

2008 Dodge Avenger SE

2008 ENGINE 2.4L (GPEC) - Service Information - Avenger & Sebring

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DESCRIPTION

NOTE: Vehicle is equipped with at Global Powertrain Engine Controller (GPEC).

2.4L ENGINE

The 2.4 Liter (148 cu. in.) in-line four cylinder engine is a double over head camshaft design with mechanical lash tappets and four valves per cylinder design. This engine is NOT free-wheeling; meaning that the pistons will contact the valves in the event of a timing chain failure.

The cylinders are numbered from front of the engine to the rear. The firing order is 1-3-4-2.

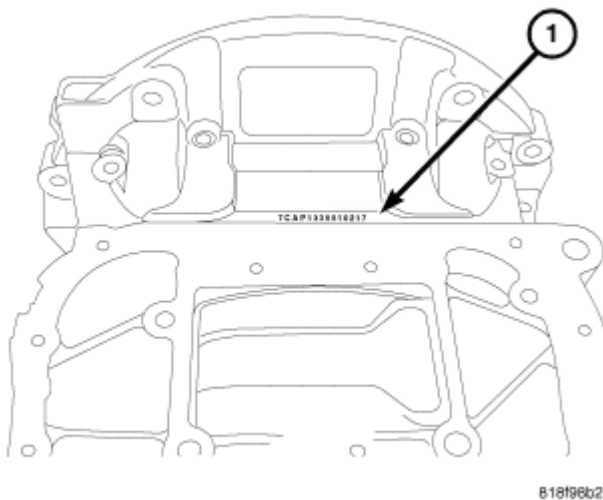


Fig. 1: Locating Engine Serial Number
Courtesy of CHRYSLER LLC

The engine serial number (1) is located on the rear of the cylinder block behind the oil pan. The serial number is visible with the oil pan in place. The serial number contains engine build date information.

DIAGNOSIS AND TESTING

CYLINDER COMBUSTION PRESSURE LEAKAGE TEST

The combustion pressure leakage test provides an accurate means for determining engine condition.

Combustion pressure leakage testing will detect:

Exhaust and intake valve leaks (improper seating).

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2008 ENGINE 2.7L (NGC) - Service Information - Avenger & Sebring

	3. Thin or diluted oil. 4. Thick oil (b.) Run engine to operating temperature. (c.) Change oil and filter again. 4. Excessive bearing clearance. 5. Excessive end play. 6. Crankshaft journal out-of-round or worn. 7. Loose flywheel or torque converter.	- oil pump relief valve and spring. 3. Change oil to correct viscosity. 3. (a.) Change oil and filter. 4. Measure bearings for correct clearance. Repair as necessary. 5. Check thrust bearing for wear on flanges. 6. Replace crankshaft or grind journals. 7. Tighten to correct torque.
OIL PRESSURE DROP	1. Low oil level. 2. Faulty oil pressure sending unit. 3. Low oil pressure. 4. Clogged oil filter. 5. Worn parts in oil pump. 6. Thin or diluted oil. 7. Oil pump relief valve stuck. 8. Oil pump suction tube loose. 9. Oil pump cover warped or cracked. 10. Excessive bearing clearance.	1. Check engine oil level. 2. Install new sending unit. 3. Check sending unit and main bearing oil clearance. 4. Install new oil filter. 5. Replace worn parts or pump. 6. Change oil to correct viscosity. 7. Remove valve and inspect, clean, or replace. 8. Remove oil pan and install new tube or clean, if necessary. 9. Install new oil pump. 10. Measure bearings for correct clearance.
OIL LEAKS	1. Misaligned or deteriorated gaskets. 2. Loose fastener, broken or porous metal part. 3. Misaligned or deteriorated cup or threaded plug.	1. Replace gasket(s). 2. Tighten, repair or replace the part. 3. Replace as necessary.
OIL CONSUMPTION OR SPARK PLUGS FOULED	1. PCV system malfunction. 2. Worn, scuffed or broken rings. 3. Carbon in oil ring slots. 4. Rings fitted too tightly in grooves.	1. Check system and repair as necessary. (Refer to Appropriate Diagnostic Article) 2. Hone cylinder bores. Install new rings. 3. Clean pistons and install new rings. 4. Remove rings and check grooves. If groove is not proper

