INTRODUCTION

CONTENTS

GENERAL INFORMATION

VEHICLE SAFETY CERTIFICATION LABEL

A vehicle safety certification label (Fig. 1) is attached to the rear facing of the driver's door. This label indicates date of manufacture (month and year), Gross Vehicle Weight Rating (GVWR), Gross Axle Weight Rating (GAWR) front, Gross Axle Weight Rating (GAWR) rear and the Vehicle Identification Number (VIN). The Month, Day and Hour of manufacture is also included.

All communications or inquiries regarding the vehicle should include the Month-Day-Hour and Vehicle Identification Number.

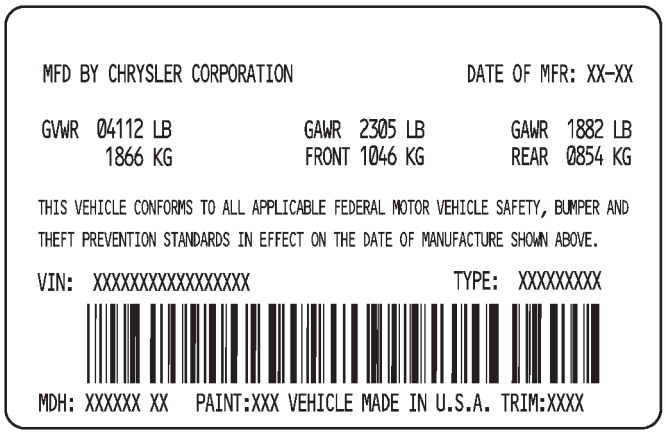


Fig. 1 Vehicle Safety Certification Label

VEHICLE IDENTIFICATION NUMBER

The Vehicle Identification Number (VIN) is located on the upper left corner of the instrument panel, near the left windshield pillar (Fig. 2). The VIN consists of 17 characters in a combination of letters and numbers that provide specific information about the vehicle. Refer to VIN Code Breakdown table for decoding information.

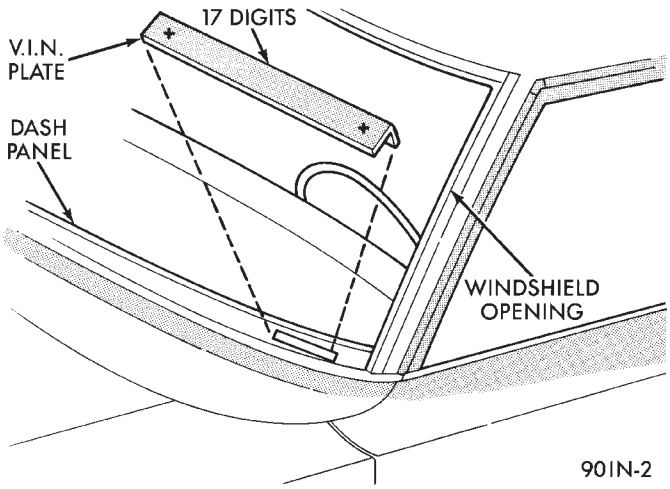


Fig. 2 Vehicle Identification Number (VINPlate)

VIN CHECK DIGIT

To protect the consumer from theft and possible fraud the manufacturer is required to include a Check Digit at the ninth position of the Vehicle Identification Number. The check digit is used by the manufacturer and government agencies to verify the authenticity of the vehicle and official documentation. The formula to use the check digit is not released to the general public.

BODY CODE PLATE

LOCATION AND DECODING

The Body Code Plate is located in the engine compartment (Fig. 3). There are seven lines of information on the body code plate. Lines 4, 5, 6, and 7 are not used to define service information. Information reads from left to right, starting with line 3 in the center of the plate to line 1 at the bottom of the plate.

SUSPENSION

CONTENTS

WHEEL ALIGNMENT

INDEX

DESCRIPTION AND OPERATION

WHEEL ALIGNMENT GENERAL INFORMATION

Proper vehicle wheel alignment is the proper adjustment of all interrelated front and rear suspension angles (Fig. 1). These angles are what affects the handling and steering of the vehicle when it is in motion.

The method of checking a vehicle's front and rear wheel alignment will vary depending on the type and manufacturer of the equipment being used. Instructions furnished by the manufacturer of the equipment being used should always be followed to ensure accuracy of the alignment, except alignment specifications recommended by Chrysler Corporation **MUST ALWAYS** be used.

CAUTION: Do not attempt to modify any suspension or steering components by heating or bending of the component.

Wheel alignment adjustments should be made in the following sequence, to ensure that an accurate alignment is performed.

(1) Rear Wheel Toe Adjustment within specifications for both total toe and thrust angle.

(2) Front Wheel Toe Adjustment within specifications for total toe.

(3) **Toe** is measured in degrees or inches and is the distance that the front edges of the tires are closer (or farther apart) than the rear edges (Fig. 1). See Front Wheel Drive Specifications for correct front and rear wheel Toe specifications.

(4) **Thrust Angle** is defined as the average of the Toe settings on each rear wheel. If this measurement is out of specification, re-adjust rear wheel Toe so that each wheel has 1/2 of the total Toe measurement. When re-adjusting, do not exceed the total Toe specification.

DISASSEMBLY AND ASSEMBLY (Continued)

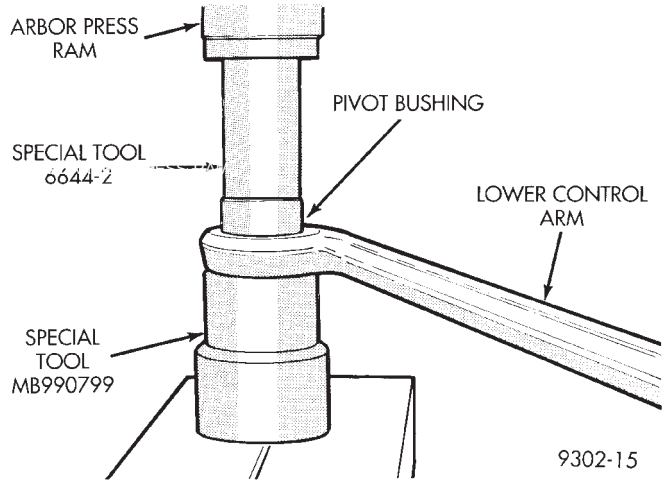


Fig. 80 Lower Control Arm Pivot Bushing Removal

Installer, Special Tool 6644-1 on top of pivot bushing, with pivot bushing setting in recessed area of Installer (Fig. 81). Press the pivot bushing into the lower control arm.

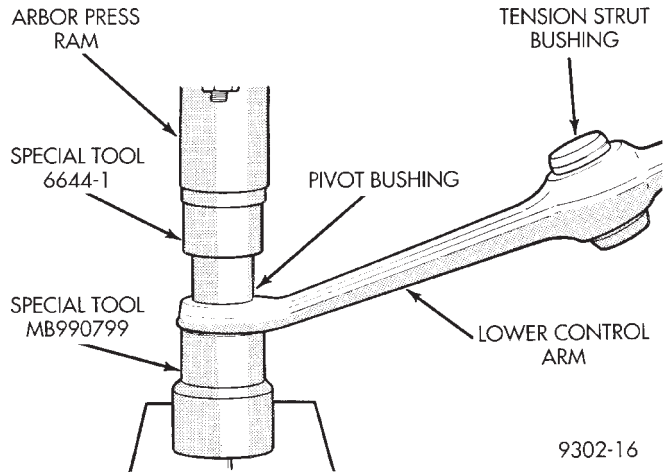


Fig. 81 Installing Lower Control Arm PivotBushing

(3) Press lower control arm pivot bushing into lower control arm until Installer, Special Tool 6644-1 squarely bottoms against surface of lower control arm (Fig. 82). When Installer, Special Tool 6644-1 squarely bottoms on control arm, bushing is installed to the correct position in control arm.

(4) Install tension strut into the tension strut bushing in lower control arm. Position tension strut in lower control as shown in, (Fig. 83) with word FRONT stamped in tension strut positioned away from control arm. With an open end wrench on flat of tension strut to stop tension strut from turning. Tighten the **NEW** tension strut to lower control retaining nut to a torque of 150 N·m (110 ft. lbs.)

