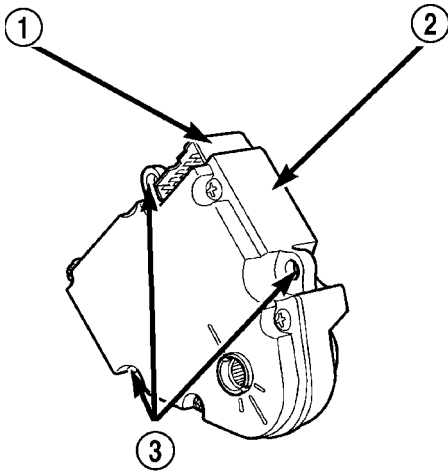


BLEND-AIR DOOR MOTOR

REMOVAL

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE AIRBAG SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (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 COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

- (1) Disconnect and isolate the battery negative cable.
- (2) Disconnect the wire connector from the blend-air door motor.
- (3) Remove the screws that secure the blend-air door motor to the housing (Fig. 15).



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Fig. 15 Blend-Air Door Motor

- 1 - ELECTRICAL CONNECTOR
- 2 - BLEND-AIR DOOR MOTOR
- 3 - SCREW MOUNTING POINTS

- (4) Remove the blend-air door motor.

INSTALLATION

- (1) Position the blend air door motor over the actuator shaft on the housing.
- (2) Install and tighten the screws that secure the blend-air door motor to the housing. Tighten the mounting screws to 1 N·m (10 in. lbs.).
- (3) Connect the wire harness connector.
- (4) Connect the battery negative cable.

BLOWER MOTOR RELAY

DESCRIPTION

The blower motor relay is a International Standards Organization (ISO)-type relay. The relay is an electromechanical device that switches battery current to the blower motor.

OPERATION

When the blower motor switch is in any position except off, and the ignition is turned on, the blower motor relay is energized and provides battery feed to the blower motor from a fuse in the fuse block module through the blower motor resistor.

The blower motor relay coil is controlled by a voltage signal from the blower motor switch (Refer to 24 - HEATING & AIR CONDITIONING/CONTROLS/BLOWER MOTOR RELAY - DIAGNOSIS AND TESTING).

The blower motor relay is installed in a wire harness connector located near the passenger side outboard end of the heater-A/C housing in the passenger compartment, next to the heater-A/C wire harness connector.

The blower motor relay cannot be repaired and, if faulty or damaged, it must be replaced.

DIAGNOSIS AND TESTING - BLOWER MOTOR RELAY

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RELAY TEST

The blower motor relay (Fig. 16) is located in a wire harness connector that is secured to the heater-A/C housing behind the glove box on the passenger side of the vehicle, next to the heater-A/C wire harness connector in the passenger compartment. Remove the relay from its connector to perform the following tests:

- (1) A relay in the de-energized position should have continuity between terminals 87A and 30, and

BLOWER MOTOR RELAY (Continued)

no continuity between terminals 87 and 30. If OK, go to Step 2. If not OK, replace the faulty relay.

(2) Resistance between terminals 85 and 86 (electromagnet) should be 75 ± 5 ohms. If OK, go to Step 3. If not OK, replace the faulty relay.

(3) Connect a battery to terminals 85 and 86. There should now be continuity between terminals 30 and 87, and no continuity between terminals 87A and 30. If OK, see the Relay Circuit Test procedure in this group. If not OK, replace the faulty relay.

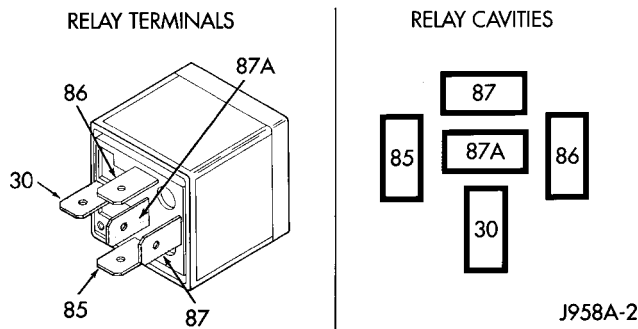


Fig. 16 Blower Motor Relay

TERMINAL LEGAND

NUMBER	IDENTIFICATION
30	COMMON FEED
85	COIL GROUND
86	COIL BATTERY
87	NORMALLY OPEN
87A	NORMALLY CLOSED

RELAY CIRCUIT TEST

(1) The relay common feed terminal cavity (30) is connected to the blower motor. This terminal supplies fused battery feed directly from a fuse in the Power Distribution Center (PDC) when the relay is energized, and ignition switched battery feed from a fuse in the fuse block module through the blower motor resistor when the relay is de-energized. There should be continuity between this cavity and the blower motor feed circuit cavity of the blower motor wire harness connector at all times. If OK, go to Step 2. If not OK, repair the open circuit as required.

