

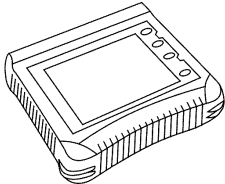
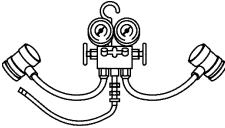
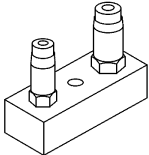
# SECTION 412-00 Climate Control System - General Information

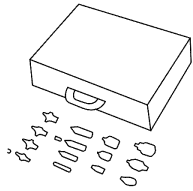
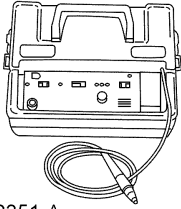
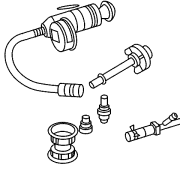
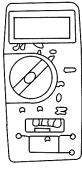
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## DIAGNOSIS AND TESTING

### Climate Control System

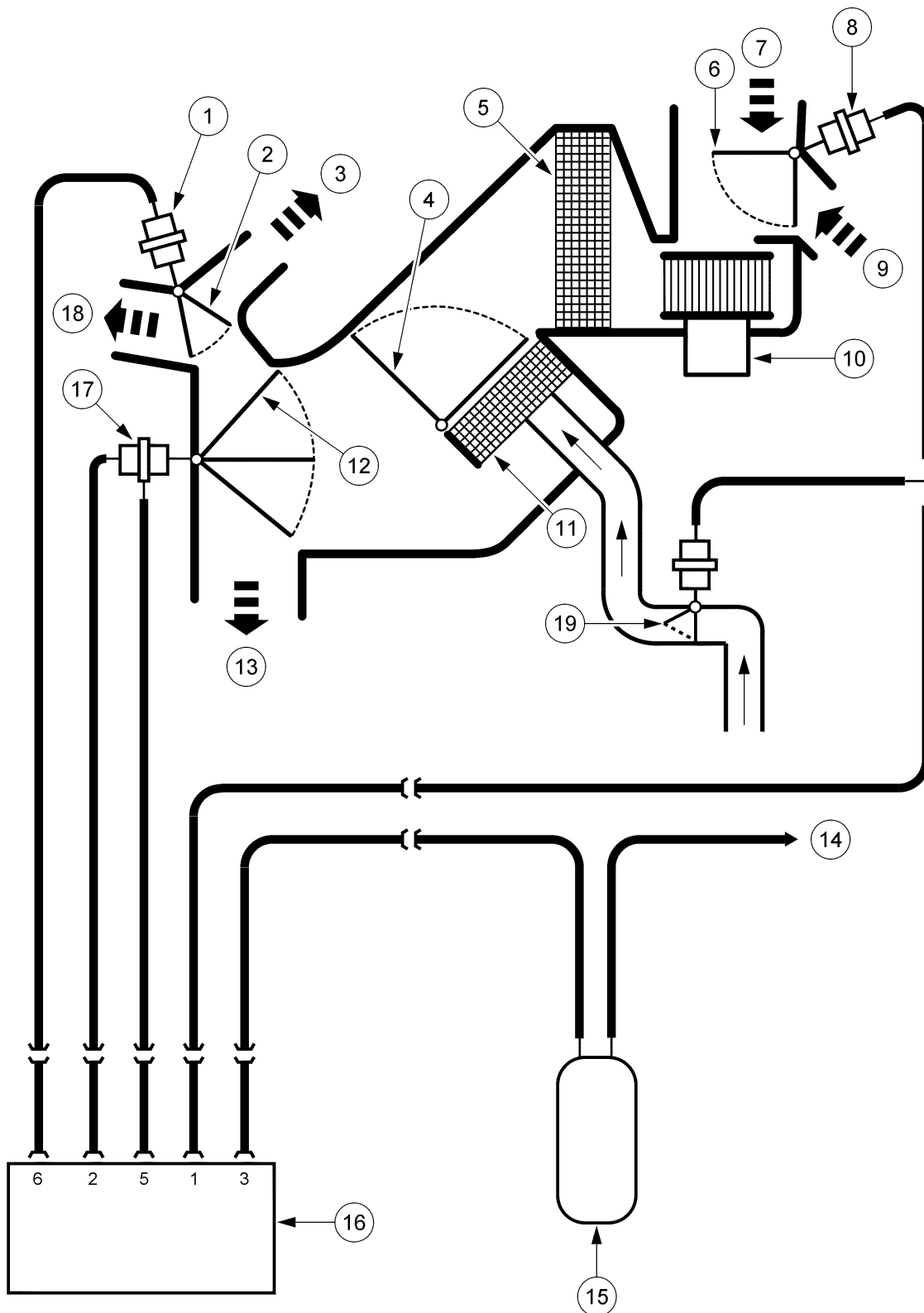
#### Special Tool(s)

 <p>ST2332-A</p>	<p>Worldwide Diagnostic System (WDS) 418-F224, New Generation STAR (NGS) Tester 418-F052, or equivalent scan tool with required communication adapter</p>
 <p>ST1928-A</p>	<p>R-134a Manifold Gauge Set 176-R032A or equivalent</p>
 <p>ST1501-A</p>	<p>Connector, Refrigerant Pressure Line 412-093 (T94P-19623-E)</p>

 <p>ST1252-A</p>	<p>Set, A/C Fittings 412-DS028 (D93L-19703-B) or equivalent</p>
 <p>ST2351-A</p>	<p>Refrigerant Leak Detector 216-00001 or equivalent</p>
 <p>ST1474-A</p>	<p>Pressure Tester 014-R1072 or equivalent</p>
 <p>ST1137-A</p>	<p>Fluke 77 III Automotive Meter 105-R0056 or equivalent</p>

## DIAGNOSIS AND TESTING(Continued)

## Vacuum Schematic—Manual A/C

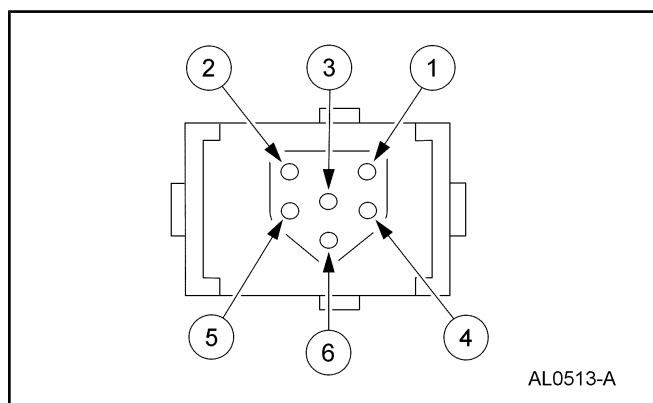


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**DIAGNOSIS AND TESTING(Continued)**

Item	Part Number	Description
1	18A318	Vacuum Control Motor — Panel/Defrost Door
2	18A478	Panel/Defrost Door (Full Vacuum Position)
3	—	Defrost Air Flow
4	18B545	Temperature Blend Door (Full Heat Position)
5	19860	A/C Evaporator Core
6	19A813	Air Inlet Duct Door (Full Vacuum Position)
7	—	Outside Air Inlet
8	18A318	Vacuum Control Motor — Air Inlet Door
9	—	Recirculated Air Inlet
10	19805	Blower Motor
11	18476	Heater Core
12	18A559	Panel/Floor Door (Full Vacuum Position)
13	—	Floor Air Flow
14	—	Vacuum Source
15	19A566	A/C Vacuum Reservoir Tank and Bracket
16	19B888	A/C-Heater Function Selector Switch

Item	Part Number	Description
17	18A318	Vacuum Control Motor — Panel/Floor Door
18	—	Panel Vent Air Flow
19	18495	Heater control valve

**Function Selector Switch Vacuum Connector End View**

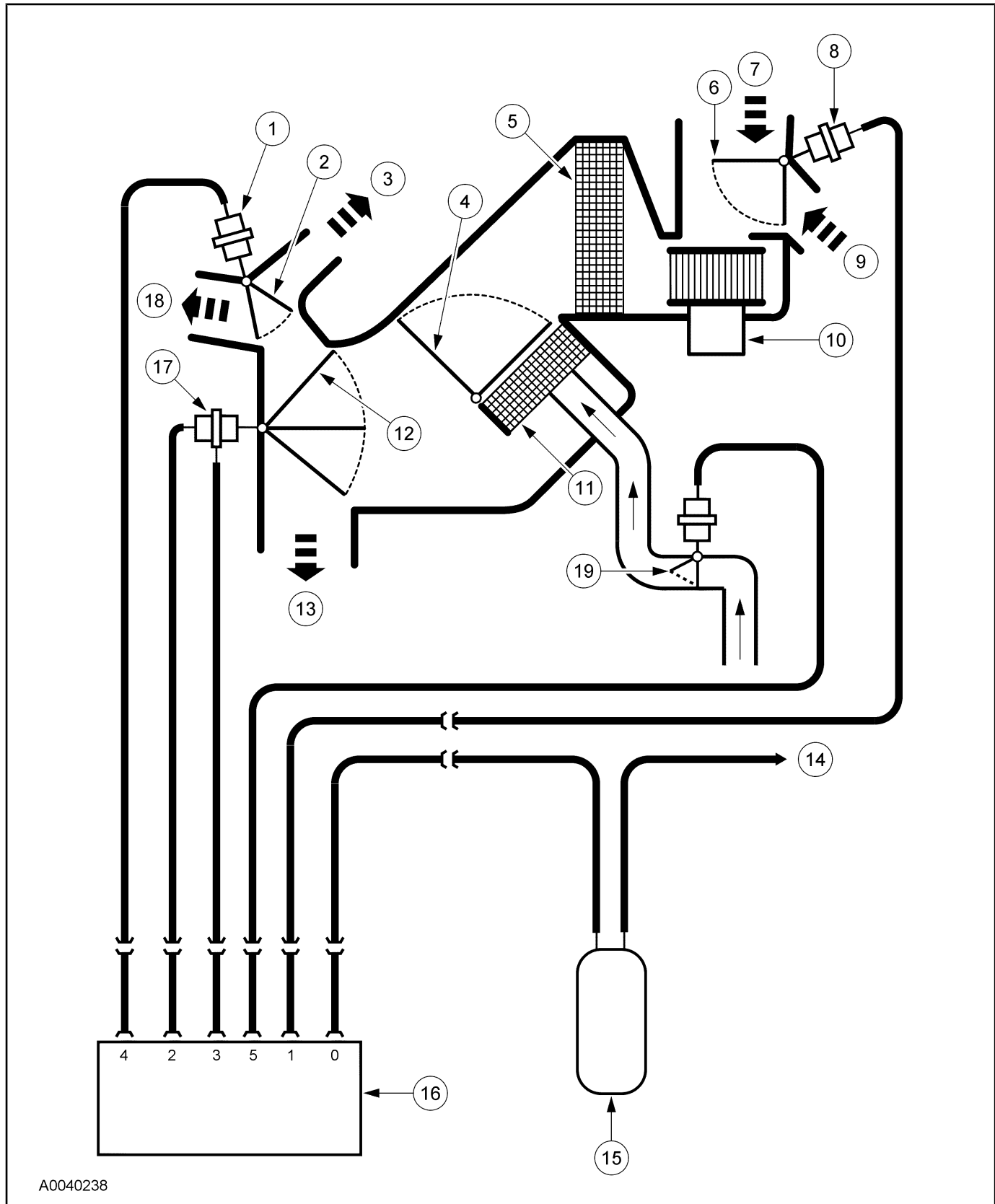
Port	Hose Color	Function
1	White	Air Inlet Door
2	Yellow	Panel/Floor Door
3	Black	Vacuum Source
4	—	Not Used
5	Blue	Panel/Floor Door
6	Red	Panel/Defrost Door

**Vacuum Application Chart — Manual A/C**

Switch Port	Color	Function	Function Selector Switch Position							
			MAX A/C	A/C	PANE L	OFF	PNL/ FLR	FLOOR	FLR/ DEF	DEF
1	White	Recirc/ Fresh and Heater Control Valve	V	NV	NV	V	NV	NV	NV	NV
2	Yellow	Panel/ Floor	NV	NV	NV	V	V	V	V	NV
3	Black	Vacuum Source	V	V	V	V	V	V	V	V
5	Blue	Panel/ Floor	NV	NV	NV	V	V	V	V	NV
6	Red	Panel/ Defrost	V	V	V	NV	V	NV	NV	NV

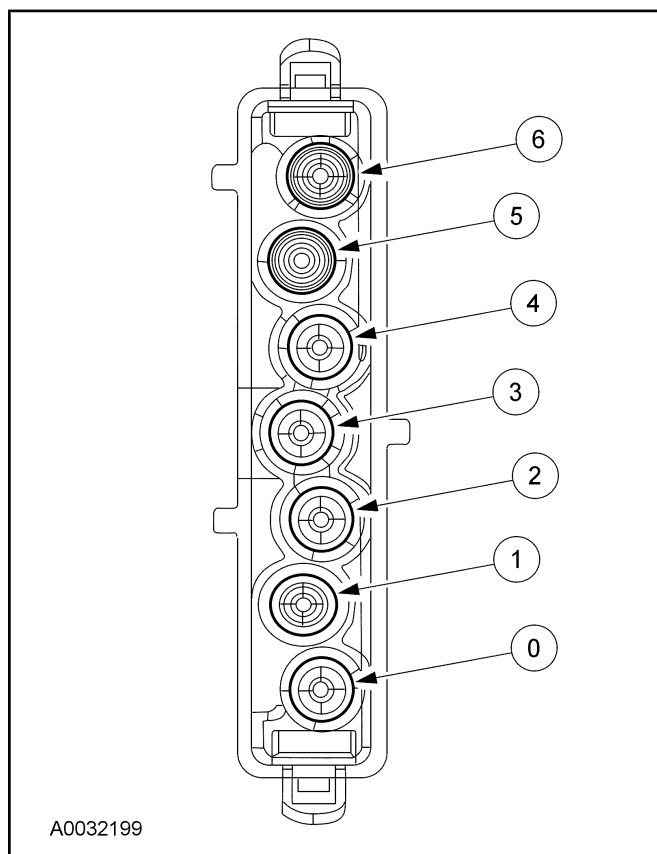
## DIAGNOSIS AND TESTING(Continued)

### Vacuum Schematic—EATC



**DIAGNOSIS AND TESTING(Continued)**

Item	Part Number	Description
1	18A318	Vacuum Control Motor — Panel/Defrost Door
2	18A478	Panel/Defrost Door (Full Vacuum Position)
3	—	Defrost Air Flow
4	18B545	Temperature Blend Door (Full Heat Position)
5	19860	A/C Evaporator Core
6	19A813	Air Inlet Duct Door (Full Vacuum Position)
7	—	Outside Air Inlet
8	18A318	Vacuum Control Motor — Air Inlet Duct Door
9	—	Recirculated Air Inlet
10	19805	Blower Motor
11	18476	Heater Core
12	18A559	Panel/Floor Door (Full Vacuum Position)
13	—	Floor Air Flow
14	—	Vacuum Source
15	19A566	A/C Vacuum Reservoir Tank and Bracket
16	19D611	ATC Solenoid and Manifold
17	18A318	Vacuum Control Motor — Floor/Panel Door
18	—	Panel Vent Air Flow
19	18495	Heater control valve

**ATC Solenoid and Manifold Vacuum Connector End View**

Port	Hose Color	Function
0	Black	Vacuum Source
1	White	Air Inlet Duct Door
2	Yellow	Panel/Floor Door
3	Blue	Panel/Floor Door
4	Red	Panel/Defrost Door
5	Gray	Heater Control Valve
6	—	Not used

## DIAGNOSIS AND TESTING(Continued)

### Vacuum Application Chart — EATC

Port	Color	Function	Manual Override Buttons					
			OFF	PANEL	PNL/ FLR	FLR	FLR/ DEF	DEF
0	Black	Vacuum Source	V	V	V	V	V	V
1	White	Air Inlet <sup>a</sup>	V	V/NV	V/NV	V/NV	V/NV	NV
2	Yellow	Panel/Floor	V	NV	NV	V	NV	NV
3	Blue	Panel/Floor	V	NV	V	V	V	NV
4	Red	Panel/ Defrost	NV	V	V	NV	NV	NV
5	Gray	Heater Control Valve <sup>b</sup>	NV	V/NV	V/NV	V/NV	V/NV	V/NV

- a The EATC system may be manually set to enable or disable the recirculation of cabin air by pressing the RECIRCULATION manual override button in all manual override modes except DEFROST.
- b The automatic temperature control solenoid and manifold will supply vacuum and close the heater control valve depending on the EATC module settings and ambient conditions in any setting except OFF.

### Inspection and Verification

- Verify the customer concern by operating the climate control system to duplicate the condition.
- Visually inspect for obvious signs of mechanical or electrical damage.

#### Visual Inspection Chart

Mechanical	Electrical
<ul style="list-style-type: none"> <li>Loose, missing or damaged A/C compressor drive belt</li> <li>Loose or disconnected A/C clutch</li> <li>Loose, misrouted or damaged vacuum lines</li> <li>Broken or leaking vacuum control motor<sup>a</sup></li> <li>Discharged A/C system</li> <li>Broken or leaking refrigerant lines</li> </ul>	<ul style="list-style-type: none"> <li>Open fuses</li> <li>Blower motor inoperative</li> <li>A/C compressor inoperative</li> <li>Circuitry open/shorted</li> <li>Disconnected, loose fitting, or incorrectly installed electrical connectors and pins</li> </ul>

<sup>a</sup>

A leak in the vacuum control circuit may occur during acceleration (slow leak), may exist at all times (large leak), and may exist only when specific functions are

selected (indicating a leak in that portion of the circuit). The vacuum hoses used in the passenger compartment control circuit are constructed from PVC plastic material. The vacuum hoses used in the engine compartment are constructed of Hytrel®. Because of the materials used, never pinch the vacuum hoses off during diagnosis to locate a leak. A wood golf tee can be used as a plug when it is necessary to plug one end of the vacuum hose for leak test purposes.

- As pinpoint tests and measurements are being performed, be sure to inspect for any disconnected, loose fitting, or incorrectly installed component, module and in-line electrical connectors and pins.
- If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
- If the cause is not visually evident, connect a scan tool to the data link connector and select the vehicle to be tested from the scan tool menu. If the scan tool does not communicate with the vehicle:
  - check that the program card is correctly installed.
  - check the connections to the vehicle.
  - check the ignition switch position.
- If the scan tool still does not communicate with the vehicle, refer to the scan tool operating manual.
- Carry out the DATA LINK DIAGNOSTICS test. If the scan tool responds with:

## DIAGNOSIS AND TESTING(Continued)

- SCP+, SCP-, or VBP CIRCUITS FAULT = ALL ECUS NO RESP/NOT EQUIP, refer to Section 418-00 to diagnose the network concern.
  - If the powertrain control module (PCM) is not listed for a communication concern, turn the A/C controls to OFF and execute the self-test diagnostics for the PCM.
  - If the EATC module is not listed for a communication concern, execute self-test diagnostics for the EATC module.
8. If any PCM or EATC DTCs are retrieved, and are related to the concern, go to the Powertrain Control Module Diagnostic Trouble Code (DTC) Index or the Electronic Automatic Temperature Control (EATC) Module Diagnostic Trouble Code (DTC) Index to continue diagnostics.
  9. If no DTCs related to the concern are retrieved, GO to Symptom Chart to continue diagnostics.
  10. If the EATC module cannot be accessed by the scan tool, GO to Pinpoint Test E.

### Electronic Automatic Temperature Control Module — Diagnostic Methods

The electronic automatic temperature control system must be diagnosed by first retrieving any DTCs, if present.

- An on-demand (hard fault) DTC indicates that the fault is currently present. An on-demand DTC suggests a wiring fault, disconnected connector, or component failure.
- A continuous (intermittent) DTC alone (corresponding on-demand DTC is not present) indicates that the fault is an intermittent condition and may not be currently present. A continuous only DTC suggests a poor wiring connection, loose pin or terminal, or intermittent component failure.

On-demand (hard fault) or continuous (intermittent fault) DTCs can be retrieved using a scan tool. If using a scan tool, refer to the scan tool operating manual.

On-demand DTCs can also be retrieved by carrying out the Electronic Automatic Temperature Control Module Self-Test. To retrieve and/or clear continuous DTCs carry out the Electronic Automatic Temperature Control Module — Retrieve Continuous DTCs procedure. Always carry out the Electronic Automatic Temperature Control Module Self-Test before retrieving continuous DTCs.

If no DTCs are present, GO to Symptom Chart for the appropriate diagnostic action.

### Electronic Automatic Temperature Control Module Self-Test

- The EATC module self-test will not detect concerns associated with data link messages like engine coolant temperature or vehicle speed signals. A scan tool must be used to retrieve these concerns.
- The EATC module self-test will detect concerns in the system control functions and will display hard diagnostic trouble codes (DTCs) in addition to intermittent diagnostic trouble codes for concerns that occur during system operation. The vehicle interior temperature should be between 4°-32°C (40-90°F) when performing the self-test. If the temperatures are not within the specified ranges, false in-car temperature sensor DTCs will be displayed.
- The self-test can be initiated at any time. Normal operation of the system stops when the self-test is activated.
- To enter the self-test, press the OFF and FLOOR buttons simultaneously and then press the AUTOMATIC button within two seconds. The display will show a pulse tracer going around the center of the display window. The test may run as long as 30 seconds. Record all DTCs displayed.
- If any DTCs appear during the self-test, follow the diagnostics procedure given under ACTION for each DTC given.
- If a condition exists but no DTCs appear during the self-test, GO to Symptom Chart Condition: The EATC System Is Inoperative, Intermittent or Improper Operation.
- To exit self-test and retain all intermittent DTCs, push the blue (cooler temperature) button. The control will exit self-test, retain all intermittent DTCs and then turn OFF (display blank).
- To exit self-test and clear all DTCs, press the DEFROST button. The vacuum fluorescent display window will show 888 and all function symbols for one second. Then, the EATC control assembly will turn OFF (display blank) and all DTCs will be cleared.
- Always exit the self-test before powering the system down (system turned OFF).
- Intermittent DTCs will be deleted after 80 ignition switch ON cycles after the intermittent condition occurs.

### Electronic Automatic Temperature Control Module — Retrieve Continuous DTCs

The EATC module will retrieve only continuous (intermittent) DTCs when carrying out this procedure.

- Retrieval of continuous DTCs can be initiated after cycling the ignition switch from OFF to ON. Normal operation of the climate control system stops when retrieving continuous DTCs.



## DIAGNOSIS AND TESTING(Continued)

- To retrieve continuous DTCs press the OFF and PANEL buttons simultaneously and release, then press the AUTO button within two seconds. All vacuum fluorescent segments will be displayed if there are no continuous DTCs present. Continuous DTCs are indicated by the presence of the degrees Celsius symbol (°C) on the EATC module display. Record all DTCs displayed.
- If any DTCs appear, carry out the diagnostic procedure. Refer to the Electronic Automatic Temperature Control Module Diagnostic Trouble Code Index and follow the ACTION for each DTC given.
- If a condition exists but no DTCs appear, GO to Symptom Chart Condition: The EATC System Is Inoperative, Intermittent or Incorrect Operation.
- To exit and retain all continuous DTCs, press any button except DEFROST. The EATC module will exit the retrieve continuous DTCs mode and retain all continuous DTCs.
- To exit and clear all continuous DTCs, press the DEFROST button. The EATC module will exit the retrieve continuous DTCs mode and all continuous DTCs will be cleared.
- Always exit the procedure before powering the system down (system turned OFF). Once the procedure is exited the ignition switch must remain ON for at least 30 seconds to allow the temperature blend door actuators to automatically recalibrate.
- Continuous DTCs will be deleted after 80 ignition switch ON cycles after the intermittent fault occurs.

### Diagnostic Trouble Code Index

#### DIAGNOSTIC TROUBLE CODE (DTC) INDEX

DTC	Description	Action to Take
P1460	Wide Open Throttle A/C Primary Circuit Malfunction	Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.
P1464	A/C Demand Out Of Self-Test Range	Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.
P1469	Low A/C Cycling Period	Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.
P0645	A/C Clutch Relay Control Circuit	Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.

#### ELECTRONIC AUTOMATIC TEMPERATURE CONTROL (EATC) MODULE DIAGNOSTIC TROUBLE CODE (DTC) INDEX

DTC	EATC (Hard) Self-Test Faults	EATC (Intermittent) Run-Time Faults	Description	Action to Take
B2266	024	025	Blend door failure or short	GO to Pinpoint Test A.
B1251	031	N/A	A/C in-car temperature sensor open circuit	GO to Pinpoint Test B.
B1253	030	N/A	A/C in-car temperature sensor short to ground	GO to Pinpoint Test B.
B1255	041	043	A/C ambient temperature sensor open circuit	GO to Pinpoint Test C.
B1257	040	042	A/C ambient temperature sensor short to ground	GO to Pinpoint Test C.
B1259	N/A	N/A	A/C solar radiation sensor circuit open	GO to Pinpoint Test D.
B1261	050	052	A/C solar radiation sensor circuit short to ground	GO to Pinpoint Test D.

## DIAGNOSIS AND TESTING(Continued)

### ELECTRONIC AUTOMATIC TEMPERATURE CONTROL (EATC) MODULE DIAGNOSTIC TROUBLE CODE (DTC) INDEX (Continued)

DTC	EATC (Hard) Self-Test Faults	EATC (Intermittent) Run-Time Faults	Description	Action to Take
U1073	N/A	—	SCP invalid or missing data for engine coolant	Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.
U1341	N/A	N/A	SCP invalid data for vehicle speed	Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.

### Symptom Chart

#### SYMPTOM CHART

Condition	Possible Sources	Action
<ul style="list-style-type: none"> <li>No communication with the electronic automatic temperature control module</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short/open</li> <li>EATC module communication network</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test E.</li> </ul>
<ul style="list-style-type: none"> <li>The EATC system is inoperative, intermittent or incorrect operation</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short/open</li> <li>Input sensor(s)/erratic input signals</li> <li>Charging system</li> <li>Automatic temperature control sensor hose and elbow</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test F.</li> </ul>
<ul style="list-style-type: none"> <li>Incorrect/erratic direction of airflow from outlet — manual climate control</li> </ul>	<ul style="list-style-type: none"> <li>Function selector switch.</li> <li>Vacuum hose.</li> <li>A/C vacuum reservoir tank and check valve.</li> <li>Vacuum control motor.</li> <li>Vacuum actuator arm.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test G.</li> </ul>
<ul style="list-style-type: none"> <li>Incorrect/erratic direction of airflow from outlet — EATC</li> </ul>	<ul style="list-style-type: none"> <li>EATC module.</li> <li>ATC solenoid and manifold assembly.</li> <li>Vacuum hose.</li> <li>A/C vacuum reservoir tank and check valve.</li> <li>Vacuum control motor.</li> <li>Vacuum actuator arm.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test H.</li> </ul>
<ul style="list-style-type: none"> <li>Insufficient, erratic, or no heat</li> </ul>	<ul style="list-style-type: none"> <li>Low engine coolant level.</li> <li>Engine overheating.</li> <li>Plugged or partially plugged heater core.</li> <li>Temperature blend door binding/stuck.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test I.</li> </ul>

**DIAGNOSIS AND TESTING(Continued)****SYMPTOM CHART (Continued)**

Condition	Possible Sources	Action
	<ul style="list-style-type: none"> <li>A/C electric blend door actuator.</li> <li>Incorrect heater control valve operation.</li> </ul>	
<ul style="list-style-type: none"> <li>The A/C does not operate/does not operate correctly</li> </ul>	<ul style="list-style-type: none"> <li>Open fuse.</li> <li>Circuitry short/open.</li> <li>A/C cycling switch.</li> <li>A/C system discharged/low charge.</li> <li>A/C pressure cutoff switch.</li> <li>A/C control.</li> <li>Function selector switch.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test J.</li> </ul>
<ul style="list-style-type: none"> <li>The A/C is always on</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short.</li> <li>A/C control.</li> <li>A/C compressor clutch air gap.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test K.</li> </ul>
<ul style="list-style-type: none"> <li>Insufficient A/C cooling</li> </ul>	<ul style="list-style-type: none"> <li>Low refrigerant level.</li> <li>Temperature blend door actuator.</li> </ul>	<ul style="list-style-type: none"> <li>EVACUATE and RECHARGE the system. REFER to Air Conditioning (A/C) System Recovery, Evacuation and Charging in this section. CHARGE the system with 1.28 kg (45 oz) (F-Super Duty) or 1.93 kg (68 oz) (Excursion) of refrigerant. TEST the system for normal operation. If the condition returns, CARRY OUT the refrigerant system tests. REFER to Refrigerant System Tests in this section.</li> </ul>
<ul style="list-style-type: none"> <li>Temperature control is inoperative/does not operate correctly</li> </ul>	<ul style="list-style-type: none"> <li>Temperature blend door actuator control.</li> <li>Temperature blend door.</li> <li>A/C electronic blend door actuator motor.</li> <li>Circuitry open/shorted.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test L.</li> </ul>
<ul style="list-style-type: none"> <li>The blower motor is inoperative — manual climate control</li> </ul>	<ul style="list-style-type: none"> <li>Fuse.</li> <li>Circuitry open/shorted.</li> <li>A/C blower motor switch.</li> <li>A/C blower motor resistor.</li> <li>Blower motor relay.</li> <li>A/C blower motor.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test M.</li> </ul>
<ul style="list-style-type: none"> <li>The blower motor is inoperative — EATC</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short/open.</li> <li>Blower motor relay.</li> <li>A/C blower motor.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test N.</li> </ul>

**DIAGNOSIS AND TESTING(Continued)****SYMPTOM CHART (Continued)**

Condition	Possible Sources	Action
	<ul style="list-style-type: none"> <li>A/C blower motor speed control.</li> </ul>	
<ul style="list-style-type: none"> <li>The blower motor operates continuously in high speed — manual climate control</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short.</li> <li>A/C blower motor resistor.</li> <li>A/C blower motor switch.</li> <li>Blower motor relay</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test O.</li> </ul>
<ul style="list-style-type: none"> <li>No operation in high blower setting — manual climate control</li> </ul>	<ul style="list-style-type: none"> <li>A/C blower motor resistor.</li> <li>A/C blower motor switch.</li> <li>Blower motor relay.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test P.</li> </ul>
<ul style="list-style-type: none"> <li>No operation in lower speeds — manual climate control</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short/open.</li> <li>A/C blower motor resistor.</li> <li>A/C blower motor switch.</li> <li>Blower motor relay.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test Q.</li> </ul>
<ul style="list-style-type: none"> <li>The blower motor does not operate correctly — EATC</li> </ul>	<ul style="list-style-type: none"> <li>A/C blower motor speed control.</li> <li>A/C blower motor.</li> <li>EATC module.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test R.</li> </ul>
<ul style="list-style-type: none"> <li>The temperature set point does not repeat after turning the ignition switch OFF — EATC</li> </ul>	<ul style="list-style-type: none"> <li>Open fuse</li> <li>Circuitry short/open</li> <li>EATC module</li> </ul>	<ul style="list-style-type: none"> <li>CHECK circuit 22 (LB/BK) for a short or open and repair as necessary. If okay, INSTALL a new EATC module.</li> </ul>
<ul style="list-style-type: none"> <li>The temperature display will not switch between Celsius and Fahrenheit — EATC</li> </ul>	<ul style="list-style-type: none"> <li>EATC module</li> </ul>	<ul style="list-style-type: none"> <li>PRESS the AUTO and DEFROST/FLOOR buttons simultaneously for at least 0.75 second. If the temperature display does not switch between Celsius and Fahrenheit, INSTALL a new EATC module.</li> </ul>
<ul style="list-style-type: none"> <li>The steering wheel control switch is inoperative/does not operate correctly</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short/open.</li> <li>Steering wheel control switch.</li> <li>EATC module.</li> <li>Redundant steering control module.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test S.</li> </ul>
<ul style="list-style-type: none"> <li>The auxiliary blower motor does not operate</li> </ul>	<ul style="list-style-type: none"> <li>Fuse.</li> <li>Circuitry short/open.</li> <li>Auxiliary blower motor relay.</li> <li>Auxiliary blower hi-speed relay.</li> <li>Auxiliary blower motor.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test T.</li> </ul>
<ul style="list-style-type: none"> <li>The auxiliary blower motor does not operate correctly</li> </ul>	<ul style="list-style-type: none"> <li>Fuse.</li> <li>Circuitry short/open.</li> <li>Front/rear auxiliary blower motor switch.</li> <li>Auxiliary blower motor resistor.</li> <li>Auxiliary blower motor relay.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test U.</li> </ul>

**DIAGNOSIS AND TESTING(Continued)****SYMPTOM CHART (Continued)**

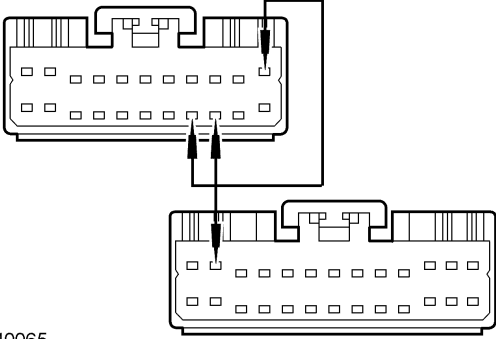
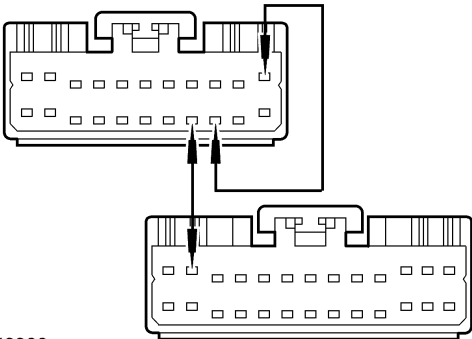
Condition	Possible Sources	Action
	<ul style="list-style-type: none"> <li>Auxiliary blower hi-speed relay.</li> <li>Auxiliary blower motor.</li> </ul>	
<ul style="list-style-type: none"> <li>The panel/floor control does not operate using the front/rear auxiliary climate controls</li> </ul>	<ul style="list-style-type: none"> <li>Fuse.</li> <li>Circuitry short/open.</li> <li>Front/rear auxiliary mode control switch.</li> <li>Auxiliary mode door actuator.</li> <li>Auxiliary climate control module.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test V.</li> </ul>
<ul style="list-style-type: none"> <li>The temperature control does not operate using the front/rear auxiliary climate controls</li> </ul>	<ul style="list-style-type: none"> <li>Fuse.</li> <li>Circuitry short/open.</li> <li>Front/rear auxiliary temperature control switch.</li> <li>Auxiliary blend door actuator.</li> <li>Auxiliary climate control module.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test W.</li> </ul>
<ul style="list-style-type: none"> <li>The panel/floor and cool/warm controls do not operate using the front/rear auxiliary controls</li> </ul>	<ul style="list-style-type: none"> <li>Fuse.</li> <li>Circuitry short/open.</li> <li>Front/rear auxiliary blower motor switch.</li> <li>Auxiliary climate control module.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test X.</li> </ul>
<ul style="list-style-type: none"> <li>The front/rear auxiliary blower motor switch operates only in HI</li> </ul>	<ul style="list-style-type: none"> <li>Circuitry short/open.</li> <li>Front/rear auxiliary blower motor switch.</li> <li>Auxiliary blower motor resistor.</li> <li>Auxiliary blower hi-speed relay.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test Y.</li> </ul>
<ul style="list-style-type: none"> <li>The front/rear auxiliary blower motor switch does not operate in HI</li> </ul>	<ul style="list-style-type: none"> <li>Fuse.</li> <li>Circuitry short/open.</li> <li>Front/rear auxiliary blower motor switch.</li> <li>Auxiliary blower hi-speed relay.</li> </ul>	<ul style="list-style-type: none"> <li>GO to Pinpoint Test Z.</li> </ul>

**Pinpoint Tests****PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT**

Test Step		Result / Action to Take
<b>A1</b>	<b>CHECK THE BLEND DOOR ACTUATOR CLOCKWISE OPERATION</b>	
<ul style="list-style-type: none"> <li>Disconnect: EATC Module C228a .</li> <li>Disconnect: EATC Module C228b .</li> <li>Remove the door actuator and disengage the actuator drive shaft from the actuator door. Refer to Section 412-04.</li> <li>Mark the door actuator drive shaft position.</li> </ul>		<b>Yes</b> GO to A2.  <b>No</b> GO to A3.

