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2009 FORD EcoSport OEM Service and Repair Workshop Manual

[Go to manual page](#)

F12 CONFIRM THE RCM (RESTRAINTS CONTROL MODULE) FAULT

NOTE

Make sure all SRS (supplemental restraint system) components and the RCM (restraints control module) electrical connectors are connected before carrying out the self-test. If not, Diagnostic Trouble Codes (DTCs) will be recorded.

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Prior to reconnecting any previously disconnected SRS (supplemental restraint system) component:
 - Inspect connector(s) (including any inline 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 (restraints control module) C310A and C310B Connector Position Assurance (CPA) lever/lock for correct operation.
 - Repair any concerns found.
Refer to Wiring Diagrams Cell 5 for schematic and connector information.
- Connect Passenger Airbag C256 (if previously disconnected).
- Install the glove compartment.
REFER to: [Glove Compartment](#)(501-12 Instrument Panel and Console, Removal and Installation).
- Connect RCM (restraints control module) C310A and C310B (if previously disconnected).
- 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, perform 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).

- Attempt to recreate the fault by wiggling connectors (including any inline connectors) and flexing the wire harness frequently.
- Using a diagnostic scan tool, perform RCM (restraints control module) self-test.

Was DTC (diagnostic trouble code) B0011:11 retrieved on-demand during self-test?

Yes	DEPOWER the SRS (supplemental restraint system) and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to F17
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No	The fault is not present and cannot be recreated at this time. 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 F16
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F15 CHECK THE PASSENGER AIRBAG DEPLOYMENT CONTROL CIRCUITS FOR AN INTERMITTENT SHORT TO BATTERY FAULT

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Remove the glove compartment.
REFER to: [Glove Compartment](#)(501-12 Instrument Panel and Console, Removal and Installation).
- Disconnect Passenger Airbag C256 .
- 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.
- Attempt to recreate the fault by wiggling connectors (including any inline connectors) and flexing the wire harness frequently.
- Using a diagnostic scan tool, perform RCM (restraints control module) self-test.

Was DTC (diagnostic trouble code) B0011:12 retrieved on-demand during self-test?

Yes	DEPOWER the SRS (supplemental restraint system) and REPAIR as necessary. Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to F17
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- If previously directed to depower the SRS (supplemental restraint system) , 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.

NOTE

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 G : B0013:11, B0013:12, B0013:13, B0013:1A

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)

continuously monitors the passenger knee airbag circuits for the following faults:

- Resistance out of range
- Unexpected voltage
- Short to ground
- Faulted passenger knee airbag

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
RCM (restraints control module) B0013:11	Passenger Knee Bolster Deployment Control: Circuit Short To Ground	A fault is indicated when the RCM (restraints control module) senses a short to ground on either passenger knee airbag circuit for more than 6 seconds.
RCM (restraints control module) B0013:12	Passenger Knee Bolster Deployment Control: Circuit Short To Battery	A fault is indicated when the RCM (restraints control module) senses a short to voltage on either passenger knee airbag circuit for more than 6 seconds.
RCM (restraints control module) B0013:13	Passenger Knee Bolster Deployment Control: Circuit Open	A fault is indicated when the RCM (restraints control module) measures more than the desired resistance between the passenger knee airbag circuits for more than 6 seconds.
RCM (restraints control module) B0013:1A	Passenger Knee Bolster Deployment Control: Circuit Resistance Below Threshold	A fault is indicated when the RCM (restraints control module) measures less than the desired resistance between the passenger knee airbag circuits for more than 6 seconds.

Possible Sources

- Wiring, terminals or connectors
- Passenger knee airbag
- RCM (restraints control module)

Visual Inspection and Pre-checks

- Inspect for damaged wiring harness(es).
- Inspect for loose or damaged connectors.

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.

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.

- Ignition ON.
- Using a diagnostic scan tool, perform RCM (restraints control module) self-test.

Was DTC (diagnostic trouble code) B0013:11, B0013:12, B0013:13 and B0013:1A retrieved on-demand during self-test?

