

DISASSEMBLY AND ASSEMBLY (Continued)

(23) Remove mainshaft from clutch sleeve and input gear pilot.

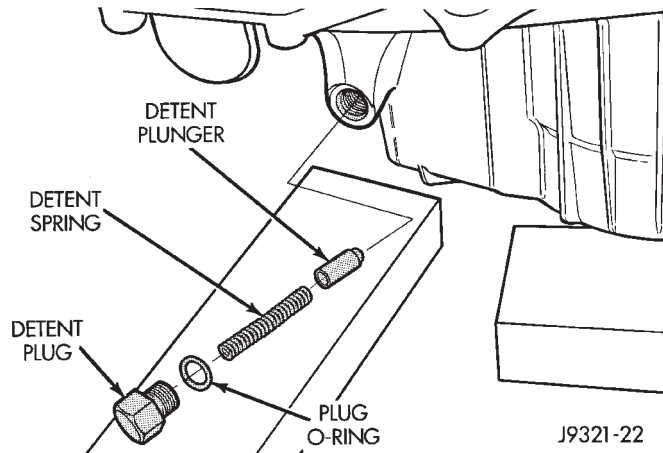


Fig. 38 Detent Plug, Spring And Plunger Removal

(24) Rotate shift sector so sector teeth face upward (Fig. 39).

(25) Remove range fork, rail and clutch sleeve as assembly (Fig. 40). Lift shift rail upward, rotate fork out of shift sector and remove assembly.

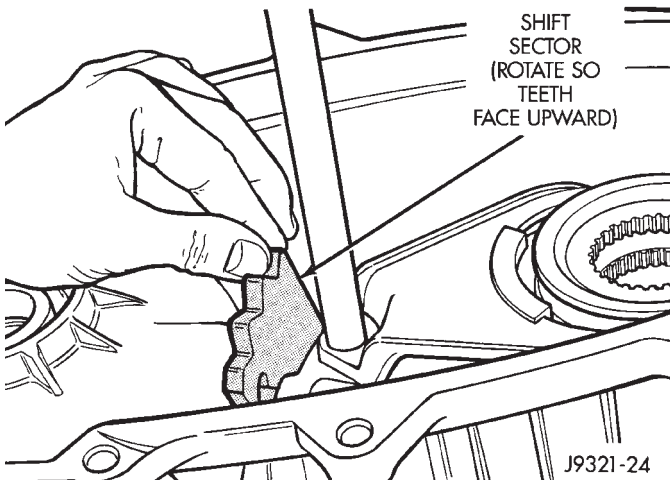


Fig. 39 Rotating Shift Sector

(26) Turn front case on side so front bearing retainer is accessible.

(27) Remove front bearing retainer bolts (Fig. 41).

(28) Remove front bearing retainer as follows: Loosen retainer with flat blade screwdriver to break sealer bead. Then remove retainer from case and gear. **To avoid damaging case and retainer, position screwdriver blade only in slots provided in retainer (Fig. 42).**

(29) Remove snap ring that retains input gear shaft in front bearing (Fig. 43).

(30) Remove input and low range gear assembly (Fig. 44).

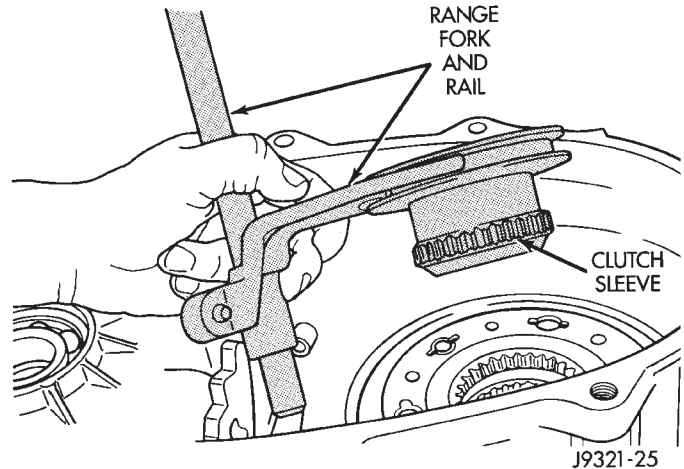


Fig. 40 Range Fork And Clutch Sleeve Removal

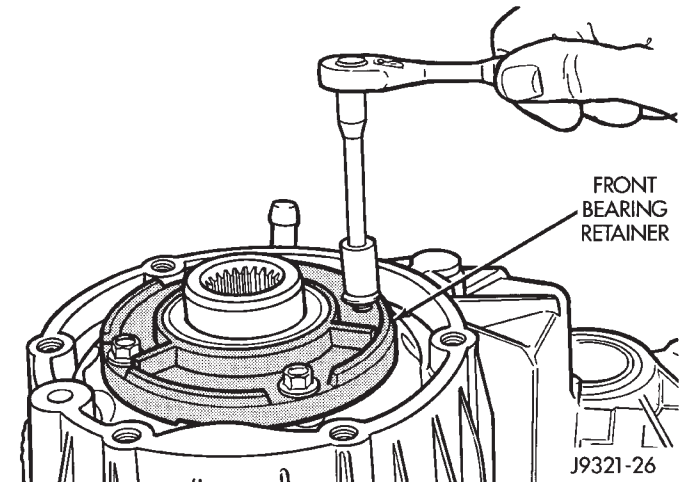


Fig. 41 Front Bearing Retainer Bolt Removal

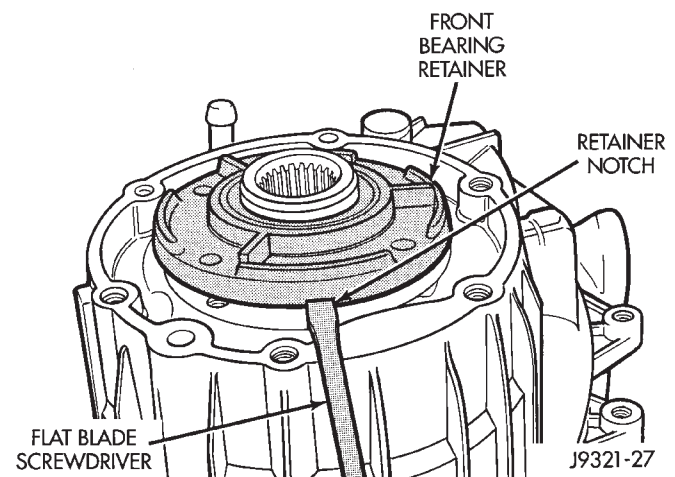


Fig. 42 Front Bearing Retainer Removal

(31) Remove range lever locknut and remove lever and washer from shift sector shaft (Fig. 45).

(32) Remove shift sector. Rotate and tilt sector as needed to remove it (Fig. 46).

DISASSEMBLY AND ASSEMBLY (Continued)

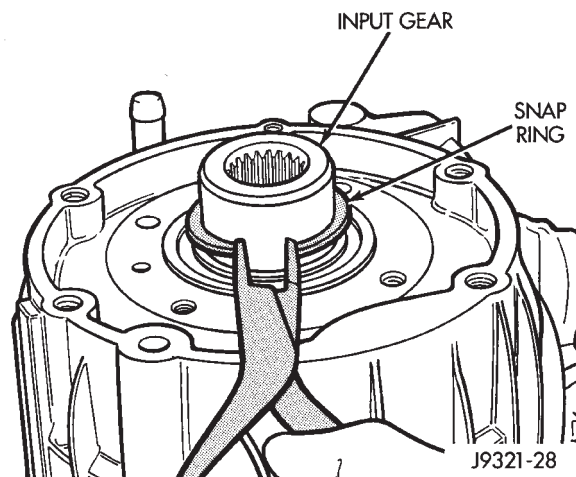


Fig. 43 Input Gear Snap Ring Removal

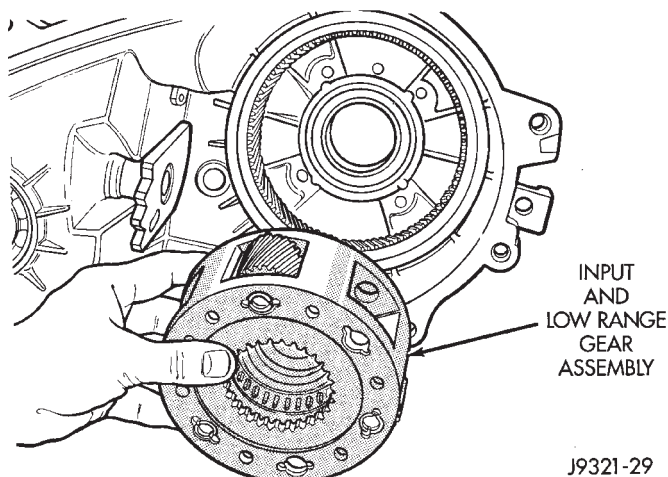


Fig. 44 Input And Low Range Gear Assembly Removal

(33) Remove magnet from case.

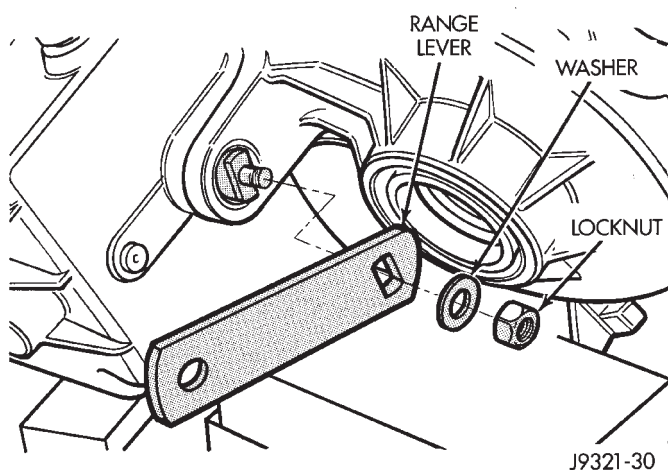


Fig. 45 Range Lever Removal

TRANSFER CASE ASSEMBLE

Lubricate the transfer case components with the Mopar Dexron II during assembly operations.

Use petroleum jelly to lubricate and hold main-shaft needle roller bearings and spacers in place. Petroleum jelly can also be used to lubricate seals, bushings and bearings during assembly.

Gaskets are **not** used in the NV249 transfer case. Instead, the mating surfaces of the case halves, retainer and extension are sealed with Mopar Gasket Maker, silicone adhesive/sealer, or Loctite 518.

(1) Support front case on wood blocks. Position case so sector shaft bore and input gear bearing are accessible.

(2) Lubricate sector shaft, O-ring and shaft bore (in case) with petroleum jelly.

(3) Install sector in case (Fig. 46).

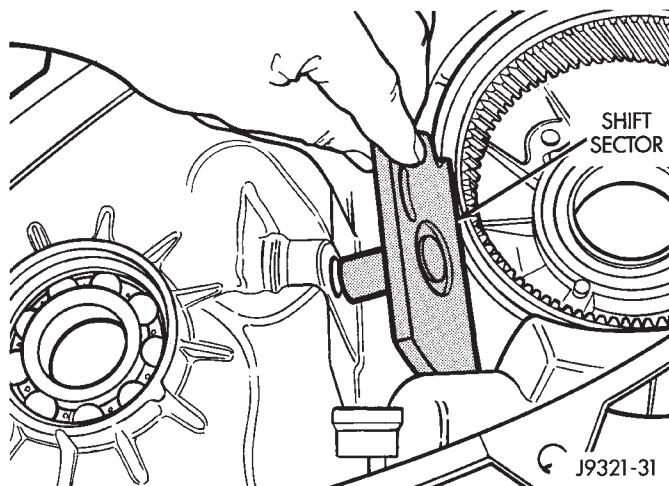


Fig. 46 Shift Sector Removal

(4) Lubricate shift rail bushing with light coat of petroleum jelly, or transmission fluid. **Do not over lubricate bushing. Excess lubricant will flow into bottom of bushing bore and prevent shift rail from fully seating; this can also make it difficult to seat rear case on front case.**

(5) Lubricate bearings and seals in front case with transmission fluid or petroleum jelly.

(6) Install magnet in case.

(7) Align and install low range-input gear assembly in front case (Fig. 47). Be sure low range gear pinions are engaged in annulus gear and that input gear shaft is fully seated in front bearing.

(8) Install snap-ring to hold input/low range gear into front bearing (Fig. 48).

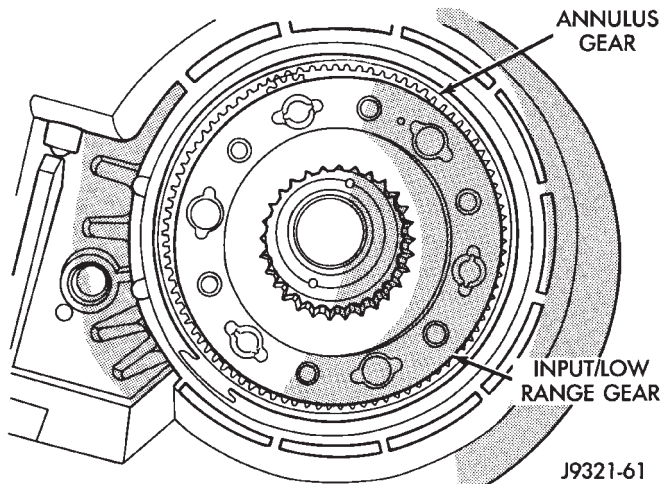
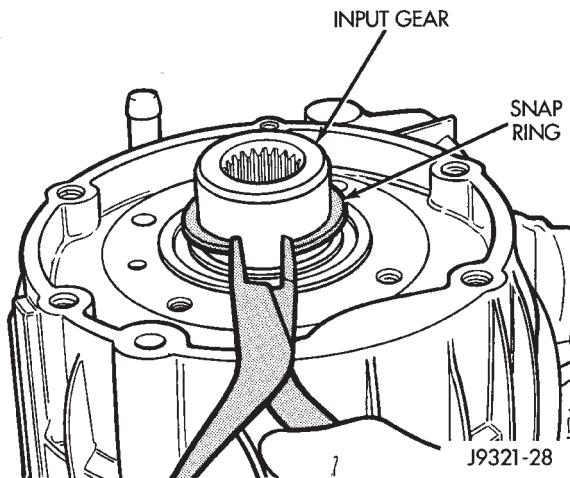
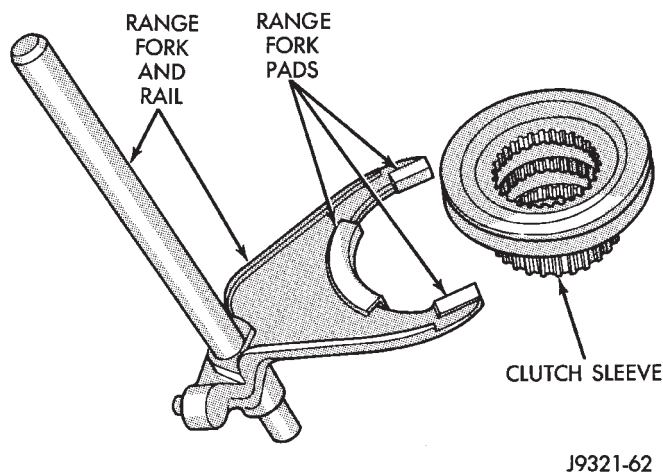
(9) Install new pads on range fork (Fig. 49).