(5) Install lower control arm and tension strut as an assembly back on the vehicle. See Lower Control

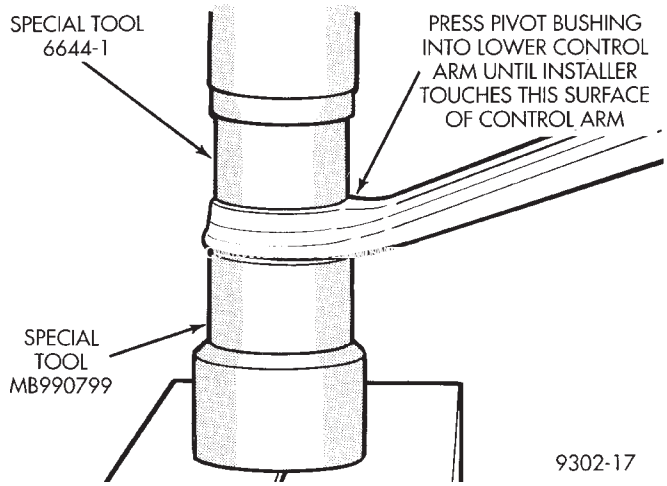


Fig. 82 Pivot Bushing Installed In LowerControl Arm

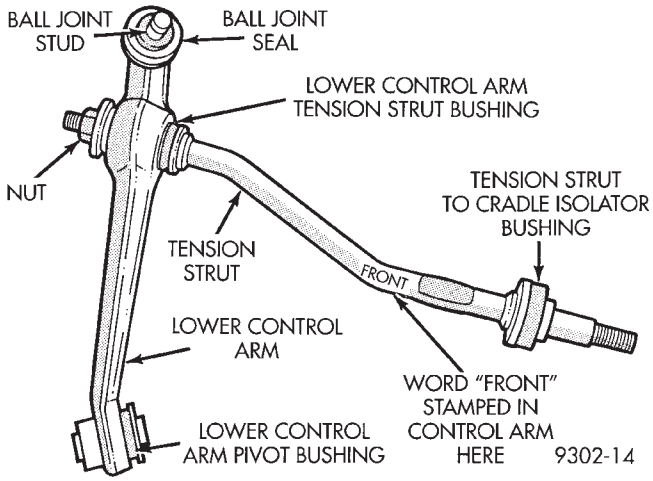


Fig. 83 Tension Strut Installed In LowerControl Arm

Arm Installation in this section of the service manual for the required installation procedure.

LOWER CONTROL ARM TENSION STRUT BUSHING

To replace the lower control arm tension strut bushing, the control arm and tension strut assembly must be removed from the vehicle. The removal and replacement of the lower control arm tension strut bushing must be performed using an arbor press.

DISASSEMBLY

(1) Raise the vehicle using a frame contact type hoist or supported as required using jackstands. See Hoisting in the Lubrication and Maintenance group of this service manual for the required hoisting or jacking procedure to be used for this vehicle.

(2) Remove tire and wheel from vehicle.

(3) Remove lower control arm and tension strut as an assembly from the vehicle. See Lower Control Arm Removal in this section of the service manual for the required removal procedure.

REMOVAL AND INSTALLATION (Continued)

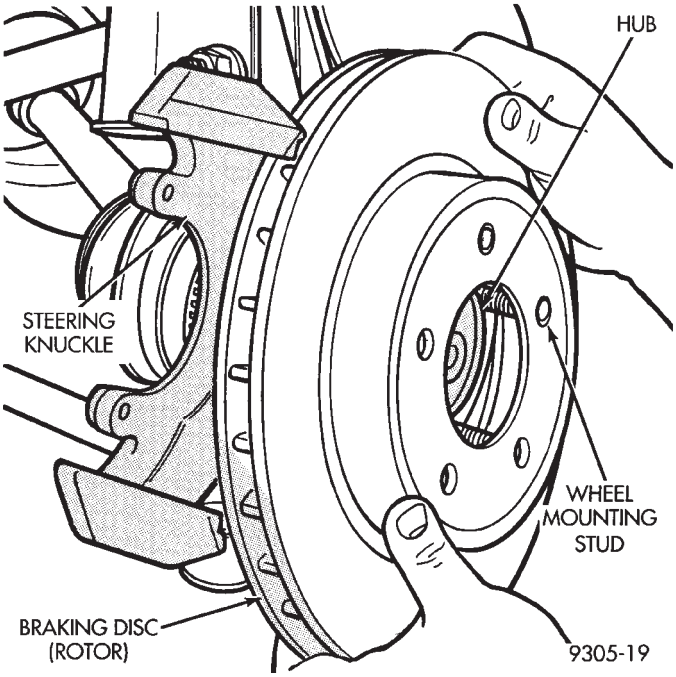


Fig. 18 Installing Braking Disc

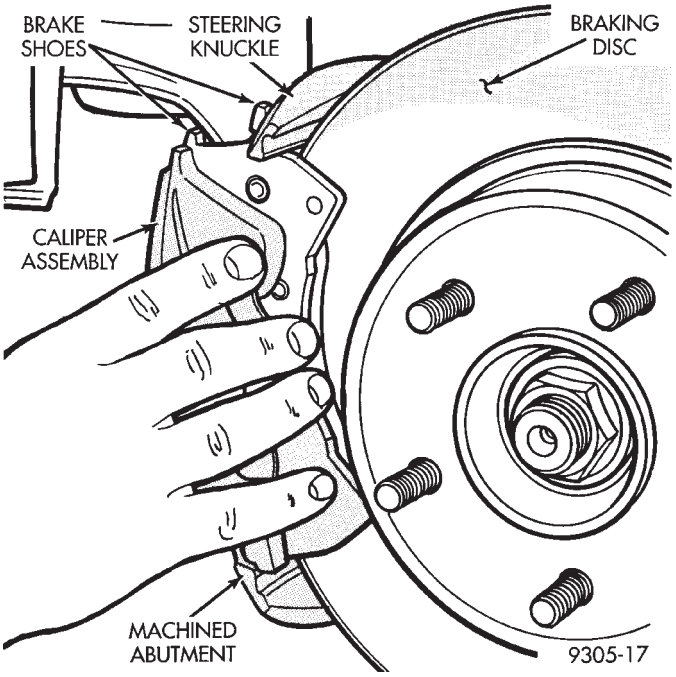


Fig. 19 Disc Brake Caliper Mounting

(14) Apply the vehicle's brakes to keep vehicle from moving. Tighten the **NEW** stub shaft to hub and bearing assembly retaining nut to 163 N·m (120 ft. lbs.) (Fig. 21).

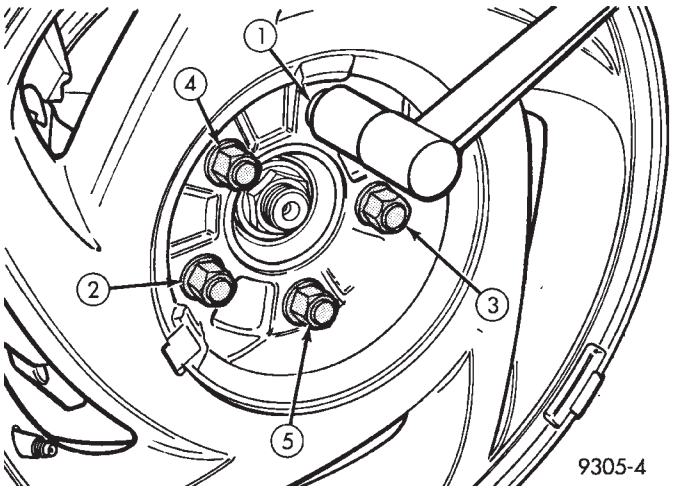


Fig. 20 Tightening Wheel Nuts

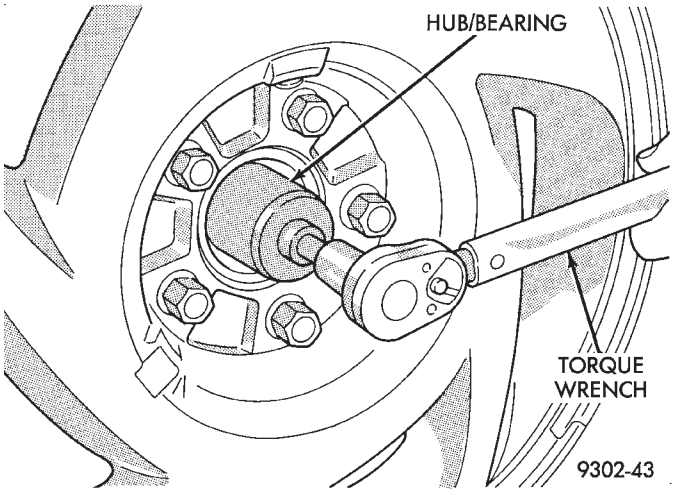


Fig. 21 Tighten Hub And Bearing Retaining Nut

DISASSEMBLY AND ASSEMBLY

DRIVESHAFT RECONDITIONING PROCEDURE

NOTE: The only service which is to be performed on the driveshaft assemblies is the replacement of the driveshaft seal boots.

If any failure of internal driveshaft components is diagnosed during a vehicle road test or disassembly of the driveshaft, the driveshaft will need to be replaced as an assembly.

NOTE: Lubricant requirements and quantities are different for inner joints than for outer joints. Use only the recommended lubricants.

See (Fig. 22) for the exploded view of the front driveshaft components and their location in the assembly.