Yes	<p>This fault cannot be cleared until it is corrected and the DTC (diagnostic trouble code) is no longer retrieved on-demand during self-test.</p> <p>For DTC (diagnostic trouble code) B0013:13 or B0013:1A, GO to G2 For DTC (diagnostic trouble code) B0013:11, GO to G8 For DTC (diagnostic trouble code) B0013:12, GO to G10</p>
No	<p>This is an intermittent fault when present as a CMDTC (continuous memory diagnostic trouble code) only.</p> <p>For DTC (diagnostic trouble code) B0013:13 or B0013:1A, GO to G13 For DTC (diagnostic trouble code) B0013:11, GO to G14 For DTC (diagnostic trouble code) B0013:12, GO to G15</p>

G2 CHECK THE PASSENGER KNEE BOLSTER DEPLOYMENT CONTROL (DEPLOY_07_R) PID (PARAMETER IDENTIFICATION)

- Using the diagnostic scan tool, Access the RCM (restraints control module) and monitor the DEPLOY_07_R (Passenger Knee Bolster Deployment Control) (mOhm) PID (parameter identification)
- Monitor and record the value of the PID (parameter identification) .

Does the PID (parameter identification) value read between 1.7 and 2.98 ohms?

Yes	GO to G12
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No	GO to G3
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G3 CHECK THE PASSENGER KNEE BOLSTER DEPLOYMENT CONTROL (DEPLOY_07_R) PID (PARAMETER IDENTIFICATION) WHILE CARRYING OUT THE HARNESS TEST

- Using the diagnostic scan tool,

- Using a diagnostic scan tool, perform RCM (restraints control module) self-test.

DIAGNOSTIC TIP:

When viewing Diagnostic Trouble Codes (DTCs) with the passenger knee airbag disconnected, an open circuit fault is normally retrieved.

Did the on-demand DTC (diagnostic trouble code) change from B0013:1A to B0013:13?

Yes	GO to G11
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No	GO to G5
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G5 CHECK FOR A SHORT BETWEEN THE PASSENGER KNEE AIRBAG CIRCUITS

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Disconnect RCM (restraints control module) C310A and C310B .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2433-1	Ω	C2433-2


Is the resistance greater than 10,000 ohms?

Yes	GO to G12
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No	REPAIR the circuit(s). Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to G17
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G6 CHECK THE PASSENGER KNEE AIRBAG CIRCUITS FOR AN OPEN

- Ignition OFF.

Lead 1	Measurement / Action	Lead 2
C2433-1		C2433-2

- 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).

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

- Ignition ON.
- Using a diagnostic scan tool, perform RCM (restraints control module) self-test.

- **DIAGNOSTIC TIP:**

When viewing Diagnostic Trouble Codes (DTCs) with the passenger knee airbag circuits shorted together, a low resistance fault is normally retrieved.

Did the on-demand DTC (diagnostic trouble code) change from B0013:13 to B0013:1A?

Yes	REMOVE the fused jumper wire and GO to G11
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No	REMOVE the fused jumper wire and GO to G12
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G8 CHECK THE PASSENGER KNEE AIRBAG DEPLOYMENT CONTROL 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).

Are the resistances greater than 10,000 ohms?

Yes	GO to G12
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No	REPAIR the circuit(s). Refer to Wiring Diagrams Cell 5 for schematic and connector information. GO to G17
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G10 CHECK THE PASSENGER KNEE AIRBAG CIRCUITS FOR A SHORT TO VOLTAGE



- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Remove the glove compartment.
REFER to: [Glove Compartment](#)(501-12 Instrument Panel and Console, Removal and Installation).
- Disconnect Passenger Knee Airbag C2433 .
- Disconnect RCM (restraints control module) C310A and C310B .
- 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.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2433-1		Ground
C2433-2		Ground

Is any voltage present?

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

Yes	INSTALL a new passenger knee airbag. REFER to: Passenger Knee Airbag (501-20B Supplemental Restraint System, Removal and Installation). GO to G17
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. For DTC (diagnostic trouble code) B0013:13 or B0013:1A, GO to G13 For DTC (diagnostic trouble code) B0013:11, GO to G14 For DTC (diagnostic trouble code) B0013:12, GO to G15

G12 CONFIRM THE RCM (RESTRAINTS CONTROL MODULE) FAULT

NOTE

Make sure all SRS (supplemental restraint system) components and the RCM (restraints control module) electrical connectors are connected before carrying out the self-test. If not, Diagnostic Trouble Codes (DTCs) will be recorded.

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Prior to reconnecting any previously disconnected SRS (supplemental restraint system) component:
 - Inspect connector(s) (including any inline 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 (restraints control module) C310A and C310B Connector Position Assurance (CPA) lever/lock for correct operation.
 - Repair any concerns found.
Refer to Wiring Diagrams Cell 5 for schematic and connector information.
- Remove the glove compartment.
REFER to: [Glove Compartment](#)(501-12 Instrument Panel and Console, Removal and Installation).
- Connect Passenger Knee Airbag C2433 (if previously disconnected) .
- Connect RCM (restraints control module) C310A and C310B (if previously disconnected) .