(10) Lubricate range fork pads with light coat of petroleum jelly.

(11) Install clutch sleeve in range fork (Fig. 49).

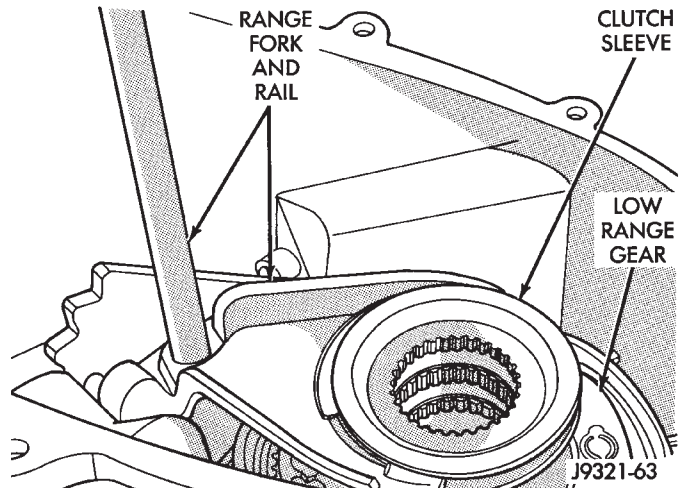
(12) Install assembled range fork and clutch sleeve (Fig. 50). Insert range fork pin in sector. Then rotate sector and seat clutch gear in low range gear.

DISASSEMBLY AND ASSEMBLY (Continued)

**Fig. 47 Input/Low Range Gear Installation****Fig. 48 Install Snap-ring****Fig. 49 Assembling Range Fork And Clutch Sleeve**

(13) Verify that range fork rail is seated in case bushing and that clutch sleeve is properly engaged in low range gear.

(14) Rotate sector to Neutral position.

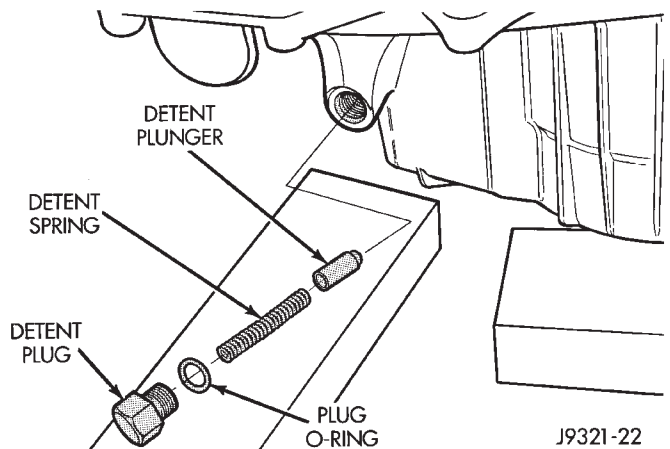
**Fig. 50 Range Fork And Clutch Sleeve Installation**

(15) Install new O-ring on detent plug (Fig. 51).

(16) Lubricate detent plunger with transmission fluid or light coat of petroleum jelly.

(17) Install detent plunger, spring and plug (Fig. 51).

(18) Verify that plunger is properly engaged in sector.

**Fig. 51 Shift Detent Components**

(19) Insert mainshaft into input gear pilot bearing.

(20) Lubricate front output shaft-sprocket assembly, drive chain and drive sprocket with transmission fluid.

(21) Assemble drive chain, drive sprocket and front output shaft (Fig. 52).

(22) Start drive sprocket on mainshaft.

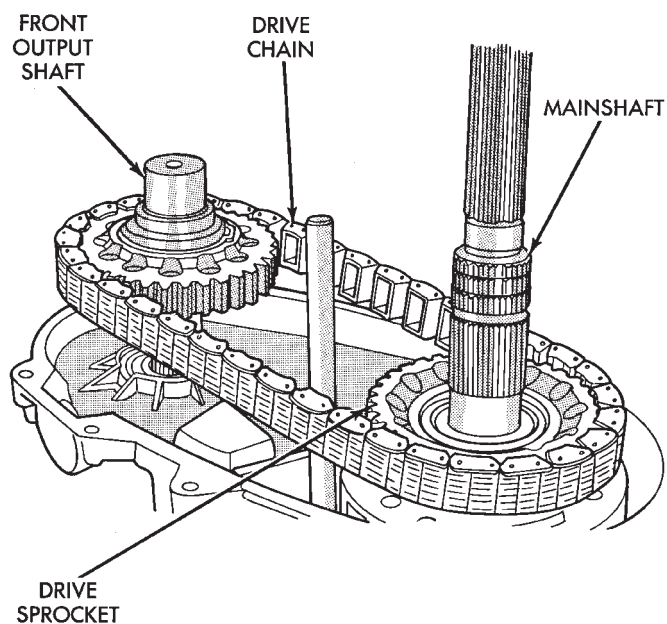
(23) Guide front shaft into bearing and drive sprocket onto mainshaft drive gear (Fig. 52).

(24) Install drive sprocket snap ring (Fig. 53).

(25) Lubricate mainshaft splines with transmission fluid.

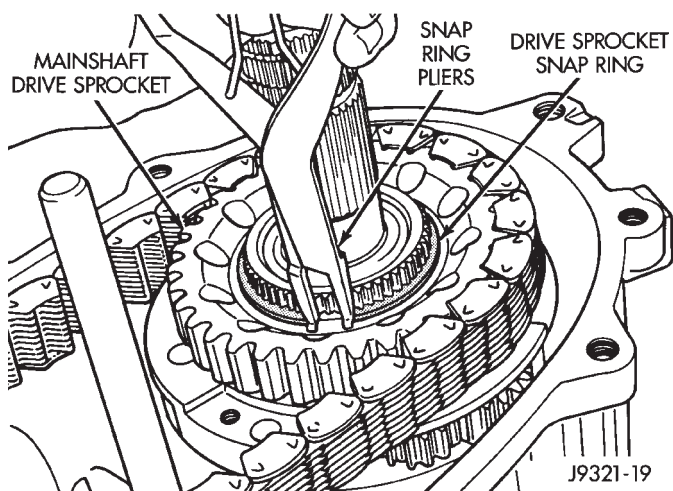
(26) Install coupling on mainshaft (Fig. 54).

DISASSEMBLY AND ASSEMBLY (Continued)



J9321-72

Fig. 52 Installing Drive Chain, Front Output Shaft And Drive Sprocket



J9321-19

Fig. 53 Installing Drive Sprocket Snap Ring

(27) Install coupling retaining snap ring first (Fig. 54). Be sure snap ring is fully seated before proceeding.

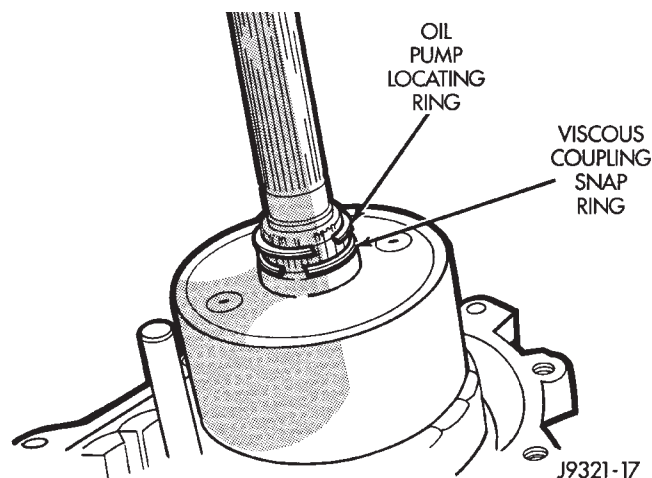
(28) Install oil pump locating snap ring on mainshaft (Fig. 54).

(29) Clean sealing flanges of front case and rear case with a wax and grease remover.

(30) Install new O-ring on flanged end of oil pickup tube.

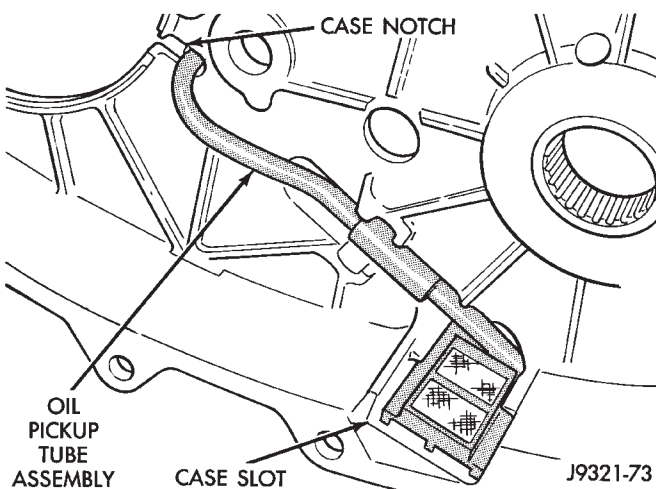
(31) Install oil pickup tube in rear case. Be sure tube is seated in case notch as shown (Fig. 55).

(32) Apply 3 mm (1/8 in.) wide bead of Mopar gasket maker, silicone adhesive sealer, or Loctite 518 to mounting flange of front case. Work sealer bead around bolt holes as shown (Fig. 56).



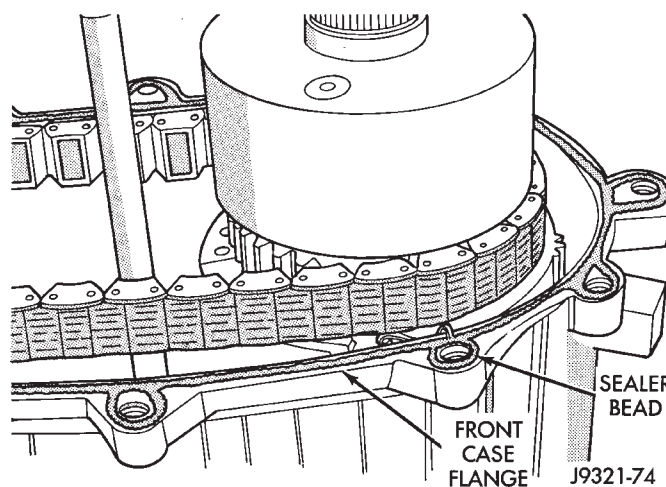
J9321-17

Fig. 54 Viscous Coupling And Oil Pump Ring Installation



J9321-73

Fig. 55 Oil Pickup Tube Installation



J9321-74

Fig. 56 Applying Sealer To Front Case Flange

DISASSEMBLY AND ASSEMBLY (Continued)

(33) Align and install rear case on front case (Fig. 57).

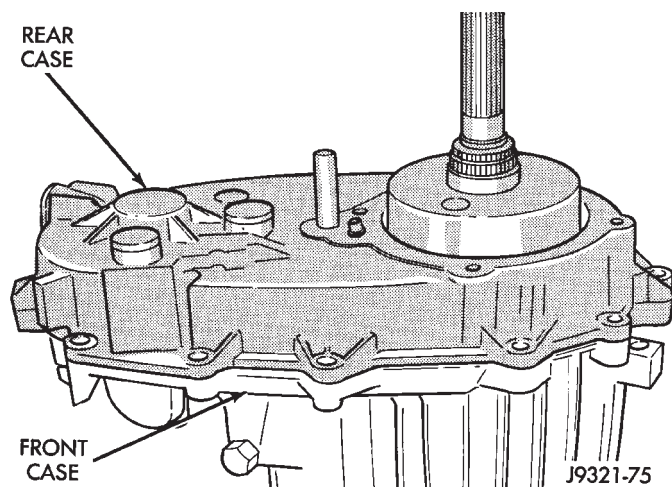


Fig. 57 Rear Case Installation

(34) Verify that oil pickup tube is still seated in case notch and tube end is pointed toward mainshaft (Fig. 58).

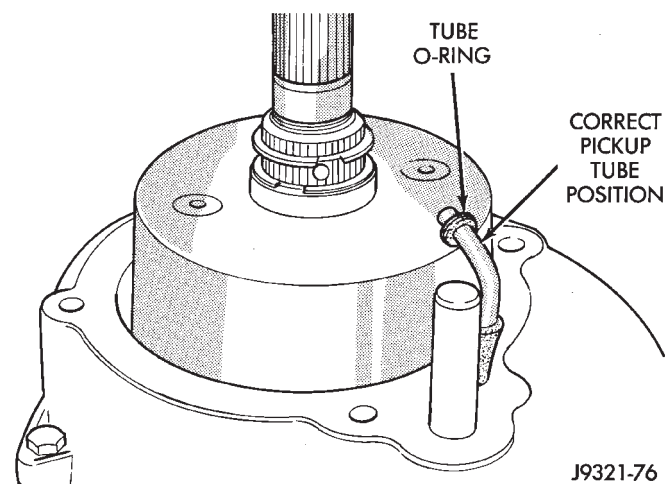


Fig. 58 Checking Position Of Oil Pickup Tube

(35) Install case attaching bolts. Alignment bolts at each end of case are only ones requiring washers (Fig. 59).

(36) Tighten case bolts to 27-34 N·m (20-25 ft. lbs.) torque.

