

INSTRUMENT PANEL SYSTEMS

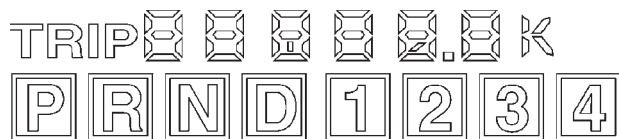
TABLE OF CONTENTS

	page	page
DESCRIPTION AND OPERATION		
AUTOSTICK.....	1	
COMPASS/TEMPERATURE MINI-TRIP COMPUTER (CMTC)	1	
ELECTRO/MECHANICAL INSTRUMENT CLUSTER.....	2	
DIAGNOSIS AND TESTING		
DIAGNOSTIC PROCEDURE.....	3	
INSTRUMENT CLUSTER SELF- DIAGNOSTICS	3	
COMPASS / TEMPERATURE MINI - TRIP COMPUTER (CMTC) SELF - DIAGNOSTICS ...	4	
TRACTION CONTROL SWITCH.....	5	
SERVICE PROCEDURES		
COMPASS CALIBRATION PROCEDURE	5	
REMOVAL AND INSTALLATION		
BODY CONTROL MODULE (BCM)	5	
CENTER BEZEL.....	6	
CIGAR LIGHTER / POWER OUTLET.....	6	
CLUSTER HOOD.....	7	
CLUSTER LAMPS.....	7	
CLUSTER PRINTED CIRCUIT BOARD	7	
COMPASS / TEMPERATURE MINI - TRIP COMPUTER (CMTC) MODULE	7	
		CUBBY BIN/LAMP 7
		FUEL GAUGE AND TEMPERATURE GAUGE..... 9
		GLOVE BOX DOOR HANDLE 9
		GLOVE BOX DOOR LOCK..... 9
		HEADLAMP SWITCH 10
		HVAC CONTROL..... 10
		INSTRUMENT CLUSTER..... 10
		INSTRUMENT PANEL and PAD ASSEMBLY... 10
		INSTRUMENT PANEL END COVERS – LEFT AND RIGHT 12
		INSTRUMENT PANEL SPEAKERS 12
		INSTRUMENT PANEL TOP COVER..... 12
		LEFT UNDER INSTRUMENT PANEL SILENCER/DUCT 13
		MASK/LENS 13
		ODOMETER/TRANSMISSION RANGE INDICATOR 13
		RADIO..... 13
		RIGHT UNDER INSTRUMENT PANEL SILENCER/DUCT 13
		SPEEDOMETER, TACHOMETER, ODOMETER, AND TRANSMISSION RANGE INDICATOR ... 13
		TRACTION CONTROL SWITCH..... 13
		VEHICLE THEFT/SECURITY SYSTEM LED 14

DESCRIPTION AND OPERATION

AUTOSTICK

DESCRIPTION



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Fig. 1 Autostick Odometer/Transmission Range Indicator

Vehicles with Autostick will have a unique Transmission Range Indicator display.

OPERATION

When in the Autostick mode, a box around the gear position will be displayed to inform the driver which transmission gear is currently engaged.

COMPASS/TEMPERATURE MINI-TRIP COMPUTER (CMTC)

DESCRIPTION

The Compass / Temperature Mini-Trip Computer (CMTC) system is located on the right hand side of the instrument panel cluster (Fig. 2).

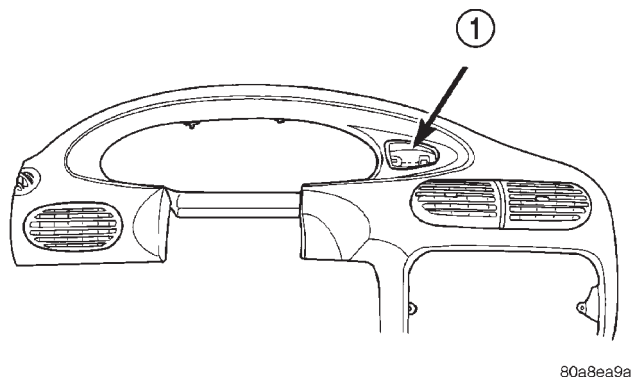
The CMTC is an electronic control module with a vacuum fluorescent display and two function buttons. The CMTC is capable of displaying compass, temperature, and trip computer information (Fig. 3).

The functions that are available via activation of the STEP switch are as follows:

- Compass and Ambient Temperature

DESCRIPTION AND OPERATION (Continued)

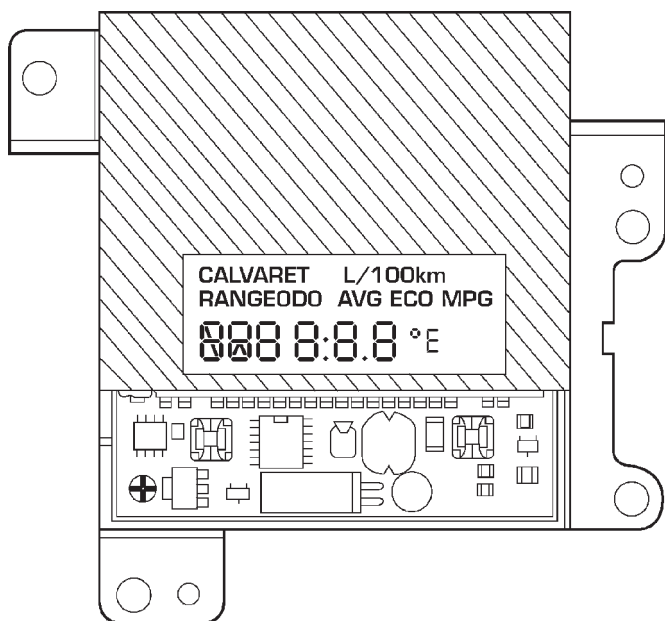
- Average Trip Fuel Economy (AVG ECO)
- Estimated Range (RANGE)
- Present Fuel Economy (ECO)
- Trip Odometer (ODO)
- Elapsed Ignition On Time (ET)
- Blank Screen



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Fig. 2 Compass/Temperature Mini-Trip Computer

1 - TEMPERATURE/COMPASS MINI TRIP COMPUTER



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Fig. 3 Compass/Temperature Mini-Trip Computer Module**OPERATION**

Actuation of the STEP button will cause the CMTC to change mode of operation and actuation of the US/M button will toggle between English and Metric unit of measurement. A reset of the trip computer information is accomplished by actuating the Step and US/M buttons simultaneously.

The CMTC is active only when the ignition switch is in the ON position. When the ignition switch is turned ON, the CMTC will turn on all of the segments in the display for one second then return to

the last function screen that was displayed prior to the ignition being turned OFF.

COMPASS

The CMTC requires no activation of any switches to trigger a forced calibration. The compass is initially setup to be calibrated for earth fields of approximately 180 milligauss. However, due to the variation in the magnetic earth field across the country and the variation of the magnetic structure from vehicle to vehicle the compass may need to be calibrated. Refer to Compass Calibration Service Procedures.

