INSTRUMENT PANEL AND SYSTEMS

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GENERAL INFORMATION

INTRODUCTION

The purpose of the dash gauges and indicator lamps is to keep the driver informed about the operating condition of the vehicle. If an abnormal condition occurs, the driver is informed by indicator lamp. The driver can seek service before damage occurs.

Indicator lamps use ON/OFF switch functions for operation, while gauges use a sending unit or sensor.

GENERAL INFORMATION (Continued)

NOTE: This group covers both Left-Hand Drive (LHD) and Right-Hand Drive (RHD) versions of this model. Whenever required and feasible, the RHD versions of affected vehicle components have been constructed as mirror-image of the LHD versions. While most of the illustrations used in this group represent only the LHD version, the diagnostic and service procedures outlined can generally be applied to either version. Exceptions to this rule have been clearly identified as LHD, RHD, or Export if a special illustration or procedure is required.

DESCRIPTION AND OPERATION

DOME LAMP

The Dome Lamp operates when a door is open or when the headlamp switch is placed in courtesy position.

ELECTRONIC DIGITAL CLOCK

The electronic digital clock is in the radio. The clock and radio each use the display panel built into the radio. A digital readout indicates the time in hours and minutes whenever the ignition switch is in the ON or ACC position.

When the ignition switch is in the OFF position, or when the radio frequency is being displayed, time keeping is accurately maintained.

The procedure for setting the clock varies slightly with each radio. The correct procedure is described in the individual radio operating instructions. Refer to the Owner's Manual supplied with the vehicle.

INSTRUMENT CLUSTER

There are two conventional instrument cluster assemblies available. The clusters electronically drive the speedometer, odometer, and gauges (Fig. 1) and (Fig. 2).

GAUGES

All gauges in the electronic clusters are the analog type gauges. When the ignition switch is moved to the OFF position, the cluster drives each gauge to its lowest position.

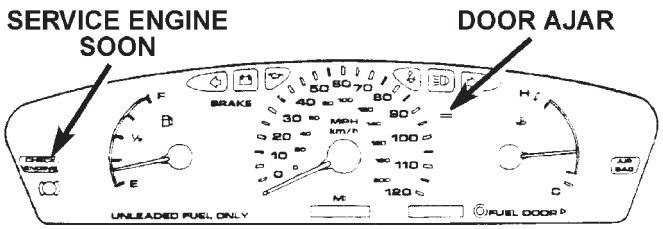


Fig. 1 Instrument Cluster With Tachometer

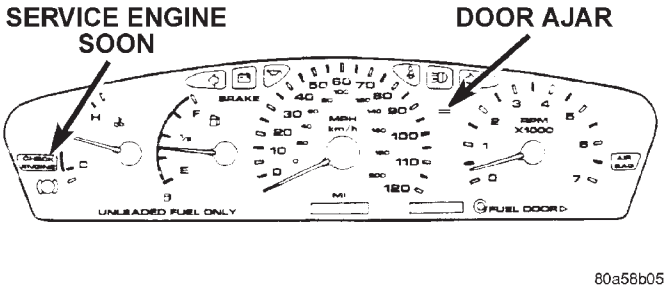


Fig. 2 Instrument Cluster Without Tachometer

WARNING AND INDICATOR LAMPS

The instrument cluster has warning lamps and indicators for the following systems:

- Airbag
- Anti-lock Brakes (ABS) if equipped
- Brake warning
- Charging System
- Door Ajar
- High beam indicator
- Low oil pressure
- Malfunction indicator (check engine) lamp
- Right and left turn signals.
- Seat belt warning

DIAGNOSIS AND TESTING

AIRBAG WARNING SYSTEM

For testing of this system refer to Group 8M, Restraint Systems.

BRAKE SYSTEM WARNING LAMP TEST

The brake warning lamp illuminates when the parking brake is applied with ignition switch turned to the ON position. The same lamp will also illuminate if one of the two service brake systems fail the when brake pedal is applied.

To test the system:

- As the ignition switch is turned to the start position the lamp should light.
- Turn ignition switch to the ON position and apply the parking brake. The lamp should light.

If lamp fails to light inspect for:

- A burned out lamp
- Loose, corroded or damaged socket
- A damaged circuit board
- A broken or disconnected wire at the switch
- Defective switch

To test the service brake warning system, refer to Group 5, Brakes, Hydraulic System Control Valves.

DIAGNOSIS AND TESTING (Continued)

FOG LAMP SWITCH TEST

(1) Remove the fog lamp switch. Refer to the Rear Window Defogger and/or Fog Lamp Switch Removal.

(2) Using two jumper wires, connect Pin 2 and Pin 4 of the switch to battery voltage.

(3) Using a test lamp, connect the test lamp to Pin 3 as shown in (Fig. 3). Refer to (Fig. 4) for fog lamp switch circuit.

(4) Push the fog lamp switch button. The test lamp and the LED indicator on the front of the switch should illuminate.

(5) If either the LED or the test lamp fails to illuminate, replace the switch.

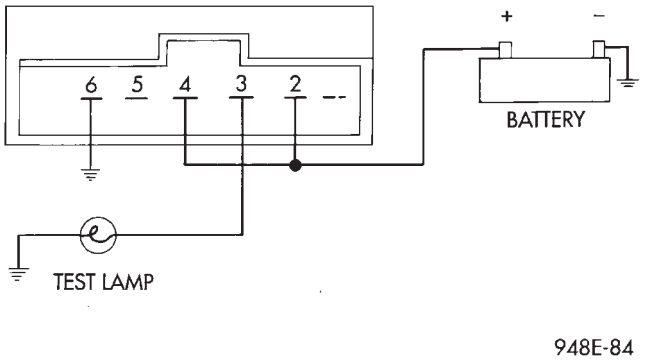


Fig. 3 Fog Lamp Switch Test

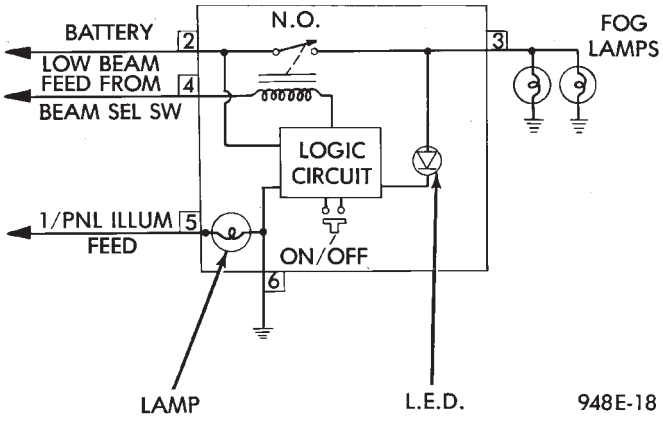


Fig. 4 Fog Lamp Switch Circuit

FOG LAMP SWITCH TEST EXPORT

Refer to Group 8W, Wiring Diagrams for wiring or circuit information.

FRONT EXPORT

(1) Remove the fog lamp switch and disconnect the connector at the center stack.

(2) Using two jumper wires connect Pin L7 to battery voltage, and connect Pin Z03 to ground (Fig. 5).

(3) Push the fog lamp switch button. The LED indicator on the front of the switch should illuminate. Check Pin L35 with a test lamp for battery voltage.

(4) If either the LED or the test lamp fails to illuminate, replace the switch.

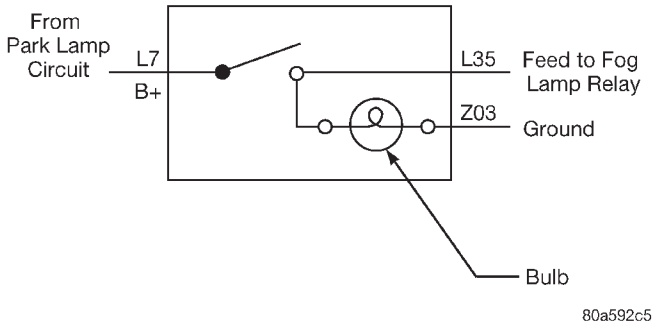


Fig. 5 Front Fog Lamp Switch Circuit Diagram

REAR EXPORT

(1) Remove the fog lamp switch. Refer to Rear Window Defogger and/or Fog Lamp Switch Removal.

(2) Using two jumper wires connect Pin 2 and Pin 4 of the switch to battery voltage.

(3) Using a test lamp, connect the test lamp to Pin 3 as shown in (Fig. 6). Refer to Group 8W, Wiring Diagrams for fog lamp switch circuit.

(4) Push the fog lamp switch button. The test lamp should illuminate, and the LED indicator on the front of the switch.

(5) If either the LED, or the test lamp fails to illuminate, replace the switch.

