

2009 Dodge Journey R/T

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

2009 HVAC**Heating & Air Conditioning (MTC) - Electrical Diagnostics - Journey****DIAGNOSTIC CODE INDEX****DIAGNOSTIC CODE INDEX**

DTC	Description
<u>B1000</u>	A/C SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1009</u>	RECIRCULATION SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1015</u>	REAR DEFROST SWITCH REQUEST INPUT CIRCUIT/PERFORMANCE
<u>B1031</u>	EVAPORATOR TEMPERATURE SENSOR CIRCUIT LOW
<u>B1032</u>	EVAPORATOR TEMPERATURE SENSOR CIRCUIT HIGH
<u>B1040</u>	PANEL MODE DOOR 1 CONTROL CIRCUIT/PERFORMANCE
<u>B1043</u>	PANEL MODE DOOR 1 CONTROL CIRCUIT OPEN
<u>B1044</u>	PANEL MODE DOOR 1 TRAVEL RANGE TOO SMALL
<u>B1045</u>	PANEL MODE DOOR 1 TRAVEL RANGE TOO LARGE
<u>B1058</u>	RECIRCULATION DOOR CONTROL CIRCUIT/PERFORMANCE
<u>B105B</u>	RECIRCULATION DOOR CONTROL CIRCUIT OPEN
<u>B105C</u>	RECIRCULATION DOOR TRAVEL RANGE TOO SMALL
<u>B105D</u>	RECIRCULATION DOOR TRAVEL RANGE TOO LARGE
<u>B10A2</u>	LEFT BLEND DOOR 1 CONTROL CIRCUIT/PERFORMANCE
<u>B10A5</u>	LEFT BLEND DOOR CONTROL CIRCUIT OPEN
<u>B10A6</u>	LEFT BLEND DOOR 1 TRAVEL TOO SMALL
<u>B10A7</u>	LEFT BLEND DOOR TRAVEL TOO LARGE
<u>B10B2</u>	A/C COOL DOWN TEST PERFORMANCE
<u>B160F</u>	TWILIGHT/AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT/PERFORMANCE
<u>B1610</u>	AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT LOW
<u>B1611</u>	AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT HIGH
<u>B210A</u>	SYSTEM VOLTAGE LOW
<u>B210B</u>	SYSTEM VOLTAGE HIGH
<u>B2214</u>	(HVAC) CLIMATE CONTROL INTERNAL
<u>U0010</u>	CAN INTERIOR BUS
<u>U0019</u>	CAN B BUS
<u>U0141</u>	LOST COMMUNICATION WITH IPM (FCM/TIPM)
<u>U0151</u>	LOST COMMUNICATION WITH OCCUPANT RESTRAINT CONTROLLER (ORC)
<u>U0155</u>	LOST COMMUNICATION WITH CLUSTER/CCN
<u>U0167</u>	LOST COMMUNICATION WITH INTRUSION TRANSCEIVER CONTROL MODULE
<u>U0168</u>	LOST COMMUNICATION WITH VEHICLE SECURITY CONTROL MODULE (WIN)

2009 Dodge Journey R/T

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

<u>U0184</u>	LOST COMMUNICATION WITH RADIO
<u>U0186</u>	LOST COMMUNICATION WITH AUDIO AMPLIFIER
<u>U0197</u>	LOST COMMUNICATION WITH HANDS FREE PHONE MODULE
<u>U0203</u>	LOST COMMUNICATION WITH DOOR MODULE FRONT LEFT
<u>U0249</u>	LOST COMMUNICATION WITH VEHICLE ENTERTAINMENT CONTROL MODULE - LAST ROW
<u>B1000-92</u>	A/C SWITCH REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION
<u>B1009-92</u>	RECIRCULATION SWITCH REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION
<u>B1015-92</u>	EBL / REAR DEFROST SWITCH REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION
<u>B1030-11</u>	EVAPORATOR TEMPERATURE SENSOR - CIRCUIT SHORT TO GROUND
<u>B1030-12</u>	EVAPORATOR TEMPERATURE SENSOR - CIRCUIT SHORT TO BATTERY
<u>B1058-11</u>	RECIRCULATION DOOR CONTROL - CIRCUIT SHORT TO GROUND
<u>B1058-12</u>	RECIRCULATION DOOR CONTROL - CIRCUIT SHORT TO BATTERY
<u>B1058-13</u>	RECIRCULATION DOOR CONTROL - CIRCUIT OPEN
<u>B1058-92</u>	RECIRCULATION DOOR CONTROL - PERFORMANCE OR INCORRECT OPERATION
<u>B105C-00</u>	RECIRCULATION DOOR TRAVEL RANGE TOO SMALL
<u>B105D-00</u>	RECIRCULATION DOOR TRAVEL RANGE TOO LARGE
<u>B10B2-00</u>	A/C COOL DOWN TEST PERFORMANCE
<u>B11C2-11</u>	FRONT MODE DOOR 1 CONTROL - CIRCUIT SHORT TO GROUND
<u>B11C2-12</u>	FRONT MODE DOOR 1 CONTROL - CIRCUIT SHORT TO BATTERY
<u>B11C2-13</u>	FRONT MODE DOOR 1 CONTROL - CIRCUIT OPEN
<u>B11C2-92</u>	FRONT MODE DOOR 1 CONTROL - PERFORMANCE OR INCORRECT OPERATION
<u>B11C3-00</u>	FRONT MODE DOOR 1 TRAVEL RANGE TOO SMALL
<u>B11C4-00</u>	FRONT MODE DOOR 1 TRAVEL RANGE TOO LARGE
<u>B11CB-11</u>	MAIN/LEFT TEMPERATURE DOOR CONTROL - CIRCUIT SHORT TO GROUND
<u>B11CB-12</u>	MAIN/LEFT TEMPERATURE DOOR CONTROL - CIRCUIT SHORT TO BATTERY
<u>B11CB-13</u>	MAIN/LEFT TEMPERATURE DOOR CONTROL - CIRCUIT OPEN
<u>B11CB-92</u>	MAIN/LEFT TEMPERATURE DOOR CONTROL - PERFORMANCE OR INCORRECT OPERATION
<u>B11CC-00</u>	MAIN/LEFT TEMPERATURE DOOR TRAVEL TOO SMALL
<u>B11CD-00</u>	MAIN/LEFT TEMPERATURE DOOR TRAVEL TOO LARGE
<u>B11D9-92</u>	BLOWER SPEED KNOB REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION
<u>B160F-11</u>	TWILIGHT/AMBIENT LIGHT SENSOR INPUT - CIRCUIT SHORT TO GROUND

2009 Dodge Journey R/T

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

<u>B160F-12</u>	TWILIGHT/AMBIENT LIGHT SENSOR INPUT - CIRCUIT SHORT TO BATTERY
<u>B160F-92</u>	TWILIGHT/AMBIENT LIGHT SENSOR INPUT - PERFORMANCE OR INCORRECT OPERATION
<u>B210A-84</u>	SYSTEM VOLTAGE LOW - SIGNAL BELOW ALLOWABLE RANGE
<u>B210B-85</u>	SYSTEM VOLTAGE HIGH - SIGNAL ABOVE ALLOWABLE RANGE
<u>B210D-84</u>	BATTERY VOLTAGE LOW - SIGNAL BELOW ALLOWABLE RANGE
<u>B210E-85</u>	BATTERY VOLTAGE HIGH - SIGNAL ABOVE ALLOWABLE RANGE
<u>B2214-00</u>	(HVAC) CLIMATE CONTROL INTERNAL
<u>B222A-00</u>	VEHICLE LINE MISMATCH
<u>U0010-00</u>	CAN INTERIOR BUS
<u>U0141-00</u>	LOST COMMUNICATION WITH IPM (FCM/TIPM)
<u>U0155-00</u>	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 two 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 two 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 two 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 two minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Recirculation mode switch is stuck in a On position for more than two 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 mode switch in an On position.

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

Is the Recirculation 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 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 two 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**.

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 Diagnostic Trouble Code (DTC) indicates that the switch was stuck in a On position for more than two minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Electric Back light (EBL) Electronic Rear Defrost switch is stuck in an On position for more than two 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 (EBL) Electronic 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 (EBL) Electronic 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. 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 two 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**.

B1031-EVAPORATOR TEMPERATURE SENSOR CIRCUIT LOW

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 equal to or below 0.01 volts for a continuous period of five 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?

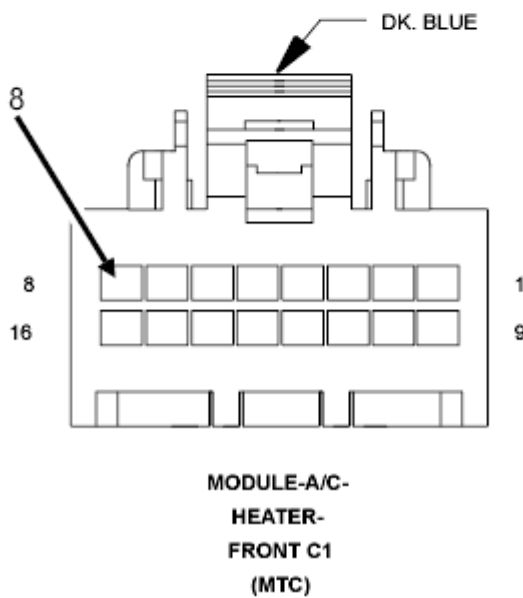
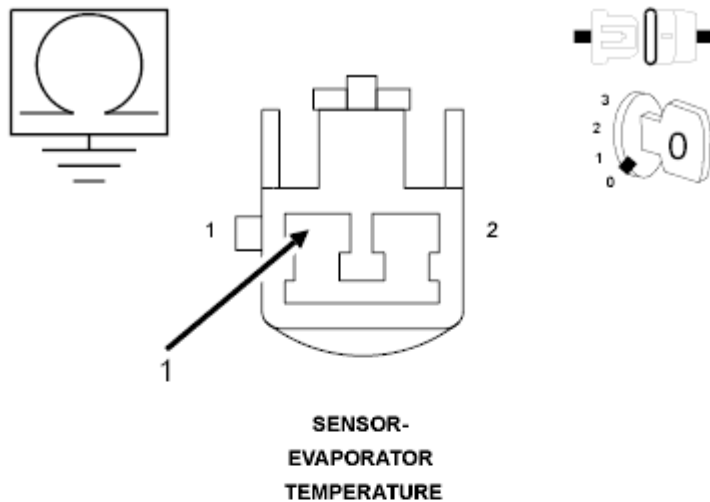
Yes

- Go to step 2

No

- Go to step 5

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



2035616

Fig. 1: 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 C1 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

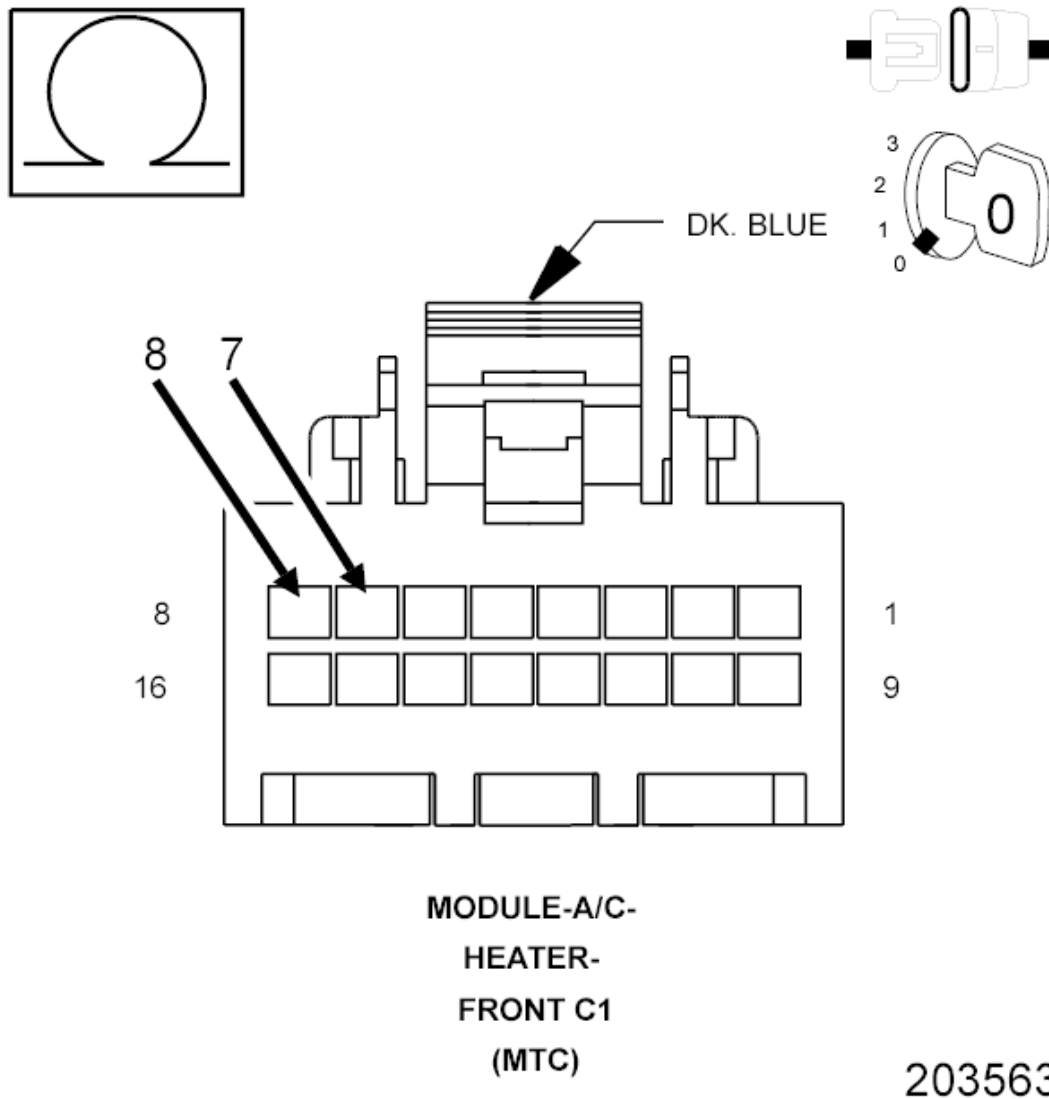


Fig. 2: Checking Evaporator Temperature Sensor Signal Circuit For A Short To Sensor Ground Circuit

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 5 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
3. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
4. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
5. Wiggle the wiring and connectors while checking for shorted and open circuits.
6. Using 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**.

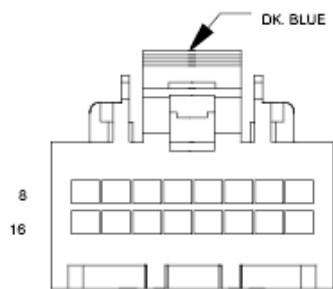
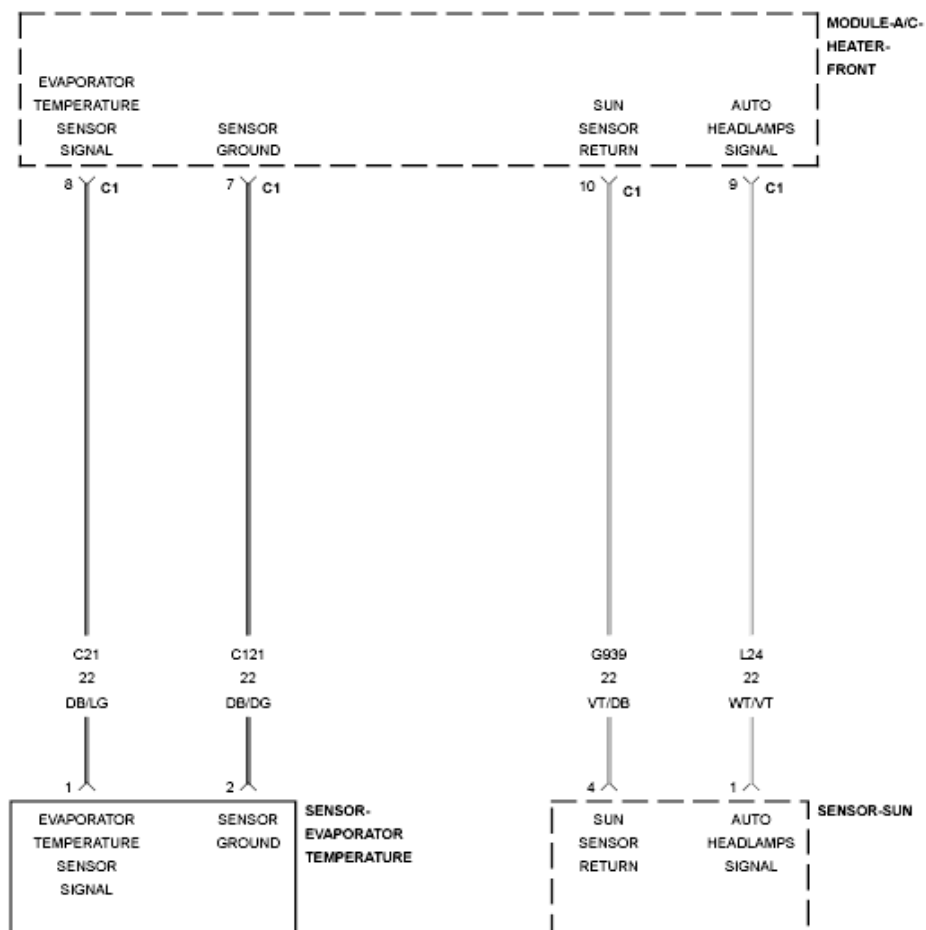
No

- Test complete.

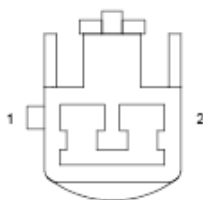
2009 Dodge Journey R/T

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

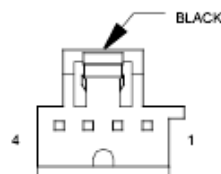
B1032-EVAPORATOR TEMPERATURE SENSOR CIRCUIT HIGH



MODULE-A/C-
HEATER-
FRONT C1
(MTC)



SENSOR-
EVAPORATOR
TEMPERATURE



SENSOR-SUN

Fig. 3: 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 five seconds. If the A/C Heater Control detects a valid voltage, the 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 SHORT 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. With the scan tool, read HVAC DTCs after 10 seconds.

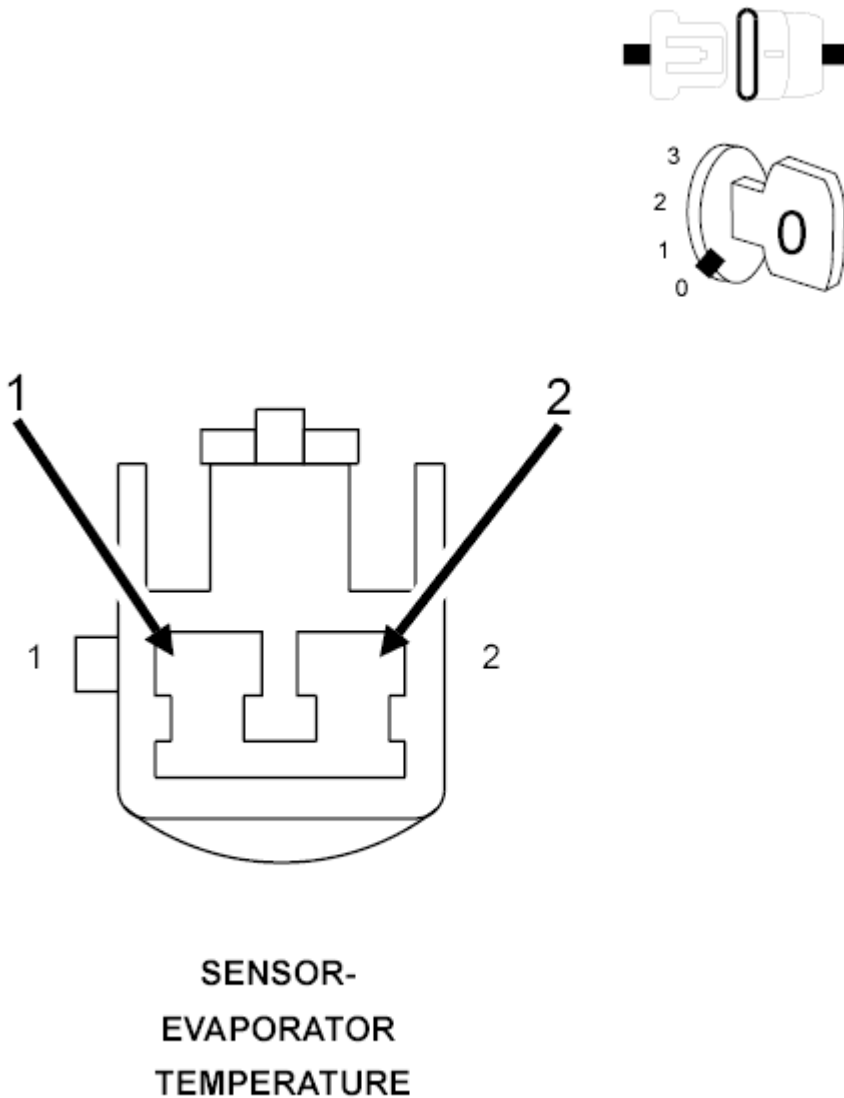
Is this DTC active?

Yes

- Go to step 2

No

- Go to step 7

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

2036093

Fig. 4: 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.

2009 Dodge Journey R/T

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

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

Is the voltage below 0.1 volt?

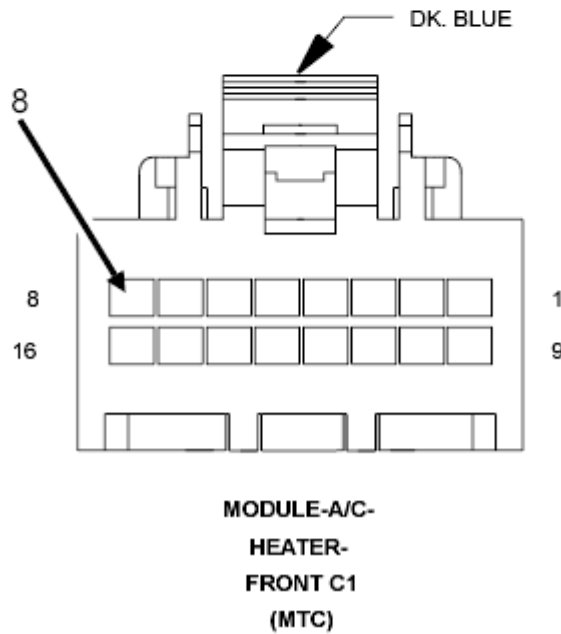
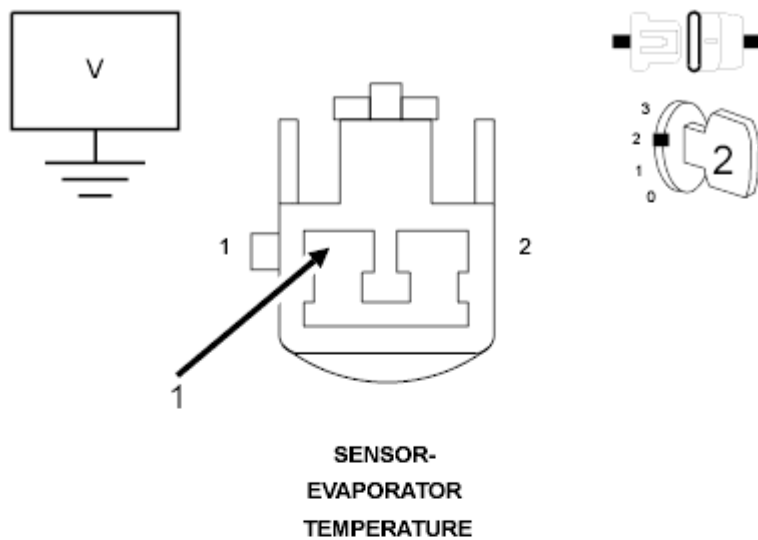
Yes

- Replace the Evaporator Temperature Sensor in accordance with the Service Information.
- Perform 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**



2036111

Fig. 5: 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 C1 harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C21) Evaporator Temperature Sensor Signal circuit

2009 Dodge Journey R/T

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

Is there any voltage present?

Yes

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

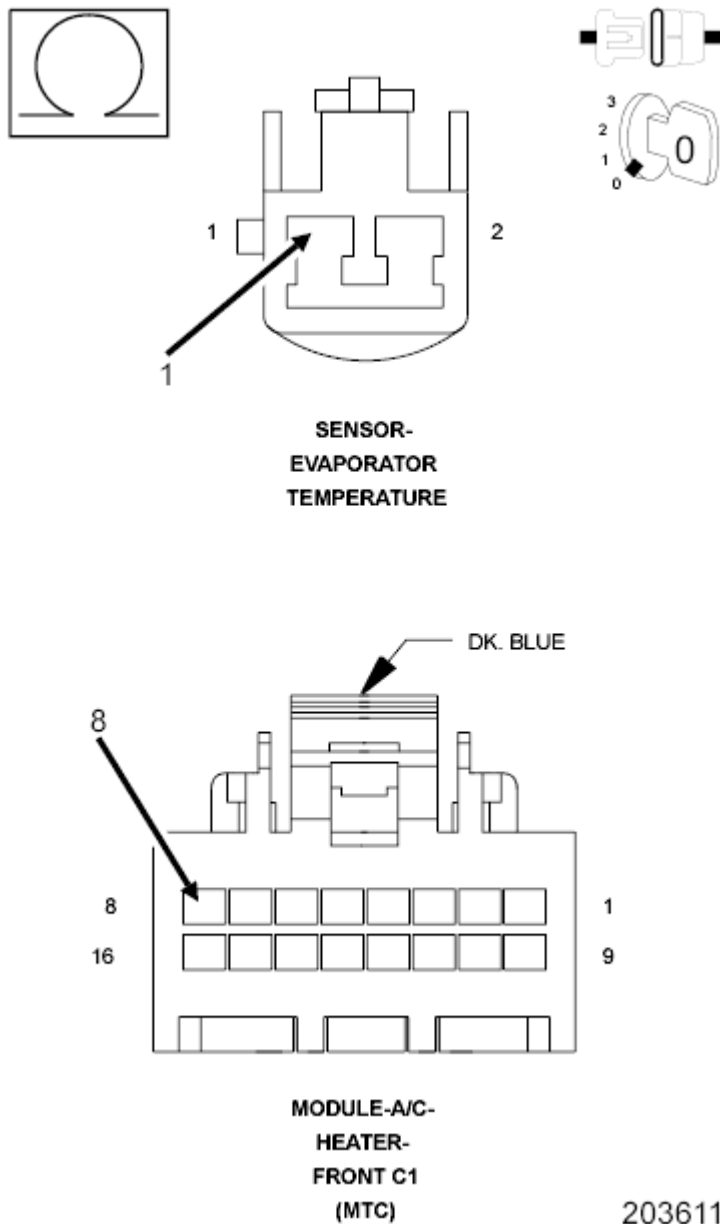


Fig. 6: Checking Evaporator Temperature Sensor Signal Circuit For An Open
Courtesy of CHRYSLER LLC

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 C1 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 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

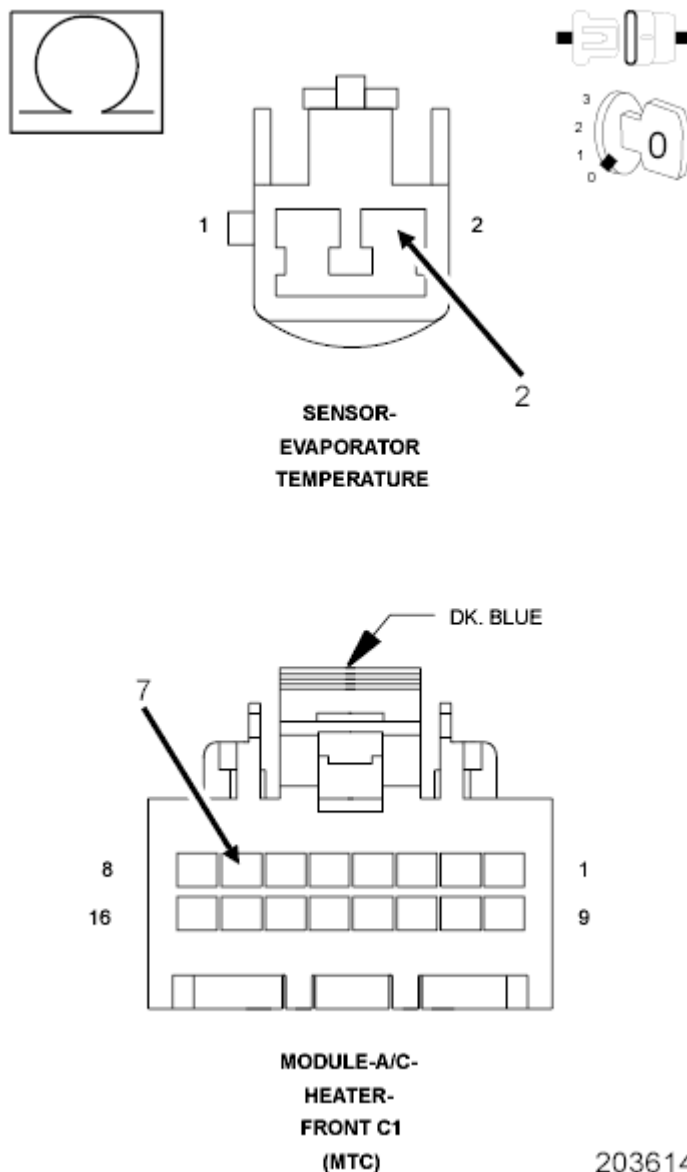


Fig. 7: Checking Sensor Ground Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control C1

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.
- Perform 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 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 5 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 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
3. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
4. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
5. Wiggle the wiring and connectors while checking for shorted and open circuits.
6. With the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.

Were there any problems found?

2009 Dodge Journey R/T

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

Yes

- Repair as necessary.
- Perform 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 (MTC) - Electrical Diagnostics - Journey

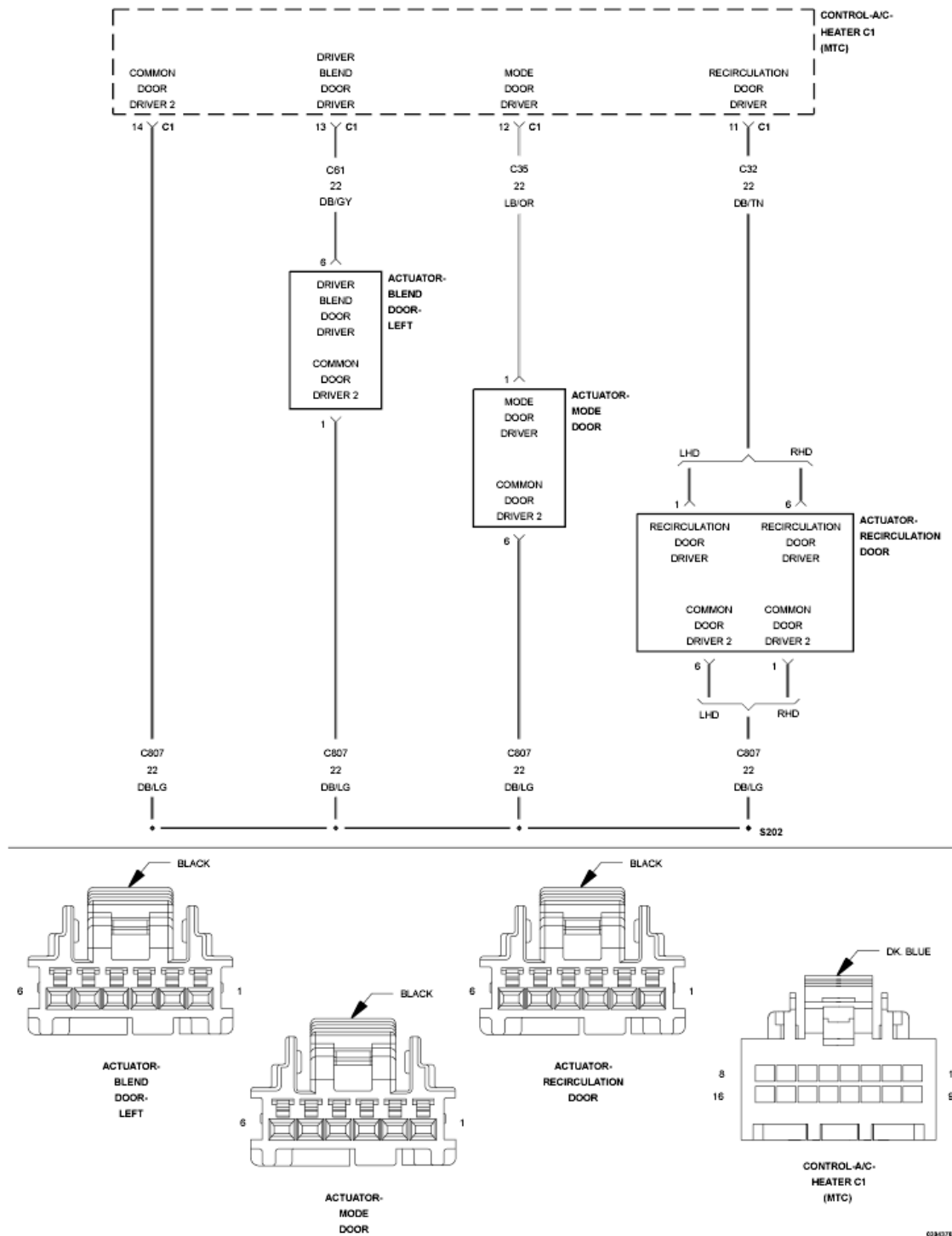


Fig. 8: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 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 an overcurrent condition is detected in either clockwise or counterclockwise movement for the period of five seconds. If the A/C Heater Control detects valid current draw for 10 seconds, 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
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
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. With the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 3

No

2009 Dodge Journey R/T

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

- Go to step 2

2. **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?

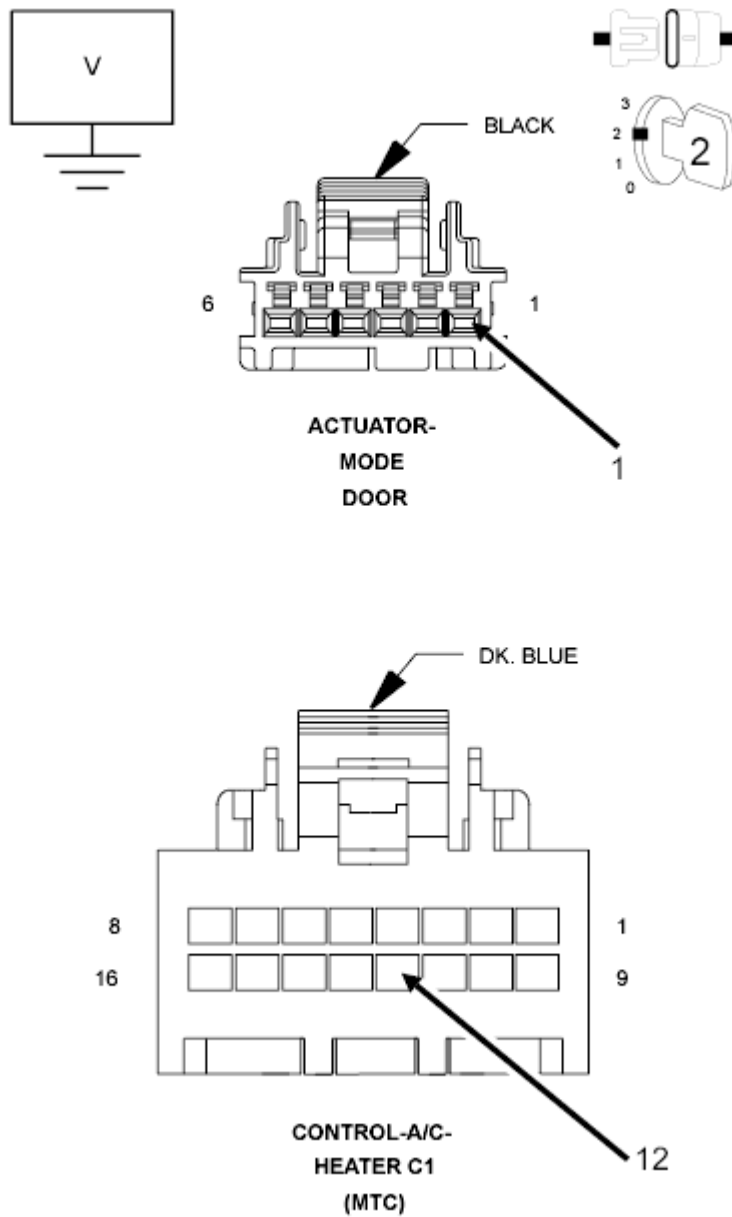
Yes

- Go to step 3

No

- Go to step 9

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



2043787

Fig. 9: 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 C1 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?

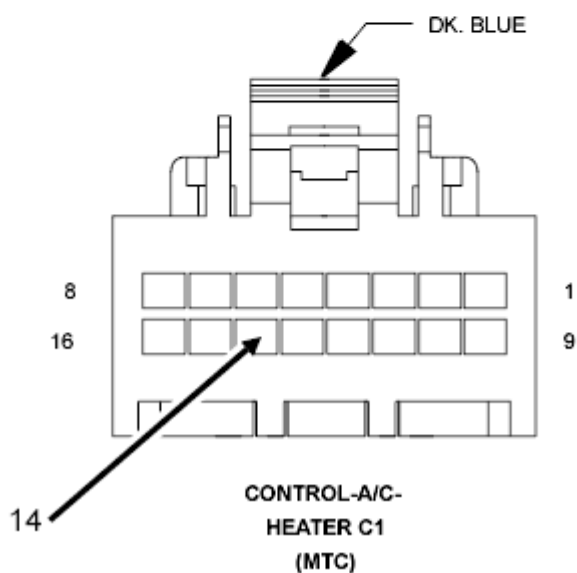
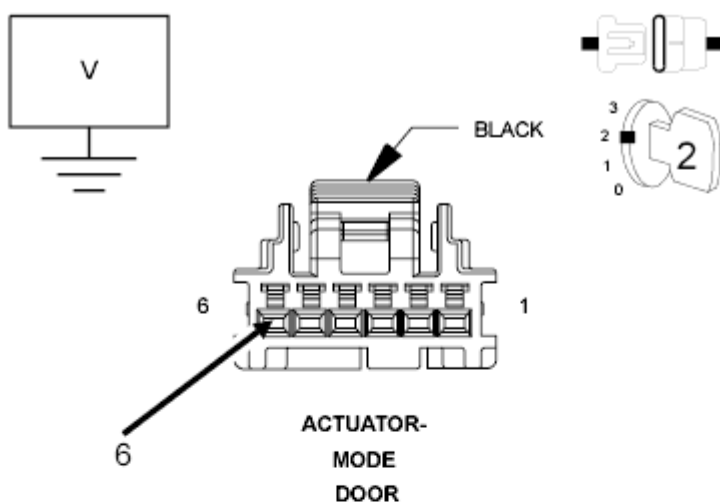
Yes

- 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



2043819

Fig. 10: 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?

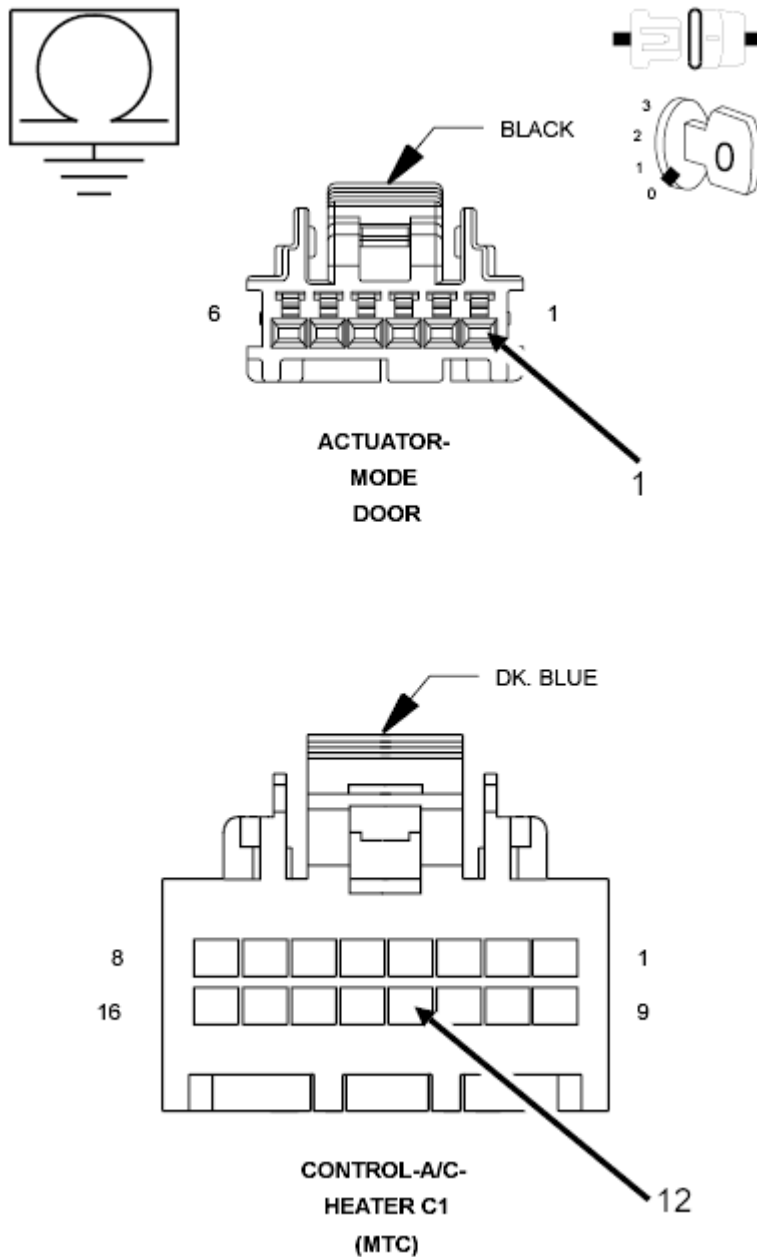
Yes

- 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 (C35) MODE DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND**



2043811

Fig. 11: 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?

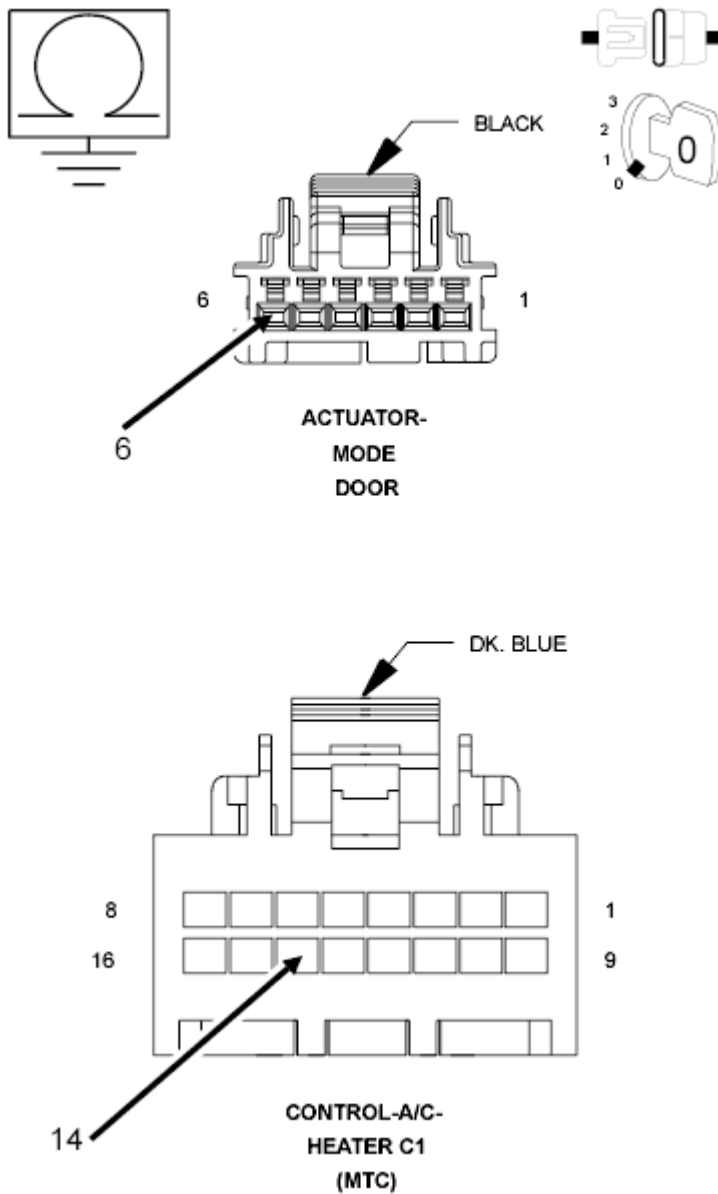
Yes

- 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



2043873

Fig. 12: 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 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 8

8. 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 System 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**.

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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B1043-PANEL MODE DOOR 1 CONTROL CIRCUIT OPEN

2009 Dodge Journey R/T

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

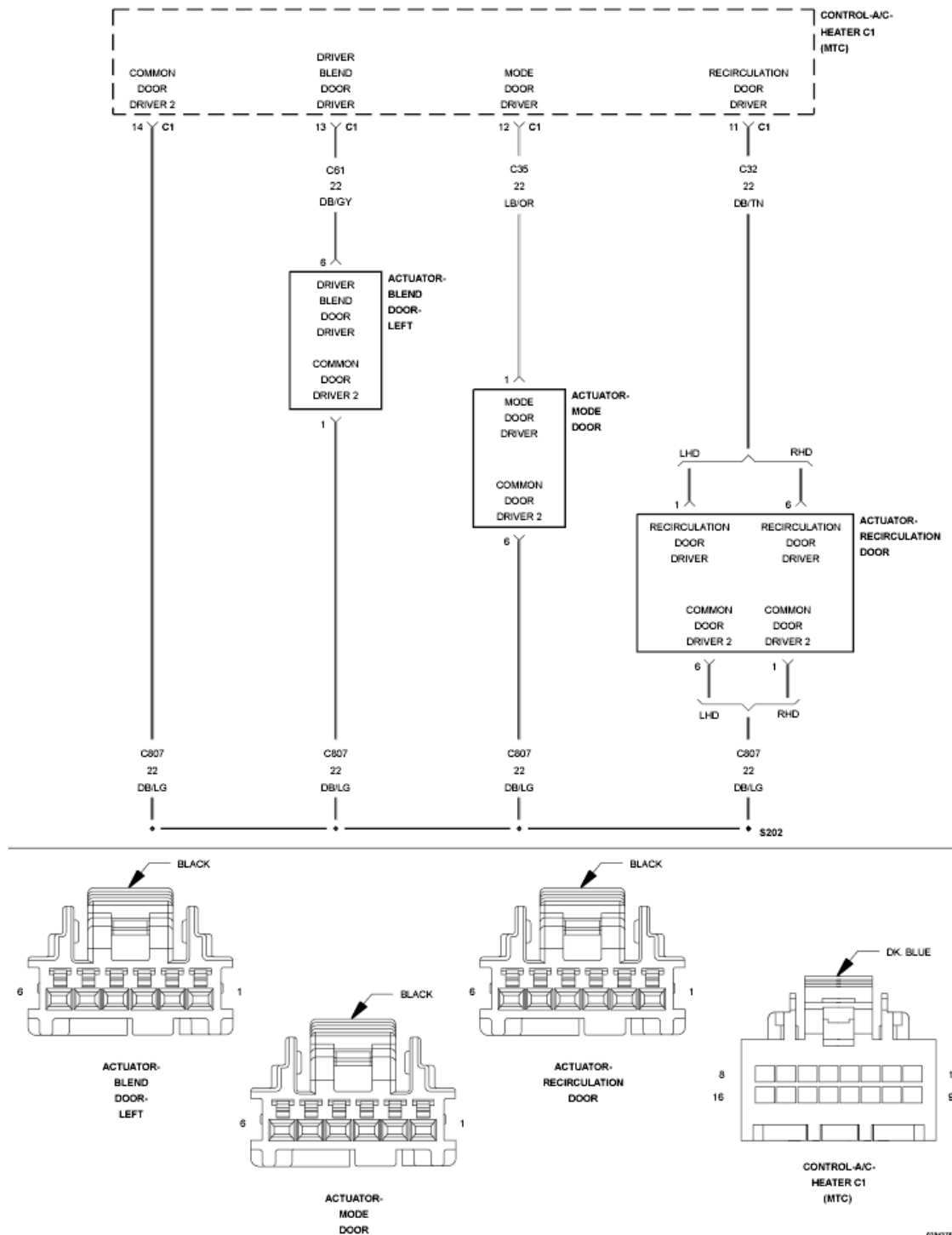


Fig. 13: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 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 when a HVAC Actuator Calibration Test is performed.

- **Set Condition:**

If an HVAC Actuator Calibration Test is performed the A/C Heater Control detects there are no feedback pulses detected in that direction, the controller commands the actuator in the opposite direction. If no feedback pulses are detected in either direction this DTC will set. If the A/C Heater Control detects a valid pulse feedback 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 OPEN
(C807) COMMON DOOR DRIVER 2 CIRCUIT OPEN
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 OTHER DTCs

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

Is there more than one Door Control Circuit Open DTC present?

Yes

- Repair the (C807) Common Door Driver 2 circuit for an open.

NOTE:

Due to the common shared driver circuit, probable area of concern is the splice, or from the splice to the A/C Heater Control harness connector. Make sure to check all inline connectors.

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 7

4. CHECK THE MODE DOOR ACTUATOR

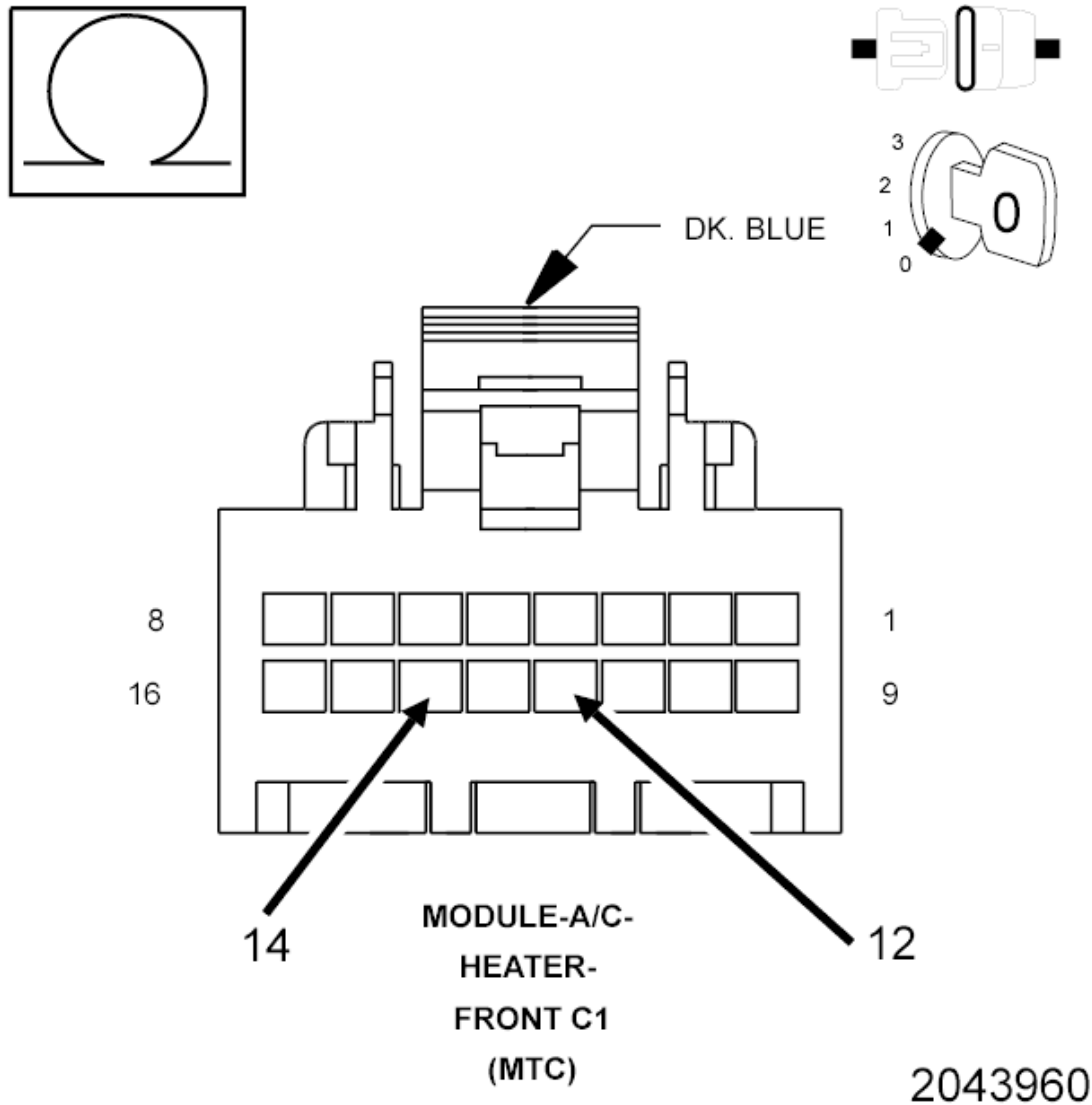


Fig. 14: Checking Mode Door Actuator

Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Measure the resistance between the (C35) Mode Door Driver circuit and the (C807) Common Door Driver 2 circuit.

Is the resistance 38.0 Ohms (± 5.0 Ohms)?

Yes

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

Procedure.**No**

- Go to step 5

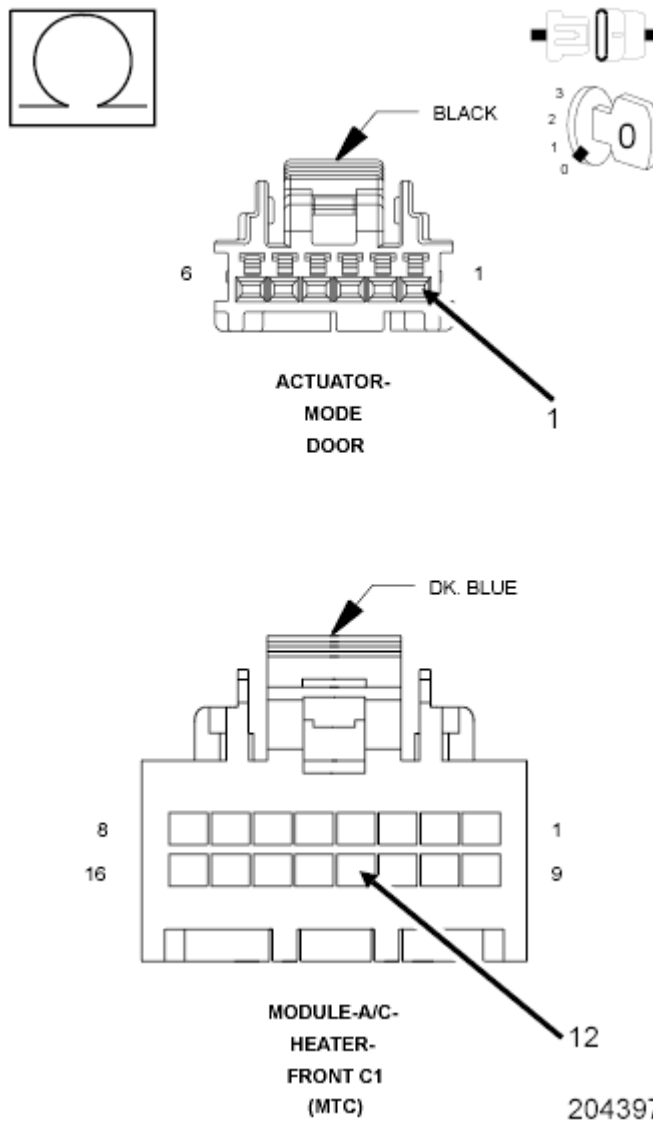
5. CHECK THE (C35) MODE DOOR DRIVER CIRCUIT FOR AN OPEN

Fig. 15: Checking Mode Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Mode Door Actuator harness connector.
3. Measure the resistance of the (C35) Mode Door Driver circuit between the A/C Heater Control C1 harness connector and the Mode Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C35) Mode Door Driver circuit for an open or high resistance.
- Perform 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 AN OPEN

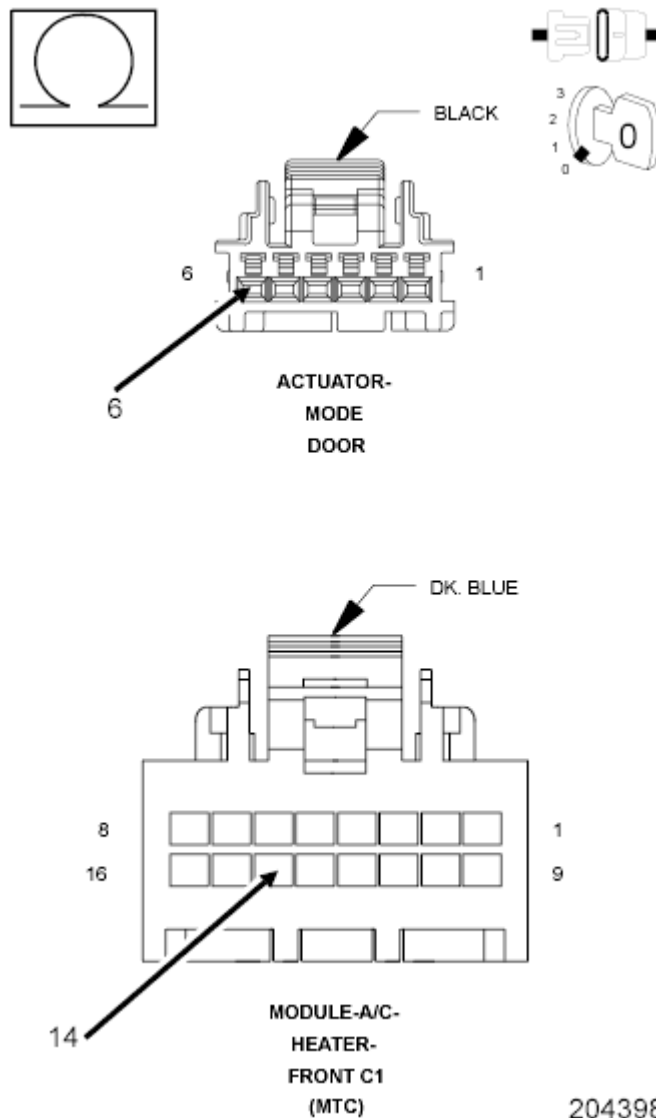


Fig. 16: Checking Common Door Driver 2 Circuit For An Open

Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C807) Common Door Driver 2 circuit between the A/C Heater Control C1 harness connector and the Mode Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C807) Common Door Driver 2 circuit for an open or high resistance.

NOTE: **Probable location is the wiring harness splice or the wiring between the splice and the door actuator.**

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

No

- Replace the Mode Door Actuator in accordance with the Service Information.
- Perform 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. Wiggle the wiring and connectors while checking for shorted and open circuits.

Were there any problems found?

