211:1A, GO to P2 . For DTC B1211:11, GO to P9 . For DTC B1211:12, GO to P11 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B1211:13 or B1211:1A, GO to P14 . For DTC B1211:11, GO to P15 . For DTC B1211:12, GO to P16 .

P2 CHECK THE DRIVER SAFETY BELT RETRACTOR PRETENSIONER ELECTRICAL CONNECTOR

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Gain access to safety belt retractor pretensioner and inspect for the following:
 - the Connector Position Assurance (CPA) tabs are not broken or the clip not damaged.
 - the CPA clip is fully and correctly seated.



Is the CPA clip installed correctly, not damaged or broken and fully seated?

Yes	GO to P3 .
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No	If the <u>CPA</u> clip is damaged or broken, INSTALL a pigtail connector for the pretensioner using pigtail kit (8U2Z-14S411-YA). If the <u>CPA</u> clip is not correctly installed or seated, REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .
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P3 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL RESISTANCE (DEPLOY_23_R) PID

- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: DataLogger — RCM .
 - DEPLOY_23_R PID
- Monitor and record the resistance value displayed by the DEPLOY_23_R PID.

Does the recorded PID value read between 1.7 and 2.78 ohms?

Yes	GO to P13 .
No	GO to P4 .

P4 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL RESISTANCE (DEPLOY_23_R) PID WHILE CARRYING OUT THE HARNESS TEST

- While monitoring the DEPLOY_23_R PID carry out the harness test of the driver safety belt retractor pretensioner circuits and accessible connectors (including any in-line connectors) by wiggling connectors and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms while carrying out a harness test?

Yes	DEPOWER the <u>SRS</u> and REPAIR the connector, terminals or wire harness as needed. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .
No	For PID value less than 1.7 ohms, GO to P5 . For PID value greater than 2.78 ohms, GO to P7 .

P5 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

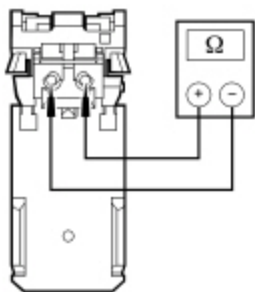
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Safety Belt Retractor Pretensioner C3338 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver safety belt retractor pretensioner disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B1211:1A to B1211:13?

Yes	GO to P12 .
No	GO to P6 .

P6 CHECK FOR A SHORT BETWEEN DRIVER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: **RCM** C2041A and C2041B .
- Measure the resistance between the driver safety belt retractor pretensioner [C3338](#) Pin 2, circuit CR120 (BU/OG), harness side and [C3338](#) Pin 1, circuit RR120 (BN/GN), harness side.



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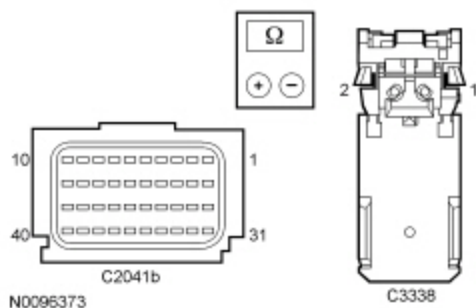
Is the resistance greater than 10,000 ohms?

Yes	GO to P13 .
No	REPAIR circuits CR120 (BU/OG) and RR120 (BN/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .

P7 CHECK THE DRIVER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Drive Safety Belt Retractor Pretensioner C3338 .
- Disconnect: **RCM** C2041A and C2041B .
- Measure the resistance between **RCM** C2041B, harness side and driver safety belt retractor pretensioner C3338, harness side using the following chart:

RCM	Circuit	Driver Safety Belt Retractor Pretensioner
C2041B Pin 3	CR120 (BU/OG)	C3338 Pin 2
C2041B Pin 4	RR120 (BN/GN)	C3338 Pin 1



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Are the resistances less than 0.5 ohm?

Yes	GO to P8 .
No	REPAIR circuit CR120 (BU/OG) or RR120 (BN/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .

P8 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .
- Connect a fused jumper wire between the driver safety belt retractor pretensioner C3338 Pin 2, circuit CR120 (BU/OG), harness side and C3338 Pin 1, circuit RR120 (BN/GN), harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver safety belt retractor pretensioner circuits shorted together, a low resistance fault would normally be retrieved.

Did the on-demand DTC change from B1211:13 to B1211:1A?

Yes	GO to P12 .
No	GO to P13 .

P9 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

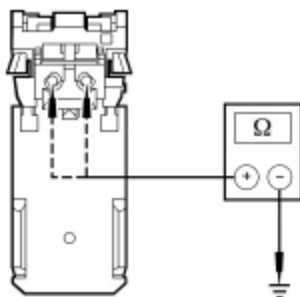
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Safety Belt Retractor Pretensioner C3338 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the driver safety belt retractor pretensioner disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B1211:11 to B1211:13?

Yes	GO to P12 .
No	GO to P10 .

P10 CHECK THE DRIVER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between the driver safety belt retractor pretensioner:
 - C3338 Pin 2, circuit CR120 (BU/OG), harness side and ground.
 - C3338 Pin 1, circuit RR120 (BN/GN), harness side and ground.



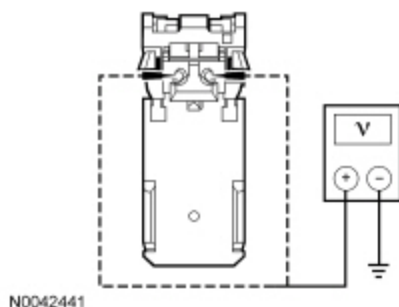
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Are the resistances greater than 10,000 ohms?

Yes	GO to P13 .
No	REPAIR circuit CR120 (BU/OG) or RR120 (BN/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .

P11 CHECK THE DRIVER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Safety Belt Retractor Pretensioner C3338 .
- Disconnect: **RCM** C2041A and C2041B .
- Repower the **SRS** . **Do not** prove out the **SRS** at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between the driver safety belt retractor pretensioner:
 - [C3338](#) Pin 2, circuit CR120 (BU/OG), harness side and ground.
 - [C3338](#) Pin 1, circuit RR120 (BN/GN), harness side and ground.



Is voltage present on either circuit?

Yes	REPAIR circuit CR120 (BU/OG) or RR120 (BN/GN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .
No	GO to P13 .

P12 CONFIRM THE DRIVER SAFETY BELT RETRACTOR PRETENSIONER FAULT

NOTE: Make sure all restraint system components and the **RCM** electrical connectors are connected before carrying out the self-test. If not, DTCs will be recorded.

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from driver safety belt retractor pretensioner C3338.
- Prior to reconnecting any previously disconnected **SRS** component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: Driver Safety Belt Retractor Pretensioner C3338 .
- Connect: **RCM** C2041A and C2041B (if previously disconnected) .
- Repower the **SRS** . **Do not** prove out the **SRS** at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — **RCM** .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new driver safety belt retractor pretensioner. REFER to Section 501-20A . GO to P18 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B1211:13 or B1211:1A, GO to P14 . For DTC B1211:11, GO to P15 . For DTC B1211:12, GO to P16 .

P13 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from driver safety belt pretensioner retractor C3338.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: Driver Safety Belt Retractor Pretensioner C3338 .
- Connect: RCM C2041A and C2041B (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to P18 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. For DTC B1211:13 or B1211:1A, GO to P14 . For DTC B1211:11, GO to P15 . For DTC B1211:12, GO to P16 .

P14 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL RESISTANCE (DEPLOY_23_R) PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — RCM .
 - DEPLOY_23_R PID
- Attempt to recreate the fault by wiggling the connectors (including any in-line connectors) and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to P17 .
No	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .

P15 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B1211:11 retrieved on-demand during self-test?

Yes	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to P17 .

P16 CHECK THE DRIVER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO VOLTAGE FAULT

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Driver Safety Belt Retractor Pretensioner C3338 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B1211:12 retrieved on-demand during self-test?

Yes	DEPOWER the SRS and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to P17 .

P17 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect the driver safety belt retractor pretensioner C3338:
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
- Inspect [RCM](#) C2041A and C2041B [CPA](#) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to P18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to P18 .

P18 CHECK FOR ADDITIONAL SRS DTCS



- Ignition OFF. **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and Occupant Classification System Module (OCSM) .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test Q: DTCs B1214:11, B1214:12, B1214:13 and B1214:1A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) continuously monitors the passenger safety belt retractor pretensioner and circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted passenger safety belt buckle pretensioner

If a fault is detected, the RCM will store DTC B1214:11, B1214:12, B1214:13 or B1214:1A in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The RCM analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID is the deployment loop resistance as measured by the RCM . If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM can set a DTC. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC increases. Small variations in resistance can occur due to the effect of road vibrations on terminal fit. Crimps and terminals can be affected by stress and harness movement and can cause an increase in resistance due to wire strain. These variables can result in an intermittent fault. For this reason, the test requires the PID value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC at time of diagnosis. Following this direction will help make sure that minor changes in resistance do not create a repeat concern. This test uses a process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Passenger safety belt retractor pretensioner
- RCM



DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B1214:11 — Passenger Seatbelt Retractor Pretensioner Deployment Control: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on either passenger safety belt retractor pretensioner circuit, a fault will be indicated.
<ul style="list-style-type: none"> B1214:12 — Passenger Seatbelt Retractor Pretensioner Deployment Control: Short to Battery 	When the <u>RCM</u> senses a short to battery on either passenger safety belt retractor pretensioner circuit, a fault will be indicated.
<ul style="list-style-type: none"> B1214:13 — Passenger Seatbelt Retractor Pretensioner Deployment Control: Circuit Open 	When the <u>RCM</u> measures greater than the desired resistance range between the passenger safety belt retractor pretensioner circuits, a fault will be indicated.
<ul style="list-style-type: none"> B1214:1A — Passenger Seatbelt Retractor Pretensioner Deployment Control: Circuit Resistance Below Threshold 	When the <u>RCM</u> measures less than the desired resistance range between the passenger safety belt retractor pretensioner circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger safety belt retractor pretensioner
- RCM

PINPOINT TEST Q : DTCS B1214:11, B1214:12, B1214:13 AND B1214:1A

⚠️ WARNING: Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

Q1 RETRIEVE THE RCM DTCS

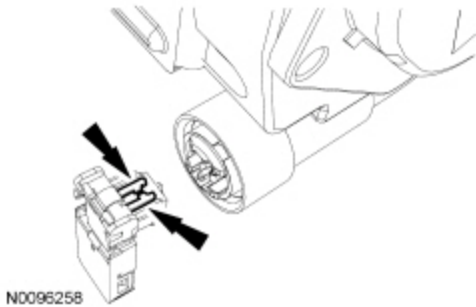
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B1214:11, B1214:12, B1214:13 or B1214:1A retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B1214:13 or B1214:1A, GO to Q2 . For DTC B1214:11, GO to Q9 . For DTC B1214:12, GO to Q11 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. For DTC B1214:13 or B1214:1A, GO to Q14 . For DTC B1214:11, GO to Q15 . For DTC B1214:12, GO to Q16 .