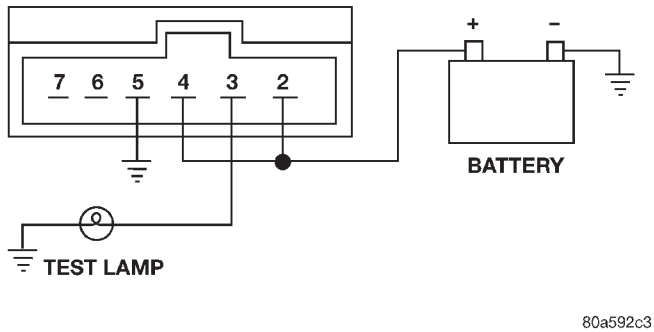


Fig. 6 Rear Fog Lamp Switch Test

FUEL TANK SENDING UNIT TEST

Refer to Group 14, Fuel for test procedures.

HEADLAMP LEVELING SWITCH

(1) Remove the headlamp leveling switch from the instrument panel and disconnect the wire harness connector from the switch. Refer to Wiring Diagrams for the proper wire circuits and the wire connector connections.

DIAGNOSIS AND TESTING (Continued)

(2) If the L.E.D. is not illuminated, using a voltmeter, connect B+ lead to Pin 4 of the Wire harness connector. Connect the negative lead to Pin 3. Turn ON the headlamp switch to the low beam position and ensure the instrument panel dimmer switch is on day light driving position. If voltage is present, replace switch. If no voltage, connect the ground lead to a good ground, if voltage, repair Pin 3 ground circuit as necessary, and if no voltage, refer to Wiring Diagrams and test circuit back to headlamp switch.

(3) Using a voltmeter, connect B+ lead to Pin 2 of the Wire harness connector. Connect the negative lead to Pin 3. Turn ON the headlamp switch to the low beam position. If battery voltage, go to Step 5. If not OK, go to Step 4.

(4) Connect the ground lead to a good ground, if no voltage, refer to Wiring Diagrams and test circuit back to headlamp switch. If battery voltage, repair Pin 3 ground circuit as necessary.

(5) Turn headlamps OFF. Connect the wire harness connector to the headlamp leveling switch. Turn ON the headlamp switch to the low beam position. Check voltage at Pin 5, while rotating the headlamp leveling switch knob through the four positions. The voltage reading should change as the switch is rotated to each position. If the voltage does not vary replace switch. If OK, test the headlamp leveling motors and/or circuit to the motors.

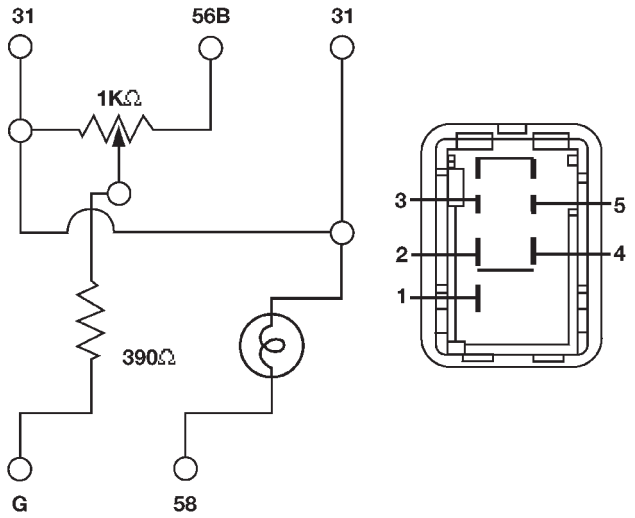
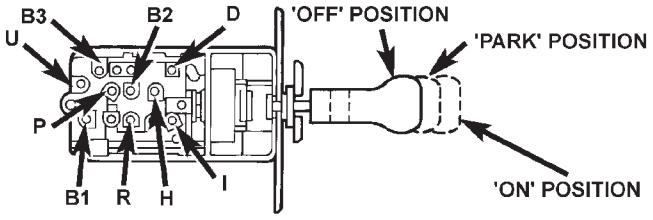


Fig. 7 Headlamp Leveling Switch Circuit Diagram

HEADLAMP SWITCH TEST

(1) Remove the headlamp switch. Refer to Headlamp Switch Removal.

(2) Use a ohmmeter, and check continuity between the terminals of the switch as shown in the Headlamp Switch Test (Fig. 8).



SWITCH POSITIONS	CONTINUITY BETWEEN
OFF	B1 to P OPTICAL HORN
PARK	B1 to P OPTICAL HORN B2 to R PARK LAMPS B3 to U HEADLAMPS ON WARNING CIRCUIT
ON	B1 to P OPTICAL HORN B1 to H HEADLAMPS B2 to R PARK LAMPS B3 to U HEADLAMPS ON WARNING CIRCUIT
TURN SWITCH FULL RIGHT/LEFT FOR TEST	
	1-7 OHMS
ON	B2 to I DIMMER SWITCH FOR ILLUMINATION LAMPS

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Fig. 8 Headlamp Switch Test

HEATER A/C BLOWER SWITCH TEST

(1) Remove Heater A/C control module. Refer to Heater A/C Control Removal procedures.

(2) Use a ohmmeter, and check continuity between the terminals of the switch as shown in the Blower Switch Test (Fig. 9).

(3) If the switch fails any part of the continuity test, other then Pin 1 to Pin 7, replace Heater A/C Control. If no continuity between Pin 1 to Pin 7 check the lamps, replace if necessary.

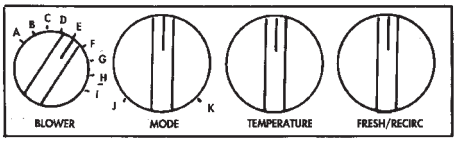
HEATER BLOWER SWITCH TEST

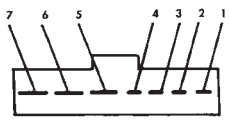
(1) Remove heater control, refer to A/C Heater Control Removal.

(2) Use a ohmmeter, and check continuity between the terminals of the switch as shown in the Heater Blower Test (Fig. 10).

(3) If switch fails any part of the continuity test, other then Pin 1 to Pin 7, replace heater control. If no continuity between Pin 1 to Pin 7 check the lamps, replace if necessary.

DIAGNOSIS AND TESTING (Continued)





TERMINAL FUNCTION
1 - Lighting
2 - A/C Compressor Clutch
3 - Low Blower
4 - M1 Blower
5 - M2 Blower
6 - High Blower
7 - Ground

BLOWER POSITION	MODE POSITION	CONTINUITY BETWEEN
A	J	PIN 1 TO PIN 7 PIN 2 TO PIN 7 PIN 6 TO PIN 7
B	J	PIN 1 TO PIN 7 PIN 2 TO PIN 7 PIN 5 TO PIN 7
C	J	PIN 1 TO PIN 7 PIN 2 TO PIN 7 PIN 4 TO PIN 7
D	J	PIN 1 TO PIN 7 PIN 2 TO PIN 7 PIN 3 TO PIN 7
E	J	PIN 1 TO PIN 7
F	J	PIN 1 TO PIN 7 PIN 3 TO PIN 7
G	J	PIN 1 TO PIN 7 PIN 4 TO PIN 7
H	J	PIN 1 TO PIN 7 PIN 5 TO PIN 7
I	J	PIN 1 TO PIN 7 PIN 6 TO PIN 7
I	K	PIN 1 TO PIN 7 PIN 2 TO PIN 7 PIN 6 TO PIN 7

*Continuity between terminals 1 and 7 is through lamps

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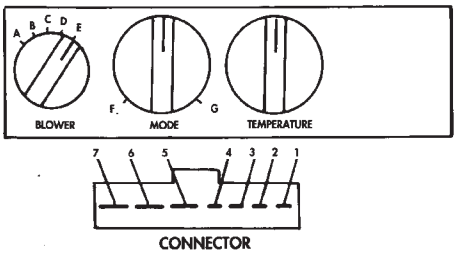
Fig. 9 Blower Switch Test

INSTRUMENT PANEL AND COMPONENTS

CAUTION: Disconnect the battery negative cable before servicing the instrument panel or components. When power is required for test purposes, connect battery cable for test only. Disconnect the battery negative cable after test and before continuing service procedures.

LOW OIL PRESSURE WARNING LAMP TEST

The low oil pressure warning lamp will illuminate when the ignition switch is turned to the ON position without engine running. The lamp also illuminates if the engine oil pressure drops below a safe oil pressure level.