Yes

- Repair as necessary.
- Perform 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:**

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 Circuit Open or 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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:**

During normal operation 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 Circuit Open or 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B1058-RECIRCULATION DOOR CONTROL CIRCUIT/PERFORMANCE

2009 Dodge Journey R/T

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

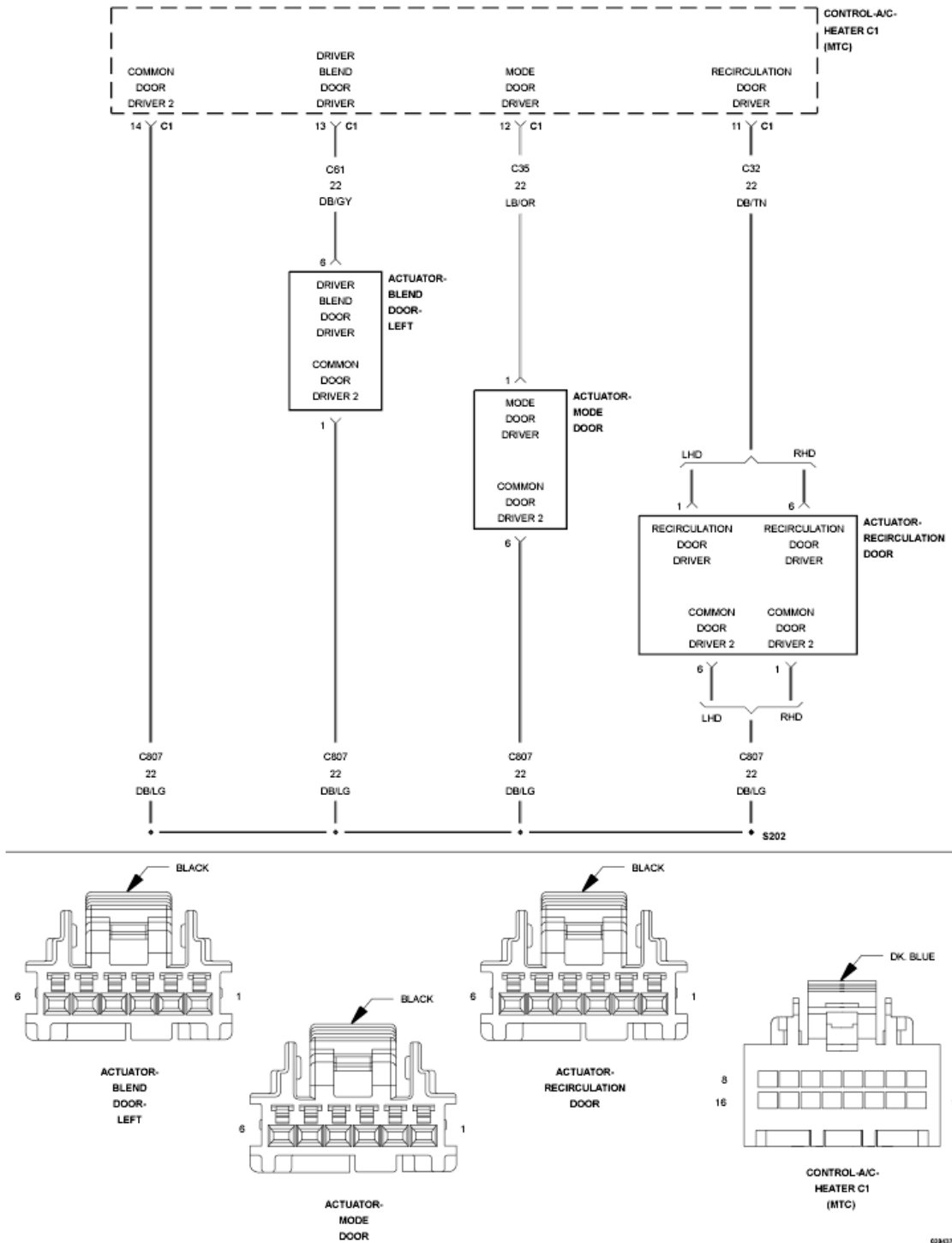


Fig. 17: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 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 an overcurrent condition is detected in either clockwise or counterclockwise movement for the period of five seconds. If the A/C Heater Control detects valid current draw for 10 seconds, 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
 (C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
 (C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
 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. With 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. 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 3

No

- Go to step 9

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

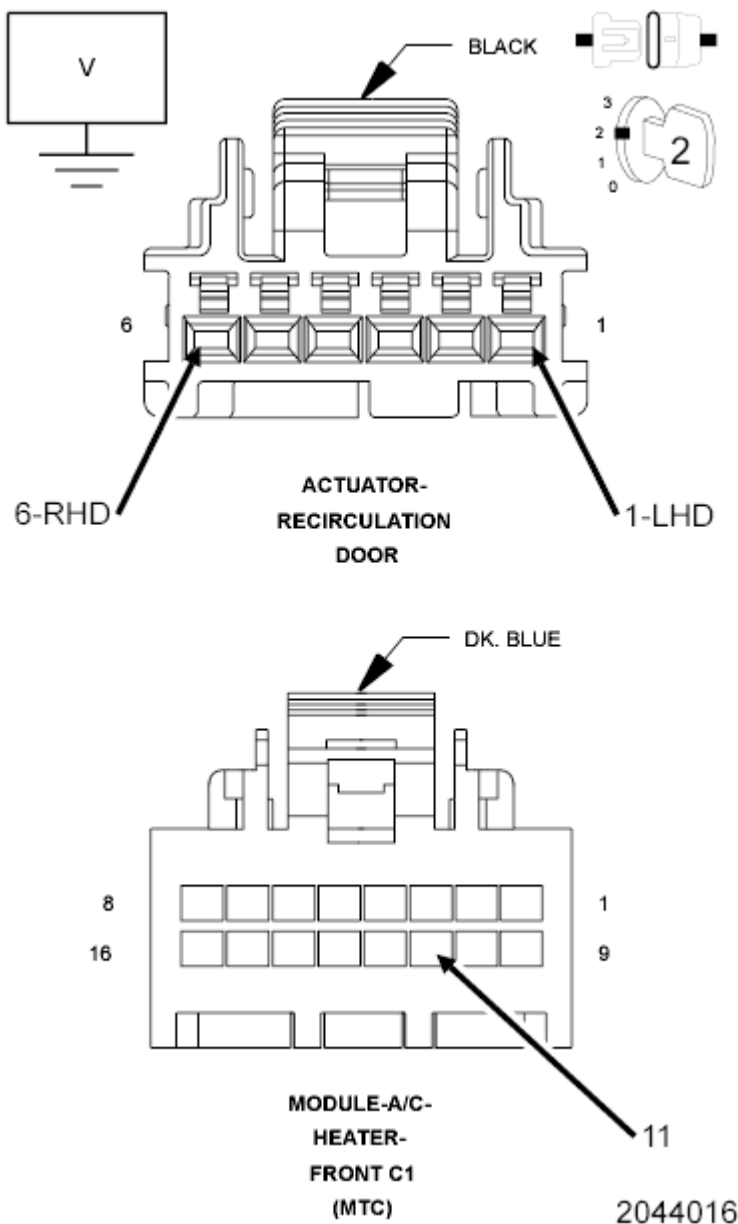


Fig. 18: Checking Recirculation Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 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?

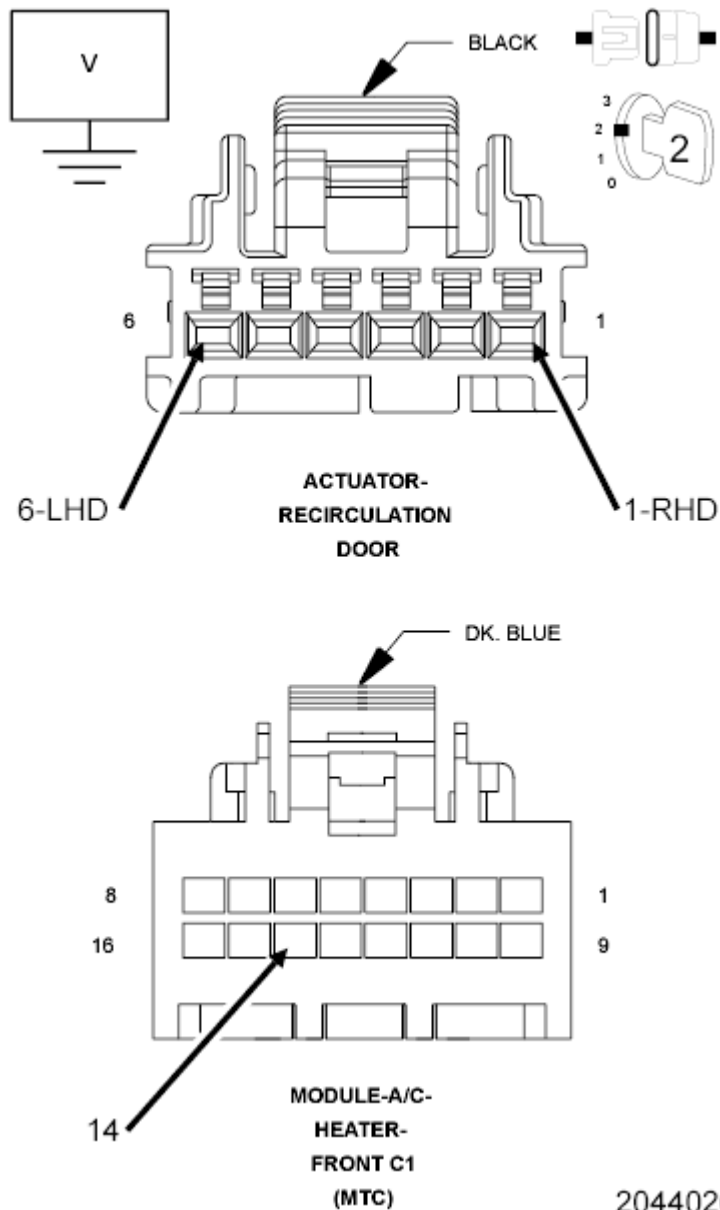
Yes

- 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



2044026

Fig. 19: 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**

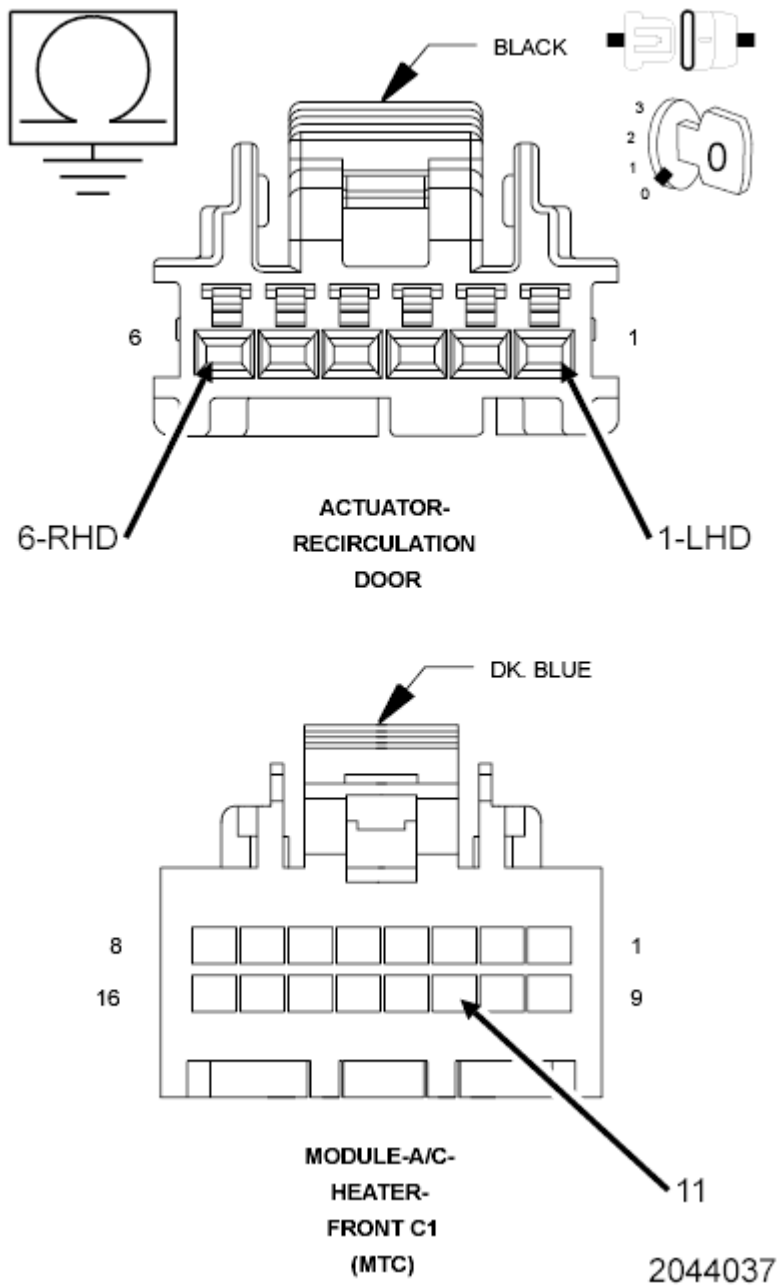


Fig. 20: Checking Recirculation Door Driver Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

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?

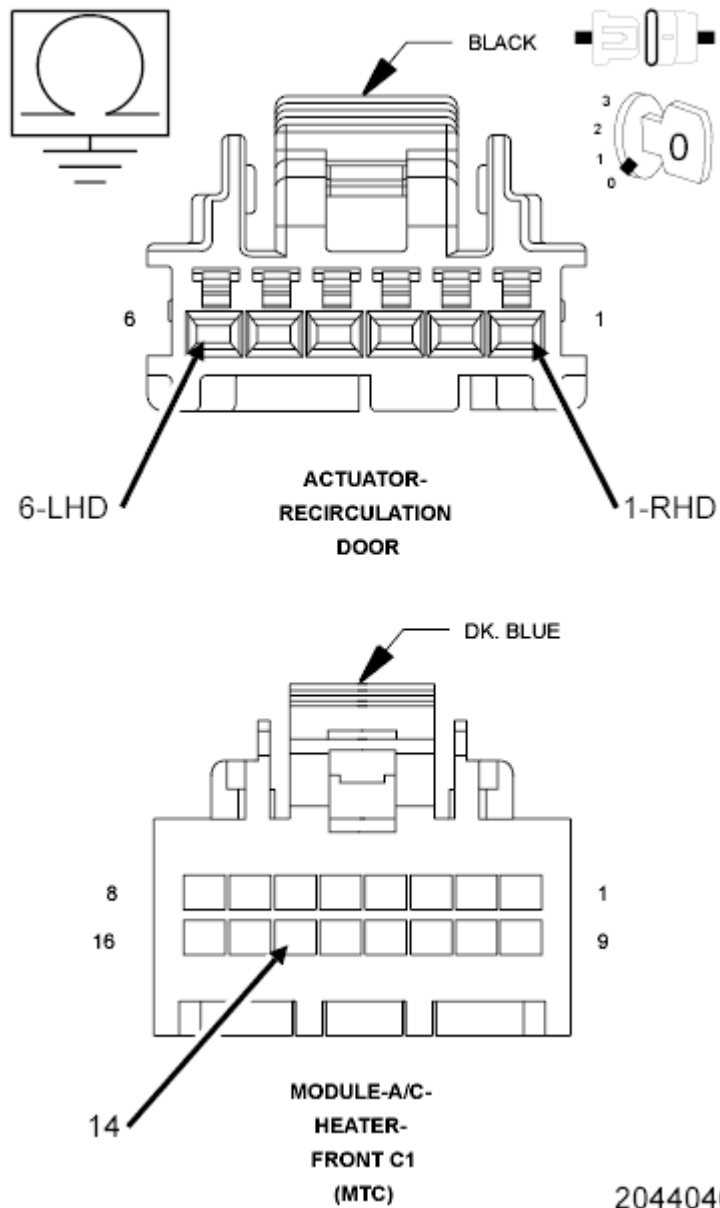
Yes

- 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



2044046

Fig. 21: 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 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 8

8. 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**.

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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B105B-RECIRCULATION DOOR CONTROL CIRCUIT OPEN

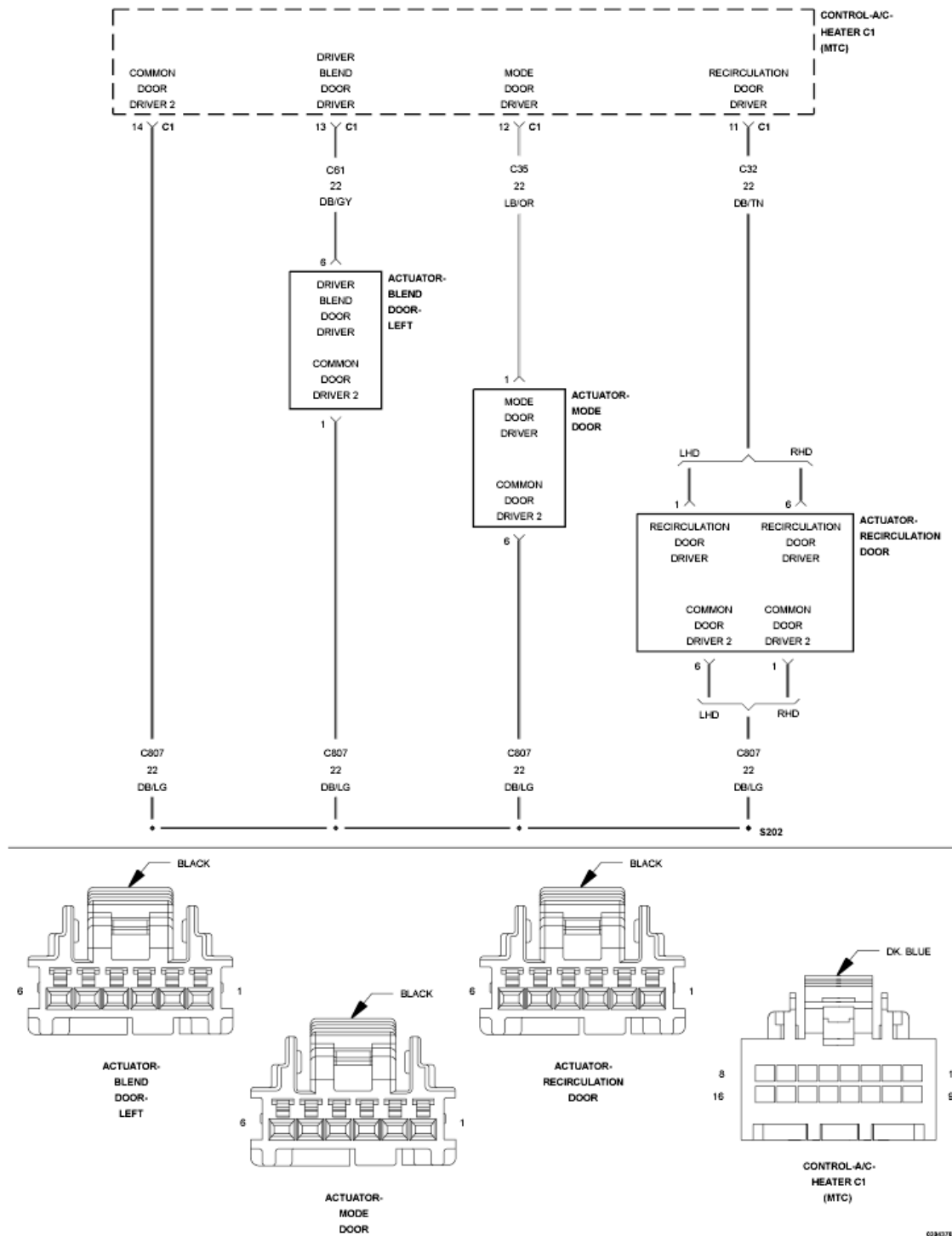


Fig. 22: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 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 when a HVAC Actuator Calibration Test is performed.

- **Set Condition:**

If an HVAC Actuator Calibration Test is performed the A/C Heater Control detects there are no feedback pulses detected in that direction, the controller commands the actuator in the opposite direction. If no feedback pulses are detected in either direction this DTC will set. If the A/C Heater Control detects a valid pulse feedback 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 OPEN (C807) COMMON DOOR DRIVER 2 CIRCUIT OPEN 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 OTHER DTCs

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

Is there more than one Door Control Circuit Open DTC present?

Yes

- Repair the (C807) Common Door Driver 2 circuit for an open.

NOTE: Due to the common shared driver circuit, probable area of concern is the splice, or from the splice to the A/C Heater Control harness connector. Make sure to check all inline connectors.

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 7

4. CHECK THE RECIRCULATION DOOR ACTUATOR

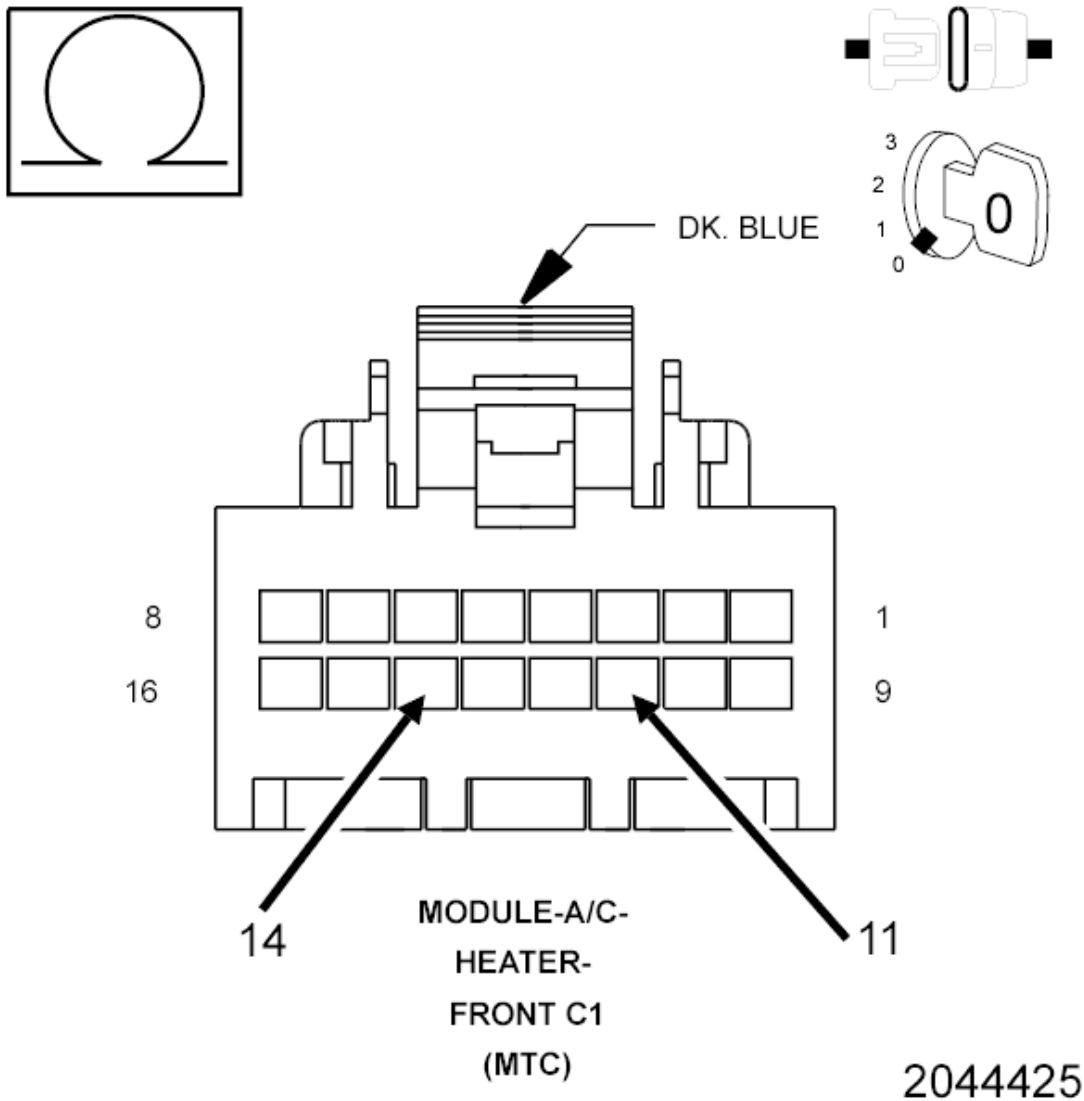


Fig. 23: Checking Recirculation Door Actuator
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Measure the resistance between the (C32) Recirculation Door Driver circuit and the (C807) Common Door Driver 2 circuit.

Is the resistance 38.0 Ohms (± 5.0 Ohms)?

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

- Go to step 5

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

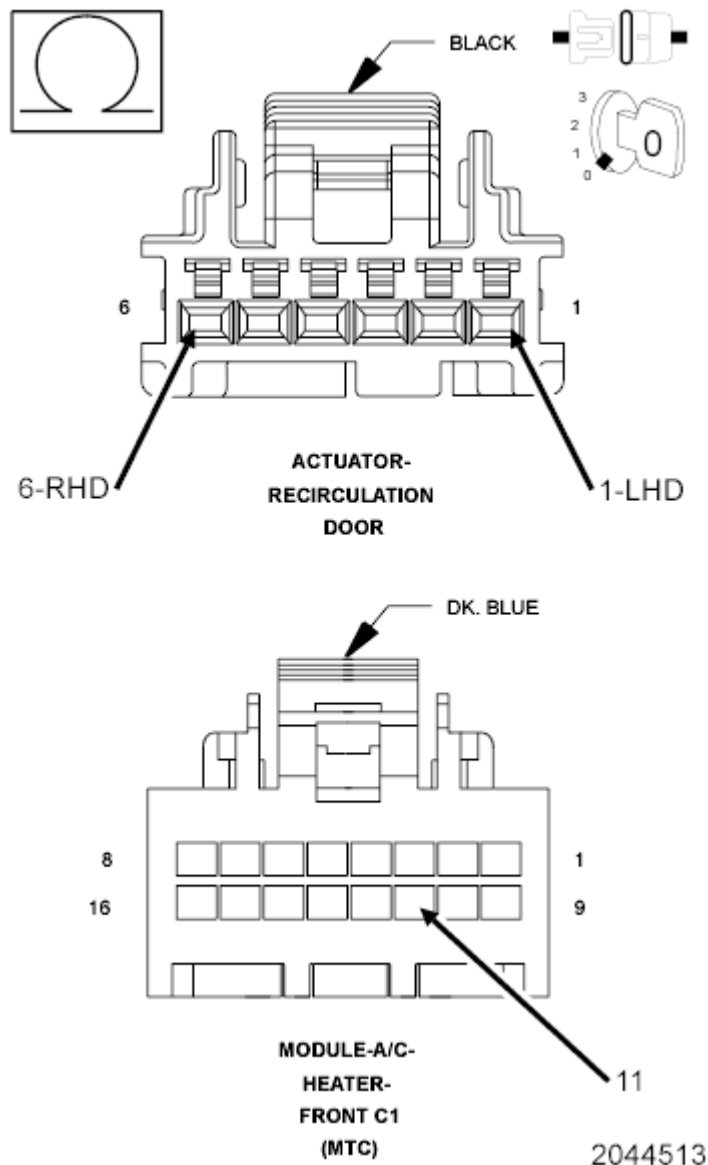


Fig. 24: Checking Recirculation Door Driver Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Recirculation Door Actuator harness connector.
3. Measure the resistance of the (C32) Recirculation Door Driver circuit between the A/C Heater

2009 Dodge Journey R/T

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

Control C1 harness connector and the Recirculation Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

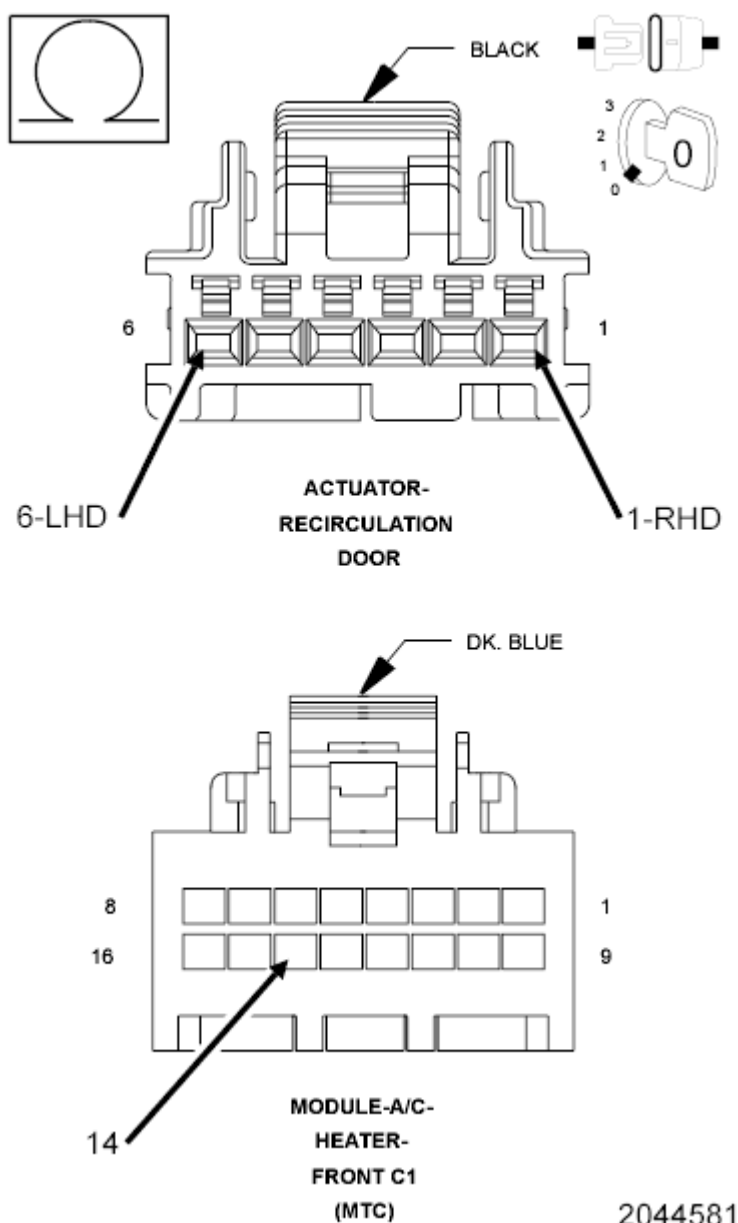
Yes

- 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**.

No

- Go to step 6

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



2044581

Fig. 25: 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 C1 harness connector and the Recirculation Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C807) Common Door Driver 2 circuit for an open or high resistance.

NOTE: Probable location is the wiring harness splice or the wiring between the splice and the door actuator.

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

No

- Replace the Recirculation Door Actuator 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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:**

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 Open or 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 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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:**

During normal operation 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 Open or 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 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B10A2-LEFT BLEND DOOR 1 CONTROL CIRCUIT/PERFORMANCE

2009 Dodge Journey R/T

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

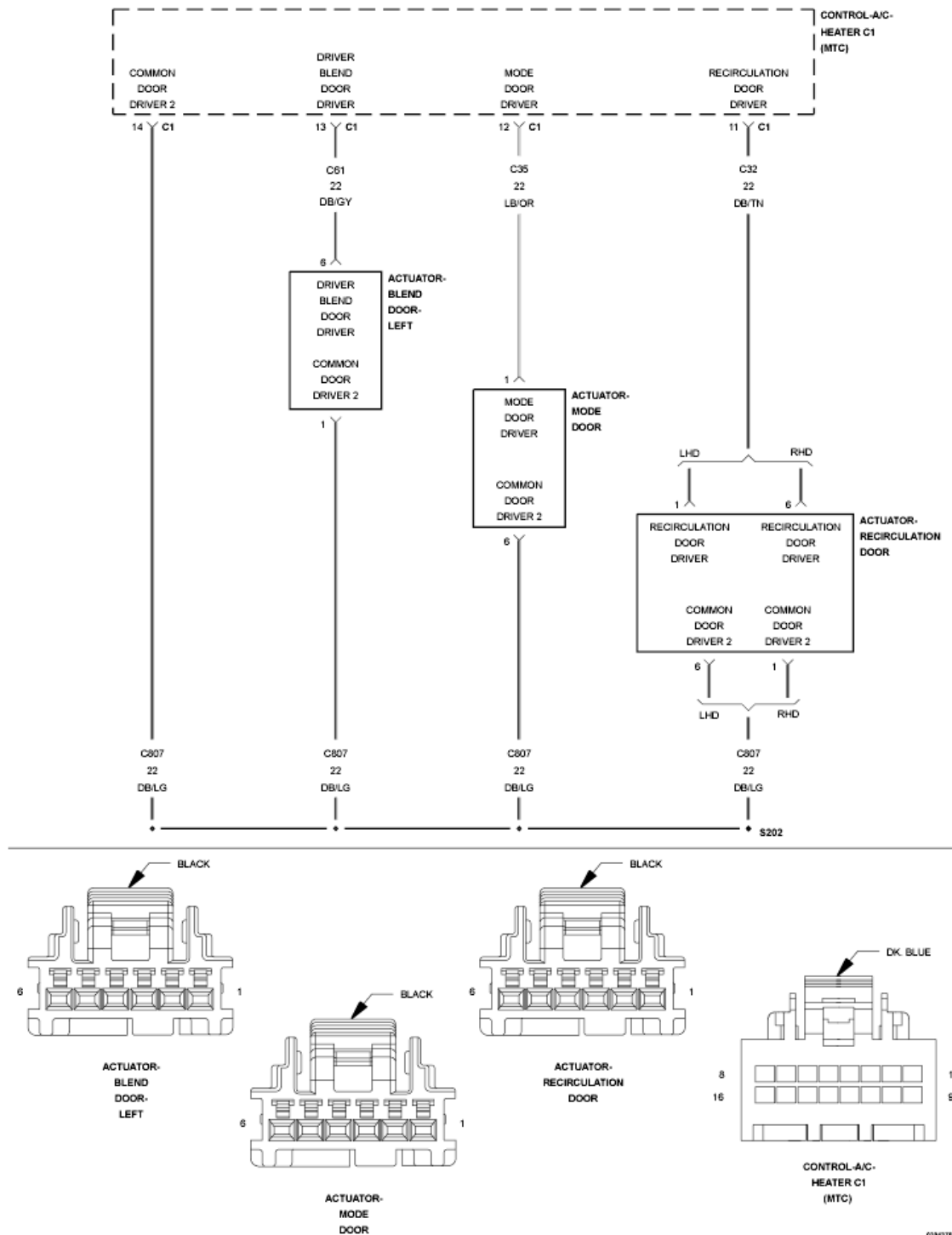


Fig. 26: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 an overcurrent condition is detected in either clockwise or counterclockwise movement for the period of five seconds. If the A/C Heater Control detects valid current draw for 10 seconds, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C61) BLEND DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C61) BLEND DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
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 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

2009 Dodge Journey R/T

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

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?

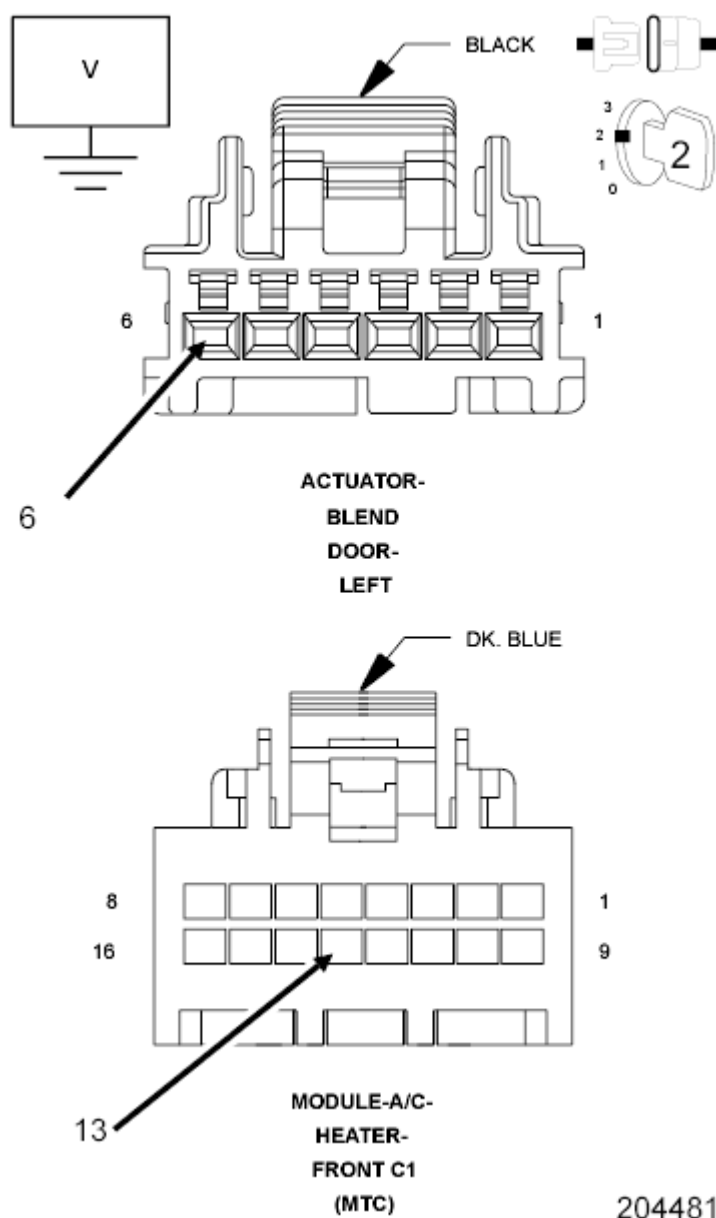
Yes

- Go to step 3

No

- Go to step 9

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



2044815

Fig. 27: Checking 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 C1 harness connector.
3. Disconnect the Blend Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C61) Blend Door Driver circuit.

Is there any voltage present?

2009 Dodge Journey R/T

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

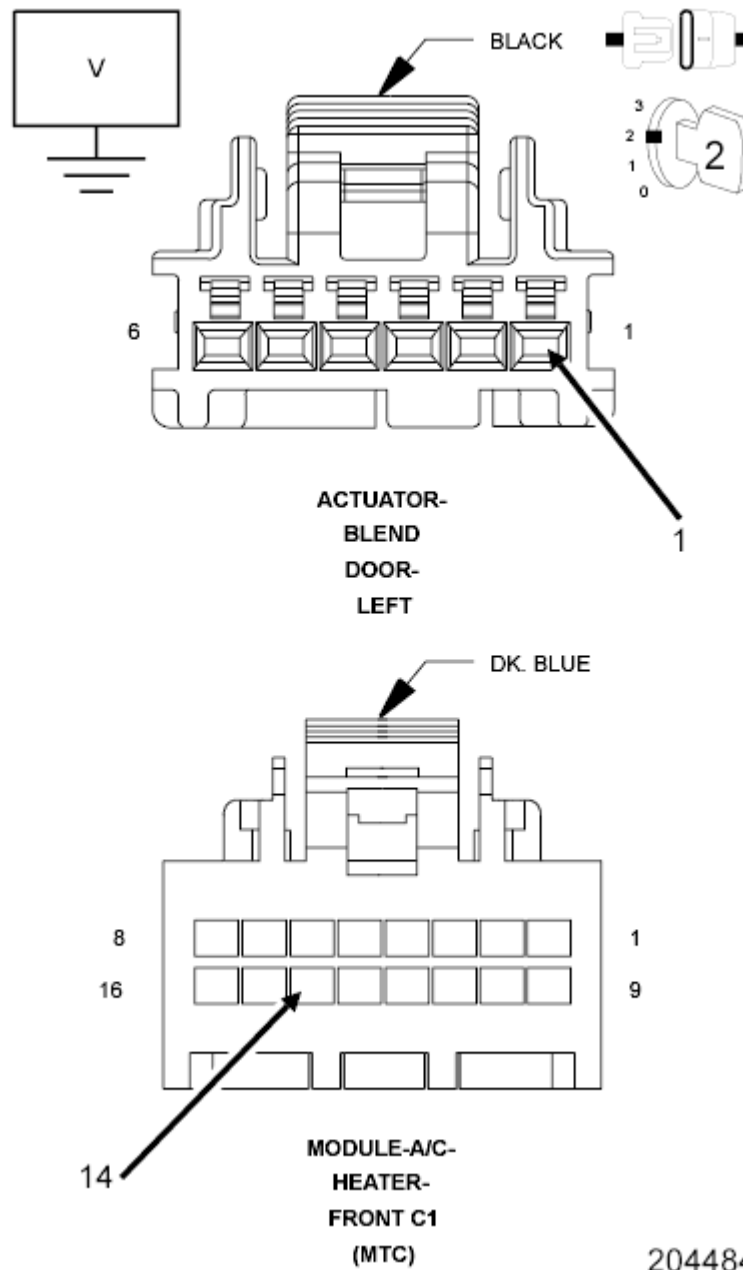
Yes

- Repair the (C61) 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



2044847

Fig. 28: 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

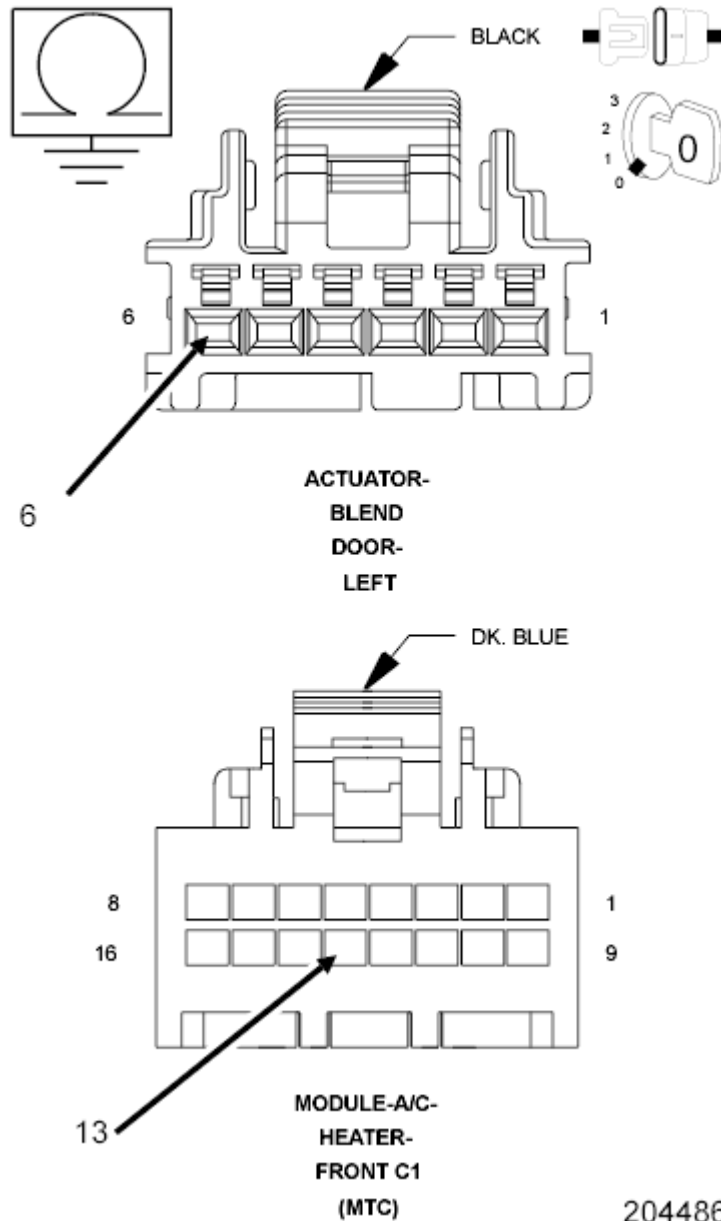
- Repair the (C807) Common Door Driver 2 circuit for a short to voltage.

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

No

- Go to step 5

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



2044863

Fig. 29: Checking Blend Door Driver Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

2009 Dodge Journey R/T

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

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

Is the resistance below 100k Ohms?

Yes

- Repair the (C61) 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

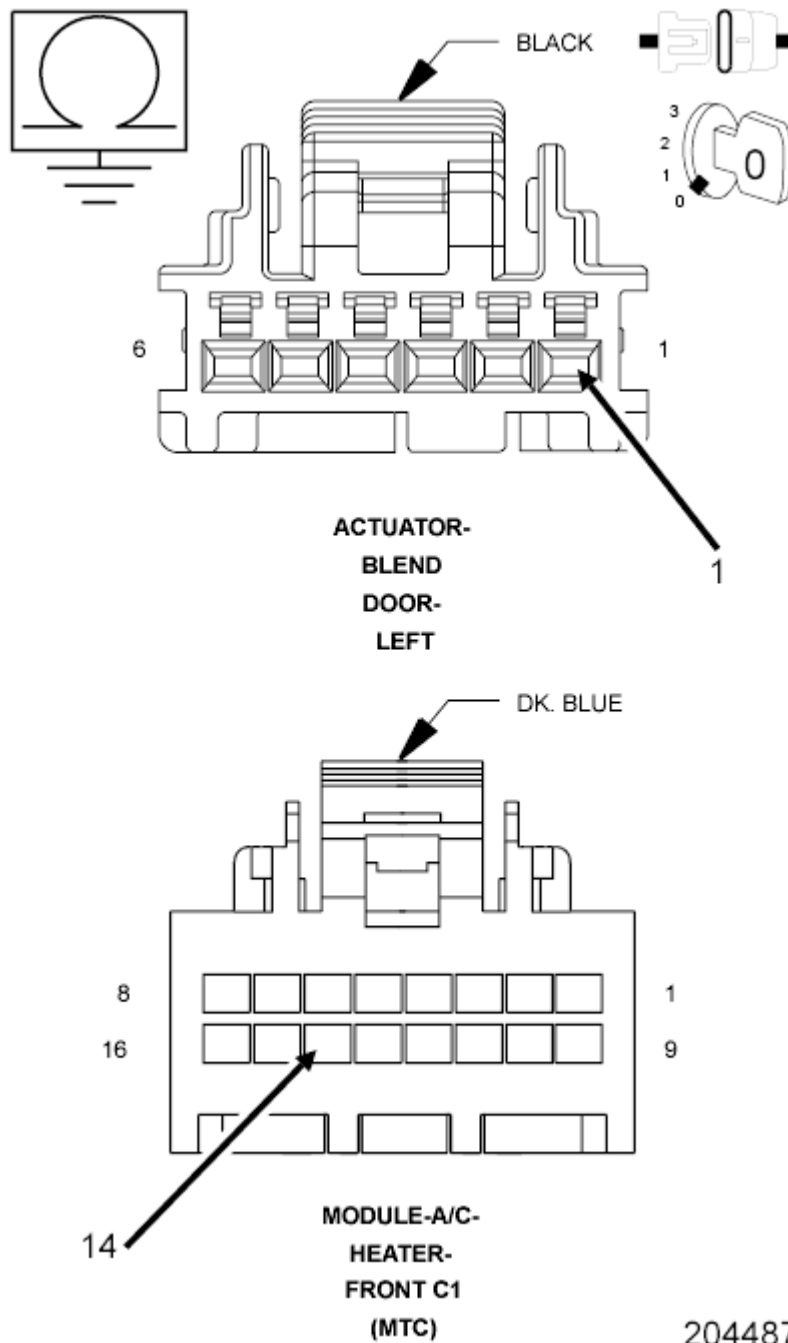


Fig. 30: Checking Common Door Driver 2 Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

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 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 8

8. CHECK THE BLEND DOOR ACTUATOR

1. Replace the 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**.

9. 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.

2009 Dodge Journey R/T

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

4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B10A5-LEFT BLEND DOOR CONTROL CIRCUIT OPEN

2009 Dodge Journey R/T

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

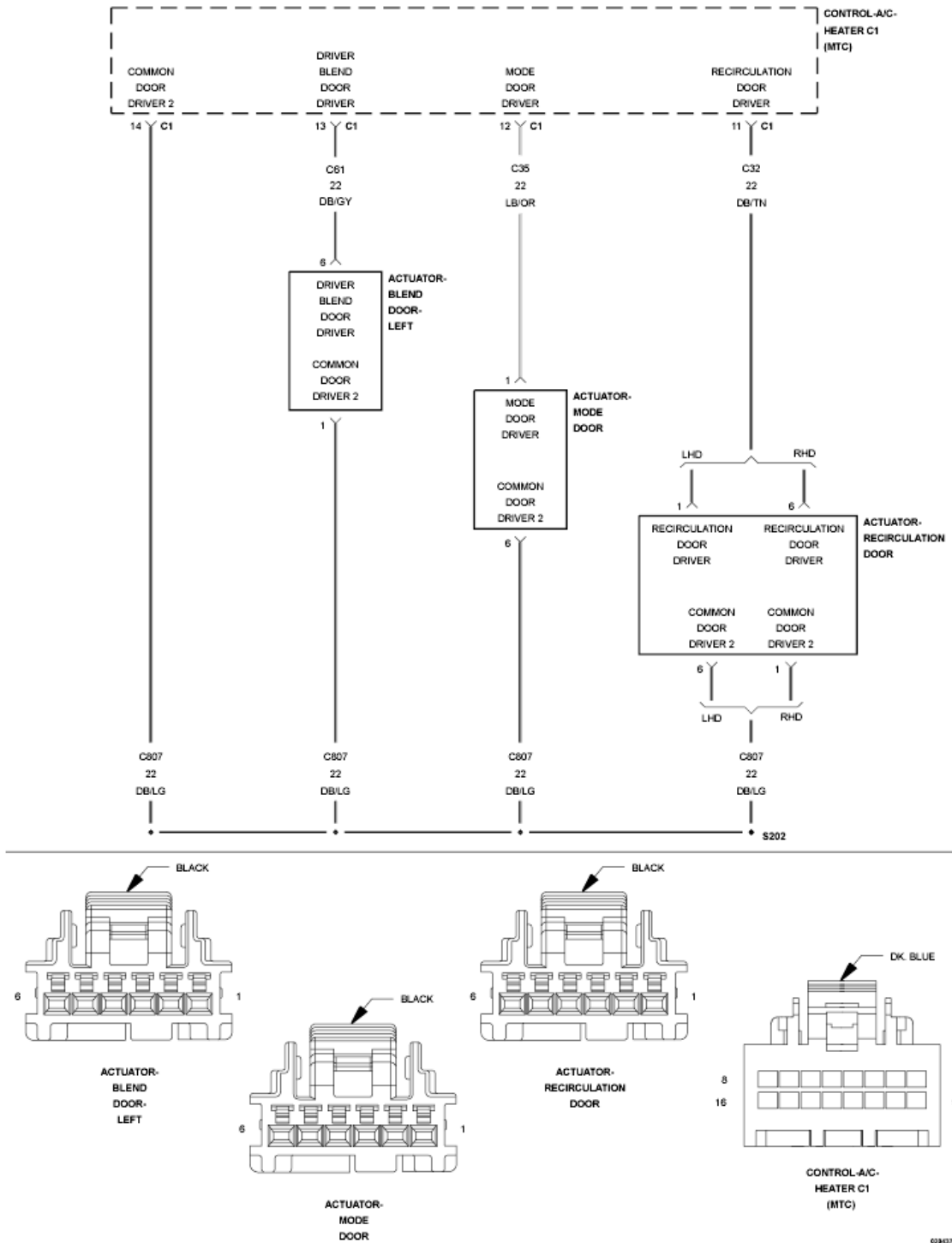


Fig. 31: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 when a HVAC Actuator Calibration Test is performed.

- **Set Condition:**

If an HVAC Actuator Calibration Test is performed the A/C Heater Control detects there are no feedback pulses detected in that direction, the controller commands the actuator in the opposite direction. If no feedback pulses are detected in either direction this DTC will set. If the A/C Heater Control detects a valid pulse feedback 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) BLEND DOOR DRIVER CIRCUIT OPEN (C807) COMMON DOOR DRIVER 2 CIRCUIT OPEN 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 OTHER DTCS

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

Is there more than one Door Control Circuit Open DTC present?

Yes

- Repair the (C807) Common Door Driver 2 circuit for an open.

NOTE:

Due to the common shared driver circuit, probable area of concern is the splice, or from the splice to the A/C Heater Control harness connector. Make sure to check all inline

connectors.

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 7

4. CHECK THE BLEND DOOR ACTUATOR

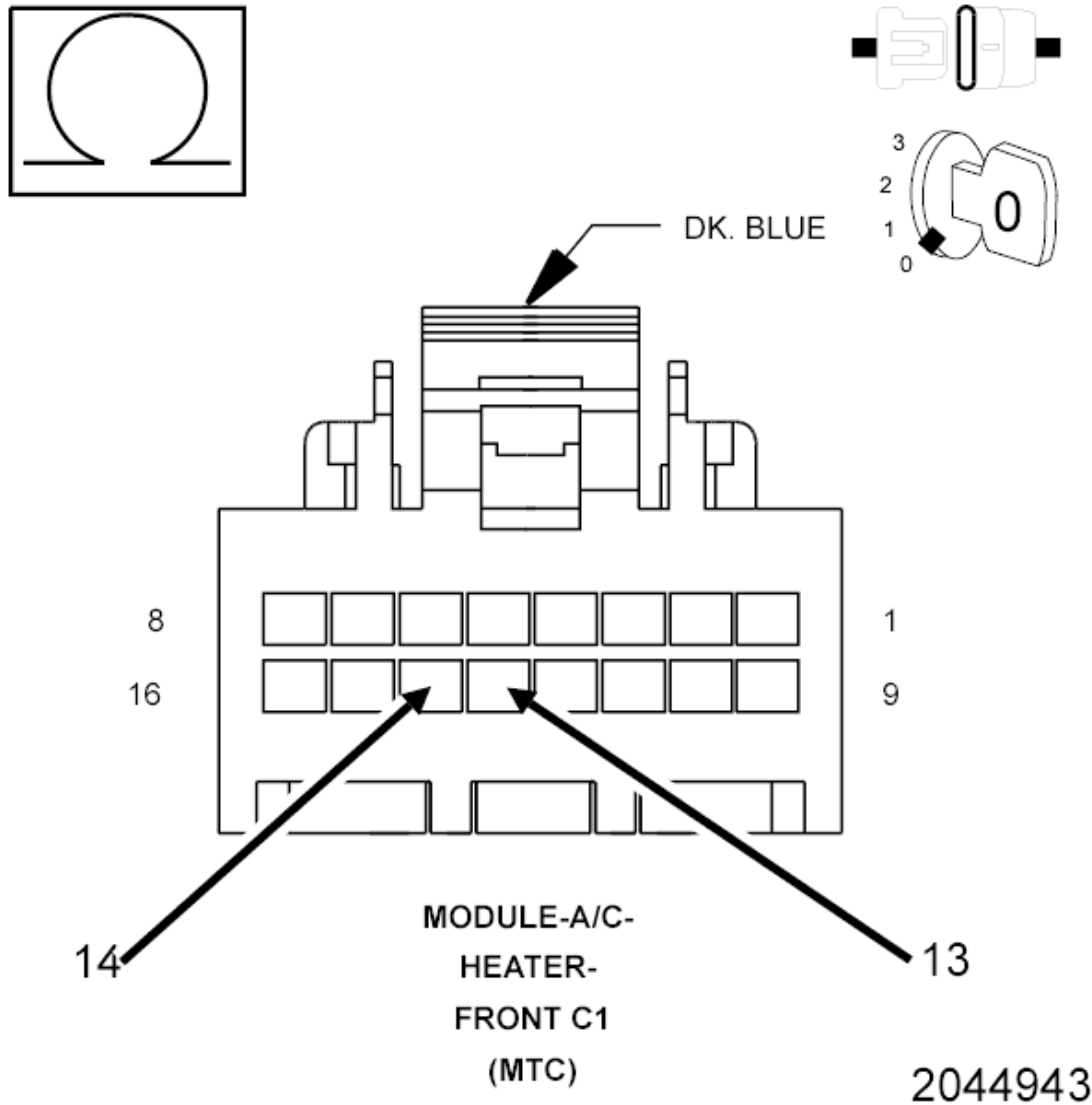


Fig. 32: Checking Blend Door Actuator

Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Measure the resistance between the (C61) Blend Door Driver circuit and the (C807) Common Door Driver 2 circuit.

Is the resistance 38.0 Ohms (± 5.0 Ohms)?

Yes

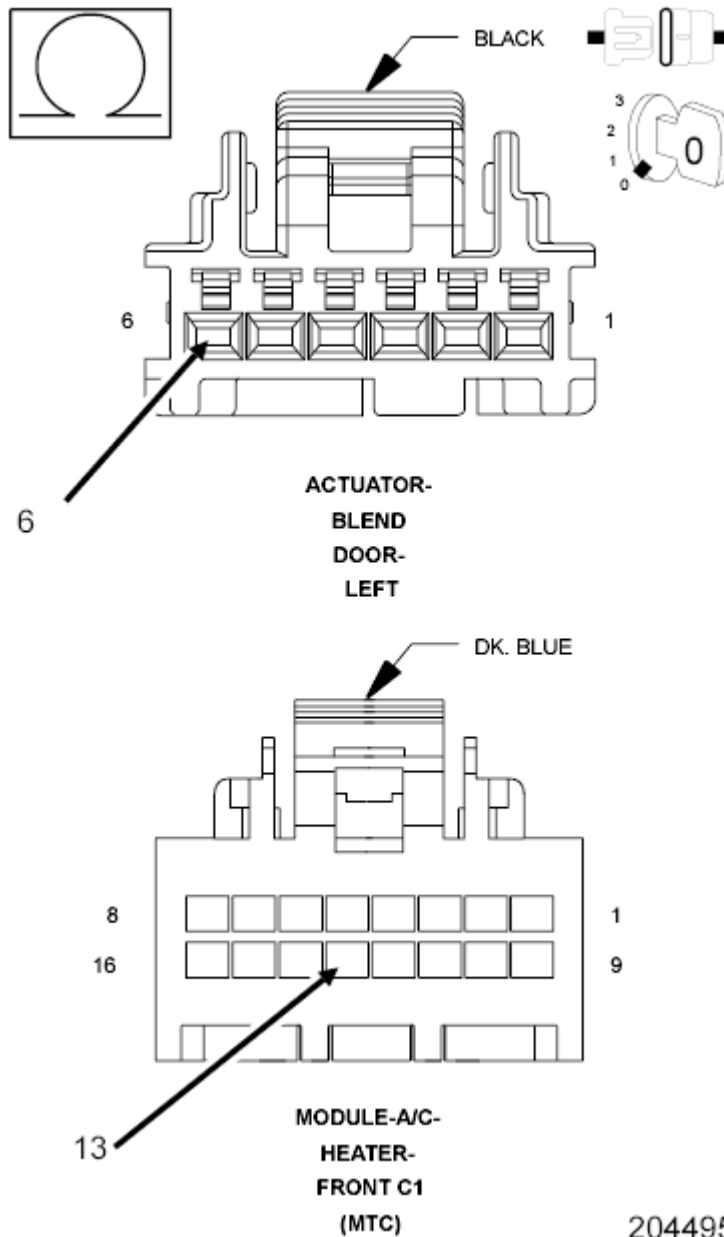
- Replace and program the A/C Heater Control in accordance with the Service Information.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC -**

Standard Procedure.

No

- Go to step 5

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



2044951

Fig. 33: Checking Blend Door Driver Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.