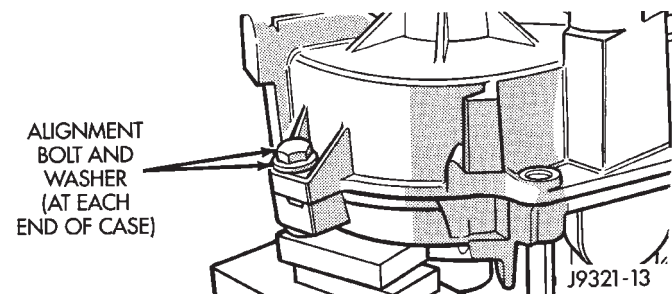


Fig. 59 Alignment Bolt Location

(37) Install oil pump (Fig. 60).

(38) Insert oil pickup tube in pump (Fig. 61).

(39) Install rear bearing on mainshaft (Fig. 61). Locating ring groove in bearing goes toward end of mainshaft.

(40) Install rear bearing retaining snap ring (Fig. 62).

(41) Install speedometer drive gear (Fig. 63).

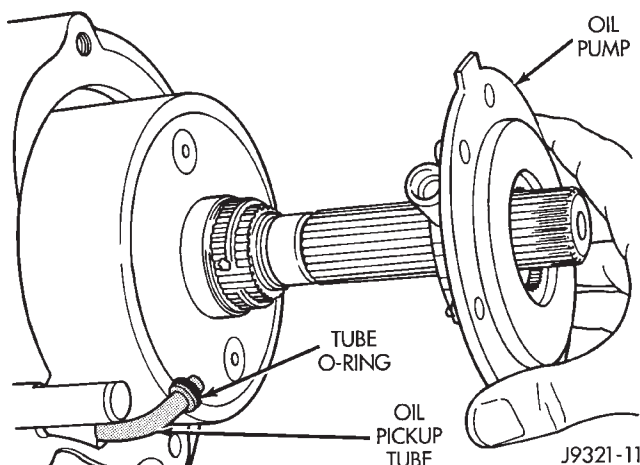


Fig. 60 Installing Oil Pump

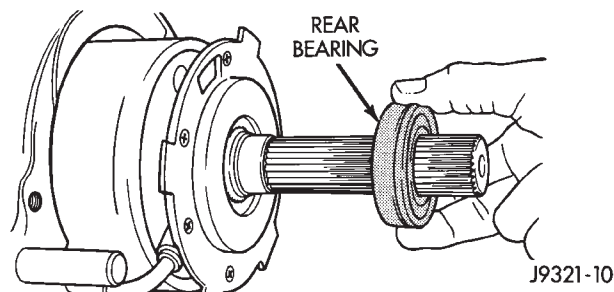


Fig. 61 Rear Bearing Installation

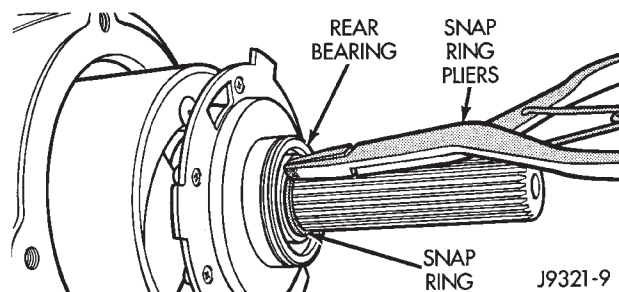


Fig. 62 Rear Bearing Snap Ring Installation

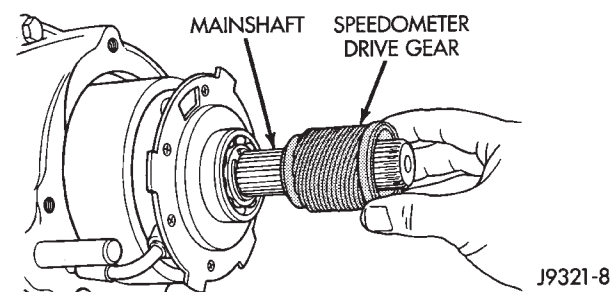


Fig. 63 Speedometer Drive Gear Installation

DISASSEMBLY AND ASSEMBLY (Continued)

(42) Install rear bearing locating ring in rear retainer, if ring was removed during overhaul.

(43) Apply 3 mm (1/8 in.) wide bead of Mopar gasket maker, silicone adhesive sealer, or Loctite 518 to mounting surface of rear retainer. Allow sealer to set-up slightly before proceeding.

(44) Slide rear retainer onto mainshaft (Fig. 64).

(45) Spread rear bearing locating ring and slide rear retainer into place on rear case (Fig. 65).

(46) Install and tighten rear retainer bolts to 27-34 N·m (20-25 ft. lbs.).

(47) Install locating ring access cover and gasket (Fig. 66). Tighten plate attaching screws to 10 N·m (85 in. lbs.) torque.

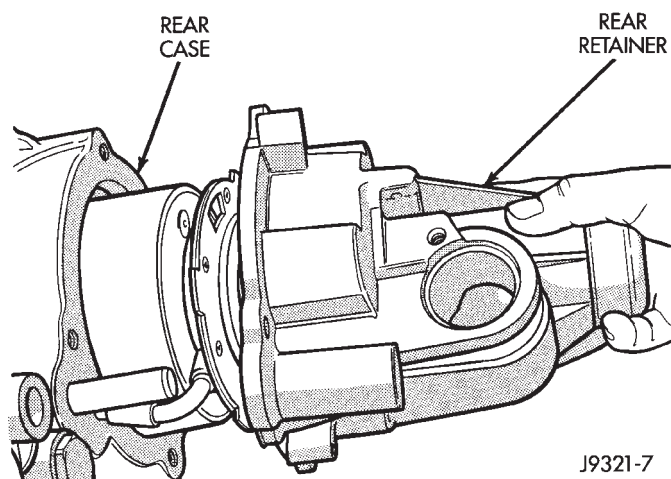


Fig. 64 Rear Retainer Installation

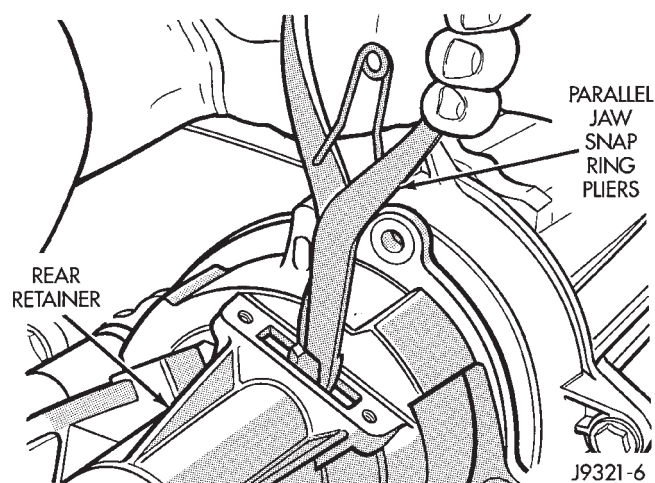


Fig. 65 Engaging Rear Bearing Locating Ring

(48) Apply 3 mm (1/8 in.) wide bead of Mopar Gasket Maker, silicone adhesive sealer, or Loctite 518 to mating surface of front bearing retainer. Allow sealer to set-up slightly before installing retainer.

(49) Install front bearing retainer (Fig. 67). Tighten retainer bolts to 16-24 N·m (12-18 ft. lbs.) torque.

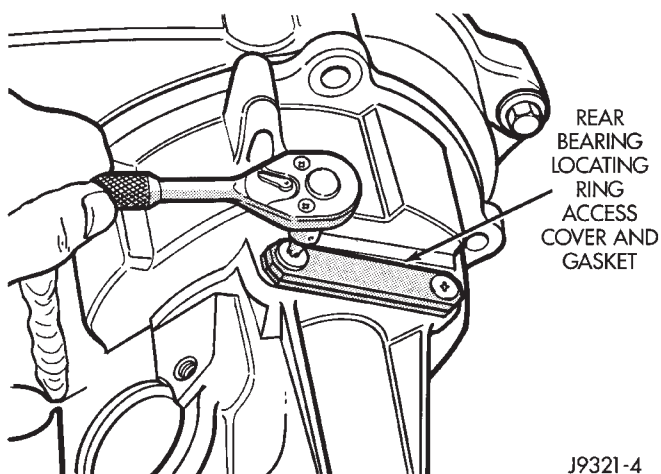


Fig. 66 Installing Locating Ring Access Cover And Gasket

(50) Install new seal washer on front output shaft (Fig. 68).

(51) Install yoke and new yoke nut on front output shaft (Fig. 69).

(52) Tighten yoke nut to 122-176 N·m (90-130 ft. lbs.) torque. Use Tool C-3281, or similar tool to hold yoke while tightening yoke nut.

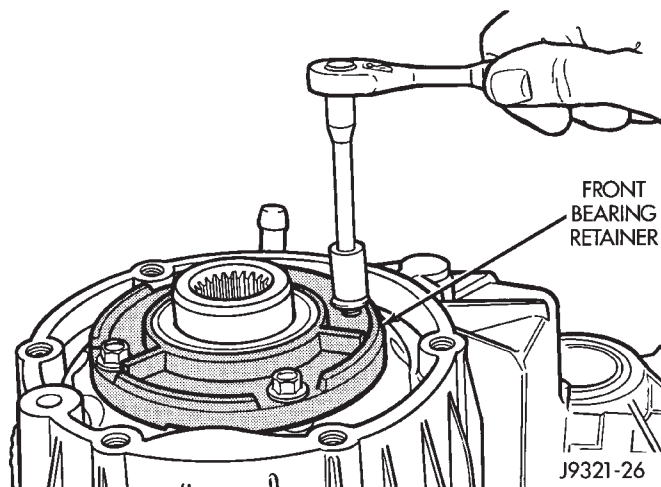


Fig. 67 Front Bearing Retainer Installation

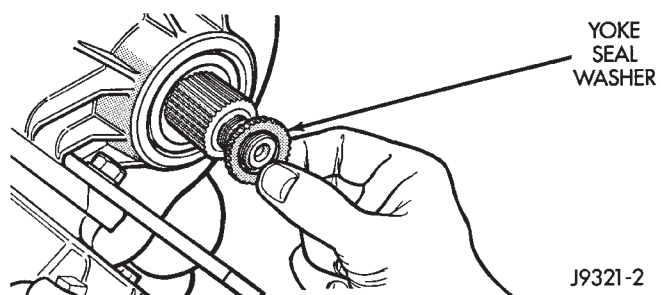
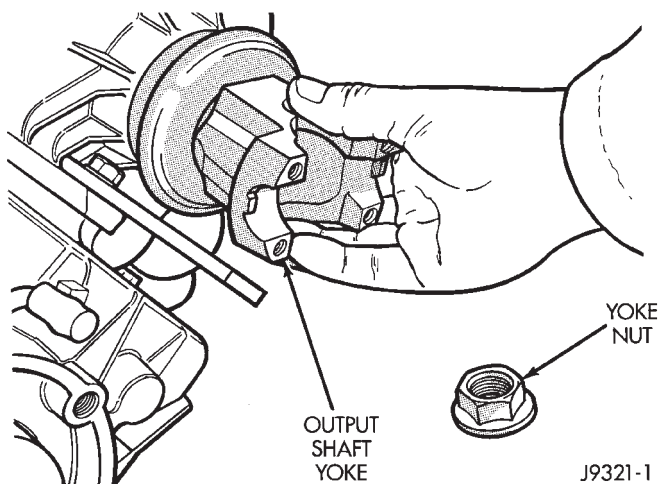
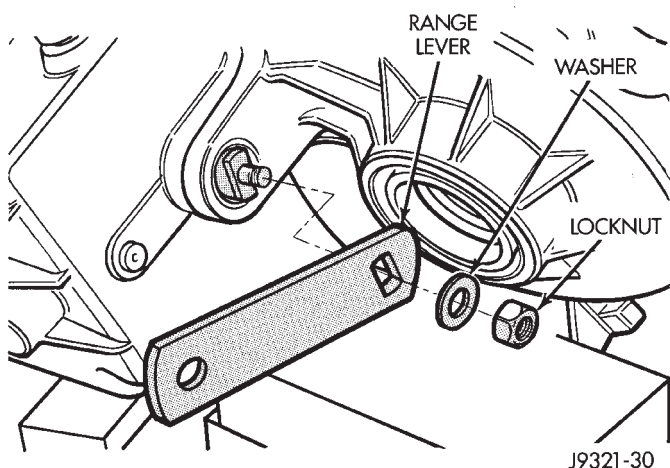


Fig. 68 Yoke Seal Washer Installation

DISASSEMBLY AND ASSEMBLY (Continued)

**Fig. 69 Output Shaft Yoke Installation**

(53) Install range lever, washer and locknut on sector shaft (Fig. 70). Tighten locknut to 27-34 N·m (20-25 ft. lbs.) torque.

**Fig. 70 Range Lever Installation**

(54) Install drain plug. Tighten plug and switch to 41-54 N·m (30-40 ft. lbs.) torque.

(55) Install and tighten indicator switch to 20-34 N·m (15-25 ft. lbs.) torque.

(56) Level transfer case and fill it with Mopar Dexron II. Correct fill level is to bottom edge of fill plug hole.

(57) Install and tighten fill plug to 41-54 N·m (30-40 ft. lbs.) torque.