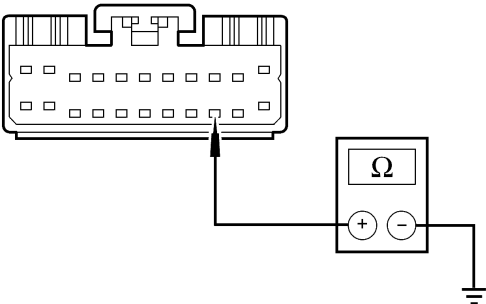
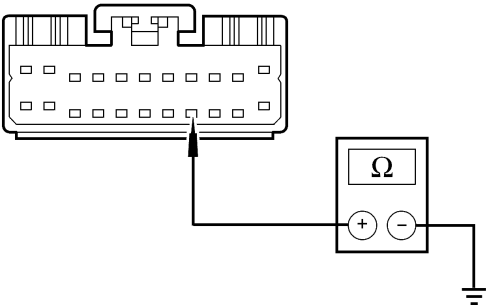
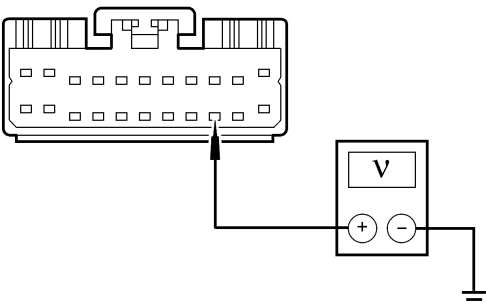
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

	Test Step	Result / Action to Take
<b>A1</b>	<b>CHECK THE BLEND DOOR ACTUATOR CLOCKWISE OPERATION (Continued)</b>	
	<ul style="list-style-type: none"> <li>Connect a fused jumper wire between EATC module C228b pin 19, circuit 250 (OG) and EATC module C228b pin 11, circuit 22 (LG/BK). Connect a second fused jumper wire between EATC module C228b pin 20, circuit 249 (DB/LG) and EATC module C228a pin 2, circuit 676 (PK/OG).</li> </ul>  <p>A0040065</p> <ul style="list-style-type: none"> <li>Does the actuator motor move in the clockwise direction?</li> </ul>	
<b>A2</b>	<b>CHECK THE BLEND DOOR ACTUATOR COUNTERCLOCKWISE OPERATION</b>	
	<ul style="list-style-type: none"> <li>Connect a fused jumper wire between EATC module C228b pin 20, circuit 249 (DB/LG) and EATC module C228b pin 11, circuit 22 (LG/BK). Connect a second fused jumper wire between EATC module C228b pin 19, circuit 250 (OG) and EATC module C228a pin 2, circuit 676 (PK/OG).</li> </ul>  <p>A0040066</p> <ul style="list-style-type: none"> <li>Does the air bypass door actuator motor move in the closed direction?</li> </ul>	<p><b>Yes</b> GO to A9.</p> <p><b>No</b> GO to A3.</p>
<b>A3</b>	<b>CHECK CIRCUIT 249 (DB/LG) FOR A SHORT TO GROUND</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Temperature Blend Door Actuator C289 .</li> <li>Measure the resistance between EATC module C228b pin 20, circuit 249 (DB/LG) and ground.</li> </ul>	<p><b>Yes</b> GO to A4.</p> <p><b>No</b> REPAIR circuit 249 (DB/LG) for a short to ground. TEST the system for normal operation.</p>

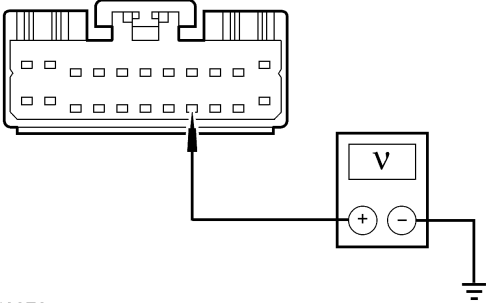
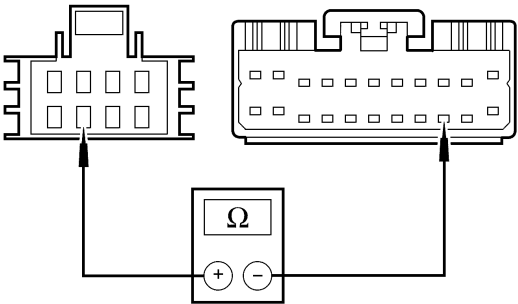
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

A3	CHECK CIRCUIT 249 (DB/LG) FOR A SHORT TO GROUND (Continued)
	 <p>A0040067</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>
A4	CHECK CIRCUIT 250 (OG) FOR A SHORT TO GROUND
	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228b pin 19, circuit 250 (OG) and ground.</li> </ul>  <p>A0040068</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul> <p><b>Yes</b> GO to A5.</p> <p><b>No</b> REPAIR circuit 250 (OG) for a short to ground. TEST the system for normal operation.</p>
A5	CHECK CIRCUIT 249 (DB/LG) FOR A SHORT TO POWER
	<ul style="list-style-type: none"> <li>Measure the voltage between EATC module C228b pin 20, circuit 249 (DB/LG) and ground.</li> </ul>  <p>A0040069</p> <ul style="list-style-type: none"> <li>Is voltage present?</li> </ul> <p><b>Yes</b> REPAIR circuit 249 (DB/LG) for a short to power. TEST the system for normal operation.</p> <p><b>No</b> GO to A6.</p>
A6	CHECK CIRCUIT 250 (OG) FOR A SHORT TO POWER

## DIAGNOSIS AND TESTING(Continued)

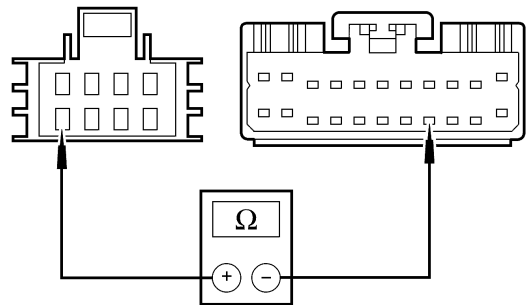
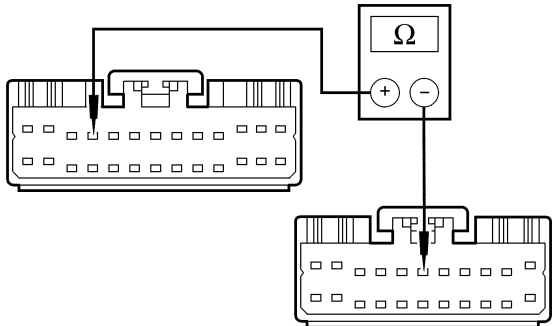
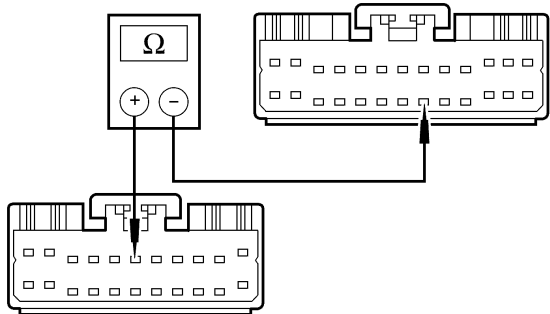
### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

<b>A6</b>	<b>CHECK CIRCUIT 250 (OG) FOR A SHORT TO POWER (Continued)</b>
	<ul style="list-style-type: none"> <li>Measure the voltage between EATC module C228b pin 19, circuit 250 (OG) and ground.</li> </ul>  <p>A0040070</p> <ul style="list-style-type: none"> <li>Is voltage present?</li> </ul> <p><b>Yes</b> REPAIR circuit 250 (OG) for a short to power. TEST the system for normal operation.</p> <p><b>No</b> GO to A7.</p>
<b>A7</b>	<b>CHECK CIRCUIT 249 (DB/LG) FOR AN OPEN</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228b pin 20, circuit 249 (DB/LG) and the temperature blend door actuator C289 pin 7, circuit 249 (DB/LG).</li> </ul>  <p>A0040071</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to A8.</p> <p><b>No</b> REPAIR circuit 249 (DB/LG) for an open. TEST the system for normal operation.</p>
<b>A8</b>	<b>CHECK CIRCUIT 250 (OG) FOR AN OPEN</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228b pin 19, circuit 250 (OG) and the temperature blend door actuator C289 pin 8, circuit 250 (OG).</li> </ul> <p><b>Yes</b> INSPECT for binding or broken linkage. If no condition is found, INSTALL a new door actuator. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 250 (OG) for an open. TEST the system for normal operation.</p>



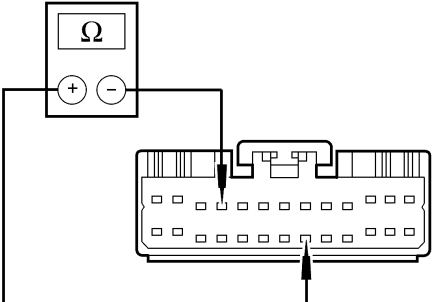
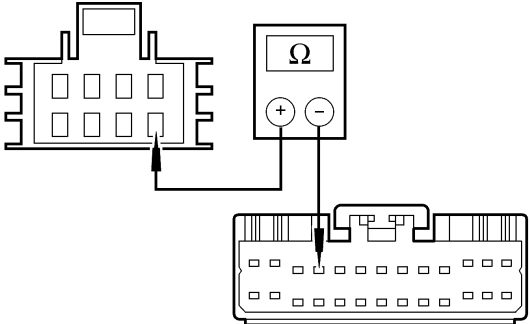
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

A8	CHECK CIRCUIT 250 (OG) FOR AN OPEN (Continued)	 <p>A0040072</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
A9	CHECK THE FEEDBACK POTENTIOMETER TOTAL RESISTANCE	<ul style="list-style-type: none"> <li>Connect: Temperature Blend Door Actuator C289 .</li> <li>Measure the resistance between EATC module C228a pin 4, circuit 436 (RD/LG) and EATC module C228b pin 6, circuit 438 (RD/WH).</li> </ul>  <p>A0040073</p> <ul style="list-style-type: none"> <li>Is the resistance between 5,000 and 6,000 ohms?</li> </ul> <p><b>Yes</b> GO to A10.</p> <p><b>No</b> If the resistance is greater than 6,000 ohms, GO to A12 . If the resistance is less than 5,000 ohms, GO to A20 .</p>
A10	CHECK POTENTIOMETER LOW SIDE RESISTANCE	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228a pin 21, circuit 437 (YE/LG) and EATC module C228b pin 6, circuit 247 438 (RD/WH).</li> </ul>  <p>A0040074</p> <p><b>Yes</b> GO to A11.</p> <p><b>No</b> If the resistance is greater than 5,500 ohms, GO to A13 . If the resistance is less than 250 ohms, GO to A21 .</p>

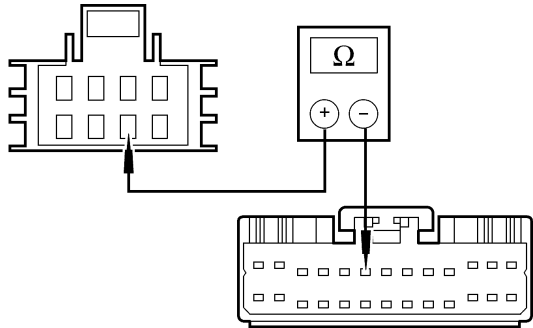
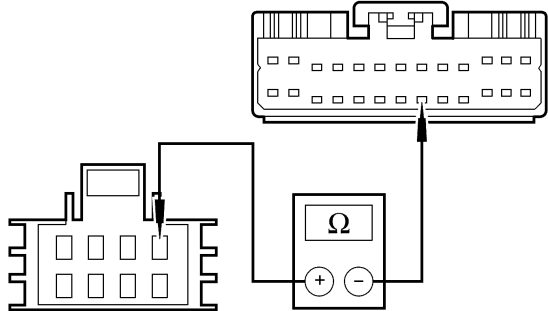
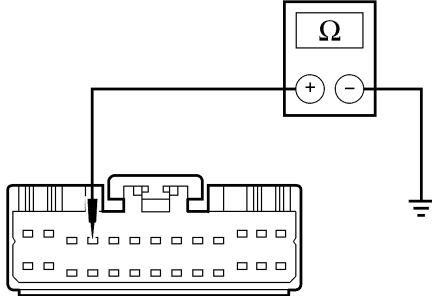
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

<b>A10</b>	<b>CHECK POTENTIOMETER LOW SIDE RESISTANCE (Continued)</b>	
	<ul style="list-style-type: none"> <li>Is the resistance between 250 and 5,500 ohms?</li> </ul>	
<b>A11</b>	<b>CHECK POTENTIOMETER HIGH SIDE RESISTANCE</b>	
	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228a pin 4, circuit 436 (RD/LG) and EATC module C228a pin 21, circuit 437 (YE/LG).</li> </ul>  <p>A0040075</p> <ul style="list-style-type: none"> <li>Is the resistance between 250 and 5,500 ohms?</li> </ul>	<p><b>Yes</b> GO to A15.</p> <p><b>No</b> If the resistance is greater than 5,500 ohms, GO to A12 . If the resistance is less than 250 ohms, GO to A22 .</p>
<b>A12</b>	<b>CHECK 436 (RD/LG) CIRCUIT FOR AN OPEN</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Temperature Blend Door Actuator C289 .</li> <li>Measure the resistance between EATC module C228a pin 4, circuit 436 (RD/LG) and the temperature blend door actuator C289 pin 5, circuit 436 (RD/LG).</li> </ul>  <p>A0040076</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> GO to A13.</p> <p><b>No</b> REPAIR circuit 436 (RD/LG) for an open. TEST the system for normal operation.</p>
<b>A13</b>	<b>CHECK THE ACTUATOR RETURN CIRCUIT 438 (RD/WH) FOR AN OPEN</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Temperature Blend Door Actuator C289 .</li> <li>Measure the resistance between EATC module C228b pin 6, circuit 438 (RD/WH) and the temperature blend door actuator C289 pin 6, circuit 438 (RD/WH).</li> </ul>	<p><b>Yes</b> GO to A14.</p> <p><b>No</b> REPAIR circuit 438 (RD/WH) for an open. TEST the system for normal operation.</p>

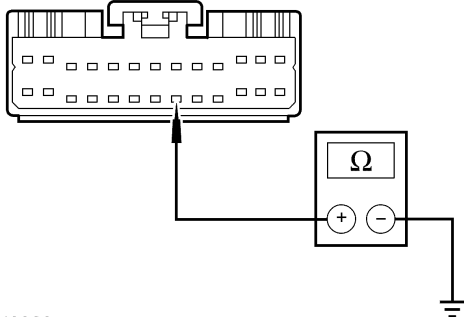
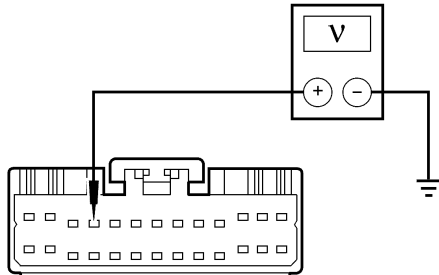
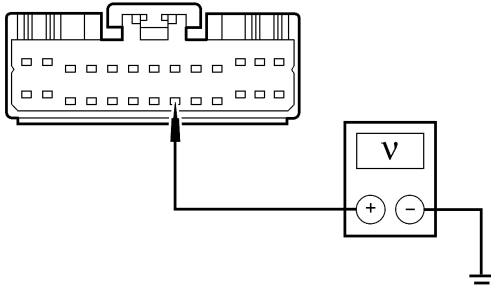
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

A13	CHECK THE ACTUATOR RETURN CIRCUIT 438 (RD/WH) FOR AN OPEN (Continued)
	 <p>A0040077</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
A14	CHECK CIRCUIT 437 (YE/LG) FOR AN OPEN
	<ul style="list-style-type: none"> <li>Disconnect: Temperature Blend Door Actuator C289 .</li> <li>Measure the resistance between EATC module C228a pin 21, circuit 437 (YE/LG) and the temperature blend door actuator C289 pin 1, circuit 437 (YE/LG).</li> </ul>  <p>A0040078</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> INSTALL a new door actuator. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 437 (YE/LG) for an open. TEST the system for normal operation.</p>
A15	CHECK CIRCUIT 436 (RD/LG) FOR A SHORT TO GROUND
	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228a pin 4, circuit 436 (RD/LG) and ground.</li> </ul>  <p>A0040079</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul> <p><b>Yes</b> GO to A16.</p> <p><b>No</b> REPAIR circuit 436 (RD/LG) for a short to ground. TEST the system for normal operation.</p>

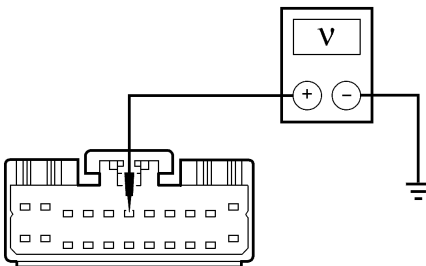
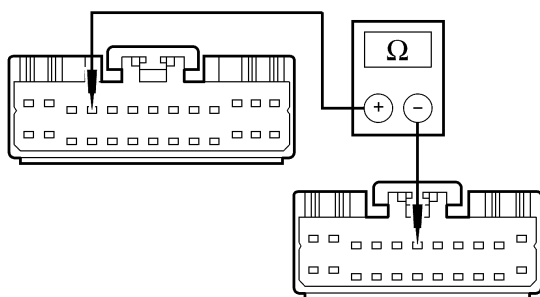
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

<b>A16</b>	<b>CHECK CIRCUIT 437 (YE/LG) FOR A SHORT TO GROUND</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228a pin 21, circuit 437 (YE/LG) and ground.</li> </ul>  <p>A0040080</p> <ul style="list-style-type: none"> <li><b>Is the resistance greater than 10,000 ohms?</b></li> </ul> <p><b>Yes</b> GO to A17.</p> <p><b>No</b> REPAIR circuit 437 (YE/LG) for a short to ground. TEST the system for normal operation.</p>
<b>A17</b>	<b>CHECK CIRCUIT 436 (RD/LG) FOR A SHORT TO POWER</b>
	<ul style="list-style-type: none"> <li>Measure the voltage between EATC module C228a pin 4, circuit 436 (RD/LG) and ground.</li> </ul>  <p>A0040081</p> <ul style="list-style-type: none"> <li><b>IS voltage present?</b></li> </ul> <p><b>Yes</b> REPAIR circuit 436 (RD/LG) for a short to power. TEST the system for normal operation.</p> <p><b>No</b> GO to A18.</p>
<b>A18</b>	<b>CHECK CIRCUIT 437 (YE/LG) FOR A SHORT TO POWER</b>
	<ul style="list-style-type: none"> <li>Measure the voltage between EATC module C228a pin 21, circuit 437 (YE/LG) and ground.</li> </ul>  <p>A0040082</p> <p><b>Yes</b> REPAIR circuit 437 (YE/LG) for a short to power. TEST the system for normal operation.</p> <p><b>No</b> GO to A19.</p>

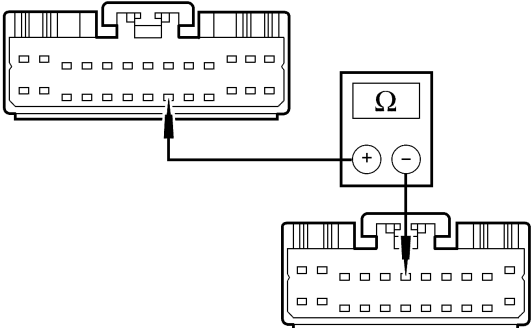
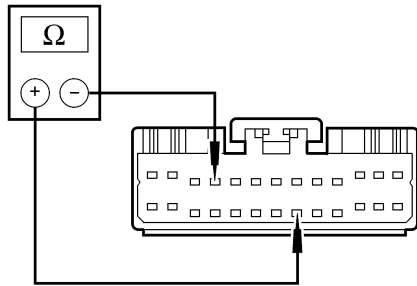
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

<b>A18</b>	<b>CHECK CIRCUIT 437 (YE/LG) FOR A SHORT TO POWER (Continued)</b>	
	<ul style="list-style-type: none"> <li>Is voltage present?</li> </ul>	
<b>A19</b>	<b>CHECK CIRCUIT 438 (RD/WH) FOR A SHORT TO POWER</b>	
	<ul style="list-style-type: none"> <li>Measure the voltage between EATC module C228b pin 6, circuit 438 (RD/WH) and ground.</li> </ul>  <p>A0040083</p> <ul style="list-style-type: none"> <li>Is voltage present?</li> </ul>	<p><b>Yes</b> REPAIR circuit 438 (RD/WH) for a short to power. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new door actuator. REFER to Section 412-04. TEST the system for normal operation.</p>
<b>A20</b>	<b>CHECK CIRCUIT 438 (RD/WH) AND CIRCUIT 436 (RD/LG) FOR A SHORT TOGETHER</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Temperature Blend Door Actuator C289 .</li> <li>Measure the resistance between EATC module C228b pin 6, circuit 438 (RD/WH) and EATC module C228a pin 4, circuit 436 (RD/LG).</li> </ul>  <p>A0040084</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> REPAIR circuits 438 (RD/WH) and circuit 436 (RD/LG) for a short together. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new door actuator. REFER to Section 412-04. TEST the system for normal operation.</p>
<b>A21</b>	<b>CHECK CIRCUIT 438 (RD/WH) AND CIRCUIT 437 (YE/LG) FOR A SHORT TOGETHER</b>	
	<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228b pin 6, circuit 438 (RD/WH) and EATC module C228a pin 21, circuit 437 (YE/LG).</li> </ul>	<p><b>Yes</b> REPAIR circuits 438 (RD/WH) and circuit 437 (YE/LG) for a short together. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new door actuator. REFER to Section 412-04. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST A: DTC B2266 — BLEND DOOR FAILURE OR SHORT (Continued)

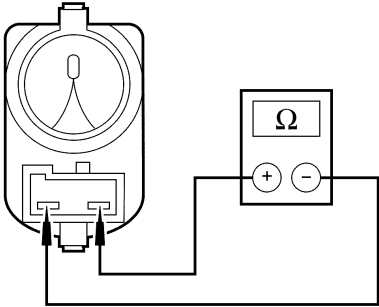
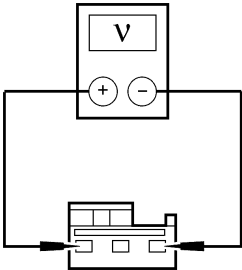
A21	CHECK CIRCUIT 438 (RD/WH) AND CIRCUIT 437 (YE/LG) FOR A SHORT TOGETHER (Continued)
 <p>A0040085</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
A22	CHECK CIRCUIT 436 (RD/LG) AND CIRCUIT 437 (YE/LG) FOR A SHORT TOGETHER
<ul style="list-style-type: none"> <li>Measure the resistance between EATC module C228a pin 4, circuit 436 (RD/LG) and EATC module C228a pin 21, circuit 437 (YE/LG).</li> </ul>  <p>A0040086</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
<p><b>Yes</b> REPAIR circuits 436 (RD/LG) and circuit 437 (YE/LG) for a short together. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new door actuator. REFER to Section 412-04. TEST the system for normal operation.</p>	

### PINPOINT TEST B: DTC B1251 OR DTC1253 — A/C IN-CAR TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND

Test Step	Result / Action to Take
B1 CHECK THE SENSOR RESISTANCE	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: In-Car Temperature Sensor C233 .</li> <li>Measure the resistance between the in-car temperature sensor terminals.</li> </ul>	<p><b>Yes</b> GO to B2.</p> <p><b>No</b> INSTALL a new in-car temperature sensor. TEST the system for normal operation.</p>

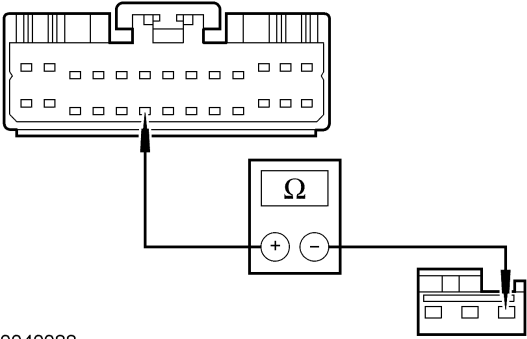
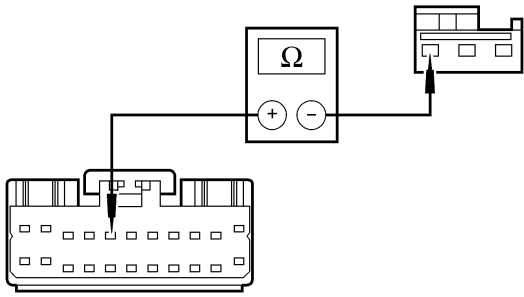
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST B: DTC B1251 OR DTC1253 — A/C IN-CAR TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

	Test Step	Result / Action to Take
<b>B1</b>	<b>CHECK THE SENSOR RESISTANCE (Continued)</b>	
	 <p>A0013635</p> <ul style="list-style-type: none"> <li>Is the resistance within the specified values for these temperature ranges: 10-20°C (50-68°F), 37,000-58,000 ohms; 20-30°C (68-86°F), 24,000-37,000 ohms; 30-40°C (86-104°F), 16,000-24,000 ohms?</li> </ul>	
<b>B2</b>	<b>CHECK THE EATC SENSOR OUTPUT VOLTAGE</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Press the AUTOMATIC button.</li> <li>Measure the voltage between the in-car temperature sensor C233, circuit 790 (WH/OG) and circuit 470 (PK/BK).</li> </ul>  <p>A0040087</p> <ul style="list-style-type: none"> <li>Is the voltage between 4.7 and 5.1 volts?</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> If diagnosing DTC B1251, GO to B3 . If diagnosing DTC B1253, GO to B5 .</p>
<b>B3</b>	<b>CHECK CIRCUIT 790 (WH/OG) FOR AN OPEN</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Measure the resistance between the EATC module C228a pin 19, circuit 790 (WH/OG) and the in-car temperature sensor C233, circuit 790 (WH/OG).</li> </ul>	<p><b>Yes</b> GO to B4.</p> <p><b>No</b> REPAIR circuit 790 (WH/OG) for an open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

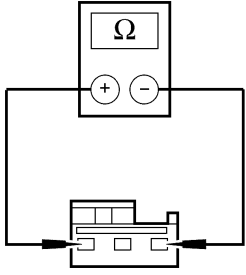
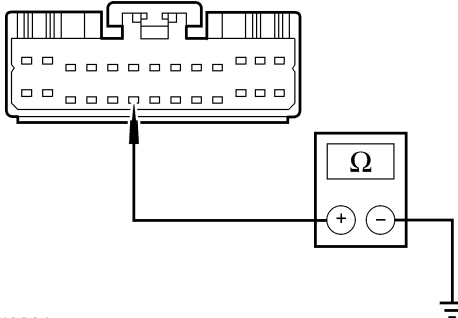
### PINPOINT TEST B: DTC B1251 OR DTC1253 — A/C IN-CAR TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

B3	CHECK CIRCUIT 790 (WH/OG) FOR AN OPEN (Continued)
	 <p>A0040088</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
B4	CHECK CIRCUIT 470 (PK/BK) FOR AN OPEN
	<p><b>NOTE:</b> When performing tests, allow time for resistance measurement to stabilize.</p> <ul style="list-style-type: none"> <li>Disconnect: EATC Module C228b .</li> <li>Measure the resistance between the EATC module C228b pin 5, circuit 470 (PK/BK) and the in-car temperature sensor C233, circuit 470 (PK/BK).</li> </ul>  <p>A0040089</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <div style="float: right; width: 30%;"> <p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 470 (PK/BK) for an open. TEST the system for normal operation.</p> </div>
B5	CHECK CIRCUIT 790 (WH/OG) FOR A SHORT TO CIRCUIT 470 (PK/BK)
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Disconnect: EATC Module C228b .</li> <li>Measure the resistance between the in-car temperature sensor C233, circuit 790 (WH/OG) and circuit 470 (PK/BK).</li> </ul> <div style="float: right; width: 30%;"> <p><b>Yes</b> GO to B6.</p> <p><b>No</b> REPAIR circuit 790 (WH/OG) for a short to circuit 470 (PK/BK). TEST the system for normal operation.</p> </div>



## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST B: DTC B1251 OR DTC1253 — A/C IN-CAR TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

B5	CHECK CIRCUIT 790 (WH/OG) FOR A SHORT TO CIRCUIT 470 (PK/BK) (Continued)
 <p>A0040090</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	
B6	CHECK CIRCUIT 790 (WH/OG) FOR A SHORT TO GROUND
<ul style="list-style-type: none"> <li>Measure the resistance between the EATC module C228a pin 19, circuit 790 (WH/OG) and ground.</li> </ul>  <p>A0040091</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	

**Yes**  
INSTALL a new EATC module. TEST the system for normal operation.

**No**  
REPAIR circuit 790 (WH/OG) for a short to ground. TEST the system for normal operation.

### PINPOINT TEST C: DTC B1255 OR DTC B1257 — A/C AMBIENT TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND

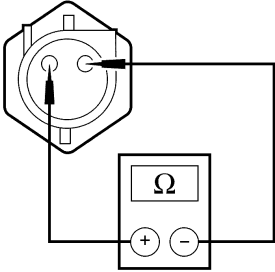
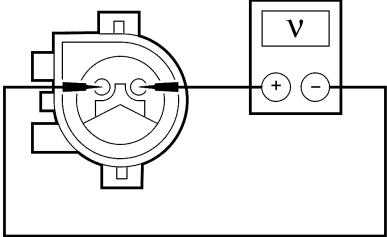
Test Step	Result / Action to Take
C1	CHECK THE AMBIENT TEMPERATURE SENSOR RESISTANCE
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Ambient Temperature Sensor C132 .</li> <li>Measure the resistance between the ambient temperature sensor terminals.</li> </ul>	

**Yes**  
GO to C2.

**No**  
INSTALL a new ambient air temperature sensor and bracket. TEST the system for normal operation.

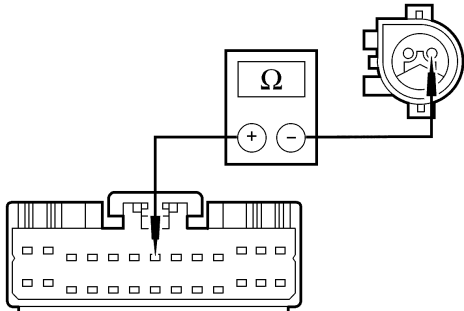
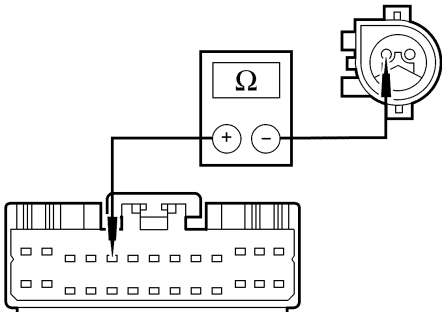
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST C: DTC B1255 OR DTC B1257 — A/C AMBIENT TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

	Test Step	Result / Action to Take
<b>C1</b>	<b>CHECK THE AMBIENT TEMPERATURE SENSOR RESISTANCE (Continued)</b>	
	 <p>A0013640</p> <ul style="list-style-type: none"> <li>Is the resistance within the specified values for these temperature ranges: 10-20°C (50-68°F), 37,000-58,000 ohms; 20-30°C (68-86°F), 24,000-37,000 ohms; 30-40°C (86-104°F), 16,000-24,000 ohms?</li> </ul>	
<b>C2</b>	<b>CHECK THE EATC MODULE OUTPUT VOLTAGE</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Press the AUTOMATIC button.</li> <li>Measure the voltage between the ambient temperature sensor C132, circuit 3061 (LB/OG) and circuit 470 (PK/BK).</li> </ul>  <p>A0013641</p> <ul style="list-style-type: none"> <li>Is the voltage between 4.7 and 5.1 volts?</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> If diagnosing DTC 1255, GO to C3 . If diagnosing DTC 1257, GO to C5 .</p>
<b>C3</b>	<b>CHECK CIRCUIT 3061 (LB/OG) FOR AN OPEN</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Measure the resistance between the EATC module C228a pin 7, circuit 3061 (LB/OG) and the ambient temperature sensor C132, circuit 3061 (LB/OG).</li> </ul>	<p><b>Yes</b> GO to C4.</p> <p><b>No</b> REPAIR circuit 3061 (LB/OG) for an open. TEST the system for normal operation.</p>

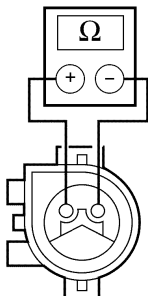
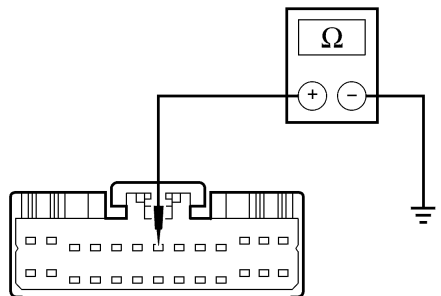
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST C: DTC B1255 OR DTC B1257 — A/C AMBIENT TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

C3	CHECK CIRCUIT 3061 (LB/OG) FOR AN OPEN (Continued)
 <p>A0040092</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
C4	CHECK CIRCUIT 470 (PK/BK) FOR AN OPEN
<ul style="list-style-type: none"> <li>Measure the resistance between the EATC module C228b pin 5, circuit 470 (PK/BK) and the ambient temperature sensor C132, circuit 470 (PK/BK).</li> </ul>  <p>A0040093</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 470 (PK/BK) for an open. TEST the system for normal operation.</p>
C5	CHECK CIRCUIT 3061 (LB/OG) FOR A SHORT TO CIRCUIT 470 (PK/BK)
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Disconnect: EATC Module C228b .</li> <li>Measure the resistance between the ambient temperature sensor C132, circuit 3061 (LB/OG) and circuit 470 (PK/BK).</li> </ul>	<p><b>Yes</b> GO to C6.</p> <p><b>No</b> REPAIR circuit 3061 (LB/OG) for a short to circuit 470 (PK/BK). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST C: DTC B1255 OR DTC B1257 — A/C AMBIENT TEMPERATURE SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

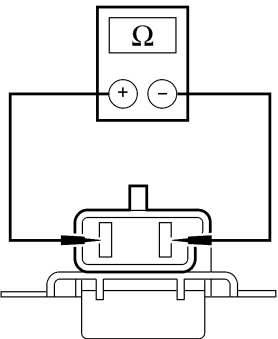
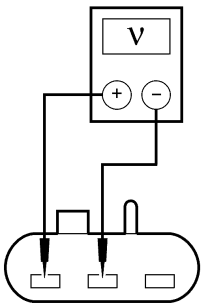
C5	CHECK CIRCUIT 3061 (LB/OG) FOR A SHORT TO CIRCUIT 470 (PK/BK) (Continued)
 <p>A0038068</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	
C6	CHECK CIRCUIT 3061 (LB/OG) FOR A SHORT TO GROUND
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the EATC module C228a pin 7, circuit 3061 (LB/OG) and ground.</li> </ul>  <p>A0040094</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	
<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 3061 (LB/OG) for a short to ground. TEST the system for normal operation.</p>	

### PINPOINT TEST D: DTC B1259 OR DTC B1261 — SOLAR RADIATION SENSOR OPEN CIRCUIT OR SHORT TO GROUND

Test Step	Result / Action to Take
D1	CHECK THE SOLAR RADIATION SENSOR RESISTANCE
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Solar Radiation Sensor C286 .</li> <li>Measure the resistance between the solar radiation sensor terminals.</li> </ul>	
<p><b>Yes</b> GO to D2.</p> <p><b>No</b> INSTALL a new solar radiation sensor and bracket. TEST the system for normal operation.</p>	

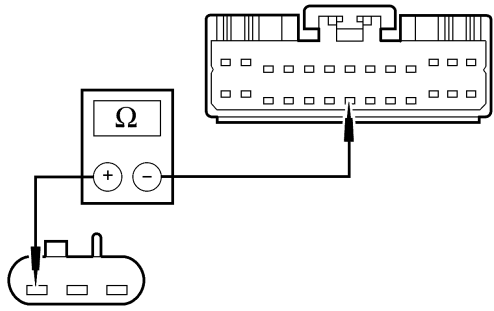
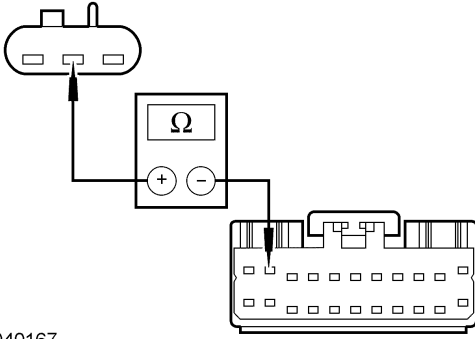
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST D: DTC B1259 OR DTC B1261 — SOLAR RADIATION SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

	Test Step	Result / Action to Take
D1	CHECK THE SOLAR RADIATION SENSOR RESISTANCE (Continued)	
	 <p>A0041327</p> <ul style="list-style-type: none"> <li>Is continuity present and the resistance greater than 0 ohms?</li> </ul>	
D2	CHECK THE EATC MODULE OUTPUT VOLTAGE	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Press the AUTOMATIC button.</li> <li>Measure the voltage between the solar radiation sensor C286 pin A, circuit 217 (DB/OG) and pin B, circuit 676 (PK/OG) (Excursion)/57(BK)(Pickup).</li> </ul>  <p>A0040165</p> <ul style="list-style-type: none"> <li>Is the voltage between 4.7 and 5.1 volts?</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> If diagnosing DTC 1259, GO to D3 . If diagnosing DTC 1261, GO to D5 .</p>
D3	CHECK CIRCUIT 217 (DB/OG) FOR AN OPEN	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Measure the resistance between the EATC module C228a pin 20, circuit 217 (DB/OG) and the solar radiation sensor C286 pin A, circuit 217 (DB/OG).</li> </ul>	<p><b>Yes</b> GO to D4.</p> <p><b>No</b> REPAIR circuit 217 (DB/OG) for an open. TEST the system for normal operation.</p>

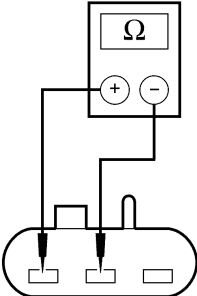
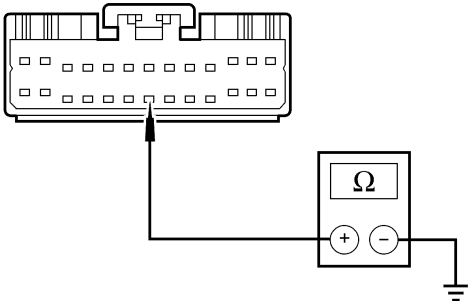
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST D: DTC B1259 OR DTC B1261 — SOLAR RADIATION SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

D3	CHECK CIRCUIT 217 (DB/OG) FOR AN OPEN (Continued)	
	 <p>A0040166</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
D4	CHECK CIRCUIT 676 (PK/OG) FOR AN OPEN	
	<ul style="list-style-type: none"> <li>Measure the resistance between the EATC module C228b pin 2, circuit 676 (PK/OG) (Excursion)/57(BK)(Pickup) and the solar radiation sensor C286 pin B, circuit 676 (PK/OG) (Excursion)/57(BK)(Pickup).</li> </ul>  <p>A0040167</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 676 (PK/OG)/57 (BK) for an open. TEST the system for normal operation.</p>
D5	CHECK CIRCUIT 217 (DB/OG) FOR A SHORT TO CIRCUIT 676 (PK/OG)	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Measure the resistance between the solar radiation sensor C286 pin A, circuit 217 (DB/OG) and pin B, circuit 676 (PK/OG) (Excursion)/57 (BK) (Pickup).</li> </ul>	<p><b>Yes</b> GO to D6.</p> <p><b>No</b> REPAIR circuit 217 (DB/OG) for a short to circuit 676 (PK/OG)/57 (BK). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST D: DTC B1259 OR DTC B1261 — SOLAR RADIATION SENSOR OPEN CIRCUIT OR SHORT TO GROUND (Continued)

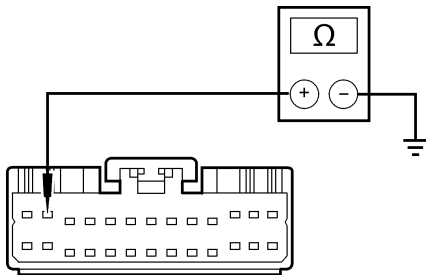
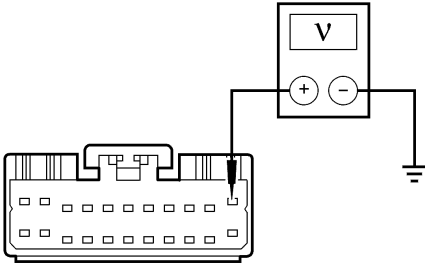
D5	CHECK CIRCUIT 217 (DB/OG) FOR A SHORT TO CIRCUIT 676 (PK/OG) (Continued)
 <p>A0040168</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	
D6	CHECK CIRCUIT 217 (DB/OG) FOR A SHORT TO GROUND
<ul style="list-style-type: none"> <li>Measure the resistance between the EATC module C228a pin 20, circuit 217 (DB/OG) and ground.</li> </ul>  <p>A0040169</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 217 (DB/OG) for a short to ground. TEST the system for normal operation.</p>

### PINPOINT TEST E: NO COMMUNICATION WITH THE ELECTRONIC AUTOMATIC TEMPERATURE CONTROL MODULE

Test Step	Result / Action to Take
E1	CHECK CIRCUIT 676 (PK/OG) FOR AN OPEN
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Measure the resistance between the EATC module C228a pin 2, circuit 676 (PK/OG) and ground.</li> </ul>	<p><b>Yes</b> GO to E2.</p> <p><b>No</b> REPAIR circuit 676 (PK/OG) for an open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

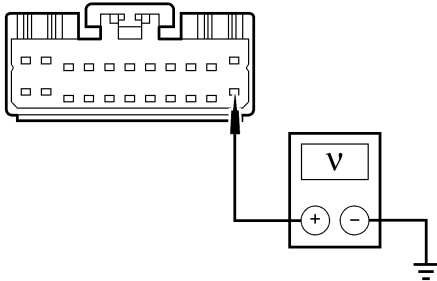
### PINPOINT TEST E: NO COMMUNICATION WITH THE ELECTRONIC AUTOMATIC TEMPERATURE CONTROL MODULE (Continued)

	Test Step	Result / Action to Take
E1	<b>CHECK CIRCUIT 676 (PK/OG) FOR AN OPEN (Continued)</b>	
	 <p>A0040170</p> <ul style="list-style-type: none"> <li>Is the resistance less than 25 ohms?</li> </ul>	
E2	<b>CHECK CIRCUIT 22 (LB/BK) FOR B+</b>	
	<ul style="list-style-type: none"> <li>Disconnect: EATC module C228b .</li> <li>Measure the voltage between the EATC module C228b pin 11, circuit 22 (LB/BK) and ground.</li> </ul>  <p>A0056190</p> <ul style="list-style-type: none"> <li>Is the voltage B+?</li> </ul>	<p><b>Yes</b> GO to E3.</p> <p><b>No</b> REPAIR circuit 22 (LB/BK) for an open. TEST the system for normal operation.</p>
E3	<b>CHECK CIRCUIT 296 (WH/VT) FOR B+</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Measure the voltage between the EATC module C228b pin 22, circuit 296 (WH/VT) and ground.</li> </ul>	<p><b>Yes</b> REFER to Section 418-00 to diagnose a network concern.</p> <p><b>No</b> REPAIR circuit 296 (WH/VT) for an open. TEST the system for normal operation.</p>



## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST E: NO COMMUNICATION WITH THE ELECTRONIC AUTOMATIC TEMPERATURE CONTROL MODULE (Continued)

<b>E3</b>	<b>CHECK CIRCUIT 296 (WH/VT) FOR B+ (Continued)</b>
 <p>A0056191</p> <ul style="list-style-type: none"> <li>Is the voltage B+?</li> </ul>	

### PINPOINT TEST F: THE EATC SYSTEM IS INOPERATIVE, INTERMITTENT OR INCORRECT OPERATION

Test Step		Result / Action to Take
<b>F1</b>	<b>VERIFY AUTOMATIC OPERATION</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>With the engine running, press the AUTOMATIC button.</li> <li><b>Does AUTO and the selected temperature appear in the display window?</b></li> </ul>	<p><b>Yes</b> GO to F2.</p> <p><b>No</b> GO to F11.</p>
<b>F2</b>	<b>PERFORM THE EATC MODULE SELF-TEST</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Carry out the EATC module self-test. Refer to the Electronic Automatic Temperature Control Module Self-Test in this section. Record the DTCs displayed, if any.</li> <li><b>Were any DTCs displayed as a result of the EATC self-test?</b></li> </ul>	<p><b>Yes</b> REFER to the Electronic Automatic Temperature Control (EATC) Module Diagnostic Trouble Code (DTC) Index. CARRY OUT the necessary diagnosis and REPAIR as required.</p> <p><b>No</b> GO to F3.</p>
<b>F3</b>	<b>CHECK THE VACUUM FLUORESCENT DISPLAY</b>	
	<ul style="list-style-type: none"> <li>Exit self-test by pressing the DEFROST button. Observe the function symbols displayed on the vacuum fluorescent display.</li> <li><b>Is the display correct and complete without any missing elements?</b></li> </ul>	<p><b>Yes</b> GO to F4.</p> <p><b>No</b> INSTALL a new EATC module. TEST the system for normal operation.</p>
<b>F4</b>	<b>CHECK THE BLOWER MANUAL OVERRIDE OPERATION</b>	
	<ul style="list-style-type: none"> <li>Slowly rotate the blower motor speed override control from LO to HI.</li> <li><b>Does the blower motor speed increase smoothly from low speed to high speed?</b></li> </ul>	<p><b>Yes</b> GO to F5.</p>

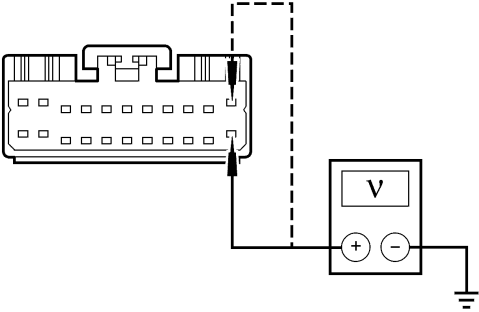
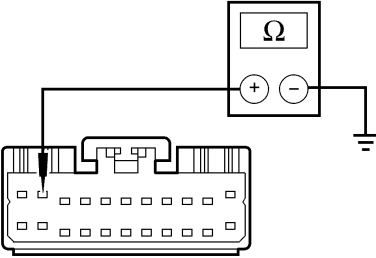
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST F: THE EATC SYSTEM IS INOPERATIVE, INTERMITTENT OR INCORRECT OPERATION (Continued)

<b>F4</b>	<b>CHECK THE BLOWER MANUAL OVERRIDE OPERATION (Continued)</b>	
		<b>No</b> If the blower motor is inoperative, GO to Pinpoint Test N. If the blower motor operates continuously in high speed or if the blower motor is inoperative only in some speeds, GO to Pinpoint Test R.
<b>F5</b>	<b>VERIFY THE DEFROST OVERRIDE OPERATION</b>	
	<ul style="list-style-type: none"> <li>Press the override button for DEFROST operation.</li> <li><b>Is outside air being discharged from the windshield defroster nozzle and the side window demisters?</b></li> </ul>	<b>Yes</b> GO to F6.  <b>No</b> GO to Pinpoint Test H.
<b>F6</b>	<b>VERIFY THE FLOOR OVERRIDE OPERATION</b>	
	<ul style="list-style-type: none"> <li>Press the override button for FLOOR operation.</li> <li><b>Is outside air being discharged from the floor duct?</b></li> </ul>	<b>Yes</b> GO to F7.  <b>No</b> GO to Pinpoint Test H.
<b>F7</b>	<b>VERIFY THE VENT OVERRIDE OPERATION</b>	
	<ul style="list-style-type: none"> <li>Press the override button for PANEL operation.</li> <li><b>Is outside air being discharged from the instrument panel registers?</b></li> </ul>	<b>Yes</b> GO to F8.  <b>No</b> GO to Pinpoint Test H.
<b>F8</b>	<b>VERIFY THE A/C CLUTCH DOES NOT ENGAGE IN THE VENT MODE</b>	
	<ul style="list-style-type: none"> <li>Press the override button for PANEL operation.</li> <li><b>Does the A/C clutch engage when the VENT override button is pressed?</b></li> </ul>	<b>Yes</b> REFER to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.  <b>No</b> GO to F9.
<b>F9</b>	<b>VERIFY THE A/C OVERRIDE OPERATION</b>	
	<ul style="list-style-type: none"> <li>Make sure the ambient air temperature is above 5°C (41°F).</li> <li>Press the override button for A/C operation.</li> <li><b>Is recirculated air being discharged from the instrument panel registers?</b></li> </ul>	<b>Yes</b> GO to F10.  <b>No</b> GO to Pinpoint Test H.
<b>F10</b>	<b>VERIFY A/C CLUTCH ENGAGEMENT IN THE A/C MODE</b>	
	<ul style="list-style-type: none"> <li>Press the override button for A/C operation.</li> <li><b>Does the A/C clutch engage when the A/C override button is pressed?</b></li> </ul>	<b>Yes</b> The test is complete. The system is functioning normally.  <b>No</b> GO to Pinpoint Test J.