INSTALLATION

LEFT MOUNT

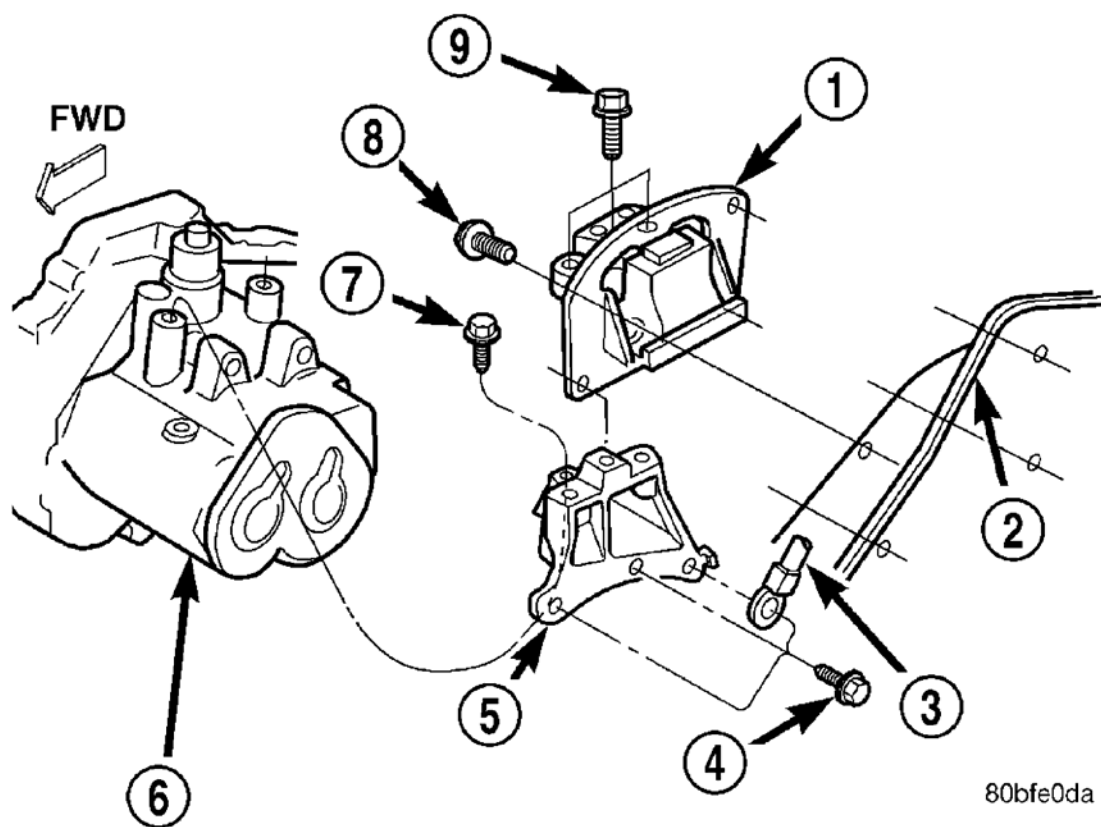


Fig. 221: Left Side Mount - Typical
Courtesy of CHRYSLER LLC

- 1 - TRANSMISSION SUPPORT ASSEMBLY
- 2 - LEFT FRAME RAIL
- 3 - GROUND CABLE
- 4 - BOLT (D)
- 5 - TRANSMISSION BRACKET
- 6 - TRANSMISSION
- 7 - BOLT (C)
- 8 - BOLT (B)
- 9 - BOLT (A)

1. Position mount to frame rail. Install mount to frame rail fasteners (8). Torque fasteners to 33 N.m (24 ft. lbs.).
2. Raise transmission into position with floor jack.

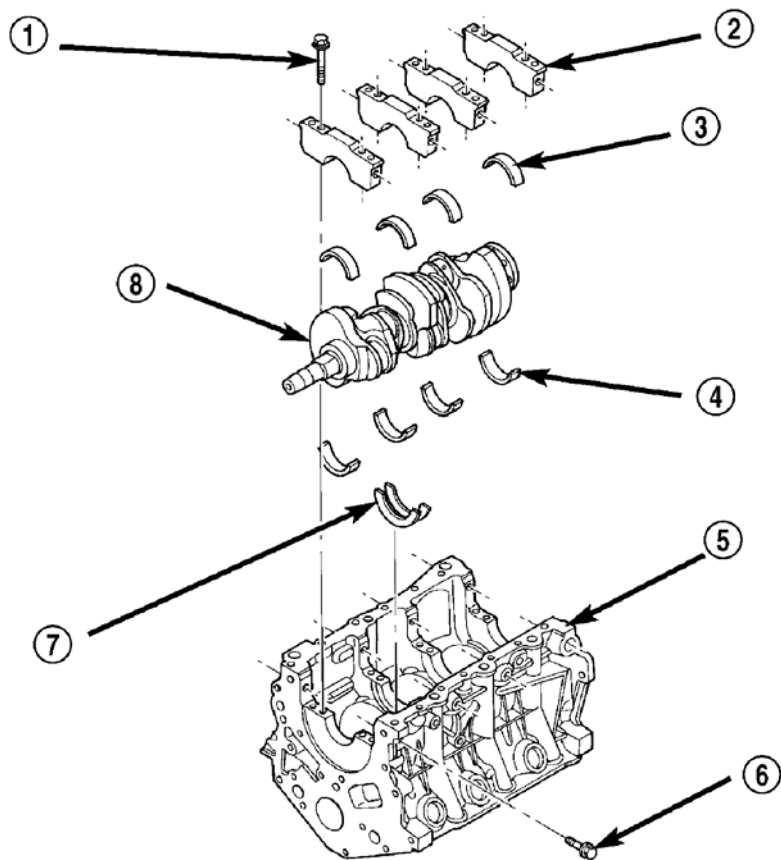
on the right cylinder head exhaust valves.

3. Compress valve spring using Special Tool MD 998772A (1) with Adapter 6527 (4), only enough to install locks (5).
4. After installing locks, release tension on valve spring and verify proper installation.
5. Remove Special Tool MD 998772A (1) and spark plug adapter tool.
6. Install rocker arm and shaft assembly. See **INSTALLATION**.
7. Install cylinder head cover(s). See **INSTALLATION**.
8. Install spark plugs.
9. Install upper intake manifold. See **INSTALLATION**.
10. Connect negative battery cable.

