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1997 FORD Mondeo Wagon OEM Service and Repair Workshop Manual

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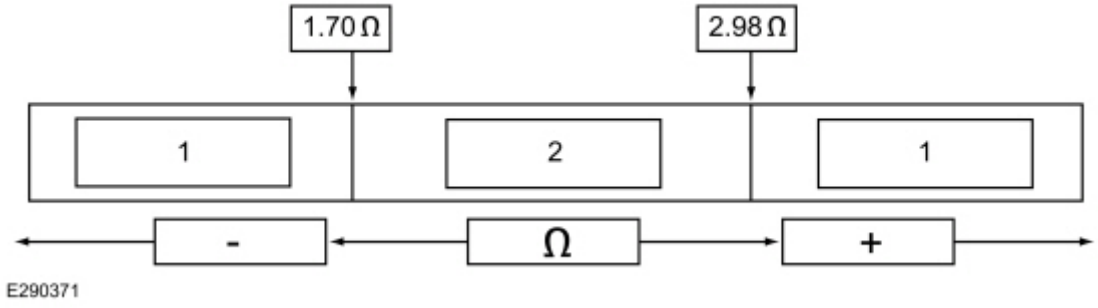
- Short to ground
- Faulted passenger side curtain airbag

If a fault is detected, the RCM (restraints control module)
stores DTC (diagnostic trouble code)
B1408:11, B1408:12, B1408:13 or B1408:1A in memory and sends a message to the IPC (instrument panel cluster)
to illuminate the airbag warning indicator.
The RCM (restraints control module)
analyzes the deployment loop resistance to determine if a fault exists. The value displayed in the PID (parameter identification)
is the deployment loop resistance measured by the RCM (restraints control module)
. If the value displayed is lower or higher than the desired range (refer to diagram below), the RCM (restraints control module)
can set a DTC (diagnostic trouble code)
. As the deployment loop resistance drifts farther outside the desired range, the chance for a DTC (diagnostic trouble code)
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 (parameter identification)
value to be within the desired range before the fault is considered repaired, regardless if the module is reporting an on-demand DTC (diagnostic trouble code)
at the time of diagnosis. Following this direction helps make sure that minor changes in resistance do not create a repeat concern. This test uses process of elimination to diagnose each part of the deployment loop circuit including:

- Wiring
- Connections
- Passenger side curtain airbag
- RCM (restraints control module)



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.

AB1 RETRIEVE RCM (RESTRAINTS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- **WARNING**

No	GO to AB3

AB3 CHECK THE PASSENGER SIDE CURTAIN DEPLOYMENT CONTROL 1 RESISTANCE (DEPLOY_14_R) PID (PARAMETER IDENTIFICATION) WHILE CARRYING OUT THE HARNESS TEST

- Using the diagnostic scan tool,
  Access the RCM (restraints control module) and monitor the DEPLOY_14_R (Passenger Side Curtain Deployment Control 1 Resistance) (mOhm) PID (parameter identification)
- While monitoring the PID (parameter identification) , carry out the harness test of the passenger side curtain airbag circuits and accessible connectors (including any inline connectors) by wiggling and flexing the wire harness and connectors frequently.

Does the PID (parameter identification) value stay between 1.7 and 2.98 ohms while carrying out the wiggle test?

Yes	DEPOWER the SRS (supplemental restraint system) and REPAIR the connector, terminals or wire harness as needed. REFER to: Supplemental Restraint System (SRS) Depowering (501-20B Supplemental Restraint System, General Procedures). Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to AB17

No	For PID (parameter identification) value less than 1.7 ohms, GO to AB4 For PID (parameter identification) value greater than 2.98 ohms, GO to AB6

AB4 CHECK THE PASSENGER SIDE AIR CURTAIN DEPLOYMENT CONTROL DTC (DIAGNOSTIC TROUBLE CODE) FOR A FAULT STATUS CHANGE (LOW RESISTANCE 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) .

No	REPAIR the circuit(s). Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to AB17

AB6 CHECK THE PASSENGER SIDE AIR CURTAIN CIRCUITS FOR AN OPEN

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .
  REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Disconnect Passenger Side Air Curtain C9032 .
- Disconnect RCM (restraints control module) C310A and C310B .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C310B-16	Ω	C9032-1
C310B-15	Ω	C9032-2

Are the resistances less than 0.5 ohm?

