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2005 FORD Mondeo Wagon OEM Service and Repair Workshop Manual

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RCM (restraints control module) B1417:11	Passenger Frontal Restraints Sensor: Circuit Short To Ground	A fault is indicated when the RCM (restraints control module) senses a short to ground on the passenger front impact severity sensor feed circuit.
RCM (restraints control module) B1417:12	Passenger Frontal Restraints Sensor: Circuit Short To Battery	A fault is indicated when the RCM (restraints control module) senses a short to battery on the passenger front impact severity sensor feed circuit.
RCM (restraints control module) B1417:13	Passenger Frontal Restraints Sensor: Circuit Open	A fault is indicated when the RCM (restraints control module) senses an open passenger front impact severity sensor feed circuit.

Possible Sources

- Wiring, terminals or connectors
- Passenger front impact severity sensor
- RCM (restraints control module)

Visual Inspection and Pre-checks

- Inspect for a damaged passenger front impact severity sensor.
- Inspect the passenger front impact severity sensor mounting and orientation.
- Inspect for damaged wiring harness(es).
- Inspect for loose or damaged connectors.

WARNING

Do not handle, move or change the original horizontal mounting position of the Restraints Control Module (RCM) while the Restraints Control Module (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

	For DTC (diagnostic trouble code) B1417:11, GO to AM2 For DTC (diagnostic trouble code) B1417:12 or B1417:13, GO to AM5

No	This is an intermittent fault when present as a CMDTC (continuous memory diagnostic trouble code) only. GO to AM10

AM2 CHECK THE PASSENGER FRONT IMPACT SEVERITY SENSOR 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 (restraints control module) by inducing a different fault condition. If the reported fault changes, this indicates the RCM (restraints control module) is functioning correctly and is not the source of the fault.

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
  REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Disconnect Passenger Front Impact Severity Sensor C1466 .
- Repower the SRS (supplemental restraint system) . Do not prove out the SRS (supplemental restraint system) at this time.
  REFER to: Supplemental Restraint System (SRS) Repowering(501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, carry out RCM (restraints control module) self-test.

Did the on-demand DTC (diagnostic trouble code) change from B1417:11 to B1417:13?

Yes	INSTALL a new passenger front impact severity sensor. REFER to: Front Impact Severity Sensor (501-20B Supplemental Restraint System, Removal and Installation). GO to AM11

No	GO to AM3

No	REPAIR the circuits. Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to AM11

AM5 CHECK THE PASSENGER FRONT IMPACT SEVERITY SENSOR AND RCM (RESTRAINTS CONTROL MODULE) CONNECTIONS (CIRCUIT SHORT TO BATTERY OR CIRCUIT OPEN INDICATED)

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
  REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Inspect the Passenger Front Impact Severity Sensor electrical connector C1466 to make sure it is fully seated and locked. Seat and lock the connector as necessary.
- Gain access to the RCM (restraints control module) 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 (supplemental restraint system) . Do not prove out the SRS (supplemental restraint system) at this time.
  REFER to: Supplemental Restraint System (SRS) Repowering(501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, carry out RCM (restraints control module) self-test.

Was DTC (diagnostic trouble code) B1417:12 or B1417:13 retrieved on-demand during self-test?

Yes	For DTC (diagnostic trouble code) B1417:12, GO to AM6 For DTC (diagnostic trouble code) B1417:13, GO to AM7

No	The fault has been corrected. GO to AM11

AM6 CHECK THE PASSENGER FRONT IMPACT SEVERITY SENSOR FEED CIRCUIT FOR A SHORT TO VOLTAGE (CIRCUIT SHORT TO BATTERY INDICATED)

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
  REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Disconnect Passenger Front Impact Severity Sensor C1466 .

C310A-15	Ω	C1466-1
C310A-16	Ω	C1466-2

Are the resistances less than 0.5 ohm?

Yes	GO to AM8

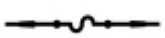
No	REPAIR the circuit(s). Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to AM11

AM8 CHECK THE PASSENGER FRONT IMPACT SEVERITY SENSOR DTC (DIAGNOSTIC TROUBLE CODE) FOR A FAULT STATUS CHANGE (CIRCUIT SHORT TO BATTERY OR CIRCUIT OPEN INDICATED)

NOTE

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

- Ignition OFF.
- If not already directed to do so, depower the SRS (supplemental restraint system) .
  REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Connect RCM (restraints control module) C310A and C310B .
- Connect a fused jumper wire as shown:

Lead 1	Measurement / Action	Lead 2
C1466-1		C1466-2

- Repower the SRS (supplemental restraint system) . Do not prove out the SRS (supplemental restraint system) at this time.
  REFER to: Supplemental Restraint System (SRS) Repowering(501-20B Supplemental Restraint System, General Procedures).
- Ignition ON.
- Using a diagnostic scan tool, carry out RCM (restraints control module) self-test.