AMBIENT TEMPERATURE

The temperature is displayed in whole degrees Celsius or Fahrenheit. Temperatures greater than or equal to zero are displayed unsigned and temperatures below zero are displayed signed (-). If the temperature is more than 55°C (131°F) or the temperature sending line is shorted to ground, the compass and ambient temperature screen will display SC. If the temperature is less than -40°C (-40°F) or the temperature sending line is an open circuit, the compass and ambient temperature screen will display "OC". If the CMTC is not receiving the temperature information over the CCD Bus, then the compass and ambient temperature screen will display "CCd". Refer to the proper Body Diagnostics Procedures Manual.

MINI TRIP COMPUTER MESSAGES

The Mini Trip Computer data is obtained from information put on the CCD bus from the Powertrain Control Module (PCM) and the Body Control Module (BCM). The CMTC will not display information for any of the screens for which it did not receive the proper data over the CCD bus for that particular screen. In this case the message "CCd" will be displayed. If some of the screens appear to be functioning properly but some of the screens display "CCd" then check either the Powertrain Control Module or the Body Control Module for proper CCD bus communications. If the "CCd" message still persists, refer to the Mini Trip Computer Self Diagnostic Test.

ELECTRO/MECHANICAL INSTRUMENT CLUSTER**DESCRIPTION**

The mechanical instrument cluster is an electro/mechanical module which receives most of its information from the Body Control Module (BCM) via the CCD bus.

The cluster (Fig. 4) includes:

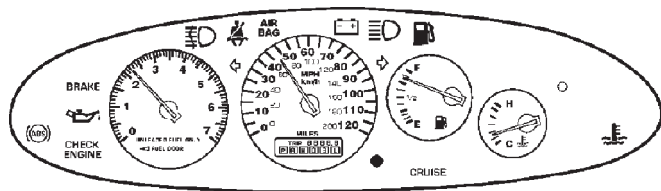
- 120 mph (200) km/h speedometer
- Tachometer

DESCRIPTION AND OPERATION (Continued)

- Odometer / trip odometer and transmission range indicator with automatic transmission
- Door ajar
- Deck ajar
- Lo washer fluid
- Fuel gauge
- Temperature gauge
- Vehicle Theft / Security System (VTSS) indicator (optional)

The warning and information indicators include the following:

- Check Engine
- Airbag
- Charging system
- Low oil pressure
- High temperature
- Low fuel
- Seat belt
- Cruise (optional)
- Brake/park brake
- Anti-lock brake system (optional)
- High beam
- Fog lamps
- Vehicle Theft / Security System (VTSS) indicator (optional)
- Turn signals
- Traction Control ON/OFF



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Fig. 4 Instrument Cluster

OPERATION

The gauges are the magnetic air-core type. When the ignition switch is OFF, the gauge pointers should rest at or below the low graduation.

It receives most of its information from the Body Control Module (BCM) via the CCD bus.

DIAGNOSIS AND TESTING

DIAGNOSTIC PROCEDURE

In order to diagnose the instrument cluster function, a DRB III® scan tool and the proper Body Diagnostic Procedures Manual are required.

As a quick diagnosis, the cluster can perform a function check for the electronic display, odometer and transmission range indicator, and all warning lamps will illuminate for a brief period of time except:

- Cruise

- Fog lamps
- High beam
- Low fuel
- Low oil pressure
- Turn signal
- Security alarm
- Brake
- Trac OFF

If the cluster is not receiving CCD bus messages, the cluster will appear nonfunctional except for the continuously illuminated airbag indicator and NO BUS message displayed.

If the cluster is not receiving CCD bus messages, refer to the pre-diagnostic test described in proper Body Diagnostic Procedures Manual or refer to the Instrument Cluster Self-Diagnostic Test below.

INSTRUMENT CLUSTER SELF- DIAGNOSTICS

Initiate instrument cluster self-diagnostic by depressing the odometer/trip reset button while turning the ignition key to the OFF and then the RUN position. This will cycle an electronic display segment check and illumination in sequence of all CCD bus activated cluster warning indicators. There are four Check (CHEC) functions:

- (1) CHEC 1, checks the gauges.
- (2) CHEC 2, checks the warning lamps.
- (3) CHEC 3, checks the odometer/trip meter.
- (4) CHEC 4, Transmission Range Indicator for the automatic transmission or the autostick transmission.

If the diagnostic procedure determines that a replacement of an instrument cluster component is required, refer to the proper component removal procedure.

CHEC 1

- (1) If all gauges fail to move, replace Cluster Printed Circuit (PC) Board.
- (2) If any gauge fails to move, replace the gauge assembly.
- (3) If any gauge(s) is not in the proper position, replace Cluster Printed Circuit Board.

CHEC 2

- (1) If any lamp does not light, check lamp.
- (2) If lamp is not OK, replace lamp.
- (3) If lamp is OK, replace Cluster Printed Circuit Board.

CHEC 3

If any V/F segment does not light, replace Odometer/Transmission Range Indication.

DIAGNOSIS AND TESTING (Continued)

CHEC 1 - GAUGE DISPLAY

TACHOMETER ...6000 RPM
SPEEDOMETER ...100 MPH (220 KM/H)
FUEL GAUGE POINTER ON ...F
TEMPERATURE GAUGE POINTER ON ...H
TACHOMETER ...3000 RPM
SPEEDOMETER ...75 MPH (120 KM/H)
FUEL GAUGE POINTER ON ...1/2
TEMPERATURE GAUGE POINTER ON ...MIDSCALE
TACHOMETER ...3000 RPM
SPEEDOMETER ...55 MPH (100 KM/H)
FUEL GAUGE POINTER ON ...1/2
TEMPERATURE GAUGE POINTER ON ...MIDSCALE
TACHOMETER ...1000 RPM
SPEEDOMETER ...20 MPH (40 KM/H)
FUEL GAUGE POINTER ON ...E
TEMPERATURE GAUGE POINTER ON ...C

CHEC 2 - WARNING LAMP DISPLAY

CHECK ENGINE
SEAT BELT
AIRBAG
CHARGING SYSTEM
LOW FUEL
HIGH BEAM INDICATOR
ENGINE TEMPERATURE
CRUISE
ANTI-LOCK BRAKE
TRAC ON

CHEC 4 - AUTOMATIC TRANSMISSION

If any V/F segment does not light, replace Odometer/Transmission Range Indication.

CHEC 4 - AUTOMATIC TRANSMISSION

If any V/F segment does not light, replace Odometer/Transmission Range Indication.

COMPASS / TEMPERATURE MINI - TRIP
COMPUTER (CMTC) SELF - DIAGNOSTICS

The CMTC is capable of performing a diagnostic self check on many of its internal functions. CMTC diagnostics may be performed using a DRB III® scan

CHEC 3 - VACUUM FLORESCENT (VF)
DISPLAY

TRIP
ODOMETER CENTER
ODOMETER LOWER RIGHT
ODOMETER BOTTOM
ODOMETER LOWER LEFT
ODOMETER UPPER LEFT
ODOMETER TOP
ODOMETER UPPER RIGHT
ALL ODOMETER V/F DISPLAY DIGIT SEGMENTS ON

CHEC 4 - TRANSMISSION RANGE (VF)
DISPLAY - AUTOMATIC TRANSMISSION

PRND3L
PRND3L AND BOX AROUND P
PRND3L AND BOX AROUND R
PRND3L AND BOX AROUND N
PRND3L AND BOX AROUND D
PRND3L AND BOX AROUND 3
PRND3L AND BOX AROUND L
PRND3L AND ALL BOXES
END

TRANSMISSION RANGE (VF) DISPLAY -
AUTOSTICK

PRND1234
PRND1234 AND BOX AROUND 1
PRND1234 AND BOX AROUND 2
PRND1234 AND BOX AROUND 3
PRND1234 AND BOX AROUND 4
PRND1234 AND BOX AROUND P
PRND1234 AND BOX AROUND R
PRND1234 AND BOX AROUND N
PRND1234 AND BOX AROUND D
PRND1234 AND ALL BOXES
END

tool and the proper Body Diagnostic Procedures Manual or by the following procedure.