2009 Dodge Journey R/T

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

2. Disconnect the Blend Door Actuator harness connector.
3. Measure the resistance of the (C61) Blend Door Driver circuit between the A/C Heater Control C1 harness connector and the Blend Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

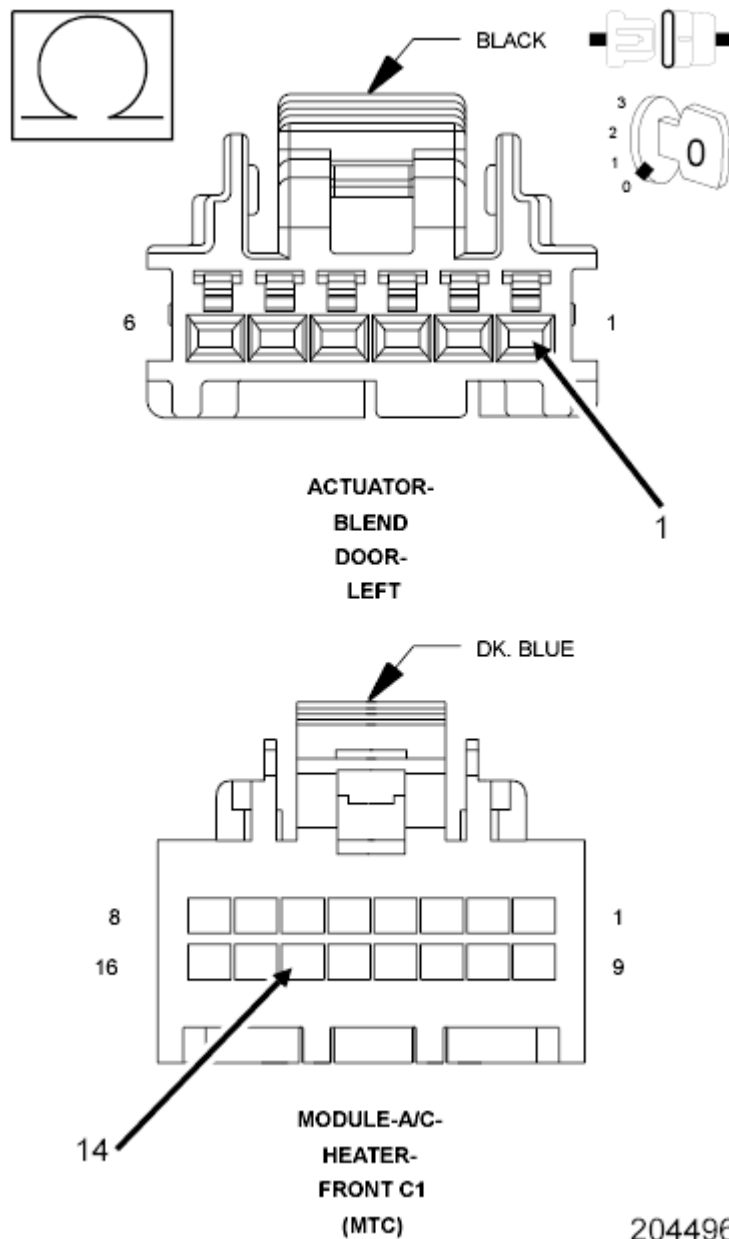
Yes

- Repair the (C61) Blend Door Driver 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 (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR AN OPEN



2044961

Fig. 34: 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 C1 harness connector and the Blend Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- Repair the (C807) Common Door Driver 2 circuit for an open or high resistance.

NOTE: Probable location is the wiring harness splice or the wiring between the splice and the door actuator.

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

No

- Replace the Blend Door Actuator 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. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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:**

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 Open or 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 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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:**

During normal operation 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 Open or 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 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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B160F-TWILIGHT/AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT/PERFORMANCE

2009 Dodge Journey R/T

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

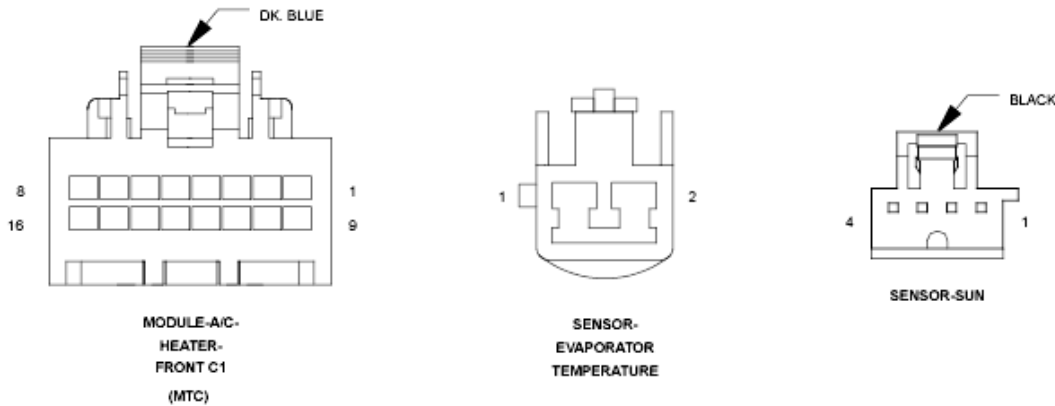
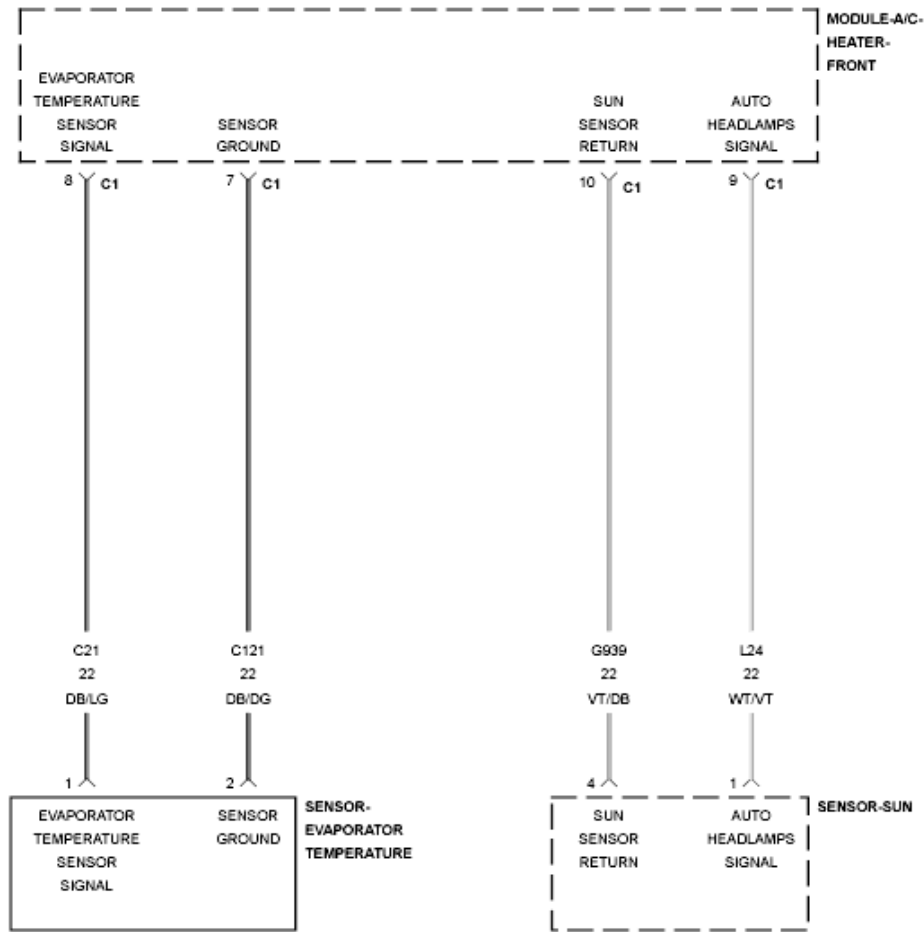


Fig. 35: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

Continuously with the ignition on.

- **Set Condition:**

If the Auto Headlamps Signal input voltage is less than 1.9 Volts and greater than 0.5 of a Volt for period of five 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
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORT 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. Using 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

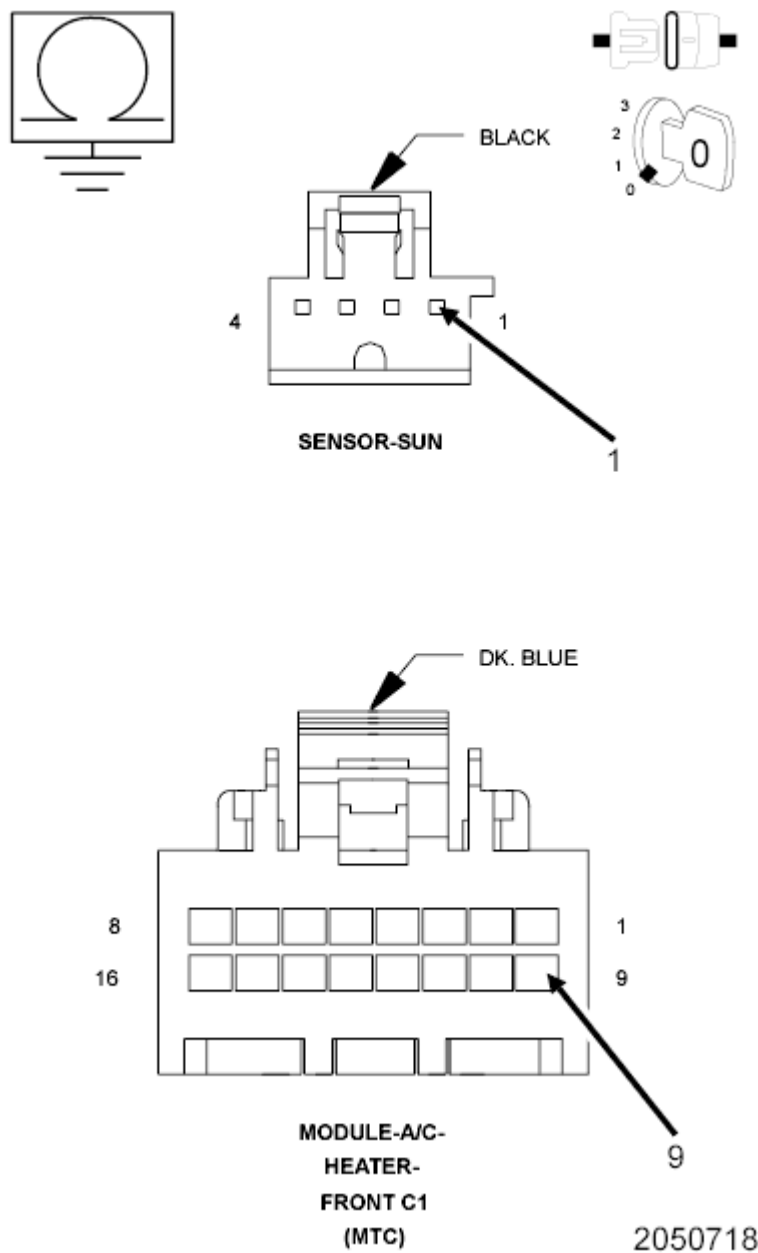


Fig. 36: Checking Auto Headlamps Signal Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Measure the resistance between ground and he (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. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.
3. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
4. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
5. Wiggle the wiring and connectors while checking for shorted and open circuits.
6. Using 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**.

2009 Dodge Journey R/T

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

No

- Test complete.

B1610-AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT LOW

2009 Dodge Journey R/T

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

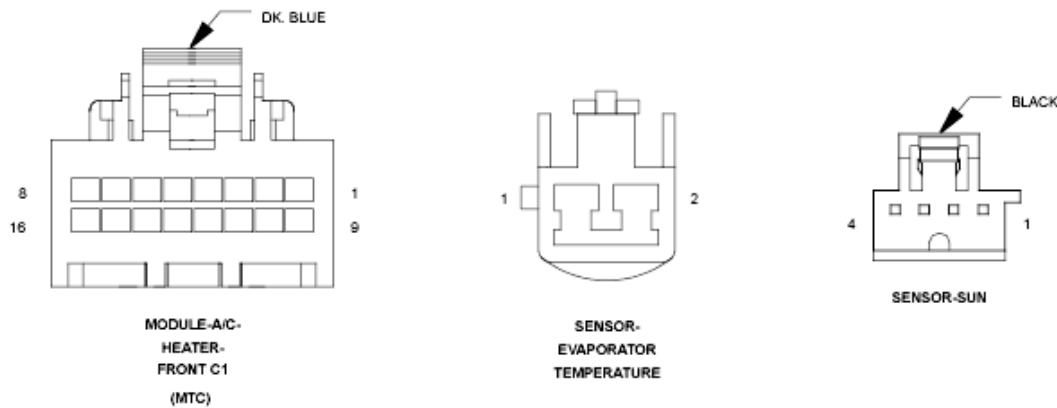
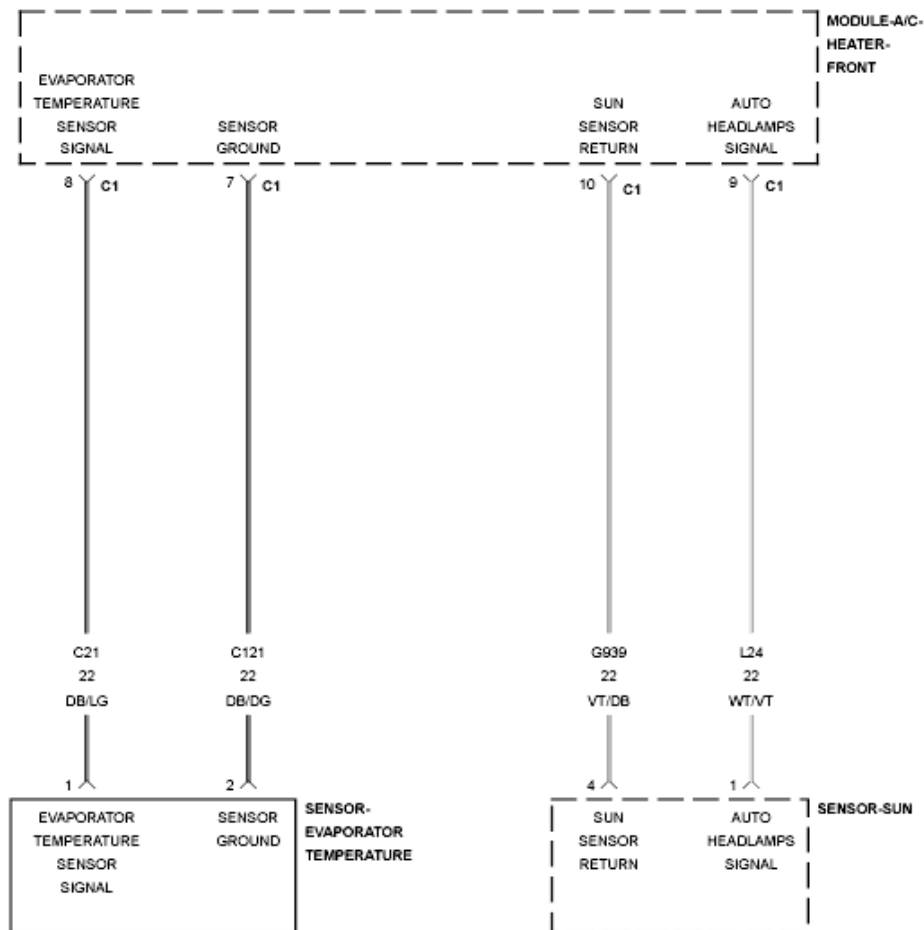


Fig. 37: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Twilight or Ambient Light Sensor input voltage is less than 0.5 of a Volt for period of five 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.
2. Using 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

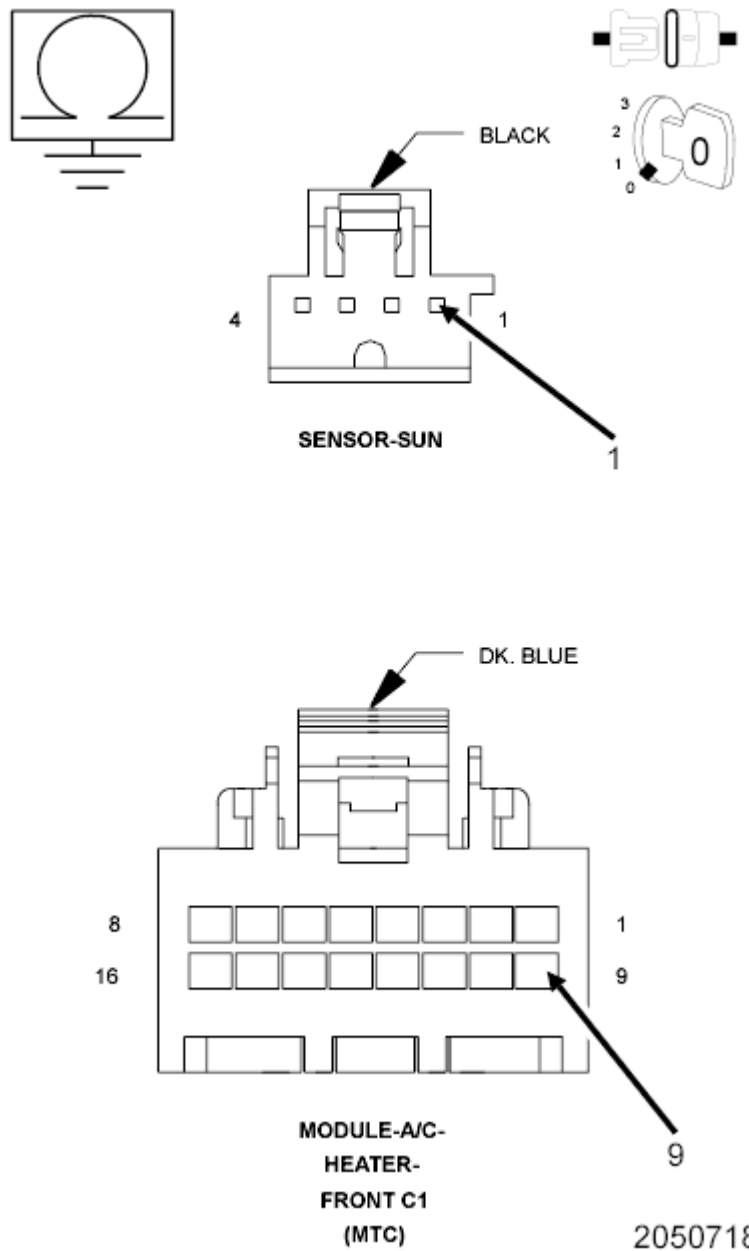


Fig. 38: Checking Auto Headlamps Signal Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C2 harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Measure the resistance between ground and he (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. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.
3. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
4. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
5. Wiggle the wiring and connectors while checking for shorted and open circuits.
6. Using 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**.

2009 Dodge Journey R/T

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

No

- Test complete.

B1611-AMBIENT LIGHT SENSOR 1 INPUT CIRCUIT HIGH

2009 Dodge Journey R/T

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

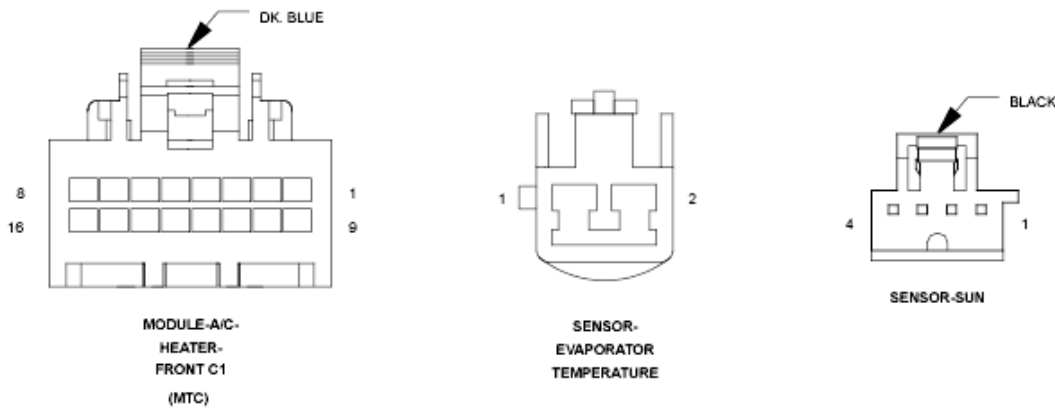
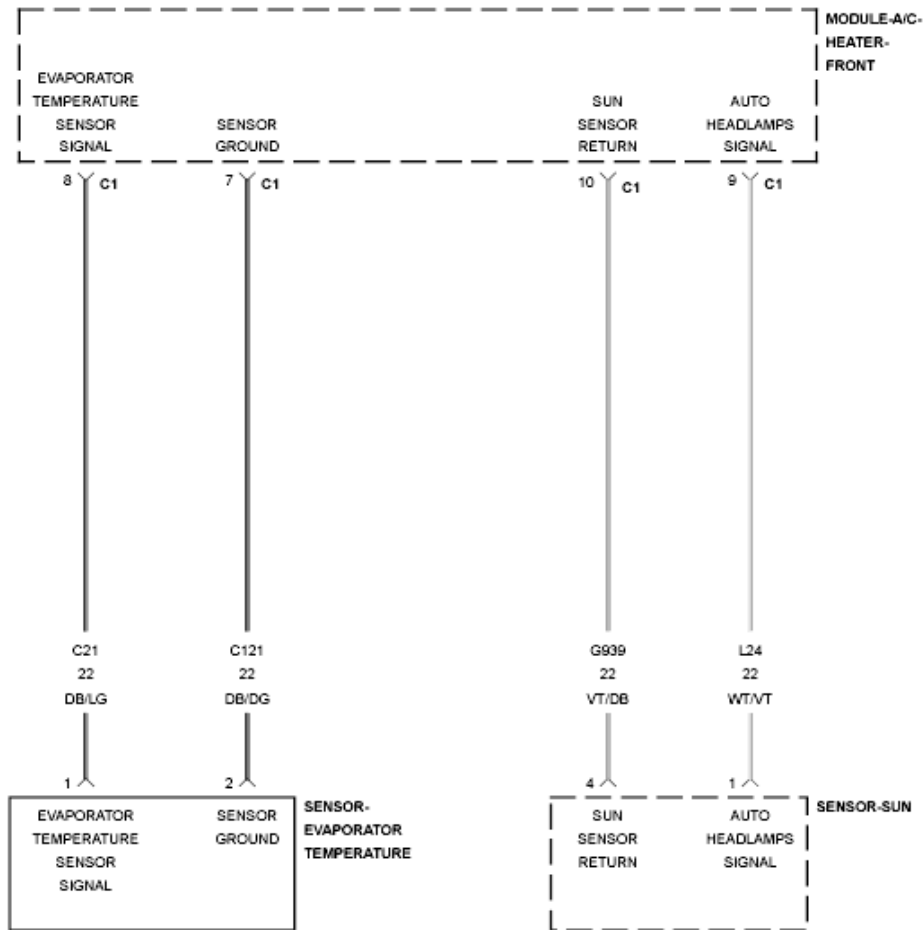


Fig. 39: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Twilight or Ambient Light Sensor input voltage is greater than 4.5 Volts for period of five seconds.

Possible Causes
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORT TO VOLTAGE
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORT 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. Using 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 (L24) AUTO HEADLAMPS SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE

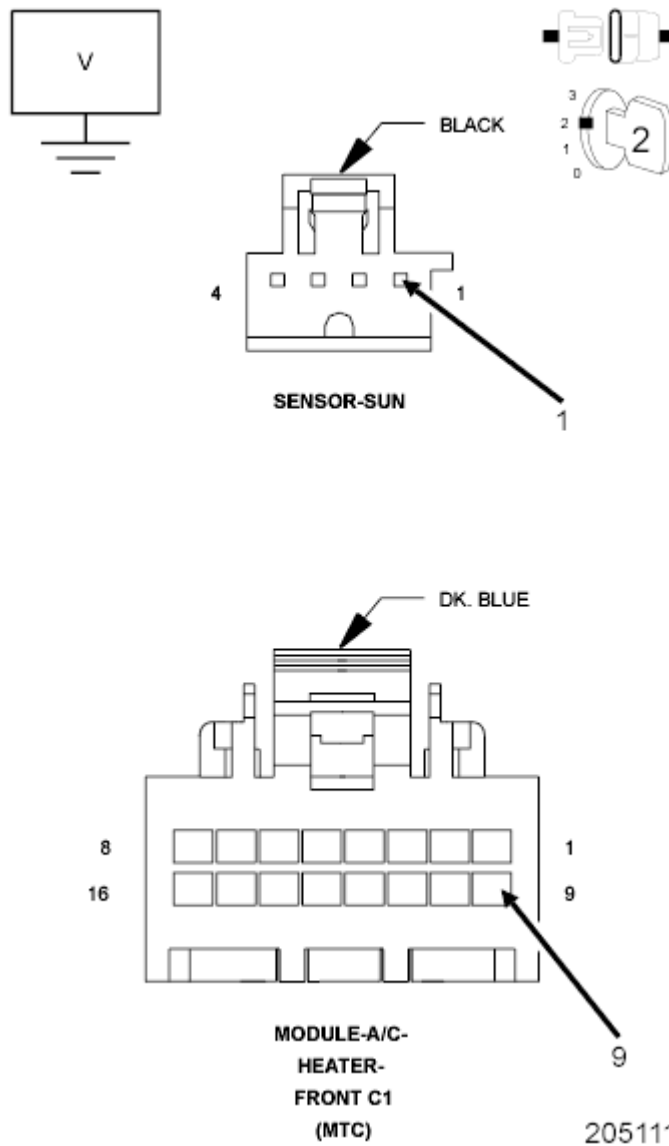


Fig. 40: Checking Auto Headlamps Signal Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

1. Turn the ignition off.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Ignition on, engine not running.
4. 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 THE (L24) AUTO HEADLAMPS SIGNAL CIRCUIT FOR AN OPEN

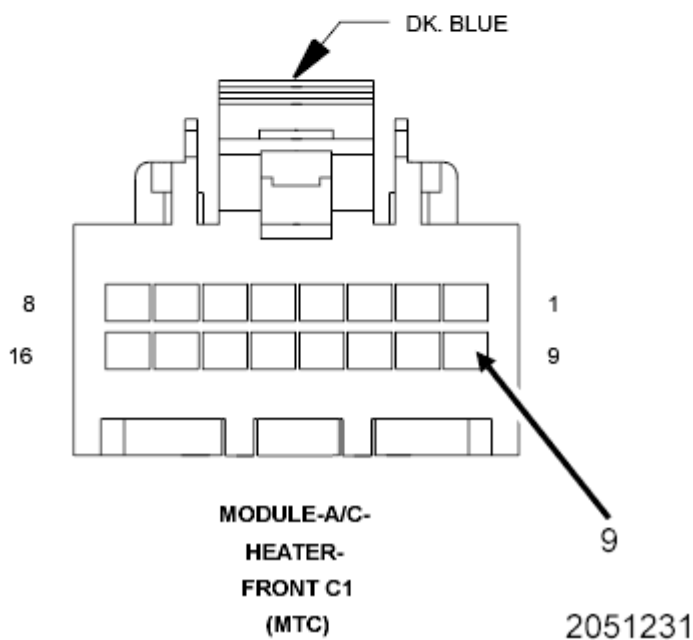
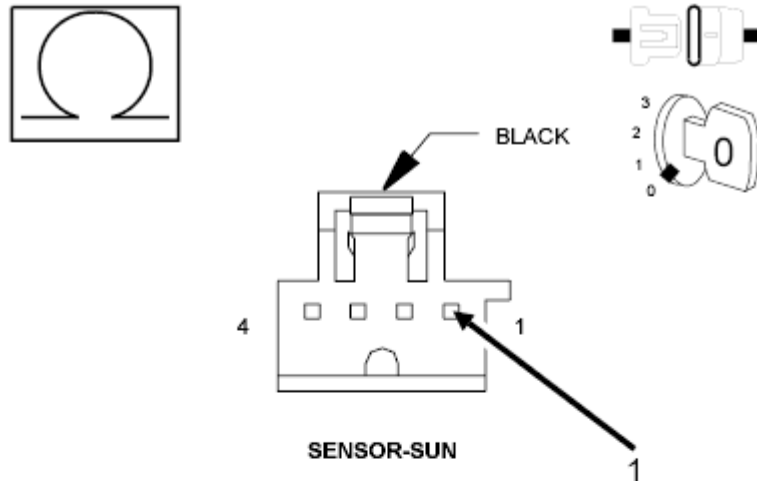


Fig. 41: Checking Auto Headlamps Signal Circuit For An Open

Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Sun Sensor harness connector.
3. Measure the resistance of the (L24) Auto Headlamps Signal circuit between the A/C Heater Control C1 harness connector and the Sun Sensor harness connector.

Is the resistance below 5.0 Ohms?

Yes

- Go to step 4

No

- Repair the (L24) Auto Headlamps Signal circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

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

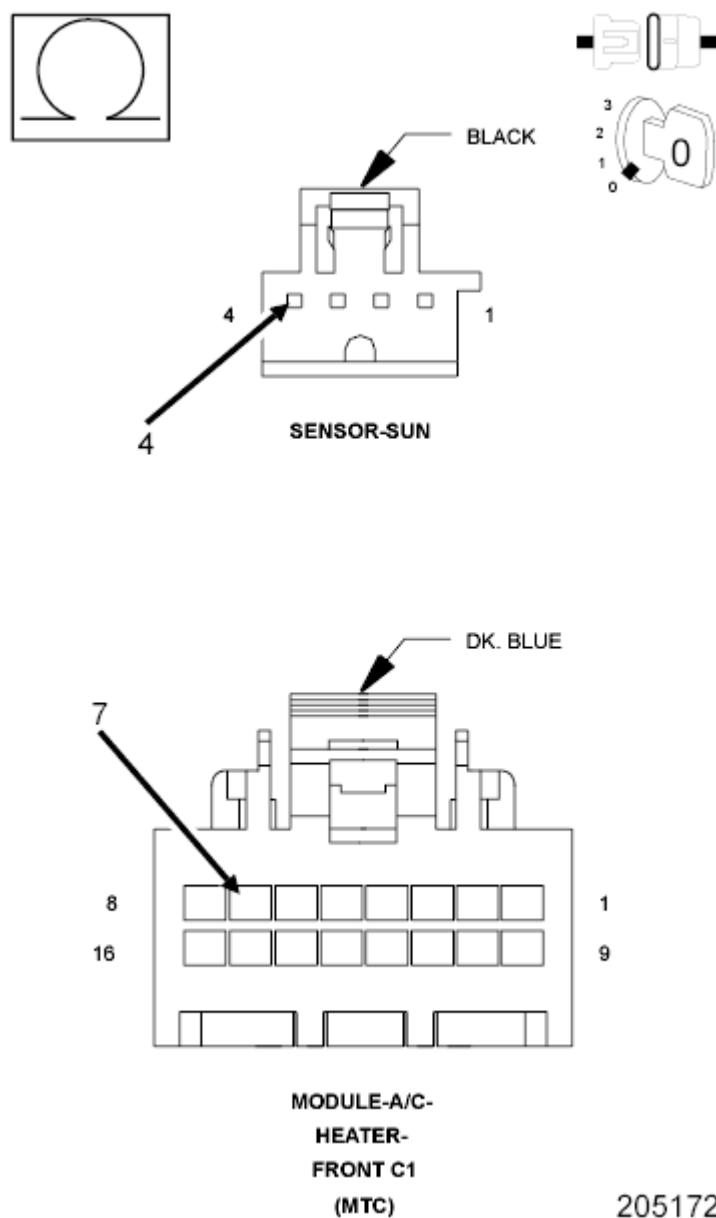


Fig. 42: Checking Sensor Ground Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control C1 harness connector and the Sun Sensor harness connector.

Is the resistance below 5.0 Ohms?

Yes

- Go to step 5

No

- Repair the (C121) Sensor Ground circuit for an open.
- 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. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B210A-SYSTEM VOLTAGE LOW

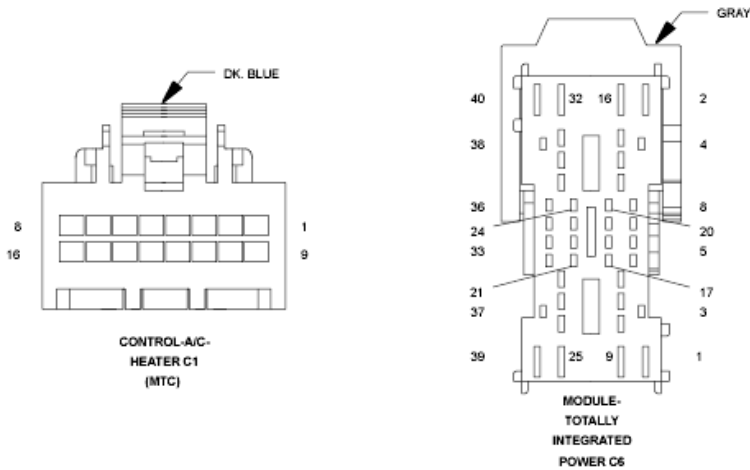
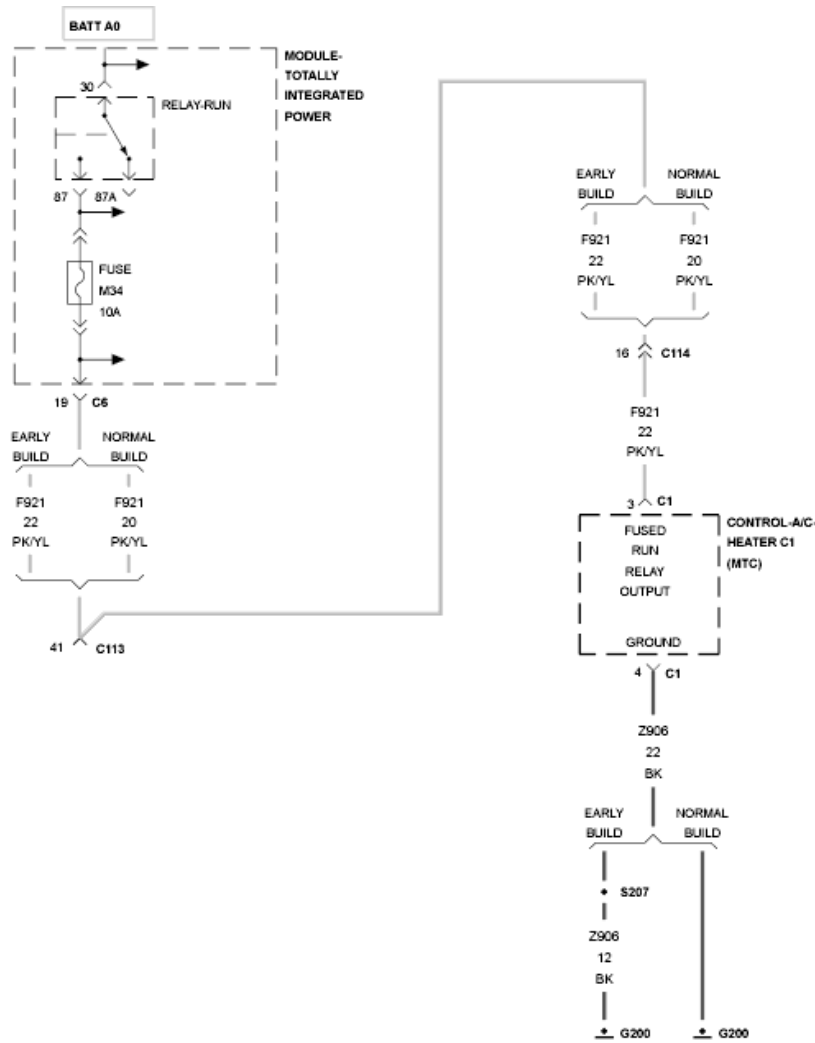


Fig. 43: Fused Run Relay Output Circuit Schematic
 Courtesy of CHRYSLER LLC

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

Theory of Operation

The A/C Heater Control constantly monitors battery and ignition voltage to ensure proper operation. If the voltage to the controller is out of range it could cause damage to the controller or its respective components. If the voltage of either circuit drops below or rises above a predetermined calibration a Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the controller battery voltage is less than or equal to 10.0 Volts for period of 5.0 seconds.

Possible Causes
RELATED CHARGING SYSTEM DTCS PRESENT (F921) FUSED RUN RELAY OUTPUT CIRCUIT OPEN (Z906) GROUND CIRCUIT OPEN 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 CHARGING SYSTEM DTCS

1. Using the scan tool, read PCM DTCS.

Are there any charging system DTCS present in the Powertrain Control Module (PCM)?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK FOR TOTALLY INTEGRATED POWER MODULE DTCS

1. Using the scan tool, read TIPM DTCS.

Are there any TIPM DTCS present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 3

3. CHECK IF THE DTC IS ACTIVE

1. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 6

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

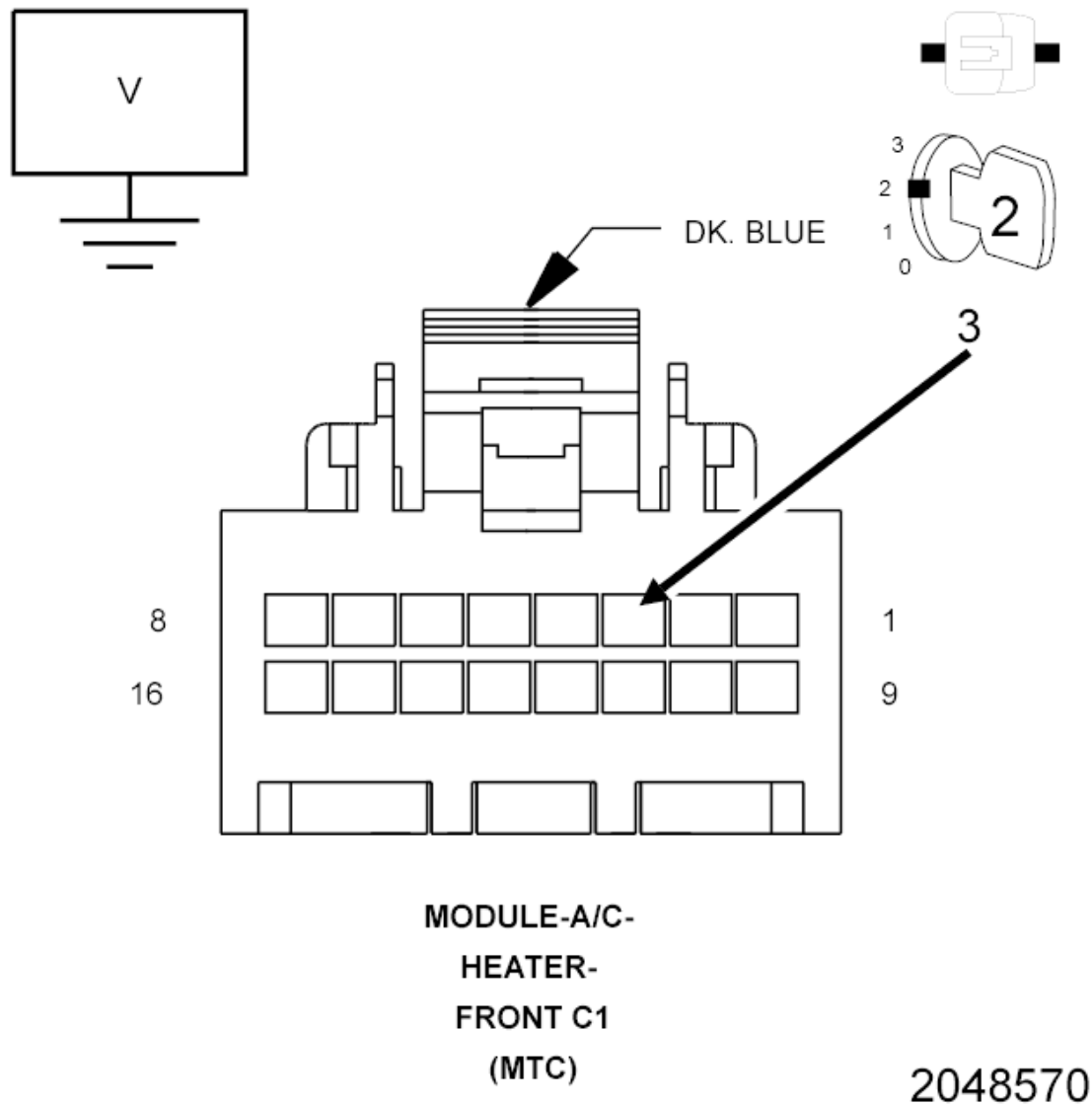


Fig. 44: Checking Fused Run Relay Output Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Ignition on, engine not running.
2. While back probing, measure the voltage of the (F921) Fused Run Relay Output circuit in the A/C Heater Control C1 harness connector.

Is the voltage 10.0 Volts or below?

Yes

- Repair the (F921) Fused Run Relay Output circuit for an open or high resistance.

NOTE: If the fuse is open, make sure to check for a short to ground on

the (F921) Fused Run Relay Output circuit.

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

No

- Go to step 5

5. CHECK THE (Z906) GROUND CIRCUIT FOR AN OPEN

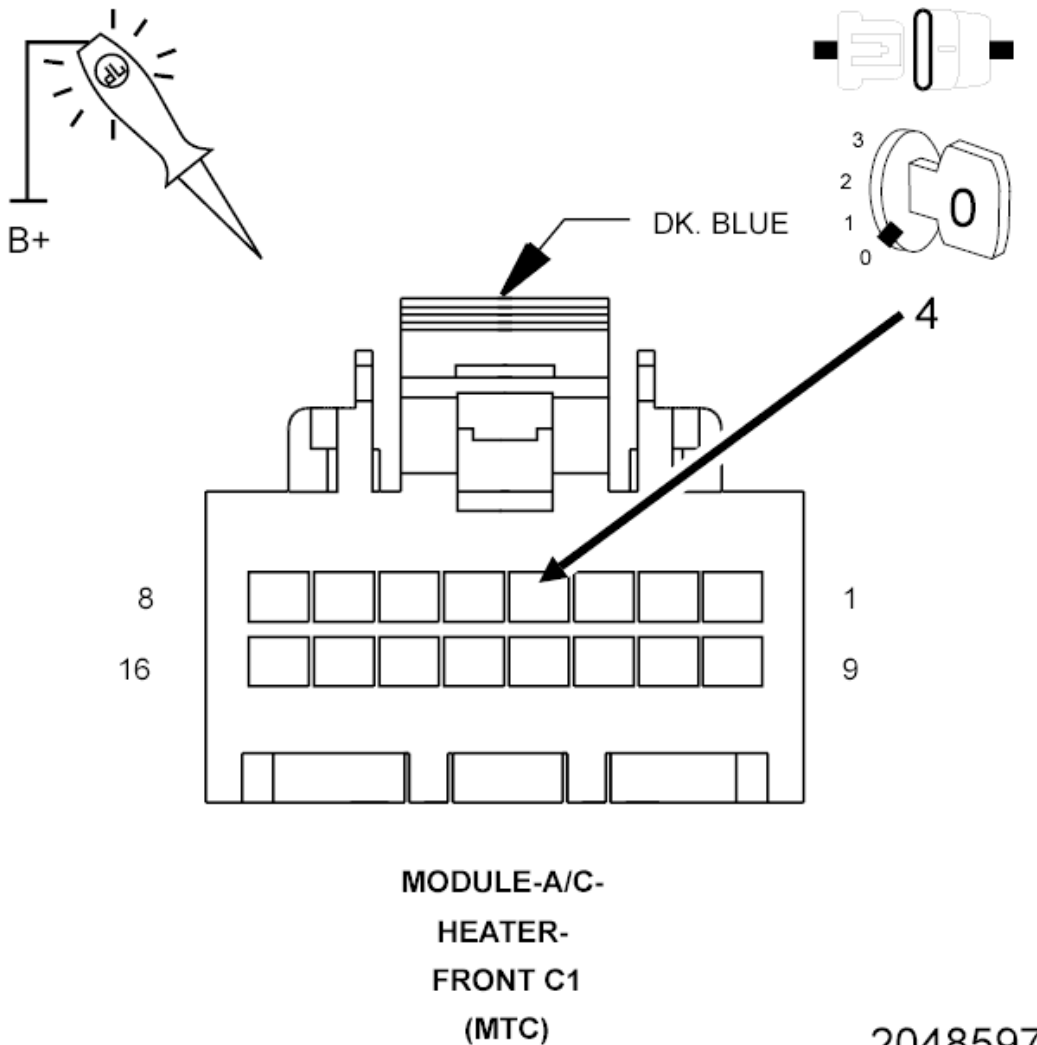


Fig. 45: Checking Ground Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.

3. Using a 12-volt test light connected to 12-volts, check the (Z906) Ground 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

- 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

- Repair the (Z906) Ground circuit for an open.
- 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. Using the scan tool, check the Environmental Data to help identify the conditions in which the DTC was set.
3. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B210B-SYSTEM VOLTAGE HIGH

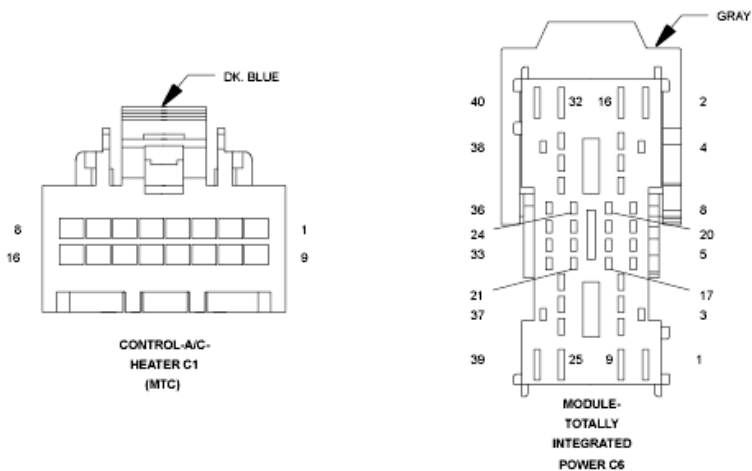
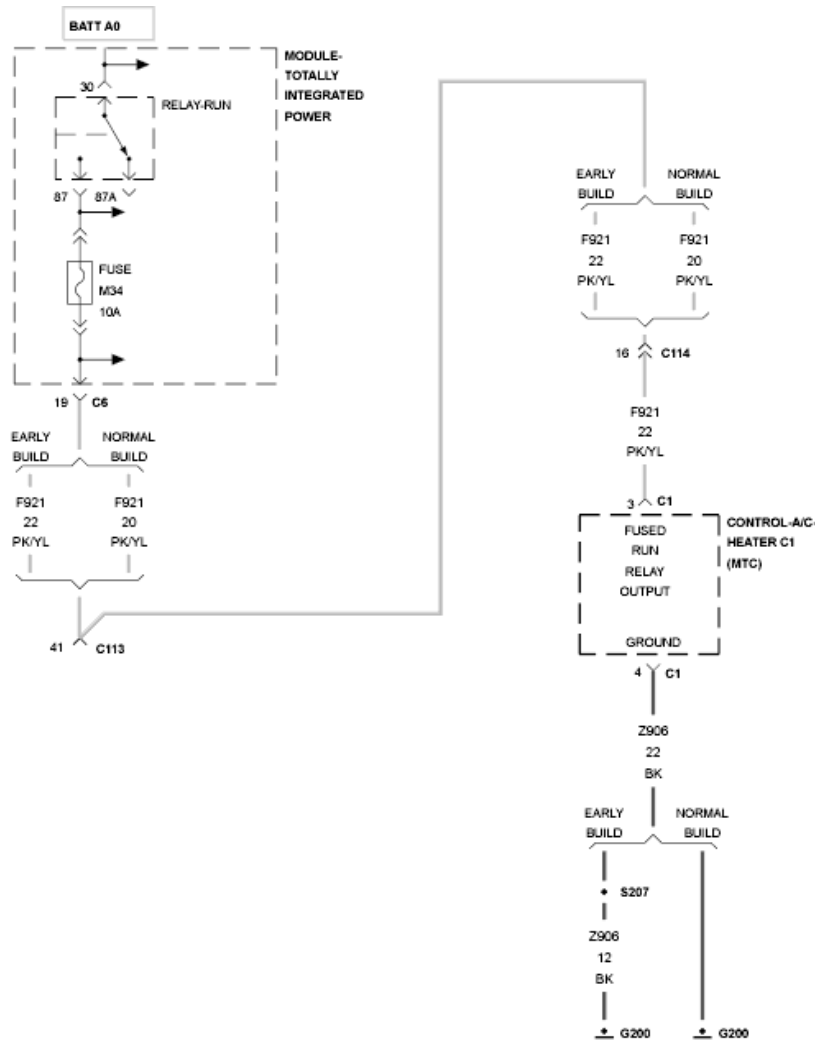


Fig. 46: Fused Run Relay Output Circuit Schematic
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to SYSTEM WIRING DIAGRAMS.

Theory of Operation

The A/C Heater Control constantly monitors battery and ignition voltage to ensure proper operation. If the voltage to the controller is out of range it could cause damage to the controller or its respective components. If the voltage of either circuit drops below or rises above a predetermined calibration a Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the controller battery voltage is higher than 16.0 Volts for period of 1.0 second.

Possible Causes
RELATED CHARGING SYSTEM DTCS PRESENT 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 CHARGING SYSTEM DTCS**

1. Using the scan tool, read PCM DTCS.

Are there any charging system DTCS present in the Powertrain Control Module (PCM)?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go To step 2

2. CHECK FOR TOTALLY INTEGRATED POWER MODULE DTCS

1. Using the scan tool, read TIPM DTCS.

Are there any TIPM DTCS present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 3

3. CHECK IF THE DTC IS ACTIVE

1. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 5

4. CHECK IF OTHER CONTROLLER ARE REPORTING AN OVER VOLTAGE CONDITION

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

Are any other controllers reporting an over voltage condition?

Yes

- Go to DTC Based Diagnostics and perform the appropriate diagnostic 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**.

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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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**.

U0010-CAN INTERIOR BUS

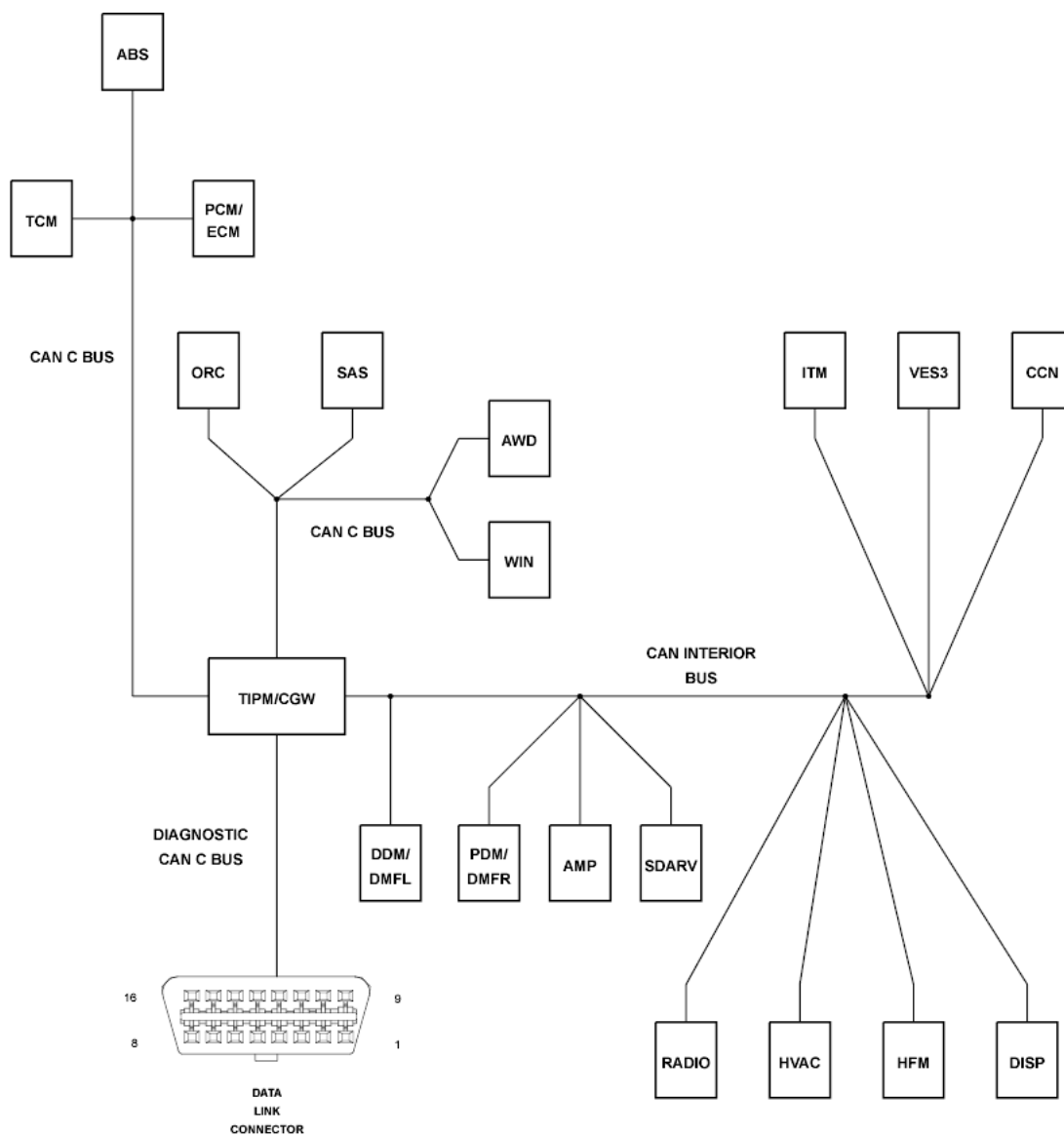


Fig. 47: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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.

- 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.

U0019-CAN B BUS

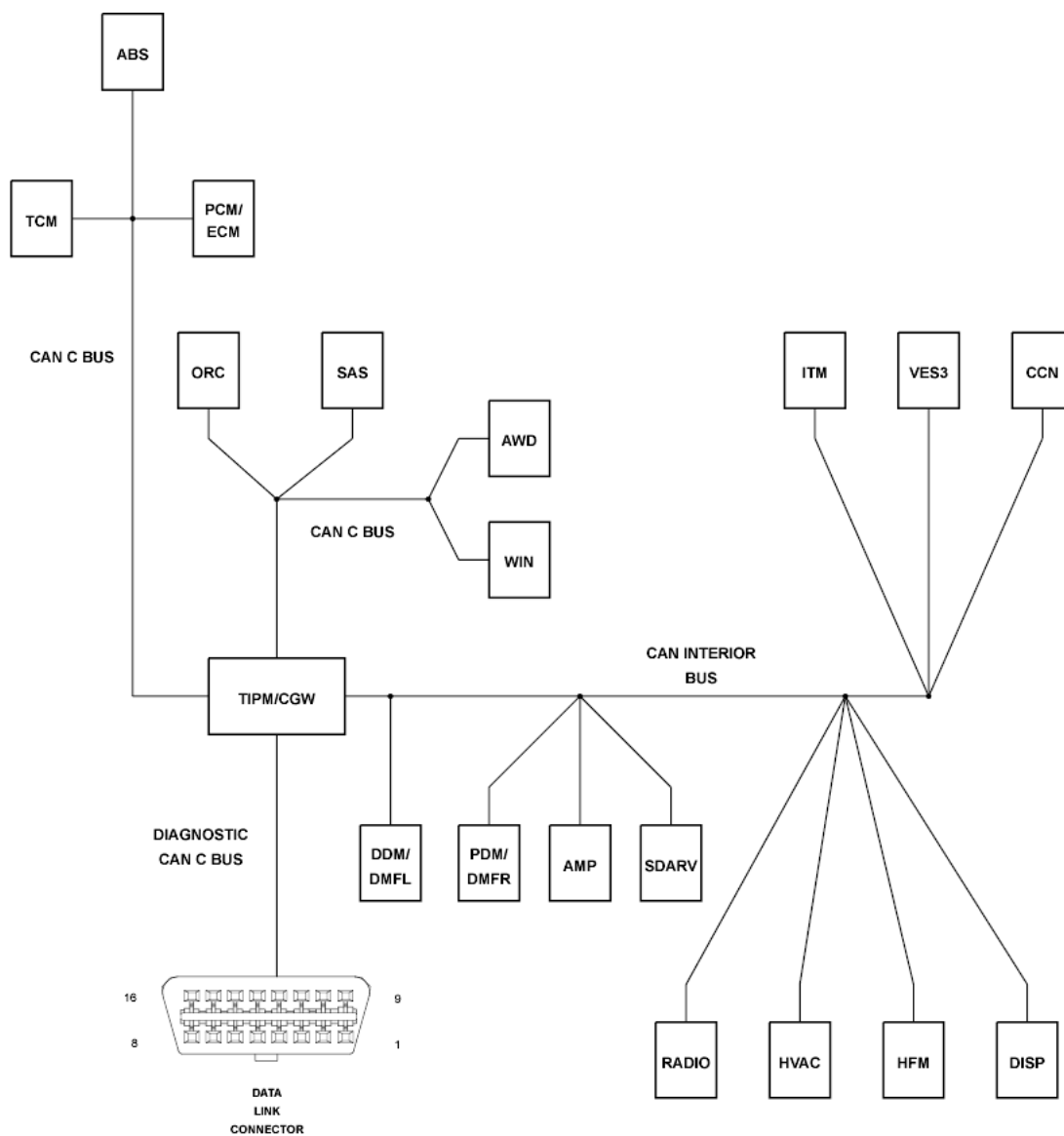


Fig. 48: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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:**

If the CAN B Bus (+) or CAN B Bus (-) circuit is open, shorted to voltage, or shorted to ground.

Possible Causes
(D55) CAN B BUS (+) CIRCUIT OPEN
(D54) CAN B BUS (-) CIRCUIT OPEN
(D55) CAN B BUS (+) CIRCUIT SHORTED TO VOLTAGE
(D54) CAN B BUS (-) CIRCUIT SHORTED TO VOLTAGE
(D55) CAN B BUS (+) CIRCUIT SHORTED TO GROUND
(D54) CAN B BUS (-) CIRCUIT SHORTED TO GROUND
(D55) CAN B BUS (+) CIRCUIT SHORTED TO THE (D54) CAN B BUS (-) CIRCUIT
ANY CAN B BUS MODULE

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 active HVAC DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0019-CAN B BUS** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTC diagnostic procedure.

U0141-LOST COMMUNICATION WITH IPM (FCM/TIPM)

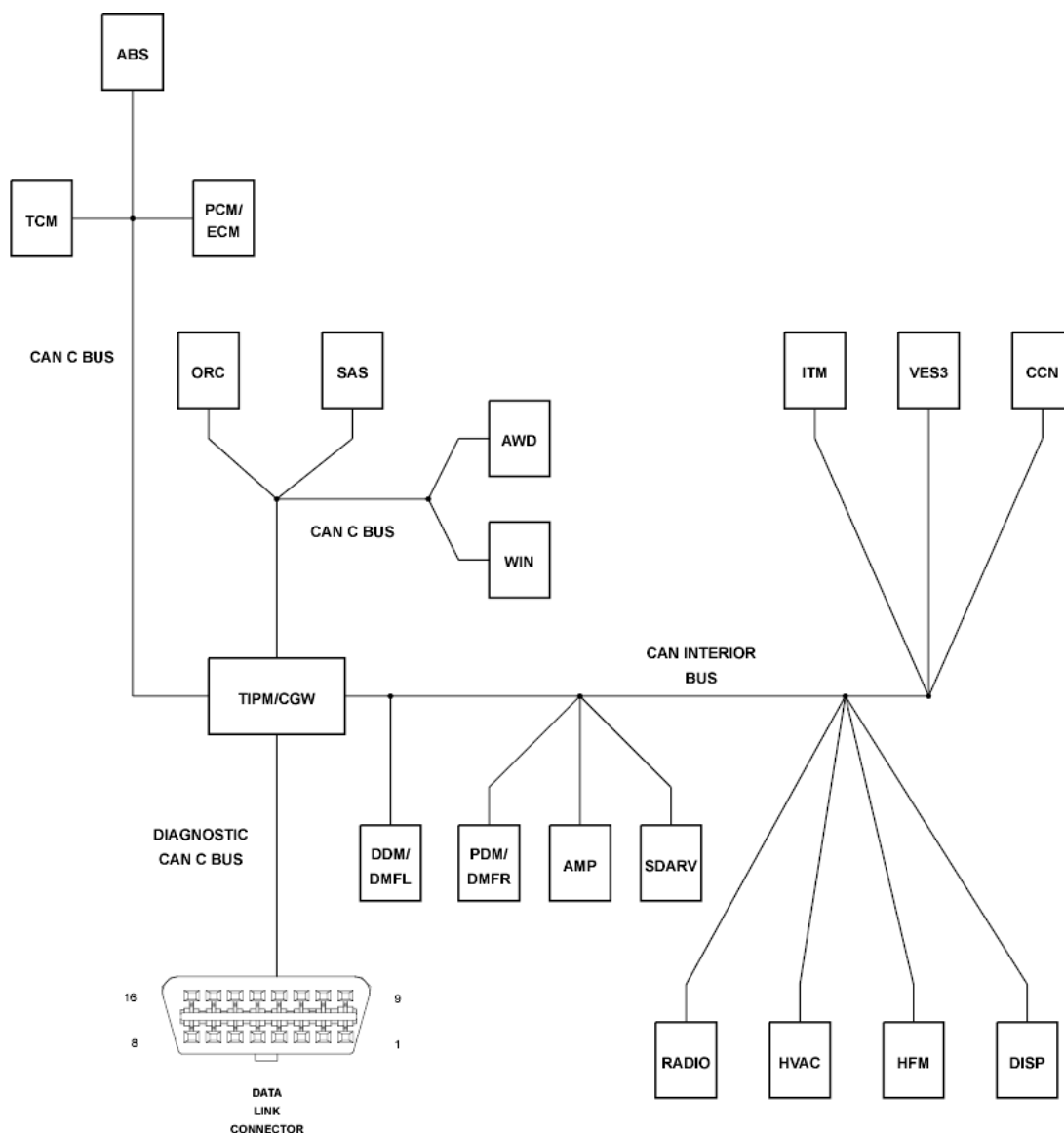


Fig. 49: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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.