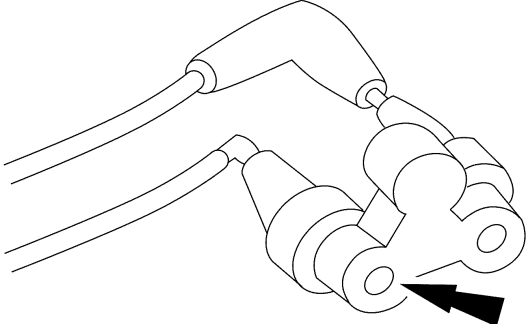
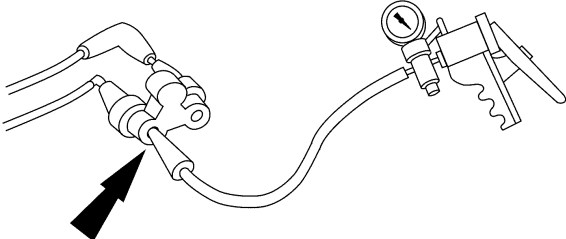
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST F: THE EATC SYSTEM IS INOPERATIVE, INTERMITTENT OR INCORRECT OPERATION (Continued)

F11	<b>CHECK THE EATC MODULE FUNCTIONS</b>	
	<ul style="list-style-type: none"> <li>Press each function button and observe the display.</li> <li><b>Does the EATC perform and display any functions?</b></li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> GO to F12.</p>
F12	<b>CHECK THE VOLTAGE TO THE EATC</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC C228b .</li> <li>Ignition ON.</li> <li>Measure the voltage between ground and:               <ul style="list-style-type: none"> <li>EATC module C228b pin 11, circuit 22 (LB/BK).</li> <li>EATC module C228b pin 22, circuit 296 (WH/VT).</li> </ul> </li> </ul>  <p>A0056192</p> <ul style="list-style-type: none"> <li><b>Are the voltages greater than 10 volts?</b></li> </ul>	<p><b>Yes</b> GO to F13.</p> <p><b>No</b> REPAIR the affected circuit. TEST the system for normal operation.</p>
F13	<b>CHECK THE GROUND CIRCUIT TO THE EATC</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the EATC module C228b pin 2, circuit 676 (PK/OG) and ground.</li> </ul>  <p>A0040174</p> <ul style="list-style-type: none"> <li><b>Is the resistance less than 5 ohms?</b></li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 676 (PK/OG) for an open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL

	Test Step	Result / Action to Take
<b>G1</b>	<b>CHECK THE SYSTEM AIR FLOW</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>With the engine running, set the blower motor speed to maximum.</li> <li>Check for proper air flow in each function selector switch position at engine idle and under acceleration.</li> <li><b>Is there air flow only from the defroster outlets in each function selector switch position?</b></li> </ul>	<p><b>Yes</b> GO to G2.</p> <p><b>No</b> GO to G14.</p>
<b>G2</b>	<b>CHECK FOR VACUUM SUPPLY AT THE RESERVOIR</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Vacuum Reservoir Inlet Hose .</li> <li>Ignition ON.</li> <li>With the engine running, check for vacuum at the vacuum reservoir inlet hose.</li> </ul>  <p>AM1303-A</p> <ul style="list-style-type: none"> <li><b>Is there vacuum?</b></li> </ul>	<p><b>Yes</b> GO to G8.</p> <p><b>No</b> For gasoline engines, GO to G3 . For diesel engines, GO to G4 .</p>
<b>G3</b>	<b>CHECK THE MANIFOLD VACUUM HOSE FOR BLOCKAGE</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Connect a vacuum pump to the manifold vacuum hose and try to pull a vacuum. If the pump pulls and holds a vacuum, the hose is plugged. If the pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>  <p>AM1304-A</p> <ul style="list-style-type: none"> <li><b>Is the vacuum reservoir inlet hose plugged or restricted?</b></li> </ul>	<p><b>Yes</b> INSTALL a new vacuum hose. TEST the system for normal operation.</p> <p><b>No</b> REPAIR the leaking vacuum hose. TEST the system for normal operation.</p>

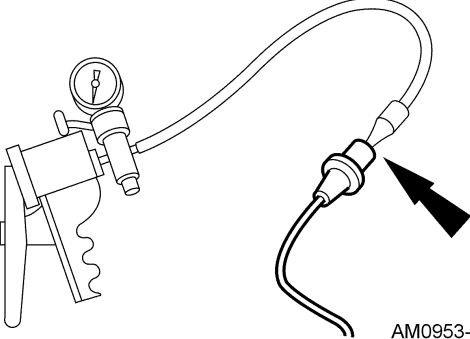
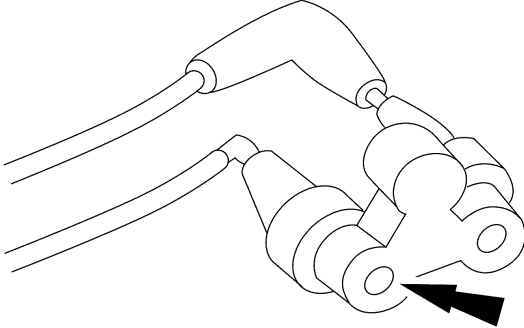
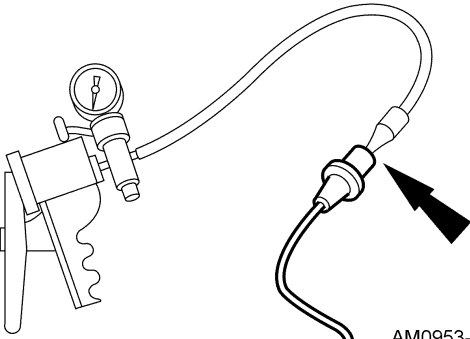
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

<b>G4</b>	<b>CHECK THE VOLTAGE AT THE VACUUM PUMP</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Vacuum Pump C1119 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the vacuum pump C1119 pin 4, circuit 295 (LB/PK) and ground.</li> </ul> <div data-bbox="431 541 683 856"> <p>The diagram shows a vacuum pump with a voltmeter connected to pin 4 and ground. The voltmeter is labeled 'V' and has '+' and '-' terminals. The pump has several pins, with pin 4 being the one connected to the voltmeter.</p> </div> <p style="text-align: right;">AM1305-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul> <div data-bbox="938 772 1435 932"> <p><b>Yes</b> GO to G5.</p> <p><b>No</b> REPAIR circuit 295 (LB/PK). TEST the system for normal operation.</p> </div>
<b>G5</b>	<b>CHECK THE VACUUM PUMP GROUND</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the vacuum pump C1119 pin 2, circuit 57 (BK) and ground.</li> </ul> <div data-bbox="415 1142 667 1457"> <p>The diagram shows a vacuum pump with an ohmmeter connected to pin 2 and ground. The ohmmeter is labeled with the Greek letter Omega (Ω) and has '+' and '-' terminals. The pump has several pins, with pin 2 being the one connected to the ohmmeter.</p> </div> <p style="text-align: right;">AM1306-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <div data-bbox="938 1373 1419 1533"> <p><b>Yes</b> GO to G6.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p> </div>
<b>G6</b>	<b>CHECK THE VACUUM RESERVOIR INLET HOSE FOR BLOCKAGE</b>
	<ul style="list-style-type: none"> <li>Disconnect: Vacuum Reservoir Inlet Hose .</li> <li>Connect a vacuum pump to the vacuum reservoir inlet hose and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul> <div data-bbox="938 1625 1419 1785"> <p><b>Yes</b> INSTALL a new vacuum reservoir inlet hose. TEST the system for normal operation.</p> <p><b>No</b> GO to G7.</p> </div>

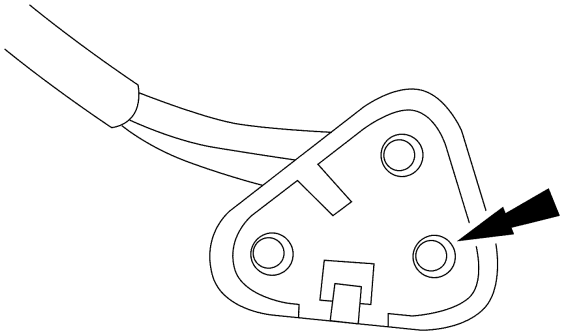
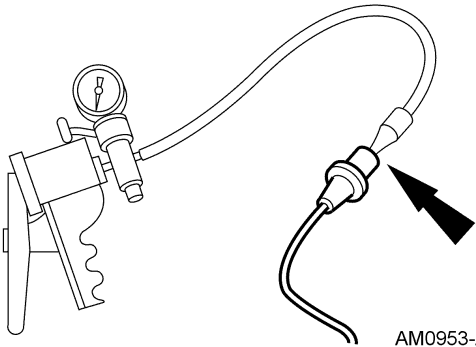
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

G6	CHECK THE VACUUM RESERVOIR INLET HOSE FOR BLOCKAGE (Continued)
	 <p>AM0953-A</p> <ul style="list-style-type: none"> <li>Is the vacuum reservoir inlet hose plugged or restricted?</li> </ul>
G7	CHECK THE VACUUM RESERVOIR INLET HOSE FOR A LEAK
	<ul style="list-style-type: none"> <li>Plug the vacuum reservoir inlet hose.</li> </ul>  <p>AM1303-A</p> <ul style="list-style-type: none"> <li>Leak test the vacuum reservoir inlet hose using the vacuum pump.</li> </ul>  <p>AM0953-A</p> <ul style="list-style-type: none"> <li>Does the vacuum reservoir inlet hose leak?</li> </ul> <p><b>Yes</b> INSTALL a new vacuum reservoir inlet hose. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new vacuum pump. TEST the system for normal operation.</p>
G8	CHECK FOR VACUUM AT THE COWL HARNESS CONNECTOR
	<ul style="list-style-type: none"> <li>Connect: Vacuum Reservoir Inlet Hose .</li> <li>Disconnect: Cowl Vacuum Harness Connector .</li> <li>Check for vacuum at the cowl vacuum harness connector.</li> </ul> <p><b>Yes</b> GO to G12.</p>

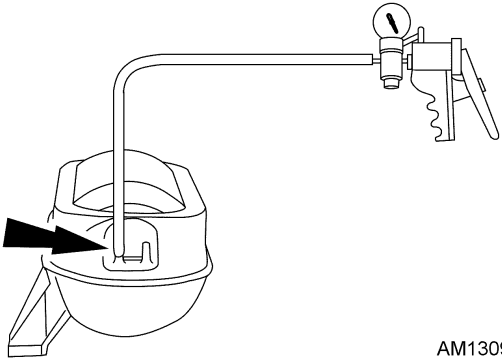
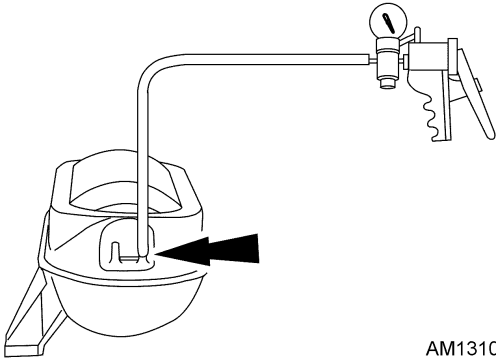
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

<b>G8</b>	<b>CHECK FOR VACUUM AT THE COWL HARNESS CONNECTOR (Continued)</b>
	 <p>AM1311-A</p> <ul style="list-style-type: none"> <li>Is there vacuum?</li> </ul> <p><b>No</b> GO to G9.</p>
<b>G9</b>	<b>CHECK THE VACUUM RESERVOIR OUTLET HOSE FOR BLOCKAGE</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Vacuum Reservoir Outlet Hose .</li> <li>Connect a vacuum pump to the vacuum reservoir outlet hose and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>  <p>AM0953-A</p> <ul style="list-style-type: none"> <li>Is the vacuum reservoir hose plugged or restricted?</li> </ul> <p><b>Yes</b> INSTALL a new vacuum reservoir outlet hose. TEST the system for normal operation.</p> <p><b>No</b> GO to G10.</p>
<b>G10</b>	<b>CHECK THE VACUUM RESERVOIR TANK FOR BLOCKAGE</b>
	<ul style="list-style-type: none"> <li>Connect a vacuum pump to the vacuum reservoir tank inlet (VAC port) and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the tank is plugged. If the vacuum pump pulls a vacuum that slowly decays, the tank is restricted.</li> </ul> <p><b>Yes</b> INSTALL a new vacuum reservoir tank. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> GO to G11.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

G10	CHECK THE VACUUM RESERVOIR TANK FOR BLOCKAGE (Continued)	
	 <p>AM1309-A</p> <ul style="list-style-type: none"> <li>Is the vacuum reservoir tank plugged or restricted?</li> </ul>	
G11	LEAK TEST THE VACUUM RESERVOIR TANK	
	<ul style="list-style-type: none"> <li>Connect a vacuum pump to the vacuum reservoir tank outlet port and try to pull a vacuum.</li> </ul>  <p>AM1310-A</p> <ul style="list-style-type: none"> <li>Does the vacuum reservoir tank leak?</li> </ul>	<p><b>Yes</b> INSTALL a new vacuum reservoir tank. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR the leaking vacuum reservoir outlet hose. TEST the system for normal operation.</p>
G12	CHECK THE FUNCTION SELECTOR SWITCH VACUUM HARNESS FOR BLOCKAGE	
	<ul style="list-style-type: none"> <li>Disconnect: Function Selector Switch Vacuum Harness .</li> <li>Connect a vacuum pump to the black supply hose of the function selector switch vacuum harness connector and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>	<p><b>Yes</b> REPAIR or INSTALL a new vacuum harness. TEST the system for normal operation.</p> <p><b>No</b> GO to G13.</p>



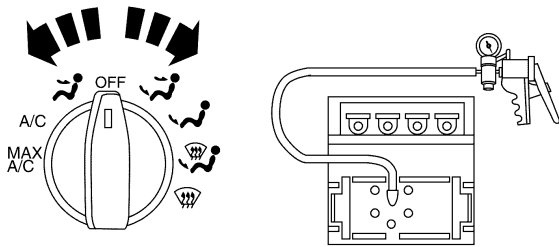
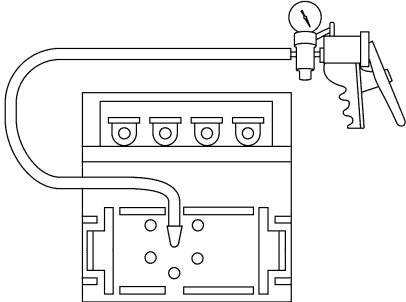
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

G12	CHECK THE FUNCTION SELECTOR SWITCH VACUUM HARNESS FOR BLOCKAGE (Continued)
	<div data-bbox="365 380 824 688" data-label="Image"> </div> <div data-bbox="771 688 868 714" data-label="Caption">AM0342-A</div> <ul style="list-style-type: none"> <li>Is the hose plugged or restricted?</li> </ul>
G13	LEAK TEST THE FUNCTION SELECTOR SWITCH SUPPLY HOSE
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Function Selector Switch Vacuum Harness .</li> <li>Plug the black supply hose at the cowl vacuum connector of the plenum vacuum harness.</li> </ul> <div data-bbox="446 1003 686 1325" data-label="Image"> </div> <div data-bbox="305 1325 402 1350" data-label="Caption">A0040259</div> <ul style="list-style-type: none"> <li>Connect a vacuum pump to the black supply hose of the function selector switch vacuum harness connector and try to pull a vacuum.</li> </ul> <div data-bbox="365 1493 824 1801" data-label="Image"> </div> <div data-bbox="771 1801 868 1827" data-label="Caption">AM0342-A</div> <ul style="list-style-type: none"> <li>Does the function selector switch supply hose leak?</li> </ul> <div data-bbox="938 1654 1458 1879" data-label="Text"> <p><b>Yes</b> REPAIR or INSTALL a new function selector switch supply hose. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new function selector switch. TEST the system for normal operation.</p> </div>
G14	CHECK THE FUNCTION SELECTOR SWITCH FOR BLOCKAGE

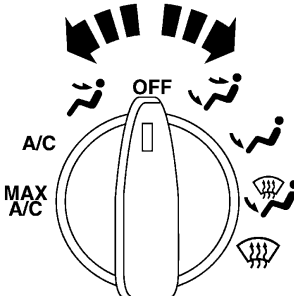
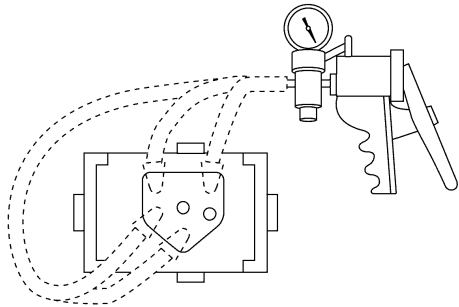
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

<b>G14</b>	<b>CHECK THE FUNCTION SELECTOR SWITCH FOR BLOCKAGE (Continued)</b>
	<ul style="list-style-type: none"> <li>Connect a vacuum pump to the function selector switch vacuum supply port and try to pull a vacuum in each function selector switch position except DEFROST. If the vacuum pump can pull and hold a vacuum, the switch is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul> <div data-bbox="344 604 899 848">  <p>AM1317-A</p> </div> <ul style="list-style-type: none"> <li>Is the switch plugged or restricted?</li> </ul> <div data-bbox="976 762 1508 951"> <p><b>Yes</b> INSTALL a new function selector switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> GO to G15.</p> </div>
<b>G15</b>	<b>LEAK TEST THE FUNCTION SELECTOR SWITCH</b>
	<ul style="list-style-type: none"> <li>Disconnect: Function Selector Switch Vacuum Harness .</li> <li>Connect a vacuum pump to the function selector switch vacuum supply port and plug each control port.</li> </ul> <div data-bbox="456 1157 859 1457">  <p>AM0349-A</p> </div> <ul style="list-style-type: none"> <li>At each function selector switch position apply 51 kPa (15 in-Hg) of vacuum.</li> </ul> <div data-bbox="976 1392 1508 1577"> <p><b>Yes</b> INSTALL a new function selector switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> GO to G16.</p> </div>

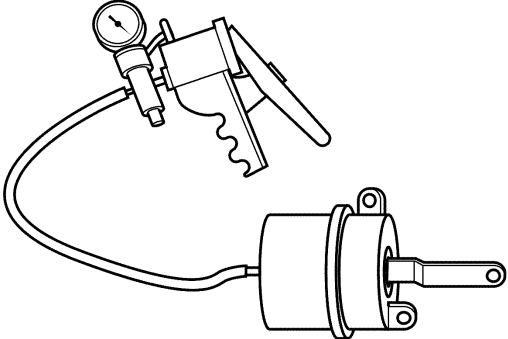
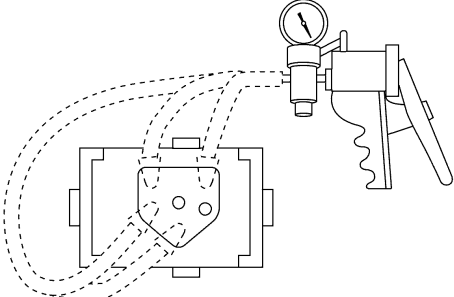
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

G15	LEAK TEST THE FUNCTION SELECTOR SWITCH (Continued)	
	 <p style="text-align: right;">AM0418-A</p> <ul style="list-style-type: none"> <li>Does the vacuum drop exceed 3.37 kPa (1 in-Hg) per minute?</li> </ul>	
G16	CHECK THE VACUUM HOSE	
	<ul style="list-style-type: none"> <li>Connect a vacuum pump to each hose and attempt to pull and hold a vacuum.</li> </ul>  <p style="text-align: right;">AM0350-A</p> <ul style="list-style-type: none"> <li>Does the vacuum in any hose drop exceed 3.37 kPa (1 in-Hg) per minute?</li> </ul>	<p><b>Yes</b> GO to G17.</p> <p><b>No</b> GO to G18.</p>
G17	CHECK THE VACUUM CONTROL MOTOR	
	<ul style="list-style-type: none"> <li>Disconnect: Vacuum Control Motor .</li> <li>Connect a vacuum pump to the affected vacuum control motor. Apply 51 kPa (15 in-Hg) of vacuum.</li> </ul>	<p><b>Yes</b> INSTALL a new vacuum control motor. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR or INSTALL a new vacuum harness. TEST the system for normal operation.</p>

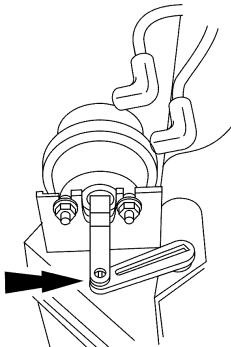
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

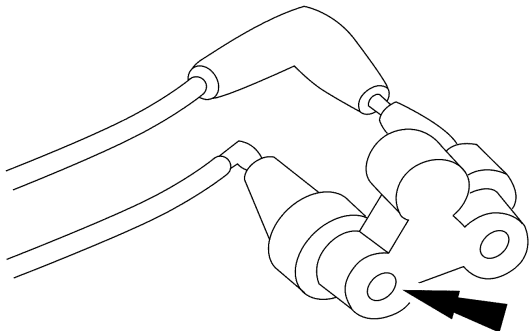
G17	CHECK THE VACUUM CONTROL MOTOR (Continued)
	 <p>AL0136-A</p> <ul style="list-style-type: none"> <li>Does the vacuum drop exceed 1.68 kPa (0.5 in-Hg) per minute?</li> </ul>
G18	CHECK THE VACUUM CONTROL MOTOR HOSES FOR BLOCKAGE
	<ul style="list-style-type: none"> <li>Disconnect: Vacuum Control Motors .</li> <li>Connect a vacuum pump to each hose and try to pull a vacuum. If the vacuum pump can pull and hold a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>  <p>AM0350-A</p> <ul style="list-style-type: none"> <li>Is the hose plugged or restricted?</li> </ul> <p><b>Yes</b> REPAIR or INSTALL a new vacuum harness. TEST the system for normal operation.</p> <p><b>No</b> GO to G19.</p>
G19	CHECK THE VACUUM CONTROL MOTOR INSTALLATION
	<ul style="list-style-type: none"> <li>Check the attachment of the vacuum control motor arm to the damper door.</li> </ul> <p><b>Yes</b> REPAIR the damper door. TEST the system for normal operation.</p> <p><b>No</b> CONNECT the vacuum control motor arm to the door crank arm. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST G: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — MANUAL CLIMATE CONTROL (Continued)

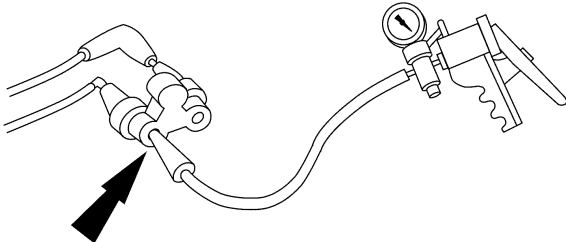
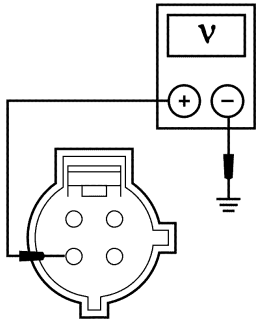
<b>G19</b>	<b>CHECK THE VACUUM CONTROL MOTOR INSTALLATION (Continued)</b>
 <p>AL0158-A</p> <ul style="list-style-type: none"> <li>Is the vacuum control motor arm attached to the door or door crank arm?</li> </ul>	

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC

Test Step		Result / Action to Take
<b>H1</b>	<b>CHECK THE SYSTEM AIR FLOW</b>	
<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>With the engine running, set the blower motor speed to maximum.</li> <li>Check for proper air flow in each manual override selection at engine idle and under acceleration.</li> <li>Is there air flow only from the defroster outlets in each function selector switch position?</li> </ul>		<p><b>Yes</b> GO to H2.</p> <p><b>No</b> GO to H14.</p>
<b>H2</b>	<b>CHECK FOR VACUUM SUPPLY AT THE RESERVOIR</b>	
<ul style="list-style-type: none"> <li>Disconnect: Vacuum Reservoir Inlet Hose .</li> <li>Ignition ON.</li> <li>With the engine running, check for vacuum at the vacuum reservoir inlet hose.</li> </ul>  <p>AM1303-A</p> <ul style="list-style-type: none"> <li>Is there vacuum?</li> </ul>		<p><b>Yes</b> GO to H8.</p> <p><b>No</b> For gasoline engines, GO to H3 . For diesel engines, GO to H4 .</p>
<b>H3</b>	<b>CHECK THE MANIFOLD VACUUM HOSE FOR BLOCKAGE</b>	

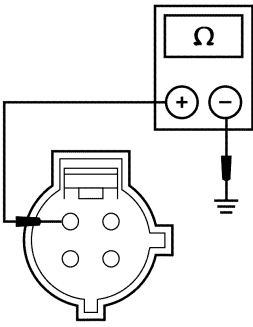
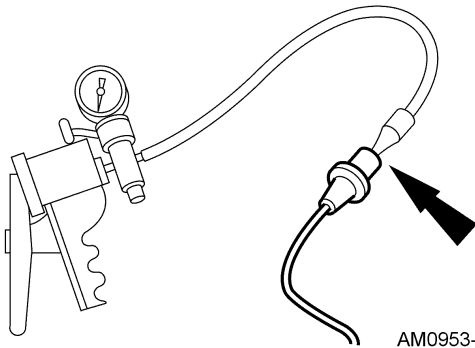
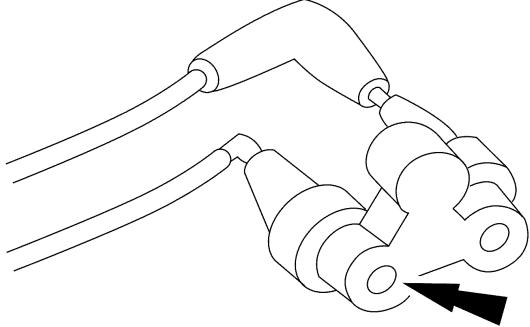
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

H3	CHECK THE MANIFOLD VACUUM HOSE FOR BLOCKAGE (Continued)
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Connect a vacuum pump to the manifold vacuum hose and try to pull a vacuum. If the pump pulls and holds a vacuum, the hose is plugged. If the pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>  <p style="text-align: right;">AM1304-A</p> <ul style="list-style-type: none"> <li>Is the vacuum reservoir inlet hose plugged or restricted?</li> </ul> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p><b>Yes</b> INSTALL a new vacuum hose. TEST the system for normal operation.</p> <p><b>No</b> REPAIR the leaking vacuum hose. TEST the system for normal operation.</p> </div> </div>
H4	CHECK THE VOLTAGE AT THE VACUUM PUMP
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Vacuum Pump C1119 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the vacuum pump C1119 pin 4, circuit 295 (LB/PK) and ground.</li> </ul>  <p style="text-align: right;">AM1305-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p><b>Yes</b> GO to H5.</p> <p><b>No</b> REPAIR circuit 295 (LB/PK). TEST the system for normal operation.</p> </div> </div>
H5	CHECK THE VACUUM PUMP GROUND
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the vacuum pump C1119 pin 2, circuit 57 (BK) and ground.</li> </ul> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p><b>Yes</b> GO to H6.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p> </div> </div>

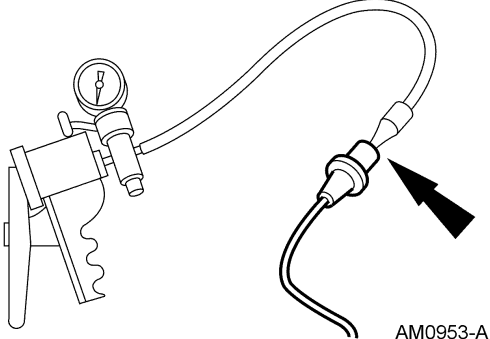
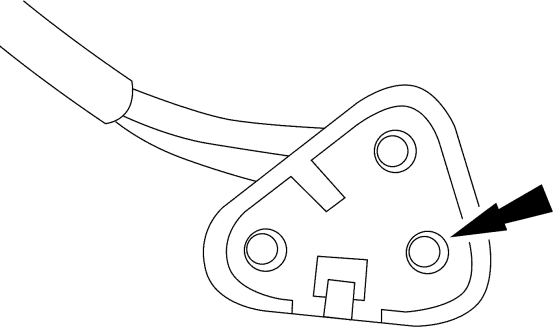
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

H5	CHECK THE VACUUM PUMP GROUND (Continued)
 <p style="text-align: right;">AM1306-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
H6	CHECK THE VACUUM RESERVOIR INLET HOSE FOR BLOCKAGE
<ul style="list-style-type: none"> <li>Disconnect: Vacuum Reservoir Inlet Hose .</li> <li>Connect a vacuum pump to the vacuum reservoir inlet hose and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>  <p style="text-align: right;">AM0953-A</p> <ul style="list-style-type: none"> <li>Is the vacuum reservoir inlet hose plugged or restricted?</li> </ul>	
H7	CHECK THE VACUUM RESERVOIR INLET HOSE FOR A LEAK
<ul style="list-style-type: none"> <li>Plug the vacuum reservoir inlet hose.</li> </ul>  <p style="text-align: right;">AM1303-A</p>	
<p><b>Yes</b> INSTALL a new vacuum reservoir inlet hose. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new vacuum pump. TEST the system for normal operation.</p>	

## DIAGNOSIS AND TESTING(Continued)

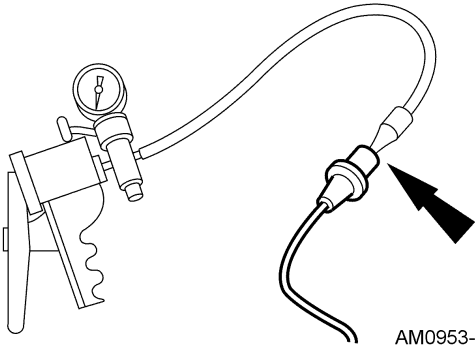
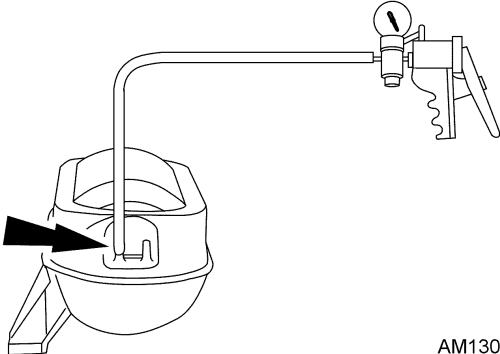
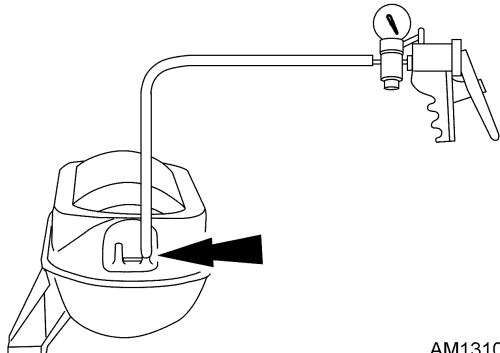
### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

<b>H7</b>	<b>CHECK THE VACUUM RESERVOIR INLET HOSE FOR A LEAK (Continued)</b>
	<ul style="list-style-type: none"> <li>Leak test the vacuum reservoir inlet hose using the vacuum pump.</li> </ul>  <p>AM0953-A</p> <ul style="list-style-type: none"> <li>Does the vacuum reservoir inlet hose leak?</li> </ul>
<b>H8</b>	<b>CHECK FOR VACUUM AT THE COWL HARNESS CONNECTOR</b> <ul style="list-style-type: none"> <li>Connect: Vacuum Reservoir Inlet Hose .</li> <li>Disconnect: Cowl Vacuum Harness Connector .</li> <li>Check for vacuum at the cowl vacuum harness connector.</li> </ul>  <p>AM1311-A</p> <ul style="list-style-type: none"> <li>Is there vacuum?</li> </ul> <p><b>Yes</b> GO to H12.</p> <p><b>No</b> GO to H9.</p>
<b>H9</b>	<b>CHECK THE VACUUM RESERVOIR OUTLET HOSE FOR BLOCKAGE</b> <ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Vacuum Reservoir Outlet Hose .</li> <li>Connect a vacuum pump to the vacuum reservoir outlet hose and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul> <p><b>Yes</b> INSTALL a new vacuum reservoir outlet hose. TEST the system for normal operation.</p> <p><b>No</b> GO to H10.</p>



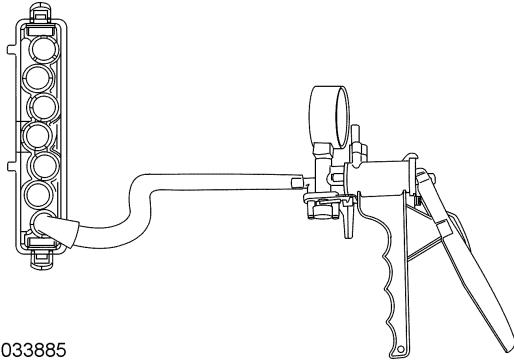
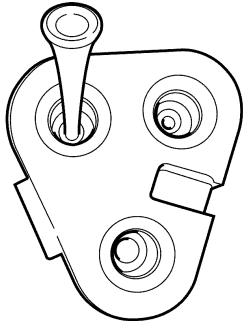
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

H9	CHECK THE VACUUM RESERVOIR OUTLET HOSE FOR BLOCKAGE (Continued)
	 <p>AM0953-A</p> <ul style="list-style-type: none"> <li>Is the vacuum reservoir hose plugged or restricted?</li> </ul>
H10	CHECK THE VACUUM RESERVOIR TANK FOR BLOCKAGE
	<ul style="list-style-type: none"> <li>Connect a vacuum pump to the vacuum reservoir tank inlet (VAC port) and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the tank is plugged. If the vacuum pump pulls a vacuum that slowly decays, the tank is restricted.</li> </ul>  <p>AM1309-A</p> <ul style="list-style-type: none"> <li>Is the vacuum reservoir tank plugged or restricted?</li> </ul> <p><b>Yes</b> INSTALL a new vacuum reservoir tank. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> GO to H11.</p>
H11	LEAK TEST THE VACUUM RESERVOIR TANK
	<ul style="list-style-type: none"> <li>Connect a vacuum pump to the vacuum reservoir tank outlet port and try to pull a vacuum.</li> </ul>  <p>AM1310-A</p> <p><b>Yes</b> INSTALL a new vacuum reservoir tank. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR the leaking vacuum reservoir outlet hose. TEST the system for normal operation.</p>

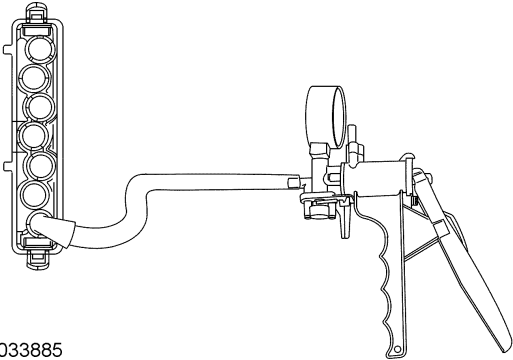
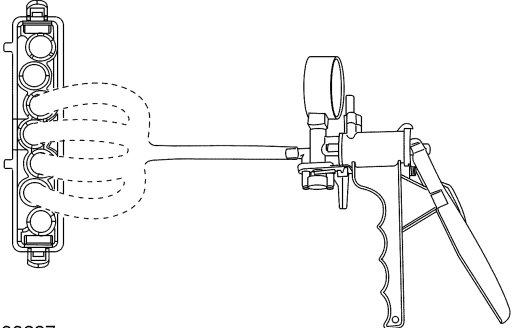
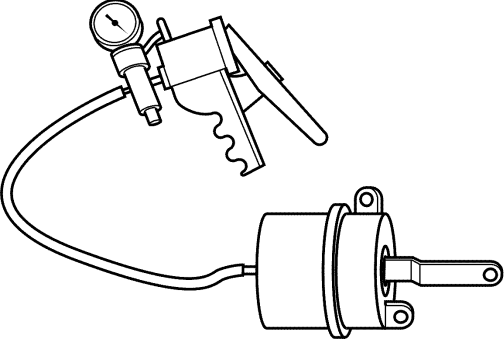
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