(1) With the ignition switch in the OFF position, press both the US/M and STEP button.

DIAGNOSIS AND TESTING (Continued)

(2) Turn ignition switch to the ON position.

The CMTC will perform internal checks while lighting all segments of the vacuum florescent display. Upon completion of the internal check, the CMTC will display one of three messages;

- PASS
- FAIL
- CCd

If any segment of the CMTC fails to light replace the module.

If FAIL is displayed, repeat the test. If it still fails, replace the module.

If CCd is displayed, check the CCD and Body Control Module (BCM) for proper operation, refer to the appropriate diagnostic test procedures manual. If the CCD and the BCM are OK, replace the CMTC module.

For additional diagnostic information on the CMTC and for identifying CMTC problems, refer to the proper Body Diagnostic Procedures Manual.

TRACTION CONTROL SWITCH

For diagnosis and testing of the Traction Control Switch, refer to the proper ABS Diagnostic Procedures Manual.

For diagnosis and testing of the Traction Control cluster lamp, refer to the proper Body Diagnostic Procedures Manual.

SERVICE PROCEDURES

COMPASS CALIBRATION PROCEDURE

COMPASS CALIBRATION

The compass must be calibrated to guarantee proper operation. Calibration should take place on a level surface in an area free of large metal objects, such as other vehicles, large buildings, bridges, underground cables, railroad tracks, etc.

If the "CAL" indicator is lit, the compass should be calibrated. The vehicle will be shipped with the "CAL" light on. Under certain conditions the "CAL" light may also come on during driving. Also, during normal driving, the compass may appear inaccurate, and the "CAL" indicator may or may not come on. In either condition, calibration is required.

To calibrate the compass (Fig. 5), drive in complete circles at a speed of 7–10 mph, until the "CAL" indicator is off (2–6 turns). If the "CAL" indicator is not on, prior to calibrating the compass, the "CAL" light will come on for a few seconds to indicate it has been calibrated. When the "CAL" indicator goes off, the compass is calibrated and should display correct headings (for all conditions). Verify proper calibration by checking North (N), South (S), East (E), and West

(W). If the compass does not appear accurate, repeat the calibration procedure in another area.

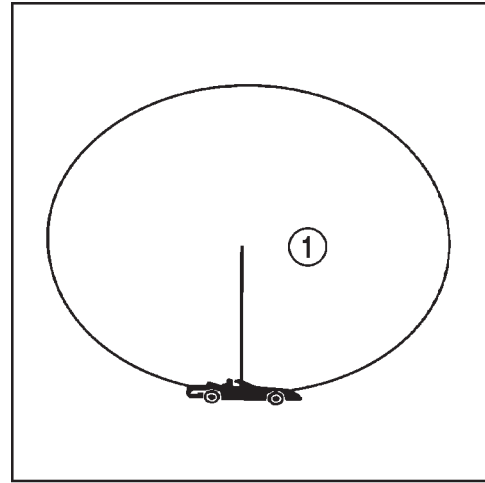


Fig. 5 Compass Calibration

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1 – radius = 15' — 45'
speed = 7–10 mph

NOTE: Drive in a small circle (try to keep steering wheel in a fixed position) between 7–10 mph, until the "CAL" light goes off.

VARIANCE SETTING PROCEDURE

Variance is the difference between magnetic North and geographic North. To adjust the compass variance set the CMTC to Compass/Temperature mode and press both US/M and STEP buttons for up to one second. The symbol VAR and current variance zone number will be displayed. Press the STEP button until the variance setting for your location is displayed (Fig. 6). After five seconds of inactivity, the displayed zone will be automatically set and normal operation resumed in the Compass/Temperature mode.

REMOVAL AND INSTALLATION

BODY CONTROL MODULE (BCM)

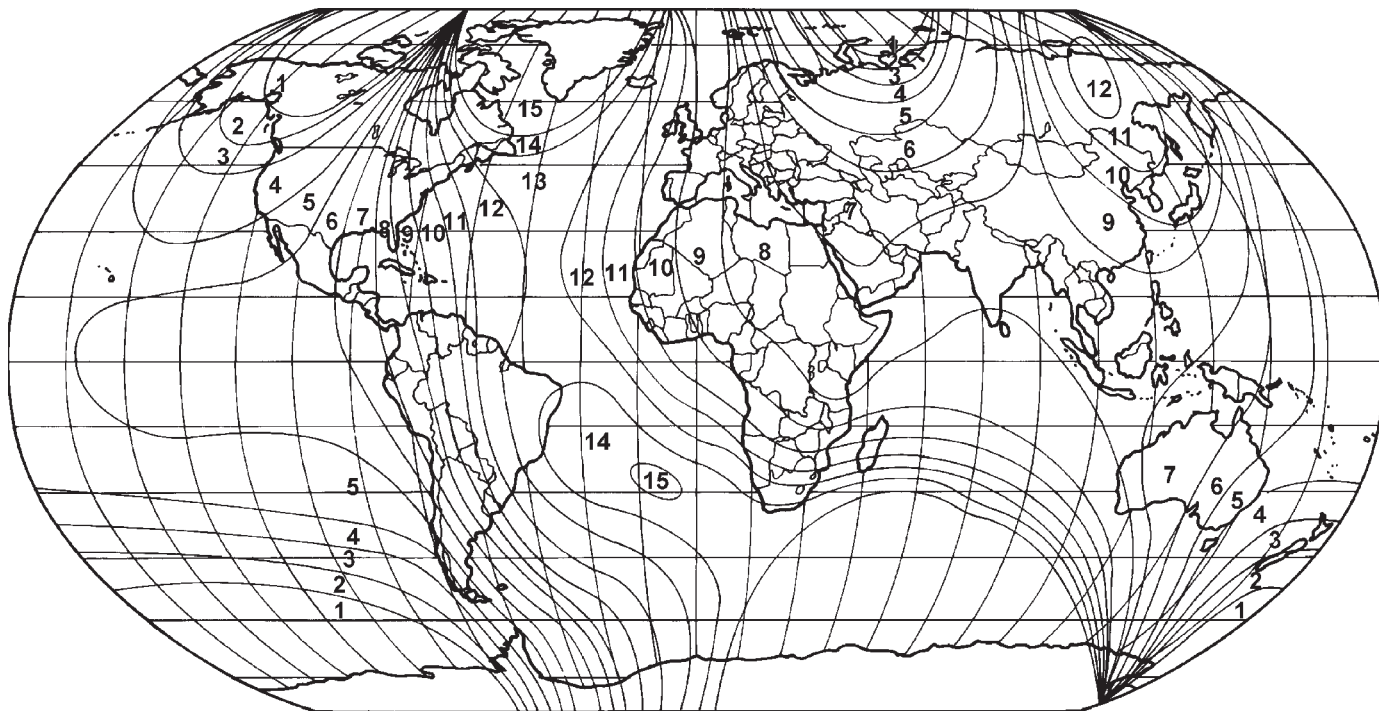
REMOVAL

(1) Disconnect the remote battery negative cable from the terminal on the shock tower.