Q2 CHECK THE PASSENGER SAFETY BELT RETRACTOR PRETENSIONER ELECTRICAL CONNECTOR

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Gain access to safety belt retractor pretensioner and inspect for the following:
 - the Connector Position Assurance (CPA) tabs are not broken or the clip not damaged.
 - the **CPA** clip is fully and correctly seated.



Is the **CPA** clip installed correctly, not damaged or broken and fully seated?

Yes	GO to Q3 .
No	If the CPA clip is damaged or broken, INSTALL a pigtail connector for the pretensioner using pigtail kit (8U2Z-14S411-YA). If the CPA clip is not correctly installed or seated, REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Q18 .

Q3 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL RESISTANCE (DEPLOY_24_R) PID

- Repower the **SRS** . **Do not** prove out the **SRS** at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: DataLogger — [RCM](#) .
 - DEPLOY_24_R PID
- Monitor and record the resistance value displayed by the DEPLOY_24_R PID.

Does the recorded PID value read between 1.7 and 2.78 ohms?

Yes	GO to Q13 .
No	GO to Q4 .

Q4 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL RESISTANCE (DEPLOY_24_R) PID WHILE CARRYING OUT THE HARNESS TEST

- While monitoring the DEPLOY_24_R PID, carry out the harness test of the passenger safety belt retractor pretensioner circuits and accessible connectors (including any in-line connectors) by wiggling connectors and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms while carrying out a harness test?

Yes	DEPOWER the <u>SRS</u> and REPAIR the connector, terminals or wire harness as needed. Refer to Wiring Diagrams Cell <u>5</u> , Connector Repair Procedures for schematic and connector information. GO to <u>Q18</u> .
No	For PID value less than 1.7 ohms, GO to <u>Q5</u> . For PID value greater than 2.78 ohms, GO to <u>Q7</u> .

Q5 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (LOW RESISTANCE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

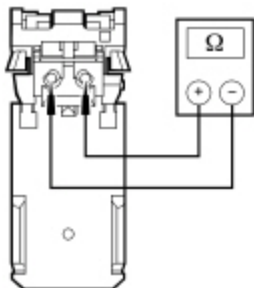
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Safety Belt Retractor Pretensioner C3336 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- DIAGNOSTIC TIP:** When viewing DTCs with the passenger safety belt retractor pretensioner disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B1214:1A to B1214:13?

Yes	GO to <u>Q12</u> .
No	GO to <u>Q6</u> .

Q6 CHECK FOR A SHORT BETWEEN PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between the passenger safety belt retractor pretensioner C3336 Pin 2, circuit CR122 (WH/OG), harness side and C3336 Pin 1, circuit RR122 (BN), harness side.



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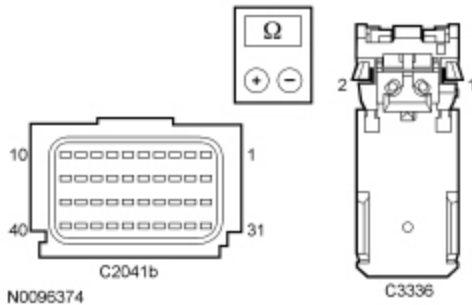
Is the resistance greater than 10,000 ohms?

Yes	GO to <u>Q13</u> .
No	REPAIR circuits CR122 (WH/OG) and RR122 (BN). Refer to Wiring Diagrams Cell <u>5</u> , Connector Repair Procedures for schematic and connector information. GO to <u>Q18</u> .

Q7 CHECK THE PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Safety Belt Retractor Pretensioner C3336 .
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between RCM C2041B, and passenger safety belt retractor pretensioner C3336, harness side using the following chart:

<u>RCM</u>	Circuit	Passenger Safety Belt Retractor Pretensioner
C2041B Pin 14	RR122 (BN)	C3336 Pin 1
C2041B Pin 13	CR122 (WH/OG)	C3336 Pin 2



Are the resistances less than 0.5 ohm?

Yes	GO to Q8 .
No	REPAIR circuit CR122 (WH/OG) or RR122 (BN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Q18 .

Q8 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Connect: RCM C2041A and C2041B .
- Connect a fused jumper wire between the passenger safety belt retractor pretensioner [C3336](#) Pin 2, circuit CR122 (WH/OG), harness side and [C3336](#) Pin 1, circuit RR122 (BN), harness side.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger safety belt retractor pretensioner circuits shorted together, a low resistance fault would normally be retrieved.

Did the on-demand DTC change from B1214:13 to B1214:1A?

Yes	GO to Q12 .
No	GO to Q13 .

Q9 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

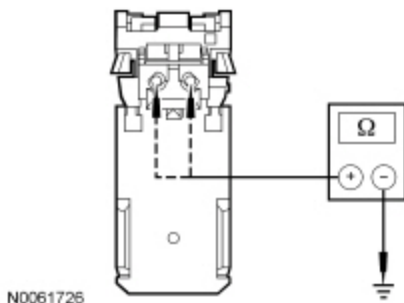
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Safety Belt Retractor Pretensioner C3336 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger safety belt retractor pretensioner disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B1214:11 to B1214:13?

Yes	GO to Q12 .
No	GO to Q10 .

Q10 CHECK THE PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Measure the resistance between the passenger safety belt retractor pretensioner:
 - [C3336](#) Pin 2, circuit CR122 (WH/OG), harness side and ground.
 - [C3336](#) Pin 1, circuit RR122 (BN), harness side and ground.

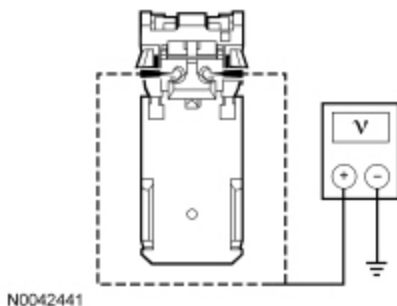


Are the resistances greater than 10,000 ohms?

Yes	GO to Q13 .
No	REPAIR circuit CR122 (WH/OG) or RR122 (BN). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Q18 .

Q11 CHECK THE PASSENGER SAFETY BELT RETRACTOR PRETENSIONER CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Safety Belt Retractor Pretensioner C3336 .
- Disconnect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between the passenger safety belt retractor pretensioner:
 - [C3336](#) Pin 2, circuit CR122 (WH/OG), harness side and ground.
 - [C3336](#) Pin 1, circuit RR122 (BN), harness side and ground.



Is voltage present on either circuit?

Yes	REPAIR circuit CR122 (WH/OG) or RR122 (BN). Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information. GO to Q18 .
No	GO to Q13 .

Q12 CONFIRM THE PASSENGER SAFETY BELT RETRACTOR PRETENSIONER FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from the passenger safety belt retractor pretensioner C3336.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Connect: Passenger Safety Belt Retractor Pretensioner C3336 .
- Connect: RCM C2041A and C2041B (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new passenger safety belt retractor pretensioner. REFER to Section 501-20A . GO to Q18 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. For DTC B1214:13 or B1214:1A, GO to Q14 . For DTC B1214:11, GO to Q15 . For DTC B1214:12, GO to Q16 .

Q13 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from passenger safety belt retractor C3336.
- Prior to reconnecting any previously disconnected SRS component:

- inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
- inspect wire harness for any damage, pinched, cut or pierced wires.
- inspect C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
- repair any concerns found.

Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.

- Connect: Passenger Safety Belt Retractor Pretensioner C3336 .
- Connect: RCM C2041A and C2041B (if previously disconnected) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to Q18 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. For DTC B1214:13 or B1214:1A, GO to Q14 . For DTC B1214:11, GO to Q15 . For DTC B1214:12, GO to Q16 .

Q14 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL RESISTANCE DEPLOY_24_R PID FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Enter the following diagnostic mode on the scan tool: DataLogger — RCM .
 - DEPLOY_24_R PID
- Attempt to recreate the fault by wiggling the connectors (including any in-line connectors) and flexing the wire harness frequently.

Does the PID value read between 1.7 and 2.78 ohms?

Yes	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to Q17 .
No	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Q18 .

Q15 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO GROUND FAULT

- Ignition ON.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B1214:11 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Q18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to Q17 .

Q16 CHECK THE PASSENGER SEATBELT RETRACTOR PRETENSIONER DEPLOYMENT CONTROL FOR AN INTERMITTENT SHORT TO VOLTAGE FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Safety Belt Retractor Pretensioner C3336 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Attempt to recreate the fault by wiggling connectors (including any in-line connectors) and flexing the wire harness frequently.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC B1214:12 retrieved on-demand during self-test?

Yes	DEPOWER the <u>SRS</u> and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Q18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to Q17 .


Q17 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect the passenger safety belt retractor pretensioner C3336:
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
- Inspect RCM C2041A and C2041B lever/lock for correct operation. Refer to RCM in this section.

Were any concerns found?

Yes	REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Q18 .
No	The fault is not present and cannot be recreated at this time. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to Q18 .

Q18 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and Occupant Classification System Module (OCSM) .**

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

NOTE: DTCs B1317, B1318, U3003:16 and U3003:17 can be set if the vehicle has been recently jump started, the battery has been recently charged or the battery has been discharged. The battery may become discharged due to excessive load on the charging system from aftermarket accessories or if the battery has been left unattended with the accessories on.

