

and rate of steering wheel input, and a yaw sensor, which measures the rate at which the vehicle is actually turning. By comparing rates, computer determines if the vehicle is oversteering or understeering.

NOTE: On slippery surfaces or during aggressive maneuvers, if the vehicle understeers severely, the computer will actuate the brakes on the inside rear wheel, just hard enough and just long enough to correct the steering behavior. When the vehicle oversteers severely, the system will brake the outside front wheel instead.

ELECTRONIC SUSPENSION SYSTEM

NOTE: (Typical) A semi-active suspension system which continuously adjusts damping levels according to road conditions and vehicle dynamics, (such as speed, turning and cornering, as well as driver inputs). An ECU processes driver inputs and data from sensors. The sensors include accelerometers mounted on the vehicle body and suspension position sensors, which feed steering wheel angle, vehicle speed, brake pressure and other chassis control data to the ECU. The ECU processes sensor data and sends signals which adjust the damping level of each shock.

FLEX COUPLERS

Condition	Code	Procedure
Attaching hardware broken	A	Require repair or replacement of hardware
Attaching hardware missing	C	Require replacement of hardware
Attaching hardware not functioning	A	Require repair or replacement of hardware
Attaching hardware threads damaged	A	Require repair or replacement of hardware
Attaching hardware threads stripped (threads missing)	A	Require replacement of hardware
Flex coupler binding	A	Require repair or replacement of coupler
Flex coupler loose	A	Require repair or replacement of coupler
Flex coupler missing parts	A	Require repair or replacement of coupler
Flex coupler soft/ spongy	A	Require replacement of coupler
Flex coupler tom	A	Require replacement of coupler
Steering coupler shield cracked	2	Suggest replacement
Steering coupler shield missing	C	Require replacement
Steering coupler shield torn	2	Suggest replacement
U-joint binding	A	Require repair or replacement of joint
U-joint loose	A	Require repair or replacement of joint

Possible Causes

CENTER I/P PANEL SPEAKER (+) CIRCUIT SHORTED TO THE CENTER I/P PANEL SPEAKER (-) CIRCUIT
CENTER I/P PANEL SPEAKER
AMPLIFIER

DIAGNOSTIC TEST

1. CHECK FOR AN INTERMITTENT CONDITION

1. Turn the ignition on.
2. With the scan tool, record and erase the Amplifier DTCs.
3. Cycle the ignition switch from on to off, wait five seconds and then back to on.
4. Turn the Radio on.
5. Adjust the speakers to the rear and center.
6. With the scan tool, read the active Amplifier DTCs.

Does the scan tool display active: B143C-2B-CHANNEL 10 AUDIO SPEAKER OUTPUT - CIRCUIT SHORTED TOGETHER?

Yes

- Go To 2

No

- Test complete, the condition or conditions that originally set this DTC are not present at this time. Using the wiring diagrams as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals and correct pin tension.
- Perform the BODY VERIFICATION TEST. Refer to **STANDARD PROCEDURE** .

2. CHECK THE OPERATION OF THE CENTER I/P PANEL SPEAKER

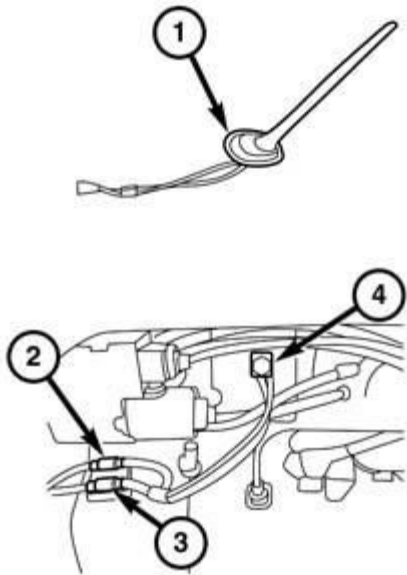
1. Turn the ignition off.
2. Disconnect the Center I/P Speaker.
3. Measure the resistance of the speaker between the two terminals.

Is the resistance of the speaker below 1.0 Ohm?

Yes

- Replace the Center I/P Speaker in accordance with the Service Information. Refer to **SPEAKER, REMOVAL** .
- Perform the BODY VERIFICATION TEST. Refer to **STANDARD PROCEDURE** .