DIAGNOSIS AND TESTING (Continued)

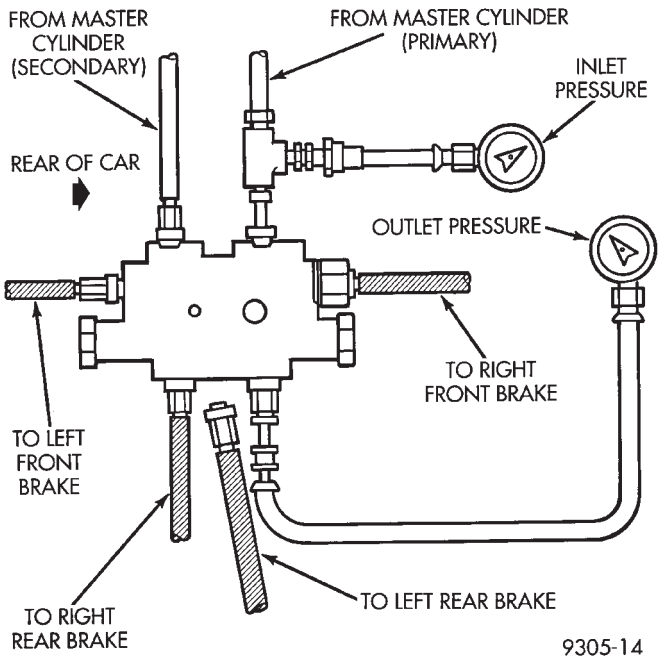


Fig. 20 Tube Connection For Left Rear Skidding

(3) Have a helper exert pressure on the brake pedal. Hold pressure steady to get a reading on the valve inlet gauge and check the reading on the outlet gauge. If the inlet and outlet pressures do not agree with the values on the following chart, replace the valve.

PROPORTIONING VALVE TEST–ABS BRAKES AND NON-ABS BRAKES WITH TLEV

CAUTION: All ABS components use an ISO type tubing flare. Use the correct adapters with ISO type tubing flares when installing gauges to test ABS proportioning valves.

If premature rear wheel ABS cycling occurs on a hard brake application, it could be an indication that a malfunction has occurred with one of the proportioning valves.

One proportioning valve controls the right rear brake, and the other proportioning valve controls the left rear brake. Since ABS cycles both rear brakes together, both valves must be tested to isolate the suspect proportioning valve. The test procedure is the same for both rear wheel proportioning valves.

(1) Road test vehicle to determine which rear wheel exhibits premature rear wheel skid.

(2) Remove the proportioning valve (Fig. 21) from the chassis brake tube.

NOTE: Step 3 should be done to allow the proportioning valve pressure test fittings to be installed without bending the chassis brake tubes.

(3) Remove the bracket (Fig. 21) attaching the brake flex hose to the side of the frame rail. Also, remove routing bracket attaching brake tube to bottom of frame rail.

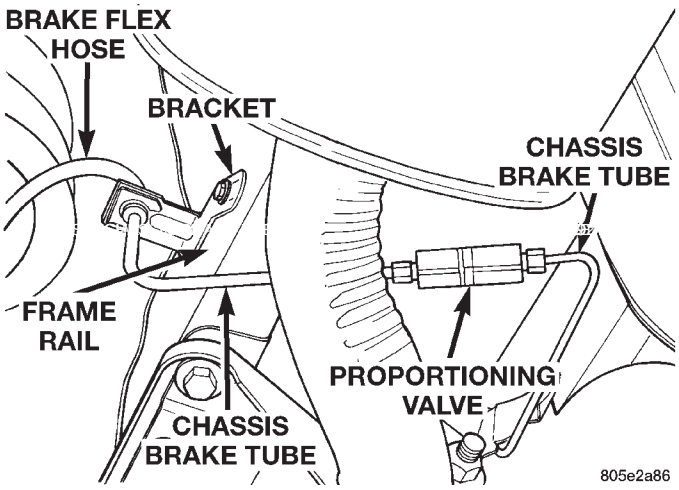


Fig. 21 Brake Flex Hose Bracket

CAUTION: Be sure the pressure test fittings being installed into the proportioning valve, have the correct thread sizes for installation into the proportioning valve and installation of the chassis brake tubes.

(4) Correctly install Pressure Test Fittings, Special Tool 6892 into the inlet and outlet ports of the proportioning valve.

(5) Install the proportioning valve and the Pressure Test Fittings, Special Tool 6892 as an assembly (Fig. 22) back into the chassis brake tube.

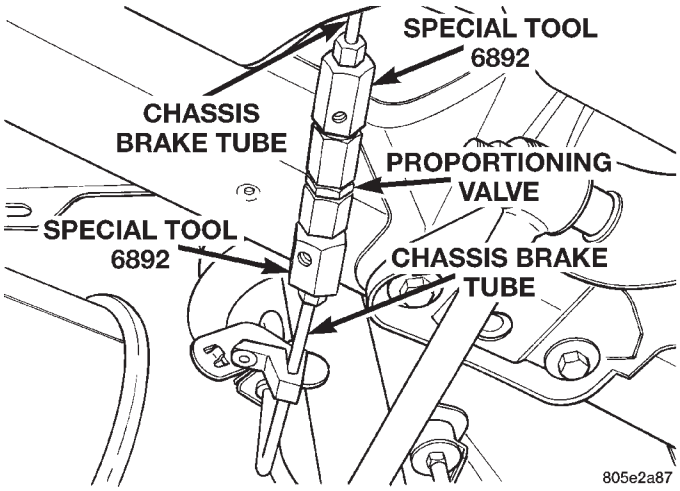


Fig. 22 Pressure Test Fittings And ProportioningValve Installed

(6) Install a Pressure Gauge, Special Tool C-4007-A into each pressure test fitting (Fig. 23). Bleed air out of hose from pressure test fitting to

REMOVAL AND INSTALLATION (Continued)

compress retaining tabs on end of park brake cable housing. Using a screw driver, press on end of park brake cable housing to remove cable from floor pan of vehicle.

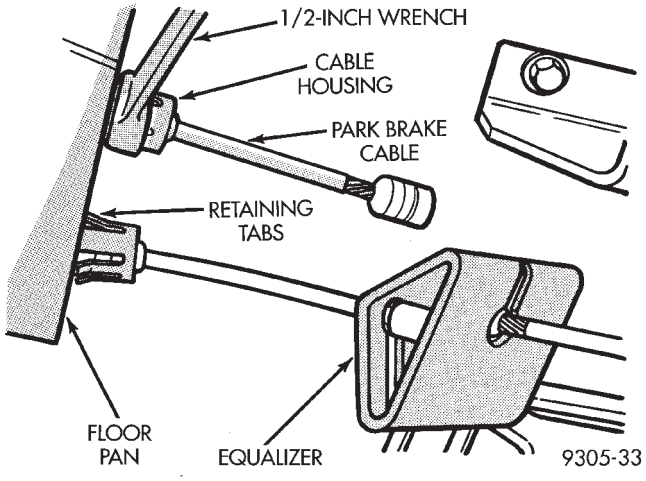


Fig. 132 Park Brake Cable Removal From FloorPan

INSTALL

(1) Raise vehicle.

(2) Install parking brake cable into rear brake support plate. Be sure the park brake retainers are expanded around mounting hole in brake support plate. Connect parking brake cable to park brake lever on trailing brake shoe (Fig. 128).

(3) Install parking brake cable into cable mounting hole in floor pan of vehicle. Be sure that cable retainers are expanded around mounting hole in floor pan.

(4) Install the 4 routing clips attaching rear park brake cable to floor pan and frame of vehicle (Fig. 130).

(5) Connect the park brake cable to the park brake cable equalizer (Fig. 133). **Note: The equalizer can be moved rearward to allow connection of the rear cable to the equalizer.**

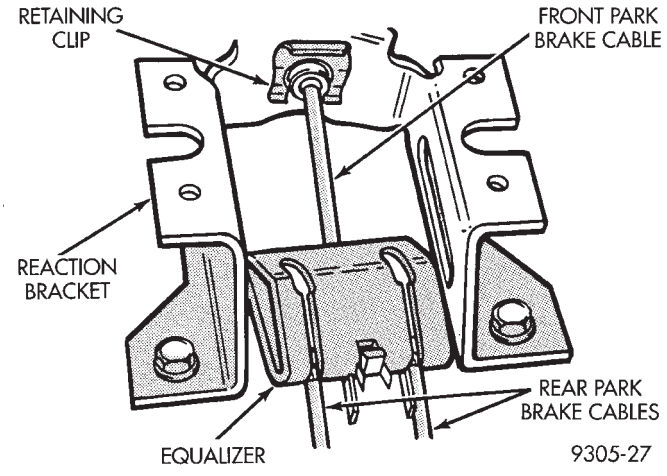


Fig. 133 Park Brake Cables Connected To Equalizer

(6) Lower vehicle.

(7) Install upper center console cover assembly back in vehicle. Refer to group 23 Body in this service manual for required procedure to install upper center console.

(8) Install shift knob on floor shifter (if equipped). Shift knob is installed by pushing shift knob down shift shaft until fully bottomed. Then install and tighten 3/32 in. allen head set screw located on drivers side of shift knob.

(9) Install hub/bearing assembly on spindle.

(10) Install the washer and retaining nut for the hub/bearing assembly (Fig. 127). Tighten the retaining nut to a torque of 168 N·m (124 ft. lbs.).

(11) Install wave washer, nut retainer and cotter pin on rear spindle (Fig. 127).

(12) Install hub/bearing dust cap.

(13) Install the brake drum, and the wheel and tire assembly.

(14) When repairs are complete, adjust rear brakes before adjusting parking brake. See parking brake adjustment procedure in this section of the service manual for complete parking brake adjustment procedure.

