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2010 FORD Taurus SHO OEM Service and Repair Workshop Manual

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C1260-3	Ω	C1551B-84
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3.5L

Positive Lead	Measurement / Action	Negative Lead
C1260-1	Ω	C175B-81
C1260-2	Ω	C175B-51
C1260-3	Ω	C175B-84

5.0L

Positive Lead	Measurement / Action	Negative Lead
C1260-1	Ω	C1381B-81
C1260-2	Ω	C1381B-51
C1260-3	Ω	C1381B-84

5.2L

Positive Lead	Measurement / Action	Negative Lead
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Guided Routine available in the on-line Workshop Manual.

No

The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST B : P0645:00

Refer to Wiring Diagrams Cell 55 for schematic and connector information.

Normal Operation and Fault Conditions Voltage is provided to the A/C (air conditioning) clutch SMART (FET) at all times. The A/C (air conditioning) clutch SMART (FET) is a non serviceable part of the printed circuit board on the BCMC (body control module C) [also known as BJB (battery junction box)]. When A/C (air conditioning) is requested and A/C (air conditioning) line pressures and all conditions allow, the PCM (powertrain control module) provides a ground to the A/C (air conditioning) clutch SMART (FET) control input circuit, energizing the A/C (air conditioning) clutch SMART (FET). For additional information on A/C Request, REFER to: [Climate Control System - Vehicles With: Dual Automatic Temperature Control \(DATC\) - System Operation and Component Description](#) (412-00 Climate Control System - General Information, Description and Operation).

DTC Fault Trigger Conditions


DTC (diagnostic trouble code)	Description	Fault Trigger Condition
PCM (powertrain control module) P0645:00	A/C Clutch Relay Control Circuit: No Sub Type Information	Sets when the PCM (powertrain control module) grounds the SMART (FET) control input circuit and more current than expected is detected on the circuit. The DTC (diagnostic trouble code) also sets when the control circuit is off and voltage is detected on the circuit.

Possible Sources


- Fuse
- Wiring, terminals or connectors

C175B-44		Ground
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5.0L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
C1381B-44		Ground

5.2L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
C1233B-44		Ground

Is any voltage present?

Yes	REPAIR the circuit.
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No	GO to B2
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B2 CHECK THE A/C (AIR CONDITIONING) CLUTCH SMART FET (FIELD-EFFECT TRANSISTOR) INPUT CONTROL CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

2.7L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
C1232B-44	Ω	Ground

B3 CHECK THE A/C (AIR CONDITIONING) CLUTCH SMART FET (FIELD-EFFECT TRANSISTOR) INPUT CONTROL CIRCUIT FOR AN OPEN

- Measure:

2.7L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
C1035B-29	Ω	C1232B-44

3.3L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
C1035B-29	Ω	C1551B-44

3.5L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
C1035B-29	Ω	C175B-44

5.0L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
C1035B-29	Ω	C1381B-44

5.2L Input Circuit from Powertrain Control Module (PCM) to Body Control Module C (BCMC)

Positive Lead	Measurement / Action	Negative Lead
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PINPOINT TEST C : P2CFC:00, P2CFD:00, P2CFE:00

Refer to Wiring Diagrams Cell 55 for schematic and connector information.

Normal Operation and Fault Conditions Voltage is provided to the A/C (air conditioning) clutch SMART Field-Effect Transistor (FET) at all times. The A/C (air conditioning) clutch SMART (FET) is a non serviceable part of the printed circuit board on the BCMC (body control module C) [also known as BJB (battery junction box)]. When A/C (air conditioning) is requested and no fault conditions are present, the PCM (powertrain control module) grounds the A/C (air conditioning) clutch control input circuit that is hardwired to the A/C (air conditioning) clutch SMART (FET) processing in the BCMC (body control module C). The BCMC (body control module C) sends battery voltage on the clutch control output circuit that is hardwired to the A/C clutch field coil. For additional information on A/C (air conditioning) Request, REFER to: [Climate Control System - Vehicles With: Dual Automatic Temperature Control \(DATC\) - System Operation and Component Description](#)

(412-00 Climate Control System - General Information, Description and Operation).

DTC Fault Trigger Conditions


DTC (diagnostic trouble code)	Description	Fault Trigger Condition
BCMC (body control module C) P2CFC:00	A/C Clutch Control Circuit: No Sub Type Information	BCMC (body control module C) reports the clutch Smart FET control output circuit is open.
BCMC (body control module C) P2CFD:00	A/C Clutch Control Circuit Low: No Sub Type Information	BCMC (body control module C) reports the clutch Smart FET control output circuit is shorted to ground.
BCMC (body control module C) P2CFE:00	A/C Clutch Control Circuit High: No Sub Type Information	BCMC (body control module C) reports the clutch Smart FET control output circuit is shorted to power.