No



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Fig. 5: Antenna, Connectors & Nut

Courtesy of CHRYSLER GROUP, LLC

1. Install the antenna (1) into the antenna mount opening on the roof.
2. Install the antenna mounting retaining nut (4) and securely tighten.
3. Connect the antenna wire harness connectors (2 and 3).
4. Install the headliner. Refer to **HEADLINER, INSTALLATION** .
5. Install the antenna mast.
6. Connect the negative battery cable.
7. Verify operation outside with a clear line of sight not obstructed by trees or buildings.

CAMERA

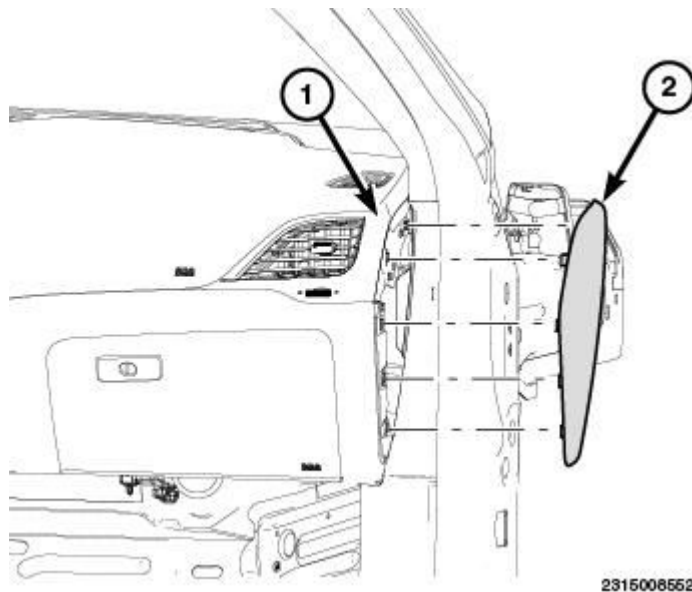
DESCRIPTION

DESCRIPTION

The Rear View Camera (RVC) (4) (also known as ParkView™), is a camera on chip device utilizing Complementary Metal Oxide Semiconductor (CMOS) technology. CMOS technology is used for a wide variety of digital or analog circuits. In this application, it supports the analog image sensor of the RVC. The RVC function is to provide a wide angle video image of the area behind the vehicle, including areas that might not be normally visible from the seated position of the vehicle operator, only while the transaxle gear selector is in the Reverse position or the camera delay is enabled and the gear selector goes from Reverse to Neutral or Drive. This video image then displays to the vehicle operator within the display screen of the audio system receiver unit near the center of the instrument panel. The image includes guideline overlay to aid operator the perception of distance. The active guidelines change direction with the steering wheel position to indicate the path of the

Fig. 358: Identifying Screws & Push Pin Fasteners
Courtesy of CHRYSLER GROUP, LLC

3. Install the screws (1) and install the push pin fasteners (2).



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Fig. 359: Identifying Instrument Panel & End Cap
Courtesy of CHRYSLER GROUP, LLC

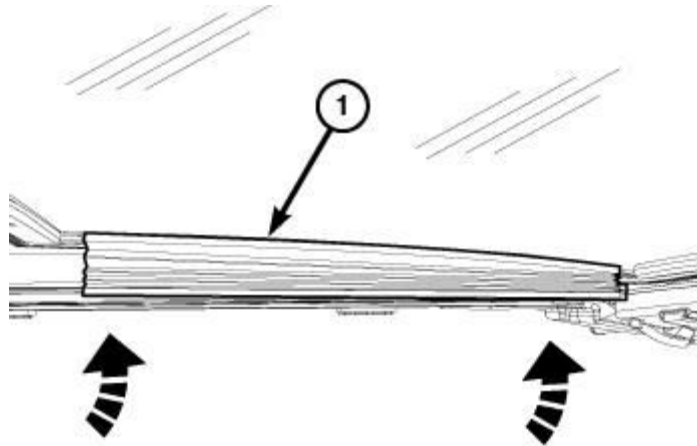
NOTE: Passenger side end cap shown (2), driver side similar.