Normal Operation — Restraints Control Module (RCM)

The Restraints Control Module (RCM) continuously monitors the input voltage for correct operation. If the RCM detects input voltage below 9.5 volts, it will store DTC U3003:16 in memory. If the RCM detects input voltage above 20 volts, it will store DTC U3003:17 in memory. If the RCM sets DTC U3003:16 or U3003:17, it will send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

Normal Operation — Occupant Classification System Module (OCSM) (Bladder Type System)


The Occupant Classification System Module (OCSM) continuously monitors the input voltage for correct operation. If the OCSM detects input voltage below 8 volts, it will store DTC B1318 in memory. If the OCSM detects input voltage above 18.0 volts, it will store DTC B1317 in memory and send a fault message to the RCM. The RCM will then send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

DTC Description	Fault Trigger Conditions
<ul style="list-style-type: none"> U3003:16 — Battery Voltage: Circuit Voltage Below Threshold 	If the <u>RCM</u> detects voltage below 9.5 volts with a <u>SRS</u> fault, it sets this DTC.
<ul style="list-style-type: none"> U3003:17 — Battery Voltage: Circuit Voltage Above Threshold 	If the <u>RCM</u> detects voltage above 16 volts with a <u>SRS</u> fault or above 20 volts without a <u>SRS</u> fault, it sets this DTC.
<ul style="list-style-type: none"> B1317 — Battery Voltage High 	If the <u>OCSM</u> detects voltage above 18.0 volts, it sets this DTC.
<ul style="list-style-type: none"> B1318 — Battery Voltage Low 	If the <u>OCSM</u> detects voltage below 8 volts, it sets this DTC.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- RCM
- OCSM

PINPOINT TEST R : DTCS B1317, B1318, U3003:16 AND U3003:17

<p> WARNING: Always tighten the fasteners of the restraints control module (RCM) and impact sensor (if equipped) to the specified torque. Failure to do so may result in incorrect restraint system operation, which increases the risk of personal injury or death in a crash.</p>
<p>NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.</p>
<p>Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.</p>
<p>NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the <u>SRS</u>.</p>
<p>NOTE: Always make sure the correct <u>SRS</u> component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect <u>SRS</u> component is installed, DTCs may set.</p>
<p>NOTE: The <u>SRS</u> must be fully operational and free of faults before releasing the vehicle to the customer.</p>

R1 RETRIEVE ALL CMDTCS IN ALL MODULES

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — ALL CMDTCS .

Is DTC B1317, B1318, U3003:16 or U3003:17 present in one or more modules AND are any charging system DTCs retrieved from the PCM?

Yes	REFER to Section 414-00 to diagnose the charging system.
No	GO to R2 .

R2 TEST THE BATTERY CONDITION

- Ignition OFF.
- Carry out the battery condition test. Refer to [Section 414-01](#).

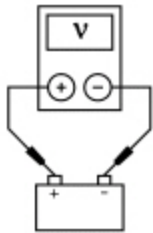
Did the battery pass the condition test?

Yes	If the battery passed the condition test but required a recharge, REFER to Section 414-00 to diagnose the charging system. CLEAR all Continuous Memory Diagnostic Trouble Codes (CMDTCS) . TEST the system for normal operation. If the battery passed the condition test and did not require a recharge, GO to R3 .
No	INSTALL a new battery. CLEAR all <u>CMDTCS</u> . TEST the <u>SRS</u> for normal operation.

R3 CHECK THE CHARGING SYSTEM VOLTAGE

NOTE: Do not allow the engine speed to increase above 2,000 rpm while performing this step or the generator may self excite and result in default charging system output voltage. If engine speed goes above 2,000 rpm, shut the vehicle OFF and restart the engine before performing this step.

- Measure the voltage of the battery:
 - For DTC B1317 or U3003:17, turn off all accessories and run the engine at 1,500 rpm for a minimum of 2 minutes while measuring battery voltage.
 - For DTC B1318 or U3003:16, turn on headlights and HVAC fan on high and run engine at 1,500 rpm for a minimum of 2 minutes while measuring battery voltage.



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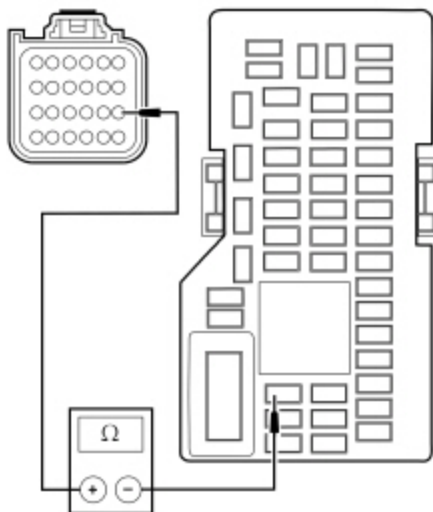
Is the voltage between 13 and 15.2 volts?

Yes	For DTC B1318 or U3003:16, GO to R4 . For DTC B1317 or U3003:17, GO to R6 .
No	REFER to Section 414-00 to diagnose the charging system. CLEAR all <u>CMDTCS</u> . TEST the <u>SRS</u> for normal operation.

R4 CHECK FOR OPEN IGNITION CIRCUIT TO THE MODULE

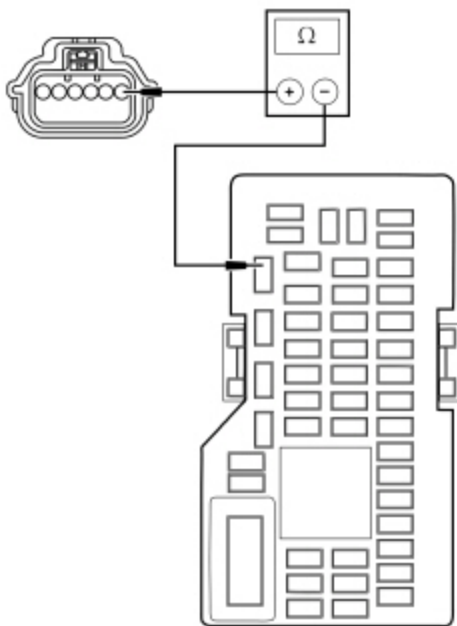
- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B (if DTC U3003:16 or U3003:17 is present in the RCM) .
- Disconnect: OCSM C3043 (if DTC U3003:16 or U3003:17 is present in the OCSM) .

- For the **RCM** , measure the resistance between **RCM C2041A** Pin 13, circuit CBP31 (BU/OG), harness side and Smart Junction Box (SJB) fuse 31.



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- For the **OCSM** , measure the resistance between **OCSM C3043** Pin 1, circuit CBP46 (WH/BU), harness side and **SJB** fuse 46.



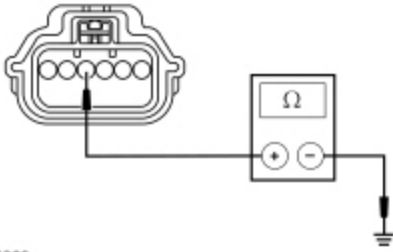
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Is the resistance less than 1 ohm?

Yes	GO to R5 .
No	REPAIR the circuit as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. CLEAR all CMDTCs . TEST the SRS for normal operation.

R5 CHECK FOR OPEN GROUND TO THE MODULE

- Measure the resistance of the ground circuit:
 - For the **RCM** , measure the resistance between the **RCM** case and a good ground.
 - For the **OCSM** , measure the resistance between **OCSM C3043** Pin 4, circuit GD138 (BK/WH), harness side and ground.



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Is the resistance less than 1 ohm?

Yes	GO to R6 .
No	For the <u>RCM</u> , VERIFY there is no corrosion between the <u>RCM</u> case and mounting. VERIFY the fasteners are clean and tightened to specification with no corrosion. REPAIR as necessary. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. For the <u>OCSM</u> , REPAIR circuit GD138 (BK/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. CLEAR all <u>CMDTCs</u> . TEST the <u>SRS</u> for normal operation.

R6 CHECK FOR MODULE OPERATION

- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect the module with the concern:
 - For the RCM , disconnect C2041A and C2041B.
 - For the OCSM , disconnect C3043.
- Check for the following:
 - corrosion.
 - damaged pins.
 - pushed-out pins.
- Connect the RCM C2041A and C2041B or OCSM C3043 and make sure the connector seats correctly and engage Connector Position Assurance (CPA) lever/lock.
- Repower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Operate the system and verify the concern is still present.

Is the concern still present?

Yes	INSTALL a new module. REFER to Restraints Control Module (RCM) or Occupant Classification Sensor in this section.
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR all <u>CMDTCs</u> . TEST the <u>SRS</u> for normal operation.

Pinpoint Test S: DTCs B0001:2B, B0002:2B, B0010:2B, B0011:2B, B0020:2B, B0028:2B, B0050:2B, B0052:2B, B00B5:2B, B00C5:2B, B1211:2B and B1214:2B

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors all deployable device and sensor circuits for a signal cross coupled (short) between circuits. If the RCM detects a short between the circuits of one device and another device, it will store a DTC for each of the signal cross coupled faults in memory. The RCM sends a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator. When a normal loop fault is present (one loop is either shorted to battery/ground, open circuit or low resistance), then signal cross coupled diagnostics will not be active. Once the normal loop fault is repaired, then the signal cross coupled diagnostics will resume.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0001:2B — Driver Frontal Stage 1 Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the driver air bag Stage 1 circuits and the circuits of another Supplemental Restraint System (SRS) component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B0002:2B — Driver Frontal Stage 2 Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the driver air bag Stage 2 circuits and the circuits of another Supplemental Restraint System (SRS) component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B0010:2B — Passenger Frontal Stage 1 Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the driver air bag Stage 1 circuits and the circuits of another Supplemental Restraint System (SRS) component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B0011:2B — Passenger Frontal Stage 2 Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the driver air bag Stage 2 circuits and the circuits of another Supplemental Restraint System (SRS) component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B0020:2B — Left Side Airbag Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the left side air bag circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B0028:2B — Right Side Airbag Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the right side air bag circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B0050:2B — Driver Seatbelt Sensor: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the driver safety belt sensor circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B0052:2B — Passenger Seatbelt Sensor: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the passenger safety belt sensor circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B00B5:2B — Driver Seat Track Position Restraints Sensor: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the driver seat track position sensor circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B00C5:2B — Passenger Seat Track Position Restraints Sensor: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the passenger seat track position sensor circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B1211:2B — Driver Seatbelt Retractor Pretensioner Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the driver safety belt retractor pretensioner circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>
<ul style="list-style-type: none"> B1214:2B — Passenger Seatbelt Retractor Pretensioner Deployment Control: Signal Cross Coupled 	<p>If the <u>RCM</u> detects a short between the passenger safety belt retractor pretensioner circuits and the circuits of another <u>SRS</u> component, it will set this DTC and the DTC of the corresponding <u>SRS</u> component.</p>

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- RCM

PINPOINT TEST S : DTCS B0001:2B, B0002:2B, B0010:2B, B0011:2B, B0020:2B, B0028:2B, B0050:2B, B0052:2B, B00B5:2B, B00C5:2B, B1211:2B AND B1214:2B

⚠️ WARNING: Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

⚠️ WARNING: Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

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

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

S1 RETRIEVE RCM DTCS

- Enter the following diagnostic mode on the scan tool: Self Test — RCM . **NOTE:** Signal cross coupled DTCs will be retrieved in pairs.

Were any signal cross coupled DTCs retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. GO to S2 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to S4 .