<b>H11</b>	<b>LEAK TEST THE VACUUM RESERVOIR TANK (Continued)</b>	
	<ul style="list-style-type: none"> <li>Does the vacuum reservoir tank leak?</li> </ul>	
<b>H12</b>	<b>CHECK THE REMOTE SOLENOID ASSEMBLY VACUUM HARNESS FOR BLOCKAGE</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Remote Solenoid Assembly Vacuum Harness .</li> <li>Connect a vacuum pump to the black supply hose of the remote solenoid assembly vacuum harness connector and try to pull a vacuum. If the vacuum pump pulls and holds a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>	
	 <p>A0033885</p> <ul style="list-style-type: none"> <li>Is the hose plugged or restricted?</li> </ul>	<p><b>Yes</b> REPAIR or INSTALL a new vacuum harness. TEST the system for normal operation.</p> <p><b>No</b> GO to H13.</p>
<b>H13</b>	<b>LEAK TEST THE FUNCTION REMOTE SOLENOID ASSEMBLY SUPPLY HOSE</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Remote Solenoid Assembly Vacuum Harness .</li> <li>Plug the black supply hose at the cowl vacuum connector of the plenum vacuum harness.</li> </ul>	
	 <p>A0040259</p> <ul style="list-style-type: none"> <li>Connect a vacuum pump to the black supply hose of the function selector switch vacuum harness connector and try to pull a vacuum.</li> </ul>	<p><b>Yes</b> REPAIR or INSTALL a new remote solenoid assembly supply hose. TEST the system for normal operation.</p> <p><b>No</b> GO to H14.</p>

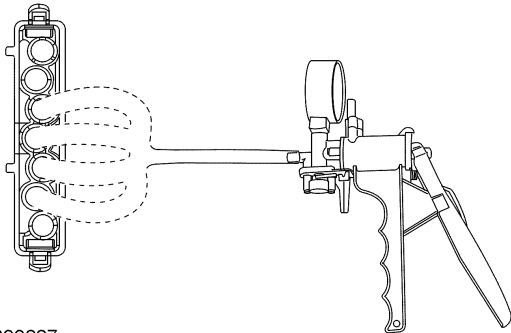
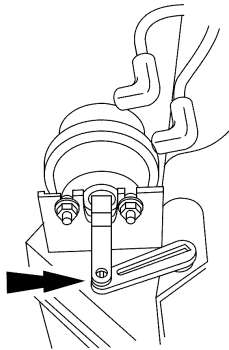
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

H13	LEAK TEST THE FUNCTION REMOTE SOLENOID ASSEMBLY SUPPLY HOSE (Continued)
	 <p>A0033885</p> <ul style="list-style-type: none"> <li>Does the remote solenoid assembly supply hose leak?</li> </ul>
H14	CHECK THE VACUUM HOSE
	<ul style="list-style-type: none"> <li>Connect a vacuum pump to each hose and attempt to pull and hold a vacuum.</li> </ul>  <p>A0033887</p> <ul style="list-style-type: none"> <li>Does the vacuum in any hose drop exceed 3.37 kPa (1 in-Hg) per minute?</li> </ul> <p><b>Yes</b> GO to H15.</p> <p><b>No</b> GO to H16.</p>
H15	CHECK THE VACUUM CONTROL MOTOR
	<ul style="list-style-type: none"> <li>Disconnect: Vacuum Control Motor .</li> <li>Connect a vacuum pump to the affected vacuum control motor. Apply 51 kPa (15 in-Hg) of vacuum.</li> </ul>  <p>AL0136-A</p> <p><b>Yes</b> INSTALL a new vacuum control motor. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR or INSTALL a new vacuum harness. TEST the system for normal operation.</p>

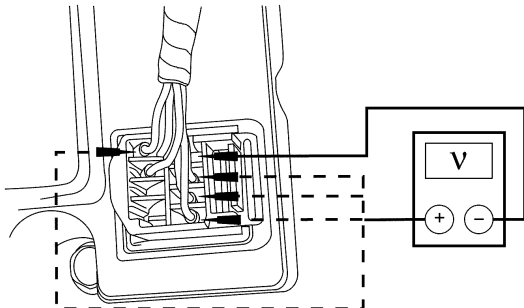
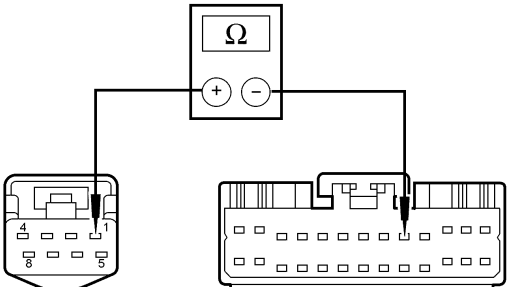
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

<b>H15</b>	<b>CHECK THE VACUUM CONTROL MOTOR (Continued)</b>	
	<ul style="list-style-type: none"> <li>Does the vacuum drop exceed 1.68 kPa (0.5 in-Hg) per minute?</li> </ul>	
<b>H16</b>	<b>CHECK THE VACUUM CONTROL MOTOR HOSES FOR BLOCKAGE</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Vacuum Control Motors .</li> <li>Connect a vacuum pump to each hose and try to pull a vacuum. If the vacuum pump can pull and hold a vacuum, the hose is plugged. If the vacuum pump pulls a vacuum that slowly decays, the hose is restricted.</li> </ul>  <p>A0033887</p> <ul style="list-style-type: none"> <li>Is the hose plugged or restricted?</li> </ul>	<p><b>Yes</b> REPAIR or INSTALL a new vacuum harness. TEST the system for normal operation.</p> <p><b>No</b> GO to H17.</p>
<b>H17</b>	<b>CHECK THE VACUUM CONTROL MOTOR DOOR AND LINKAGE INSTALLATION</b>	
	<ul style="list-style-type: none"> <li>Inspect the vacuum control door and linkage for a disconnected, broken or binding condition.</li> </ul>  <p>AL0158-A</p> <ul style="list-style-type: none"> <li>Was a condition found?</li> </ul>	<p><b>Yes</b> REPAIR the door or linkage. TEST the system for normal operation.</p> <p><b>No</b> GO to H18.</p>
<b>H18</b>	<b>CHECK THE ATC SOLENOID AND MANIFOLD</b>	
	<ul style="list-style-type: none"> <li>Connect the vacuum harness connector to the ATC solenoid and manifold.</li> <li>Ignition ON.</li> <li>With the engine running, press the PANEL/FLOOR button then the RECIRCULATION button on the EATC module.</li> <li><b>NOTE:</b> The following measurements must be taken by back-probing the ATC solenoid and manifold C2093.</li> </ul>	<p><b>Yes</b> INSTALL a new ATC solenoid and manifold. TEST the system for normal operation.</p> <p><b>No</b> If none of the circuits measure greater than 10 volts, GO to H19 .</p>

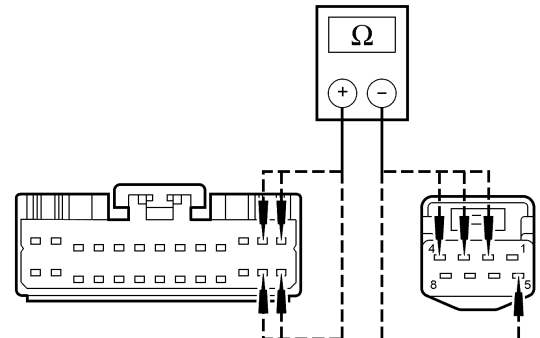
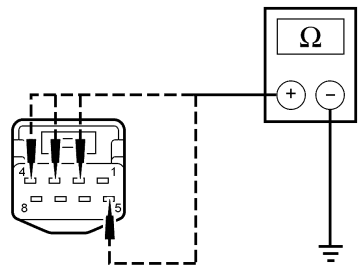
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

H18	<b>CHECK THE ATC SOLENOID AND MANIFOLD (Continued)</b>	<p>Measure the voltage between ATC solenoid and manifold C2093 pin 1, circuit 1112 (WH/LB) and:</p> <ul style="list-style-type: none"> <li>— pin 2, circuit 1107 (WH).</li> <li>— pin 4, circuit 1109 (OG/BK).</li> <li>— pin 5, circuit 1110 (LG/VT).</li> </ul>  <p>A003388</p> <ul style="list-style-type: none"> <li>• Are all the voltages greater than 10 volts?</li> </ul> <p>If some of the circuits measure greater than 10 volts, GO to H20 .</p>
H19	<b>CHECK CIRCUIT 1112 (WH/LB)</b>	<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Disconnect: EATC Module 228a and ATC Solenoid and Manifold C2093 .</li> <li>• Measure the resistance between the EATC module C228a pin 9, circuit 1112 (WH/LB) and the ATC solenoid and manifold C2093 pin 1, circuit 1112 (WH/LB).</li> </ul>  <p>A0040175</p> <ul style="list-style-type: none"> <li>• Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to H20.</p> <p><b>No</b> REPAIR circuit 1112 (WH/LB) for an open. TEST the system for normal operation.</p>
H20	<b>CHECK THE ATC SOLENOID AND MANIFOLD CIRCUITS FOR AN OPEN</b>	<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Measure the resistance between the harness side of the connectors/pins indicated below that corresponds to the affected circuits.</li> </ul> <p>— Circuit 1107 (WH), EATC C228a pin 13 and ATC solenoid and manifold C2093 pin 2.</p> <p><b>Yes</b> GO to H21.</p> <p><b>No</b> REPAIR the affected circuit for an open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

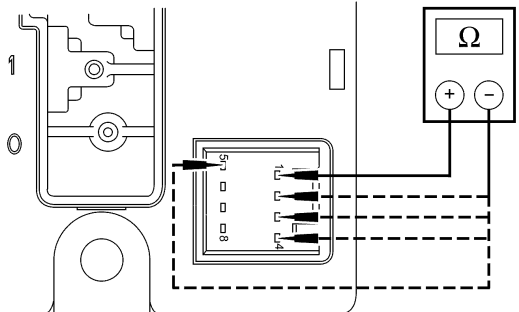
H20	<b>CHECK THE ATC SOLENOID AND MANIFOLD CIRCUITS FOR AN OPEN (Continued)</b>
	<ul style="list-style-type: none"> <li>— Circuit 1108 (TN/WH), EATC C228a pin 26 and ATC solenoid and manifold C2093 pin 3.</li> <li>— Circuit 1109 (OG/BK), EATC C228a pin 25 and ATC solenoid and manifold C2093 pin 4.</li> <li>— Circuit 1110 (LG/VT), EATC C228a pin 12 and ATC solenoid and manifold C2093 pin 5.</li> </ul>  <p>A0040176</p> <ul style="list-style-type: none"> <li>• Is the resistance less than 5 ohms?</li> </ul>
H21	<b>CHECK THE ATC SOLENOID AND MANIFOLD CIRCUITS FOR A SHORT TO GROUND</b>
	<ul style="list-style-type: none"> <li>• Measure the resistance between the harness side of the connectors/pins indicated below that corresponds to the affected circuits and ground.</li> <li>— Circuit 1107 (WH), ATC solenoid and manifold C2093 pin 2.</li> <li>— Circuit 1108 (TN/WH), ATC solenoid and manifold C2093 pin 3.</li> <li>— Circuit 1109 (OG/BK), ATC solenoid and manifold C2093 pin 4.</li> <li>— Circuit 1110 (LG/VT), ATC solenoid and manifold C2093 pin 5.</li> </ul>  <p>A0040177</p> <ul style="list-style-type: none"> <li>• Is the resistance greater than 10,000 ohms?</li> </ul>
H22	<b>CHECK THE ATC SOLENOID AND MANIFOLD</b>

**Yes**  
GO to H22.


**No**  
REPAIR the affected circuit for a short to ground. TEST the system for normal operation.

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST H: INCORRECT/ERRATIC DIRECTION OF AIRFLOW FROM OUTLET(S) — EATC (Continued)

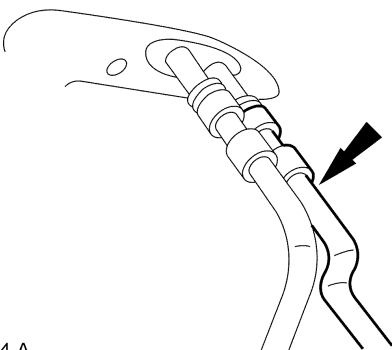
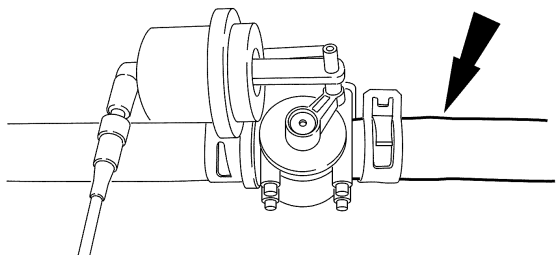
H22	CHECK THE ATC SOLENOID AND MANIFOLD (Continued)	
	<ul style="list-style-type: none"> <li>Measure the resistance between the ATC solenoid and manifold C2093:               <ul style="list-style-type: none"> <li>— pin 1 and pin 2, component side.</li> <li>— pin 1 and pin 3, component side.</li> <li>— pin 1 and pin 4, component side.</li> <li>— pin 1 and pin 5, component side.</li> </ul> </li> </ul>  <p>A0033894</p> <ul style="list-style-type: none"> <li>Are the resistances approximately 50 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new ATC solenoid and manifold. TEST the system for normal operation.</p>

### PINPOINT TEST I: INSUFFICIENT, ERRATIC OR NO HEAT

	Test Step	Result / Action to Take
I1	CHECK FOR PROPER ENGINE COOLANT LEVEL	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Check the engine coolant level when hot and cold.</li> <li>Is the engine coolant at the correct level (hot/cold) as indicated on the engine coolant recovery reservoir?</li> </ul>	<p><b>Yes</b> GO to I3.</p> <p><b>No</b> GO to I2.</p>
I2	CHECK THE ENGINE COOLING SYSTEM FOR LEAKS	
	<ul style="list-style-type: none"> <li>Pressure test the cooling system for leaks. Refer to Section 303-03.</li> <li>Does the engine cooling system leak?</li> </ul>	<p><b>Yes</b> REPAIR the engine coolant leak. TEST the system for normal operation.</p> <p><b>No</b> GO to I3.</p>
I3	CHECK FOR COOLANT FLOW TO THE HEATER CORE	
	<p> <b>WARNING:</b> The heater core inlet hose will become too hot to handle and may cause serious burns if the system is working correctly.</p> <ul style="list-style-type: none"> <li>Run the engine until it reaches normal operation temperature. Select the FLOOR position on the control assembly. Set the temperature control to full WARM.</li> <li>Feel the heater core inlet hose to see if it is hot.</li> </ul>	<p><b>Yes</b> GO to I7.</p> <p><b>No</b> GO to I4.</p>

## DIAGNOSIS AND TESTING(Continued)

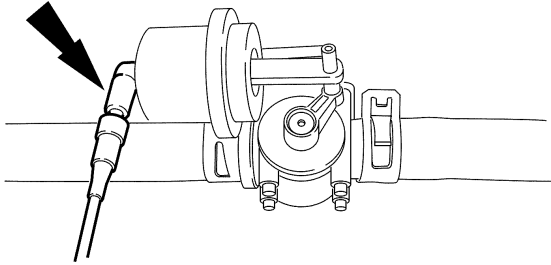

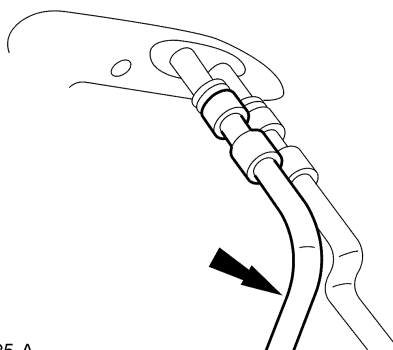
### PINPOINT TEST I: INSUFFICIENT, ERRATIC OR NO HEAT (Continued)

I3	CHECK FOR COOLANT FLOW TO THE HEATER CORE (Continued)
 <p>GL1024-A</p> <ul style="list-style-type: none"> <li>Is the heater core inlet hose hot?</li> </ul>	
I4	CHECK FOR COOLANT FLOW TO THE HEATER CONTROL VALVE
<p><b>⚠ WARNING:</b> The heater control valve inlet hose will become too hot to handle and may cause serious burns if the system is working correctly.</p> <ul style="list-style-type: none"> <li>Feel the heater control valve inlet hose to see if it is hot.</li> </ul>  <p>A0035188</p> <ul style="list-style-type: none"> <li>Is the heater control valve inlet hose hot?</li> </ul>	<p><b>Yes</b> GO to I5.</p> <p><b>No</b> REFER to Section 303-03.</p>
I5	CHECK FOR VACUUM AT THE HEATER CONTROL VALVE
<p><b>NOTE:</b> Vacuum should not be present in FLOOR and full WARM. Vacuum should only be present in MAX A/C.</p> <ul style="list-style-type: none"> <li>Disconnect the heater control valve vacuum connector and check for vacuum.</li> </ul>	<p><b>Yes</b> GO to I6.</p> <p><b>No</b> INSTALL a new heater control valve. TEST the system for normal operation.</p>



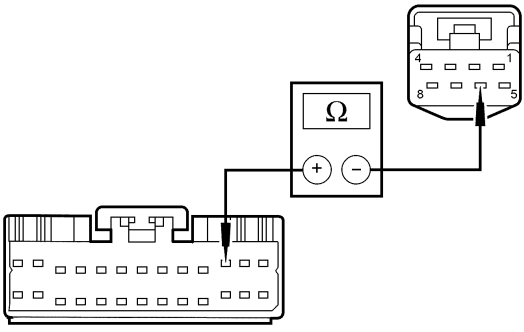
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST I: INSUFFICIENT, ERRATIC OR NO HEAT (Continued)

I5	CHECK FOR VACUUM AT THE HEATER CONTROL VALVE (Continued)	
	 <p>A0035187</p> <ul style="list-style-type: none"> <li>Is vacuum present at the heater control valve?</li> </ul>	
I6	CHECK FOR INCORRECT VACUUM LINE PLACEMENT	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Inspect the heater control valve and A/C vacuum lines for correct placement.</li> <li>Is the vacuum line placement correct?</li> </ul>	<p><b>Yes</b> Vehicles with manual climate control, INSTALL a new climate control assembly. REFER to Section 412-04. TEST the system for normal operation. Vehicles with EATC, GO to I8 .</p> <p><b>No</b> CORRECT the vacuum line placement. TEST the system for normal operation.</p>
I7	CHECK FOR A PLUGGED OR RESTRICTED HEATER CORE	
	<p> <b>WARNING:</b> The heater core outlet hose will become too hot to handle and may cause serious burns if the system is operating correctly.</p> <ul style="list-style-type: none"> <li>Feel the heater core outlet hose to see if it is hot.</li> </ul>  <p>GL1025-A</p> <ul style="list-style-type: none"> <li>Is the heater core outlet hose hot?</li> </ul>	<p><b>Yes</b> Vehicles with manual climate control, GO to Pinpoint Test L. Vehicles with EATC, GO to Pinpoint Test A.</p> <p><b>No</b> INSTALL a new heater core. REFER to Section 412-02. TEST the system for normal operation.</p>
I8	CHECK THE CIRCUIT FOR AN OPEN	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: DATC/EATC Module C228a .</li> <li>Disconnect: RSA Module C2093 .</li> </ul>	<p><b>Yes</b> INSTALL a new RSA module. REFER to Section 412-04. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST I: INSUFFICIENT, ERRATIC OR NO HEAT (Continued)

<b>I8</b>	<b>CHECK THE CIRCUIT FOR AN OPEN (Continued)</b>	
<ul style="list-style-type: none"> <li>Measure the resistance between the DATC/EATC module C228a-11, circuit 1111 (VT) and the RSA module C2093-6, circuit 1111 (VT).</li> </ul>		
 <p>A0067630</p>		
<ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>		<p><b>No</b> REPAIR circuit 1111 (VT) for an open. TEST the system for normal operation.</p>

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY

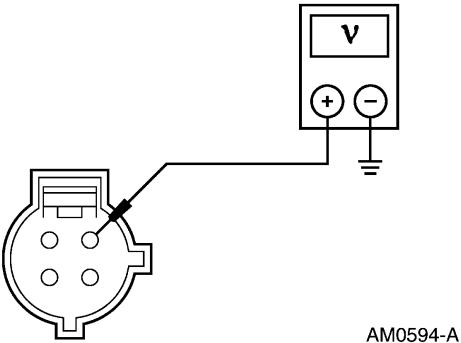
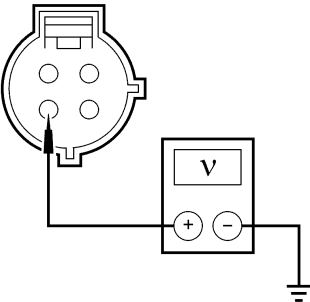
**NOTE:** Before carrying out the following test, diagnose any PCM DTCs.

**NOTE:** Before carrying out the following test, check that the A/C system pressure is above 290 kPa (42 psi). If the pressure is below 290 kPa (42 psi), refer to Fluorescent Dye Leak Detection.

Test Step		Result / Action to Take
<b>J1</b>	<b>CHECK PID ACCS WITH THE A/C OFF</b>	
<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>With the engine running, place the function selector switch to the OFF position, or press the OFF manual override button on the EATC module.</li> <li>Enter the following diagnostic mode on the scan tool: PCM PID ACCS .</li> <li>Does the PCM PID ACCS read ON?</li> </ul>		<p><b>Yes</b> GO to Pinpoint Test K.</p> <p><b>No</b> GO to J2.</p>
<b>J2</b>	<b>CHECK PID WAC WITH THE A/C OFF</b>	
<ul style="list-style-type: none"> <li>Enter the following diagnostic mode on the scan tool: PCM PID WAC .</li> <li>Does the PCM PID WAC read ON?</li> </ul>		<p><b>Yes</b> REFER to Powertrain Control/Emissions Diagnosis (PC/ED) manual.</p> <p><b>No</b> GO to J3.</p>
<b>J3</b>	<b>CHECK THE PID ACCS WITH THE A/C ON</b>	
<ul style="list-style-type: none"> <li>Enter the following diagnostic mode on the scan tool: PCM PID ACCS .</li> <li>Place the function selector switch in the MAX A/C position, or press the DEFROST button on the EATC module.</li> <li>Does the PCM PID ACCS read ON?</li> </ul>		<p><b>Yes</b> GO to J4.</p> <p><b>No</b> GO to J5.</p>
<b>J4</b>	<b>CHECK THE PID WAC WITH THE A/C ON</b>	

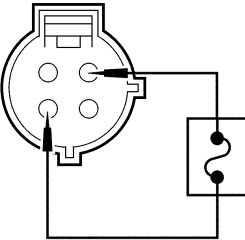
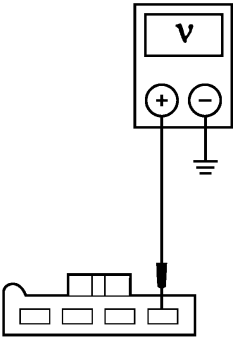
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

<b>J4</b>	<b>CHECK THE PID WAC WITH THE A/C ON (Continued)</b>
<ul style="list-style-type: none"> <li>Enter the following diagnostic mode on the scan tool: PCM PID WAC .</li> <li><b>Does the PCM PID WAC read ON?</b></li> </ul>	<p><b>Yes</b> GO to J14.</p> <p><b>No</b> REFER to Powertrain Control/Emissions Diagnosis (PC/ED) manual.</p>
<b>J5</b>	<b>CHECK THE A/C PRESSURE CUTOFF SWITCH VOLTAGE</b>
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: A/C Pressure Cutoff Switch C1078 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the A/C pressure cutoff switch C1078, circuit 441 (RD/YE) and ground.</li> </ul>  <p>AM0594-A</p> <ul style="list-style-type: none"> <li><b>Is the voltage greater than 10 volts?</b></li> </ul>	<p><b>Yes</b> GO to J12.</p> <p><b>No</b> GO to J6.</p>
<b>J6</b>	<b>CHECK THE A/C CYCLING SWITCH VOLTAGE</b>
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: A/C Cycling Switch C1081 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the A/C cycling switch C1081, circuit 348 (VT) and ground.</li> </ul>  <p>A0008125</p> <ul style="list-style-type: none"> <li><b>Is the voltage greater than 10 volts?</b></li> </ul>	<p><b>Yes</b> GO to J7.</p> <p><b>No</b> Vehicles with manual climate control, GO to J8 . Vehicles with EATC, GO to J10 .</p>
<b>J7</b>	<b>CHECK THE A/C CYCLING SWITCH</b>

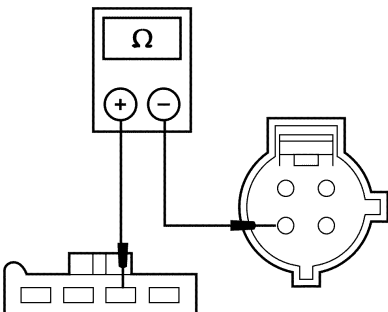
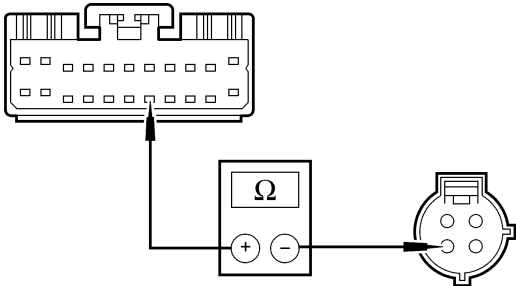
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

<b>J7</b>	<b>CHECK THE A/C CYCLING SWITCH (Continued)</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the A/C cycling switch terminals.</li> </ul>  <p>A0008126</p> <ul style="list-style-type: none"> <li>Is the resistance less than 21 ohms?</li> </ul> <p><b>Yes</b> REPAIR circuit 441 (RD/YE). TEST the system for normal operation.</p> <p><b>No</b> GO to J11.</p>
<b>J8</b>	<b>CHECK THE VOLTAGE AT THE FUNCTION SELECTOR SWITCH</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Remove the climate control assembly. Refer to Section 412-04.</li> <li>Disconnect: Function Selector Switch C294a .</li> <li>Ignition ON.</li> <li>Measure the voltage between the function selector switch C294a pin 1, circuit 296 (WH/VT) and ground.</li> </ul>  <p>AM0585-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul> <p><b>Yes</b> GO to J9.</p> <p><b>No</b> REPAIR circuit 296 (WH/VT). TEST the system for normal operation.</p>
<b>J9</b>	<b>CHECK CIRCUIT 348 (VT) FOR AN OPEN</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the function selector switch C294a, circuit 348 (VT) and the A/C cycling switch C1081, circuit 348 (VT).</li> </ul> <p><b>Yes</b> INSTALL a new function selector switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 348 (VT). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

J9	CHECK CIRCUIT 348 (VT) FOR AN OPEN (Continued)
 <p style="text-align: right;">AM1337-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
J10	CHECK CIRCUIT 348 (VT) FOR AN OPEN
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC module C228b .</li> <li>Measure the resistance between the EATC C228b pin 18, circuit 348 (VT) and the A/C cycling switch C1081, circuit 348 (VT).</li> </ul>  <p style="text-align: right;">A0040178</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
J11	CHECK THE A/C SYSTEM PRESSURE
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Connect the manifold gauge set. Refer to Manifold Gauge Set Connection in this section.</li> <li>Is the pressure reading between 345 kPa (50 psi) and 1724 kPa (250 psi)?</li> </ul>	<p><b>Yes</b> INSTALL a new A/C cycling switch. TEST the system for normal operation.</p> <p><b>No</b> CHECK the system for refrigerant leaks. REFER to Electronic Leak Detection and Fluorescent Dye Leak Detection in this section.</p>
J12	CHECK THE A/C PRESSURE CUTOFF SWITCH
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Connect a fused jumper lead between the A/C pressure cutoff switch C1078, circuit 441 (RD/YE) and, circuit 439 (TN/LG).</li> </ul>	<p><b>Yes</b> INSTALL a new A/C pressure cutoff switch (19D594). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

J12	CHECK THE A/C PRESSURE CUTOFF SWITCH (Continued)
	<div data-bbox="495 384 745 621" data-label="Diagram"> </div> <div data-bbox="341 659 435 682" data-label="Text"> <p>A0008127</p> </div> <div data-bbox="253 699 698 762" data-label="List-Group"> <ul style="list-style-type: none"> <li>• Start the engine.</li> <li>• <b>Does the A/C compressor operate?</b></li> </ul> </div> <div data-bbox="969 701 1096 764" data-label="Text"> <p><b>No</b> GO to J13.</p> </div>
J13	CHECK CIRCUIT 439 (TN/LG)
	<div data-bbox="253 852 930 1005" data-label="List-Group"> <ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Remove the fused jumper lead from the A/C pressure cutoff switch C1078.</li> <li>• Disconnect: PCM C175 or C1381a (6.0L only) .</li> <li>• <b>NOTE:</b> For 6.0L only.</li> </ul> </div> <div data-bbox="290 1033 932 1119" data-label="Text"> <p>Measure the resistance between the A/C pressure cutoff switch C1078, circuit 439 (TN/LG) and the PCM C1381a pin 8, circuit 439 (TN/LG).</p> </div> <div data-bbox="376 1157 862 1463" data-label="Diagram"> </div> <div data-bbox="341 1467 438 1491" data-label="Text"> <p>A0059917</p> </div> <div data-bbox="253 1507 714 1541" data-label="List-Group"> <ul style="list-style-type: none"> <li>• <b>NOTE:</b> For all engines except 6.0L.</li> </ul> </div> <div data-bbox="290 1564 946 1652" data-label="Text"> <p>Measure the resistance between the A/C pressure cutoff switch C1078, circuit 439 (TN/LG) and the PCM C175 pin 41, circuit 439 (TN/LG).</p> </div> <div data-bbox="969 1459 1422 1547" data-label="Text"> <p><b>Yes</b> INSTALL a new PCM. REFER to Section 303-14A.</p> </div> <div data-bbox="969 1562 1487 1652" data-label="Text"> <p><b>No</b> REPAIR circuit 439 (TN/LG). TEST the system for normal operation.</p> </div>

## DIAGNOSIS AND TESTING(Continued)

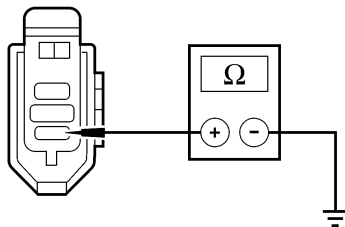
### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

J13	CHECK CIRCUIT 439 (TN/LG) (Continued)
	<div data-bbox="323 346 846 632"> </div> <p data-bbox="306 659 399 680">A0040179</p> <ul data-bbox="219 699 662 726" style="list-style-type: none"> <li>• Is the resistance less than 5 ohms?</li> </ul>
J14	CHECK THE VOLTAGE AT THE A/C COMPRESSOR CLUTCH FIELD COIL
	<ul data-bbox="219 821 911 972" style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Disconnect: A/C Compressor Clutch Field Coil C100 .</li> <li>• Ignition ON.</li> <li>• Measure the voltage between the A/C compressor clutch field coil C100, circuit 321 (GY/WH) and ground.</li> </ul> <div data-bbox="410 1077 753 1268"> </div> <p data-bbox="776 1325 867 1346">GL1034-A</p> <ul data-bbox="219 1365 667 1392" style="list-style-type: none"> <li>• Is the voltage greater than 10 volts?</li> </ul> <div data-bbox="938 1262 1057 1392"> <p><b>Yes</b> GO to J15.</p> <p><b>No</b> GO to J16.</p> </div>
J15	CHECK THE GROUND AT THE A/C COMPRESSOR CLUTCH FIELD COIL
	<ul data-bbox="219 1486 894 1575" style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Measure the resistance between the A/C compressor clutch field coil C100, circuit 57 (BK) and ground.</li> </ul> <div data-bbox="938 1486 1419 1646"> <p><b>Yes</b> GO to J18.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p> </div>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

#### J15 CHECK THE GROUND AT THE A/C COMPRESSOR CLUTCH FIELD COIL (Continued)



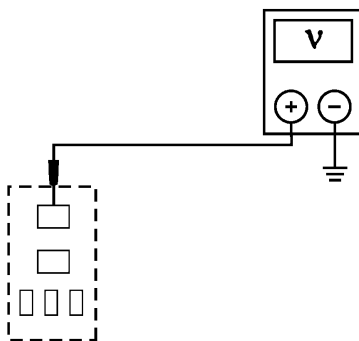
GL1035-A

- Is the resistance less than 5 ohms?

#### J16 CHECK CIRCUIT 326 (WH/VT)

- Ignition OFF.
- Disconnect: A/C Control Relay .
- **NOTE:** For 6.0L engines only.

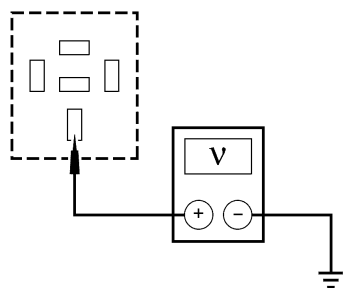
Measure the voltage between the A/C control relay socket pin 3, circuit 326 (WH/VT) and ground.



AM0596-A

- **NOTE:** For all engines except 6.0L.

Measure the voltage between the A/C control relay socket pin 30, circuit 326 (WH/VT) and ground.



A0032581

- Is the voltage greater than 10 volts?

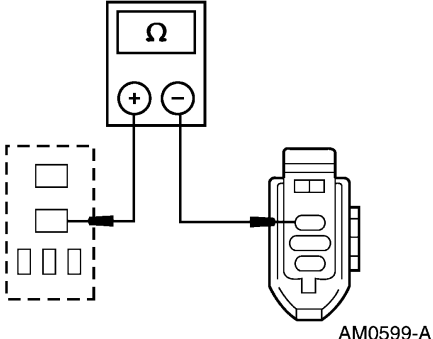
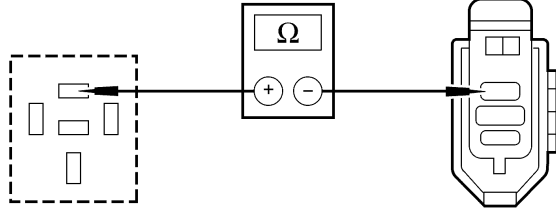
**Yes**  
GO to J17.

**No**  
REPAIR circuit 326 (WH/VT). TEST the system for normal operation.



## DIAGNOSIS AND TESTING(Continued)

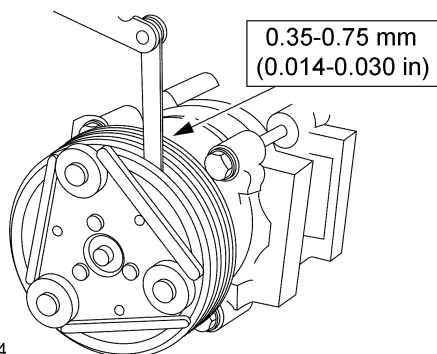
### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

J17	CHECK CIRCUIT 321 (GY/WH)	
	<ul style="list-style-type: none"> <li> <b>NOTE:</b> For 6.0L engines only.             Measure the resistance between the A/C control relay socket pin 5, circuit 321 (GY/WH) and the A/C compressor clutch field coil C100, circuit 321 (GY/WH).         </li> </ul>  <p style="text-align: right;">AM0599-A</p> <ul style="list-style-type: none"> <li> <b>NOTE:</b> For all engines except 6.0L.             Measure the resistance between the A/C control relay socket pin 87, circuit 321 (GY/WH) and the A/C compressor clutch field coil C163, circuit 321 (GY/WH).         </li> </ul>  <p style="text-align: right;">A0017427</p> <ul style="list-style-type: none"> <li> <b>Is the resistance less than 5 ohms?</b> </li> </ul>	<p><b>Yes</b> GO to J19.</p> <p><b>No</b> REPAIR circuit 321 (GY/WH). TEST the system for normal operation.</p>
J18	CHECK THE A/C COMPRESSOR CLUTCH AIR GAP	
	<ul style="list-style-type: none"> <li>           Measure the A/C compressor clutch air gap at three equally spaced locations between the clutch hub and the A/C compressor clutch pulley.         </li> </ul>	<p><b>Yes</b> ADJUST the A/C compressor clutch field coil. REFER to Air Conditioning (A/C) Clutch Air Gap Adjustment in this section. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new A/C compressor clutch field coil. REFER to Section 412-03A. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

#### J18 CHECK THE A/C COMPRESSOR CLUTCH AIR GAP (Continued)

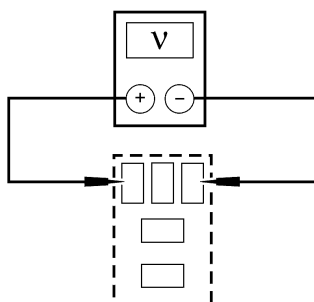


- Is the A/C compressor clutch air gap greater than 0.75 mm (0.030 in)?

#### J19 CHECK THE WAC OUTPUT FROM THE PCM

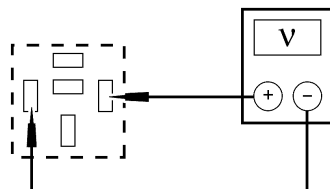
- Start the engine.
- **NOTE:** For 6.0L engines only.

Measure the voltage between the A/C control relay socket pin 1, circuit 331 (PK/YE) and pin 2, circuit 391 (RD/YE).



- **NOTE:** For all engines except 6.0L.

Measure the voltage between the A/C control relay socket pin 85, circuit 331 (PK/YE) and pin 86, circuit 391 (RD/YE).



- Is the voltage greater than 10 volts?

#### Yes

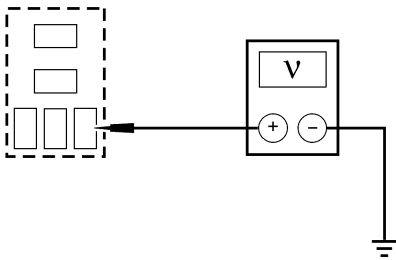
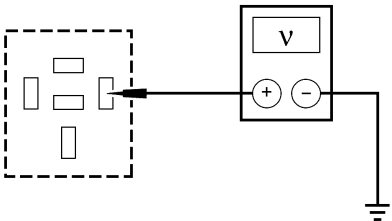
INSTALL a new A/C control relay. CLEAR the DTCs. TEST the system for normal operation.

#### No

GO to J20.

## DIAGNOSIS AND TESTING(Continued)

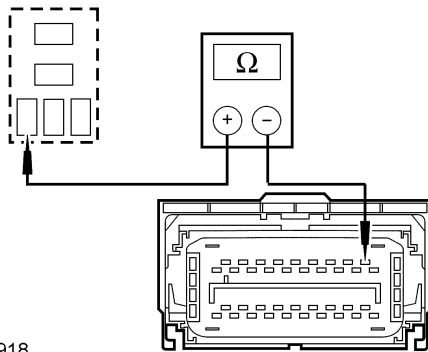
### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

J20	CHECK VOLTAGE TO A/C CLUTCH RELAY COIL	
	<ul style="list-style-type: none"> <li>• <b>NOTE:</b> For 6.0L engines only.</li> </ul> <p>Measure the voltage between the A/C control relay socket pin 2, circuit 391 (RD/YE) and ground.</p>  <p>A0055256</p> <ul style="list-style-type: none"> <li>• <b>NOTE:</b> For all engines except 6.0L.</li> </ul> <p>Measure the voltage between the auxiliary blower motor relay socket pin 86, circuit 391 (RD/YE) and ground.</p>  <p>A0020210</p> <ul style="list-style-type: none"> <li>• <b>Is the voltage greater than 10 volts?</b></li> </ul>	<p><b>Yes</b> GO to J21.</p> <p><b>No</b> REPAIR circuit 391 (RD/YE) for an open. TEST the system for normal operation.</p>
J21	CHECK CIRCUIT 331 (PK/YE)	
	<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Disconnect: PCM C175 or C1381a (6.0L engines only) .</li> <li>• <b>NOTE:</b> For 6.0L engines only.</li> </ul> <p>Measure the resistance between the A/C control relay socket pin 1, circuit 331 (PK/YE) and the PCM C1381a pin 2, circuit 331 (PK/YE).</p>	<p><b>Yes</b> INSTALL a new PCM. REFER to Section 303-14A. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 331 (PK/YE). CLEAR the DTCs. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST J: THE A/C DOES NOT OPERATE/DOES NOT OPERATE CORRECTLY (Continued)

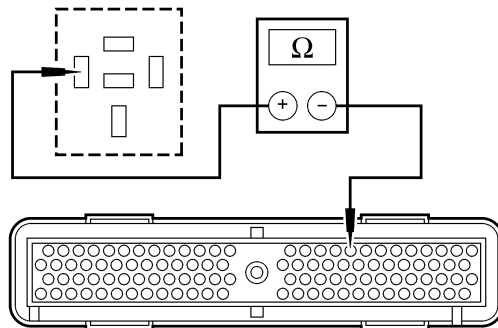
#### J21 CHECK CIRCUIT 331 (PK/YE) (Continued)



A0059918

- **NOTE:** For all engines except 6.0L.