4. Install the end cap (2) and seat the retaining clips fully.

GLOVE BOX, INSTRUMENT PANEL

REMOVAL

REMOVAL



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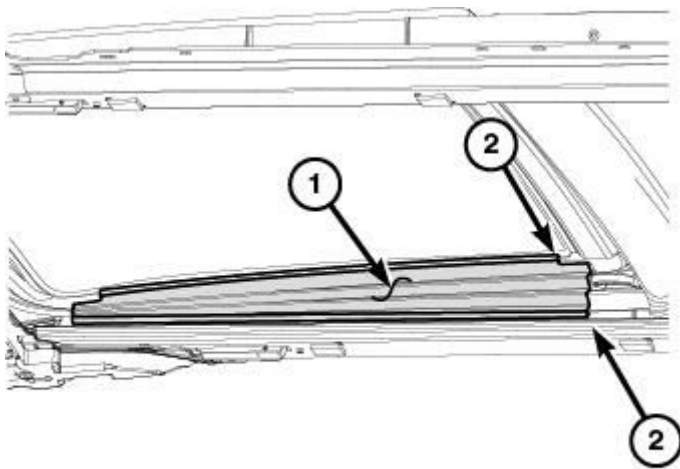
Fig. 783: Mechanism Covers
Courtesy of CHRYSLER GROUP, LLC

19. Position the mechanism covers (1) over the glass tabs between the locating features and seat fully.
20. Initialize sunroof motor. Refer to **SUNROOF, DUAL PANE, STANDARD PROCEDURE**.
21. Verify sunroof operation and alignment.

TROUGH, SUNROOF

REMOVAL

REMOVAL



2321010085

Fig. 784: Identifying Sunroof Mechanism Cover & Mounting Flanges
Courtesy of CHRYSLER GROUP, LLC

The Body Control Module (BCM) detects the Ambient Air Temperature Sensor input voltage is below the minimum acceptable value.

POSSIBLE CAUSES

Possible Causes
(G31) AAT SENSOR SIGNAL CIRCUIT SHORTED TO GROUND
(G31) AAT SENSOR SIGNAL CIRCUIT SHORTED TO THE (G931) SENSOR RETURN CIRCUIT
AMBIENT AIR TEMPERATURE (AAT) SENSOR
BODY CONTROL MODULE (BCM)

DIAGNOSTIC TEST

1. VERIFY THE DTC IS ACTIVE

1. Turn the ignition on.
2. With the scan tool, read DTCs.

Does the scan tool display this DTC as active?

Yes

- Go To 2

No

- Test complete. The condition or conditions that originally set this DTC are not present at this time. Using the wiring diagrams as a guide, check all related splices and connectors for signs of water intrusion, corrosion, pushed out or bent terminals and correct pin tension.
- Perform the BODY VERIFICATION TEST. Refer to **STANDARD PROCEDURE** .

2. CHECK THE AMBIENT AIR TEMPERATURE SENSOR

1. Turn the ignition off.
2. Disconnect the Ambient Air Temperature Sensor harness connector.
3. Turn the ignition on.
4. With the scan tool, read the DTCs.

Does the scan tool display DTC: P0070-15-AMBIENT AIR TEMPERATURE SENSOR CIRCUIT - CIRCUIT SHORT TO BATTERY OR OPEN?

Yes

- Verify there is good pin to terminal contact in the AAT Sensor and BCM harness connectors. Replace the Ambient Temperature Sensor if no problems were found with the connectors in accordance with the Service Information. Refer to **SENSOR, AMBIENT TEMPERATURE, REMOVAL** .