Was the original DTC (diagnostic trouble code) retrieved on-demand during self-test?

Yes	CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new RCM (restraints control module) . REFER to: Restraints Control Module (RCM) (501-20B Supplemental Restraint System, Removal and Installation). GO to AM11

No	In the process of diagnosing the fault, the fault condition has become intermittent. Do not install any new SRS (supplemental restraint system) components at this time. Install SRS (supplemental restraint system) components only when directed to do so in the pinpoint test. GO to AM10

AM10 CHECK FOR AN INTERMITTENT FAULT

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
  REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Disconnect Passenger Front Impact Severity Sensor C1466 .
- Disconnect RCM (restraints control module) C310A and C310B .
- Inspect:
  - harness and component connectors for loose or spread terminals and loose or frayed wire connections at terminals.
  - wiring harness for any damage, pinched, cut or pierced wires.
  - RCM (restraints control module) C310A and C310B Connector Position Assurance (CPA) lever/lock for correct operation.
  - repair any concerns found.
    Refer to Wiring Diagrams Cell 5for schematic and connector information.

When selecting Restraints from the Self Test menu, DTCs are retrieved from the RCM (restraints control module) and OCSM (occupant classification system module) .

Using a diagnostic scan tool, perform
Restraints
self-test.

Are any RCM (restraints control module) or OCSM (occupant classification system module) 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 SRS (supplemental restraint system) Diagnostic Trouble Codes (DTCs). REFER to the DTC (diagnostic trouble code) Chart in this section.
No	The repair is complete. RETURN the vehicle to the customer.

PINPOINT TEST AN : BXXXX:2B (ANY BXXXX DTC (DIAGNOSTIC TROUBLE CODE) WITH A 2B FAILURE TYPE) SIGNAL CROSS COUPLED

Refer to Wiring Diagrams Cell 46for schematic and connector information.
Normal Operation and Fault Conditions REFER to: Airbag and Seatbelt Pretensioner Supplemental Restraint System (SRS) - System Operation and Component Description (501-20B Supplemental Restraint System, Description and Operation).
The RCM (restraints control module) monitors all deployable device and sensor circuits for a signal cross coupled (short) between components. Signal cross coupled Diagnostic Trouble Codes (DTCs) are present when one or both circuits of a component are shorted to one or both circuits of another component. Signal cross coupled Diagnostic Trouble Codes (DTCs) do not set when the circuits of a single device are shorted together, a different DTC (diagnostic trouble code) is present (for example, a DTC (diagnostic trouble code) for circuit resistance below threshold). The RCM (restraints control module) sends a message to the IPC (instrument panel cluster) to illuminate the airbag 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 are not active. Once the normal loop fault is repaired, the signal cross coupled diagnostics resume. **DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition

		code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B0013:2B	Passenger Knee Bolster Deployment Control: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the passenger knee airbag circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B0050:2B	Driver Seatbelt Sensor: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the driver seatbelt buckle switch circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B0051:2B	First Row Center Seatbelt Sensor: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the front center seatbelt buckle switch circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B0052:2B	Passenger Seatbelt Sensor: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the passenger seatbelt buckle switch circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B0054:2B	Second Row Center Seatbelt Sensor: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the rear center seatbelt buckle switch circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control	Driver Seatbelt Pretensioner 'A'	If the RCM (restraints control module) detects a short between the driver seatbelt retractor pretensioner circuits and the circuits of another SRS (supplemental restraint system)

module) B00B5:2B	Sensor: Signal Cross-Coupled	another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B11CF:2B	Passenger Frontal Airbag Canister Vent: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the passenger airbag canister vent circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B1404:2B	Driver Side Airbag Deployment Control: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the driver side airbag circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B1405:2B	Driver Side Curtain Deployment Control 1: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the driver side curtain airbag circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B1407:2B	Passenger Side Airbag Deployment Control: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the passenger side airbag circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.
RCM (restraints control module) B1408:2B	Passenger Side Curtain Deployment Control 1: Signal Cross-Coupled	If the RCM (restraints control module) detects a short between the passenger side curtain airbag circuits and the circuits of another SRS (supplemental restraint system) component, it sets this DTC (diagnostic trouble code) and the DTC (diagnostic trouble code) of the corresponding SRS (supplemental restraint system) component.

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

Only disconnect or reconnect SRS (supplemental restraint system) components when instructed to do so within a pinpoint test step. Failure to follow this instruction may result in incorrect diagnosis of the SRS (supplemental restraint system) .

NOTE

Always make sure the correct SRS (supplemental restraint system) 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 (supplemental restraint system) component is installed, Diagnostic Trouble Codes (DTCs) may set.

NOTE

The SRS (supplemental restraint system) must be fully operational and free of faults before releasing the vehicle to the customer.

AN1 RETRIEVE RCM (RESTRAINTS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- **WARNING**