U0151-LOST COMMUNICATION WITH OCCUPANT RESTRAINT CONTROLLER (ORC)

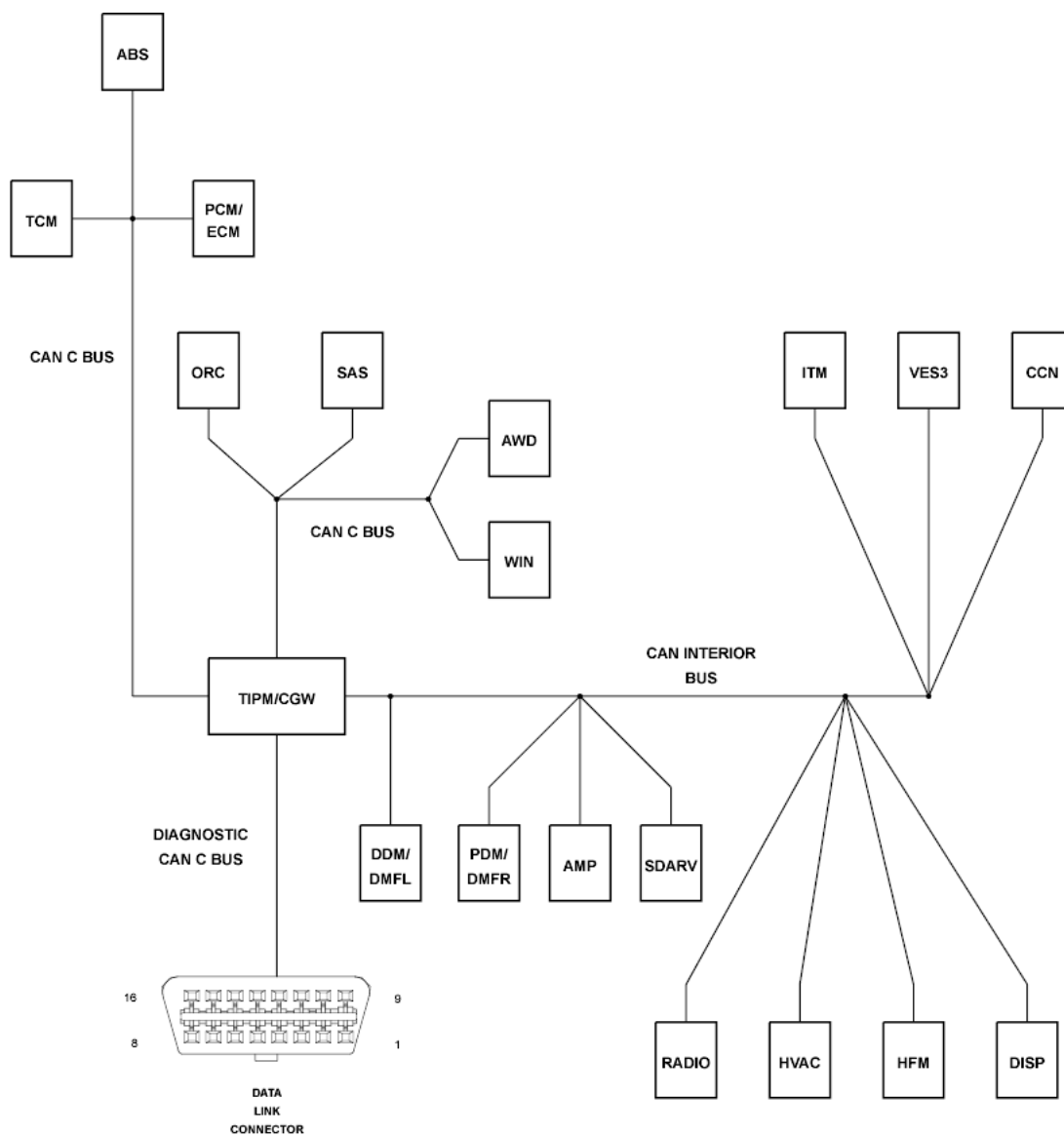


Fig. 50: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Occupant Restraint Controller (ORC) for approximately two to five seconds.

Possible Causes

(D51) OR (D65) CAN C BUS(+) CIRCUIT SHORTED TO VOLTAGE
 (D52) OR (D64) CAN C BUS(-) CIRCUIT SHORTED TO GROUND
 DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES
 TIPM NOT CONFIGURED CORRECTLY
 ORC POWER AND GROUND
 ORC
 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.

1. 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 **U0151-LOST COMMUNICATION WITH OCCUPANT RESTRAINT CONTROLLER (ORC)**.

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

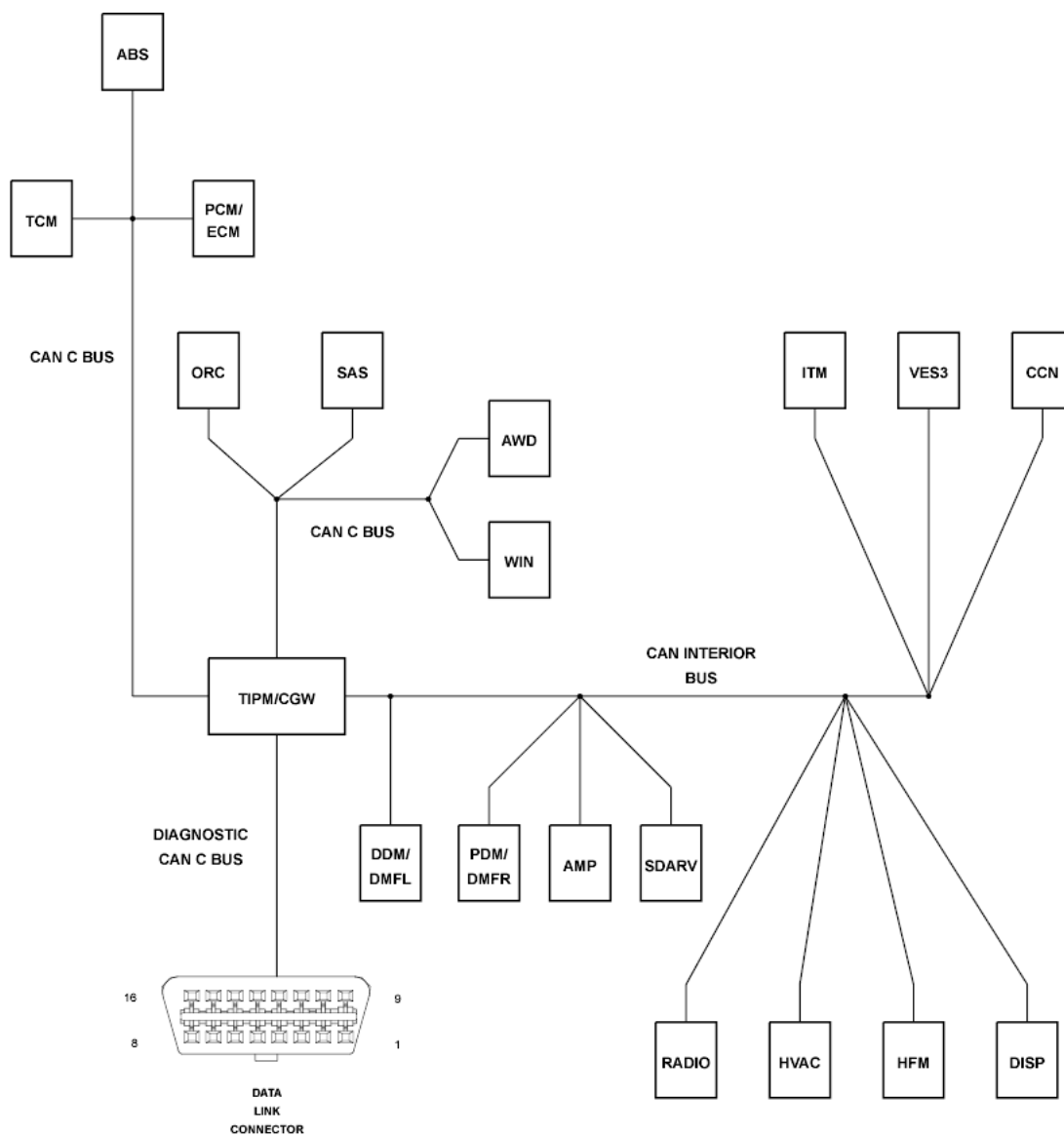


Fig. 51: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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.

1. 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.

U0167-LOST COMMUNICATION WITH INTRUSION TRANSCEIVER CONTROL MODULE

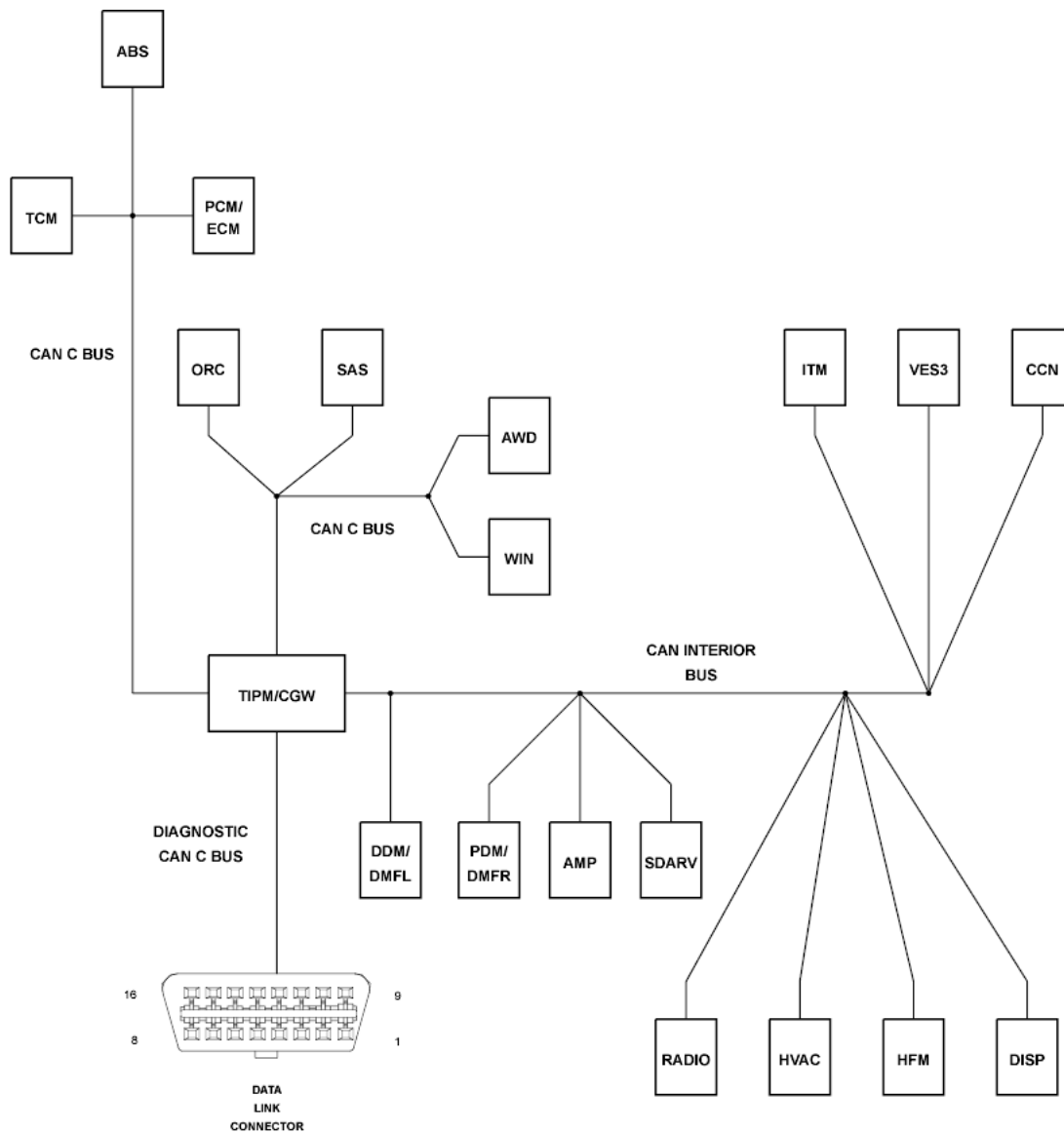


Fig. 52: CAN Interior Bus Circuit Schematic
Courtesy of CHRYSLER LLC

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 Intrusion Transceiver Control Module (ITM) 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
ITM POWER AND GROUND
INTRUSION TRANSCIEVER CONTROL 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.

1. 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 **U0167-LOST COMMUNICATION WITH INTRUSION TRANSCIEVER CONTROL MODULE**.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTC diagnostic procedure.

U0168-LOST COMMUNICATION WITH VEHICLE SECURITY CONTROL MODULE (WIN)

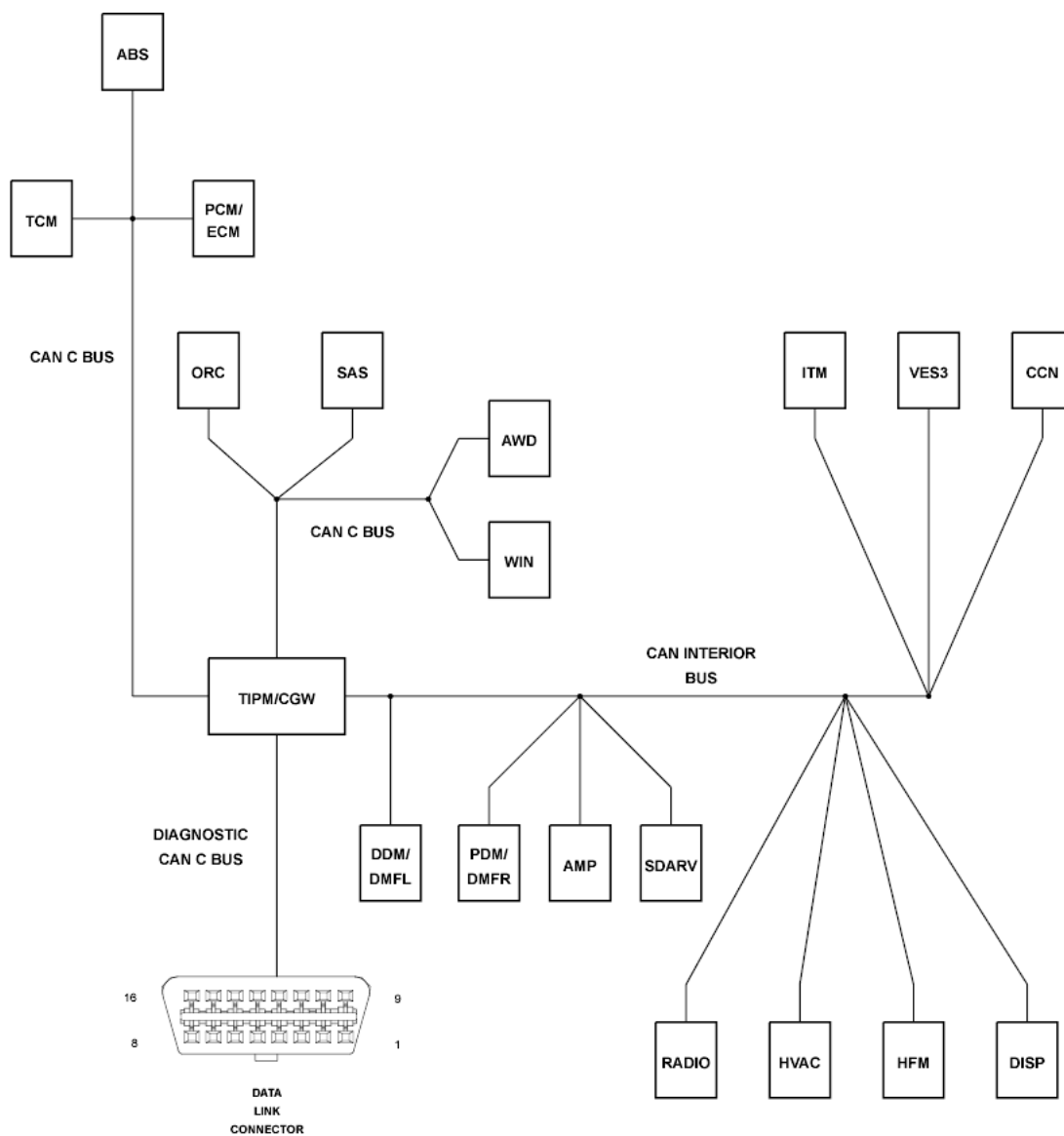


Fig. 53: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Vehicle Security Control Module (also known as the Wireless Ignition Node or WIN) for approximately two to five seconds.

Possible Causes
(D51) CAN C BUS(+) CIRCUIT SHORTED TO VOLTAGE
(D52) CAN C BUS(-) CIRCUIT SHORTED TO GROUND
DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES
TIPM NOT CONFIGURED CORRECTLY
WIN POWER AND GROUND
WIRELESS IGNITION NODE
A/C HEATER CONTROL

Diagnostic Test**1. VERIFY THE 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 active DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0168-LOST COMMUNICATION WITH VEHICLE SECURITY CONTROL MODULE (WIN)** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTCs diagnostic procedure.

U0184-LOST COMMUNICATION WITH RADIO

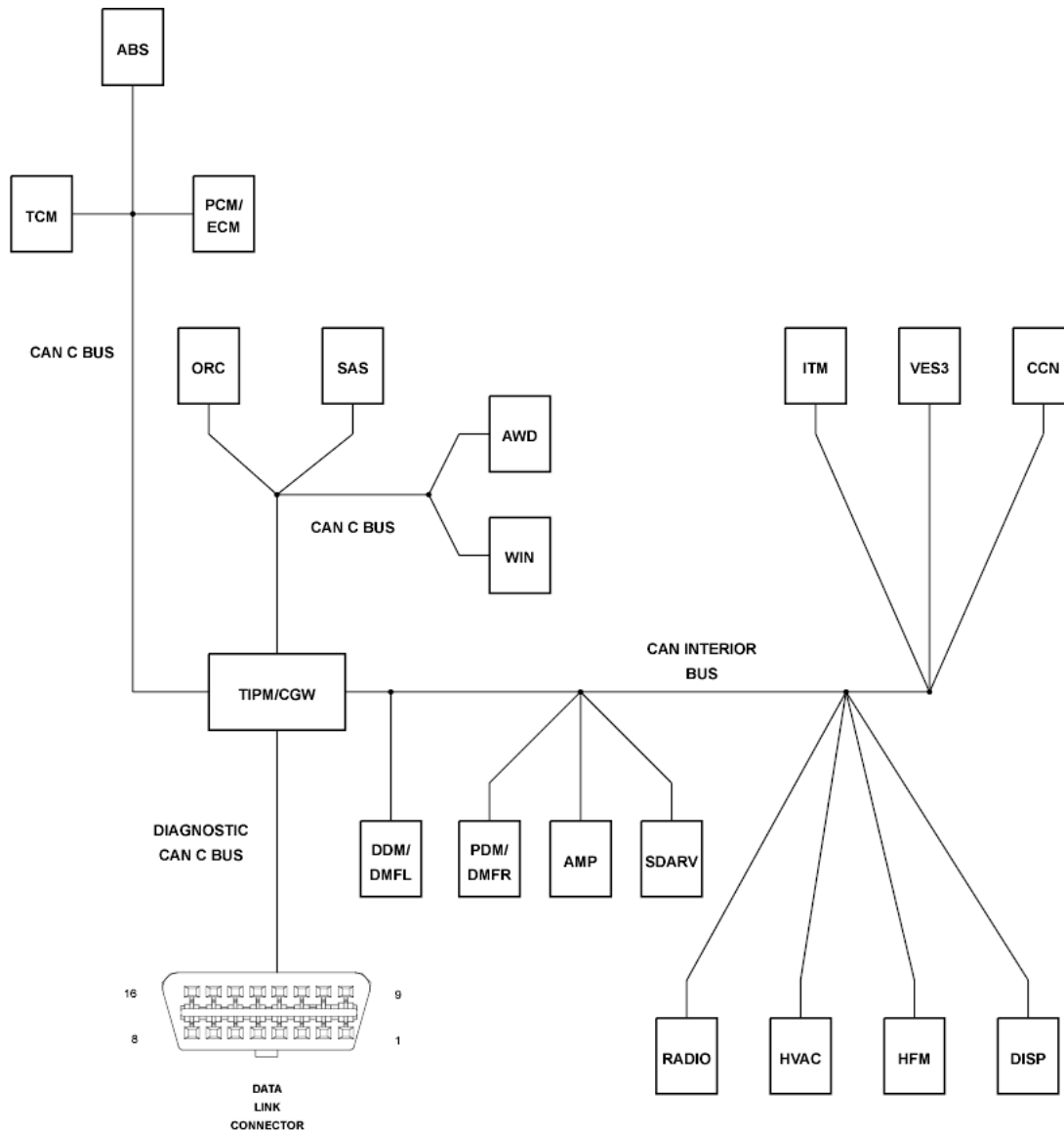


Fig. 54: CAN Interior Bus Circuit Schematic
Courtesy of CHRYSLER LLC

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 Radio for approximately two to five seconds.

Possible Causes
(D51) CAN C BUS(+) CIRCUIT SHORTED TO VOLTAGE (D52) CAN C BUS(-) CIRCUIT SHORTED TO GROUND DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES TIPM NOT CONFIGURED CORRECTLY RADIO POWER AND GROUND RADIO A/C HEATER CONTROL

Diagnostic Test

1. VERIFY THE 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.

- Using the scan tool, read active DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0184-LOST COMMUNICATION WITH RADIO** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTCs diagnostic procedure.

U0186-LOST COMMUNICATION WITH AUDIO AMPLIFIER

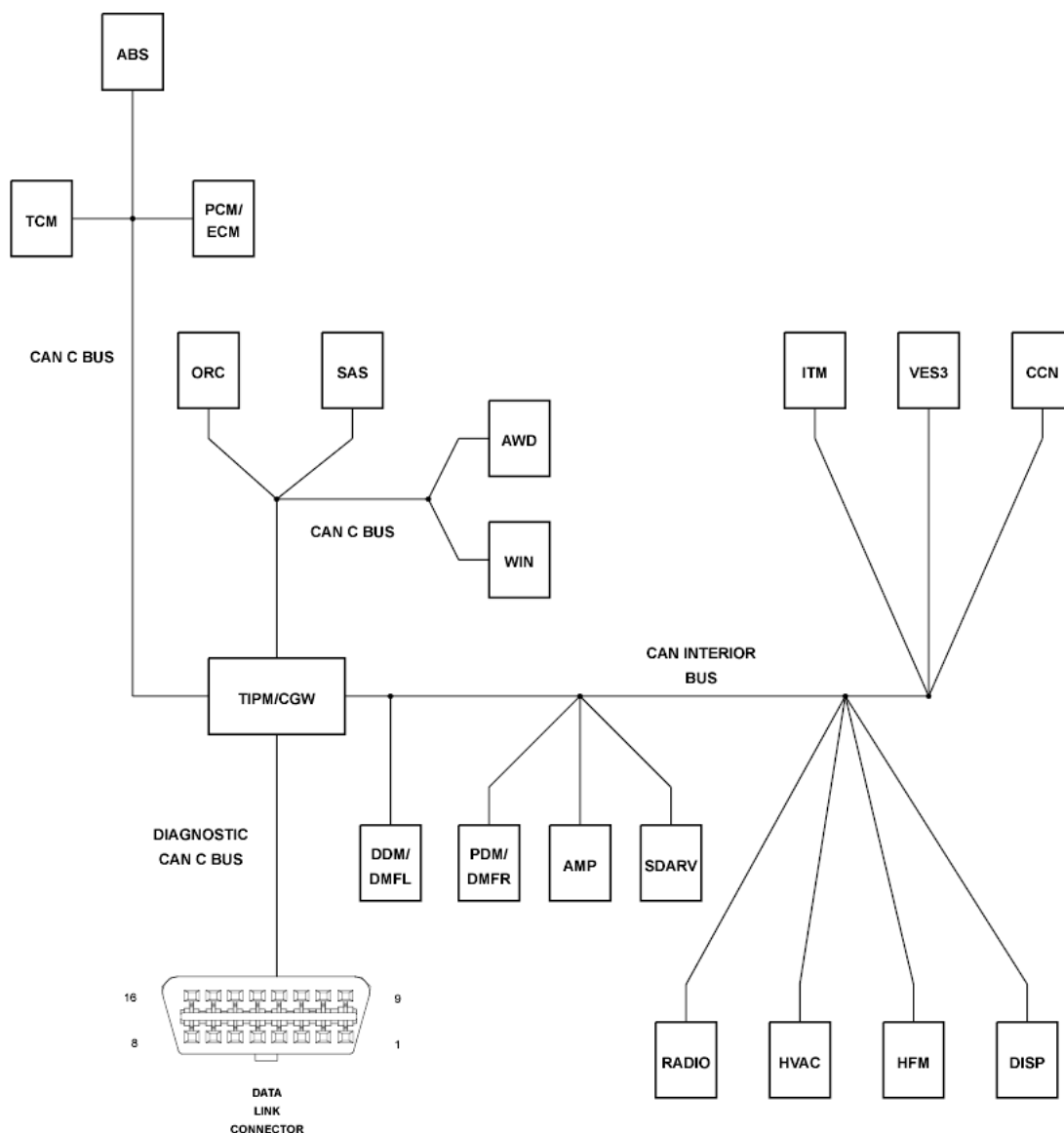


Fig. 55: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Audio Amplifier (AMP) for approximately two to five seconds.

Possible Causes
(D51) CAN C BUS(+) CIRCUIT SHORTED TO VOLTAGE (D52) CAN C BUS(-) CIRCUIT SHORTED TO GROUND DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES TIPM NOT CONFIGURED CORRECTLY AMP POWER AND GROUND AUDIO AMPLIFIER A/C HEATER CONTROL

Diagnostic Test

1. VERIFY THE 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.

- Using the scan tool, read active DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0186-LOST COMMUNICATION WITH AUDIO AMPLIFIER** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTCs diagnostic procedure.

U0197-LOST COMMUNICATION WITH HANDS FREE PHONE MODULE

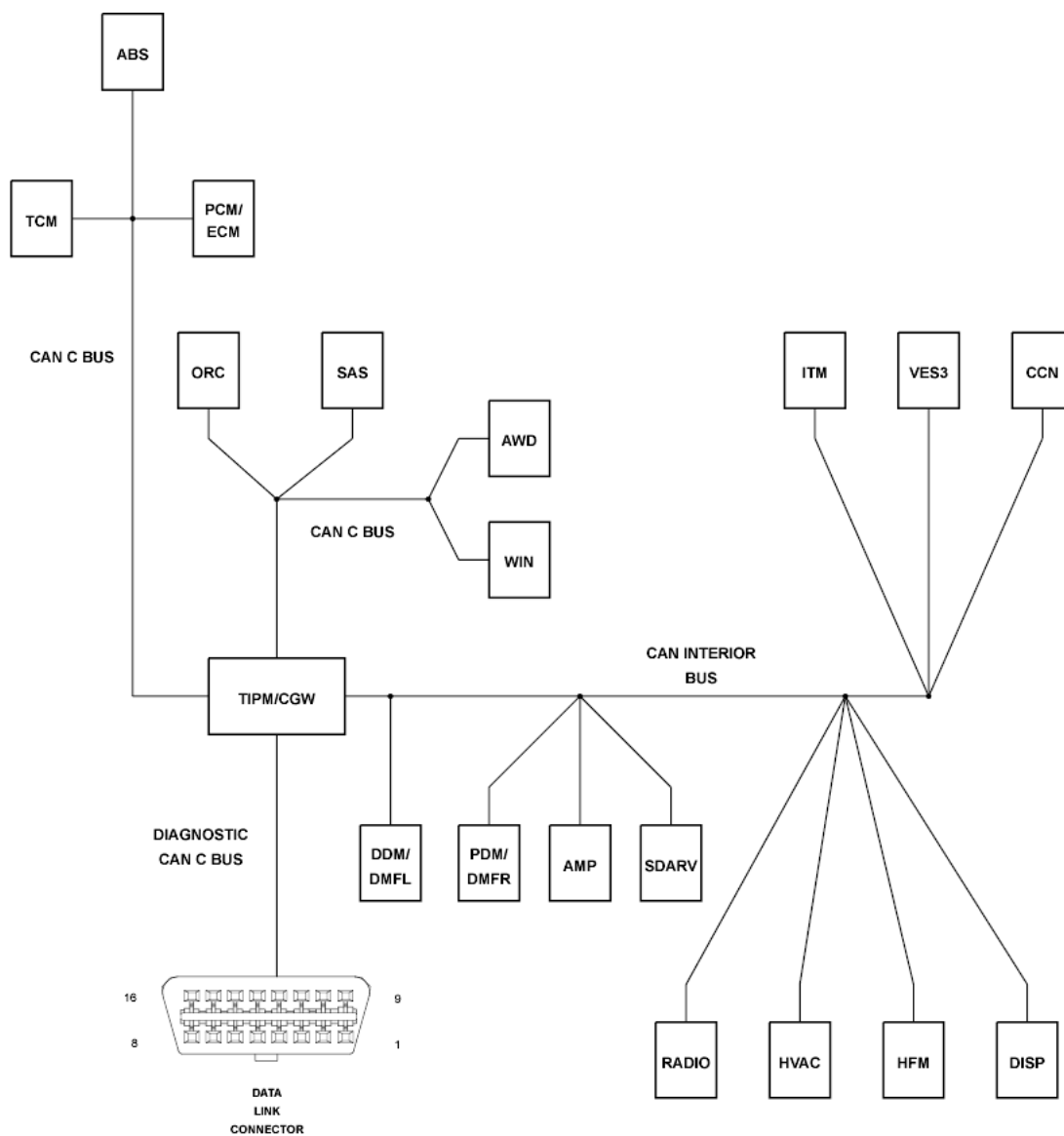


Fig. 56: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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.

2009 Dodge Journey R/T

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

- **Set Condition:**

Bus messages not received from the Hands Free Phone Module (HFM) for approximately two to five seconds.

Possible Causes
(D51) CAN C BUS(+) CIRCUIT SHORTED TO VOLTAGE
(D52) CAN C BUS(-) CIRCUIT SHORTED TO GROUND
DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES
TIPM NOT CONFIGURED CORRECTLY
HFM POWER AND GROUND
HANDS FREE PHONE MODULE
A/C HEATER CONTROL

Diagnostic Test

1. VERIFY THE 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 active DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0197-LOST COMMUNICATION WITH HANDS FREE PHONE MODULE** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTCs diagnostic procedure.

U0203-LOST COMMUNICATION WITH DOOR MODULE FRONT LEFT

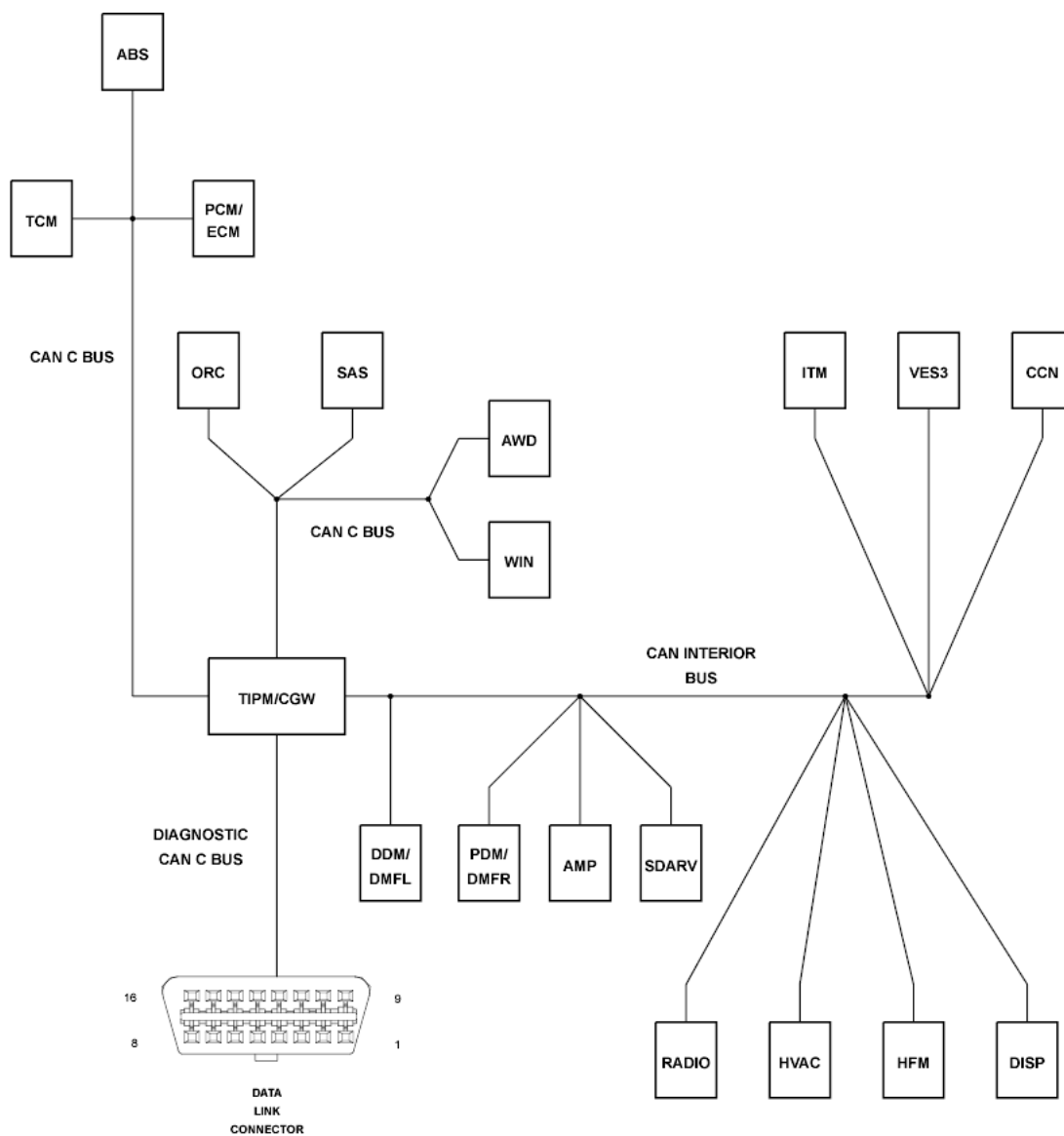


Fig. 57: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Driver Door Module (DDM) for approximately two to five seconds.

Possible Causes
(D51) CAN C BUS(+) CIRCUIT SHORTED TO VOLTAGE (D52) CAN C BUS(-) CIRCUIT SHORTED TO GROUND DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES TIPM NOT CONFIGURED CORRECTLY DDM POWER AND GROUND DRIVER DOOR MODULE A/C HEATER CONTROL

Diagnostic Test

1. VERIFY THE 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.

- Using the scan tool, read active DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0203-LOST COMMUNICATION WITH DOOR MODULE FRONT LEFT** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTCs diagnostic procedure.

U0249-LOST COMMUNICATION WITH VEHICLE ENTERTAINMENT CONTROL MODULE - LAST ROW

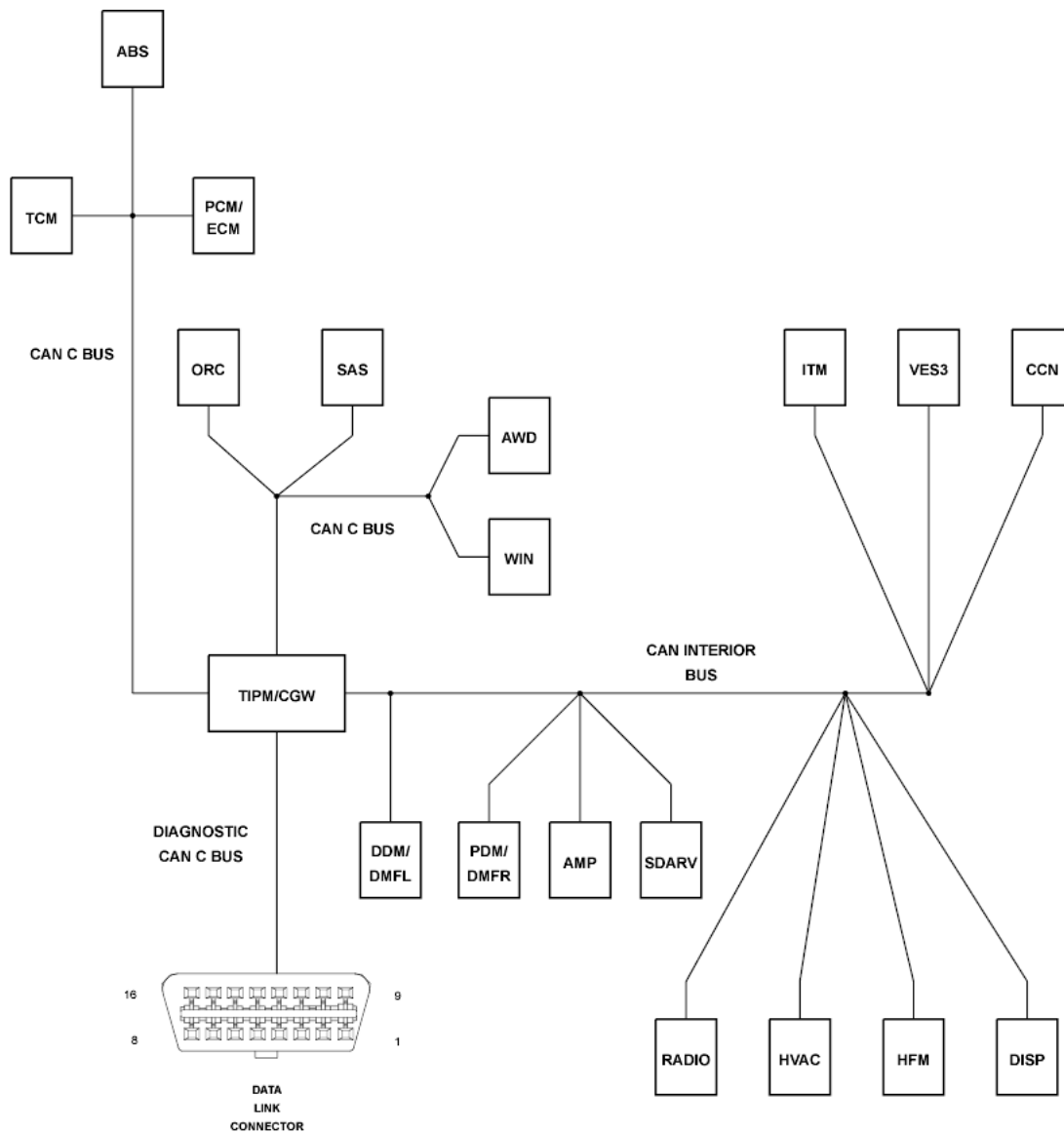


Fig. 58: CAN Interior Bus Circuit Schematic
Courtesy of CHRYSLER LLC

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 Vehicle Entertainment System Control Module (VES) for approximately two to five seconds.

Possible Causes
(D51) CAN C BUS(+) CIRCUIT SHORTED TO VOLTAGE
(D52) CAN C BUS(-) CIRCUIT SHORTED TO GROUND
DTCS RELATED TO BATTERY VOLTAGE, IGNITION, OR VIN MESSAGES
TIPM NOT CONFIGURED CORRECTLY
VES POWER AND GROUND
VEHICLE ENTERTAINMENT SYSTEM CONTROL MODULE
A/C HEATER CONTROL

Diagnostic Test

1. **VERIFY THE 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.

- Using the scan tool, read active DTCs.

Is this DTC active?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the **U0249-LOST COMMUNICATION WITH VEHICLE ENTERTAINMENT CONTROL MODULE - LAST ROW** diagnostic procedure.

No

- Refer to **Non-DTC Diagnostics/Communication - Diagnosis and Testing** and perform the Stored Lost Communication DTCs diagnostic procedure.

B1000-92-A/C SWITCH REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION

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 two 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 two 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 two 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**.

B1009-92-RECIRCULATION SWITCH REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION

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 two minutes but has since returned to its normal state of Off.

• **When Monitored:**

With the ignition on.

• **Set Condition:**

If the Recirculation mode switch is stuck in a On position for more than two 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 mode switch in an On position.

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

Is the Recirculation 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 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 two 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.**B1015-92-EBL / REAR DEFROST SWITCH REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION**

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 two minutes but has since returned to its normal state of Off.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Electric Back light (EBL) Electronic Rear Defrost switch is stuck in an On position for more than two 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 (EBL) Electronic 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 (EBL) Electronic 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. 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 two 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**.

B1030-11-EVAPORATOR TEMPERATURE SENSOR - CIRCUIT SHORT TO GROUND

2009 Dodge Journey R/T

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

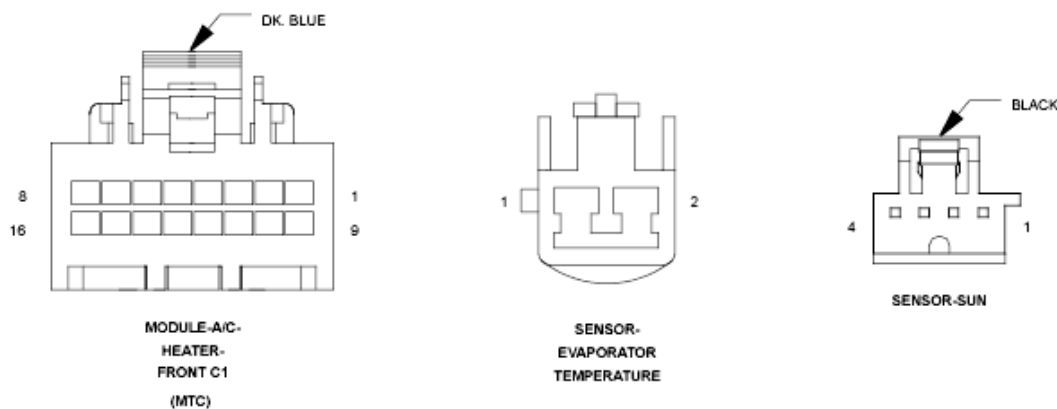
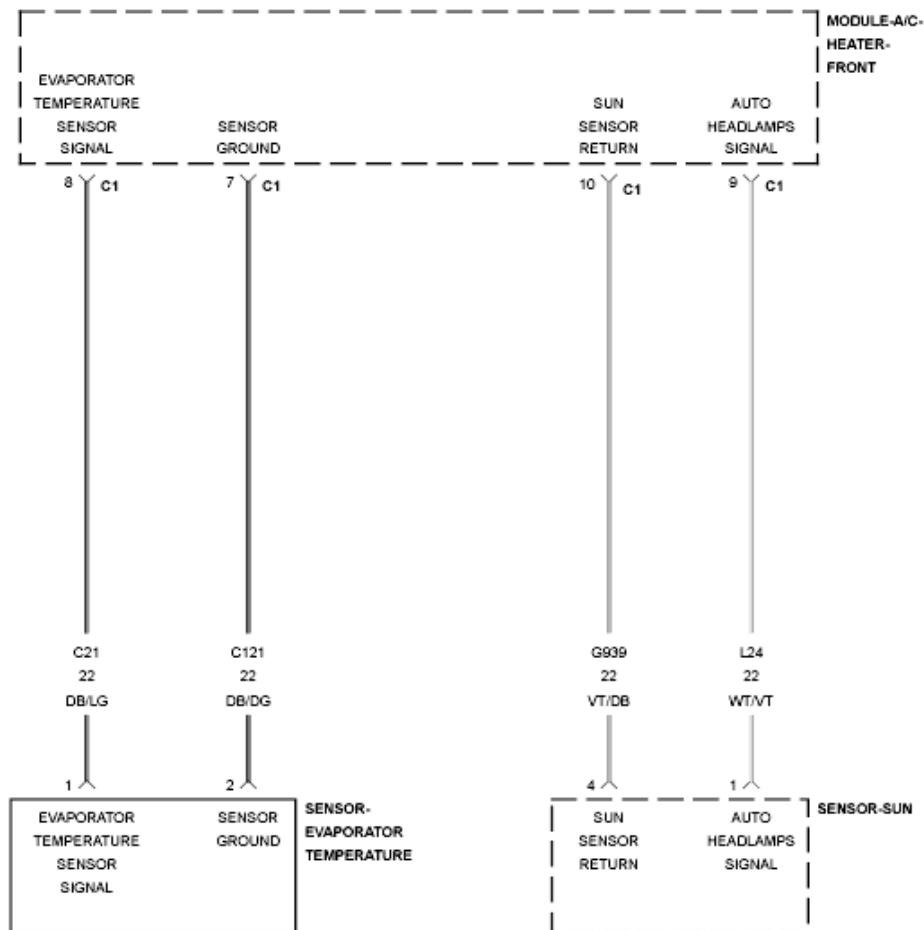


Fig. 59: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

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 equal to or below 0.9 volts for a continuous period of 1.2 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
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.

Is this DTC active?

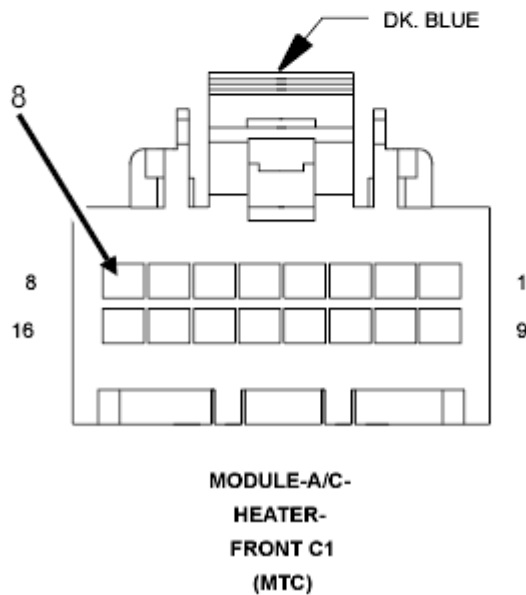
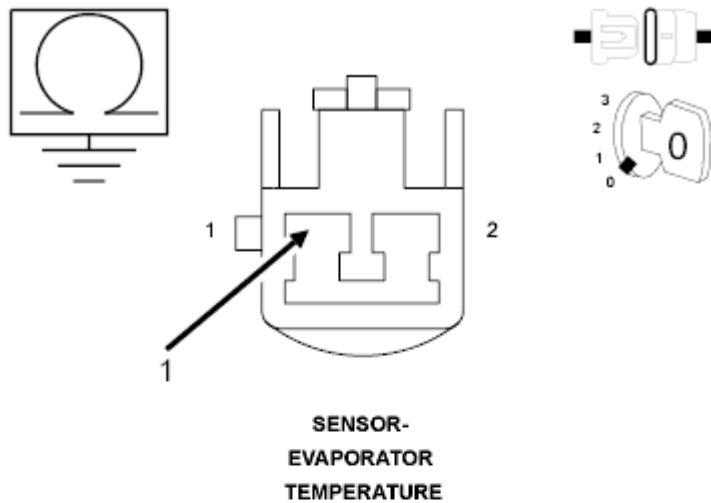
Yes

- Go to step 2

No

- Go to step 5

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



2035616

Fig. 60: 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 C1 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?

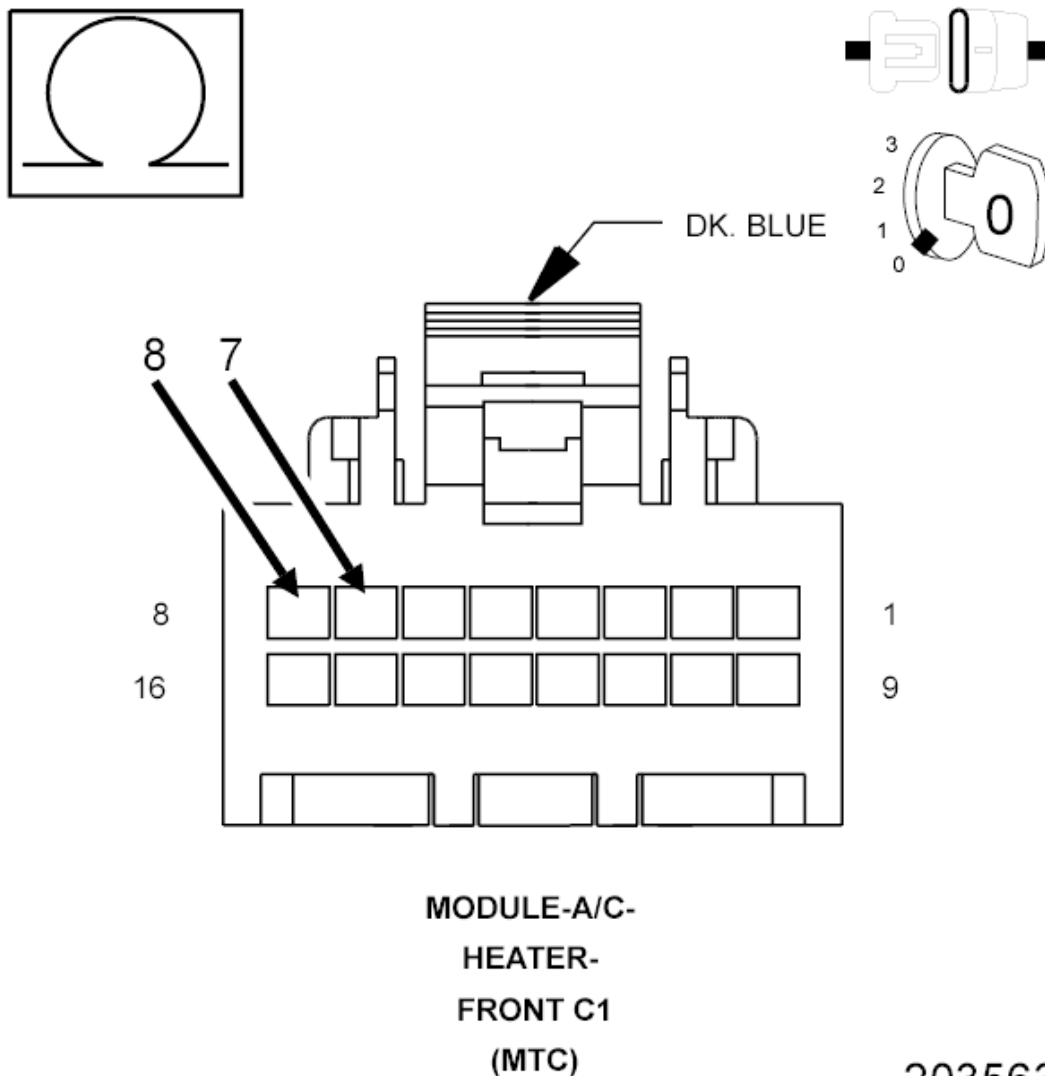
Yes

- 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**



2035632

Fig. 61: 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. Cycle the ignition off for 30 seconds then back on.
3. 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.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

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

2009 Dodge Journey R/T

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

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

No

- Test complete.

B1030-12-EVAPORATOR TEMPERATURE SENSOR - CIRCUIT SHORT TO BATTERY

2009 Dodge Journey R/T

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

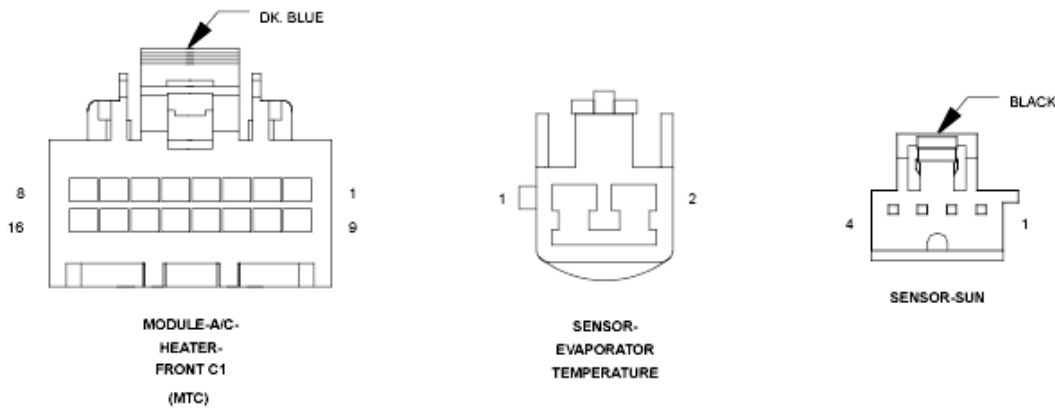
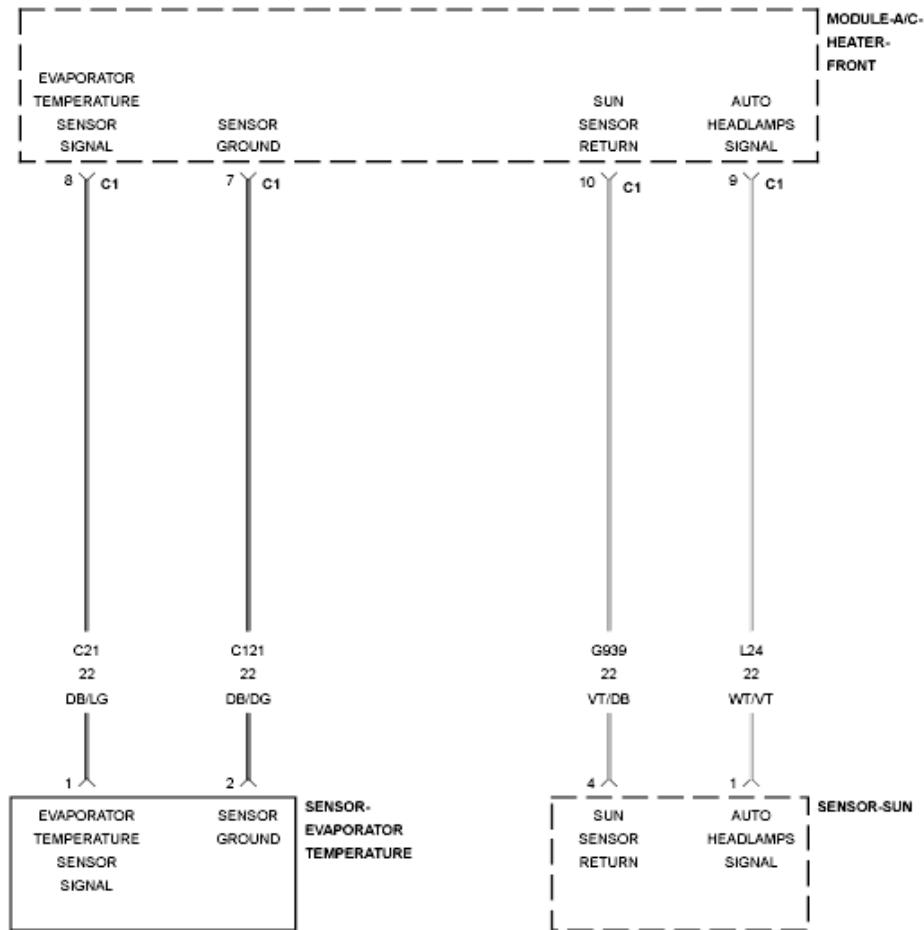


Fig. 62: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

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 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 4.8 volts for a continuous period of two seconds. If the A/C Heater Control detects a valid voltage, the 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. With the scan tool, read HVAC DTCs.

Is this DTC active?

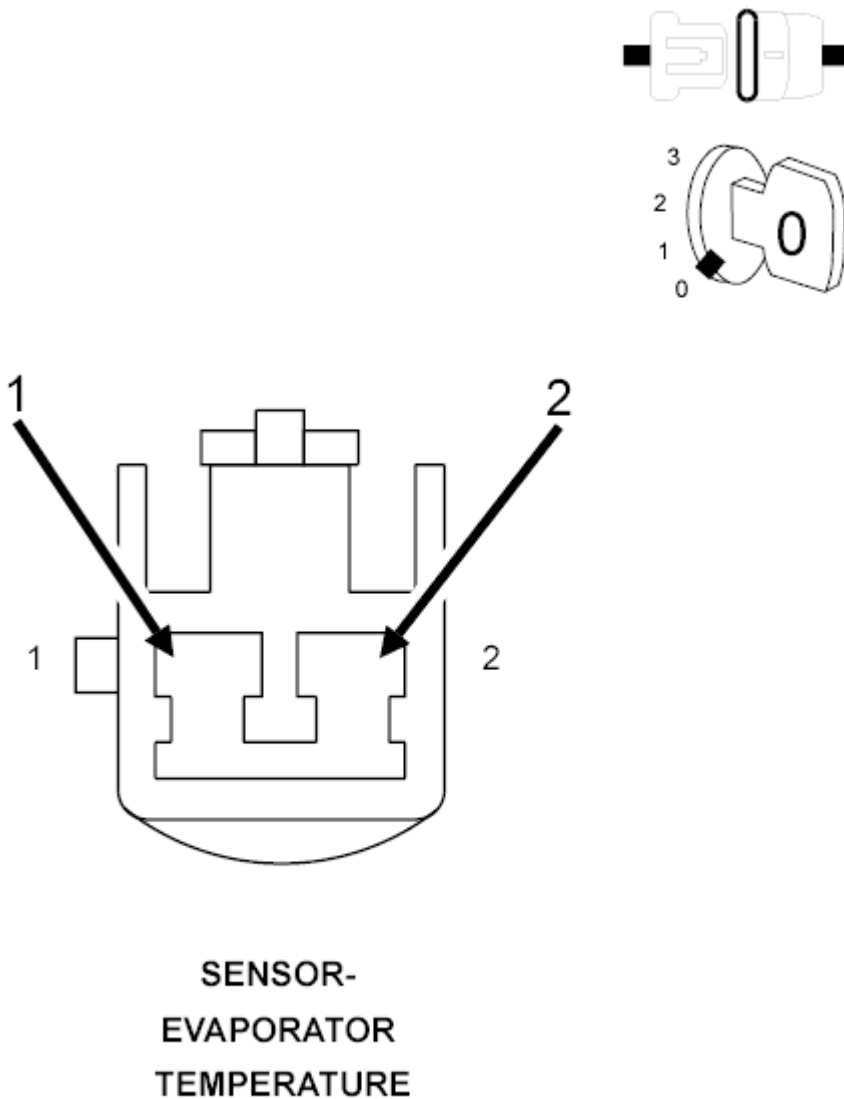
Yes

- Go to step 2

No

- Go to step 7

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



2036093

Fig. 63: 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.

2009 Dodge Journey R/T

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

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

Is the voltage below 0.1 of a volt?