S2 CHECK DEPLOYABLE CIRCUITS FOR A SIGNAL CROSS COUPLED FAULT

- Ignition OFF.
 - Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
 - Disconnect: RCM C2041A and C2041B .
 - **NOTE:** Most signal cross coupled faults are due to connector and/or wiring harness damage. Carry out a thorough inspection of connector(s) and/or wiring harness for damage.
- Disconnect **ALL of the affected SRS** devices.
- Measure the resistance between the circuits of the affected SRS devices using the following table:

Device/Loop/Squib (DTC)	Connector	Circuit
Driver air bag module loop 1 (B0001:2B)	<ul style="list-style-type: none"> • Driver air bag module loop 1 electrical connector 	<ul style="list-style-type: none"> • RR101 (YE/GN) • CR101 (VT/BN)
Driver air bag module stage 2 (B0002:2B)	<ul style="list-style-type: none"> • Driver air bag module loop 2 electrical connector 	<ul style="list-style-type: none"> • RR102 (WH) • CR102 (BU)
Passenger air bag module stage 1 (B0010:2B)	<ul style="list-style-type: none"> • C256 Pin 3 • C256 Pin 4 	<ul style="list-style-type: none"> • CR103 (GY/BU) • RR103 (VT/GN)

Device/Loop/Squib (DTC)	Connector	Circuit
Passenger air bag module stage 2 (B0011:2B)	<ul style="list-style-type: none"> • C256 Pin 1 • C256 Pin 2 	<ul style="list-style-type: none"> • CR104 (YE/GY) • RR104 (WH/BU)
Driver seat side air bag module (B0020:2B)	<ul style="list-style-type: none"> • C367 Pin 1 • C367 Pin 2 	<ul style="list-style-type: none"> • CR105 (GN/BU) • RR105 (GY/YE)
Passenger seat side air bag module (B0028:2B)	<ul style="list-style-type: none"> • C337 Pin 1 • C337 Pin 2 	<ul style="list-style-type: none"> • CR106 (VT/GY) • RR106 (YE/OG)
Driver safety belt buckle switch (B0050:2B)	<ul style="list-style-type: none"> • C323 Pin 2 • — 	<ul style="list-style-type: none"> • CR201 (GN/BU) • —
Passenger safety belt buckle switch (B0052:2B)	<ul style="list-style-type: none"> • C3066 Pin 1 • — 	<ul style="list-style-type: none"> • CR203 (GY/VT) • —
Driver seat track position restraints sensor (B00B5:2B)	<ul style="list-style-type: none"> • C356 Pin 2 • — 	<ul style="list-style-type: none"> • VR215 (YE/VT) • —
Passenger seat track position restraints sensor (B00C5:2B)	<ul style="list-style-type: none"> • C3240 Pin 2 • — 	<ul style="list-style-type: none"> • VR216 (GN/OG) • —
Driver safety belt retractor pretensioner (B1211:2B)	<ul style="list-style-type: none"> • C3338 Pin 2 • C3338 Pin 1 	<ul style="list-style-type: none"> • CR120 (BU/OG) • RR120 (BN/GN)
Passenger safety belt retractor pretensioner (B1214:2B)	<ul style="list-style-type: none"> • C3336 Pin 2 • C3336 Pin 1 	<ul style="list-style-type: none"> • CR122 (WH/OG) • RR122 (BN)

Are the resistances greater than 10,000 ohms between the affected circuits?

Yes	GO to S3 .
No	REPAIR the affected circuits. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to S5 .

S3 CONFIRM THE RCM FAULT

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

- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Restraint System Component(s) .
- Connect: RCM C2041A and C2041B .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Were any signal cross coupled DTCs retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to S5 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to S4 .

S4 CHECK FOR AN INTERMITTENT FAULT


NOTE: Most cross link faults are due to connector and/or wiring harness damage. Carry out a thorough inspection of connector(s) and/or wiring harness for damage.

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect **ALL of the affected SRS** devices.
- Inspect the wiring harness(es) for any type of damage. Repair as necessary. Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Were any signal cross coupled DTCs retrieved on-demand during 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 on-demand during self-test. GO to S2 .
No	The fault is not present and cannot be recreated at this time. CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to S5 .

S5 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and Occupant Classification System Module (OCSM) .

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCS</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test T: DTCs B0001:4A, B0002:4A, B0010:4A, B0011:4A, B0020:4A, B0028:4A, B0050:4A, B0052:4A, B0090:4A, B0091:4A, B0095:4A, B0096:4A, B00B5:4A, B00C5:4A, B00D5:4A, B1211:4A, B1214:4A and U3000:4A

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors all of Supplemental Restraint System (SRS) device connections. If the RCM detects a connection or device connected that is not stored in memory or is not configured for the component, the RCM will set a DTC and send a message to the Instrument Panel Cluster (IPC) to illuminate air bag warning indicator.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B0001:4A — Driver Frontal Stage 1 Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0002:4A — Driver Frontal Stage 2 Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0010:4A — Passenger Frontal Stage 1 Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0011:4A — Passenger Frontal Stage 2 Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0020:4A — Left Side Airbag Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0028:4A — Right Side Airbag Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0050:4A — Driver Seatbelt Sensor: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0052:4A — Passenger Seatbelt Sensor: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0090:4A — Left Frontal Restraints Sensor: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0091:4A — Left Side Restraints Sensor 1: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0095:4A — Right Frontal Restraints Sensor: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B0096:4A — Right Side Restraints Sensor 1: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B00B5:4A — Driver Seat Track Position Restraints Sensor: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> B00C5:4A — Passenger Seat Track Position Restraints Sensor: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B00D5:4A — Restraint System Passenger Disable Indicator: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B1211:4A — Driver Seatbelt Retractor Pretensioner Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> B1214:4A — Passenger Seatbelt Retractor Pretensioner Deployment Control: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the device but not configured for this component.
<ul style="list-style-type: none"> U3000:4A — Control Module: Incorrect Component Installed 	This DTC will set if the <u>RCM</u> detects the incorrect vehicle ID or model year ID from the Occupant Classification System Module (OCSM) or ABS module.

This pinpoint test is intended to diagnose the following:

- Incorrect ABS
- Incorrect OCSM
- Incorrect RCM
- RCM not configured

PINPOINT TEST T : DTCS B0001:4A, B0002:4A, B0010:4A, B0011:4A, B0020:4A, B0028:4A, B0050:4A, B0052:4A, B0090:4A, B0091:4A, B0095:4A, B0096:4A, B00B5:4A, B00B5:4A, B00D5:4A, B1211:4A, B1214:4A AND U3000:4A

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

 **WARNING:** Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

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

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

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 RETRIEVE RCM DTCS

- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was any incorrect component installed DTCs retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. GO to T2 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to T6 .

T2 CHECK VEHICLE HISTORY

- Ignition OFF.
- Check the vehicle repair history.

Has a new **RCM** or **OCSM** been installed during this or a prior repair?

Yes	GO to T3 .
No	GO to T5 .

T3 CHECK RCM AND OCSM VEHICLE IDENTIFICATION PIDS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: DataLogger — **RCM** .
- View and record the following PID values:
 - V_ID_14229_RCM
 - OCS_MY
- Enter the following diagnostic mode on the scan tool: DataLogger — **OCSM** .
- View and record the following PID values:
 - OCS_MY_OCS
 - OCS_VEH_ID
- Verify the correct vehicle application.

Do the PID values match the vehicle application?

Yes	GO to T4 .
No	INSTALL the correct RCM or OCS sensor. REFER to Occupant Classification Sensor in this section. GO to T8 .

T4 CHECK ABS MODULE

- Ignition OFF.
- Check the part number on the ABS module against the part number listed in the Ford Catalog Advantage™ or equivalent.

Does the part number on the ABS module match the part number listed in the Ford Catalog Advantage™ or equivalent?

Yes	GO to T5 .
No	INSTALL the correct or later equivalent ABS module. REFER to the ABS module Removal and Installation procedure in Section 206-09 . GO to T8 .

T5 CHECK RCM

- Ignition ON.
- Carry out Programmable Module Installation (PMI) for the **RCM** . Use as-built data when carrying out **PMI** . Refer to [Section 418-01](#).
- Enter the following diagnostic mode on the scan tool: Self Test — **RCM** .

Was any **RCM** incorrect component installed DTCs retrieved on-demand during self-test?

Yes	GO to T6 .
No	Fault corrected. GO to T8 .

T6 CONFIRM THE RCM FAULT

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

- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was any RCM incorrect component installed DTCs retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to T8 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to T7 .


T7 CHECK FOR INCORRECT COMPONENT INSTALLED

- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was any incorrect component installed DTCs retrieved on-demand during self-test?

Yes	INSTALL new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to T8 .
No	CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to T8 .

T8 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and QCSM .

Are any on-demand RCM and/or QCSM DTCs retrieved?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>QCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test U: DTCs U0028:08 and U0028:88

Refer to Wiring Diagrams Cell [42](#), Vehicle Dynamic Systems for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) supplies the stability/traction control system with the yaw rate, roll rate, lateral and longitudinal accelerometer over a dedicated Controller Area Network (CAN) bus. If the RCM detects a fault with communications with the ABS module or dedicated CAN bus circuits, it will set DTC U0028:08 or U0028:88.

The RCM does not request the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator if either DTC U0028:08 or U0028:88 is set.

- DTC U0028:08 (Vehicle Communication Bus A: Bus Signal / Message Failures) — When the RCM does not receive dedicated CAN bus messages from the ABS module for 5 seconds, a fault will be indicated. An open dedicated CAN circuit, incorrectly installed ABS module or loss of power and/or ground to the ABS module can set this DTC.
- DTC U0028:88 (Vehicle Communication Bus A: Bus Off) — When the RCM detects the dedicated CAN circuits are shorted to ground, shorted to voltage or shorted to each other, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- RCM
- ABS module

PINPOINT TEST U : DTCS U0028:08 AND U0028:88

⚠️ WARNING: Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

⚠️ WARNING: Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.
Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

U1 RETRIEVE RCM DTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC U0028:08 or U0028:88 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC U0028:08, GO to U2 . For DTC U0028:88, GO to U5 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to U13 .

U2 CHECK FOR CORRECT RCM

- Ignition OFF. **⚠️ WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Access to the RCM . Refer to [Restraints Control Module \(RCM\)](#) in this section. Check the part number on the RCM against the number listed in the Ford Catalog Advantage™ or equivalent.

Does the part number match?

Yes	GO to U3 .
No	INSTALL the correct <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to U14 .

U3 CHECK FOR CORRECT ABS MODULE

- Gain access to the ABS module. Check the part number on the ABS module against the part number listed in the Ford Catalog Advantage™ or equivalent.

Does the part number match?

Yes	GO to U4 .
No	INSTALL the correct ABS module. REFER to Section 206-09 . GO to U14 .