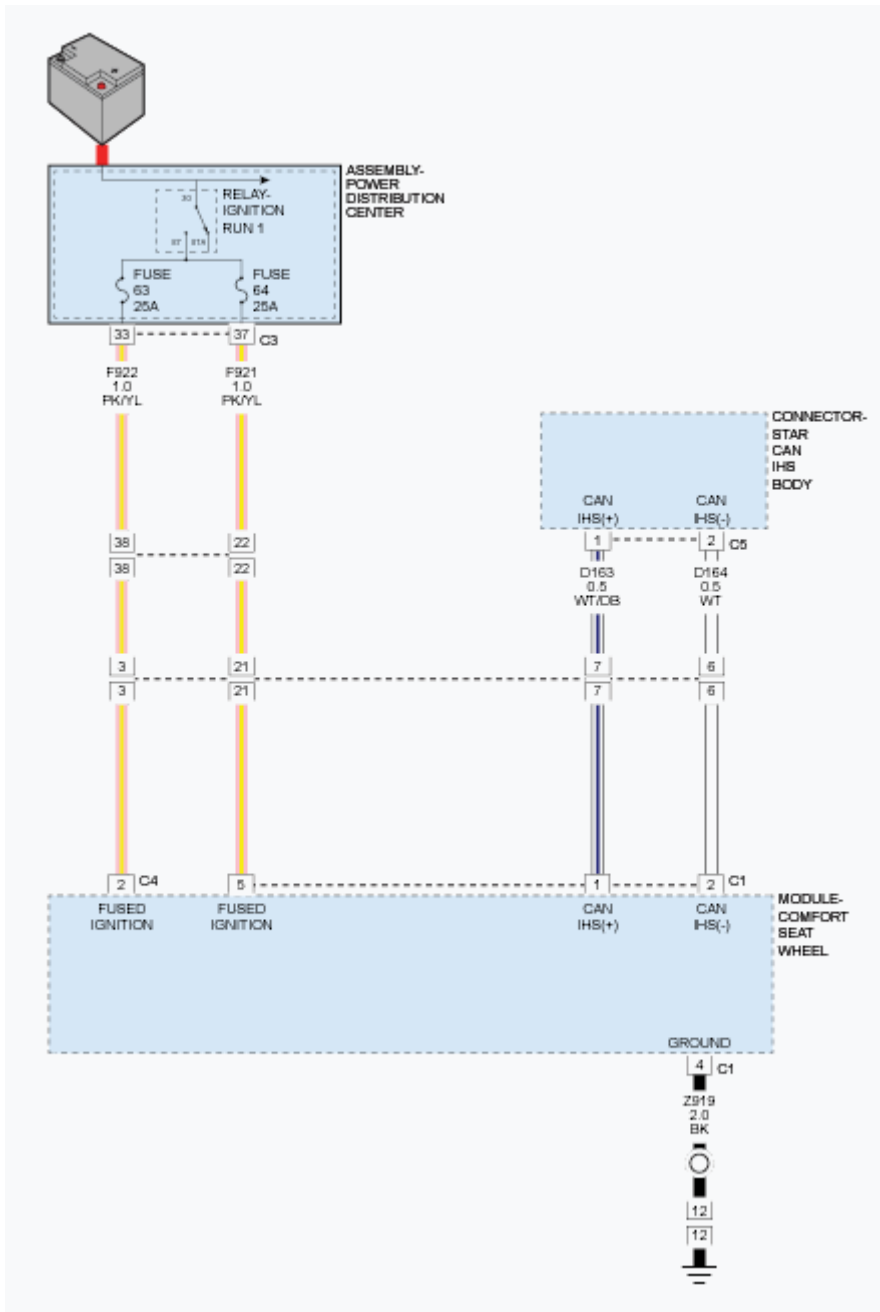


Fig. 23: CSWM CAN IHS, Fused Ignition & Ground Circuit Diagram
 Courtesy of CHRYSLER GROUP, LLC

WHEN MONITORED

With the engine running.

SET CONDITION

If the Comfort Seat Wheel Module (CSWM) detects a voltage above 16.0 volts on the Fused Ignition Run