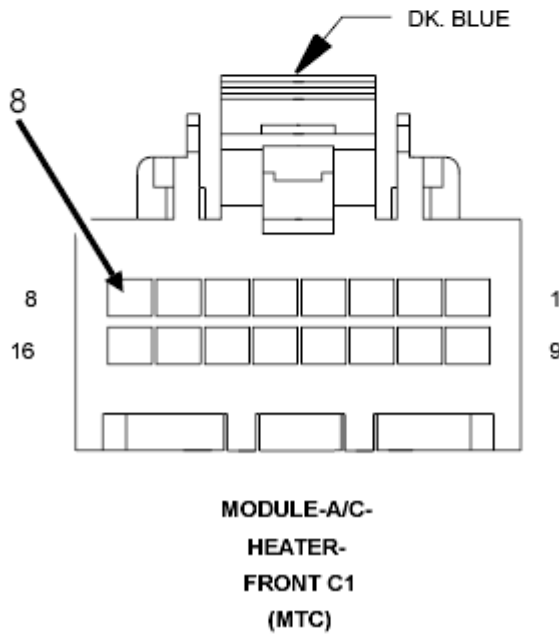
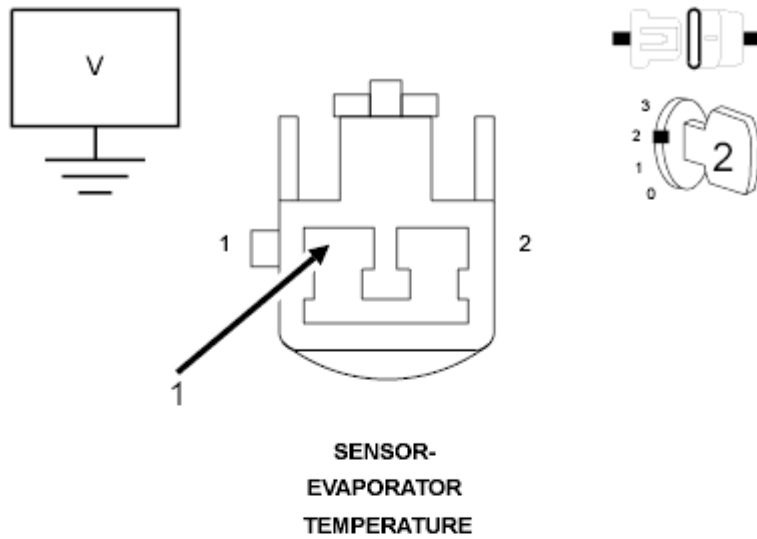
Yes

- 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**



2036111

Fig. 64: 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 C1 harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C21) Evaporator Temperature Sensor Signal circuit

2009 Dodge Journey R/T

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

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

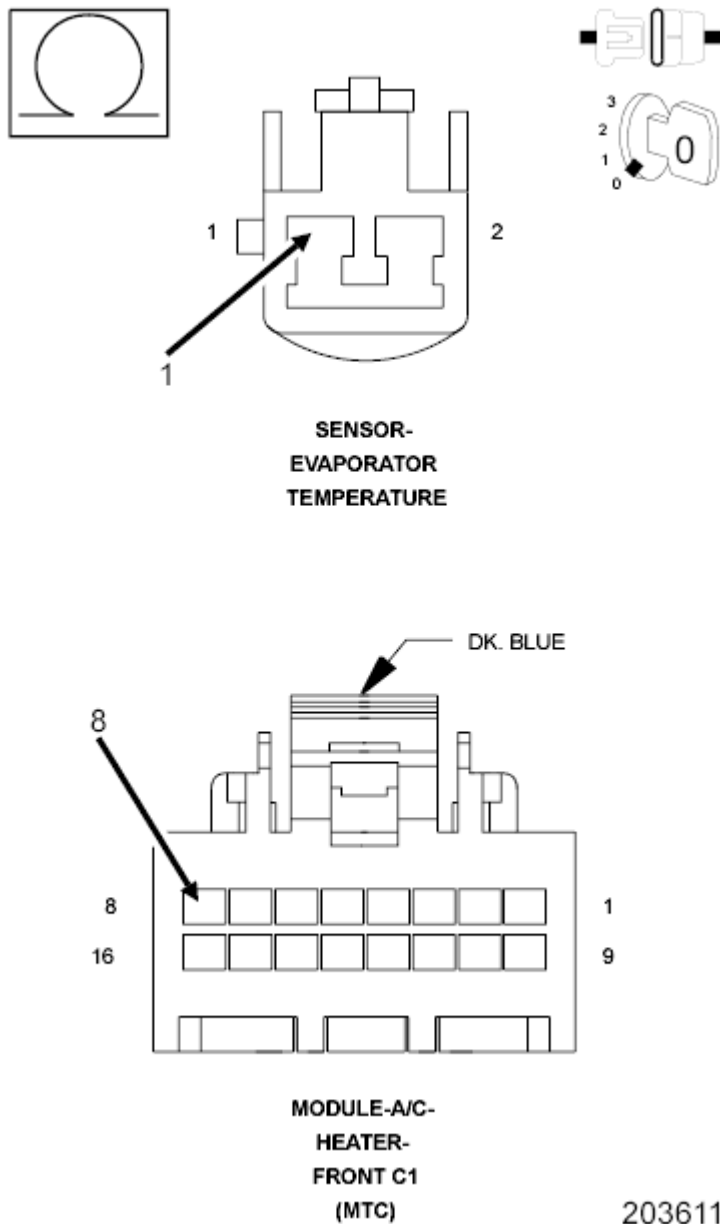


Fig. 65: Checking Evaporator Temperature Sensor Signal Circuit For An Open
Courtesy of CHRYSLER LLC

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 C1 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

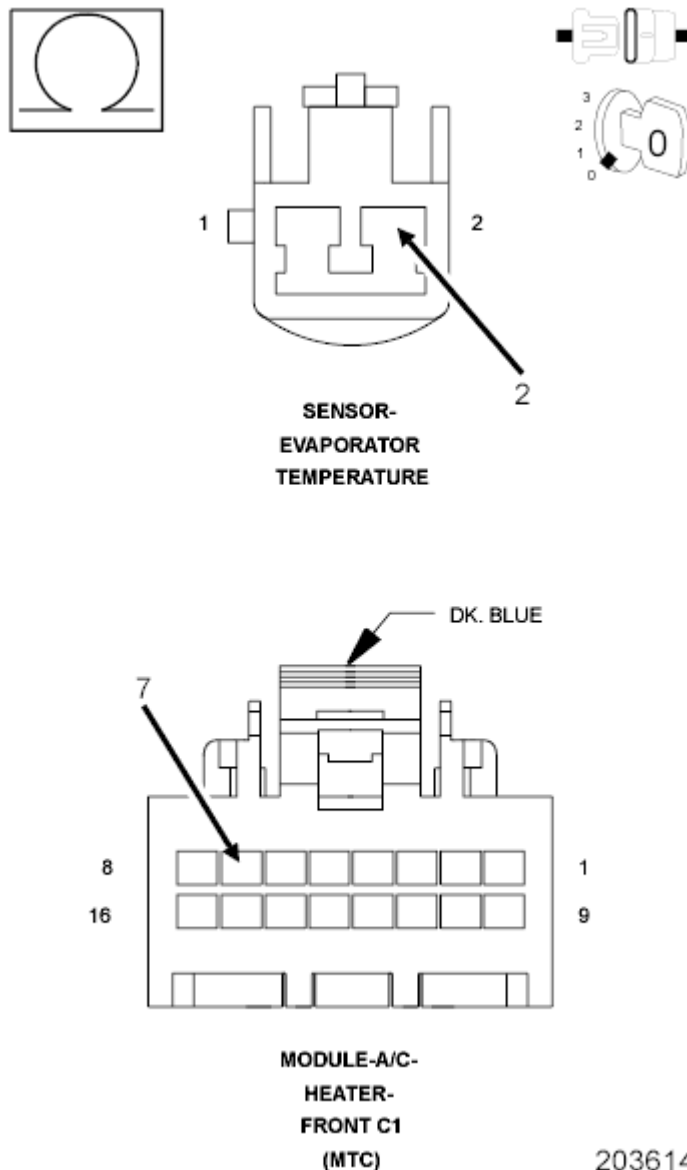


Fig. 66: Checking Sensor Ground Circuit For An Open
Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control C1

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.
- 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. Cycle the ignition off for 30 seconds then back on.
3. 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.
- 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.

2009 Dodge Journey R/T

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

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

No

- Test complete.

B1058-11-RECIRCULATION DOOR CONTROL - CIRCUIT SHORT TO GROUND

2009 Dodge Journey R/T

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

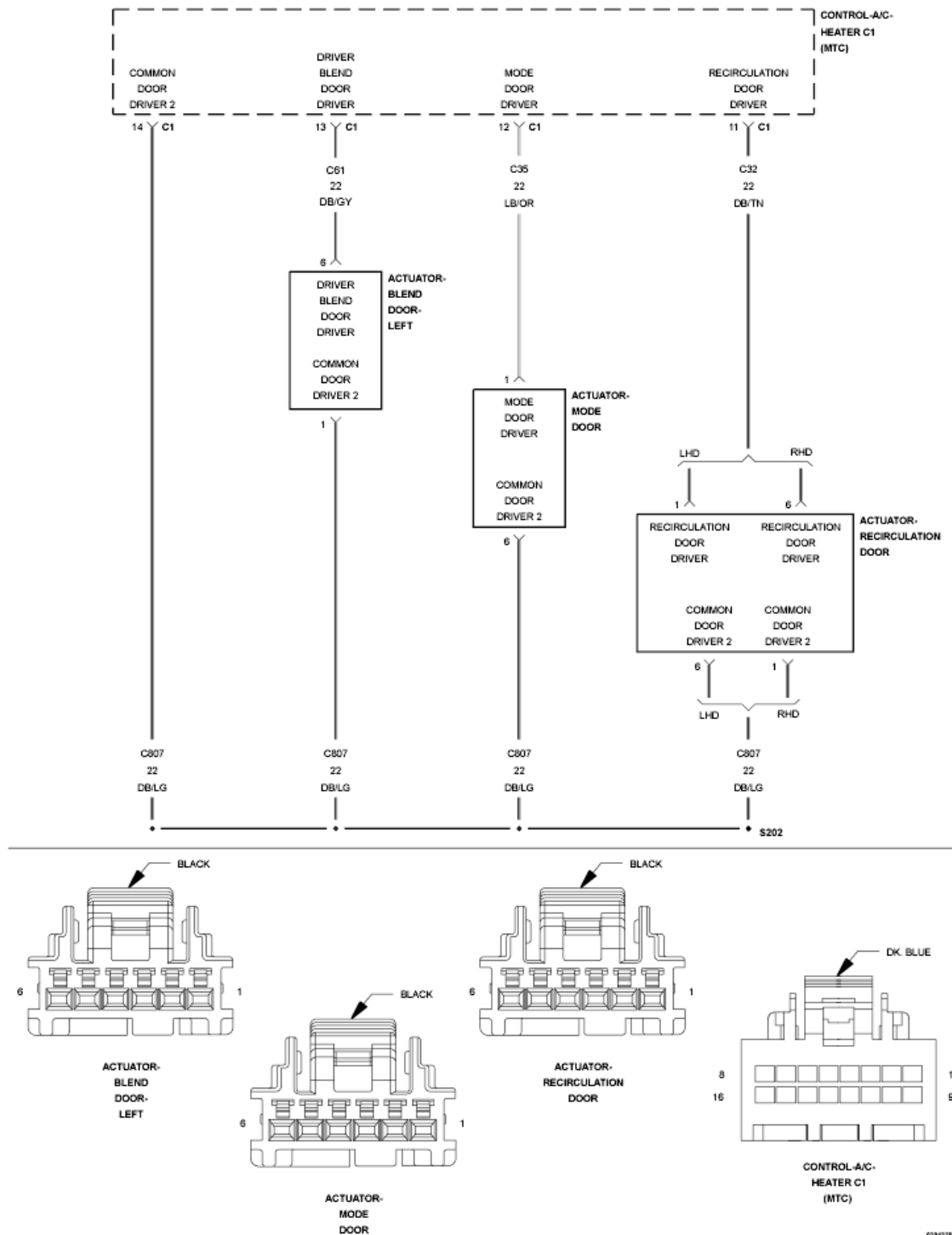


Fig. 67: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects a short to ground on the Recirculation Door Driver circuit. If the A/C Heater Control detects valid current draw, 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 GROUND (C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND 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. With 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. With the scan tool, perform the HVAC Actuator Calibration Test.

2009 Dodge Journey R/T

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

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

Yes

- Go to step 3

No

- Go to step 6

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

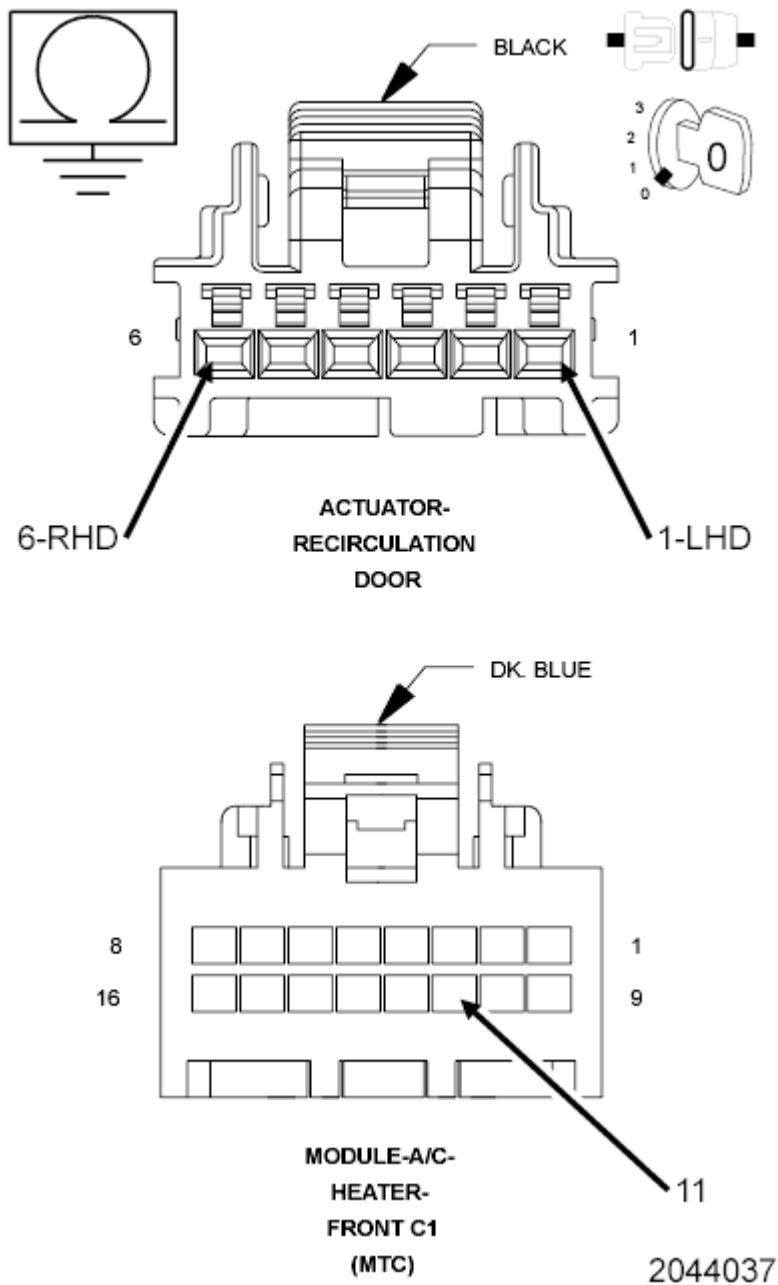


Fig. 68: Checking Recirculation Door Driver Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Disconnect the Recirculation Door Actuator harness connector.
4. Measure the resistance between ground and the (C32) Recirculation Door Driver circuit.

Is the resistance below 100k Ohms?

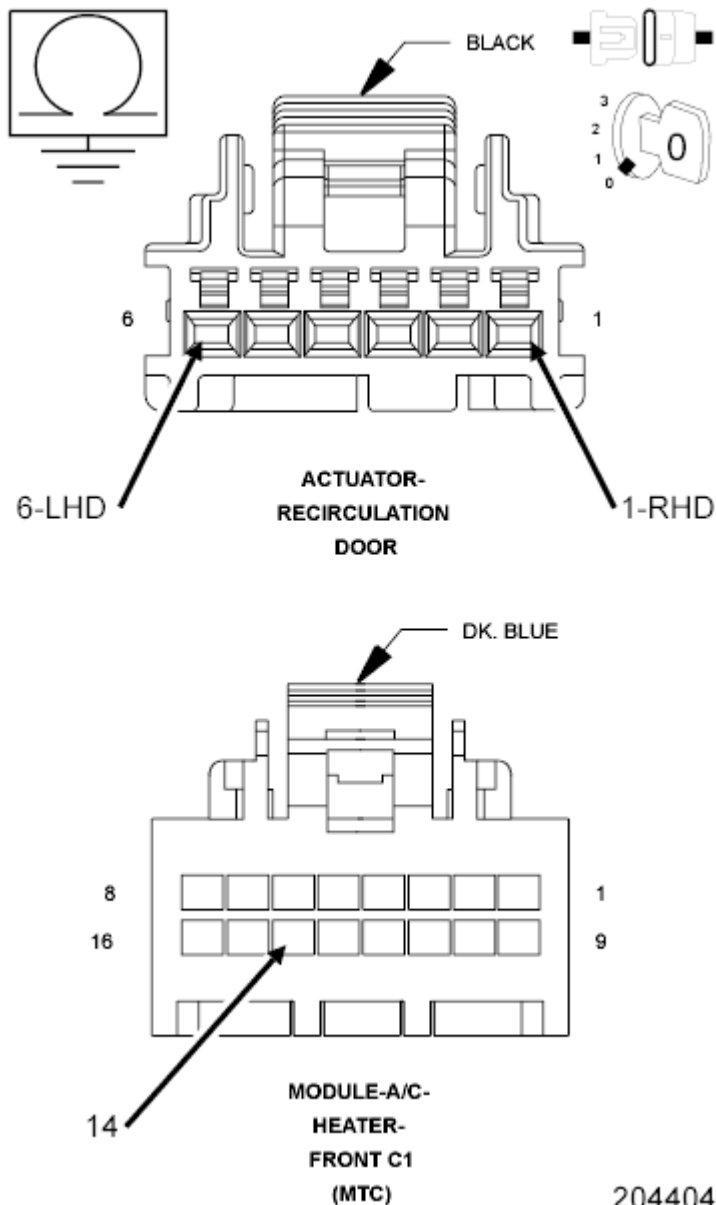
Yes

- 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 4

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



2044046

Fig. 69: 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 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

2009 Dodge Journey R/T

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

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

No

- Test complete.

B1058-12-RECIRCULATION DOOR CONTROL - CIRCUIT SHORT TO BATTERY

2009 Dodge Journey R/T

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

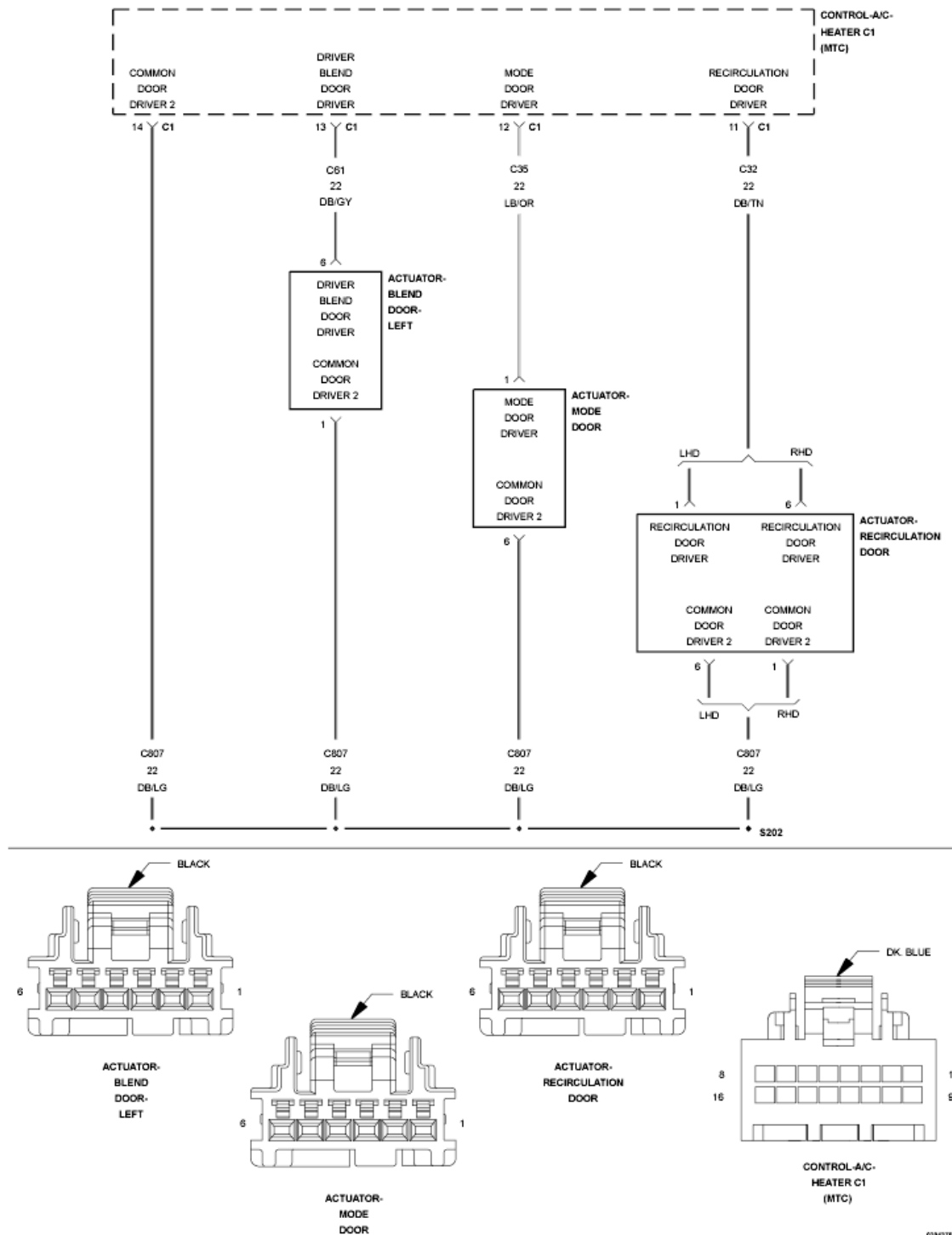


Fig. 70: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects a short voltage on the Recirculation Door control circuit. If the A/C Heater Control detects a valid voltage, 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
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
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. With 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. With the scan tool, perform the HVAC Actuator Calibration Test.

2009 Dodge Journey R/T

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

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

Yes

- Go to step 3

No

- Go to step 6

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

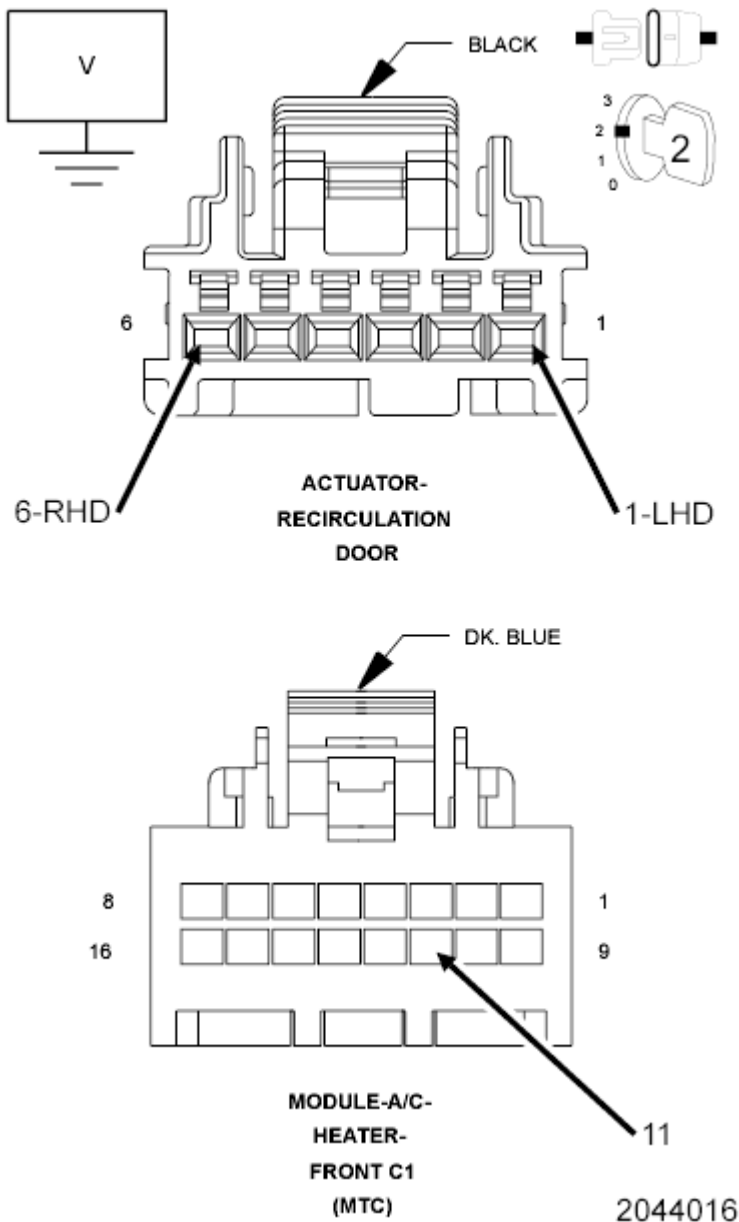


Fig. 71: Checking Recirculation Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 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?

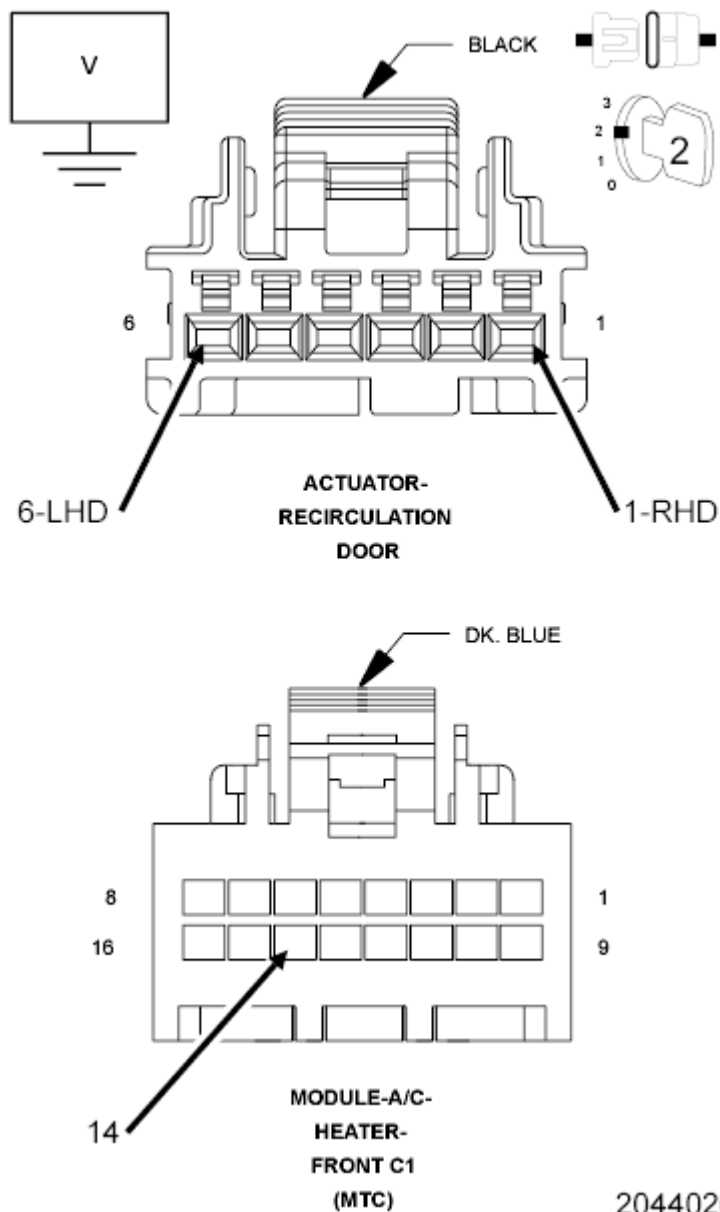
Yes

- 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



2044026

Fig. 72: 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 RECIRCULATION DOOR ACTUATOR

1. Turn the ignition off to the lock position.
2. Replace the Recirculation Door Actuator in accordance with the Service Information.
3. 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

2009 Dodge Journey R/T

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

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

No

- Test complete.

B1058-13-RECIRCULATION DOOR CONTROL - CIRCUIT OPEN

2009 Dodge Journey R/T

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

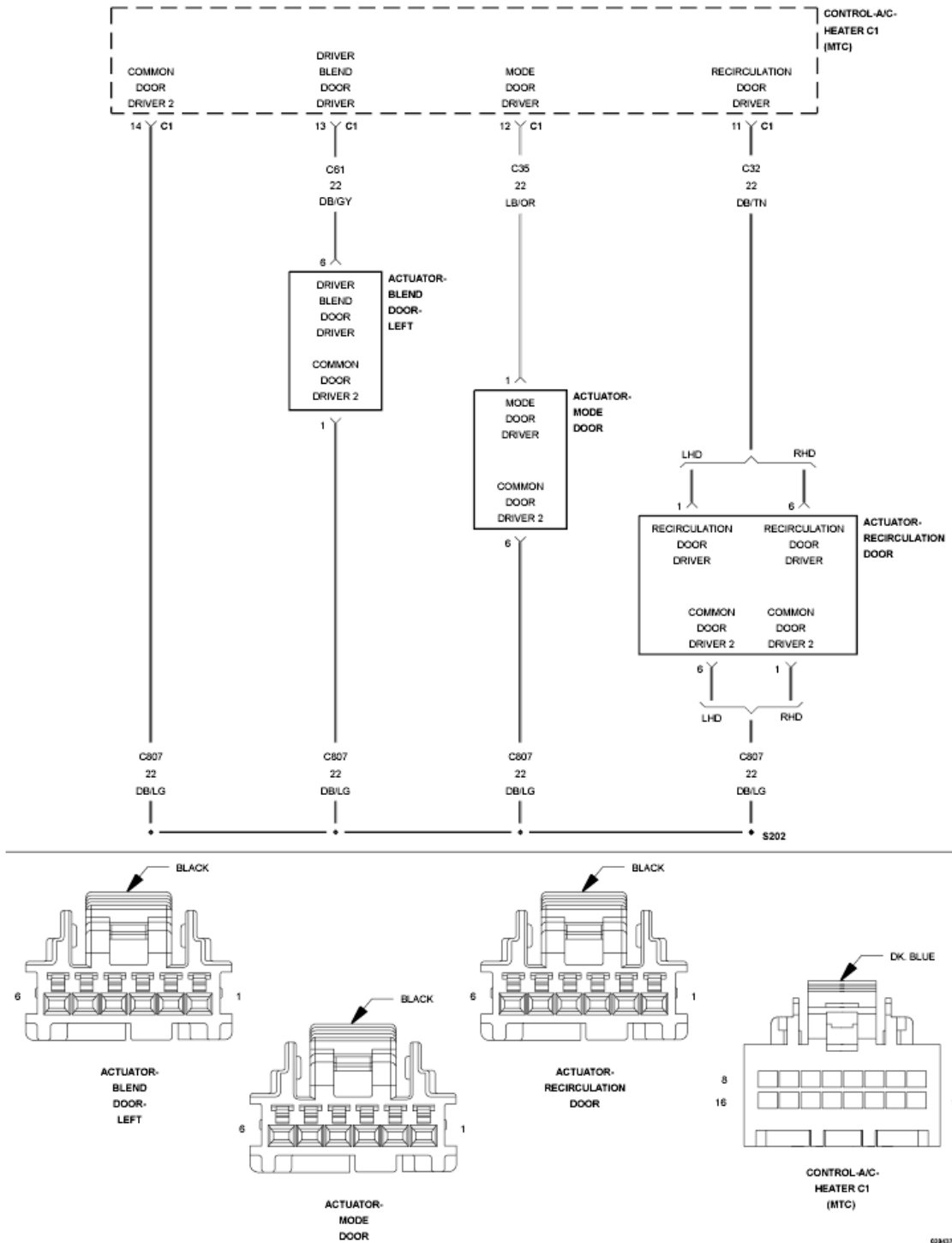


Fig. 73: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects an open in the Recirculation Door control circuit. If the A/C Heater Control detects a valid current draw, 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 OPEN
(C807) COMMON DOOR DRIVER 2 CIRCUIT OPEN
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. With 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. 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 3

No

- Go to step 6

3. CHECK THE RECIRCULATION DOOR ACTUATOR

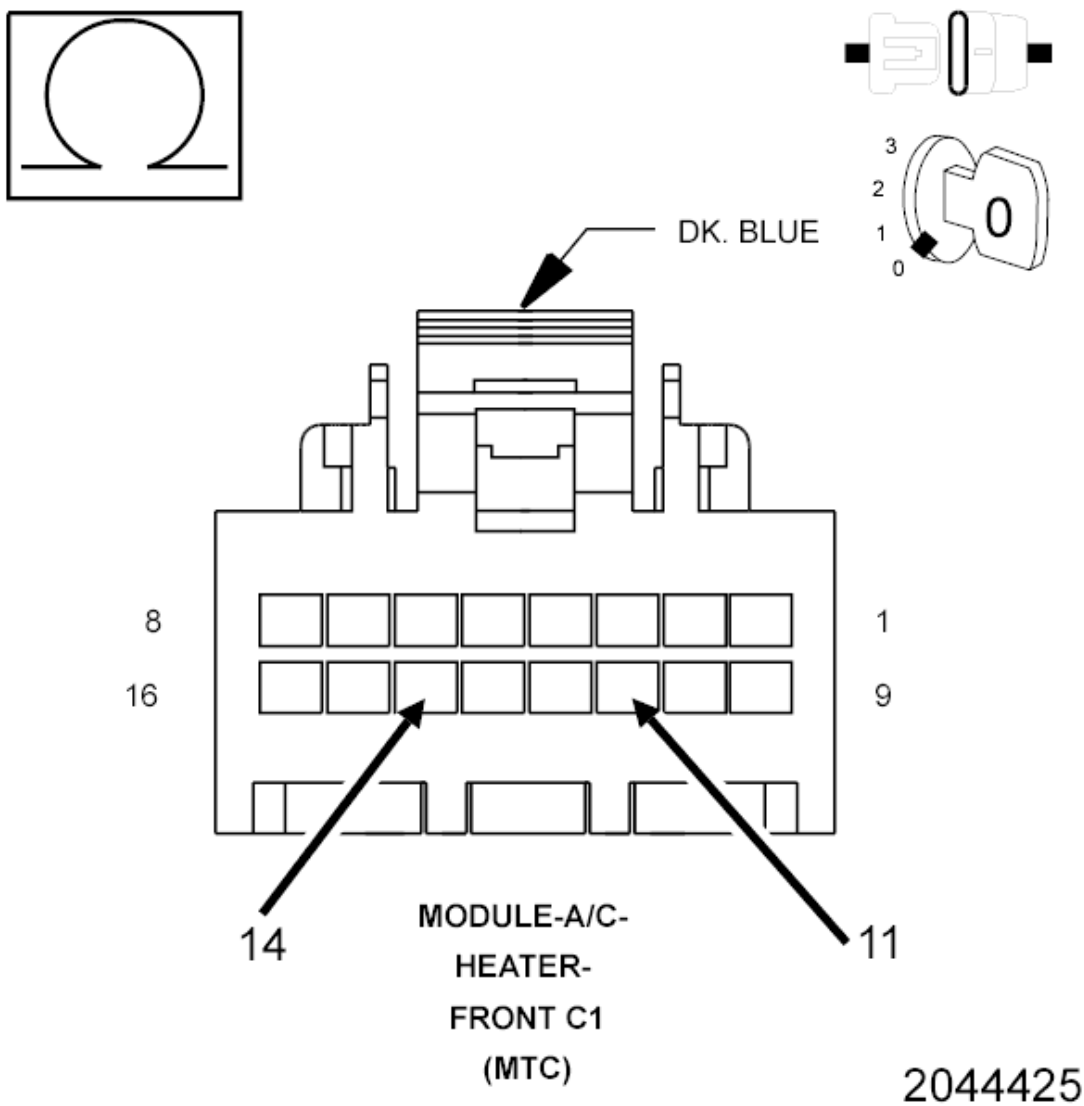


Fig. 74: Checking Recirculation Door Actuator
Courtesy of CHRYSLER LLC

2009 Dodge Journey R/T

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

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Measure the resistance between the (C32) Recirculation Door Driver circuit and the (C807) Common Door Driver 2 circuit.

Is the resistance 38.0 Ohms (± 5.0 Ohms)?

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

- Go to step 4

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

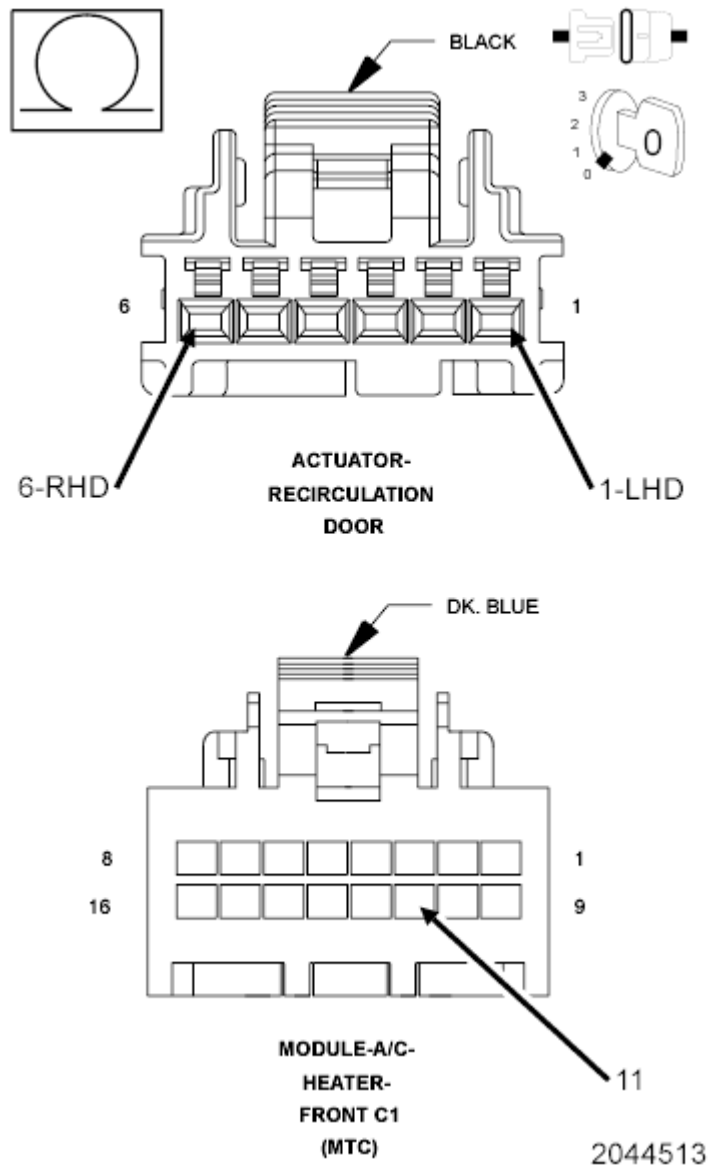


Fig. 75: Checking Recirculation Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Recirculation Door Actuator harness connector.
3. Measure the resistance of the (C32) Recirculation Door Driver circuit between the A/C Heater Control C1 harness connector and the Recirculation Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

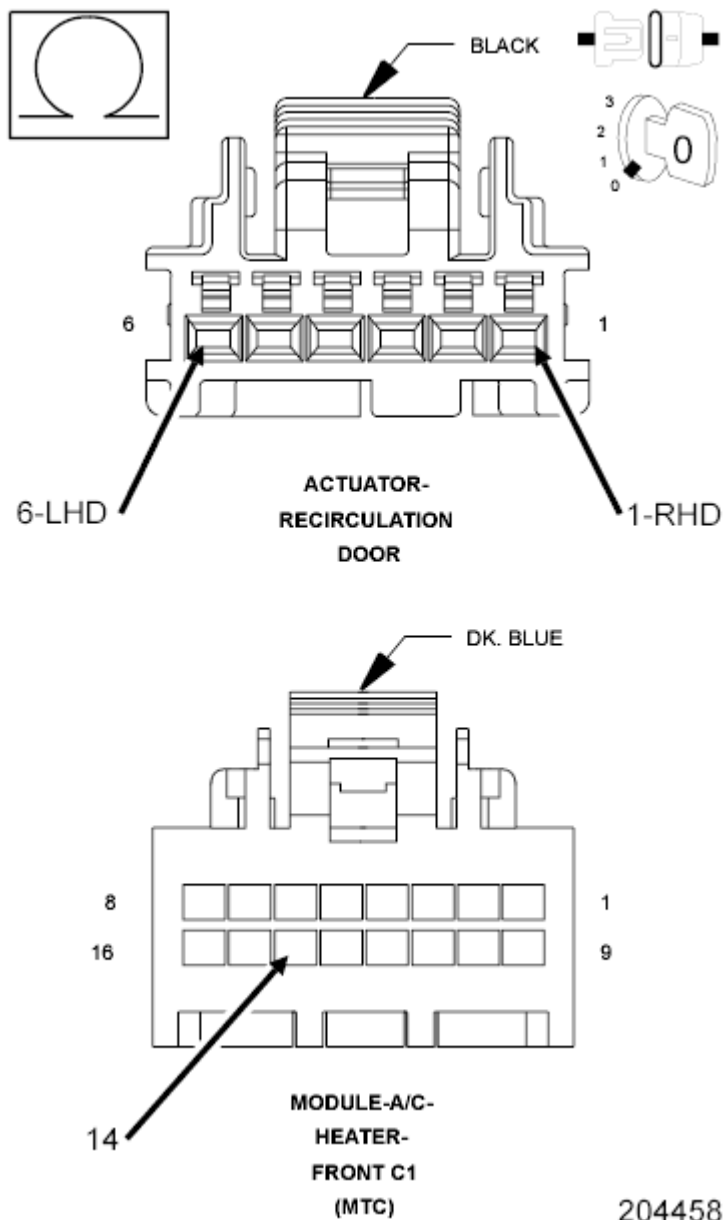
- Repair the (C32) Recirculation Door Driver circuit for an open or high resistance.

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

No

- Go to step 5

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



2044581

Fig. 76: 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 C1 harness connector and the Recirculation Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- 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**.

No

- Replace the Recirculation Door Actuator 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.

B1058-92-RECIRCULATION DOOR CONTROL - PERFORMANCE OR INCORRECT OPERATION

2009 Dodge Journey R/T

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

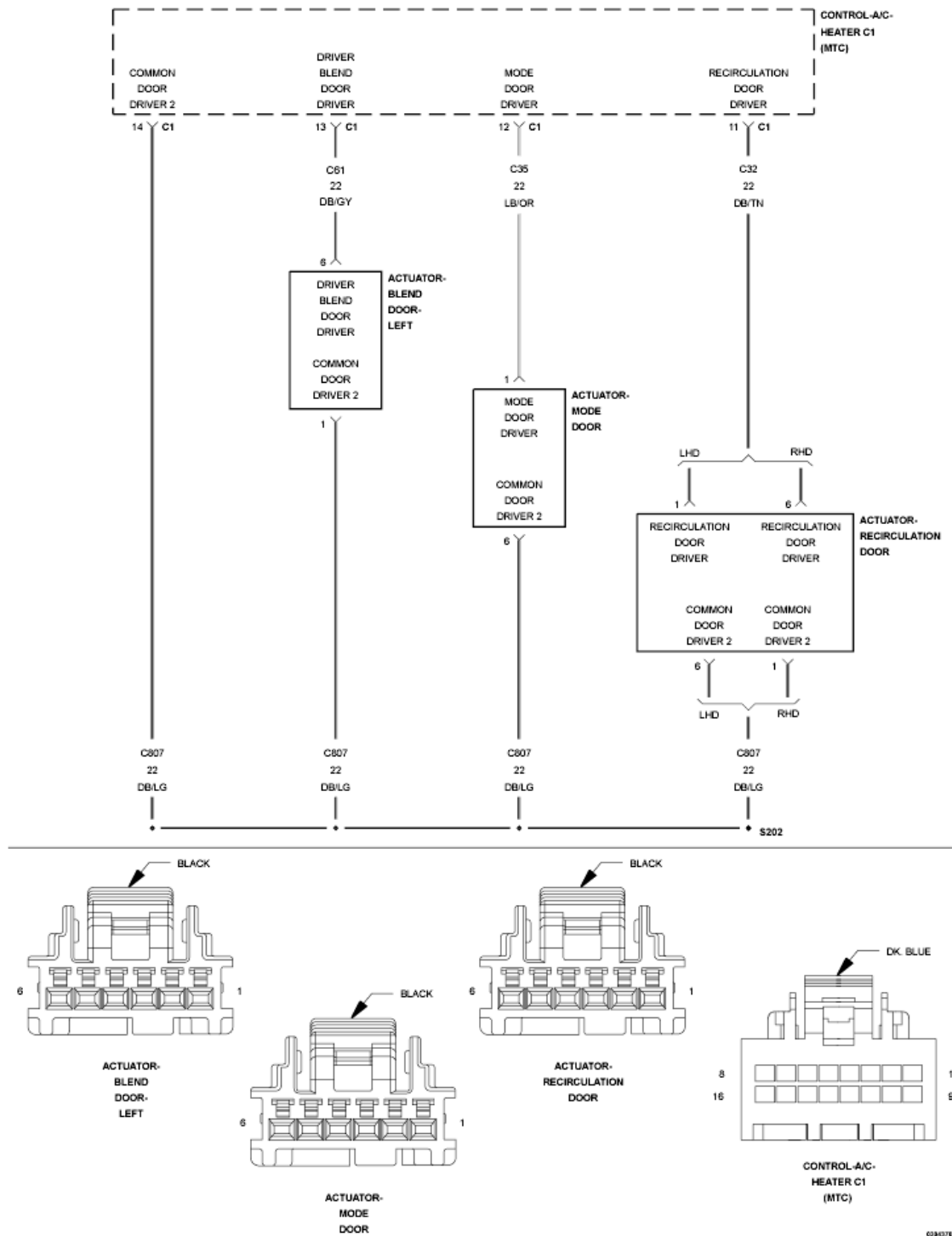


Fig. 77: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 no feedback pulses are detected in either clockwise or counterclockwise movement for the period of 15 seconds. If the A/C Heater Control detects valid feedback pulses for 15 seconds, 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
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
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

- Go to step 2

No

- Go to step 9

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

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

Did any other HVAC DTCs set while performing the Actuator Calibration Test?

Yes

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

No

- Go to step 3

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

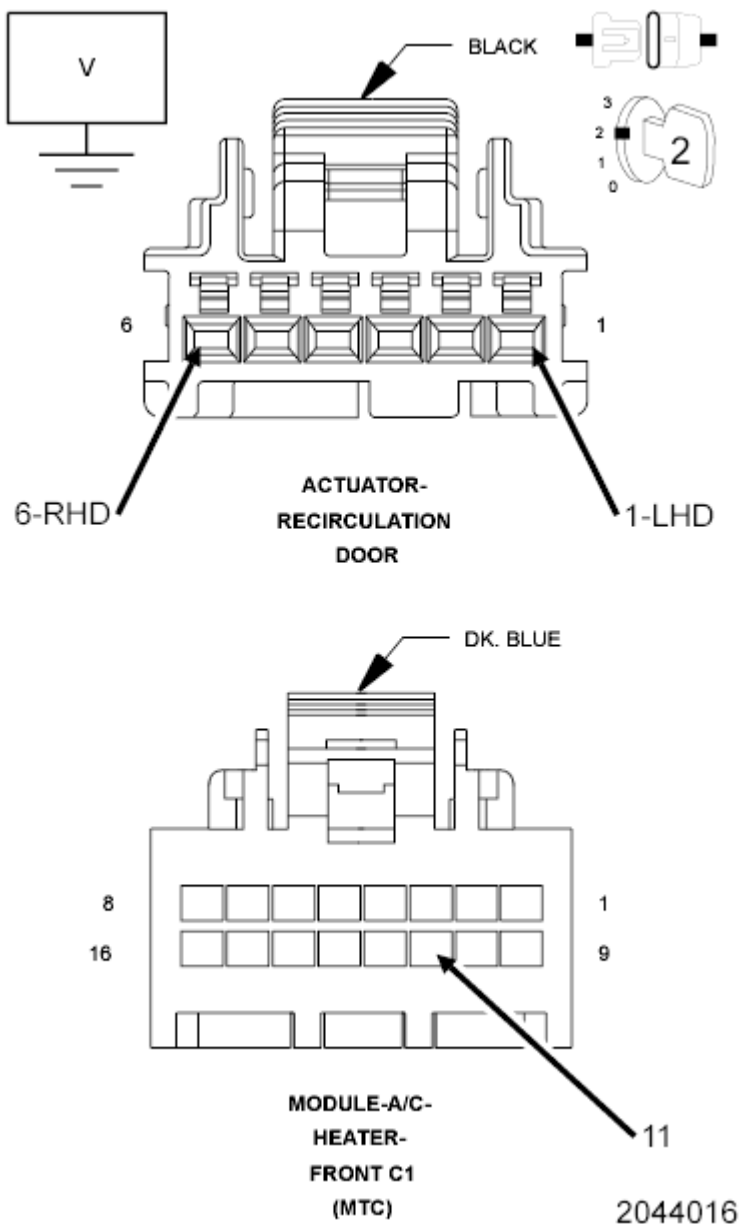


Fig. 78: Checking Recirculation Door Driver Circuit For A Short To Voltage
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 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?

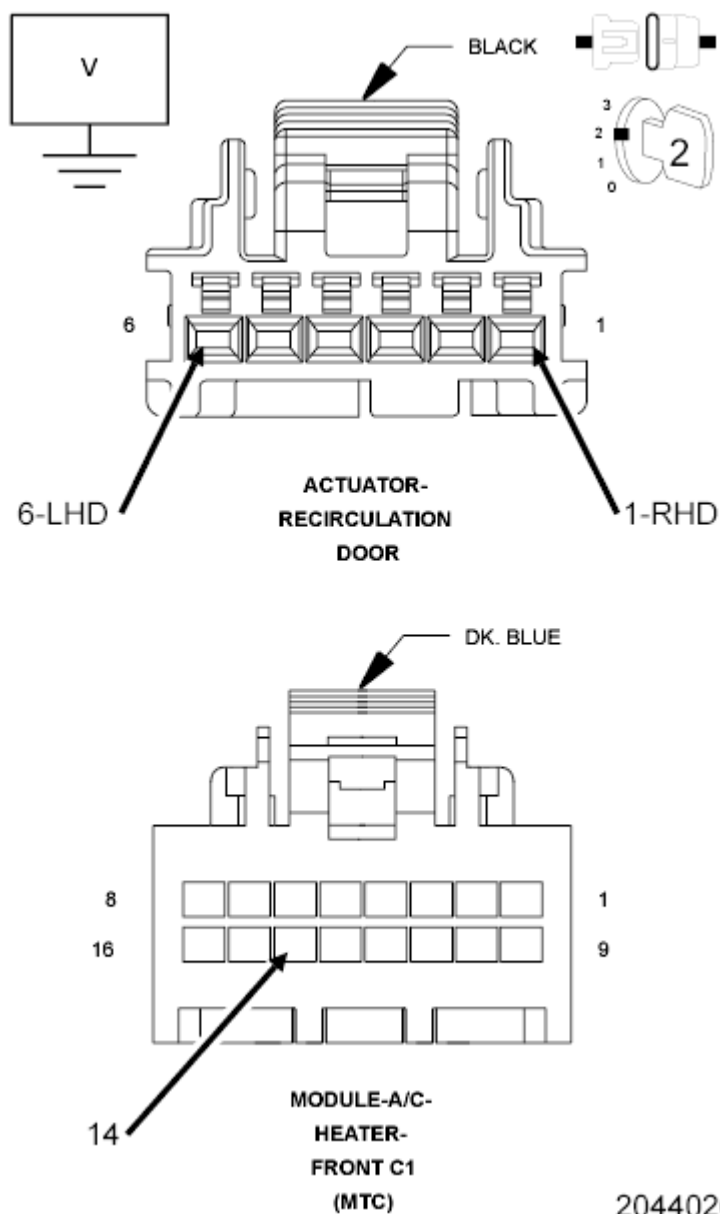
Yes

- 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



2044026

Fig. 79: 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**

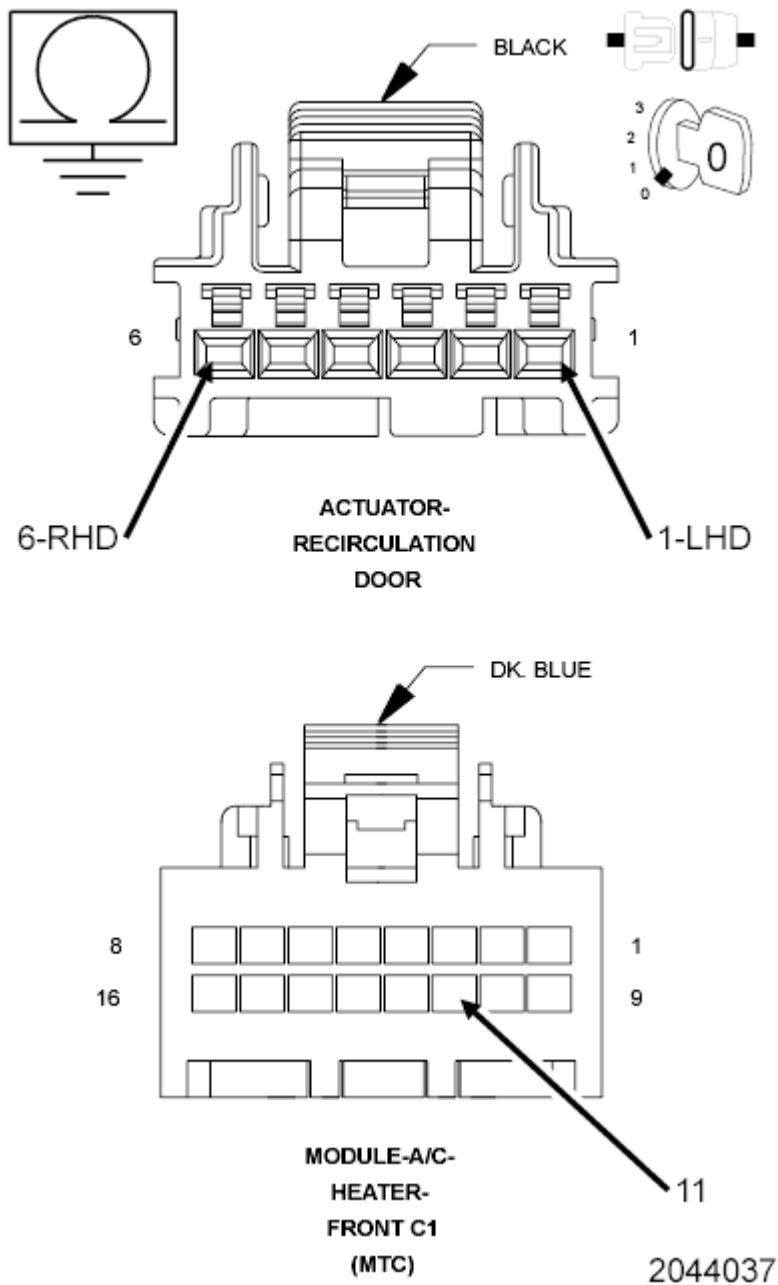


Fig. 80: Checking Recirculation Door Driver Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

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?

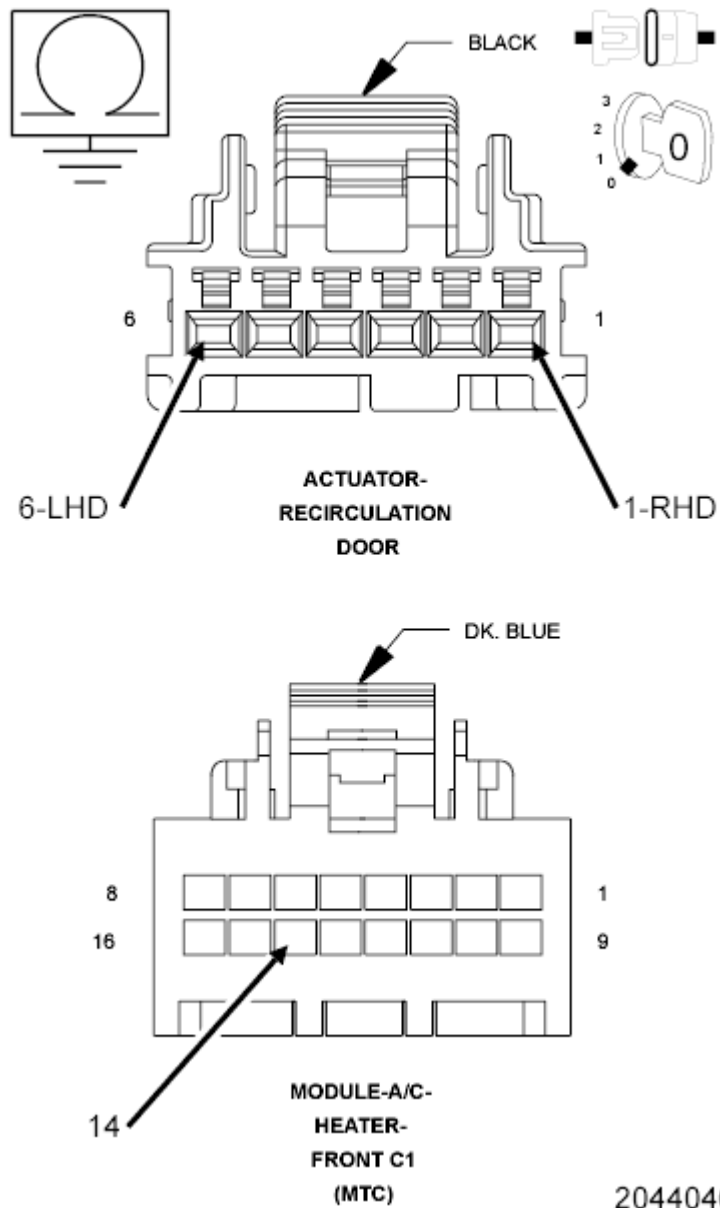
Yes

- 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**



2044046

Fig. 81: 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 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 8

8. 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**.

9. 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-00-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:**

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 Short to Voltage, Short to Ground or 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. 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.
- 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. 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-00-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 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:**

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 Short to Voltage, Short to Ground or 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 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.

B10B2-00-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.
 - No Communication 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.