INPUT AND LOW RANGE GEAR**DISASSEMBLE**

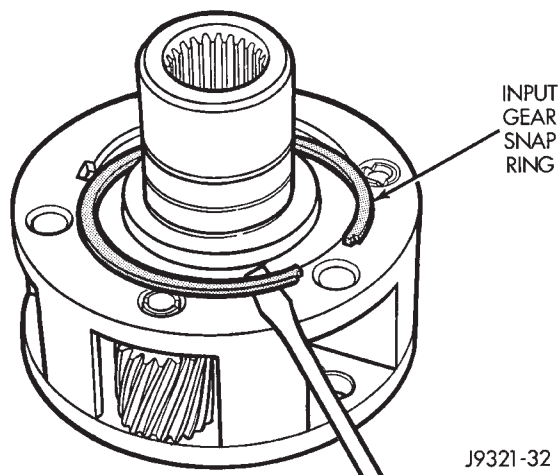
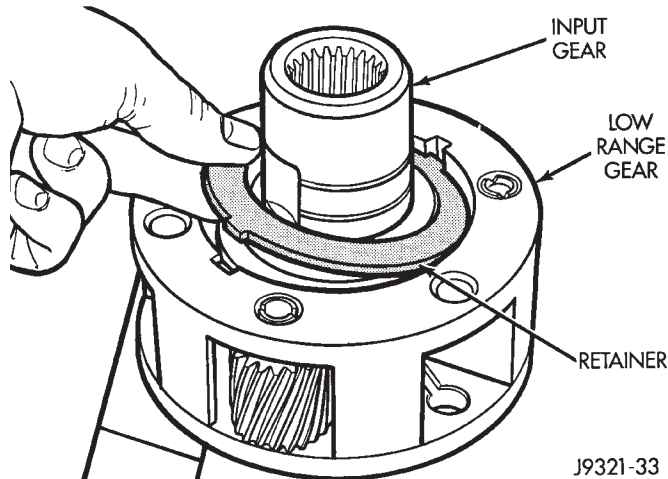
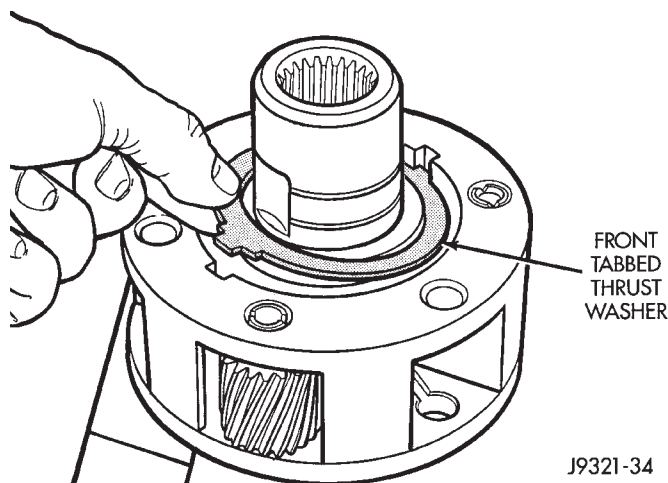
(1) Remove snap ring that retains input gear in low range gear (Fig. 71).

(2) Remove retainer (Fig. 72).

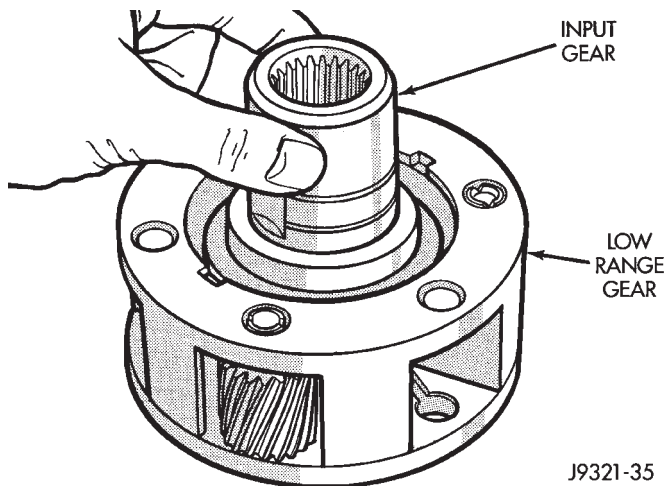
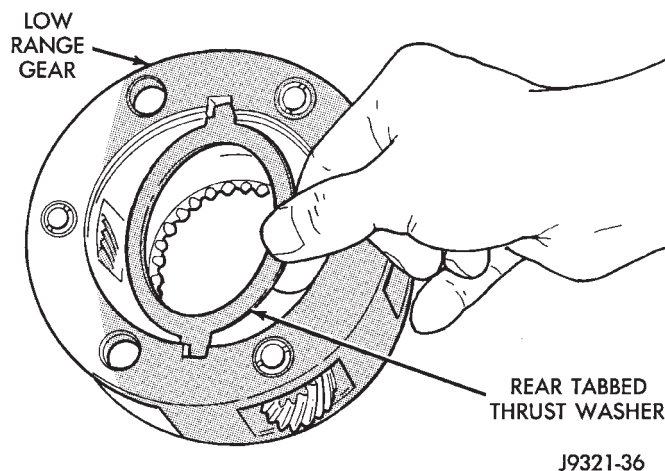
(3) Remove front tabbed thrust washer (Fig. 73).

(4) Remove input gear (Fig. 74).

(5) Remove rear tabbed thrust washer from low range gear (Fig. 75).

**Fig. 71 Input Gear Snap Ring Removal****Fig. 72 Input Gear Retainer Removal****Fig. 73 Front Tabbed Thrust Washer Removal**

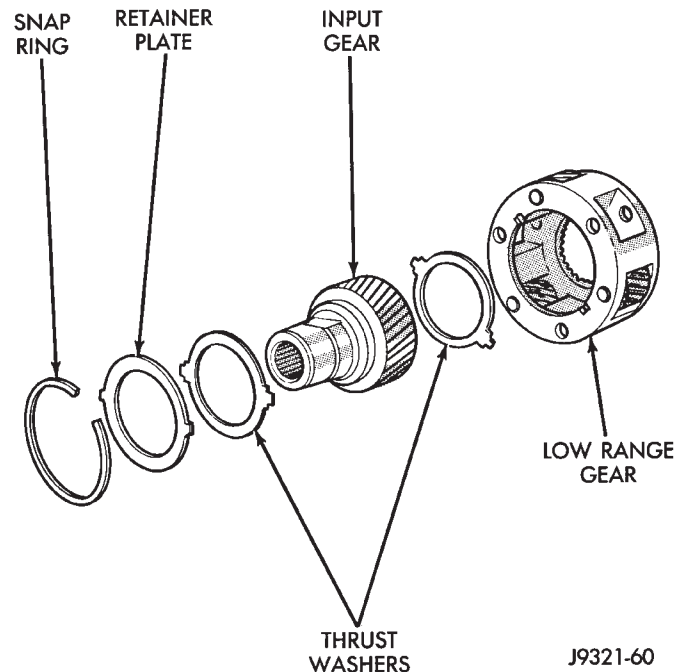
DISASSEMBLY AND ASSEMBLY (Continued)

**Fig. 74 Input Gear Removal****Fig. 75 Rear Tabbed Thrust Washer Removal****INPUT AND LOW RANGE GEAR ASSEMBLE**

- (1) Lubricate gears and thrust washers (Fig. 76) with recommended transmission fluid.
- (2) Install first thrust washer in low range gear (Fig. 76). Be sure washer tabs are properly aligned in gear notches.
- (3) Install input gear in low range gear. Be sure input gear is fully seated.
- (4) Install remaining thrust washer in low range gear and on top of input gear. Be sure washer tabs are properly aligned in gear notches.
- (5) Install retainer on input gear and install snap ring.

CLEANING AND INSPECTION**NV249 COMPONENTS**

Clean the transfer case components with parts cleaning solvent. Flush the oil passages in the cases and drivetrain components with solvent. This will help remove dirt and particles from these passages.

**Fig. 76 Input/Low Range Gear Components**

Dry the transfer case components with compressed air or allow them to air dry on clean shop towels.

Apply compressed air through all oil passages in the cases and gear components to clear them of any residue.

MAINSHAFT

Examine the mainshaft components carefully for evidence of wear or damage.

Replace the thrust washers if worn or damaged.

Replace the mainshaft and sprocket gears if the teeth or gear bores are worn or damaged.

Replace the mainshaft bearings if worn, flat spotted, brinelled, or damaged in any way.

Replace the mainshaft if it exhibits wear or damage to the bearing surfaces, splines or gear teeth.

INPUT AND LOW RANGE GEARS

Inspect the low range gear pinions and pinion pins. Replace the low range gear if any of the pins or pinions are worn or damaged.

Inspect the thrust washers, retainer and snap ring. Replace the snap ring if bent, or distorted. Replace the thrust washers and retainer if worn, cracked or damaged in any way.

Examine the input gear carefully. Be sure the gear teeth and bearing surfaces are in good condition. Replace the gear if wear or damage is evident.

Check the input gear pilot bearing. Rotate the bearing and check for roughness or noise. Also check bearing position in the bore. The bearing should be recessed approximately 2.5 mm (0.100 in.) below the top edge of the bore. The bearing should not be

CLEANING AND INSPECTION (Continued)

seated at the bottom of the bore. Replace the bearing if worn, or roughness is evident. Replace both the gear and bearing if the bearing is a loose fit in the bore.

Gear Cases And Extension

Examine both case halves and the extension carefully. Replace the extension or either case half if wear, cracks, or other damage is evident.

Check condition of the low range annulus gear and the shift rail bushing in the front case (Fig. 77). The low range annulus gear is not a serviceable part. Replace the gear and case as an assembly if the gear is loose, worn, or damaged. The shift rail bushing is a serviceable part and can be replaced if necessary.

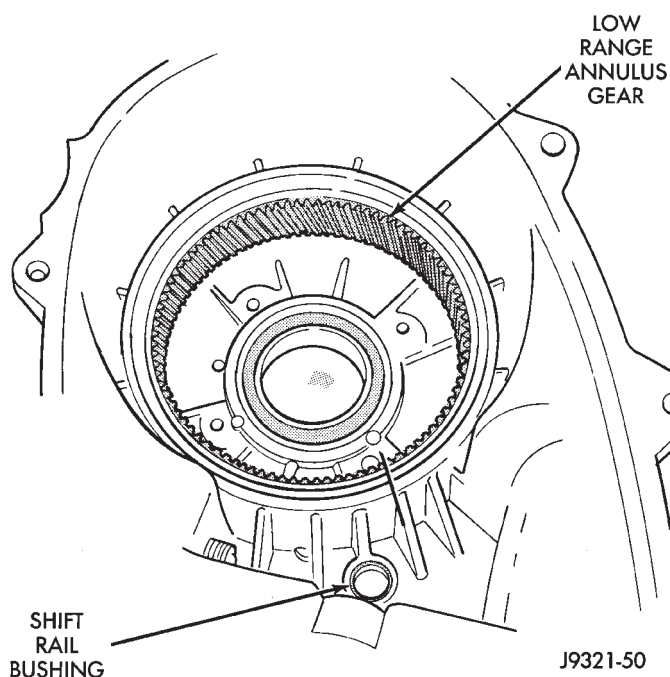


Fig. 77 Low Range Annulus Gear Location

Check the bushing in the rear extension. Replace the bushing if worn or scored. A shop press and universal type bushing driver set can be used for replacement purposes.

Examine the sealing surfaces of both case halves and the extension. Small burrs, or scratches on these surfaces can be reduced with crocus cloth or a fine tooth file.

Examine condition of the shift rail bushing in the front case. If the bushing is worn or damaged, it can be removed with a blind hole type puller. A replacement bushing can be installed with a suitable size driver. Recess the bushing slightly below the edge of the bore but do not seat it all the into the case.

Geartrain

The differential pinion gears and thrust washers are serviceable components and can be replaced if

worn or damaged. The differential cases are also serviceable but must be replaced as a set if either case is damaged.

Inspect the mainshaft splines, gear teeth and bearing surfaces carefully for evidence of wear, or damage. Replace the shaft if necessary. do not attempt to salvage it if damaged.

The shift rail and range fork are an assembly. Replace both parts if either is damaged. However, the nylon pads in the fork can be replaced if worn, or cracked.

Inspect the transfer case snap rings closely. Do not attempt to salvage a distorted snap ring by straightening or reshaping it. Replace any snap ring that is distorted, or worn.

Inspect the low range gear, input gear and the gear thrust washers retainer, and snap ring. The low range gear is serviced as an assembly only. Replace the gear if the case or pinions are damaged.

During inspection, also make sure the seal surface of the input gear is in good condition. Minor nicks on this surface can be reduced with crocus cloth. However, replace the gear if the seal surface is severely scored or worn.

The speedometer gear should be replaced if worn, cracked, or if the small spline teeth are worn.

OIL PUMP AND VISCOUS COUPLING

The oil pump and viscous coupling are not serviceable components. Replace the coupling as an assembly if it is leaking or damaged. Replace the oil pump as an assembly if the gear teeth are worn, or if the pump has become damaged.

BEARINGS AND SEALS

The transfer case seals should be replaced during overhaul. Use new seals in the input gear bearing retainer, front case and rear extension. Also replace the yoke seal washer and the detent plug O-ring.

Check condition of each transfer case bearing. Replace any bearing exhibiting signs of roughness, wear, or damage.

Bearing and seal replacement is described in the Transfer Case Bearing And Seal Replacement procedures.

ADJUSTMENTS

SHIFT LINKAGE ADJUSTMENT

- (1) Shift transfer case into Neutral position.
- (2) Raise vehicle on hoist that will allow all four wheels to rotate freely.
- (3) Loosen trunnion lock bolt (Fig. 78). Loosen bolt enough so selector rod slides freely in trunnion.
- (4) Verify that shift lever on transfer case is in Neutral position.

ADJUSTMENTS (Continued)

TORQUE	
A	3-4 N•m (27-35 in. lbs.)
B	11-14 N•m (97-123 in. lbs.)
C	8-14 N•m (72-120 in. lbs.)