ENGINE BLOCK

DESCRIPTION

ENGINE BLOCK



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2008 BRAKES ABS - Electrical Diagnostics - Avenger & Sebring

Perform **ABS VERIFICATION TEST**.

No

Go To 4.

4. CHECK AXLE SHAFT FASTENER HARDWARE FOR LOOSENESS

Inspect the axle shaft fastener for looseness, and not properly fastened. Tighten fastener to proper specification as required.

Was the Axle Shaft fastener loose?

Yes

Repair as necessary.

No

Go To 5.

5. CHECK THE RIGHT REAR TONE WHEEL FOR DAMAGE

NOTE: Check the tone wheel teeth for missing teeth, cracks, or looseness. Teeth should be perfectly square, not bent, or nicked.

Check the Right Rear Tone Wheel for damage.

Check the Right Rear Tone Wheel for dirt.

Was the tone wheel dirty?

Yes

Clean tone wheel and sensor. Clear codes and retest.

Perform **ABS VERIFICATION TEST**.

No

Replace the Right Rear Tone Wheel in accordance with the Service Information.

Perform **ABS VERIFICATION TEST**.

C1046-LEFT FRONT WHEEL PRESSURE PHASE MONITORING

For complete wiring diagrams refer to:

SYSTEM WIRING DIAGRAMS for Avenger.

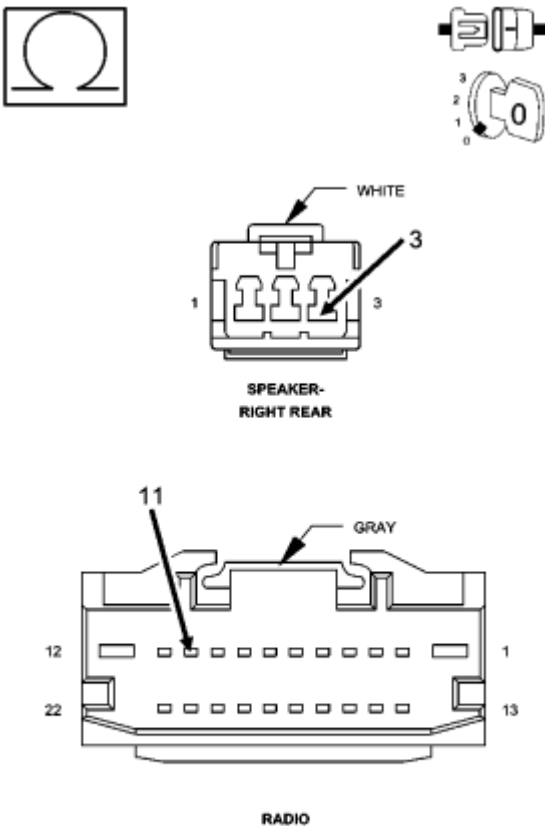
Go To 3.

No

Repair the (X304) Right Rear Speaker (+) circuit for an open condition.

Perform **BODY VERIFICATION TEST - VER 1**.

3. (X394) RIGHT REAR SPEAKER (-) CIRCUIT OPEN



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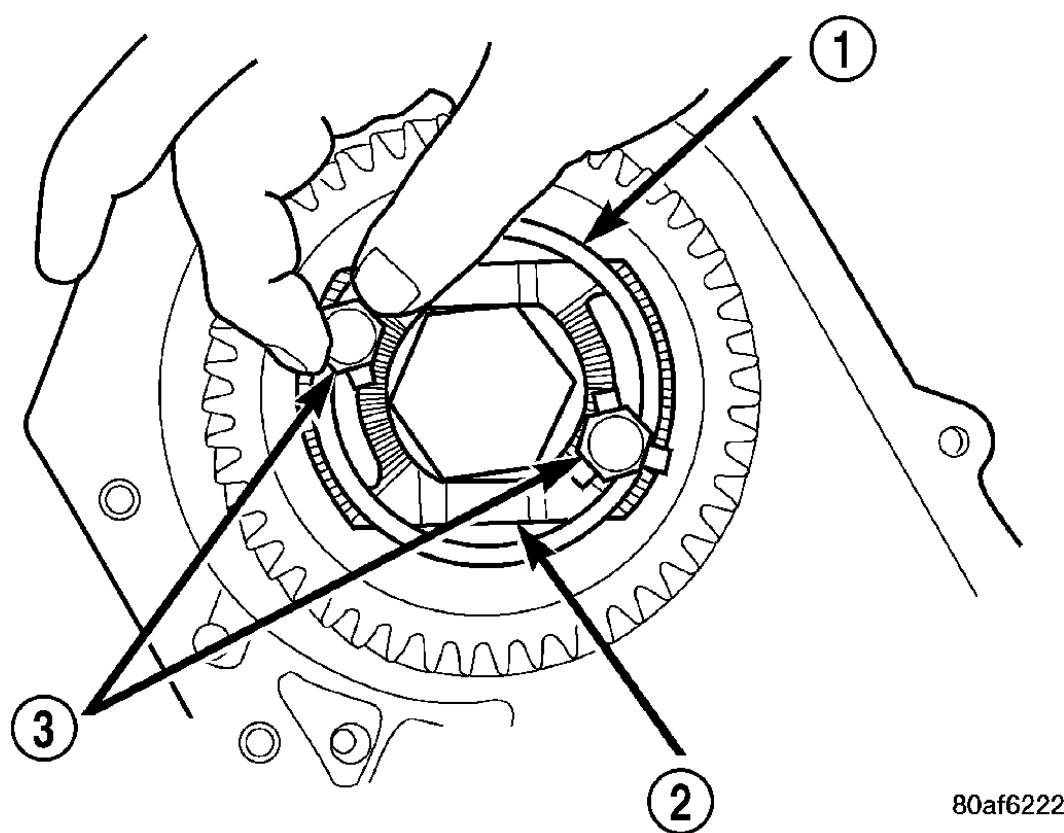
Fig. 36: Measuring Resistance Of Right Rear Speaker (-) Circuit
Courtesy of CHRYSLER LLC