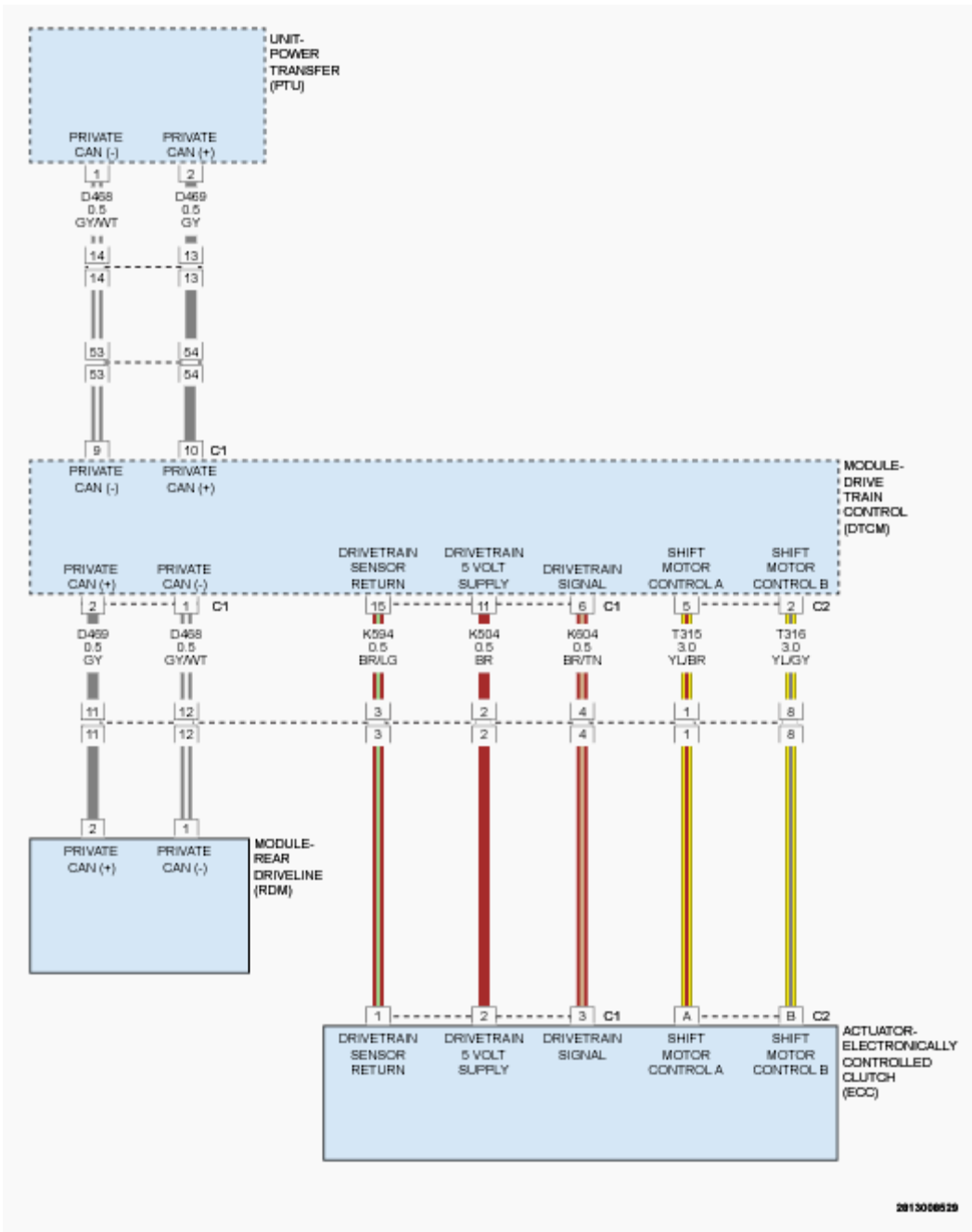


Fig. 3: Transfer Case Motor Circuit Diagram
 Courtesy of CHRYSLER GROUP, LLC

WHEN MONITORED

With the ignition on and no system undervoltage or overvoltage condition present.

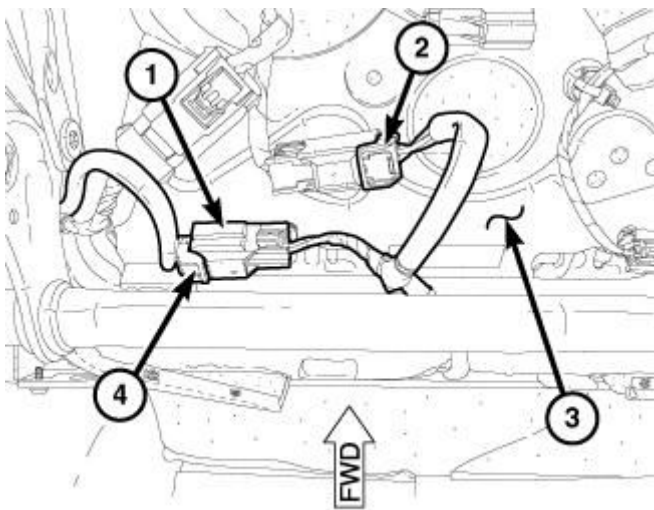
SET CONDITION

The Drive Train Control Module (DTCM) detects an open circuit on one of the Electronically Controlled Clutch

WARNING: To avoid serious or fatal injury on vehicles equipped with airbags, disable the Supplemental Restraint System (SRS) before attempting any steering wheel, steering column, airbag, seat belt tensioner, impact sensor or instrument panel component diagnosis or service. Disconnect and isolate the battery negative (ground) cable, then wait two minutes for the system capacitor to discharge before performing further diagnosis or service. This is the only sure way to disable the SRS. Failure to take the proper precautions could result in accidental airbag deployment.