U4 CHECK THE HS-CAN COMMUNICATIONS (ABS MODULE COMMUNICATIONS)

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Network Test . **NOTE:** *The Network Test does not test the dedicated CAN communications between the ABS module and RCM .*

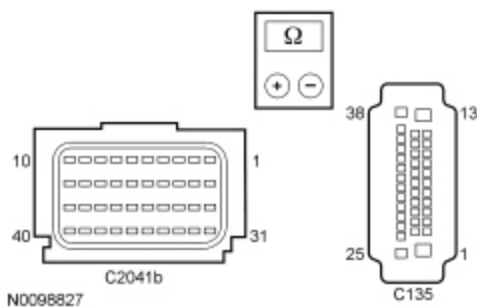
Did the Network Test pass (ABS module communicates with the scan tool)?

Yes	GO to U5 .
No	REFER to Section 418-00 to diagnose the High Speed Controller Area Network (HS-CAN) /ABS module communication concern. GO to U14 .

U5 CHECK THE DEDICATED CAN CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Disconnect: ABS Module C135 .
- Measure the resistance between the ABS module C135, harness side and the RCM C2041B, harness side as indicated in the following chart:

ABS Module	Circuit	<u>RCM</u>
C135 Pin 8	VCA23 (BU/WH)	C2041B Pin 20
C135 Pin 9	VCA24 (GN/OG)	C2041B Pin 19



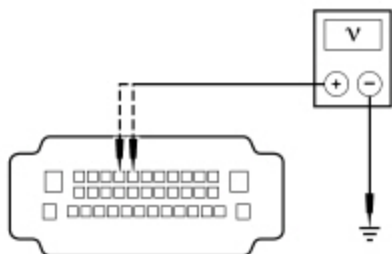
Are the resistances less than 5 ohms?

Yes	For DTC U0028:08, GO to U9 . For DTC U0028:88, GO to U6 .
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No	REPAIR circuits VCA24 (GN/OG) and VCA23 (BU/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to U14 .
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U6 CHECK THE DEDICATED CAN CIRCUITS FOR A SHORT TO VOLTAGE

- Repower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between ABS module:
 - [C135](#) Pin 8, circuit VCA23 (BU/WH), harness side and ground.
 - [C135](#) Pin 9, circuit VCA24 (GN/OG), harness side and ground.



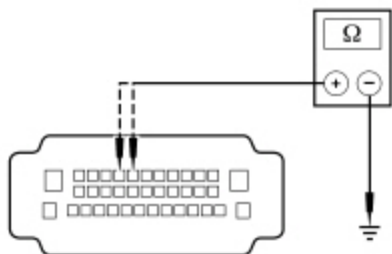
N0096576

Is voltage present on either circuit?

Yes	REPAIR circuit VCA24 (GN/OG) or VCA23 (BU/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to U14 .
No	GO to U7 .

U7 CHECK THE DEDICATED CAN CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between ABS module:
 - [C135](#) Pin 8, circuit VCA23 (BU/WH), harness side and ground.
 - [C135](#) Pin 9, circuit VCA24 (GN/OG), harness side and ground.



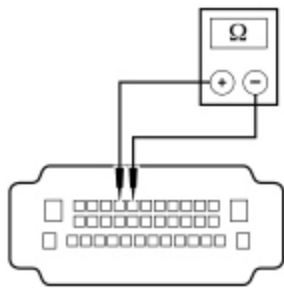
N0096575

Are the resistances greater than 10,000 ohms?

Yes	GO to U8 .
No	REPAIR circuit VCA24 (GN/OG) or VCA23 (BU/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to U14 .

U8 CHECK FOR SHORT BETWEEN THE DEDICATED CAN CIRCUITS

- Measure the resistance between ABS module [C135](#) Pin 8, circuit VCA23 (BU/WH), harness side and [C135](#) Pin 9, circuit VCA24 (GN/OG), harness side.



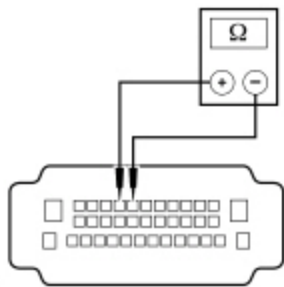
N0096574

Is the resistance greater than 10,000 ohms?

Yes	GO to U9 .
No	REPAIR circuits VCA24 (GN/OG) and VCA23 (BU/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to U14 .

U9 CHECK THE RCM TERMINATING RESISTOR

- Connect: [RCM C2041B](#) .
- Measure the resistance between ABS module [C135](#) Pin 8, circuit VCA23 (BU/WH), harness side and [C135](#) Pin 9, circuit VCA24 (GN/OG), harness side.



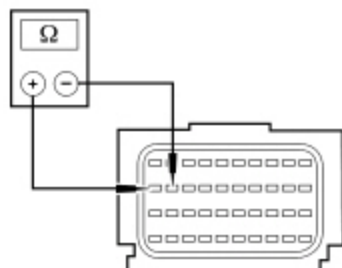
N0096574

Is the resistance between 108 and 132 ohms?

Yes	GO to U10 .
No	GO to U11 .

U10 CHECK THE ABS MODULE TERMINATING RESISTOR

- Disconnect: [RCM C2041B](#) .
- Connect: ABS Module [C135](#) .
- Measure the resistance between [RCM C2041B](#) Pin 20, circuit VCA23 (BU/WH), harness side and [C2041B](#) Pin 19, circuit VCA24 (GN/OG), harness side.



N0093009

Is the resistance between 108 and 132 ohms?

Yes	For DTC U0028:08, GO to U11 . For DTC U0028:88, GO to U12 .
No	GO to U12 .

U11 CONFIRM THE RCM FAULT

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

- If previously directed to repower the SRS , depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - inspect ABS module C135 for dirt, corrosion, water intrusion, pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC U0028:08 retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to U14 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed when directed to do so in the pinpoint test. GO to U13 .

U12 CONFIRM THE ABS MODULE FAULT

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

- If previously directed to repower the SRS , depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - inspect ABS module C135 for dirt, corrosion, water intrusion, pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was DTC U0028:88 retrieved on-demand during self-test?

Yes	INSTALL a new ABS module. REFER to the ABS Module Removal and Installation in Section 206-09 . GO to U14 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new <u>SRS</u> components at this time. <u>SRS</u> components should only be installed

when directed to do so in the pinpoint test. GO to [U13](#).


U13 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect **RCM** C2041B and ABS module C135:
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the **SRS** . **Do not** prove out the **SRS** at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — **RCM** .

Was DTC U0028:08 or U0028:88 retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. CHECK for causes of the intermittent fault in the areas previously worked in, particularly the pins and terminals of any electrical connector that were disconnected. REPAIR any intermittent wiring, terminal or connector concerns found. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to U14 .
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to U14 .

U14 CHECK FOR ADDITIONAL RCM AND ABS MODULE DTCS

- Ignition OFF.  **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all **SRS** components (if previously disconnected).
- If previously directed to depower the **SRS** , repower the **SRS** . **Do not** prove out the **SRS** at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — **RCM** .
- Enter the following diagnostic mode on the scan tool: Self Test — ABS Module .

Are any DTCs retrieved from the **RCM** or ABS module during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the appropriate DTC Chart in this section and/or Section 206-09 for pinpoint test direction.
No	CLEAR all CMDTCs . PROVE OUT the SRS . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test V: DTCs B00C5:11, B00C5:12, B00C5:13 and B00C5:1D

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Restraints Control Module (RCM) monitors the passenger seat track position sensor and circuits for the following faults:

- Short to ground
- Short to voltage
- Open circuit
- Current out of range
- Faulted passenger seat track position sensor

If a fault is detected, the RCM will store DTC B00C5:11, B00C5:12, B00C5:13 or B00C5:1D in memory and send a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

DTC Description	Fault Trigger Condition
<ul style="list-style-type: none"> • B00C5:11 — Passenger Seat Track Position Restraints Sensor: Circuit Short to Ground 	When the <u>RCM</u> senses a short to ground on the passenger seat track position sensor circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B00C5:12 — Passenger Seat Track Position Restraints Sensor: Circuit Short to Battery 	When the <u>RCM</u> senses a short to voltage on the passenger seat track position sensor circuit, a fault will be indicated.
<ul style="list-style-type: none"> • B00C5:13 — Passenger Seat Track Position Restraints Sensor: Circuit Open 	When the <u>RCM</u> senses an open on the passenger seat track position sensor circuit, a fault will be indicated. An open passenger seat track position sensor ground circuit will set this fault.
<ul style="list-style-type: none"> • B00C5:1D — Passenger Seat Track Position Restraints Sensor: Circuit Current Out of Range 	When the <u>RCM</u> senses current out of an acceptable range between the passenger seat track position sensor circuits, a fault will be indicated.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Passenger seat track position sensor
- RCM

PINPOINT TEST V : DTCS B00C5:11, B00C5:12, B00C5:13 AND B00C5:1D

 **WARNING:** Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS.*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*

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

V1 RETRIEVE RCM DTCS

- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .

Was DTC B00C5:11, B00C5:12, B00C5:13 or B00C5:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B00C5:11 or B00C5:1D, GO to V2 . For DTC B00C5:12, GO to V4 . For DTC B00C5:13, GO to V5 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to V10 .

V2 CHECK THE PASSENGER SEAT TRACK POSITION RESTRAINTS SENSOR DTC FOR A FAULT STATUS CHANGE (SHORT TO GROUND OR CURRENT OUT OF RANGE INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the [RCM](#) by inducing a different fault condition. If the fault reported changes, this indicates the [RCM](#) is functioning correctly and is not the source of the fault.

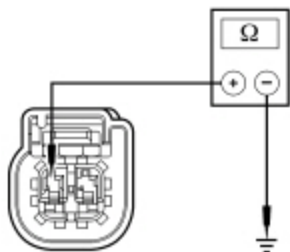
- Ignition OFF. **⚠️WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Disconnect: Passenger Seat Track Position Sensor C3240 .
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — [RCM](#) .
- DIAGNOSTIC TIP:** When viewing DTCs with the passenger seat track position sensor disconnected, an open circuit fault would normally be retrieved.

Did the on-demand DTC change from B00C5:11 or B00C5:1D to B00C5:13?

Yes	GO to V8 .
No	For DTC B00C5:1D, GO to V9 . For DTC B00C5:11, GO to V3 .

V3 CHECK THE PASSENGER SEAT TRACK POSITION SENSOR CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: [RCM](#) C2041A and C2041B .
- Measure the resistance between passenger seat track position sensor [C3240](#) Pin 2, circuit VR216 (GN/OG), harness side and ground.



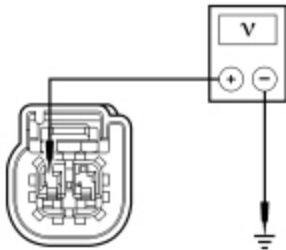
N0105590

Is the resistance greater than 10,000 ohms?

