

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

2009 HVAC

Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

DIAGNOSTIC CODE INDEX

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DTC	Description
<u>B1000</u>	A/C SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1009</u>	RECIRCULATION SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1012</u>	DEFROST SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE (ATC)
<u>B1015</u>	REAR DEFROST SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B101E</u>	POWER ON/OFF SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1021</u>	BLOWER SPEED UP SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1024</u>	BLOWER SPEED DOWN SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1028</u>	REAR BLOWER CONTROL REQUEST INPUT CIRCUIT LOW
<u>B1029</u>	REAR BLOWER CONTROL REQUEST INPUT CIRCUIT HIGH
<u>B102E</u>	REAR BLEND REQUEST INPUT CIRCUIT LOW
<u>B102F</u>	REAR BLEND REQUEST INPUT CIRCUIT HIGH
<u>B1031</u>	EVAPORATOR TEMPERATURE SENSOR CIRCUIT LOW
<u>B1032</u>	EVAPORATOR TEMPERATURE SENSOR CIRCUIT HIGH
<u>B1034</u>	INFRARED TEMPERATURE SENSOR INPUT CIRCUIT LOW
<u>B1035</u>	INFRARED TEMPERATURE SENSOR INPUT CIRCUIT HIGH
<u>B1037</u>	AUTO SWITCH REQUEST INPUT CIRCUIT PERFORMANCE
<u>B103A</u>	REAR MODE DOOR CONTROL CIRCUIT/PERFORMANCE
<u>B103E</u>	REAR MODE DOOR TRAVEL RANGE TOO SMALL
<u>B103F</u>	REAR MODE DOOR TRAVEL RANGE TOO LARGE
<u>B1040</u>	PANEL MODE DOOR 1 CONTROL CIRCUIT/PERFORMANCE
<u>B1044</u>	PANEL MODE DOOR 1 TRAVEL RANGE TOO SMALL
<u>B1045</u>	PANEL MODE DOOR 1 TRAVEL RANGE TOO LARGE
<u>B1052</u>	REAR BLEND DOOR CONTROL CIRCUIT/PERFORMANCE
<u>B1056</u>	REAR BLEND DOOR TRAVEL RANGE TOO SMALL
<u>B1057</u>	REAR BLEND DOOR TRAVEL RANGE TOO LARGE
<u>B1058</u>	RECIRCULATION DOOR CONTROL CIRCUIT/PERFORMANCE
<u>B105C</u>	RECIRCULATION DOOR TRAVEL RANGE TOO SMALL
<u>B105D</u>	RECIRCULATION DOOR TRAVEL RANGE TOO LARGE
<u>B10A6</u>	LEFT BLEND DOOR 1 TRAVEL TOO SMALL
<u>B10A7</u>	LEFT BLEND DOOR TRAVEL TOO LARGE
<u>B10A8</u>	LEFT BLEND DOOR ACTUATOR PERFORMANCE
<u>B10AD</u>	RIGHT BLEND DOOR TRAVEL TOO SMALL

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B10AE	RIGHT BLEND DOOR TRAVEL TOO LARGE
B10AF	RIGHT BLEND DOOR ACTUATOR PERFORMANCE
B10B2	A/C COOL DOWN TEST PERFORMANCE
B113D	REAR MODE REQUEST LOW
B113E	REAR MODE REQUEST HIGH
B113F	REAR POWER ON/OFF SWITCH PERFORMANCE
B1140	REAR POWER LOCK OUT SWITCH PERFORMANCE
B1141	CLIMATE SYNC SWITCH PERFORMANCE
B1142	MODE UP SWITCH PERFORMANCE
B1143	MODE DOWN SWITCH PERFORMANCE
B1144	REAR MODE UP PERFORMANCE
B1145	REAR MODE DOWN SWITCH PERFORMANCE
B1146	REAR BLOWER UP SWITCH PERFORMANCE
B1147	REAR BLOWER DOWN SWITCH PERFORMANCE
B1601	LEFT SOLAR SENSOR CIRCUIT LOW
B1602	LEFT SOLAR SENSOR CIRCUIT HIGH
B1604	RIGHT SOLAR SENSOR CIRCUIT LOW
B1605	RIGHT SOLAR SENSOR CIRCUIT HIGH
B1610	AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT LOW
B1611	AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT HIGH
B2214	(HVAC) CLIMATE CONTROL INTERNAL
B222A	VEHICLE LINE MISMATCH
U0010	CAN INTERIOR BUS
U0141	LOST COMMUNICATION WITH IPM (FCM/TIPM)
U0155	LOST COMMUNICATION WITH CLUSTER/CCN

DIAGNOSIS AND TESTING

B1000-A/C SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C On/Off Control Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the A/C On/Off Control Switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the A/C On/Off control switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1009-RECIRCULATION SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active DTC indicates that the switch is stuck in an On position. A stored Diagnostic trouble Code (DTC) indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Recirculation switch is stuck in a On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION**

1. Inspect the A/C Heater Control for an object or debris holding the Recirculation switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Recirculation switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1012-DEFROST SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE (ATC)

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems

operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active DTC indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Defrost switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Defrost switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Defrost switch being held in or stuck in an On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.

2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. With the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1015-REAR DEFROST SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active DTC indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Rear Defrost switch (ELB) is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION**

1. Inspect the A/C Heater Control for an object or debris holding the Rear Defrost switch in an On position.

NOTE: **Using the scan tool you can read the On/Off status of the control switch.**

Is the Rear Defrost switch being held in or stuck in an On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. With the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.**B101E-POWER ON/OFF SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE**

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active DTC indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Power On/Off switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION**

1. Inspect the A/C Heater Control for an object or debris holding the Power On/Off switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Power On/Off switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in

accordance with the Service Information.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. With the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1021-BLOWER SPEED UP SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active DTC indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Blower Up switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes

OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Blower Up switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Blower Up switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. With the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1024-BLOWER SPEED DOWN SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active DTC indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Blower Down switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Blower Down switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Blower Down switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. With the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1028-REAR BLOWER CONTROL REQUEST INPUT CIRCUIT LOW

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The Rear A/C Heater Control works in conjunction with the A/C Heater Control to control the rear blower

motor, rear temperature control and rear mode control. The Rear A/C Heater Control is constantly monitored by the A/C Heater Control for proper operation. If the monitored signal circuits are out of a calibrated range a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C Heater Control detects a voltage less than 0.23 volts for 60 seconds on the Rear Blower Signal circuit. If a valid voltage is detected for 2 seconds the DTC will change from active to stored and stay in the controllers memory for 100 consecutive ignition cycles.

Possible Causes
REAR A/C HEATER CONTROL DISCONNECTED (C11) REAR BLOWER SIGNAL CIRCUIT SHORTED TO GROUND (C11) REAR BLOWER SIGNAL CIRCUIT OPEN (C800) 5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND (C800) 5-VOLT SUPPLY CIRCUIT OPEN REAR A/C HEATER CONTROL A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. VERIFY THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off, wait 10 seconds, and turn the ignition on.

NOTE: Make sure the Rear Control Lockout on the A/C Heater Control is not turned on.

4. After waiting a minimum of 60 seconds, read HVAC DTCs.

Does the scan tool display this DTC as active?

Yes

- Go To 2

No

- Go to step 9

2. CHECK FOR OTHER REQUEST CIRCUIT LOW DTCS

1. With the scan tool, read HVAC DTCS.

Does the scan tool also display the DTCS B102E-Rear Blend Request Input Circuit Low and B113D-Rear Mode Request Low as active?

Yes

- Go to step 3

No

- Go to step 6

3. CHECK THE REAR A/C HEATER CONTROL CONNECTOR

1. Check if the Rear A/C Heater Control harness connector is unplugged or not fully seated.
2. Check the Rear A/C Heater Control and harness connector for pushed out, damaged, corroded pins or terminals.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (C800) 5 VOLT SUPPLY CIRCUIT FOR A SHORT TO GROUND

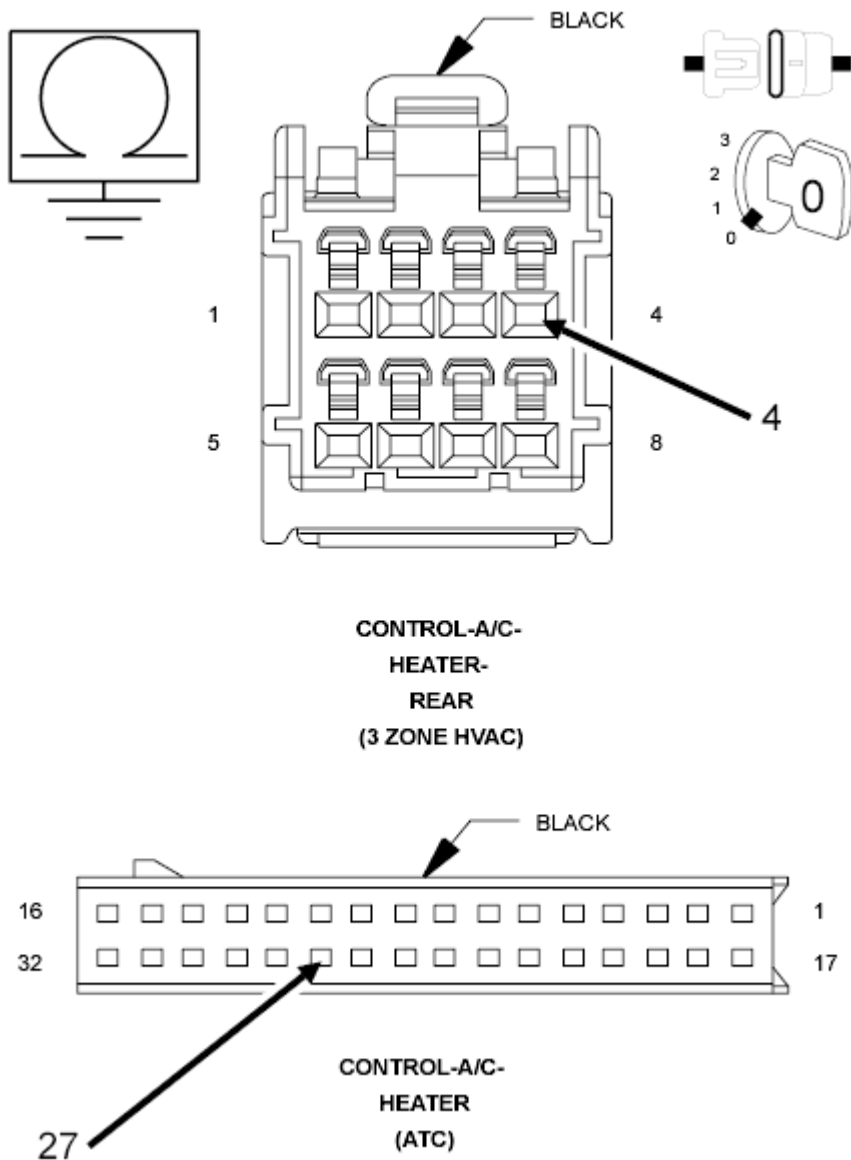


Fig. 2: Checking 5 Volt Supply Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Measure the resistance between ground and the (C800) 5 Volt Supply circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (C800) 5 Volt Supply circuit for a short to ground

- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 5

5. CHECK THE (C800) 5 VOLT SUPPLY CIRCUIT FOR AN OPEN

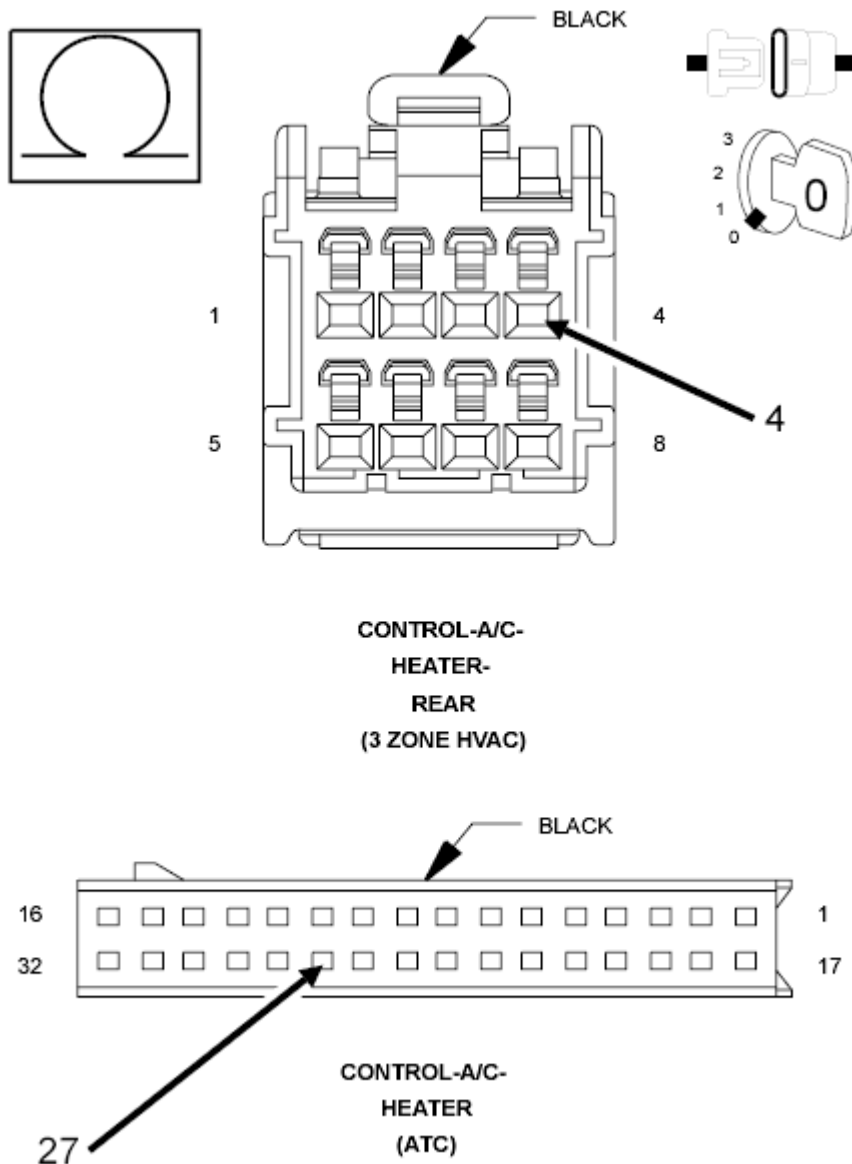


Fig. 3: Checking 5 Volt Supply Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C800) 5 Volt Supply circuit between A/C Heater Control harness

connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

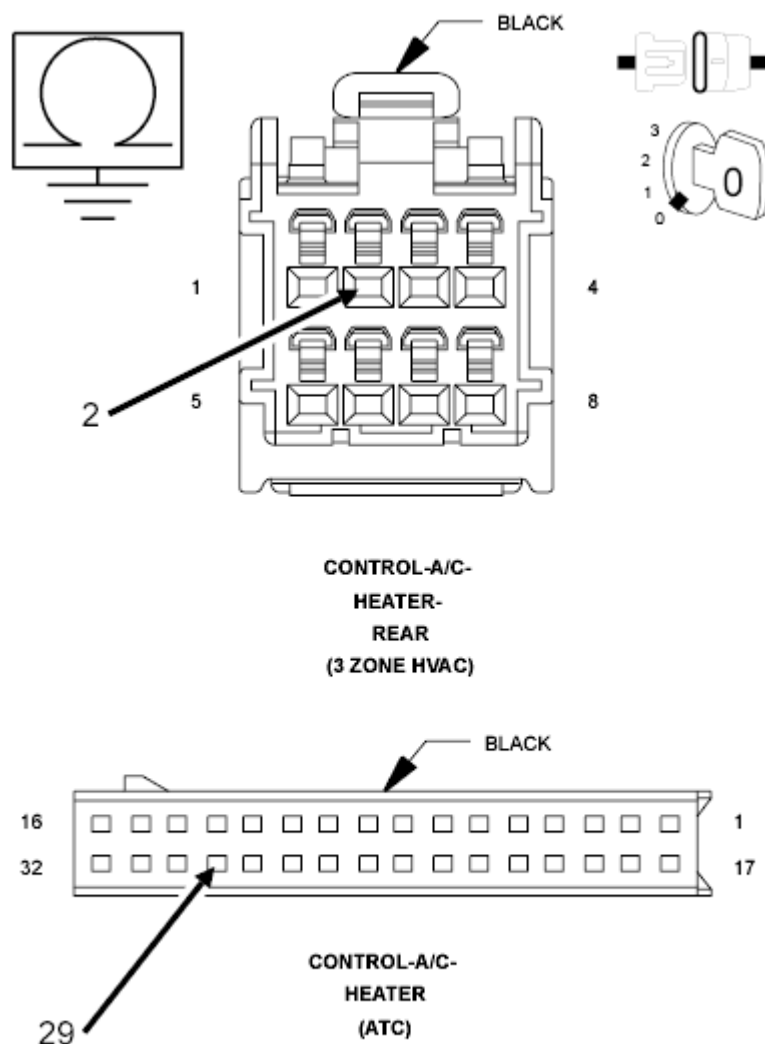
Yes

- Go to step 8

No

- Repair the (C800) 5 Volt Supply circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE (C11) REAR BLOWER SIGNAL CIRCUIT FOR A SHORT TO GROUND



2097101

Fig. 4: Checking Rear Blower Signal Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Measure the resistance between ground and the (C11) Rear Blower Signal circuit.

Is the resistance below 100k Ohms?

Yes

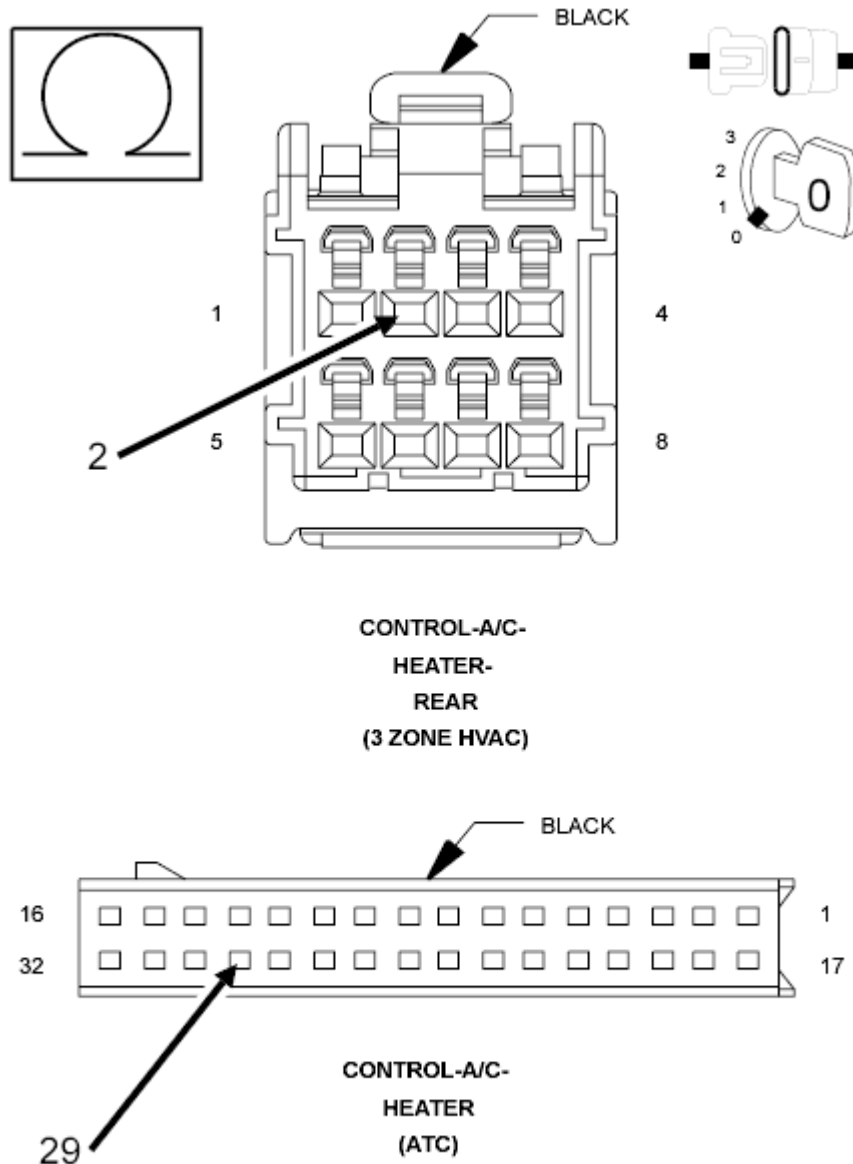
- Repair the (C11) Rear Blower Control Signal circuit for a short to ground.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 7

7. CHECK THE (C11) REAR BLOWER SIGNAL CIRCUIT FOR AN OPEN



2097112

Fig. 5: Checking Rear Blower Signal Circuit For An Open
 Courtesy of CHRYSLER LLC

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1. Measure the resistance of the (C11) Rear Blower Signal circuit between A/C Heater Control harness connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

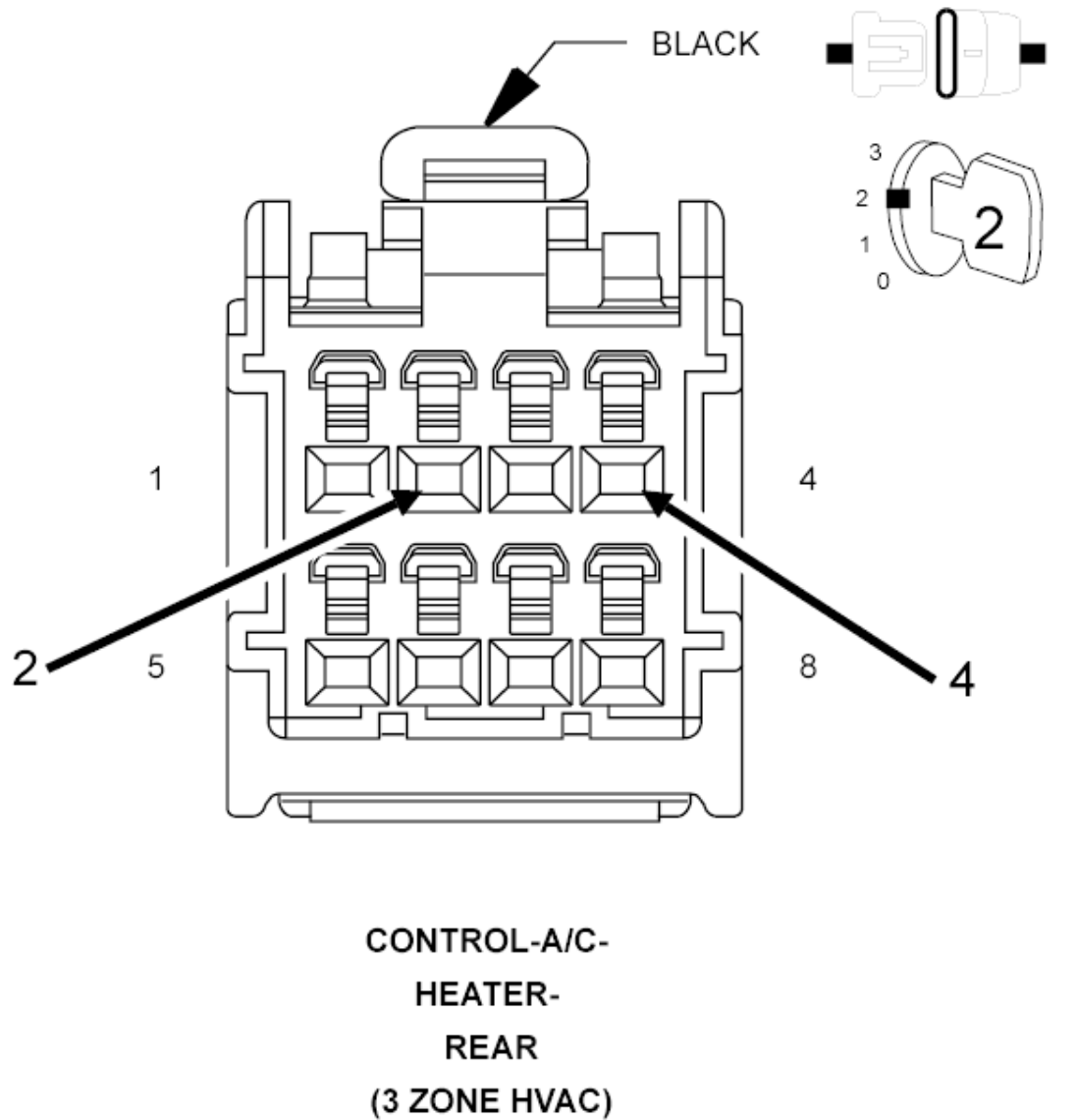
Yes

- Go to step 8

No

- Repair the (C11) Rear Blower Signal circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

8. CHECK THE HVAC CONTROL MODULES



2094090

Fig. 6: Checking HVAC Control Modules
Courtesy of CHRYSLER LLC

1. Reconnect the A/C Heater Control harness connector.
2. Ignition on, engine not running.
3. With the scan tool, erase HVAC DTCs.
4. Turn the ignition off to the lock position.
5. Connect a jumper wire between the (C800) 5-volt Supply circuit and the (C11) Rear Blower Control Signal circuit in the Rear A/C Heater Control harness connector.
6. Ignition on, engine not running.
7. After waiting a minimum of 60 seconds, with the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as active?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1029-REAR BLOWER CONTROL REQUEST INPUT CIRCUIT HIGH

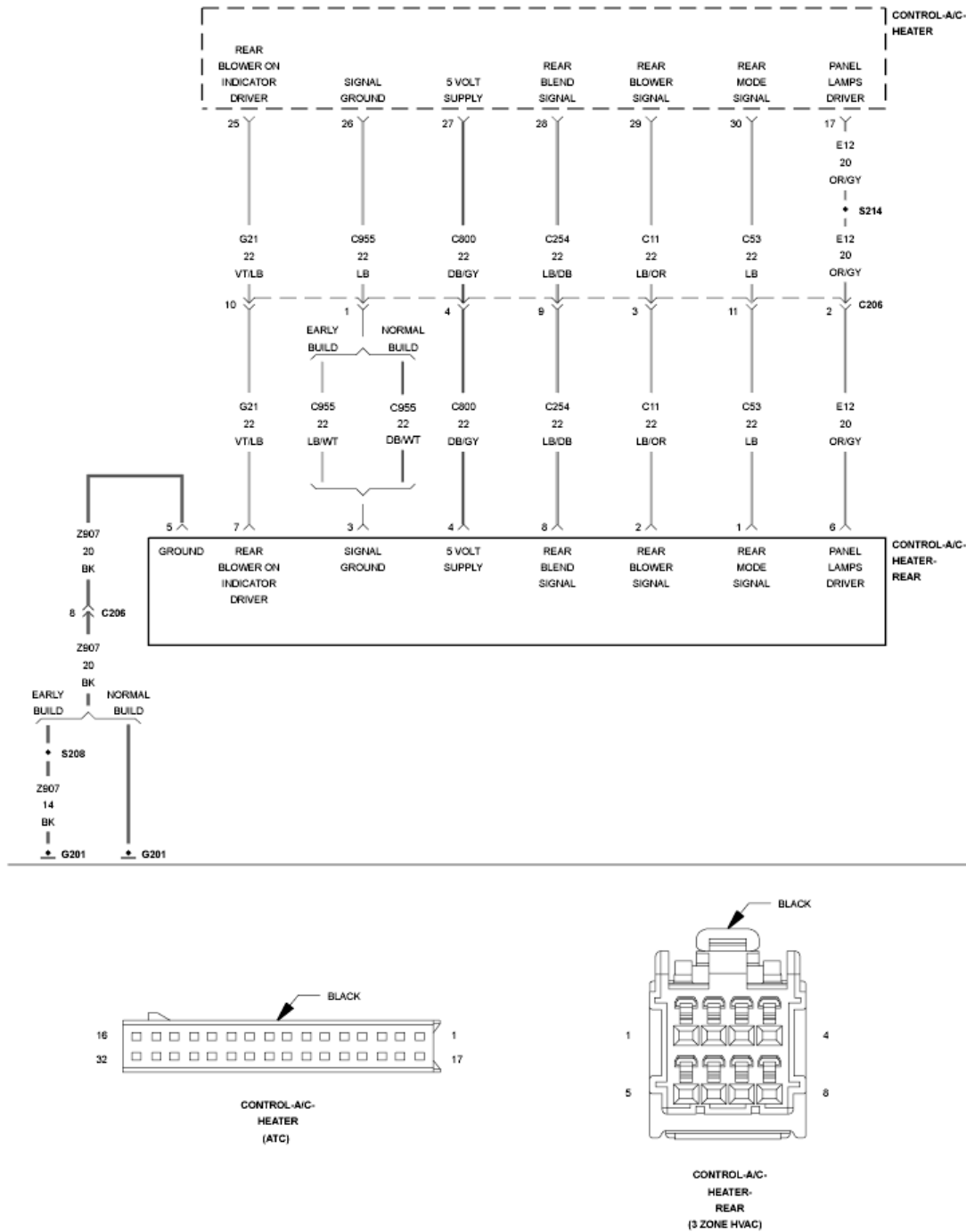


Fig. 7: Rear Blower Signal Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The Rear A/C Heater Control works in conjunction with the A/C Heater Control to control the rear blower

motor, rear temperature control and rear mode control. The Rear A/C Heater Control is constantly monitored by the A/C Heater Control for proper operation. If the monitored signal circuits are out of a calibrated range at DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C Heater Control detects the voltage is greater than 4.77 volts for 60 seconds on the Rear Blower Signal circuit. If a valid voltage is detected for two seconds the DTC will change from active to stored and stay in the controllers memory for 100 consecutive ignition cycles.

Possible Causes
(C11) REAR BLOWER SIGNAL CIRCUIT SHORTED TO VOLTAGE
(C955) SIGNAL GROUND CIRCUIT SHORTED TO VOLTAGE
(C955) SIGNAL GROUND CIRCUIT OPEN
REAR A/C HEATER CONTROL
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. VERIFY THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off, wait 10 seconds, and turn the ignition on.

NOTE: **Make sure the Rear Control Lockout on the A/C Heater Control is not turned on.**

4. With the scan tool, read HVAC DTCs after 60 seconds.

Does the scan tool display this DTC as active?

Yes

- Go To 2

No

- Go to step 7

2. CHECK FOR OTHER REAR REQUEST CIRCUIT HIGH DTCS

1. With the scan tool, read HVAC DTCS.

Are the DTCS B102F-Rear Blend Request Input Circuit High and B113E-Rear Mode Request Circuit High also present and Active?

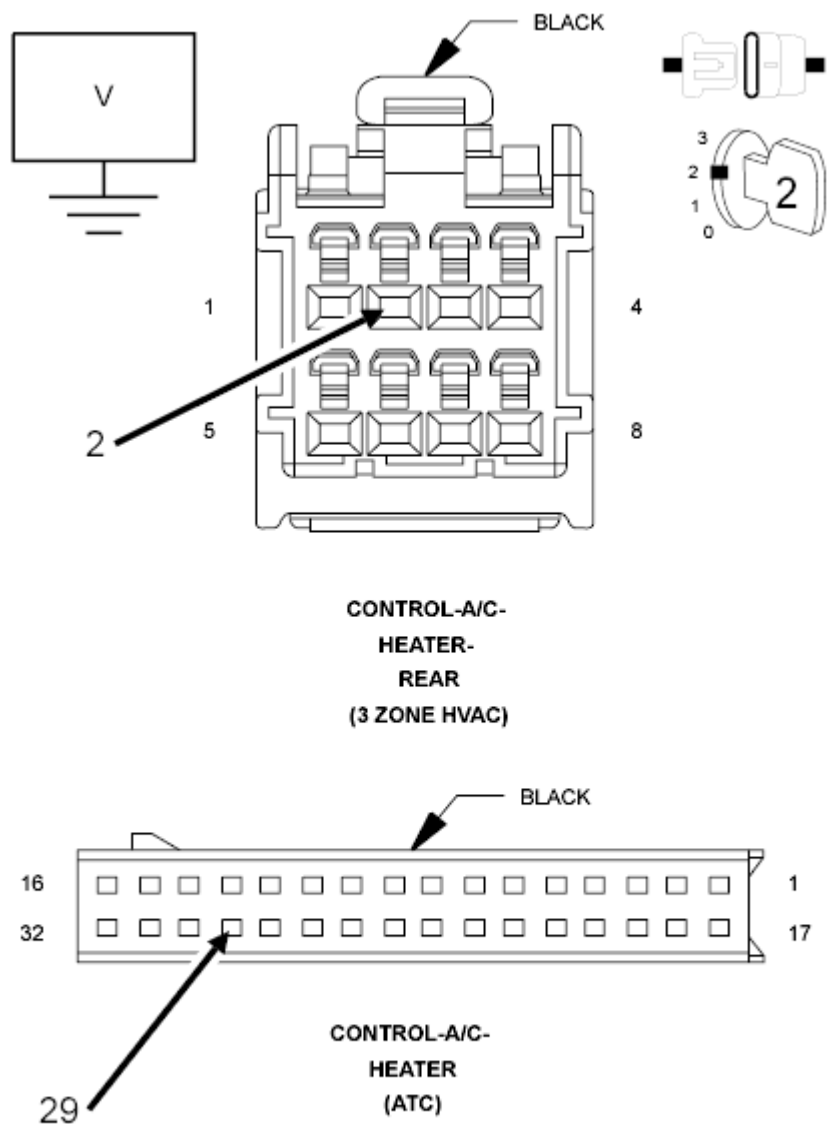
Yes

- Go To 4

No

- Go To 3

3. CHECK THE (C11) REAR BLOWER SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE



2098643

Fig. 8: Checking Rear Blower Signal Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Module harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C11) Rear Blower Signal circuit.

Is there any voltage present?

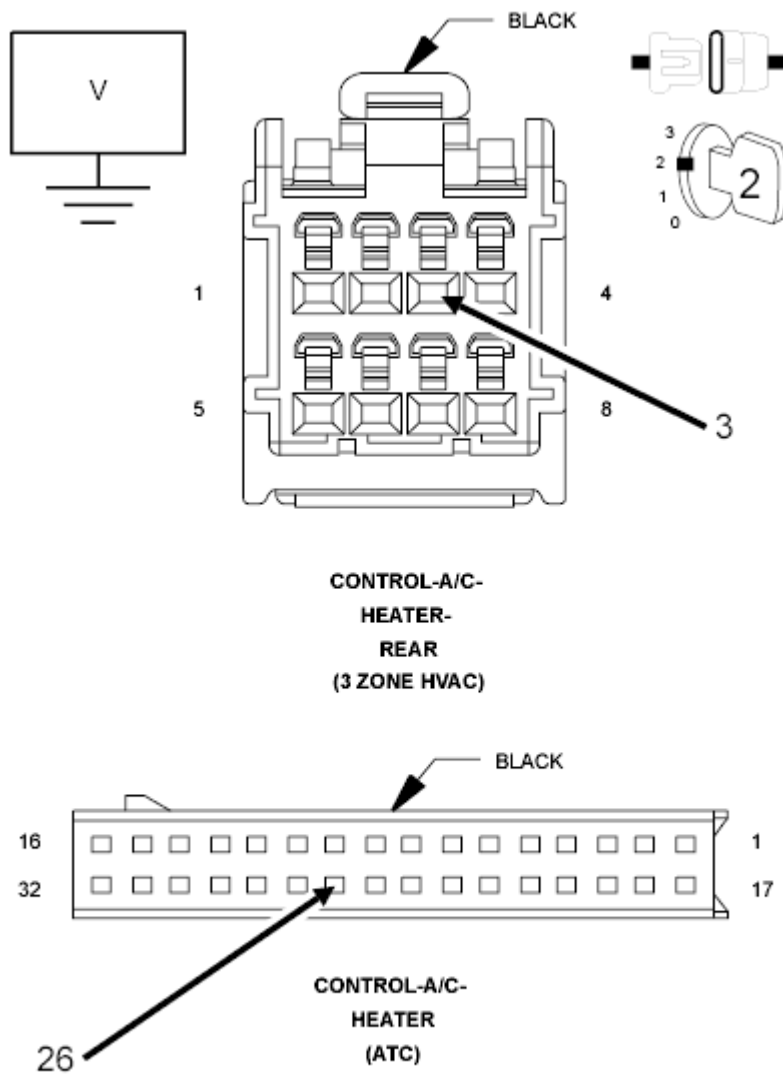
Yes

- Repair the (C11) Rear Blower Signal circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 6

4. CHECK THE (C955) SIGNAL GROUND CIRCUIT FOR A SHORT TO VOLTAGE



2098654

Fig. 9: Checking Signal Ground Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C955) Signal Ground circuit.

Is there any voltage present?

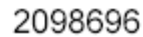
Yes

- Repair the (C955) Signal Ground circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C955) SIGNAL GROUND CIRCUIT FOR AN OPEN



1. Turn the ignition off to the lock position.
2. Measure the resistance of the (C955) Signal Ground circuit between the A/C Heater Control harness connector and the Rear A/C Heater Control harness connector.

Yes

- No**

- Repair the (C955) Signal Ground circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE HVAC CONTROL MODULES

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off to the lock position.
4. Reconnect the A/C Heater Control harness connector.

NOTE: **The Rear A/C Heater Control harness connector should still be disconnected.**

5. Ignition on, engine not running.
6. With the scan tool, read HVAC DTCs after 60 seconds.

Does the scan tool display this DTC?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

7. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the wiring diagrams as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.

No

- Test complete.

B102E-REAR BLEND REQUEST INPUT CIRCUIT LOW

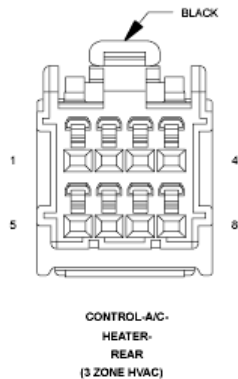
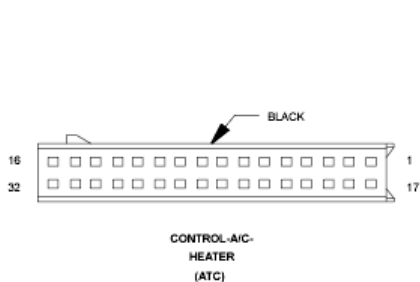
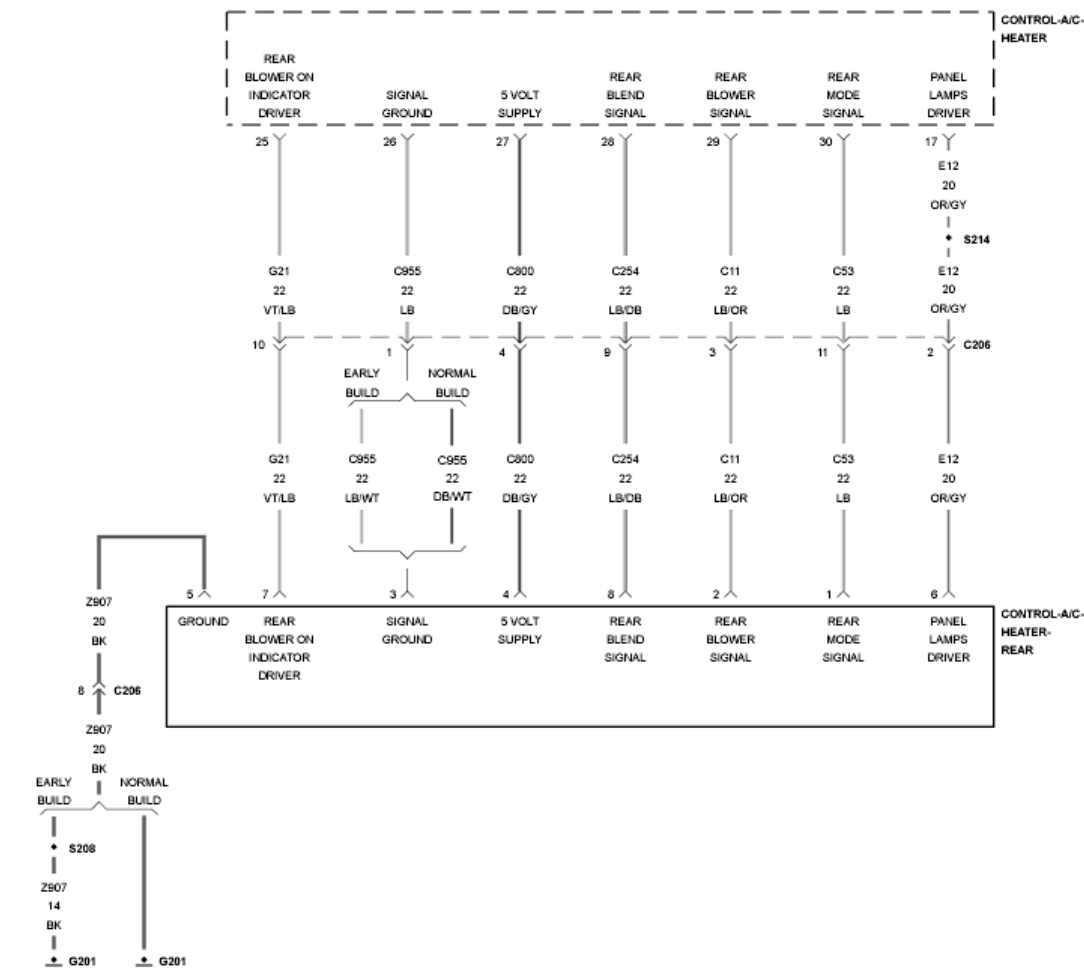


Fig. 11: Rear Blower Signal Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The Rear A/C Heater Control works in conjunction with the A/C Heater Control to control the rear blower motor, rear temperature control and rear mode control. The Rear A/C Heater Control is constantly monitored by the A/C Heater Control for proper operation. If the monitored signal circuits are out of a calibrated range a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C Heater Control detects a voltage less than 0.21 volts for 60 seconds on the Rear Blend Signal circuit. If a valid voltage is detected for two seconds the DTC will change from active to stored and stay in the controllers memory for 100 consecutive ignition cycles.

Possible Causes
REAR A/C HEATER CONTROL DISCONNECTED (C254) REAR BLEND SIGNAL CIRCUIT SHORTED TO GROUND (C254) REAR BLEND SIGNAL CIRCUIT OPEN (C800) 5 VOLT SUPPLY CIRCUIT SHORTED TO GROUND (C800) 5 VOLT SUPPLY CIRCUIT OPEN REAR A/C HEATER CONTROL A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. VERIFY THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off, wait 10 seconds, and turn the ignition on.

NOTE: Make sure the Rear Control Lockout on the A/C Heater Control is not turned on.

4. After waiting a minimum of 60 seconds, read HVAC DTCs.

Does the scan tool display this DTC as active?

Yes

- Go To 2

No

- Go to step 9

2. CHECK FOR OTHER REAR REQUEST CIRCUIT LOW DTCS

1. With the scan tool, read HVAC DTCS.

Does the scan tool also display the DTCS B1028-Rear Blower Control Request Input Circuit Low and B113D-Rear Mode Request Low as active?

Yes

- Go to step 3

No

- Go to step 6

3. CHECK THE REAR A/C HEATER CONTROL CONNECTOR

1. Check if the Rear A/C Heater Control harness connector is unplugged or not fully seated.
2. Check the Rear A/C Heater Control and harness connector for pushed out, damaged, corroded pins or terminals.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Go to step 4

4. CHECK THE (C800) 5 VOLT SUPPLY CIRCUIT FOR SHORT TO GROUND

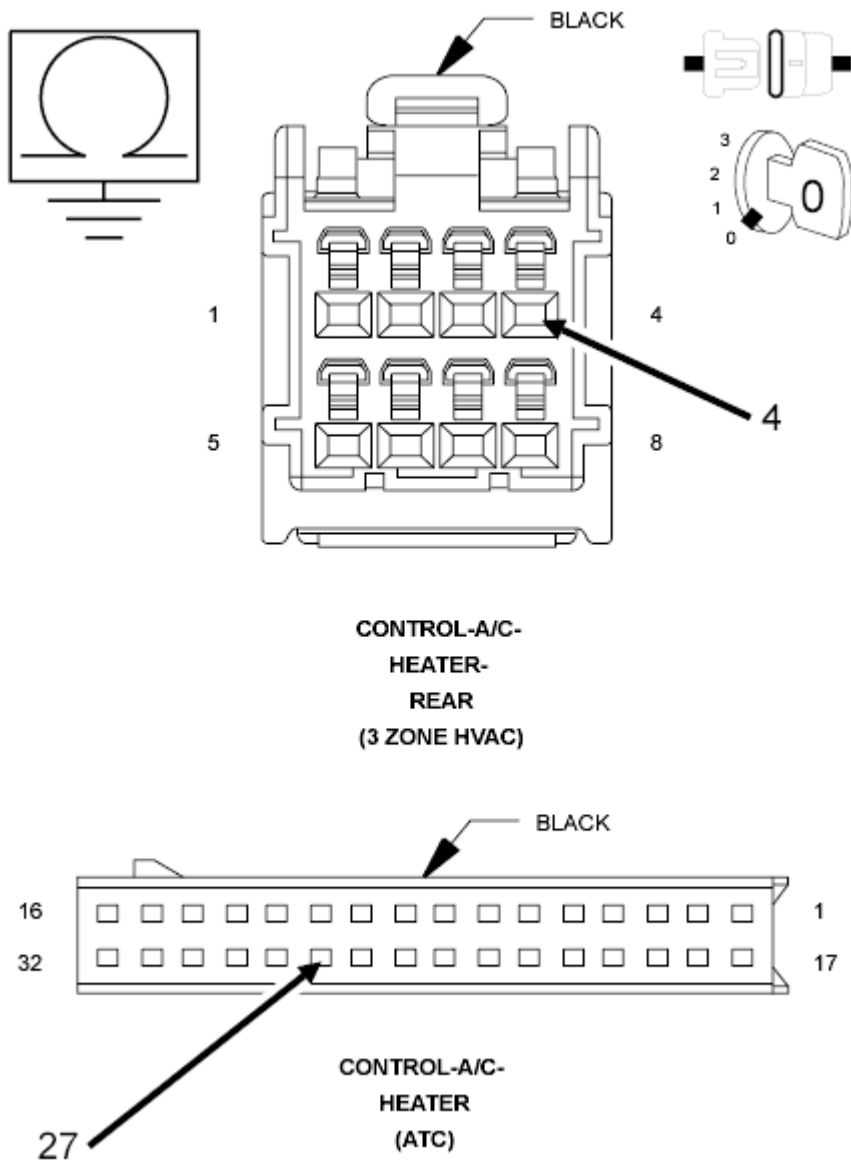


Fig. 12: Checking 5 Volt Supply Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Measure the resistance between ground and the (C800) 5 Volt Supply circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (C800) 5 Volt Supply circuit for a short to ground.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C800) 5 VOLT SUPPLY CIRCUIT FOR AN OPEN

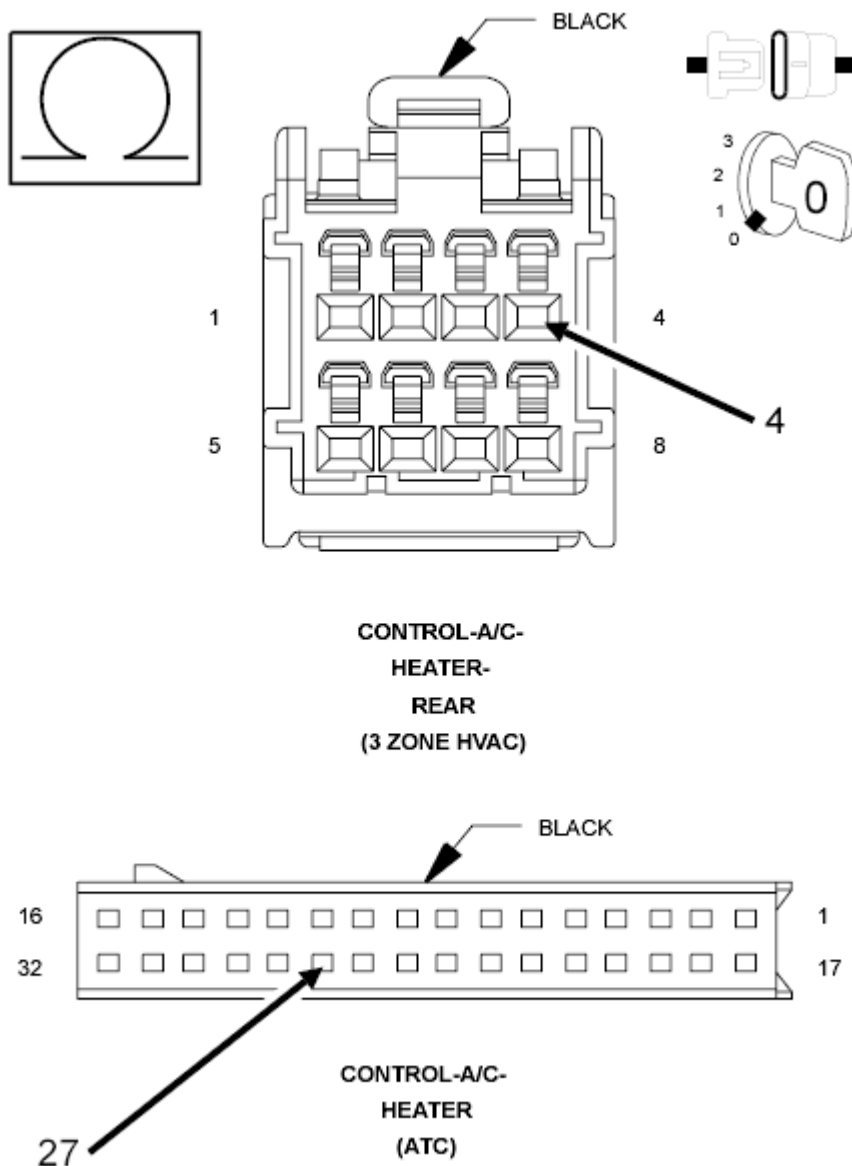


Fig. 13: Checking 5 Volt Supply Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C800) 5 Volt Supply circuit between the A/C Heater Control harness

connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 8

No

- Repair the (C800) 5 Volt Supply circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE (C254) REAR BLEND SIGNAL CIRCUIT FOR A SHORT TO GROUND

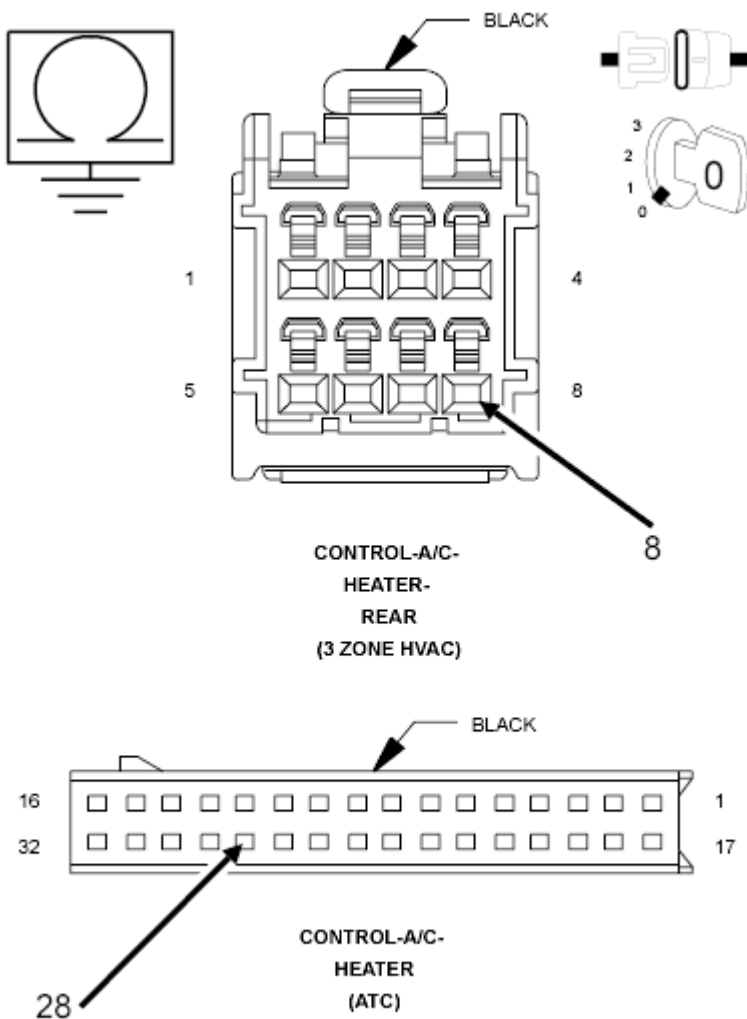


Fig. 14: Checking Rear Blend Signal Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Measure the resistance between ground and the (C254) Rear Blend Signal circuit.