Possible Sources

- Wiring, terminals or connectors
- A/C (air conditioning) clutch control FET (Field Effect Transistor) [non-serviceable, part of the BCMC (body control module C)]
- BCMC (body control module C)

NOTICE

Use the correct probe adapter(s) when making measurements. Failure to use the correct probe

C100-1		C100-2
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- Ignition ON.
- Access the PCM (powertrain control module) and control the ACC_CMD (Air Conditioning Compressor Commanded State) PID (parameter identification)

Does the test lamp illuminate?

Yes	<p>INSTALL a new A/C (air conditioning) clutch and A/C (air conditioning) clutch field coil. REFER to: Air Conditioning (A/C) Clutch and Air Conditioning (A/C) Clutch Field Coil (412-00 Climate Control System - General Information, General Procedures). CLEAR all Diagnostic Trouble Codes (DTCs). TEST the system for normal operation.</p>
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No	GO to C3
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C3 CHECK THE A/C (AIR CONDITIONING) CLUTCH SMART FET (FIELD-EFFECT TRANSISTOR) OUTPUT CONTROL CIRCUIT FOR A SHORT TO VOLTAGE

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C100-1		Ground

Is any voltage present?

Yes	REPAIR the circuit.
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No	GO to C4
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C4 CHECK THE A/C (AIR CONDITIONING) CLUTCH SMART FET (FIELD-EFFECT TRANSISTOR) OUTPUT CONTROL CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect and inspect all BCMC (body control module C) electrical connectors (if not previously disconnected).
- Repair:
 - corrosion (install new connector or terminal - clean module pins)
 - damaged or bent pins - install new terminals or pins
 - pushed-out pins - install new pins as necessary
- Connect all BCMC (body control module C) electrical connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	<p>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 BCMC (body control module C) .</p> <p>REFER to: Body Control Module C (BCMC) (419-10 Multifunction Electronic Modules, Removal and Installation).</p>
No	<p>The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.</p>

PINPOINT TEST D : B1083:07, B1083:11, B1083:12, B1083:13, B11F0:11, B11F0:15

Refer to Wiring Diagrams Cell 55 for schematic and connector information.

Normal Operation and Fault Conditions Air Inlet Door Actuator, REFER to: [Climate Control System - Vehicles With: Dual Automatic Temperature Control \(DATC\) - System Operation and Component Description](#) (412-00 Climate Control System - General Information, Description and Operation).

During an actuator calibration cycle, the HVAC (heating, ventilation and air conditioning) control module drives the air inlet mode door until the door reaches both internal stops in the HVAC (heating, ventilation and air conditioning) case. If the air inlet mode door is temporarily obstructed or binding during a calibration cycle, the HVAC (heating, ventilation and air conditioning) control module may interpret this as the actual end of travel for the door. When this condition occurs and the HVAC (heating, ventilation and air conditioning) control module commands the actuator to its end of travel, the air intake may not be from the expected source. **DTC Fault Trigger Conditions**

- Ignition OFF.
- Disconnect HVAC (heating, ventilation and air conditioning) control module C228A and C228B .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C228A-2	\overline{V}	Ground
C228A-16	\overline{V}	Ground
C228A-3	\overline{V}	Ground
C228A-24	\overline{V}	Ground
C228A-25	\overline{V}	Ground

Is there any voltage present?

Yes	REPAIR the circuit.
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No	GO to D2
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D2 CHECK THE AIR INLET DOOR ACTUATOR CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

C228A-16	Ω	C289-2
C228A-3	Ω	C289-3
C228A-24	Ω	C289-5
C228A-25	Ω	C289-6

Are the resistances less than 3 ohms?

Yes	GO to D4
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No	REPAIR the circuit.
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D4 CHECK FOR CORRECT ACTUATOR OPERATION

- Ignition OFF.
- Disconnect and inspect the air inlet door actuator connector (if not previously disconnected).
- Repair:
 - corrosion (install new connector or terminals – clean module pins)
 - damaged or bent pins – install new terminals/pins
 - pushed-out pins – install new pins as necessary
- Reconnect all disconnected connectors. CONNECT the actuator electrical connector before the HVAC (heating, ventilation and air conditioning) control module. This allows the actuator to be calibrated when the HVAC (heating, ventilation and air conditioning) control module is connected. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	INSTALL a new air inlet door actuator. REFER to: Air Inlet Door Actuator
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