PARK BRAKE REAR CABLES (W/DISC BRAKES AND BENCH SEAT)

REMOVE

(1) Raise vehicle using a frame contact type hoist or correctly jack up the vehicle and support it using jack stands. See Hoisting in the Lubrication And Maintenance Group of this service manual for the required lifting procedures to be used for this vehicle.

(2) Remove the rear wheel and tire assembly from the side of the vehicle requiring service to the park brake cable.

(3) Remove rear disc brake caliper from adapter and rotor. Then remove the rotor from the hub.

(4) Remove dust cap from rear hub/bearing assembly (Fig. 134).

(5) Remove the cotter pin, nut retainer, wave washer and the nut and washer attaching the hub/bearing assembly to the spindle (Fig. 135).

(6) Remove parking brake shoe assemblies from the rear disc brake adapter. See Park Brake Shoes With Rear Disc Brakes in the Removal And Installation section in this group of the service manual for the removal procedure.

NOTE: Remove the rear park brake cable from only one rear park brake lever at a time. Failure to do so will result in high efforts required, to connect the park brake cables to equalizer or the park brake lever.

REMOVAL AND INSTALLATION (Continued)

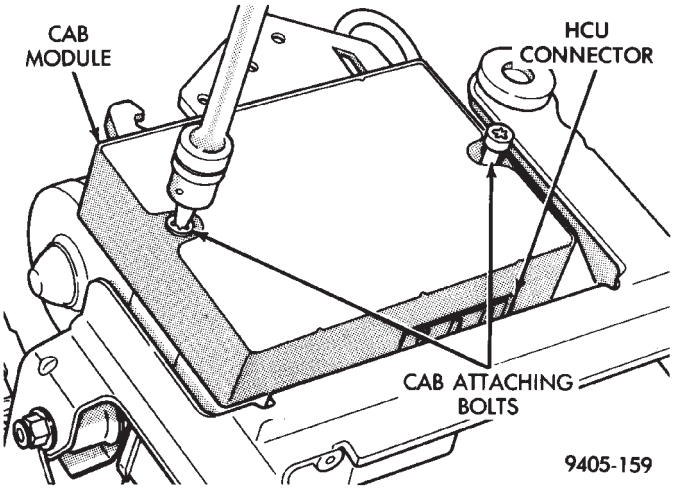


Fig. 28 CAB Removal And Installation FromHCU

with traction control in this section of the manual for the proper bleeding procedure. **When bleeding brake system visually inspect all line fittings previously disconnected for any signs of leakage.**

CAUTION: Heat shield MUST be installed when servicing of HCU is completed. Failure to install heat shield could result in a failure of the CAB due to high temperature.

(5) Install heat shield back on HCU mounting bracket.

FRONT WHEEL SPEED SENSOR

REMOVE

(1) Raise vehicle using a frame contact type hoist or supported as required using jack stands. See Hoisting in the Lubrication and Maintenance group of this service manual for the required hoisting or jacking procedure to be used for this vehicle.

(2) Remove the tire and wheel from the vehicle.

(3) Remove screw attaching the grommet retaining clip to the fender shield (Fig. 29).

(4) Carefully, pull the speed sensor cable grommet from the fender shield.

(5) Unplug speed sensor connector from vehicle wiring harness connector (Fig. 30).

(6) Remove the speed sensor cable routing bracket from the front strut assembly (Fig. 31).

(7) Remove screw attaching speed sensor head to steering knuckle.

(8) Carefully, remove sensor head from steering knuckle. If the sensor has seized, due to corrosion, **DO NOT USE PLIERS ON SENSOR HEAD.** Use a hammer and punch (Fig. 32) to tap edge of sensor ear, rocking sensor side to side until free.

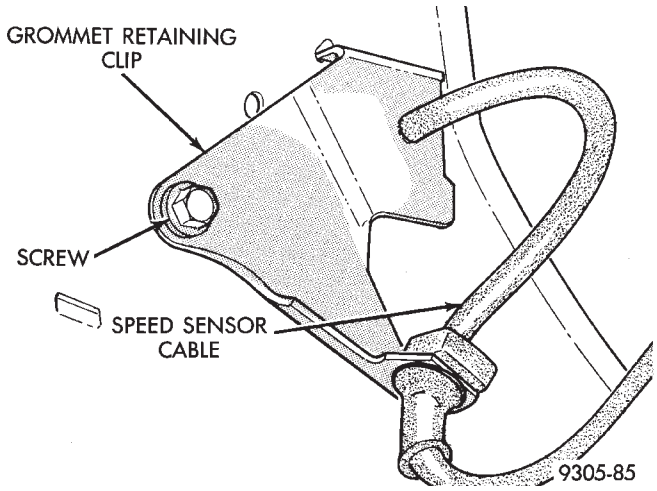


Fig. 29 Front Speed Sensor Cable RetainingClip

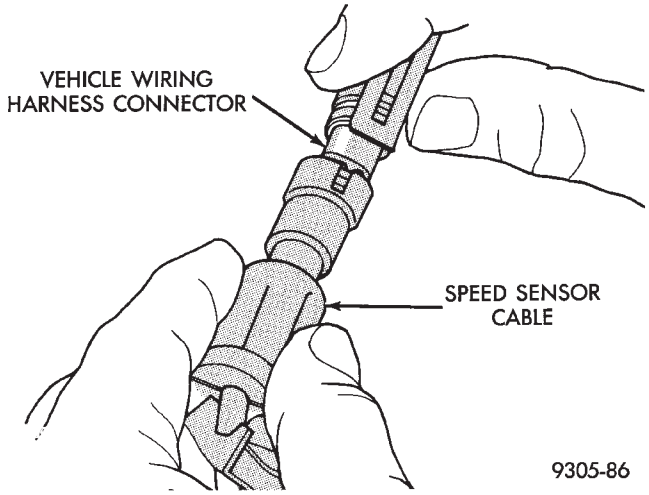


Fig. 30 Speed Sensor Cable To Wiring HarnessConnection

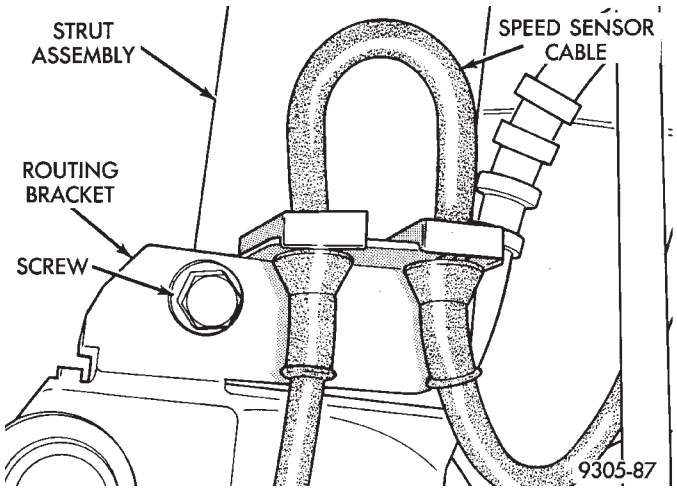
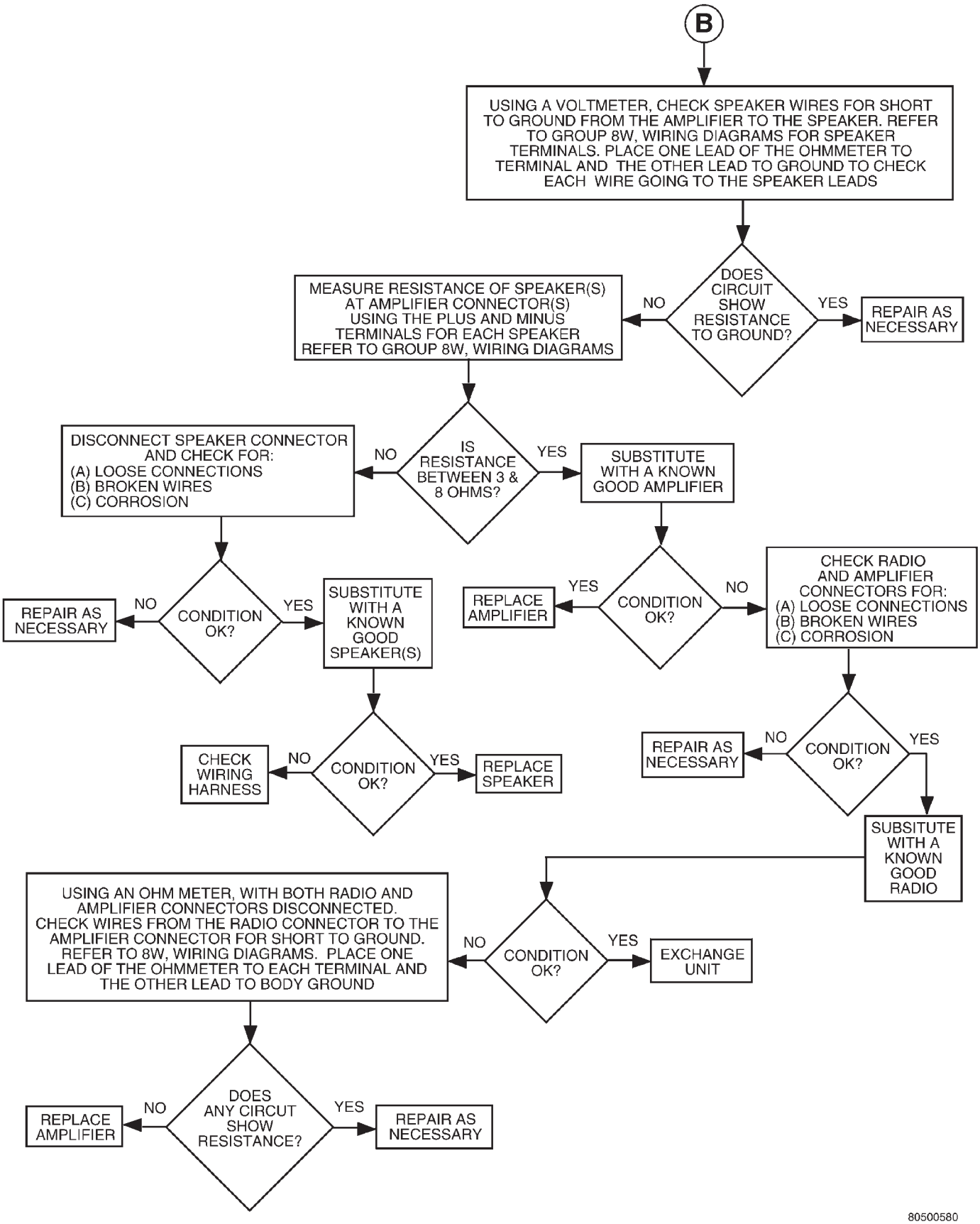