TERMINAL FUNCTION
1 - Lighting
2 - Not used for Heater
3 - Low Blower
4 - M1 Blower
5 - M2 Blower
6 - High Blower
7 - Ground

BLOWER POSITION	MODE POSITION	CONTINUITY BETWEEN
A	F	PIN 1 TO PIN 7
B	F	PIN 1 TO PIN 7 PIN 3 TO PIN 7
C	F	PIN 1 TO PIN 7 PIN 4 TO PIN 7
D	F	PIN 1 TO PIN 7 PIN 5 TO PIN 7
E	F	PIN 1 TO PIN 7 PIN 6 TO PIN 7

*Continuity between terminals 1 and 7 is through lamps

948E-16

Fig. 10 Heater Blower Switch Test

To test the system, turn the ignition switch to the ON position. If the lamp fails to light, inspect for a broken or disconnected wire at the oil pressure switch, located at the front of the engine (Fig. 11). If the wire at the connector checks good, pull the connector loose from the switch and with a jumper wire, ground the connector to the engine. With the ignition switch turned to the ON position, check the warning lamp. If the lamp still fails to light, inspect for a burned out lamp or disconnected socket in the cluster.

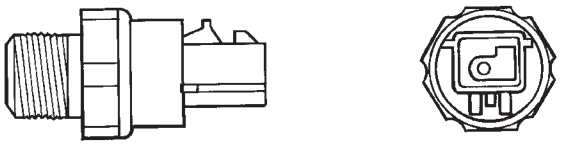


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Fig. 11 Oil Pressure Switch

MULTIPLE GAUGE INOPERATIVE TEST

Test speedometer, tachometer and other gauges for malfunction:

(1) Remove the cluster. Refer to Cluster Removal and Installation.

(2) Check for ignition voltage at Pin J1-5 of the cluster wire harness connector (Fig. 12) and (Fig. 13).

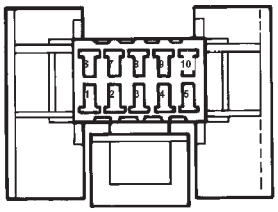
DIAGNOSIS AND TESTING (Continued)

Check for battery voltage at Pin J1-6 of the connector. If no voltage, repair as necessary.

(3) Check Pin J1-8 of the connector for continuity to ground. If no ground, repair as necessary.

(4) If the voltage and ground are OK, and the pins or the connectors are not distorted, replace the printed circuit board.

(5) Install cluster.



CLUSTER WIRING HARNESS CONNECTORS			
J1 CONNECTOR		J2 CONNECTOR	
PIN	DESCRIPTION	PIN	DESCRIPTION
1	DOOR AJAR	1	OIL PRESSURE
2	HI BEAM	2	ABS
3	RIGHT TURN	3	MIL* (CHECK ENGINE)
4	SEAT BELT	4	ENGINE TEMPERATURE
5	IGNITION FEED	5	KEY IN HEADLAMPS ON
6	BATTERY	6	BRAKE
7	TACHOMETER SIGNAL	7	CHARGING SYSTEM
8	GROUND	8	LEFT TURN
9	AIRBAG	9	ILLUMINATION
10	SPEED SIGNAL	10	FUEL LEVEL

*MALFUNCTION INDICATOR LAMP

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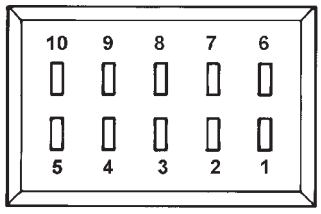
Fig. 12 Cluster Wire Harness Connector



CLUSTER WIRING HARNESS CONNECTORS			
J1 CONNECTOR		J2 CONNECTOR	
PIN	DESCRIPTION	PIN	DESCRIPTION
1	DOOR AJAR	1	OIL PRESSURE
2	HI BEAM	2	ABS
3	RIGHT TURN	3	MIL* (CHECK ENGINE)
4	SEAT BELT	4	ENGINE TEMPERATURE
5	IGNITION FEED	5	KEY IN HEADLAMPS ON
6	BATTERY	6	BRAKE
7	TACHOMETER SIGNAL	7	CHARGING SYSTEM
8	GROUND	8	LEFT TURN
9	AIRBAG	9	ILLUMINATION
10	SPEED SIGNAL	10	FUEL LEVEL

*MALFUNCTION INDICATOR LAMP

80a58b07

Fig. 13 Cluster Connector

INDIVIDUAL GAUGE INOPERATIVE

FUEL GAUGE

(1) Disconnect the fuel gauge sending unit.

(2) Turn the ignition switch to the ON position. The fuel gauge should be at its lowest position. Turn the ignition switch OFF.

(3) Ground fuel gauge sending unit connector Pin 3. Refer to Group 8W, Wiring Diagrams. Turn ignition switch to the ON position. The fuel gauge should be at its highest position. Turn ignition switch OFF then ON, after a sending unit signal change to disable the cluster electronic gauge dampening mechanism.

(a) If OK, check the fuel gauge sending unit connector for proper connection. If the connections are OK, refer to Group 14 Fuel System for Fuel Level Sensor Diagnosis.

(b) If not OK, connect the sending unit. Remove the cluster and check for an open or short in the sending unit wiring. The sending unit will be less than 1080 ohms and greater than 50 ohms depending upon fuel level. If the sending unit wiring is open or a short circuit, repair as necessary.

(c) If the sending unit wiring is OK, replace the gauge assembly. If the condition persists, replace the cluster printed circuit board.

FUEL GAUGE INCORRECTLY INDICATES EMPTY

The fuel system uses both the instrument cluster and the Powertrain Control Module (PCM) to monitor the fuel level sending unit. If the PCM fuel monitoring circuits senses an open circuit, the increased circuit resistance will causes a false fuel gauge empty reading. Check for continuity between cluster wire harness connector Pin J2-10 and Pin 23 of the PCM (Fig. 12) and (Fig. 14). If there is no continuity, repair as necessary. If there is continuity, refer to Fuel Gauge test.

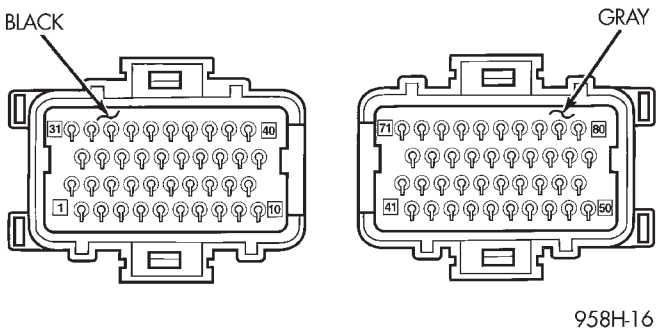


Fig. 14 Powertrain Control Module Pin Location

LOW FUEL WARNING CIRCUIT

The low fuel warning lamp receives its signal from the fuel gauge drive circuit. Due to production varia-

DIAGNOSIS AND TESTING (Continued)

tions, the point where the lamp illuminates, may vary from 1/16 to 3/16 mark on the fuel gauge. There is a built in time delay before the lamp illuminates. This prevents the lamp from going on and off under various road conditions.

(1) Verify that the fuel gauge is operating properly.

(2) Check the low fuel warning lamp assembly.

(3) If the lamp still does not function under a low fuel condition replace the printed circuit board.

TACHOMETER CIRCUIT

(1) Remove the cluster. Refer to Cluster Removal.

(2) Check for battery voltage at Pin J1-6 of the cluster wire harness connector (Fig. 12).

(3) With the ignition switch in the ON position, check for battery voltage at Pin J1-5 connector.

(4) Check Pin J1-8 of the connector for continuity to ground.

(5) Check for tachometer signal from the Powertrain Control Module by connecting an AC DIGITAL VOLTMETER to Pin J1-7 of the connector and ground. A reading of at least 1.0 volt should be present with the engine running.

(a) If the voltage is NOT within specification, go to Step 6.

(b) If the voltage is within specification, go to Step 7.

(6) If there is less than 1.0 volt at Pin J1-7 of the connector, check for continuity between Pin J1-7 and Pin 73 of the Powertrain Control Module connector (Fig. 14). Also, check the connector at the Powertrain Control Module for damaged pins or terminal push outs.

(7) If the voltage is less than 1.0 volt at Pin J1-7 of the connector and there is continuity between Pin J1-7 and Pin 73 of the PCM connector, replace the Powertrain Control Module.

(8) If all tests performed test good, replace the dial and gauge assembly.

(9) If the tachometer continues to be inoperative, replace the print circuit board.

TEMPERATURE GAUGE

(1) Disconnect the coolant temperature sensor (Fig. 15).

(2) Turn ignition switch ON. The temperature gauge should be at its lowest position. Turn ignition switch OFF.

(3) Ground temperature gauge sending unit connector Pin 3. Refer to Group 8W, wiring Diagrams. Turn ignition switch ON. The temperature gauge should be at its highest position. After the seat belt lamp goes out, the cluster should chime for about eight seconds.