The Junction Block and Body Control Module (BCM) are attached to each other. After removal they can be separated.

(2) Remove Junction Block / Body Control Module from vehicle. Refer to Group 80, Power Distribution Systems for Removal and Installation.

REMOVAL AND INSTALLATION (Continued)



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Fig. 6 Variance Settings

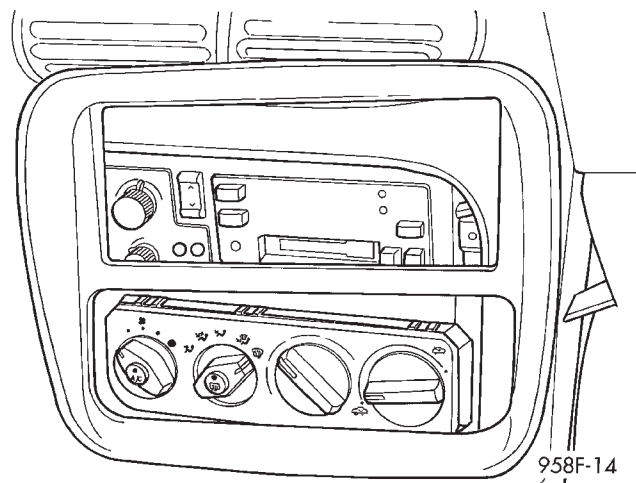
(3) With the Junction Block/BCM removed from the vehicle, separate the BCM from the Junction Block.

(4) Remove the two BCM attaching screws and release the two BCM locking latches from the Junction Block.

(5) Disconnect BCM from the Junction Block.

NOTE: The Remote Keyless Entry (RKE) module is attached to the BCM with three screws. This must be transferred (if equipped) to the new BCM if being replaced.

NOTE: If BCM is replaced, the VTSS must be enabled in the new BCM via the DRB III® in order to start the vehicle.



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Fig. 7 Center Bezel**CIGAR LIGHTER / POWER OUTLET****INSTALLATION**

For installation, reverse the above procedures.

CENTER BEZEL**REMOVAL**

Pull center bezel straight rearward along the sides of the radio and A/C control openings to disengage five clips (Fig. 7).

INSTALLATION

For installation, reverse the above procedures.

REMOVAL

(1) Disconnect and isolate the battery negative remote cable (Fig. 11).

(2) Remove cubby bin. Refer to Cubby Bin / Lamp Removal and Installation in this section.

(3) Disconnect the two wiring connectors from cigar lighter / power outlet. Unscrew shell and clamp assembly to replace.

REMOVAL AND INSTALLATION (Continued)

INSTALLATION

For installation, reverse the above procedures. The clamp has a locating feature. The cubby bin must engage the console at its forward edge prior to installing the mounting screws.

CLUSTER HOOD**REMOVAL**

- (1) Remove instrument panel left end cap.
- (2) Tilt steering column down to its lowest position.
- (3) Remove instrument panel center bezel by disengaging the four clips (Fig. 7).
- (4) Remove four attaching screws under the center bezel.
- (5) Remove screw at left end of panel.
- (6) Pull hood straight back to disengage the eight clips. If equipped with a Compass/Temperature Mini Trip Computer pull rearward about 3 inches and stop. Reach through the radio opening in the cluster hood and disconnect the CMTC wire connector.
- (7) Remove instrument cluster hood (Fig. 8).

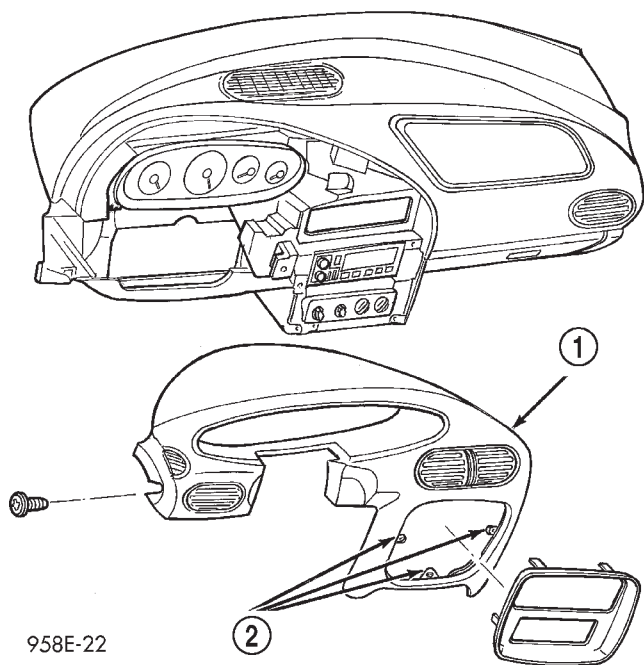


Fig. 8 Instrument Cluster Hood

- 1 - INSTRUMENT CLUSTER HOOD
2 - ATTACHING SCREWS

INSTALLATION

For installation, reverse the above procedures. Keep the forward edge of the hood down on the instrument panel while sliding the hood forward to engage the retaining clips.

CLUSTER LAMPS

The Instrument Cluster must be removed to service the cluster lamps. Refer to Instrument Cluster Removal and Installation in this section.

Refer to (Fig. 9) for appropriate lamp locations. Replace fog lamp indicator lamp, ABS indicator lamp and security LED socket assembly only if equipped.

All lamps are part #194 except for Fog Lamp (#161) and Security LED (#4608419).

CLUSTER PRINTED CIRCUIT BOARD

NOTE: White faced cluster is an electroluminescent unit and uses no illumination lamps. This cluster is not servicable and must be replaced as a unit.

The Instrument Cluster must be removed to service the cluster printed circuit board. Refer to Instrument Cluster Removal and Installation in this section.

REMOVAL

- (1) Remove six cluster back cover retaining screws and remove the cover.
- (2) Disconnect odometer/transmission range indicator connector from the printed circuit board.
- (3) Remove nine printed circuit board attaching screws and remove. There are two screws located at the base of each connector (Fig. 10).

INSTALLATION

For installation, reverse the above procedures.

COMPASS / TEMPERATURE MINI - TRIP COMPUTER (CMTC) MODULE**REMOVAL**

- (1) Disconnect and isolate the battery negative remote cable (Fig. 11).
- (2) Remove the Cluster Hood. Refer to Cluster Hood Removal and Installation in this section.
- (3) With the cluster hood removed, remove the four screws attaching the CMTC Module (Fig. 12).
- (4) Remove CMTC Module from cluster hood.

