

Pinpoint Test - DTC: Z, SuperCab/SuperCrew

B1415:11, B1415:93, B1418:11 and B1418:93

Refer to Wiring Diagrams Cell 46 for schematic and connector information.

Normal Operation and Fault Conditions

The RCM monitors the passenger front door and LH second row side impact sensors and circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Faulted passenger front door side impact sensor
- Faulted LH second row side impact sensor

NOTE: A short to ground on either impact sensor feed circuit sets DTC B1415:11 and B1418:11. A short to voltage on either impact sensor feed or return circuit sets DTC B1415:93 and B1418:93.

If a fault is detected, the RCM stores DTC B1415:11, B1415:93, B1418:11 or B1418:93 in memory and sends a message to the IPC to illuminate the airbag warning indicator.

The RCM communicates with each impact sensor. If the RCM is unable to communicate with the sensor, a DTC is stored in memory. A CMDTC **no operation** (failure type: 93) can be set by a short to voltage on the return circuit of the impact sensor.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

B1415:11	Driver Side Restraints Sensor 2: Circuit Short to Ground	A fault is indicated when the RCM senses a shorted passenger door side impact sensor, a shorted LH second row side impact sensor, a short to ground on the passenger front door side impact sensor feed circuit or a short to ground on the LH second row side impact sensor feed circuit.
B1415:93	Driver Side Restraints Sensor 2: No Operation	A fault is indicated when the RCM senses a faulted LH second row side impact sensor, a short to voltage on the feed or return circuit of the LH second row side impact sensor, a short to voltage on the feed or return circuit of passenger front door side impact sensor or an open feed or return circuit of the passenger front door impact sensor.
B1418:11	Passenger Side Restraints Sensor 1: Circuit Short to Ground	A fault is indicated when the RCM senses a shorted passenger front door side impact sensor, a shorted LH second row side impact sensor, a short to ground on the passenger front door side impact sensor feed circuit or a short to ground on the LH second row side impact sensor feed circuit.
B1418:93	Passenger Side Restraints Sensor 1: 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 of passenger front door side impact sensor, a short to voltage on the feed or return circuit of the LH second row side impact sensor or an open feed or return circuit of the passenger front door side impact sensor.

Possible Causes

- Wiring, terminals or connectors
- Passenger front door side impact sensor
- LH second row side impact sensor
- RCM

Visual Inspection and Diagnostic Pre-checks

- Inspect for damaged wiring harness(es).

PINPOINT TEST A : B1415:11, B1415:93, B1418:11 AND B1418:93



WARNING: Incorrect repair techniques or actions can cause an accidental Supplemental Restraint System (SRS) deployment. Never compromise or depart from these instructions. Failure to precisely follow all instructions could result in serious personal injury from an accidental deployment.

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may cause damage to the connector.

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 parts catalog to make sure the correct component is being installed. If an incorrect SRS component is installed, Diagnostic Trouble Codes (DTCs) may set.

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

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

A1 RETRIEVE RCM (RESTRAINTS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

-  **WARNING:** Before beginning any service procedure in this section, refer to Safety Warnings in section 100-00 General Information. Failure to follow this instruction may result in serious personal injury.

REFER to: [Pyrotechnic Device Health and Safety Precautions](#) (100-00 General Information, Description and Operation).

- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Were any Diagnostic Trouble Codes (DTCs) retrieved on-demand during self-test?

Yes	The fault(s) cannot be cleared until corrected and the Diagnostic Trouble Codes (DTCs) are no longer retrieved on-demand during self-test. If DTC U3003:16 or U3003:17 is also retrieved on-demand, DIAGNOSE those Diagnostic Trouble Codes (DTCs) first. REFER to: Pinpoint Test - DTC: AN, Raptor (501-20B Supplemental Restraint System, Diagnosis and Testing). If DTC U3003:16 or U3003:17 is not retrieved on-demand during self-test, DIAGNOSE the impact sensor Diagnostic Trouble Codes (DTCs). For DTC B1415:11 AND B1418:11, GO to A2 For DTC B1415:93 AND B1418:93, GO to A6 For DTC B1415:93 ONLY, GO to A8 For DTC B1418:93 ONLY, GO to A11 For any other Diagnostic Trouble Codes (DTCs), REFER to: Airbag Supplemental Restraint System (SRS) - Raptor (501-20B Supplemental Restraint System, Diagnosis and Testing).
No	If DTC U3003:16 or U3003:17 is also retrieved on-demand, REFER to: Pinpoint Test - DTC: AN, Raptor (501-20B Supplemental Restraint System, Diagnosis and Testing). If DTC U3003:16 or U3003:17 is not retrieved on-demand during self-test, DIAGNOSE the impact sensor Continuous Memory Diagnostic Trouble Codes (CMDTCs). The fault is intermittent when present as a CMDTC only. GO to A15