(a) If OK, check temperature sending unit connector for proper connection. If connections are OK, replace the sending unit.

(b) If not OK, and the high temperature chime sounds but the gauge shows cold, replace the gauge assembly. If gauge is still not working, replace the printed circuit board.

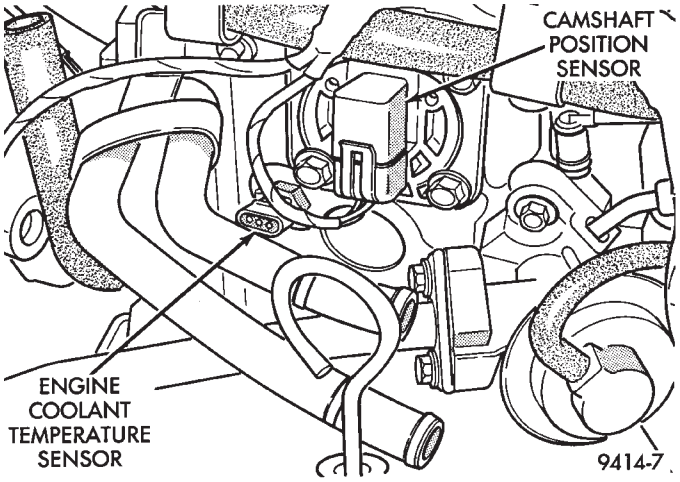


Fig. 15 Engine Coolant Temperature Sensor

SPEEDOMETER SYSTEM

The vehicle is equipped with a electronically driven speedometer and odometer assemblies. A signal is sent from a transmission-mounted vehicle speed sensor to the speedometer circuitry through the wiring harness.

SEAT BELT REMINDER SYSTEM TEST

For testing of this system refer to Group 8U, Chime Warning/Reminder Systems.

SENDING UNIT

When a problem occurs with a cluster gauge check for a defective sending unit or wiring. Do this before disassembling the cluster.

(1) Sending units and wiring can be checked by grounding the connector leads at the sending unit in the vehicle.

(2) With the ignition in the ON position, a grounded input will cause the fuel or temperature gauge to read at or above maximum.

SERVICE ENGINE SOON INDICATOR

Refer to Group 25, Emission Control Systems for procedures.

VEHICLE SPEED SENSOR TEST

To test the vehicle speed sensor and related components use a scan tool (DRB), and refer to the appropriate Powertrain Diagnostics Test Procedure Manual.

REMOVAL AND INSTALLATION

ASH RECEIVER RETAINER AND LAMP

REMOVAL

(1) Remove the ash receiver receptacle.
(2) Remove the center bezel.
(3) Remove the two ash receiver retainer attaching screws from the upper-rearward face and remove retainer.
(4) For lamp replacement, remove the clamp and lamp hood from the top of the retainer. Remove the wiring clip at the forward edge of the retainer and remove the lamp socket from the hood and replace lamp.

INSTALLATION

For installation reverse the above procedures. When installing the retainer ensure that the forward tabs are inserted properly into the slots in the instrument panel.

CENTER BEZEL

REMOVAL

(1) Open the ash receiver receptacle.
(2) Grasp the bezel and pull rearward disengaging the clips.

INSTALLATION

For installation, reverse the above procedures.

CIGAR LIGHTER RECEPTACLE

REMOVAL

(1) Remove the cigar lighter element.
(2) Reach underneath the instrument panel through the bottom access hole and disconnect the cigar lighter receptacle wiring connectors.
(3) Unscrew the cigar lighter receptacle shell from the receptacle and remove from the base instrument panel.

INSTALLATION

For installation, reverse the above procedures.

CLUSTER

CAUTION: Cluster MUST be stored in a face up position or damage will occur to the gauge operation.

REMOVAL

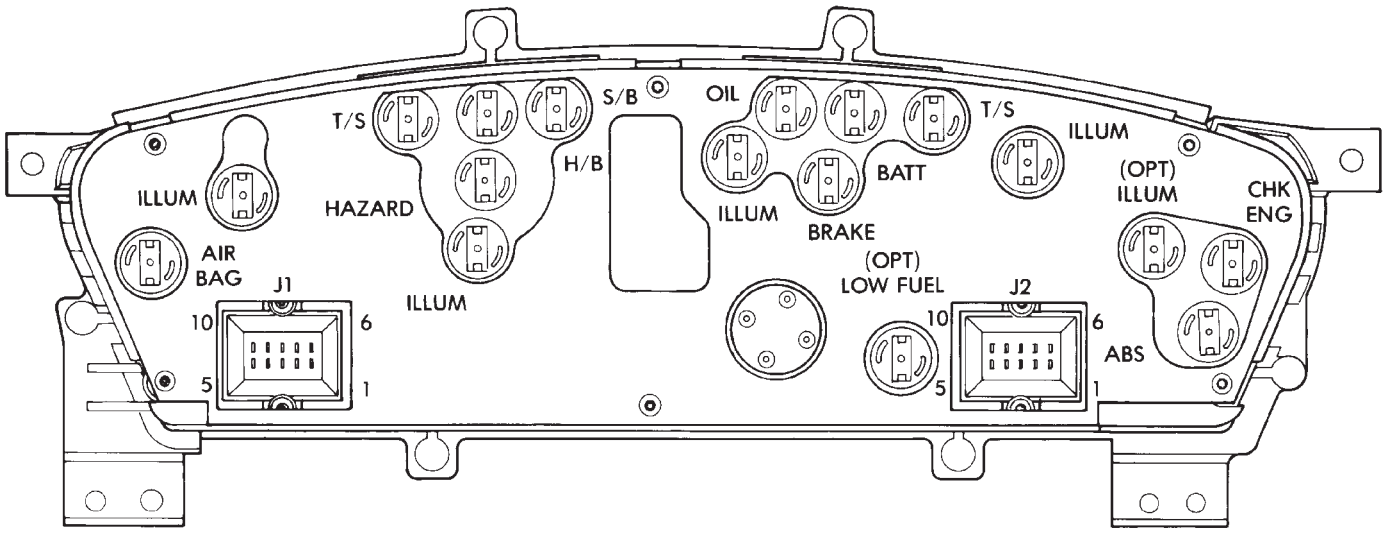
(1) Disconnect the battery to ensure no DTCs are generated.
(2) Remove the instrument panel top cover and cluster bezel.
(3) Remove the four screws attaching cluster housing to the base panel.
(4) Pull the cluster rearward to disconnect from base panel.
(5) Remove the cluster assembly.

INSTALLATION

For installation, reverse the above procedures.

CLUSTER LAMP

The Instrument Cluster illumination Lamps location are shown in (Fig. 16). The cluster is viewed from the rear. To replace lamp(s), the cluster must be removed. Refer to Cluster Removal and Installation procedure.



948E-80

Fig. 16 Instrument Cluster Illumination Lamps

REMOVAL AND INSTALLATION (Continued)

CLUSTER PRINTED CIRCUIT BOARD

REMOVAL

(1) Remove the cluster, refer to Cluster Removal.

(2) Remove the attaching screws and rear cover (Fig. 17). The bottom screws attaching lens to housing can be accessed without removing foam pad.

(3) Disconnect the odometer connector and remove eight attaching screws that attach the printed circuit board and housing (Fig. 18).

(4) Carefully remove printed circuit board from the cluster.

INSTALLATION

For installation, reverse the above procedures. Carefully place board on the cluster and ensure that the odometer connector is placed through the board. Gently press board on cluster with a slight rocking motion to ensure pins on gauges line up.

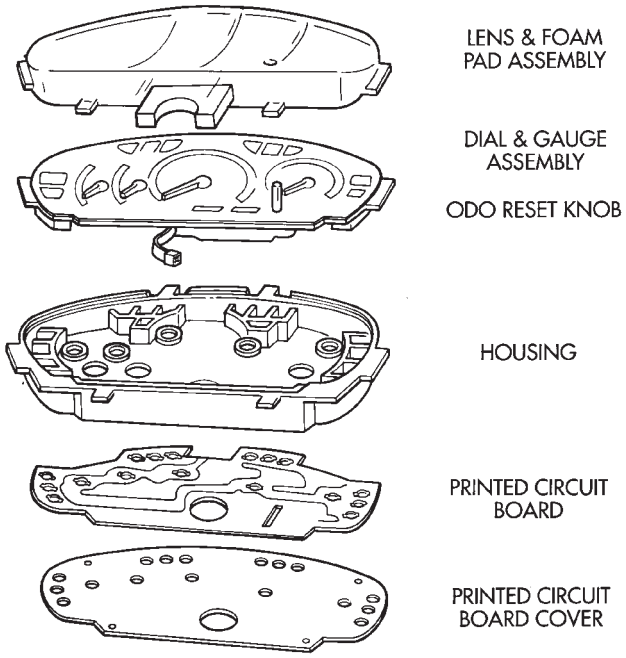


Fig. 17 Cluster Assembly

DOME LENS/LAMP

REMOVAL

Pry either the forward or rearward edge of the lens away from the retainer and replace the lamp.