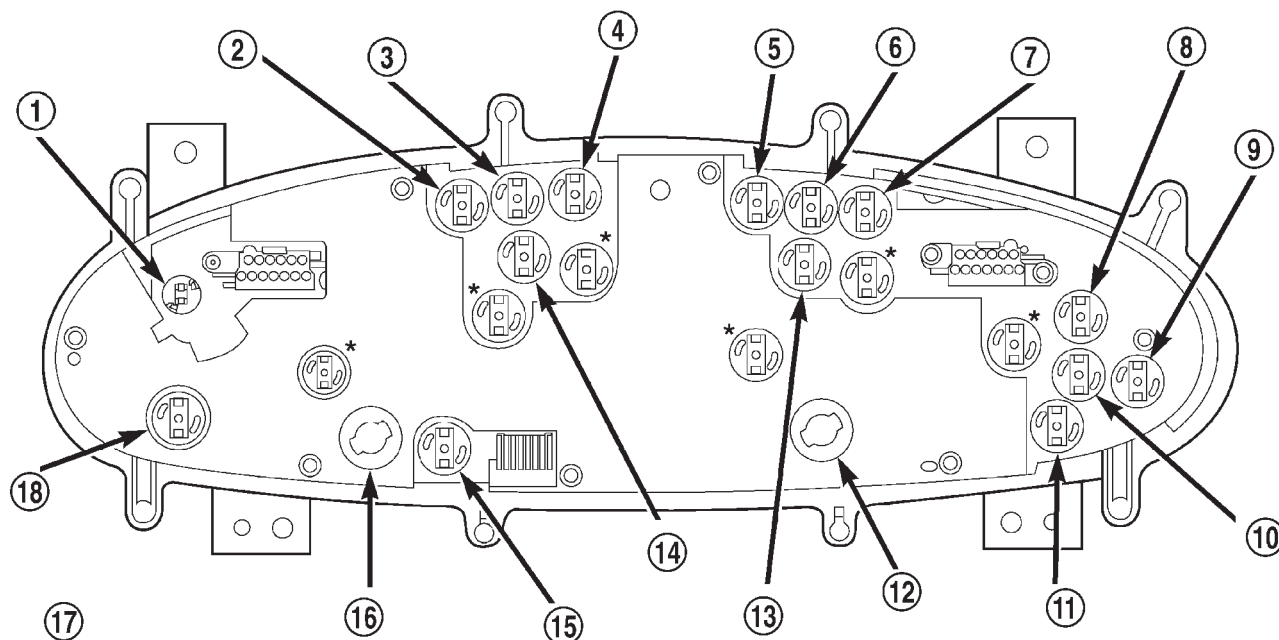
INSTALLATION

For installation, reverse the above procedures.

CUBBY BIN/LAMP**REMOVAL**

- (1) Disconnect and isolate the battery negative cable remote terminal from the shock tower.
- (2) Remove center bezel.
- (3) Remove instrument cluster hood screws.
 - (a) Remove two screws adjacent radio.

REMOVAL AND INSTALLATION (Continued)

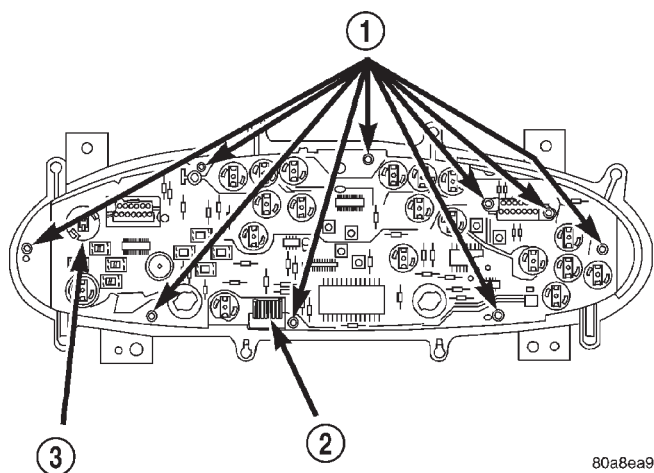


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Fig. 9 Lamp Location

- 1 - VEHICLE THEFT SECURITY SYSTEM LED
- 2 - LOW FUEL
- 3 - HIGH BEAM
- 4 - CHARGING SYSTEM
- 5 - AIR BAG
- 6 - SEAT BELT
- 7 - FOG LAMP
- 8 - BRAKE
- 9 - ABS

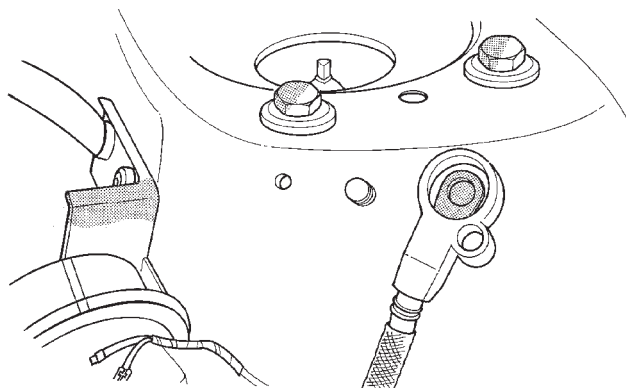
- 10 - OIL PRESSURE
- 11 - MIL/CHECK ENGINE
- 12 - TRAC OFF
- 13 - LEFT TURN
- 14 - RIGHT TURN
- 15 - CRUISE
- 16 - TRAC ON
- 17 - *ILLUMINATION LAMP
- 18 - HI TEMP



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Fig. 10 Printed Circuit Board

- 1 - RETAINING SCREWS
- 2 - TRANSMISSION RANGE INDICATOR CONNECTOR
- 3 - VTSS LED



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Fig. 11 Battery Negative Remote Cable Removal

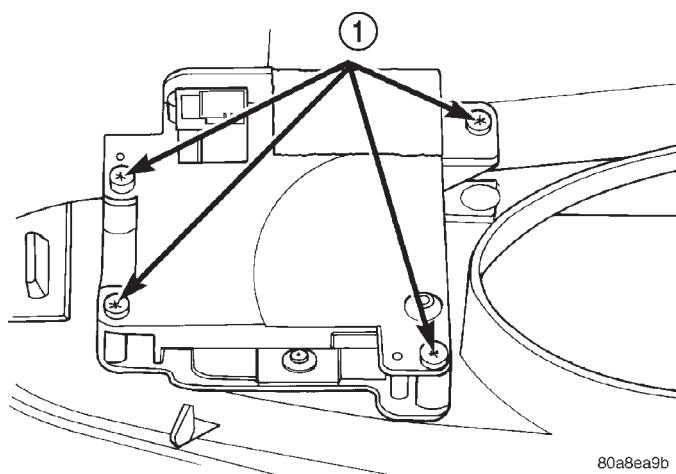
(b) Remove screw below HVAC control in the center.

(c) Remove screw at left end of panel.

(d) Flex instrument cluster hood slightly to give access to the cubby bin screws.

(4) Remove the cubby bin mounting screws and remove bin.

REMOVAL AND INSTALLATION (Continued)

**Fig. 12 CMTc Module**

1 - REMOVE SCREWS

INSTALLATION

For installation, reverse the above procedures. The cubby bin must engage the console at its forward edge prior to installing the mounting screws.

FUEL GAUGE AND TEMPERATURE GAUGE

The Instrument Cluster must be removed to service the Fuel Gauge and Temperature Gauge. Refer to Instrument Cluster Removal and Installation in this section.