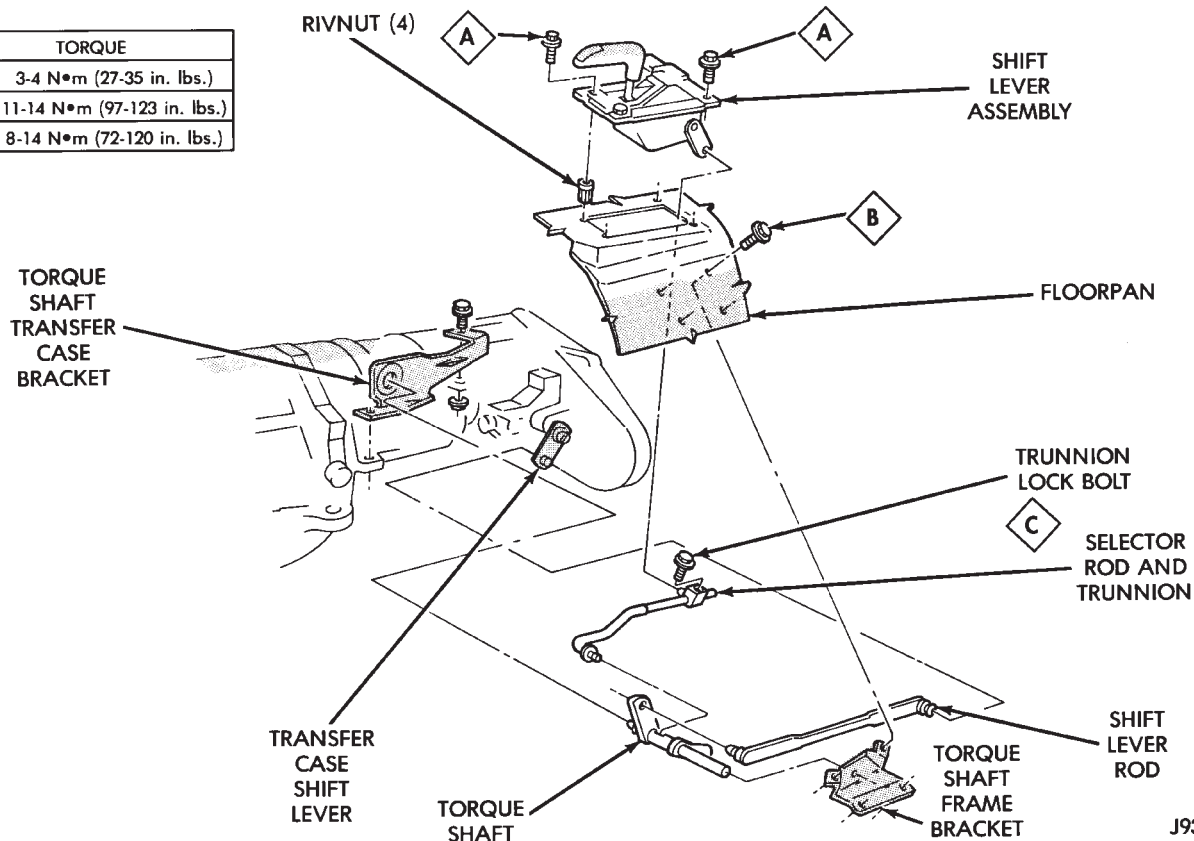


Fig. 78 Transfer Case Shift Linkage

(5) Tighten trunnion lock bolt to 11-20 N•m (96-180 in. lbs.) torque.

(6) Lower vehicle enough for entry into driver seat but keep all wheels off shop floor.

(7) Verify correct linkage adjustment. Start engine, shift transmission into gear and shift transfer case into all ranges. Be sure transfer case is fully engaged in high and low range. Readjust linkage if necessary.

(8) Shut engine off and lower vehicle completely.

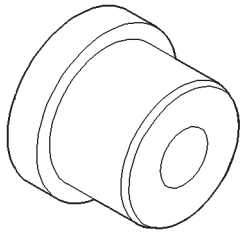
SPECIFICATIONS

TORQUE

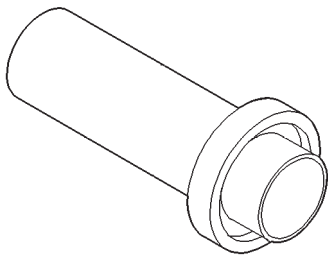
DESCRIPTION	TORQUE
Bolt, crossmember	.41-47 N•m (30-35 ft. lbs.)
Plug, Detent	.16-24 N•m (12-18 ft. lbs.)
Plugs, drain/fill	.41-54 N•m (30-40 ft. lbs.)
Switch, Electric	.20-34 N•m (15-25 ft. lbs.)
Bolts, front brg. retainer .	.16-24 N•m (12-18 ft. lbs.)
Bolts, case half	.27-34 N•m (20-25 ft. lbs.)
Nut, output yoke	.122-176 N•m (90-130 ft. lbs.)
Bolts, rear extension . . .	.27-34 N•m (20-25 ft. lbs.)
Lock-nut, shift	.27-34 N•m (20-25 ft. lbs.)
Bolt, shift rod	.11-20 N•m (96-180 in. lbs.)
Nuts, T-case mount stud .	.33-41 N•m (24-30 ft. lbs.)
Bolt, U-joint clamp	.16-22 N•m (12-16 ft. lbs.)

SPECIAL TOOLS

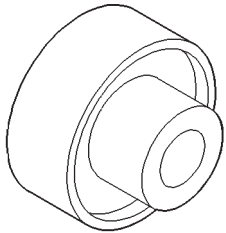
NV249 TRANSFER CASE



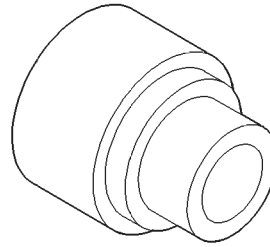
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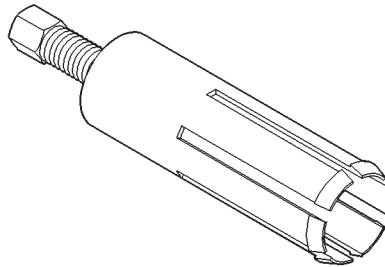
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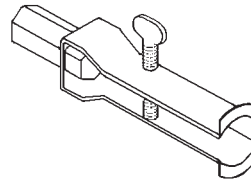
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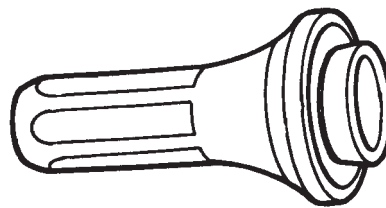
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Remover—6957

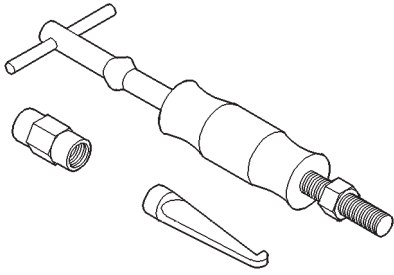


Adapter—7794-A

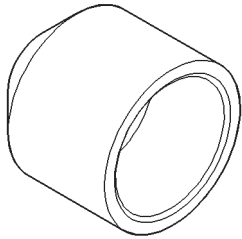


Installer—7823

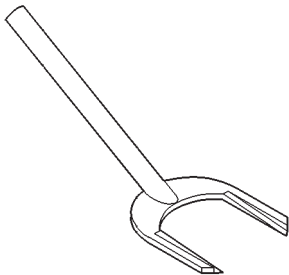
SPECIAL TOOLS (Continued)



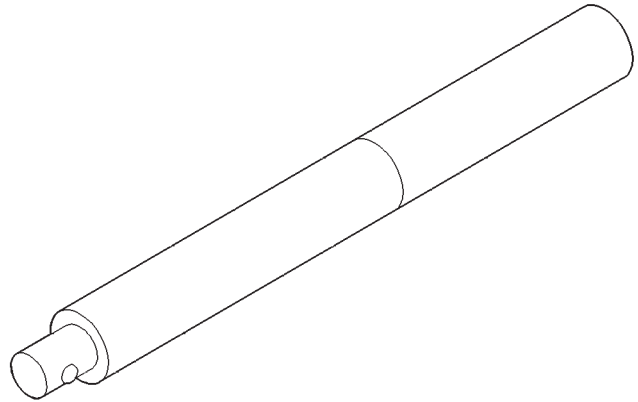
Slide Hammer—C-637



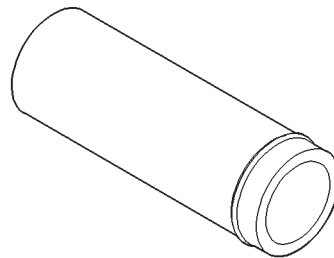
Installer—C-3972-A



Remover—C-3985-B



Handle—C-4171



Installer—C-4735

TRANSMISSION AND TRANSFER CASE

NV242 TRANSFER CASE

CONTENTS

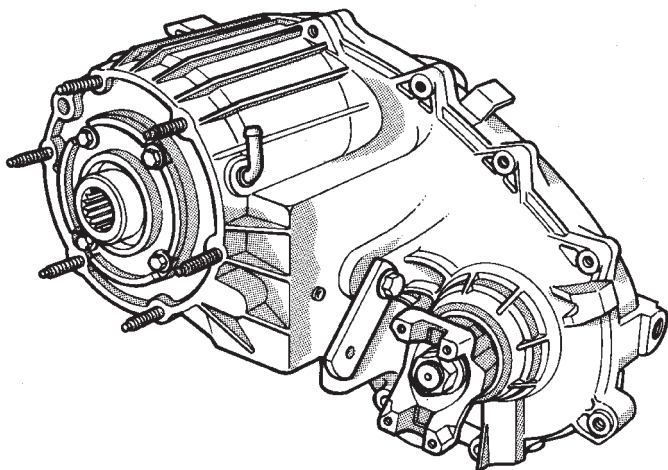
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GENERAL INFORMATION

NV 242 TRANSFER CASE

The NV242 is a full and part-time transfer case (Fig. 1). It provides full time 2-wheel, or 4-wheel drive operation.

A differential in the transfer case is used to control torque transfer to the front and rear axles. A low range gear provides increased low speed torque capability for off road operation. The low range provides a 2.72:1 reduction ratio.



J8921-243

Fig. 1 NV242 Transfer Case

The input gear is splined to the transmission output shaft. It drives the mainshaft through the planetary gear and range hub. The front output shaft is operated by a drive chain that connects the shaft to a drive sprocket on the mainshaft. The drive sprocket is engaged/disengaged by the mode fork, which operates the mode sleeve and hub. The sleeve and hub are not equipped with a synchro mechanism for shifting.

The geartrain is mounted in two aluminum case halves attached with bolts. The mainshaft front and rear bearings are mounted in aluminum retainer housings bolted to the case halves.

OPERATING RANGES

NV242 operating ranges are 2WD (2-wheel drive), 4x4 part-time, 4x4 full time, and 4 Lo.

The 2WD and 4x4 full time ranges can be used at any time and on any road surface.

The 4x4 part-time and 4 Lo ranges are for off road use only. The only time these ranges can be used on hard surface roads, is when the surface is covered with snow and ice.

SHIFT MECHANISM

Operating ranges are selected with a floor mounted shift lever. The shift lever is connected to the transfer case range lever by an adjustable linkage rod. A straight line shift pattern is used. Range positions are marked on the shifter bezel cover plate, or on the shift knob.

GENERAL INFORMATION (Continued)

TRANSFER CASE IDENTIFICATION

A circular ID tag is attached to the rear case of each transfer case (Fig. 2). The ID tag provides the transfer case model number, assembly number, serial number, and low range ratio.

The transfer case serial number also represents the date of build.

RECOMMENDED LUBRICANT AND FILL LEVEL

Recommended lubricant for the NV 242 transfer case is Mopar® Dexron II, or ATF Plus. Approximate lubricant fill capacity is 1.35 liters (2.85 pints).

The fill and drain plugs are both in the rear case (Fig. 2). Correct fill level is to the bottom edge of the fill plug hole. Be sure the vehicle is level to ensure an accurate fluid level check.

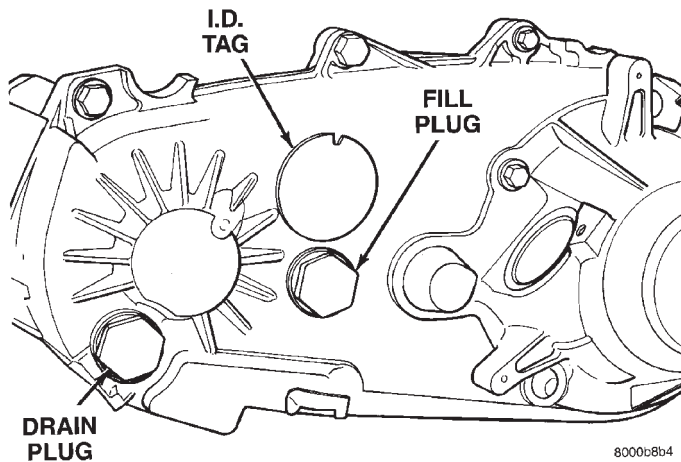


Fig. 2 Fill/Drain Plug And I.D. Tag Locations

DIAGNOSIS AND TESTING

NV242 DIAGNOSIS

Condition	Possible Cause	Correction
TRANSFER CASE DIFFICULT TO SHIFT OR WILL NOT SHIFT INTO DESIRED RANGE	(1) Transfer case external shift linkage binding. (2) Insufficient or incorrect lubricant. (3) Internal components binding, worn or damaged.	(1) Lubricate, repair or replace linkage, or tighten loose components as necessary. (2) Drain and refill to edge of fill hole with DEXRON II® or MOPAR-MERCON® Automatic Transmission Fluid. (3) Disassemble unit and replace worn or damaged components as necessary.
TRANSFER CASE NOISY IN ALL DRIVE POSITIONS	(1) Insufficient or incorrect lubricant.	(1) Drain and refill to edge of fill hole with DEXRON II® or MOPAR-MERCON® Automatic Transmission Fluid. Check for leaks and repair if necessary. Note: If unit is still noisy after drain and refill, disassembly and inspection may be required to locate source of noise.
LUBRICANT LEAKING FROM OUTPUT SHAFT SEALS OR FROM VENT	(1) Transfer case overfilled. (2) Vent closed or restricted. (3) Output shaft seals damaged or installed incorrectly.	(1) Drain to correct level. (2) Clear or replace vent if necessary. (3) Replace seals. Be sure seal lip faces interior of case when installed. Also be sure yoke seal surfaces are not scored or nicked. Remove scores and nicks with fine sandpaper or replace yoke(s) if necessary.
TRANSFER CASE WILL NOT SHIFT THROUGH 4 X 4 PART-TIME RANGE (Light Remains On).	(1) Incomplete shift due to drivetrain torque load. (2) Incorrect tire pressure(s). (3) Excessive tire wear. (4) Excessive vehicle loading.	(1) Driver must momentarily release the accelerator pedal to complete the shift. (2) Inflate all tires equally to correct pressure. (3) Switch tires — Install the two tires with the most wear (one on the front axle and one on the rear axle). (4) Check vehicle loading — Do not exceed the vehicle's GVW.

