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1996 FORD Taurus OEM Service and Repair Workshop Manual

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C228A-3	Ω	Ground
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C228B

Positive Lead	Measurement / Action	Negative Lead
C228B-13	Ω	Ground
C228B-18	Ω	Ground
C228B-14	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to O3
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No	REPAIR the circuit.
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O3 CHECK THE PASSENGER TEMPERATURE DOOR ACTUATOR CIRCUITS FOR AN OPEN

- Disconnect Passenger temperature door actuator C2092 .
- Measure:

C228A

Positive Lead	Measurement / Action	Negative Lead
C228A-2	Ω	C2092-2

- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	<p>INSTALL a new passenger temperature door actuator. REFER to: Passenger Temperature Door Actuator (412-00 Climate Control System - General Information, Removal and Installation). 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. TEST the system for normal operation. If the concern is still present, GO to O5</p>
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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>
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O5 CHECK FOR CORRECT HVAC (HEATING, VENTILATION AND AIR CONDITIONING) CONTROL MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect all HVAC (heating, ventilation and air conditioning) control module electrical connectors.
- 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 HVAC (heating, ventilation and air conditioning) control module 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 HVAC (heating, ventilation and air conditioning) control module. REFER to: Heating, Ventilation and Air Conditioning (HVAC) Control Module (412-00 Climate Control System - General Information, Removal and Installation).</p>
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- Blower motor relay [non-serviceable, part of the BCMC (body control module C) also known as BJB (battery junction box)]
- Blower motor control module
- HVAC (heating, ventilation and air conditioning) control module

Visual Inspection and Pre-checks

- Make sure BJB (battery junction box) fuse 13 (40A) is OK.

NOTICE

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

P1 CHECK THE BLOWER MOTOR RELAY CONTROL CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect BJB (battery junction box) C1035C .
- Disconnect HVAC (heating, ventilation and air conditioning) control module C228A and C228B .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C228A-11	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes GO to [P2](#)

No REPAIR the circuit.

P2 CHECK THE BLOWER MOTOR RELAY COIL CONTROL CIRCUIT FOR AN OPEN

NOTE

Some vehicles may be equipped with a diode in the blower motor relay coil ground circuit. Make sure the multimeter leads are correctly attached during testing or a false reading will occur causing misdiagnosis

- Connect HVAC (heating, ventilation and air conditioning) control module C228A and C228B .
- Ignition ON.
- Select PANEL on the HVAC (heating, ventilation and air conditioning) controls.
- Select the highest blower motor setting.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C297-3	\bar{V}	Ground

Is the voltage greater than 11 volts?

Yes	GO to P5
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No	<p>VERIFY BJB (battery junction box) fuse 13 (40A) is OK.</p> <p>If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.</p> <p>If OK, INSTALL a new BCMC (body control module C) [also known as BJB (battery junction box)].</p> <p>REFER to: Body Control Module C (BCMC) (419-10 Multifunction Electronic Modules, Removal and Installation).</p>
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P5 CHECK THE BLOWER MOTOR CONTROL MODULE GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C297-1	Ω	Ground

Is the resistance less than 3 ohms?

Is the resistance less than 3 ohms?

Yes	GO to P8
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No	REPAIR the circuit.
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P8 CHECK FOR CORRECT BLOWER MOTOR CONTROL MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the blower motor speed control connector.
- 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 the blower motor speed control connector. Make sure it seats and latches correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	INSTALL a new blower motor control module. REFER to: Blower Motor Control Module (412-00 Climate Control System - General Information, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to P9
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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.
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P9 CHECK FOR CORRECT HVAC (HEATING, VENTILATION AND AIR CONDITIONING) CONTROL MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect all HVAC (heating, ventilation and air conditioning) control module electrical connectors.
- Repair:
 - corrosion (install new connector or terminal - clean module pins)

HVAC (heating, ventilation and air conditioning) B10B9:14	Blower Control: Circuit Short To Ground Or Open	Module senses no voltage on the blower motor control PWM (pulse width modulation) circuit, indicating a short directly to ground or an open circuit. The blower motor runs at full speed if the circuit is shorted to ground. The blower motor is inoperative if the circuit is open
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Possible Sources

- Wiring, terminals or connectors
- Blower motor control module
- HVAC (heating, ventilation and air conditioning) 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.