REMOVAL

(1) Remove mask/lens retaining screws and remove mask/lens (Fig. 13).

(2) Disconnect odometer / transmission range indicator connector from the printed circuit board (Fig. 14).

(3) Remove screws attaching speedometer / tachometer to housing and remove (Fig. 15).

(4) Remove the fuel / temperature gauge attaching screws from the housing and remove (Fig. 16).

INSTALLATION

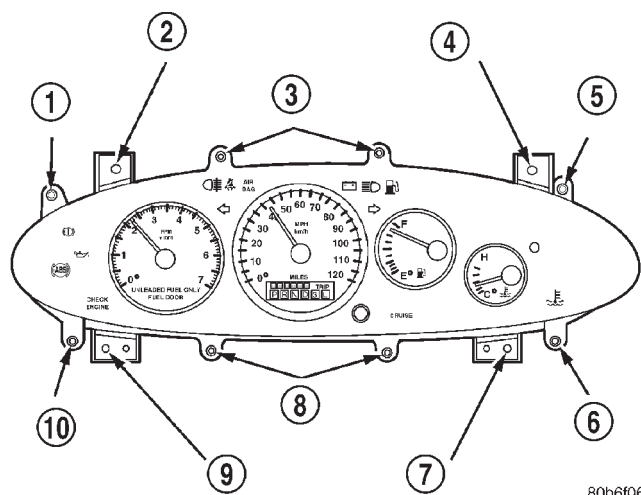
For installation, reverse the above procedures.

GLOVE BOX DOOR HANDLE**REMOVAL**

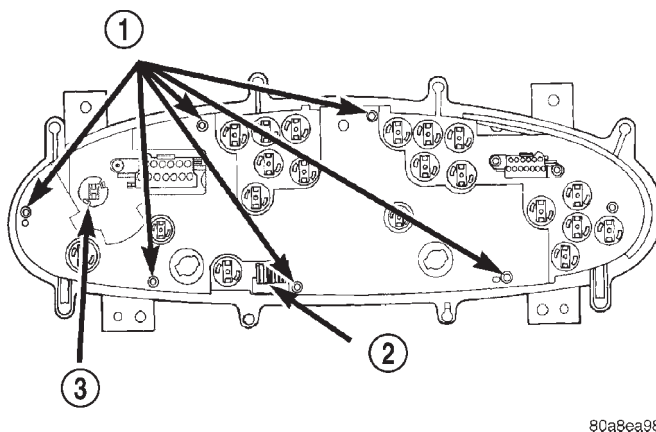
- (1) Open glove door.
- (2) Remove four door handle attaching screws.
- (3) Remove handle.

INSTALLATION

For installation, reverse the above procedures.

**Fig. 13 Mask/Lens Retaining Screws**

- 1 - MASK/LENS SCREWS
- 2 - CLUSTER SCREWS
- 3 - MASK/LENS SCREWS
- 4 - CLUSTER SCREWS
- 5 - MASK/LENS SCREWS
- 6 - MASK/LENS SCREWS
- 7 - CLUSTER SCREWS
- 8 - MASK/LENS SCREWS
- 9 - CLUSTER SCREWS
- 10 - MASK/LENS SCREWS

**Fig. 14 Back Cover Retaining Screws**

- 1 - CLUSTER BACK COVER RETAINING SCREWS
- 2 - ODOMETER/TRANSMISSION RANGE INDICATOR CONNECTOR
- 3 - VTSS LED

GLOVE BOX DOOR LOCK**REMOVAL**

- (1) Remove glove box door handle.
- (2) Insert the proper key in lock cylinder, depress the gray locking key on back side housing at the 3 O'clock position.

REMOVAL AND INSTALLATION (Continued)

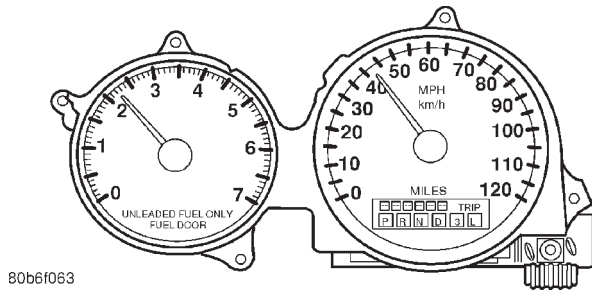


Fig. 15 Speedometer/Tachometer

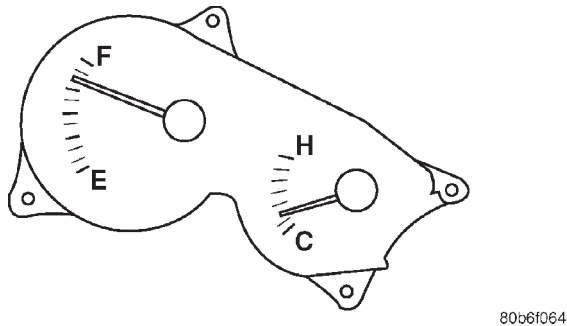


Fig. 16 Fuel Gauge and Temperature Gauge

(3) Rotate the key clockwise to disengage cylinder from housing.

INSTALLATION

For installation, reverse the above procedures.

HEADLAMP SWITCH

The Headlamp Switch is part of the Multi-Function Switch. Refer to Group 8J, Turn Signal and Flashers for Diagnosis and Testing (Multi-Function Switch Test), and Removal and Installation.

HVAC CONTROL**REMOVAL**

(1) Disconnect and isolate the battery negative remote cable.

(2) Remove center bezel by pulling rearward to disengage four clips and remove attaching screws from cubby bin.

(3) Remove the HVAC control attaching screws. Pull the control out to disconnect two electrical connectors and two control cables. Remove HVAC control.

INSTALLATION

For installation, reverse the above procedures. The forward edge of bin must engage the forward console.

INSTRUMENT CLUSTER

To service any instrument cluster component, the instrument cluster must be removed from the instrument panel.

REMOVAL

(1) Disconnect and isolate the battery negative remote cable (Fig. 11).

(2) Remove instrument cluster hood, refer to Cluster Hood Removal and Installation in this section.

(3) Remove the four cluster attaching screws (Fig. 13).

(4) Remove instrument cluster and disconnect wire connectors from instrument panel by pulling cluster rearward.

INSTALLATION

For installation, reverse the above procedures.

INSTRUMENT PANEL and PAD ASSEMBLY

WARNING: DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE BEFORE BEGINNING ANY AIRBAG SYSTEM COMPONENT REMOVAL OR INSTALLATION PROCEDURE. THIS WILL DISABLE THE AIRBAG SYSTEM.

FAILURE TO DISCONNECT BATTERY COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

ALLOW SYSTEM CAPACITOR TO DISCHARGE FOR 2 MINUTES BEFORE REMOVING ANY AIRBAG COMPONENTS.

REMOVAL

When removing a passenger airbag module refer to Group 8M, Passive Restraint Systems for Passenger Air Bag Module Removal and Installation.

(1) Disconnect and isolate the battery negative remote cable.

(2) Open both vehicle front doors. Remove left end cover by pulling outboard. Remove right end cover by pulling rearward (Fig. 17).

(3) Remove shift knob and transmission range indicator bezel from floor console. Use care not to mar the bezel or console.