A2 CHECK THE DRIVER SIDE RESTRAINTS SENSOR 2 DTC (DIAGNOSTIC TROUBLE CODE) 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](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect LH Second Row Side Impact Sensor C3248.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Did the on-demand Diagnostic Trouble Codes (DTCs) change from B1415:11 and B1418:11 to B1415:93?

Yes	INSTALL a new LH second row side impact sensor. REFER to: B-Pillar Side Impact Sensor - SuperCab (501-20B Supplemental Restraint System, Removal and Installation). REFER to: C-Pillar Side Impact Sensor - SuperCrew (501-20B Supplemental Restraint System, Removal and Installation). GO to A16
No	GO to A3

A3 CHECK THE PASSENGER SIDE RESTRAINTS SENSOR 1 DTC (DIAGNOSTIC TROUBLE CODE) 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](#) (501-20B Supplemental Restraint System, General Procedures).
- Connect LH Second Row Side Impact Sensor C3248.
- 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 \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Did the on-demand DTC change from B1415:11 and B1418:11 to B1418:93?

Yes	INSTALL a new passenger front door side impact sensor. REFER to: Front Door Side Impact Sensor (501-20B Supplemental Restraint System, Removal and Installation). GO to A16
No	GO to A4

A4 CHECK THE LH (LEFT-HAND) SECOND ROW SIDE IMPACT SENSOR FEED CIRCUIT FOR A SHORT TO GROUND AND SHORT BETWEEN SENSOR CIRCUITS

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect LH Second Row Side Impact Sensor C3248.
- Disconnect RCM C310A and C310B.

Are the resistances greater than 10,000 ohms?

Yes	GO to A5
No	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to A16

A5 CHECK THE PASSENGER FRONT DOOR SIDE IMPACT SENSOR FEED CIRCUIT FOR A SHORT TO GROUND AND SHORT BETWEEN SENSOR CIRCUITS

Are the resistances greater than 10,000 ohms?

Yes	GO to A14
No	REPAIR the affected circuit(s). Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to A16

A6 CHECK THE LH (LEFT-HAND) SECOND ROW SIDE IMPACT SENSOR FEED CIRCUIT FOR A SHORT TO VOLTAGE (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect RCM C310A and C310B.
- Disconnect LH Second Row Side Impact Sensor C3248.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuits. Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to A16
No	GO to A7

A7 CHECK THE PASSENGER FRONT DOOR SIDE IMPACT SENSOR FEED CIRCUIT FOR A SHORT TO VOLTAGE (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- 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 \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).

- Ignition ON.

Is any voltage present?

Yes	REPAIR the affected circuits. Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to A16
No	GO to A14

A8 CHECK THE LH (LEFT-HAND) SECOND ROW SIDE IMPACT SENSOR AND RCM (RESTRAINTS CONTROL MODULE) CONNECTIONS (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Gain access to the LH second row side impact sensor and inspect C3248 to make sure it is fully seated and locked. Seat and lock the connector as necessary.
- Gain access to the RCM and inspect C310A and C310B to make sure they are fully seated and locked. Seat and lock the connector(s) as necessary.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Was DTC B1415:93 retrieved on-demand during self-test?

Yes	GO to A9
No	The fault is corrected. GO to A16

A9 CHECK THE LH (LEFT-HAND) SECOND ROW SIDE IMPACT SENSOR CIRCUITS FOR AN OPEN (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect RCM C310A and C310B.
- Disconnect LH Second Row Side Impact Sensor C3248.

Are the resistances less than 0.5 ohm?

Yes	GO to A10
No	REPAIR the affected circuit. Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to A16

A10 CHECK THE DRIVER SIDE RESTRAINTS SENSOR 2 DTC (DIAGNOSTIC TROUBLE CODE) 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 C310A and C310B.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Did the DTC change from B1415:93 to B1415:11 and B1418:11?