REMOVAL AND INSTALLATION

SHIFT LEVER

REMOVAL

- (1) Shift transfer case into 4L.
- (2) Raise vehicle.
- (3) Loosen adjusting trunnion locknut and slide shift rod out of trunnion (Fig. 3). If rod lacks enough travel to come out of trunnion, push trunnion out of torque shaft.
- (4) Lower vehicle.
- (5) Remove console. Refer to park brake section in Group 5 for procedures.
- (6) Remove screws attaching lever assembly to floorpan and remove assembly and shift rod (if left attached).

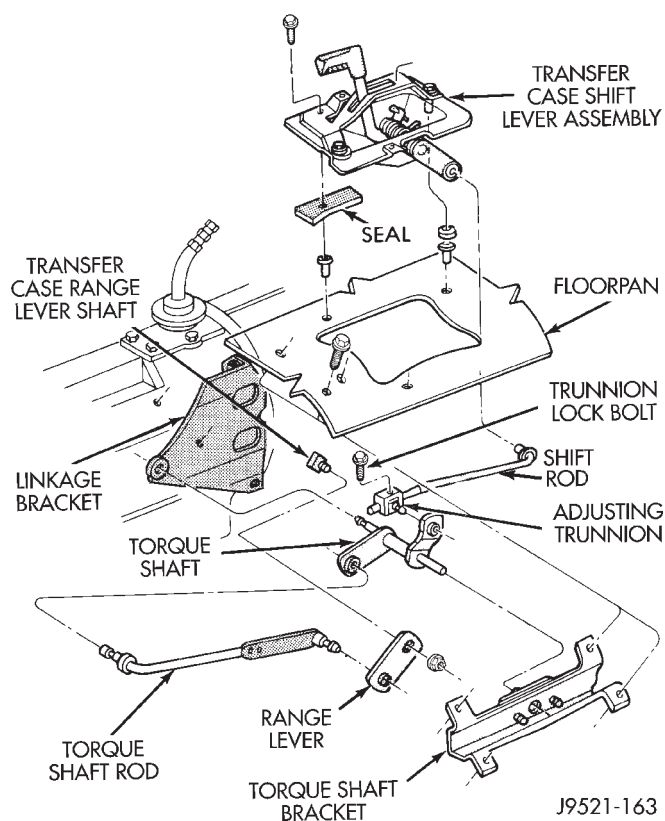


Fig. 3 Shift Linkage

INSTALLATION

- (1) If shift rod was not removed from lever assembly, work rod down through floorpan opening. Then position lever assembly on floorpan and install assembly attaching screws.
- (2) Install console.
- (3) Raise vehicle.
- (4) Connect trunnion to torque shaft arm. Or, slide shift rod into trunnion on range lever. Be sure shift rod slides freely in trunnion.

(5) Verify that range lever is in 4L position. Then tighten trunnion lock bolt.

(6) Lower vehicle and check transfer case shift operation.

TRANSFER CASE

REMOVAL

- (1) Shift transfer case into Neutral.
- (2) Raise vehicle.
- (3) Drain transfer case lubricant.
- (4) Mark front and rear propeller shaft yokes for alignment reference.
- (5) Support transmission with jack stand.
- (6) Remove rear crossmember, or skid plate.
- (7) Disconnect front/rear propeller shafts at transfer case.
- (8) Disconnect vehicle speed sensor wires.
- (9) Disconnect transfer case linkage rod from range lever.
- (10) Disconnect transfer case vent hose and indicator switch harness.
- (11) Support transfer case with transmission jack.
- (12) Remove nuts attaching transfer case to transmission.
- (13) Secure transfer case to jack with chains.
- (14) Pull transfer case and jack rearward to disengage transfer case.
- (15) Remove transfer case from under vehicle.

INSTALLATION

- (1) Mount transfer case on a transmission jack. Secure transfer case to jack with chains.
- (2) Position transfer case under vehicle.
- (3) Align transfer case and transmission shafts and install transfer case on transmission.
- (4) Install and tighten transfer case attaching nuts to 35 N·m (26 ft. lbs.) torque (Fig. 4).
- (5) Connect vehicle speed sensor wires, and vent hose.
- (6) Connect indicator switch harness to transfer case switch. Secure wire harness to clips on transfer case.
- (7) Align and connect propeller shafts. Tighten shaft attaching bolts to 19 N·m (170 in. lbs.) torque.
- (8) Fill transfer case with Mopar Dextron II fluid.
- (9) Install rear crossmember, or skid plate. Tighten crossmember bolts to 41 N·m (30 ft. lbs.) torque.
- (10) Remove transmission jack and support stand.
- (11) Connect shift rod to transfer case range lever.
- (12) Adjust transfer case shift linkage.

REMOVAL AND INSTALLATION (Continued)

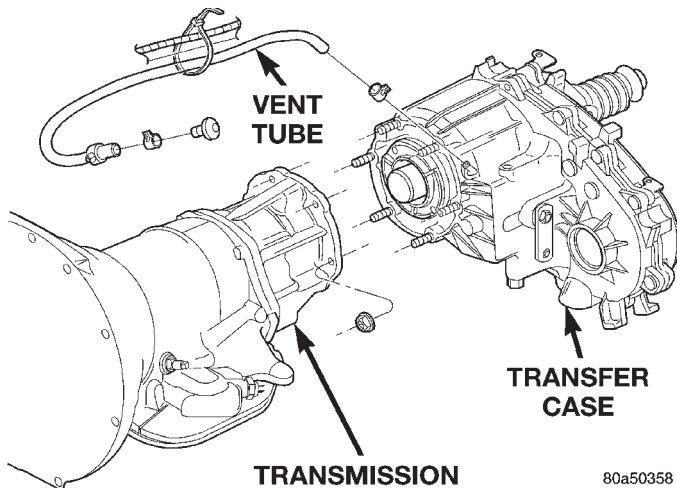


Fig. 4 Transfer Case Mounting

(13) Lower vehicle and verify transfer case shift operation.

DISASSEMBLY AND ASSEMBLY

NV242 TRANSFER CASE

DISASSEMBLE

REAR RETAINER REMOVAL AND DISASSEMBLY

(1) Remove output shaft boot. Spread band clamp that secures boot on slinger with a suitable awl. Then slide boot off shaft (Fig. 5).

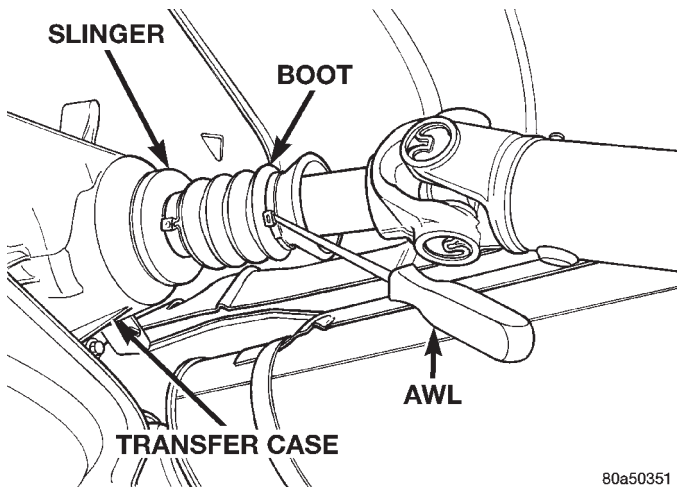


Fig. 5 Output Boot—Typical

(2) Using puller MD-998056-A, remove rear slinger (Fig. 6).

(3) Remove slinger stop spacer and snap-ring from output shaft (Fig. 7).

(4) Remove rear seal from retainer (Fig. 8). Use pry tool, or collapse seal with punch to remove it.

(5) Remove rear output bearing I.D. retaining ring (Fig. 9).

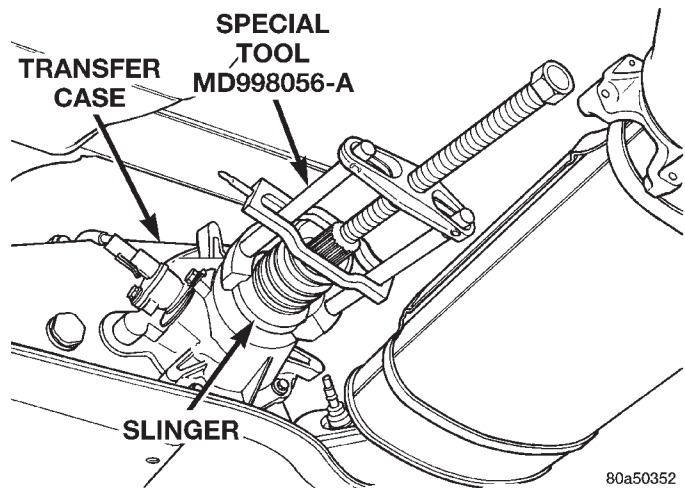


Fig. 6 Rear Slinger Removal

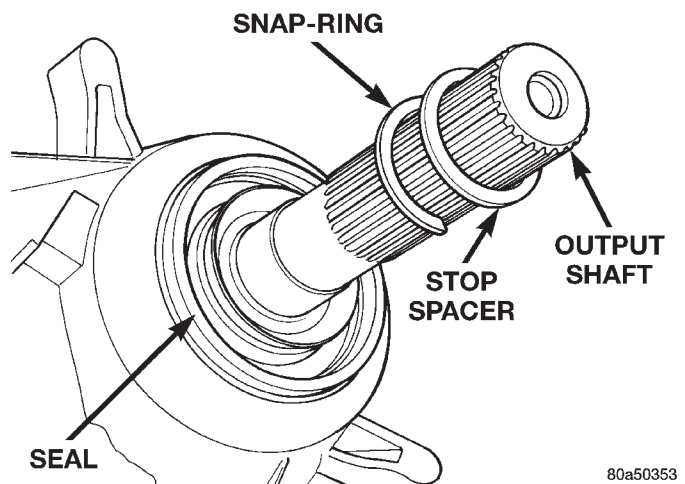


Fig. 7 Slinger Stop Spacer and Snap-ring

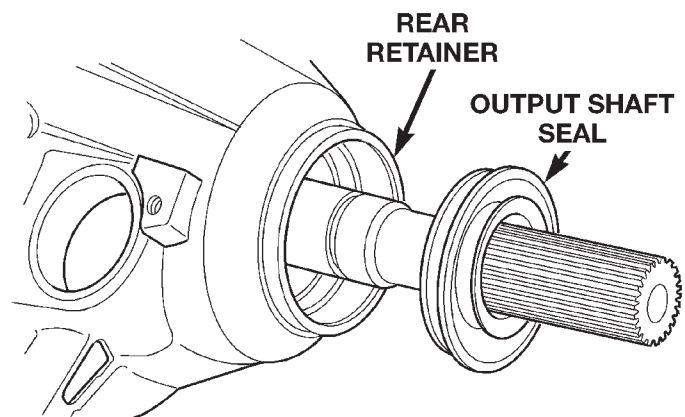


Fig. 8 Rear Seal Removal

(6) Remove rear retainer bolts.

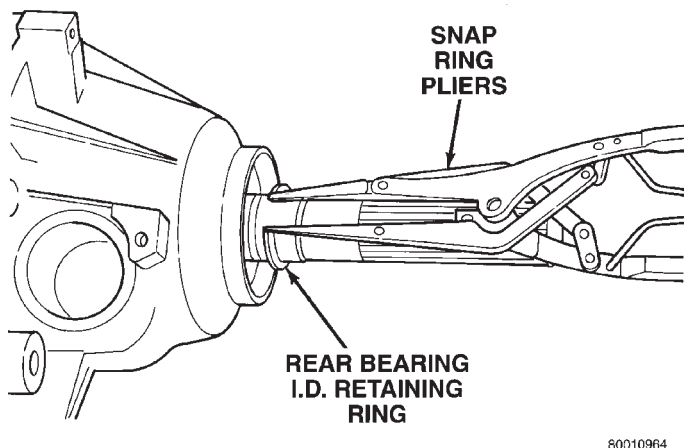


Fig. 9 Rear Bearing I.D. Retaining Ring Removal

(7) Remove rear retainer. Tap retainer with mallet and pry upward to break sealer bead. Then slide retainer off case and output shaft (Fig. 10).

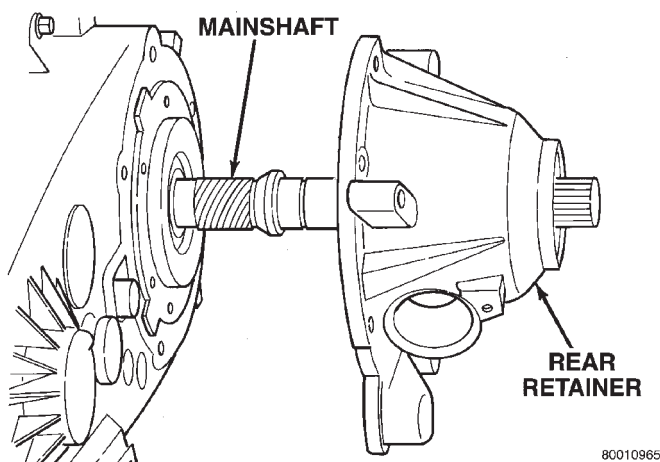


Fig. 10 Rear Retainer Removal

(8) Remove rear bearing O.D. retaining ring with snap ring pliers. Then tilt pump and slide it off output shaft (Fig. 11)

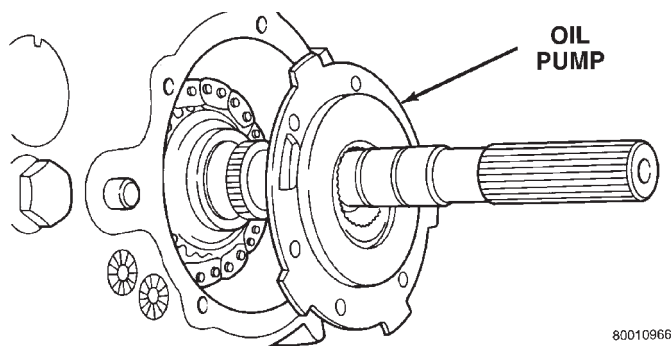


Fig. 11 Oil Pump Removal

(9) Remove pickup tube O-ring from pump (Fig. 12) but do not disassemble pump; it is not a repairable part.

(10) Remove seal from oil pump with pry tool.