(4) Remove floor center console. Remove two mounting screws in the front and two mounting screws under the decorative caps in the rear.

(5) Using a trim stick (special tool #C-4755), gently pry out on center instrument panel trim bezel and remove.

(6) Remove instrument cluster hood.

(a) Remove two screws adjacent radio.

(b) Remove the the two screws below HVAC control.

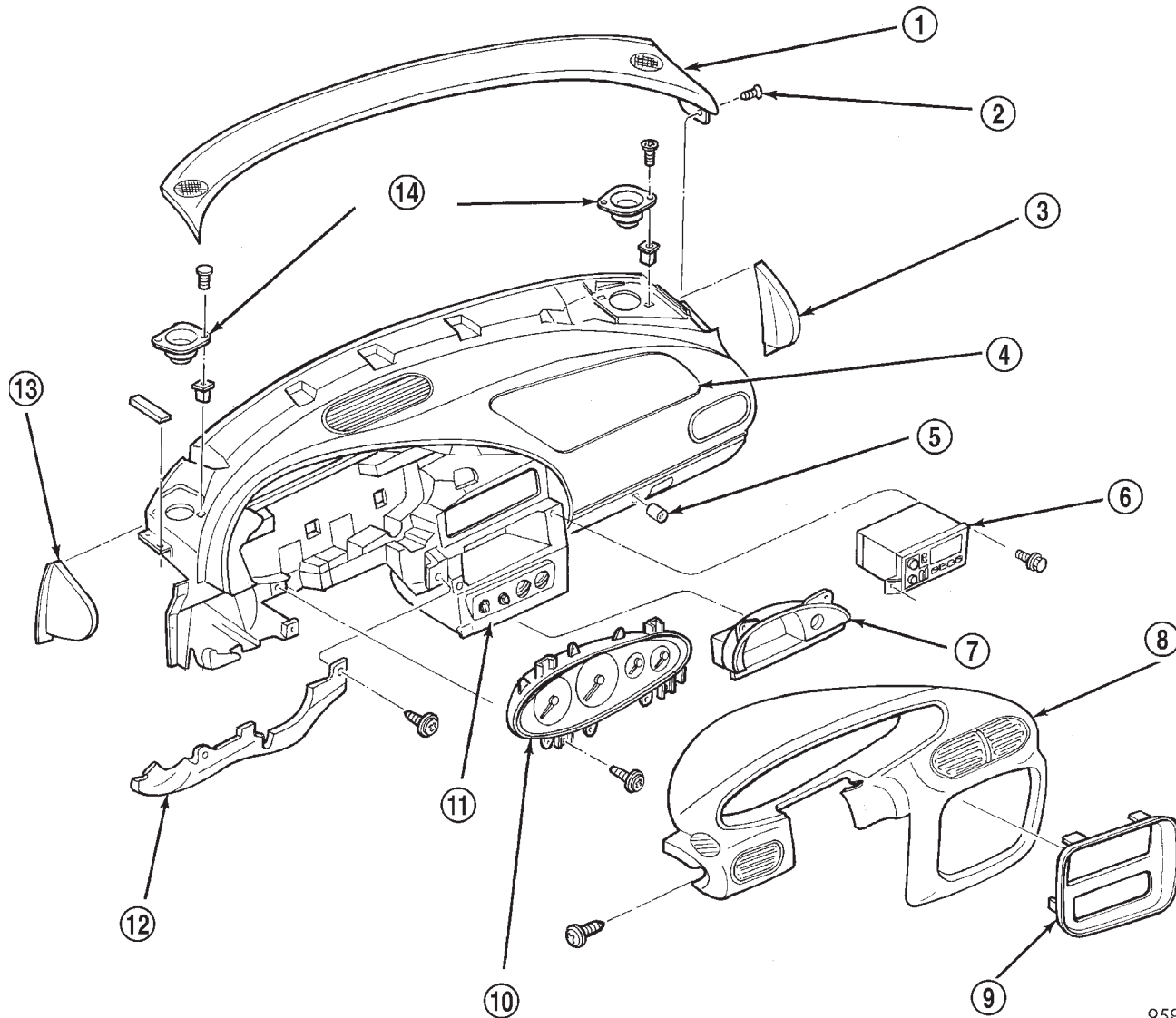
(c) Remove screw at left end of panel.

(d) Pull on hood to disengage the eight clips.

(7) Remove two cubby bin screws and remove.

(8) Remove five knee bolster mounting screws.

REMOVAL AND INSTALLATION (Continued)



958E-23

Fig. 17 Instrument Panel Breakdown

- | | |
|-----------------------------|-----------------------------|
| 1 - TOP COVER | 8 - INSTRUMENT CLUSTER HOOD |
| 2 - SCREW | 9 - CENTER BEZEL |
| 3 - END COVER | 10 - INSTRUMENT CLUSTER |
| 4 - PASSENGER AIRBAG MODULE | 11 - HVAC |
| 5 - GLOVE BOX LOCK CYLINDER | 12 - KNEE BOLSTER |
| 6 - RADIO | 13 - END COVER |
| 7 - CUBBY BIN | 14 - SPEAKERS |

(9) Open glove box door and press sidewalls inboard while pulling the back panel rearward to lower door from panel to access forward floor console.

(10) Remove forward floor console eight attaching screws and one push pin at forward driver's side.

(11) Disconnect Airbag Control Module (ACM) and wiring connectors at center console.

(12) Pull the driver's under panel silencer outboard off the distribution duct.

(13) Remove left and right A-pillar moldings, starting from the top edge and pulling them out.

(14) Remove instrument panel top cover attaching screw on passenger side.

(a) Lift the right rear edge of top cover to disengage the vertical clips along the rear edge. Proceeding from right to the left side. Do not use a nylon trim stick, to avoid marring cover or panel.

(b) Lift rear edge and slide top cover rearward disengaging angular clips and remove cover.

REMOVAL AND INSTALLATION (Continued)

- (15) Remove HVAC control attaching screws.
- (16) Disconnect wire harness connectors and control cables from HVAC control head.
- (17) Remove center distribution duct screws from behind radio and duct.
- (18) Remove radio. Access and remove the three HVAC attaching screws to duct and panel. Remove the three HVAC attaching bolts from the cross-car beam.
- (19) Close glove box door.
- (20) Remove five screws attaching panel to plenum.
- (21) Remove steering column shrouds.
- (22) Disconnect steering column wiring connectors.
- (23) Disconnect shift interlock cable.
- (24) Remove four steering column retaining nuts and lower column to floor.
- (25) Disconnect engine and body wire harness from Junction Block/BCM.
- (26) Remove one push pin to right underpanel silencer.
- (27) Remove fasteners:
 - Four at left end and three at the right end of the cross car beam
 - Two at steering column plenum
 - One at glove box hinge to A-pillar
 - Two at center support to the floor pan bracket
- (28) Remove attaching screw at the rear of HVAC to the center support bracket.
- (29) With the help of an assistant, lift up instrument panel and move rearward to remove.

INSTALLATION

For installation, reverse the above procedures. DO NOT CONNECT battery negative remote cable. Refer to Group 8M, Restraint Systems for Air Bag System test.