Is the resistance below 100k Ohms?

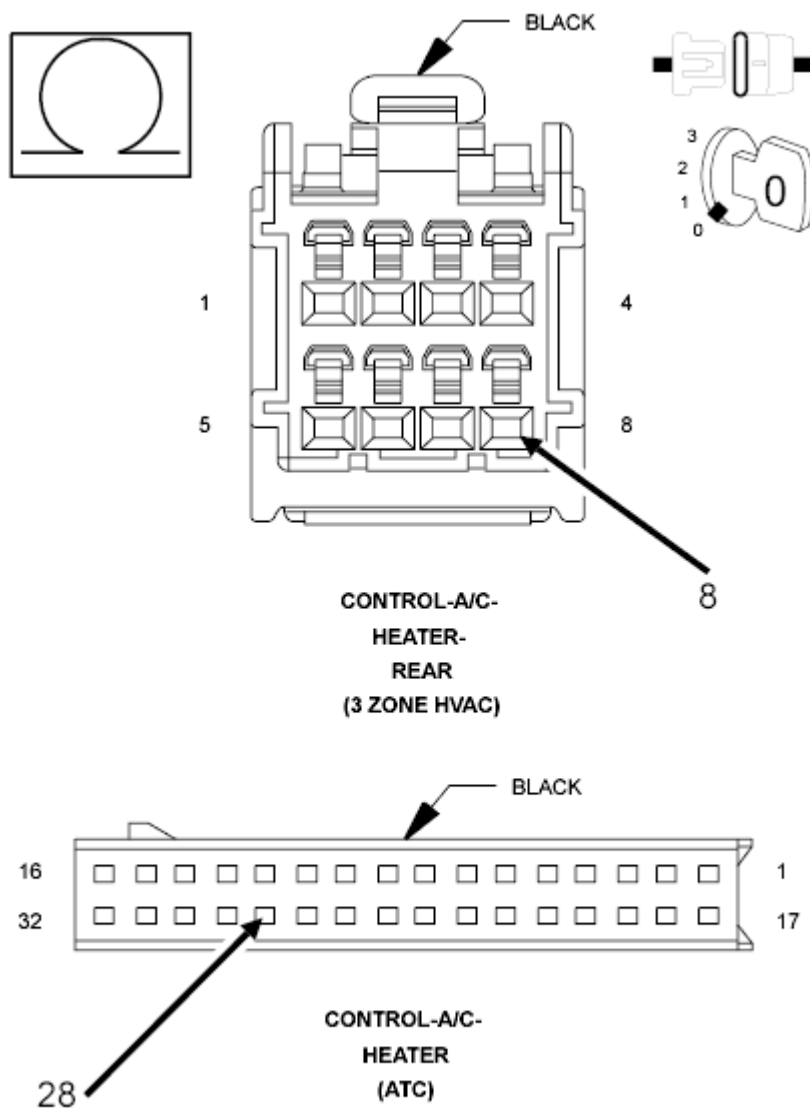
Yes

- Repair the (C254) Rear Blend Signal circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 7

7. CHECK THE (C254) REAR BLEND SIGNAL CIRCUIT FOR AN OPEN



2098801

Fig. 15: Checking Rear Blend Signal Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C254) Rear Blend Signal circuit between A/C Heater Control harness connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

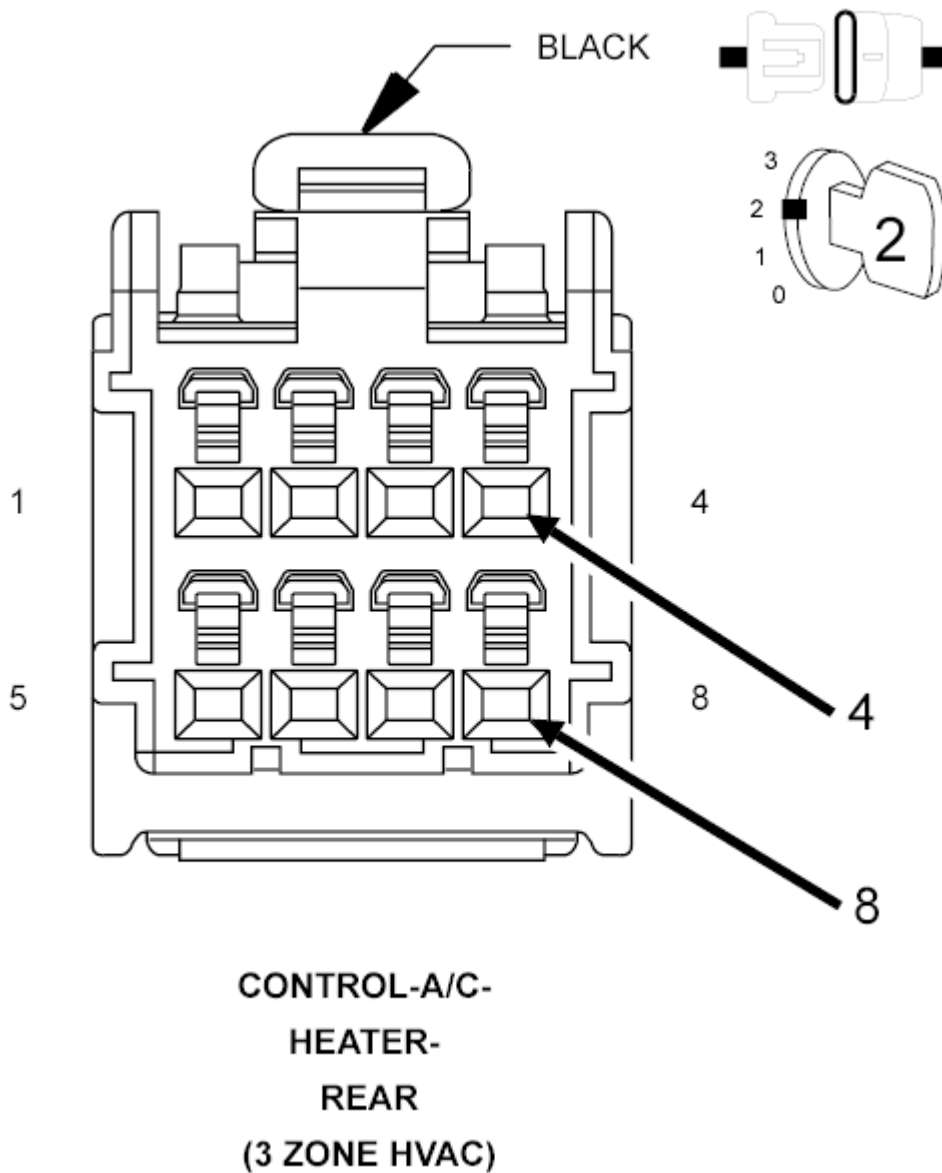
Yes

- Go to step 8

No

- Repair the (C254) Rear Blend Signal circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

8. CHECK THE HVAC CONTROL MODULES



2093748

Fig. 16: Checking HVAC Control Modules
Courtesy of CHRYSLER LLC

1. Ignition on, engine not running.

2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off to the lock position.
4. Reconnect the A/C Heater Control harness connector.
5. Connect a jumper wire between the (C800) 5-volt Supply circuit and the (C254) Rear Blend Signal circuit in the Rear A/C Heater Control harness connector.
6. Ignition on, engine not running.
7. After waiting a minimum of 60 seconds, with the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as active?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B102F-REAR BLEND REQUEST INPUT CIRCUIT HIGH



The Rear A/C Heater Control works in conjunction with the A/C Heater Control to control the rear blower

motor, rear temperature control and rear mode control. The Rear A/C Heater Control is constantly monitored by the A/C Heater Control for proper operation. If the monitored signal circuits are out of a calibrated range at DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C Heater Control detects the voltage is greater than 4.21 volts for 60 seconds on the Rear Blend Signal circuit. If a valid voltage is detected for two seconds the DTC will change from active to stored and stay in the controllers memory for 100 consecutive ignition cycles.

Possible Causes
(C254) REAR BLEND SIGNAL CIRCUIT SHORTED TO VOLTAGE
(C955) SIGNAL GROUND CIRCUIT SHORTED TO VOLTAGE
(C955) SIGNAL GROUND CIRCUIT OPEN
REAR A/C HEATER CONTROL
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. VERIFY THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off, wait 10 seconds, and turn the ignition on.

NOTE: Make sure the Rear Control Lockout on the A/C Heater Control is not turned on.

4. With the scan tool, read HVAC DTCs after 60 seconds.

Does the scan tool display this DTC as active?

Yes

- Go To 2

No

- Go to step 7

2. CHECK FOR OTHER REAR REQUEST CIRCUIT HIGH DTCS

1. With the scan tool, read HVAC DTCS.

Are the DTCS B1029-Rear Blower Control Request Input Circuit High and B113E-Rear Mode Request Circuit High also present and Active?

Yes

- Go to step 3

No

- Go To 5

3. CHECK THE (C955) SIGNAL GROUND CIRCUIT FOR A SHORT TO VOLTAGE

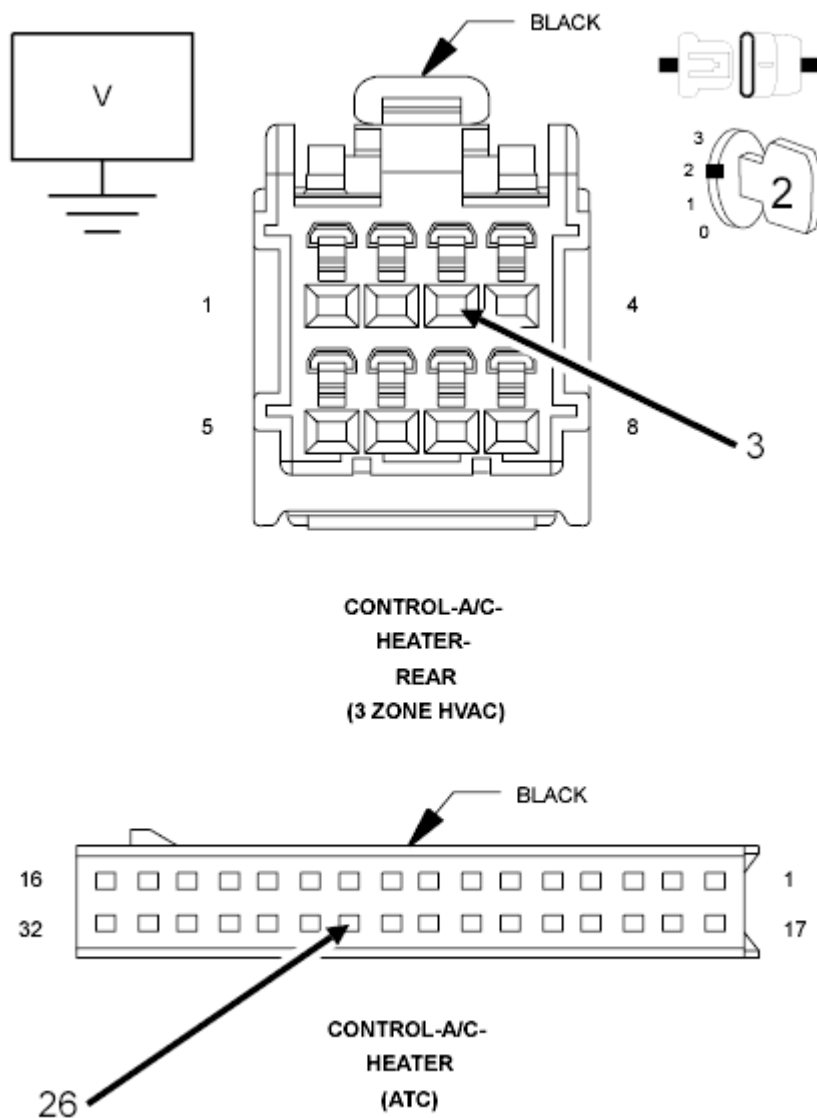


Fig. 18: Checking Signal Ground Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C955) Signal Ground circuit.

Is there any voltage present?

Yes

- Repair the (C955) Signal Ground circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (C955) SIGNAL GROUND CIRCUIT FOR AN OPEN

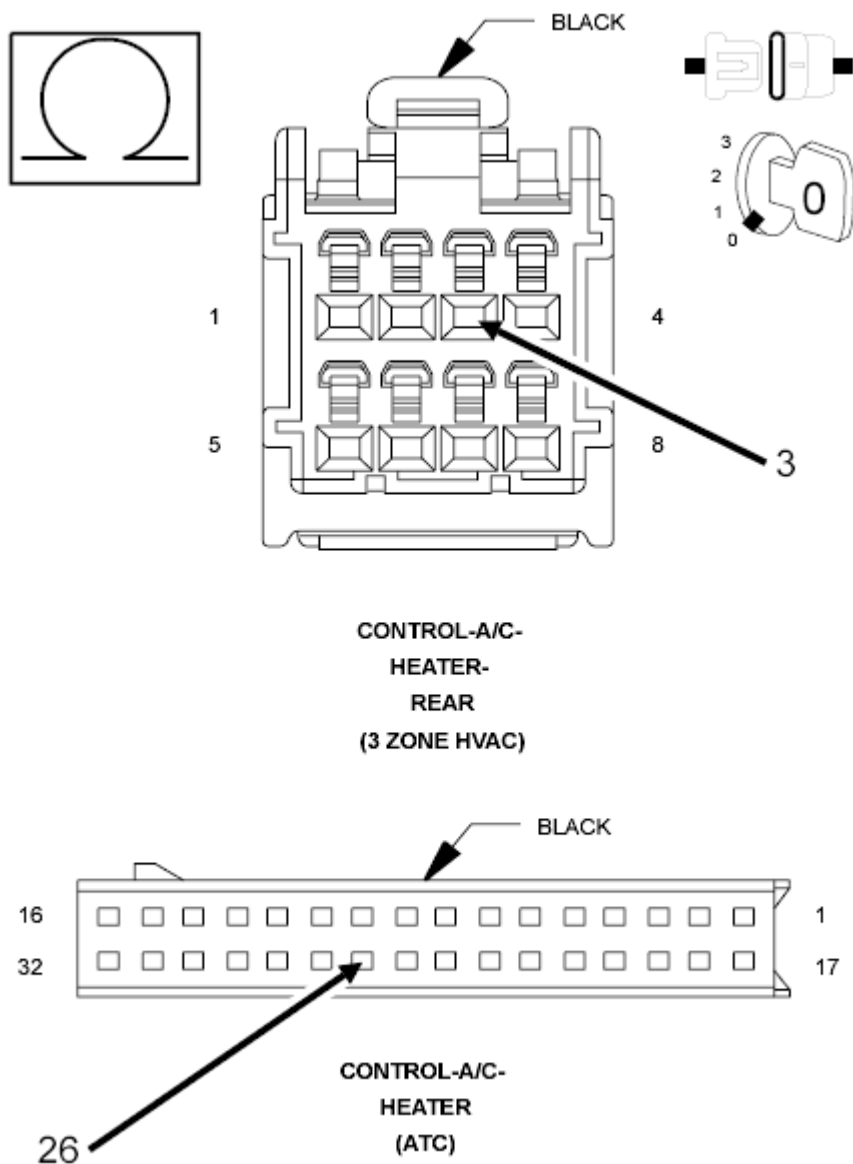


Fig. 19: Checking Signal Ground Circuit For An Open
Courtesy of CHRYSLER LLC

2009 Dodge Journey R/T

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1. Turn the ignition off to the lock position.
2. Measure the resistance of the (C955) Signal Ground circuit between the A/C Heater Control harness connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

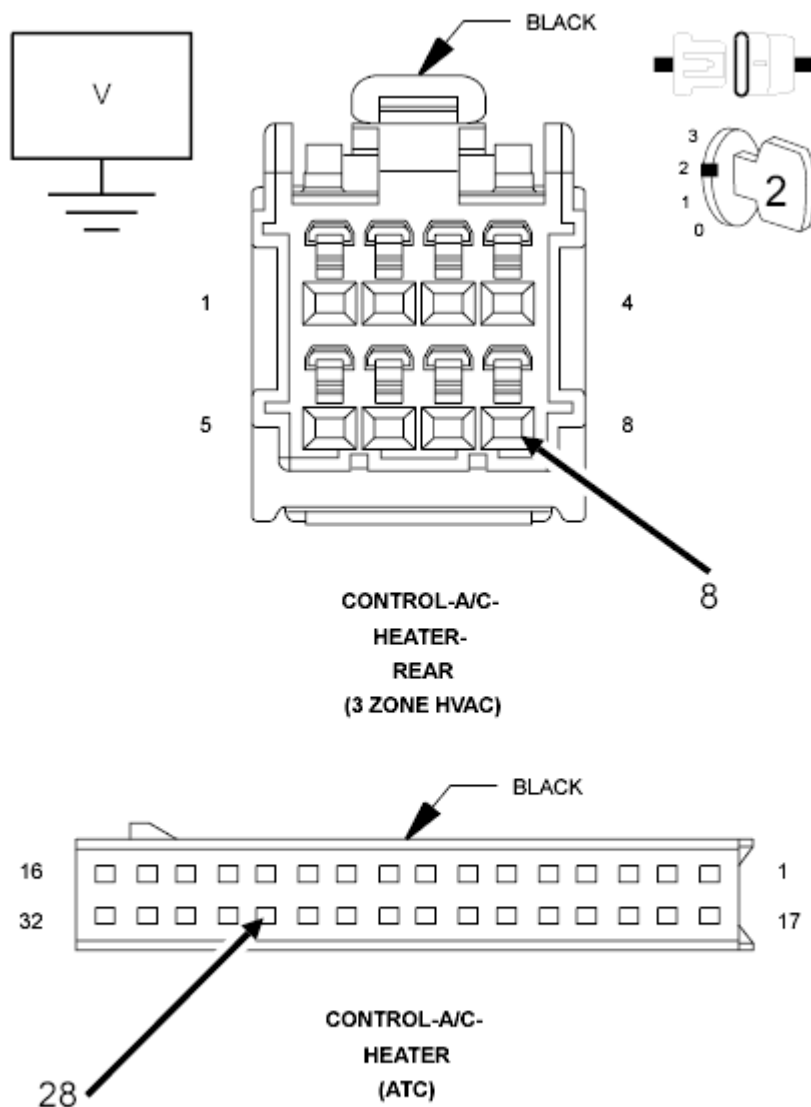
Yes

- Go to step 6

No

- Repair the (C955) Signal Ground circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

5. CHECK THE (C254) REAR BLEND SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE



2099125

Fig. 20: Checking Rear Blend Signal Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Module harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C254) Rear Blend Signal circuit.

Is there any voltage present?

Yes

- Repair the (C254) Rear Blend Signal circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 6

6. CHECK THE HVAC CONTROL MODULES

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off to the lock position.
4. Reconnect the A/C Heater Control harness connector.

NOTE: **The Rear A/C Heater Control harness connector should still be disconnected.**

5. Ignition on, engine not running.
6. With the scan tool, read HVAC DTCs after 60 seconds.

Does the scan tool display this DTC?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

7. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

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Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.

B1031-EVAPORATOR TEMPERATURE SENSOR CIRCUIT LOW

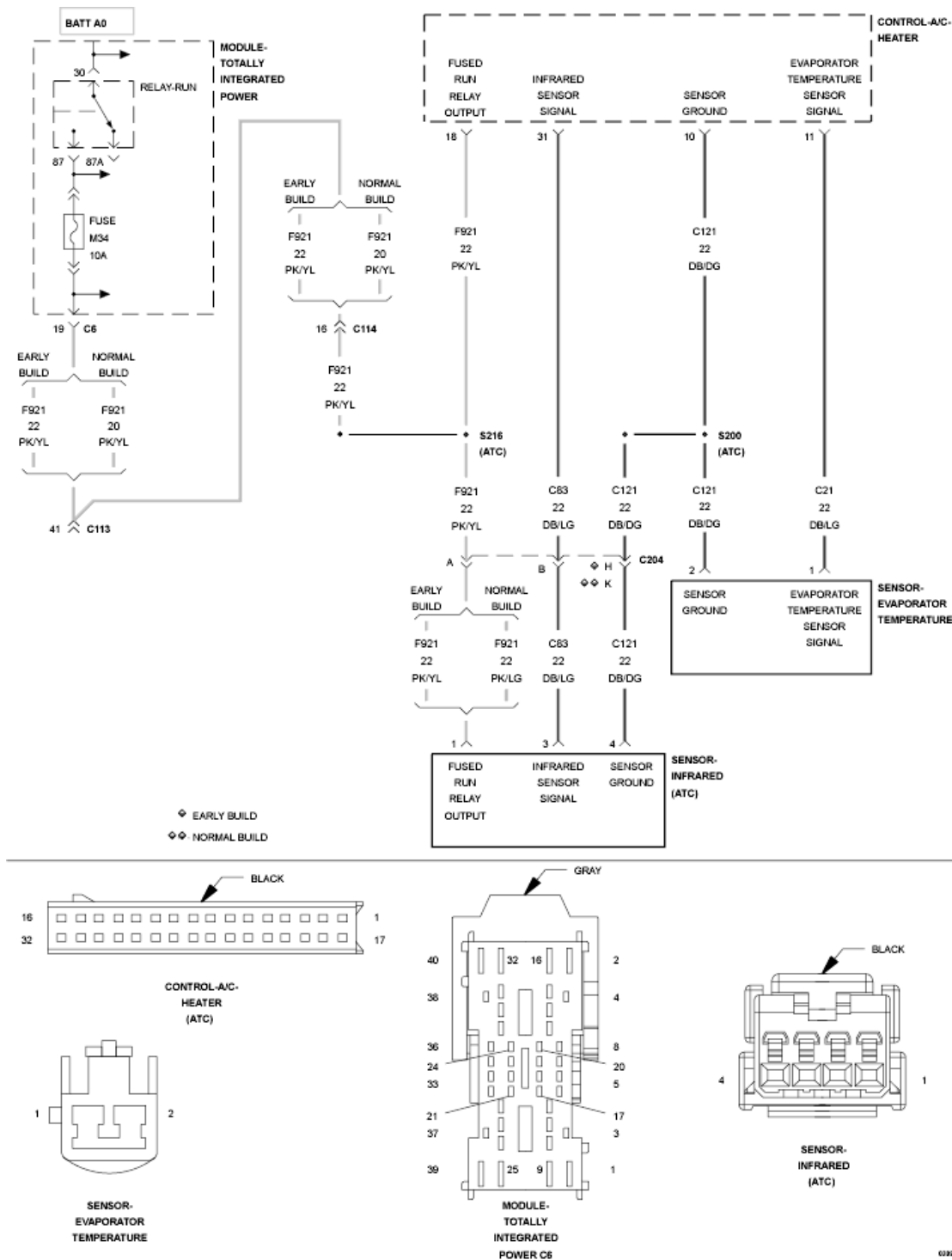


Fig. 21: Evaporator Temperature Sensor Signal Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

- **When Monitored:**

With the ignition on.

- **Set Condition:**

The Evaporator Temperature Sensor voltage input to the A/C Heater Control is below 0.01 volts for a continuous period of 60 seconds. If the A/C Heater Control detects a valid voltage, the Diagnostic Trouble Code (DTC) will change from active to stored and will stay stored for 100 ignition cycles.

Possible Causes
(C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORT TO GROUND (C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORTED TO THE (C121) SENSOR GROUND CIRCUIT EVAPORATOR TEMPERATURE SENSOR A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs after 60 seconds.

Is this DTC active?

Yes

- Go to step 2

No

- Go to step 5

2. CHECK (C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT FOR A SHORT TO GROUND

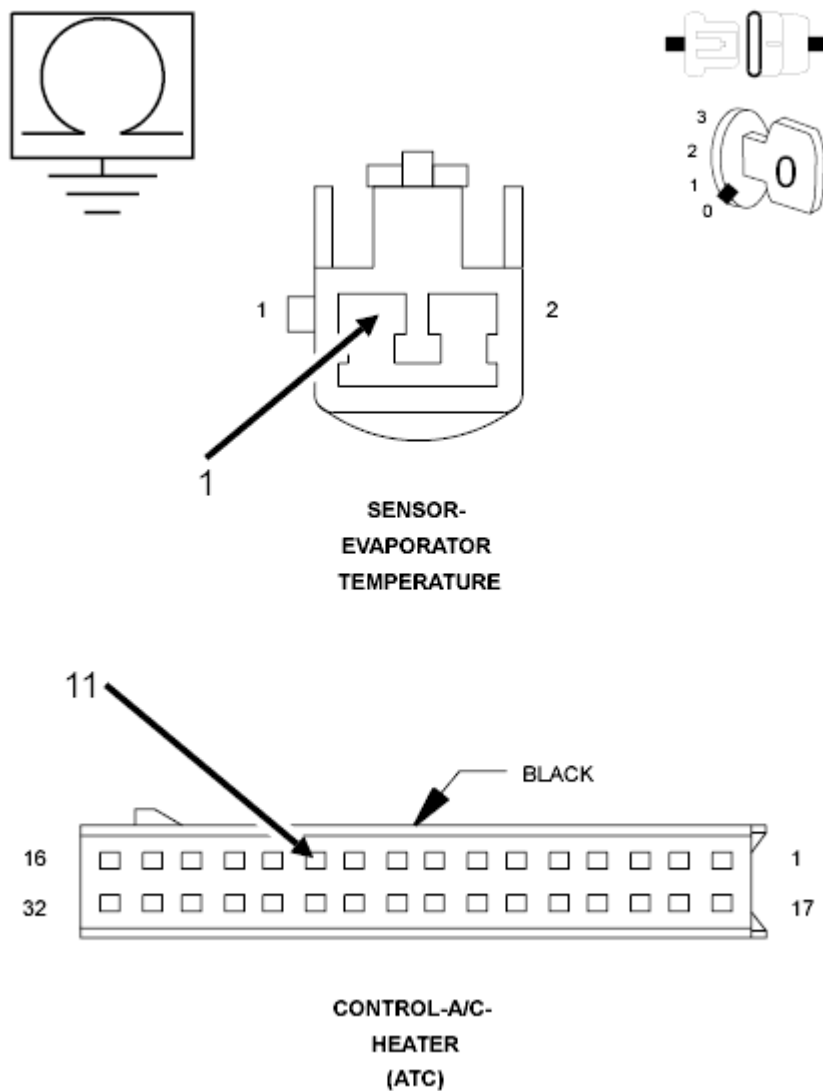


Fig. 22: Checking Evaporator Temperature Sensor Signal Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Evaporator Temperature Sensor harness connector.
4. Measure the resistance between ground and the (C21) Evaporator Temperature Sensor Signal circuit.

Is the resistance below 100k Ohms?

Yes

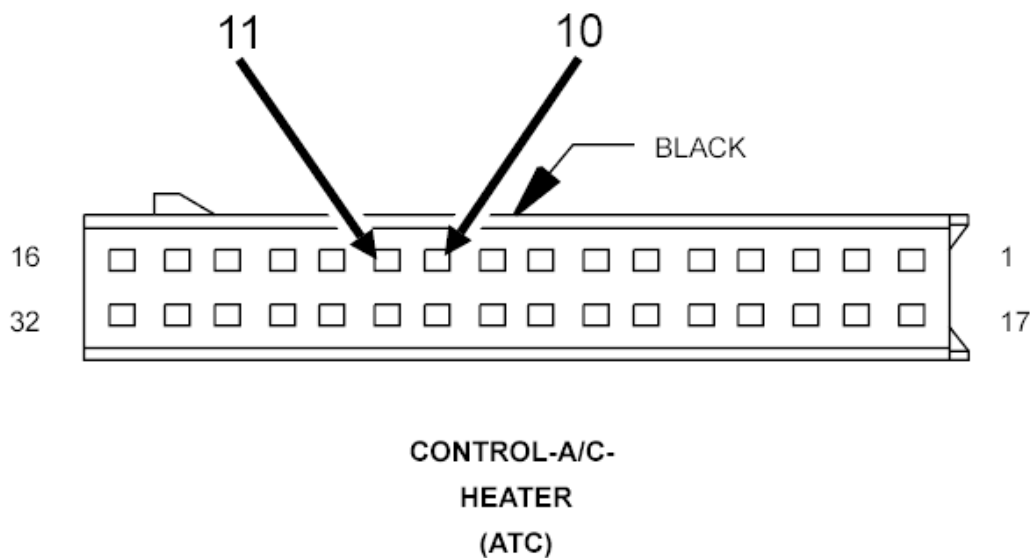
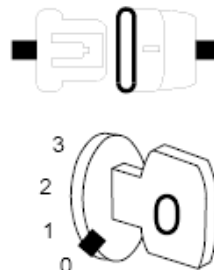
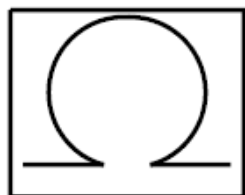
- Repair the (C21) Evaporator Temperature Sensor Signal circuit for a short to ground.

- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 3

3. **CHECK (C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT FOR A SHORT TO THE (C121) SENSOR GROUND CIRCUIT**



2099331

Fig. 23: Checking Evaporator Temperature Sensor Signal Circuit For A Short To Sensor Ground Circuit

Courtesy of CHRYSLER LLC

1. Measure the resistance between the (C21) Evaporator Temperature Sensor Signal circuit and the

(C121) Sensor Ground circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (C21) Evaporator Temperature Sensor Signal circuit for a short to (C121) Sensor Ground circuit.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE EVAPORATOR TEMPERATURE SENSOR

1. Replace the Evaporator Temperature Sensor in Accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.
3. Cycle the ignition off for 30 seconds then back on and wait a minimum of 60 seconds.
4. With the scan tool read HVAC DTCs.

Does this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

5. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

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- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1032-EVAPORATOR TEMPERATURE SENSOR CIRCUIT HIGH

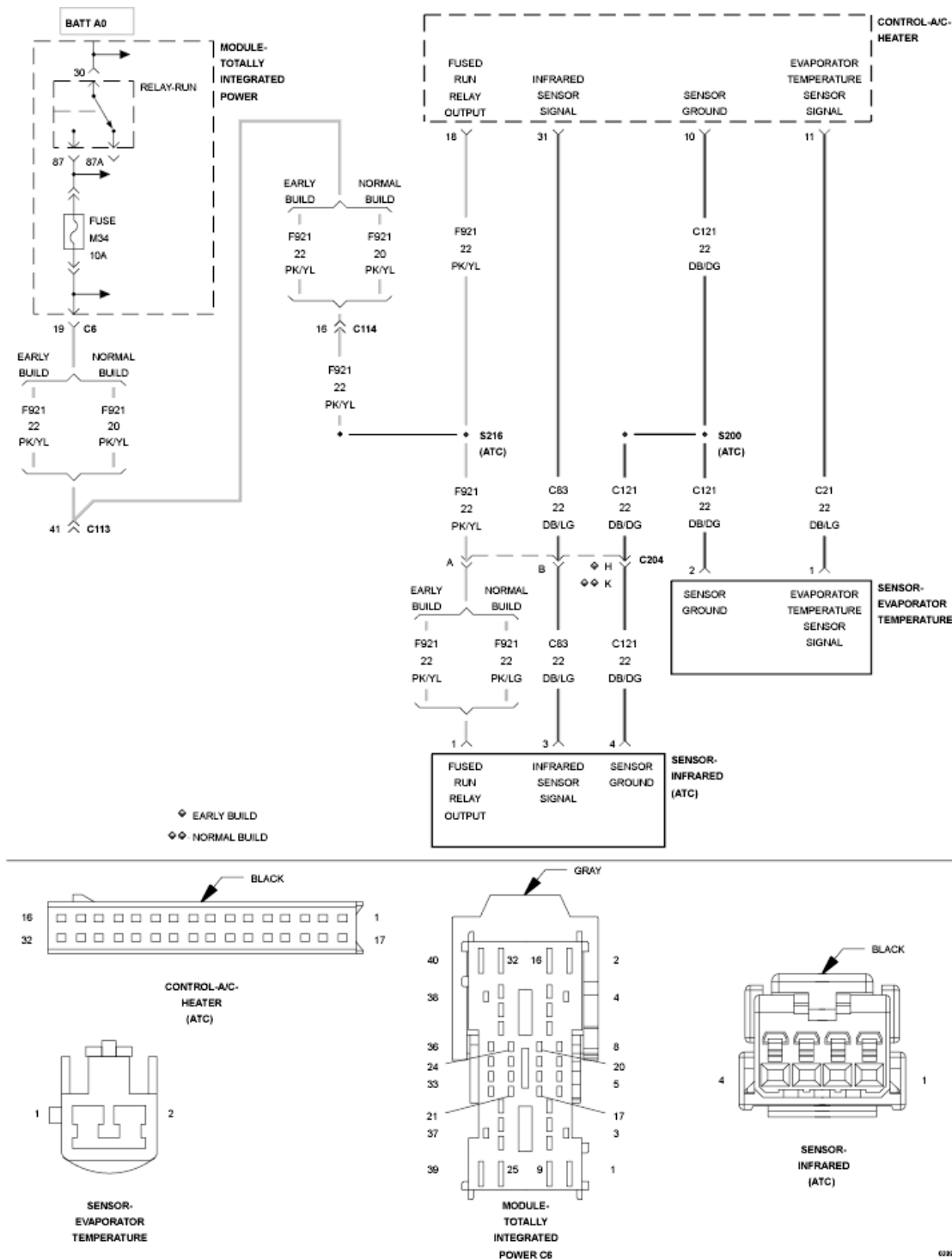


Fig. 24: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The Evaporator Temperature Sensor resistance changes in conjunction to temperature. The sensor thermistor forms the lower half of a voltage divider and the upper half of the voltage divider is provided by a 9.09K pull up resistor to 5.0 volts.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

The Evaporator Temperature Sensor voltage input to the A/C Heater Control is equal to or above 4.9 volts for a continuous period of 60 seconds. If the A/C Heater Control detects a valid voltage, the Diagnostic trouble Code (DTC) will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT SHORTED TO VOLTAGE
(C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT OPEN
(C121) SENSOR GROUND CIRCUIT OPEN
EVAPORATOR TEMPERATURE SENSOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK (C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT VOLTAGE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs after 60 seconds.

Is this DTC active?

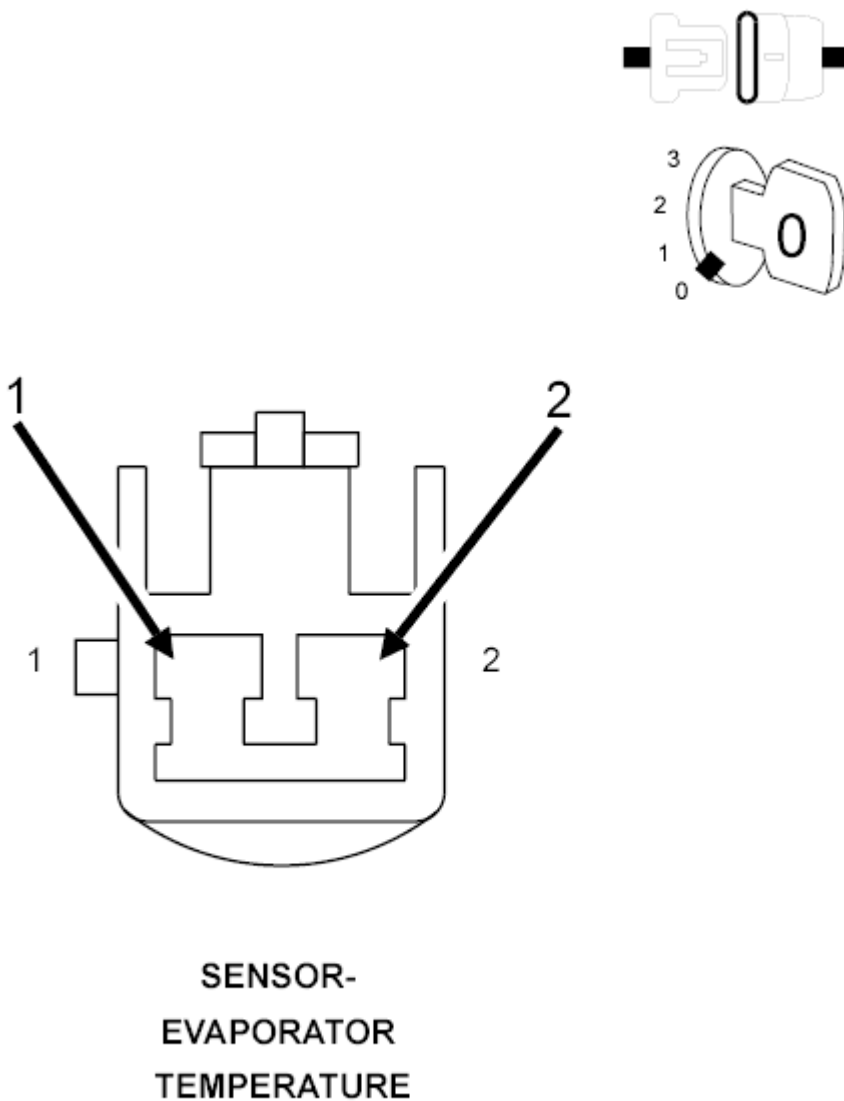
Yes

- Go to step 2

No

- Go to step 7

2. CHECK THE (C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT VOLTAGE



2036093

Fig. 25: Checking Evaporator Temperature Sensor Signal Circuit Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Evaporator Temperature Sensor harness connector.

NOTE: Due to the small terminal and pin size of the Evaporator Temperature Sensor and harness connector, make sure to not damage the terminals in this process.

3. Connect a jumper wire between the (C21) Evaporator Temperature Sensor Signal circuit and the (C121) Sensor Ground circuit in the Evaporator Temperature Sensor harness connector.

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4. Ignition on, engine not running.
5. Using the scan tool, read the Evaporator Temperature Sensor voltage.

Is the voltage below 0.1 of a volt?

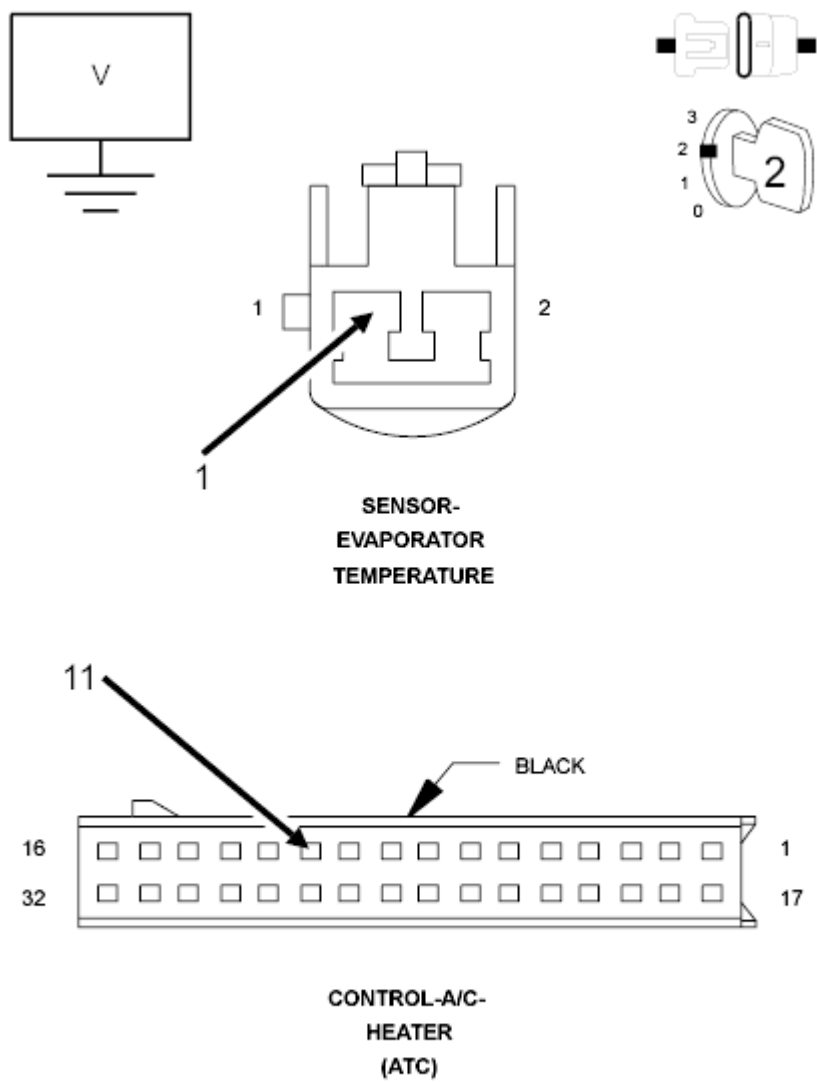
Yes

- Replace the Evaporator Temperature Sensor in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 3

3. **CHECK THE (C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE**



2099455

Fig. 26: Checking Evaporator Temperature Sensor Signal Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the jumper wire from the Evaporator Temperature Sensor harness connector.
3. Disconnect the A/C Heater Control harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C21) Evaporator Temperature Sensor Signal circuit

Is there any voltage present?

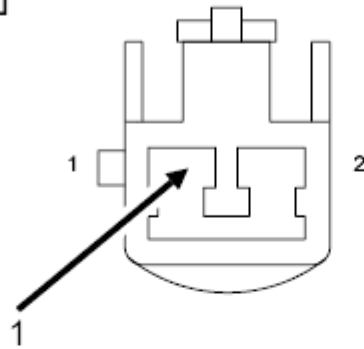
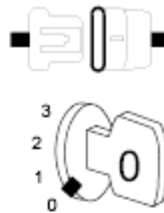
Yes

- Repair the (C21) Evaporator Temperature Sensor Signal circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

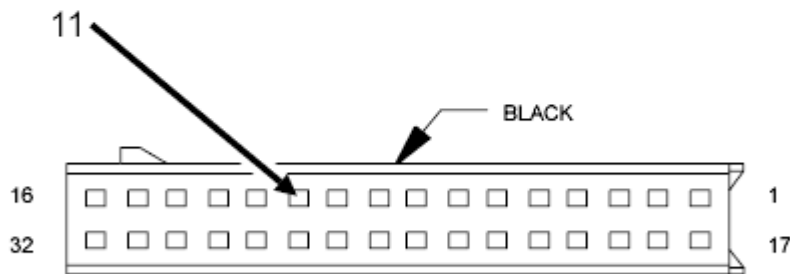
No

- Go to step 4

4. **CHECK THE (C21) EVAPORATOR TEMPERATURE SENSOR SIGNAL CIRCUIT FOR AN OPEN**



SENSOR-
EVAPORATOR
TEMPERATURE



CONTROL-A/C-
HEATER
(ATC)

Fig. 27: Checking Evaporator Temperature Sensor Signal Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance of the (C21) Evaporator Temperature Sensor Signal circuit between the A/C Heater Control harness connector and the Evaporator Temperature Sensor harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C21) Evaporator Temperature Sensor Signal circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C121) SENSOR GROUND CIRCUIT FOR AN OPEN

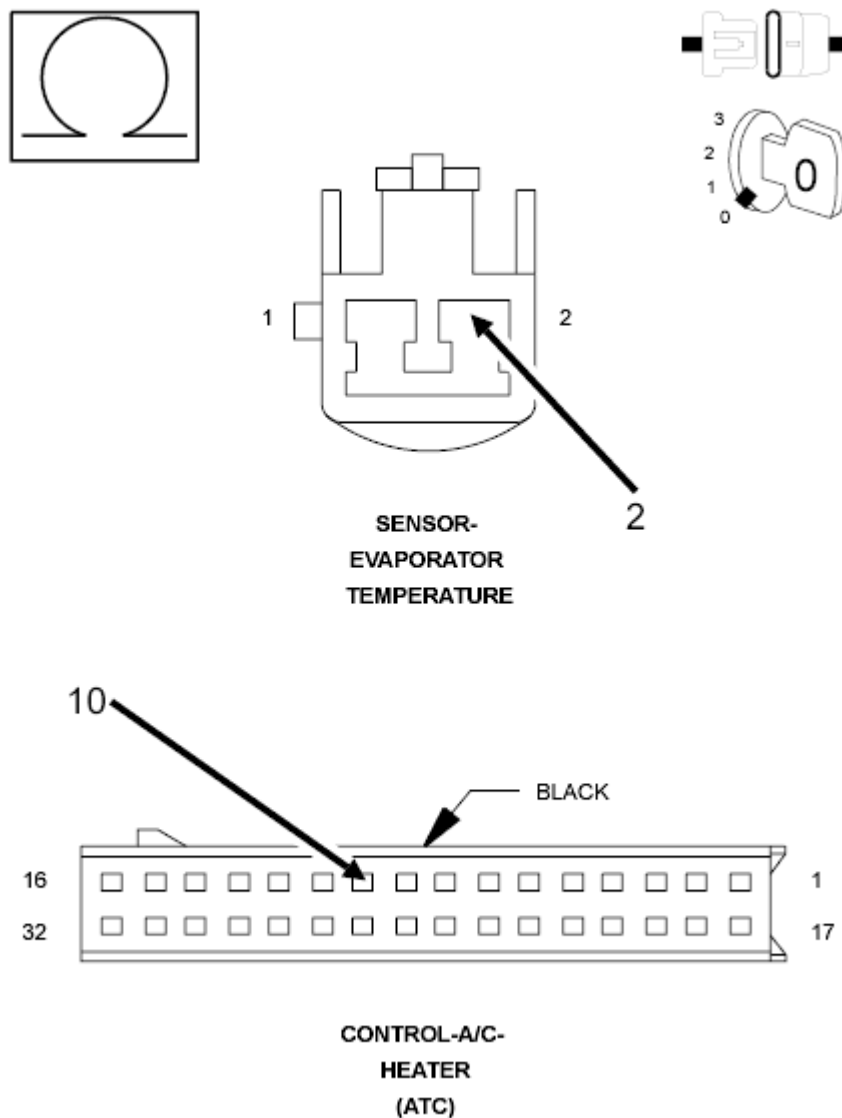


Fig. 28: Checking Sensor Ground Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control harness connector and the Evaporator Temperature Sensor harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C121) Sensor Ground circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 6

6. CHECK THE EVAPORATOR TEMPERATURE SENSOR

1. Replace the Evaporator Temperature Sensor in Accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.
3. Cycle the ignition off for 30 seconds then back on and wait a minimum of 60 seconds.
4. With the Scan tool read HVAC DTCs.

Does this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

7. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

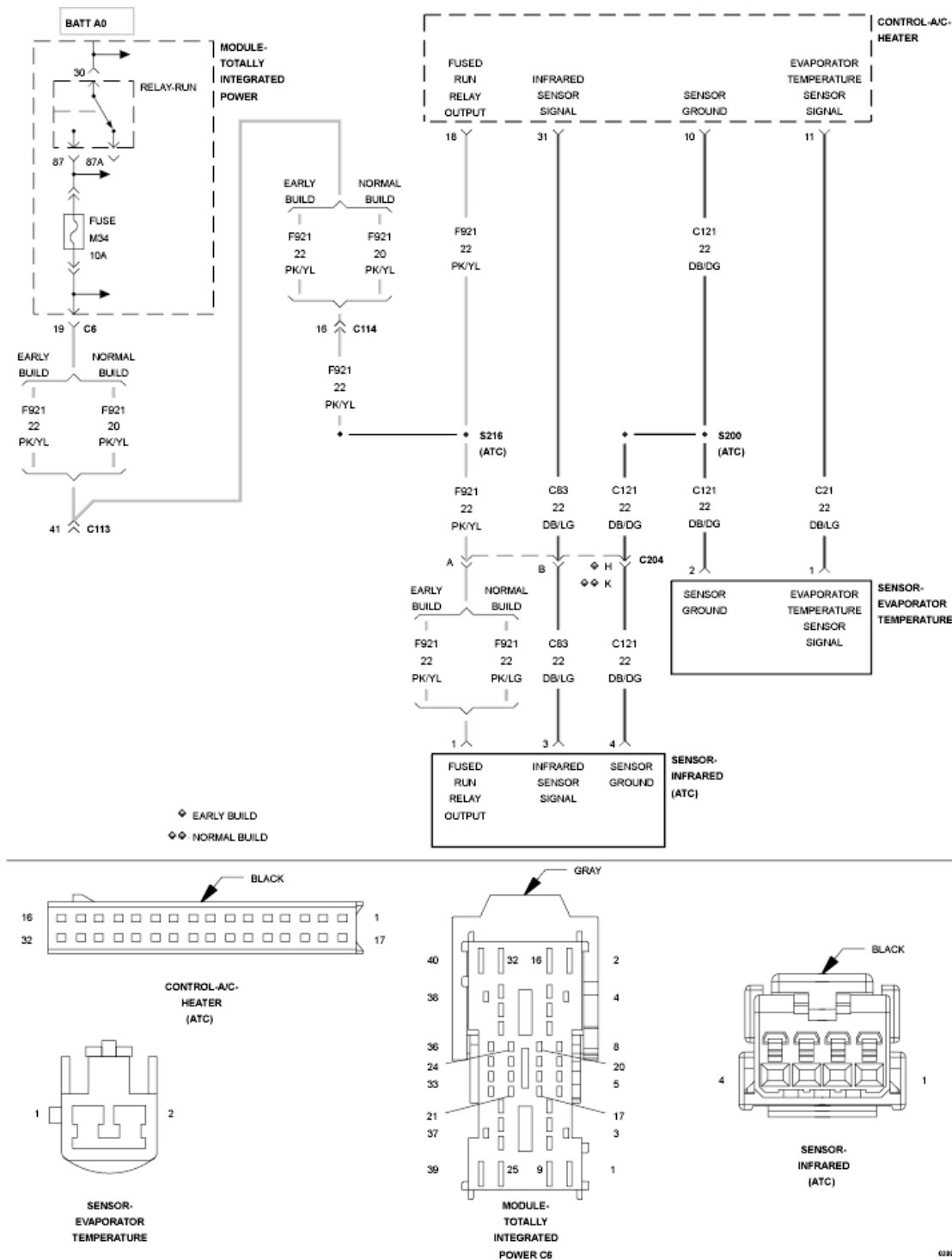
Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1034-INFRARED TEMPERATURE SENSOR INPUT CIRCUIT LOW



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With the ignition on.