Fig. 31 Speed Sensor Cable To Strut AssemblyRouting Clip

DIAGNOSIS AND TESTING (Continued)



AMPLIFIED CONTINUED

LAMPS

CONTENTS

LAMP DIAGNOSIS

INDEX

GENERAL INFORMATION

GENERAL INFORMATION

LH vehicles use lighting on the interior and exterior of the vehicle for illuminating and indicating purposes. Lighting circuits are protected by fuses or circuit breakers. Lighting circuits require an overload protected power source, on/off device, lamps and body ground to operate properly. Plastic lamp sockets require a wire in the harness to supply body ground to the lamp socket. Lamp sockets that are exposed to moisture should be coated with Mopar® Multi-purpose Grease or equivalent to avoid corrosion. If a socket has become corroded, clean socket and bulb base with abrasive fiber sanding pad or metallic bristle brush. Replace sockets and bulbs that are deformed from corrosion that could prevent a continuous body ground.

Wire connectors can make intermittent contact or become corroded. Before coupling wire connectors, inspect the terminals inside the connector. Male terminals should not be bent or disengaged from the insulator. Female terminals should not be sprung open or disengaged from the insulator. Bent and sprung terminals can be repaired using needle nose pliers and pick tool. Corroded terminals appear chalky or green. Corroded terminals should be replaced to avoid recurrence of the problem symptoms. Wire connector terminals should be coated with Mopar® Multi-purpose Grease or equivalent to avoid corrosion.

Begin electrical system failure diagnosis by testing related fuses and circuit breakers in the fuse block and engine compartment. Verify that bulbs are in good condition and test continuity of the circuit ground. Refer to Group 8W, Wiring Diagrams, for component location and circuit information.

SAFETY PRECAUTIONS

WARNING: EYE PROTECTION SHOULD BE USED WHEN SERVICING GLASS COMPONENTS. PERSONAL INJURY CAN RESULT.

CAUTION: Do not touch the glass of halogen bulbs with fingers or other possibly oily surface, reduced bulb life will result. Do not use bulbs with higher candle power than indicated in the Bulb Application table at the end of this group. Damage to lamp can result. Do not use fuses, circuit breakers or relays having greater amperage value than indicated on the fuse panel or in the Owners Manual.

When it is necessary to remove components to service another, it should not be necessary to apply excessive force or bend a component to remove it. Before damaging a trim component, verify hidden

REMOVAL AND INSTALLATION (Continued)

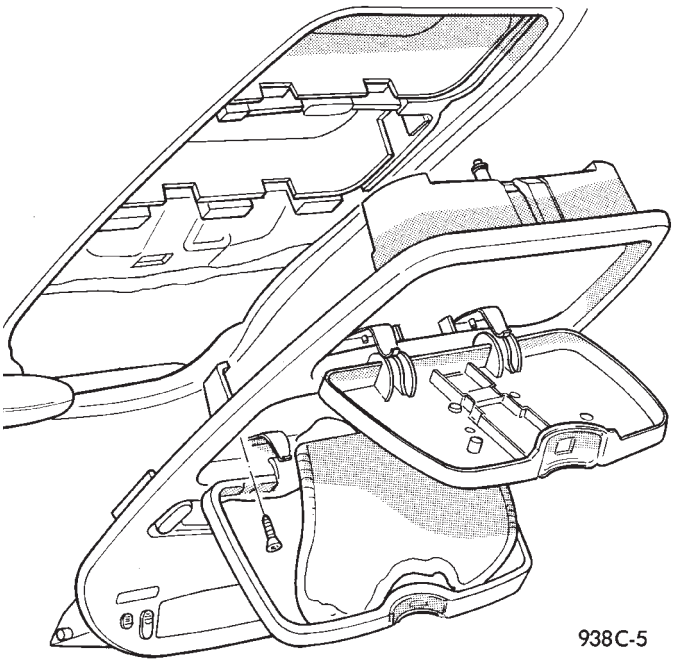


Fig. 7 Full Overhead Console

(4) Disconnect wire connectors and lower the console.

INSTALLATION

For installation, reverse the above procedures.

MAP LAMP

REMOVAL

(1) Remove overhead console, refer to above procedures.
(2) Remove lamp socket from mounting.
(3) Remove lamp(s), replace as necessary.

INSTALLATION

For installation, reverse the above procedures.

MAP LAMP SWITCHES/WIRE HARNESS

REMOVAL

(1) Remove overhead console, refer to above procedures.
(2) Disconnect wire harness connector (Fig. 8).
(3) Remove lamp socket from mounting.
(4) Remove switches by sliding them out of position.

INSTALLATION

For installation, reverse the above procedures.

MINI CONSOLE

REMOVAL

(1) Remove screw from windshield side of console.

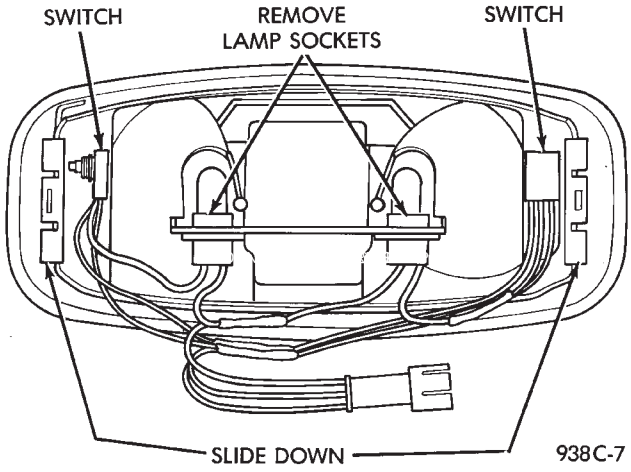


Fig. 8 Wire Harness Removal

(2) Grasp the front of console and pull downward to disconnect the retaining clips.
(3) Disconnect wire connectors and lower the console.

INSTALLATION

For installation, reverse the above procedures.

OTIS

REMOVAL

(1) Remove overhead console, refer to above procedures.
(2) Remove mounting screws and release the map lamp wire connector from the OTIS (Fig. 9).