B11C2-11-FRONT MODE DOOR 1 CONTROL - CIRCUIT SHORT TO GROUND

2009 Dodge Journey R/T

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

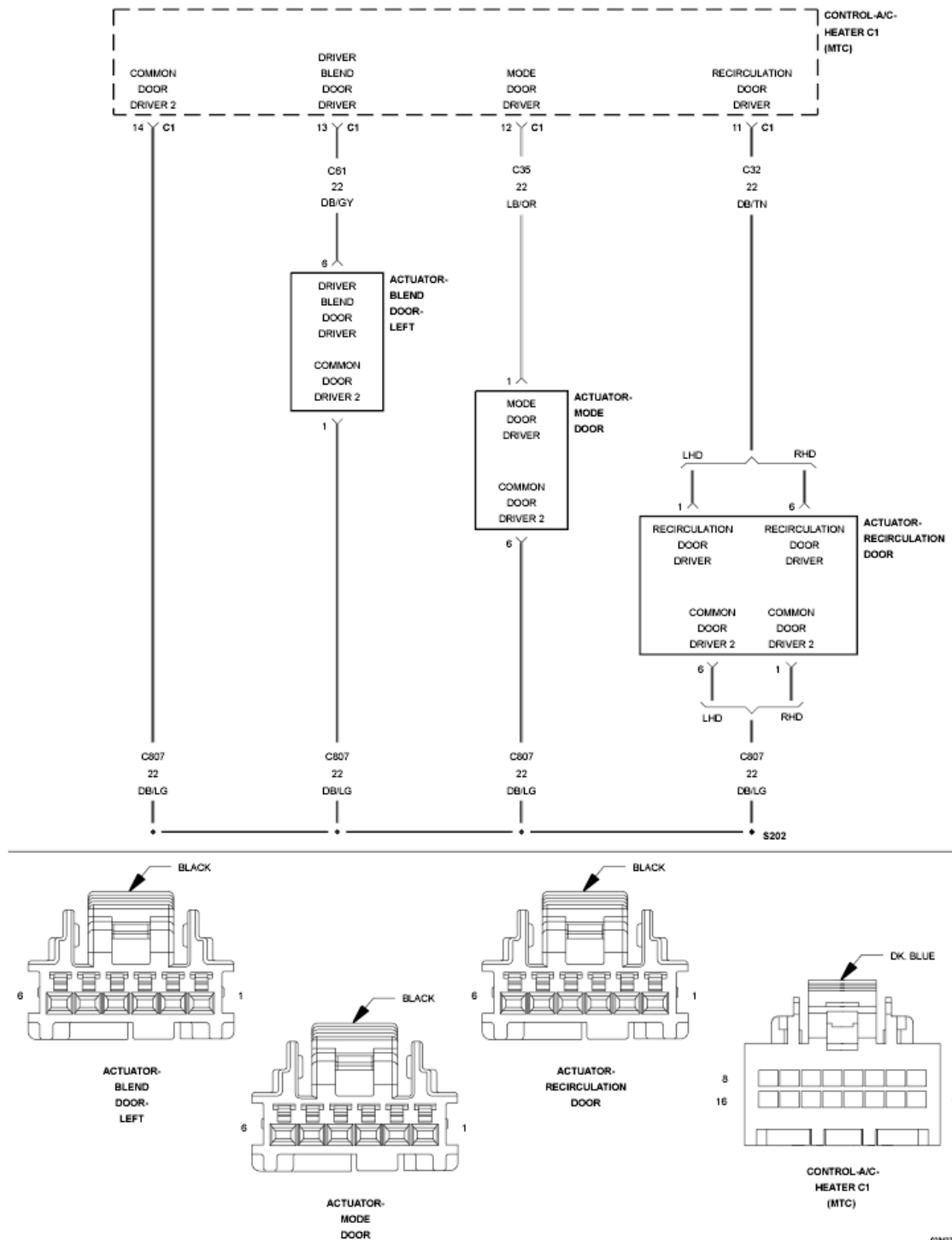


Fig. 82: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects a short to ground on the Mode Door control circuit. If the A/C Heater Control detects valid current draw, 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 GROUND (C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND 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. With 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. With the scan tool, perform the HVAC Actuator Calibration Test.

2009 Dodge Journey R/T

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

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

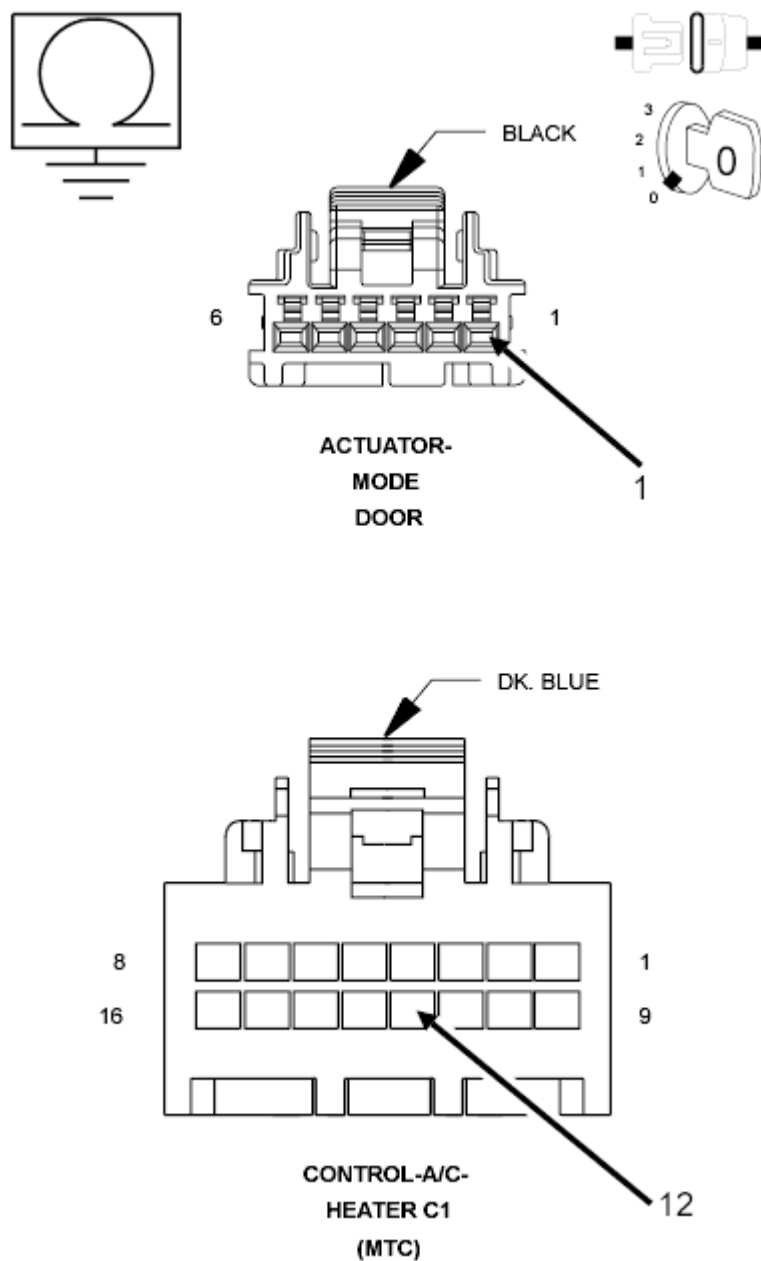
Yes

- Go to step 3

No

- Go to step 6

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



2043811

Fig. 83: Checking Mode Door Driver 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 C1 harness connector.
3. Disconnect the Mode Door Actuator harness connector.
4. 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 4

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

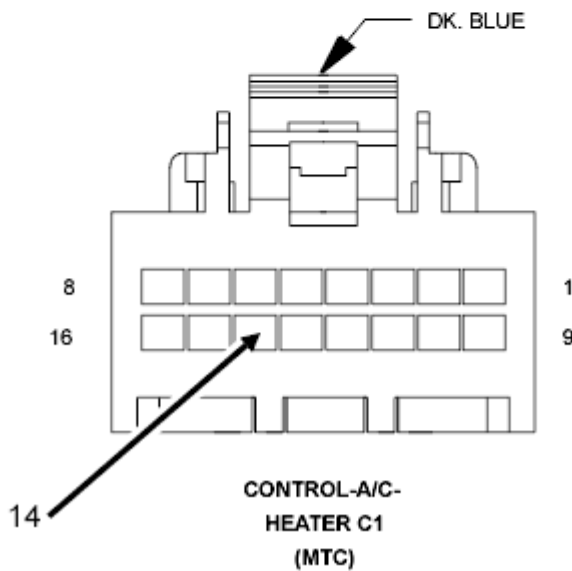
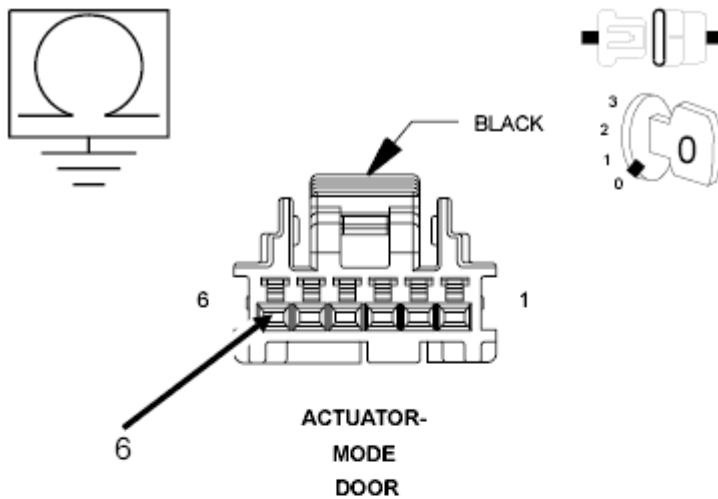


Fig. 84: Checking Common Door Driver 2 Circuit For A Short To Ground
Courtesy of CHRYSLER LLC

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 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

2009 Dodge Journey R/T

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

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

No

- Test complete.

B11C2-12-FRONT MODE DOOR 1 CONTROL - CIRCUIT SHORT TO BATTERY

2009 Dodge Journey R/T

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

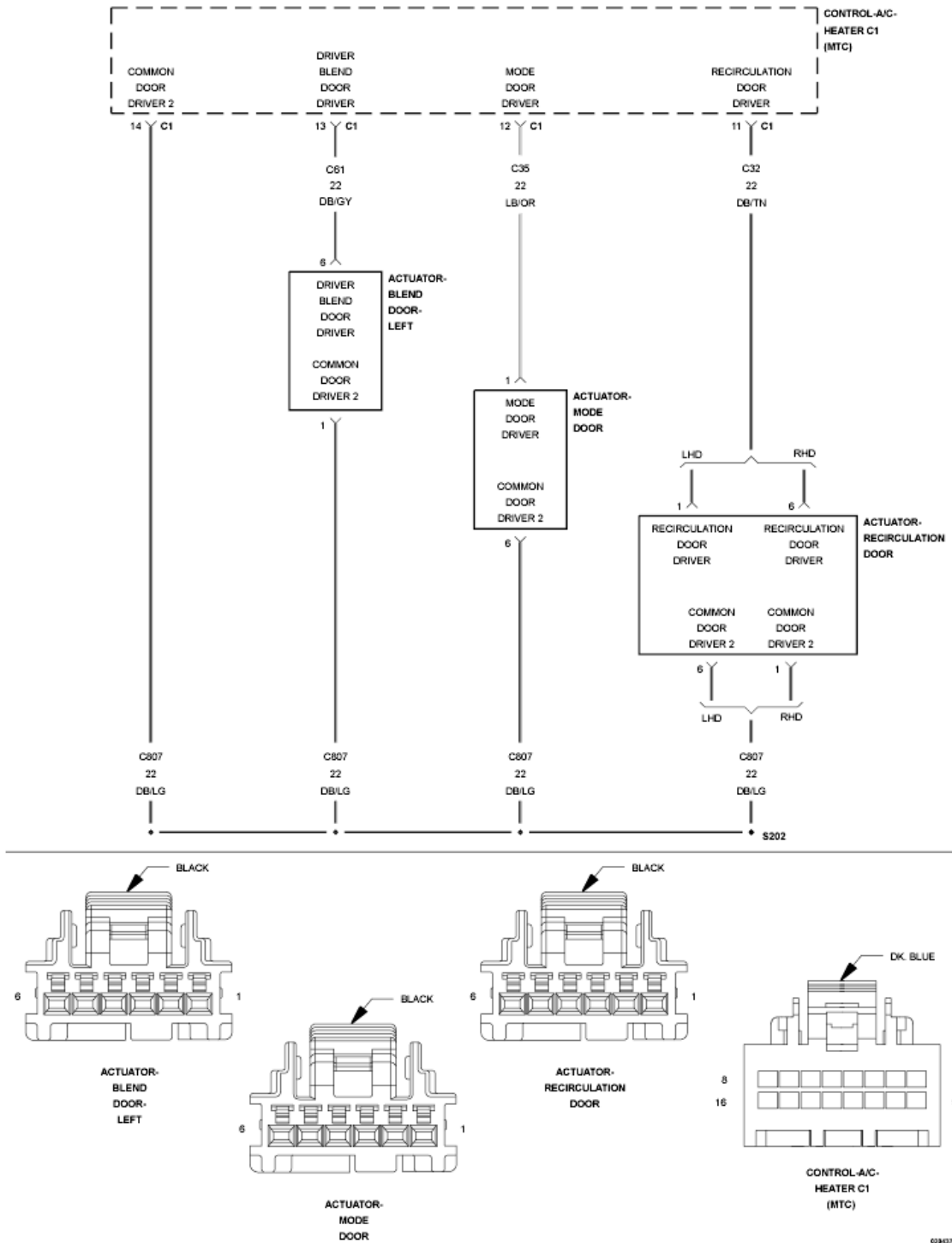


Fig. 85: Common/Mode Door Driver 2 Circuit Schematic
 Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects a short voltage on the Mode Door control circuit. If the A/C Heater Control detects a valid voltage, 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
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
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. With 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. With the scan tool, perform the HVAC Actuator Calibration Test.

2009 Dodge Journey R/T

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

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

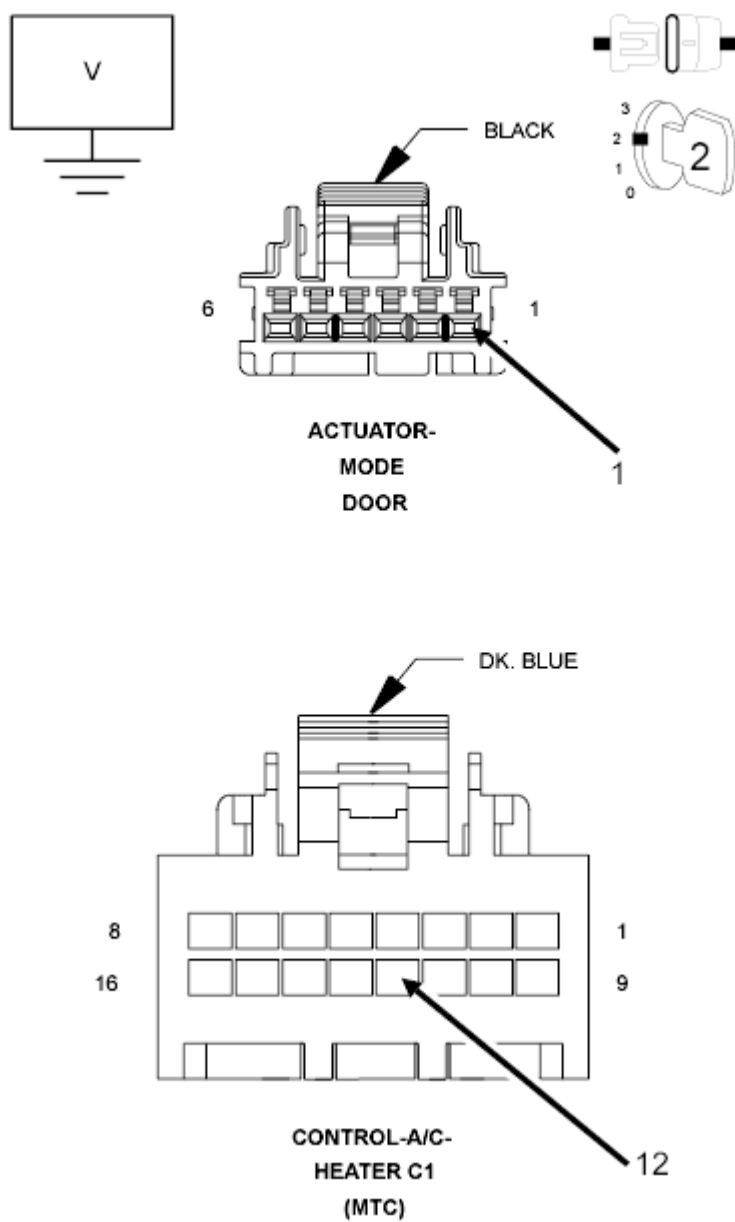
Yes

- Go to step 3

No

- Go to step 6

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



2043787

Fig. 86: 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 C1 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

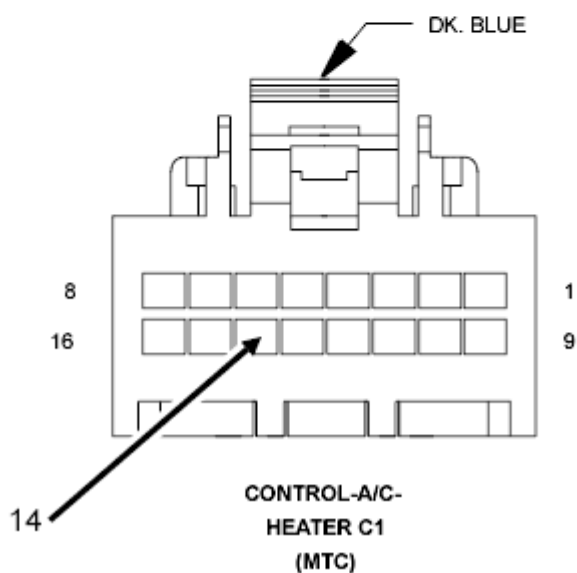
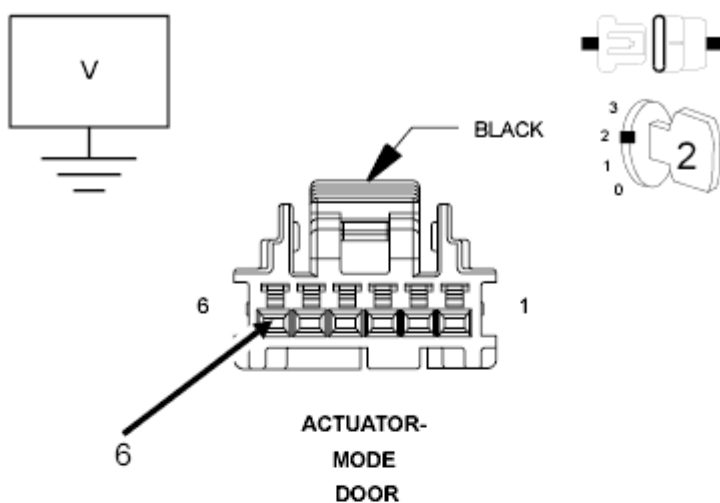


Fig. 87: Checking Common Door Driver 2 Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

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 MODE DOOR ACTUATOR

1. Turn the ignition off to the lock position.
2. Replace the Mode Door Actuator in accordance with the Service Information.
3. 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?

2009 Dodge Journey R/T

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

Yes

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

No

- Test complete.

B11C2-13-FRONT MODE DOOR 1 CONTROL - CIRCUIT OPEN

2009 Dodge Journey R/T

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

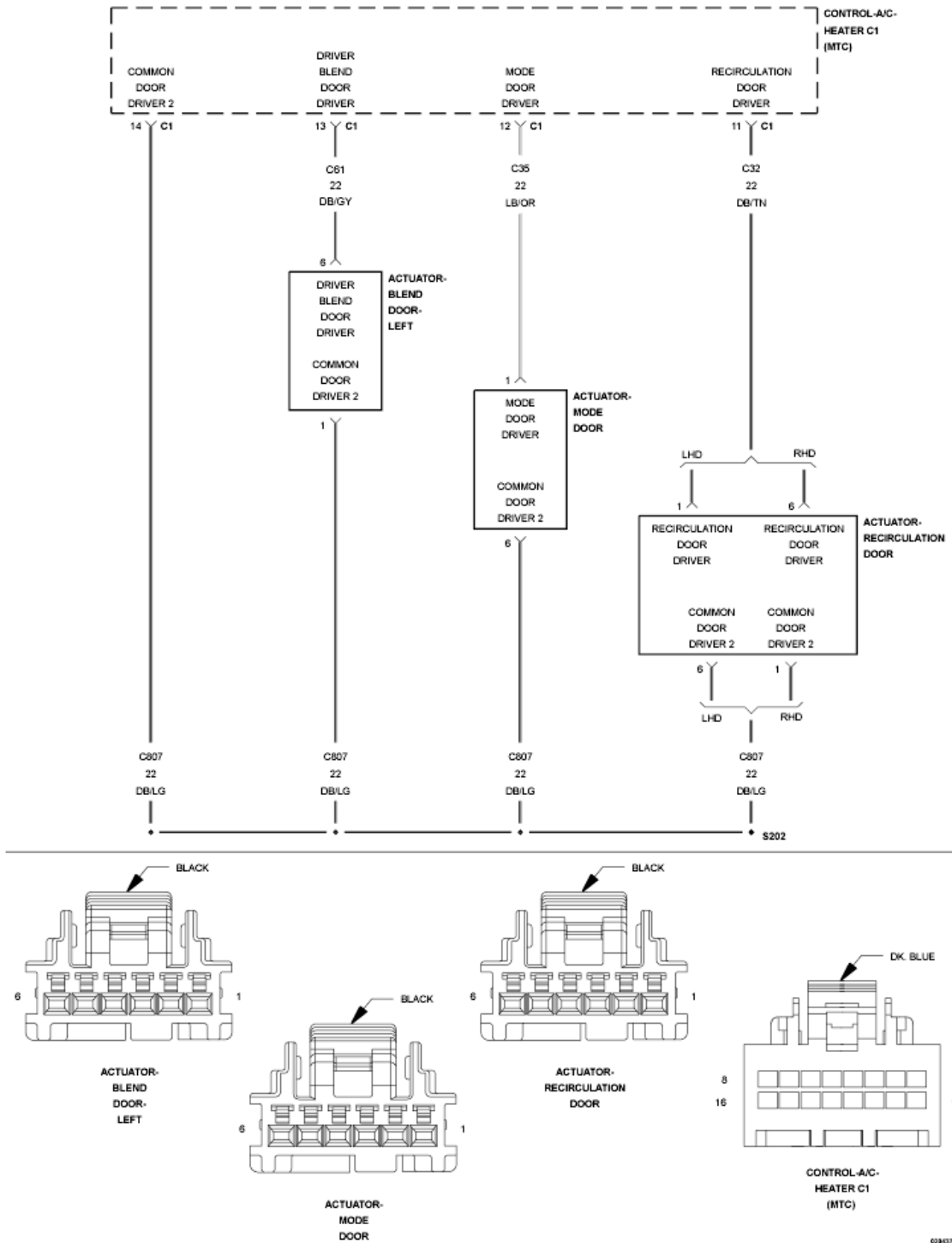


Fig. 88: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects an open in the Mode Door control circuit. If the A/C Heater Control detects a valid current draw, 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 OPEN (C807) COMMON DOOR DRIVER 2 CIRCUIT OPEN 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. With 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. 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 3

No

- Go to step 6

3. CHECK THE MODE DOOR ACTUATOR

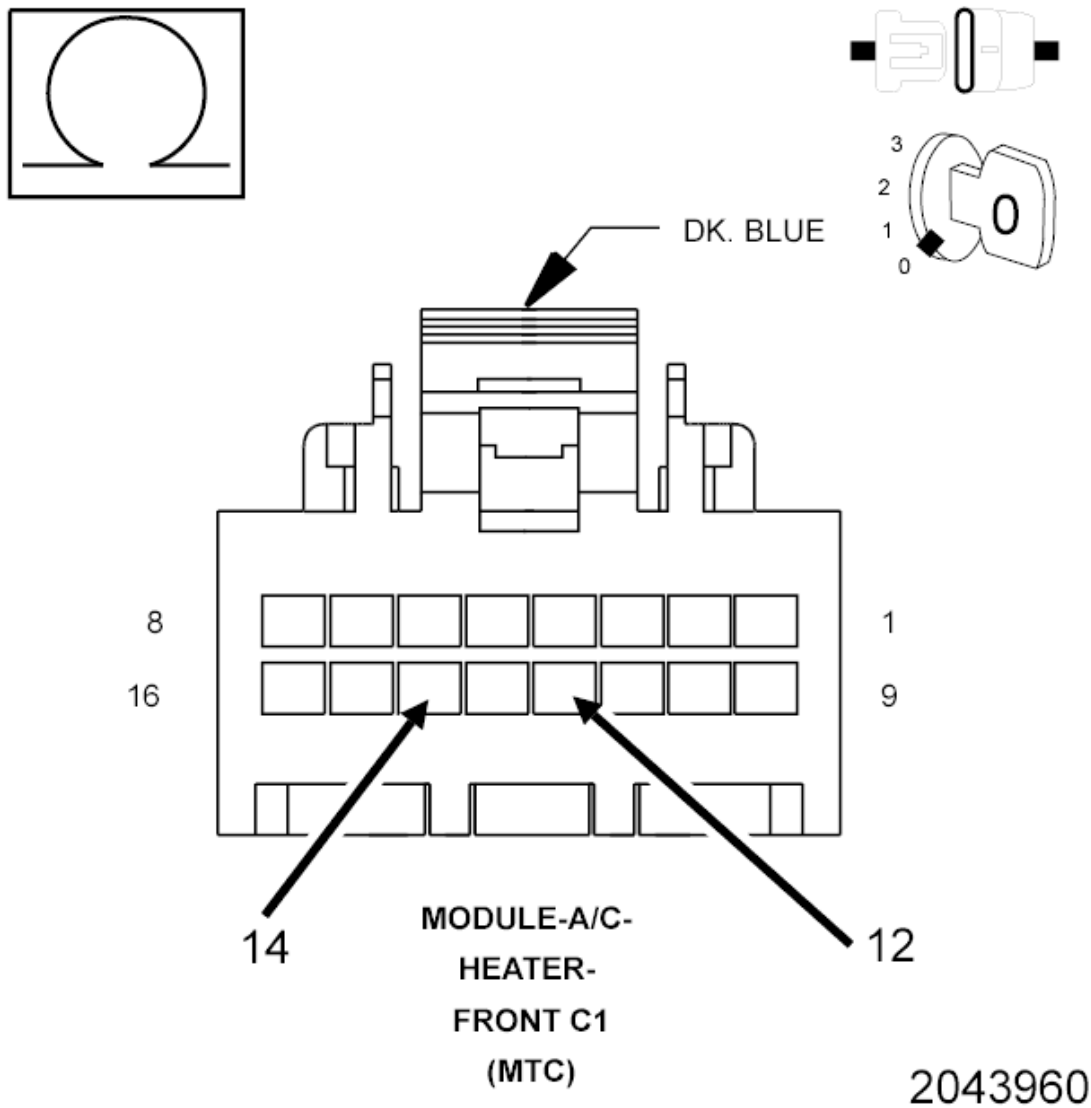


Fig. 89: Checking Mode Door Actuator
Courtesy of CHRYSLER LLC

2009 Dodge Journey R/T

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

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Measure the resistance between the (C35) Mode Door Driver circuit and the (C807) Common Door Driver 2 circuit.

Is the resistance 38.0 Ohms ($\pm$ 5.0 Ohms)?

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

- Go to step 4

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

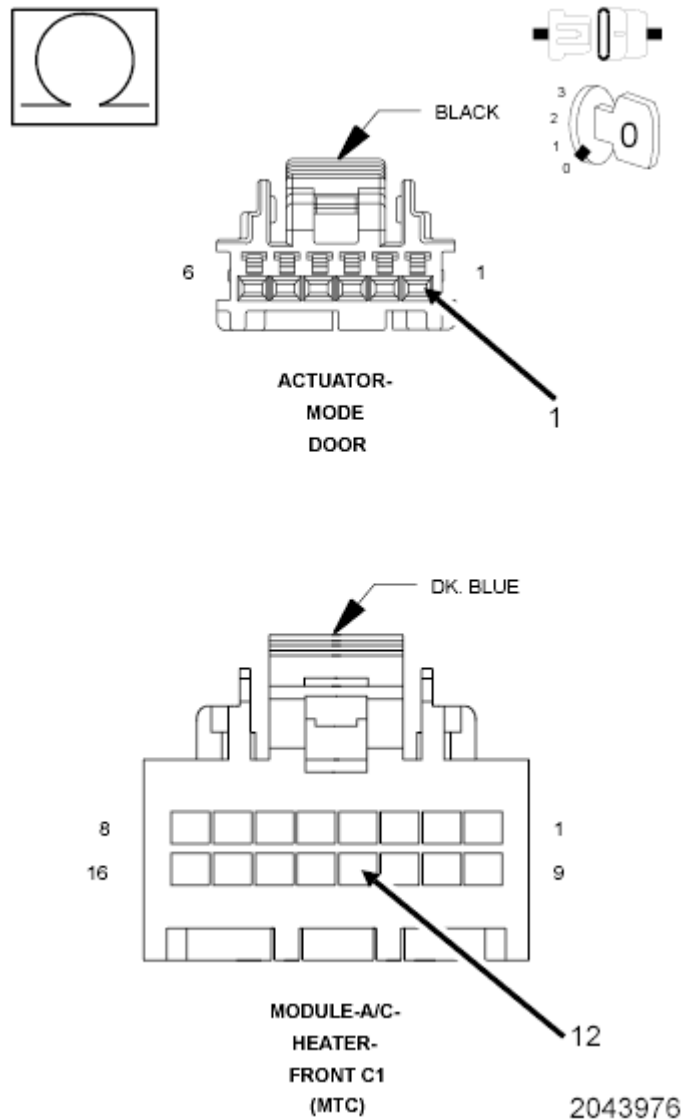


Fig. 90: Checking Mode Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Mode Door Actuator harness connector.
3. Measure the resistance of the (C35) Mode Door Driver circuit between the A/C Heater Control C1 harness connector and the Mode Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- 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.

No

- Go to step 5

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

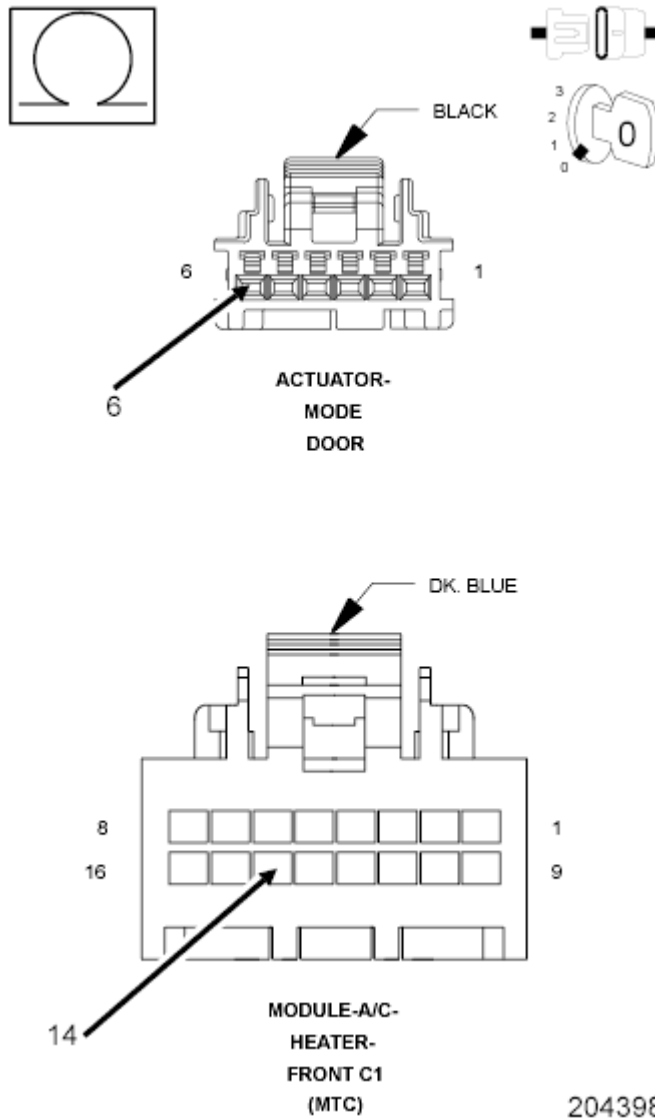


Fig. 91: Checking Common Door Driver 2 Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C807) Common Door Driver 2 circuit between the A/C Heater Control C1 harness connector and the Mode Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- 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**.

No

- Replace the Mode Door Actuator 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.

B11C2-92-FRONT MODE DOOR 1 CONTROL - PERFORMANCE OR INCORRECT OPERATION

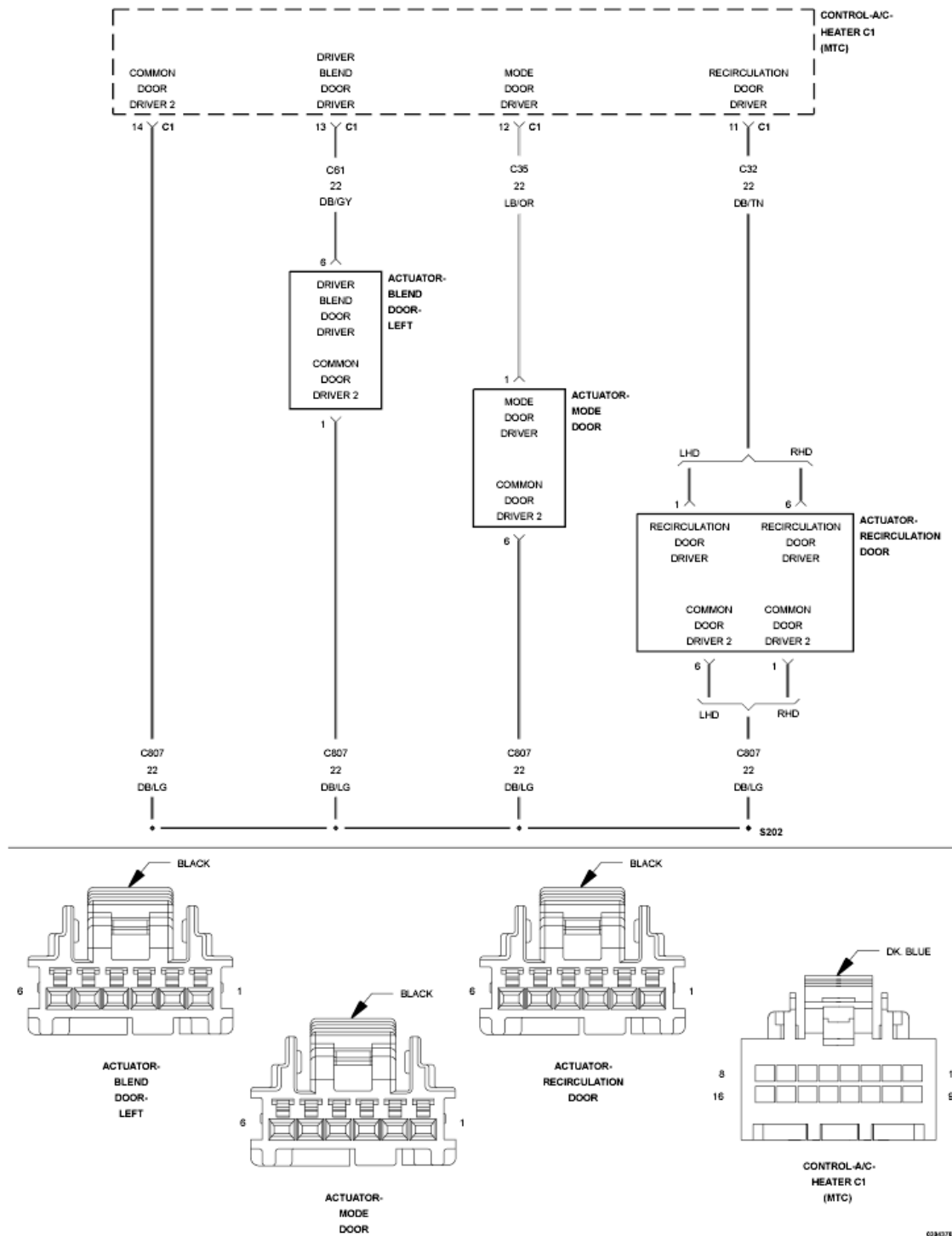


Fig. 92: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 no feedback pulses are detected in either clockwise or counterclockwise movement for the period of 15 seconds. If the A/C Heater Control detects valid feedback pulses for 15 seconds, 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
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
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 2

No

- Go to step 9

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

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

Did any other HVAC DTCs set while performing the Actuator Calibration Test?

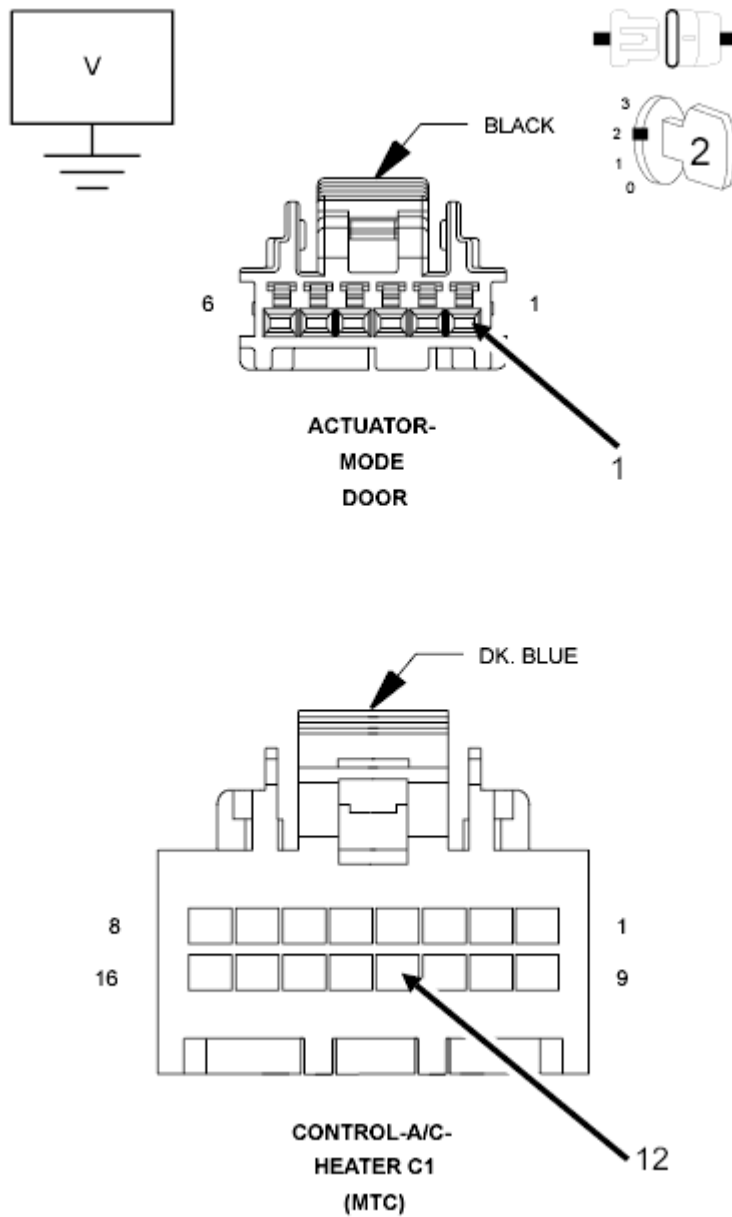
Yes

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

No

- Go to step 3

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



2043787

Fig. 93: 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 C1 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?

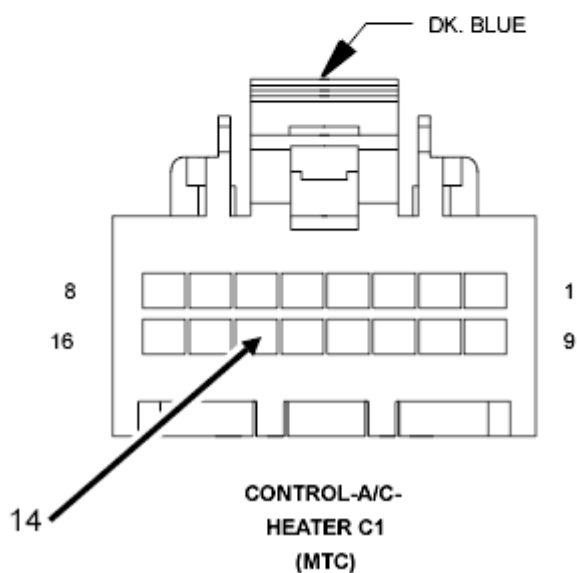
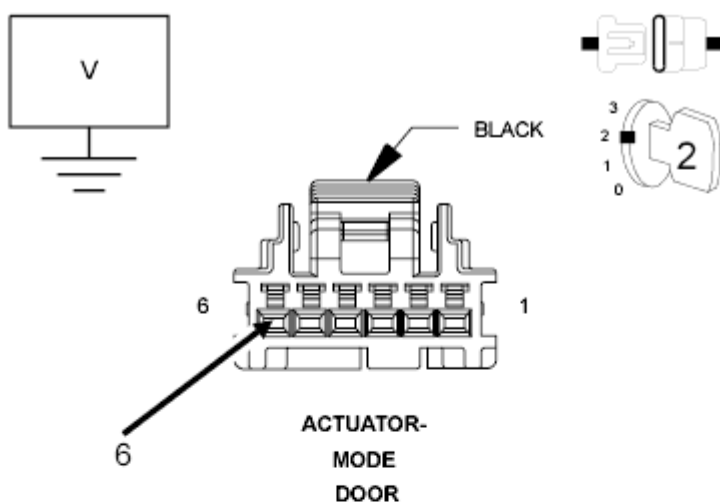
Yes

- 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



2043819

Fig. 94: 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?

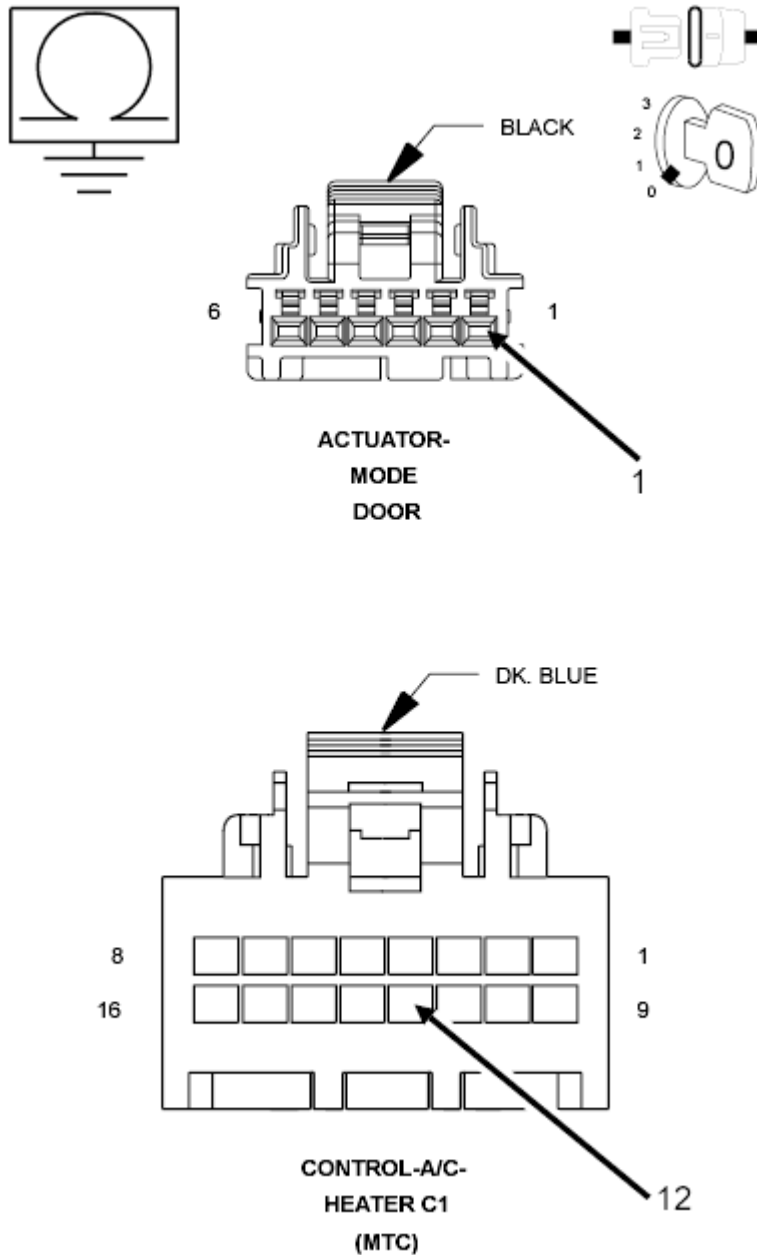
Yes

- 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 (C35) MODE DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND**



2043811

Fig. 95: 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?

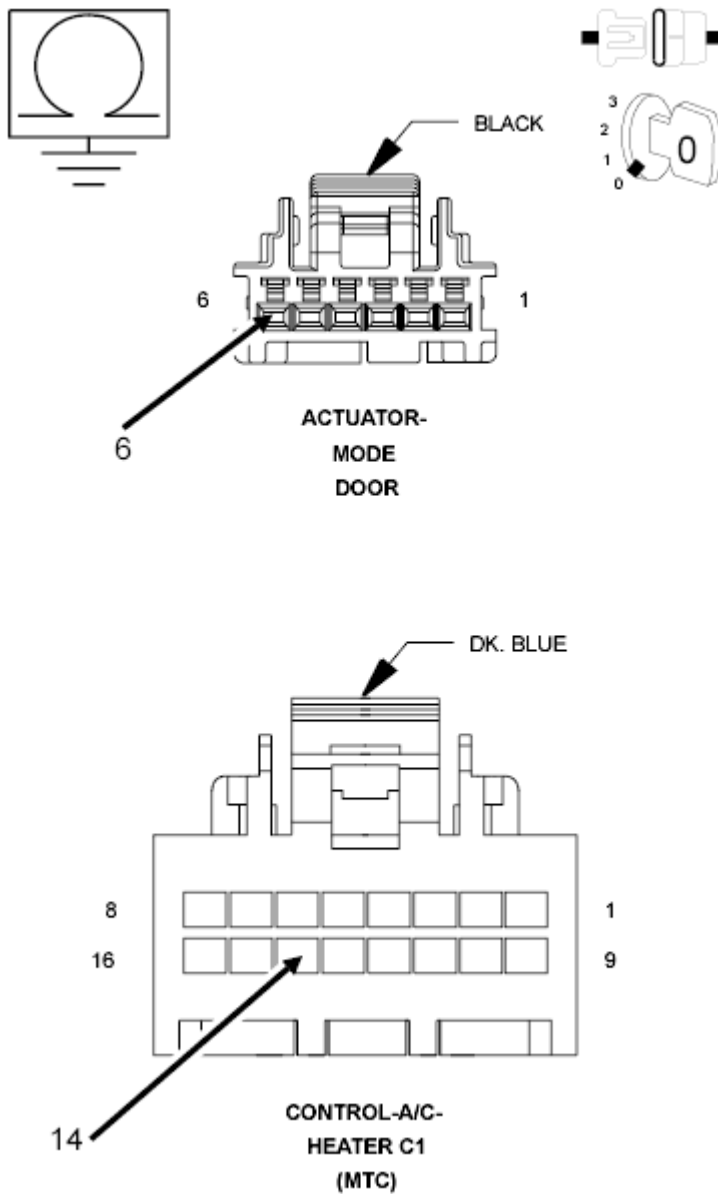
Yes

- 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



2043873

Fig. 96: 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 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 8

8. 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**.

9. 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.

B11C3-00-FRONT 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:**

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 Circuit Short to Voltage, Short to Ground or 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. 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.

B11C4-00-FRONT 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 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:**

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 Circuit Short to Voltage, Short to Ground or 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 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?

2009 Dodge Journey R/T

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

Yes

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

No

- Test complete.

B11CB-11-MAIN/LEFT TEMPERATURE DOOR CONTROL - CIRCUIT SHORT TO GROUND

2009 Dodge Journey R/T

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

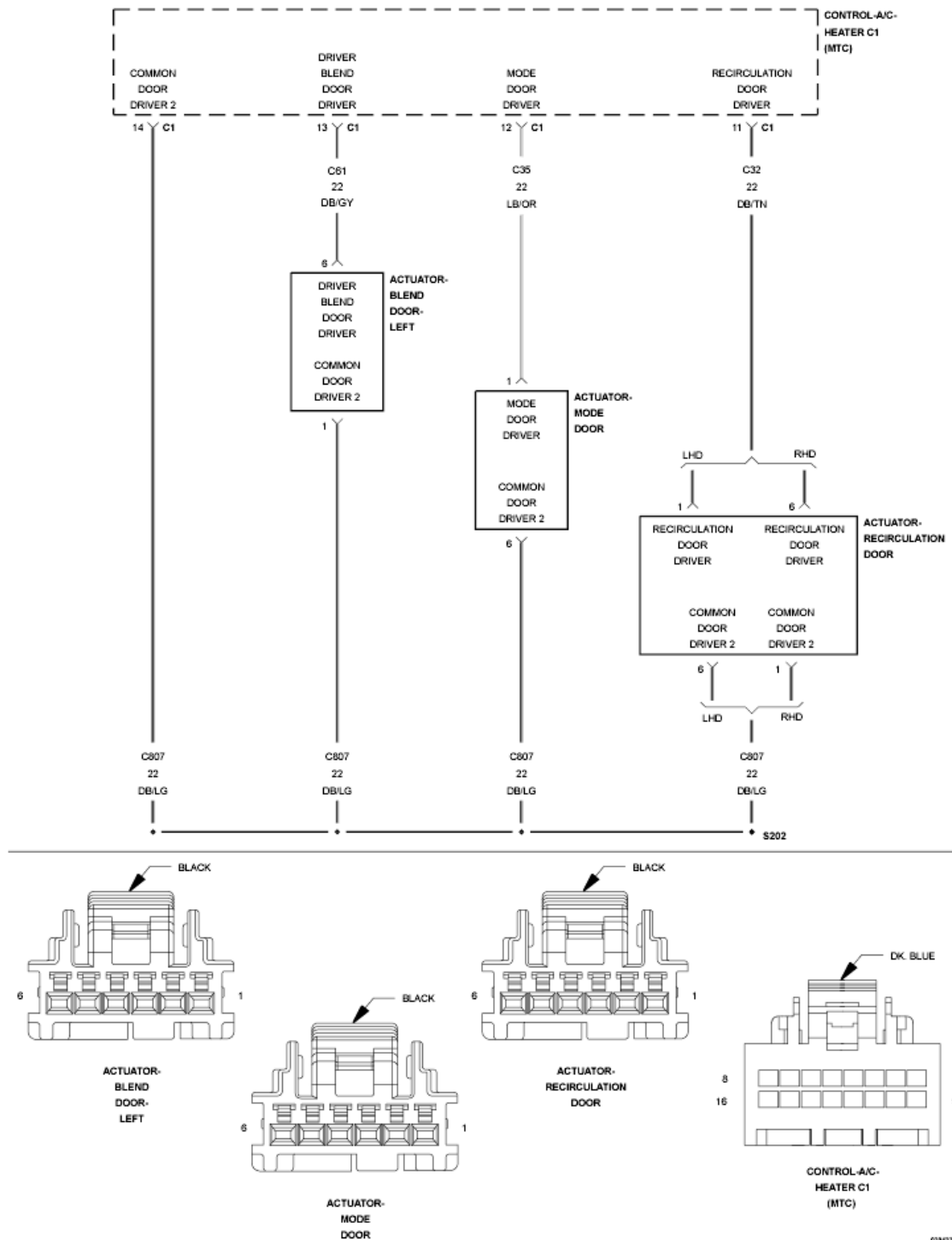


Fig. 97: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects a short to ground on the Blend Door control circuit. If the A/C Heater Control detects valid current draw, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C61) BLEND DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
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?

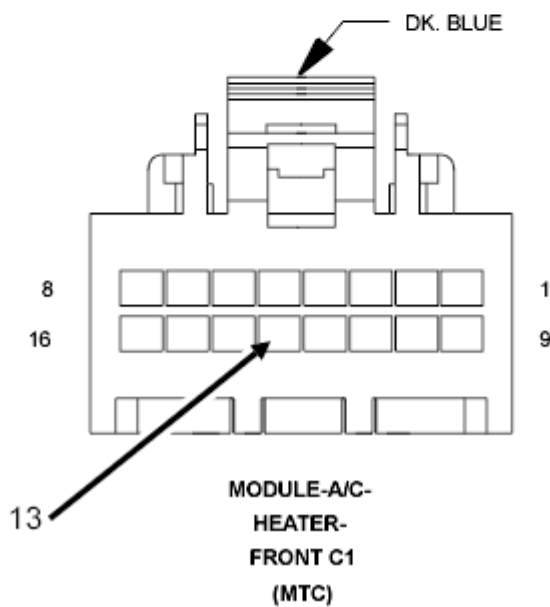
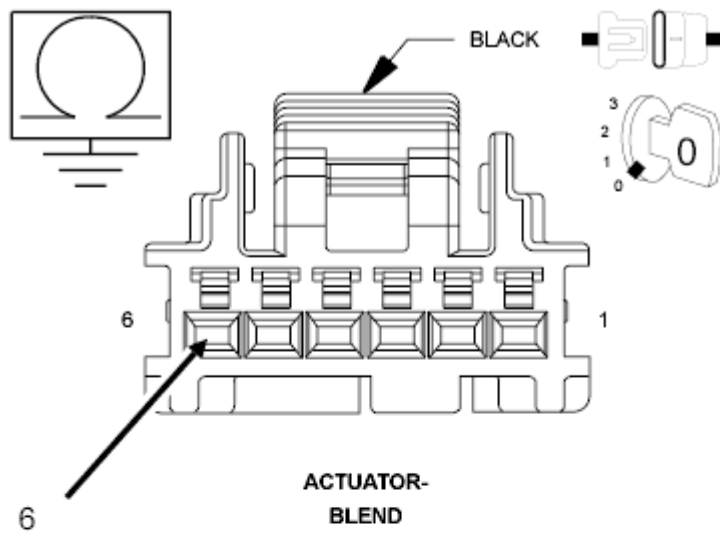
Yes

- Go to step 3

No

- Go to step 6

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



2044863

Fig. 98: Checking Blend Door Driver 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 C1 harness connector.
3. Disconnect the Blend Door Actuator harness connector.
4. Measure the resistance between ground and the (C61) Blend Door Driver circuit.

Is the resistance below 100k Ohms?

Yes

- Repair the (C61) 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 4

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

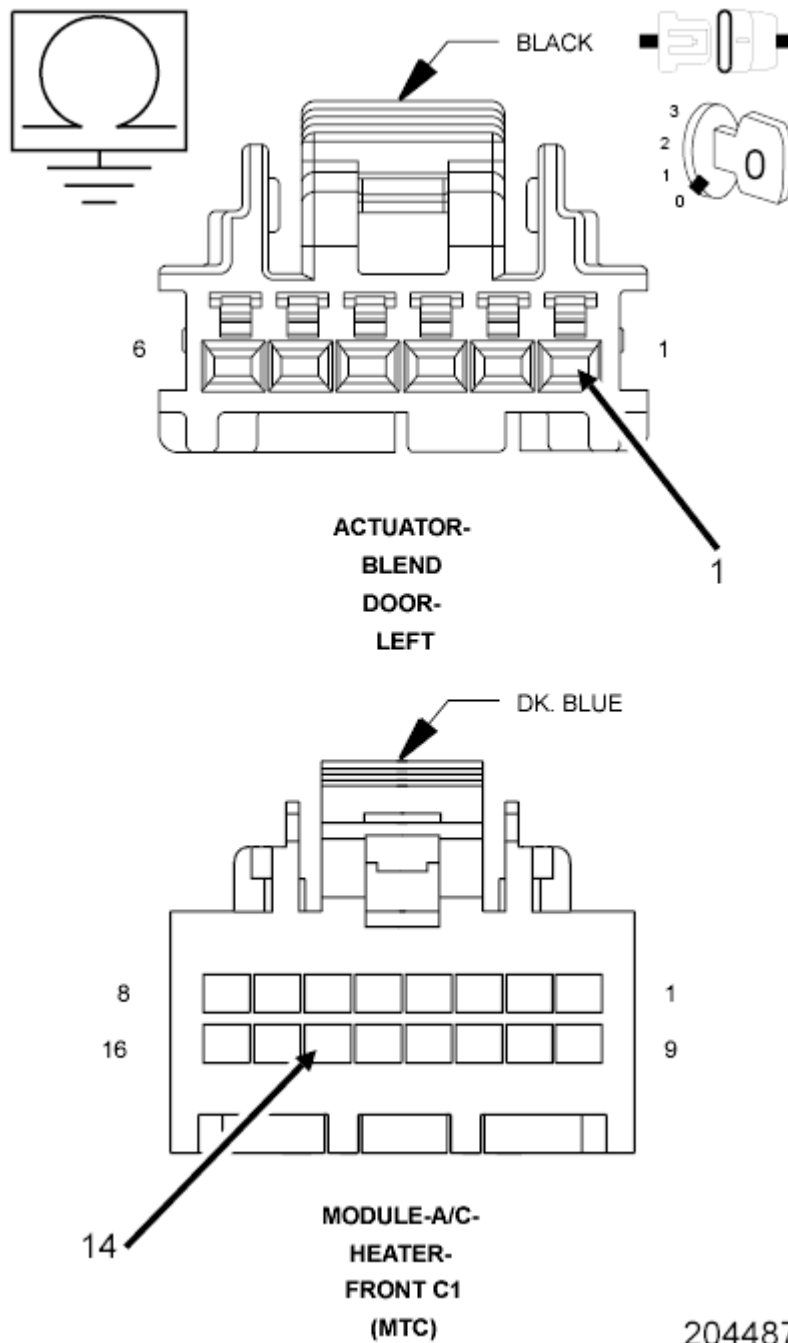


Fig. 99: Checking Common Door Driver 2 Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

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 5

5. CHECK THE BLEND DOOR ACTUATOR

1. Replace the 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**.

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.

B11CB-12-MAIN/LEFT TEMPERATURE DOOR CONTROL - CIRCUIT SHORT TO BATTERY

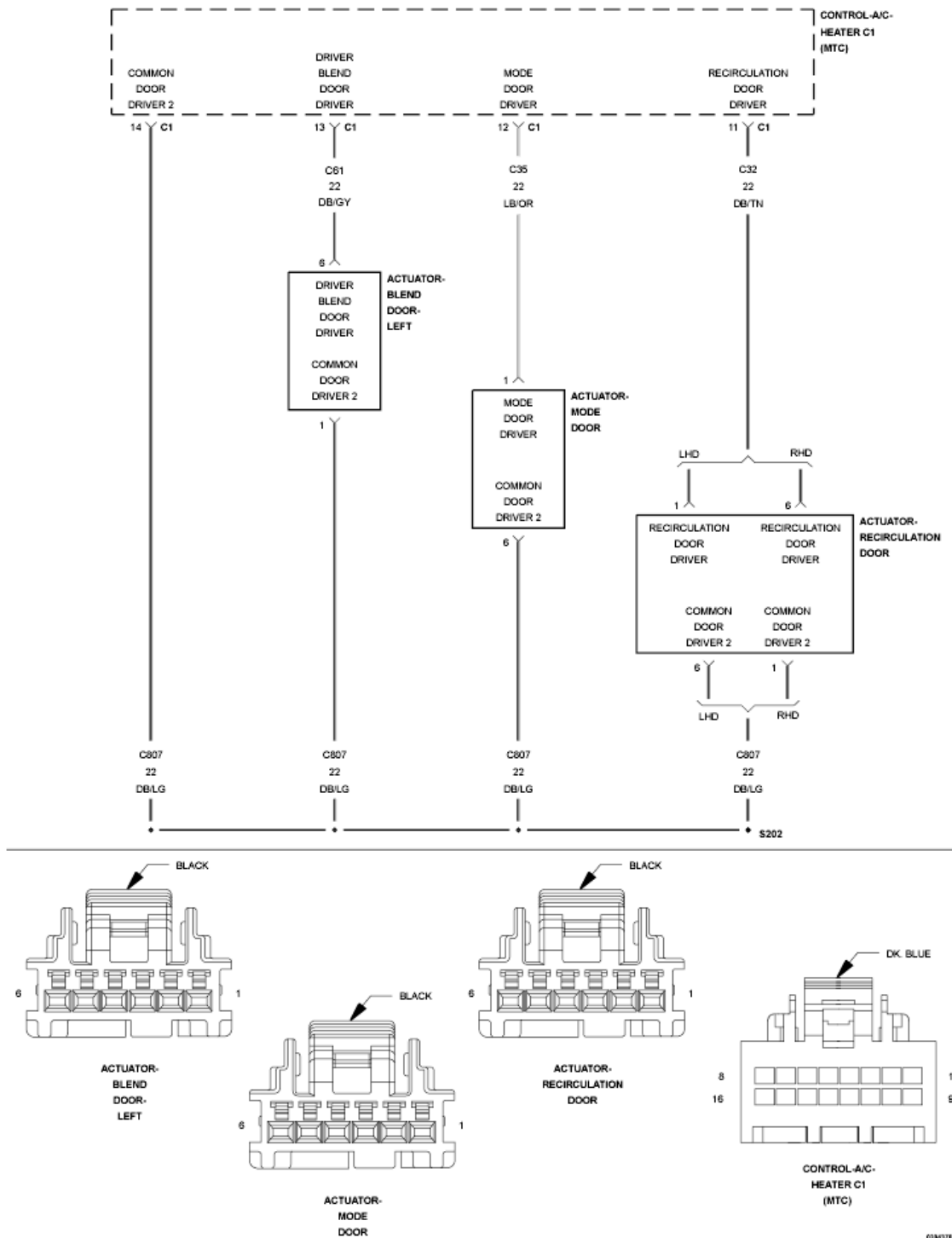


Fig. 100: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects a short voltage on the Blend Door control circuit. If the A/C Heater Control detects a valid voltage, the DTC will change from Active to Stored and will stay in the controllers' memory for 100 ignition cycles.