Measure the resistance between the A/C control relay socket pin 85, circuit 331 (PK/YE) and the PCM C175 pin 18 circuit 331 (PK/YE).



A0042076

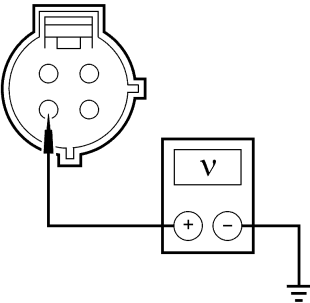
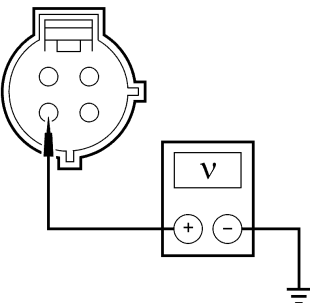
- **Is the resistance less than 5 ohms?**

### PINPOINT TEST K: THE A/C IS ALWAYS ON

Test Step		Result / Action to Take
<b>K1</b>	<b>CHECK PID WACF WITH THE A/C OFF</b>	
	<ul style="list-style-type: none"> <li>• Ignition ON.</li> <li>• Place the function selector switch to the OFF position or press the OFF manual override button on the EATC module.</li> <li>• Enter the following diagnostic mode on the scan tool: PCM PID WACF .</li> <li>• <b>Does the PCM PID WACF read YES?</b></li> </ul>	<p><b>Yes</b> REPAIR circuit 331 (PK/YE). TEST the system for normal operation.</p> <p><b>No</b> GO to K2.</p>
<b>K2</b>	<b>CHECK PID ACCS WITH THE A/C OFF</b>	
	<ul style="list-style-type: none"> <li>• Enter the following diagnostic mode on the scan tool: PCM PID ACCS .</li> <li>• <b>Does the PCM PID ACCS read ON?</b></li> </ul>	<p><b>Yes</b> GO to K3.</p> <p><b>No</b> GO to K7.</p>

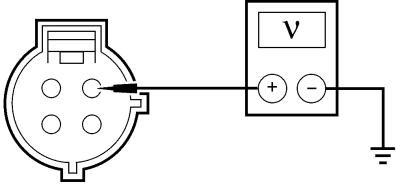
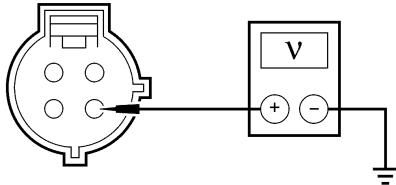
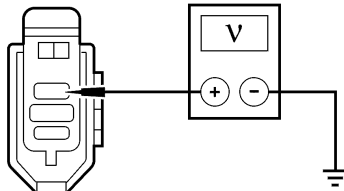
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST K: THE A/C IS ALWAYS ON (Continued)

<b>K3</b>	<b>CHECK FOR VOLTAGE AT THE A/C CYCLING SWITCH</b>
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: A/C Cycling Switch C1081 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the A/C cycling switch C1081, circuit 348 (VT) and ground.</li> </ul>  <p>A0008125</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> GO to K4.</p> <p><b>No</b> GO to K5.</p>
<b>K4</b>	<b>CHECK CIRCUIT 348 (VT)</b>
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Remove the climate control assembly. Refer to Section 412-04.</li> <li>Disconnect: Function Selector Switch C294a or EATC module C228b .</li> <li>Ignition ON.</li> <li>Measure the voltage between the A/C cycling switch C1081, circuit 348 (VT) and ground.</li> </ul>  <p>A0008125</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> REPAIR circuit 348 (VT) for a short to voltage. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new function selector switch (manual A/C), or INSTALL a new EATC module (EATC). REFER to Section 412-04. TEST the system for normal operation.</p>
<b>K5</b>	<b>CHECK CIRCUIT 441 (RD/YE)</b>
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: A/C Pressure Cutoff Switch C1078 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the A/C pressure cutoff switch C1078, circuit 441 (RD/YE) and ground.</li> </ul>	<p><b>Yes</b> REPAIR circuit 441 (RD/YE). TEST the system for normal operation.</p> <p><b>No</b> GO to K6.</p>

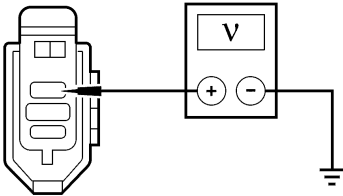
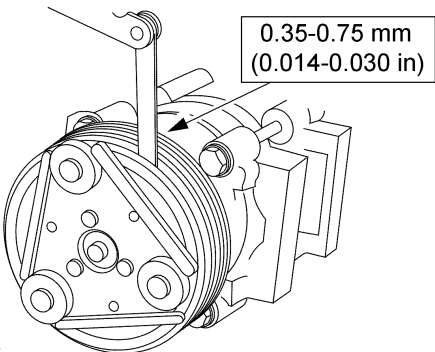
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST K: THE A/C IS ALWAYS ON (Continued)

K5	CHECK CIRCUIT 441 (RD/YE) (Continued)
 <p>A0008129</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
K6	CHECK CIRCUIT 439 (TN/LG)
<ul style="list-style-type: none"> <li>Measure the voltage between the A/C pressure cutoff switch C1078, circuit 439 (TN/LG) and ground.</li> </ul>  <p>A0008130</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
K7	CHECK FOR VOLTAGE TO THE A/C COMPRESSOR CLUTCH FIELD COIL
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: A/C Compressor Clutch Field Coil C100 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the A/C compressor clutch field coil C100, circuit 321 (GY/WH) and ground.</li> </ul>  <p>GL1034-A</p>	
<p><b>Yes</b> GO to K8.</p> <p><b>No</b> GO to K9.</p>	

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST K: THE A/C IS ALWAYS ON (Continued)

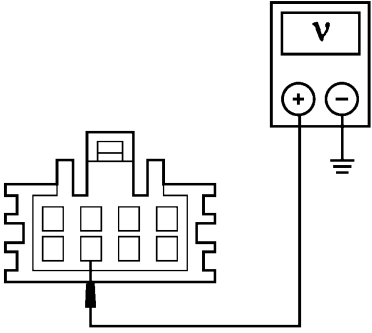
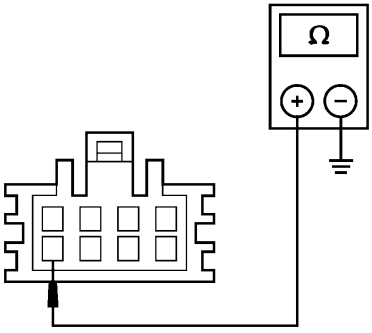
<b>K7</b>	<b>CHECK FOR VOLTAGE TO THE A/C COMPRESSOR CLUTCH FIELD COIL (Continued)</b>	
	<ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
<b>K8</b>	<b>CHECK CIRCUIT 321 (GY/WH)</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: A/C Control Relay .</li> <li>Ignition ON.</li> <li>Measure the voltage between the A/C compressor clutch field coil C100, circuit 321 (GY/WH) and ground.</li> </ul>	
	 <p style="text-align: right;">GL1034-A</p>	<p><b>Yes</b> REPAIR circuit 321 (GY/WH). TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new A/C control relay. TEST the system for normal operation.</p>
<b>K9</b>	<b>CHECK THE A/C COMPRESSOR CLUTCH AIR GAP</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the A/C compressor clutch air gap at three equally spaced locations between the clutch hub and the A/C compressor clutch pulley.</li> </ul>	
	 <p style="text-align: right;">A0031504</p>	<p><b>Yes</b> ADJUST the A/C compressor clutch field coil. REFER to Air Conditioning (A/C) Clutch Air Gap Adjustment in this section. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new A/C compressor clutch field coil. REFER to Section 412-03A. TEST the system for normal operation.</p>

### PINPOINT TEST L: TEMPERATURE CONTROL IS INOPERATIVE/DOES NOT OPERATE CORRECTLY

Test Step		Result / Action to Take
<b>L1</b>	<b>CHECK THE VOLTAGE TO THE BLEND DOOR ACTUATOR</b>	

## DIAGNOSIS AND TESTING(Continued)

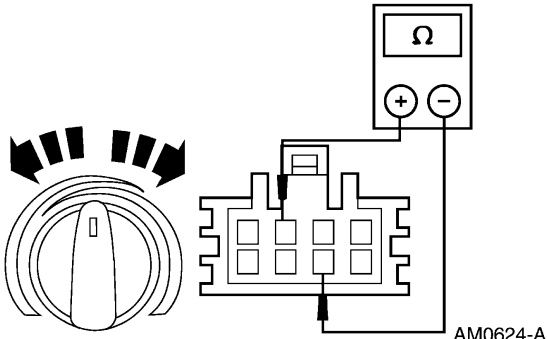
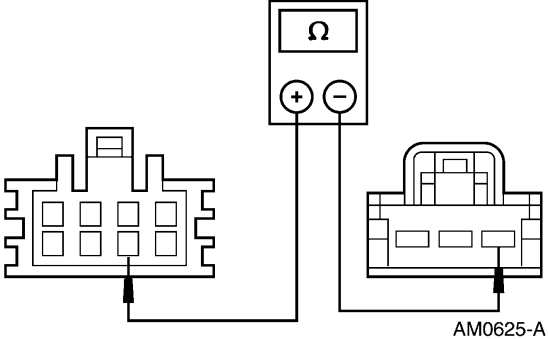
### PINPOINT TEST L: TEMPERATURE CONTROL IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

	Test Step	Result / Action to Take
<b>L1</b>	<b>CHECK THE VOLTAGE TO THE BLEND DOOR ACTUATOR (Continued)</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Blend Door Actuator C289 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the blend door actuator C289 pin 7, circuit 296 (WH/VT) and ground.</li> </ul>  <p style="text-align: right;">AM0622-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> GO to L2.</p> <p><b>No</b> REPAIR circuit 296 (WH/VT). TEST the system for normal operation.</p>
<b>L2</b>	<b>CHECK THE GROUND TO THE BLEND DOOR ACTUATOR</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the blend door actuator C289 pin 8, circuit 57 (BK) and ground.</li> </ul>  <p style="text-align: right;">AM0623-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> GO to L3.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>
<b>L3</b>	<b>CHECK THE TEMPERATURE CONTROL LOW SIDE OPERATION</b>	
	<ul style="list-style-type: none"> <li>Measure the resistance between the blend door actuator C289 pin 6, circuit 438 (RD/WH) and pin 3, circuit 437 (YE/LG) while rotating the temperature control switch from full WARM to full COOL.</li> </ul>	<p><b>Yes</b> GO to L6.</p> <p><b>No</b> GO to L4.</p>



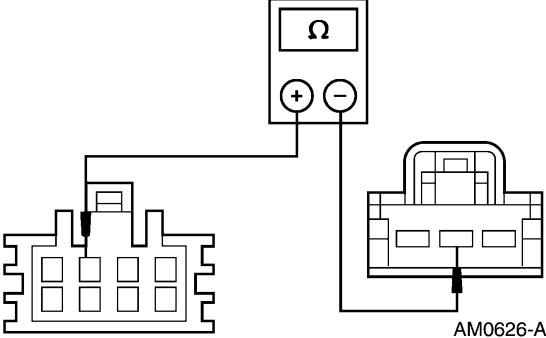
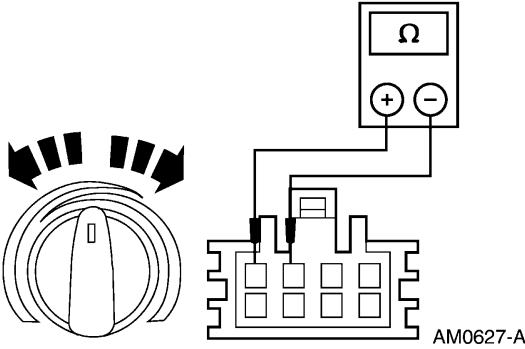
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST L: TEMPERATURE CONTROL IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

L3	CHECK THE TEMPERATURE CONTROL LOW SIDE OPERATION (Continued)	
	 <ul style="list-style-type: none"> <li>Does the resistance vary from 150 ohms to 4,700 ohms?</li> </ul>	
L4	CHECK CIRCUIT 438 (RD/WH) FOR AN OPEN	
	<ul style="list-style-type: none"> <li>Remove the climate control assembly. Refer to Section 412-04.</li> <li>Disconnect: Temperature Control Switch C2942 .</li> <li>Measure the resistance between the temperature control switch C294d pin 1, circuit 438 (RD/WH), and the blend door actuator C289 pin 6, circuit 438 (RD/WH).</li> </ul>  <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> GO to L5.</p> <p><b>No</b> REPAIR circuit 438 (RD/WH). TEST the system for normal operation.</p>
L5	CHECK CIRCUIT 437 (YE/LG) FOR AN OPEN	
	<ul style="list-style-type: none"> <li>Measure the resistance between the temperature control switch C294d pin 2, circuit 437 (YE/LG), and the blend door actuator C289 pin 3, circuit 437 (YE/LG).</li> </ul>	<p><b>Yes</b> INSTALL a new temperature control switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 437 (YE/LG). TEST the system for normal operation.</p>

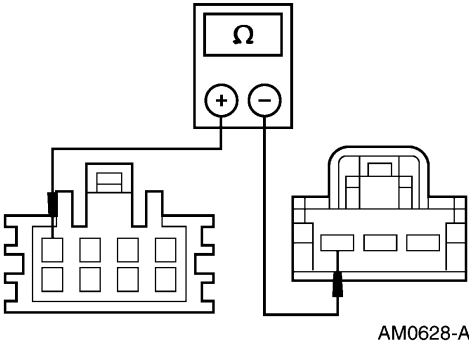
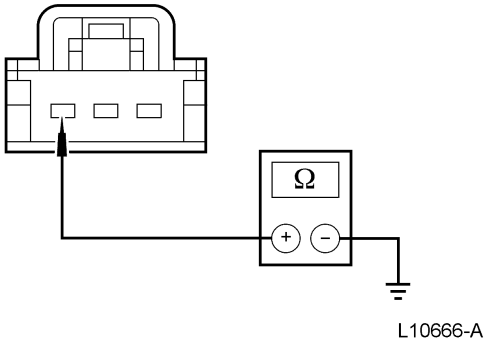
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST L: TEMPERATURE CONTROL IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

L5	CHECK CIRCUIT 437 (YE/LG) FOR AN OPEN (Continued)
	 <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
L6	CHECK THE TEMPERATURE CONTROL HIGH SIDE OPERATION
	<ul style="list-style-type: none"> <li>Measure the resistance between the blend door actuator C289 pin 4, circuit 436 (RD/LG) and pin 3, circuit 437 (YE/LG) while rotating the temperature control switch from full WARM to full COOL.</li> </ul>  <ul style="list-style-type: none"> <li>Does the resistance vary from 150 ohms to 4,700 ohms?</li> </ul> <p><b>Yes</b> GO to L8.</p> <p><b>No</b> GO to L7.</p>
L7	CHECK CIRCUIT 436 (RD/LG) FOR AN OPEN
	<ul style="list-style-type: none"> <li>Remove the climate control assembly. Refer to Section 412-04.</li> <li>Disconnect: Temperature Control Switch C294d .</li> <li>Measure the resistance between the temperature control switch C294d pin 3, circuit 436 (RD/LG), and the blend door actuator C289 pin 4, circuit 436 (RD/LG).</li> </ul> <p><b>Yes</b> INSTALL a new temperature control switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 436 (RD/LG). TEST the system for normal operation.</p>

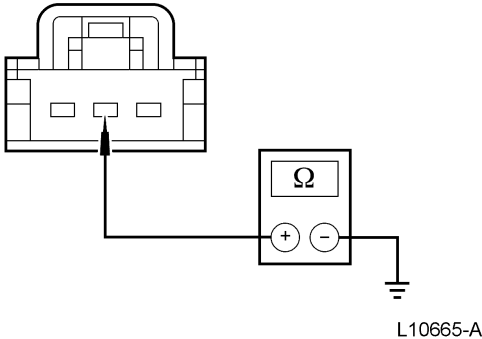
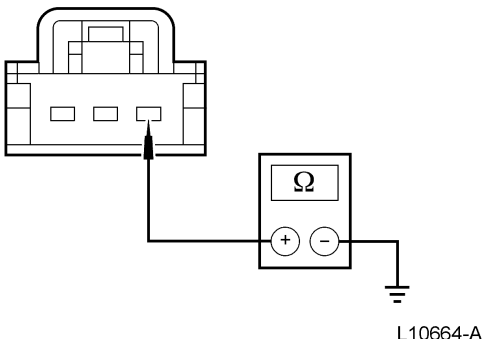
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST L: TEMPERATURE CONTROL IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

L7	CHECK CIRCUIT 436 (RD/LG) FOR AN OPEN (Continued)
	 <p>AM0628-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
L8	CHECK CIRCUIT 438 (RD/WH) FOR A SHORT TO GROUND
	<ul style="list-style-type: none"> <li>Remove the climate control assembly. Refer to Section 412-04.</li> <li>Disconnect: Temperature Control Switch C294d .</li> <li>Measure the resistance between the temperature control switch C294d pin 3, circuit 438 (RD/WH), and ground.</li> </ul>  <p>L10666-A</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul> <p><b>Yes</b> GO to L9.</p> <p><b>No</b> REPAIR circuit 438 (RD/WH). TEST the system for normal operation.</p>
L9	CHECK CIRCUIT 437 (YE/LG) FOR A SHORT TO GROUND
	<ul style="list-style-type: none"> <li>Measure the resistance between the temperature control switch C294d pin 2, circuit 437 (YE/LG), and ground.</li> </ul> <p><b>Yes</b> GO to L10.</p> <p><b>No</b> REPAIR circuit 437 (YE/LG). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST L: TEMPERATURE CONTROL IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

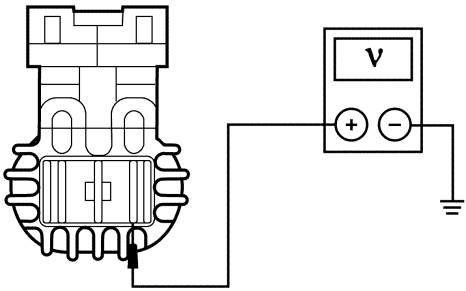
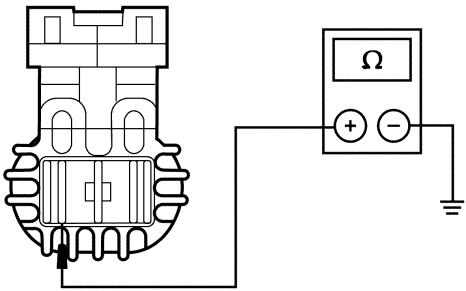
L9	CHECK CIRCUIT 437 (YE/LG) FOR A SHORT TO GROUND (Continued)
	 <p>L10665-A</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>
L10	CHECK CIRCUIT 436 (RD/LG) FOR A SHORT TO GROUND
	<ul style="list-style-type: none"> <li>Measure the resistance between the temperature control switch C294d pin 1, circuit 436 (RD/LG), and ground.</li> </ul>  <p>L10664-A</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul> <p><b>Yes</b> INSTALL a new blend door actuator. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 436 (RD/LG). TEST the system for normal operation.</p>

### PINPOINT TEST M: THE BLOWER MOTOR IS INOPERATIVE — MANUAL CLIMATE CONTROL

	Test Step	Result / Action to Take
M1	CHECK A/C BLOWER MOTOR CIRCUIT 181 (BR/OG) FOR VOLTAGE	
	<ul style="list-style-type: none"> <li>Disconnect: Blower Motor C1227 .</li> <li>Ignition ON.</li> <li>Turn the function selector switch to the FLOOR position and turn the blower motor switch to HIGH.</li> <li>Measure the voltage between the A/C blower motor connector C1031, circuit 181 (BN/OG) and ground.</li> </ul>	<p><b>Yes</b> GO to M2.</p> <p><b>No</b> GO to M3.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST M: THE BLOWER MOTOR IS INOPERATIVE — MANUAL CLIMATE CONTROL (Continued)

Test Step		Result / Action to Take
<b>M1</b>	<b>CHECK A/C BLOWER MOTOR CIRCUIT 181 (BR/OG) FOR VOLTAGE (Continued)</b>	
	 <p>AM0416-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
<b>M2</b>	<b>CHECK CIRCUIT 261 (OG/BK)</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the A/C blower motor connector C1031, circuit 261 (OG/BK) and ground.</li> </ul>  <p>AM0420-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new blower motor. TEST the system for normal operation.</p> <p><b>No</b> GO to M5.</p>
<b>M3</b>	<b>CHECK CIRCUIT 296 (BK/LG) FOR VOLTAGE</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Blower Motor Relay .</li> <li>Ignition ON.</li> <li>Measure the voltage between the blower motor relay socket pin 85, circuit 296 (BK/LG) and ground.</li> </ul>	<p><b>Yes</b> GO to M4.</p> <p><b>No</b> REPAIR circuit 296 (BK/LG). TEST the system for normal operation.</p>

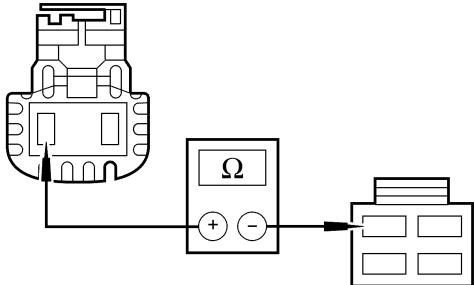
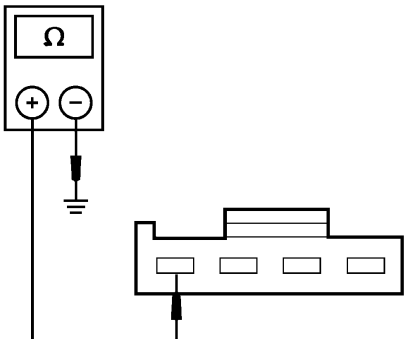
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST M: THE BLOWER MOTOR IS INOPERATIVE — MANUAL CLIMATE CONTROL (Continued)

M3	CHECK CIRCUIT 296 (BK/LG) FOR VOLTAGE (Continued)
<div data-bbox="435 388 812 703"> </div> <p data-bbox="342 697 435 716">A0013862</p> <ul data-bbox="256 737 704 764" style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
M4	CHECK CIRCUIT 399 (BR/YE)
<ul data-bbox="256 858 885 947" style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the blower motor relay socket pin 86, circuit 399 (BR/YE) and ground.</li> </ul> <div data-bbox="410 1050 828 1228"> </div> <p data-bbox="342 1297 435 1316">A0042416</p> <ul data-bbox="256 1337 699 1365" style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
M5	CHECK CIRCUIT 57 (BK)
<ul data-bbox="256 1457 899 1545" style="list-style-type: none"> <li>Disconnect: Blower Motor Switch C294c .</li> <li>Measure the resistance between the blower motor switch C294c, circuit 57 (BK) and ground.</li> </ul> <div data-bbox="431 1644 820 1864"> </div> <p data-bbox="342 1900 435 1919">A0040182</p>	
<p data-bbox="977 1209 1464 1297"><b>Yes</b> INSTALL a new blower motor relay. TEST the system for normal operation.</p> <p data-bbox="977 1312 1089 1367"><b>No</b> GO to M7.</p> <p data-bbox="977 1780 1089 1835"><b>Yes</b> GO to M6.</p> <p data-bbox="977 1850 1458 1938"><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>	

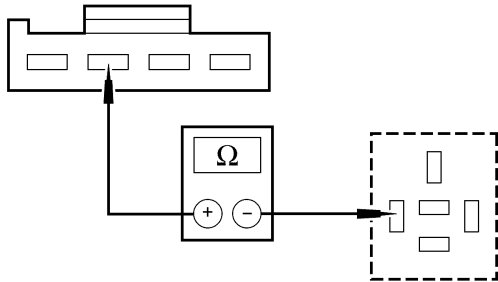
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST M: THE BLOWER MOTOR IS INOPERATIVE — MANUAL CLIMATE CONTROL (Continued)

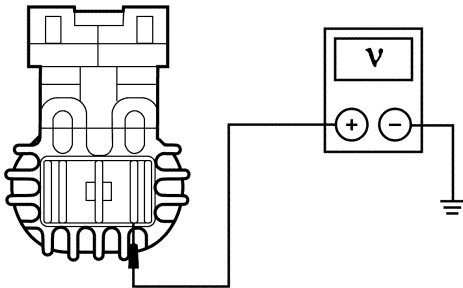
<b>M5</b>	<b>CHECK CIRCUIT 57 (BK) (Continued)</b>	
	<ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
<b>M6</b>	<b>CHECK CIRCUIT 261 (OG/BK)</b>	
	<ul style="list-style-type: none"> <li>Measure the resistance between the blower motor switch C294c, circuit 261 (OG/BK) and blower motor C1031, circuit 261 (OG/BK).</li> </ul>  <p>A0040183</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new blower motor switch. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 261 (OG/BK). TEST the system for normal operation.</p>
<b>M7</b>	<b>CHECK CIRCUIT 57 (BK)</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Function Selector Switch C294a .</li> <li>Measure the resistance between the function selector switch C294a pin 4, circuit 57 (BK) and ground.</li> </ul>  <p>AM0421-B</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> GO to M8.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>
<b>M8</b>	<b>CHECK THE BLOWER MOTOR RELAY GROUND CIRCUIT 399 (BN/YE)</b>	
	<ul style="list-style-type: none"> <li>Measure the resistance between the blower motor relay connector pin 86, circuit 399 (BN/YE) and the function selector switch C294a pin 3, circuit 399 (BN/YE).</li> </ul>	<p><b>Yes</b> INSTALL a new function selector switch. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 399 (BN/YE). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST M: THE BLOWER MOTOR IS INOPERATIVE — MANUAL CLIMATE CONTROL (Continued)

<b>M8</b>	<b>CHECK THE BLOWER MOTOR RELAY GROUND CIRCUIT 399 (BN/YE) (Continued)</b>
 <p>A0042417</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	

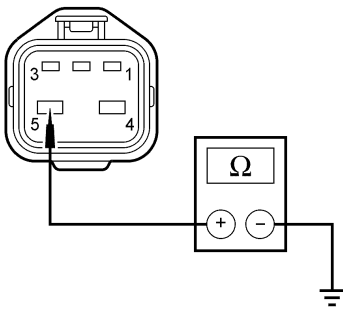
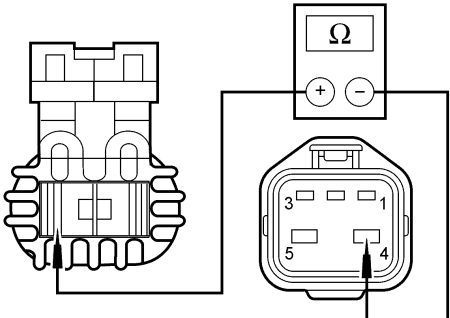
### PINPOINT TEST N: THE BLOWER MOTOR IS INOPERATIVE — EATC

Test Step		Result / Action to Take
<b>N1</b>	<b>VERIFY THE BLOWER MOTOR OPERATION</b>	
<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Press the PANEL button on the EATC module. Adjust the blower motor setting to LO and then to HI.</li> <li>Is the blower motor inoperative in all settings?</li> </ul>		<p><b>Yes</b> GO to N2.</p> <p><b>No</b> GO to Pinpoint Test R.</p>
<b>N2</b>	<b>CHECK FOR VOLTAGE TO THE BLOWER MOTOR</b>	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Blower Motor C1031 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the blower motor C1031, circuit 181 (BR/OG) and ground.</li> </ul>  <p>AM0416-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>		<p><b>Yes</b> GO to N3.</p> <p><b>No</b> GO to N8.</p>
<b>N3</b>	<b>CHECK CIRCUIT 57 (BK)</b>	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Blower Motor Speed Control C1308 .</li> </ul>		<p><b>Yes</b> GO to N4.</p>



## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST N: THE BLOWER MOTOR IS INOPERATIVE — EATC (Continued)

<b>N3</b>	<b>CHECK CIRCUIT 57 (BK) (Continued)</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the blower motor speed control C1308 pin 5, circuit 57 (BK) and ground.</li> </ul>  <p>A0032576</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>
<b>N4</b>	<b>CHECK CIRCUIT 261 (OG/BK)</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the blower motor C1031, circuit 261 (OG/BK) and the blower motor speed control C1308 pin 4, circuit 261 (OG/BK).</li> </ul>  <p>A0032577</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to N5.</p> <p><b>No</b> REPAIR circuit 261 (OG/BK). TEST the system for normal operation.</p>
<b>N5</b>	<b>CHECK THE BLOWER MOTOR</b>
	<ul style="list-style-type: none"> <li>Connect: Blower Motor C1031 .</li> <li>Connect a fused jumper lead between the blower motor speed control C1308 pin 4, circuit 261 (OG/BK) and pin 5, circuit 57 (BK).</li> </ul> <p><b>Yes</b> GO to N6.</p> <p><b>No</b> INSTALL a new blower motor. TEST the system for normal operation.</p>

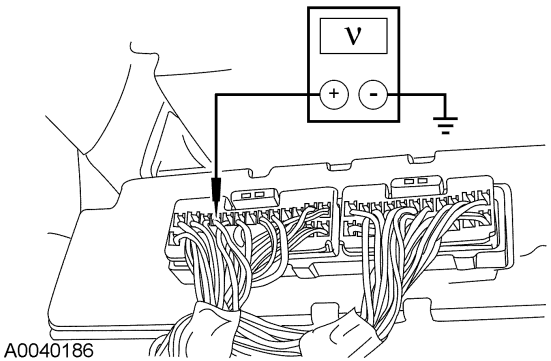
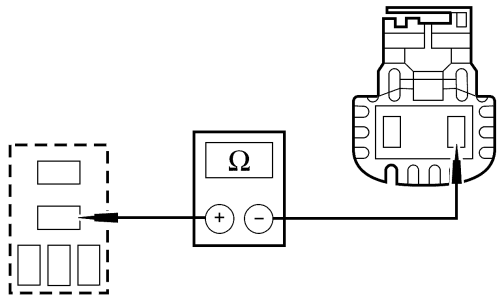
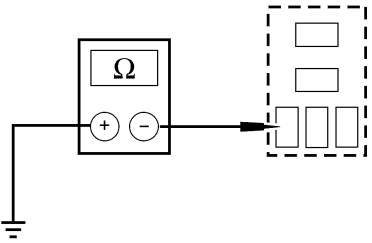
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST N: THE BLOWER MOTOR IS INOPERATIVE — EATC (Continued)

N5	CHECK THE BLOWER MOTOR (Continued)
	<div data-bbox="469 373 771 613" data-label="Diagram"> </div> <p data-bbox="342 659 435 680">A0032579</p> <ul data-bbox="256 701 662 758" style="list-style-type: none"> <li>• Ignition ON.</li> <li>• <b>Does the blower motor operate?</b></li> </ul>
N6	CHECK CIRCUIT 261 (OG/BK) FOR AN OPEN OR SHORT TO GROUND
	<ul data-bbox="256 856 946 1115" style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Removed the fused jumper lead from the blower motor speed control C1308.</li> <li>• Disconnect: EATC Module C228a .</li> <li>• Measure the resistance between the EATC module C228a pin 10, circuit 261 (OG/BK) and the blower motor speed control C1308 pin 3, circuit 261 (OG/BK), and measure the resistance between the EATC module C228a pin 10, circuit 261 (OG/BK) and ground.</li> </ul> <div data-bbox="355 1140 881 1482" data-label="Diagram"> </div> <p data-bbox="342 1470 435 1491">A0040185</p> <ul data-bbox="256 1512 951 1591" style="list-style-type: none"> <li>• <b>Is the resistance less than 5 ohms between the EATC module and the blower motor speed control and greater than 10,000 ohms between the EATC module and ground?</b></li> </ul> <div data-bbox="976 1434 1479 1591" data-label="Text"> <p><b>Yes</b> GO to N7.</p> <p><b>No</b> REPAIR circuit 261 (OG/BK). TEST the system for normal operation.</p> </div>
N7	CHECK THE EATC MODULE OUTPUT
	<ul data-bbox="256 1686 922 1887" style="list-style-type: none"> <li>• Connect: EATC Module C228a .</li> <li>• Connect: Blower Motor Speed Control C1308 .</li> <li>• Ignition ON. Adjust the blower motor speed to HI.</li> <li>• Measure the voltage between the EATC module C228a pin 10, circuit 261 (OG/BK) and ground by back-probing the EATC module C228a.</li> </ul> <div data-bbox="976 1703 1446 1887" data-label="Text"> <p><b>Yes</b> INSTALL a new blower motor speed control. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new EATC module. TEST the system for normal operation.</p> </div>

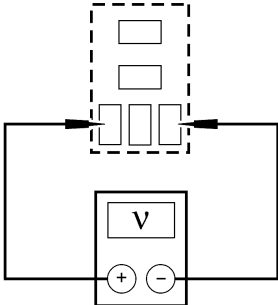
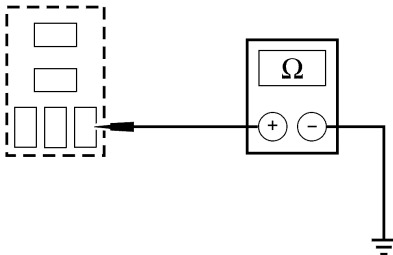
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST N: THE BLOWER MOTOR IS INOPERATIVE — EATC (Continued)

N7	CHECK THE EATC MODULE OUTPUT (Continued)
	 <p>A0040186</p> <ul style="list-style-type: none"> <li>Is the voltage within 2 volts of battery voltage?</li> </ul>
N8	CHECK CIRCUIT 181 (BR/OG)
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Blower Motor Relay .</li> <li>Measure the resistance between the blower motor relay socket pin 5, circuit 181 (BR/OG) and the blower motor C1031, circuit 181 (BR/OG).</li> </ul>  <p>A0040187</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to N9.</p> <p><b>No</b> REPAIR circuit 181 (BR/OG). TEST the system for normal operation.</p>
N9	CHECK CIRCUIT 57 (BK)
	<ul style="list-style-type: none"> <li>Measure the resistance between the blower motor relay socket pin 1, circuit 57 (BK) and ground.</li> </ul>  <p>A0040188</p> <p><b>Yes</b> GO to N10.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>

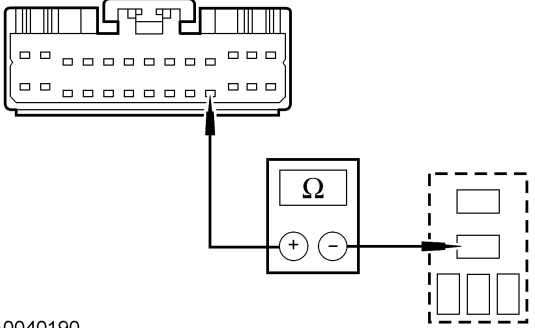
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST N: THE BLOWER MOTOR IS INOPERATIVE — EATC (Continued)

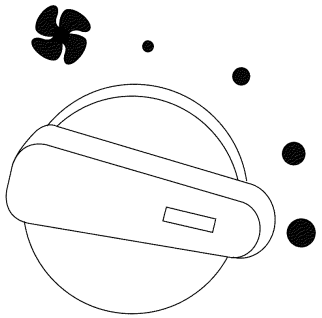
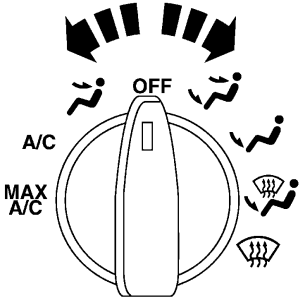
<b>N9</b>	<b>CHECK CIRCUIT 57 (BK) (Continued)</b>	
	<ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
<b>N10</b>	<b>CHECK THE EATC MODULE OUTPUT</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Measure the voltage between the blower motor relay socket pin 1, circuit 57 (BK) and socket pin 2, circuit 399 (BR/YE).</li> </ul>  <p>A0040189</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> INSTALL a new blower motor relay. TEST the system for normal operation.</p> <p><b>No</b> GO to N11.</p>
<b>N11</b>	<b>CHECK CIRCUIT 399 (BR/YE) FOR SHORT TO GROUND</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Ignition ON.</li> <li>Measure the resistance between the blower motor relay socket pin 2, circuit 399 (BR/YE) and ground.</li> </ul>  <p>A0040180</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	<p><b>Yes</b> GO to N12.</p> <p><b>No</b> REPAIR circuit 399 (BR/YE). TEST the system for normal operation.</p>
<b>N12</b>	<b>CHECK CIRCUIT 399 (BR/YE)</b>	
	<ul style="list-style-type: none"> <li>Measure the resistance between the EATC module C228a pin 23, circuit 399 (BR/YE) and the blower motor relay socket pin 5, circuit 399 (BR/YE).</li> </ul>	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 399 (BR/YE). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST N: THE BLOWER MOTOR IS INOPERATIVE — EATC (Continued)

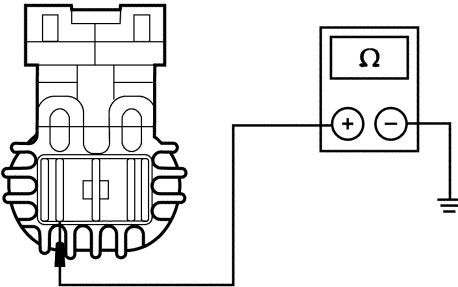
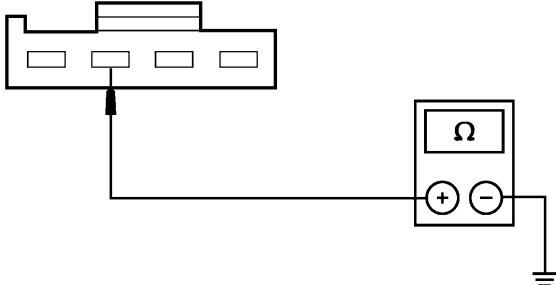
N12	CHECK CIRCUIT 399 (BR/YE) (Continued)
 <p>A0040190</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	

### PINPOINT TEST O: THE BLOWER MOTOR OPERATES CONTINUOUSLY IN HIGH SPEED — MANUAL CLIMATE CONTROL

Test Step	Result / Action to Take
O1	CHECK THE FUNCTION SELECTOR SWITCH
<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Set the blower motor speed to maximum.</li> </ul>  <p>L10527-A</p> <ul style="list-style-type: none"> <li>Check for blower motor operation in each function selector switch position.</li> </ul>  <p>AM0418-A</p>	<p><b>Yes</b> GO to O2.</p> <p><b>No</b> GO to O3.</p>

## DIAGNOSIS AND TESTING(Continued)

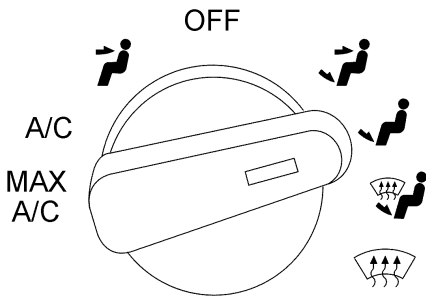
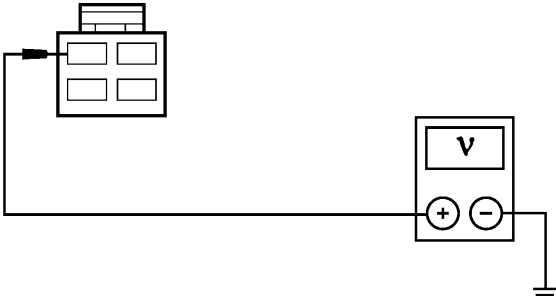
### PINPOINT TEST O: THE BLOWER MOTOR OPERATES CONTINUOUSLY IN HIGH SPEED — MANUAL CLIMATE CONTROL (Continued)

	Test Step	Result / Action to Take
O1	<b>CHECK THE FUNCTION SELECTOR SWITCH (Continued)</b>	
	<ul style="list-style-type: none"> <li>Does the blower motor operate in all of the function selector positions except OFF?</li> </ul>	
O2	<b>CHECK CIRCUIT 261 (OG/BK) FOR A SHORT TO GROUND</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Blower Motor C1031 .</li> <li>Disconnect: Blower Motor Resistor C1032 .</li> <li>Disconnect: Blower Motor Switch C294c .</li> <li>Measure the resistance between the blower motor connector C1031, circuit 261 (OG/BK) and ground.</li> </ul>  <p style="text-align: right;">AM0420-A</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new blower motor switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 261 (OG/BK) for a short to ground. TEST the system for normal operation.</p>
O3	<b>CHECK CIRCUIT 399 (BN/YE) FOR A SHORT TO GROUND</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Function Selector Switch C294a .</li> <li>Disconnect: Blower Motor Relay .</li> <li>Measure the resistance between the function selector switch connector C294a pin 3, circuit 399 (BN/YE) and ground.</li> </ul>  <p style="text-align: right;">AM0413-A</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	<p><b>Yes</b> INSTALL a new function selector switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 399 (BN/YE) for a short to ground. TEST the system for normal operation.</p>