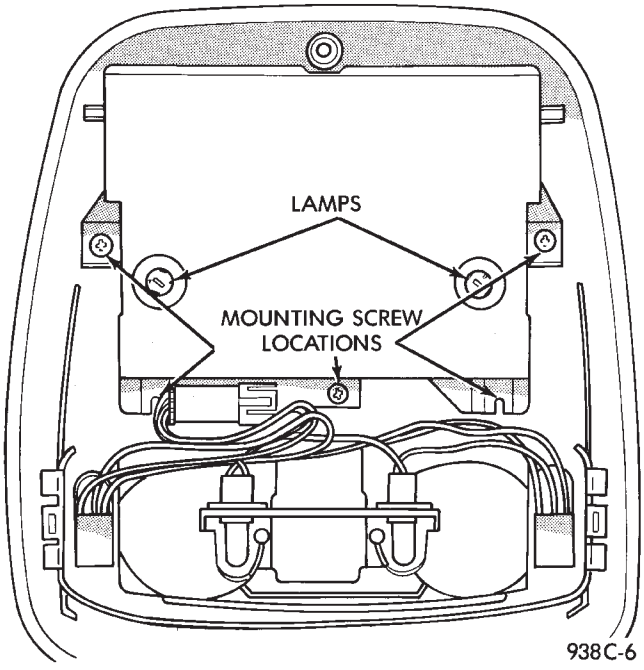
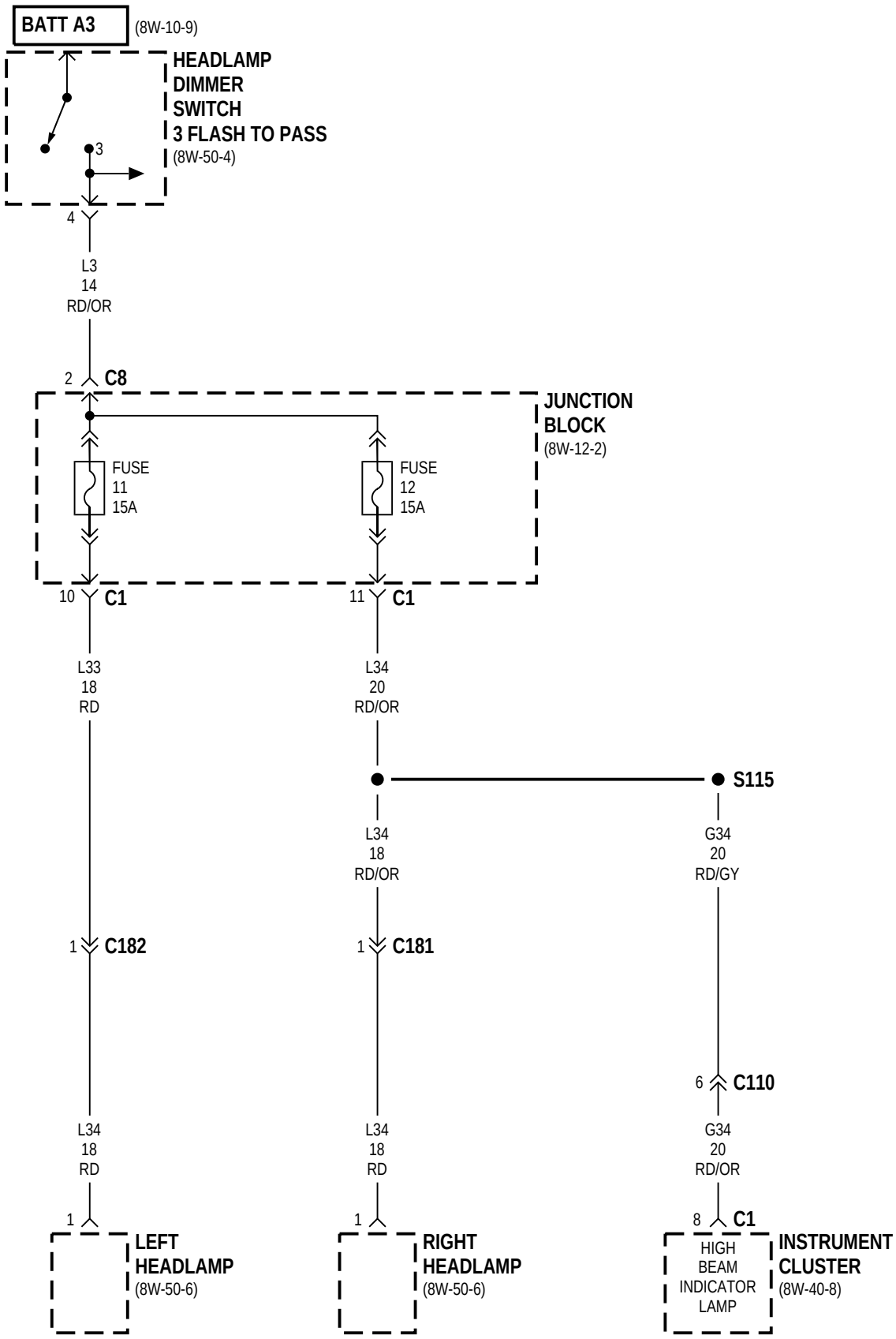


Fig. 9 OTIS Removal

(3) Remove the OTIS from overhead console.


BATT A3
(8W-10-9)
HEADLAMP DIMMER SWITCH 3 FLASH TO PASS
(8W-50-4)
3
4
L3
14
RD/OR
2
C8
JUNCTION BLOCK
(8W-12-2)
FUSE 11 15A
FUSE 12 15A
10
C1
11
C1
L33
18
RD
L34
20
RD/OR
S115
L34
18
RD/OR
G34
20
RD/GY
1
C182
1
C181
6
C110
L34
18
RD
L34
18
RD
G34
20
RD/OR
1
1
8
C1
LEFT HEADLAMP
(8W-50-6)
RIGHT HEADLAMP
(8W-50-6)
HIGH BEAM INDICATOR LAMP
INSTRUMENT CLUSTER
(8W-40-8)

REMOVAL AND INSTALLATION (Continued)

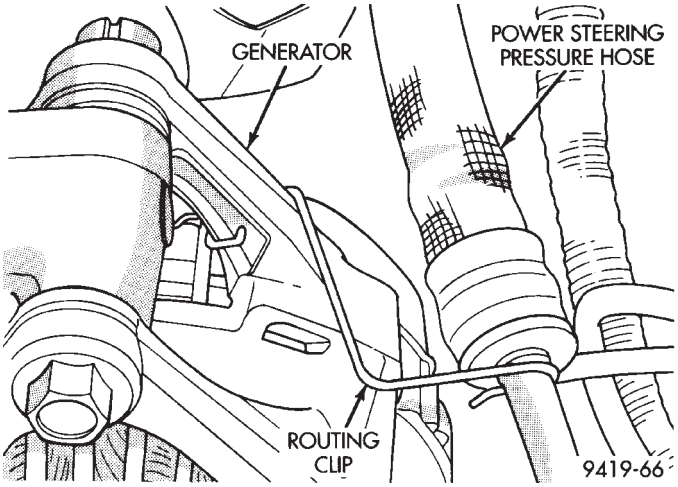


Fig. 9 Power Steering Pressure Hose RoutingClip 3.5 Ltr.

(2) Install new O-rings and/or washer seals on the ends of the power steering hoses. Lubricate O-rings or washer seals using fresh clean power steering fluid.

(3) Install the power steering fliud pressure hose into the outlet fitting of the power steering pump (Fig. 8). **Do not tighten power steering pressure hose to power steering pump fitting at this time.**

(4) Route the power steering pressure hose through the routing bracket on the engine assembly. See (Fig. 10) and (Fig. 11) for hose routing and bracket location for the 3.3 and 3.5 ltr. engine applications.

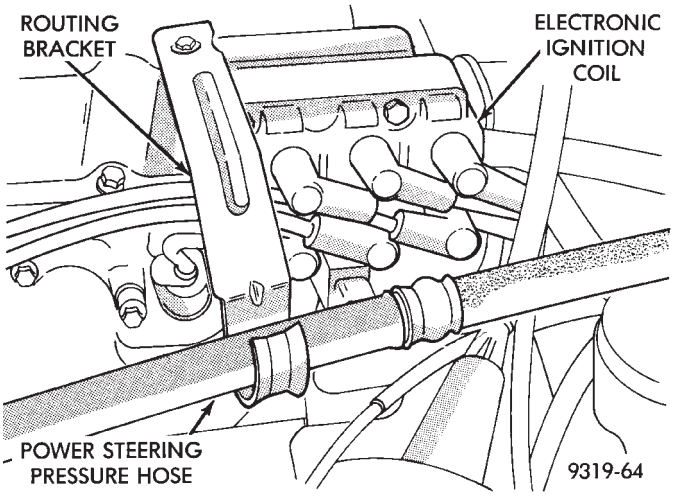


Fig. 10 3.3 ltr. Power Steering PressureHose Routing And Bracket

(5) Install power steering pressure hose into pressure port of power steering gear (Fig. 7). Tighten the power steering pressure hose to steering gear fitting to a torque of 31 N·m (23 ft. lbs.).

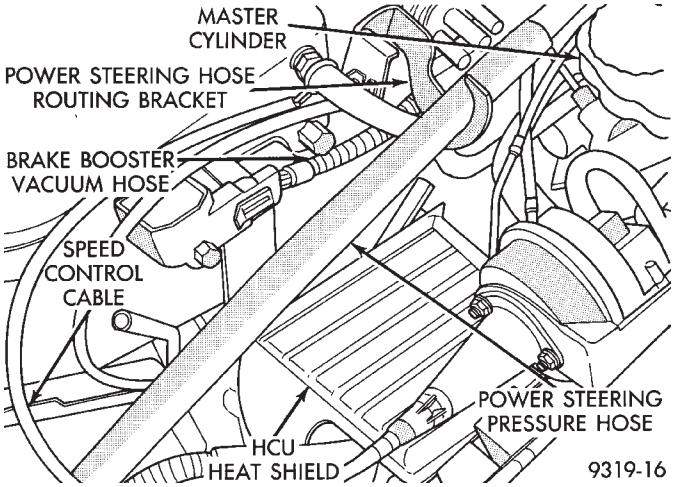


Fig. 11 3.5 ltr. Power Steering PressureHose Routing And Bracket

CAUTION: On 3.5 ltr engine applications, correct orientation of power steering pressure hose at power steering pump must be maintained. Be sure power steering hose is installed in orientation clip (Fig. 9) at generator, prior to tightening tube fitting. This will maintain the required clearance between the power steering pressure hose and the cam on the throttle body.