INSTRUMENT PANEL END COVERS – LEFT AND RIGHT

REMOVAL

- (1) Open the left door and pull on the access handle and pivoting around A-pillar to disengage end cover clips. Fuse Puller, Spare Fuses And Fuse Diagram Are Located On Left End Cover. Fuse Access Is Under Left End Cover (Fig. 17).
- (2) Open right door and glove box door.
- (3) Remove right end cover by pulling rearward to disengage clips.

INSTALLATION

For installation, reverse the above procedures. Ensure spare fuses are seated to left end cover.

INSTRUMENT PANEL SPEAKERS

REMOVAL

- (1) Disconnect and isolate the battery negative remote cable (Fig. 11).
- (2) Remove instrument panel top cover, refer to Instrument Panel Top Cover Removal and Installation in this section.
- (3) Remove two screws on each speaker and lift up, disconnect wiring connector and remove speaker.

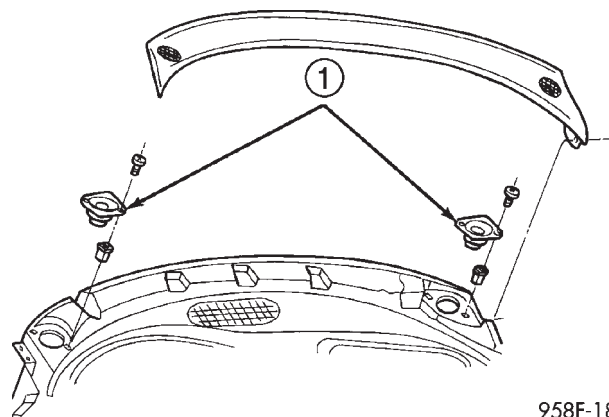
INSTALLATION

For installation, reverse the above procedures

INSTRUMENT PANEL TOP COVER

REMOVAL

- (1) Open glove box door.
- (2) Remove right end cap and remove screw at right end.
- (3) Using a trim stick (special tool #C-4655), gently pry out and remove both left and right A-pillar trim moldings.
- (4) Lift the right rear edge of top cover to disengage the clips along the rear edge. Proceeding from right to the left side. Do not use a nylon trim stick, to avoid potential damage (Fig. 18).



958F-18

Fig. 18 Instrument Panel Top Cover

1 – SPEAKER

- (5) Lift rear edge and slide top cover rearward disengaging clips and remove cover.

INSTALLATION

For installation, reverse the above procedures. Ensure the two center clips are engaged first. Place thumb in VIN opening and pull towards pad to ensure VIN alignment. If a gap exist between the top cover and pad after installation check for a damaged clip. The clip must be removed and replaced.

REMOVAL AND INSTALLATION (Continued)**LEFT UNDER INSTRUMENT PANEL SILENCER/ DUCT****REMOVAL**

- (1) Remove two lower knee bolster screws and slip silencer off outboard attaching formation.
- (2) Maneuver part off of center floor distribution duct to remove.

INSTALLATION

For installation, reverse the above procedures. Install prior to knee bolster.

MASK/LENS**REMOVAL**

- (1) Remove Cluster Hood. Refer to Cluster Hood Removal and Installation in this section.
- Remove mask/lens retaining screws and remove mask/lens (Fig. 13).

INSTALLATION

For installation, reverse the above procedures.

ODOMETER/TRANSMISSION RANGE INDICATOR

The Instrument Cluster must be removed to service the Odometer/Transmission Range Indicator. Refer to Instrument Cluster Removal and Installation in this section.

REMOVAL

- (1) Remove Speedometer/Tachometer, Refer to Speedometer/Tachometer and Odometer/Transmission Range Indicator Removal and Installation in this section.
- (2) Remove screws attaching from the back of speedometer and remove the odometer/transmission range indicator display (Fig. 19).

INSTALLATION

For installation, reverse the above procedures.

RADIO

For Radio Removal and Installation, Refer to Group 8F, Audio Systems.

RIGHT UNDER INSTRUMENT PANEL SILENCER/DUCT**REMOVAL**

- (1) Remove two push-in fasteners under right end of instrument panel.
- (2) Maneuver part off center floor distribution duct to remove.

INSTALLATION

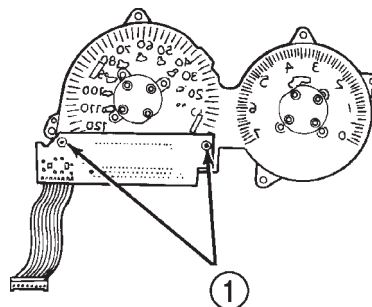
For installation, reverse the above procedures.

SPEEDOMETER, TACHOMETER, ODOMETER, AND TRANSMISSION RANGE INDICATOR

The Instrument Cluster must be removed to service the speedometer-tachometer-odometer and transmission range indicator. Refer to Instrument Cluster Removal and Installation in this section.

REMOVAL

- (1) Remove mask/lens retaining screws and remove mask/lens (Fig. 13).
- (2) Disconnect odometer / transmission range indicator connector from the printed circuit board (Fig. 14).
- (3) Remove screws attaching speedometer / tachometer to housing and remove (Fig. 15).
- (4) Remove screws attaching from the back of speedometer and remove the odometer / transmission range indicator display (Fig. 19).



958E-19

Fig. 19 Odometer/Transmission Range Indicator

1 – MOUNTING SCREWS

INSTALLATION

For installation, reverse the above procedures.

TRACTION CONTROL SWITCH

The Traction Control Switch is located within the instrument cluster hood, just to the right of the steering column (Fig. 20).

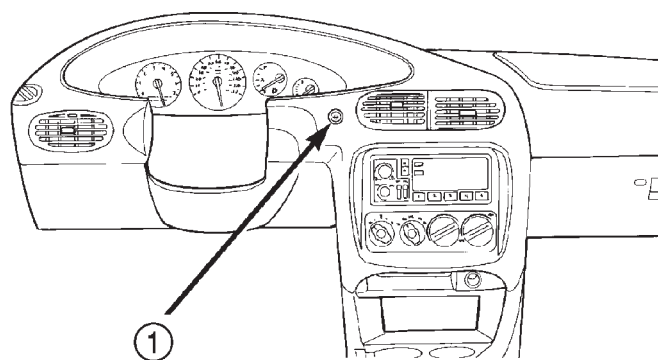
REMOVAL

- (1) Disconnect and isolate the battery negative remote cable (Fig. 11).
- (2) Using a trim stick (special tool #C-4755) or suitable tool, gently pry out on traction control switch and remove it from instrument cluster hood.
- (3) Disconnect harness connector from Traction Control Switch.

INSTALLATION

For installation, reverse the above procedures.

REMOVAL AND INSTALLATION (Continued)



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Fig. 20 Traction Control Switch Location

1 - TRACTION CONTROL SWITCH

Instrument Cluster Removal and Installation in this section.

REMOVAL

(1) Disconnect Vehicle Theft / Security System LED socket assembly from the printed circuit board (Fig. 9).

(2) Rotate LED socket counter clockwise and remove from printed circuit board.

INSTALLATION

For installation, reverse the above procedures.

VEHICLE THEFT/SECURITY SYSTEM LED

The Instrument Cluster must be removed to service the Vehicle Theft/Security System LED. Refer to