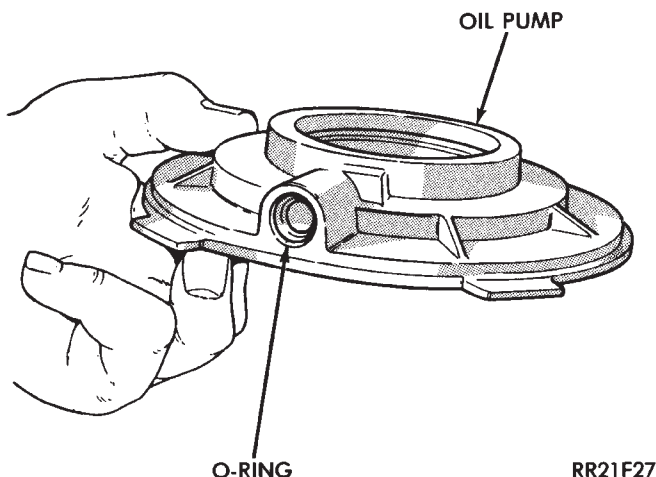


Fig. 12 Pickup Tube O-Ring Location

(11) Remove bolts attaching rear case to front case. A 10 mm, 12 point socket is needed for the spline head bolt (Fig. 13). Note position of the two black finish bolts at each end of the case. These bolts go through the case dowels and require a washer under the bolt head.

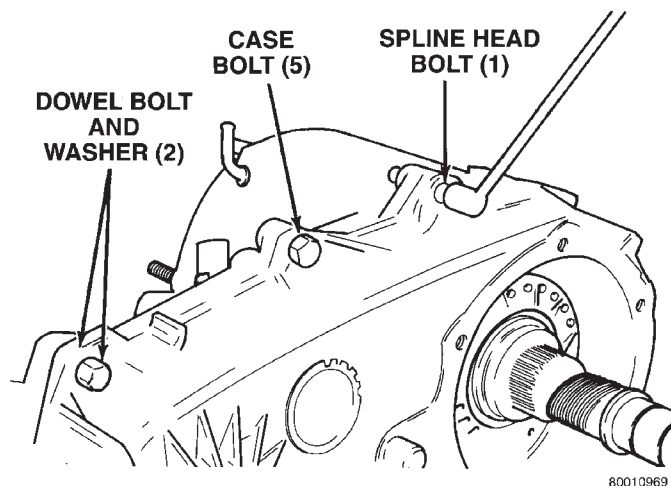


Fig. 13 Spline And Dowel Bolt Locations

(12) Remove rear case from front case (Fig. 14). Insert screwdrivers into slots cast into each end of case. Then pry upward to break sealer bead and remove rear case.

CAUTION: Do not pry on the sealing surface of either case half as the surfaces will become damaged.

(13) Remove oil pickup tube and screen from rear case (Fig. 15).

DISASSEMBLY AND ASSEMBLY (Continued)

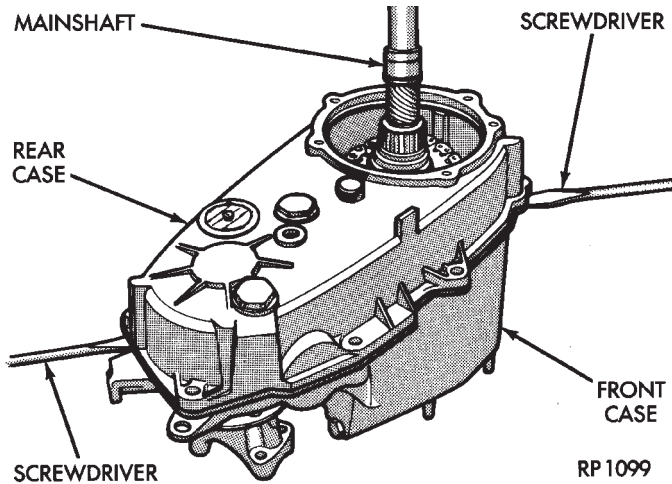


Fig. 14 Loosening/Removing Rear case

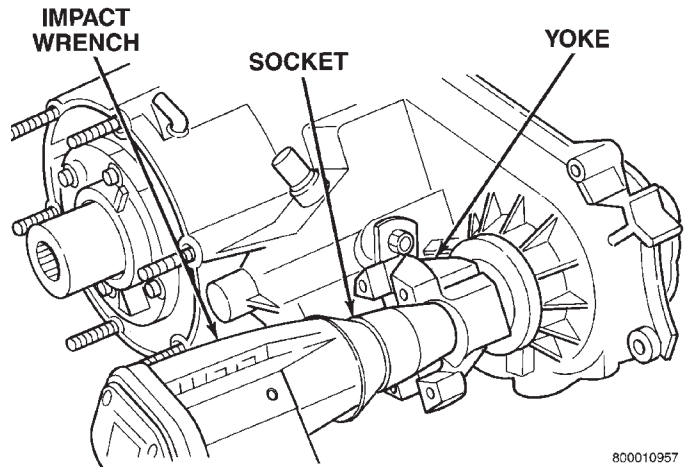


Fig. 16 Yoke Nut Removal

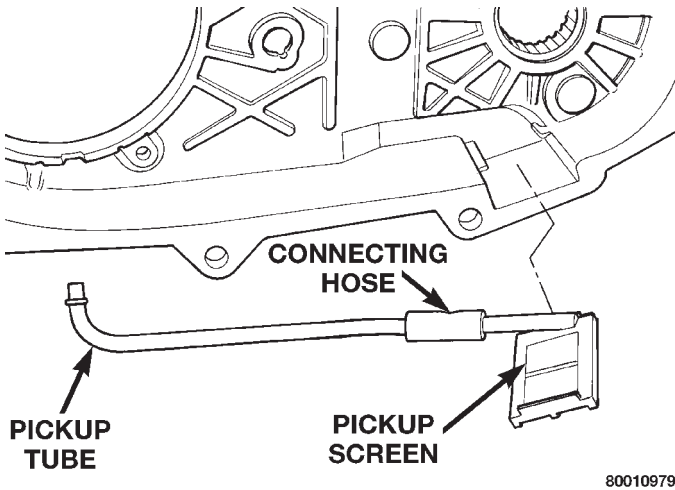


Fig. 15 Oil Pickup Screen, Hose And Tube Removal

SPEEDOMETER/YOKE/RANGE LEVER REMOVAL

- (1) Remove speedometer adapter.
- (2) Remove front yoke nut:
 - (a) Move range lever to 4L position.
 - (b) Remove nut with socket and impact wrench (Fig. 16).
- (3) Remove yoke. If yoke is difficult to remove by hand, remove it with bearing splitter, or with standard two jaw puller (Fig. 17). Be sure puller tool is positioned on yoke and not on slinger as slinger will be damaged.
- (4) Remove seal washer from front output shaft. Discard washer as it should not be reused.
- (5) Remove nut and washer that attach range lever to sector shaft. Then move sector to neutral position and remove range lever from shaft (Fig. 18).

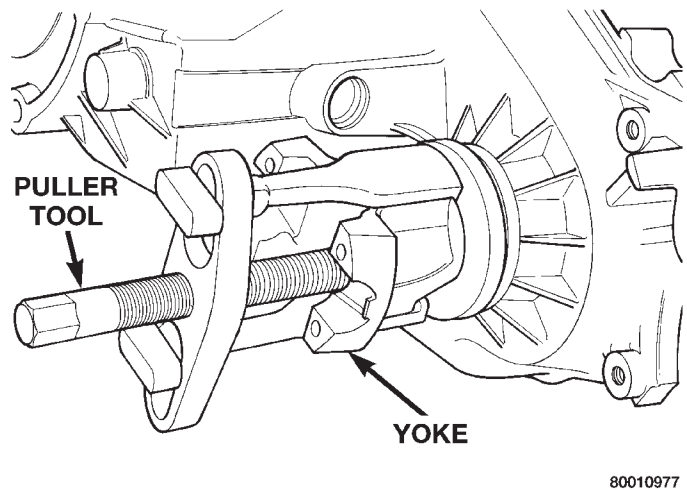


Fig. 17 Yoke Removal

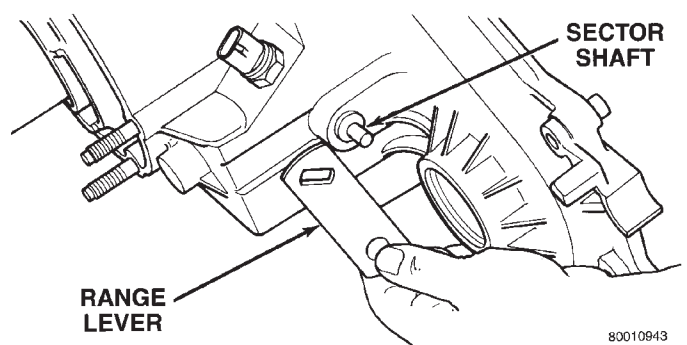


Fig. 18 Range Lever Removal

DISASSEMBLY AND ASSEMBLY (Continued)

FRONT OUTPUT SHAFT AND DRIVE CHAIN REMOVAL

- (1) Remove drive sprocket snap ring (Fig. 19).

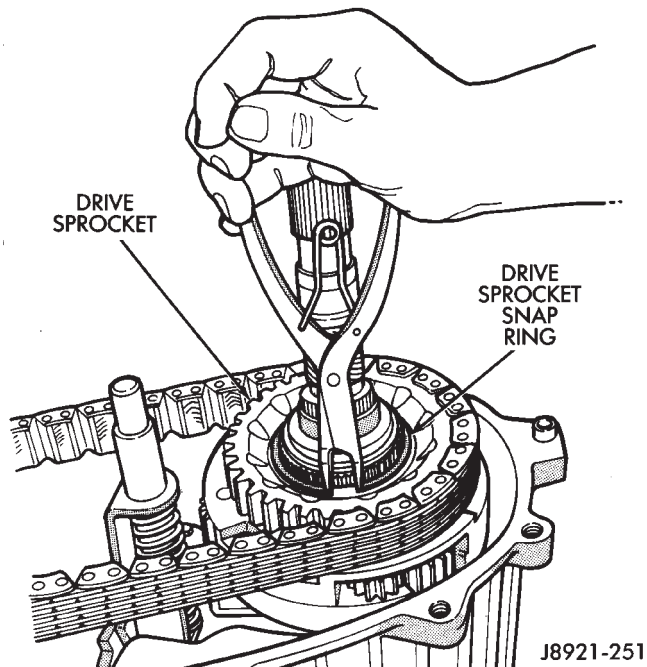


Fig. 19 Drive Sprocket Snap Ring Removal

- (2) Remove drive sprocket and chain (Fig. 20).
 (3) Remove front output shaft (Fig. 21).

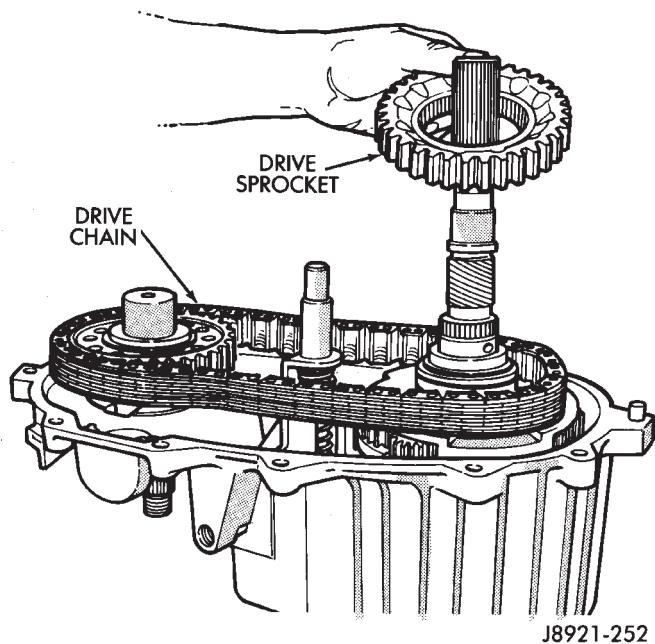


Fig. 20 Drive Sprocket And Chain Removal

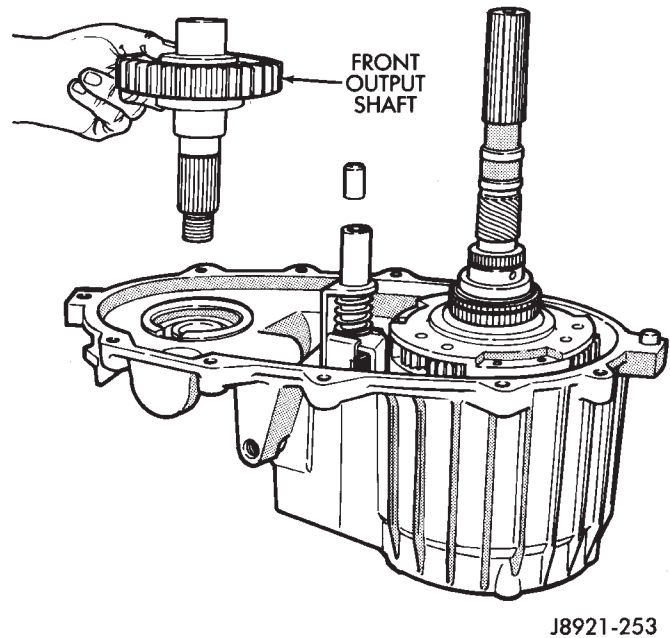


Fig. 21 Removing Front Output Shaft

SHIFT FORKS AND MAINSHAFT REMOVAL AND DISASSEMBLY

- (1) Remove shift detent plug, spring and pin (Fig. 22).

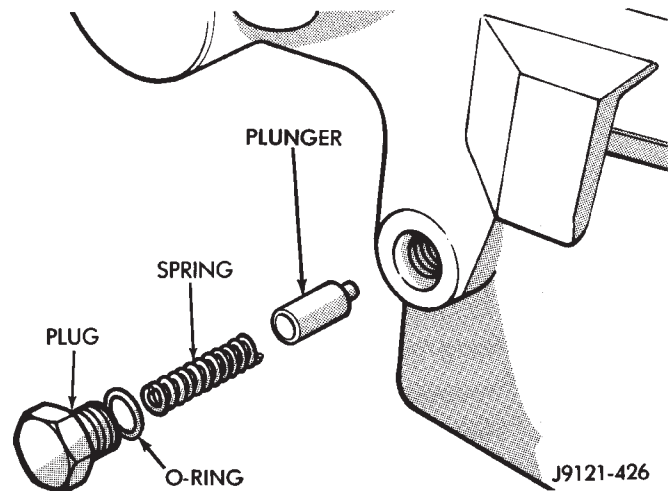


Fig. 22 Detent Component Removal

- (2) Remove seal plug from low range fork lockpin access hole. Then move shift sector to align low range fork lockpin with access hole (Fig. 23).

