

HORN SYSTEMS

CONTENTS

	page		page
GENERAL INFORMATION		HORN SWITCH	2
INTRODUCTION	1	HORN	3
DESCRIPTION AND OPERATION		REMOVAL AND INSTALLATION	
HORN RELAY	1	HORN RELAY	3
HORN SWITCH	1	HORN SWITCH	3
HORN	1	HORN	4
DIAGNOSIS AND TESTING			
HORN RELAY	2		

GENERAL INFORMATION

INTRODUCTION

Following are general descriptions of the major components in the factory-installed horn systems. Refer to 8W-41 - Horns/Cigar Lighter in Group 8W - Wiring Diagrams for complete circuit descriptions and diagrams.

DESCRIPTION AND OPERATION

HORN RELAY

The horn relay is a International Standards Organization (ISO) micro-relay. The terminal designations and functions are the same as a conventional ISO relay. However, the micro-relay terminal orientation (or footprint) is different, current capacity is lower, and the relay case dimensions are smaller than those of the conventional ISO relay.

The horn relay is a electromechanical device that switches battery current to the horn when the horn switch grounds the relay coil. See the Diagnosis and Testing section of this group for more information on the operation of the horn relay.

The horn relay is located in the Power Distribution Center (PDC), in the engine compartment. Refer to the PDC label for relay identification and location.

If a problem is encountered with a continuously sounding horn, it can usually be quickly resolved by removing the horn relay from the PDC until further diagnosis is completed.

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

HORN SWITCH

A center-blow, resistive membrane-type horn switch is installed on the back side of the driver side airbag module trim cover in the center of the steering wheel. When the center area of the airbag trim cover is depressed, the horn switch completes a circuit to ground for the coil side of the horn relay. The steering wheel and steering column must be properly grounded for the horn switch to function.

The horn switch is only serviced as a part of the airbag module trim cover. If the horn switch should fail, or if the airbag is deployed, the airbag module trim cover and horn switch must be replaced as a unit.

HORN

Dual-note, electromagnetic diaphragm-type horns are standard equipment on this model. Each horn is mounted on a bracket secured to the left inner fender shield ahead of the left front wheelhouse in the engine compartment. The two horn brackets are mounted in the same location, one on top of the other.

The horns are connected in parallel. Both horns are grounded through their wire harness connector and circuit to an eyelet bolted to the engine compartment side of the grille/headlamp mounting panel near the left headlamp, and they receive battery feed through the closed contacts of the horn relay.

These horns cannot be repaired or adjusted and, if faulty or damaged, they must be replaced.

DIAGNOSIS AND TESTING

HORN RELAY

For circuit descriptions and diagrams, refer to 8W-41 - Horns/Cigar Lighter in Group 8W - Wiring Diagrams.

WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

RELAY TEST

The horn relay (Fig. 1) is located in the Power Distribution Center (PDC) in the engine compartment. Refer to the PDC label for horn relay identification and location.

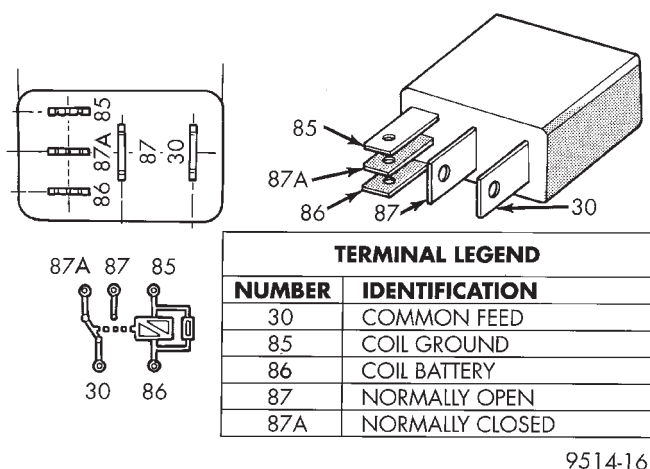


Fig. 1 Horn Relay

Remove the horn relay from the PDC as described in this group to perform the following tests:

(1) A relay in the de-energized position should have continuity between terminals 87A and 30, and 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 in this group. If not OK, replace the faulty relay.