Measure the resistance of the (X394) Right Rear Speaker (-) circuit between the Radio and the Speaker.

Is the resistance below 5.0 ohms for each circuit?

Yes

Go To 4.



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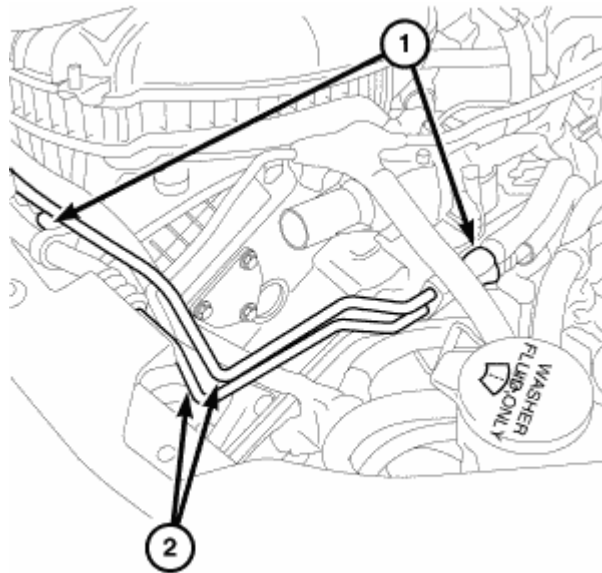
Fig. 167: Removing/Installing Strap Bolts
Courtesy of CHRYSLER LLC

1 - RETAINING STRAP
2 - STIRRUP
3 - RETAINING STRAP BOLTS

49. Install retaining strap (1).
50. Install strap bolts (3) but do not tighten at this time.

Courtesy of CHRYSLER LLC

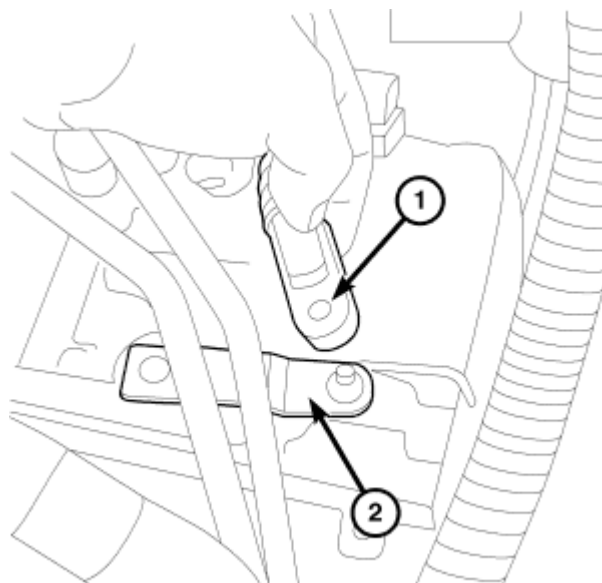
5. Drain the radiator. Refer to **STANDARD PROCEDURE** .
6. Remove clamps (1) at the upper radiator hose (2).
7. Remove the upper radiator hose. Refer to **STANDARD PROCEDURE** .



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Fig. 608: Power Steering Lines And Bolts
Courtesy of CHRYSLER LLC

8. Remove the bolts (1) holding the power steering lines (2).



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Fig. 609: Gearshift Cable And Transaxle Manual Valve Lever
Courtesy of CHRYSLER LLC

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2008 ACCESSORIES & EQUIPMENT Body - Avenger & Sebring