INSTALLATION

For installation, snap lens into retainer.

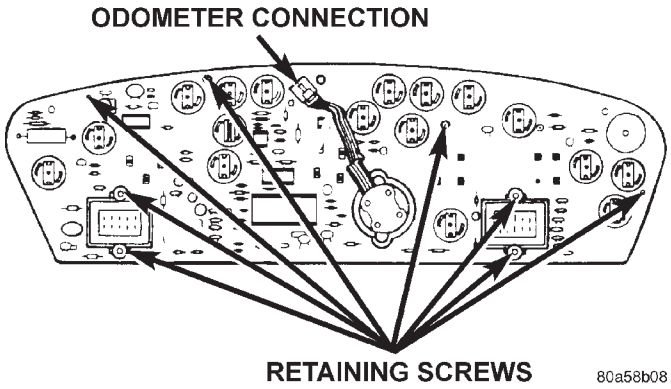


Fig. 18 Printed Circuit Board

END CAP RHD

Removal

(1) Unlatch the glove box door and lower is to the full open position.

(2) Remove the left trim panel as necessary to remove the end cap attaching screws.

(3) Remove the end cap

Installation

For installation, reverse the above procedures.

FLOOR CONSOLE

REMOVAL

(1) Remove the MTX shifter knob only.

(2) Remove the attaching screws from each side of the cup holder.

(a) Non-armrest console. Remove the two screws from the rear of the console (Fig. 19).

(b) Armrest console. Remove the four screws in the console bin.

(3) Pull the parking brake lever up all the way.

(4) Lift the console at the rear and guide it out from under the instrument panel.

INSTALLATION

For installation, reverse the above procedures.

FRONT FOG LAMP SWITCH EXPORT

REMOVAL

(1) Disconnect the wire connector in the center stack, BUX left side and RHD right side.

(2) Remove the floor console and disconnect the two clips attaching the wire harness from the underside of the floor console.

(3) Remove the switch bezel from the floor console.

INSTALLATION

For installation, reverse the above procedures.

REMOVAL AND INSTALLATION (Continued)

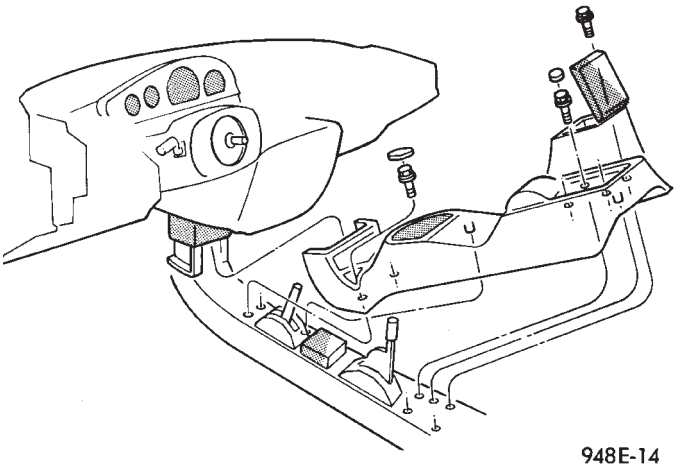


Fig. 19 Floor Console with Transmission Range Indicator

GAUGE

REMOVAL

(1) Remove the cluster. Refer to Cluster Removal.

(2) Remove the attaching screws PC board cover (Fig. 18). The bottom screws attaching lens to housing can be accessed without removing the foam pad.

(3) Disconnect the odometer connector.

(4) Remove the lens attaching screws and remove the lens.

(5) Carefully pry out the dial and gauge assembly.

INSTALLATION

For installation, reverse the above procedures.

(1) When handling or storing the cluster ensure that overlays are not damaged. Set the cluster in the face up position or the gauge operation will be damaged.

(2) The gauges are replaced as an dial and gauge assembly.

GLOVE BOX DOOR/BIN

REMOVAL

(1) Disconnect battery negative cable and isolate it or remove fuse 12 prior to removing the switch, or the wires may short to ground.

(2) Remove the screws along the bottom of glove box door.

(3) Open the glove box and push the glove box sides inward allowing the door bumpers to clear and box to tip forward.

(4) Pull the glove box door/bin rearward and remove from vehicle.

installation

For installation, reverse the above procedures.

GLOVE BOX SWITCH/LAMP

REMOVAL

(1) Disconnect battery negative cable and isolate it or remove fuse 12 prior to removing the switch, or wires may short to ground.

(2) Open the glove box and push the glove box sides inward allowing the door bumpers to clear and the box to tip forward.

(3) Reach inside the opening and squeeze the lamp/switch retainers until they are disengage.

(4) Pull the switch/lamp rearward and remove it. Replace the lamp. To replace the switch disconnect wire and replace the switch.

INSTALLATION

For installation, reverse the above procedures.

HEADLAMP LEVELING SWITCH EXPORT

REMOVAL

(1) Remove the top cover and cluster bezel assembly.

(2) Disengage the headlamp leveling switch bezel from instrument panel (Fig. 20).

(3) Pull the switch and bezel rearward from the opening and disconnect the wire connector.

INSTALLATION

For installation, reverse the above procedures.

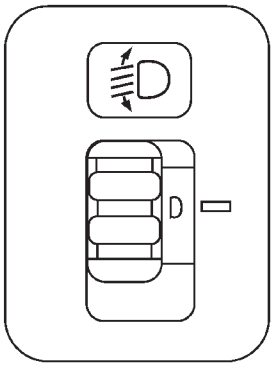


Fig. 20 Headlamp Leveling Switch

HEADLAMP SWITCH

REMOVAL

(1) Remove the steering column cover and liner.

(2) Remove the three screws securing headlamp switch mounting plate to the instrument panel (Fig. 21).

(3) Pull the headlamp switch and mounting plate rearward from the instrument panel opening.

(4) Disconnect both the nine way and the ground wiring connectors from the switch.

REMOVAL AND INSTALLATION (Continued)

(5) Remove the switch knob by depressing the release button on the bottom on the switch and pulling out knob from switch.

(6) Snap headlamp switch bezel out of mounting plate to gain access to the mounting plate retaining nut.

(7) Remove the headlamp switch, mounting plate retaining nut and separate switch from mounting plate.

INSTALLATION

For installation, reverse the above procedures.

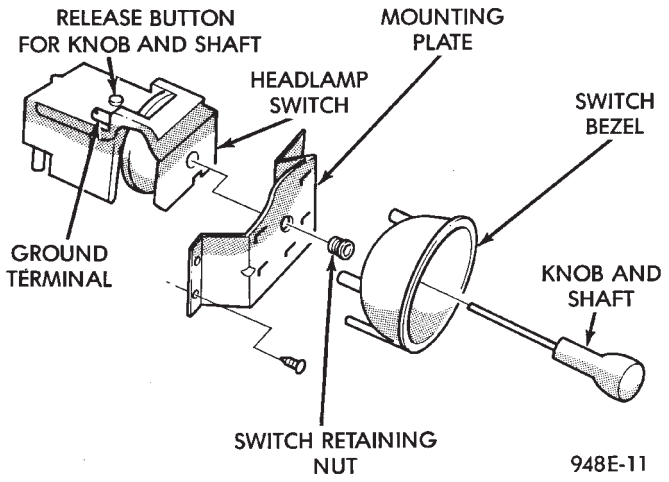


Fig. 21 Headlamp Switch

HEATER A/C CONTROL

REMOVAL

(1) Remove the top cover and cluster bezel.

(2) Reach in and disconnect the wiring connector(s) for the rear window defogger and/or fog lamp switch(s) as required.

(3) Remove the six attaching screws across the forward portion of the trim panel. Then lift the flange forward to disengage the three locator pins.

(4) Pull panel rearward disengaging the clips along the bottom.

(5) Open the ash receiver.

(6) Remove the center bezel.

(7) Remove three attaching screws at corners of the control (Fig. 22).

(8) Pull the control rearward and disconnect the wiring connector.

(9) Using a screwdriver, disengage the cable attachment clips.

INSTALLATION

For installation, reverse the above procedures.