Possible Causes
(C61) BLEND DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
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

2009 Dodge Journey R/T

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

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?

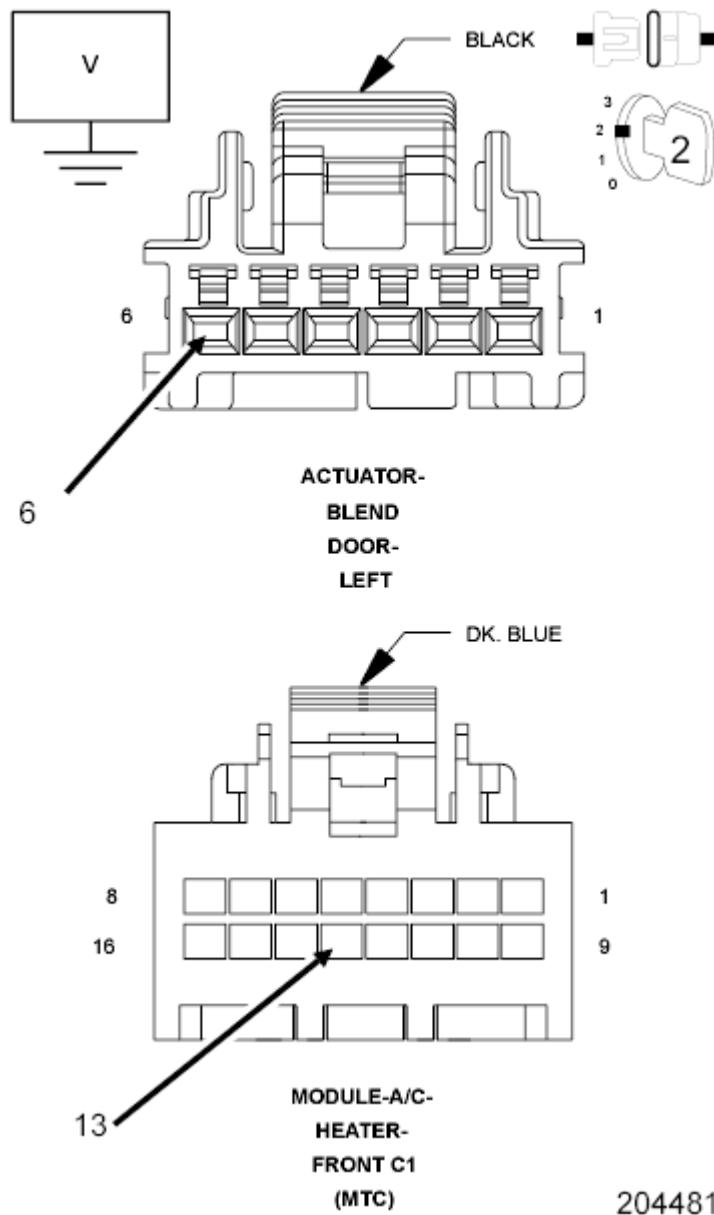
Yes

- Go to step 3

No

- Go to step 6

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



2044815

Fig. 101: Checking 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 C1 harness connector.
3. Disconnect the Blend Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C61) Blend Door Driver circuit.

Is there any voltage present?

2009 Dodge Journey R/T

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

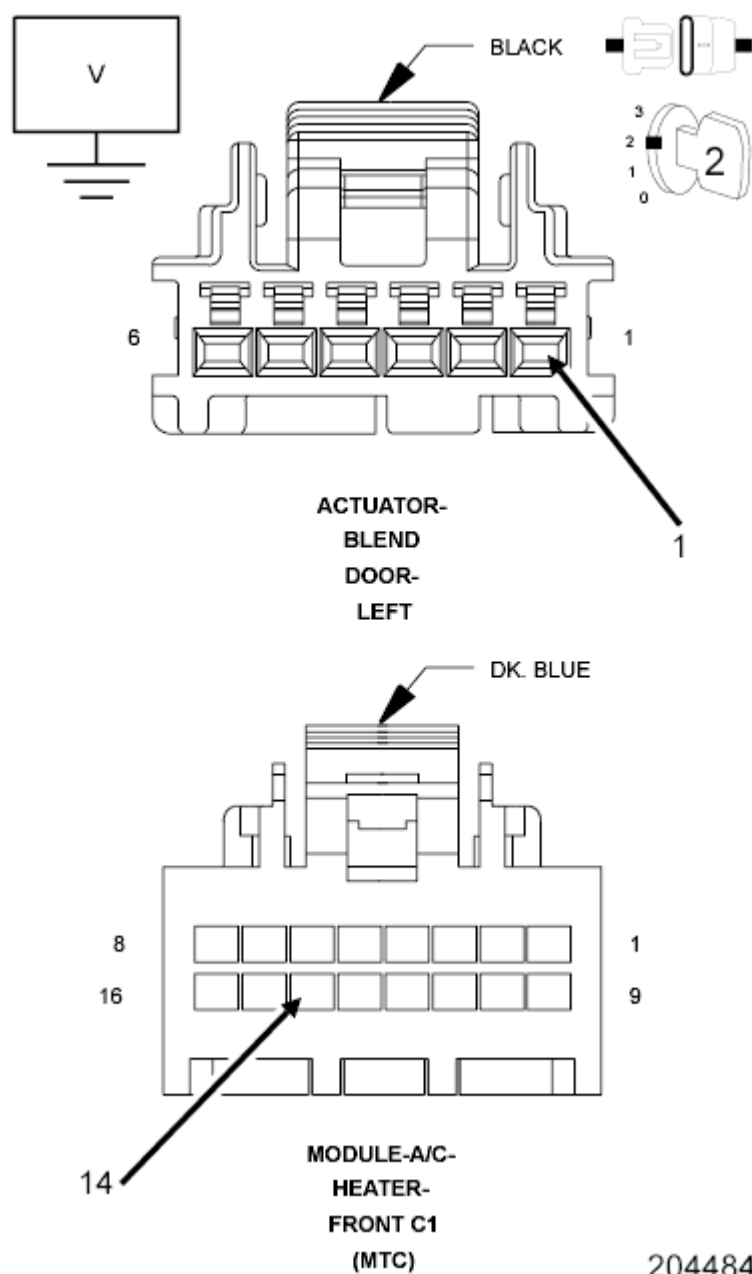
Yes

- Repair the (C61) 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



2044847

Fig. 102: 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 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.

B11CB-13-MAIN/LEFT TEMPERATURE DOOR CONTROL - CIRCUIT OPEN

2009 Dodge Journey R/T

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

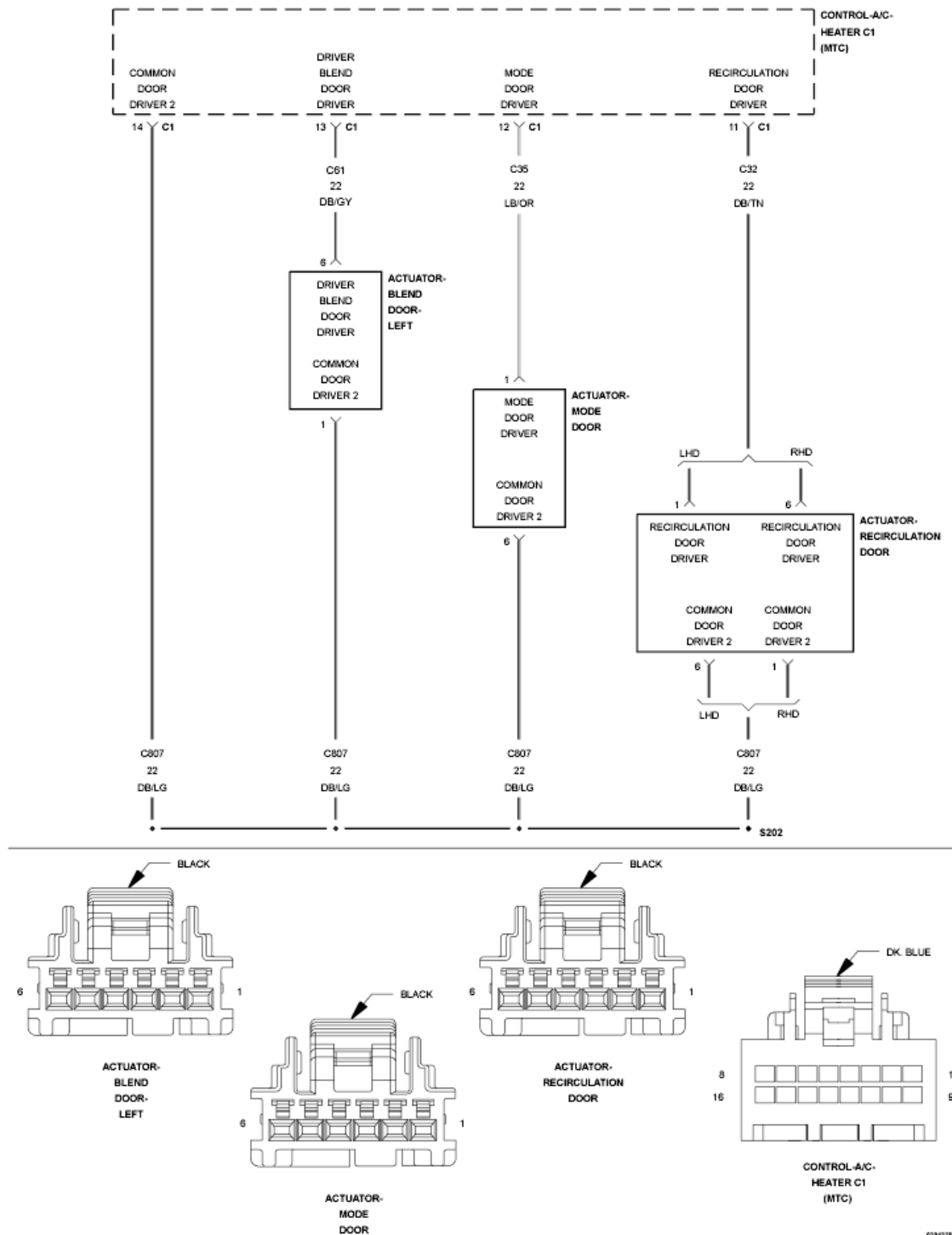


Fig. 103: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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:**

Continuously with the ignition on.

- **Set Condition:**

The A/C Heater Control detects an open in the Blend Door control circuit. If the A/C Heater Control detects a valid current draw, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C61) BLEND DOOR DRIVER CIRCUIT OPEN (C807) COMMON DOOR DRIVER 2 CIRCUIT OPEN 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 6

3. CHECK THE BLEND DOOR ACTUATOR

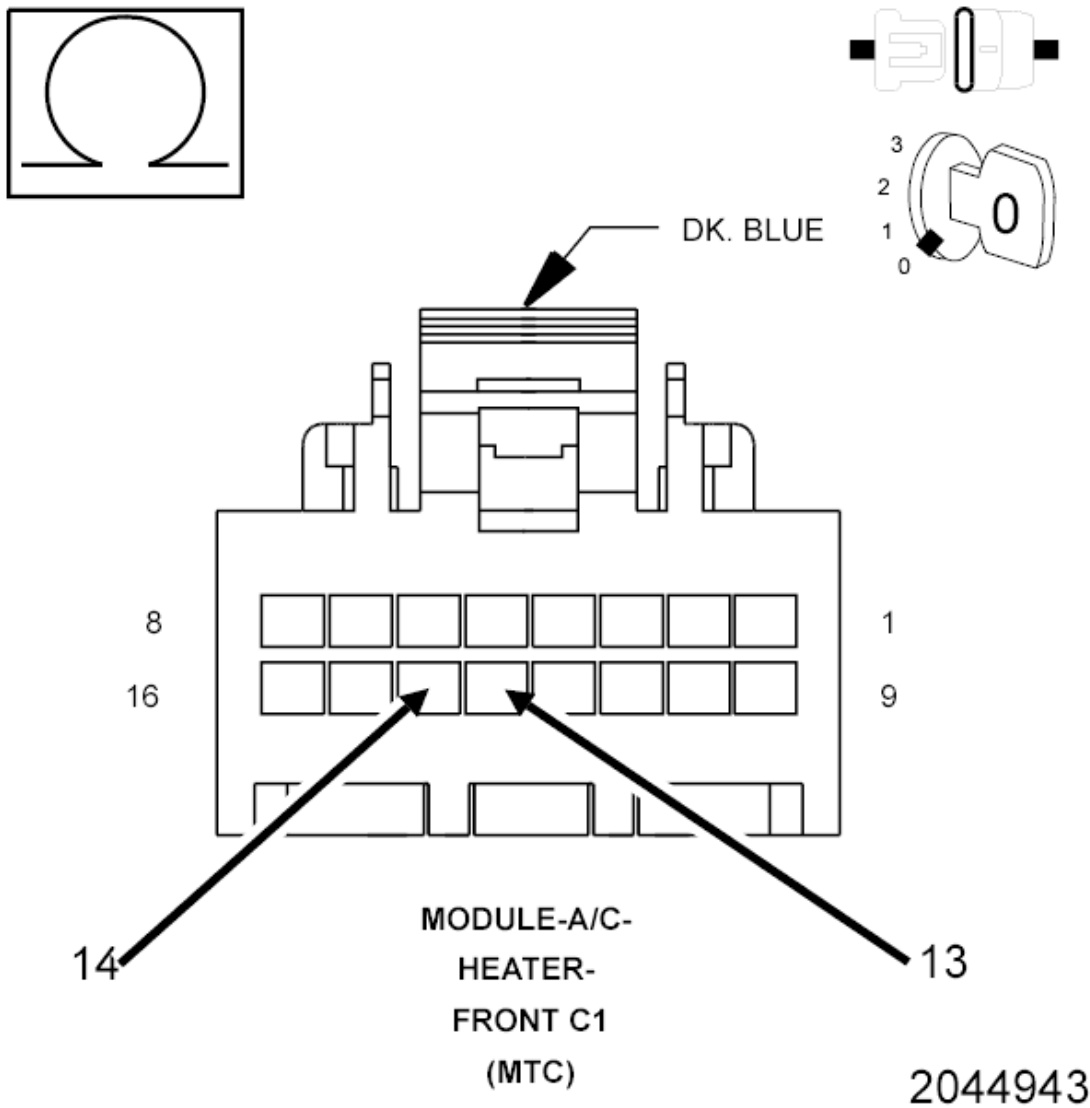


Fig. 104: Checking Blend Door Actuator
Courtesy of CHRYSLER LLC

2009 Dodge Journey R/T

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

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Measure the resistance between the (C61) Blend Door Driver circuit and the (C807) Common Door Driver 2 circuit.

Is the resistance 38.0 Ohms ($\pm$ 5.0 Ohms)?

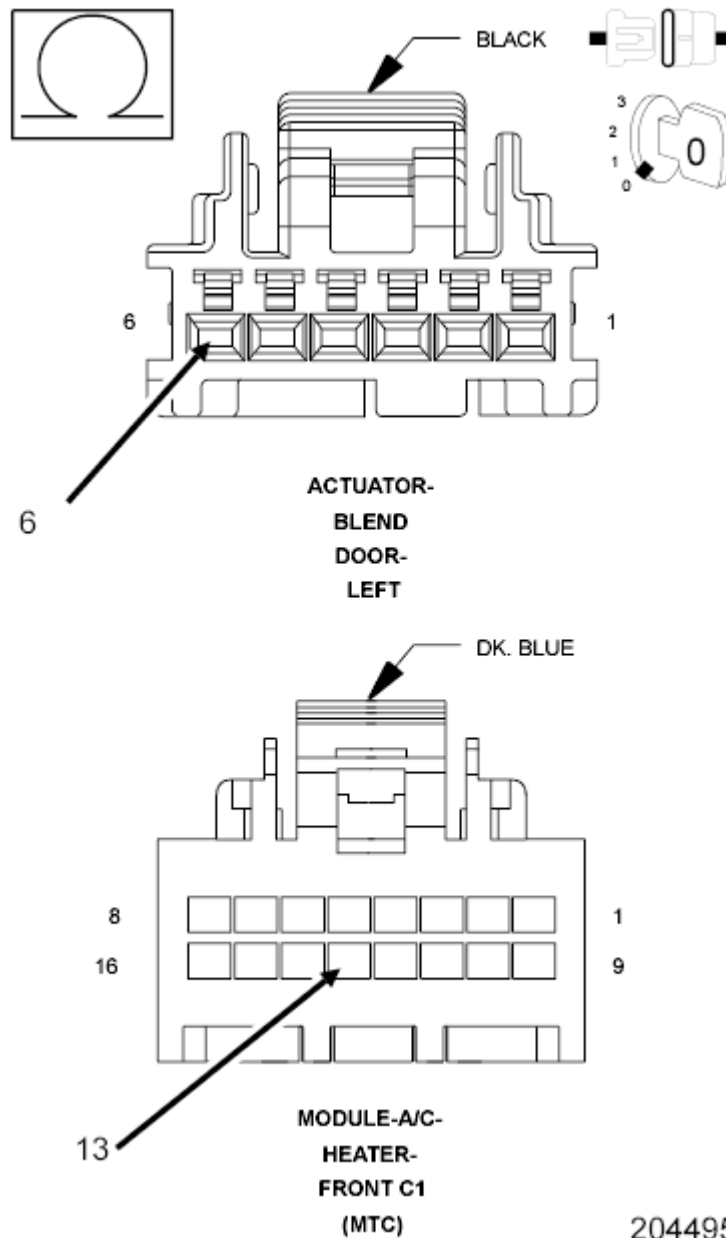
Yes

- 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

- Go to step 4

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



2044951

Fig. 105: Checking Blend Door Driver Circuit For An Open
Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Blend Door Actuator harness connector.
3. Measure the resistance of the (C61) Blend Door Driver circuit between the A/C Heater Control C1 harness connector and the Blend Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

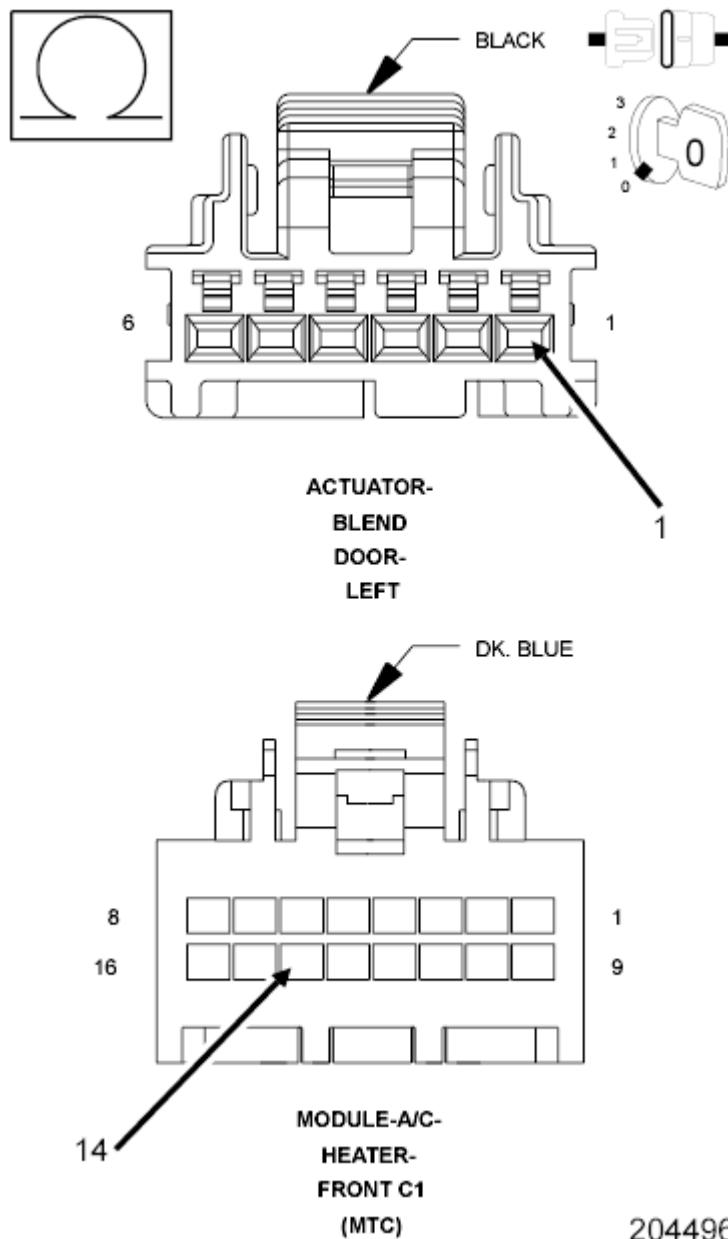
Yes

- Repair the (C61) Blend Door Driver 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 (C807) COMMON DOOR DRIVER 2 CIRCUIT FOR AN OPEN**



2044961

Fig. 106: 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 C1 harness connector and the Blend Door Actuator harness connector.

Is the resistance above 1.0 Ohm?

Yes

- 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.**

No

- Replace the Blend Door Actuator 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. 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.

B11CB-92-MAIN/LEFT TEMPERATURE DOOR CONTROL - PERFORMANCE OR INCORRECT OPERATION

2009 Dodge Journey R/T

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

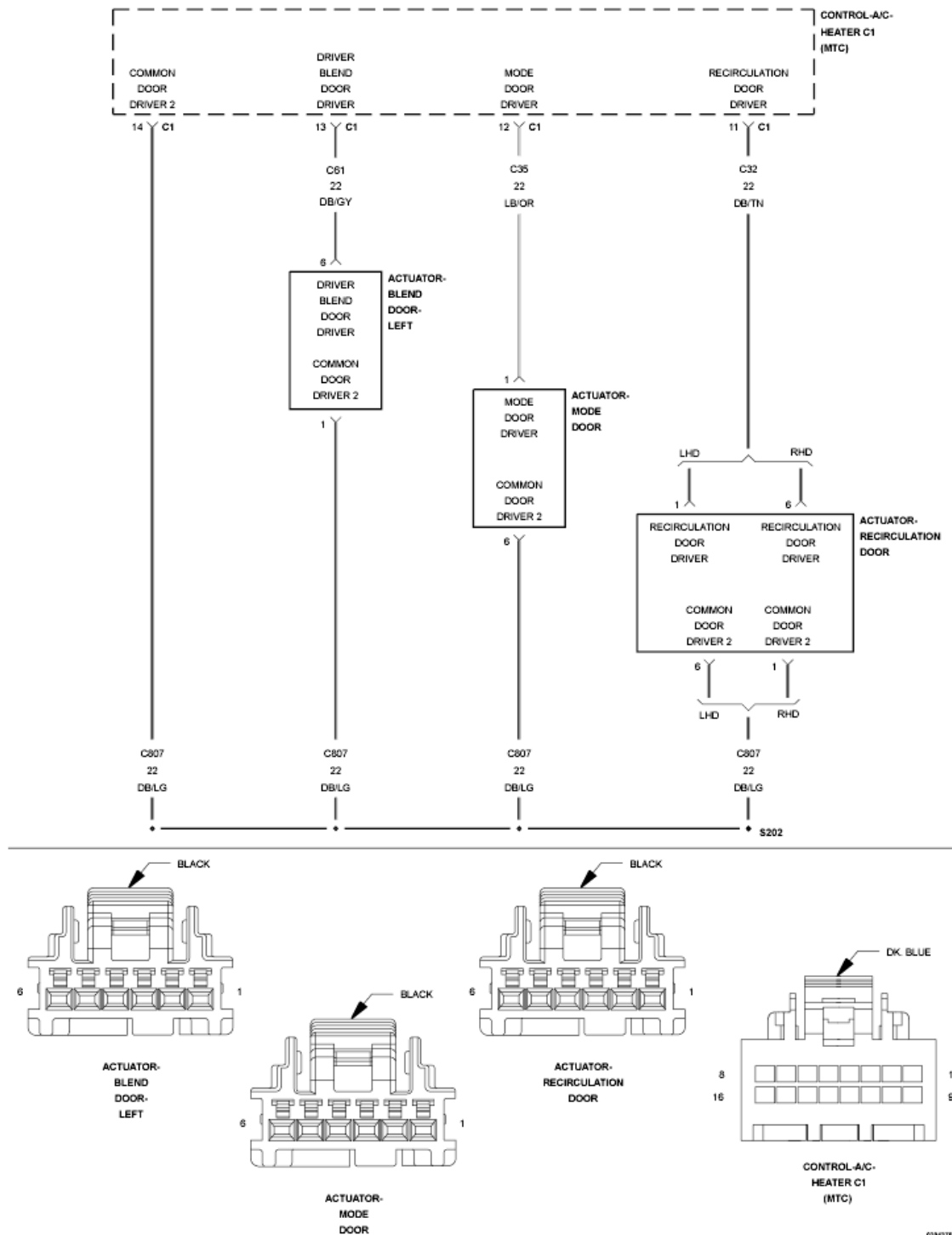


Fig. 107: Common/Mode Door Driver 2 Circuit Schematic
Courtesy of CHRYSLER LLC

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 no feedback pulses are detected in either clockwise or counterclockwise movement for the period of 15 seconds. If the A/C Heater Control detects valid feedback pulses for 15 seconds, the DTC will change from Active to Stored and will stay in the controllers memory for 100 ignition cycles.

Possible Causes
(C61) BLEND DOOR DRIVER CIRCUIT SHORTED TO VOLTAGE
(C61) BLEND DOOR DRIVER CIRCUIT SHORTED TO GROUND
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO VOLTAGE
(C807) COMMON DOOR DRIVER 2 CIRCUIT SHORTED TO GROUND
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 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 2

No

- Go to step 9

2. PERFORM HVAC ACTUATOR CALIBRATION TEST

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

Did any other HVAC DTCs set while performing the Actuator Calibration Test?

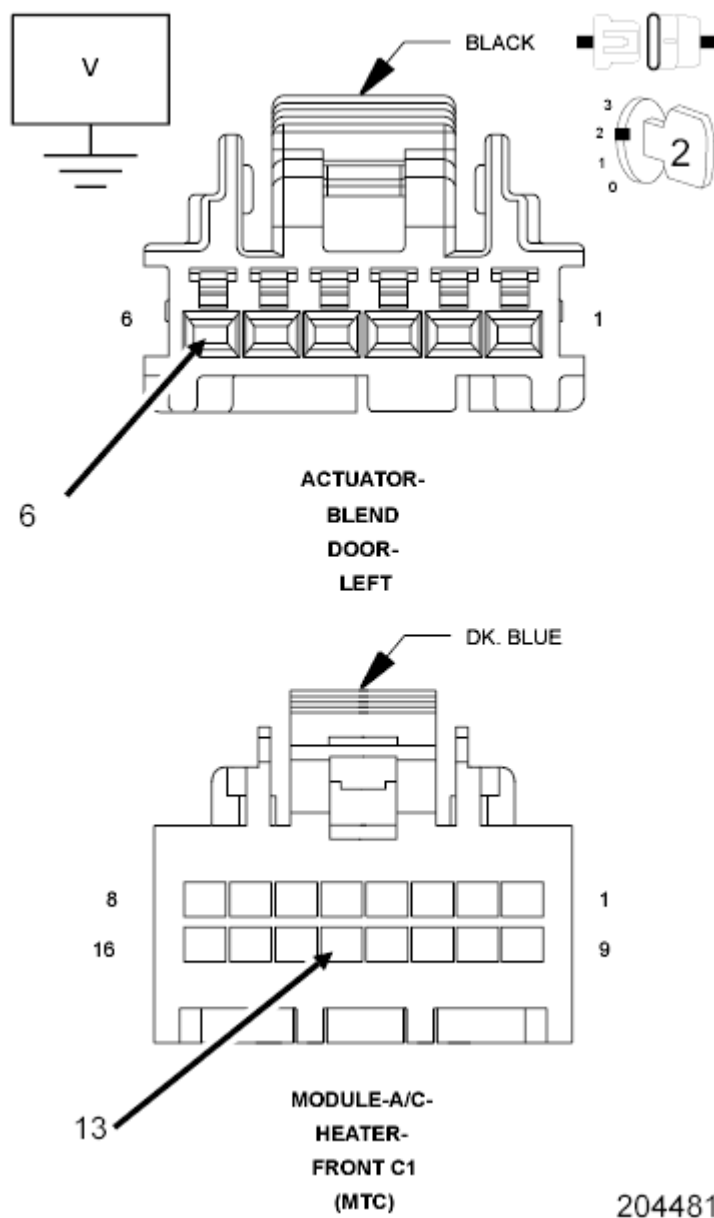
Yes

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

No

- Go to step 3

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



2044815

Fig. 108: Checking 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 C1 harness connector.
3. Disconnect the Blend Door Actuator harness connector.
4. Ignition on, engine not running.
5. Measure the voltage of the (C61) Blend Door Driver circuit.

Is there any voltage present?

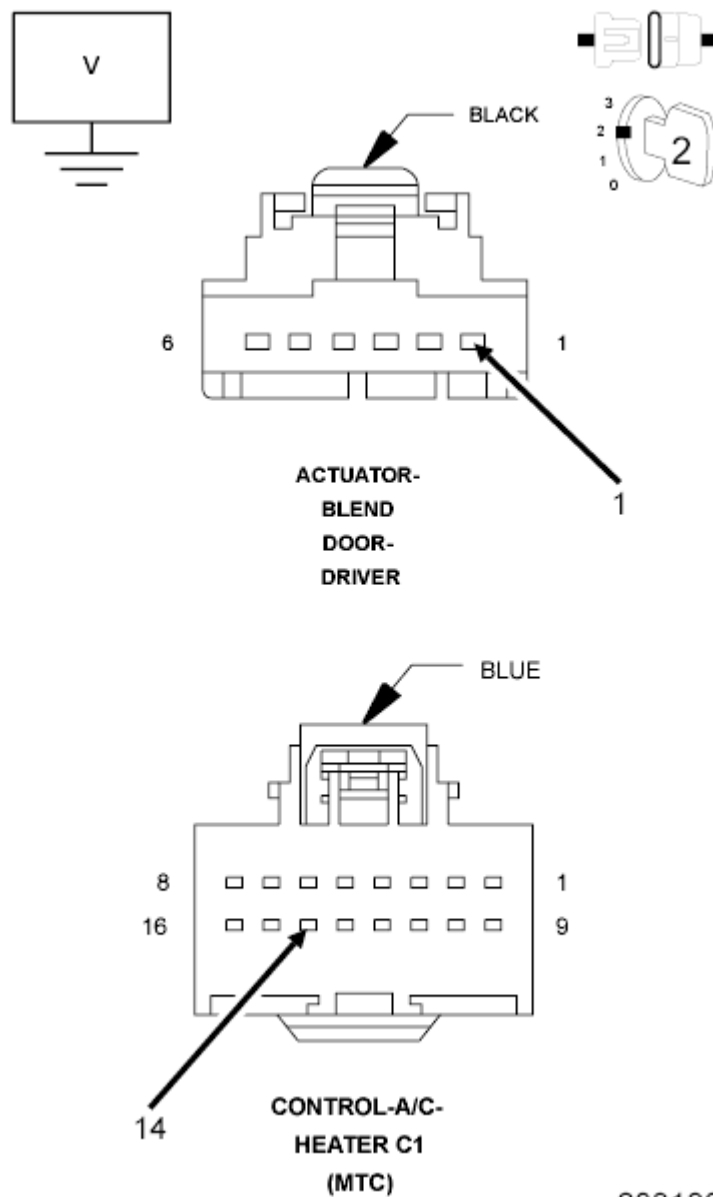
Yes

- Repair the (C61) 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



2031365

Fig. 109: 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?

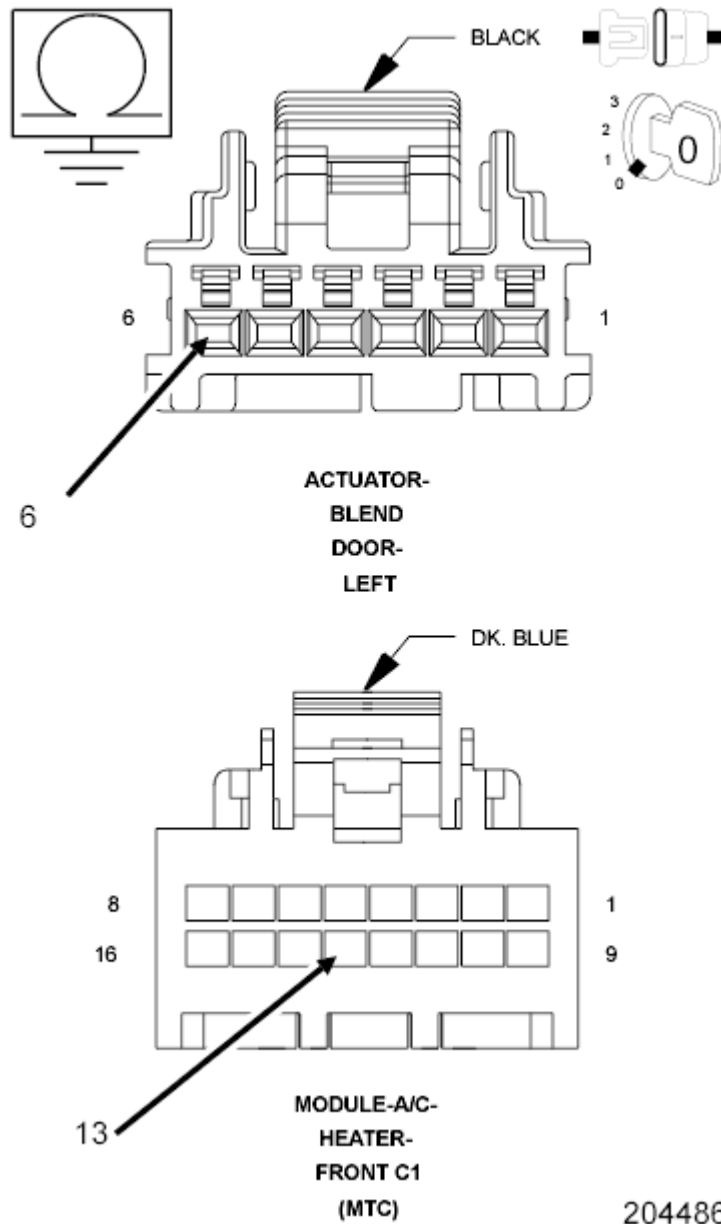
Yes

- 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 (C61) BLEND DOOR DRIVER CIRCUIT FOR A SHORT TO GROUND**



2044863

Fig. 110: Checking 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) Blend Door Driver circuit.

Is the resistance below 100k Ohms?

Yes

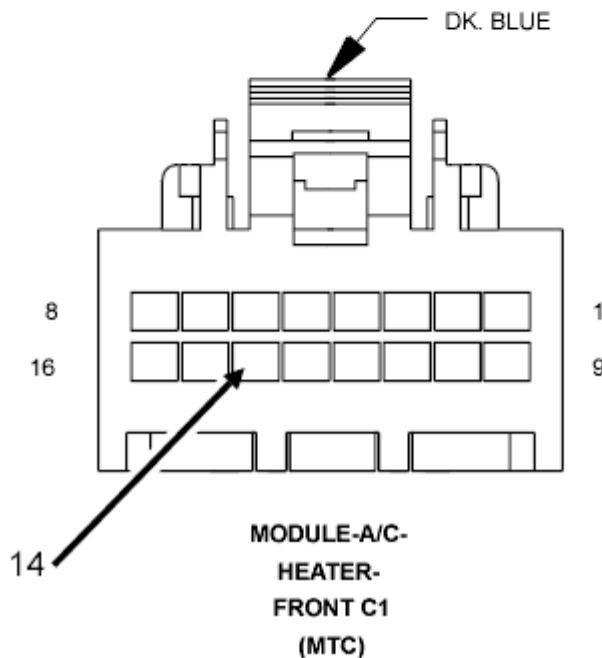
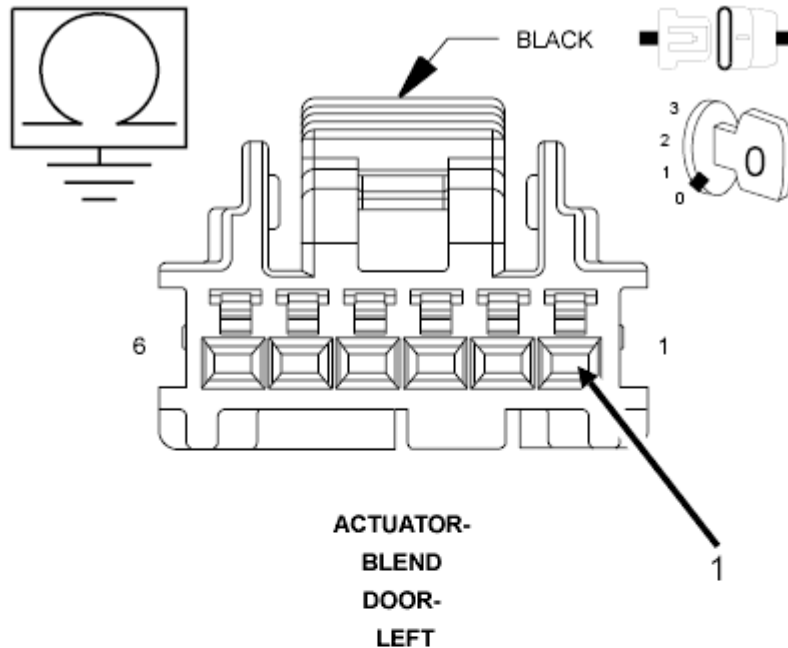
- Repair the (C61) Blend Door Driver circuit for a short to ground.

- 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



2044872

Fig. 111: 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 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 8

8. CHECK THE BLEND DOOR ACTUATOR

1. Replace the 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**.

9. 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.

B11CC-00-MAIN/LEFT TEMPERATURE DOOR 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 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:**

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 Short to Voltage, Short to Ground or 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 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.
- 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.

B11CD-00-MAIN/LEFT TEMPERATURE 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 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:**

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 Short to Voltage, Short to Ground or 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 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.

B11D9-92-BLOWER SPEED KNOB REQUEST INPUT - PERFORMANCE OR INCORRECT OPERATION

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

Theory of Operation

The A/C Heater Control constantly monitors the Blower Motor switch or dial for proper operation. If the monitored voltage on that circuit drops below or rises above a predetermined value, a DTC will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the internal blower circuit is less than 0.05 of a volt or greater than 4.95 volts for a period of 1200 msec.

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. REPLACE THE A/C HEATER CONTROL

This DTC detects a problem with an internal circuit in the controller and is non serviceable.

Repair

2009 Dodge Journey R/T

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

- 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**.

B160F-11-TWILIGHT/AMBIENT LIGHT SENSOR INPUT - CIRCUIT SHORT TO GROUND

2009 Dodge Journey R/T

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

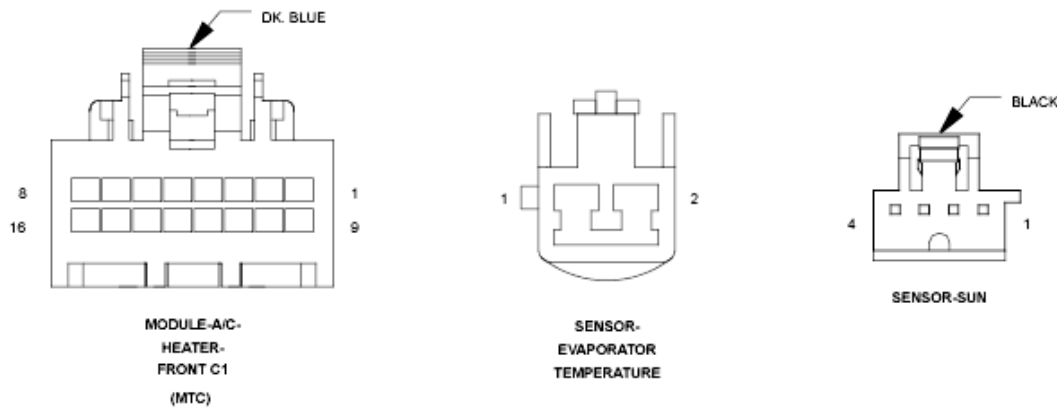
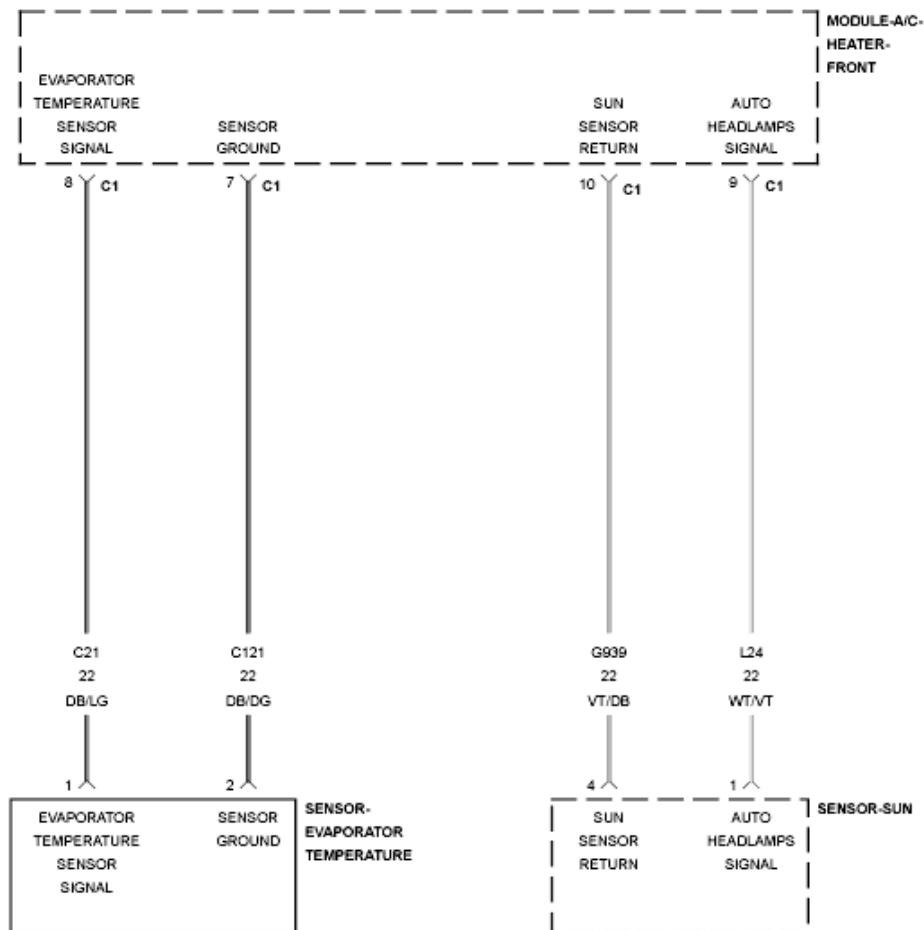


Fig. 112: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Twilight or Ambient Light Sensor input voltage is less than 1.05 volts for period of 1.2 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.
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

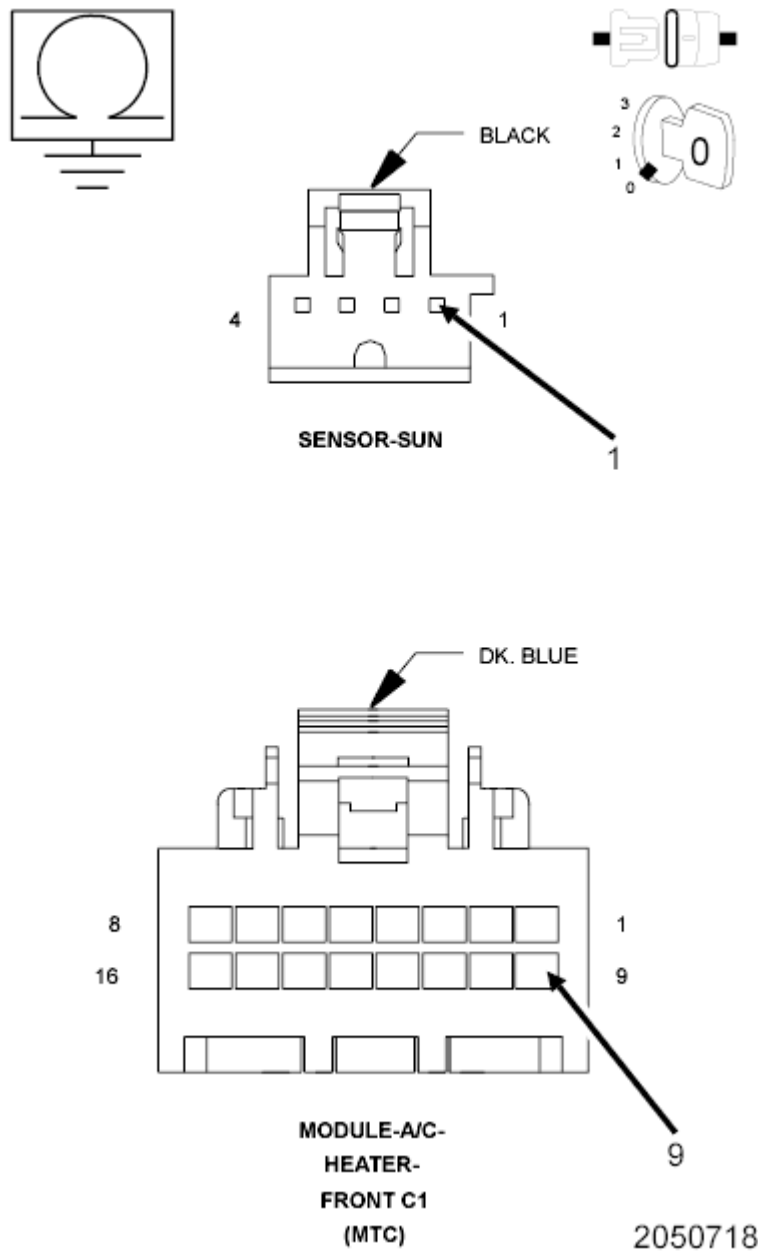


Fig. 113: Checking Auto Headlamps Signal Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C2 harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Measure the resistance between ground and he (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.**

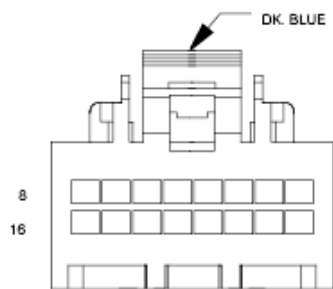
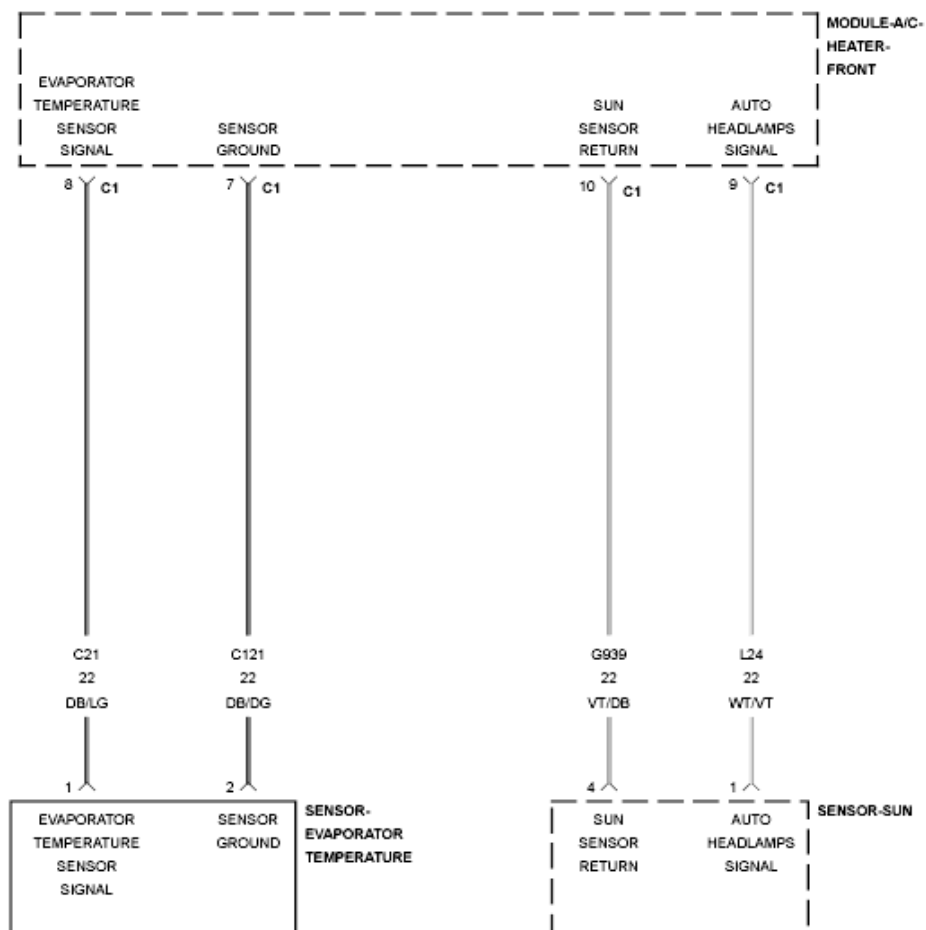
No

- Test complete.

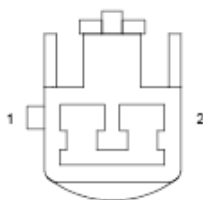
2009 Dodge Journey R/T

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

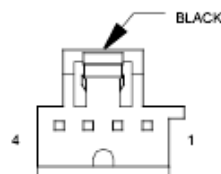
B160F-12-TWILIGHT/AMBIENT LIGHT SENSOR INPUT - CIRCUIT SHORT TO BATTERY



MODULE-A/C-
HEATER-
FRONT C1
(MTC)



SENSOR-
EVAPORATOR
TEMPERATURE



SENSOR-SUN

Fig. 114: Evaporator Temperature Sensor Signal 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 Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the Twilight or Ambient Light Sensor input voltage is greater than 4.83 volts for period of 1.2 seconds.

Possible Causes
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORT TO VOLTAGE
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORT 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.

Is this DTC active?

Yes

- Go to step 2

No

- Go to step 6

2. CHECK THE (L24) AUTO HEADLAMPS SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE

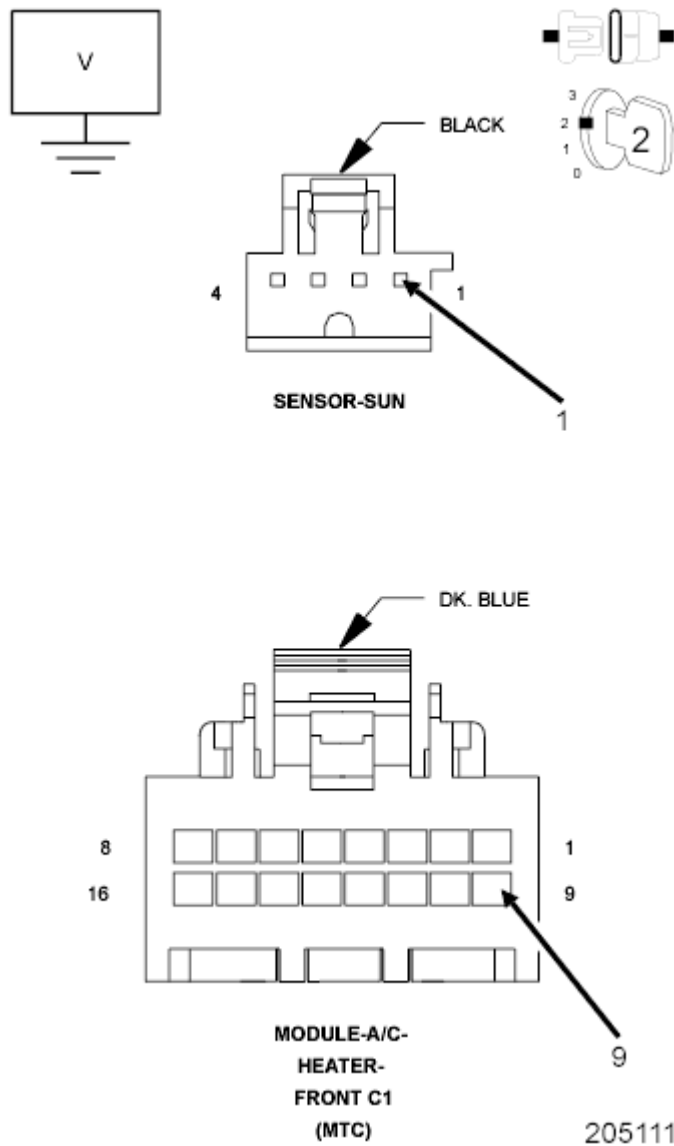


Fig. 115: Checking Auto Headlamps Signal Circuit For A Short To Voltage
Courtesy of CHRYSLER LLC

1. Turn the ignition off.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Ignition on, engine not running.
4. Measure the voltage of the (L24) Auto Headlamps Signal circuit.

Is there any voltage present?

Yes

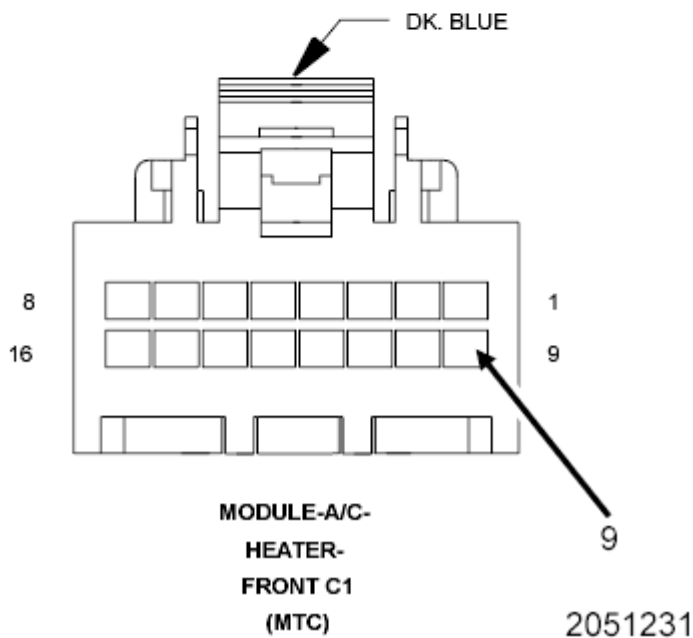
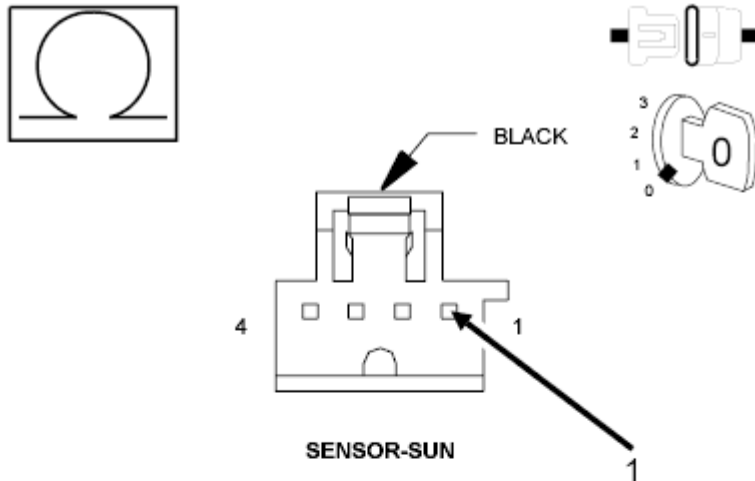
- Repair the (L24) Auto Headlamps Signal circuit for a short to voltage.

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

No

- Go to step 3

3. CHECK THE (L24) AUTO HEADLAMPS SIGNAL CIRCUIT FOR AN OPEN



2051231

Fig. 116: Checking Auto Headlamps Signal Circuit For An Open

Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the Sun Sensor harness connector.
3. Measure the resistance of the (L24) Auto Headlamps Signal circuit between the A/C Heater Control C1 harness connector and the Sun Sensor harness connector.

Is the resistance below 5.0 Ohms?

Yes

- Go to step 4

No

- Repair the (L24) Auto Headlamps Signal circuit for an open.
- Perform the HVAC VERIFICATION TEST. See **DTC-Based Diagnostics/HVAC - Standard Procedure**.

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

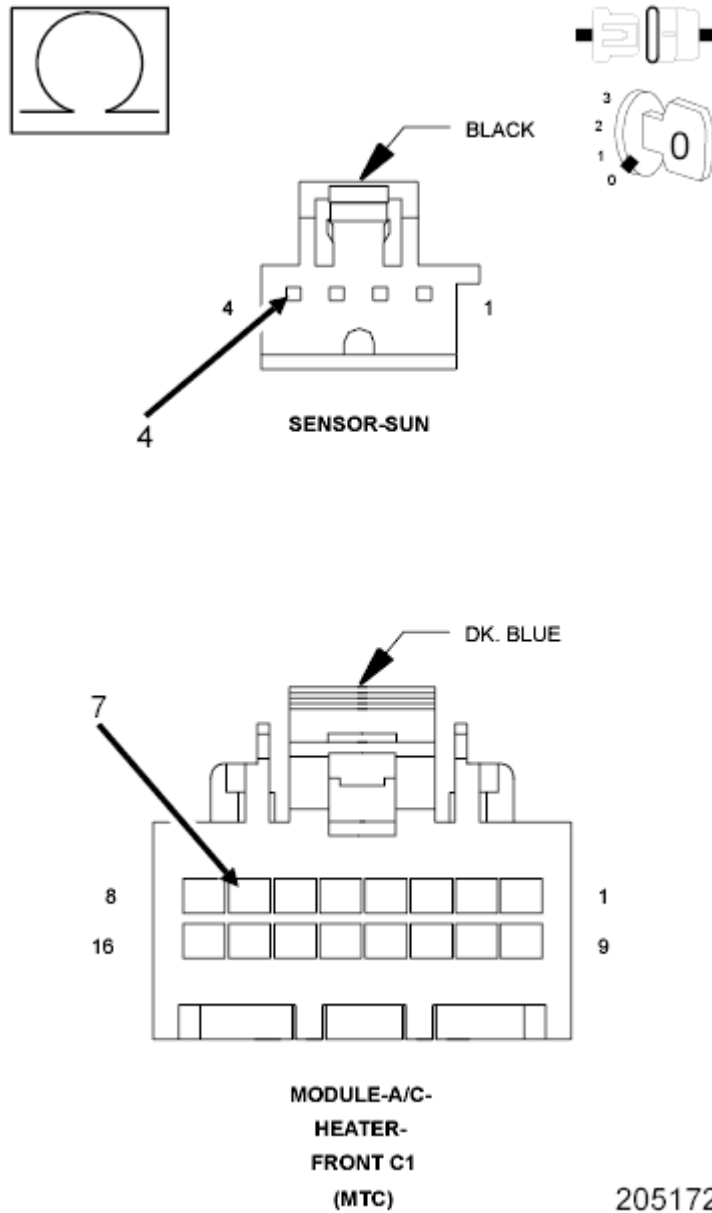


Fig. 117: Checking Sensor Ground Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Measure the resistance of the (C121) Sensor Ground circuit between the A/C Heater Control C1 harness connector and the Sun Sensor harness connector.