(6) Route power steering pressure hose at power steering pump so it is not in contact with any engine or body components (Fig. 8). Tighten the power steering pressure hose fitting to a torque of 31 N·m (23 ft. lbs.).

(7) Start engine and turn steering wheel several times from stop to stop to bleed air from fluid in system. Stop engine, check fluid level, and inspect system for leaks. See Checking Fluid Level.

CAUTION: Do not use automatic transmission fluid in power steering system. Only use Mopar®, Power Steering Fluid, or equivalent.

(8) If required fill the remote power steering pump fluid reservoir to the correct fluid level.

POWER STEERING FLUID RETURN HOSE

Cap all open ends of hoses, power steering pump fittings and steering gear ports. This will prevent entry of foreign material into the components when power steering hoses are removed from vehicle.

WARNING: POWER STEERING OIL, ENGINE PARTS AND THE EXHAUST SYSTEM MAY BE EXTREMELY HOT IF THE ENGINE HAS BEEN RUNNING. DO NOT START THE ENGINE WITH ANY LOOSE OR DISCONNECTED HOSES. DO NOT ALLOW HOSES TO TOUCH THE HOT EXHAUST MANIFOLD OR CATALYTIC CONVERTER.

REMOVAL AND INSTALLATION (Continued)

(21) Remove rear crossmember mounting bolts.
(22) Pry the transaxle mount rearward to separate the mount from the transaxle.
(23) Remove the rear crossmember.
(24) Lower the rear of the transaxle to gain access to the bell housing bolts.
(25) Remove bell housing bolts.
(26) Remove dipstick tube from transaxle. Be prepared to plug the dipstick hole when removing dipstick to prevent fluid from spilling out of the transaxle.
(27) Remove engine to transaxle bolts.
(28) The transaxle can now be lowered from the vehicle.

INSTALLATION

(1) When installing transaxle, reverse the above procedure. Verify that the starter ground strap is installed correctly.
(2) If the torque converter is being replaced, apply a light coating of grease to the crankshaft pilot hole.
(3) Inspect the drive plate for cracks before reinstalling transaxle. If any cracks are found replace the drive plate. Do not attempt to repair a cracked drive plate.
(4) Always use new torque converter to drive plate bolts.

NOTE: If the transaxle assembly, TCM, solenoid pack or clutch plates have been replaced, refer to Quick Learn Procedure. This program will allow the transmission control module to compensate for any parts replaced in the electronic transaxle system.

(5) Check and/or adjust gearshift cable. Refer to Shift Linkage in this section for procedure.
(6) When installing the transaxle, ensure the fuel tubes at the rear of the engine do not contact the following:

- Tie rod attachment plate at the power steering rack
- Exhaust Gas Recirculation (EGR) Tube
- Transaxle wiring harness

(7) Refill transaxle with Mopar ATF Plus (Automatic Transmission Fluid) Type 7176.

OIL PUMP SEAL REPLACEMENT

The transaxle must be removed from the vehicle to replace this oil seal.

REMOVAL

(1) Remove the transaxle from the vehicle.
(2) Remove the torque converter from the transaxle bellhousing.
(3) Use special tool C-3981B to remove oil pump seal (Fig. 55).

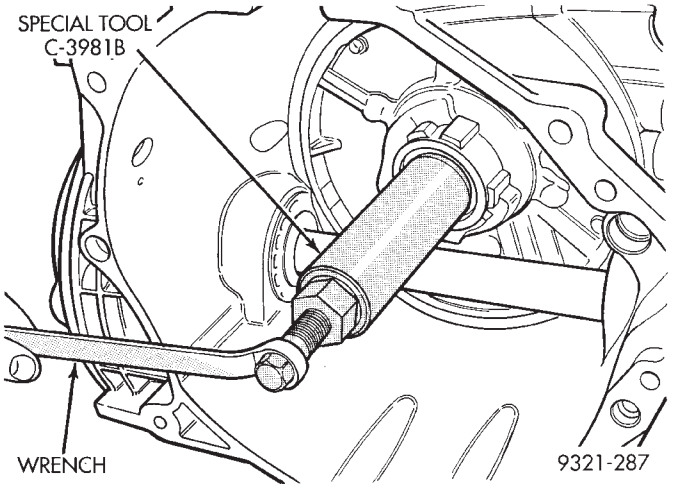


Fig. 55 Oil Seal Removal

INSTALLATION

(1) Clean and inspect oil pump seal seat. Then install seal using special tool C-4193A (Fig. 56).

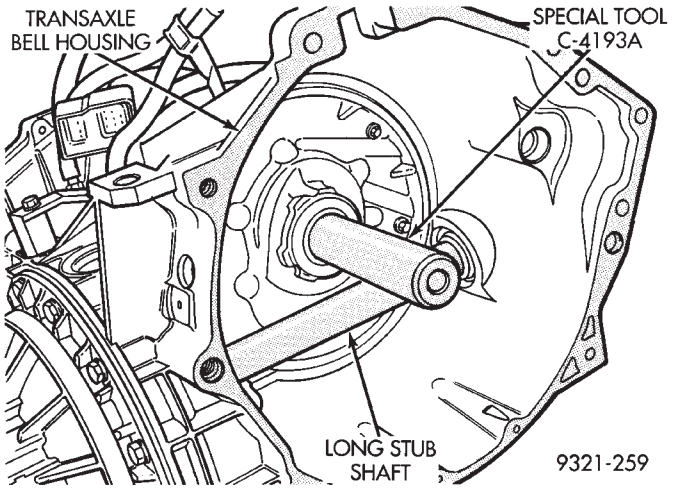


Fig. 56 Oil Seal Installation

(2) Clean and inspect torque converter hub. If nicks, scratches or hub wear are found, torque converter replacement will be required.

CAUTION: If the torque converter is being replaced, apply a light coating of grease to the crankshaft pilot hole. Also inspect the engine drive plate for cracks. If any cracks are found replace the drive plate. Do not attempt to repair a cracked drive plate. Always use new torque converter to drive plate bolts.

(3) Apply a light film of transmission oil to the torque converter hub and oil seal lips. Then install torque converter into transaxle. Be sure that the hub lugs mesh with the front pump lugs when installing.
(4) Reinstall the transaxle into the vehicle.

DISASSEMBLY AND ASSEMBLY (Continued)

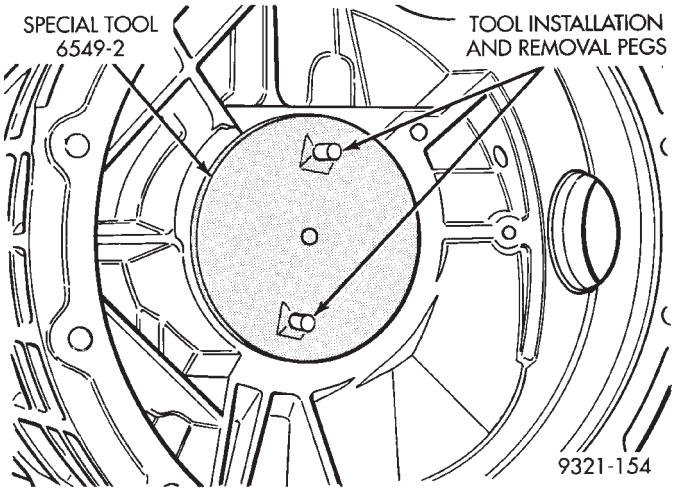


Fig. 251 Installing Centering Block

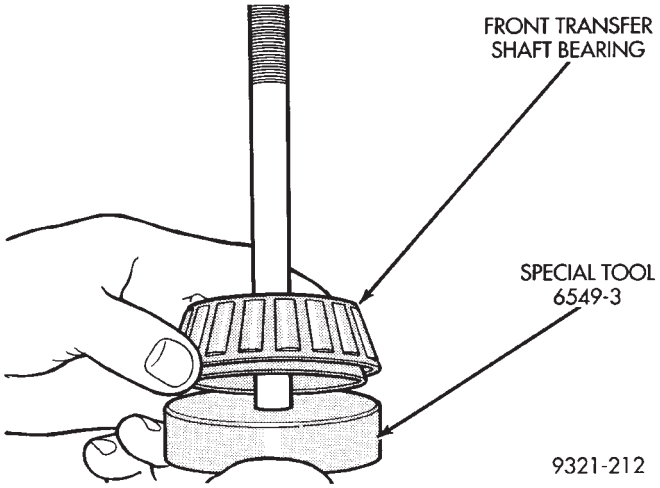


Fig. 252 Gauge Disc and Bearing

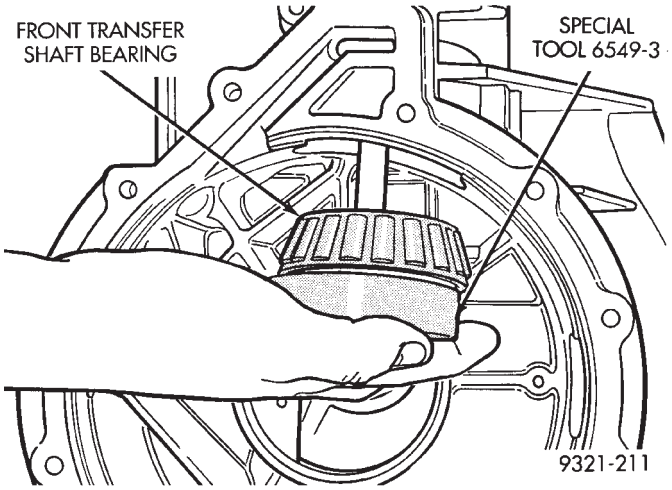


Fig. 253 Installing Gauge Disc with FrontTransfer Shaft Bearing

(7) Hand tighten centering nut until all play in the tool has been removed.