Yes	GO to V9 .
No	REPAIR circuit VR216 (GN/OG). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to V11 .

V4 CHECK THE PASSENGER SEAT TRACK POSITION SENSOR CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag C337 .
- Disconnect: RCM C2041A and C2041B .
- Disconnect: Passenger Seat Track Position Sensor C3240 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between passenger seat track position sensor C3240 Pin 2, circuit VR216 (GN/OG), harness side and ground.



N0105589

Is any voltage present?

Yes	REPAIR circuit VR216 (GN/OG). Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information. GO to V11 .
No	GO to V9 .

V5 CHECK THE PASSENGER SEAT TRACK POSITION RESTRAINTS SENSOR DTC FOR A FAULT STATUS CHANGE (OPEN INDICATED)

NOTE: This pinpoint test step will attempt to change the fault reported by the RCM by inducing a different fault condition. If the fault reported changes, this indicates the RCM is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Disconnect: Passenger Seat Track Position Sensor C3240 .
- Connect a fused jumper wire between passenger seat track position sensor C3240 Pin 2, circuit VR216 (GN/OG), harness side and C3240 Pin 1, circuit GD138 (BK/WH), harness side.
- Repower the SRS . **Do not** prove out the system at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- **DIAGNOSTIC TIP:** When viewing DTCs with the passenger seat track position sensor circuits shorted together, a short to ground fault would normally be retrieved.

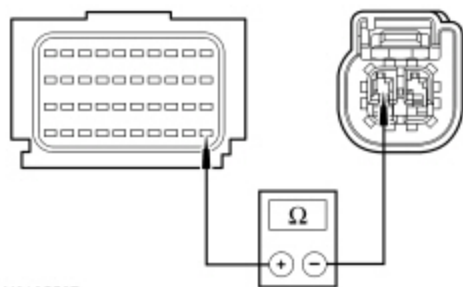
Did the on-demand DTC change from B00C5:13 to B00C5:11?

Yes	GO to V8 .
No	GO to V6 .

V6 CHECK THE PASSENGER SEAT TRACK POSITION SENSOR CIRCUIT FOR AN OPEN

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: RCM C2041A and C2041B .
- Remove the fused jumper wire from the passenger seat track position sensor C3240.

- Measure the resistance between RCM C2041B Pin 31, circuit VR216 (GN/OG), harness side and passenger seat track position sensor C3240 Pin 2, circuit VR216 (GN/OG), harness side.



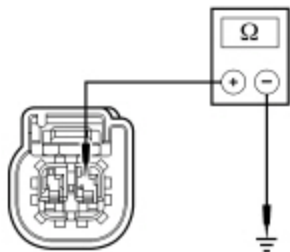
N0105587

Is the resistance less than 0.5 ohm?

Yes	GO to V7 .
No	REPAIR circuit VR216 (GN/OG). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to V11 .

V7 CHECK THE PASSENGER SEAT TRACK POSITION SENSOR GROUND CIRCUIT FOR AN OPEN

- Measure the resistance between passenger seat track position sensor C3240 Pin 1, circuit GD138 (BK/WH), harness side, and ground.



N0105588

Is the resistance less than 5 ohm?

Yes	GO to V9 .
No	REPAIR circuit GD138 (BK/WH). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to V11 .

V8 CONFIRM THE PASSENGER SEAT TRACK POSITION SENSOR FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- If previously installed, remove the fused jumper wire from passenger seat track position sensor C3240.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B Connector Position Assurance (CPA) lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Components/Connectors .

- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new passenger seat track position sensor. REFER to Seat Position Sensor in this section. GO to V11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to V10 .

V9 CONFIRM THE RCM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect RCM C2041A and C2041B CPA lever/lock for correct operation. Refer to [Restraints Control Module \(RCM\)](#) in this section.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Components/Connectors .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Was the original DTC retrieved on-demand during self-test?

Yes	INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) in this section. GO to V11 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to V10 .

V10 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Track Position Sensor C3240 .
 - inspect connector(s) (including any in-line connectors) for corrosion, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.
 Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: Passenger Seat Track Position Sensor C3240 .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .


Was DTC B00C5:11, B00C5:12, B00C5:13 or B00C5:1D retrieved on-demand during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test.
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For DTC B00C5:11 or B00C5:1D, GO to [V2](#).
 For DTC B00C5:12, GO to [V4](#).
 For DTC B00C5:13, GO to [V5](#).

No The fault is not present and cannot be recreated at this time. **Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test.** GO to [V11](#).

V11 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .

Are any RCM and/or OCSM DTCs retrieved on-demand during self-test?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.

Pinpoint Test W: DTC U0253:00

Diagnostic Overview

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices. Refer to Diagnostic Methods in [Section 100-00](#) for information about these practices.

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation and Fault Conditions


The RCM uses information contained in messages from the APIM sent on the HS-CAN .

- DTC U0253:00 (Lost Communication With Accessory Protocol Interface Module: No Sub Type Information) — This DTC sets if the RCM does not receive an expected message from the APIM for 6 seconds.

Possible Sources

- Network traffic
- APIM
- RCM

PINPOINT TEST W : DTC U0253:00

 **WARNING:** Do not handle, move or change the original horizontal mounting position of the restraints control module (RCM) while the RCM is connected and the ignition switch is ON. Failure to follow this instruction may result in the accidental deployment of the Safety Canopy and cause serious personal injury or death.

NOTE: Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .

NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to

make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.

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

W1 CHECK THE COMMUNICATION NETWORK

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Network Test .

Does the APIM pass the network test?

Yes	GO to W2 .
No	REFER to Section 418-00 to diagnose no communication with the <u>APIM</u> .

W2 CHECK THE RCM CMDTCS

- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .
- Enter the following diagnostic mode on the scan tool: Clear All CM DTCs .
- Wait 10 seconds.
- Enter the following diagnostic mode on the scan tool: Self Test — RCM .

Is DTC **U0253:00** retrieved again?

Yes	GO to W3 .
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

W3 RETRIEVE THE RECORDED DTCS FROM THE RCM SELF-TEST

- Check for recorded DTCs from the RCM self-test.

Is DTC **U3003:16** or **U3003:17** recorded?

Yes	REFER to the <u>RCM</u> DTC Chart to diagnose the <u>RCM</u> DTCs.
No	GO to W4 .

W4 RETRIEVE THE RECORDED DTCS FROM THE APIM SELF-TEST

- Check for recorded DTCs from the APIM self-test.

Is DTC **U3003:16** or **U3003:17** recorded?

Yes	Diagnose the <u>APIM</u> DTCs. Refer to the appropriate section in Group 415 for the procedure.
No	CHECK <u>OASIS</u> for any applicable TSBs. If a TSB exists for this concern, discontinue this test and follow TSB instructions. If no TSBs address this concern, INSTALL a new <u>APIM</u> . REFER to Section 415-00 . CLEAR the <u>RCM</u> DTCs and REPEAT the <u>RCM</u> self-test. If DTC U0253:00 is retrieved again, INSTALL a new <u>RCM</u> . REFER to Restraints Control Module (RCM) .

Pinpoint Test — Occupant Classification System Module (OCSM)

Pinpoint Test X: DTCs B2290 and/or C1941

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Occupant Classification System Module (OCSM) monitors the pressure sensor and internal circuitry for faults. If a fault is detected, the OCSM stores DTC B2290 in memory and sends a message to the Restraints Control Module (RCM) . The RCM then stores DTC B00A0:09 in memory and sends a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

The Occupant Classification System (OCS) components **must not** be installed separate from the seat cushion or heater mat (if equipped).

DTC C1941 sets when System Reset fails to complete the testing. DTC C1941 will clear upon a successful System Reset.


- DTC B2290 Occupant Classification System (OCS) Fault — This DTC sets if the OCSM detects a fault in the bladder pressure sensor (integrated with the OCSM).
- DTC C1941 Zero Seat Weight Test Failure — This DTC will set if the OCSM is unable to complete a successful System Reset. All other OCS DTCs must be diagnosed and repaired before carrying out the OCS reset.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Faulted OCS
- OCS bladder installation

PINPOINT TEST X : DTCS B2290 AND/OR C1941

 **WARNING:** Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.

 **WARNING:** Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.

NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.

Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.

NOTE: *The Supplemental Restraint System (SRS) must be fully operational and free of faults before releasing the vehicle to the customer.*

NOTE: *SRS components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .*

NOTE: *Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.*


X1 RETRIEVE OCSM DTCS

- Enter the following diagnostic mode on the scan tool: Self Test — OCSM .

Was DTC B2290 or C1941 retrieved during self-test?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. If DTC C1941 was retrieved, GO to X2 . If DTC B2290 was retrieved, GO to X4 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to X5 .

X2 CHECK SEAT WIRING AND CONNECTORS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Carry out a thorough inspection of the OCS wiring, terminals and connectors and the related seat wiring harness and body wiring harness terminals and connectors.

Were any problems noted?

Yes	DEPOWER the <u>SRS</u> and REPAIR the seat connectors and wiring as needed. Refer to Wiring Diagrams Cell <u>5</u> , Connector Repair Procedures for schematic and connector information. GO to <u>X3</u> .
No	GO to <u>X3</u> .

X3 CHECK OCS

NOTE: Make sure all OCS components, restraint system components and the RCM electrical connectors are connected before carrying out the OCS Reset. If not, DTCs will be recorded.

- Enter the following diagnostic mode on the scan tool: OCS Reset .

⚠️ WARNING: Make sure the front passenger seat repair is complete, the seat and all attached components (head restraint, seat side shield, etc.) are correctly assembled, and the seat is correctly installed to the vehicle before using System Reset to rezero the seat weight. Failure to follow these instructions may result in incorrect operation of the occupant classification system (OCS) and increases the risk of serious personal injury or death in a crash.

NOTICE: To prevent system failure, the following precautions must be taken before carrying out the Occupant Classification System (OCS) reset:

- Make sure the OCS components are connected and no Occupant Classification System Module (OCSM) faults are present, with the exception of DTC C1941. All other OCS DTCs must be diagnosed and repaired before carrying out the OCS reset.
- Make sure the voltage to the OCSM is above 8 volts and less than 18 volts.
- Make sure the OCS is not at a temperature below 6°C (42°F) or above 36°C (97°F) when initiating the OCS reset 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, 6°C to 36°C (42°F to 97°F) for a minimum of 30 minutes.
- Make sure nothing is present on the passenger seat before carrying out the OCS reset and nothing is placed on the seat during the process.
- Make sure a minimum 8-second time period has passed after cycling the ignition switch ON before the carrying out the OCS reset process.

Carry out the OCS reset.

- If the first system reset attempt was unsuccessful, carry out a thorough inspection of the following and repair any concerns found.