- **Set Condition:**

The Infrared Temperature Sensor pulse width modulated (PWM) signal to the A/C Heater Control equals 0.0 volts for a continuous period of 120 seconds. If the A/C Heater Control detects a valid PWM signal, the DTC will change from active to stored and will stay stored for 100 ignition cycles.

Possible Causes
(F921) FUSED RUN RELAY OUTPUT CIRCUIT OPEN
(C83) INFRARED SENSOR SIGNAL CIRCUIT SHORTED TO GROUND
(C83) INFRARED SENSOR SIGNAL CIRCUIT OPEN
INFRARED SENSOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs after a minimum of 120 seconds.

Is this DTC active?

Yes

- Go to step 2

No

- Go to step 6

2. CHECK THE (F921) FUSED RUN RELAY OUTPUT CIRCUIT FOR AN OPEN

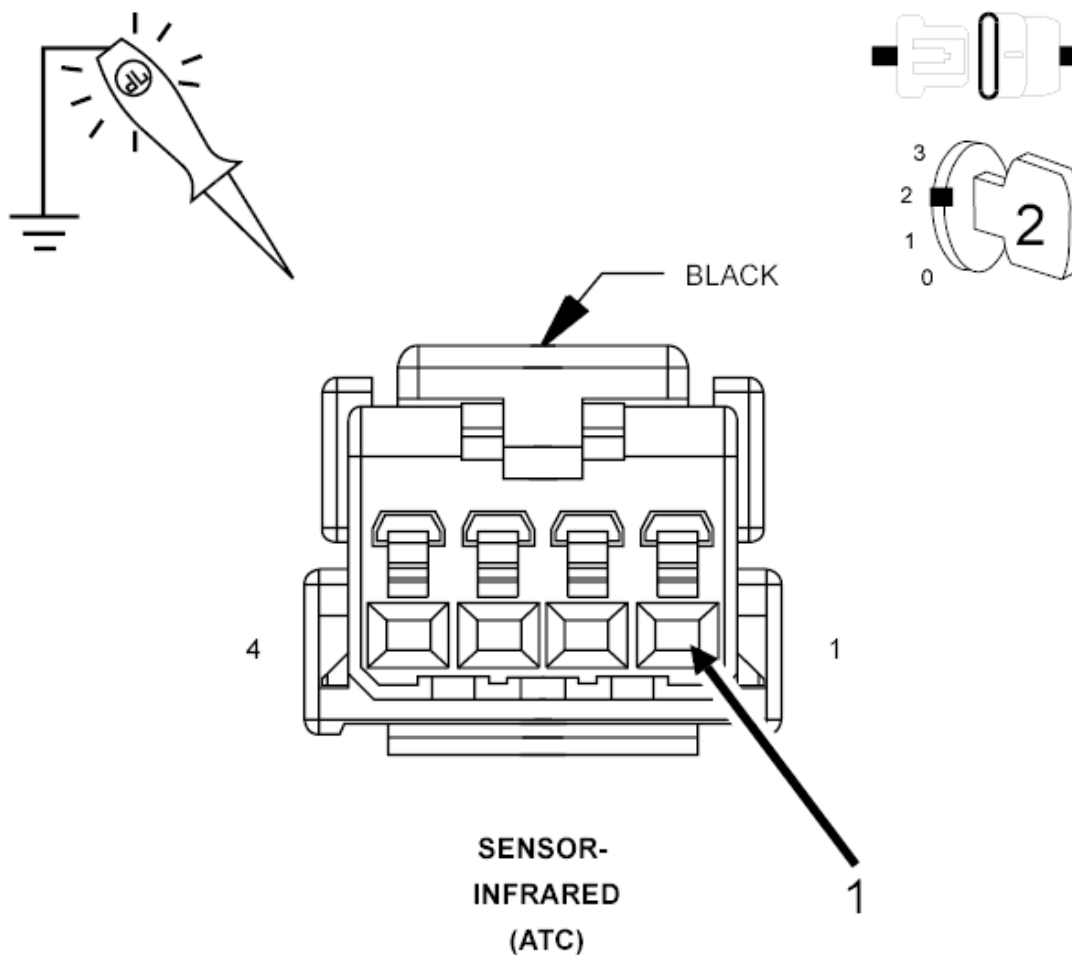


Fig. 30: Checking Fused Run Relay Output Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Infrared Sensor harness connector.
3. Ignition on, engine not running.
4. With a test light connected to ground, check the (F921) Fused Run Relay Output circuit.

NOTE: The test light must illuminate brightly. Compare the brightness to that of a direct connection to the battery.

Does the test light illuminate brightly?

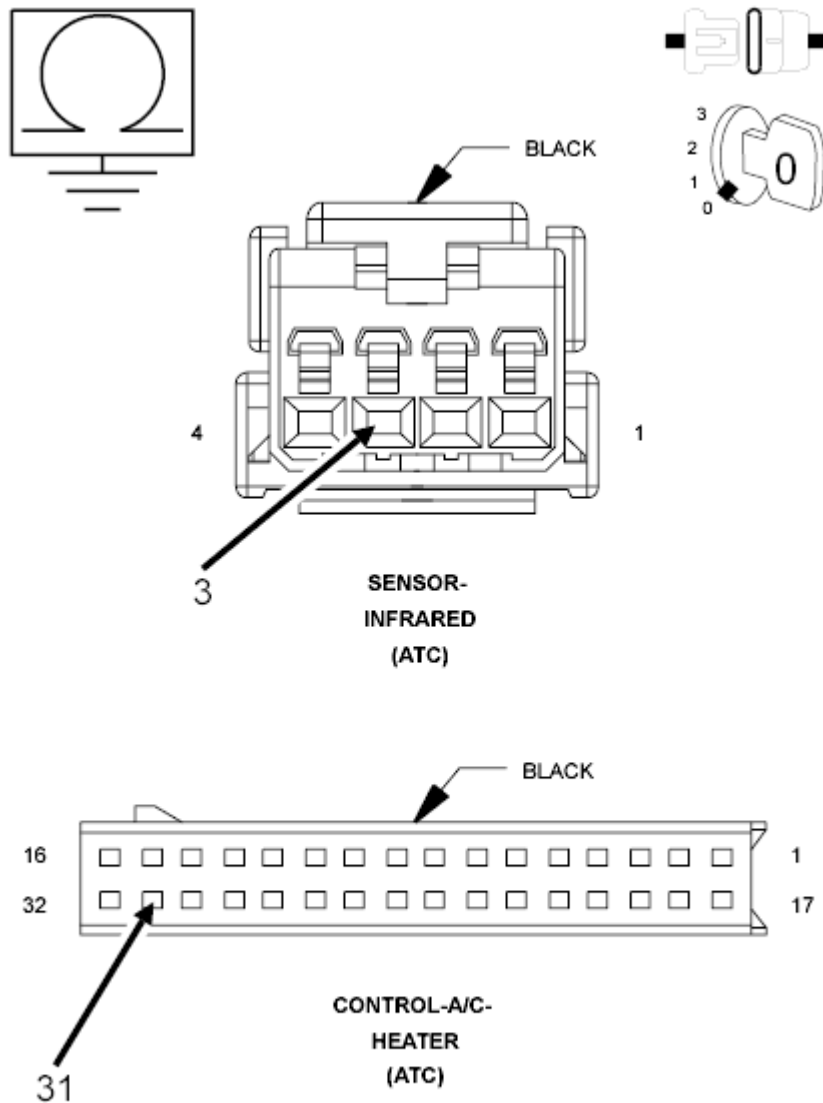
Yes

- Go to step 3

No

- Repair the (F921) Fused Run Relay Output circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

3. CHECK THE (C83) INFRARED SENSOR SIGNAL CIRCUIT FOR A SHORT TO GROUND



2095604

Fig. 31: Checking Infrared Sensor Signal Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Measure the resistance between ground and the (C83) Infrared Sensor Signal circuit.

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Is the resistance below 100k Ohms?

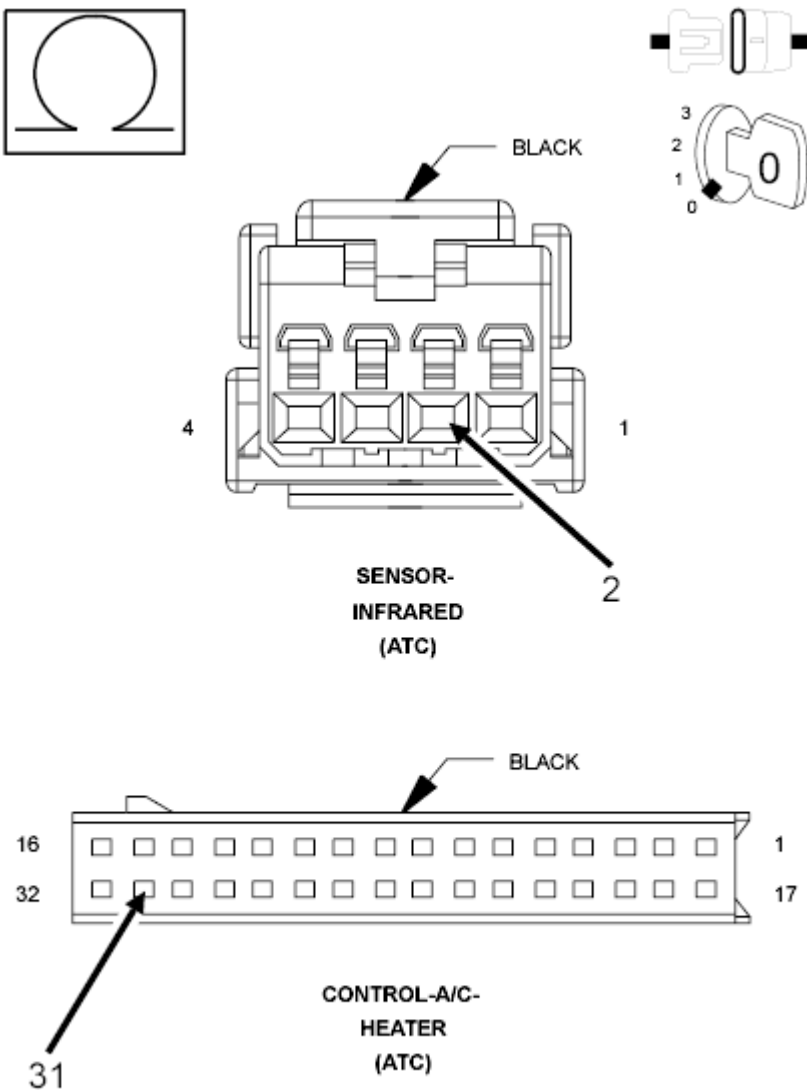
Yes

- Repair the (C83) Infrared Sensor Signal circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (C83) INFRARED SENSOR SIGNAL CIRCUIT FOR AN OPEN



2095555

Fig. 32: Checking Infrared Sensor Signal Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C83) Infrared Sensor Signal circuit between the A/C Heater Control harness connector.

Is the resistance below 100k Ohms?

Yes

- Repair the (C83) Infrared Sensor Signal circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.

No

- Go to step 5

5. CHECK THE INFRARED SENSOR

1. Replace the Infrared Sensor in accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

Did the DTC reset performing the HVAC Verification Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.

Were there any problems found?

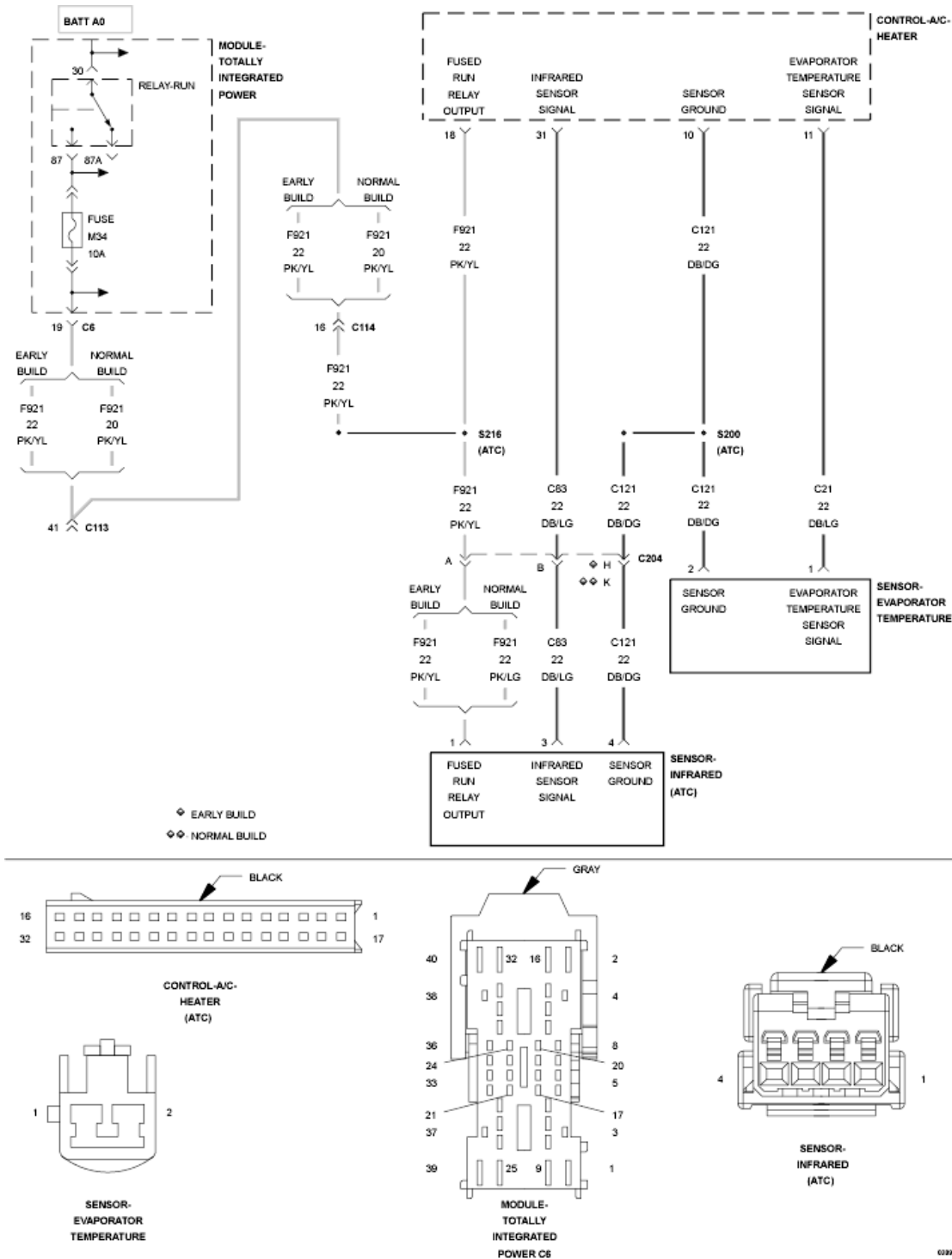
Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.

B1035-INFRARED TEMPERATURE SENSOR INPUT CIRCUIT HIGH



For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

• **When Monitored:**

With the ignition on.

- **Set Condition:**

The Infrared Temperature Sensor pulse with modulated (PWM) signal to the A/C Heater Control is greater than 12 volts for a continuous period of 120 seconds or more. If the A/C Heater Control detects a valid PWM signal, the DTC will change from active to stored and will stay stored for 100 ignition cycles.

Possible Causes
(C83) INFRARED SENSOR SIGNAL CIRCUIT SHORTED TO VOLTAGE
(C121) SENSOR GROUND CIRCUIT SHORTED TO VOLTAGE
(C121) SENSOR GROUND CIRCUIT OPEN
INFRARED TEMPERATURE SENSOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs after a minimum of 120 seconds.

Is this DTC active?

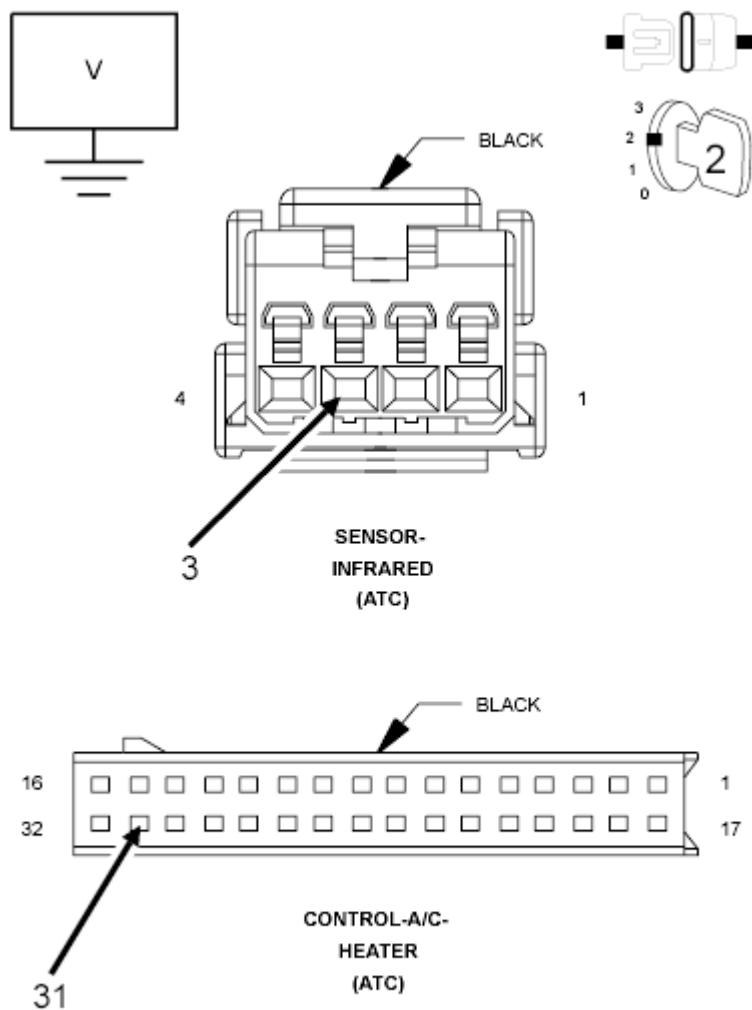
Yes

- Go to step 2

No

- Go to step 6

2. CHECK THE (C83) INFRARED SENSOR SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE



2096086

Fig. 34: Checking Infrared Sensor Signal Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Infrared Sensor harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C83) Infrared Sensor Signal circuit.

Is there any voltage present?

Yes

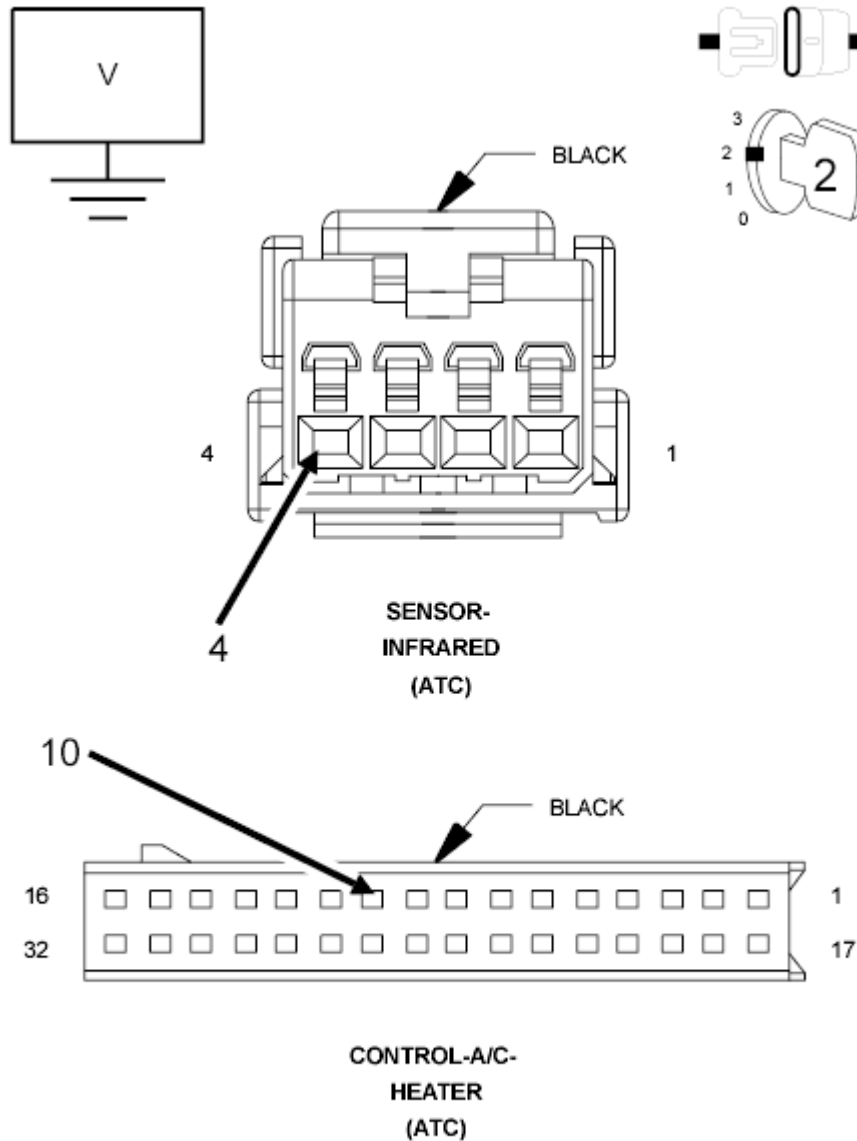
- Repair the (C83) Infrared Sensor Signal circuit for a short to voltage.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Go to step 3

3. CHECK THE (C121) SENSOR GROUND CIRCUIT FOR A SHORT TO VOLTAGE



2096131

Fig. 35: Checking Sensor Ground Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

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1. Measure the voltage of the (C121) Sensor Ground circuit.

Is there any voltage present?

Yes

- Repair the (C121) Sensor Ground circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. **CHECK THE (C121) SENSOR GROUND CIRCUIT FOR AN OPEN**

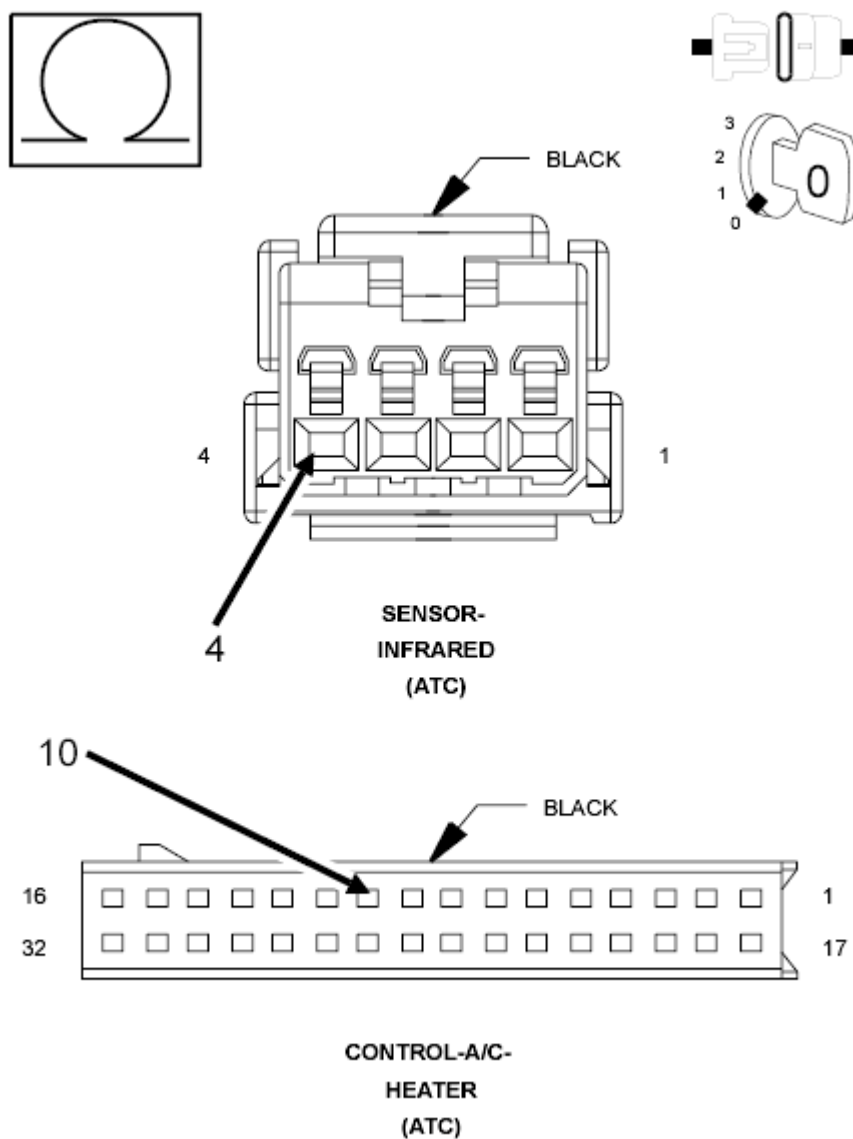


Fig. 36: Checking Sensor Ground Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control harness connector and the Infrared Sensor harness connector.

Is the resistance above 5.0 Ohms?

Yes

- Repair the (C121) Sensor Ground circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.**No**

- Go to step 5

5. CHECK THE INFRARED SENSOR

1. Replace the Infrared Sensor in accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

Did the DTC reset performing the HVAC Verification Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.

B1037-AUTO SWITCH REQUEST INPUT CIRCUIT PERFORMANCEFor complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active DTC indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

Continuously with the ignition on.

- **Set Condition:**

If the Auto mode switch is stuck in an On position for more than four minutes. This DTC has a dematuring time of two seconds. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Auto mode switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Auto mode switch being held in or stuck in an On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. With the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B103A-REAR MODE DOOR CONTROL CIRCUIT/PERFORMANCE

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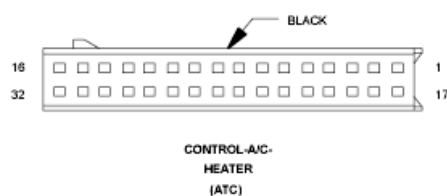
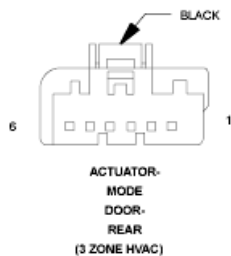
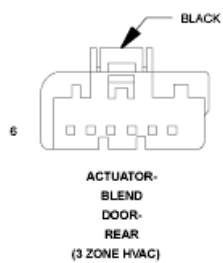
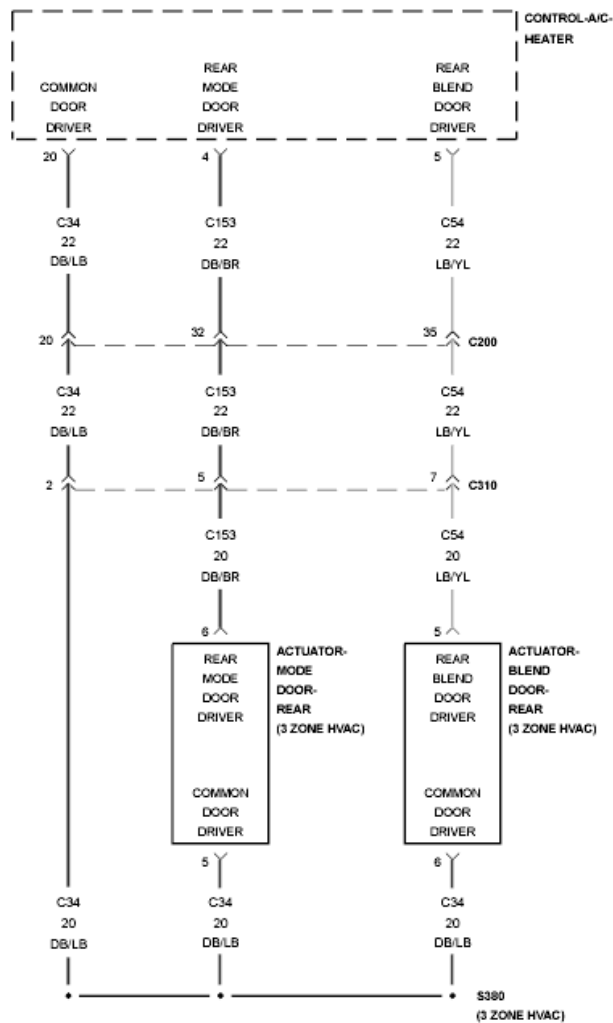


Fig. 37: Rear/Common Mode Door Driver Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

With the ignition on and an actuator movement is commanded by the A/C Heater Control or during an HVAC Actuator Calibration Test.

- **Set Condition:**

If an actuator move is commanded by A/C Heater Control and door movement is detected in only one direction in either a clockwise or counterclockwise movement. If the A/C Heater Control detects valid movement in both directions the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C153) REAR MODE DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C153) REAR MODE DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C153) REAR MODE DOOR DRIVER CIRCUIT OPEN
(C34) COMMON DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C34) COMMON DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C34) COMMON DOOR DRIVER OPEN
REAR MODE DOOR BINDING
REAR MODE DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 3

No

- Go to step 2

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

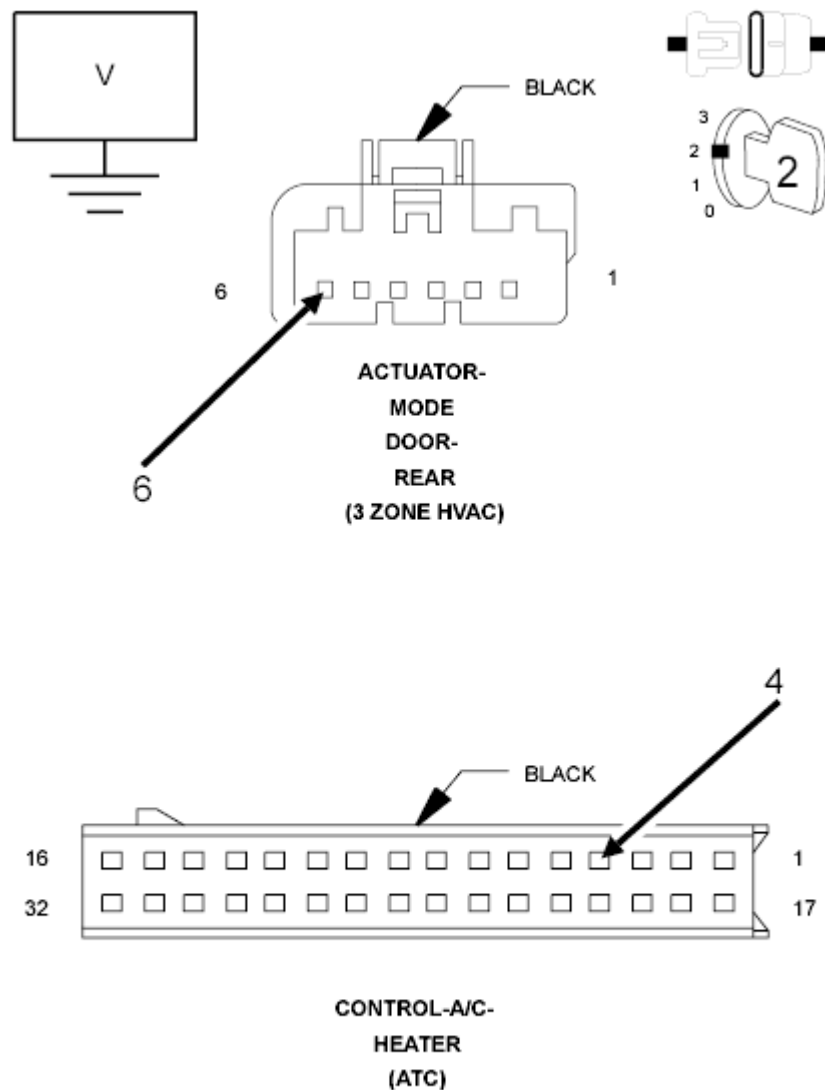
Yes

- Go to step 3

No

- Go to step 11

3. CHECK THE (C153) REAR MODE DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE



2099973

Fig. 38: Checking Rear Mode Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear Mode Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C153) Rear Mode Door Driver circuit.

Is there any voltage present?

Yes

- Repair the (C153) Rear Mode Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 4

4. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE

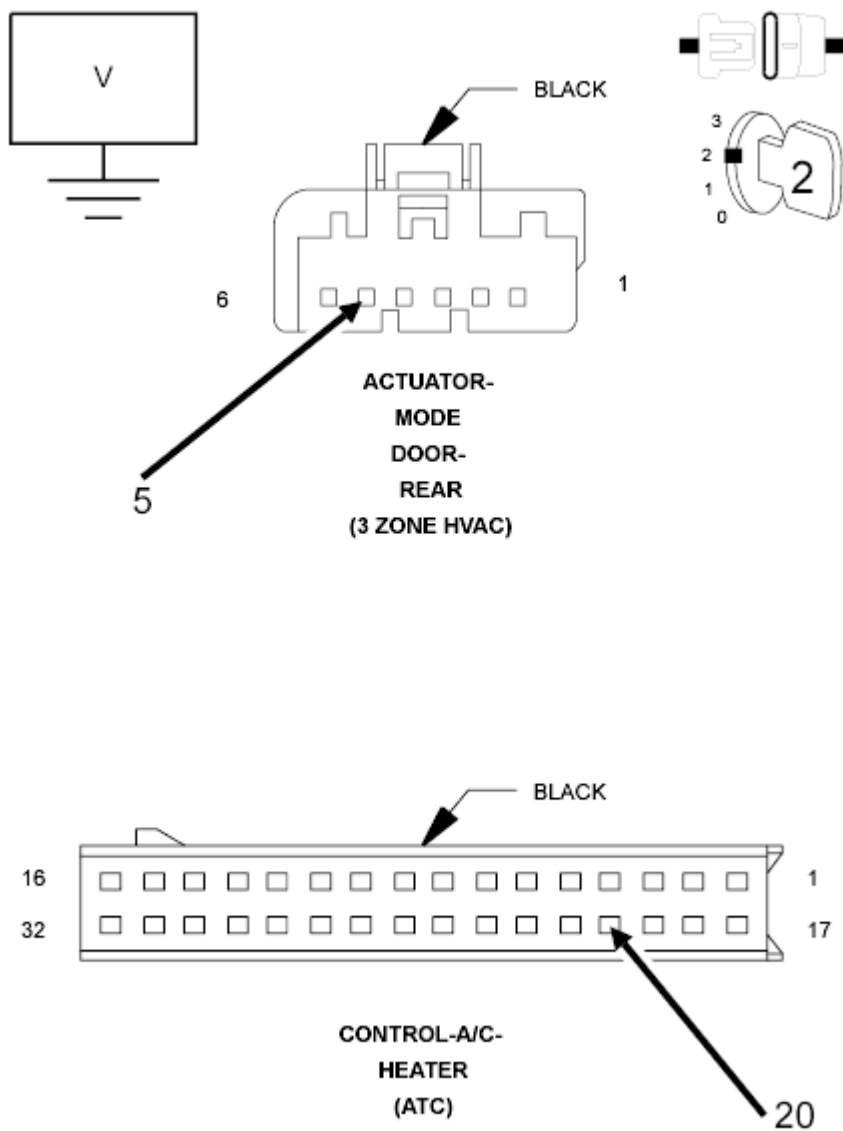


Fig. 39: Checking Common Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

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1. Measure the voltage of the (C34) Common Door Driver circuit.

Is there any voltage present?

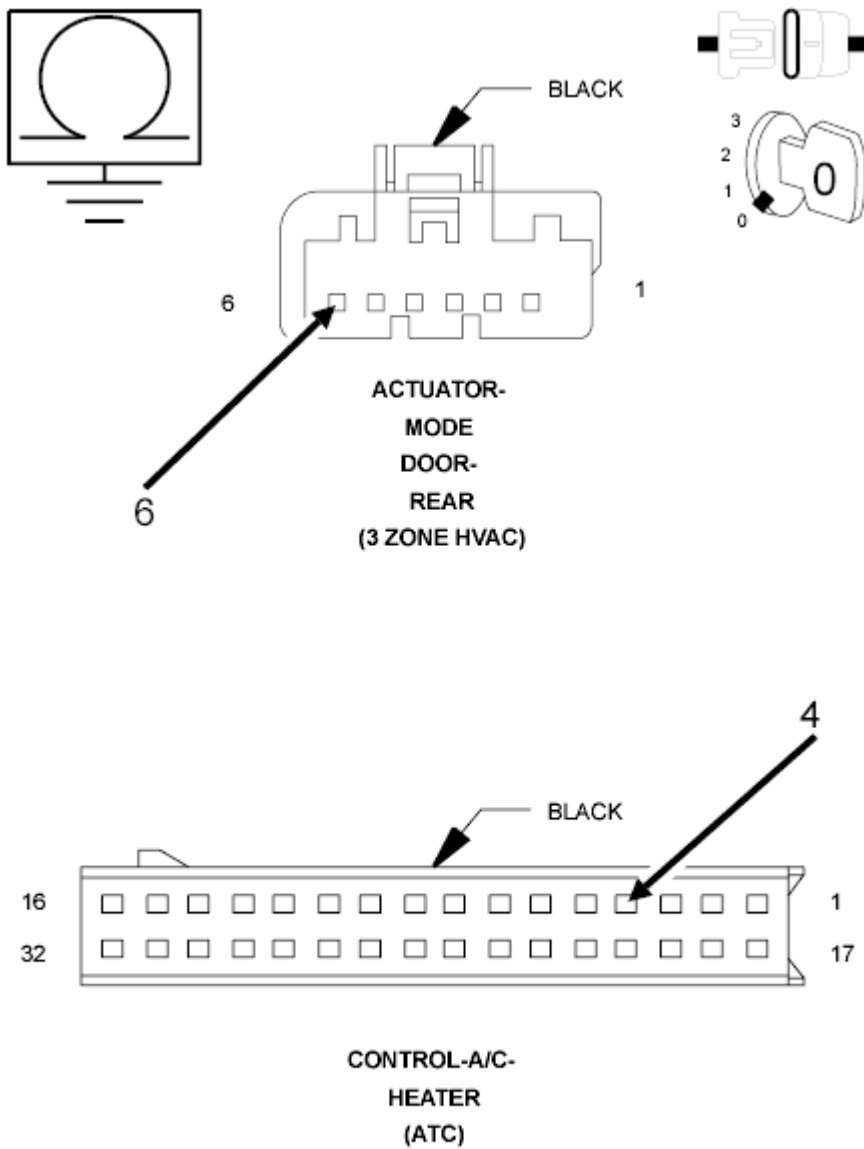
Yes

- Repair the (C34) Common Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. **CHECK THE (C153) REAR MODE DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND**



2100021

Fig. 40: Checking Rear Mode Door Driver Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance between ground and the (C153) Rear Mode Door Driver circuit.

Is the resistance below 100k Ohms?

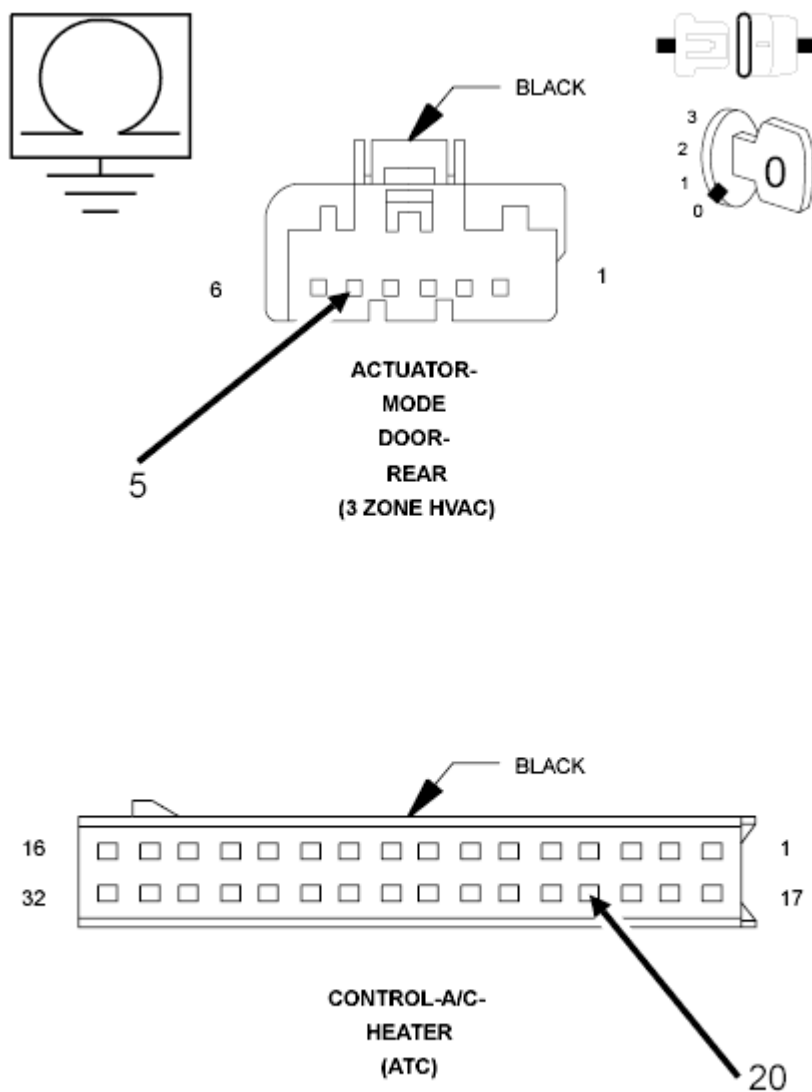
Yes

- Repair the (C153) Rear Mode Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 6

6. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND



2100036

Fig. 41: Checking Common Door Driver Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

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2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

1. Measure the resistance between ground and the (C34) Common Door Driver circuit.

Is the resistance below 100k Ohms?

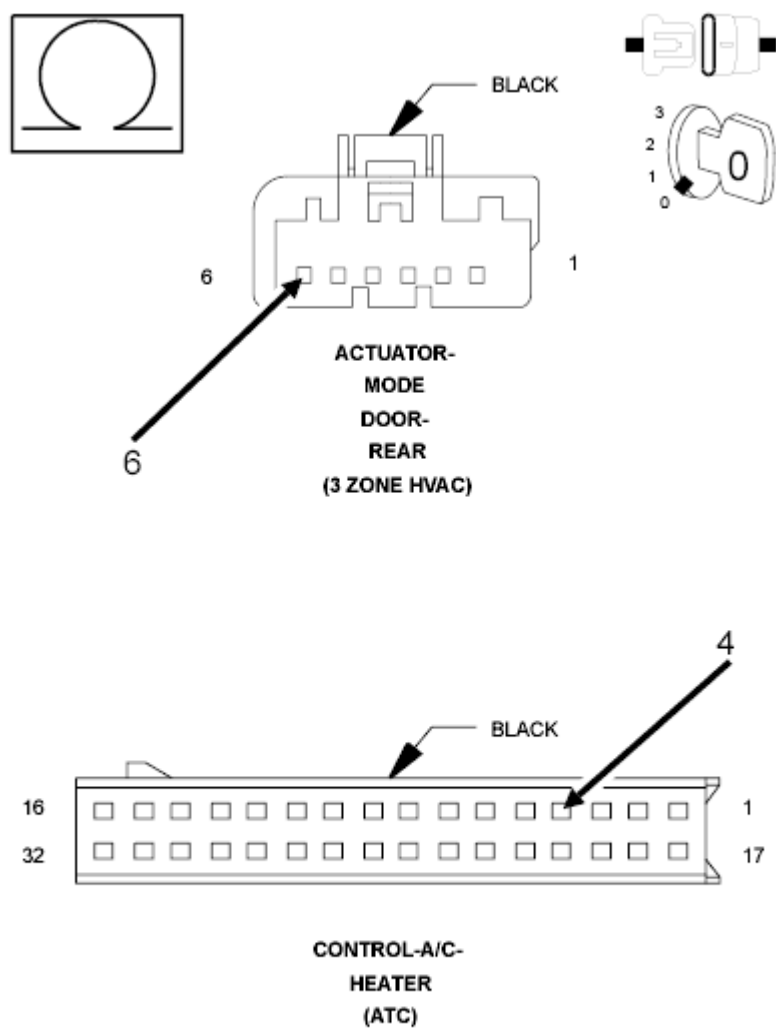
Yes

- Repair the (C34) Common Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 7

7. **CHECK THE (C153) REAR MODE DOOR DRIVER CIRCUIT FOR AN OPEN**



2100050

Fig. 42: Checking Rear Mode Door Driver Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C153) Rear Mode Door Driver circuit between the A/C Heater Control harness connector and the Rear Mode Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

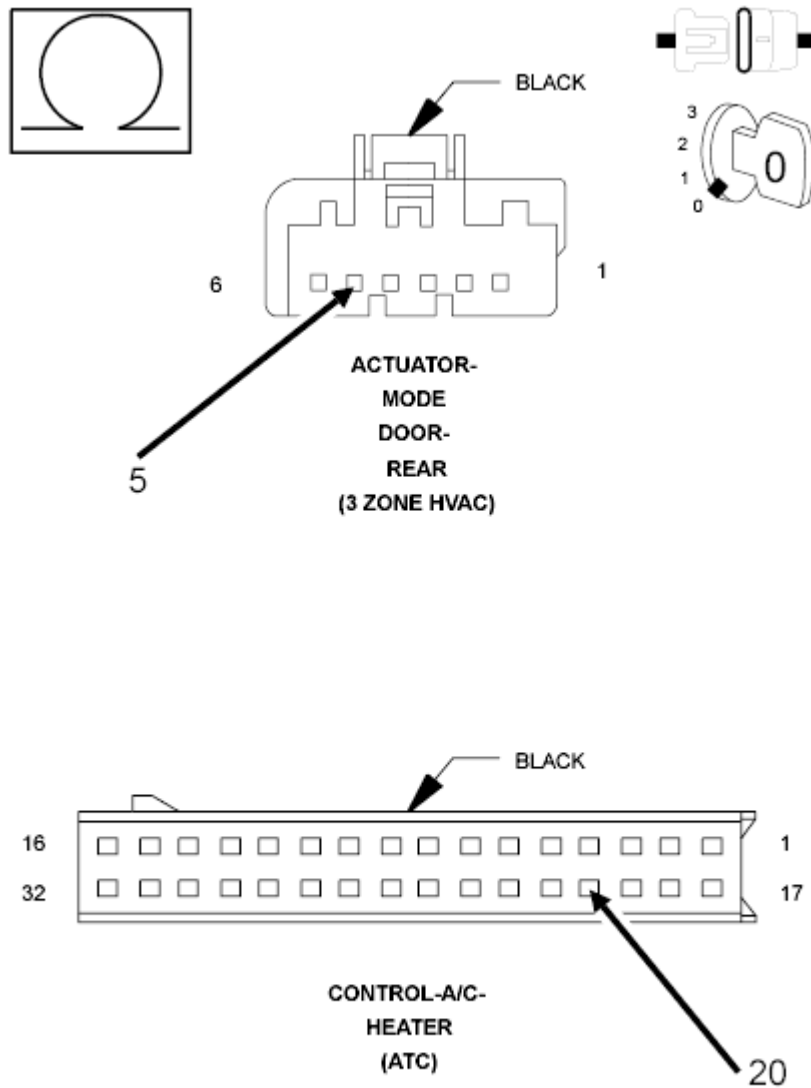
Yes

- Go to step 8

No

- Repair the (C153) Rear Mode Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

8. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR AN OPEN



2100065

Fig. 43: Checking Common Door Driver Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C34) Common Door Driver circuit between the A/C Heater Control harness connector and the Rear Mode Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 9

No

- Repair the (C34) Common Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE REAR MODE DOOR

1. Remove the Rear Mode Door Actuator and check the Rear Mode Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Rear Mode Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 10

10. CHECK THE REAR MODE DOOR ACTUATOR

1. Replace the Rear Mode Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

11. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the

DTC was set.

3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B103E-REAR MODE DOOR TRAVEL RANGE TOO SMALL

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic Trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is less than what the controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles

Possible Causes

RELATED DTCS PRESENT
REAR MODE DOOR BINDING
REAR MODE DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Are there any Door Control Circuit Open DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE REAR MODE DOOR

1. Remove the Rear Mode Door Actuator and check the Rear Mode Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Rear Mode Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE REAR MODE DOOR ACTUATOR AND A/C HEATER CONTROL

1. Replace the Rear Mode Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.

4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B103F-REAR MODE DOOR TRAVEL RANGE TOO LARGE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of a Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

When an Actuator Calibration Test is performed the A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. This DTC will set If the amount of pulses required to move the door completely in both directions is greater than what the controller has stored in its memory. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid pulse feedback in both directions, this DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
RELATED DTCS PRESENT
REAR MODE DOOR STOPS

REAR MODE DOOR
REAR MODE DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCS.