NOTE: LHD passenger seat shown in illustrations, RHD and driver seat similar.

SEAT BOTTOM CUSHION MOTOR



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Fig. 11: Heated Seat Pad Electrical Connectors, Seat Cushion Pan & Heated Seat Pad Electrical Connector

Courtesy of CHRYSLER GROUP, LLC

1. Disconnect and isolate the negative battery cable.
2. Remove the appropriate seat and place it on a workbench. Refer to **SEAT, REMOVAL** .
3. Disconnect the heated seat pad electrical connectors (2 and 4) located on the seat cushion pan (3).
4. Disengage the heated seat pad electrical connector (1) from the seat cushion pan.

- Go To 5

5. CHECK THE (D708) PARK ASSIST SENSOR 5 SIGNAL CIRCUIT FOR AN OPEN

1. Measure the resistance of the (D708) Park Assist Sensor 5 Signal circuit.

Is the resistance above 5.0 Ohms?

Yes

- Repair the (D708) Park Assist Sensor 5 Signal circuit for an open.
- Perform the BODY VERIFICATION TEST. Refer to **STANDARD PROCEDURE** .

No

- Replace the Park Assist Module in accordance with Service Information. Refer to **MODULE, PARK ASSIST, REMOVAL** .
- Perform the BODY VERIFICATION TEST. Refer to **STANDARD PROCEDURE** .

B1293-11-PTS SENSOR 6 - CIRCUIT SHORT TO GROUND

For a complete wiring diagram, refer to appropriate **SYSTEM WIRING DIAGRAMS** article .

1. While back probing, measure the voltage between ground and the (Q204) Position Sensor Signal 1 circuit in the Power Liftgate Drive Unit harness connector.

NOTE: **The graphic shows the terminal end of the connector, back probe the wire end.**

2. Slowly lower and raise the liftgate while observing the voltmeter.

Does the voltage change from approximately 0.0 volts to 4.7 volts as the liftgate is moved?

Yes

- Test complete.
- Perform the BODY VERIFICATION TEST. Refer to **BODY VERIFICATION TEST** .

No

- Replace the Power Liftgate Drive Unit in accordance with the Service Information. Refer to **DRIVE UNIT, POWER, REMOVAL** .
- Perform the BODY VERIFICATION TEST. Refer to **BODY VERIFICATION TEST** .

B1886-11-LIFTGATE PINCH SENSOR - CIRCUIT SHORT TO GROUND

For a complete wiring diagram, refer to appropriate **SYSTEM WIRING DIAGRAMS** article .

2014 Jeep Cherokee Latitude

2014 ACCESSORIES AND EQUIPMENT Radio Frequency (RF Hub) Module - Electrical Diagnostics - Cherokee

Each antenna unit has two dedicated connections to the RF Hub. One connection is the LF antenna output circuit, while the other connection is the LF antenna return circuit. These circuits to each antenna unit are a twisted pair to help reduce the potential for induced electrical interference. The RF Hub microcontroller monitors all of the antenna units and will store a Diagnostic Trouble Code (DTC) for any fault that it detects.

The hard wired inputs and outputs of the antenna units may be diagnosed using conventional diagnostic tools and procedures. Refer to the appropriate wiring information. However, the most reliable, efficient, and accurate means to diagnose the antenna units requires the use of a diagnostic scan tool. Refer to the appropriate diagnostic information.

WHEN MONITORED

At every Passive Entry or Keyless Go action.

SET CONDITION

When Antenna 4 Signal Circuit is Open and there are no other Antennas that have a Short to Battery or Short to Ground DTC.