Q1 VERIFY THE BLOWER MOTOR OPERATION

- Ignition ON.
- Select PANEL on the HVAC (heating, ventilation and air conditioning) controls. Adjust the blower motor setting to the minimum and maximum settings.

Does the blower motor operate at any setting?


Yes GO to [Q2](#)

No [GO to Pinpoint Test P](#)

Q2 CHECK THE BLOWER MOTOR CONTROL MODULE PWM (PULSE WIDTH MODULATION) CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect Blower motor control module C297 .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
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C297-3		Ground
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**Is any voltage present?**

Yes	REPAIR the circuit.
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No	GO to Q5
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Q5 CHECK FOR CORRECT BLOWER MOTOR CONTROL MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the blower motor speed control connector.
- 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 the blower motor speed control connector. Make sure it seats and latches correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	INSTALL a new blower motor control module. REFER to: Blower Motor Control Module (412-00 Climate Control System - General Information, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to Q6
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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.
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Q6 CHECK FOR CORRECT HVAC (HEATING, VENTILATION AND AIR CONDITIONING) CONTROL MODULE OPERATION


- Ignition OFF.

HVAC (heating, ventilation and air conditioning) B10B3:11	Right Panel Air Discharge Temperature: Circuit Short To Ground	Module senses erratic voltages from the air discharge temperature sensor.
HVAC (heating, ventilation and air conditioning) B10B3:15	Right Panel Air Discharge Temperature: Circuit Short To Battery Or Open	Module senses erratic voltages from the air discharge temperature sensor.
HVAC (heating, ventilation and air conditioning) B10B4:11	Right Floor Air Discharge Temperature: Circuit Short To Ground	Module senses erratic voltages from the air discharge temperature sensor.
HVAC (heating, ventilation and air conditioning) B10B4:15	Right Floor Air Discharge Temperature: Circuit Short To Battery Or Open	Module senses erratic voltages from the air discharge temperature sensor.
HVAC (heating, ventilation and air conditioning) B10B5:11	Left Panel Air Discharge Temperature: Circuit Short To Ground	Module senses erratic voltages from the air discharge temperature sensor.
HVAC (heating, ventilation and air conditioning) B10B5:15	Left Panel Air Discharge Temperature: Circuit Short To Battery Or Open	Module senses erratic voltages from the air discharge temperature sensor.
HVAC (heating, ventilation and air conditioning) B10B6:11	Left Floor Air Discharge Temperature: Circuit Short To Ground	Module senses erratic voltages from the air discharge temperature sensor.
HVAC (heating, ventilation and air conditioning) B10B6:15	Left Floor Air Discharge Temperature: Circuit Short To Battery Or Open	Module senses erratic voltages from the air discharge temperature sensor.

Possible Sources

- Wiring, terminals or connectors
- Air discharge temperature sensor
- HVAC (heating, ventilation and air conditioning) control module

NOTICE

Positive Lead	Measurement / Action	Negative Lead
C2439-1		C2439-3



Are the voltages between 4.7 and 5.1 volts?

Yes	<p>INSTALL a new air discharge temperature sensor. REFER to the appropriate procedure in Group 412-00.</p> <p>CLEAR the Diagnostic Trouble Codes (DTCs). REPEAT the self-test. If the DTC (diagnostic trouble code) returns, GO to R6</p>
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No	GO to R2
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R2 CHECK THE AIR DISCHARGE TEMPERATURE SENSOR CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect HVAC (heating, ventilation and air conditioning) control module C228A and C228B .
- Ignition ON.
- For the Driver Side Footwell (Floor) Air Discharge Temperature Sensor, measure:

Positive Lead	Measurement / Action	Negative Lead
C2436-A		Ground
C2436-B		Ground

- For the Passenger Side Footwell (Floor) Air Discharge Temperature Sensor, measure:

Positive Lead	Measurement / Action	Negative Lead
C2437-A		Ground