Is there any Door Control Circuit Open or Performance DTCS also present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCS.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE REAR MODE DOOR

1. Remove the Rear Mode Door Actuator and check the Rear Mode Door stops, linkage (stripped or cracked) and door.

Were there any problems found?

Yes

- Repair or replace the Rear Mode Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE REAR MODE DOOR ACTUATOR AND A/C HEATER CONTROL

1. Replace the Rear Mode Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors

for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.

4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.

B1040-PANEL MODE DOOR 1 CONTROL CIRCUIT/PERFORMANCE

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

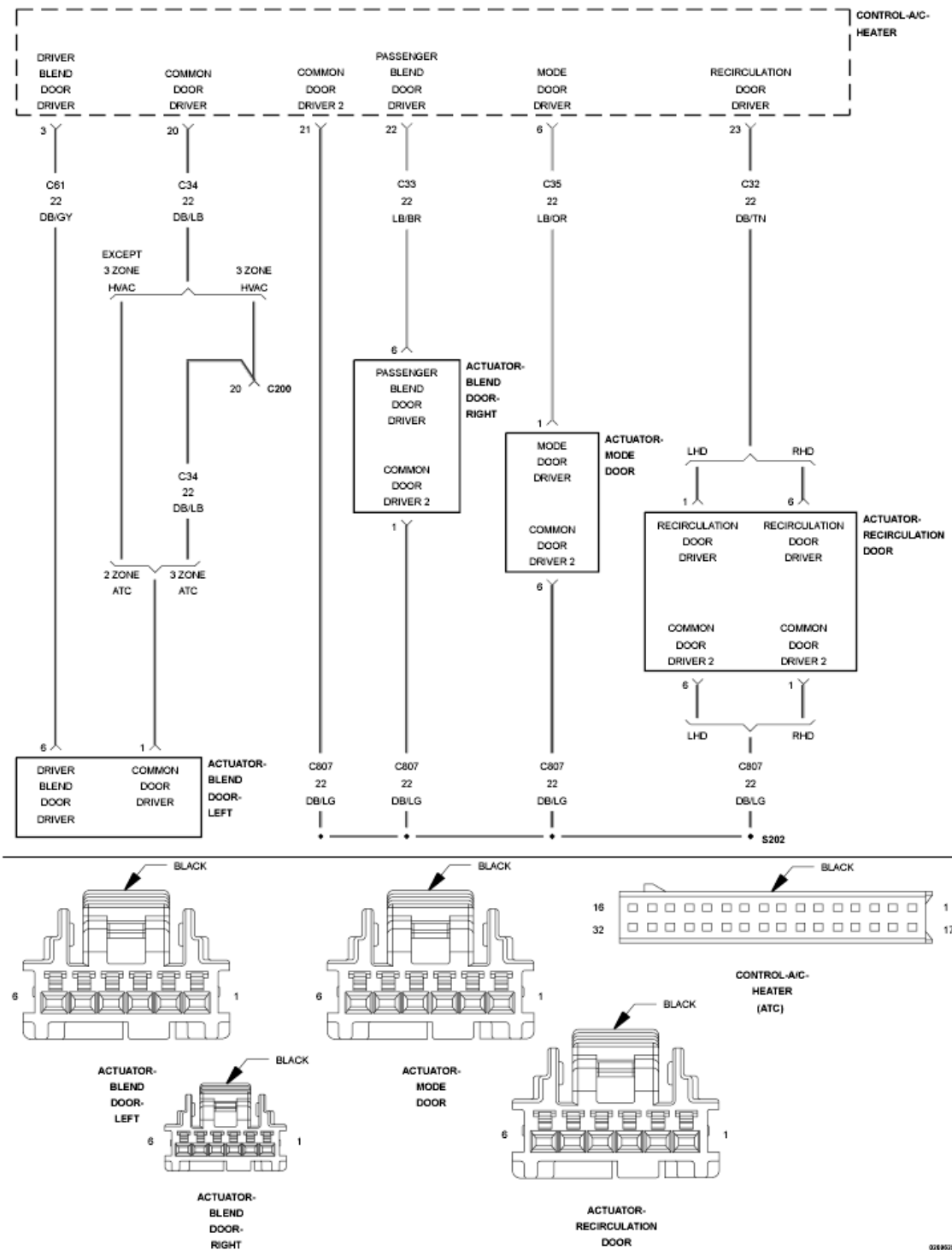


Fig. 44: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

With the ignition on and an actuator movement is commanded by the A/C Heater Control or during an HVAC Actuator Calibration Test.

- **Set Condition:**

If an actuator move is commanded by A/C Heater Control and door movement is detected in only one direction in either a clockwise or counterclockwise movement. If the A/C Heater Control detects valid movement in both directions the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C35) MODE DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C35) MODE DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C35) MODE DOOR DRIVER CIRCUIT OPEN
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
(C807) COMMON DOOR DRIVER 2 OPEN
MODE DOOR BINDING
MODE DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 3

No

- Go to step 2

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

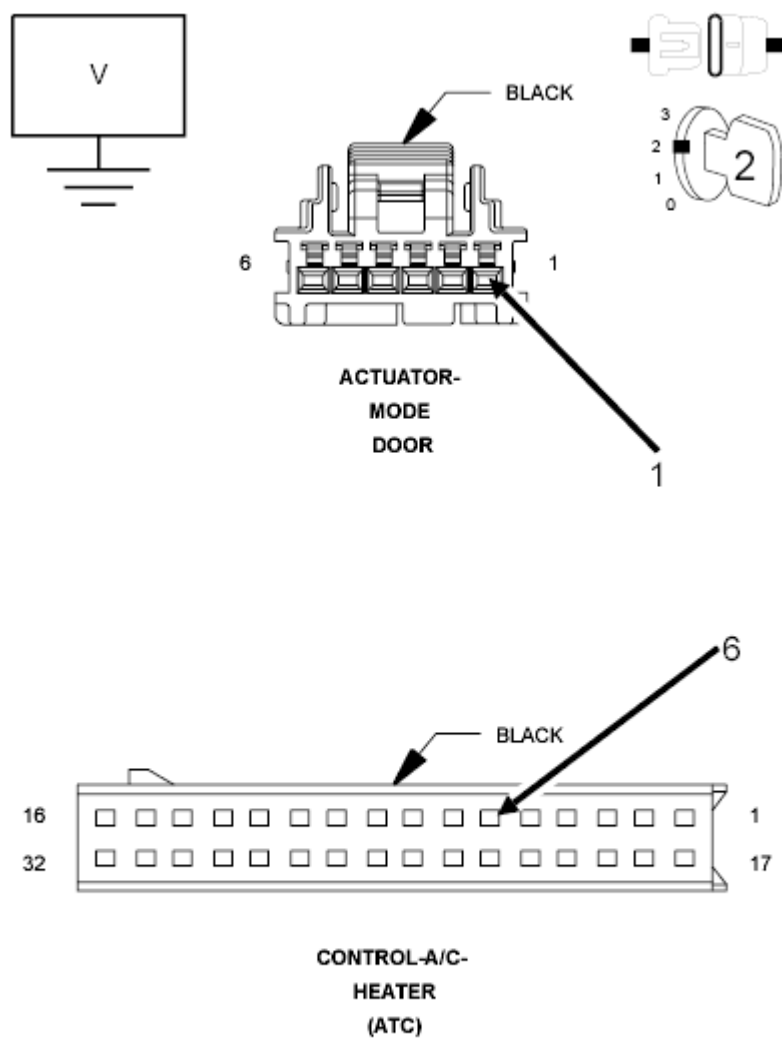
Yes

- Go to step 3

No

- Go to step 11

3. CHECK THE (C35) MODE DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE



2100492

Fig. 45: Checking Mode Door Driver Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Mode Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C35) Mode Door Driver circuit.

Is there any voltage present?

Yes

- Repair the (C35) Mode Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR A SHORT TO VOLTAGE

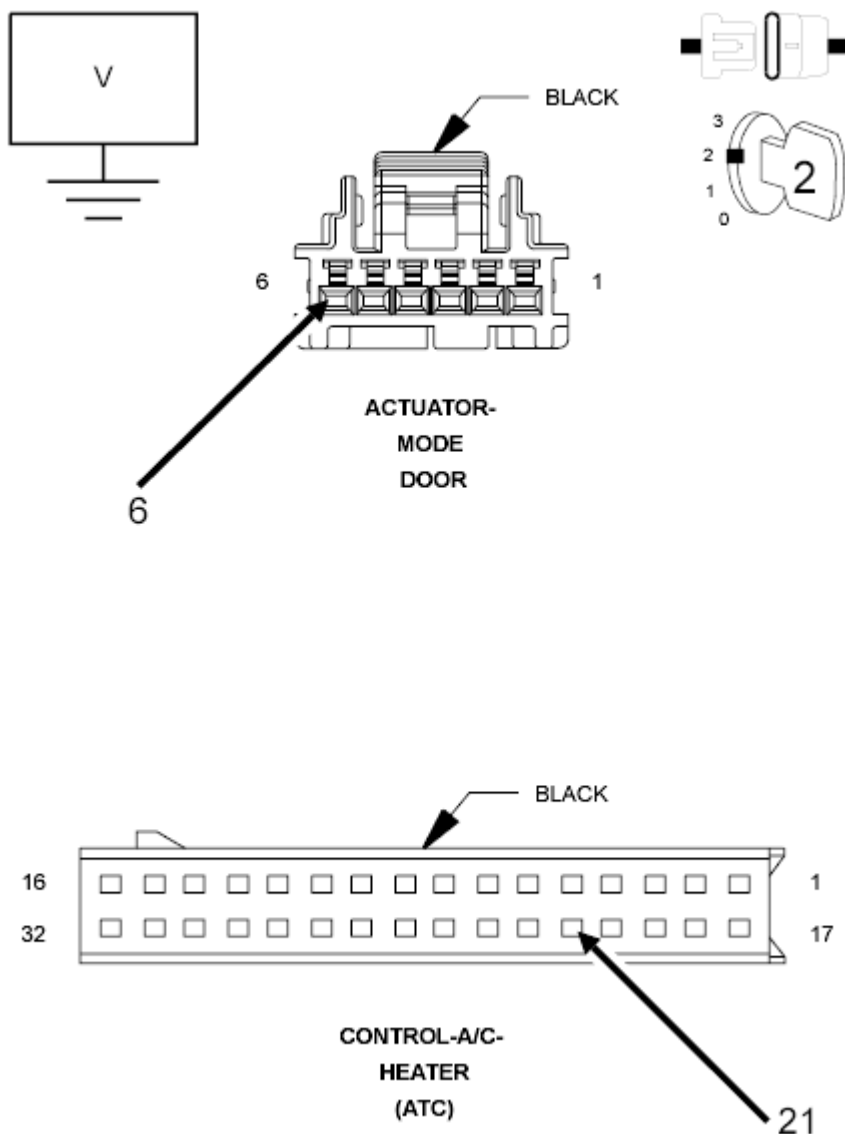


Fig. 46: Checking Common Door Driver 2 Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Measure the voltage of the (C807) Common Door Driver 2 circuit.

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2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

Is there any voltage present?

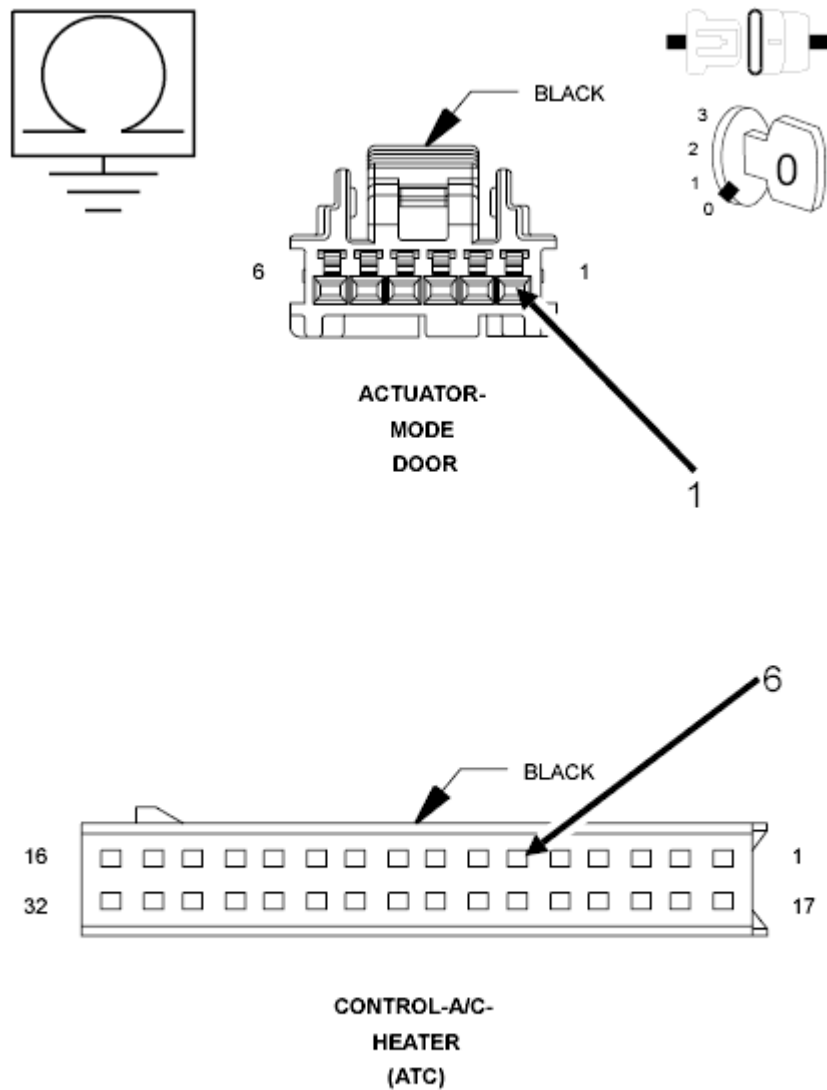
Yes

- Repair the (C807) Common Door Driver 2 circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C35) MODE DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND



2100523

Fig. 47: Checking Mode Door Driver Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance between ground and the (C35) Mode Door Driver circuit.

Is the resistance below 100k Ohms?

Yes

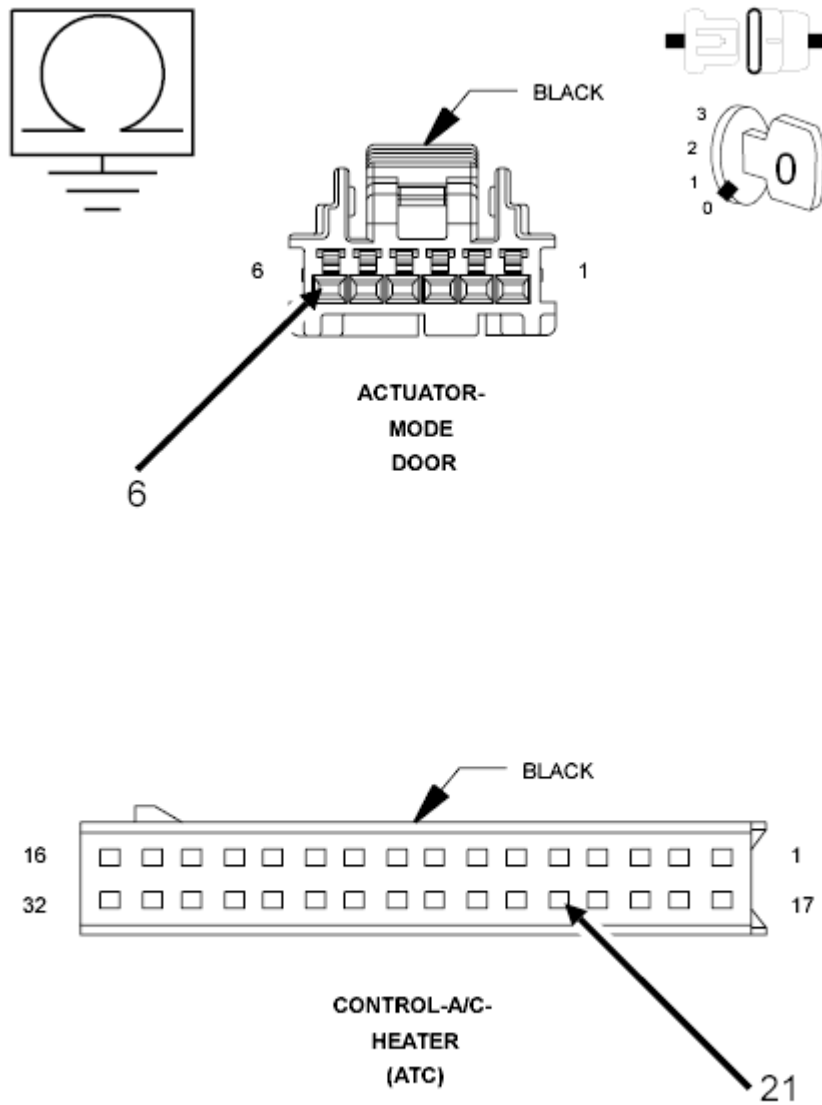
- Repair the (C35) Mode Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.

No

- Go to step 6

6. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR A SHORT TO GROUND



2100573

Fig. 48: Checking Common Door Driver 2 Circuit For A Short To Ground

Courtesy of CHRYSLER LLC

1. Measure the resistance between ground and the (C807) Common Door Driver 2 circuit.

Is the resistance below 100k Ohms?

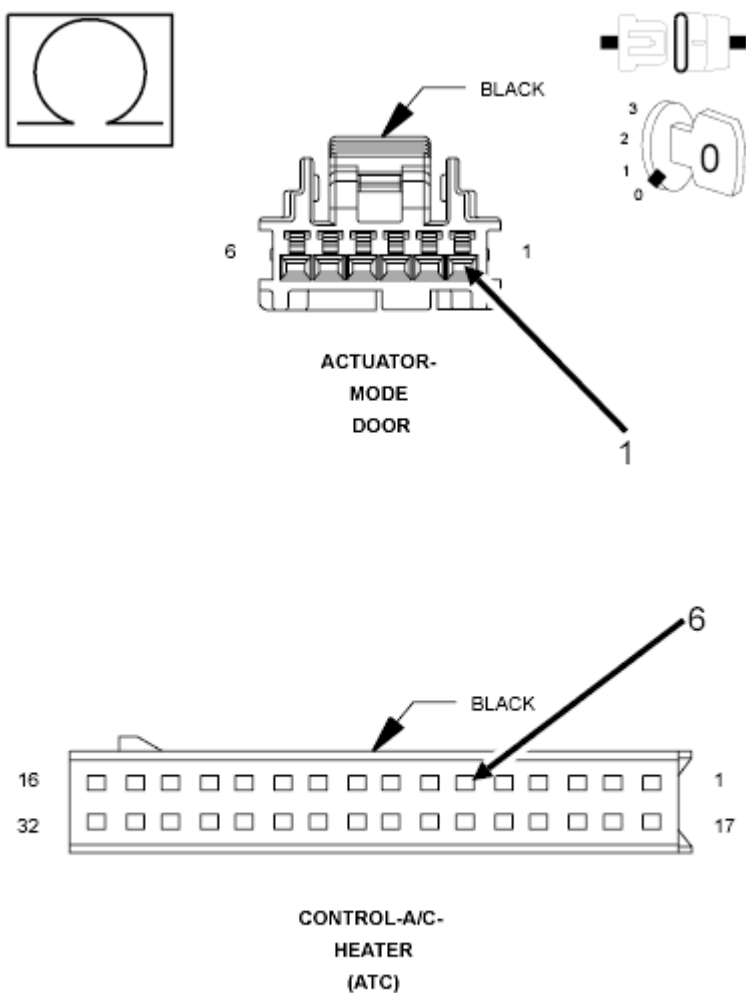
Yes

- Repair the (C807) Common Door Driver 2 circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go To step 7

7. CHECK THE (C35) MODE DOOR DRIVER CIRCUIT FOR AN OPEN



2100586

Fig. 49: Checking Mode Door Driver Circuit For An Open
 Courtesy of CHRYSLER LLC

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2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

1. Measure the resistance of the (C35) Mode Door Driver circuit between the A/C Heater Control harness connector and the Mode Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

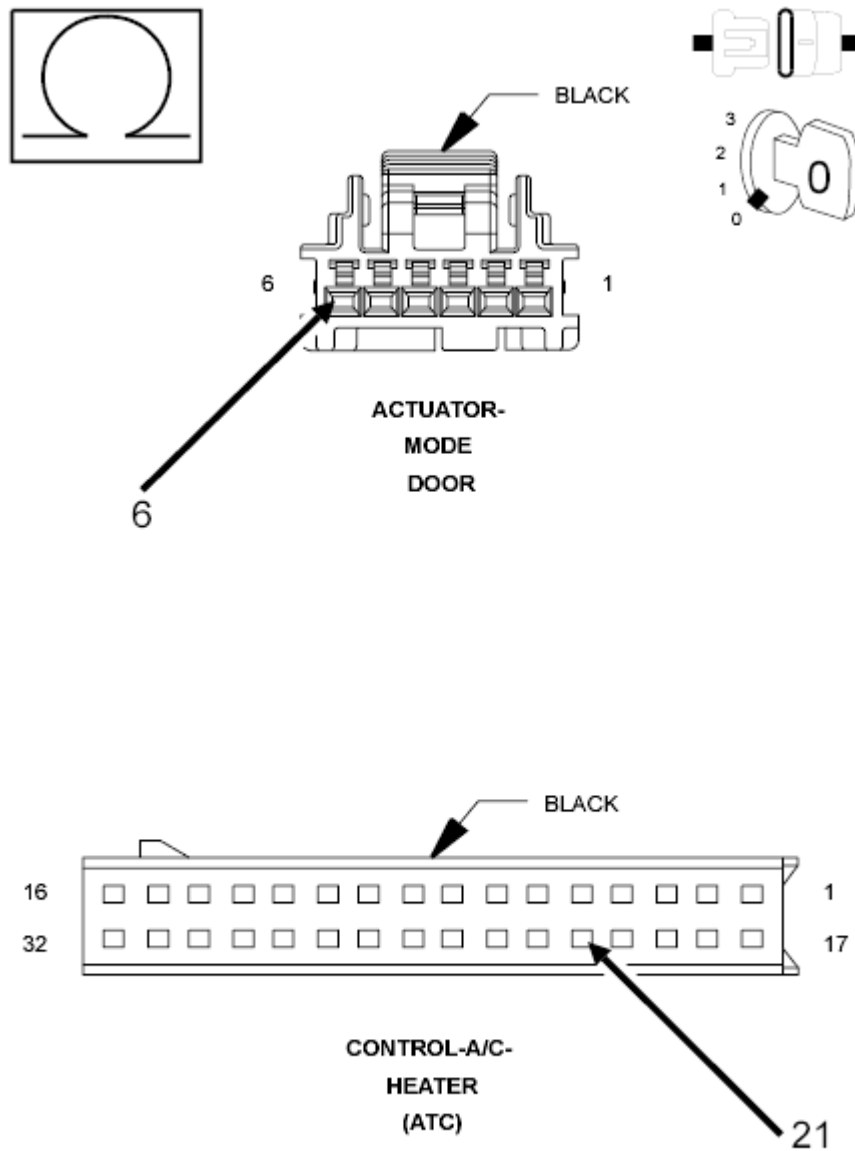
Yes

- Go to step 8

No

- Repair the (C35) Mode Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

8. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR AN OPEN



2100602

Fig. 50: Checking Common Door Driver 2 Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C807) Common Door Driver 2 circuit between the A/C Heater Control harness connector and the Mode Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go To step 9

No

- Repair the (C807) Common Door Driver 2 circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE MODE DOOR

1. Remove the Mode Door Actuator and check the Mode Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Mode Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 10

10. CHECK THE MODE DOOR ACTUATOR

1. Replace the Mode Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

11. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1044-PANEL MODE DOOR 1 TRAVEL RANGE TOO SMALL

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic Trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is less than what the controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
RELATED DTCS PRESENT
MODE DOOR BINDING
MODE DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Are there any Door Control Performance DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE MODE DOOR

1. Remove the Mode Door Actuator and check the Mode Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Mode Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE MODE DOOR ACTUATOR

1. Replace the Mode Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs.
3. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC reset during HVAC Actuator Calibration Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1045-PANEL MODE DOOR 1 TRAVEL RANGE TOO LARGE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar DTCs can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is greater than what the controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed or during normal operation and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
RELATED DTCS PRESENT
MODE DOOR STOPS
MODE DOOR
MODE DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Are there any Door Control Performance DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC System Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE MODE DOOR

1. Remove the Mode Door Actuator and check the Mode Door stops, linkage (stripped or cracked) and door.

Were there any problems found?

Yes

- Repair or replace the Mode Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.**No**

- Go to step 5

5. CHECK THE MODE DOOR ACTUATOR

1. Replace the Mode Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.

B1052-REAR BLEND DOOR CONTROL CIRCUIT/PERFORMANCE

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

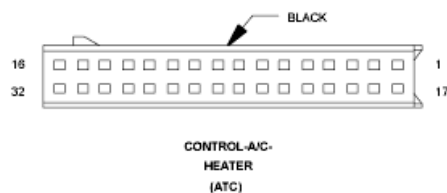
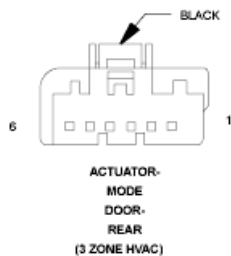
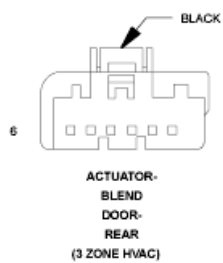
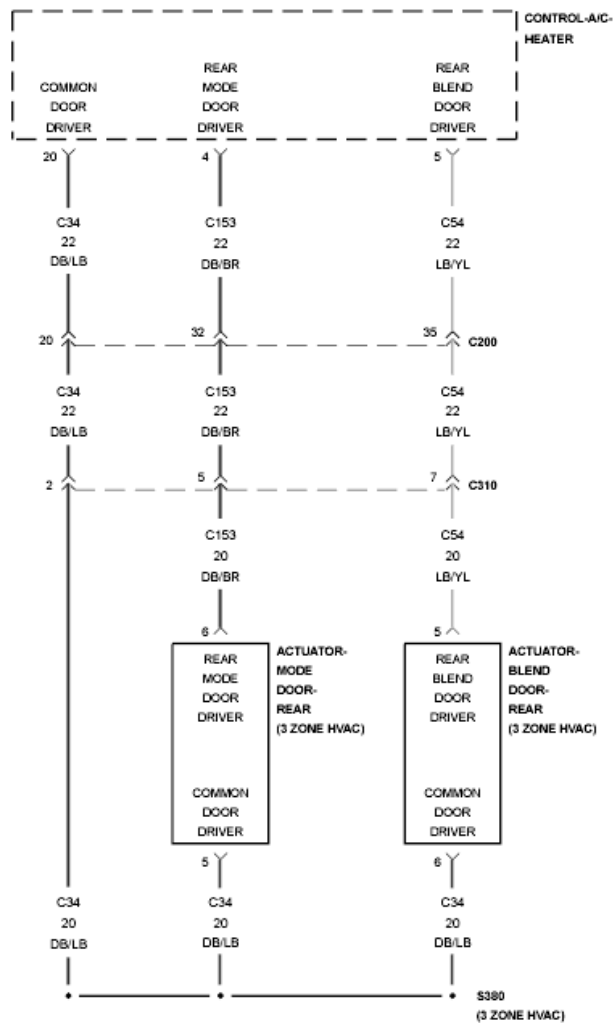


Fig. 51: Rear/Common Mode Door Driver Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

With the ignition on and an actuator movement is commanded by the A/C Heater Control or during an HVAC Actuator Calibration Test.

- **Set Condition:**

If an actuator move is commanded by A/C Heater Control and door movement is detected in only one direction in either a clockwise or counterclockwise movement. If the A/C Heater Control detects valid movement in both directions the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C54) REAR BLEND DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C54) REAR BLEND DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C54) REAR BLEND DOOR DRIVER CIRCUIT OPEN
(C34) COMMON DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C34) COMMON DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C34) COMMON DOOR DRIVER OPEN
REAR BLEND DOOR BINDING
REAR BLEND DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 3

No

- Go to step 2

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

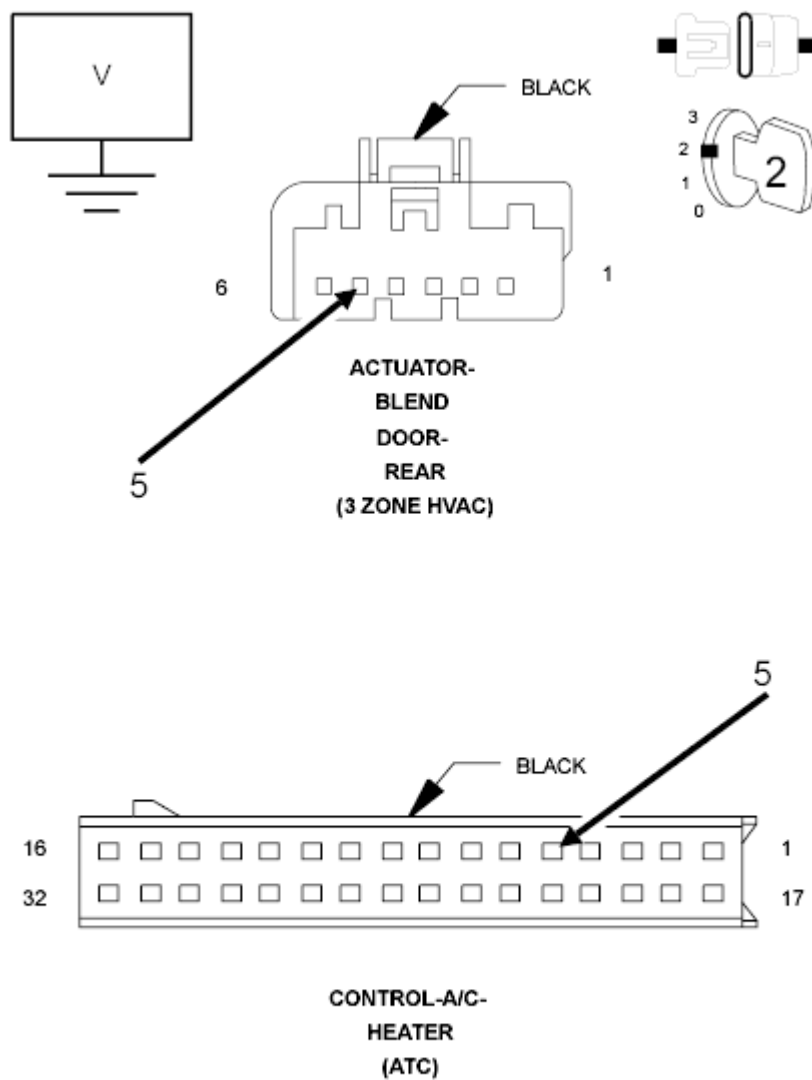
Yes

- Go to step 3

No

- Go to step 11

3. CHECK THE (C54) REAR BLEND DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE



2101065

Fig. 52: Checking Rear Blend Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear Blend Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C54) Rear Blend Door Driver circuit.

Is there any voltage present?

Yes

- Repair the (C54) Rear Blend Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 4

4. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE

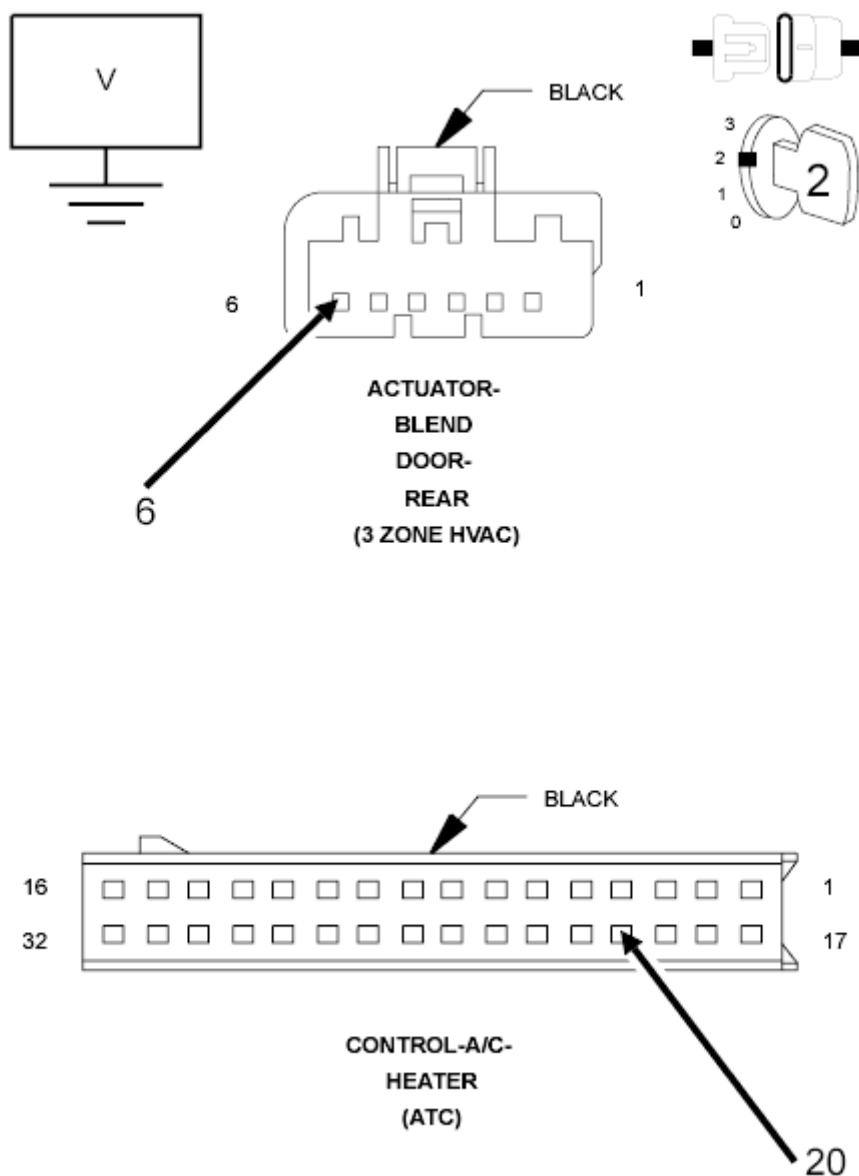


Fig. 53: Checking Common Door Driver Circuit For A Short To Voltage

Courtesy of CHRYSLER LLC

1. Measure the voltage of the (C34) Common Door Driver circuit.

Is there any voltage present?

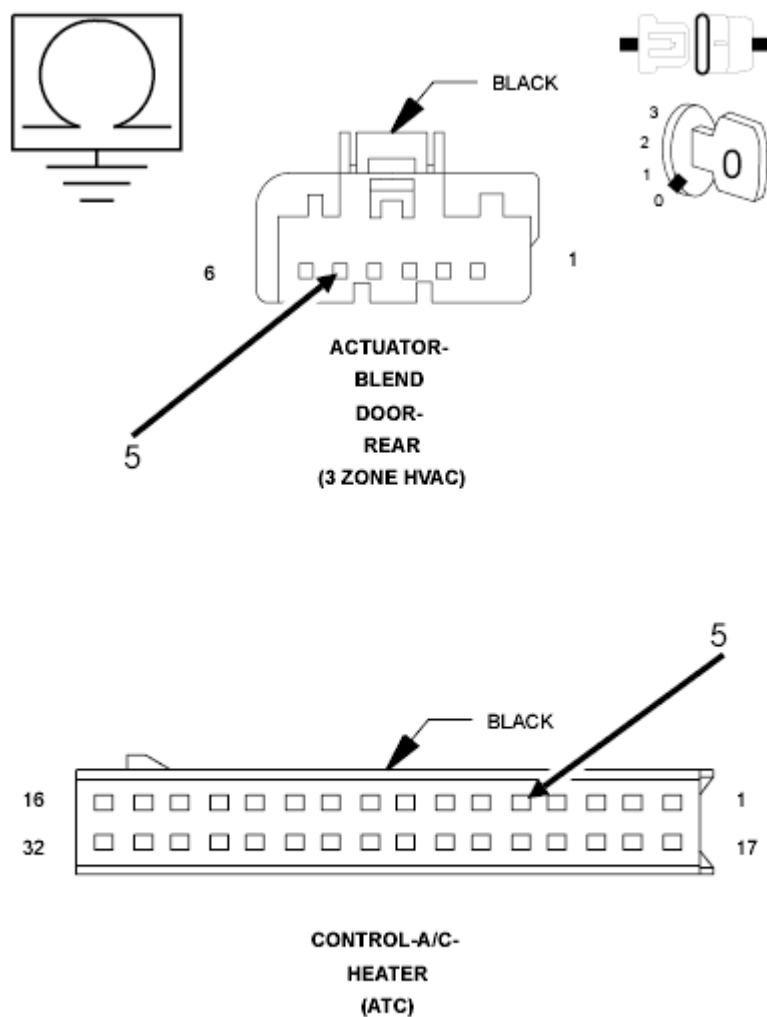
Yes

- Repair the (C34) Common Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. **CHECK THE (C54) REAR BLEND DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND**



2101100

Fig. 54: Checking Rear Blend Door Driver Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance between ground and the (C54) Rear Blend Door Driver circuit.

Is the resistance below 100k Ohms?

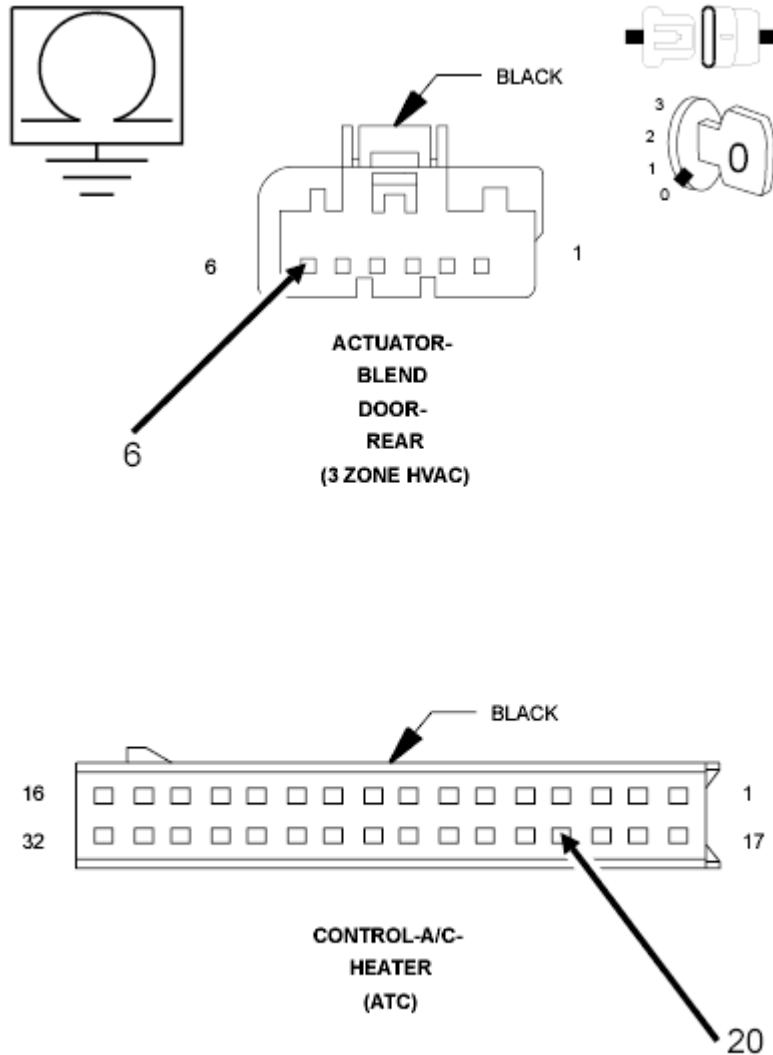
Yes

- Repair the (C54) Rear Blend Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 6

6. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND



2101130

Fig. 55: Checking Common Door Driver Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Measure the resistance between ground and the (C34) Common Door Driver circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (C34) Common Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go To step 7

7. CHECK THE (C54) REAR BLEND DOOR DRIVER CIRCUIT FOR AN OPEN

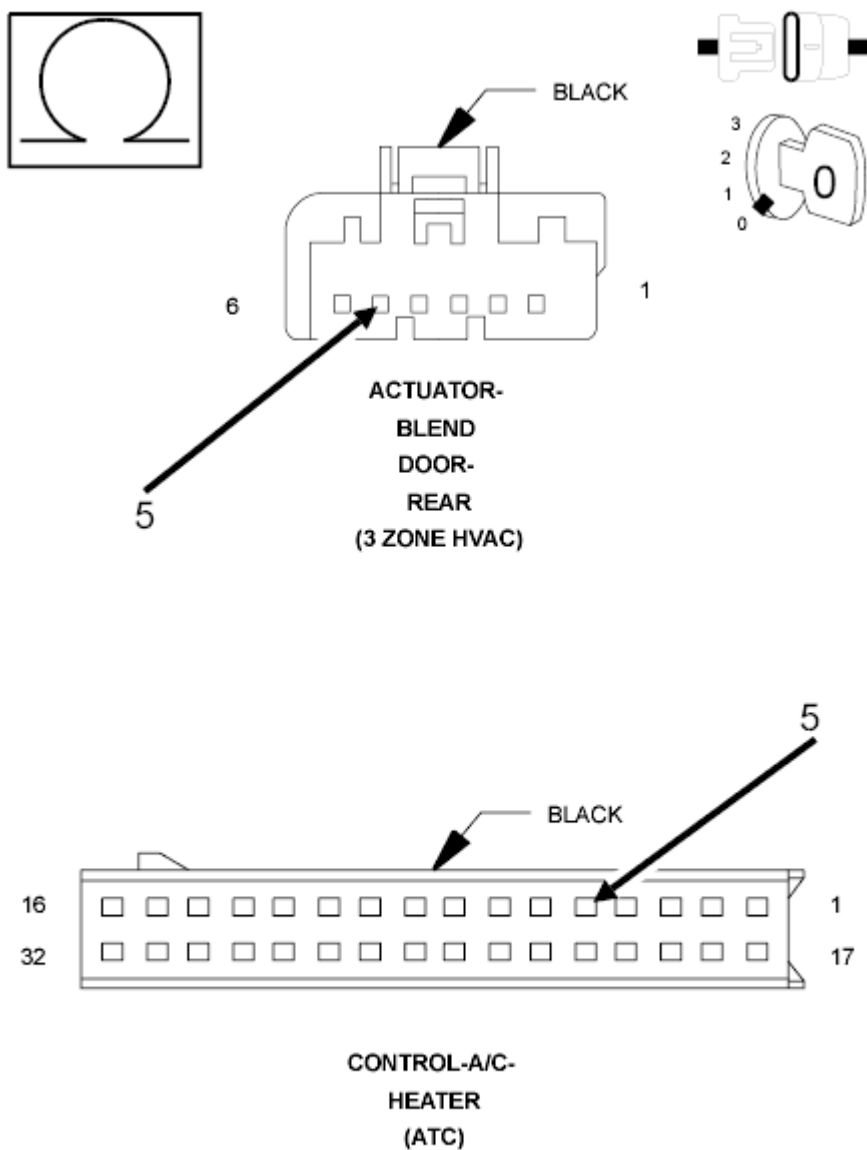


Fig. 56: Checking Rear Blend Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C54) Rear Blend Door Driver circuit between the A/C Heater Control harness connector and the Rear Blend Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

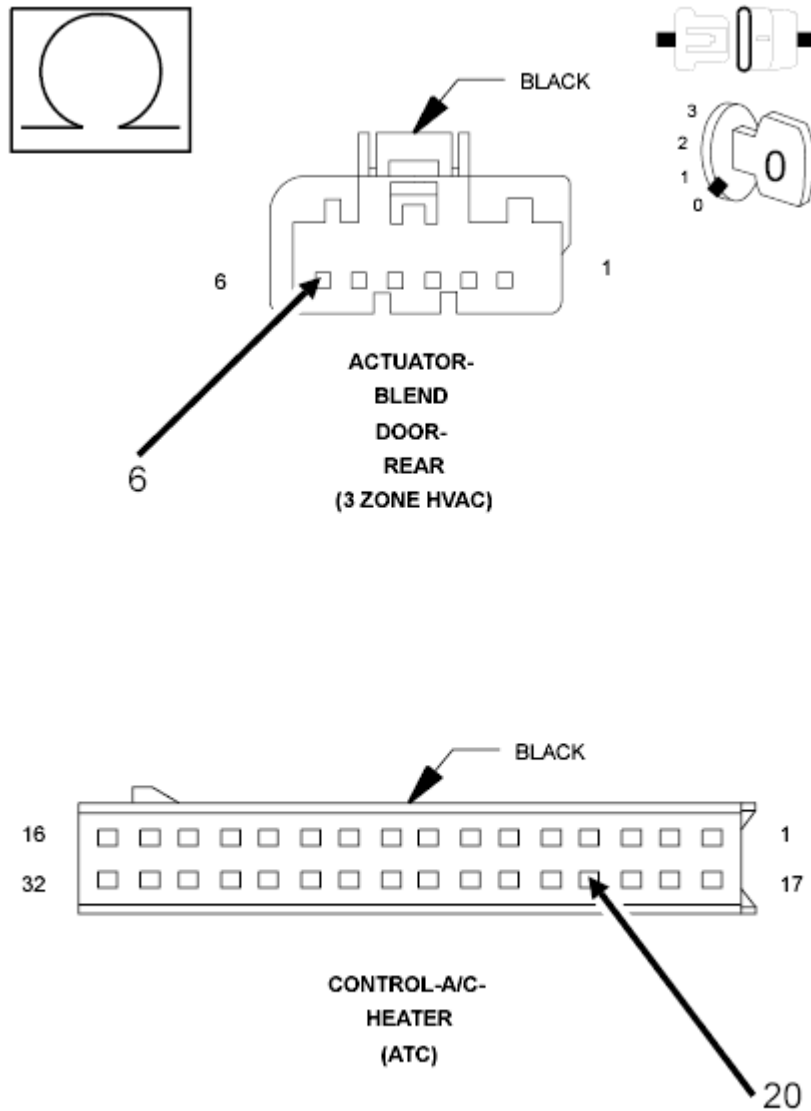
Yes

- Go to step 8

No

- Repair the (C54) Rear Blend Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

8. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR AN OPEN



2101155

Fig. 57: Checking Common Door Driver Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C34) Common Door Driver circuit between the A/C Heater Control harness connector and the Rear Blend Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go To step 9

No

- Repair the (C34) Common Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE REAR BLEND DOOR

1. Remove the Rear Blend Door Actuator and check the Rear Blend Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Rear Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 10

10. CHECK THE REAR BLEND DOOR ACTUATOR

1. Replace the Rear Blend Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

11. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1056-REAR BLEND DOOR TRAVEL RANGE TOO SMALL

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is less than what the controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles

Possible Causes
RELATED DTCS PRESENT
REAR BLEND DOOR BINDING
REAR BLEND DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Are there any Door Control Circuit DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE REAR BLEND DOOR

1. Remove the Rear Blend Door Actuator and check the Rear Blend Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Rear Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE REAR BLEND DOOR ACTUATOR AND A/C HEATER CONTROL

1. Replace the Rear Blend Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1057-REAR BLEND DOOR TRAVEL RANGE TOO LARGE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the Front A/C Heater Module, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The Front A/C Heater Module drives the Door Actuators by the use of a Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic Trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

When an Actuator Calibration Test is performed the Front A/C Heater Module uses a pulse feedback to the controller to detect the total door movement range. This DTC will set If the amount of pulses required to move the door completely in both directions is greater than what the controller has stored in its memory. If an Actuator Calibration Test is performed and the Front A/C Heater Module detects a valid pulse feedback in both directions, this DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
RELATED DTCS PRESENT
REAR BLEND DOOR STOPS
REAR BLEND DOOR
REAR BLEND DOOR ACTUATOR
FRONT A/C HEATER MODULE

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is there any Door Control Circuit DTCs also present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE REAR BLEND DOOR

1. Remove the Rear Blend Door Actuator and check the Rear Blend Door stops, linkage (stripped or

cracked) and door.

Were there any problems found?

Yes

- Repair or replace the Rear Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE REAR BLEND DOOR ACTUATOR AND FRONT A/C HEATER MODULE

1. Replace the Rear Blend Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the Front A/C Heater Module in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

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- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B1058-RECIRCULATION DOOR CONTROL CIRCUIT/PERFORMANCE

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

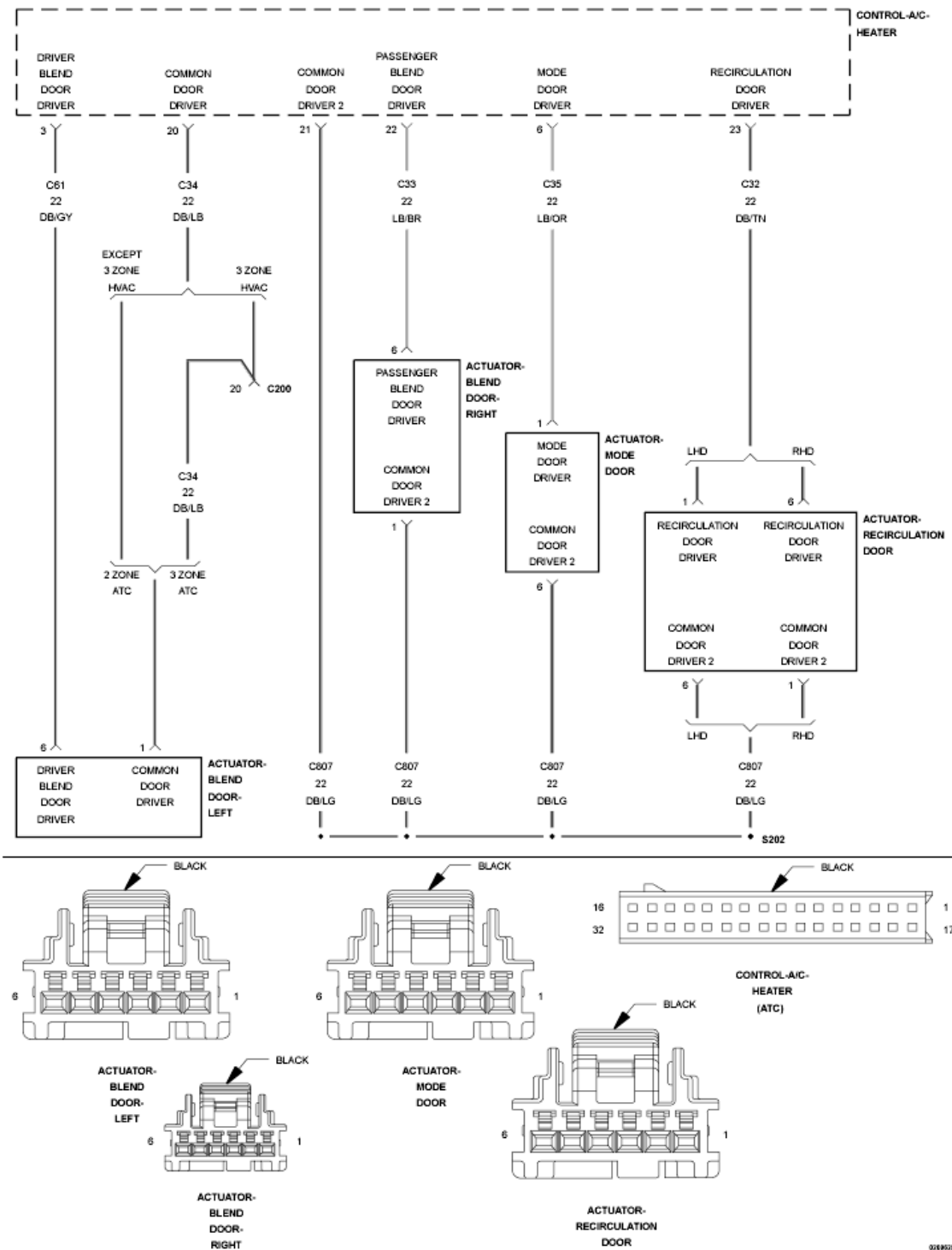


Fig. 58: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

With the ignition on and an actuator movement is commanded by the A/C Heater Control or during an HVAC Actuator Calibration Test.