RELAY CIRCUIT TEST

(1) The relay common feed terminal cavity (30) is connected to battery voltage and should be hot at all times. If OK, go to Step 2. If not OK, repair the open circuit to the PDC fuse as required.

(2) The relay normally closed terminal (87A) is connected to terminal 30 in the de-energized position, but is not used for this application. Go to Step 3.

(3) The relay normally open terminal (87) is connected to the common feed terminal (30) in the energized position. This terminal supplies battery voltage to the horn(s). There should be continuity between the cavity for relay terminal 87 and the horn relay output circuit cavity of each horn wire harness connector at all times. If OK, go to Step 4. If not OK, repair the open circuit to the horn(s) as required.

(4) The coil battery terminal (86) is connected to the electromagnet in the relay. It is connected to battery voltage and should be hot at all times. Check for battery voltage at the cavity for relay terminal 86. If OK, go to Step 5. If not OK, repair the open circuit to the PDC fuse as required.

(5) The coil ground terminal (85) is connected to the electromagnet in the relay. It is grounded through the horn switch when the horn switch is depressed. Check for continuity to ground at the cavity for relay terminal 85. There should be continuity with the horn switch depressed, and no continuity with the horn switch released. If not OK, see the diagnosis for the Horn Switch in this group.

HORN SWITCH

For circuit descriptions and diagrams, refer to 8W-41 - Horns/Cigar Lighter in Group 8W - Wiring Diagrams.

WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Disconnect and isolate the battery negative cable. Remove the knee blocker from the instrument panel. Refer to Knee Blocker in Group 8E - Instrument Panel Systems for the procedures.

(2) Check for continuity between the metal steering column jacket and a good ground. There should be continuity. If OK, go to Step 3. If not OK, refer to Steering Column in Group 19 - Steering for the proper installation of the steering column mounting hardware.

DIAGNOSIS AND TESTING (Continued)

(3) Remove the driver side airbag module from the steering wheel. Refer to Airbag Module in Group 8M - Passive Restraint Systems for the procedures. Unplug the horn switch wire harness connectors from the airbag module.

(4) Unplug the horn relay from the Power Distribution Center (PDC). Check for continuity between the steering column half of the horn switch feed wire harness connector and a good ground. There should be no continuity. If OK, go to Step 5. If not OK, repair the short circuit as required.

(5) Check for continuity between the steering column half of the horn switch feed wire harness connector and the horn relay control circuit cavity for the horn relay in the PDC. There should be continuity. If OK, go to Step 6. If not OK, repair the open circuit as required.

(6) Check for continuity between the horn switch feed wire and the horn switch ground wire on the airbag module. There should be no continuity. If OK, go to Step 7. If not OK, replace the faulty horn switch.

(7) Depress the center of the airbag module trim cover and check for continuity between the horn switch feed wire and the horn switch ground wire on the airbag module. There should now be continuity. If not OK, replace the faulty horn switch.

HORN

For circuit descriptions and diagrams, refer to 8W-41 - Horns/Cigar Lighter in Group 8W - Wiring Diagrams.

(1) Unplug the horn wire harness connectors. Measure the resistance between the ground circuit cavity of the horn wire harness connectors and a good ground. There should be no measurable resistance. If OK, go to Step 2. If not OK, repair the circuit to ground as required.

(2) Depress the horn switch. There should be battery voltage at the horn relay output circuit cavity of the horn wire harness connectors. If OK, replace the faulty horn(s). If not OK, repair the open circuit to the horn relay as required.

REMOVAL AND INSTALLATION

HORN RELAY

(1) Disconnect and isolate the battery negative cable.

(2) Remove the cover from the Power Distribution Center (PDC) (Fig. 2).