Yes	GO to AB7

No	REPAIR the circuits. Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to AB17

AB7 CHECK THE PASSENGER SIDE AIR CURTAIN DEPLOYMENT CONTROL DTC (DIAGNOSTIC TROUBLE CODE) FOR A FAULT STATUS CHANGE (OPEN INDICATED)

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 Side Air Curtain C9032 .
- 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.
- **DIAGNOSTIC TIP:**
  When viewing Diagnostic Trouble Codes (DTCs) with the passenger side curtain airbag disconnected, an open circuit fault is normally retrieved.

Did the on-demand DTC (diagnostic trouble code) change from B1408:11 to B1408:13?

Yes	GO to AB11

No	GO to AB9

AB9 CHECK THE PASSENGER SIDE AIR CURTAIN CIRCUITS FOR A SHORT TO GROUND

- 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

C9032-2	V	Ground

Is any voltage present?

Yes	REPAIR the circuit(s). Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to AB17

No	GO to AB12

AB11 CONFIRM THE PASSENGER SIDE AIR CURTAIN 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.
  - Inspect Passenger Side Air Curtain C9032 and make sure the Connector Position Assurance (CPA) tabs are not broken and the clip is not damaged.
  - Repair any concerns found.
    Refer to Wiring Diagrams Cell 5for schematic and connector information.
- Disconnect Passenger Side Air Curtain C9032 .
- Repower the SRS (supplemental restraint system) .
  Do not

- 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 5for schematic and connector information.

- Connect Passenger Side Air Curtain C9032 (if previously disconnected).
- 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). GO to AB17

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) B1408:13 or B1408:1A, GO to AB13 For DTC (diagnostic trouble code) B1408:11, GO to AB14 For DTC (diagnostic trouble code) B1408:12, GO to AB15

AB13 CHECK THE PASSENGER SIDE CURTAIN DEPLOYMENT CONTROL 1 RESISTANCE (DEPLOY_14_R) PID (PARAMETER IDENTIFICATION) FOR AN INTERMITTENT LOW RESISTANCE OR OPEN CIRCUIT FAULT

- Using the diagnostic scan tool,
  Access the RCM (restraints control module) and monitor the DEPLOY_14_R (Passenger Side Curtain Deployment Control 1 Resistance) (mOhm) PID (parameter identification)
- While monitoring the PID (parameter identification) , attempt to recreate the fault by wiggling connectors (including any inline connectors) and flexing the wire harness frequently.

REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).

- Disconnect Passenger Side Air Curtain C9032 .
- 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) B1408:12 retrieved on-demand during self-test?

Yes	DEPOWER the SRS (supplemental restraint system) and REPAIR as necessary. REFER to: Supplemental Restraint System (SRS) Depowering (501-20B Supplemental Restraint System, General Procedures). Refer to Wiring Diagrams Cell 5for schematic and connector information. GO to AB17

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 AB16

AB16 CHECK THE HARNESS AND CONNECTORS

- Ignition OFF.
- Depower the SRS (supplemental restraint system) .

  REFER to: Supplemental Restraint System (SRS) Depowering(501-20B Supplemental Restraint System, General Procedures).
- Disconnect Passenger Side Air Curtain C9032 .
  - Inspect connector(s) (including any inline 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 (restraints control module) C310A and C310B Connector Position Assurance (CPA) lever/lock for correct operation.

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 AC : B140C:11, B140C:12, B140C:13, B140C:1D

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 second row driver side seatbelt buckle sensor circuits for the following faults:

- Open circuit
- Short to voltage
- Short to ground
- Current out of range
- Faulted second row driver seatbelt buckle sensor

If a fault is detected, the RCM (restraints control module) stores DTC (diagnostic trouble code) B140C:11, B140C:12, B140C:13 or B140C:1D in memory and sends a message to the IPC (instrument panel cluster) to illuminate the airbag warning indicator. **DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
RCM (restraints control module) B140C:11	Second Row Driver Side Seatbelt Sensor: Circuit Short To Ground	A fault is indicated when the RCM (restraints control module) senses a short to ground on the second row driver side seatbelt buckle sensor circuit for more than 6 seconds.
RCM (restraints control module) B140C:12	Second Row Driver Side Seatbelt Sensor: Circuit Short To Battery	A fault is indicated when the RCM (restraints control module) senses a short to voltage on the second row driver side seatbelt buckle sensor circuit for more than 6 seconds.