- **Set Condition:**

If an actuator move is commanded by A/C Heater Control and door movement is detected in only one direction in either a clockwise or counterclockwise movement. If the A/C Heater Control detects valid movement in both directions the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C32) RECIRCULATION DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C32) RECIRCULATION DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C32) RECIRCULATION DOOR DRIVER CIRCUIT OPEN
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
(C807) COMMON DOOR DRIVER 2 OPEN
RECIRCULATION DOOR BINDING
RECIRCULATION DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

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- Go to step 3

No

- Go to step 2

2. **PERFORM HVAC ACTUATOR CALIBRATION TEST**

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

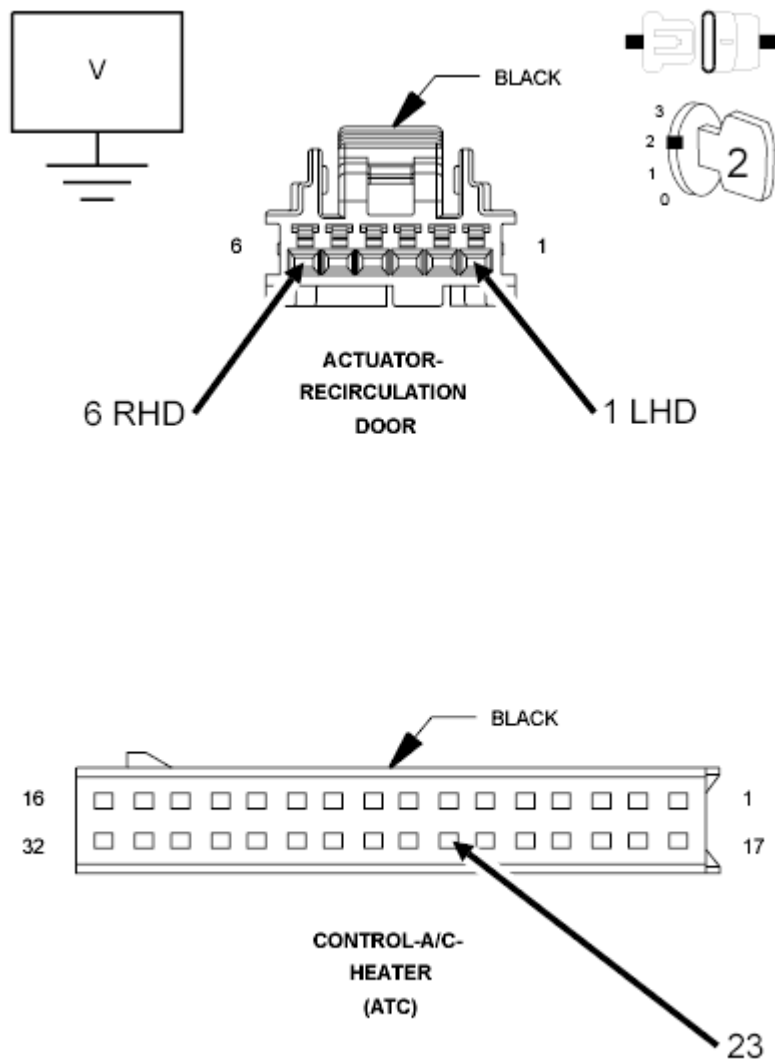
Yes

- Go to step 3

No

- Go to step 11

3. **CHECK THE (C32) RECIRCULATION DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE**



2101350

Fig. 59: Checking Recirculation Door Driver Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Recirculation Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C32) Recirculation Door Driver circuit.

Is there any voltage present?

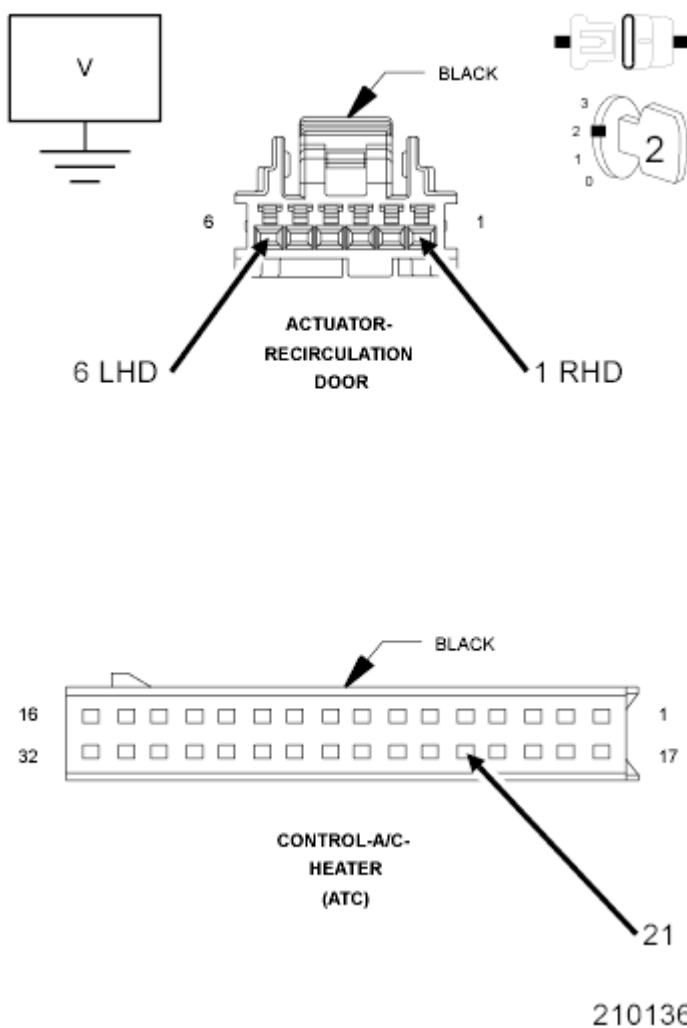
Yes

- Repair the (C32) Recirculation Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. **CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR A SHORT TO VOLTAGE**



2101366

Fig. 60: Checking Common Door Driver 2 Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

1. Measure the voltage of the (C807) Common Door Driver 2 circuit.

Is there any voltage present?

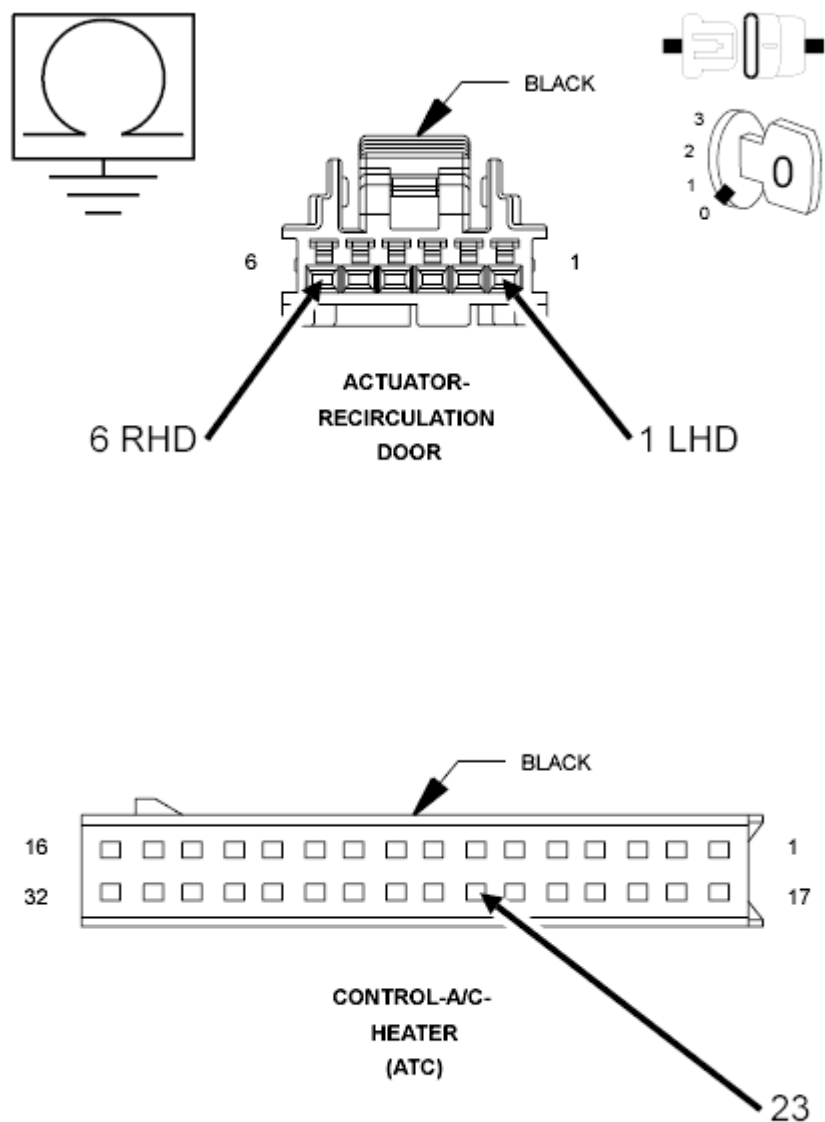
Yes

- Repair the (C807) Common Door Driver 2 circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. **CHECK THE (C32) RECIRCULATION DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND**



2101381

Fig. 61: Checking Recirculation Door Driver Circuit For A Short To Ground

Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance between ground and the (C32) Recirculation Door Driver circuit.

Is the resistance below 100k Ohms?

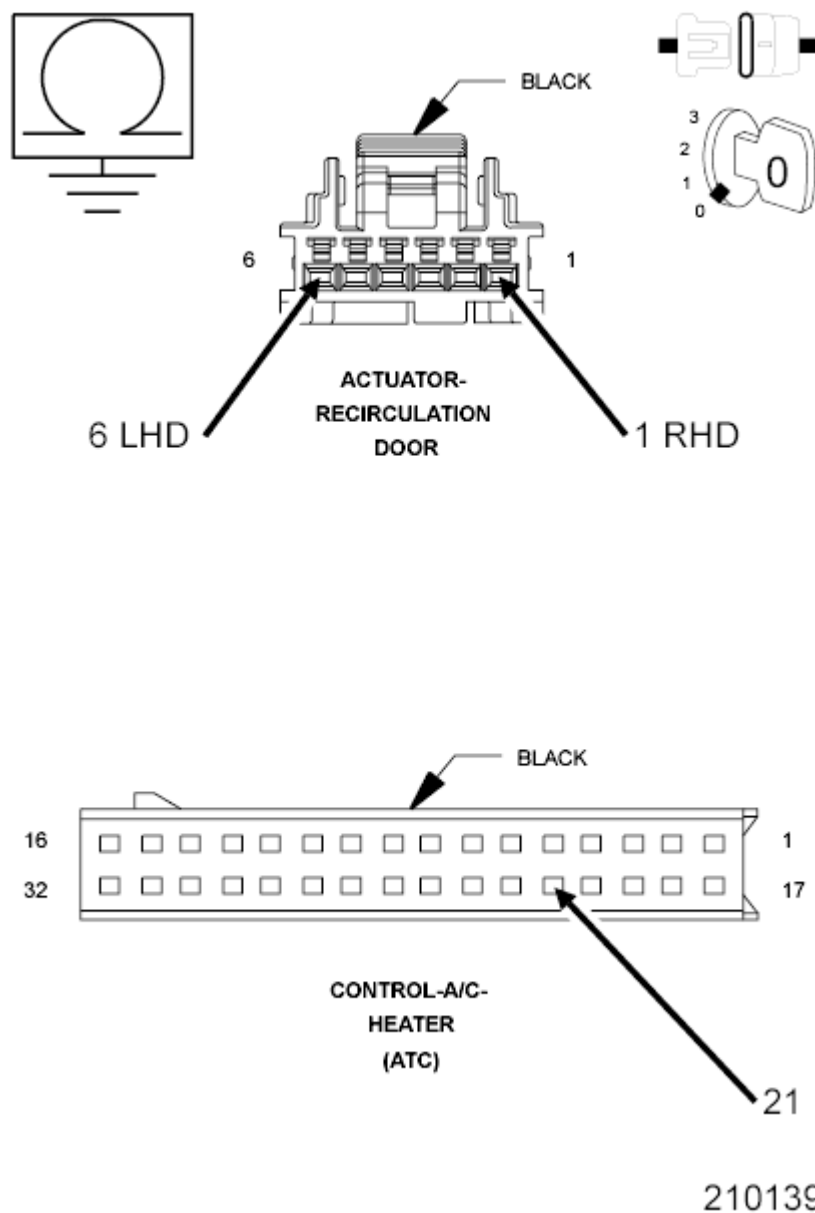
Yes

- Repair the (C32) Recirculation Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 6

6. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR A SHORT TO GROUND



2101395

Fig. 62: Checking Common Door Driver 2 Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Measure the resistance between ground and the (C807) Common Door Driver 2 circuit.

Is the resistance below 100k Ohms?

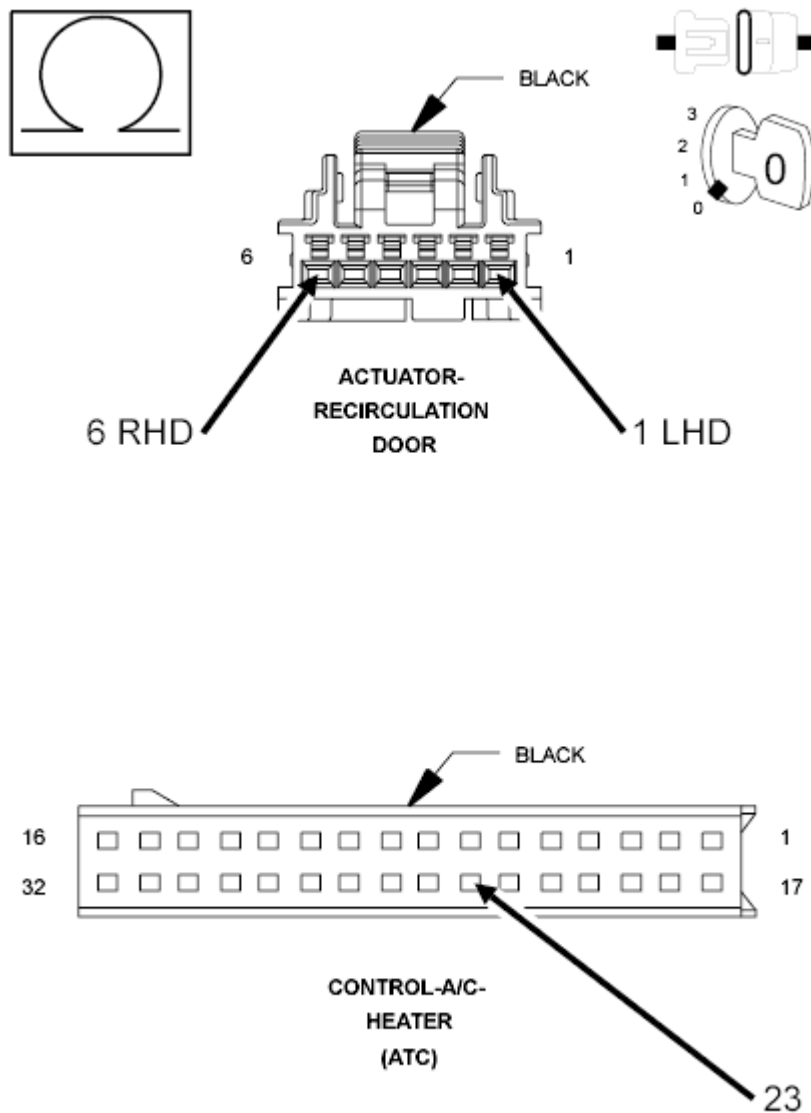
Yes

- Repair the (C807) Common Door Driver 2 circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go To step 7

7. CHECK THE (C32) RECIRCULATION DOOR DRIVER CIRCUIT FOR AN OPEN



2101406

Fig. 63: Checking Recirculation Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C32) Recirculation Door Driver circuit between the A/C Heater Control harness connector and the Recirculation Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

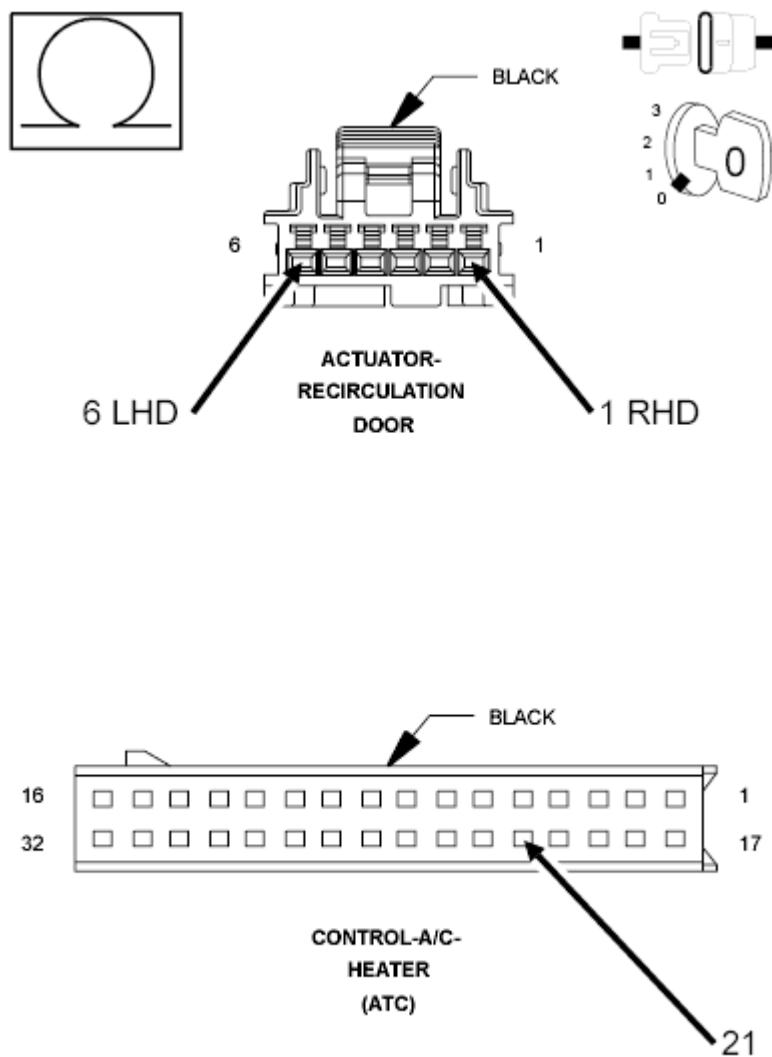
Yes

- Go to step 8

No

- Repair the (C32) Recirculation Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

8. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR AN OPEN



2101430

Fig. 64: Checking Common Door Driver 2 Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C807) Common Door Driver 2 circuit between the A/C Heater Control harness connector and the Recirculation Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go To step 9

No

- Repair the (C807) Common Door Driver 2 circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE RECIRCULATION DOOR

1. Remove the Recirculation Door Actuator and check the Recirculation Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Recirculation Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 10

10. CHECK THE RECIRCULATION DOOR ACTUATOR

1. Replace the Recirculation Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

11. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B105C-RECIRCULATION DOOR TRAVEL RANGE TOO SMALL

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is less than what the

controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes

RELATED DTCS PRESENT
RECIRCULATION DOOR BINDING
RECIRCULATION DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Are there any Door Control Circuit DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE RECIRCULATION DOOR

1. Remove the Recirculation Door Actuator and check the Recirculation Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Recirculation Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE RECIRCULATION DOOR ACTUATOR

1. Replace the Recirculation Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs.
3. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC reset during HVAC Actuator Calibration Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.

2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B105D-RECIRCULATION DOOR TRAVEL RANGE TOO LARGE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar DTCs can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is greater than what the controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed or during normal operation and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes

RELATED DTCS PRESENT
RECIRCULATION DOOR STOPS
RECIRCULATION DOOR
RECIRCULATION DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Are there any Door Control Circuit DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC System Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE RECIRCULATION DOOR

1. Remove the Recirculation Door Actuator and check the Recirculation Door stops, linkage (stripped or cracked) and door.

Were there any problems found?

Yes

- Repair or replace the Recirculation Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE RECIRCULATION DOOR ACTUATOR

1. Replace the Recirculation Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.

3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B10A6-LEFT BLEND DOOR 1 TRAVEL TOO SMALL

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar DTCs can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is less than what the controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
RELATED DTCS PRESENT
BLEND DOOR BINDING
BLEND DOOR ACTUATOR

A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Are there any Door Control Circuit DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE BLEND DOOR

1. Remove the Blend Door Actuator and check the Blend Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE BLEND DOOR ACTUATOR

1. Replace the Blend Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs.
3. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC reset during HVAC Actuator Calibration Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B10A7-LEFT BLEND DOOR TRAVEL TOO LARGE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar DTCs can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

The A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. If the amount of pulses required to move the door completely in both directions is greater than what the controller has stored in its memory, this DTC will set. If an Actuator Calibration Test is performed or during normal operation and the A/C Heater Control detects a valid range of the door movement span in both directions, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
RELATED DTCS PRESENT
BLEND DOOR STOPS
BLEND DOOR
BLEND DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Are there any Door Control Circuit DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC System Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE BLEND DOOR

1. Remove the Blend Door Actuator and check the Blend Door stops, linkage (stripped or cracked) and door.

Were there any problems found?

Yes

- Repair or replace the Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE BLEND DOOR ACTUATOR

1. Replace the Blend Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B10A8-LEFT BLEND DOOR ACTUATOR PERFORMANCE

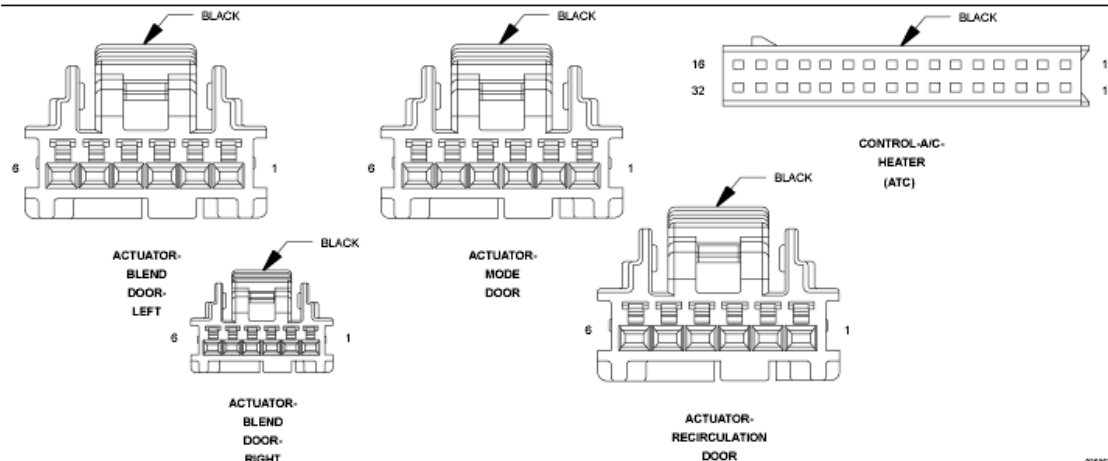
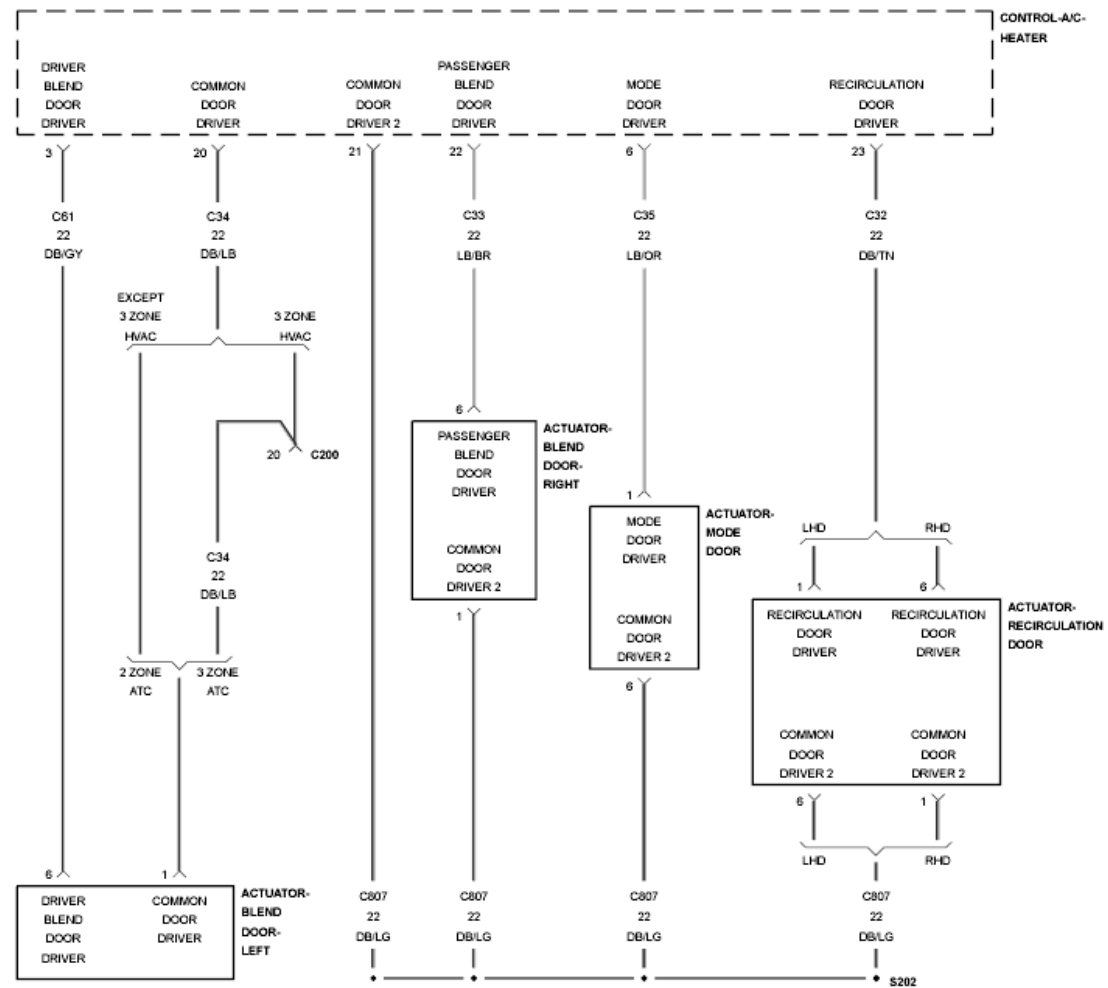


Fig. 65: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

With the ignition on and an actuator movement is commanded by the A/C Heater Control or during an HVAC Actuator Calibration Test.

- **Set Condition:**

If an actuator move is commanded by A/C Heater Control and door movement is detected in only one direction in either a clockwise or counterclockwise movement. If the A/C Heater Control detects valid movement in both directions the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C61) DRIVER BLEND DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C61) DRIVER BLEND DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C61) DRIVER BLEND DOOR DRIVER CIRCUIT OPEN
(C34) COMMON DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C34) COMMON DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C34) COMMON DOOR DRIVER OPEN
LEFT BLEND DOOR BINDING
LEFT BLEND DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.

2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 3

No

- Go to step 2

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 3

No

- Go to step 11

3. CHECK THE (C61) DRIVER BLEND DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE

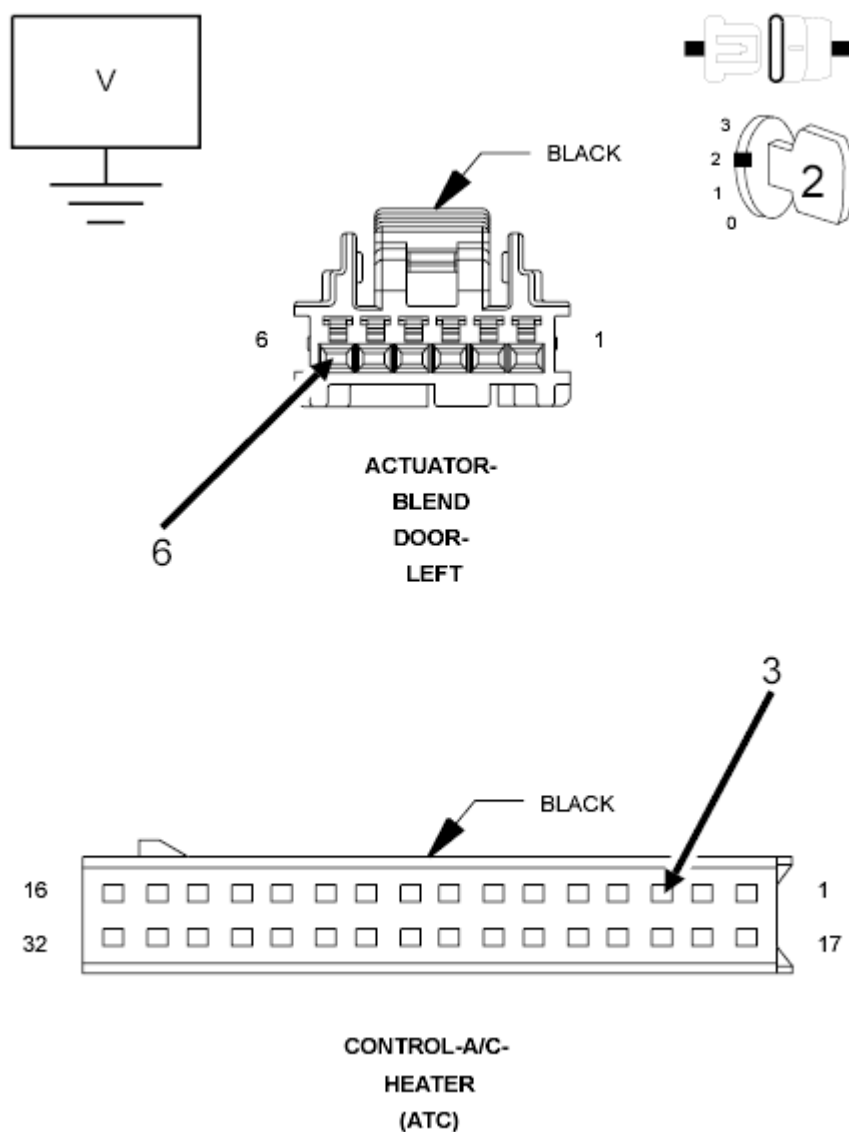


Fig. 66: Checking Driver Blend Door Driver Circuit For A Short To Voltage

Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Left Blend Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C61) Driver Blend Door Driver circuit.

Is there any voltage present?

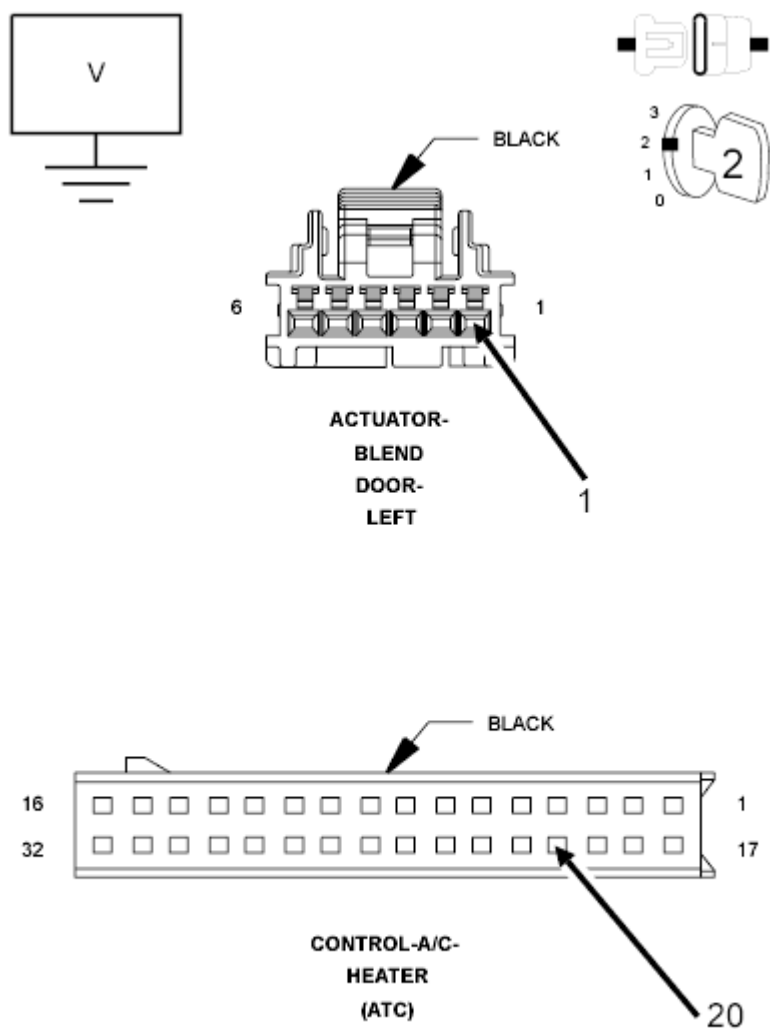
Yes

- Repair the (C61) Driver Blend Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. **CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE**



2096700

Fig. 67: Checking Common Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Measure the voltage of the (C34) Common Door Driver circuit.

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Is there any voltage present?

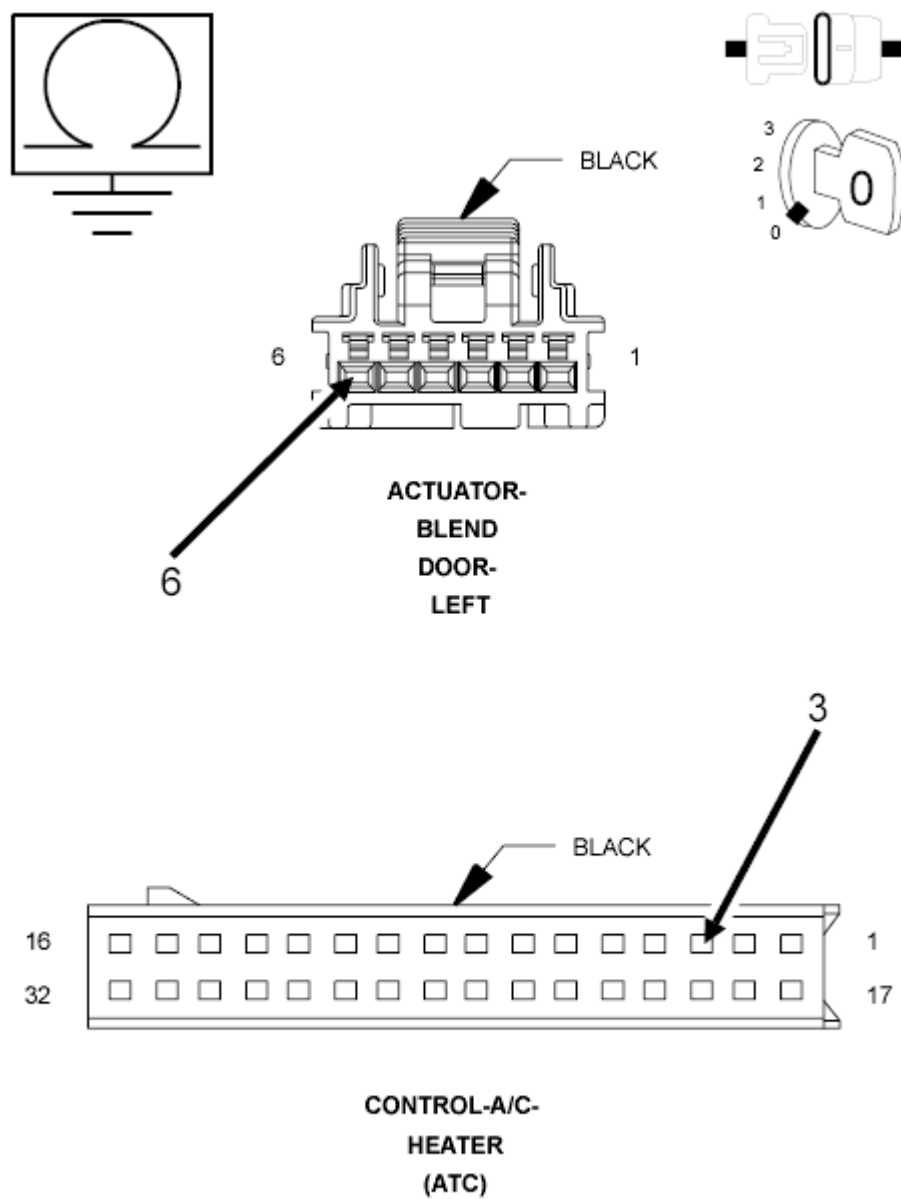
Yes

- Repair the (C34) Common Door Driver circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C61) DRIVER BLEND DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND



2096952

Fig. 68: Checking Driver Blend Door Driver Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance between ground and the (C61) Driver Blend Door Driver circuit.

Is the resistance below 100k Ohms?

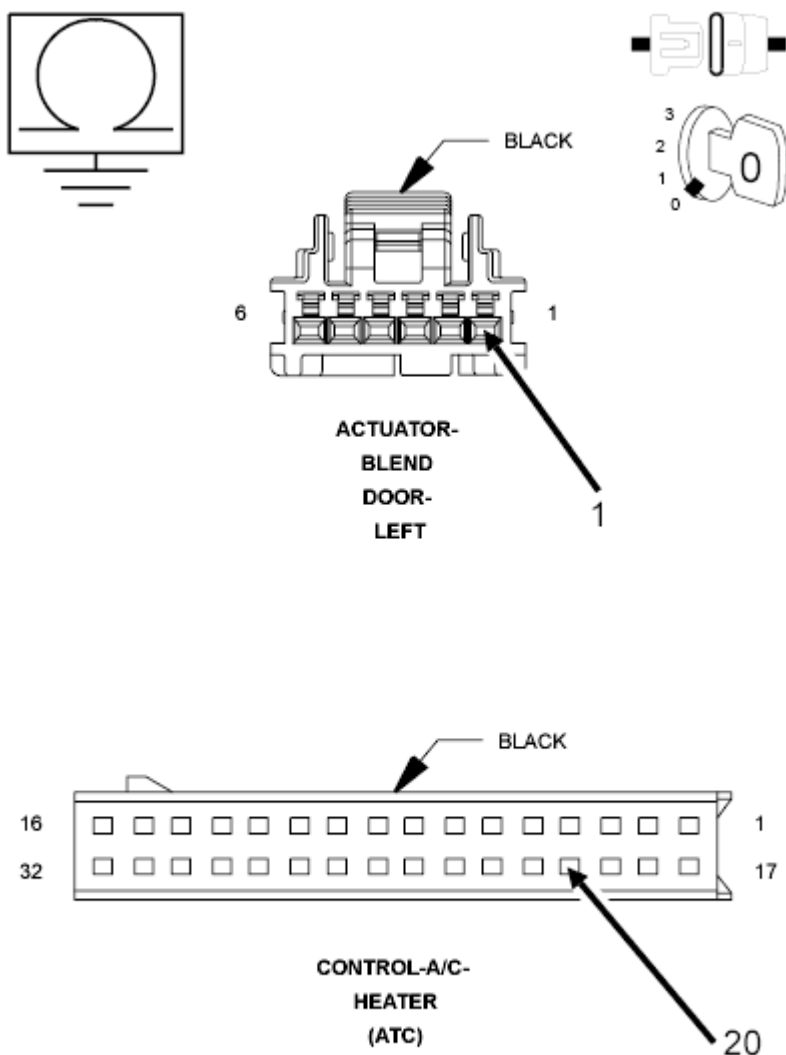
Yes

- Repair the (C61) Driver Blend Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 6

6. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND



2096964

Fig. 69: Checking Common Door Driver Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

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1. Measure the resistance between ground and the (C34) Common Door Driver circuit.

Is the resistance below 100k Ohms?

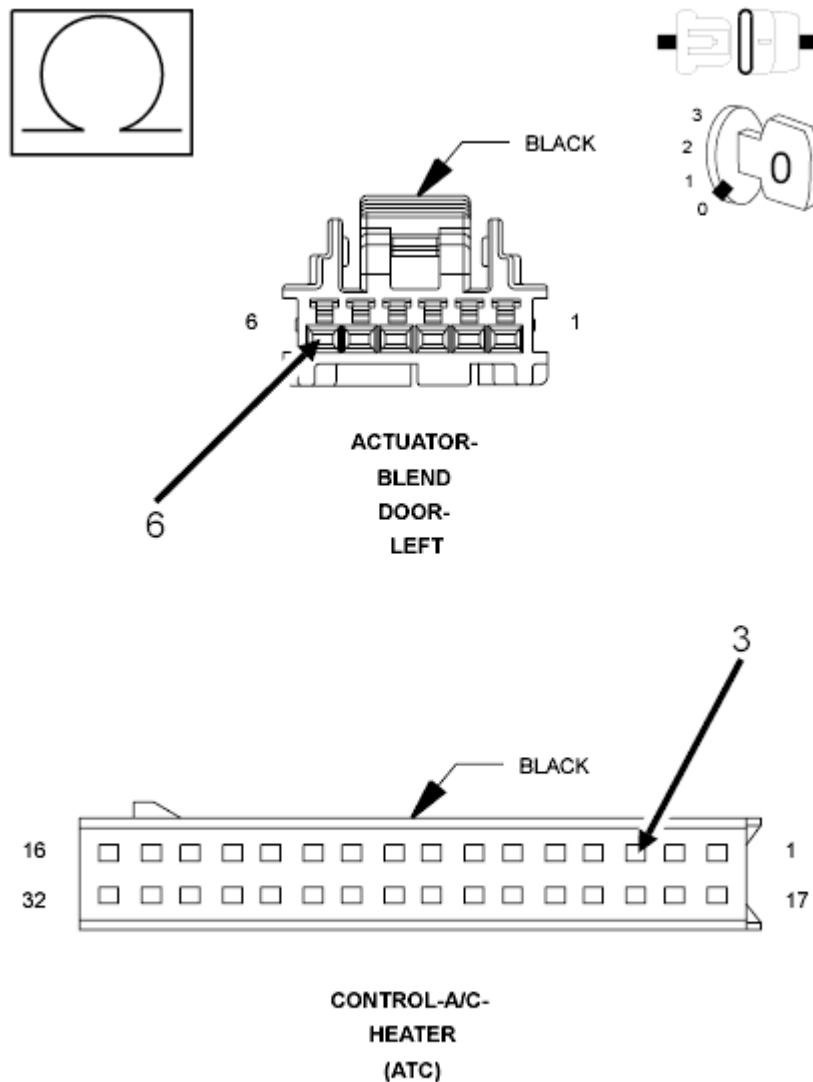
Yes

- Repair the (C34) Common Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 7

7. **CHECK THE (C61) DRIVER BLEND DOOR DRIVER CIRCUIT FOR AN OPEN**



2101471

Fig. 70: Checking Driver Blend Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C61) Driver Blend Door Driver circuit between the A/C Heater Control harness connector and the Left Blend Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

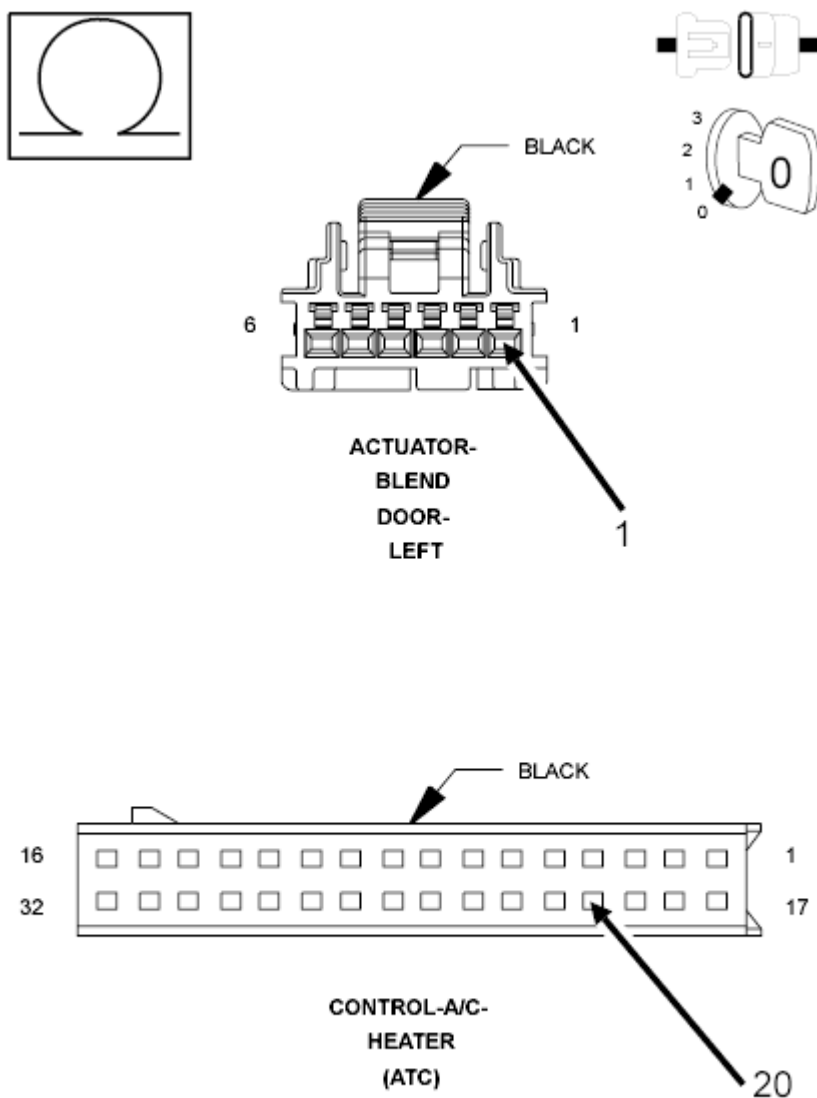
Yes

- Go to step 8

No

- Repair the (C61) Driver Blend Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

8. CHECK THE (C34) COMMON DOOR DRIVER CIRCUIT FOR AN OPEN



2101483

Fig. 71: Checking Common Door Driver Circuit For An Open

Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C34) Common Door Driver circuit between the A/C Heater Control harness connector and the Left Blend Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 9

No

- Repair the (C34) Common Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE LEFT BLEND DOOR

1. Remove the Left Blend Door Actuator and check the Left Blend Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Left Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 10

10. CHECK THE LEFT BLEND DOOR ACTUATOR

1. Replace the Left Blend Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

11. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B10AD-RIGHT BLEND DOOR TRAVEL TOO SMALL

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar DTCs can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

When an Actuator Calibration Test is performed the A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. This DTC will set If the amount of pulses required to move the door completely in both directions is less than what the controller has stored in its memory. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid pulse feedback in both directions, this DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

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Possible Causes

RELATED DTCS PRESENT
RIGHT BLEND DOOR BINDING
RIGHT BLEND DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK FOR RELATED DTCS

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Are there any Door Control Circuit DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE RIGHT BLEND DOOR

1. Remove the Right Blend Door Actuator and check the Right Blend Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Right Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Go to step 5

5. CHECK THE RIGHT BLEND DOOR ACTUATOR AND A/C HEATER CONTROL

1. Replace the Right Blend Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors

for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.

4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B10AE-RIGHT BLEND DOOR TRAVEL TOO LARGE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of a Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar DTCs can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

Continuously when a door moment is commanded or when ever an Actuator Calibration Test is performed.

- **Set Condition:**

When an Actuator Calibration Test is performed the A/C Heater Control uses a pulse feedback to the controller to detect the total door movement range. This DTC will set If the amount of pulses required to move the door completely in both directions is greater than what the controller has stored in its memory. If an Actuator Calibration Test is performed and the A/C Heater Control detects a valid pulse feedback in both directions, this DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
RELATED DTCS PRESENT RIGHT BLEND DOOR STOPS

RIGHT BLEND DOOR
RIGHT BLEND DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CHECK FOR RELATED DTCS**

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCS.

Is there any Door Control Circuit DTCS also present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCS.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 3

3. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. With the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC System Test?

Yes

- Go to step 4

No

- Go to step 6

4. CHECK THE RIGHT BLEND DOOR

1. Remove the Right Blend Door Actuator and check the Right Blend Door stops, linkage (stripped or cracked) and door.

Were there any problems found?

Yes

- Repair or replace the Right Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE RIGHT BLEND DOOR ACTUATOR AND A/C HEATER CONTROL

1. Replace the Right Blend Door Actuator in accordance with the Service Information.
2. With the scan tool, erase HVAC DTCs and perform the Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

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Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B10AF-RIGHT BLEND DOOR ACTUATOR PERFORMANCE

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Theory of Operation

After the initial installation of the A/C Heater Control, the controller is calibrated to each individual blend/mode door actuator. These calibrations are stored as in the number of pulses it takes to move the door from one stop to another. The A/C Heater Control drives the Door Actuators by the use of Door Driver circuit and a Common Door Driver circuit and monitors all door actuator pulses to detect door movement in both directions. Most of the door actuators share a common door driver circuit but each door actuator has its own unique driver circuit. Due to shared circuitry, similar Diagnostic trouble Codes (DTCs) can set at the same time for multiple actuators depending upon the type of circuit malfunction, its location, and the direction the actuator is moving when the malfunction is present.