(2) The relay normally closed terminal cavity (87A) is connected to the blower motor resistor output. When the relay is de-energized, terminal 87A is connected to terminal 30 and provides the blower motor resistor output to the blower motor feed circuit. There should be continuity between this cavity and the blower resistor outputs circuit cavity of the blower motor resistor wire harness connector at all

times. If OK, go to Step 3. If not OK, repair the open circuit as required.

(3) The relay normally open terminal cavity (87) is connected to a fused battery feed from the PDC. When the relay is energized, terminal 87 is connected to terminal 30 and provides full battery current to the blower motor feed circuit. There should be battery voltage at this cavity at all times. If OK, go to Step 4. If not OK, repair the open circuit to the PDC as required.

(4) The coil battery terminal cavity (86) is connected to the high speed output contacts of the blower motor switch. When the blower motor switch is placed in the high speed position, fused ignition switch output is directed to the relay electromagnetic coil to energize the relay. There should be continuity between the cavity for relay terminal 86 and the high blower motor relay control circuit cavity of the blower motor switch wire harness connector at all times. If OK, go to Step 5. If not OK, repair the open circuit as required.

(5) The coil ground terminal cavity (85) is connected to ground. This terminal supplies the ground for the relay electromagnetic coil. There should be continuity between the cavity for relay terminal 85 and a good ground at all times. If not OK, repair the open circuit as required.

REMOVAL

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(1) Disconnect and isolate the battery negative cable.

(2) Remove the glove box from the instrument panel (Refer to 23 - BODY/INSTRUMENT PANEL/GLOVE BOX - REMOVAL).

(3) Locate the blower motor relay through the instrument panel glove box opening. The relay is mounted upright and to the right of the instrument panel harness (Fig. 17).

(4) Unplug the blower motor relay from its wire harness connector.

BLOWER MOTOR RELAY (Continued)

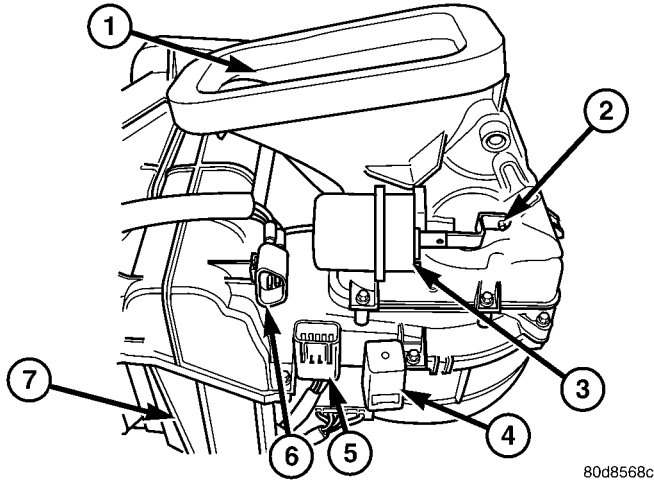


Fig. 17 Blower Motor Relay and Vacuum Actuator

- 1 - AIR INTAKE
- 2 - RECIRCULATION DOOR LINKAGE
- 3 - VACUUM DOOR ACTUATOR
- 4 - BLOWER MOTOR RELAY
- 5 - HVAC ELECTRICAL CONNECTOR
- 6 - HVAC VACUUM CONNECTOR
- 7 - HVAC HOUSING

INSTALLATION

- (1) Install the blower motor relay by aligning the relay terminals with the cavities in the wire harness connector and pushing the relay firmly into place.
- (2) Reinstall the glove box in the instrument panel (Refer to 23 - BODY/INSTRUMENT PANEL/GLOVE BOX - INSTALLATION).
- (3) Connect the battery negative cable.
- (4) Test the relay operation.