Yes	REMOVE the fused jumper wire and INSTALL a new LH second row side impact sensor. REFER to: B-Pillar Side Impact Sensor - SuperCab (501-20B Supplemental Restraint System, Removal and Installation). REFER to: C-Pillar Side Impact Sensor - SuperCrew (501-20B Supplemental Restraint System, Removal and Installation). GO to A16
No	REMOVE the fused jumper wire and GO to A14

A11 CHECK THE PASSENGER FRONT DOOR SIDE IMPACT SENSOR AND RCM (RESTRAINTS CONTROL MODULE) CONNECTIONS (NO OPERATION INDICATED)

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Gain access to the passenger front door side impact sensor and inspect C644 to make sure it is fully seated and locked. Seat and lock the connector as necessary.
- Gain access to the RCM and inspect C310A and C310B to make sure they are fully seated and locked. Seat and lock the connector(s) as necessary.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Was DTC B1418:93 retrieved on-demand during self-test?

Yes	GO to A12
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No	Fault corrected. GO to A16
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A12 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](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect RCM C310A and C310B.
- Disconnect Passenger Front Door Side Impact Sensor C644.

Are the resistances less than 0.5 ohm?

Yes	GO to A13
No	REPAIR the affected circuit. Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to A16

A13 CHECK THE PASSENGER SIDE RESTRAINTS SENSOR 1 DTC (DIAGNOSTIC TROUBLE CODE) 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 C310A and C310B.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Did the DTC change from B1418:93 to B1415:11 and B1418:11?

Yes	REMOVE the fused jumper wire and INSTALL a new passenger front door side impact sensor. REFER to: Front Door Side Impact Sensor (501-20B Supplemental Restraint System, Removal and Installation). GO to A16
No	REMOVE the fused jumper wire and GO to A14

A14 CONFIRM THE RCM (RESTRAINTS CONTROL MODULE) FAULT

NOTE: Make sure all SRS components and the RCM electrical connectors are connected before carrying out the self-test. If not, Diagnostic Trouble Codes (DTCs) will be recorded.

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Connect LH Second Row Side Impact Sensor C3248 (if previously disconnected).
- Connect Passenger Front Door Side Impact Sensor C644 (if previously disconnected).
- Connect RCM C310A and C310B.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

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

Yes	CHECK OASIS for any applicable Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new RCM. REFER to: Restraints Control Module (RCM) (501-20B Supplemental Restraint System, Removal and Installation). GO to A16
No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS components at this time. Install SRS components only when directed to do so in the pinpoint test. GO to A15

A15 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS.
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Disconnect LH Second Row Side Impact Sensor C3248.
- Disconnect Passenger Front Door Side Impact Sensor C644.
- Disconnect RCM C310A and C310B.
- Connect LH Second Row Side Impact Sensor C3248.
- Connect Passenger Front Door Side Impact Sensor C644.
- Connect RCM C310A and C310B.
- Repower the SRS. **Do not** prove out the SRS at this time.
REFER to: [Supplemental Restraint System \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, perform RCM self-test.

Was DTC B1415:11, B1415:93, B1418:11 or B1418:93 retrieved on-demand during self-test?

Yes	The fault(s) cannot be cleared until corrected and the DTC is no longer retrieved on-demand during self-test. For DTC B1415:11 AND B1418:11, GO to A2 For DTC B1415:93 AND B1418:93, GO to A6 For DTC B1415:93 ONLY , GO to A8 For DTC B1418:93 ONLY , GO to A11
No	The fault is not present and cannot be recreated at this time. Do not install any new SRS components at this time. Install SRS components only when directed to do so in the pinpoint test. GO to A16

A16 CHECK FOR ADDITIONAL SRS (SUPPLEMENTAL RESTRAINT SYSTEM) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition OFF.
- 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 \(SRS\) Repowering](#) (501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- **NOTE:** *When selecting Restraints from the Self Test menu, DTCs are retrieved from the RCM, OCSM and BECMB.*

Using a diagnostic scan tool, carry out RCM self-test.

Are any RCM, OCSM and/or BECMB Diagnostic Trouble Codes (DTCs) retrieved on-demand during self-test?

Yes	Do not clear any Diagnostic Trouble Codes (DTCs) until all Diagnostic Trouble Codes (DTCs) have been resolved. DIAGNOSE and REPAIR the Diagnostic Trouble Codes (DTCs). REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing). REFER to: Airbag Supplemental Restraint System (SRS) - Raptor (501-20B Supplemental Restraint System, Diagnosis and Testing).
No	The repair is complete. RETURN the vehicle to the customer.