- **When Monitored:**

With the ignition on and an actuator movement is commanded by the A/C Heater Control or during an HVAC Actuator Calibration Test.

- **Set Condition:**

If an actuator move is commanded by A/C Heater Control and door movement is detected in only one direction in either a clockwise or counterclockwise movement. If the A/C Heater Control detects valid movement in both directions the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C33) PASSENGER BLEND DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C33) PASSENGER BLEND DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C33) PASSENGER BLEND DOOR DRIVER CIRCUIT OPEN
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
(C807) COMMON DOOR DRIVER 2 OPEN
RIGHT BLEND DOOR BINDING
RIGHT BLEND DOOR ACTUATOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 3

No

- Go to step 2

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

1. Using the scan tool, perform the HVAC Actuator Calibration Test.

Did this DTC change from Stored to Active while performing the HVAC Actuator Calibration Test?

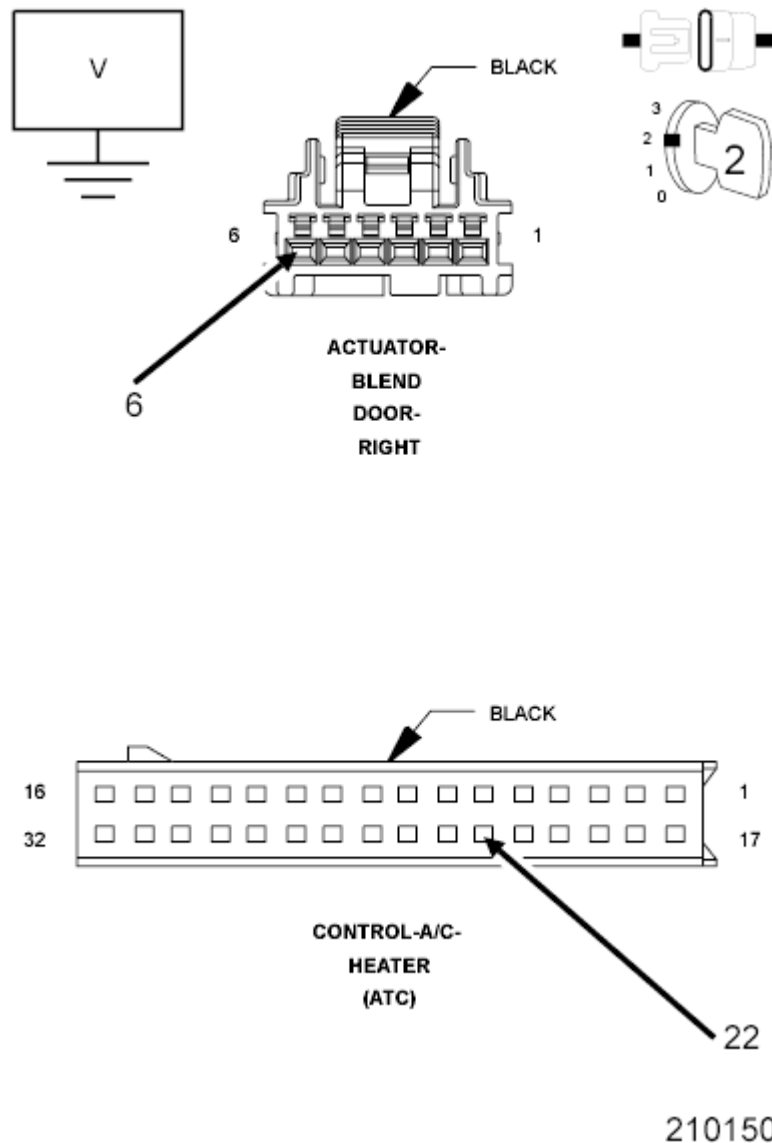
Yes

- Go to step 3

No

- Go to step 11

3. CHECK THE (C33) PASSENGER BLEND DOOR DRIVER CIRCUIT FOR A SHORT TO VOLTAGE



2101500

Fig. 73: Checking Passenger Blend Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Right Blend Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C33) Passenger Blend Door Driver circuit.

Is there any voltage present?

Yes

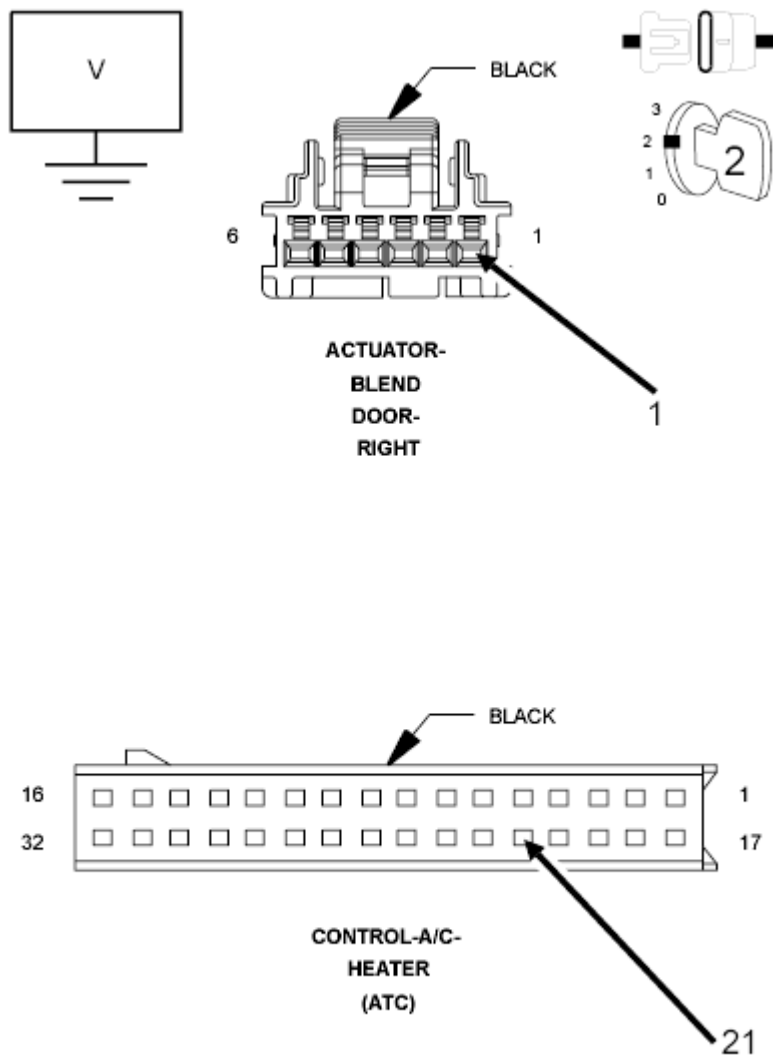
- Repair the (C33) Passenger Blend Door Driver circuit for a short to voltage.

- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 4

4. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR A SHORT TO VOLTAGE



2101530

Fig. 74: Checking Common Door Driver 2 Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

1. Measure the voltage of the (C807) Common Door Driver 2 circuit.

Is there any voltage present?

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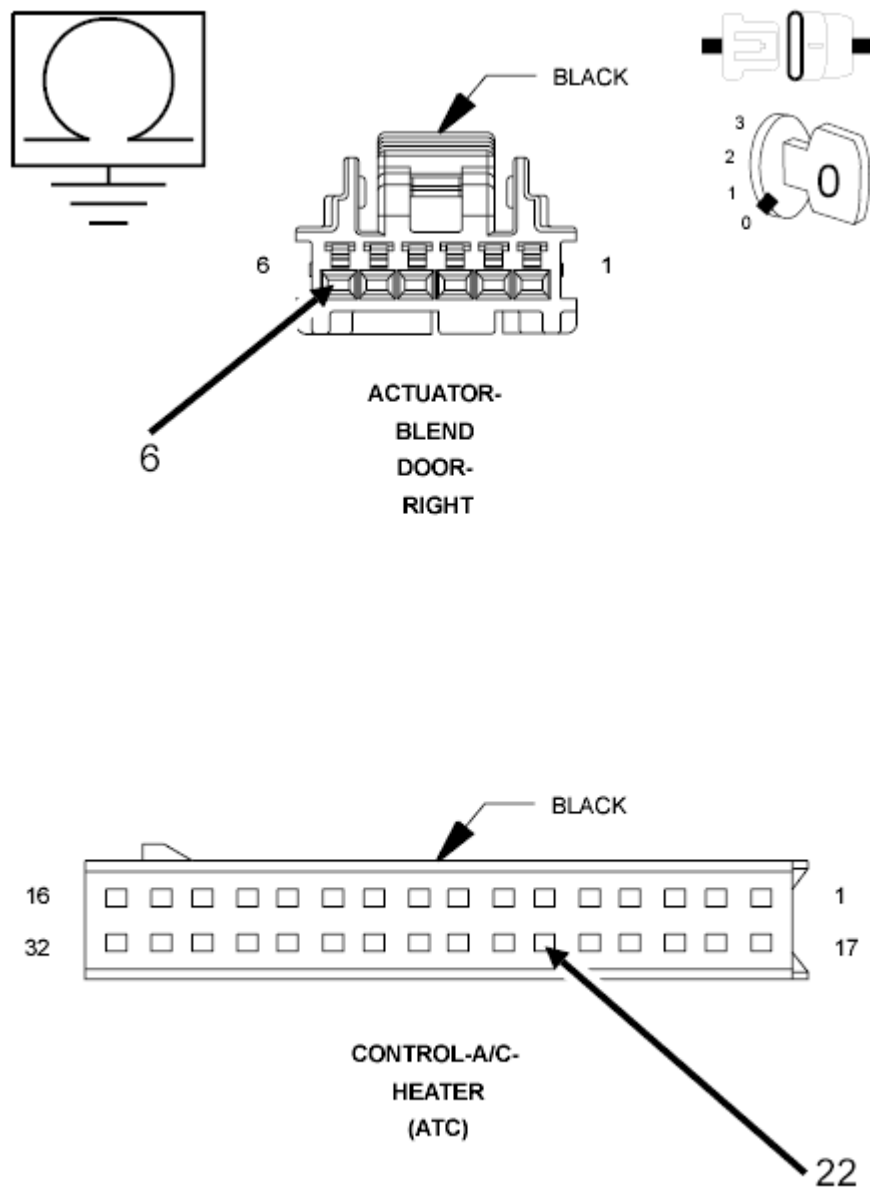
Yes

- Repair the (C807) Common Door Driver 2 circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C33) PASSENGER BLEND DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND



2101541

Fig. 75: Checking Passenger Blend Door Driver Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance between ground and the (C33) Passenger Blend Door Driver circuit.

Is the resistance below 100k Ohms?

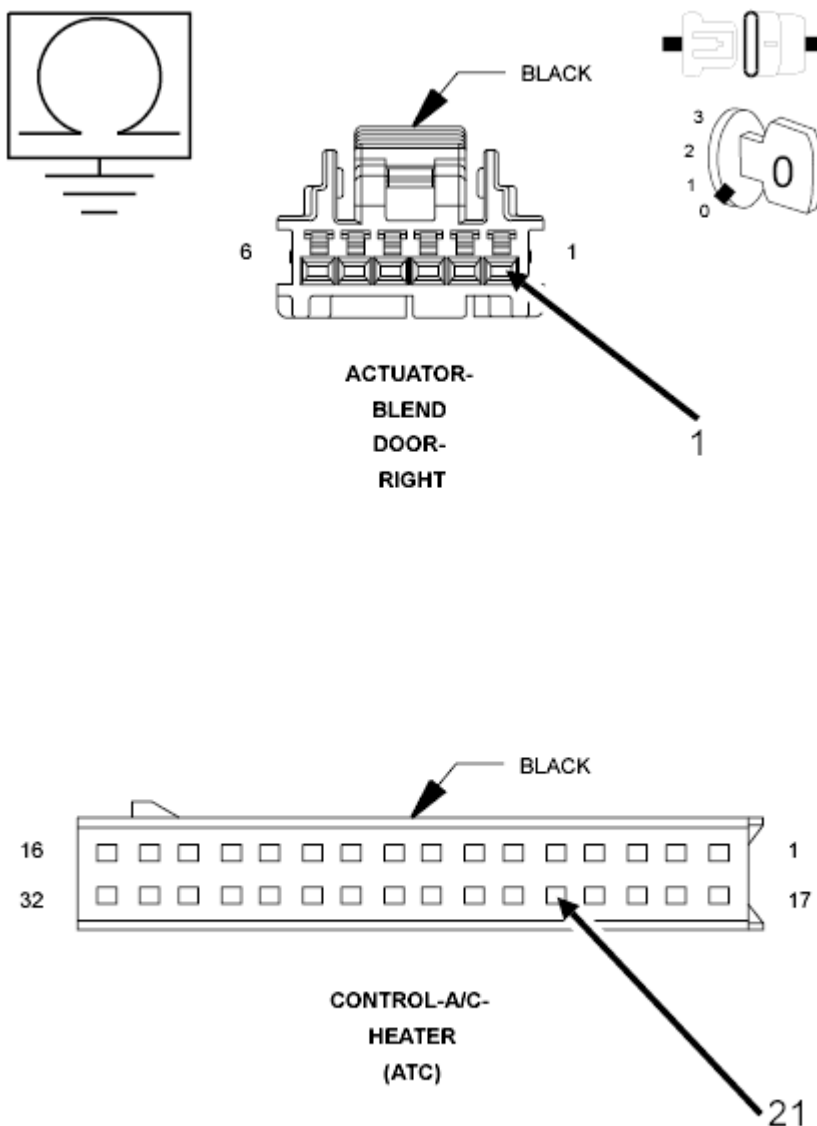
Yes

- Repair the (C33) Passenger Blend Door Driver circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 6

6. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR A SHORT TO GROUND



2101553

Fig. 76: Checking Common Door Driver 2 Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

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1. Measure the resistance between ground and the (C807) Common Door Driver 2 circuit.

Is the resistance below 100k Ohms?

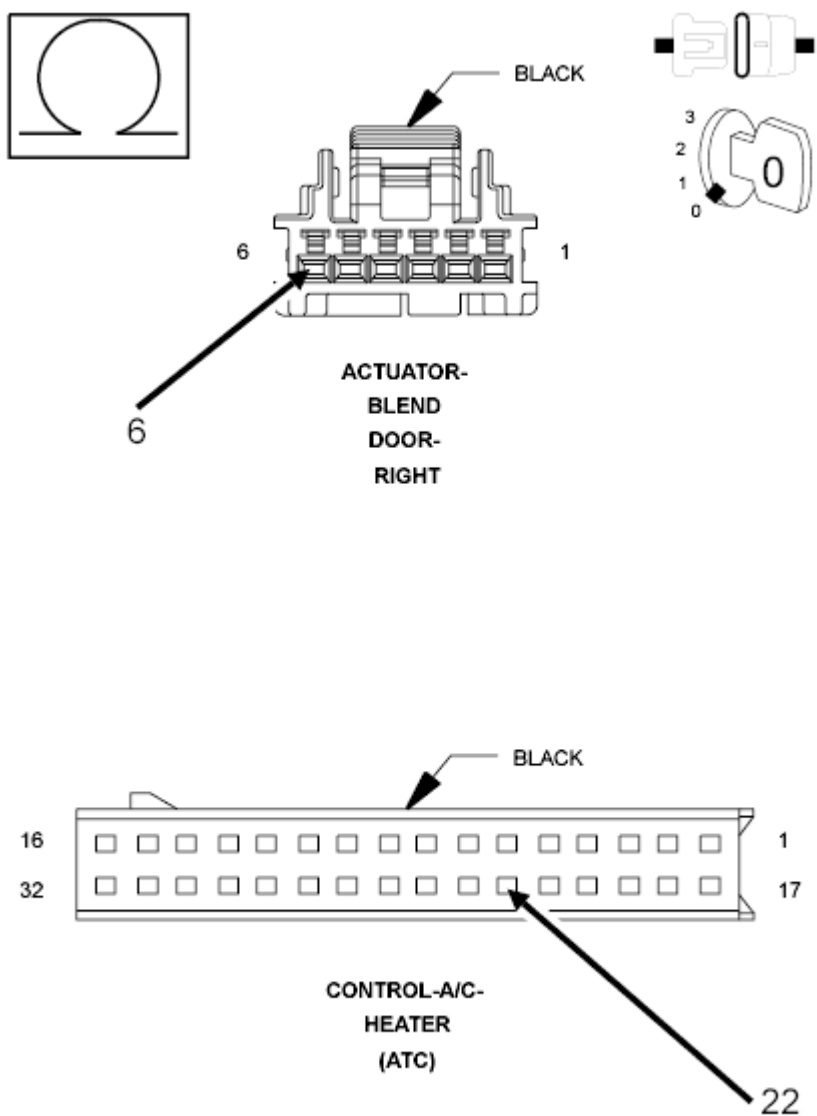
Yes

- Repair the (C807) Common Door Driver 2 circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 7

7. **CHECK THE (C33) PASSENGER BLEND DOOR DRIVER CIRCUIT FOR AN OPEN**



2101565

Fig. 77: Checking Passenger Blend Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C33) Passenger Blend Door Driver circuit between the A/C Heater Control harness connector and the Right Blend Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 8

No

- Repair the (C33) Passenger Blend Door Driver circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

8. CHECK THE (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR AN OPEN

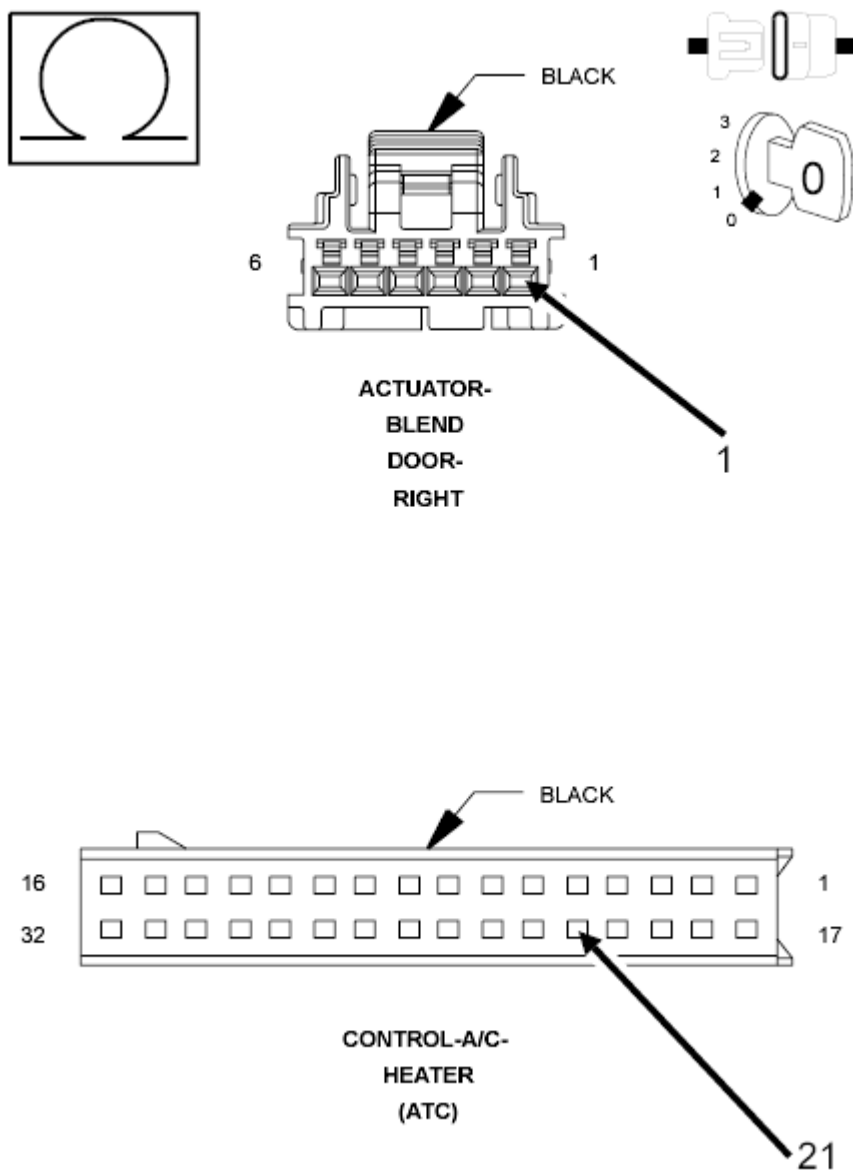


Fig. 78: Checking Common Door Driver 2 Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C807) Common Door Driver 2 circuit between the A/C Heater Control harness connector and the Right Blend Door Actuator harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 9

No

- Repair the (C807) Common Door Driver 2 circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE RIGHT BLEND DOOR

1. Remove the Right Blend Door Actuator and check the Right Blend Door for binding and full travel.

Were there any problems found?

Yes

- Repair or replace the Right Blend Door as necessary in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 10

10. CHECK THE RIGHT BLEND DOOR ACTUATOR

1. Replace the Right Blend Door Actuator in accordance with the Service Information.
2. Using the scan tool, erase HVAC DTCs and perform the HVAC Actuator Calibration Test.

Did this DTC reset?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

11. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B10B2-A/C COOL DOWN TEST PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The A/C Heater Controller has software to enable it to perform an A/C Cool Down Test by a command using a scan tool. This test checks for evaporator temperature drop over a predetermined time. If the test fails, this DTC will set. However, certain test conditions are required to perform this test. Failure to run this test within those parameters can result in failure of the test.

• When Monitored:

With ever an A/C Cool Down Test is performed.

• Set Condition:

This DTC is set whenever the A/C Cool Down Test is performed and the desired temperature drop is not achieved by the system. The DTC will go to stored after a successful A/C Cool Down Test.

Possible Causes
A/C SYSTEM WORKING IMPROPERLY

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. CONDITIONS FOR A/C COOL DOWN TEST**

1. The following condition must be met before running the A/C Cool Down test.
 - No Powertrain Control Module (PCM) DTCs present.
 - Condenser cooling fan working properly.
 - No active HVAC evaporator temperature sensor, sun sensor, recirculation, mode, or blend door actuator DTCs present.
 - The refrigerant system must be fully charged.
 - The blower motor must operate correctly in all speeds.
 - The evaporator temperature must be above 12.7° C (55° F).
 - The A/C compressor must be turned off.
 - Blower must be on high.

B113D-REAR MODE REQUEST LOW

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey



The Rear A/C Heater Control works in conjunction with the A/C Heater Control to control the rear blower

motor, rear temperature control and rear mode control. The Rear A/C Heater Control is constantly monitored by the A/C Heater Control for proper operation. If the monitored signal circuits are out of a calibrated range a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C Heater Control detects a voltage less than 0.21 volts for 60 seconds on the Rear Mode Signal circuit. If a valid voltage is detected for 2 seconds the DTC will change from active to stored and stay in the controllers memory for 100 consecutive ignition cycles.

Possible Causes
REAR A/C HEATER CONTROL DISCONNECTED (C53) REAR MODE SIGNAL CIRCUIT SHORTED TO GROUND (C53) REAR MODE SIGNAL CIRCUIT OPEN (C800) 5 VOLT SUPPLY CIRCUIT SHORTED TO GROUND (C800) 5 VOLT SUPPLY CIRCUIT OPEN REAR A/C HEATER CONTROL A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. VERIFY THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off, wait 10 seconds, and turn the ignition on.

NOTE: Make sure the Rear Control Lockout on the A/C Heater Control is not turned on.

4. After waiting a minimum of 60 seconds, read HVAC DTCs.

Does the scan tool display this DTC as active?

Yes

- Go To 2

No

- Go to step 9

2. CHECK FOR OTHER REAR REQUEST CIRCUIT LOW DTCS

1. With the scan tool, read HVAC DTCS.

Does the scan tool also display the DTCS B1028-Rear Blower Control Request Input Circuit Low and B102E-Rear Blend Request Low as active?

Yes

- Go to step 3

No

- Go to step 6

3. CHECK THE REAR A/C HEATER CONTROL CONNECTOR

1. Check if the Rear A/C Heater Control harness connector is unplugged or not fully seated.
2. Check the Rear A/C Heater Control and harness connector for pushed out, damaged, corroded pins or terminals.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (C800) 5 VOLT SUPPLY CIRCUIT FOR SHORT TO GROUND

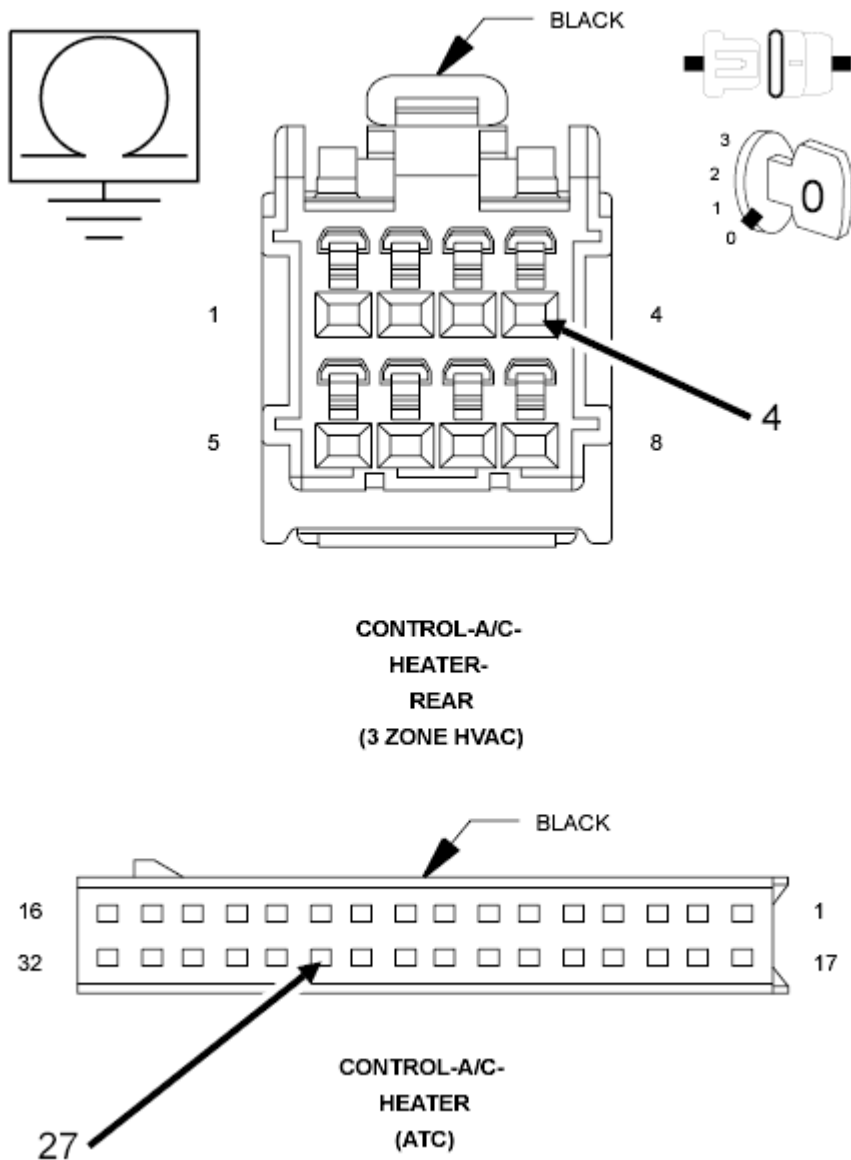


Fig. 80: Checking 5 Volt Supply Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Measure the resistance between ground and the (C800) 5 Volt Supply circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (C800) 5 Volt Supply circuit for a short to ground.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C800) 5 VOLT SUPPLY CIRCUIT FOR AN OPEN

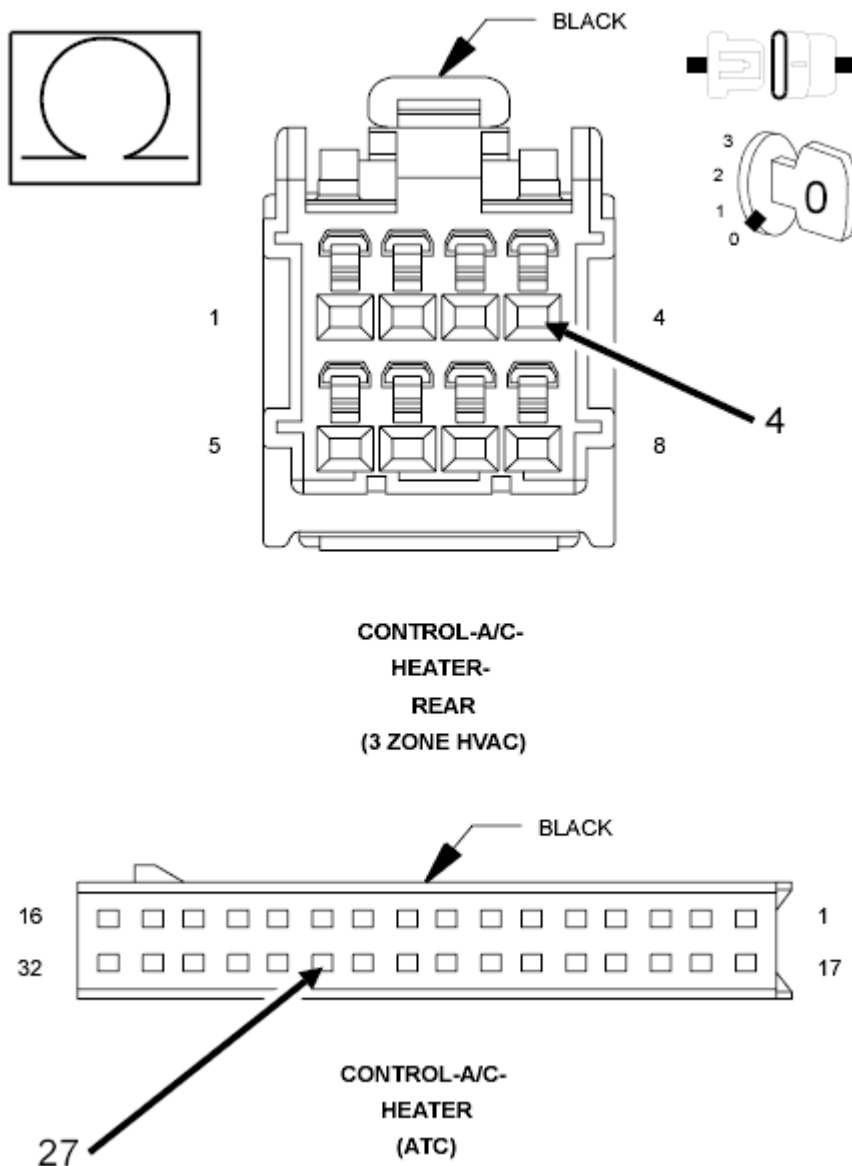


Fig. 81: Checking 5 Volt Supply Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C800) 5 Volt Supply circuit between the A/C Heater Control harness

connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 8

No

- Repair the (C800) 5 Volt Supply circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE (C53) REAR MODE SIGNAL CIRCUIT FOR A SHORT TO GROUND

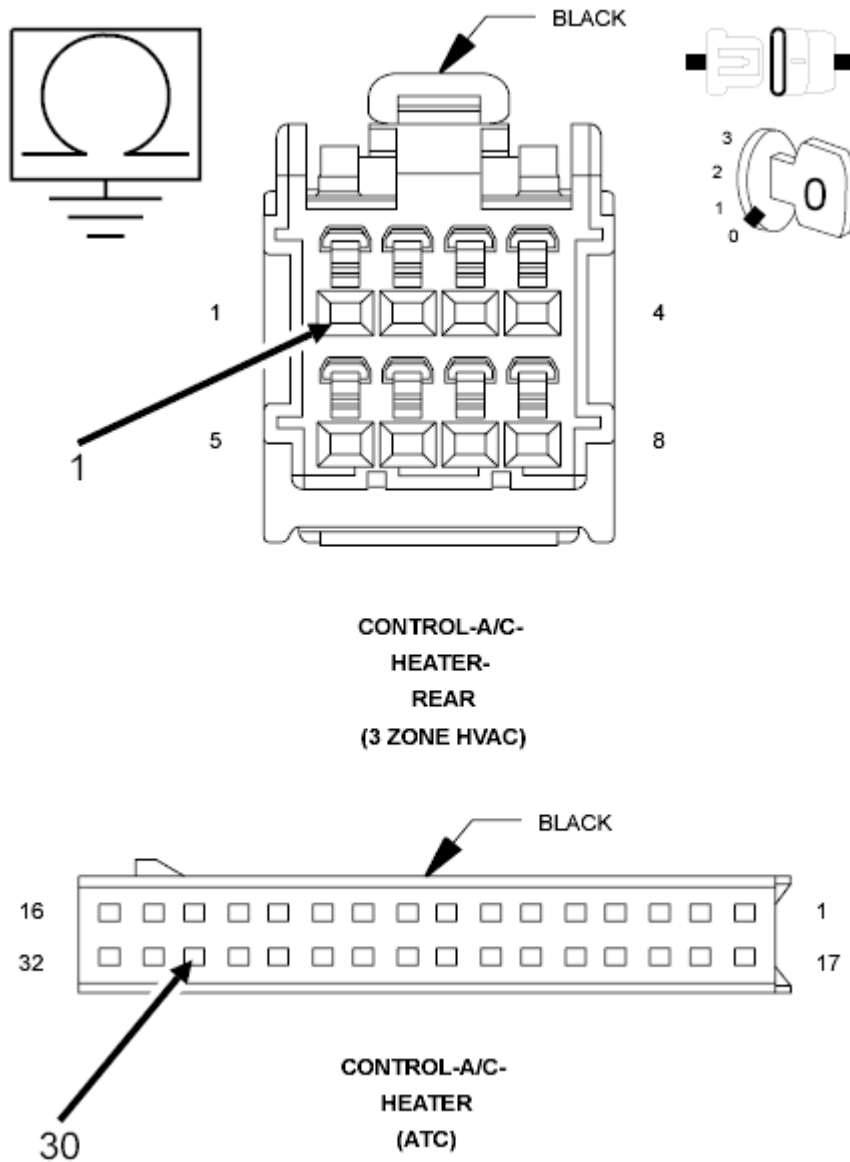


Fig. 82: Checking Rear Mode Signal Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Measure the resistance between ground and the (C53) Rear Mode Signal circuit.

Is the resistance below 100k Ohms?

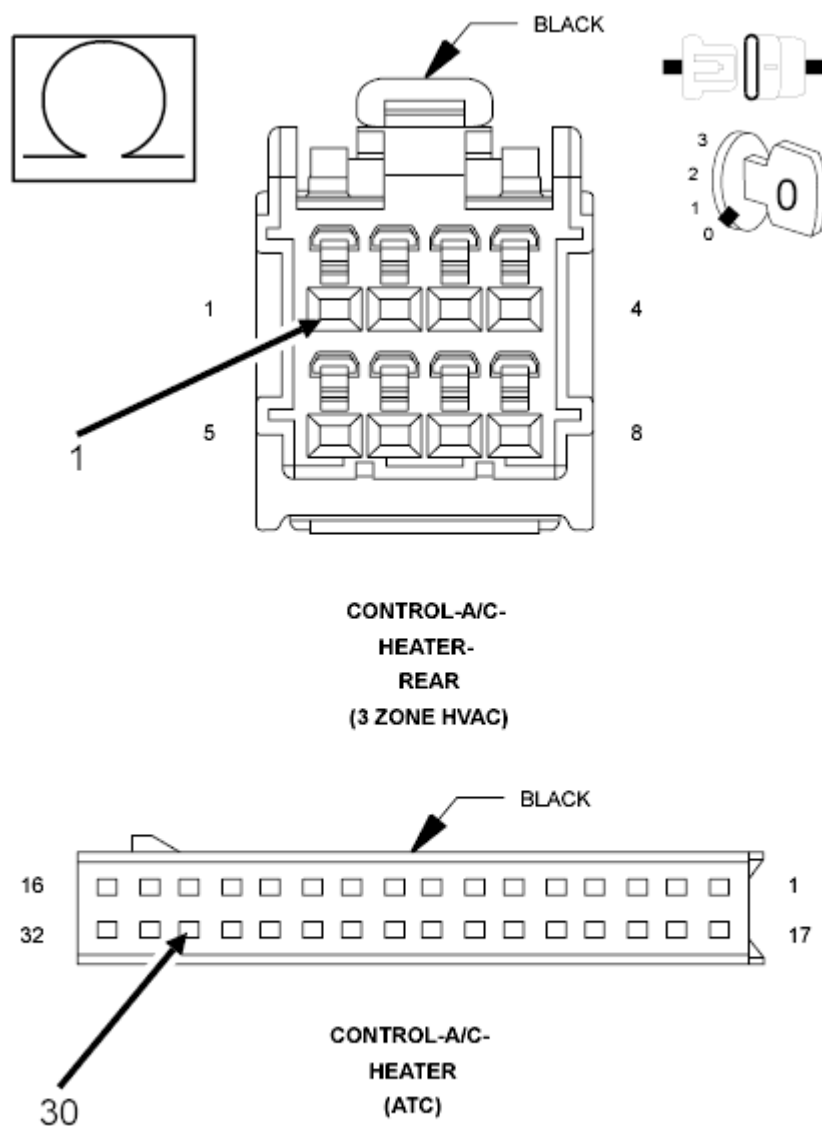
Yes

- Repair the (C53) Rear Mode Signal circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 7

7. CHECK THE (C53) REAR MODE SIGNAL CIRCUIT FOR AN OPEN



2099223

Fig. 83: Checking Rear Mode Signal Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C53) Rear Mode Signal circuit between A/C Heater Control harness connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

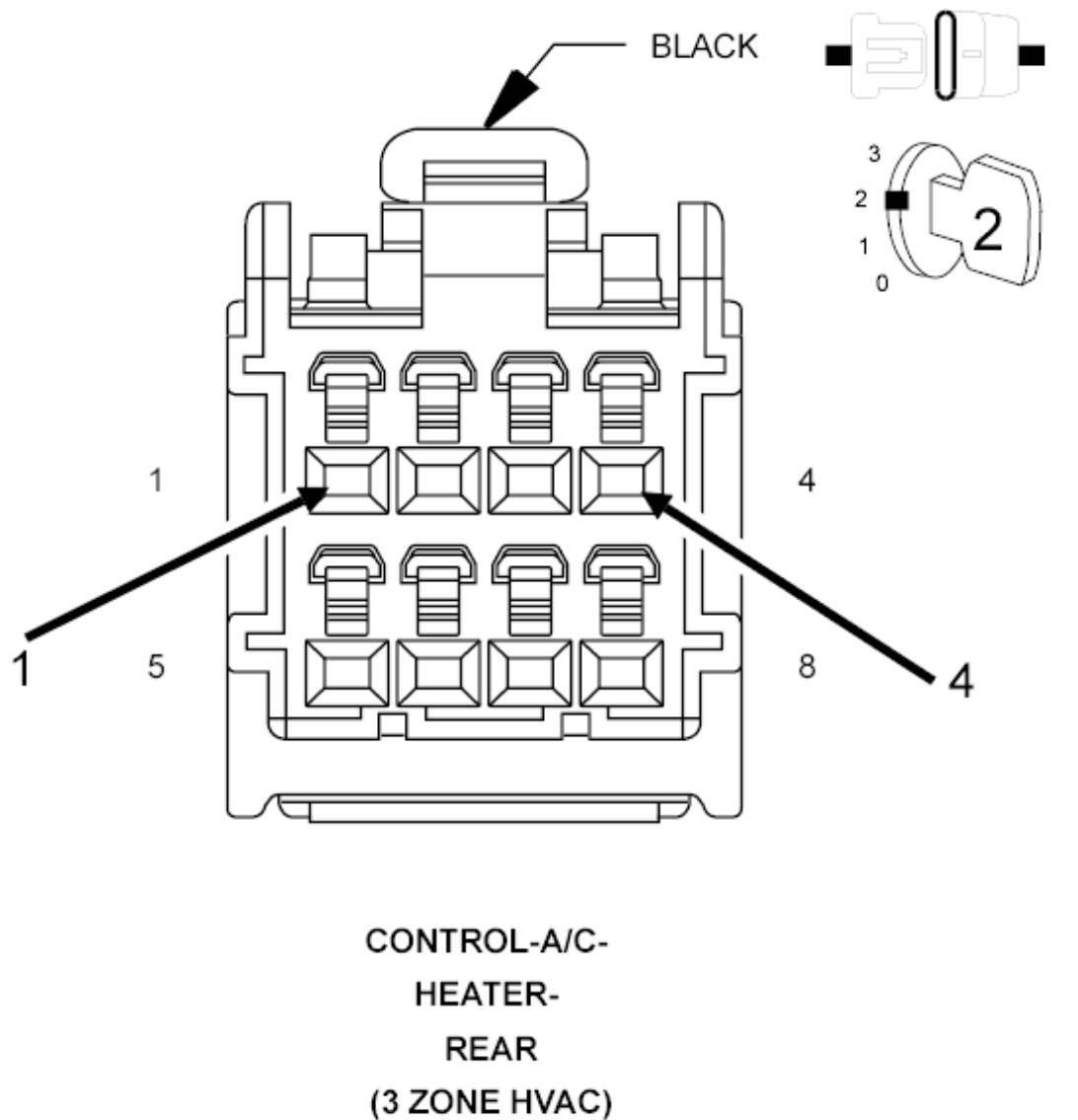
Yes

- Go to step 8

No

- Repair the (C53) Rear Mode Signal circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

8. CHECK THE HVAC CONTROL MODULES



2094055

Fig. 84: Checking HVAC Control Modules
Courtesy of CHRYSLER LLC

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off to the lock position.
4. Reconnect the A/C Heater Control harness connector.
5. Connect a jumper wire between the (C800) 5-volt Supply circuit and the (C53) Rear Mode Signal circuit in the Rear A/C Heater Control harness connector.
6. Ignition on, engine not running.
7. After waiting a minimum of 60 seconds, with the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as active?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

9. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the wiring diagrams as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B113E-REAR MODE REQUEST HIGH

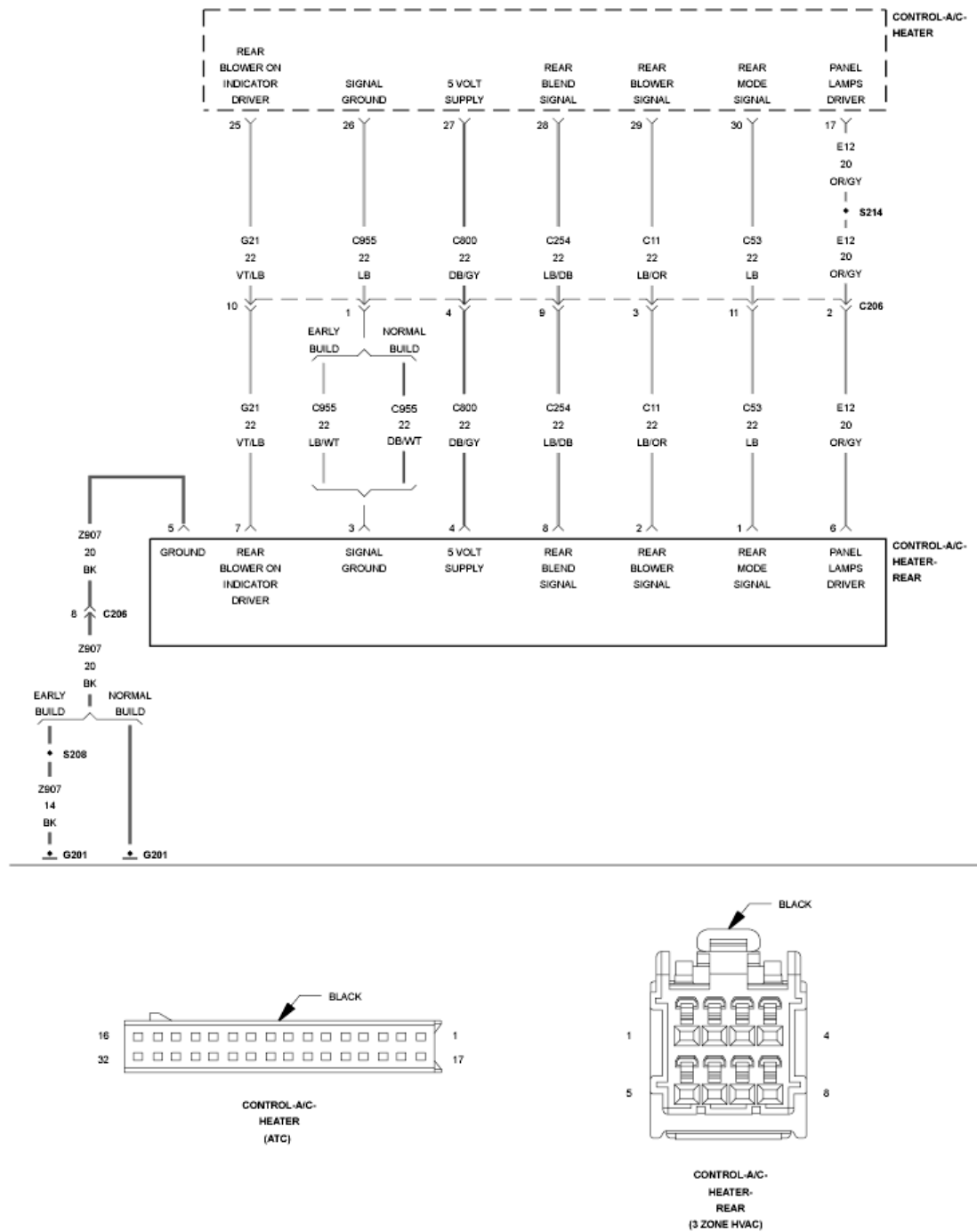


Fig. 85: Rear Blower Signal Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The Rear A/C Heater Control works in conjunction with the A/C Heater Control to control the rear blower

motor, rear temperature control and rear mode control. The Rear A/C Heater Control is constantly monitored by the A/C Heater Control for proper operation. If the monitored signal circuits are out of a calibrated range at DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C Heater Control detects the voltage is greater than 4.21 volts for 60 seconds on the Rear Mode Signal circuit. If a valid voltage is detected for 2 seconds the DTC will change from active to stored and stay in the controllers memory for 100 consecutive ignition cycles.

Possible Causes
(C53) REAR MODE SIGNAL CIRCUIT SHORTED TO VOLTAGE
(C955) SIGNAL GROUND CIRCUIT SHORTED TO VOLTAGE
(C955) SIGNAL GROUND CIRCUIT OPEN
REAR A/C HEATER CONTROL
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. VERIFY THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off, wait 10 seconds, and turn the ignition on.

NOTE: Make sure the Rear Control Lockout on the A/C Heater Control is not turned on.

4. With the scan tool, read HVAC DTCs after 60 seconds.

Does the scan tool display this DTC as active?

Yes

- Go To 2

No

- Go to step 7

2. CHECK FOR OTHER REAR REQUEST CIRCUIT HIGH DTCS

1. With the scan tool, read HVAC DTCS.

Are the DTCS B1029-Rear Blower Control Request Input Circuit High and B102F-Rear Blend Request Circuit High also present and Active?

Yes

- Go to step 3

No

- Go To 5

3. CHECK THE (C955) SIGNAL GROUND CIRCUIT FOR A SHORT TO VOLTAGE

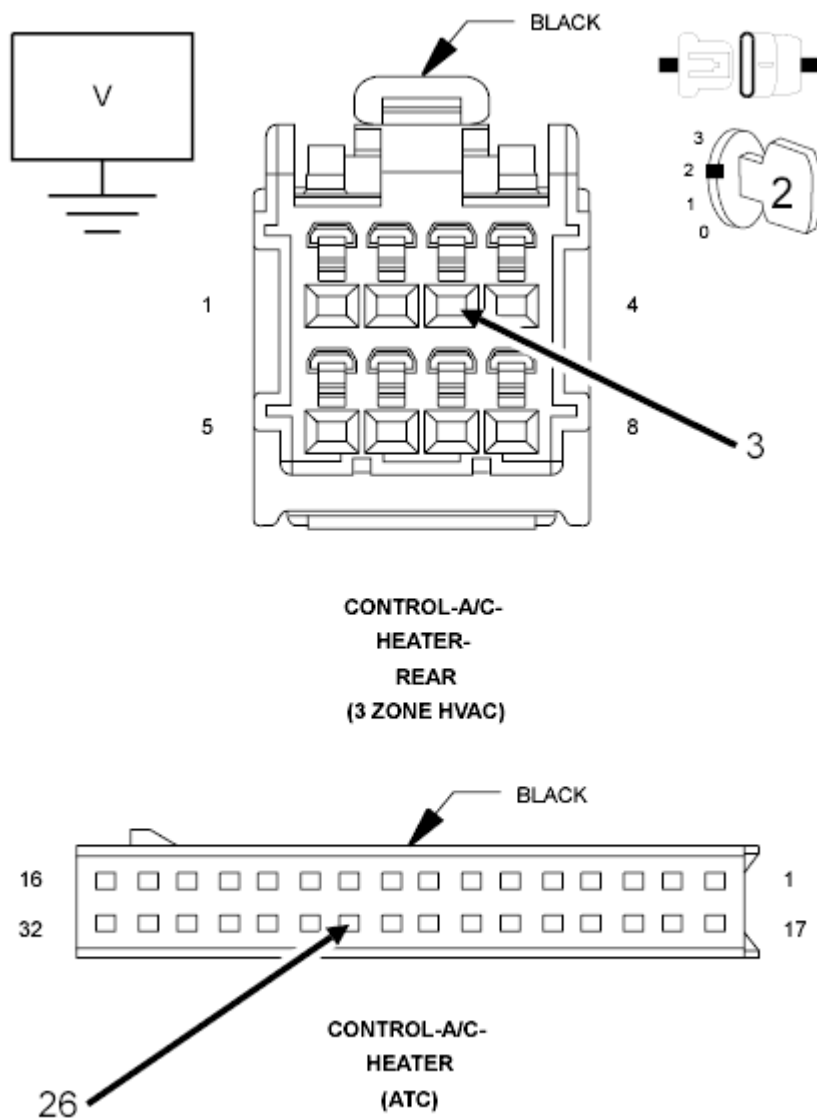


Fig. 86: Checking Signal Ground Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C955) Signal Ground circuit.

Is there any voltage present?