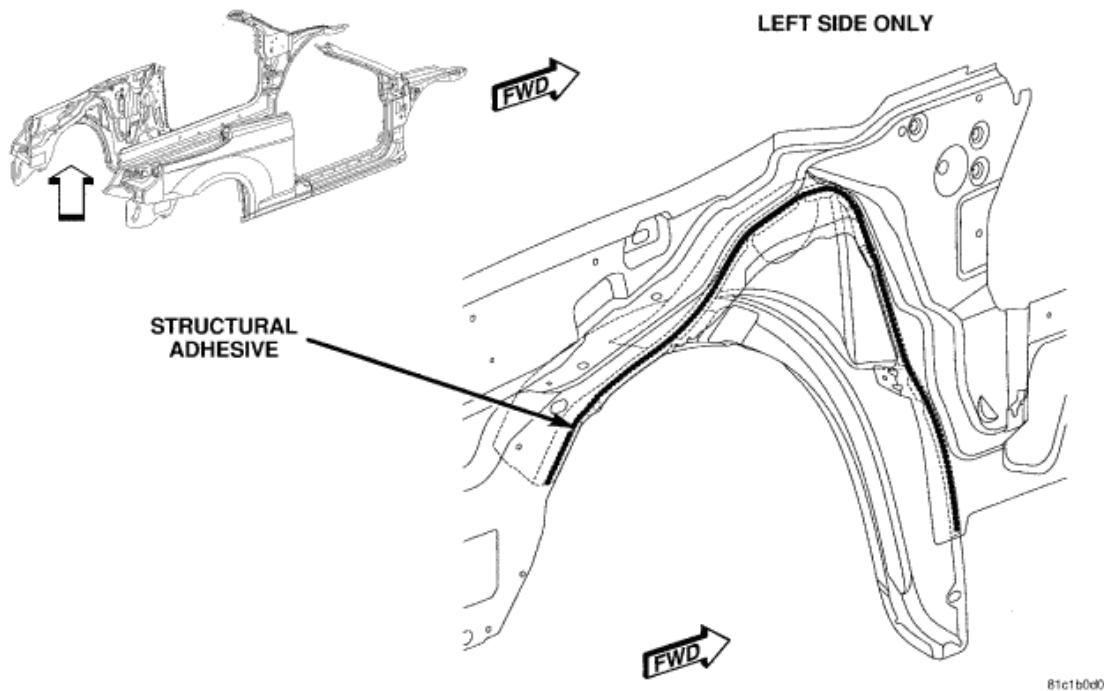


Fig. 562: BODY SIDE APERTURE COMPLETE (1 OF 2)
Courtesy of CHRYSLER LLC

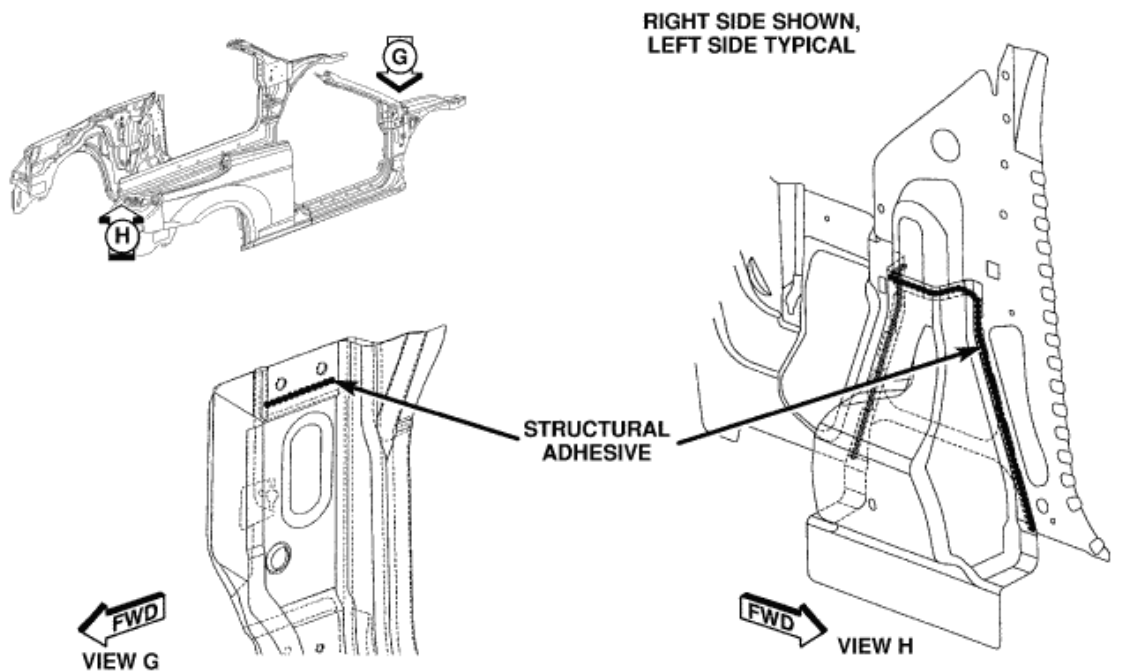
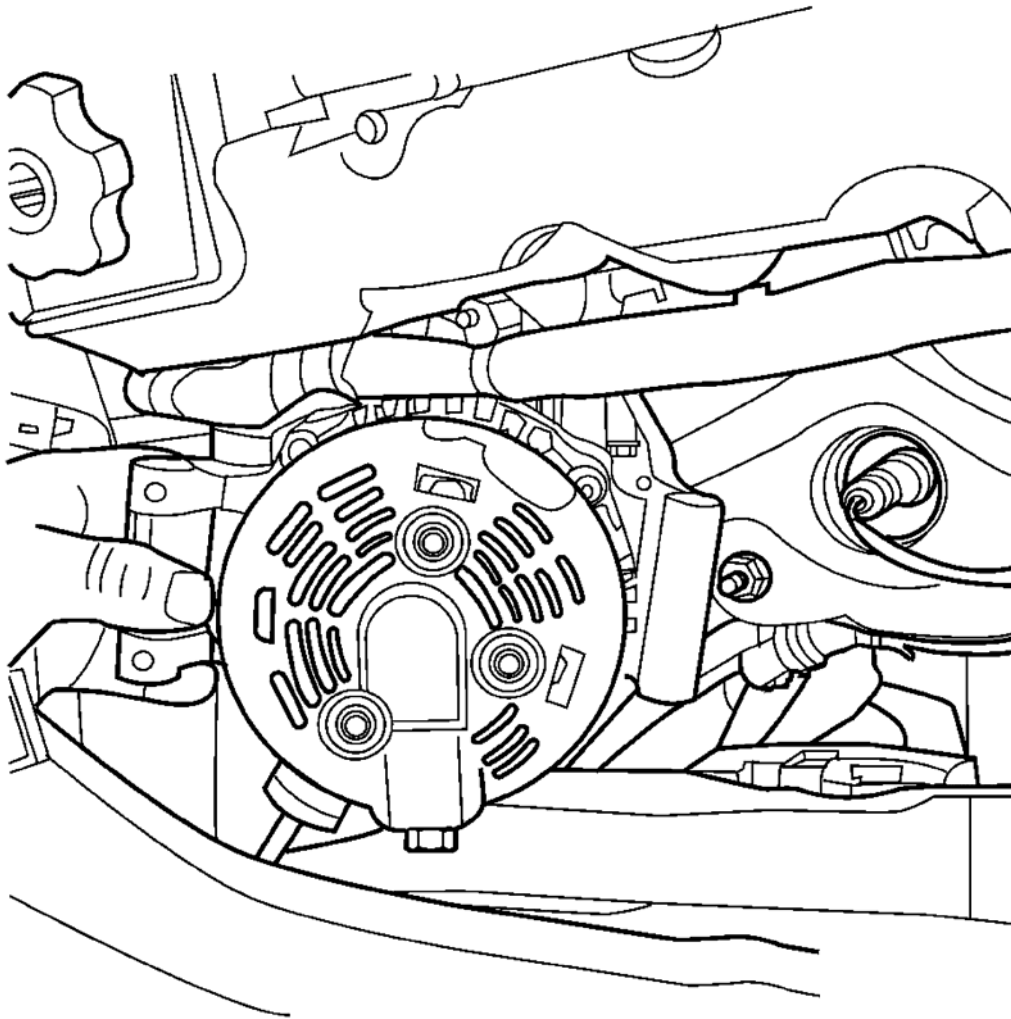