- OCSM connector and wiring for damage
- Pressure sensor hose for kinks and/or damage
- Seat-related wiring harness and body wiring harness terminals and connectors for damage
-

Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information.

- Carry out a second OCS reset.
- Ignition OFF.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — OCSM .

Was DTC C1941 retrieved on-demand during self-test?

Yes	GO to <u>X4</u> .
No	Fault corrected. GO to <u>X6</u> .

X4 CONFIRM THE OCS FAULT

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

- Ignition OFF. **⚠️ WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Check the following:
 - OCS connector and wiring for damage.
 - pressure sensor hose for kinks and/or damage.
 - seat-related wiring harness and body wiring harness terminals and connectors for damage.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.

- repair any concerns found.

Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.

- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Enter the following diagnostic mode on the scan tool: Self Test — [OCSM](#) .

Was DTC B2290 or C1941 retrieved on-demand during self-test?

Yes	INSTALL a new OCS sensor. REFER to Occupant Classification Sensor in this section. GO to X6 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to X5 .


X5 CHECK FOR AN INTERMITTENT FAULT

- Enter the following diagnostic mode on the scan tool: Self Test — [OCSM](#) .

Was DTC C1941 retrieved during self-test?

Yes	<p>This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test.</p> <p>CHECK for causes of the intermittent fault at or near the affected SRS component connector. REPAIR any intermittent wiring, terminal or connector concerns found.</p> <p>Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information.</p> <p>If an intermittent concern was found and repaired, INSPECT the seat wiring harness for damage and REPAIR as needed.</p> <p>Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information.</p> <p>If OK, INSTALL a new OCS sensor. REFER to Occupant Classification Sensor in this section. GO to X6.</p>
No	<p>CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found.</p> <p>Refer to Wiring Diagrams Cell 5, Connector Repair Procedures for schematic and connector information.</p> <p>GO to X6.</p>

X6 CHECK FOR ADDITIONAL SRS DTCS

- Ignition OFF.  **WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the [SRS](#) , repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE:** When selecting Restraints from the Self Test menu, DTCs will be retrieved from the [RCM](#) and [OCSM](#) .

Are any on-demand [RCM](#) and/or [OCSM](#) DTCs retrieved?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all RCM and OCSM CMDTCs . PROVE OUT the SRS . The repair is complete. RETURN the vehicle to the customer.

Refer to Wiring Diagrams Cell [46](#), Supplemental Restraint System for schematic and connector information.

Normal Operation

The Belt Tension Sensor (BTS) operates in conjunction with the Occupant Classification System (OCS) . The OCS interprets a variable voltage signal provided by the BTS to identify the possible presence of a child safety seat in the front passenger seat. The voltage output of the BTS 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 System Module (OCSM) monitors the BTS and all circuitry for faults. If a fault is detected, the OCSM stores DTC B2909 in memory and sends a message to the Restraints Control Module (RCM) . The RCM then sets DTC B00A0:68 and sends a message to the Instrument Panel Cluster (IPC) to illuminate the air bag warning indicator.

NOTE: Do not mistake status information displayed with DTCs for fault PID information. Fault PIDs are only retrieved in the DataLogger function of the scan tool.



Fault PIDs ^a	Description	Fault Trigger Condition
2909_29_OD and 2909_29_CM	Front Passenger Side Belt Tension Sensor Short to Ground	When the OCSM senses a short to ground on the BTS circuits, a fault is indicated.
2909_31_OD and 2909_31_CM	Front Passenger Side Belt Tension Sensor Circuit Fault	When the OCSM senses a failure on the BTS circuits, a fault is indicated.
2909_30_OD and 2909_30_CM	Front Passenger Side Belt Tension Sensor Circuit Open	When the OCSM senses an open on the BTS circuits, a fault is indicated.
2909_28_OD and 2909_28_CM	Front Passenger Side Belt Tension Sensor Circuit Short to Battery	When the OCSM senses a short to voltage on the BTS signal circuit, a fault is indicated.

^aFault PIDs that end in OD indicate on-demand status and are associated with DTC B2909. Fault PIDs that end in CM indicate continuous memory status and are associated with DTC B2909.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- BTS (part of RH front safety belt retractor)
- OCSM

PINPOINT TEST Y : DTC B2909

<p> WARNING: Never probe the electrical connectors on airbag, Safety Canopy or side air curtain assemblies. Failure to follow this instruction may result in the accidental deployment of these assemblies, which increases the risk of serious personal injury or death.</p>
<p> WARNING: Never disassemble or tamper with seatbelt deployable components, including pretensioners, load limiters and inflators. Never back probe deployable device electrical connectors. Tampering or back probing may cause an accidental deployment and result in personal injury or death.</p>
<p>NOTICE: Use the correct probe adapter(s) from the Flex Probe Kit when taking measurements. Failure to use the correct probe adapter(s) may damage the connector.</p> <p>Most faults are due to connector and/or wiring concerns. Carry out a thorough inspection and verification before proceeding with the pinpoint test.</p>
<p>NOTE: Supplemental Restraint System (SRS) components should only be disconnected or reconnected when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS .</p>
<p>NOTE: Always make sure the correct SRS component is being installed. Parts released for other vehicles may not be compatible even if they appear physically similar. Check the part number listed in the Ford Catalog Advantage™ or equivalent to make sure the correct component is being installed. If an incorrect SRS component is installed, DTCs may set.</p>
<p>NOTE: The SRS must be fully operational and free of faults before releasing the vehicle to the customer.</p>
<p>Y1 RETRIEVE OCSM DTCS</p>

- Enter the following diagnostic mode on the scan tool: Self Test — [OCSM](#) .
- Enter the following diagnostic mode on the scan tool: DataLogger — [OCSM](#) — View and Record All 2909 Fault PIDs .
 - **NOTE:** Do not mistake status information displayed with DTCs for fault PID information. Fault PIDs are only retrieved in the DataLogger function of the scan tool.

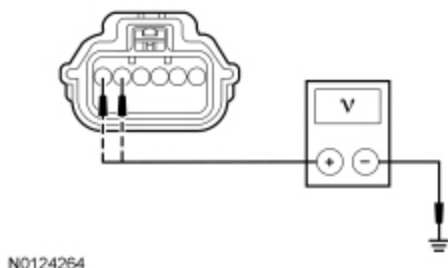
Refer to PID list in Normal Operation to view 2909 fault PIDs.

Do any on-demand 2909 fault PIDs indicate a fault?

Yes	This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. For fault PID 2909_31_OD, GO to Y2 . For fault PID 2909_28_OD, GO to Y8 . For fault PID 2909_30_OD, GO to Y9 . For fault PID 2909_29_OD, GO to Y10 .
No	This is an intermittent fault when present as a Continuous Memory Diagnostic Trouble Code (CMDTC) only. GO to Y14 .

Y2 CHECK BTS CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Disconnect: [BTS](#) C3238 .
- Disconnect: [OCSM](#) C3043 .
- Repower the [SRS](#) . **Do not** prove out the [SRS](#) at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between [OCSM](#) :
 - [C3043](#) Pin 5, circuit LR142 (YE/BU), harness side and ground.
 - [C3043](#) Pin 6, circuit VR210 (BU/BN), harness side and ground.

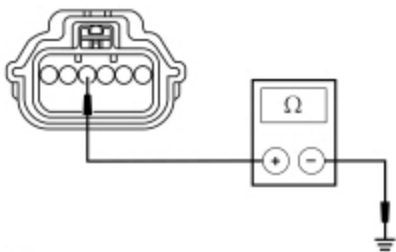


Is voltage present on either circuit?

Yes	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Y15 .
No	GO to Y3 .

Y3 CHECK BTS CIRCUITS FOR AN OPEN

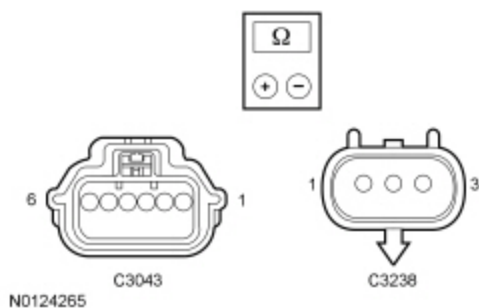
- Ignition OFF.
- Measure the resistance between [OCSM](#) [C3043](#) Pin 4, circuit GD138 (BK/WH), harness side and ground.



N0124263

- Measure the resistance between OCSM C3043, harness side and BTS C3238, harness side using the following chart:

OCSM	Circuit	BTS
<u>C3043</u> Pin 5	LR142 (YE/BU)	<u>C3238</u> Pin 1
<u>C3043</u> Pin 6	VR210 (BU/BN)	<u>C3238</u> Pin 3



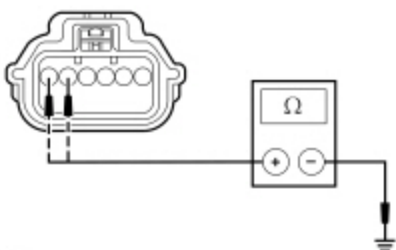
N0124265

Are the resistances less than 0.5 ohm?

Yes	GO to Y4 .
No	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Y15 .

Y4 CHECK BTS VREF AND SIGNAL CIRCUITS FOR A SHORT TO GROUND

- Measure the resistance between OCSM :
 - C3043 Pin 5, circuit LR142 (YE/BU), harness side and ground.
 - C3043 Pin 6, circuit VR210 (BU/BN), harness side and ground.



N0124267

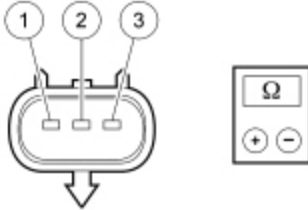
Are the resistances greater than 10,000 ohms?

Yes	GO to Y5 .
No	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information.

GO to [Y15](#).

Y5 CHECK FOR A SHORT BETWEEN BTS CIRCUITS

- Measure the resistance between BTS :
 - [C3238](#) Pin 3, circuit VR210 (BU/BN), harness side and [C3238](#) Pin 1, circuit LR142 (YE/BU), harness side.
 - [C3238](#) Pin 3, circuit VR210 (BU/BN), harness side and [C3238](#) Pin 2, circuit GD138 (BK/WH), harness side.
 - [C3238](#) Pin 1, circuit LR142 (YE/BU), harness side and [C3238](#) Pin 2, circuit GD138 (BK/WH), harness side.



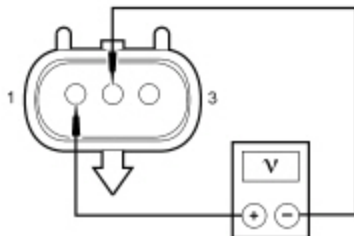
N0081585

Are the resistances greater than 10,000 ohms?

Yes	GO to Y6 .
No	REPAIR the affected circuits. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Y11 .