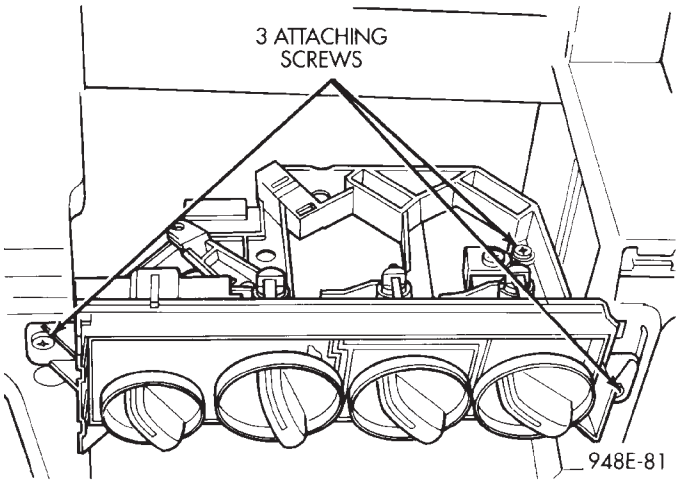


Fig. 22 HEATER A/C CONTROL

HEATER A/C CONTROL BLOWER SWITCH

The switch is not serviced, replace heater A/C control. Refer to the Heater A/C Control Removal and Installation.

HEATER A/C CONTROL LAMP

REMOVAL

(1) Remove the Heater A/C Control. Refer to the Heater A/C Control Removal.

(2) Remove the two center knobs by pulling the knob rearward.

(3) Replace the lamp.

INSTALLATION

For installation, reverse the above procedures.

HEATER CONTROL BLOWER SWITCH

The switch is not serviced, replace the heater control. Refer to the A/C Heater Control Removal and Installation.

IGNITION KEY LAMP

REMOVAL

(1) Remove the steering column cover. Refer to Steering Column Cover Removal.

(2) Disconnect the lamp hood from the base panel.

(3) Remove the lamp socket from hood and replace the lamp.

INSTALLATION

For installation, reverse the above procedures.

REMOVAL AND INSTALLATION (Continued)

INSTRUMENT PANEL

REMOVAL

CAUTION: Disconnect battery negative cable, in engine compartment, before servicing instrument panel.

(1) Disconnect and isolate the battery negative cable.
(2) Remove the floor console. Refer to Floor Console Removal.
(3) Remove the right and left cowl side trim panels (Fig. 23).
(4) Remove the steering column cover and liner.
(5) Remove the top cover and cluster bezel assembly.
(6) Remove the right and left trim panel.
(7) Remove the defroster upper duct by lifting it up.
(8) Remove the center outlet duct by pulling rearward.
(9) Disconnect the Heater A/C Control, by removing the control cables clips with a screwdriver and remove the wire connector.

CAUTION: Lock the steering wheel in the straight ahead position. This will prevent clockspring damage when the steering wheel rotates freely.

(10) Disconnect the steering column at the bottom slap together joint.
(11) Disconnect the ATX shifter interlock cable at the shifter, if equipped.
(12) Disconnect the instrument panel wiring as required.
(13) Remove the four attaching screws at the center floor pan bracket (Fig. 24).
(14) Remove the four attaching screws at steering column.
(15) Remove the four cowl top nuts.
(16) Remove the attaching screws from the left and right lower cowl side bracket (Fig. 25).
(17) Remove the two attaching screws from the left upper cowl side and one from the right upper cowl side.
(18) Pull the instrument panel rearward away from the dash/plenum.
(19) Remove the instrument panel from vehicle.

INSTALLATION

For installation, reverse the above procedures.

REMOVAL AND INSTALLATION (Continued)

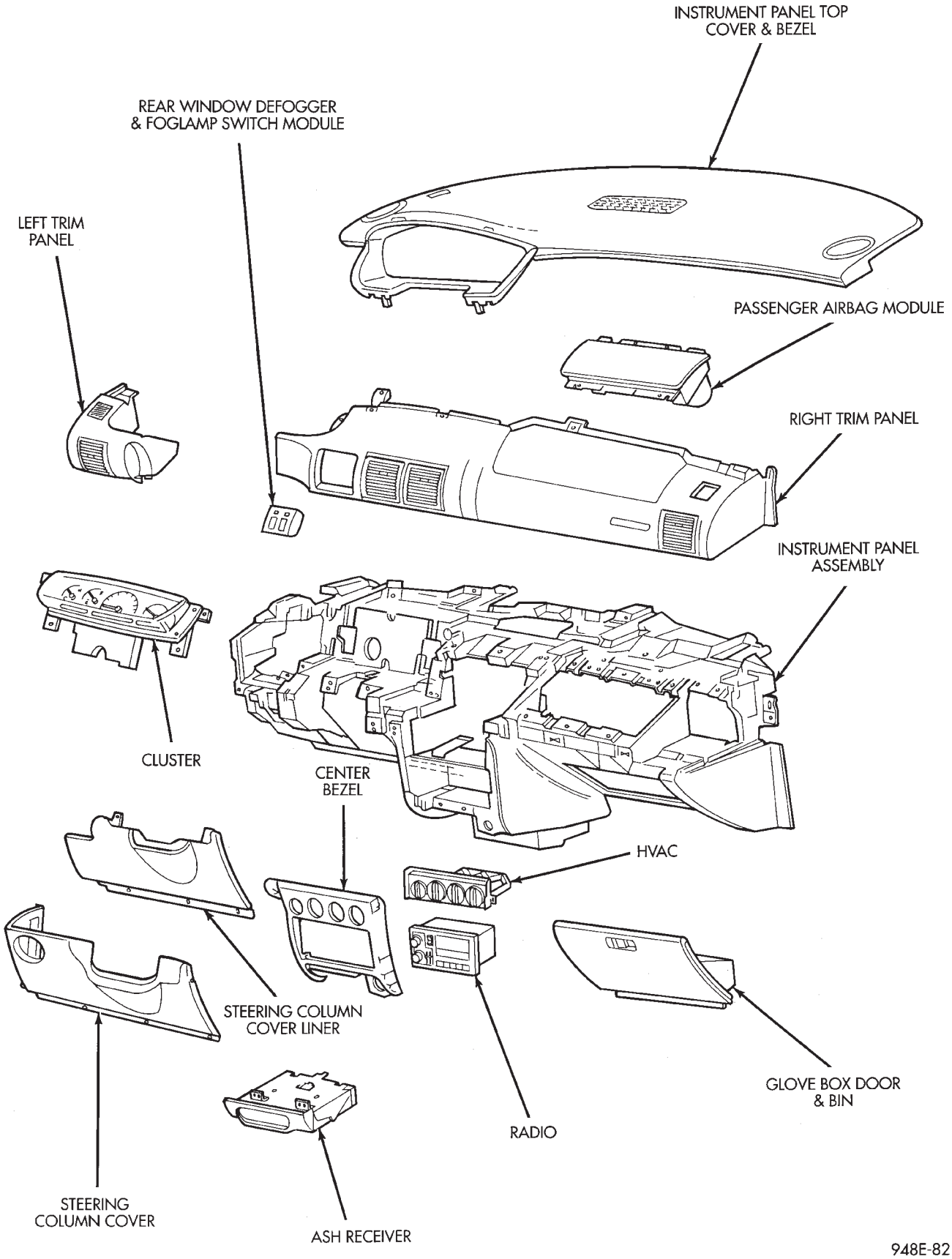


Fig. 23 Instrument Panel Assembly

REMOVAL AND INSTALLATION (Continued)

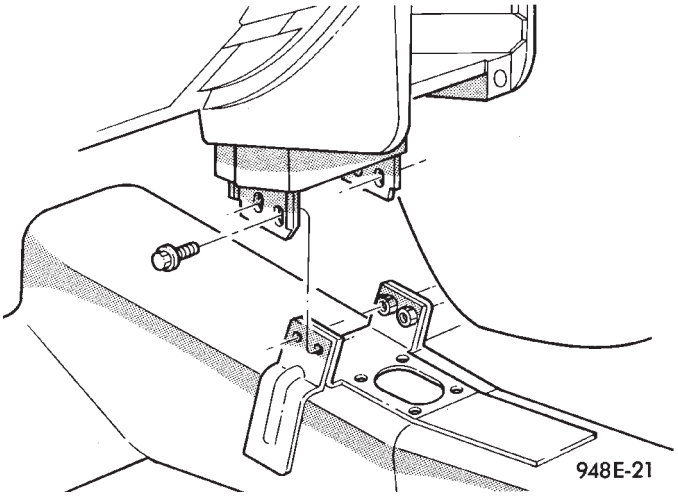


Fig. 24 Center Floor Pan Bracket

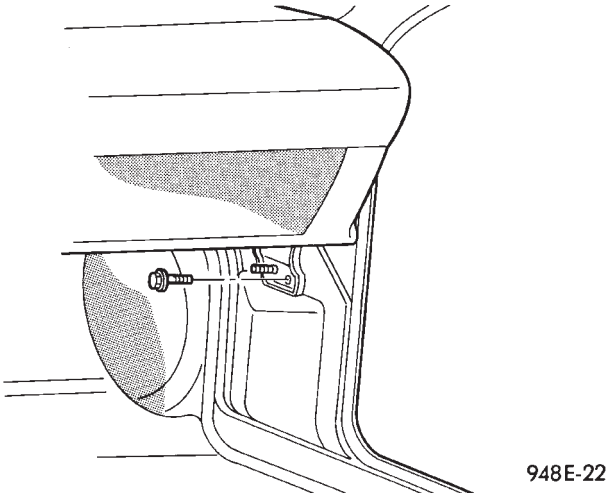


Fig. 25 Side Bracket

LEFT TRIM PANEL

REMOVAL

(1) Remove the top cover and cluster bezel (Fig. 23).