Fig. 563: BODY SIDE APERTURE COMPLETE (2 OF 2)
Courtesy of CHRYSLER LLC



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Fig. 40: Generator

Courtesy of CHRYSLER LLC

1. Install generator.
2. Install the 2 upper bolts but do not tighten.
3. Install the engine dip stick tube.
4. Connect the A/C pressure switch and A/C clutch electrical connectors.

attached to the air pump. A heat shield is attached at the air pump mounting bracket to ensure that the air pump is not damaged by heat coming off the exhaust system.

OPERATION

The electric air pump only functions during cold starts. The PCM will not command the electric air pump to run if the engine coolant temperature is more than 10°Celsius (50°Fahrenheit) than ambient temperature, and when the coolant temperature is greater than 37°Celsius (98.6°Fahrenheit). The amount of time the pump will run is based on the amount of air flowing into the system. The amount of air flowing into the system is measured by a mass air flow sensor located at the air inlet tube. The maximum time the electric air pump will run is for 18 seconds.

REMOVAL

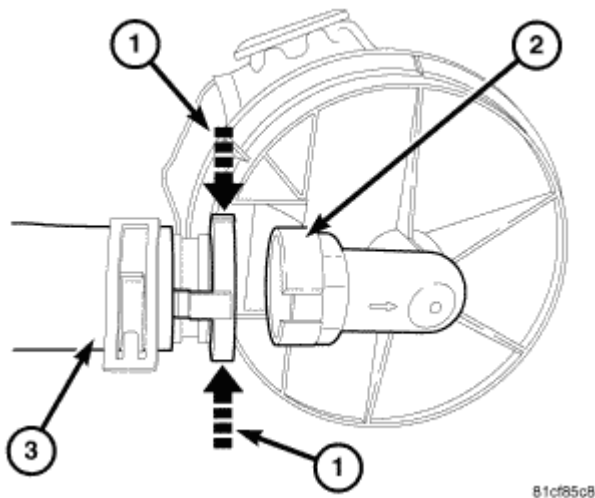


Fig. 2: AIR INLET TUBE AT AIR PUMP

Courtesy of CHRYSLER LLC

1. Disconnect and isolate negative battery cable at battery.
2. Remove air inlet tube (3) by pushing the ends (1) together, while pulling the air inlet tube (3) away from air pump housing connection (2).