### PINPOINT TEST P: NO OPERATION IN HIGH BLOWER SETTING — MANUAL CLIMATE CONTROL

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST P: NO OPERATION IN HIGH BLOWER SETTING — MANUAL CLIMATE CONTROL (Continued)

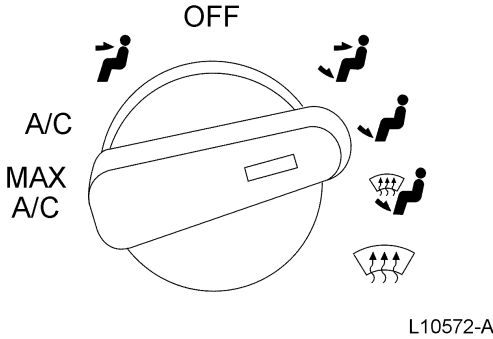
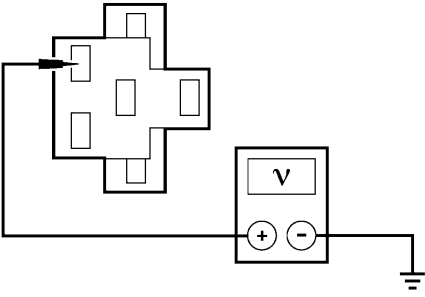
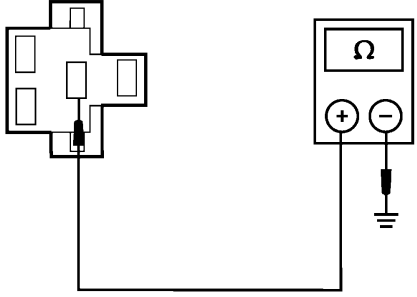
	Test Step	Result / Action to Take
<b>P1</b>	<b>CHECK CIRCUIT 261 (OG/BK) FOR AN OPEN CIRCUIT</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Blower Motor Switch C294c .</li> <li>Ignition ON.</li> <li>Turn the function selector switch to the FLOOR position.</li> </ul>  <p style="text-align: right;">L10572-A</p> <ul style="list-style-type: none"> <li>Measure the voltage between the blower motor switch connector C294c, circuit 261 (OG/BK) and ground.</li> </ul>  <p style="text-align: right;">AM0419-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> INSTALL a new blower motor switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 261 (OG/BK) for an open circuit. TEST the system for normal operation.</p>

### PINPOINT TEST Q: NO OPERATION IN LOWER SPEEDS — MANUAL CLIMATE CONTROL

	Test Step	Result / Action to Take
<b>Q1</b>	<b>CHECK CIRCUIT 261 (OG/BK) FOR AN OPEN</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Blower Motor Resistor C169 .</li> <li>Ignition ON.</li> <li>Turn the function selector switch to the FLOOR position.</li> </ul>	<p><b>Yes</b> GO to Q2.</p> <p><b>No</b> REPAIR circuit 261 (OG/BK) for an open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

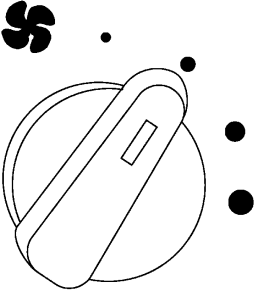
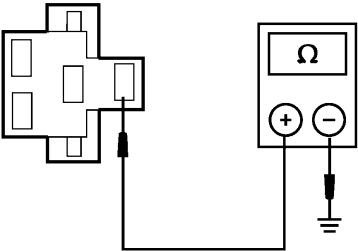
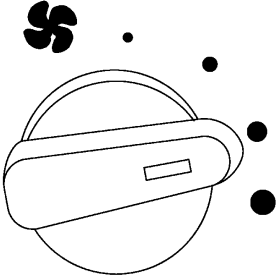
### PINPOINT TEST Q: NO OPERATION IN LOWER SPEEDS — MANUAL CLIMATE CONTROL (Continued)

	Test Step	Result / Action to Take
Q1	CHECK CIRCUIT 261 (OG/BK) FOR AN OPEN (Continued)	
	<div data-bbox="412 432 902 768">  <p>L10572-A</p> </div> <ul style="list-style-type: none"> <li>Measure the voltage between the blower motor resistor C1032, circuit 261 (OG/BK) and ground.</li> </ul> <div data-bbox="412 894 834 1188">  <p>A0042418</p> </div> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
Q2	CHECK CIRCUIT 57 (BK) FOR AN OPEN	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the blower motor resistor connector C1032, circuit 57 (BK) and ground.</li> </ul> <div data-bbox="373 1461 786 1755">  <p>AM0374-B</p> </div> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> GO to Q3.</p> <p><b>No</b> REPAIR circuit 57 (BK) for an open circuit. TEST the system for normal operation.</p>
Q3	CHECK MEDIUM/LOW BLOWER CIRCUIT 754 (LG/WH)	



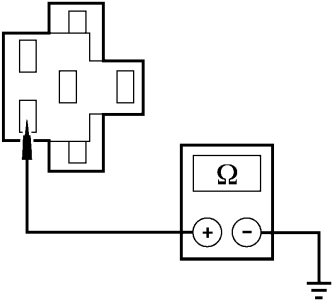
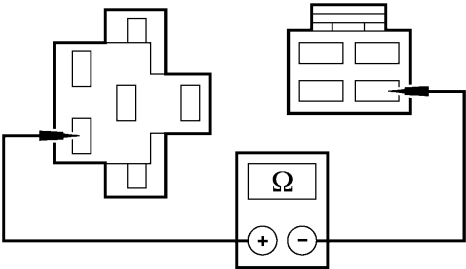
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Q: NO OPERATION IN LOWER SPEEDS — MANUAL CLIMATE CONTROL (Continued)

Q3	CHECK MEDIUM/LOW BLOWER CIRCUIT 754 (LG/WH) (Continued)
	<ul style="list-style-type: none"> <li>Turn the blower motor switch to the medium/low position.</li> </ul>  <p>GL1231-A</p> <ul style="list-style-type: none"> <li>Measure the resistance between the blower motor resistor connector C1032, circuit 754 (LG/WH) and ground.</li> </ul>  <p>AM0375-B</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to Q4.</p> <p><b>No</b> GO to Q6.</p>
Q4	CHECK MEDIUM/HIGH BLOWER CIRCUIT 752 (YE/RD)
	<ul style="list-style-type: none"> <li>Turn the blower motor switch to the medium/high position.</li> </ul>  <p>GL1234-A</p> <ul style="list-style-type: none"> <li>Measure the resistance between the blower motor resistor connector C1032, circuit 752 (YE/RD) and ground.</li> </ul> <p><b>Yes</b> INSTALL a new blower motor switch resistor. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> GO to Q5.</p>

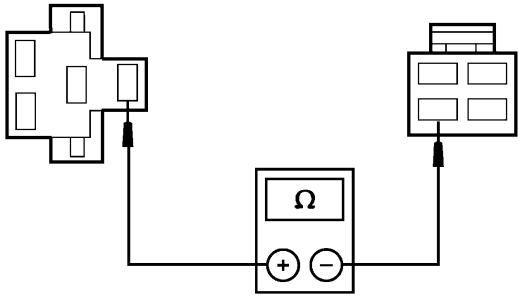
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Q: NO OPERATION IN LOWER SPEEDS — MANUAL CLIMATE CONTROL (Continued)

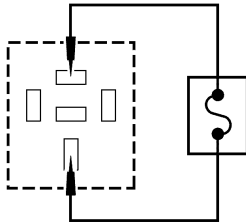
Q4	CHECK MEDIUM/HIGH BLOWER CIRCUIT 752 (YE/RD) (Continued)
	 <p>A0042080</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
Q5	CHECK CIRCUIT 752 (YE/RD) FOR AN OPEN
	<ul style="list-style-type: none"> <li>Disconnect: Blower Motor Switch C294c .</li> <li>Measure the resistance between the blower motor resistor connector C1032, circuit 752 (YE/RD) and the blower motor switch connector C294c, circuit 752 (YE/RD).</li> </ul>  <p>A0042419</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> INSTALL a new blower motor switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 752 (YE/RD) for an open. TEST the system for normal operation.</p>
Q6	CHECK CIRCUIT 754 (LG/WH) FOR AN OPEN
	<ul style="list-style-type: none"> <li>Disconnect: Blower Motor Switch C294c .</li> <li>Measure the resistance between the blower motor resistor connector C1032, circuit 754 (LG/WH) and the blower motor switch connector C294c, circuit 754 (LG/WH).</li> </ul> <p><b>Yes</b> INSTALL a new blower motor switch. REFER to Section 412-04. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 754 (LG/WH) for an open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Q: NO OPERATION IN LOWER SPEEDS — MANUAL CLIMATE CONTROL (Continued)

<b>Q6</b>	<b>CHECK CIRCUIT 754 (LG/WH) FOR AN OPEN (Continued)</b>
 <p style="text-align: right;">AM0378-B</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	

### PINPOINT TEST R: THE BLOWER MOTOR DOES NOT OPERATE CORRECTLY — EATC

Test Step		Result / Action to Take
<b>R1</b>	<b>CHECK CIRCUIT 261 (OG/BK) FOR A SHORT TO GROUND</b>	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Blower Motor Speed Control C1308 .</li> <li>Ignition ON.</li> <li>Press the PANEL button on the EATC module. Adjust the blower motor setting to LO and then to HI.</li> <li><b>Does the blower motor operate?</b></li> </ul>		<p><b>Yes</b> REPAIR circuit 261 (OG/BK) for a short to ground. TEST the system for normal operation.</p> <p><b>No</b> GO to R2.</p>
<b>R2</b>	<b>CHECK THE BLOWER MOTOR SPEED CONTROL</b>	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Connect: Blower Motor Speed Control C1308 .</li> <li>Disconnect: EATC Module C228a .</li> <li>Disconnect: Blower Motor Relay .</li> <li>Connect a fused jumper lead between the blower motor relay socket pin 30 and pin 87, circuit 181 (BR/OG).</li> </ul>  <p style="text-align: center;">A0032587</p> <ul style="list-style-type: none"> <li><b>Does the blower motor operate?</b></li> </ul>		<p><b>Yes</b> INSTALL a new blower motor speed control module. TEST the system for normal operation.</p> <p><b>No</b> GO to R3.</p>
<b>R3</b>	<b>CHECK THE BLOWER MOTOR SPEED CONTROL CIRCUITS FOR AN OPEN</b>	

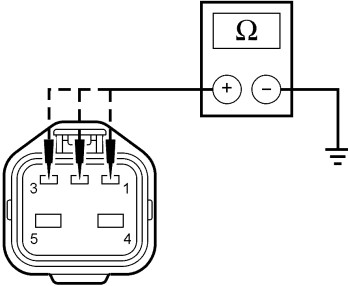
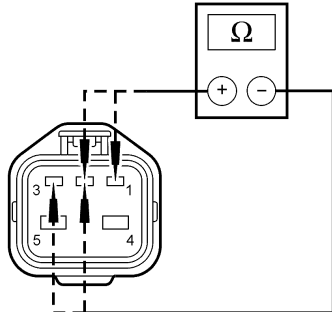
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST R: THE BLOWER MOTOR DOES NOT OPERATE CORRECTLY — EATC (Continued)

<b>R3</b>	<b>CHECK THE BLOWER MOTOR SPEED CONTROL CIRCUITS FOR AN OPEN (Continued)</b>
	<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Connect: Blower Motor Relay .</li> <li>• Disconnect: Blower Motor Speed Control C1308 .</li> <li>• Measure the resistance between the blower motor speed control C1308 :               <ul style="list-style-type: none"> <li>— pin 1, circuit 752 (YE/RD) and the EATC module C228a pin 3, circuit 752 (YE/RD).</li> <li>— pin 2, circuit 754 (LG/WH) and the EATC module C228a pin 16, circuit 754 (LG/WH).</li> <li>— pin 3, circuit 261 (OG/BK) and the EATC module C228a pin 10, circuit 261 (OG/BK).</li> </ul> </li> </ul> <div data-bbox="349 714 893 1039"> <p>A0040194</p> </div> <ul style="list-style-type: none"> <li>• Are the resistances less than 5 ohms?</li> </ul> <div data-bbox="974 934 1469 1092"> <p><b>Yes</b> GO to R4.</p> <p><b>No</b> REPAIR the affected circuit. TEST the system for normal operation.</p> </div>
<b>R4</b>	<b>CHECK THE BLOWER MOTOR SPEED CONTROL CIRCUITS FOR A SHORT TO VOLTAGE</b>
	<ul style="list-style-type: none"> <li>• Ignition ON.</li> <li>• Measure the voltage between the blower motor speed control C1308:               <ul style="list-style-type: none"> <li>— pin 1, circuit 752 (YE/RD) and ground.</li> <li>— pin 2, circuit 754 (LG/WH) and ground.</li> <li>— pin 3, circuit 261 (OG/BK) and ground.</li> </ul> </li> </ul> <div data-bbox="438 1438 787 1732"> <p>A0033862</p> </div> <ul style="list-style-type: none"> <li>• Is voltage present?</li> </ul> <div data-bbox="974 1659 1469 1816"> <p><b>Yes</b> REPAIR the affected circuit. TEST the system for normal operation.</p> <p><b>No</b> GO to R5.</p> </div>
<b>R5</b>	<b>CHECK THE BLOWER MOTOR SPEED CONTROL CIRCUITS FOR A SHORT TO GROUND</b>

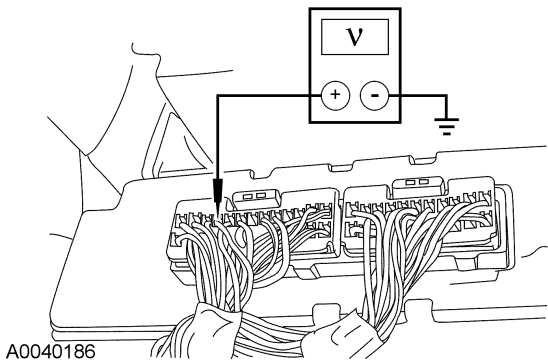
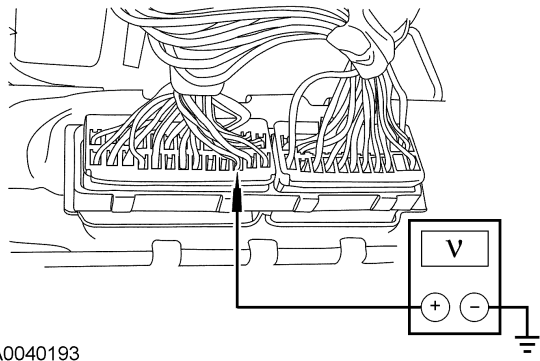
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST R: THE BLOWER MOTOR DOES NOT OPERATE CORRECTLY — EATC (Continued)

R5	<b>CHECK THE BLOWER MOTOR SPEED CONTROL CIRCUITS FOR A SHORT TO GROUND (Continued)</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the blower motor speed control C1308: <ul style="list-style-type: none"> <li>— pin 1, circuit 752 (YE/RD) and ground.</li> <li>— pin 2, circuit 754 (LG/WH) and ground.</li> <li>— pin 3, circuit 261 (OG/BK) and ground.</li> </ul> </li> </ul>  <p>A0033863</p> <ul style="list-style-type: none"> <li><b>Are the resistances greater than 10,000 ohms?</b></li> </ul> <p><b>Yes</b> GO to R6.</p> <p><b>No</b> REPAIR the affected circuit. TEST the system for normal operation.</p>
R6	<b>CHECK THE BLOWER MOTOR SPEED CONTROL CIRCUITS FOR SHORTS</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the blower motor speed control C1308: <ul style="list-style-type: none"> <li>— pin 1, circuit 752 (YE/RD) and pin 2, circuit 754 (LG/WH).</li> <li>— pin 1, circuit 752 (YE/RD) and pin 3, circuit 261 (OG/BK).</li> <li>— pin 2, circuit 754 (LG/WH) and pin 3, circuit 261 (OG/BK).</li> </ul> </li> </ul>  <p>A0033864</p> <ul style="list-style-type: none"> <li><b>Are the resistances greater than 10,000 ohms?</b></li> </ul> <p><b>Yes</b> GO to R7.</p> <p><b>No</b> REPAIR the affected circuits. TEST the system for normal operation.</p>
R7	<b>CHECK THE EATC MODULE HIGH BLOWER OUTPUT</b>
	<ul style="list-style-type: none"> <li>Connect: EATC C228a .</li> <li>Connect: Blower Motor Speed Control C1308 .</li> <li>Ignition ON. Adjust the blower motor speed to HI.</li> </ul> <p><b>Yes</b> GO to R8.</p> <p><b>No</b> INSTALL a new EATC module. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST R: THE BLOWER MOTOR DOES NOT OPERATE CORRECTLY — EATC (Continued)

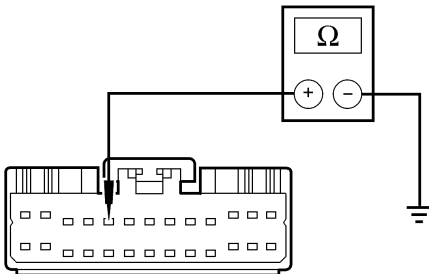
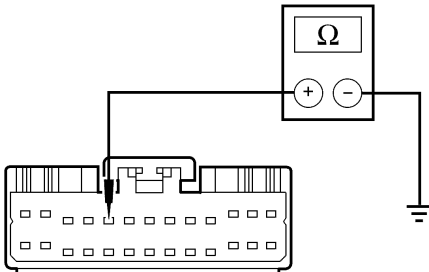
<b>R7</b>	<b>CHECK THE EATC MODULE HIGH BLOWER OUTPUT (Continued)</b>	
<ul style="list-style-type: none"> <li>Measure the voltage between the EATC module C228a pin 10, circuit 261 (OG/BK) and ground by back-probing the EATC module C228a.</li> </ul>  <p>A0040186</p> <ul style="list-style-type: none"> <li>Is the voltage within 2 volts of battery voltage?</li> </ul>		
<b>R8</b>	<b>CHECK THE EATC MODULE BLOWER CONTROL OUTPUT</b>	
<ul style="list-style-type: none"> <li>Adjust the blower motor speed to LO.</li> <li>Measure the voltage between the EATC module C228a pin 16, circuit 754 (LG/WH) and ground by back-probing the EATC module C228a.</li> </ul>  <p>A0040193</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 1 volt?</li> </ul>		<p><b>Yes</b> INSTALL a new blower motor speed control. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new EATC module. TEST the system for normal operation.</p>

### PINPOINT TEST S: THE STEERING WHEEL CONTROL SWITCH IS INOPERATIVE/DOES NOT OPERATE CORRECTLY

Test Step		Result / Action to Take
<b>S1</b>	<b>CHECK THE INPUT TO THE ELECTRONIC AUTOMATIC TEMPERATURE CONTROL (EATC)</b>	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: EATC Module C228a .</li> <li>Measure the resistance between the EATC module C228a pin 5, circuit 1070 (BN/LB) and ground.</li> </ul>		<p><b>Yes</b> GO to S2.</p> <p><b>No</b> If the resistance is less than 4,500 ohms, GO to S3 . If the resistance is greater than 5,000 ohms, GO to S5 .</p>

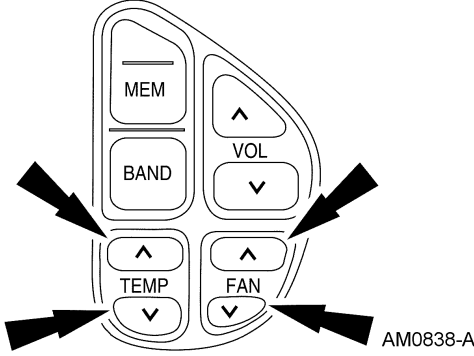
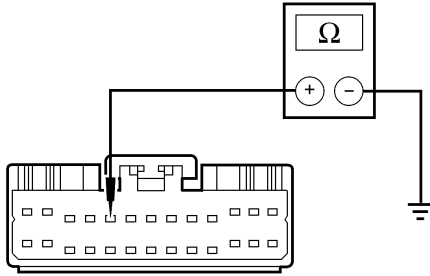
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST S: THE STEERING WHEEL CONTROL SWITCH IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

Test Step		Result / Action to Take										
S1	CHECK THE INPUT TO THE ELECTRONIC AUTOMATIC TEMPERATURE CONTROL (EATC) (Continued)											
<div></div> <p>A0040195</p> <ul style="list-style-type: none"><li>Is the resistance reading between 4,500 and 5,000 ohms?</li></ul>												
S2	CHECK THE STEERING WHEEL CONTROL SWITCH OUTPUT											
<ul style="list-style-type: none"><li>Measure the resistance between the EATC module C228a pin 5, circuit 1070 (BN/LB) and ground.</li></ul> <div></div> <p>A0040195</p> <ul style="list-style-type: none"><li>Press each steering wheel control switch and compare the resistance reading to the chart below.</li></ul> <table><tr><th>Switch</th><th>Resistance (ohms)</th></tr><tr><td>TEMP UP</td><td>336-375</td></tr><tr><td>TEMP DOWN</td><td>1620-1810</td></tr><tr><td>FAN UP</td><td>736-821</td></tr><tr><td>FAN DOWN</td><td>123-138</td></tr></table>		Switch	Resistance (ohms)	TEMP UP	336-375	TEMP DOWN	1620-1810	FAN UP	736-821	FAN DOWN	123-138	<p><b>Yes</b> INSTALL a new EATC module. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new steering wheel control switch. TEST the system for normal operation.</p>
Switch	Resistance (ohms)											
TEMP UP	336-375											
TEMP DOWN	1620-1810											
FAN UP	736-821											
FAN DOWN	123-138											

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST S: THE STEERING WHEEL CONTROL SWITCH IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

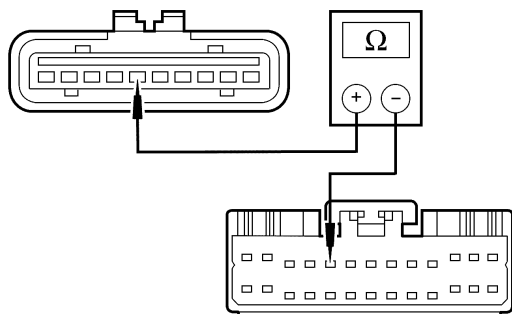
S2	CHECK THE STEERING WHEEL CONTROL SWITCH OUTPUT (Continued)
	 <p>AM0838-A</p> <ul style="list-style-type: none"> <li>Are the resistance readings within the range?</li> </ul>
S3	CHECK CIRCUIT 1070 (BN/LB) FOR A SHORT TO GROUND
	<ul style="list-style-type: none"> <li>Disconnect: Steering Wheel Control Switch .</li> <li>Measure the resistance between the EATC module C228a pin 5, circuit 1070 (BN/LB) and ground.</li> </ul>  <p>A0040195</p> <ul style="list-style-type: none"> <li>Is the resistance reading less than 10,000 ohms?</li> </ul> <p><b>Yes</b> REPAIR circuit 1070 (BN/LB) for a short to ground. TEST the system for normal operation.</p> <p><b>No</b> GO to S4.</p>
S4	CHECK CIRCUIT 1070 (BN/LB) FOR A SHORT TO CIRCUIT 848 (DG/OG) (GAS) OR CIRCUIT 359 (GY/RD) (DIESEL)
	<ul style="list-style-type: none"> <li>Disconnect: Speed Control Module C122 (gas only), PCM C175 (7.3L only) or PCM C1381a (6.0L only) .</li> <li>For gas engines, measure the resistance between the EATC module C228a pin 5, circuit 1070 (BN/LB) and the speed control module C122 pin 6, circuit 848 (DG/OG).</li> </ul> <p><b>Yes</b> INSTALL a new steering wheel control switch. TEST the system for normal operation.</p> <p><b>No</b> For gas engines, REPAIR circuit 1070 (BN/LB) for a short to circuit 848 (DG/OG). TEST the system for normal operation. For diesel engines, REPAIR circuit 1070 (BN/LB) for a short to circuit 359 (GY/RD). TEST the system for normal operation.</p>



## DIAGNOSIS AND TESTING(Continued)

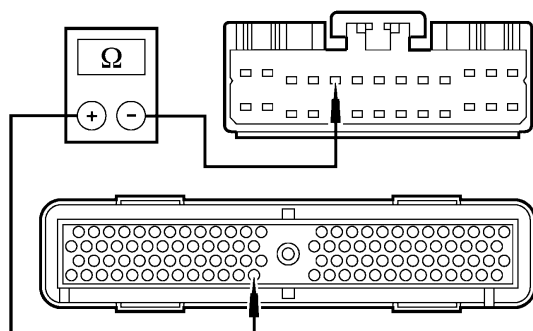
### PINPOINT TEST S: THE STEERING WHEEL CONTROL SWITCH IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

#### S4 CHECK CIRCUIT 1070 (BN/LB) FOR A SHORT TO CIRCUIT 848 (DG/OG) (GAS) OR CIRCUIT 359 (GY/RD) (DIESEL) (Continued)



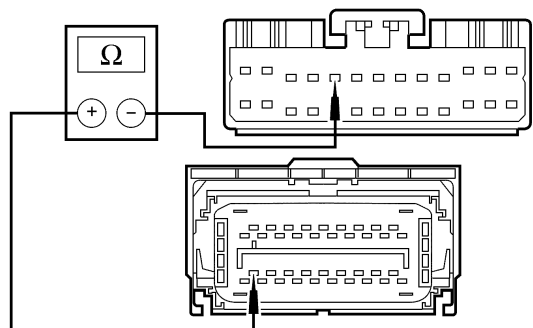
A0040196

- For 7.3L diesel engines, measure the resistance between EATC module C228a pin 5, circuit 1070 (BN/LB) and PCM C175 pin 91, circuit 359 (GY/RD).



A0042331

- For 6.0L diesel engines, measure the resistance between EATC module C228a pin 5, circuit 1070 (BN/LB) and PCM C1381a pin 33, circuit 359 (GY/RD).



A0059919

- Is the resistance reading greater than 10,000 ohms?

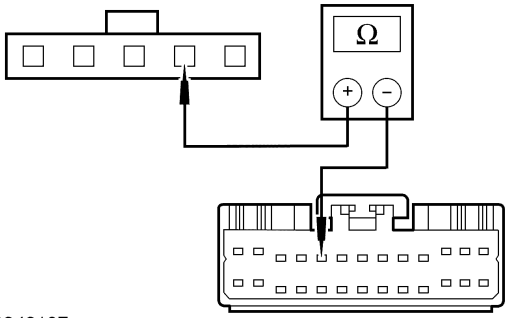
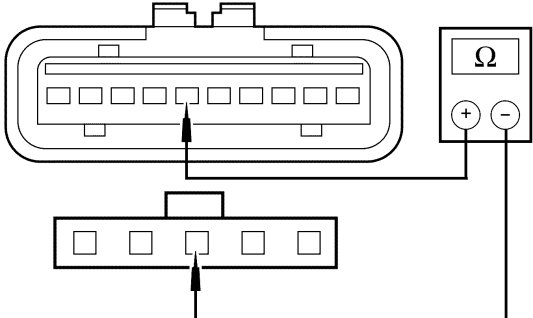
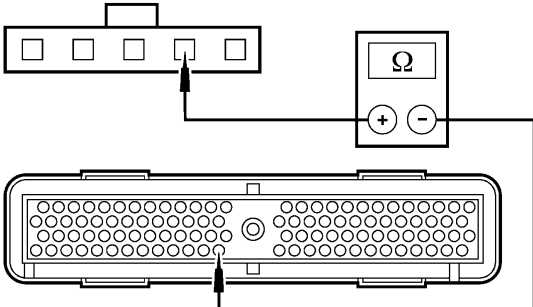
#### S5 CHECK CIRCUIT 1070 (BN/LB) FOR AN OPEN

- Disconnect: Steering Wheel Control Switch .

**Yes**  
GO to S6.

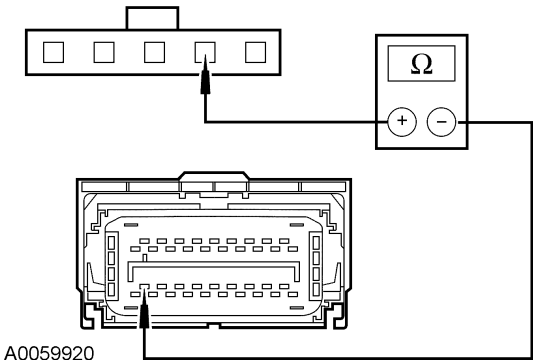
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST S: THE STEERING WHEEL CONTROL SWITCH IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

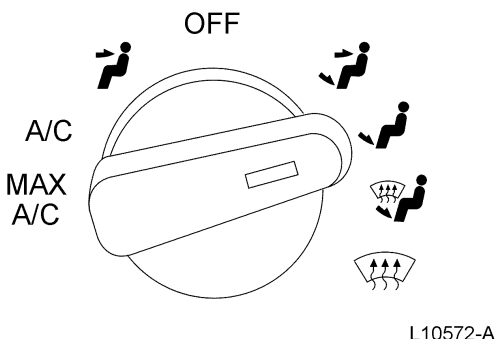
S5	<b>CHECK CIRCUIT 1070 (BN/LB) FOR AN OPEN (Continued)</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the EATC module C228a pin 5, circuit 1070 (BN/LB) and the steering wheel control switch connector (LB/RD).</li> </ul>  <p>A0040197</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>No</b> REPAIR circuit 1070 (BN/LB) for an open. TEST the system for normal operation.</p>
S6	<b>CHECK CIRCUIT 848 (DG/OG) (GAS) OR CIRCUIT 359 (GY/RD) (DIESEL) FOR AN OPEN</b>
	<ul style="list-style-type: none"> <li>Disconnect: Clockspring C224 .</li> <li>For gas engines, measure the resistance between the speed control module C122 pin 6, circuit 848 (DG/OG) and the steering wheel control switch connector.</li> </ul>  <p>A0038724</p> <ul style="list-style-type: none"> <li>For 7.3L diesel engines, measure the resistance between PCM C175 pin 91, circuit 359 (GY/RD) and the steering wheel control switch connector.</li> </ul>  <p>A0042330</p> <p><b>Yes</b> INSTALL a new steering wheel control switch. TEST the system for normal operation.</p> <p><b>No</b> For gas engines, REPAIR circuit 848 (DG/OG) for an open. TEST the system for normal operation. For diesel engines, REPAIR circuit 359 (GY/RD) for and open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST S: THE STEERING WHEEL CONTROL SWITCH IS INOPERATIVE/DOES NOT OPERATE CORRECTLY (Continued)

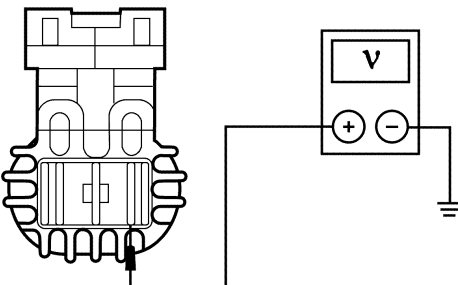
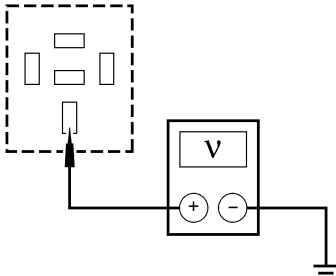
S6	CHECK CIRCUIT 848 (DG/OG) (GAS) OR CIRCUIT 359 (GY/RD) (DIESEL) FOR AN OPEN (Continued)
	<ul style="list-style-type: none"> <li>For 6.0L diesel engines, measure the resistance between PCM C1381a pin 33, circuit 359 (GY/RD) and the steering wheel control switch connector.</li> </ul>  <p>A0059920</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>

### PINPOINT TEST T: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE

Test Step	Result / Action to Take
T1	CHECK CIRCUIT 371 (PK/WH) FOR VOLTAGE
<ul style="list-style-type: none"> <li>Disconnect: Auxiliary Blower Motor C3002 .</li> <li>Ignition ON.</li> <li><b>NOTE:</b> Manual climate control only.</li> </ul> <p>Turn the function selector switch to the FLOOR position.</p>  <p>L10572-A</p> <ul style="list-style-type: none"> <li>Measure the voltage between the blower motor C3002 circuit 371 (PK/WH) and ground.</li> </ul>	<p><b>Yes</b> GO to T5.</p> <p><b>No</b> GO to T2.</p>

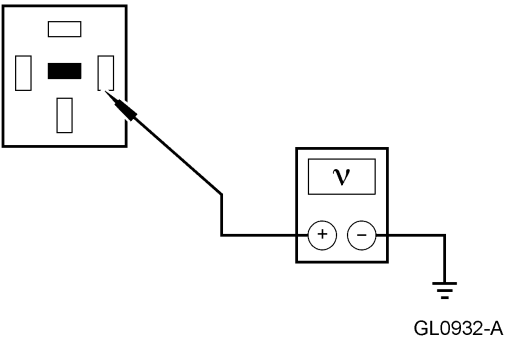
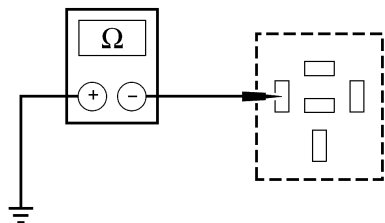
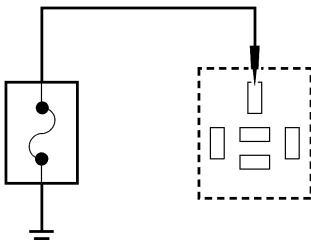
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST T: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE (Continued)

	Test Step	Result / Action to Take
T1	<b>CHECK CIRCUIT 371 (PK/WH) FOR VOLTAGE (Continued)</b>	
	 <p>AM0416-A</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
T2	<b>CHECK CIRCUIT 364 (BK/LG) FOR VOLTAGE</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Blower Motor Relay .</li> <li>Ignition ON.</li> <li>Measure the voltage between the auxiliary blower motor relay pin 30, 364 (BK/LG) and ground.</li> </ul>  <p>A0032581</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> GO to T3.</p> <p><b>No</b> REPAIR circuit 364 (BK/LG). TEST the system for normal operation.</p>
T3	<b>CHECK RELAY COIL VOLTAGE FEED</b>	
	<ul style="list-style-type: none"> <li>Measure the voltage between ground and the auxiliary blower motor relay pin 86: <ul style="list-style-type: none"> <li>— 181 (BR/OG) — Manual climate control</li> <li>— 295 (LB/PK) — EATC</li> </ul> </li> </ul>	<p><b>Yes</b> GO to T4.</p> <p><b>No</b> REPAIR the circuit. TEST the system for normal operation.</p>

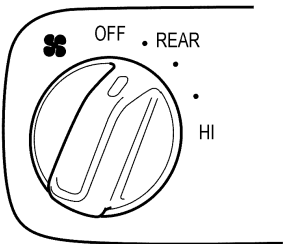
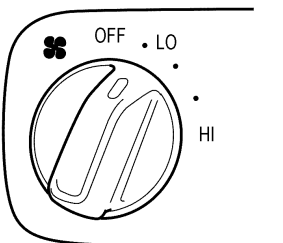
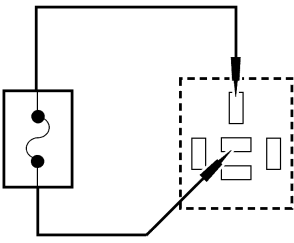
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST T: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE (Continued)

T3	CHECK RELAY COIL VOLTAGE FEED (Continued)
 <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
T4	CHECK CIRCUIT 57 (BK)
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the auxiliary blower motor relay pin 85, circuit 57 (BK) and ground.</li> </ul>  <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
T5	CHECK THE AUXILIARY BLOWER MOTOR
<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Install a fused jumper in the auxiliary blower high-speed relay between pin 30, circuit 536 (BK/LG) and ground.</li> </ul>  <ul style="list-style-type: none"> <li>Does the auxiliary blower operate?</li> </ul>	
<p><b>Yes</b> INSTALL a new auxiliary blower motor relay. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 57 (BK) for an open. TEST the system for normal operation.</p> <p><b>Yes</b> GO to T6.</p> <p><b>No</b> INSTALL a new auxiliary blower motor. TEST the system for normal operation.</p>	

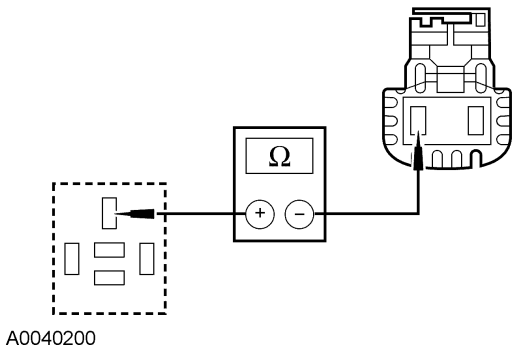
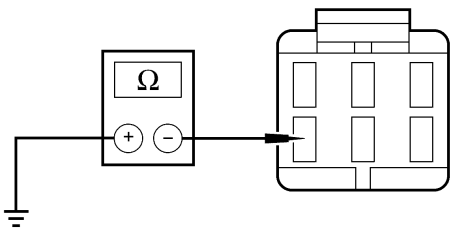
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST T: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE (Continued)

T6	CHECK AUXILIARY BLOWER MOTOR HIGH SPEED RELAY
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Blower Motor High Speed Relay .</li> <li>Place the front auxiliary function selector switch in the REAR position.</li> </ul>  <p>A0040261</p> <ul style="list-style-type: none"> <li>Place the rear auxiliary blower motor switch in the LO position.</li> </ul>  <p>A0040260</p> <ul style="list-style-type: none"> <li>Install a fused jumper in the auxiliary blower high-speed relay between pin 30, circuit 536 (BK/LG) and pin 87A, circuit 1132 (YE).</li> </ul>  <p>A0040199</p> <ul style="list-style-type: none"> <li>Ignition ON.</li> <li><b>Does the auxiliary blower operate?</b></li> </ul> <div> <p><b>Yes</b> INSTALL a new auxiliary high-speed blower motor relay. TEST the system for normal operation.</p> <p><b>No</b> GO to T7.</p> </div>
T7	CHECK CIRCUIT 536 (BK/LG) FOR AN OPEN
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> </ul> <div> <p><b>Yes</b> GO to T8.</p> </div>

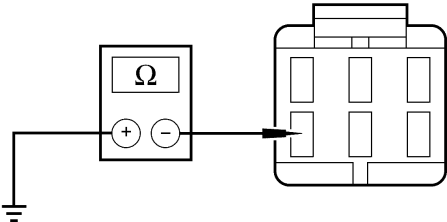
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST T: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE (Continued)

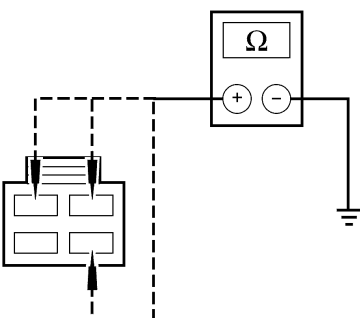
T7	<b>CHECK CIRCUIT 536 (BK/LG) FOR AN OPEN (Continued)</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the auxiliary blower high-speed relay pin 30, circuit 536 (BK/LG) and the auxiliary blower motor C3002, circuit 536 (BK/LG).</li> </ul>  <p>A0040200</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>No</b> REPAIR circuit 536 (BK/LG) for an open. TEST the system for normal operation.</p>
T8	<b>CHECK CIRCUIT 1120 (BK/WH)</b>
	<ul style="list-style-type: none"> <li>Disconnect: Rear Auxiliary Blower Motor Switch C990a .</li> <li>Measure the resistance between the rear auxiliary blower motor switch C990a, circuit 1120 (BK/WH) and ground.</li> </ul>  <p>A0008136</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> INSTALL a new rear auxiliary blower motor switch. TEST the system for normal operation.</p> <p><b>No</b> GO to T9.</p>
T9	<b>CHECK CIRCUIT 57 (BK)</b>
	<ul style="list-style-type: none"> <li>Disconnect: Front Auxiliary Blower Motor Switch C989a .</li> <li>Measure the resistance between the front auxiliary blower motor switch C989a, circuit 57 (BK) and ground.</li> </ul> <p><b>Yes</b> INSTALL a new front auxiliary blower motor switch. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 57 (BK) for an open. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST T: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE (Continued)

T9	CHECK CIRCUIT 57 (BK) (Continued)
 <p>A0008136</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	

### PINPOINT TEST U: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE CORRECTLY

Test Step	Result / Action to Take
U1 CHECK AUXILIARY BLOWER MOTOR SWITCH FUNCTIONS	
<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Using the front and rear auxiliary blower motor controls, select all blower speeds.</li> <li><b>Does the auxiliary blower motor operate in any setting?</b></li> </ul>	<p><b>Yes</b> Blower operates high and some low settings, GO to U2 . Blower operates using front auxiliary controls only, GO to U7 .</p> <p><b>No</b> GO to Pinpoint Test T.</p>
U2 CHECK CIRCUITS 751 (DB/WH), 269 (LB/OG) AND 756 (RD/PK) FOR A SHORT TO GROUND	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Front Auxiliary Blower Motor Switch C989a .</li> <li>Disconnect: Rear Auxiliary Blower Motor Switch C990a .</li> <li>Disconnect: Auxiliary Blower Motor Resistor C3003 .</li> <li>Measure the resistance between ground and the auxiliary blower motor resistor C3003:</li> </ul> <ul style="list-style-type: none"> <li>— circuit 751 (DB/WH)</li> <li>— circuit 269 (LB/OG)</li> <li>— circuit 756 (RD/PK)</li> </ul>  <p>A0040203</p>	<p><b>Yes</b> GO to U3.</p> <p><b>No</b> REPAIR the affected circuit for a short to ground. TEST the system for normal operation.</p>



## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST U: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE CORRECTLY (Continued)

U2	<b>CHECK CIRCUITS 751 (DB/WH), 269 (LB/OG) AND 756 (RD/PK) FOR A SHORT TO GROUND (Continued)</b>												
	<ul style="list-style-type: none"> <li>Is the any resistance greater than 10,000 ohms?</li> </ul>												
U3	<b>CHECK THE FRONT AUXILIARY BLOWER MOTOR SWITCH</b>												
<ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary blower motor switch C989a pins, component side. Refer to the chart shown.</li> </ul> <table border="1" data-bbox="258 640 915 945"> <thead> <tr> <th>Switch Position</th><th>Pins</th></tr> </thead> <tbody> <tr> <td>Off</td><td>None</td></tr> <tr> <td>Rear</td><td>F, A and D only</td></tr> <tr> <td>Medium/Low</td><td>F and C only</td></tr> <tr> <td>Medium/High</td><td>F and E only</td></tr> <tr> <td>High</td><td>F and B only</td></tr> </tbody> </table> <div data-bbox="480 1035 673 1209"> <p>The diagram shows a rectangular component with six pins labeled F, E, D, C, B, and A. Pins F, E, and D are in the top row, while C, B, and A are in the bottom row. A bracket on the left side groups pins F, E, and C. A bracket on the right side groups pins D, B, and A. A separate bracket is shown above pin F.</p> </div> <p>A0008135</p> <ul style="list-style-type: none"> <li>Are the resistances less than 5 ohms?</li> </ul>		Switch Position	Pins	Off	None	Rear	F, A and D only	Medium/Low	F and C only	Medium/High	F and E only	High	F and B only
Switch Position	Pins												
Off	None												
Rear	F, A and D only												
Medium/Low	F and C only												
Medium/High	F and E only												
High	F and B only												
<p><b>Yes</b> GO to U4.</p> <p><b>No</b> Install a new front auxiliary blower motor switch. TEST the system for normal operation.</p>													
U4	<b>CHECK THE REAR AUXILIARY BLOWER MOTOR SWITCH</b>												
<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary blower motor switch C990a pins, component side. Refer to the chart shown.</li> </ul> <table border="1" data-bbox="258 1600 915 1850"> <thead> <tr> <th>Switch Position</th><th>Pins</th></tr> </thead> <tbody> <tr> <td>Off</td><td>None</td></tr> <tr> <td>Low</td><td>F and D only</td></tr> <tr> <td>Medium/Low</td><td>F and C only</td></tr> <tr> <td>Medium/High</td><td>F and E only</td></tr> </tbody> </table>		Switch Position	Pins	Off	None	Low	F and D only	Medium/Low	F and C only	Medium/High	F and E only		
Switch Position	Pins												
Off	None												
Low	F and D only												
Medium/Low	F and C only												
Medium/High	F and E only												
<p><b>Yes</b> GO to U5.</p> <p><b>No</b> INSTALL a new rear auxiliary blower motor switch. TEST the system for normal operation.</p>													

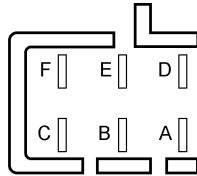
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST U: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE CORRECTLY (Continued)

#### U4 CHECK THE REAR AUXILIARY BLOWER MOTOR SWITCH (Continued)

(Continued)

Switch Position	Pins
High	F and B only

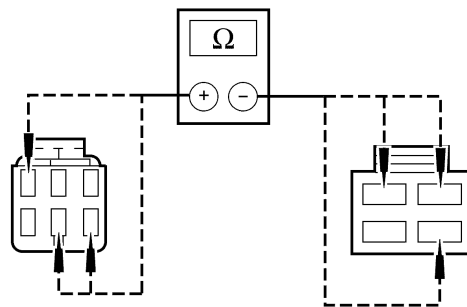


A0008135

- Are the resistances less than 5 ohms?