(2) Remove the steering column cover.

(3) Remove the two attaching screws along the bottom and the one at the top of the trim panel and pull rearward to remove.

INSTALLATION

For installation, reverse the above procedures.

ODOMETER

REMOVAL

(1) Remove the instrument panel top cover and cluster bezel.

(2) Remove the four screws attaching cluster to instrument panel (Fig. 26).

(3) Remove the cluster.

(4) Remove the screws attaching PC board cover to cluster.

(5) Disconnect the odometer connector from the printed circuit board.

(6) Remove the screws attaching lens, dial and gauge assembly to the housing. The bottom screws attaching lens to the housing can be accessed without removing the foam pad.

(7) Remove the lens, dial and gauge assembly from housing.

(8) Remove the two screws holding the odometer to dial and gauge assembly. When setting the dial/gauge and/or cluster assembly down, it must be face up or the gauge operation will be damaged.

INSTALLATION

For installation, reverse the above procedures. Carefully place the dial and gauge assembly on the cluster and ensure that the odometer connector is placed through the board. Install with a slight rocking motion to ensure the pins on gauges line up.

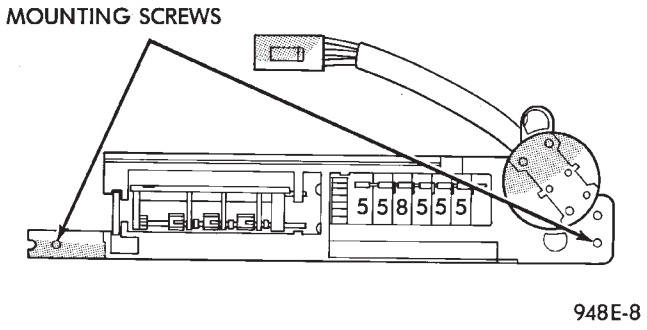


Fig. 26 Odometer

RADIO

For Radio removal procedures, Refer to Group 8F, Audio Systems.

REAR WINDOW DEFOGGER AND/OR FOG LAMP SWITCH

REMOVAL

(1) Remove the top cover and cluster bezel assembly. Refer to the Top Cover and Cluster Bezel Removal above.

(2) Reach in and disengage the left bezel latch and remove assembly (Fig. 27).

(3) Pull the bezel and switch(s) rearward from the opening and disconnect the wire connector(s).

(4) Remove the switch from the bezel.

INSTALLATION

For installation, reverse the above procedures.

REMOVAL AND INSTALLATION (Continued)

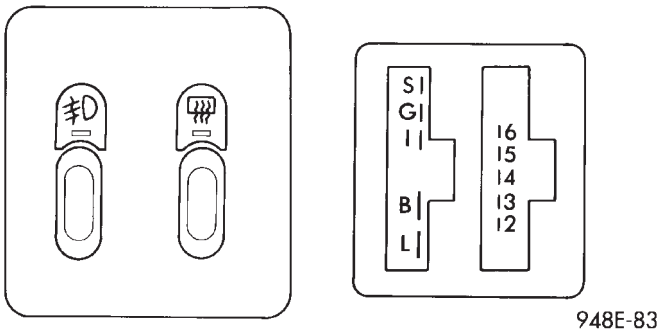


Fig. 27 Rear Window Defogger and Fog Lamp Switch

REAR WINDOW DEFOGGER AND/OR REAR FOG LAMP SWITCH EXPORT

REMOVAL

(1) Remove the top cover and cluster bezel assembly. Refer to Top Cover and Cluster Bezel Removal above.

(2) Reach in and disengage the left bezel latch and remove the assembly (Fig. 28).

(3) Pull the bezel and switch(s) rearward from the opening and disconnect the wire connector(s).

(4) Remove the switch from the bezel.

INSTALLATION

For installation, reverse the above procedures.

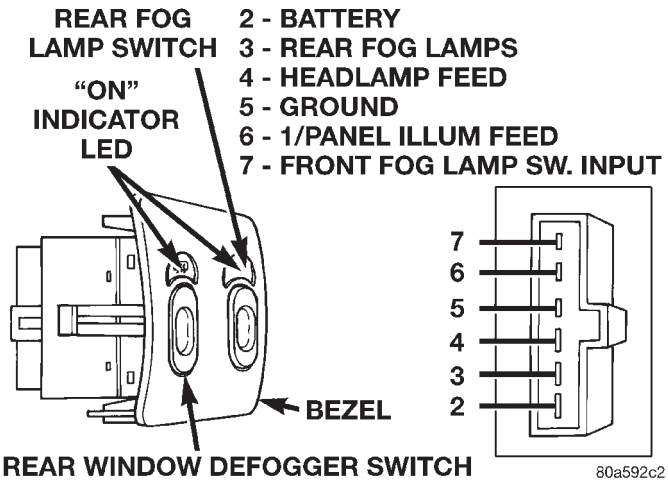


Fig. 28 Rear Window Defogger and Rear Fog Lamp Switch

RIGHT TRIM PANEL

REMOVAL

(1) Remove the top cover and cluster bezel (Fig. 23).

(2) Reach in and disconnect the wiring connector(s) for the rear window defogger and/or fog lamp switch(s) as required.

(3) Remove the six attaching screws across the forward portion of the trim panel. Then lift flange forward to disengage the three locator pins.

(4) Pull the panel rearward until the clips along the bottom disengage.

INSTALLATION

For installation, reverse the above procedures.

SHIFTER KNOB

ATX SHIFTER

REMOVAL

(1) Loosen the set screw at the left side under the button area.

(2) Pull up until the knob slides off the shifter shaft.

INSTALLATION

For installation, reverse the above procedures.

MTX SHIFTER

REMOVAL

(1) Pull the top part of the boot down until the two tabs at the bottom of the knob are exposed.

(2) Release the locking tabs from the pins on the shifter shaft.

(3) Pull up until the knob slides off the shifter shaft.

INSTALLATION

For installation, reverse the above procedures.

STEERING COLUMN COVER

REMOVAL

(1) Remove the three attachment screws along the bottom of the cover and screw on the left outward face of cover (Fig. 29).

(2) Grasp the cover and pull rearward until the clips disengage.

INSTALLATION

For installation, reverse the above procedures.

STEERING COLUMN COVER LINER

REMOVAL

(1) Remove the steering column cover (Fig. 23).

(2) Remove the two attachment screws at the upper area of the liner and the lower left corner.

INSTALLATION

For installation, reverse the above procedures.

REMOVAL AND INSTALLATION (Continued)