Fig. 37: Fuel Line Connection
Courtesy of CHRYSLER LLC

4. Fuel line removed from the fuel rail.

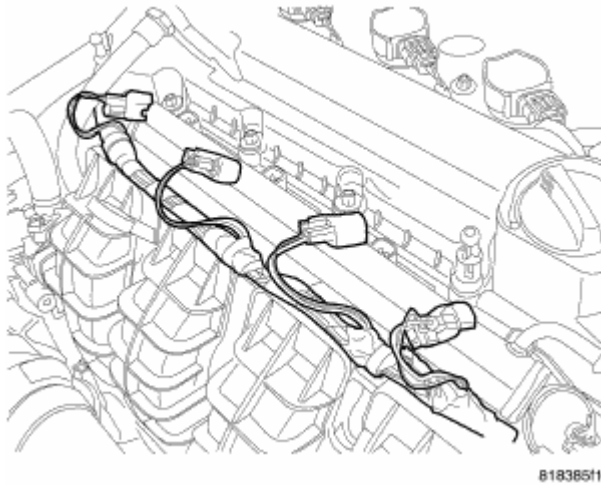


Fig. 38: Electrical Connectors
Courtesy of CHRYSLER LLC

5. Unlock and disconnect the electrical connectors from the fuel injectors.

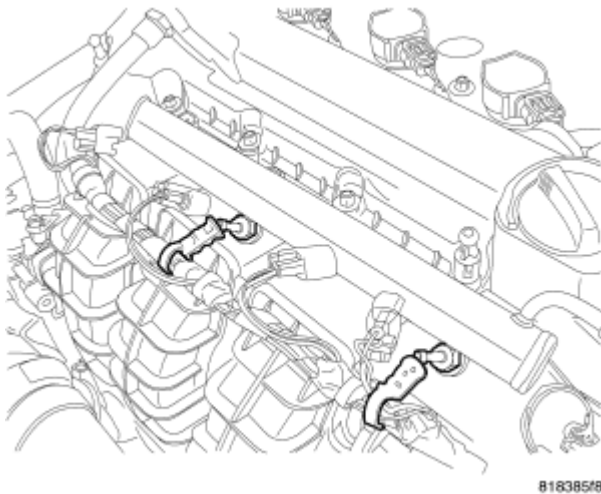


Fig. 39: Harness Clips
Courtesy of CHRYSLER LLC

6. Remove the wiring harness from the fuel rail studs.

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2008 HVAC Heating & Air Conditioning - Service Information - Avenger & Sebring

reduce the current flow through the blower motor to change the blower motor speed.

The blower motor control for the heating-A/C system directs the ground path for the blower motor through the correct resistor to obtain the selected speed. With the blower motor control in the lowest speed position, the ground path for the blower motor is applied through all of the resistors. Each higher speed selected with the blower motor control applies the blower motor ground path through fewer of the resistors, increasing the blower motor speed. When the blower motor control is in the highest speed position, the blower motor resistor is bypassed and the blower motor receives a direct path to ground.

The blower motor resistor cannot be adjusted or repaired and it must be replaced if found inoperative or damaged.

DIAGNOSIS AND TESTING

RESISTOR-BLOWER MOTOR

WARNING: Disable the airbag system before attempting any steering wheel, steering column, or instrument panel component diagnosis or service. Disconnect and isolate the negative battery (ground) cable, then wait two minutes for the airbag system capacitor to discharge before performing further diagnosis or service. This is the only sure way to disable the airbag system. Failure to take the proper precautions may result in accidental airbag deployment and possible serious or fatal injury.

NOTE: For circuit descriptions and diagrams, refer to WIRING DIAGRAM INFORMATION article . The wiring information includes wiring diagrams, proper wire and connector repair procedures, further details on wire harness routing and retention, as well as pin-out and location views for the various wire harness connectors, splices and grounds.

1. Disconnect and isolate the negative battery cable.
2. Disconnect the wire harness connector from the blower motor resistor. See REMOVAL.
3. Using an ohmmeter, check for continuity between all of the blower motor resistor terminals. In each case there should be continuity. If OK, repair the wire harness circuits between the blower motor speed control and the blower motor resistor or blower motor as required. If not OK, replace the inoperative blower motor resistor.

REMOVAL

RESISTOR-BLOWER MOTOR

WARNING: The blower motor resistor may get very hot during normal operation. If the blower motor was turned on prior to servicing the blower motor resistor, wait five minutes to allow the blower motor resistors to cool before performing diagnosis or service. Failure to take this precaution can result in possible personal injury.

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2008 ACCESSORIES AND EQUIPMENT Lamps/Lighting - Exterior - Service Information - Avenger & Sebring

The optional Headlamp Time Delay system is controlled by the CCN. The headlamp time delay system can be activated by turning ON the headlamps when the engine is running, turn OFF the ignition switch, then turn OFF the headlamp switch. The CCN will allow the headlamps to remain ON for 90 seconds before they automatically turn off.

OPERATION

EXTERIOR LAMPS

AUTOMATIC HEADLAMPS

The optional automatic headlamp (auto low) system includes the Steering Control Module (SCM), the Totally Integrated Power Module (TIPM), and the left (lighting) multi-function switch. The **A** (Automatic) position must be selected using the left multi-function switch.

Once this prerequisite has been met, the SCM responds by sending the appropriate electronic **lighting request** messages to the FCM over the Controller Area Network (CAN) data bus and an ambient light level input to the ElectroMechanical Instrument Cluster (EMIC) (also known as the Cab Compartment Node/CCN) which is relayed to the FCM over the CAN data bus. With the engine running, the FCM responds to these messages by automatically controlling a pulse width modulated voltage output to the selected headlamp bulbs through the right and left low beam feed circuits to illuminate the headlamps. The FCM also sends the appropriate electronic messages back to the EMIC/CCN to control the illumination of the high beam indicator.