POSSIBLE CAUSES

Possible Causes
(D926) PASSIVE ENTRY ANTENNA 4 SIGNAL CIRCUIT OPEN
(D927) PASSIVE ENTRY ANTENNA 4 RETURN CIRCUIT OPEN
(D926) PASSIVE ENTRY ANTENNA 4 SIGNAL CIRCUIT SHORTED TO THE (D927) PASSIVE ENTRY ANTENNA 4 RETURN CIRCUIT
PASSIVE ENTRY ANTENNA
RADIO FREQUENCY HUB (RF HUB) MODULE

DIAGNOSTIC TEST

1. TEST FOR INTERMITTENT CONDITION

NOTE: Verify that the vehicle's battery is fully charged with a DVOM and use the scan tool to compare the Battery Voltage listed under "Data" in the RFH View to that of the BCM. If the vehicle's battery is not fully charged, correct this condition before proceeding.

1. Cycle the ignition on.
2. Using the scan tool, record and erase the DTCs.
3. With the scan tool, select: RF Hub, More Options and System Tests.
4. Perform the RF Hub LF Antenna Verification Tests. Refer to **STANDARD PROCEDURE**.
5. With the scan tool, read the Active DTCs.

Does the scan tool display: B1A74-13-PASSIVE ENTRY ANTENNA 4 - CIRCUIT OPEN as

40. Place the shift cable (2) in position on the mount bracket (2).
41. Press the shift cable housing (2) into the mount bracket (1) on the transmission.



Fig. 223: View Of Ground Cable & Shift Cable
Courtesy of CHRYSLER GROUP, LLC

42. Snap the shift cable end (2) in position on the manual lever on the transmission.



Fig. 224: Ground Cable At Top Transmission
Courtesy of CHRYSLER GROUP, LLC

43. Place the ground cable (1) in position on the transmission.

Yes

NOTE: If this Electronic Control Unit (ECU) is being replaced with a new unit, a diagnostic scan tool **MUST** be used to align the PROXI configuration data into the new ECU. Follow the routine outlined in the diagnostic scan tool for PROXI Configuration Alignment under Body Control Module (BCM) Miscellaneous Functions menu.

- Using the schematics as a guide, check the Transmission Control Module (TCM) terminals and connectors for corrosion, damage or pushed out terminals. Pay particular attention to the power and ground circuits. If no problems are found, replace the TCM and perform programming and PROXI Configuration Alignment procedures. Refer to **MODULE, TRANSMISSION CONTROL, REMOVAL** .
- Perform the Transmission Verification Test. Refer to **STANDARD PROCEDURE** .

No

- Go to 2

2. CHECK 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. Wiggle the wires while checking for shorted and open circuits.
4. Check for any Service Bulletins that may apply.

Were there any problems found?

Yes

- Repair as necessary.
- Perform the Transmission Verification Test. Refer to **STANDARD PROCEDURE** .

No

- Test complete.

P1DDC-00-TCM MONITORING PROCESSOR PERFORMANCE UNALLOWED REVERSE ENGAGEMENT

For a complete wiring diagram, refer to appropriate **SYSTEM WIRING DIAGRAMS** article .

THEORY OF OPERATION

The monitoring of the pressure regulator and solenoid logic is used to detect a failure in the activation of the pressure regulators and solenoids. The pressure regulators are used to control the pressure to the clutches and the solenoids are used to activate the pressure to the park lock and to the position valve. The commanded

If the A/C Heater Control Module detects the Cabin Heater Relay 1 Control circuit is shorted to ground.

POSSIBLE CAUSES

Possible Causes
CABIN HEATER RELAY 1 CONTROL CIRCUIT SHORTED TO GROUND
CABIN HEATER 1 RELAY
A/C HEATER CONTROL MODULE

DIAGNOSTIC TEST

1. VERIFY THAT THE DTC IS ACTIVE

1. Turn the ignition on.
2. With the scan tool, erase DTCs.
3. With the scan tool, actuate the Cabin Heater 1 Relay.
4. Monitor the scan tool for at least two minutes.
5. With the scan tool, read DTCs.

Is this DTC active?

Yes

- Go To 2

No

- The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.
- Perform the HVAC VERIFICATION TEST. Refer to **STANDARD PROCEDURE**.

2. CHECK CABIN HEATER RELAY 1 OUTPUT CIRCUIT FOR SHORT TO GROUND

1. Turn the ignition off.
2. Disconnect the A/C Heater Control C1 harness connector.
3. Remove the Cabin Heater Relay 1.
4. Using an ohm meter measure the resistance between the Cabin Heater Relay 1 Output circuit and ground.

Does the ohm meter read open circuit?

Yes

- Go To 3