Y6 CHECK OCSM OUTPUT

- Connect: [OCSM](#) C3043 .
- Ignition ON.
- Measure the voltage between [BTS](#) [C3238](#) Pin 1, circuit LR142 (YE/BU), harness side and [C3238](#) Pin 2, circuit GD138 (BK/WH), harness side.



N0095711

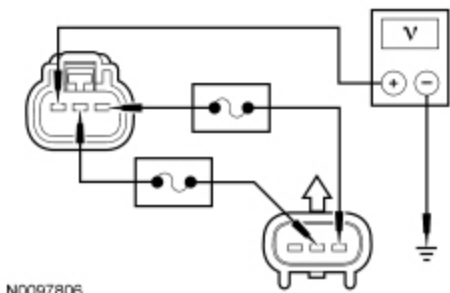
Is the voltage approximately 5 volts?

Yes	GO to Y7 .
No	INSTALL a new OCS sensor. REFER to Occupant Classification Sensor in this section. GO to Y15 .

Y7 CHECK BTS VOLTAGE OUTPUT

- Ignition OFF.
- Connect a fused jumper wire between [BTS](#) [C3238](#) Pin 1, circuit LR142 (YE/BU), harness side and [C3238](#) pin 1, component side.
- Connect a fused jumper wire between [BTS](#) [C3238](#) Pin 2, circuit GD138 (BK/WH), harness side and [C3238](#) pin 2, component side.
- Ignition ON.

- Measure the voltage between **BTS** C3238 pin 1, circuit VR210 (BU/BN), component side and ground as the tension of the **BTS** varies by pulling upward at the safety belt webbing.

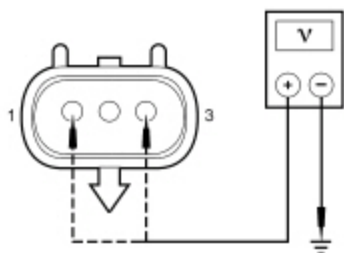


Does the voltage vary from approximately 0.95 volt with no tension applied to the sensor to approximately 3.8 volts with full tension applied to the sensor?

Yes	INSTALL a new OCS sensor. REFER to Occupant Classification Sensor in this section. GO to Y15 .
No	INSTALL a new RH safety belt retractor assembly. REFER to Section 501-20A . GO to Y15 .

Y8 CHECK BTS CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Depower the **SRS** . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Disconnect: **BTS** C3238 .
- Disconnect: **OCSM** C3043 .
- Repower the **SRS** . **Do not** prove out the system at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between **BTS** :
 - [C3238](#) Pin 3, circuit VR210 (BU/BN), harness side and ground.
 - [C3238](#) Pin 1, circuit LR142 (YE/BU), harness side and ground.

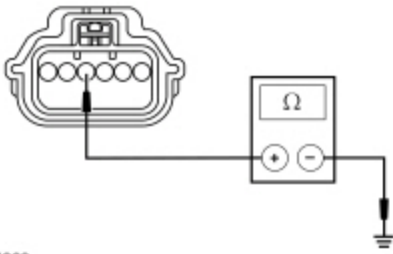


Is any voltage present on either circuit?

Yes	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Y15 .
No	GO to Y13 .

Y9 CHECK BTS CIRCUITS FOR AN OPEN

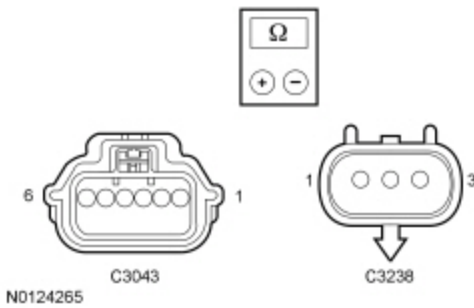
- Ignition OFF. **⚠️WARNING:** Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.
- Disconnect: **BTS** C3238 .
- Disconnect: **OCSM** C3043 .
- Measure the resistance between **OCSM** [C3043](#) Pin 4, circuit GD138 (BK/WH), harness side and ground.



N0124263

- Measure the resistance between OCSM C3043, harness side and BTS C3238, harness side using the following chart:

OCSM	Circuit	BTS
<u>C3043</u> Pin 5	LR142 (YE/BU)	<u>C3238</u> Pin 1
<u>C3043</u> Pin 6	VR210 (BU/BN)	<u>C3238</u> Pin 3



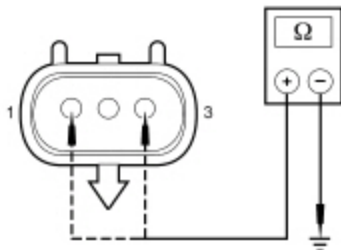
N0124265

Are the resistances less than 0.5 ohm?

Yes	GO to Y11 .
No	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Y15 .

Y10 CHECK BTS CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF. **⚠ WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Disconnect: BTS C3238 .
- Disconnect: OCSM C3043 .
- Measure the resistance between BTS :
 - C3238 Pin 3, circuit VR210 (BU/BN, harness side and ground.
 - C3238 Pin 1, circuit LR142 (YE/BU), harness side and ground.



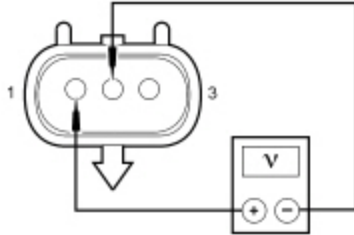
N0095710

Are the resistances greater than 10,000 ohms?

Yes	GO to Y11 .
No	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Y15 .

Y11 CHECK THE OCSM OUTPUT

- Connect: [OCSM](#) C3043 .
- Ignition ON.
- Measure the voltage between [BTS](#) [C3238](#) Pin 1, circuit LR142 (YE/BU), harness side and [C3238](#) Pin 2, circuit GD138 (BK/WH), harness side.



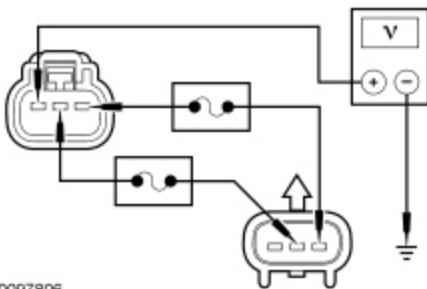
N0095711

Is the voltage approximately 5 volts?

Yes	GO to Y12 .
No	INSTALL a new OCS sensor. REFER to Occupant Classification Sensor in this section. GO to Y15 .

Y12 CHECK BTS VOLTAGE OUTPUT

- Ignition OFF.
- Depower the [SRS](#) . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Disconnect: Passenger Seat Side Air Bag Module C337 .
- Connect a fused jumper wire between [BTS](#) [C3238](#) Pin 1, circuit LR142 (YE/BU), harness side and C3238 pin 1, component side.
- Connect a fused jumper wire between [BTS](#) [C3238](#) Pin 2, circuit GD138 (BK/WH), harness side and C3238 pin 2, component side.
- Repower the [SRS](#) . **Do not** prove out the system at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Measure the voltage between [BTS](#) C3238 pin 3, component side and ground as the tension of the [BTS](#) varies by pulling upward at the safety belt webbing.



N0097805

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 Y13 .
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No	INSTALL a new safety belt retractor assembly. REFER to Section 501-20A . GO to Y15 .
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Y13 CONFIRM THE OCSM FAULT

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

- Ignition OFF.
- Depower the SRS . Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Prior to reconnecting any previously disconnected SRS component:
 - inspect connector(s) (including any in-line connectors) for pushed-out, loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Enter the following diagnostic mode on the scan tool: Self Test — OCSM .
- Enter the following diagnostic mode on the scan tool: DataLogger — OCSM — View and Record All 2909 Fault PIDs .
 - Refer to PID list in Normal Operation to view 2909 fault PIDs.

Does the original on-demand 2909 fault PID indicate a fault?

Yes	INSTALL a new <u>OCS</u> sensor. REFER to Occupant Classification Sensor in this section. GO to Y15 .
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. GO to Y14 .

Y14 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Disconnect BTS C3238:
 - inspect connector(s) (including any in-line connectors) for loose or spread terminals and loose or frayed wire connections at terminals.
 - inspect wire harness for any damage, pinched, cut or pierced wires.
 - repair any concerns found.Refer to Wiring Diagrams Cell [5](#), Connector Repair Procedures for schematic and connector information.
- Connect: All Previously Disconnected Component(s)/Connector(s) .
- Enter the following diagnostic mode on the scan tool: Self Test — OCSM .
- Enter the following diagnostic mode on the scan tool: DataLogger — OCSM — View and Record All 2909 Fault PIDs .
 - Refer to PID list in Normal Operation to view 2909 fault PIDs.

Do any on-demand 2909 fault PIDs indicate a fault?

Yes	This is a hard fault. This fault cannot be cleared until it is corrected and the DTC is no longer retrieved on-demand during self-test. Using the on-demand fault PIDs recorded, GO to the appropriate pinpoint test step. For fault PID 2909_31_OD, GO to Y2 . For fault PID 2909_28_OD, GO to Y8 . For 2909_30_OD, GO to Y9 . For fault PID 2909_29_OD, GO to Y10 .
No	CHECK for causes of the intermittent fault. ATTEMPT to recreate the hard fault by flexing the wire harness and cycling the ignition frequently. ACTIVATE other systems in the same wire harness. Do not install any new SRS components at this time. SRS components should only be installed when directed to do so in the pinpoint test. REPAIR any intermittent wiring, terminal or connector concerns found. Refer to Wiring Diagrams Cell 5 , Connector Repair Procedures for schematic and connector information. GO to Y15 .

Y15 CHECK FOR ADDITIONAL SRS DTCS



- Ignition OFF. **WARNING: Turn the ignition OFF and wait one minute to deplete the backup power supply. Failure to follow this instruction may result in serious personal injury or death in the event of an accidental deployment.**
- Reconnect all SRS components (if previously disconnected).
- If previously directed to depower the SRS , repower the SRS . **Do not** prove out the SRS at this time. Refer to [Supplemental Restraint System \(SRS\) Depowering and Repowering](#) in this section.
- Ignition ON.
- Enter the following diagnostic mode on the scan tool: Self Test — Restraints . **NOTE: When selecting Restraints from the Self Test menu, DTCs will be retrieved from the RCM and OCSM .**

Are any RCM and/orOCSM DTCs retrieved?

Yes	Do not clear any DTCs until all DTCs have been resolved. GO to the DTC Charts in this section for pinpoint test direction.
No	CLEAR all <u>RCM</u> and <u>OCSM</u> <u>CMDTCs</u> . PROVE OUT the <u>SRS</u> . The repair is complete. RETURN the vehicle to the customer.