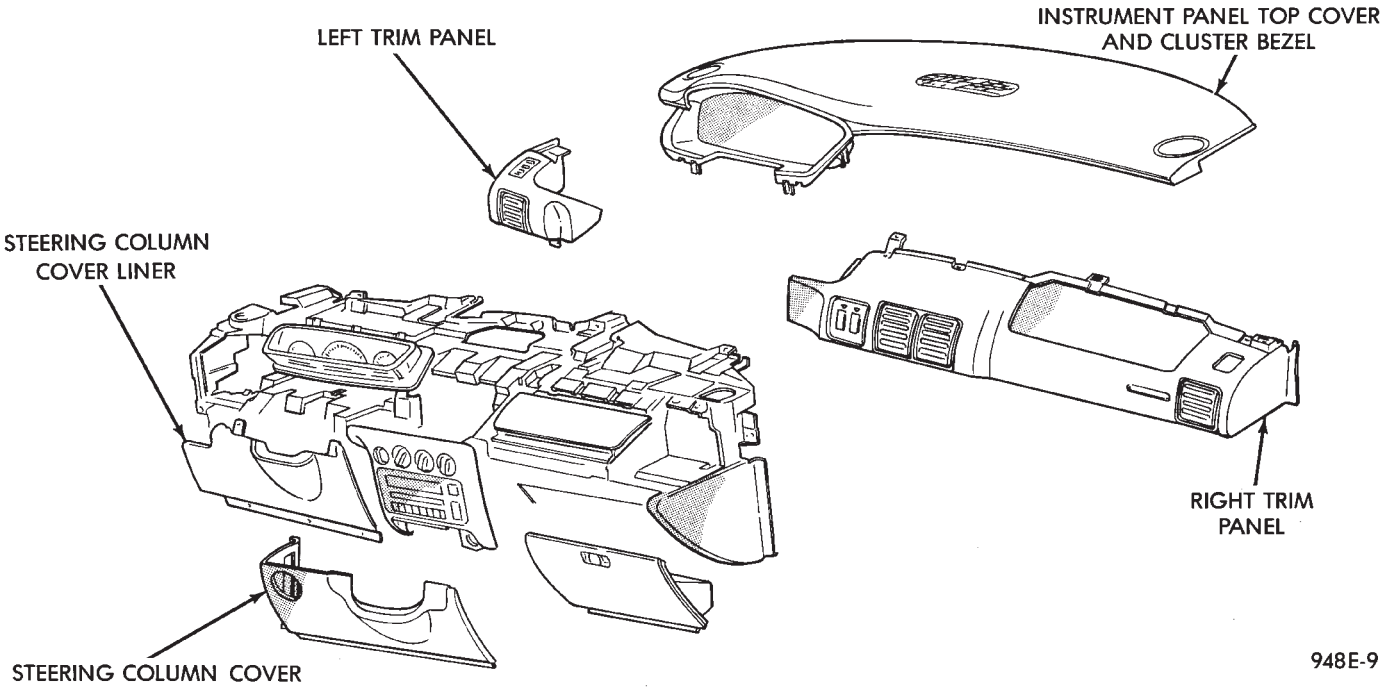


Fig. 29 Instrument Panel and Top Cover

STEERING COLUMN SHROUDS

(1) Remove the steering column cover and steering column cover liner.

(2) Lift up the top cover and cluster bezel until the clips disengage and separate to provide clearance (Fig. 30).

(3) Rotate the ignition key cylinder to run/on position. Insert a screw driver into the access hole at the bottom of lower shroud to release the ignition key cylinder.

(4) Pull out the ignition key cylinder.

(5) Remove the three lower to upper shroud attaching screws through the bottom of the lower shroud.

(6) Separate the upper and lower shrouds.

INSTALLATION

For installation, reverse the above procedures.

TOP COVER AND CLUSTER BEZEL REMOVAL

REMOVAL

(1) Use care not to scratch the panel. Lift up on the bottom outer areas of the cluster bezel and along the rearward edge of the top cover to disengage the clips (Fig. 29).

(2) Pull the top cover and cluster bezel rearward until the forward pins disengage from the instrument panel.

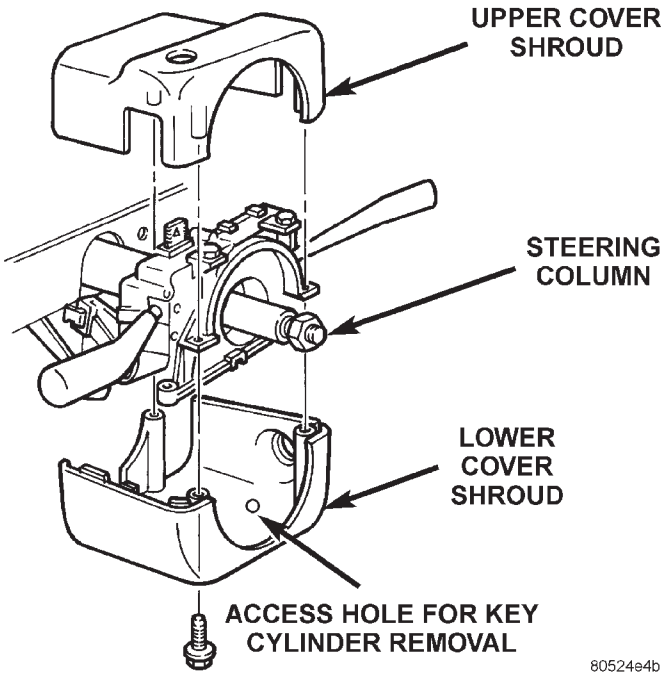


Fig. 30 Upper/Lower Shroud

INSTALLATION

For installation, reverse the above procedures. Position spring clips to instrument panel and push firmly until seated.

TRANSMISSION RANGE INDICATOR LAMP

REMOVAL

(1) Raise the floor console (Fig. 19).

REMOVAL AND INSTALLATION (Continued)

(2) Remove the attaching screw from each of the two forward cup holders of the floor console. Remove the screws at the rear of the console or inside of the armrest console bin.

(3) Pull the parking brake lever all the way up.

(4) Lift the floor console at the rear high enough to gain access to the lamp and socket.

(5) Remove the indicator lamp socket from bezel to replace the lamp.

INSTALLATION

For installation, reverse the above procedures.

TRUNK LAMP/LENS

REMOVAL

The trunk lamp snaps into the rear shelf panel reinforcement under/below the package shelf.

(1) Remove the socket assembly by reaching up above the sheet metal. Push the snap inward and downward and remove the assembly.

(2) Remove the lamp from socket and pull the socket from the lens. Replace as necessary.

INSTALLATION

For installation, reverse the above procedures.

VEHICLE SPEED SENSOR

REMOVAL

(1) Remove the harness connector from the sensor and make sure the weather seal is on the harness connector.

(2) Remove the sensor retaining bolt.

(3) Pull the sensor and pinion gear assembly out of transaxle. If necessary, carefully pry it loose with a flat blade tool (Fig. 31) and (Fig. 32).

INSTALLATION

For installation, reverse the above procedures. Seat the sensor assembly by hand to ensure proper gear engagement. Tighten retaining bolt to 7 N·m (60 in. lbs.) torque.

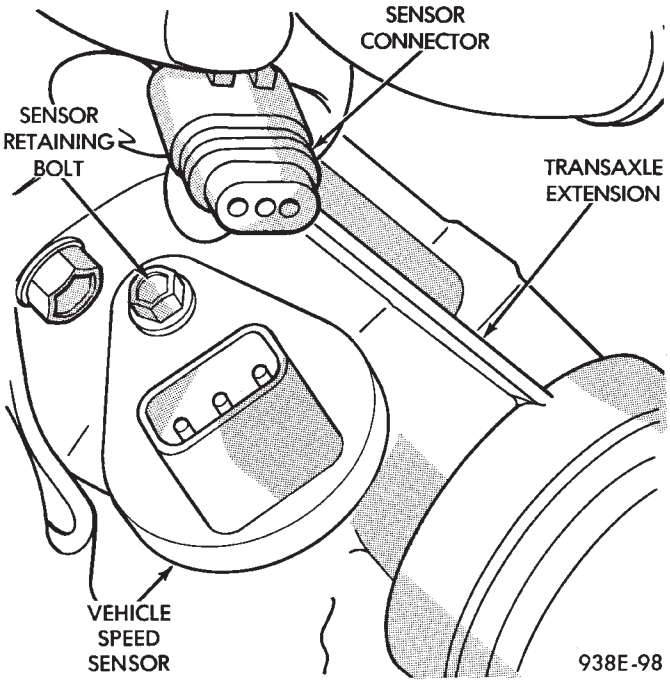


Fig. 31 Vehicle Speed Sensor and Connector

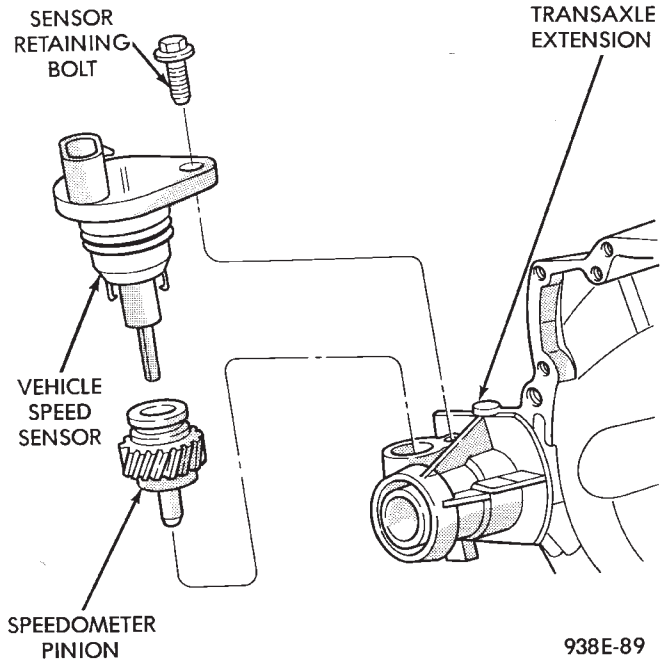


Fig. 32 Vehicle Speed Sensor and Speedometer Pinion

REMOVAL AND INSTALLATION (Continued)