Yes

- Repair the (C955) Signal Ground circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (C955) SIGNAL GROUND CIRCUIT FOR AN OPEN

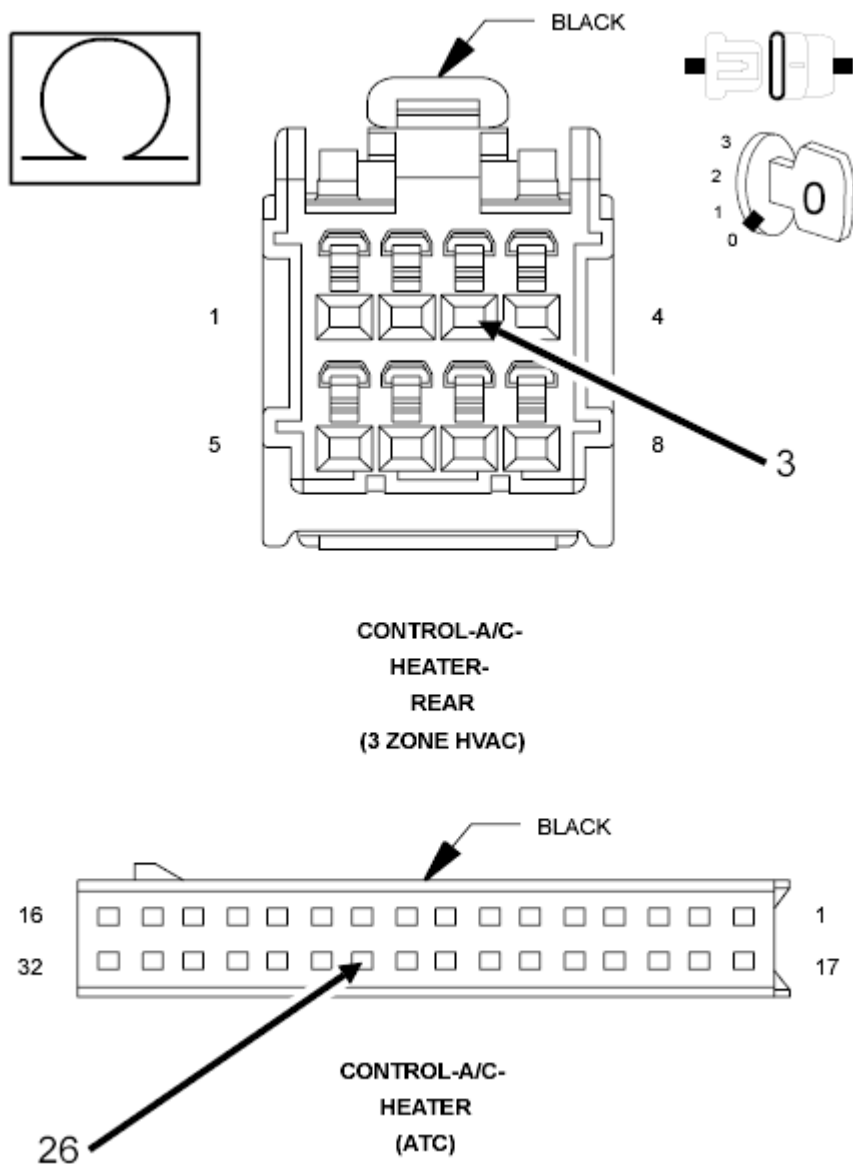


Fig. 87: Checking Signal Ground Circuit For An Open
 Courtesy of CHRYSLER LLC

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1. Turn the ignition off to the lock position.
2. Measure the resistance of the (C955) Signal Ground circuit between the A/C Heater Control harness connector and the Rear A/C Heater Control harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 6

No

- Repair the (C955) Signal Ground circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

5. CHECK THE (C53) REAR MODE SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE

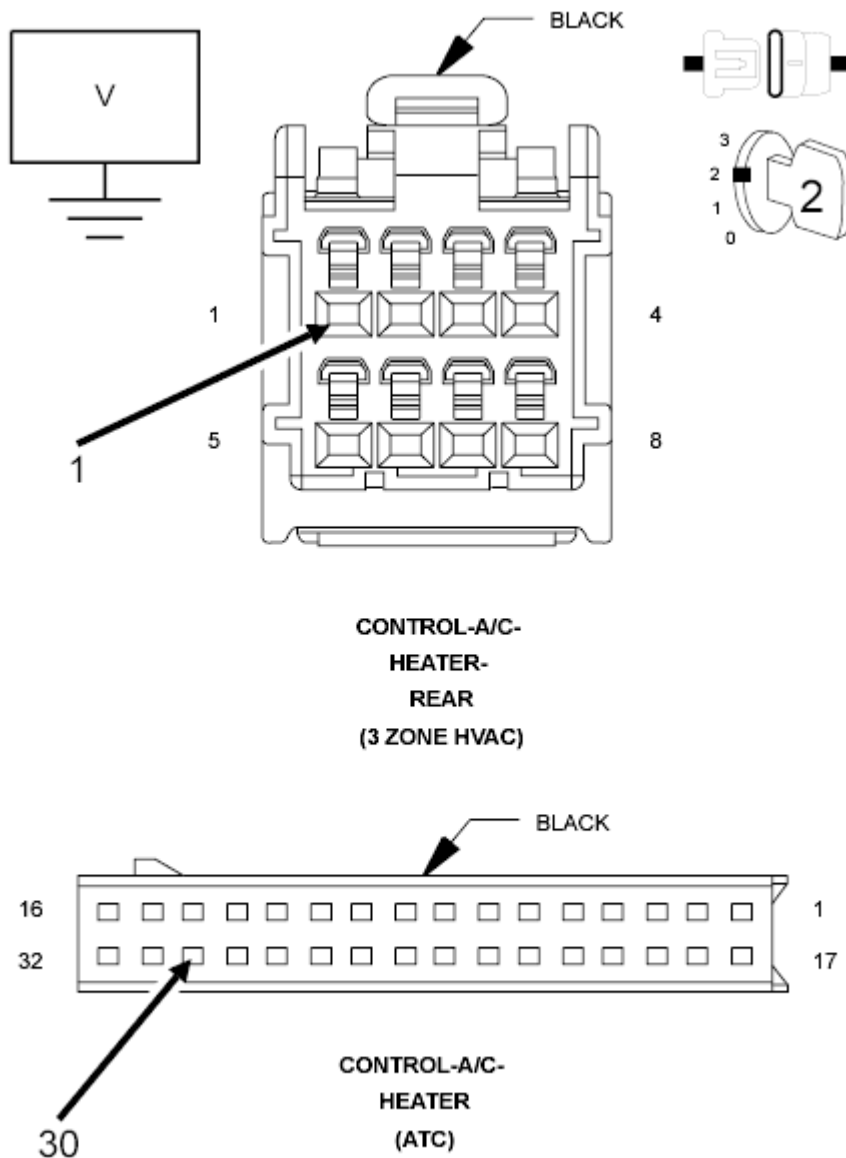


Fig. 88: Checking Rear Mode Signal Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Module harness connector.
3. Disconnect the Rear A/C Heater Control harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C53) Rear Mode Signal circuit.

Is there any voltage present?

Yes

- Repair the (C53) Rear Mode Signal circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 6

6. CHECK THE HVAC CONTROL MODULES

1. Ignition on, engine not running.
2. With the scan tool, erase HVAC DTCs.
3. Turn the ignition off to the lock position.
4. Reconnect the A/C Heater Control harness connector.

NOTE: **The Rear A/C Heater Control harness connector should still be disconnected.**

5. Ignition on, engine not running.
6. With the scan tool, read HVAC DTCs after 60 seconds.

Does the scan tool display this DTC?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

7. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B113F-REAR POWER ON/OFF SWITCH PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The HVAC A/C Heater Control and Rear A/C Heater Control contain various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Rear Power On/Off Control Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the Rear A/C Heater Control for an object or debris holding the Rear Power On/Off Control Switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control

switch.

Is the Rear Power On/Off Control Switch being held in or stuck On?

Yes

- Clean or repair the Rear A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the Rear A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1140-REAR POWER LOCK OUT SWITCH PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the

status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Rear Power Lockout Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Rear Power Lockout Switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Rear Power Lockout Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.

2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1141-CLIMATE SYNC SWITCH PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Sync Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION**

1. Inspect the A/C Heater Control for an object or debris holding the Sync Switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Sync Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

B1142-MODE UP SWITCH PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Up Mode Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION**

1. Inspect the A/C Heater Control for an object or debris holding the Up Mode Switch in an On position.

NOTE: **Using the scan tool you can read the On/Off status of the control switch.**

Is the Up Mode Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.**No**

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

B1143-MODE DOWN SWITCH PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Down Mode Switch is stuck in an On position for more than four minutes. This DTC has a de-

maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Down Mode Switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Down Mode Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

B1144-REAR MODE UP PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Rear Up Mode Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Rear Up Mode Switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control

switch.

Is the Rear Up Mode Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1145-REAR MODE DOWN SWITCH PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the

status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Rear Down Mode Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION

1. Inspect the A/C Heater Control for an object or debris holding the Rear Down Mode Switch in an On position.

NOTE: Using the scan tool you can read the On/Off status of the control switch.

Is the Rear Down Mode Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.

2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B1146-REAR BLOWER UP SWITCH PERFORMANCE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Rear Blower Up Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION**

1. Inspect the A/C Heater Control for an object or debris holding the Rear Blower Up Switch in an On position.

NOTE: **Using the scan tool you can read the On/Off status of the control switch.**

Is the Rear Blower Up Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.**B1147-REAR BLOWER DOWN SWITCH PERFORMANCE**

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control contains various switches and knobs that are used to change the systems operation. Many of the switches are momentary switches which are normally open or in the Off position and the status changes when the switch button or knob is pushed or turned. An active Diagnostic trouble Code (DTC) indicates that the switch is stuck in an On position. A stored DTC indicates that the switch was stuck in a On position for more than four minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Rear Blower Down Switch is stuck in an On position for more than four minutes. This DTC has a de-maturing time of one second. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
OBJECT HOLDING SWITCH IN AN ON POSITION A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test**1. INSPECT FOR OBJECT HOLDING SWITCH IN AN ON POSITION**

1. Inspect the A/C Heater Control for an object or debris holding the Rear Blower Down Switch in an On position.

NOTE: **Using the scan tool you can read the On/Off status of the control switch.**

Is the Rear Blower Down Switch being held in or stuck On?

Yes

- Clean or repair the A/C Heater Control as necessary. If you are unable to clean the switch to where the switch can work properly, replace the A/C Heater Control in accordance with the

Service Information.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 2

2. A/C HEATER CONTROL

1. Turn the ignition on.
2. Using the scan tool, erase HVAC DTCs.
3. Turn the ignition off for 10 seconds, and then turn the ignition on and wait a minimum of four minutes.
4. Using the scan tool, read HVAC DTCs.

Does the scan tool display this DTC as Active or is the status of the switch reading On?

Yes

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

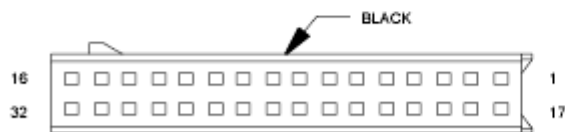
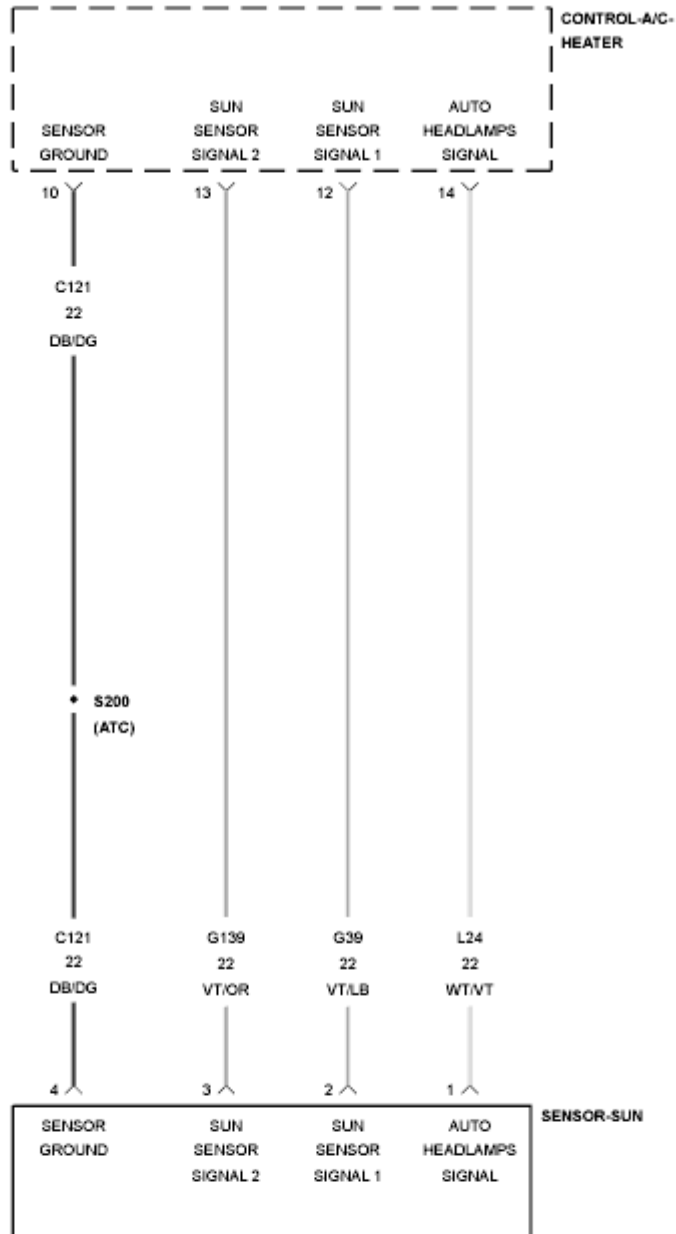
No

- Test complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

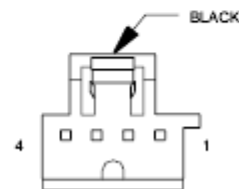
B1601-LEFT SOLAR SENSOR CIRCUIT LOW

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey



CONTROL-A/C-
HEATER
(ATC)



SENSOR-SUN

Fig. 89: Sun Sensor Signal 1 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control uses a variety of sensors to adjust HVAC operation to obtain optimal performance. These sensors are continuously monitored by the A/C Heater Control to assure that they are in range. If those sensors fall out of predetermined ranges a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Left Sun Sensor Signal input voltage is less than 2.0 volts for period of 60 seconds.

Possible Causes
(G39) SUN SENSOR SIGNAL 1 CIRCUIT SHORTED TO GROUND SUN SENSOR A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

NOTE: It can take up to 60 seconds or more for this DTC to mature.

Is this DTC active?

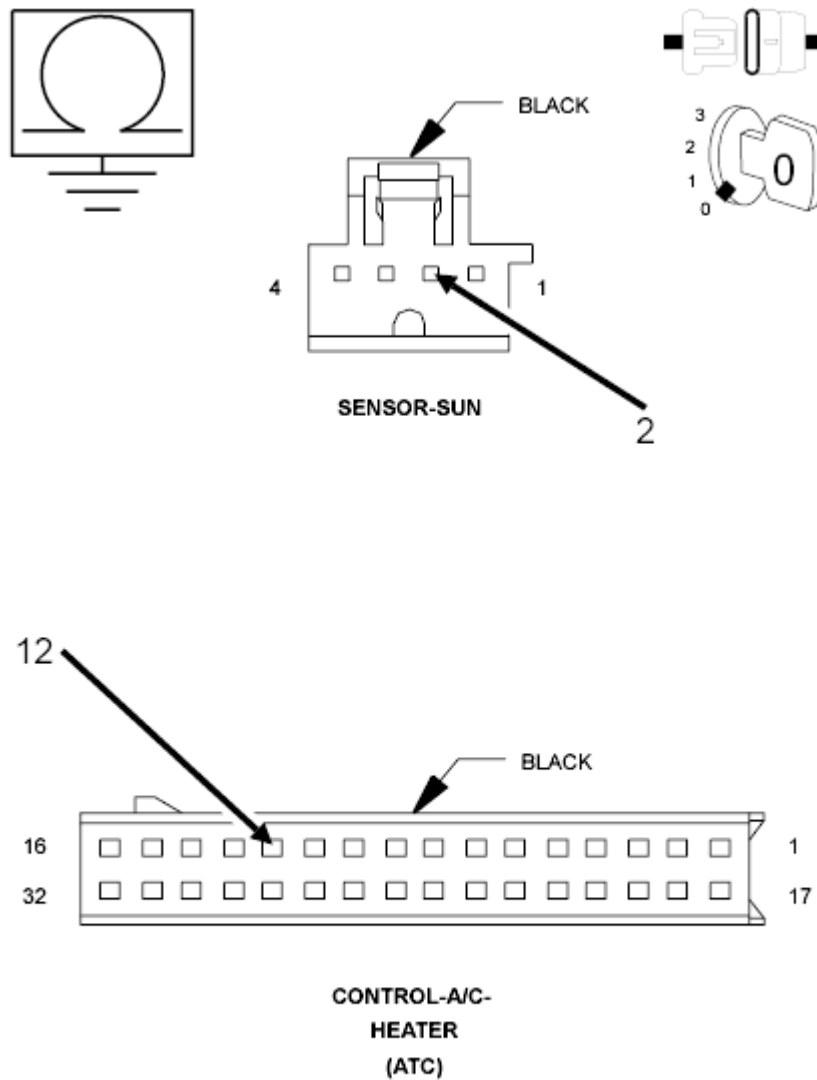
Yes

- Go to step 2

No

- Go to step 4

2. CHECK (G39) SUN SENSOR SIGNAL 1 CIRCUIT FOR A SHORT TO GROUND



2101833

Fig. 90: Checking Sun Sensor Signal 1 Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Measure the resistance between ground and the (G39) Sun Sensor Signal 1 circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (G39) Sun Sensor Signal 1 circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 3

3. CHECK THE SUN SENSOR AND A/C HEATER CONTROL

1. Replace the Sun Sensor in accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

Did this DTC reset while performing the HVAC Verification Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

4. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

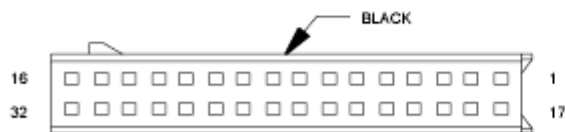
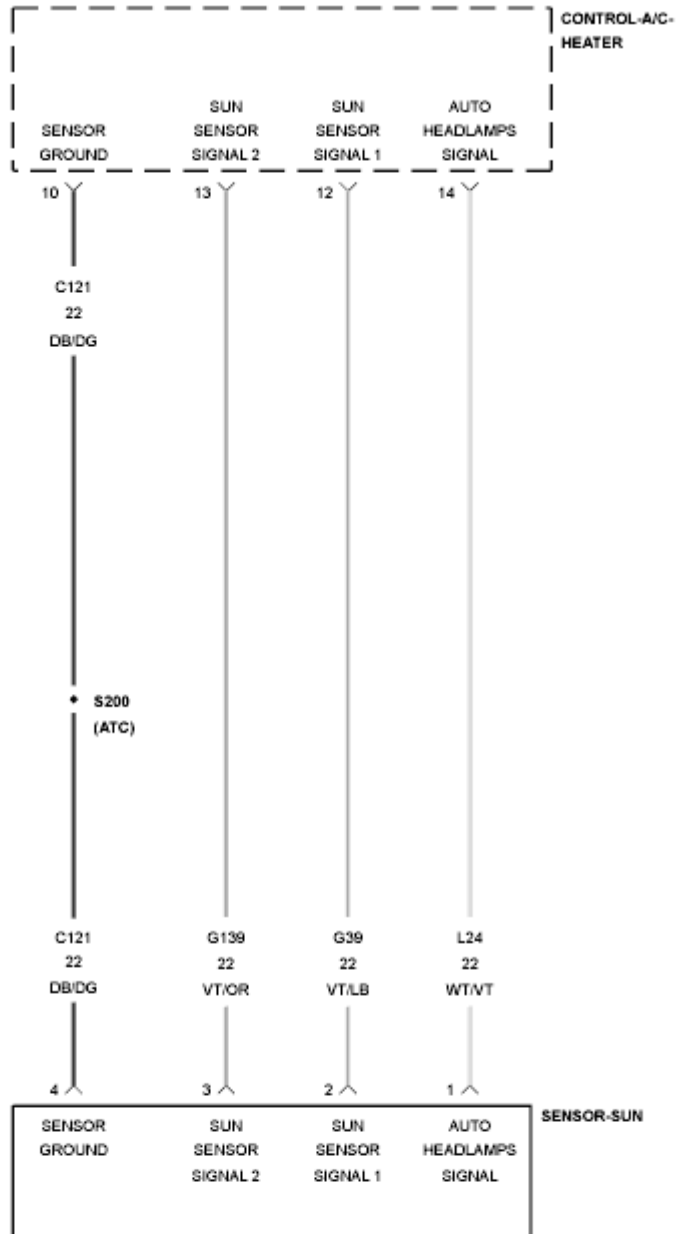
No

- Test complete.

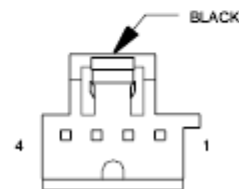
B1602-LEFT SOLAR SENSOR CIRCUIT HIGH

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey



CONTROL-A/C-
HEATER
(ATC)



SENSOR-SUN

Fig. 91: Sun Sensor Signal 1 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The HVAC A/C Heater Control uses a variety of sensors to adjust HVAC operation to obtain optimal performance. These sensors are continuously monitored by the A/C Heater Control to assure that they are in range. If those sensors fall out of predetermined ranges a DTC will set.

- **When Monitored:**

Continuously with the ignition on.

- **Set Condition:**

If the Left Sun Sensor Signal 1 input voltage is greater than 4.5 volts for period of 60 seconds. This DTC has a de-maturing time of 10 seconds. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
(G39) SUN SENSOR SIGNAL 1 CIRCUIT SHORTED TO VOLTAGE
(G39) SUN SENSOR SIGNAL 1 CIRCUIT OPEN
(C121) SENSOR GROUND CIRCUIT OPEN
SUN SENSOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

NOTE: It can take up to 60 seconds or more for this DTC to mature.

Is this DTC active?

Yes

- Go to step 2

No

- Go to step 6

2. CHECK THE SUN SENSOR

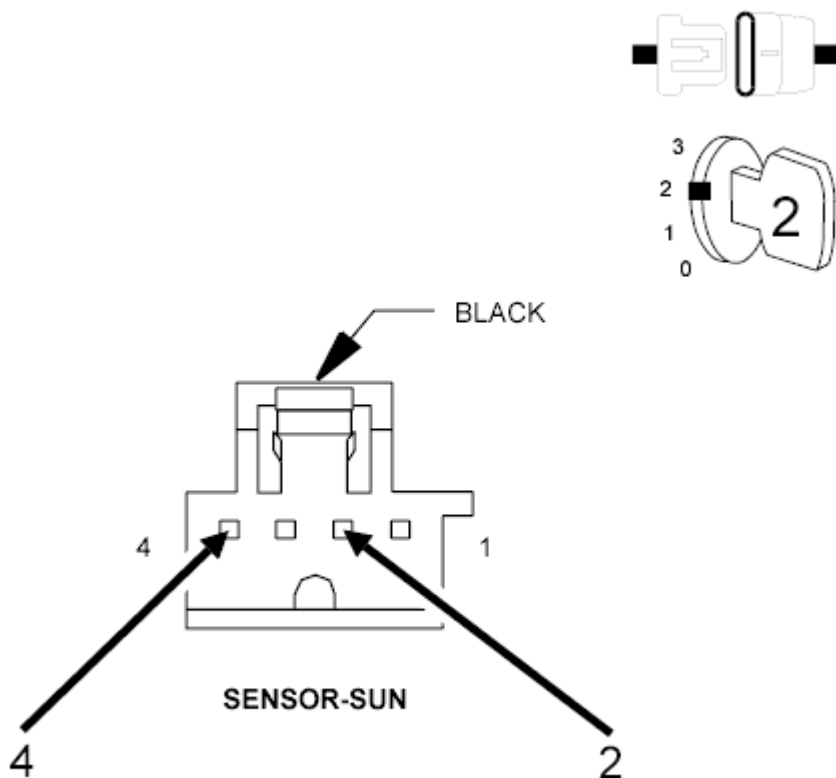


Fig. 92: Checking Sun Sensor Harness Connector
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Sun Sensor harness connector.
3. Connect a jumper wire between the (G39) Sun Sensor Signal 1 circuit and the (C121) Sensor Ground circuit in the Sun Sensor harness connector.
4. Ignition on, engine not running.
5. With the scan tool, read HVAC DTCs.

Did the DTC B1601-Left Solar Sensor Circuit Low set or is the Sun Sensor voltage below 0.5 of a volt?

Yes

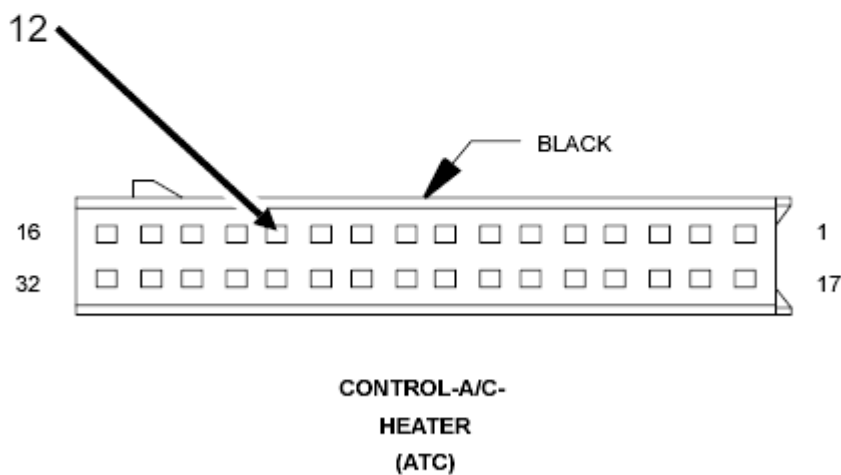
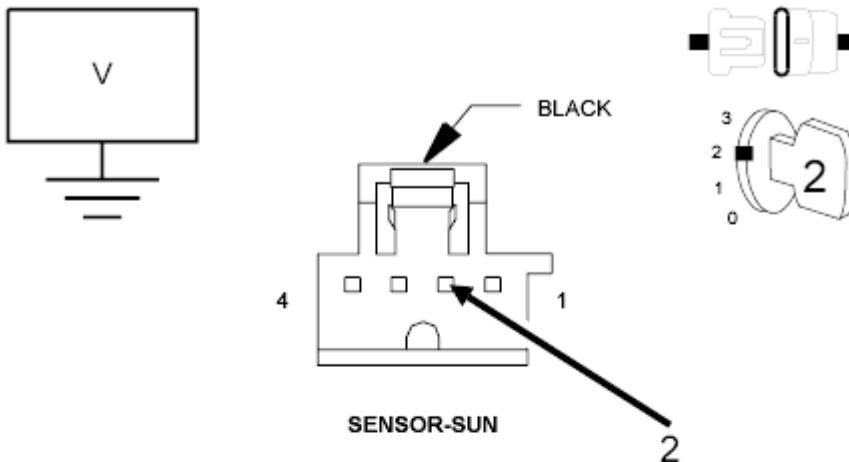
- Replace the Sun Sensor in accordance with the Service Information.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Go to step 3

3. CHECK THE (G39) SUN SENSOR SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE



2102112

Fig. 93: Checking Sun Sensor Signal Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey

1. Turn the ignition off to the lock position.
2. Disconnect the jumper wire in the Sun Sensor harness connector.
3. Disconnect the A/C Heater Control harness connector.

NOTE: Check connectors - Clean/repair as necessary.

4. Ignition on, engine not running.
5. Check the voltage of the (G39) Sun Sensor Signal 1 circuit.

Is there any voltage present?

Yes

- Repair the (G39) Sun Sensor Signal 1 circuit for an short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (G39) SUN SENSOR SIGNAL 1 CIRCUIT FOR AN OPEN

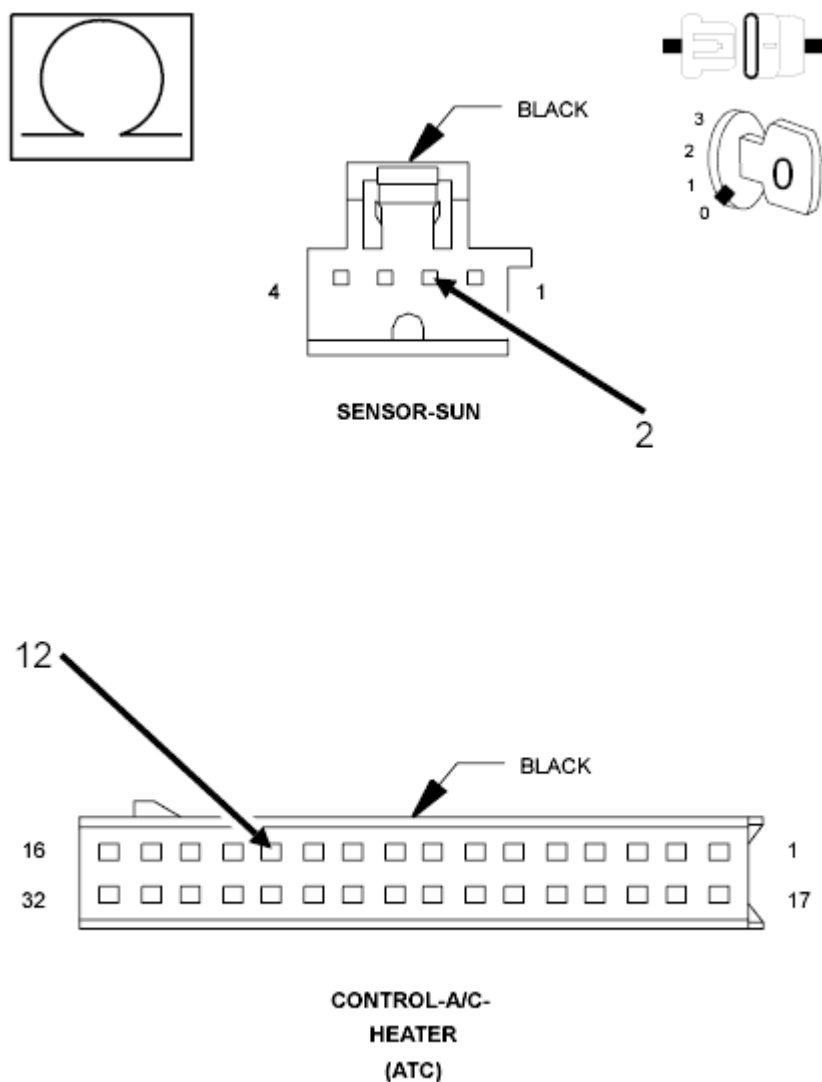


Fig. 94: Checking Sun Sensor Signal 1 Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance of the (G39) Sun Sensor Signal 1 circuit between the A/C Heater Control harness connector and the Sun Sensor harness connector.

Is the resistance above 1.0 Ohm?

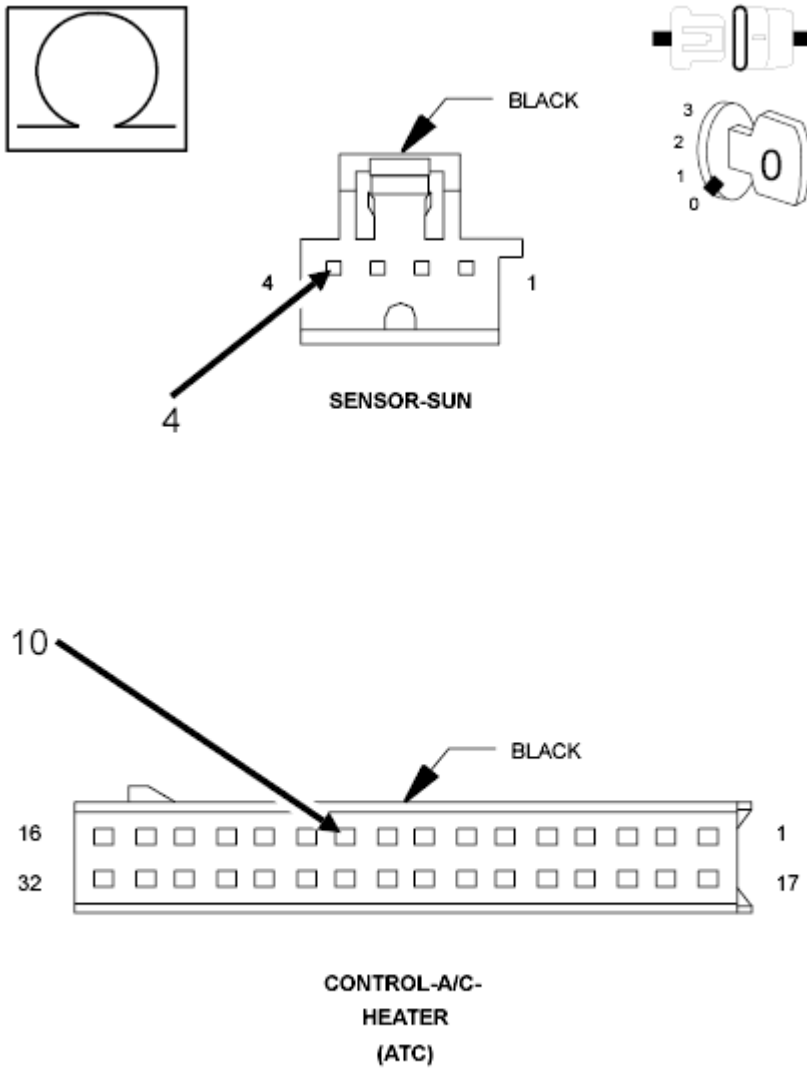
Yes

- Repair the (G39) Sun Sensor Signal 1 circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 5

5. CHECK THE (C121) SENSOR GROUND CIRCUIT FOR AN OPEN



2102126

Fig. 95: Checking Sensor Ground Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control harness connector and the Sun Sensor harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C121) Sensor Ground circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

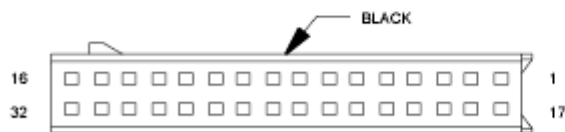
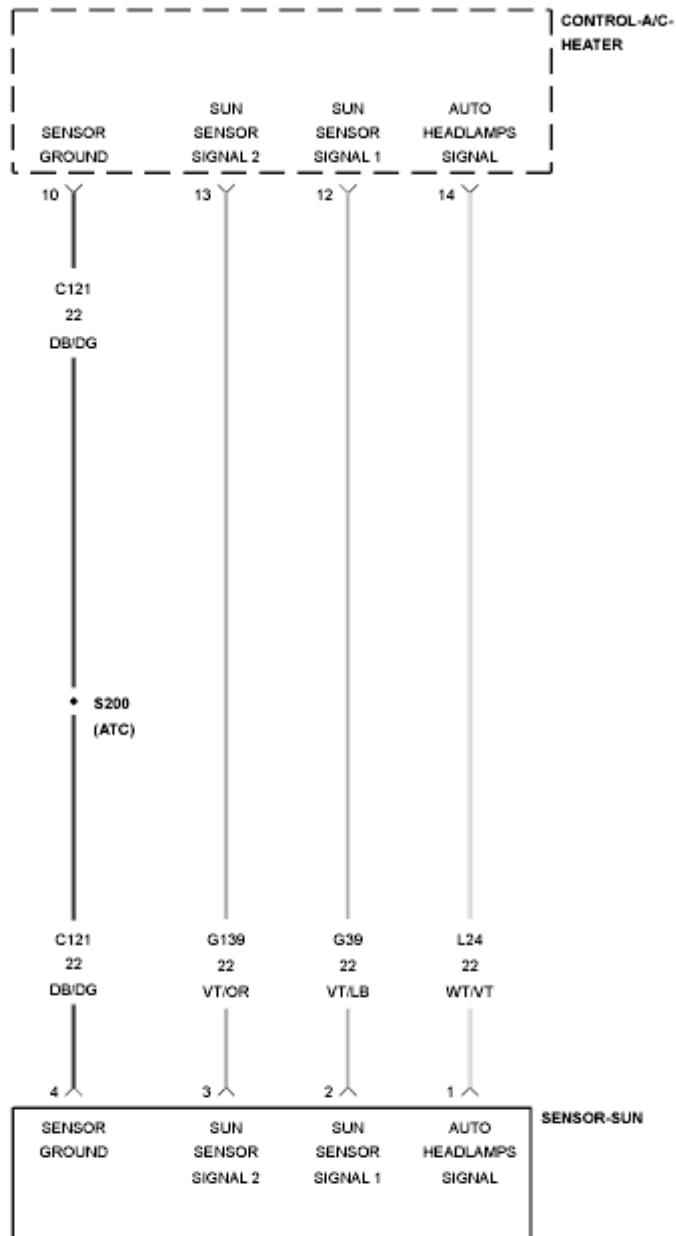
No

- Test complete.

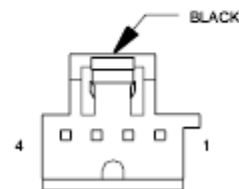
B1604-RIGHT SOLAR SENSOR CIRCUIT LOW

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey



CONTROL-A/C-
HEATER
(ATC)



SENSOR-SUN

Fig. 96: Sun Sensor Signal 1 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control uses a variety of sensors to adjust HVAC operation to obtain optimal performance. These sensors are continuously monitored by the A/C Heater Control to assure that they are in range. If those sensors fall out of predetermined ranges a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Left Sun Sensor Signal input voltage is less than 2.0 volts for period of 60 seconds.

Possible Causes
(G139) SUN SENSOR SIGNAL 2 CIRCUIT SHORTED TO GROUND SUN SENSOR A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

NOTE: It can take up to 60 seconds or more for this DTC to mature.

Is this DTC active?

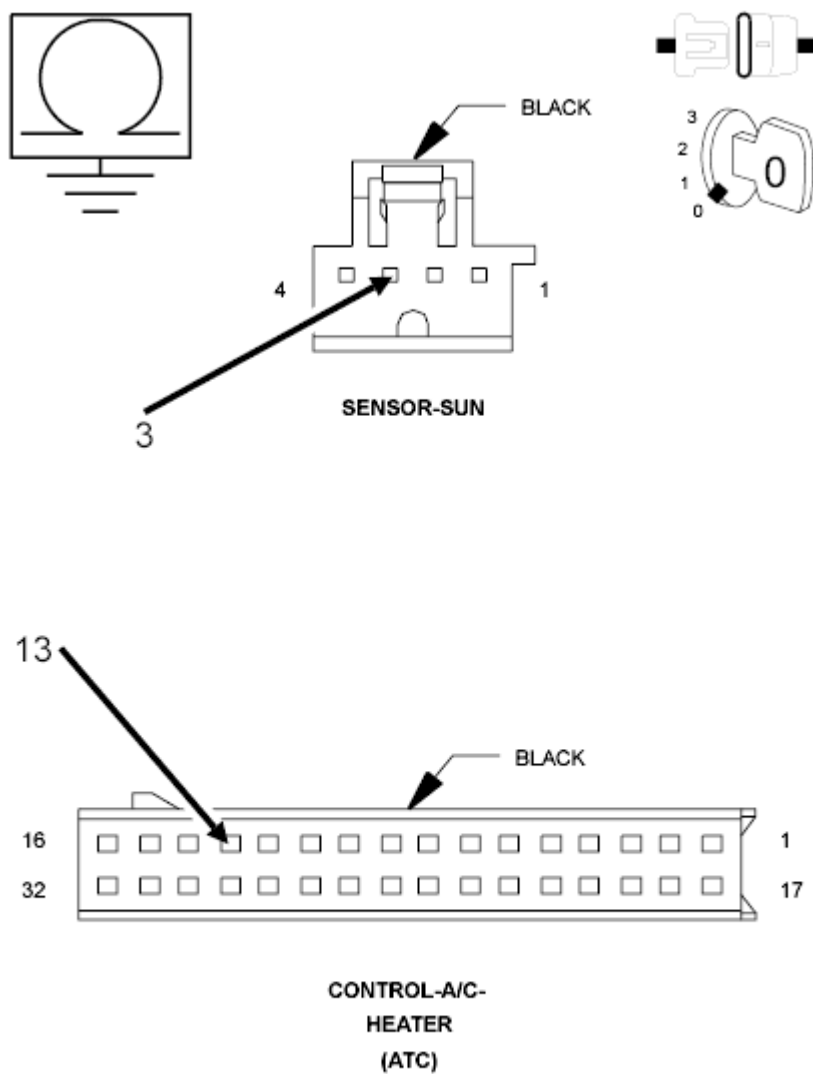
Yes

- Go to step 2

No

- Go to step 4

2. CHECK (G139) SUN SENSOR SIGNAL 2 CIRCUIT FOR A SHORT TO GROUND



2102435

Fig. 97: Checking Sun Sensor Signal 2 Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Measure the resistance between ground and the (G139) Sun Sensor Signal 2 circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (G139) Sun Sensor Signal 2 circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 3

3. CHECK THE SUN SENSOR AND A/C HEATER CONTROL

1. Replace the Sun Sensor in accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

Did this DTC reset while performing the HVAC Verification Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

4. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

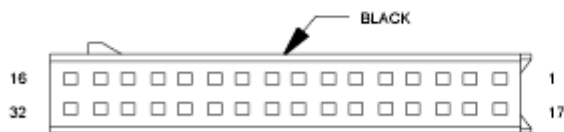
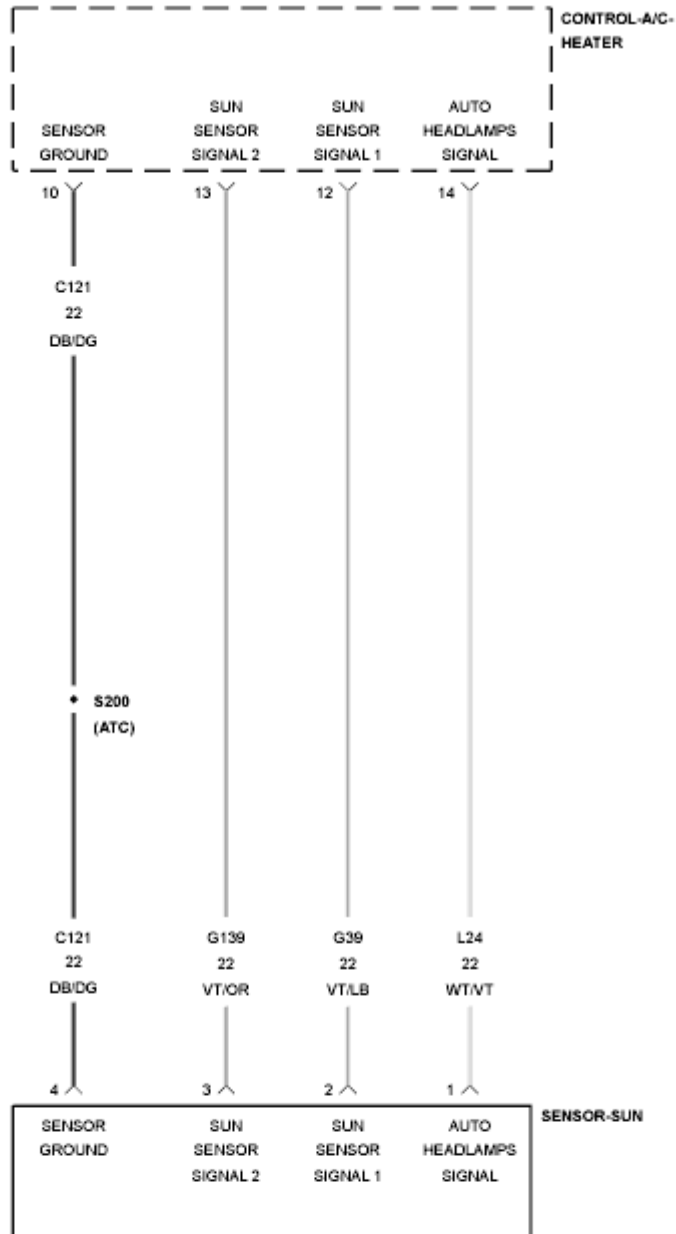
No

- Test complete.

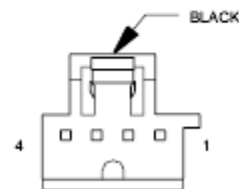
B1605-RIGHT SOLAR SENSOR CIRCUIT HIGH

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey



CONTROL-A/C-
HEATER
(ATC)



SENSOR-SUN

Fig. 98: Sun Sensor Signal 1 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The HVAC A/C Heater Control uses a variety of sensors to adjust HVAC operation to obtain optimal performance. These sensors are continuously monitored by the A/C Heater Control to assure that they are in range. If those sensors fall out of predetermined ranges a DTC will set.

- **When Monitored:**

Continuously with the ignition on.

- **Set Condition:**

If the Left Sun Sensor Signal 2 input voltage is greater than 4.5 volts for period of 60 seconds. This DTC has a de-maturing time of 10 seconds. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
(G139) SUN SENSOR SIGNAL 2 CIRCUIT SHORTED TO VOLTAGE
(G139) SUN SENSOR SIGNAL 2 CIRCUIT OPEN
(C121) SENSOR GROUND CIRCUIT OPEN
SUN SENSOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

NOTE: It can take up to 60 seconds or more for this DTC to mature.

Is this DTC active?

Yes

- Go to step 2

No

- Go to step 6

2. CHECK THE SUN SENSOR

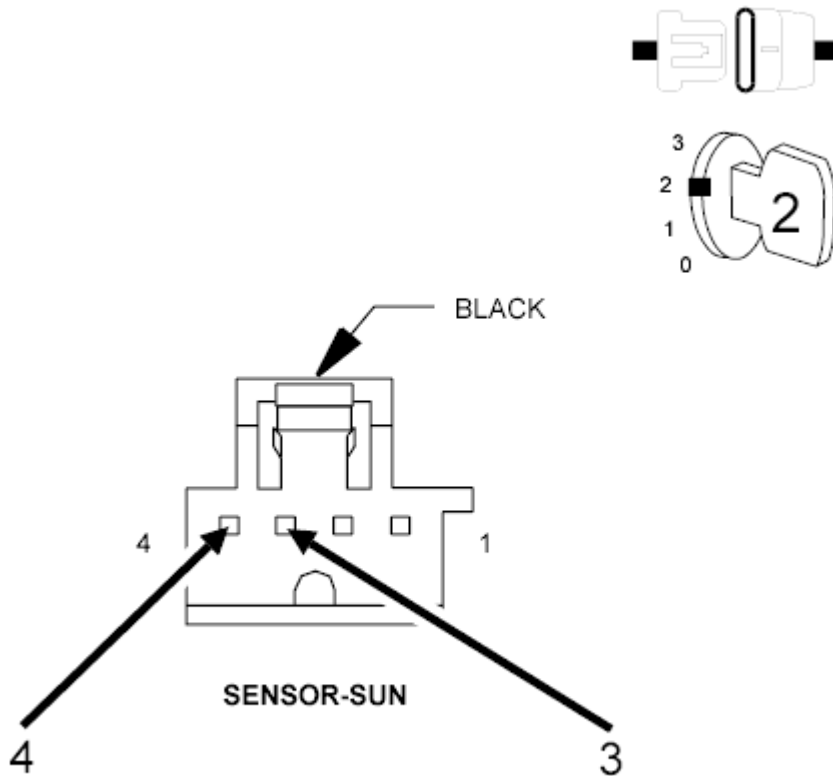


Fig. 99: Checking Sun Sensor Harness Connector
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Sun Sensor harness connector.
3. Connect a jumper wire between the (G139) Sun Sensor Signal 2 circuit and the (C121) Sensor Ground circuit in the Sun Sensor harness connector.
4. Ignition on, engine not running.
5. With the scan tool, read HVAC DTCs.

Did the DTC B1604-Right Solar Sensor Circuit Low set or is the Sun Sensor voltage below 0.5 of a volt?

Yes

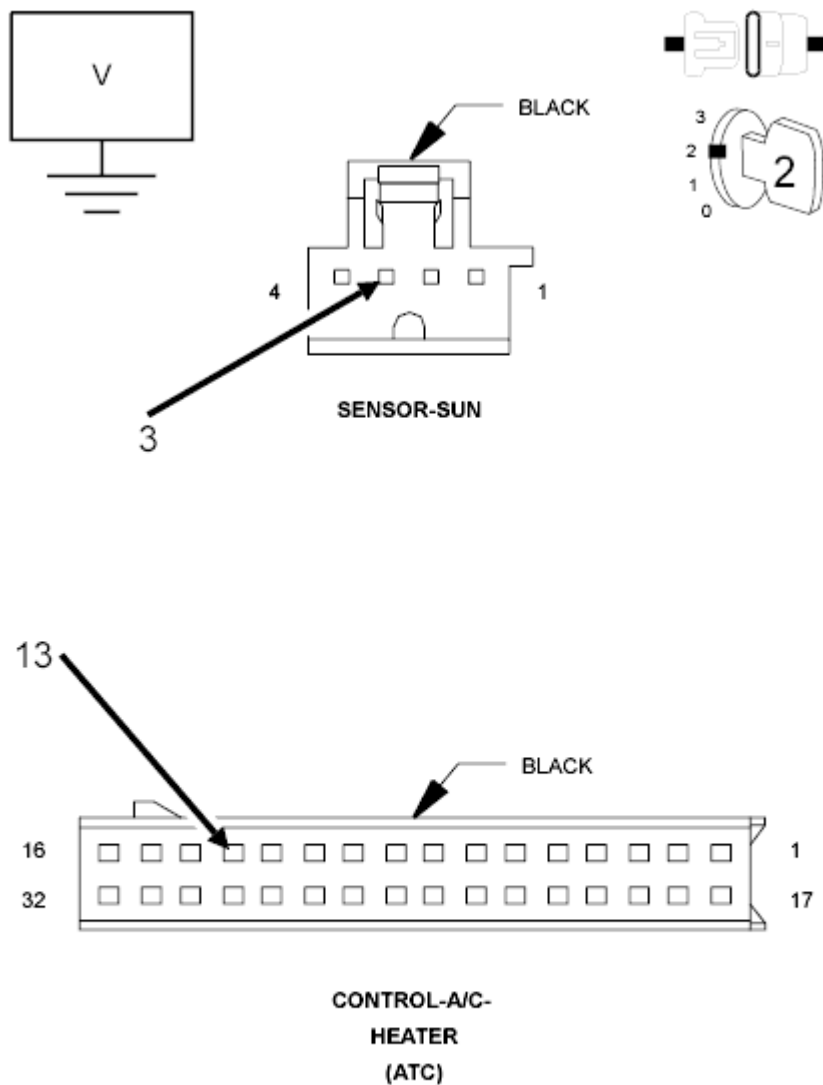
- Replace the Sun Sensor in accordance with the Service Information.

- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure.**

No

- Go to step 3

3. CHECK THE (G139) SUN SENSOR SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE



2102843

Fig. 100: Checking Sun Sensor Signal Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

- 1 Turn the ignition off to the lock position

2. Disconnect the jumper wire in the Sun Sensor harness connector.
3. Disconnect the A/C Heater Control harness connector.

NOTE: Check connectors - Clean/repair as necessary.

4. Ignition on, engine not running.
5. Check the voltage of the (G139) Sun Sensor Signal 2 circuit.

Is there any voltage present?

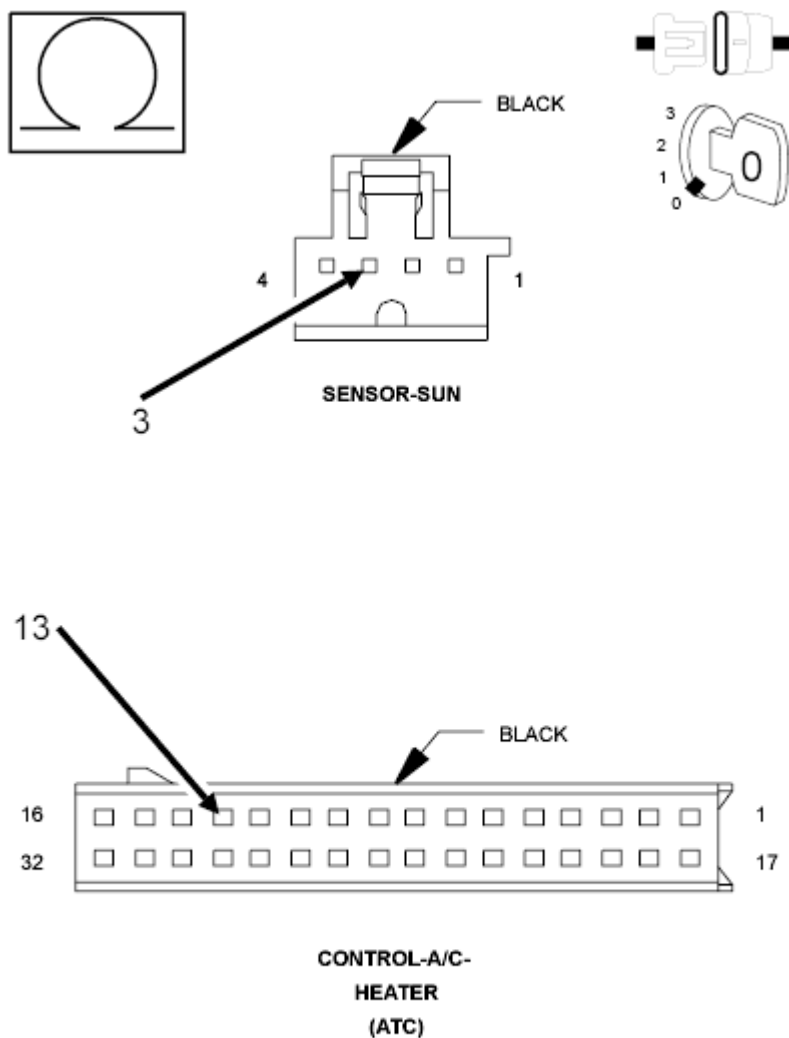
Yes

- Repair the (G139) Sun Sensor Signal 2 circuit for an short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 4

4. CHECK THE (G139) SUN SENSOR SIGNAL 2 CIRCUIT FOR AN OPEN



2102874

Fig. 101: Checking Sun Sensor Signal 2 Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance of the (G139) Sun Sensor Signal 2 circuit between the A/C Heater Control harness connector and the Sun Sensor harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (G139) Sun Sensor Signal 2 circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.

No

- Go to step 5

5. CHECK THE (C121) SENSOR GROUND CIRCUIT FOR AN OPEN

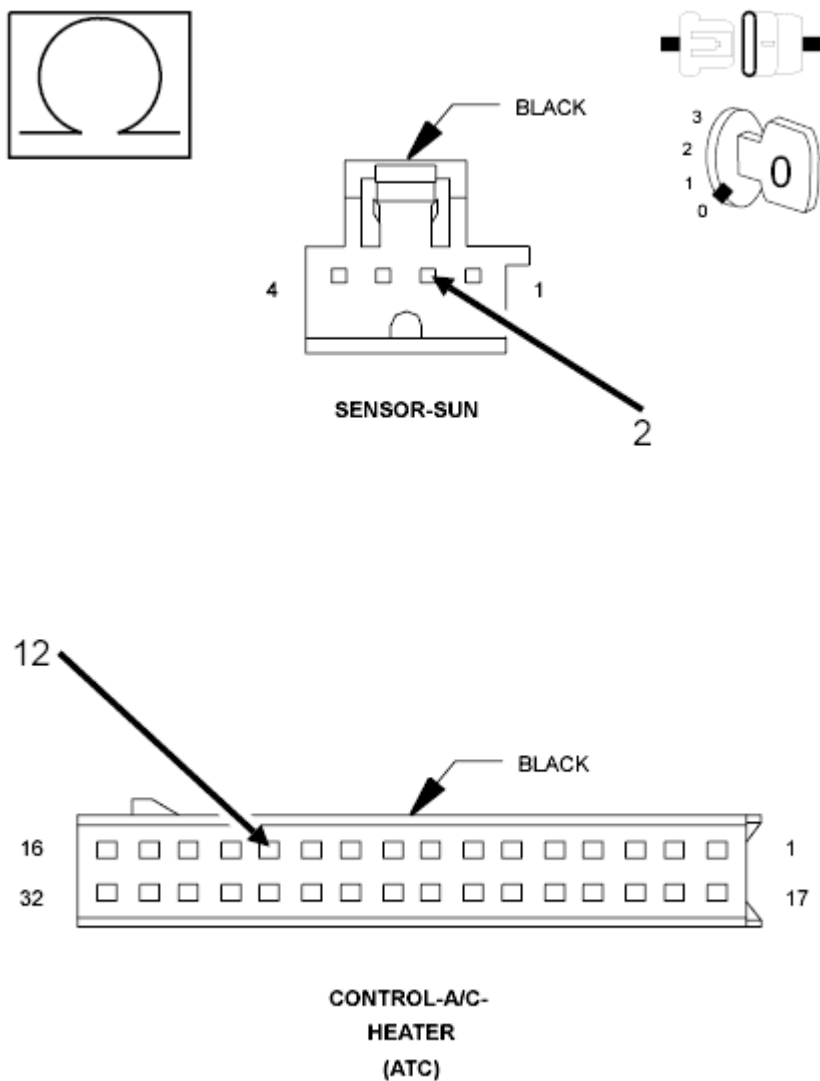


Fig. 102: Checking Sun Sensor Signal 1 Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control harness connector and the Sun Sensor harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C121) Sensor Ground circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

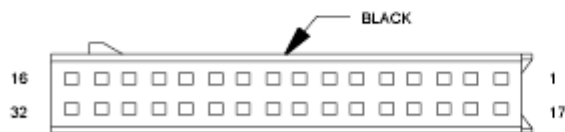
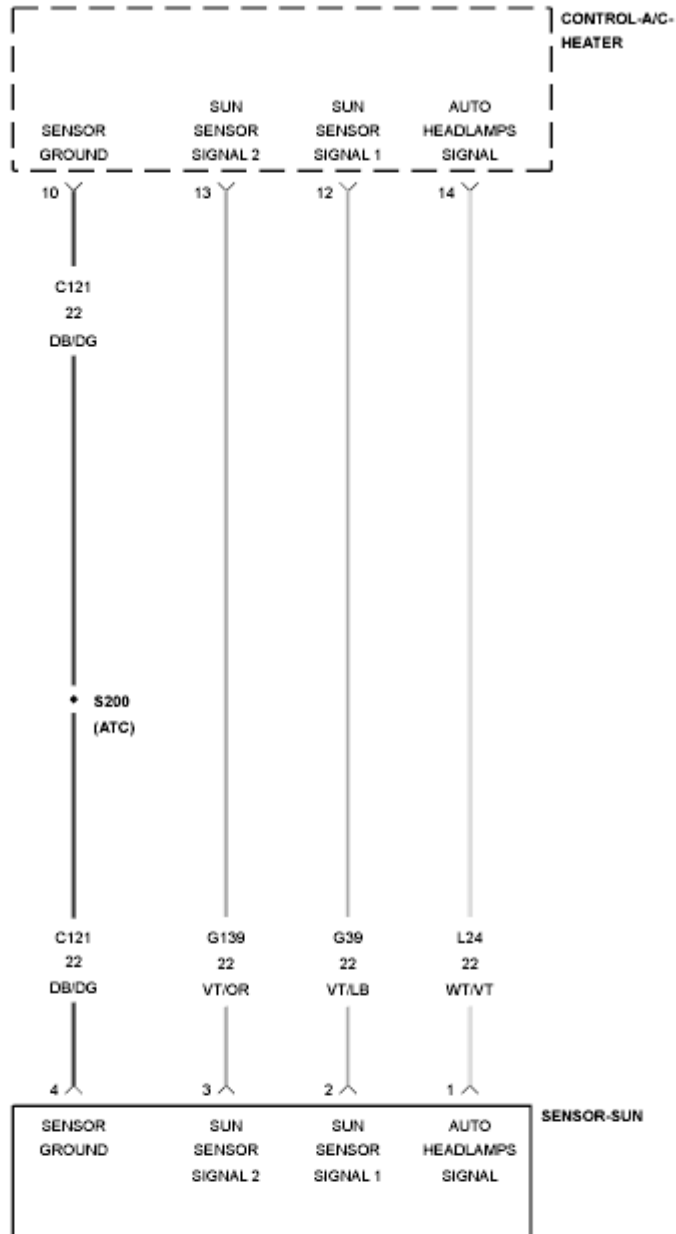
No

- Test complete.

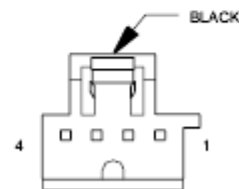
B1610-AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT LOW

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey



CONTROL-A/C-
HEATER
(ATC)



SENSOR-SUN

Fig. 103: Sun Sensor Signal 1 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

Theory of Operation

The HVAC A/C Heater Control uses a variety of sensors to adjust HVAC operation to obtain optimal performance. These sensors are continuously monitored by the A/C Heater Control to assure that they are in range. If those sensors fall out of predetermined ranges a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Twilight or Ambient Light Sensor input voltage is less than 0.2 of a volt for period of 60 seconds.

Possible Causes
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORTED TO GROUND SUN SENSOR A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF THE DTC IS ACTIVE

1. Ignition on, engine not running.

NOTE: It can take up to 60 seconds or more for this DTC to mature.

2. With the scan tool, read HVAC DTCs.

Is this DTC active?

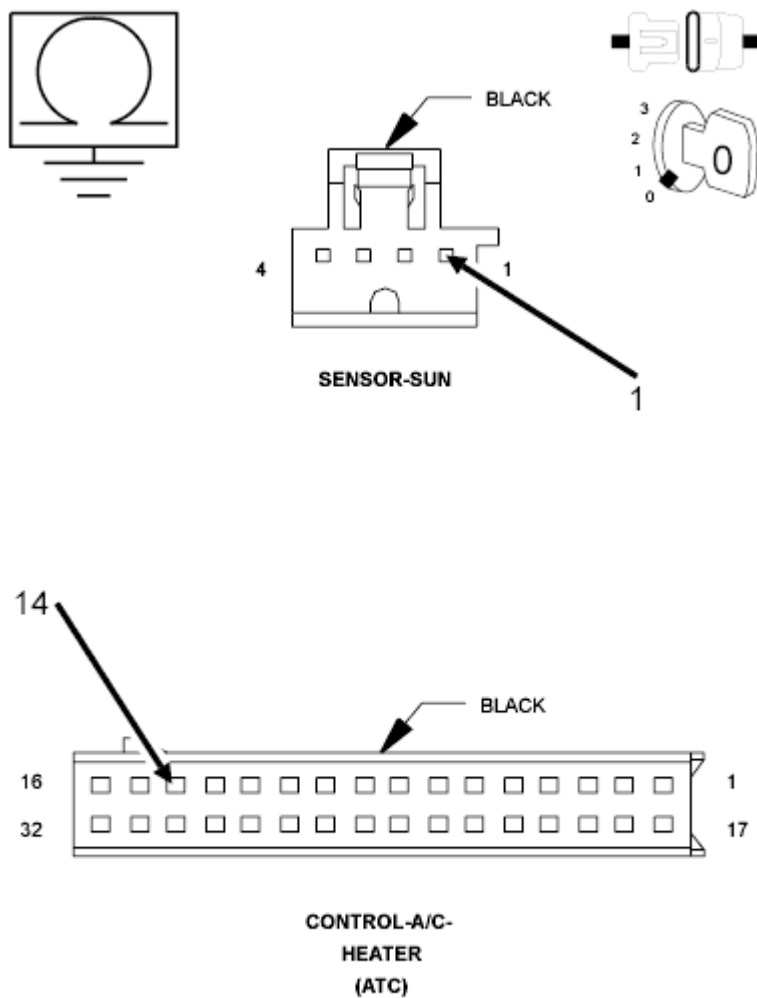
Yes

- Go to step 2

No

- Go to step 4

2. CHECK (L24) AUTO HEADLAMPS SIGNAL CIRCUIT FOR A SHORT TO GROUND



2102946

Fig. 104: Checking Auto Headlamps Signal Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Measure the resistance between ground and the (L24) Auto Headlamps Signal circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (L24) Auto Headlamps Signal circuit for a short to ground.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 3

3. CHECK THE A/C HEATER CONTROL

1. Replace the Sun Sensor in accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

Did this DTC reset while performing the HVAC Verification Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

4. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

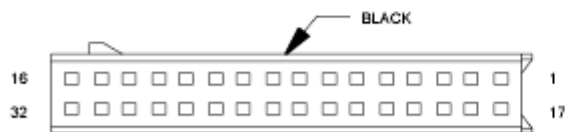
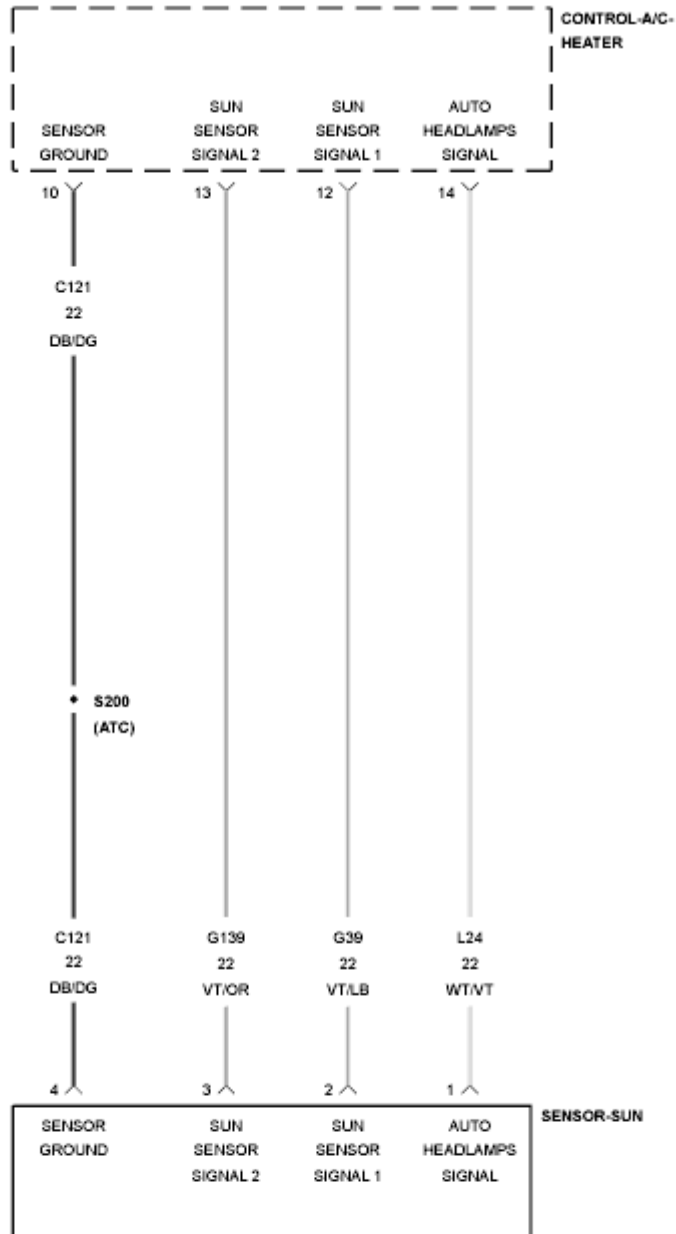
No

- Test complete.

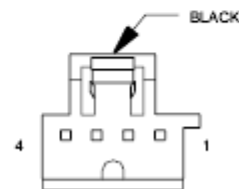
B1611-AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT HIGH

2009 Dodge Journey R/T

2009 HVAC Heating & Air Conditioning (ATC) - Electrical Diagnostics - Journey



CONTROL-A/C-
HEATER
(ATC)



SENSOR-SUN

Fig. 105: Sun Sensor Signal 1 Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC A/C Heater Control uses a variety of sensors to adjust HVAC operation to obtain optimal performance. These sensors are continuously monitored by the A/C Heater Control to assure that they are in range. If those sensors fall out of predetermined ranges a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Twilight or Ambient Light Sensor input voltage is greater than 4.66 volts for period of 60 seconds.

Possible Causes
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORTED TO VOLTAGE
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT OPEN
(C121) SENSOR GROUND CIRCUIT OPEN
SUN SENSOR
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK IF THE DTC IS ACTIVE

1. Ignition on, engine not running.
2. With the scan tool, read HVAC DTCs.

NOTE: It can take up to 60 seconds or more for this DTC to mature.

Is this DTC active?

Yes

- Go to step 2

No

- Go to step 6

2. CHECK (L24) AUTO HEADLAMPS SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE

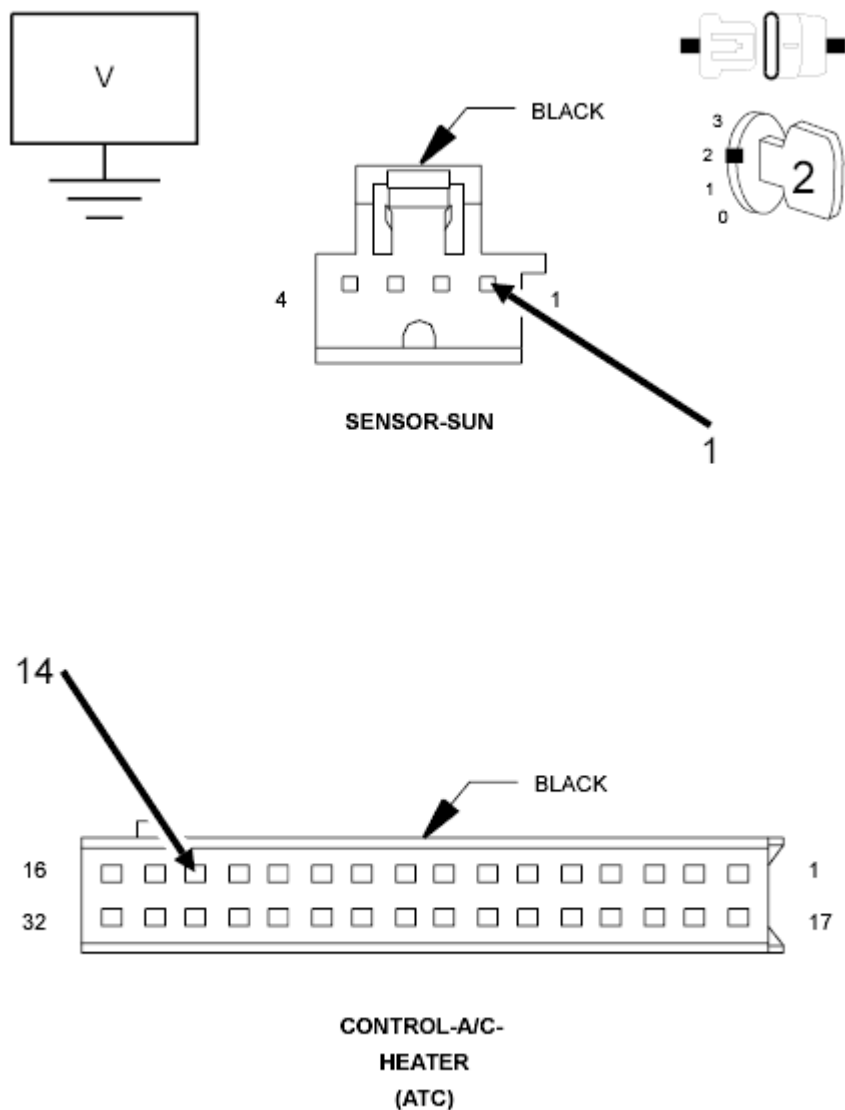


Fig. 106: Checking Auto Headlamps Signal Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (L24) Auto Headlamps Signal circuit.

Is there any voltage present?

Yes

- Repair the (L24) Auto Headlamps Signal circuit for a short to voltage.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Go to step 3

3. CHECK (L24) AUTO HEADLAMPS SIGNAL CIRCUIT FOR AN OPEN

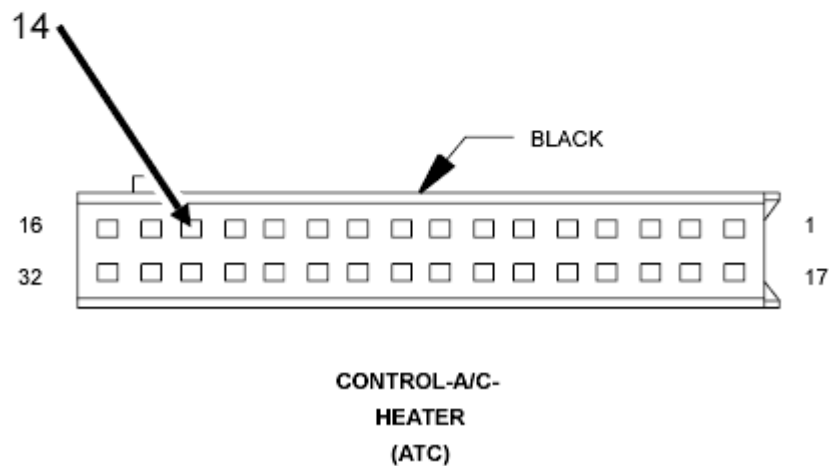
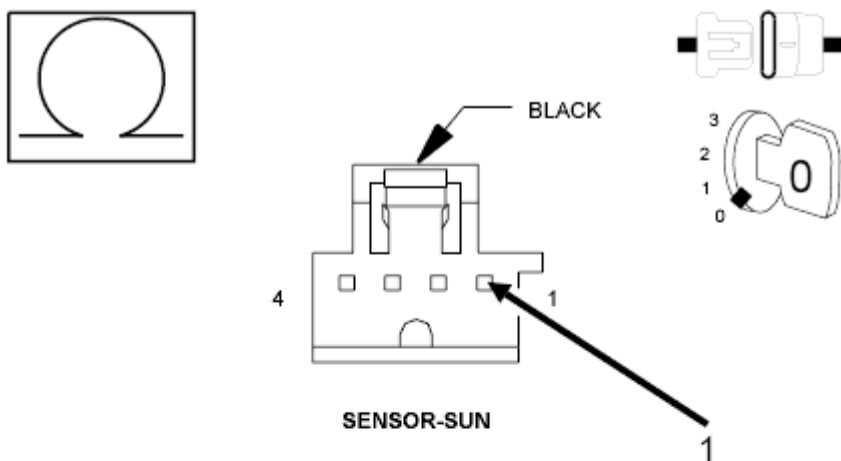


Fig. 107: Checking Auto Headlamps Signal Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Measure the resistance of the (L24) Auto Headlamps Signal circuit between the A/C Heater Control harness connector and the Sun Sensor harness connector.

Is the resistance below 1.0 Ohm?

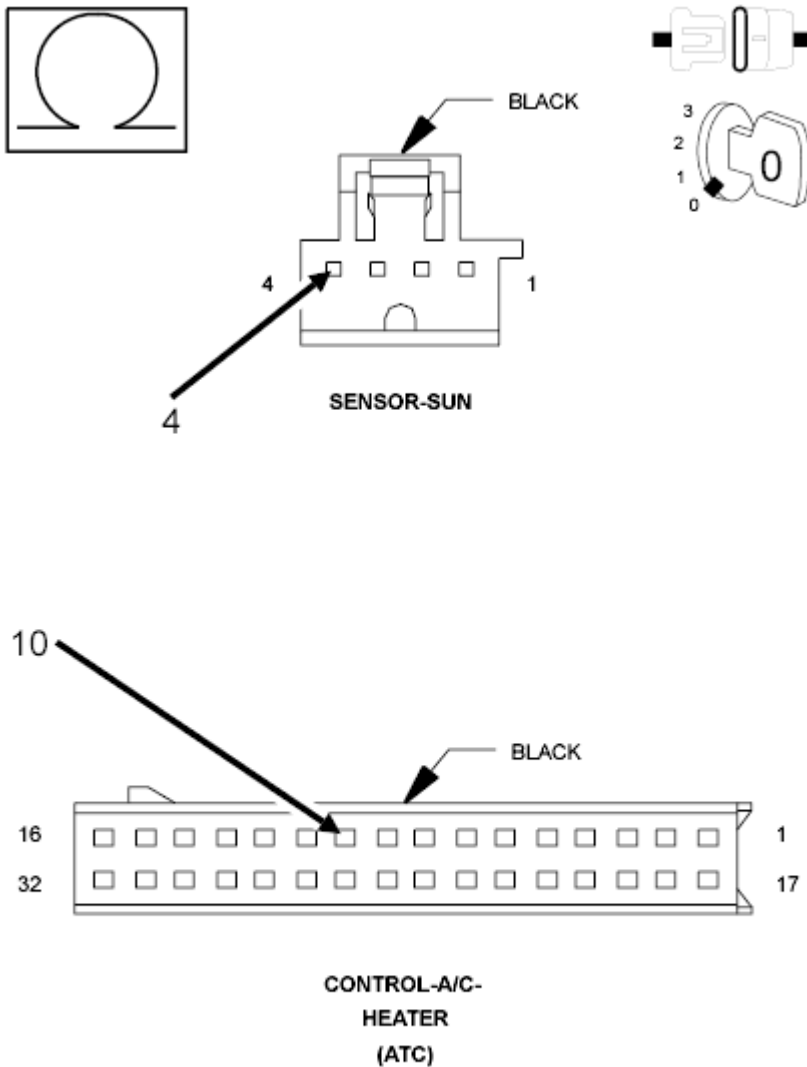
Yes

- Go to step 4

No

- Repair the (L24) Auto Headlamps Signal circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

4. CHECK (C121) SENSOR GROUND CIRCUIT FOR AN OPEN



2102126

Fig. 108: Checking Sensor Ground Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control harness connector and the Sun Sensor harness connector.

Is the resistance below 1.0 Ohm?

Yes

- Go to step 5

No

- Repair the (C121) Sensor Ground circuit for an open or high resistance.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

5. CHECK THE SUN SENSOR AND A/C HEATER CONTROL

1. Replace the Sun Sensor in accordance with the Service Information.
2. Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

Did this DTC reset while performing the HVAC Verification Test?

Yes

- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

6. CHECK THE WIRING AND CONNECTORS

1. The conditions necessary to set the DTC are not present at this time.
2. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the **SYSTEM WIRING DIAGRAMS** as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals, and correct pin tension.
4. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- Test complete.

B2214-(HVAC) CLIMATE CONTROL INTERNAL

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the A/C Heater Control has an internal fault. This Diagnostic Trouble Code (DTC) has a maturing time of five seconds and a de-maturing time of 10 seconds. If the DTCs status changes from active to stored it will stay in memory for 100 ignition cycles.

Possible Causes
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK THE A/C HEATER CONTROL

Repair

- Check for any controller software updates if applicable. If an update is available, reprogram the controller with the latest software. If no software updates are available, replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

B222A-VEHICLE LINE MISMATCH

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The A/C Heater Controller checks for vehicle configuration using communication over the BUS. If the stored configuration does not match the configuration stored in the controller this DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the stored configuration does not match the configuration stored in the controller.

Possible Causes

VEHICLE CONFIGURATION NOT STORED IN THE TOTALLY INTEGRATED POWER
MODULE (TIPM)
CONTROL MODULE INSTALLED IN INCORRECT VEHICLE
A/C HEATER CONTROL

Always perform the HVAC Pre-Diagnostic Troubleshooting procedure before proceeding. See DTC-Based Diagnostics/HVAC - Standard Procedure.

Diagnostic Test

1. CHECK THE VEHICLE CONFIGURATION

NOTE: The DTC must be active and no BUS communication DTCs present before performing this test. If BUS communication DTCs are present, perform there respective test first. If the DTC is stored, erase the DTC and cycle the ignition. If the DTC resets and changes to active, then proceed.

1. With the scan tool, check the vehicle configuration stored in the Totally Integrated Power Module (TIPM).
2. With the scan tool, check the vehicle configuration stored in the A/C Heater Control (HVAC).

Pick the answer that best describes your findings:

TIPM has wrong or no vehicle configuration

- With the scan tool, program the proper vehicle configuration in the TIPM.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

HVAC has wrong vehicle configuration but TIPM has correct configuration.

- Replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

HVAC and TIPM have proper calibration and the DTC is active in the HVAC.

- Check if other modules such as the Powertrain Control Module (PCM) have the wrong configuration stored in the controller and reprogram or replace as necessary. If all other modules show the proper configuration, replace the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See DTC-Based Diagnostics/HVAC - Standard Procedure.

U0010-CAN INTERIOR BUS

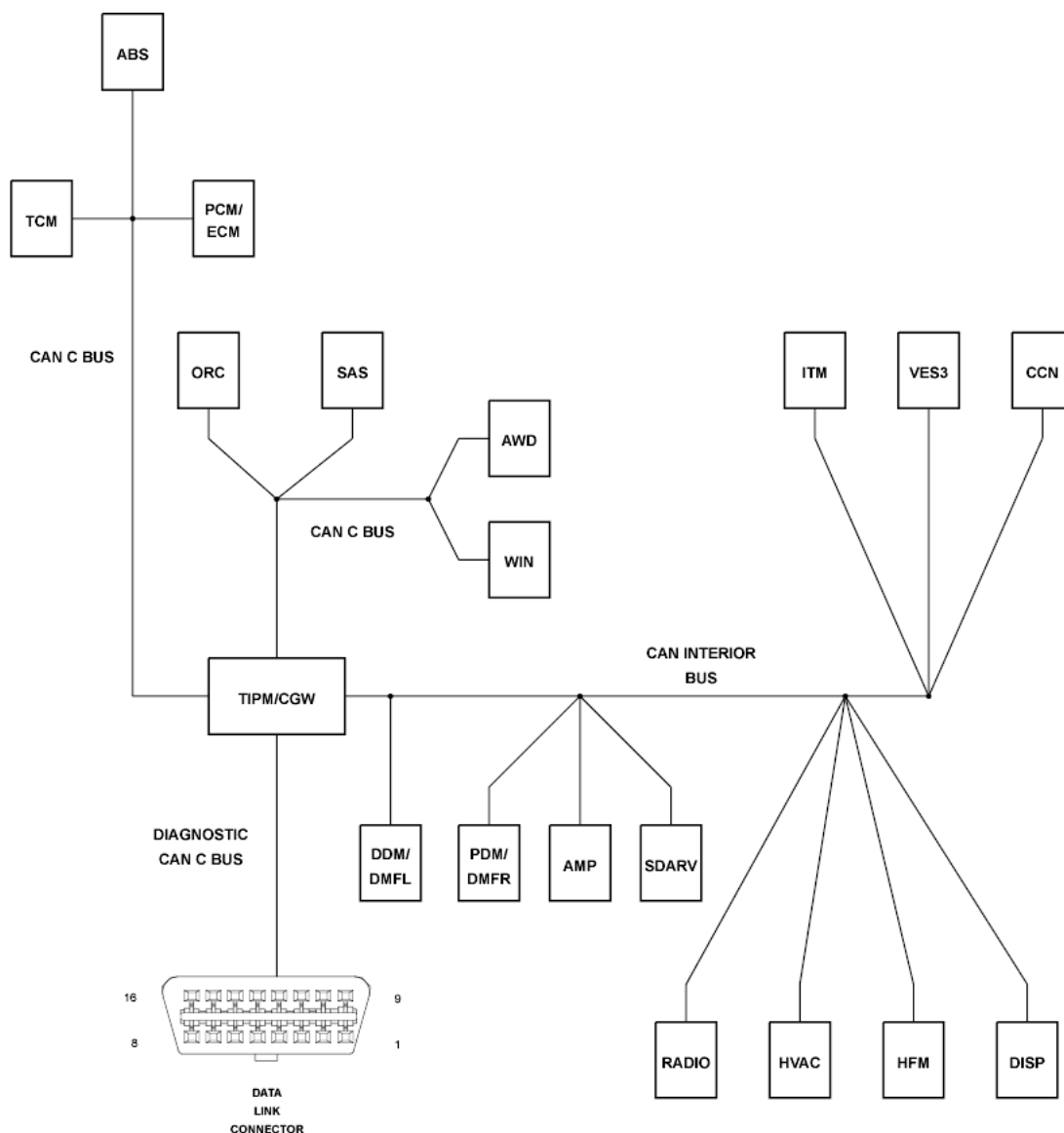


Fig. 109: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

• **When Monitored:**

Continuously when the ignition is on.

Battery voltage between 10 and 16 Volts.

Ignition Off Draw (IOD) fuse installed.

Totally Integrated Power Module (TIPM) is configured correctly.

- **Set Condition:**

The A/C Heater Control detects a short to ground or a short to voltage on the CAN Bus circuits.

Possible Causes
BUS CIRCUITS SHORTED TO GROUND OR VOLTAGE
DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES
TIPM NOT CONFIGURED CORRECTLY
TOTALLY INTEGRATED POWER MODULE (TIPM)
TIPM POWER AND GROUND
A/C HEATER CONTROL

Diagnostic Test**1. VERIFY DIAGNOSTIC TROUBLE CODE (DTC) IS ACTIVE**

NOTE: Make sure the IOD fuse is installed and battery voltage is between 10 and 16 Volts before proceeding.

1. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0010-CAN INTERIOR BUS** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTCs diagnostic procedure.

U0141-LOST COMMUNICATION WITH IPM (FCM/TIPM)

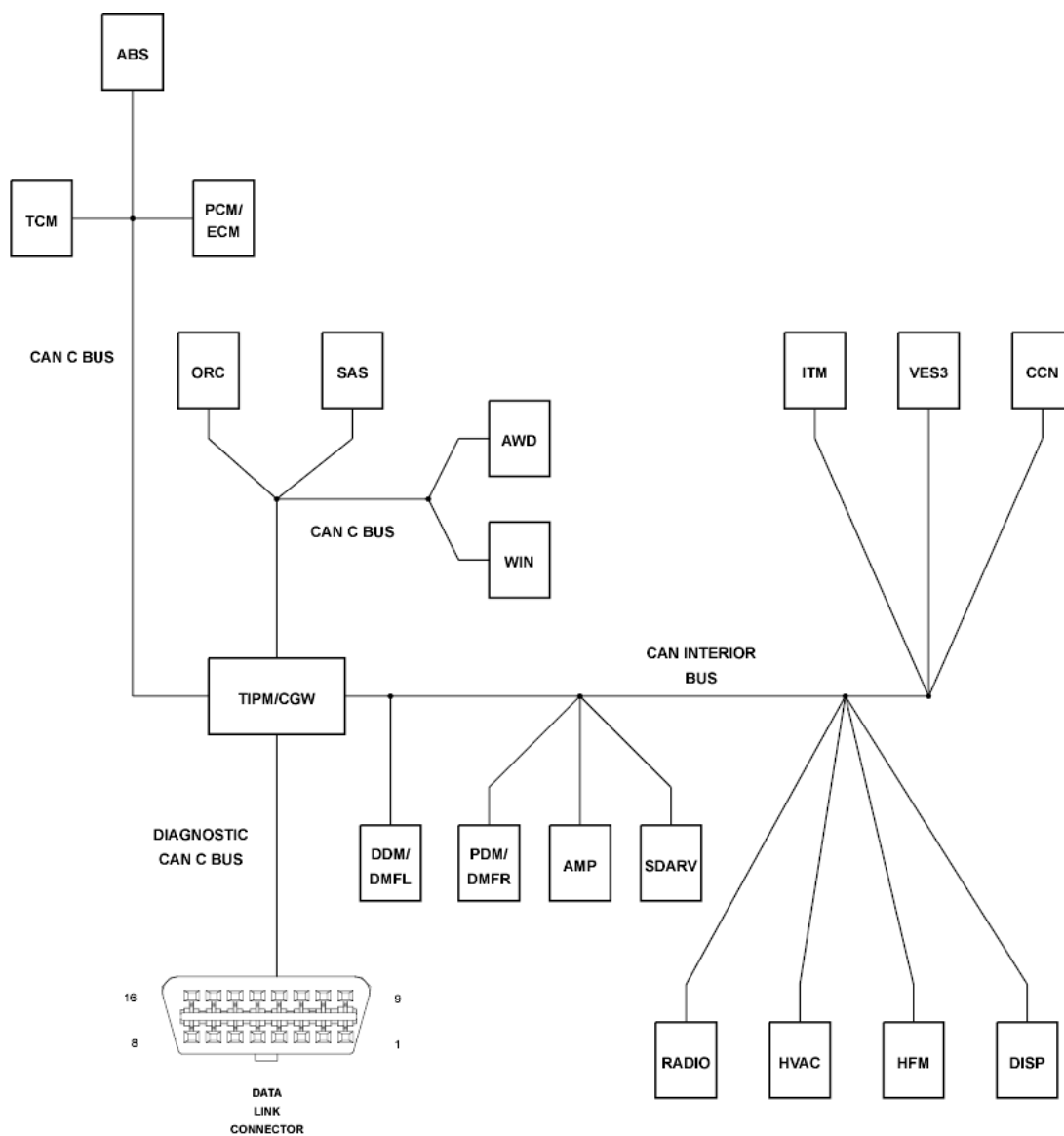


Fig. 110: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

• **When Monitored:**

Continuously when the ignition is on.

12-volt battery voltage between 10 and 16 Volts.

Ignition Off Draw (IOD) fuse installed.

Totally Integrated Power Module (TIPM) is configured correctly.

• **Set Condition:**

Bus messages not received from the Totally Integrated Power Module (TIPM) for three seconds.

Possible Causes
BUS CIRCUITS OPEN OR SHORTED DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES FCM/TIPM NOT CONFIGURED CORRECTLY TIPM POWER AND GROUND TOTALLY INTEGRATED POWER MODULE A/C HEATER CONTROL

Diagnostic Test

1. VERIFY DIAGNOSTIC TROUBLE CODE (DTC) IS ACTIVE

NOTE: Make sure the IOD fuse is installed and 12-volt battery voltage is between 10 and 16 Volts before proceeding.

- Using the scan tool, read active HVAC DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the diagnostic procedure for **U0141-LOST COMMUNICATION WITH IPM (FCM/TIPM)**.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTC diagnostic procedure.

U0155-LOST COMMUNICATION WITH CLUSTER/CCN

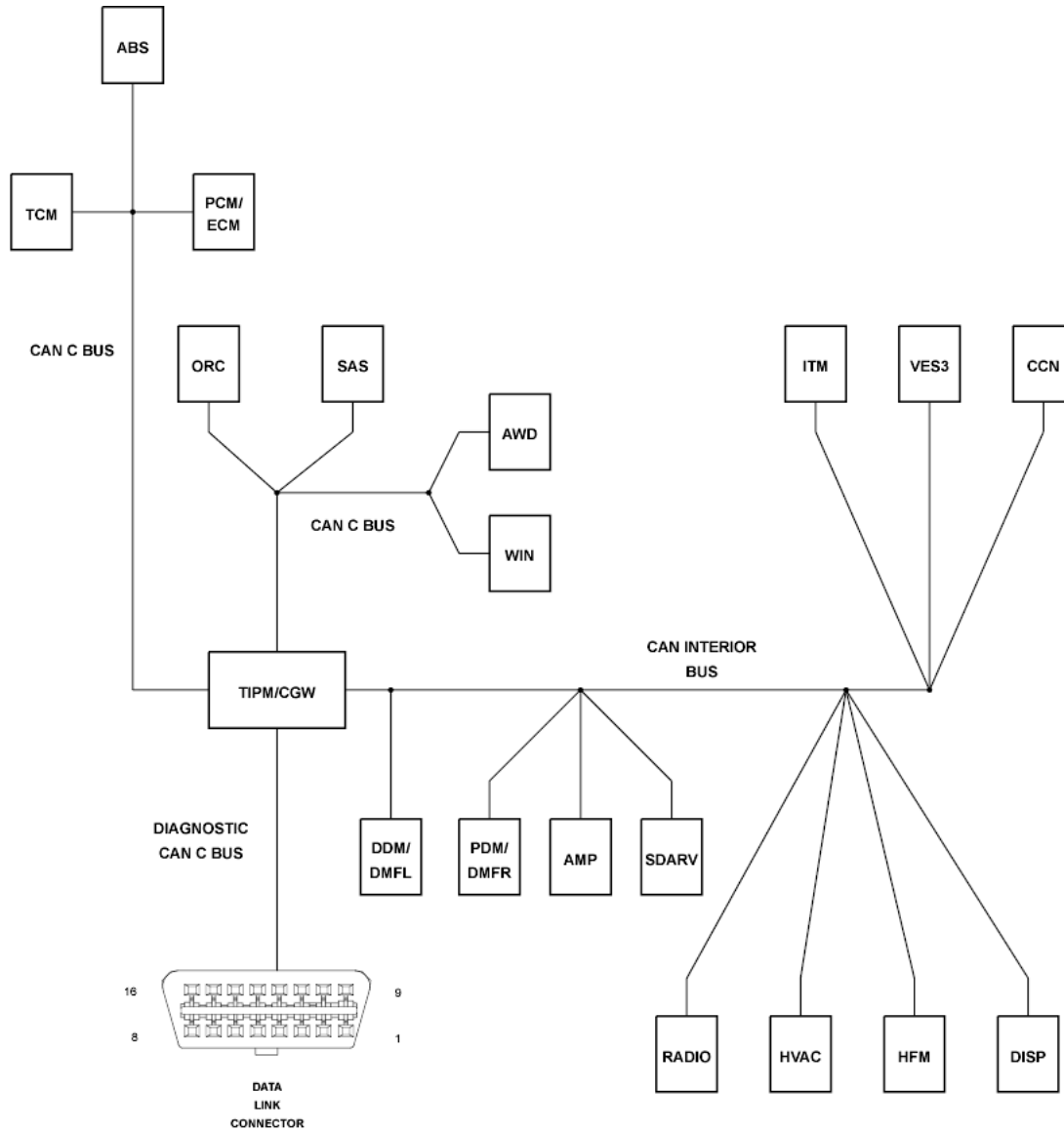


Fig. 111: CAN Interior Bus Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS**.

• **When Monitored:**

With the ignition on.

Battery voltage between 10 and 16 Volts.

Ignition Off Draw (IOD) fuse installed.

Totally Integrated Power Module (TIPM) is configured correctly.

• **Set Condition:**

Bus messages not received from the Cluster/CCN for approximately two to five seconds.

Possible Causes
(D265) CAN INTERIOR BUS (+) (125k) CIRCUIT SHORTED TO VOLTAGE (D264) CAN INTERIOR BUS (-) (125k) CIRCUIT SHORTED TO GROUND DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES TIPM NOT CONFIGURED CORRECTLY CLUSTER/CCN POWER AND GROUND CLUSTER/CCN A/C HEATER CONTROL

Diagnostic Test

1. VERIFY DIAGNOSTIC TROUBLE CODE (DTC) IS ACTIVE

NOTE: Make sure the IOD fuse is installed and 12-volt battery voltage is between 10 and 16 Volts before proceeding.

- Using the scan tool, read active HVAC DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the diagnostic procedure for **U0155-LOST COMMUNICATION WITH CLUSTER/CCN**.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTC diagnostic procedure.

STANDARD PROCEDURE

HVAC SYSTEM TEST

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Theory of Operation

The HVAC System Test provides a starting point in the diagnostic process by identifying the appropriate diagnostic procedure or system test to perform when diagnosing a given symptom, condition, or Diagnostic

Trouble Code (DTC). It also provides a means for testing the entire HVAC system by utilizing the A/C Heater Control's On-Board System Tests. The HVAC System Tests can also assist in diagnosing stored DTCs.

Diagnostic Test**1. HVAC SYSTEM TEST**

NOTE: Diagnose and repair all active DTCs before diagnosing and repairing stored DTCs. If active DTCs are present, see 28 - DTC-Based Diagnostics and perform the appropriate diagnostic procedure.

Make a selection based on the symptom, condition, or DTC that you want to diagnose.

scan tool Indicates HVAC Not Active On Bus

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the No Response from HVAC diagnostic procedure.

Blower Motor Inoperative

- Refer to **Heating and Air Conditioning/Distribution/MOTOR, Blower - Diagnosis and Testing** for Blower Motor diagnostic procedures.

Actuator Calibration Test

- Go to step 4

A/C System Performance (Cool Down) Test

- Go to step 2

2. A/C COOL DOWN TEST

The following are prerequisites of the A/C Cool Down Test. Verify that the:

- Refrigerant system has an adequate charge. Check and repair as necessary before proceeding in accordance with the Service Information. Refer to **Heating and Air Conditioning - Diagnosis and Testing**.
- Blower motor operates correctly in all speeds. Diagnose and repair all blower related faults before proceeding.
- Work area ambient temperature is above 16° C (60° F) before proceeding. Move the vehicle to a warmer work area if necessary.
- Evaporator temperature is above 13° C (55° F) before proceeding.
- A/C compressor is not running. If the compressor is running, turn the A/C off and allow the evaporator to warm up before proceeding.

NOTE: Running the AC Cool Down test will cause the A/C status indicator to flash. One or more status messages will display on the scan tool after running the Cool Down Test. These messages will clear after paging back out of this test function. Therefore, it is important to note all messages before doing so.

1. Start the engine.
2. Turn the Blower control to the high speed position.
3. With the scan tool in HVAC, select System Tests and then select Cool Down test. Allow the test to run to completion.

Does the scan tool display a status message that indicates a fault has occurred?

Yes

- See 28 - DTC-Based Diagnostics/HVAC and perform the appropriate diagnostic procedure based on vehicle HVAC system.

No

- Go to step 3

3. MODE SWITCH AND DOOR ACTUATOR CIRCUIT TEST

NOTE: If at anytime a DTC becomes active during this test, proceed to the conclusion question. If multiple DTCs are active, diagnose those that relate to a short circuit first.

1. Start the engine and turn the Blower control to the low speed position.
2. Set the Blend control (single-zone) or Driver and Passenger Blend control (dual-zone) to the full cold position.
3. Monitor the scan tool for active HVAC DTCs while performing the following test steps.
 - If equipped, press the A/C mode switch on, wait 30 seconds, and then press it off.
 - On Dual-Zone systems, press the Recirculation mode switch on, wait 30 seconds, and then press it off.
 - If equipped, press the EBL mode switch on, wait 30 seconds, and then press it off.
 - Move the Blend control (single-zone) or Driver Blend control (dual-zone) from full cold to full hot, wait 30 seconds, and then move it back to full cold.
 - If equipped, move the Passenger Blend control from full cold to full hot, wait 30 seconds, and then moved it back to full cold.
 - Turn the Mode select control to the defrost position, wait 30 seconds, and then turn it to the panel position (dual-zone) or panel / recirculation position (single-zone). Wait 30 seconds before proceeding.

4. ACTUATOR CALIBRATION TEST

1. Ignition on, engine not running.
2. Using the scan tool, select Actuator Calibration Test. When the test is complete, read HVAC DTCs.

Does the scan tool display any DTCs?

Yes

- See 28 - DTC-Based Diagnostics/HVAC and perform the appropriate diagnostic procedure based on vehicle HVAC system.

No

- Test Complete.

HVAC PRE-DIAGNOSTIC TROUBLESHOOTING PROCEDURE

For complete wiring diagrams, refer to **SYSTEM WIRING DIAGRAMS** .

Perform the following steps prior to any diagnostic procedure(s).

- Testing should only be performed with the battery fully charged to avoid false diagnosis.
- With the scan tool, read Powertrain Control Module (PCM) Diagnostic Trouble Codes (DTCs). If PCM DTCs are present. Refer to **DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure(s) before proceeding.
- Depending on the vehicle configuration, with the scan tool, read Totally Integrated Power Module (TIPM) DTCs. If TIPM DTCs are present. Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure(s) before proceeding.
- With the scan tool, read HVAC DTCs. Record all Stored, Active, and Pending DTC information.
- With the scan tool, read the Environmental Data. Use this data to help identify the conditions in which the DTC was set.
- Refer to the When Monitored and Set Conditions for this DTC. DTCs can set at ignition on, at start up, or operating under specific conditions.
- Using the wiring diagram as a guide, inspect the wiring and connectors related to this circuit and clean/repair as necessary.
- Check for controller software updates if applicable. Some conditions can be corrected by upgrading the controller software.

NOTE: **If the controller is updated with new software, with the scan tool, perform a HVAC Actuator Calibration Test.**

- Check for Service Information Tune-ups or Service Bulletins for any possible causes that may apply.

Did any of the above procedures repair the vehicle?

Yes

- Testing is complete.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

No

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

HVAC VERIFICATION TEST

Perform the following procedures to verify that the repair(s) are valid.

1. Make sure that all accessories are turned off.
2. Make sure that the battery is fully charged.
3. Turn the ignition off to the lock position.
4. Disconnect all jumper wires and reconnect all previously disconnected components and connectors.
5. With the scan tool, record and erase all Diagnostic Trouble Codes (DTCs) from ALL modules.
6. Turn the ignition off, remove the scan tool from the DLC (Data Link Connector). Open the door and close the door. Wait a minimum 30 seconds, then turn the ignition on. Reconnect the scan tool.

NOTE: **Disconnecting the scan tool and opening and closing the door will allow the controller to enter into sleep mode.**

7. With the scan tool perform the HVAC Actuator Calibration Test.
8. Start and run the engine for two minutes while operating all functions of the system that caused the original concern.
9. With the scan tool, check for DTCs in all modules.

Is the original condition still present or are there any other HVAC DTCs present?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Repair is complete.