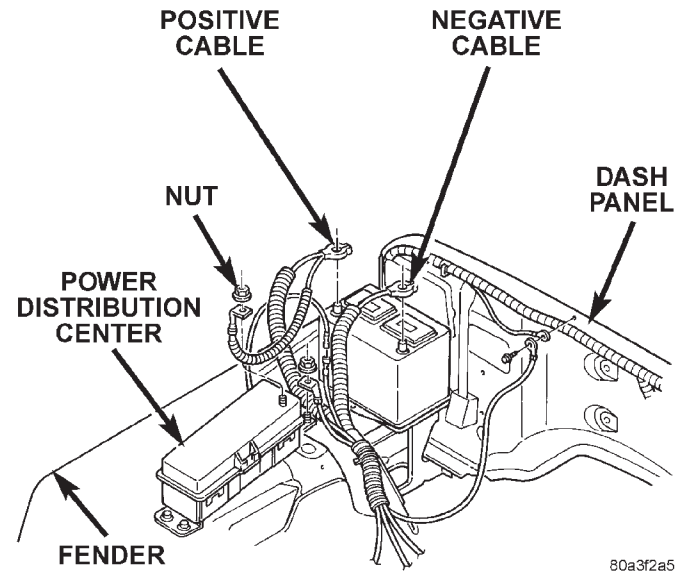


Fig. 2 Power Distribution Center

(3) Refer to the label on the PDC for horn relay identification and location.

(4) Unplug the horn relay from the PDC.

(5) Install the horn relay by aligning the relay terminals with the cavities in the PDC and pushing the relay firmly into place.

(6) Install the PDC cover.

(7) Connect the battery negative cable.

(8) Test the relay operation.

HORN SWITCH

WARNING: ON VEHICLES EQUIPPED WITH A DRIVER SIDE AIRBAG, THE HORN SWITCH IS INTEGRAL TO THE AIRBAG MODULE TRIM COVER. SERVICE OF THIS COMPONENT SHOULD BE PERFORMED ONLY BY CHRYSLER-TRAINED AND AUTHORIZED DEALER SERVICE TECHNICIANS. FAILURE TO TAKE THE PROPER PRECAUTIONS OR TO FOLLOW THE PROPER PROCEDURES COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY. REFER TO DRIVER SIDE AIRBAG TRIM COVER AND HORN SWITCH IN GROUP 8M - PASSIVE RESTRAINT SYSTEMS FOR THE SERVICE PROCEDURES.

REMOVAL AND INSTALLATION (Continued)

HORN

(1) Disconnect and isolate the battery negative cable.

(2) Open the hood and locate the horn(s) on the top of the left inner fender shield near the front of the engine compartment.

(3) Unplug the wire harness connector(s) from the horn(s) (Fig. 3).

(4) Remove the two screws that secure the horn mounting bracket(s) to the left inner fender shield.

(5) Remove the horn(s) and mounting bracket(s) from the vehicle.

(6) Reverse the removal procedures to install. Tighten the horn mounting bracket screws to 20 N·m (15 ft. lbs.).

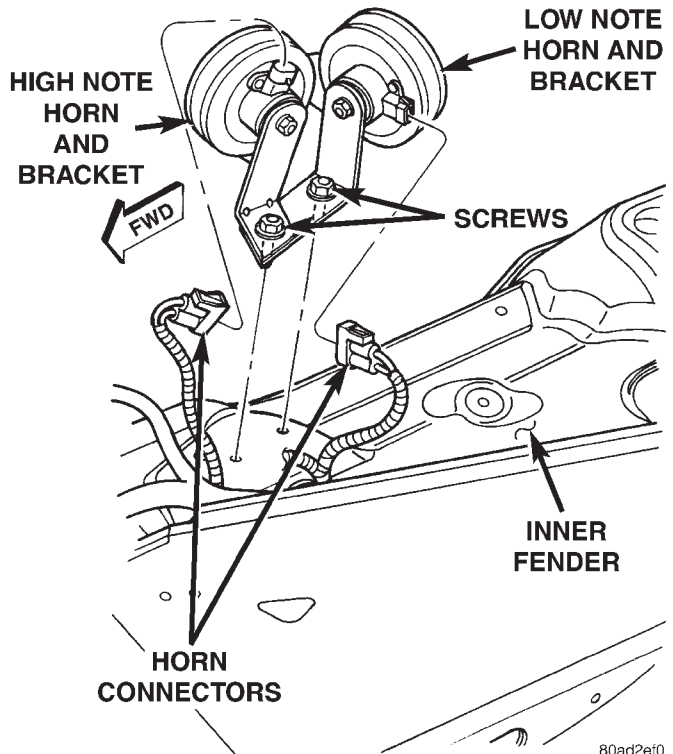


Fig. 3 Horn(s) Remove/Install