#### U5 CHECK CIRCUITS 751 (DB/WH), 269 (LB/OG) AND 756 (RD/PK) FOR AN OPEN

- Measure the resistance between auxiliary blower motor resistor C3003:
  - circuit 751 (DB/WH) and rear auxiliary blower motor switch C990a
  - circuit 269 (LB/OG) and rear auxiliary blower motor switch C990a
  - circuit 756 (RD/PK) and rear auxiliary blower motor switch C990a



A0040204

- Is there any resistance less than 5 ohms?

**Yes**  
GO to U6.

**No**  
REPAIR the affected circuit for an open. TEST the system for normal operation.

#### U6 CHECK CIRCUITS 751 (DB/WH) AND 269 (LB/OG) FOR AN OPEN

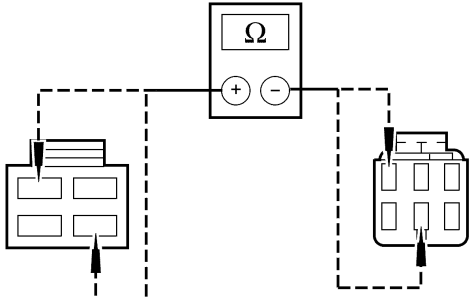
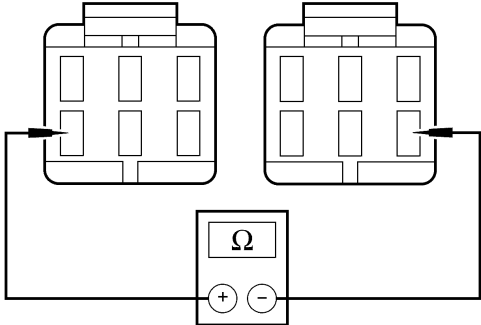
- Measure the resistance between auxiliary blower motor resistor C3003:
  - circuit 751 (DB/WH) and front auxiliary blower motor switch C989a

**Yes**  
INSTALL a new auxiliary blower motor resistor. TEST the system for normal operation.

**No**  
REPAIR the affected circuit for an open. TEST the system for normal operation.

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST U: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE CORRECTLY (Continued)

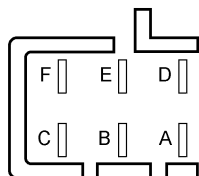
U6	<b>CHECK CIRCUITS 751 (DB/WH) AND 269 (LB/OG) FOR AN OPEN (Continued)</b>
	<p>— circuit 269 (LB/OG) and front auxiliary blower motor switch C989a</p>  <p>A0040205</p> <ul style="list-style-type: none"> <li>Is there any resistance less than 5 ohms?</li> </ul>
U7	<b>CHECK CIRCUIT 1120 (BK/WH) FOR AN OPEN</b>
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Front Auxiliary Blower Motor Control C989a .</li> <li>Disconnect: Rear Auxiliary Blower Motor Control C990a .</li> <li>Measure the resistance between the front auxiliary blower control C989a, circuit 1120 (BK/WH) and the rear auxiliary blower control C990a, circuit 1120 (BK/WH).</li> </ul>  <p>A0008137</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to U8.</p> <p><b>No</b> REPAIR circuit 1120 (BK/WH) for an open. TEST the system for normal operation.</p>
U8	<b>CHECK THE REAR AUXILIARY BLOWER MOTOR SWITCH</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary blower motor switch C990a pins, component side. Refer to the chart shown.</li> </ul> <p><b>Yes</b> GO to U9.</p> <p><b>No</b> INSTALL a new rear auxiliary blower motor switch. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST U: THE AUXILIARY BLOWER MOTOR DOES NOT OPERATE CORRECTLY (Continued)

#### U8 CHECK THE REAR AUXILIARY BLOWER MOTOR SWITCH (Continued)

Switch Position	Pins
Off	None
Low	F and D only
Medium/Low	F and C only
Medium/High	F and E only
High	F and B only

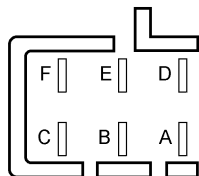


A0008135

- Are the resistances less than 5 ohms?

#### U9 CHECK THE FRONT AUXILIARY BLOWER MOTOR SWITCH

- Place the front auxiliary blower motor switch in the rear position.
- Measure the resistance between the front auxiliary blower motor switch C989a pins F and A and pin F and D, component side.



A0008135

- Are the resistances less than 5 ohms?

#### Yes

The system is OK.

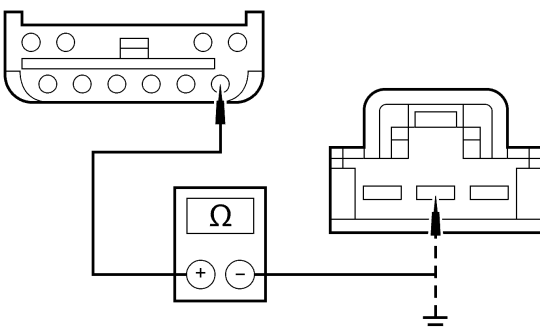
#### No

INSTALL a new front auxiliary blower motor switch. TEST the system for normal operation.

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS

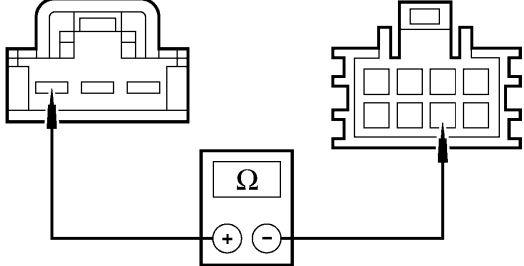
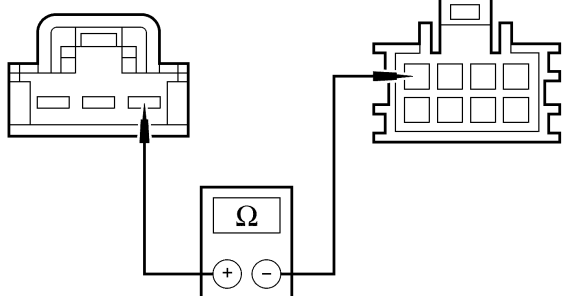
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

Test Step		Result / Action to Take
<b>V1</b>	<b>CHECK THE FRONT AUXILIARY MODE CONTROL OPERATION</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Place the front auxiliary blower motor switch in the HI position.</li> <li>Rotate the front auxiliary mode control switch from PANEL to FLOOR.</li> <li><b>Does the front mode control operate correctly?</b></li> </ul>	<b>Yes</b> GO to V2.  <b>No</b> GO to V8.
<b>V2</b>	<b>TEST THE REAR AUXILIARY MODE CONTROL OPERATION</b>	
	<ul style="list-style-type: none"> <li>Place the front auxiliary blower motor switch in the REAR position.</li> <li>Place the rear auxiliary blower motor switch in the HI position.</li> <li>Rotate the rear auxiliary mode control switch from PANEL to FLOOR.</li> <li><b>Does the rear mode control operate correctly?</b></li> </ul>	<b>Yes</b> System is OK.  <b>No</b> GO to V3.
<b>V3</b>	<b>CHECK CIRCUIT 1130 (PK/LG)</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Remove the rear auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Rear Auxiliary Mode Control Switch C990c .</li> <li>Disconnect: Auxiliary Climate Control Module C3005 .</li> <li>Measure the resistance between the rear auxiliary mode control switch C990c pin 2, circuit 1130 (PK/LG) and the auxiliary climate control module C3005 pin 1, circuit 1130 (PK/LG); and between the auxiliary climate control module C3005 pin 1, circuit 1130 (PK/LG) and ground.</li> </ul>  <p>A0008151</p> <ul style="list-style-type: none"> <li><b>Is the resistance less than 5 ohms between the rear auxiliary mode control switch and the auxiliary climate control module, and greater than 10,000 ohms between the auxiliary climate control module and ground?</b></li> </ul>	<b>Yes</b> GO to V4.  <b>No</b> REPAIR circuit 1130 (PK/LG). TEST the system for normal operation.
<b>V4</b>	<b>CHECK THE REAR AUXILIARY MODE CONTROL CIRCUIT 1129 (BN/WH)</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Auxiliary Mode Door Actuator C3044 .</li> <li>Measure the resistance between the rear auxiliary mode control switch C990c pin 3, circuit 1129 (BN/WH) and the</li> </ul>	<b>Yes</b> GO to V5.

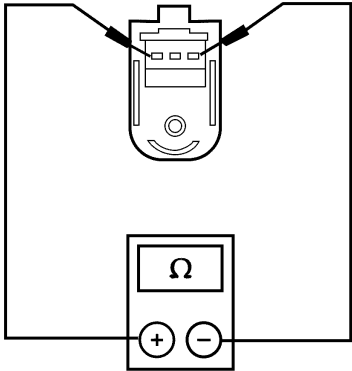
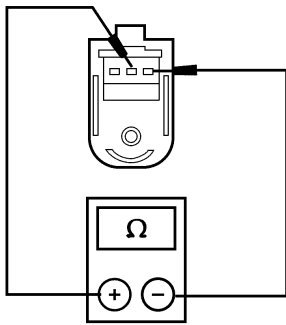
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

V4	<b>CHECK THE REAR AUXILIARY MODE CONTROL CIRCUIT 1129 (BN/WH) (Continued)</b>
	<p>auxiliary mode door actuator C3044 pin 6, circuit 1129 (BN/WH).</p>  <p>A0008152</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>No</b> REPAIR circuit 1129 (BN/WH). TEST the system for normal operation.</p>
V5	<b>CHECK THE REAR AUXILIARY MODE CONTROL CIRCUIT 1128 (GY/LB)</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary mode control switch C990c pin 1, circuit 1128 (GY/LB) and the auxiliary mode door actuator C3044 pin 4, circuit 1128 (GY/LB).</li> </ul>  <p>A0008153</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to V6.</p> <p><b>No</b> REPAIR circuit 1128 (GY/LB). TEST the system for normal operation.</p>
V6	<b>CHECK THE REAR AUXILIARY MODE CONTROL SWITCH</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary mode control switch C990c pin 1 and pin 3, component side.</li> </ul> <p><b>Yes</b> GO to V7.</p> <p><b>No</b> INSTALL a new rear auxiliary mode control switch. TEST the system for normal operation.</p>

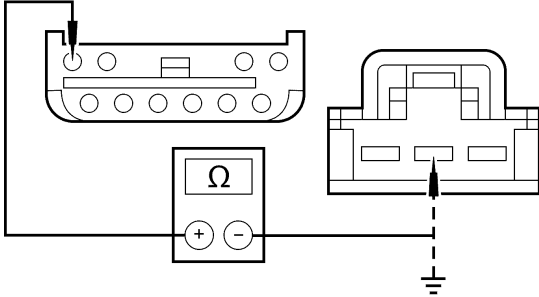
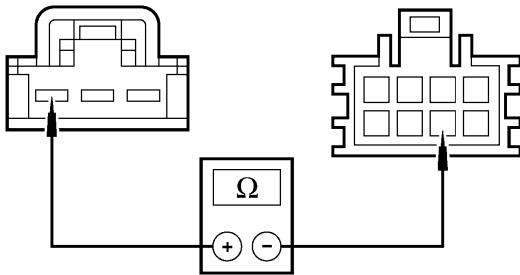
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

V6	CHECK THE REAR AUXILIARY MODE CONTROL SWITCH (Continued)	
	 <p>AM1841-A</p> <ul style="list-style-type: none"> <li>Is the resistance between 4,000 and 6,000 ohms?</li> </ul>	
V7	CHECK THE REAR AUXILIARY MODE CONTROL SWITCH WIPER	
	<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary mode control switch pin 1 and pin 2, component side, while rotating the rear auxiliary mode control switch.</li> </ul>  <p>AM1842-A</p> <ul style="list-style-type: none"> <li>Does the resistance vary?</li> </ul>	<p><b>Yes</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new rear auxiliary mode control switch. REFER to Section 412-03B. TEST the system for normal operation.</p>
V8	CHECK THE REAR AUXILIARY MODE CONTROL OPERATION	
	<ul style="list-style-type: none"> <li>Place the front auxiliary blower motor switch in the REAR position.</li> <li>Place the rear auxiliary blower motor switch in the HI position.</li> <li>Rotate the rear auxiliary mode control switch from PANEL to FLOOR.</li> <li>Does the rear mode control operate correctly?</li> </ul>	<p><b>Yes</b> GO to V9.</p> <p><b>No</b> GO to V14.</p>
V9	CHECK CIRCUIT 1123 (YE/WH)	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Remove the front auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Front Auxiliary Mode Control Switch C989c .</li> <li>Disconnect: Auxiliary Climate Control Module C3005 .</li> <li>Measure the resistance between the front auxiliary mode control switch C989c pin 2, circuit 1123 (YE/WH) and the</li> </ul>	<p><b>Yes</b> GO to V10.</p> <p><b>No</b> REPAIR circuit 1123 (YE/WH). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

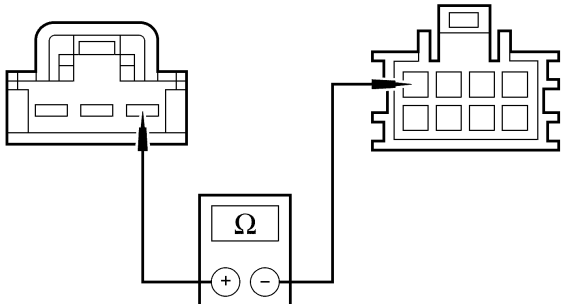
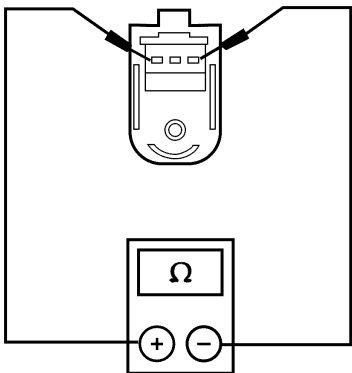
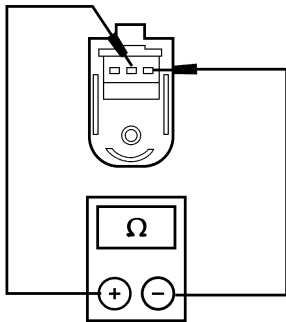
### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

V9	<b>CHECK CIRCUIT 1123 (YE/WH) (Continued)</b>
	<p>auxiliary climate control module C3005 pin 10, circuit 1123 (YE/WH); and between the auxiliary climate control module C3005 pin 10, circuit 1123 (YE/WH) and ground.</p>  <p>A0008154</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the front auxiliary mode control switch and the auxiliary climate control module, and greater than 10,000 ohms between the auxiliary climate control module and ground?</li> </ul>
V10	<b>CHECK THE FRONT AUXILIARY MODE CONTROL CIRCUIT 1129 (BN/WH)</b>
	<ul style="list-style-type: none"> <li>Disconnect: Auxiliary Mode Door Actuator C355 .</li> <li>Measure the resistance between the front auxiliary mode control switch C989c pin 3, circuit 1129 (BN/WH) and the auxiliary mode door actuator C3044 pin 6, circuit 1129 (BN/WH).</li> </ul>  <p>A0008152</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to V11.</p> <p><b>No</b> REPAIR circuit 1129 (BN/WH). TEST the system for normal operation.</p>
V11	<b>CHECK THE FRONT AUXILIARY MODE CONTROL CIRCUIT 1128 (GY/LB)</b>
	<ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary mode control switch C989c pin 1, circuit 1128 (GY/LB) and the auxiliary mode door actuator C3044 pin 4, circuit 1128 (GY/LB).</li> </ul> <p><b>Yes</b> GO to V12.</p> <p><b>No</b> REPAIR circuit 1128 (GY/LB). TEST the system for normal operation.</p>



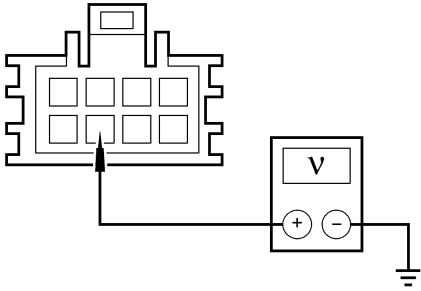
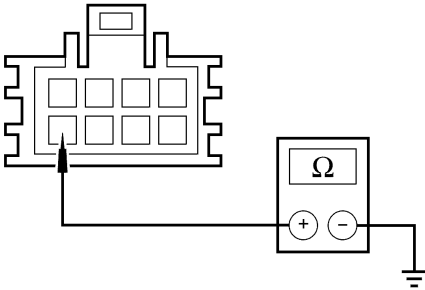
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

V11	CHECK THE FRONT AUXILIARY MODE CONTROL CIRCUIT 1128 (GY/LB) (Continued)
	 <p>A0008153</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
V12	CHECK THE FRONT AUXILIARY MODE CONTROL SWITCH
	<ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary mode control switch pin 1 and pin 3, component side.</li> </ul>  <p>AM1841-A</p> <ul style="list-style-type: none"> <li>Is the resistance between 4,000 and 6,000 ohms?</li> </ul> <div data-bbox="938 1142 1430 1331"> <p><b>Yes</b> GO to V13.</p> <p><b>No</b> INSTALL a new front auxiliary mode control switch. REFER to Section 412-03B. TEST the system for normal operation.</p> </div>
V13	CHECK THE FRONT AUXILIARY MODE CONTROL SWITCH WIPER
	<ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary mode control switch pin 1 and pin 2, component side.</li> </ul>  <p>AM1842-A</p> <ul style="list-style-type: none"> <li>Does the resistance vary?</li> </ul> <div data-bbox="938 1682 1458 1902"> <p><b>Yes</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new front auxiliary mode control switch. REFER to Section 412-03B. TEST the system for normal operation.</p> </div>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

<b>V14</b>	<b>CHECK THE VOLTAGE TO THE AUXILIARY MODE DOOR ACTUATOR</b>	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Mode Door Actuator C3044 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the auxiliary mode door actuator C3044 pin 7, circuit 295 (LB/PK) and ground.</li> </ul>		
 <p>A0008155</p>		<p><b>Yes</b> GO to V15.</p> <p><b>No</b> REPAIR circuit 295 (LB/PK). TEST the system for normal operation.</p>
<ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>		
<b>V15</b>	<b>CHECK CIRCUIT 57 (BK)</b>	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the auxiliary mode door actuator C3044 pin 8, circuit 57 (BK) and ground.</li> </ul>		
 <p>A0008156</p>		<p><b>Yes</b> GO to V16.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>
<ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>		
<b>V16</b>	<b>CHECK CIRCUIT 1131 (LG)</b>	
<ul style="list-style-type: none"> <li>Disconnect: Auxiliary Climate Control Module C353 .</li> <li>Measure the resistance between the auxiliary climate control module C3005 pin 3, circuit 1131 (LG) and the auxiliary mode door actuator C3044 pin 3, circuit 1131 (LG); and between the auxiliary mode door actuator C3044 pin 3, circuit 1131 (LG), and ground.</li> </ul>		<p><b>Yes</b> GO to V17.</p> <p><b>No</b> REPAIR circuit 1131 (LG). TEST the system for normal operation.</p>

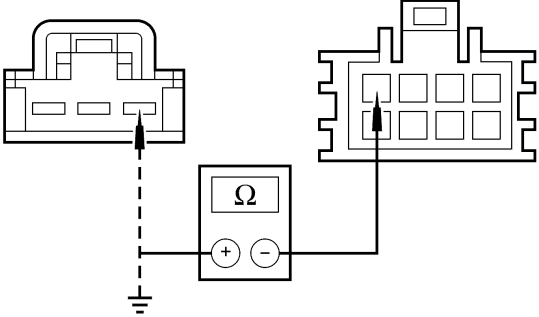
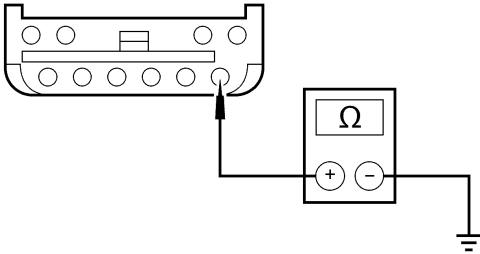
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

V16	CHECK CIRCUIT 1131 (LG) (Continued)
	<div data-bbox="321 394 852 709"> <p>A0008157</p> </div> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the auxiliary climate control module and the auxiliary mode door actuator, and greater than 10,000 ohms between the auxiliary mode door actuator and ground?</li> </ul>
V17	CHECK CIRCUIT 1129 (BN/WH)
	<ul style="list-style-type: none"> <li>Disconnect: Front Auxiliary Mode Control Switch C989c .</li> <li>Disconnect: Rear Auxiliary Mode Control Switch C990c .</li> <li>Measure the resistance between the auxiliary mode door actuator C3044 pin 6, circuit 1129 (BN/WH) and the rear auxiliary mode control switch C990c pin 3, circuit 1129 (BN/WH); and between the auxiliary mode door actuator C3044 pin 6, circuit 1129 (BN/WH) and ground.</li> </ul> <div data-bbox="321 1171 852 1507"> <p>A0008158</p> </div> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the auxiliary mode door actuator and the rear auxiliary mode control switch, and greater than 10,000 ohms between the auxiliary mode door actuator and ground?</li> </ul> <div data-bbox="938 1486 1380 1654"> <p><b>Yes</b> GO to V18.</p> <p><b>No</b> REPAIR circuit 1129 (BN/WH). TEST the system for normal operation.</p> </div>
V18	CHECK CIRCUIT 1128 (GY/LB)
	<ul style="list-style-type: none"> <li>Measure the resistance between the auxiliary mode door actuator C3044 pin 4, circuit 1128 (GY/LB) and the rear auxiliary mode control switch C990c pin 1, circuit 1128 (GY/LB); and between the auxiliary mode door actuator C3044 pin 4, circuit 1128 (GY/LB) and ground.</li> </ul> <div data-bbox="938 1738 1458 1902"> <p><b>Yes</b> GO to V19.</p> <p><b>No</b> REPAIR circuit 1128 (GY/LB). TEST the system for normal operation.</p> </div>

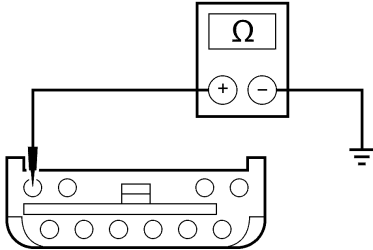
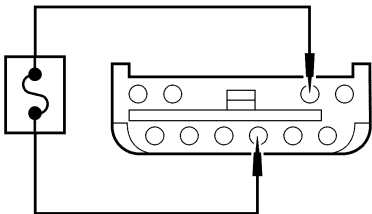
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

V18	CHECK CIRCUIT 1128 (GY/LB) (Continued)
	 <p>A0008159</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the auxiliary mode door actuator and the rear auxiliary mode control switch, and greater than 10,000 ohms between the auxiliary mode door actuator and ground?</li> </ul>
V19	CHECK CIRCUIT 1130 (PK/LG) FOR A SHORT
	<ul style="list-style-type: none"> <li>Measure the resistance between the auxiliary climate control module C3005 pin 1, circuit 1130 (PK/LG) and ground.</li> </ul>  <p>A0008160</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <div style="float: right; width: 30%;"> <p><b>Yes</b> GO to V20.</p> <p><b>No</b> REPAIR circuit 1130 (PK/LG). TEST the system for normal operation.</p> </div>
V20	CHECK CIRCUIT 1123 (YE/WH) FOR A SHORT
	<ul style="list-style-type: none"> <li>Measure the resistance between the auxiliary climate control module C3005 pin 10, circuit 1123 (YE/WH) and ground.</li> </ul> <div style="float: right; width: 30%;"> <p><b>Yes</b> GO to V21.</p> <p><b>No</b> REPAIR circuit 1123 (YE/WH). TEST the system for normal operation.</p> </div>

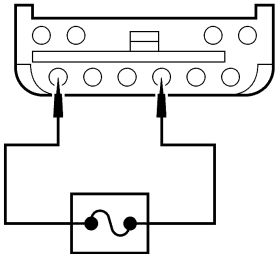
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

V20	CHECK CIRCUIT 1123 (YE/WH) FOR A SHORT (Continued)
 <p>A0008161</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	
V21	CHECK THE AUXILIARY MODE DOOR ACTUATOR — 12 VOLTS
<ul style="list-style-type: none"> <li>Connect: Auxiliary Mode Door Actuator C3044 .</li> <li>Ignition ON.</li> <li>Place the front auxiliary blower motor switch in the HI position.</li> <li>Connect a fused jumper lead between the auxiliary climate control module C3005 pin 8, circuit 295 (LB/PK) and pin 3, circuit 1131 (LG).</li> </ul>  <p>A0008162</p> <ul style="list-style-type: none"> <li>Does the auxiliary mode door actuator direct airflow to the panel?</li> </ul>	
V22	CHECK THE AUXILIARY MODE DOOR ACTUATOR — 0 VOLTS
<ul style="list-style-type: none"> <li>Connect a fused jumper lead between the auxiliary climate control module C3005 pin 3, circuit 1131 (LG) and pin 6, circuit 57 (BK).</li> </ul>	<p><b>Yes</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new auxiliary mode door actuator. REFER to Section 412-03B. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST V: THE PANEL/FLOOR CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

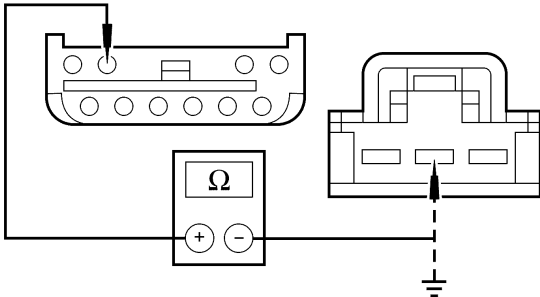
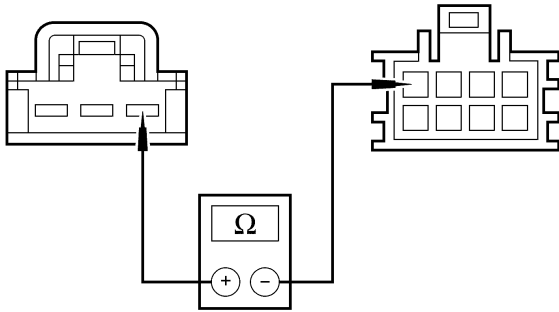
<b>V22</b>	<b>CHECK THE AUXILIARY MODE DOOR ACTUATOR — 0 VOLTS (Continued)</b>
 <p>A0008163</p> <ul style="list-style-type: none"> <li>• Does the auxiliary mode door actuator direct airflow to the floor?</li> </ul>	

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS

Test Step		Result / Action to Take
<b>W1</b>	<b>CHECK THE FRONT AUXILIARY TEMPERATURE CONTROL OPERATION</b>	
	<ul style="list-style-type: none"> <li>• Ignition ON.</li> <li>• Place the front auxiliary blower motor switch in the HI position.</li> <li>• Rotate the front auxiliary temperature control switch from COOL to WARM.</li> <li>• Does the front temperature control operate correctly?</li> </ul>	<p><b>Yes</b> GO to W2.</p> <p><b>No</b> GO to W8.</p>
<b>W2</b>	<b>TEST THE REAR AUXILIARY TEMPERATURE CONTROL OPERATION</b>	
	<ul style="list-style-type: none"> <li>• Place the front auxiliary blower motor switch in the REAR position.</li> <li>• Place the rear auxiliary blower motor switch in the HI position.</li> <li>• Rotate the rear auxiliary temperature control switch from COOL to WARM.</li> <li>• Does the rear temperature control operate correctly?</li> </ul>	<p><b>Yes</b> System is OK.</p> <p><b>No</b> GO to W3.</p>
<b>W3</b>	<b>CHECK CIRCUIT 1127 (YE)</b>	
	<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Remove the rear auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>• Disconnect: Rear Auxiliary Temperature Control Switch C990d .</li> <li>• Disconnect: Auxiliary Climate Control Module C3005 .</li> <li>• Measure the resistance between the rear auxiliary temperature control switch C990d pin 2, circuit 1127 (YE) and the auxiliary climate control module C3005 pin 9, circuit 1127 (YE); and between the auxiliary climate control module C3005 pin 9, circuit 1127 (YE) and ground.</li> </ul>	<p><b>Yes</b> GO to W4.</p> <p><b>No</b> REPAIR circuit 1127 (YE). TEST the system for normal operation.</p>

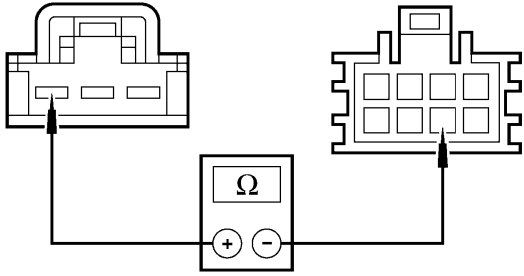
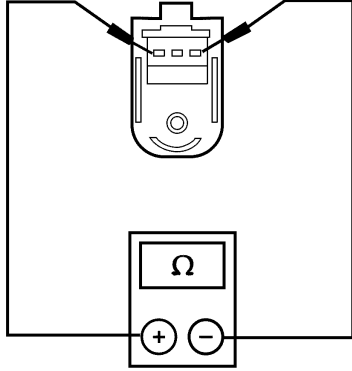
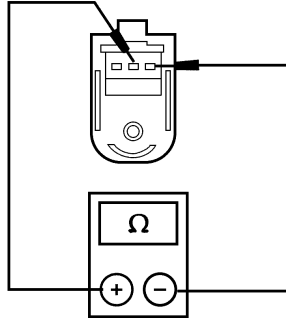
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

W3	CHECK CIRCUIT 1127 (YE) (Continued)
	 <p>A0008164</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the rear auxiliary temperature control switch and the auxiliary climate control module, and greater than 10,000 ohms between the auxiliary climate control module and ground?</li> </ul>
W4	CHECK THE REAR AUXILIARY TEMPERATURE CONTROL CIRCUIT 1124 (WH)
	<ul style="list-style-type: none"> <li>Disconnect: Auxiliary Blend Door Actuator C356 .</li> <li>Measure the resistance between the rear auxiliary temperature control switch C990d pin 1, circuit 1124 (WH) and the auxiliary blend door actuator C3004 pin 4, circuit 1124 (WH).</li> </ul>  <p>A0008153</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <div style="float: right; width: 30%;"> <p><b>Yes</b> GO to W5.</p> <p><b>No</b> REPAIR circuit 1124 (WH). TEST the system for normal operation.</p> </div>
W5	CHECK THE REAR AUXILIARY TEMPERATURE CONTROL CIRCUIT 1125 (BN)
	<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary temperature control switch C990d pin 3, circuit 1125 (BN) and the auxiliary blend door actuator C3004 pin 6, circuit 1125 (BN).</li> </ul> <div style="float: right; width: 30%;"> <p><b>Yes</b> GO to W6.</p> <p><b>No</b> REPAIR circuit 1125 (BN). TEST the system for normal operation.</p> </div>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

W5	CHECK THE REAR AUXILIARY TEMPERATURE CONTROL CIRCUIT 1125 (BN) (Continued)
	 <p>A0008152</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
W6	CHECK THE REAR AUXILIARY TEMPERATURE CONTROL SWITCH
	<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary temperature control switch C990d pin 1 and pin 3, component side.</li> </ul>  <p>AM1841-A</p> <ul style="list-style-type: none"> <li>Is the resistance between 4,000 and 6,000 ohms?</li> </ul> <div data-bbox="974 1165 1500 1377"> <p><b>Yes</b> GO to W7.</p> <p><b>No</b> INSTALL a new rear auxiliary temperature control switch. REFER to Section 412-03B. TEST the system for normal operation.</p> </div>
W7	CHECK THE REAR AUXILIARY TEMPERATURE CONTROL SWITCH WIPER
	<ul style="list-style-type: none"> <li>Measure the resistance between the rear auxiliary temperature control switch pin 1 and pin 2, component side, while rotating the rear auxiliary temperature control switch.</li> </ul>  <p>AM1842-A</p> <div data-bbox="974 1711 1500 1927"> <p><b>Yes</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new rear auxiliary temperature control switch. REFER to Section 412-03B. TEST the system for normal operation.</p> </div>



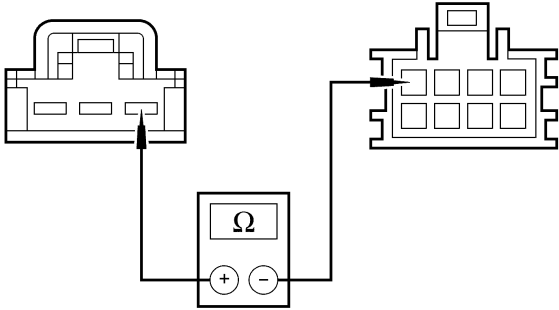
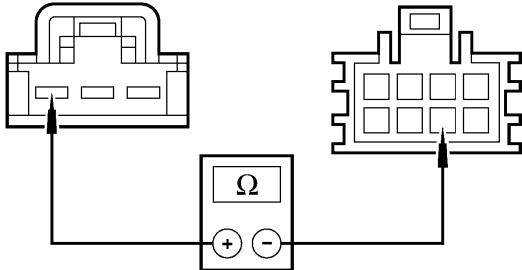
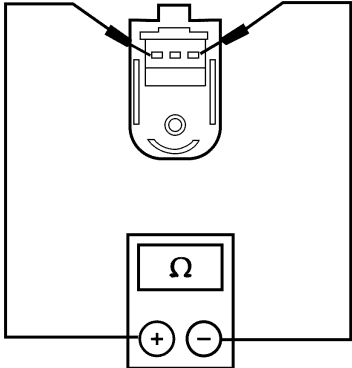
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

<b>W7</b>	<b>CHECK THE REAR AUXILIARY TEMPERATURE CONTROL SWITCH WIPER (Continued)</b>	
	<ul style="list-style-type: none"> <li>Does the resistance vary?</li> </ul>	
<b>W8</b>	<b>CHECK THE REAR AUXILIARY TEMPERATURE CONTROL OPERATION</b>	
	<ul style="list-style-type: none"> <li>Place the front auxiliary blower motor switch in the REAR position.</li> <li>Place the rear auxiliary blower motor switch in the HI position.</li> <li>Rotate the rear auxiliary temperature control switch from COOL to WARM.</li> <li>Does the rear temperature control operate correctly?</li> </ul>	<p><b>Yes</b> GO to W9.</p> <p><b>No</b> GO to W14.</p>
<b>W9</b>	<b>CHECK CIRCUIT 1122 (RD)</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Remove the front auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Front Auxiliary Temperature Control Switch C989d .</li> <li>Disconnect: Auxiliary Climate Control Module C3005 .</li> <li>Measure the resistance between the front auxiliary temperature control switch C989d pin 2, circuit 1122 (RD) and the auxiliary climate control module C3005 pin 5, circuit 1122 (RD); and between the auxiliary climate control module C3005 pin 5, circuit 1122 (RD) and ground.</li> </ul> <div data-bbox="321 1108 841 1409"> <p>A0008165</p> </div> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the front auxiliary temperature control switch and the auxiliary climate control module, and greater than 10,000 ohms between the auxiliary climate control module and ground?</li> </ul>	<p><b>Yes</b> GO to W10.</p> <p><b>No</b> REPAIR circuit 1122 (RD). TEST the system for normal operation.</p>
<b>W10</b>	<b>CHECK THE FRONT AUXILIARY TEMPERATURE CONTROL CIRCUIT 1124 (WH)</b>	
	<ul style="list-style-type: none"> <li>Disconnect: Auxiliary Blend Door Actuator C356 .</li> <li>Measure the resistance between the front auxiliary temperature control switch C989d pin 1, circuit 1124 (WH) and the auxiliary blend door actuator C3004 pin 4, circuit 1124 (WH).</li> </ul>	<p><b>Yes</b> GO to W11.</p> <p><b>No</b> REPAIR circuit 1124 (WH). TEST the system for normal operation.</p>