DAYTIME RUNNING LAMPS (CANADA ONLY)

Vehicles equipped with the Daytime Running Lamps (DRL) feature illuminate the high beam filament of both headlamp bulbs at a reduced intensity when the engine is running, the parking brake is released, the headlamps are turned OFF, and the optional automatic transmission gear selector lever is in any position except PARK. The park lamps may be ON or OFF for DRL to operate. For vehicles with a manual transmission, the DRL will operate in any transmission gear selector lever position. The TIPM must be programmed appropriately for this feature to be enabled.

Once enabled, anytime the TIPM receives electronic messages over the CAN data bus from the Powertrain Control Module (PCM) indicating the engine is running, from the ElectroMechanical Instrument Cluster (EMIC) (also known as the Cab Compartment Node/CCN) indicating the status of the left (lighting) multi-function switch is in any position except headlamps ON and the parking brake lever is released, and from the Transmission Control Module (TCM) indicating the automatic transmission gear selector lever is in any position except PARK, the TIPM provides a pulse width modulated voltage output to the headlamp high beam bulb filaments through high side drivers on the right and left high beam feed circuits to produce illumination at a reduced intensity.

DIAGNOSIS AND TESTING

LAMPS/LIGHTING - EXTERIOR

WARNING: Eye protection should be used when servicing glass components.
Personal injury or death could result.

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2008 ACCESSORIES & EQUIPMENT Power Windows - Electrical Diagnostics - Avenger & Sebring

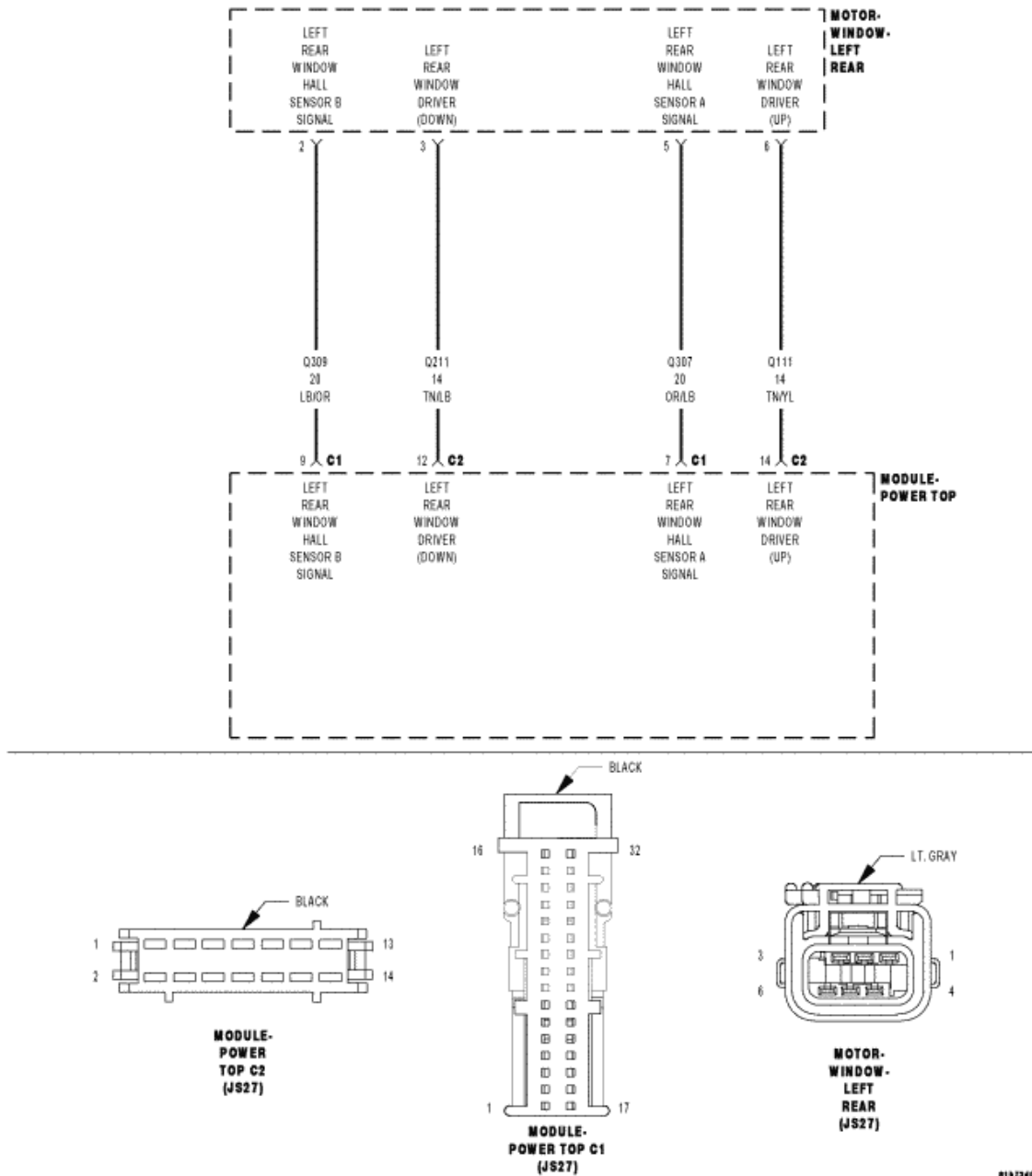


Fig. 144: JS27-B251B-M.S.
Courtesy of CHRYSLER LLC

For complete wiring diagrams, refer to:

SYSTEM WIRING DIAGRAMS for Avenger.