Is the resistance below 5.0 Ohms?

Yes

- Go to step 5

No

- Repair the (C121) Sensor Ground circuit for an open.
- 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. 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.

B160F-92-TWILIGHT/AMBIENT LIGHT SENSOR INPUT - PERFORMANCE OR INCORRECT OPERATION

2009 Dodge Journey R/T

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

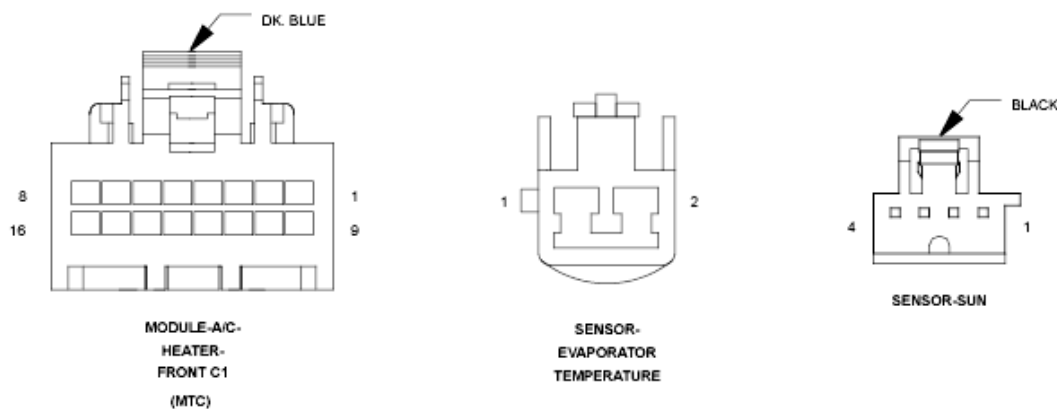
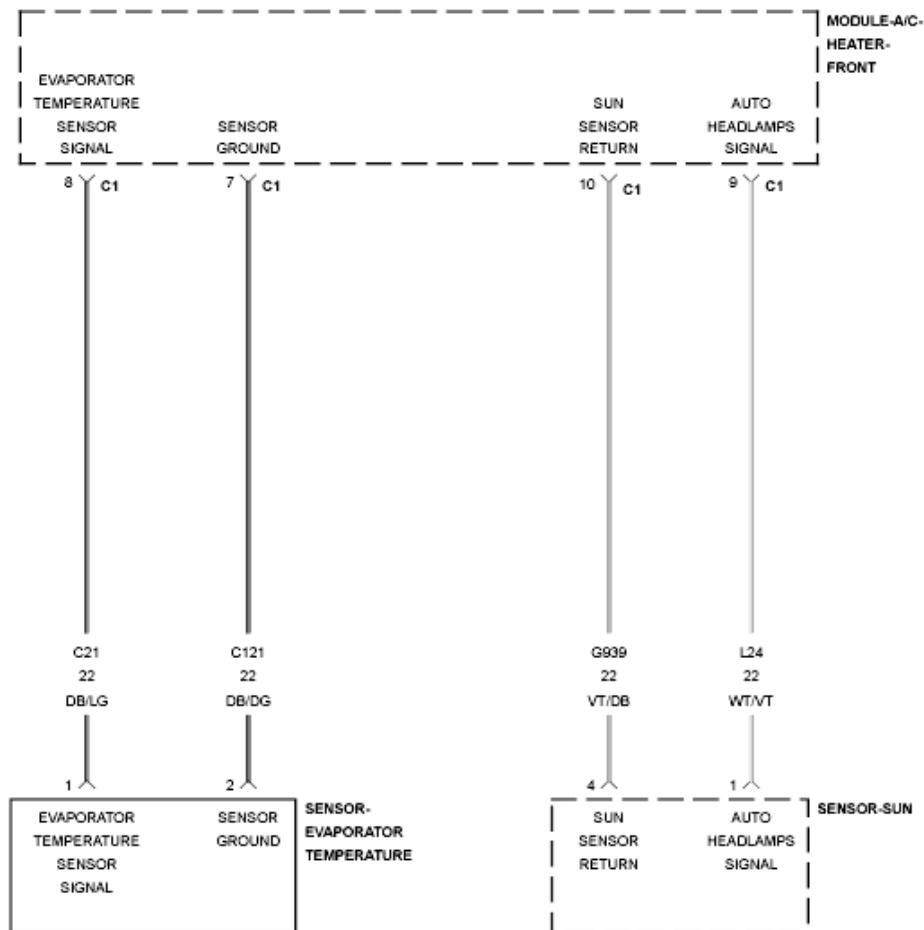


Fig. 118: Evaporator Temperature Sensor Signal Circuit Schematic
 Courtesy of CHRYSLER LLC

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 Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

Continuously with the ignition on.

- **Set Condition:**

If the Auto Headlamps Signal input voltage is less than 4.3 volts and greater than 1.5 volts for period of 1.2 seconds. If the DTCs status changes from active to stored, the DTC will stay in memory for 100 ignition cycles.

Possible Causes
(L24) AUTO HEADLAMPS SIGNAL CIRCUIT SHORT 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.

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

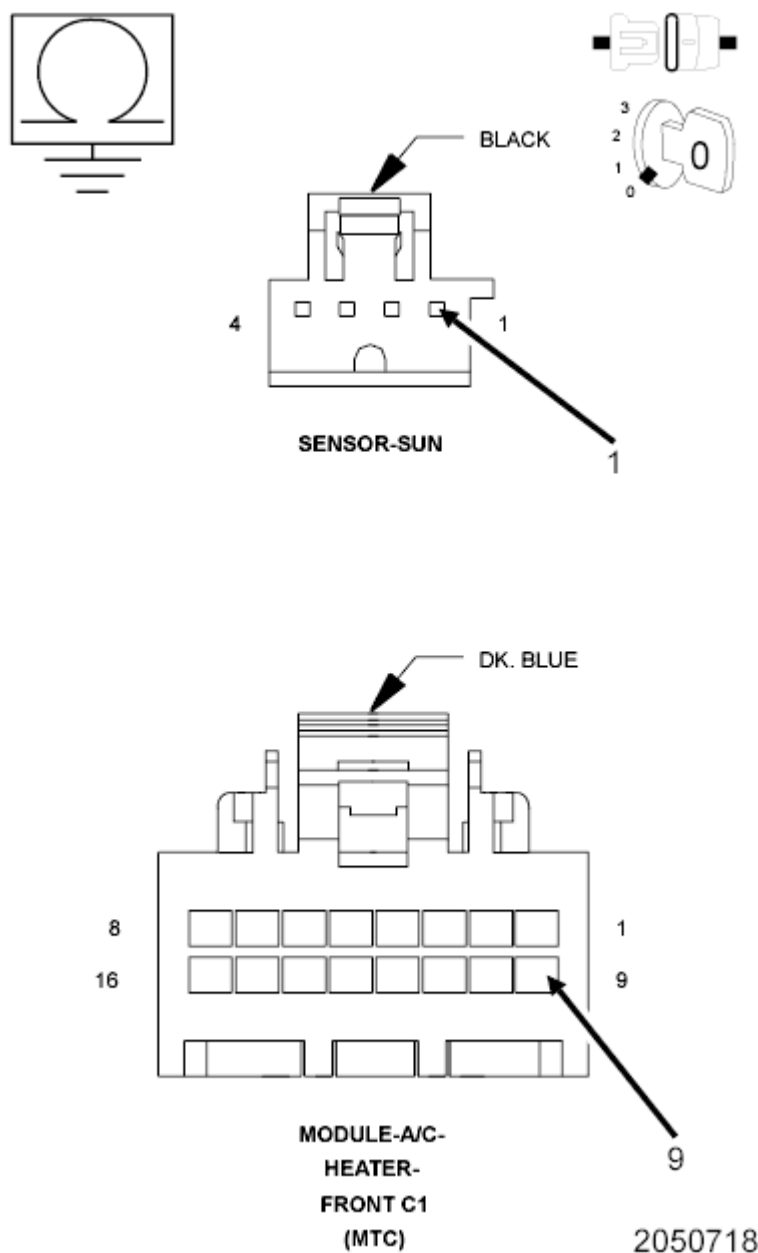


Fig. 119: Checking Auto Headlamps Signal Circuit For A Short To Ground
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Disconnect the Sun Sensor harness connector.
4. Measure the resistance between ground and he (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. 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.

B210A-84-SYSTEM VOLTAGE LOW - SIGNAL BELOW ALLOWABLE RANGE

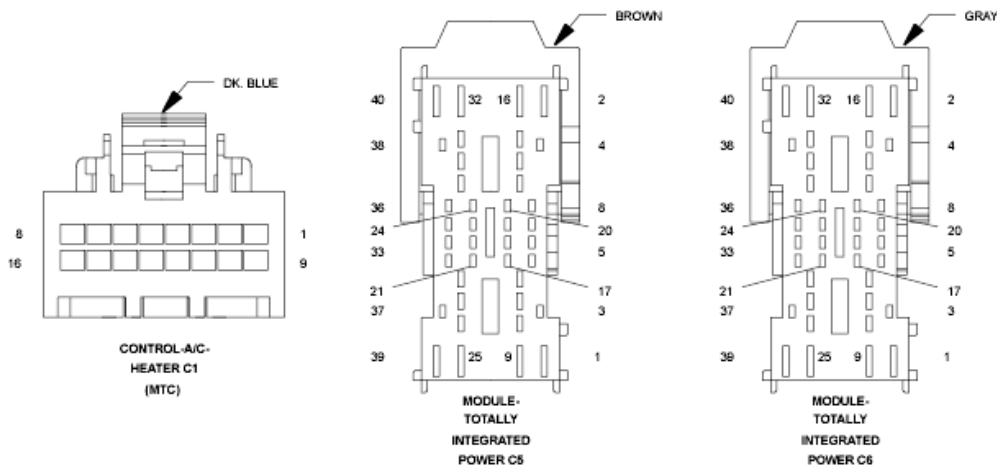
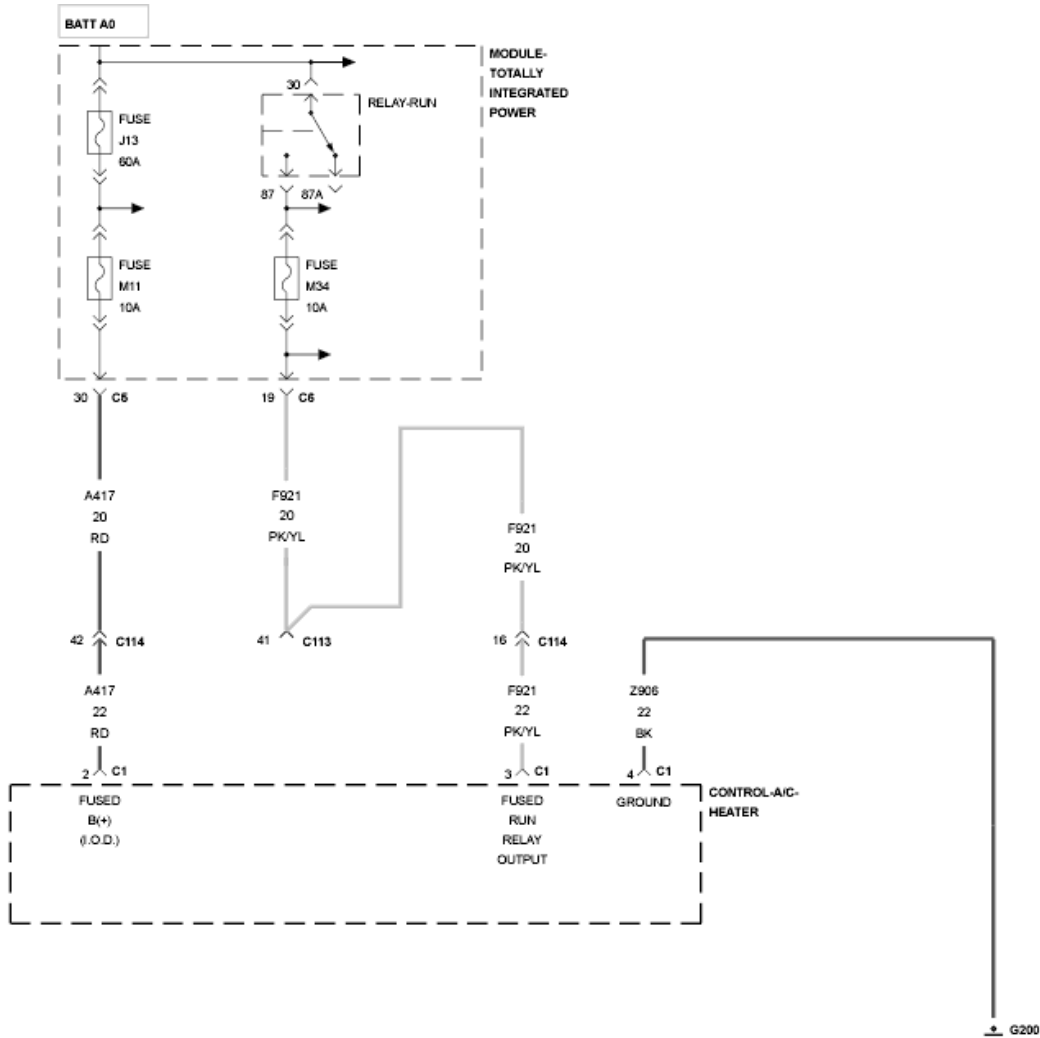


Fig. 120: Fused B+ Run Relay Output Ground Circuit Schematic
 Courtesy of CHRYSLER LLC

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

Theory of Operation

The A/C Heater Control constantly monitors battery and ignition voltage as well as battery voltage derived from BUS communication to ensure proper operation. If the voltage to the controller is out of range it could cause damage to the controller or its respective components. If the voltage of either circuit drops below or rises above a predetermined calibration a DTC will set.

- **When Monitored:**

Continuously with the ignition on.

- **Set Condition:**

If the controller system voltage or ignition voltage broadcast over the BUS is lower than monitored controller voltage the for period of 60 seconds.

Possible Causes
RELATED TIPM DTCS PRESENT
RELATED CHARGING SYSTEM DTCS PRESENT
RELATED HVAC DTCS PRESENT
OTHER CONTROLLERS REPORTING UNDER VOLTAGE CONDITION
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 TIPM DTCS

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

Are there any Totally Integrated Power Module (TIPM) DTCs present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK FOR POWERTRAIN CONTROL MODULE DTCS

1. With the scan tool, read DTCs.

Are there any Powertrain Control Module (PCM) charging system DTCs present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 3

3. CHECK FOR HVAC DTCS

1. With the scan tool, read HVAC DTCs.

Is the DTC B210D-84-Battery Voltage Low - Signal Below Allowable Range present also?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the diagnostic procedure for **B210D-84-BATTERY VOLTAGE LOW - SIGNAL BELOW ALLOWABLE RANGE.**

No

- Go to step 4

4. CHECK IF THE DTC IS ACTIVE

1. 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 5

No

- Go to step 6

5. CHECK IF OTHER CONTROLLERS ARE REPORTING AN OVER VOLTAGE CONDITION

1. With the scan tool, read DTCs.

Are any other controllers reporting an over voltage condition?

Yes

- Go To DTC Based Diagnostics and perform the appropriate diagnostic 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.

B210B-85-SYSTEM VOLTAGE HIGH - SIGNAL ABOVE ALLOWABLE RANGE

2009 Dodge Journey R/T

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

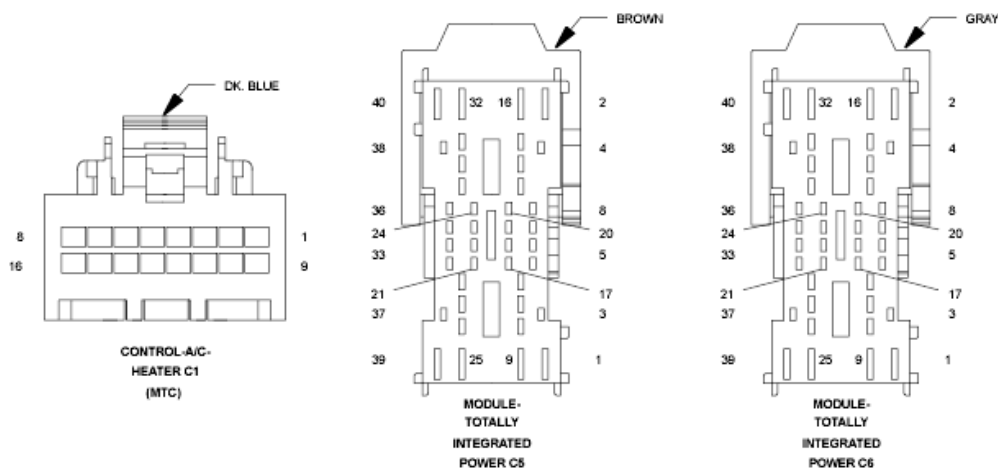
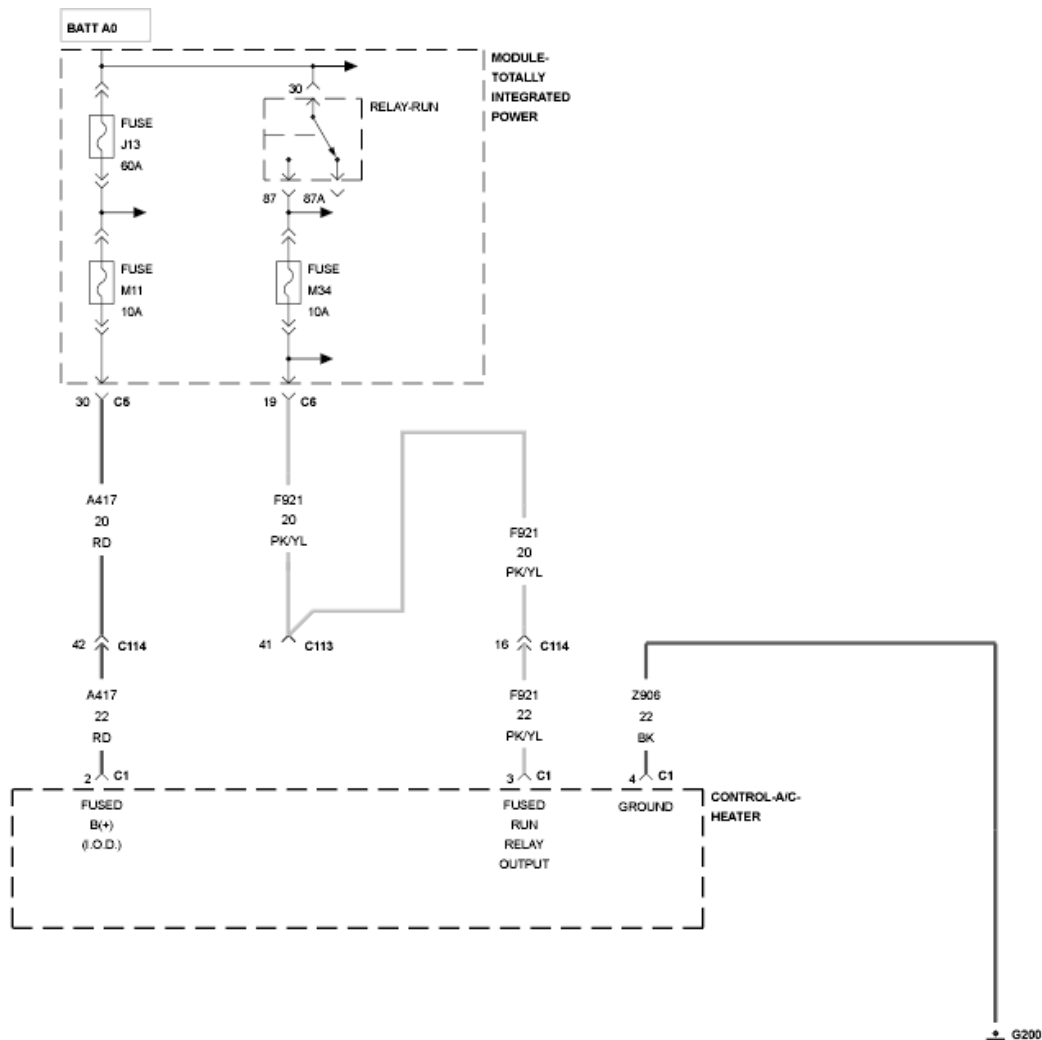


Fig. 121: Fused B+ Run Relay Output Ground Circuit Schematic
 Courtesy of CHRYSLER LLC

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

Theory of Operation

The A/C Heater Control constantly monitors battery and ignition voltage as well as battery voltage derived from BUS communication to ensure proper operation. If the voltage to the controller is out of range it could cause damage to the controller or its respective components. If the voltage of either circuit drops below or rises above a predetermined calibration a DTC will set.

- **When Monitored:**

Continuously with the ignition on.

- **Set Condition:**

If the controller system voltage or ignition voltage broadcast over the BUS is higher than monitored controller voltage the for period of 60 seconds.

Possible Causes
RELATED TIPM DTCS PRESENT
RELATED CHARGING SYSTEM DTCS PRESENT
RELATED HVAC DTCS PRESENT
OTHER CONTROLLERS REPORTING OVER VOLTAGE CONDITION
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 TIPM DTCS**

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

Are there any Totally Integrated Power Module (TIPM) DTCs present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK FOR POWERTRAIN CONTROL MODULE DTCS

1. With the scan tool, read DTCs.

Are there any Powertrain Control Module (PCM) charging system DTCs present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 3

3. CHECK FOR HVAC DTCS

1. With the scan tool, read HVAC DTCs.

Is the DTC B210E-85-Battery Voltage High - Signal Above Allowable Range present also?

Yes

- See **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** and perform the diagnostic procedure for **B210E-85-BATTERY VOLTAGE HIGH - SIGNAL ABOVE ALLOWABLE RANGE**.

No

- Go to step 4

4. CHECK IF THE DTC IS ACTIVE

1. 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 5

No

- Go to step 6

5. CHECK IF OTHER CONTROLLERS ARE REPORTING AN OVER VOLTAGE CONDITION

1. With the scan tool, read DTCs.

Are any other controllers reporting an over voltage condition?

Yes

- Go to DTC Based Diagnostics and perform the appropriate diagnostic procedure.

No

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

No

- Test complete.

B210D-84-BATTERY VOLTAGE LOW - SIGNAL BELOW ALLOWABLE RANGE

2009 Dodge Journey R/T

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

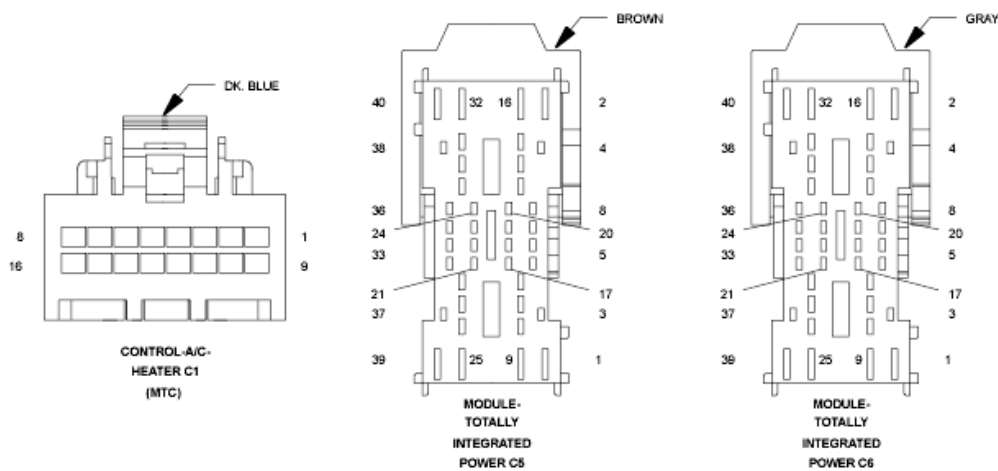
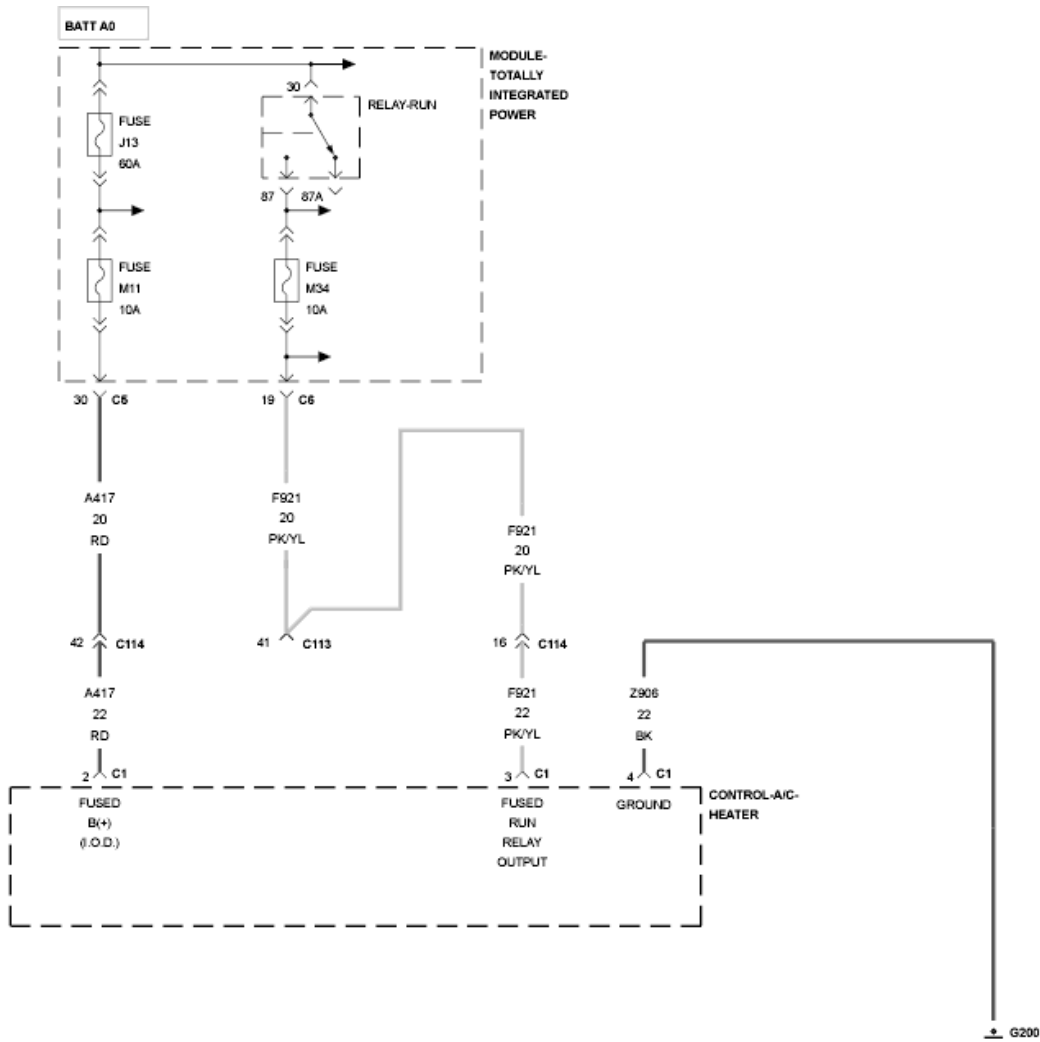


Fig. 122: Fused B+ Run Relay Output Ground Circuit Schematic
Courtesy of CHRYSLER LLC

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

Theory of Operation

The A/C Heater Control constantly monitors battery and ignition voltage to ensure proper operation. If the voltage to the controller is out of range it could cause damage to the controller or its respective components. If the voltage of either circuit drops below or rises above a predetermined calibration a Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the controller battery voltage is less than or equal to 10.0 volts for period of 5.0 seconds.

Possible Causes
RELATED CHARGING SYSTEM DTCS PRESENT (F921) FUSED RUN RELAY OUTPUT CIRCUIT OPEN (A417) FUSED B(+) CIRCUIT OPEN (Z906) GROUND CIRCUIT OPEN 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 CHARGING SYSTEM DTCS**

1. Using the scan tool, read PCM DTCS.

Are there any charging system DTCS present in the Powertrain Control Module (PCM)?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK FOR TOTALLY INTEGRATED POWER MODULE DTCS

1. Using the scan tool, read TIPM DTCS.

Are there any TIPM DTCS present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 3

3. CHECK IF THE DTC IS ACTIVE

1. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 7

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

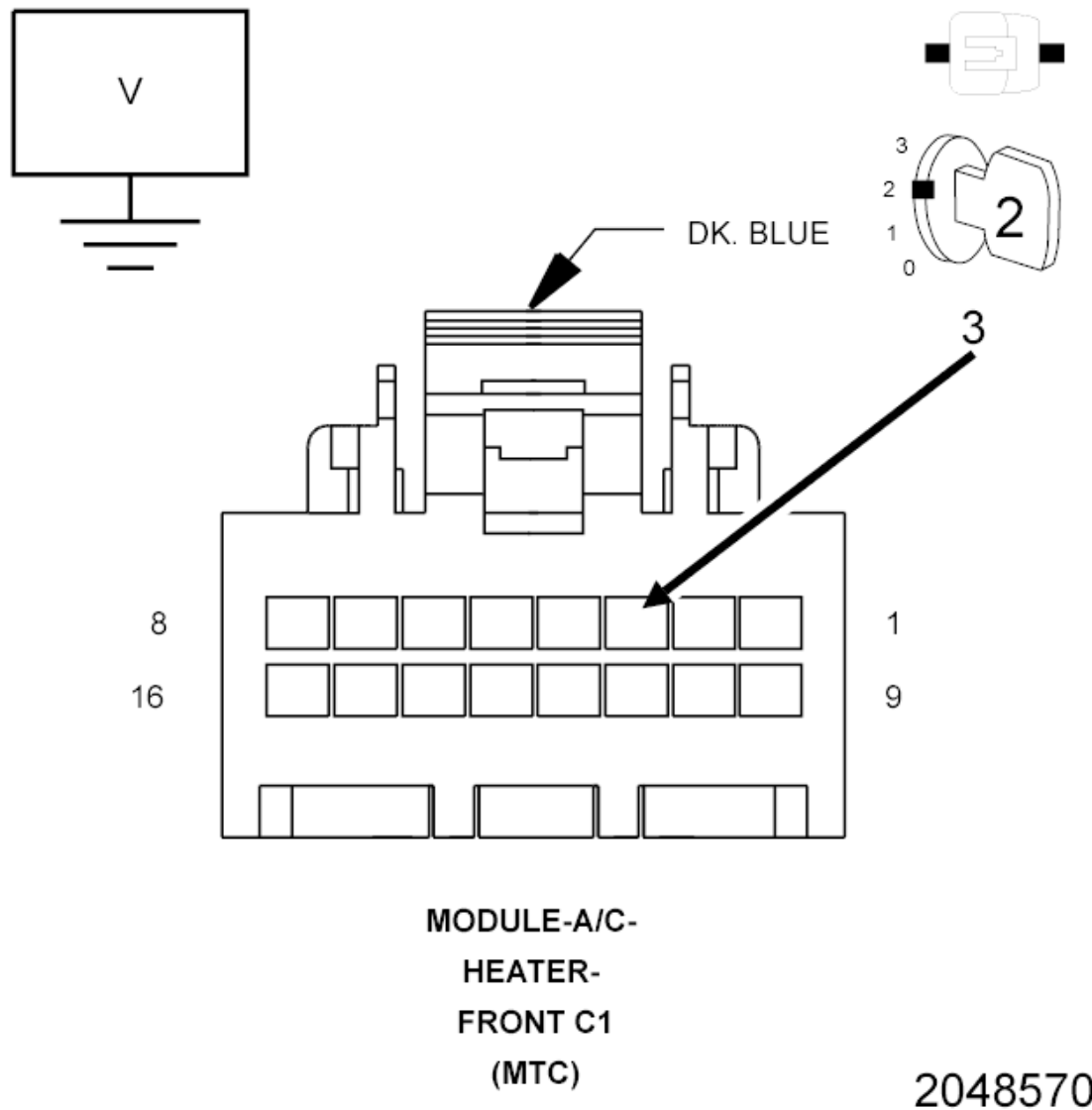


Fig. 123: Checking Fused Run Relay Output Circuit For An Open
Courtesy of CHRYSLER LLC

1. Ignition on, engine not running.
2. While back probing, measure the voltage of the (F921) Fused Run Relay Output circuit in the A/C Heater Control C1 harness connector.

Is the voltage 10.0 volts or below?

Yes

- Repair the (F921) Fused Run Relay Output circuit for an open or high resistance.

NOTE: If the fuse is open, make sure to check for a short to ground on

the (F921) Fused Run Relay Output circuit.

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

No

- Go to step 5

5. CHECK THE (A417) FUSED B(+) CIRCUIT FOR AN OPEN

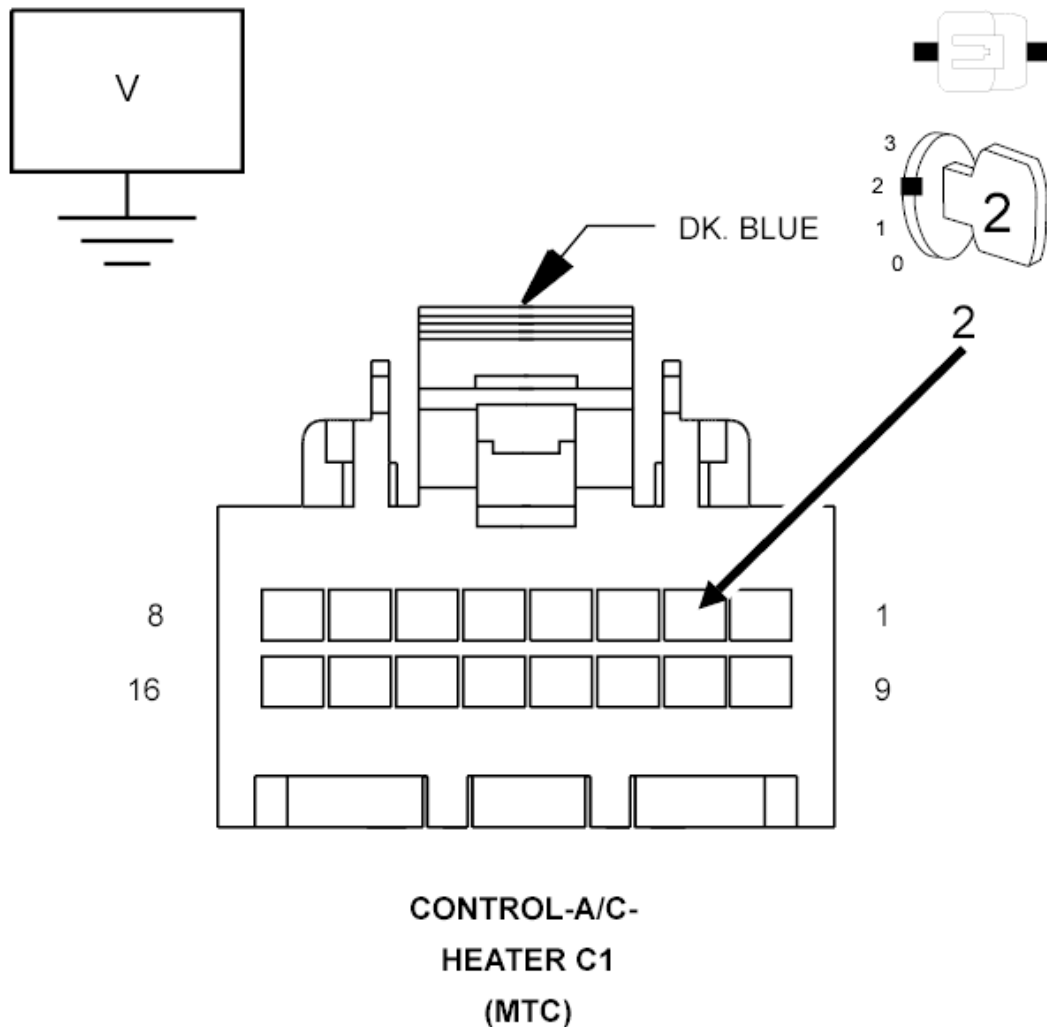


Fig. 124: Checking Fused B(+) Circuit For An Open
Courtesy of CHRYSLER LLC

1. Ignition on, engine not running.
2. While back probing, measure the voltage of the (A417) Fused B (+) circuit in the A/C Heater Control C1 harness connector.

2009 Dodge Journey R/T

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

Is the voltage 10.0 volts or below?

Yes

- Repair the (A417) Fused B (+) circuit for an open or high resistance.

NOTE: **Make sure to check if the IOD fuse is installed. If the fuse is open, make sure to check 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 (Z906) GROUND CIRCUIT FOR AN OPEN

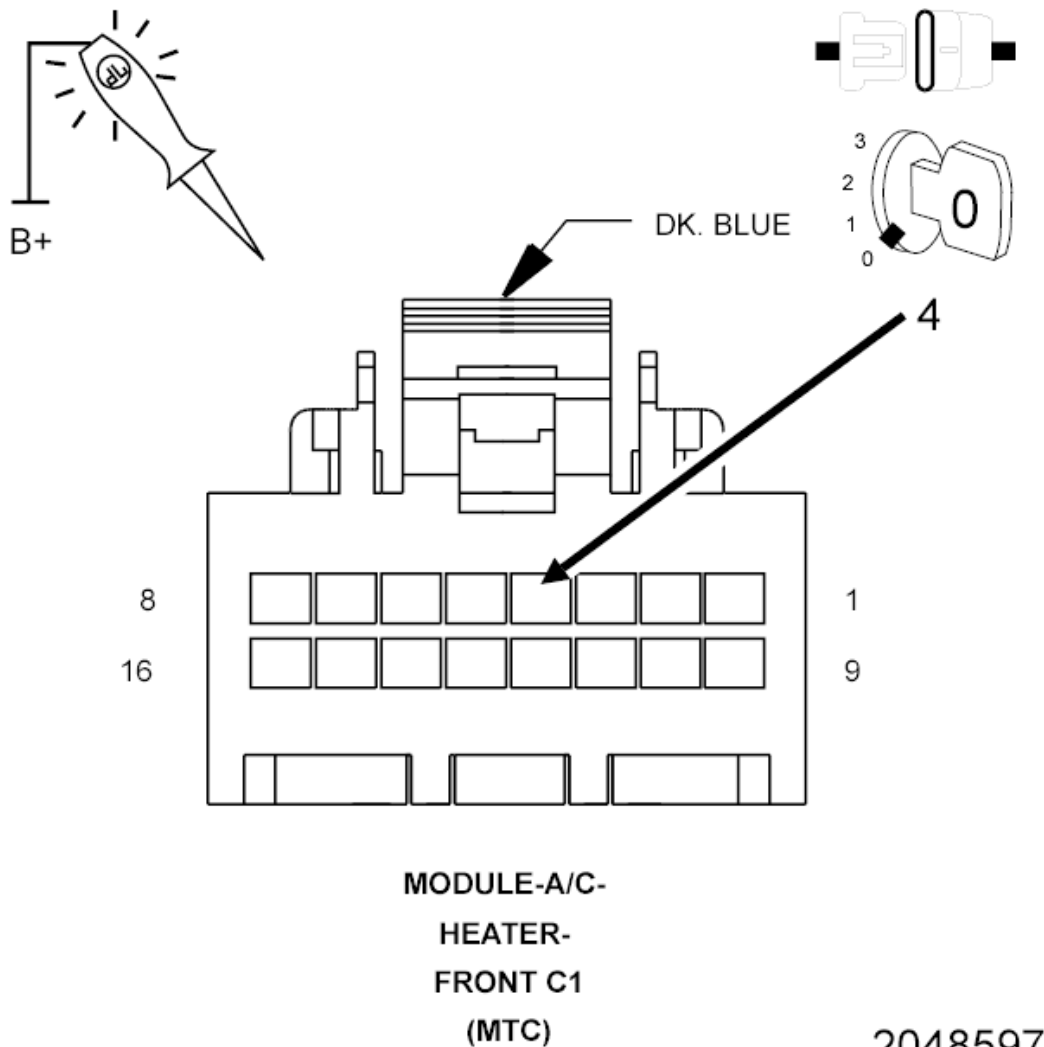


Fig. 125: Checking Ground Circuit For An Open
 Courtesy of CHRYSLER LLC

1. Turn the ignition off to the lock position.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Using a 12-volt test light connected to 12-volts, check the (Z906) Ground 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

- 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

- Repair the (Z906) Ground circuit for an open.
- 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. 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.

B210E-85-BATTERY VOLTAGE HIGH - SIGNAL ABOVE ALLOWABLE RANGE

2009 Dodge Journey R/T

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

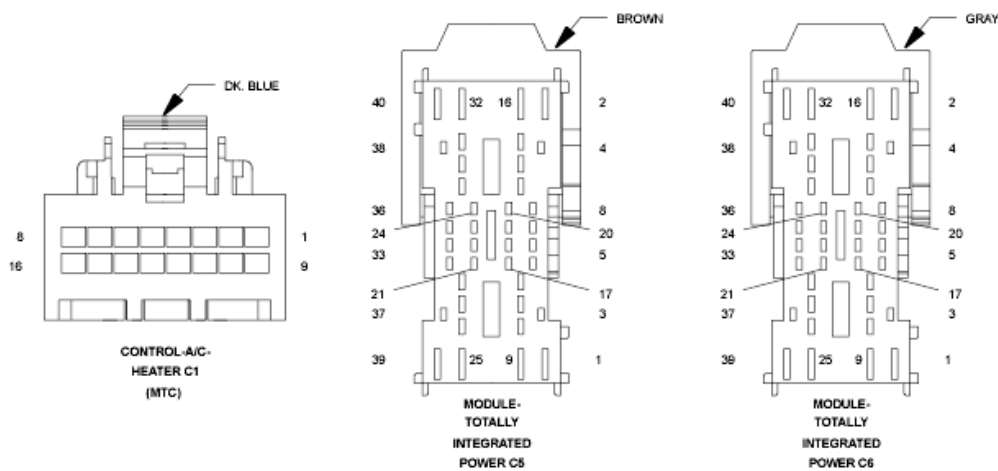
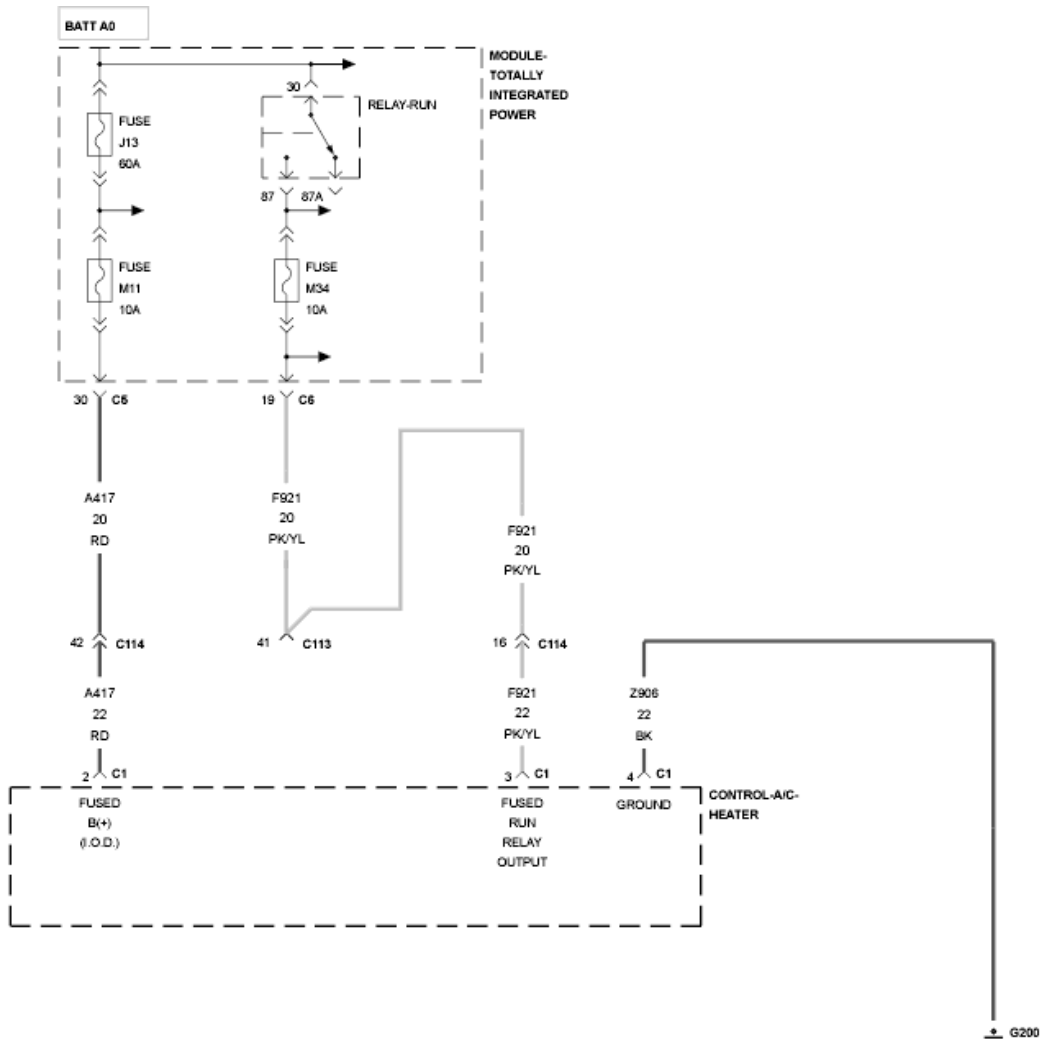


Fig. 126: Fused B+ Run Relay Output Ground Circuit Schematic
 Courtesy of CHRYSLER LLC

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

Theory of Operation

The A/C Heater Control constantly monitors battery and ignition voltage to ensure proper operation. If the voltage to the controller is out of range it could cause damage to the controller or its respective components. If the voltage of either circuit drops below or rises above a predetermined calibration a Diagnostic Trouble Code (DTC) will set.

- **When Monitored:**

With the ignition on.

- **Set Condition:**

If the controller battery voltage is higher than 16.0 Volts for period of 1.0 second.

Possible Causes
RELATED CHARGING SYSTEM DTCS PRESENT 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 CHARGING SYSTEM DTCS

1. Using the scan tool, read PCM DTCS.

Are there any charging system DTCS present in the Powertrain Control Module (PCM)?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 2

2. CHECK FOR TOTALLY INTEGRATED POWER MODULE DTCS

1. Using the scan tool, read TIPM DTCS.

Are there any TIPM DTCS present?

Yes

- Refer to **DTC-Based Diagnostics/MODULE, Totally Integrated Power (TIPM) - Diagnosis and Testing** and perform the appropriate diagnostic procedure.

No

- Go to step 3

3. CHECK IF THE DTC IS ACTIVE

1. Using the scan tool, read HVAC DTCs.

Is this DTC active?

Yes

- Go to step 4

No

- Go to step 5

4. CHECK IF OTHER CONTROLLER ARE REPORTING AN OVER VOLTAGE CONDITION

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

Are any other controllers reporting an over voltage condition?

Yes

- Go to DTC Based Diagnostics and perform the appropriate diagnostic 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**.

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 schematics as a guide, inspect the wiring and connectors specific to this circuit.
4. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, partially broken wires.
5. Check the connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals.
6. 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.

B2214-00-(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-00-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.**

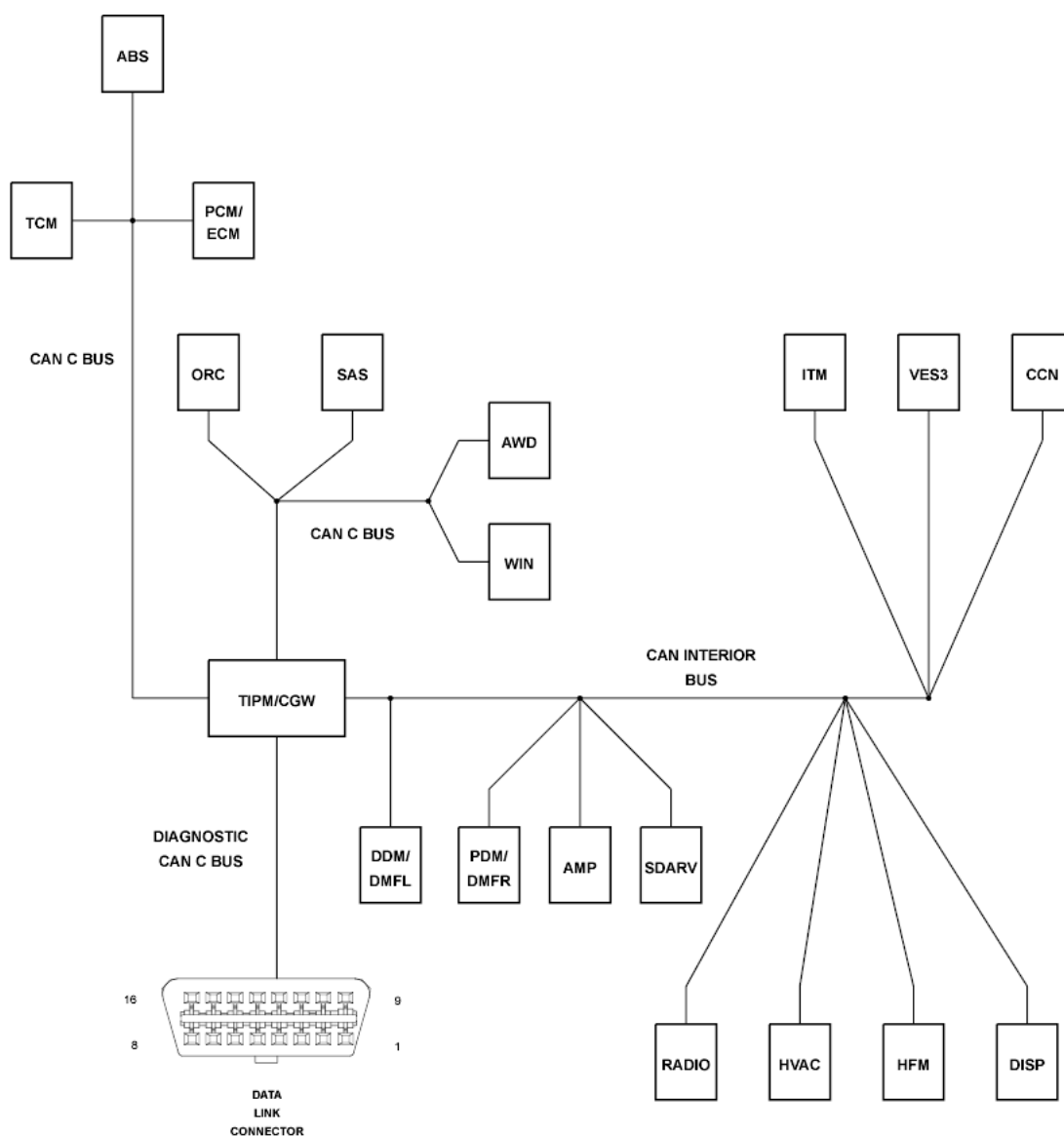
U0010-00-CAN INTERIOR BUS

Fig. 127: 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.

U0141-00-LOST COMMUNICATION WITH IPM (FCM/TIPM)

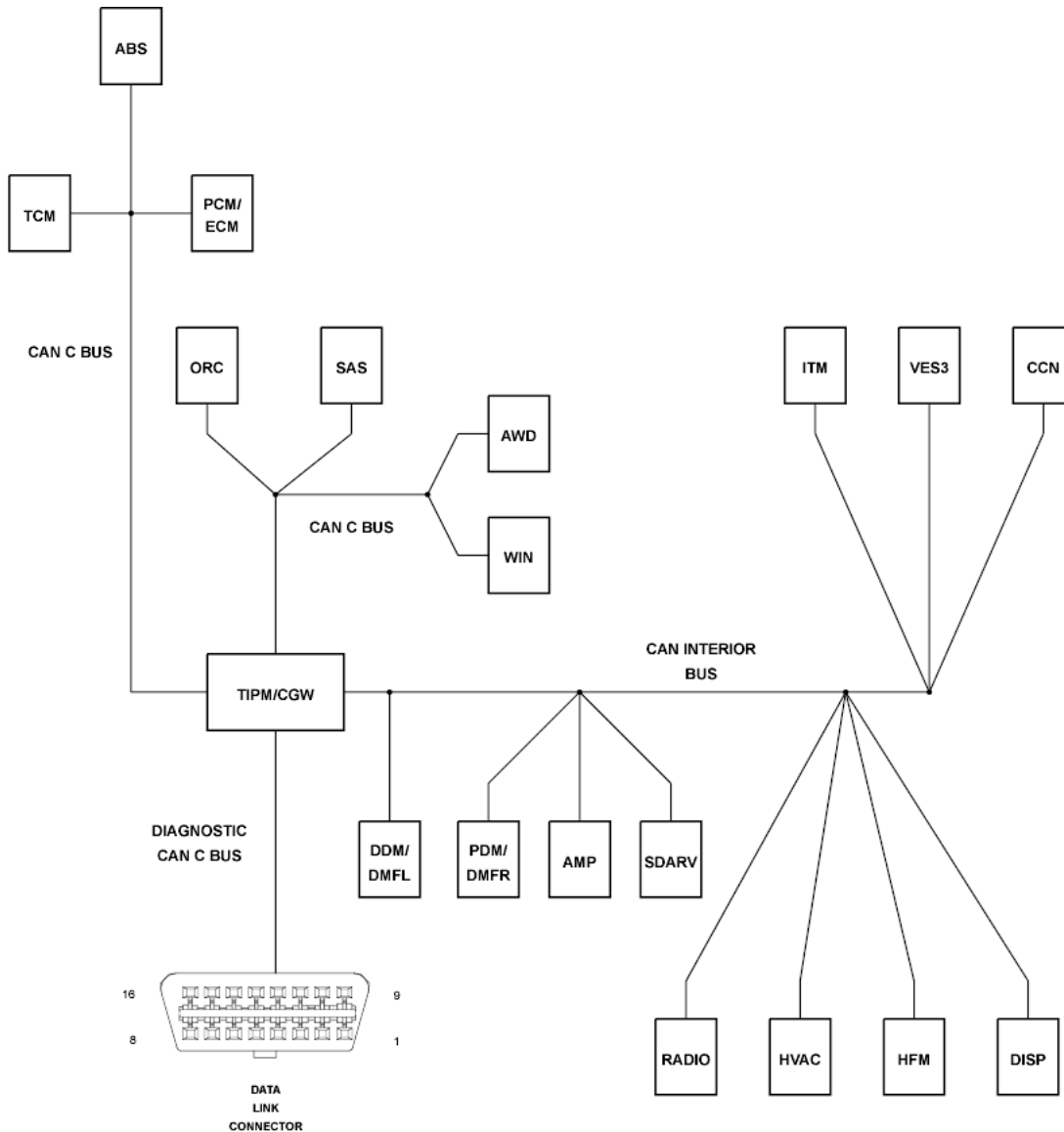


Fig. 128: CAN Interior Bus Circuit Schematic
Courtesy of CHRYSLER LLC

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.

1. 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.

U0155-00-LOST COMMUNICATION WITH CLUSTER/CCN

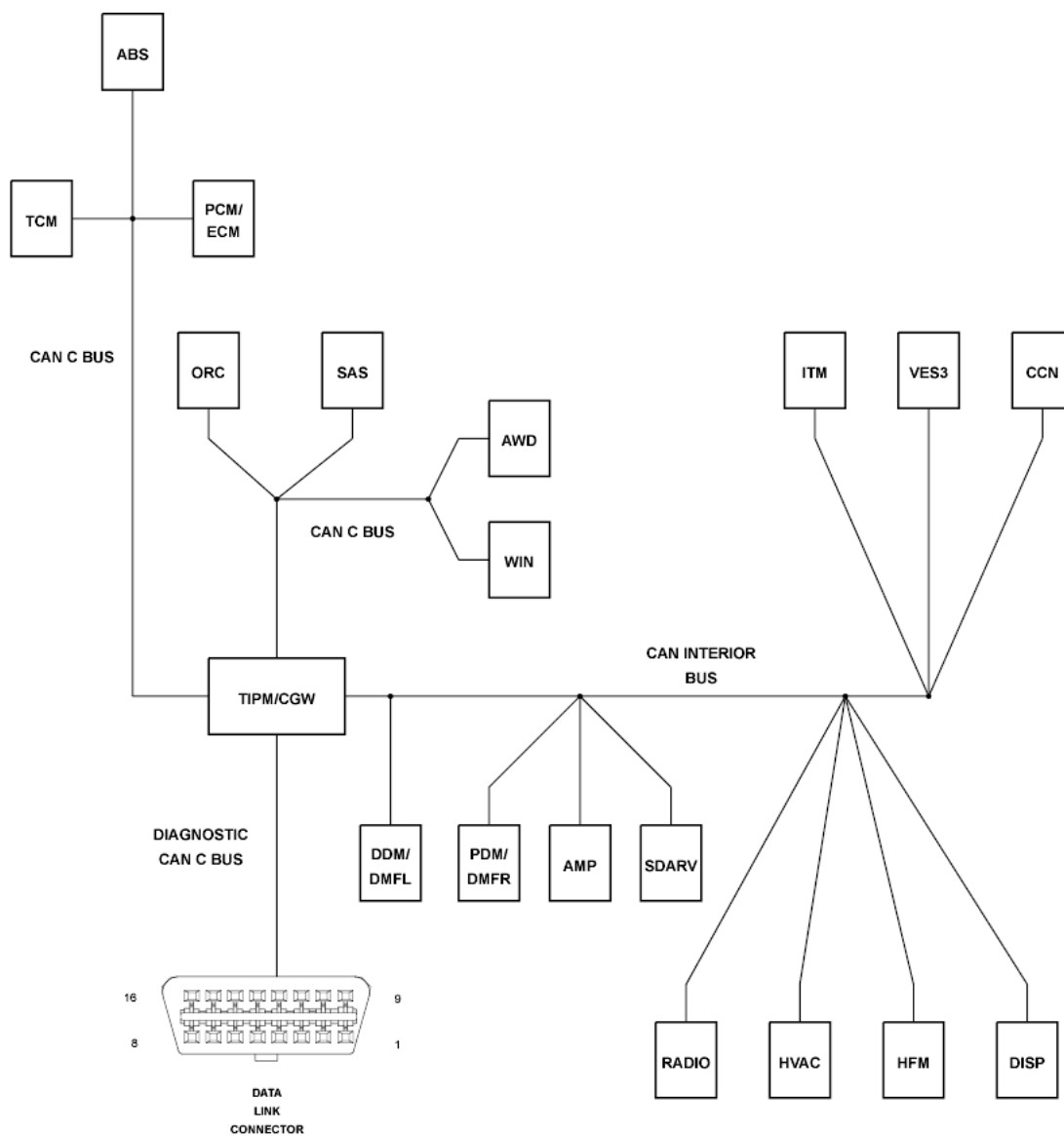


Fig. 129: CAN Interior Bus Circuit Schematic
 Courtesy of CHRYSLER LLC

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 **SYSTEM WIRING DIAGRAMS** 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.