BLOWER MOTOR RESISTOR

DESCRIPTION

The blower motor resistor is mounted to the bottom of the heater-A/C housing on the passenger side of the vehicle under the instrument panel. It can be accessed for service by removing the Instrument Panel glove box.

OPERATION

The resistor has multiple resistor wires, each of which reduce the current flow to the blower motor, to change the blower motor speed. The blower motor switch directs battery current to the correct resistor wire to obtain the selected speed. When the highest blower motor speed is selected, the blower motor relay connects the blower motor directly to battery current, bypassing the blower motor resistor.

The blower motor resistor cannot be repaired and, if faulty or damaged, it must be replaced.

DIAGNOSIS AND TESTING - BLOWER MOTOR RESISTOR

For circuit descriptions and diagrams, refer to the appropriate wiring information. 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.

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- (1) Disconnect and isolate the battery negative cable.
- (2) Remove the glove box from the Instrument Panel and unplug the wire harness connector from the blower motor resistor (Refer to 23 - BODY/INSTRUMENT PANEL/GLOVE BOX - REMOVAL).
- (3) Check for continuity between each of the blower motor switch input terminals of the resistor and the resistor output terminal. In each case there should be continuity. If OK, repair the wire harness circuits between the blower motor switch and the blower motor resistor or blower motor relay as required. If not OK, replace the faulty blower motor resistor.

REMOVAL

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BLOWER MOTOR RESISTOR (Continued)

(1) Disconnect and isolate the battery negative cable.

(2) Remove the glove box from the Instrument Panel (Refer to 23 - BODY/INSTRUMENT PANEL/GLOVE BOX - REMOVAL).

(3) Pull out the lock on the blower motor resistor wire harness connector to unlock the connector latch.

(4) Depress the latch on the blower motor resistor wire harness connector and unplug the connector from the resistor.

(5) Remove the two screws that secure the resistor to the heater-A/C housing.

(6) Remove the resistor from the heater-A/C housing.

INSTALLATION

(1) Position the resistor in the heater-A/C housing

(2) Install the retainer screws Tighten the mounting screws to 2.2 N·m (20 in lbs.).

(3) Connect the wire harness connector.

(4) Install the kick panel.

(5) Connect the battery negative cable.

BLOWER MOTOR SWITCH

DESCRIPTION

The heater-only or heater-A/C blower motor is controlled by a four position rotary-type blower motor switch, mounted in the heater-A/C control panel. The switch allows the selection of one of four blower motor speeds, but can only be turned off by selecting the Off position with the heater-A/C mode control switch.

OPERATION

The blower motor switch receives ignition-switched battery current through the mode control switch from a fuse in the fuse block module. The blower motor switch directs the battery current to the blower motor resistor, or to the blower motor relay, as required to achieve the selected blower motor speed.

The blower motor switch cannot be repaired and, if faulty or damaged, it must be replaced. The blower motor switch knob is available for service replacement.

DIAGNOSIS AND TESTING - BLOWER MOTOR SWITCH

For circuit descriptions and diagrams, refer to the appropriate wiring information. 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.

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(1) Turn the ignition switch to the On position and check for battery voltage at the fuse in the fuse block module. If OK, go to Step 2. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.

(2) Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Remove the heater-A/C control from the instrument panel, but do not unplug the wire harness connectors. Connect the battery negative cable. Turn the ignition switch to the On position. Check for battery voltage at the fused ignition switch output (run) circuit cavity of the heater-A/C mode control switch wire harness connector. If OK, go to Step 3. If not OK, repair the open circuit to the fuse block module as required.

(3) Select any one of the heater-A/C mode control positions except Off to turn the system on. Check for battery voltage at the low blower motor driver circuit cavity of the heater-A/C mode control switch wire harness connector. If OK, go to Step 4. If not OK, replace the faulty heater-A/C mode control switch.

(4) Check for battery voltage at the low blower motor driver circuit cavity of the blower motor switch wire harness connector. If OK, go to Step 5. If not OK, repair the open circuit to the heater-A/C mode control switch wire harness connector as required.

(5) Check for battery voltage at each of the remaining blower motor switch wire harness connector cavities as you move the switch to each blower motor speed position. Voltage should be present in each cavity at only one switch position. If OK, see the diagnosis for the blower motor resistor and/or the blower motor relay in this group. If not OK, replace the faulty blower motor switch.