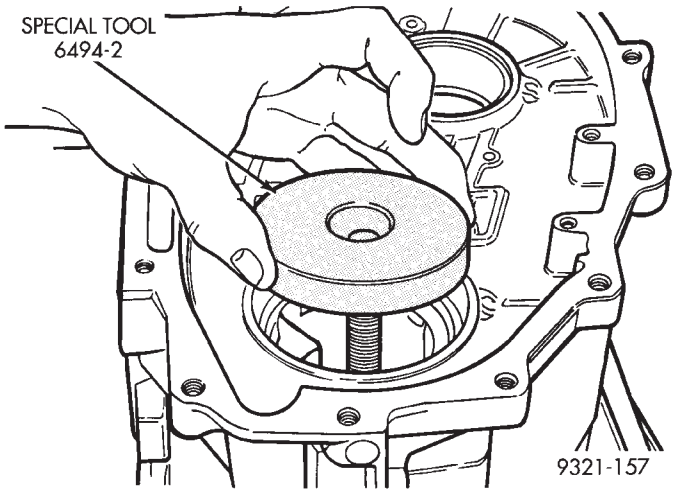


Fig. 254 Disc Installation

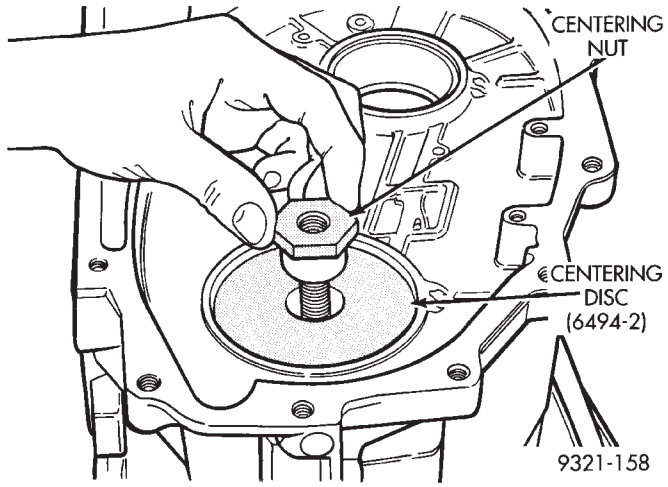


Fig. 255 Installing Centering Nut

(8) Install dial indicator into locating block. Then screw extension rod onto dial indicator.

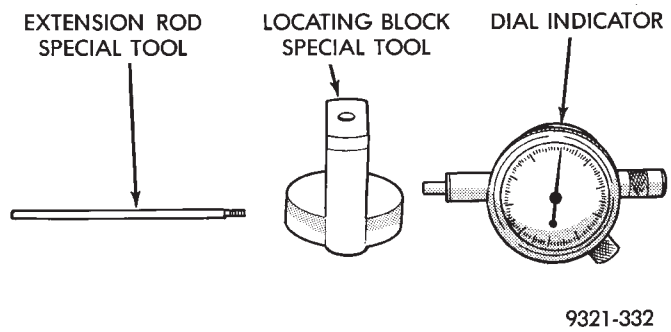


Fig. 256 Dial indicator, Locating Block andExtension Rod

NOTE: The dial indicator used to make this measurement must have a face that shows 0-50-0 (Special Tool C-3339) readings (Fig. 257). All steps from this point forward will reflect this assumption. This will give you proper shim thickness.

REMOVAL AND INSTALLATION (Continued)

REMOVAL

(1) Remove EGR tube mounting screws at intake manifold plenum (Fig. 10).

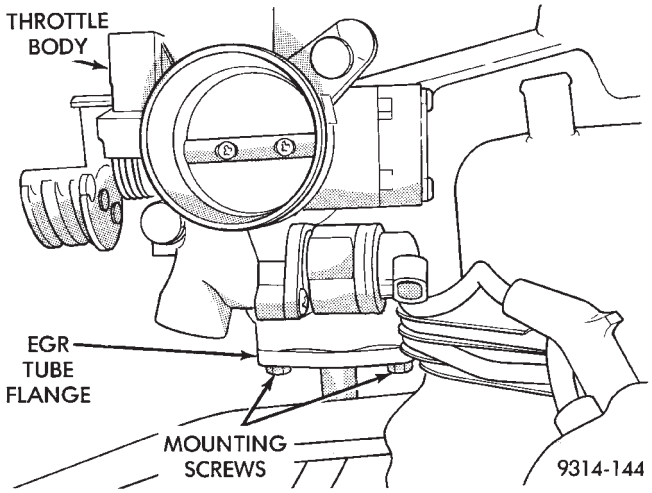


Fig. 10

(2) Remove EGR tube mounting screws at exhaust manifold.

(3) Remove EGR tube. Clean gasket surfaces on the intake manifold plenum and exhaust manifold.

INSTALLATION

(1) Using new gaskets, loosely install the EGR tube and mounting screws.

(2) Tighten the EGR tube to intake manifold plenum screws to 22 N·m (200 in. lbs.) torque.

(3) Tighten the EGR tube to exhaust manifold screws to 22 N·m (200 in. lbs.) torque.

EGR TUBE—3.5L

The EGR tube attaches to the both sides of the intake manifold plenum and to the EGR valve.

REMOVAL

(1) Remove air cleaner plenum from rear of engine.

(2) Remove EGR tube to EGR valve screws.

(3) Remove EGR tube to intake manifold plenum screws (Fig. 11).

(4) Remove EGR tube. Discard gaskets.

(5) Clean gasket surfaces.

INSTALLATION

(1) Loosely install EGR tube with new gaskets. Finger tighten EGR tube mounting screws.

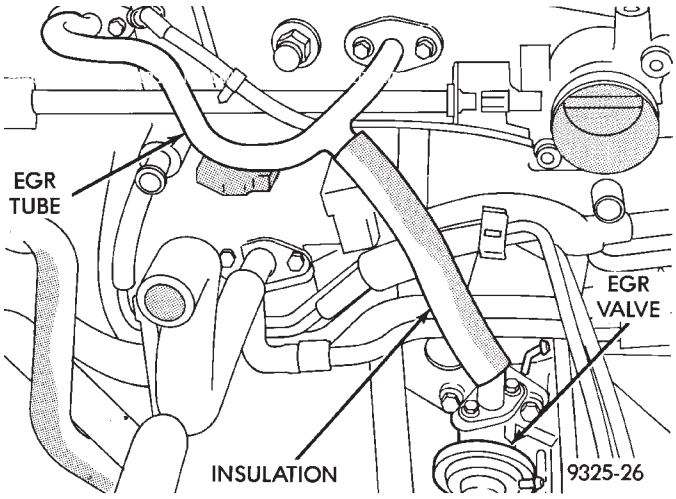


Fig. 11 EGR Tube—3.5L

(2) Tighten EGR tube to EGR valve screws to 11 N·m (95 in. lbs.) torque.

(3) Tighten EGR tube to intake manifold plenum screws to 22 N·m (200 in. lbs.) torque.

(4) Ensure the insulation on the EGR tube aligns with and contacts the insulation on the vacuum harness at the rear of the engine (Fig. 12).

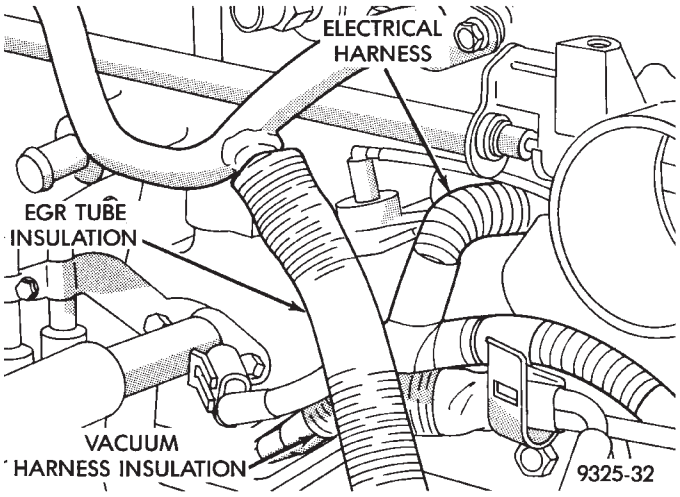


Fig. 12 Insulation on EGR Tube and Vacuum Harness

SPECIFICATIONS

TORQUE

Description	Torque
EGR valve to cyl. head	22 N·m (200 in. lbs.)
EGR tube to EGR valve	11 (95 in. lbs.)
EGR tube to intake manifold	11 N·m (95 in. lbs.)