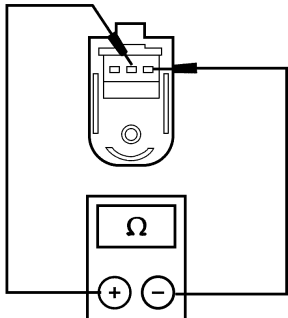
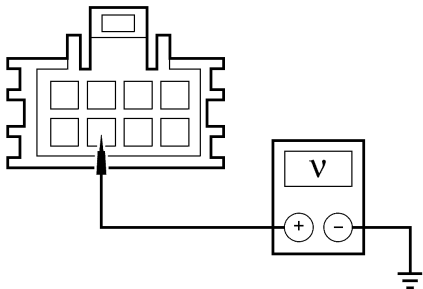
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

W10	CHECK THE FRONT AUXILIARY TEMPERATURE CONTROL CIRCUIT 1124 (WH) (Continued)
	 <p>A0008153</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
W11	CHECK THE FRONT AUXILIARY TEMPERATURE CONTROL CIRCUIT 1125 (BN)
	<ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary temperature control switch C989d pin 3, circuit 1125 (BN) and the auxiliary blend door actuator C3004 pin 6, circuit 1125 (BN).</li> </ul>  <p>A0008152</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to W12.</p> <p><b>No</b> REPAIR circuit 1125 (BN). TEST the system for normal operation.</p>
W12	CHECK THE FRONT AUXILIARY TEMPERATURE CONTROL SWITCH
	<ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary temperature control switch pin 1 and pin 3, component side.</li> </ul>  <p>AM1841-A</p> <ul style="list-style-type: none"> <li>Is the resistance between 4,000 and 6,000 ohms?</li> </ul> <p><b>Yes</b> GO to W13.</p> <p><b>No</b> INSTALL a new front auxiliary temperature control switch. REFER to Section 412-03B. TEST the system for normal operation.</p>

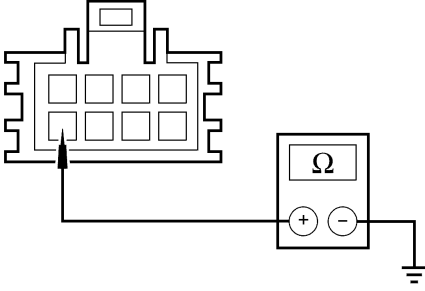
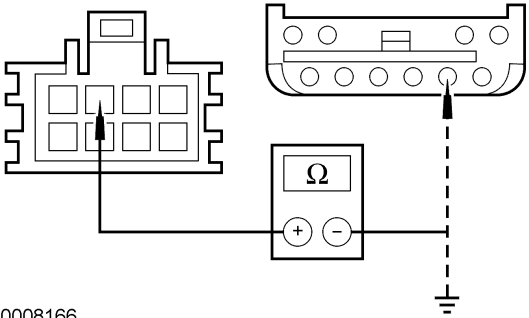
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

<b>W13</b>	<p><b>CHECK THE FRONT AUXILIARY TEMPERATURE CONTROL SWITCH WIPER</b></p> <ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary temperature control switch pin 1 and pin 2, component side.</li> </ul>  <p>AM1842-A</p> <ul style="list-style-type: none"> <li><b>Does the resistance vary?</b></li> </ul> <p><b>Yes</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new front auxiliary temperature control switch. REFER to Section 412-03B. TEST the system for normal operation.</p>
<b>W14</b>	<p><b>CHECK THE VOLTAGE TO THE AUXILIARY BLEND DOOR ACTUATOR</b></p> <ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Blend Door Actuator C3004 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the auxiliary blend door actuator C3004 pin 7, circuit 295 (LB/PK) and ground.</li> </ul>  <p>A0008155</p> <ul style="list-style-type: none"> <li><b>Is the voltage greater than 10 volts?</b></li> </ul> <p><b>Yes</b> GO to W15.</p> <p><b>No</b> REPAIR circuit 295 (LB/PK). TEST the system for normal operation.</p>
<b>W15</b>	<p><b>CHECK CIRCUIT 57 (BK)</b></p> <ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the auxiliary blend door actuator C3004 pin 8, circuit 57 (BK) and ground.</li> </ul> <p><b>Yes</b> GO to W16.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>

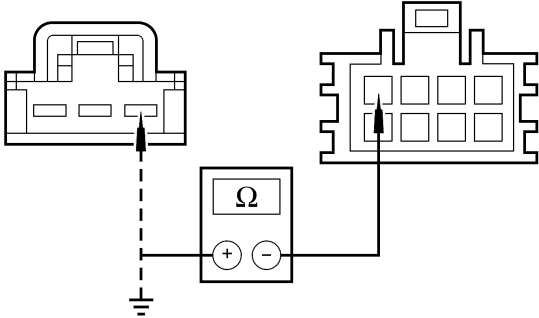
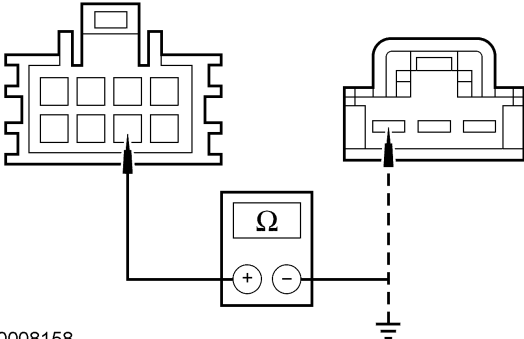
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

W15	CHECK CIRCUIT 57 (BK) (Continued)
	 <p>A0008156</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>
W16	CHECK CIRCUIT 1126 (LB)
	<ul style="list-style-type: none"> <li>Disconnect: Auxiliary Climate Control Module C3005 .</li> <li>Measure the resistance between the auxiliary climate control module C3005 pin 2, circuit 1126 (LB) and the auxiliary blend door actuator C3004 pin 3, circuit 1126 (LB); and between the auxiliary blend door actuator C3004 pin 3, circuit 1126 (LB), and ground.</li> </ul>  <p>A0008166</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the auxiliary climate control module and the auxiliary blend door actuator, and greater than 10,000 ohms between the auxiliary blend door actuator and ground?</li> </ul> <p><b>Yes</b> GO to W17.</p> <p><b>No</b> REPAIR circuit 1126 (LB). TEST the system for normal operation.</p>
W17	CHECK CIRCUIT 1124 (WH)
	<ul style="list-style-type: none"> <li>Remove the front auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Front Auxiliary Temperature Control Switch C989d .</li> <li>Remove the rear auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Rear Auxiliary Temperature Control Switch C990d .</li> <li>Measure the resistance between the auxiliary blend door actuator C3004 pin 4, circuit 1124 (WH) and the rear auxiliary temperature control switch C990d pin 1, circuit 1124 (WH);</li> </ul> <p><b>Yes</b> GO to W18.</p> <p><b>No</b> REPAIR circuit 1124 (WH). TEST the system for normal operation.</p>

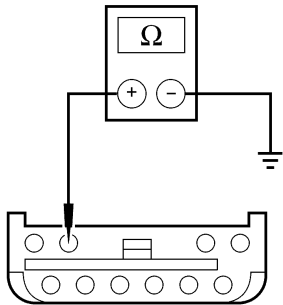
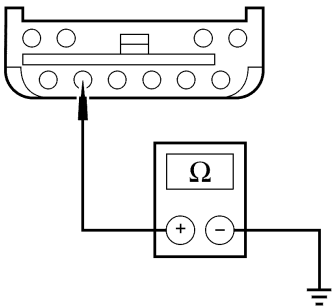
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

W17	<p><b>CHECK CIRCUIT 1124 (WH) (Continued)</b></p> <p>and between the auxiliary blend door actuator C3004 pin 4, circuit 1124 (WH) and ground.</p>  <p>A0008159</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the auxiliary blend door actuator and the rear auxiliary temperature control switch, and greater than 10,000 ohms between the auxiliary blend door actuator and ground?</li> </ul>	
W18	<p><b>CHECK CIRCUIT 1125 (BN)</b></p> <ul style="list-style-type: none"> <li>Measure the resistance between the auxiliary blend door actuator C3004 pin 6, circuit 1125 (BN) and the rear auxiliary temperature control switch C990d pin 3, circuit 1125 (BN); and between the auxiliary blend door actuator C3004 pin 6, circuit 1125 (BN) and ground.</li> </ul>  <p>A0008158</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms between the auxiliary blend door actuator and the rear auxiliary temperature control switch, and greater than 10,000 ohms between the auxiliary blend door actuator and ground?</li> </ul>	<p><b>Yes</b> GO to W19.</p> <p><b>No</b> REPAIR circuit 1125 (BN). TEST the system for normal operation.</p>
W19	<p><b>CHECK CIRCUIT 1127 (YE) FOR A SHORT</b></p> <ul style="list-style-type: none"> <li>Measure the resistance between the auxiliary climate control module C3005 pin 9, circuit 1127 (YE) and ground.</li> </ul>	<p><b>Yes</b> GO to W20.</p> <p><b>No</b> REPAIR circuit 1127 (YE). TEST the system for normal operation.</p>

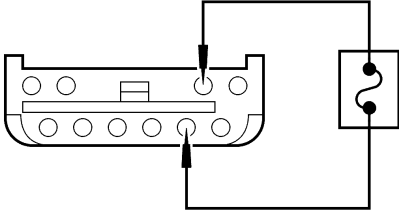
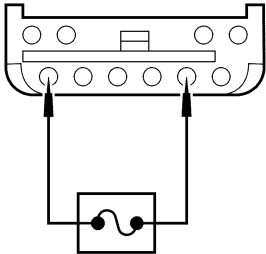
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

<b>W19</b>	<b>CHECK CIRCUIT 1127 (YE) FOR A SHORT (Continued)</b>
 <p>A0039085</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
<b>W20</b>	<b>CHECK CIRCUIT 1122 (RD) FOR A SHORT</b>
<ul style="list-style-type: none"> <li>Measure the resistance between the auxiliary climate control module C3005 pin 5, circuit 1122 (RD) and ground.</li> </ul>  <p>A0008168</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	<p><b>Yes</b> GO to W21.</p> <p><b>No</b> REPAIR circuit 1122 (RD). TEST the system for normal operation.</p>
<b>W21</b>	<b>CHECK THE AUXILIARY BLEND DOOR ACTUATOR — 12 VOLTS</b>
<ul style="list-style-type: none"> <li>Connect: Auxiliary Blend Door Actuator C3004 .</li> <li>Ignition ON.</li> <li>Place the front auxiliary blower motor switch in the HI position.</li> <li>Connect a fused jumper lead between the auxiliary climate control module C3005 pin 8, circuit 295 (LB/PK) and pin 2, circuit 1126 (LB).</li> </ul>	<p><b>Yes</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p> <p><b>No</b> GO to W22.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST W: THE TEMPERATURE CONTROL DOES NOT OPERATE USING THE FRONT/ REAR AUXILIARY CLIMATE CONTROLS (Continued)

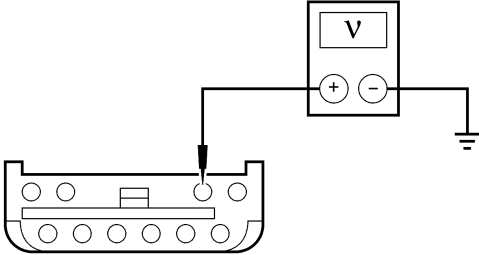
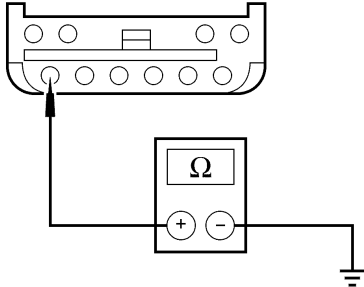
W21	CHECK THE AUXILIARY BLEND DOOR ACTUATOR — 12 VOLTS (Continued)
 <p>A0008169</p> <ul style="list-style-type: none"> <li>Does the auxiliary blend door actuator operate?</li> </ul>	
W22	CHECK THE AUXILIARY BLEND DOOR ACTUATOR — 0 VOLTS
<ul style="list-style-type: none"> <li>Connect a fused jumper lead between the auxiliary climate control module C3005 pin 2, circuit 1126 (LB) and pin 6, circuit 57 (BK).</li> </ul>  <p>N0032342</p> <ul style="list-style-type: none"> <li>Does the auxiliary blend door actuator operate?</li> </ul>	<p><b>Yes</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p> <p><b>No</b> INSPECT for a binding, stuck or broken blend door or linkage. If no condition is found, INSTALL a new auxiliary blend door actuator. REFER to Section 412-03B. TEST the system for normal operation.</p>

### PINPOINT TEST X: THE PANEL/FLOOR AND COOL/WARM CONTROLS DO NOT OPERATE ON THE FRONT/REAR AUXILIARY CONTROLS

Test Step	Result / Action to Take
X1 CHECK THE VOLTAGE TO THE AUXILIARY CLIMATE CONTROL MODULE	
<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Climate Control Module C3005 .</li> <li>Ignition ON.</li> <li>Measure the voltage between the auxiliary climate control module C3005 pin 8, circuit 295 (LB/PK) and ground.</li> </ul>	<p><b>Yes</b> GO to X2.</p> <p><b>No</b> REPAIR circuit 295 (LB/PK). TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

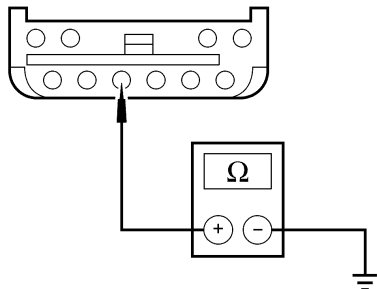
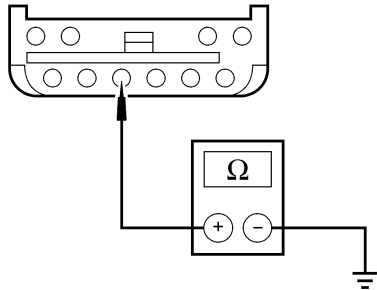
### PINPOINT TEST X: THE PANEL/FLOOR AND COOL/WARM CONTROLS DO NOT OPERATE ON THE FRONT/REAR AUXILIARY CONTROLS (Continued)

	Test Step	Result / Action to Take
X1	<b>CHECK THE VOLTAGE TO THE AUXILIARY CLIMATE CONTROL MODULE (Continued)</b>	
	 <p>A0008171</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	
X2	<b>CHECK CIRCUIT 57 (BK)</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Measure the resistance between the auxiliary climate control module C3005 pin 6, circuit 57 (BK) and ground.</li> </ul>  <p>A0008172</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> GO to X3.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>
X3	<b>CHECK THE FRONT AUXILIARY CONTROL ENABLE SIGNAL</b>	
	<ul style="list-style-type: none"> <li>Place the front auxiliary blower motor switch in the OFF position.</li> <li>Measure the resistance between the auxiliary climate control module C3005 pin 4, circuit 1121 (DG/YE) and ground.</li> </ul>	<p><b>Yes</b> GO to X5.</p> <p><b>No</b> GO to X4.</p>



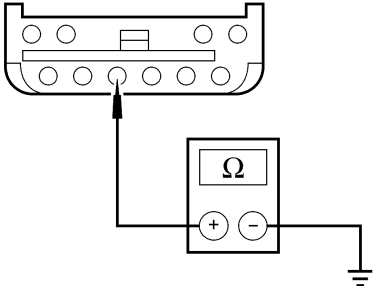
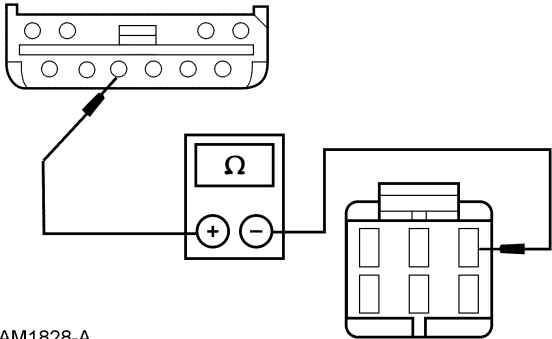
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST X: THE PANEL/FLOOR AND COOL/WARM CONTROLS DO NOT OPERATE ON THE FRONT/REAR AUXILIARY CONTROLS (Continued)

X3	CHECK THE FRONT AUXILIARY CONTROL ENABLE SIGNAL (Continued)	
	 <p>A0008173</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	
X4	CHECK CIRCUIT 1121 (DG/YE) FOR A SHORT	
	<ul style="list-style-type: none"> <li>Remove the front auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Front Auxiliary Blower Motor Switch C989a .</li> <li>Measure the resistance between the auxiliary climate control module C3005 pin 4, circuit 1121 (DG/YE) and ground.</li> </ul>  <p>A0008173</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	<p><b>Yes</b> REPAIR circuit 1121 (DG/YE). TEST the system for normal operation.</p> <p><b>No</b> INSTALL a new front auxiliary blower motor switch. REFER to Section 412-03B. TEST the system for normal operation.</p>
X5	CHECK FOR FRONT AUXILIARY CONTROL ENABLE SIGNAL	
	<ul style="list-style-type: none"> <li>Place the front auxiliary blower motor switch in the REAR position.</li> <li>Measure the resistance between the auxiliary climate control module C3005 pin 4, circuit 1121 (DG/YE) and ground.</li> </ul>	<p><b>Yes</b> GO to X6.</p> <p><b>No</b> INSTALL a new auxiliary climate control module. TEST the system for normal operation.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST X: THE PANEL/FLOOR AND COOL/WARM CONTROLS DO NOT OPERATE ON THE FRONT/REAR AUXILIARY CONTROLS (Continued)

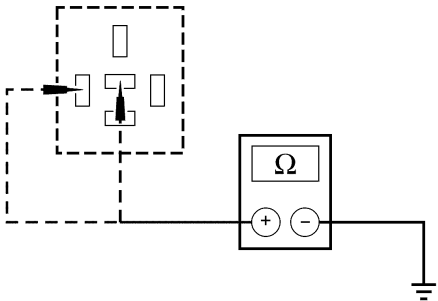
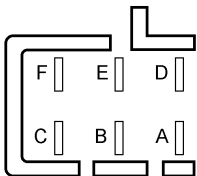
X5	CHECK FOR FRONT AUXILIARY CONTROL ENABLE SIGNAL (Continued)
 <p>A0008173</p> <ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>	
X6	CHECK CIRCUIT 1121 (DG/YE) FOR AN OPEN
<ul style="list-style-type: none"> <li>Remove the front auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Front Auxiliary Blower Motor Switch C989a .</li> <li>Measure the resistance between the auxiliary climate control module C3005 pin 4, circuit 1121 (DG/YE) and the front auxiliary blower motor switch C989a, circuit 1121 (DG/YE).</li> </ul>  <p>AM1828-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	
<p><b>Yes</b> INSTALL a new front auxiliary blower motor switch. REFER to Section 412-03B. TEST the system for normal operation.</p> <p><b>No</b> REPAIR circuit 1121 (DG/YE). TEST the system for normal operation.</p>	

### PINPOINT TEST Y: THE FRONT/REAR AUXILIARY BLOWER MOTOR SWITCH OPERATES ONLY IN HI

	Test Step	Result / Action to Take
Y1	CHECK CIRCUIT 536 (BK/LG)	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Blower Hi-Speed Relay .</li> <li>Place the function selector switch in the FLOOR position.</li> <li>Ignition ON.</li> <li>Does the auxiliary blower motor operate at high speed?</li> </ul>	<p><b>Yes</b> REPAIR circuit 536 (BK/LG). TEST the system for normal operation.</p> <p><b>No</b> GO to Y2.</p>
Y2	CHECK CIRCUITS 515 (OG/RD) AND 1132 (YE)	

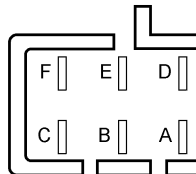
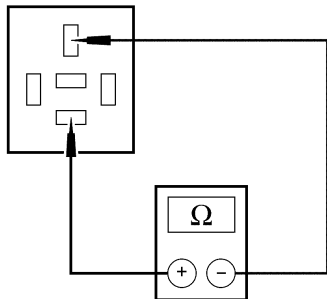
## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Y: THE FRONT/REAR AUXILIARY BLOWER MOTOR SWITCH OPERATES ONLY IN HI (Continued)

Y2	<b>CHECK CIRCUITS 515 (OG/RD) AND 1132 (YE) (Continued)</b>												
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Blower Motor Resistor C3003 .</li> <li>Measure the resistance between the auxiliary blower hi-speed relay socket pin 86, circuit 515 (OG/RD) and ground; and between socket pin 87A, circuit 1132 (YE) and ground.</li> </ul>  <p>A0008174</p> <ul style="list-style-type: none"> <li><b>Are the resistances greater than 10,000 ohms?</b></li> </ul> <div style="float: right; width: 30%;"> <p><b>Yes</b> GO to Y3.</p> <p><b>No</b> REPAIR circuit 515 (OG/RD) or circuit 1132 (YE). TEST the system for normal operation.</p> </div>												
Y3	<b>CHECK THE FRONT AUXILIARY BLOWER MOTOR SWITCH</b>												
	<ul style="list-style-type: none"> <li>Remove the front auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>Disconnect: Front Auxiliary Blower Motor Switch C989a .</li> <li>Measure the resistance between the front auxiliary blower motor switch pins, component side. Refer to the chart shown.</li> </ul> <table border="1" data-bbox="258 1224 915 1528"> <thead> <tr> <th>Switch Position</th><th>Continuity Between Pins</th></tr> </thead> <tbody> <tr> <td>Off</td><td>None</td></tr> <tr> <td>Low</td><td>F, A, and D only</td></tr> <tr> <td>Medium/low</td><td>F and C only</td></tr> <tr> <td>Medium/high</td><td>F and E only</td></tr> <tr> <td>High</td><td>F and B only</td></tr> </tbody> </table>  <p>A0008135</p> <div style="float: right; width: 30%;"> <p><b>Yes</b> GO to Y4.</p> <p><b>No</b> INSTALL a new front auxiliary blower motor switch. REFER to Section 412-03B. TEST the system for normal operation.</p> </div>	Switch Position	Continuity Between Pins	Off	None	Low	F, A, and D only	Medium/low	F and C only	Medium/high	F and E only	High	F and B only
Switch Position	Continuity Between Pins												
Off	None												
Low	F, A, and D only												
Medium/low	F and C only												
Medium/high	F and E only												
High	F and B only												

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Y: THE FRONT/REAR AUXILIARY BLOWER MOTOR SWITCH OPERATES ONLY IN HI (Continued)

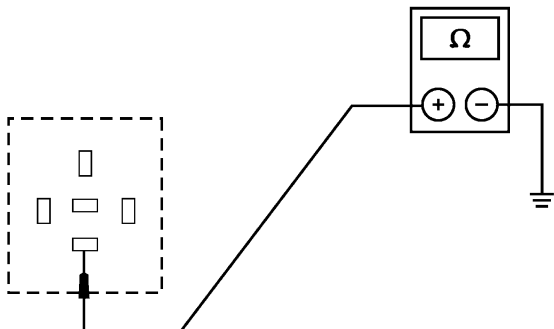
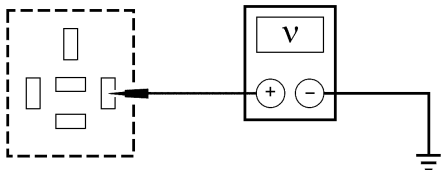
Y3	CHECK THE FRONT AUXILIARY BLOWER MOTOR SWITCH (Continued)													
	<ul style="list-style-type: none"><li>Are the resistances less than 5 ohms?</li></ul>													
Y4	CHECK THE REAR AUXILIARY BLOWER MOTOR SWITCH													
	<div><ul style="list-style-type: none"><li>Remove the rear auxiliary climate control assembly. Refer to Section 412-03B.</li><li>Disconnect: Rear Auxiliary Blower Motor Switch C990a .</li><li>Measure the resistance between the rear auxiliary blower motor switch pins, component side. Refer to the chart shown.</li></ul></div> <div><table><tr><th>Switch Position</th><th>Continuity Between Pins</th></tr><tr><td>Off</td><td>None</td></tr><tr><td>Low</td><td>F, A, and D only</td></tr><tr><td>Medium/low</td><td>F and C only</td></tr><tr><td>Medium/high</td><td>F and E only</td></tr><tr><td>High</td><td>F and B only</td></tr></table><div></div><div>A0008135</div><div><ul style="list-style-type: none"><li>Are the resistances less than 5 ohms?</li></ul></div></div>	Switch Position	Continuity Between Pins	Off	None	Low	F, A, and D only	Medium/low	F and C only	Medium/high	F and E only	High	F and B only	<div><div>Yes</div><div>GO to Y5.</div></div> <div><div>No</div><div>INSTALL a new rear auxiliary blower motor switch. REFER to Section 412-03B. TEST the system for normal operation.</div></div>
Switch Position	Continuity Between Pins													
Off	None													
Low	F, A, and D only													
Medium/low	F and C only													
Medium/high	F and E only													
High	F and B only													
Y5	CHECK THE AUXILIARY BLOWER HI-SPEED RELAY													
	<div><ul style="list-style-type: none"><li>Measure the resistance between the auxiliary blower hi-speed relay pins 30 and 87, component side.</li></ul></div> <div></div> <div>A0008175</div>	<div><div>Yes</div><div>INSTALL a new auxiliary blower motor resistor. TEST the system for normal operation.</div></div> <div><div>No</div><div>INSTALL a new auxiliary blower hi-speed relay. TEST the system for normal operation.</div></div>												

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Y: THE FRONT/REAR AUXILIARY BLOWER MOTOR SWITCH OPERATES ONLY IN HI (Continued)

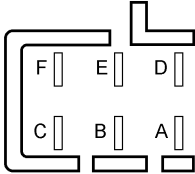
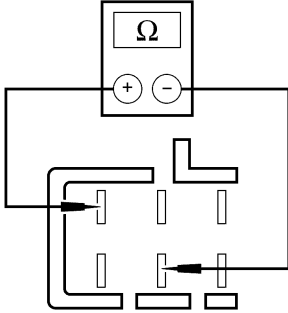
<b>Y5</b>	<b>CHECK THE AUXILIARY BLOWER HI-SPEED RELAY (Continued)</b>
	<ul style="list-style-type: none"> <li>Is the resistance greater than 10,000 ohms?</li> </ul>

### PINPOINT TEST Z: THE FRONT/REAR AUXILIARY BLOWER MOTOR SWITCH DOES NOT OPERATE IN HI

Test Step		Result / Action to Take
<b>Z1</b>	<b>CHECK CIRCUIT 57 (BK)</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Disconnect: Auxiliary Blower Hi-Speed Relay .</li> <li>Measure the resistance between the auxiliary blower hi-speed relay socket pin 87, circuit 57 (BK) and ground.</li> </ul>  <p style="text-align: right;">AM0411-A</p> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul>	<p><b>Yes</b> GO to Z2.</p> <p><b>No</b> REPAIR circuit 57 (BK). TEST the system for normal operation.</p>
<b>Z2</b>	<b>CHECK CIRCUIT 295 (LB/PK)</b>	
	<ul style="list-style-type: none"> <li>Ignition ON.</li> <li>Measure the voltage between the auxiliary blower hi-speed relay socket pin 85, circuit 295 (LB/PK) and ground.</li> </ul>  <p style="text-align: right;">A0008150</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 volts?</li> </ul>	<p><b>Yes</b> GO to Z3.</p> <p><b>No</b> REPAIR circuit 295 (LB/PK). TEST the system for normal operation.</p>
<b>Z3</b>	<b>CHECK THE FRONT AUXILIARY BLOWER MOTOR SWITCH</b>	
	<ul style="list-style-type: none"> <li>Ignition OFF.</li> <li>Remove the front auxiliary climate control assembly. Refer to Section 412-03B.</li> </ul>	<p><b>Yes</b> GO to Z4.</p>

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Z: THE FRONT/REAR AUXILIARY BLOWER MOTOR SWITCH DOES NOT OPERATE IN HI (Continued)

<b>Z3</b>	<b>CHECK THE FRONT AUXILIARY BLOWER MOTOR SWITCH (Continued)</b>						
	<ul style="list-style-type: none"> <li>• Disconnect: Front Auxiliary Blower Motor Switch C989a .</li> <li>• Measure the resistance between the front auxiliary blower motor switch pins, component side. Refer to the chart shown.</li> </ul> <table border="1" data-bbox="295 491 953 642"> <thead> <tr> <th>Switch Position</th><th>Continuity Between Pins</th></tr> </thead> <tbody> <tr> <td>Low</td><td>F, A, and D only</td></tr> <tr> <td>High</td><td>F and B only</td></tr> </tbody> </table>  <p>A0008135</p> <ul style="list-style-type: none"> <li>• Are the resistances less than 5 ohms?</li> </ul> <p><b>No</b> INSTALL a new front auxiliary blower motor switch. REFER to Section 412-03B. TEST the system for normal operation.</p>	Switch Position	Continuity Between Pins	Low	F, A, and D only	High	F and B only
Switch Position	Continuity Between Pins						
Low	F, A, and D only						
High	F and B only						
<b>Z4</b>	<b>CHECK THE REAR AUXILIARY BLOWER MOTOR SWITCH</b>						
	<ul style="list-style-type: none"> <li>• Remove the rear auxiliary climate control assembly. Refer to Section 412-03B.</li> <li>• Disconnect: Rear Auxiliary Blower Motor Switch C962 .</li> <li>• With the rear auxiliary blower motor switch in the HI position, measure the resistance between the rear auxiliary blower motor switch pins B and F, component side.</li> </ul>  <p>A0008176</p> <ul style="list-style-type: none"> <li>• Is the resistance less than 5 ohms?</li> </ul> <p><b>Yes</b> GO to Z5.</p> <p><b>No</b> INSTALL a new rear auxiliary blower motor switch. REFER to Section 412-03B. TEST the system for normal operation.</p>						
<b>Z5</b>	<b>CHECK CIRCUIT 1120 (BK/WH)</b>						
	<ul style="list-style-type: none"> <li>• Measure the resistance between the front auxiliary blower motor switch C989a, circuit 1120 (BK/WH) and the rear auxiliary blower motor switch C990a, circuit 1120 (BK/WH).</li> </ul> <p><b>Yes</b> GO to Z6.</p>						

## DIAGNOSIS AND TESTING(Continued)

### PINPOINT TEST Z: THE FRONT/REAR AUXILIARY BLOWER MOTOR SWITCH DOES NOT OPERATE IN HI (Continued)

Z5	CHECK CIRCUIT 1120 (BK/WH) (Continued)	<div data-bbox="344 373 824 699" data-label="Diagram"> </div> <div data-bbox="305 695 396 714" data-label="Text">A0008137</div> <div data-bbox="217 732 660 758" data-label="List-Group"> <ul style="list-style-type: none"> <li>Is the resistance less than 5 ohms?</li> </ul> </div> <div data-bbox="938 678 1461 764" data-label="Text"> <p><b>No</b> REPAIR circuit 1120 (BK/WH). TEST the system for normal operation.</p> </div>
Z6	CHECK CIRCUIT 515 (OG/RD)	<div data-bbox="217 856 914 1024" data-label="List-Group"> <ul style="list-style-type: none"> <li>Measure the resistance between the front auxiliary blower motor C989a, circuit 515 (OG/RD) and the auxiliary blower hi-speed relay socket pin 86, circuit 515 (OG/RD); and between the rear auxiliary blower motor switch C990a, circuit 515 (OG/RD) and the auxiliary blower hi-speed relay socket pin 86, circuit 515 (OG/RD).</li> </ul> </div> <div data-bbox="391 1068 831 1808" data-label="Diagram"> </div> <div data-bbox="295 1827 389 1845" data-label="Text">A0008177</div> <div data-bbox="217 1866 696 1892" data-label="List-Group"> <ul style="list-style-type: none"> <li>Are the resistances less than 5 ohms?</li> </ul> </div> <div data-bbox="938 1707 1446 1795" data-label="Text"> <p><b>Yes</b> INSTALL a new auxiliary blower hi-speed relay. TEST the system for normal operation.</p> </div> <div data-bbox="938 1810 1446 1896" data-label="Text"> <p><b>No</b> REPAIR circuit 515 (OG/RD). TEST the system for normal operation.</p> </div>

## DIAGNOSIS AND TESTING(Continued)

### Component Tests

#### Heater Core

**⚠ WARNING:** Carbon monoxide is colorless, odorless and dangerous. If it is necessary to operate the engine with the vehicle in a closed area such as a garage, always use an exhaust collector to vent the exhaust gases outside the closed area.

1. **NOTE:** Testing of returned heater cores reveals that a large percentage of heater cores were good and did not require replacement. If a heater core leak is suspected, the heater core must be tested by following the plugged heater core component test before the heater core pressure test. Carry out a system inspection by checking the heater system thoroughly as follows:

Inspect for evidence of coolant leakage at the heater water hose to heater core attachments. A coolant leak in the heater water hose could follow the heater core tube to the heater core (18476) and appear as a leak in the heater core.

2. **NOTE:** Spring-type clamps are installed as original equipment. Installation and overtightening of non-specification clamps can cause leakage at the heater water hose connection and damage the heater core.

Check the integrity of the heater water hose clamps.

#### Heater Core — Plugged

**⚠ WARNING:** The heater core inlet hose will become too hot to handle if the system is working correctly.

1. Check to see that the engine coolant is at the correct level.
2. Start the engine and turn on the heater.
3. When the engine coolant reaches operating temperature, feel the heater core inlet and outlet hose to see if they are hot.

If the inlet hose is not hot:

- the heater control valve may be stuck closed.
- the thermostat is not working correctly.

If the outlet hose is not hot:

- the heater core may have an air pocket.
- the heater core may be restricted or plugged.

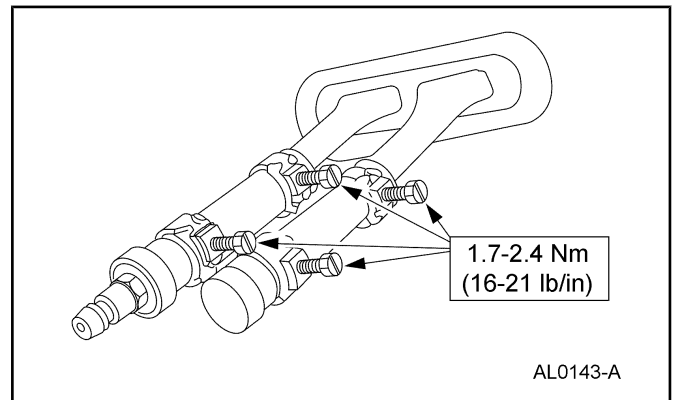
#### Heater Core — Pressure Test

Use the Radiator/Heater Core Pressure Tester to perform the pressure test.

1. **NOTE:** Due to space limitations, a bench test may be necessary for pressure testing.

Clamp off the heater hoses.

2. Disconnect the heater water hoses from the heater core; refer to Section 412-02.
3. Install a short piece of heater water hose, approximately 101 mm (4 inches) long on each heater core tube.
4. Fill the heater core and heater water hoses with water and install Plug BT-7422-B and adapter BT-7422-A from the Radiator/Heater Core Pressure Tester in the heater water hose ends. Secure the heater water hoses, plug and adapter with hose clamps.



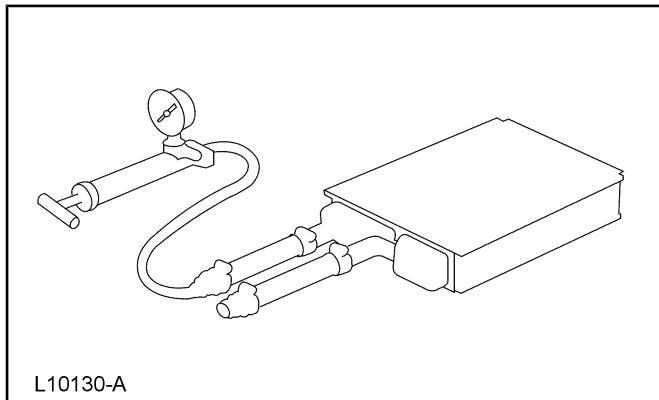
5. Attach the pump and gauge assembly from the Radiator/Heater Core Pressure Tester to the adapter.
6. Close the bleed valve at the base of the gauge. Pump 241 kPa (35 psi) of air pressure into the heater core.
7. Observe the pressure gauge for a minimum of three minutes.
8. If the pressure drops, check the heater water hose connections to the core tubes for leaks. If the heater water hoses do not leak, remove the heater core from the vehicle and perform the bench test.

#### Heater Core — Bench Test

1. Remove the heater core from the vehicle; refer to Section 412-02.
2. Drain all of the coolant from the heater core.
3. Connect the 101 mm (4 inch) test heater water hoses with plug and adapter to the core tubes. Then connect the Radiator/Heater Core Pressure Tester to the adapter.
4. Apply 241 kPa (35 psi) of air pressure to the heater core. Submerge the heater core in water.
5. If a leak is observed, replace the heater core.



## DIAGNOSIS AND TESTING(Continued)



### A/C Evaporator/Condenser Core — On Vehicle Leak Test

1. Discharge and recover the refrigerant; refer to Discharging and Recovery in this section.
2. **NOTE:** DO NOT leak test an A/C evaporator core with the suction accumulator/drier (19C836) attached to the core tubes.

Disconnect the suspect A/C evaporator core or A/C condenser core from the A/C system; refer to Section 412-03A or Section 412-03B.

3. Clean the spring lock couplings; refer to Spring Lock Coupling in this section.
4. Connect the appropriate test fittings from the R-12/R-134a Air Conditioning Test Fitting Set to the evaporator or condenser tube connections.
5. **NOTE:** The automatic shut-off valves on some gauge set hoses do not open when connected to the test fittings. If available, use hoses without shut-off valves. If hoses with shut-off valves are used, make sure the valve opens when attached to the test fittings or install an adapter which will activate the valve. The test is not valid if the shut-off valve does not open.

Connect the red and blue hoses from the R-134a Manifold Gauge Set to the test fittings on the A/C evaporator core or A/C condenser core. Connect the yellow hose to a known good vacuum pump.

6. Open both gauge set valves and start the vacuum pump. Allow the vacuum pump to operate for a minimum of 45 minutes after the gauge set low pressure gauge indicates 101 kPa (30 in-Hg). The 45 minute evacuation is necessary to remove any refrigerant from oil left in the A/C evaporator core or A/C condenser core. If the refrigerant is not completely removed from the oil, outgassing will degrade the vacuum and appear as a refrigerant leak.
7. If the low pressure gauge reading will not drop to 101 kPa (30 in-Hg) when the valves on the gauge and

manifold set are open and the vacuum pump is operating, close the gauge set valves and observe the low pressure gauge. If the pressure rises rapidly to zero, a large leak is indicated. Recheck the test fitting connections and gauge set connections before replacing the A/C evaporator core or A/C condenser core.

8. After evacuating for 45 minutes, close the gauge set valves and stop the vacuum pump. Observe the low pressure gauge; it should remain at the 101 kPa (30 in-Hg) mark.
  - If the low pressure gauge reading rises 34 or more kPa (10 or more in-Hg) of vacuum from the 101 kPa (30 in-Hg) position in 10 minutes, a leak is indicated.
  - If a very small leak is suspected, wait 30 minutes and observe the vacuum gauge.
  - If a small amount of vacuum is lost, operate the vacuum pump with gauge valves open for an additional 30 minutes to remove any remaining refrigerant from the oil in the A/C evaporator core or A/C condenser core. Then recheck for loss of vacuum.
  - If a very small leak is suspected, allow the system to set overnight with vacuum applied and check for vacuum loss.
9. If the A/C evaporator core or A/C condenser core does leak, as verified by the above procedure, install a new A/C evaporator core or A/C condenser core; refer to Section 412-03A or Section 412-03B.

### A/C Compressor — External Leak Test

1. Install the A/C Pressure Test Adapter on the rear head of the A/C compressor using the existing manifold retaining bolt.
2. Connect the high and low pressure lines of a manifold gauge set or a refrigerant recovery/recycling station such as the R-134a A/C Service Center to the corresponding fittings on the A/C Pressure Test Adapter.
3. Attach the center hose of the manifold gauge set to a refrigerant container standing in an upright position.
4. Hand-rotate the compressor shaft 10 complete revolutions to distribute the oil inside the A/C compressor.
5. Open the low pressure gauge valve, the high pressure gauge valve and the valve on the refrigerant container to allow the refrigerant vapor to flow into the A/C compressor.
6. Using the Automatic Calibration Halogen Leak Detector, check for leaks at the compressor shaft seal and the compressor center seal.

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**DIAGNOSIS AND TESTING(Continued)**

7. If a shaft seal leak is found, install a new shaft seal; refer to Section 412-03A. If an external leak is found at the center joint of the A/C compressor, install a new A/C compressor.
8. When the leak test is complete, recover the refrigerant from the compressor.