- (3) Remove range fork lockpin with size number one easy-out tool. Grip easy-out tool with locking pliers and remove pin with counterclockwise, twist and pull motion (Fig. 23).

DISASSEMBLY AND ASSEMBLY (Continued)

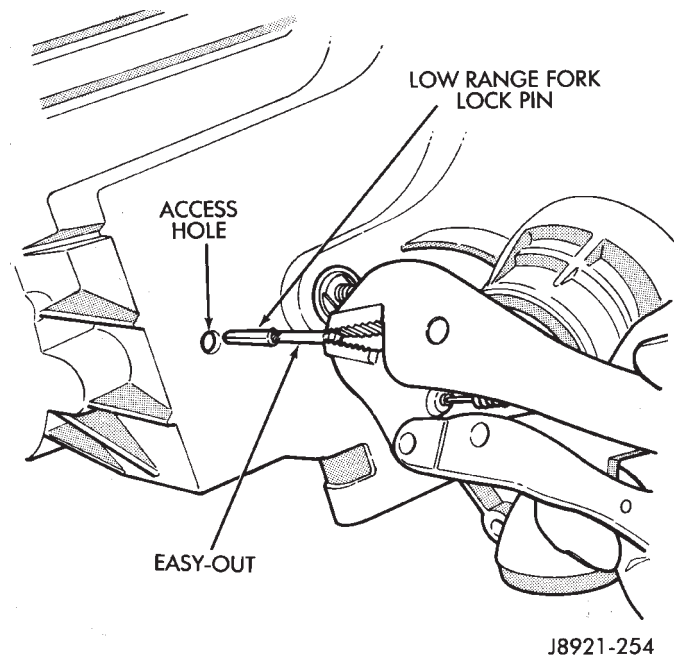


Fig. 23 Low Range Fork Lockpin Removal

(4) Remove shift rail by pulling it straight up and out of fork (Fig. 24).

(5) Remove mode fork and mainshaft as assembly (Fig. 25).

(6) Remove mode shift sleeve and mode fork assembly from mainshaft (Fig. 26). Note position of mode sleeve in fork and remove sleeve.

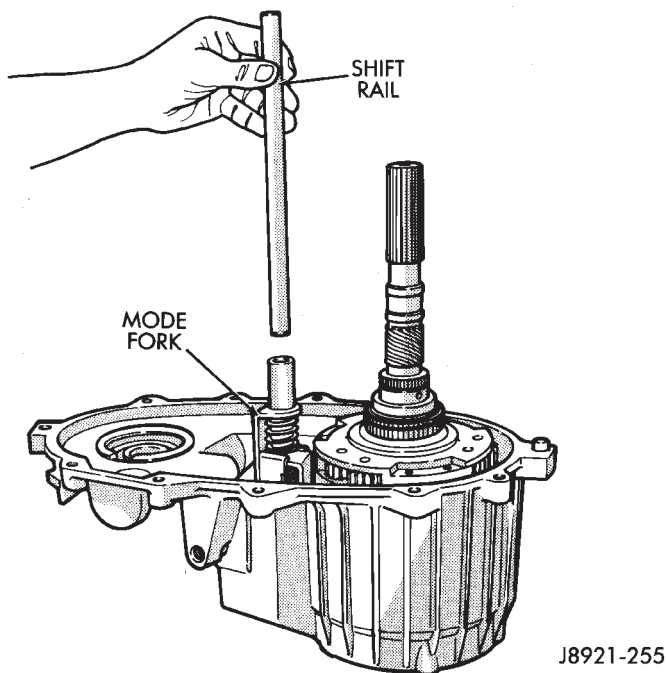


Fig. 24 Shift Rail Removal

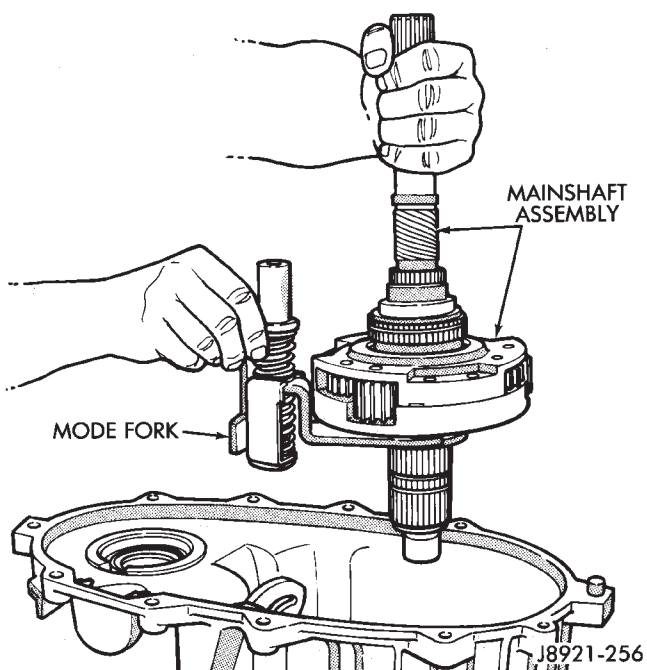


Fig. 25 Mode Fork And Mainshaft Removal

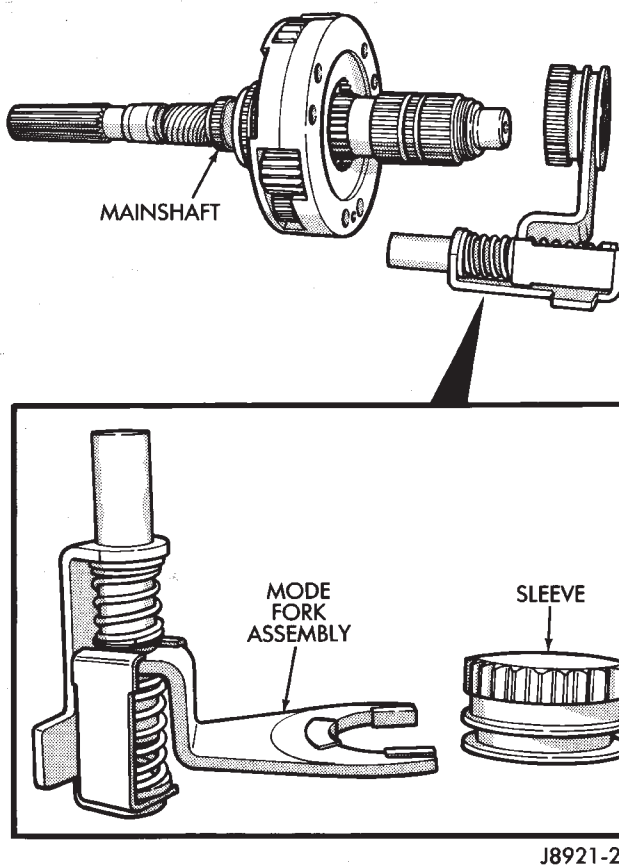


Fig. 26 Mode Fork And Sleeve Removal

DISASSEMBLY AND ASSEMBLY (Continued)

- (7) Remove intermediate clutch shaft snap ring (Fig. 27).
- (8) Remove clutch shaft thrust ring (Fig. 28).
- (9) Remove intermediate clutch shaft (Fig. 29).

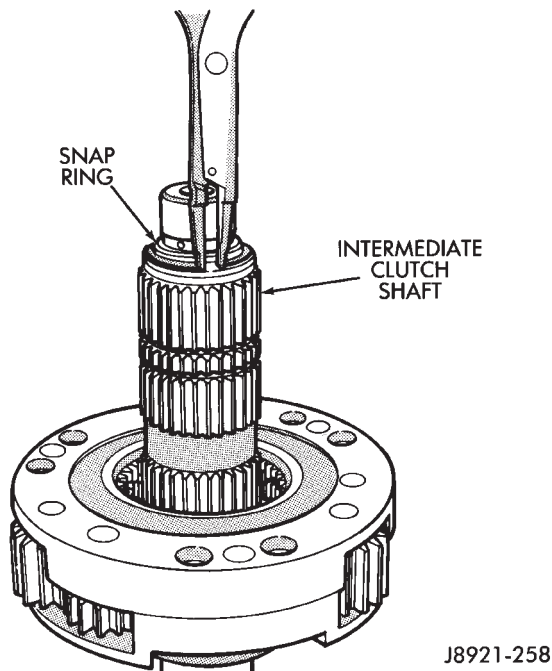


Fig. 27 Intermediate Clutch Shaft Snap Ring Removal

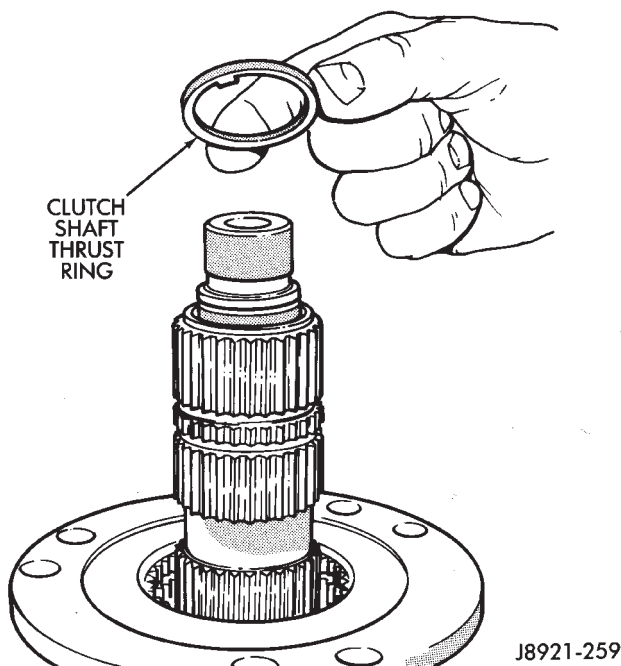


Fig. 28 Clutch Shaft Thrust Ring Removal

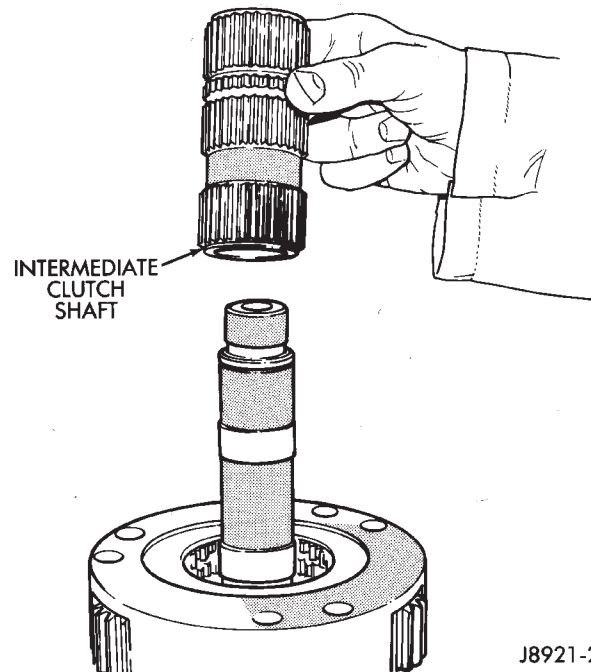


Fig. 29 Intermediate Clutch Shaft Removal

- (10) Remove differential snap ring (Fig. 30).
- (11) Remove differential (Fig. 31).
- (12) Remove differential needle bearings and both needle bearing thrust washers from mainshaft.

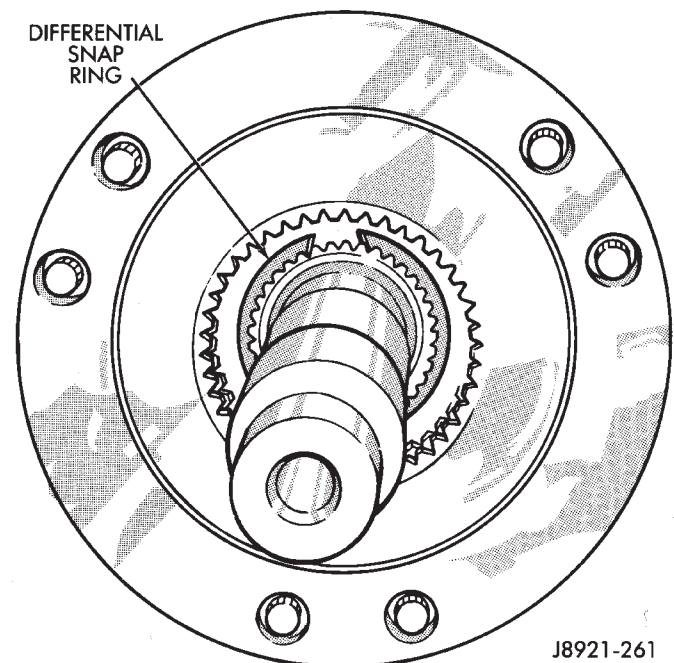
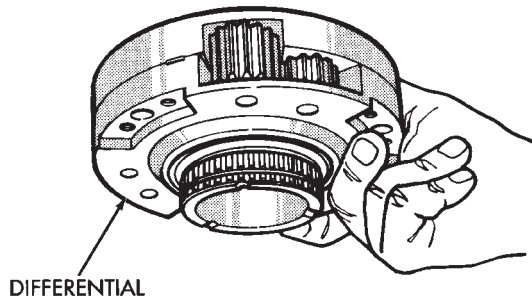
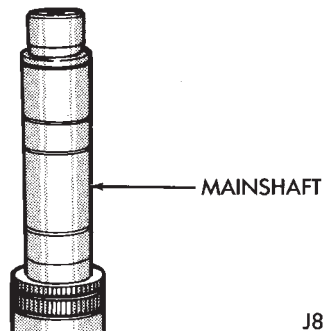


Fig. 30 Differential Snap Ring Removal

DISASSEMBLY AND ASSEMBLY (Continued)



DIFFERENTIAL



MAINSHAFT

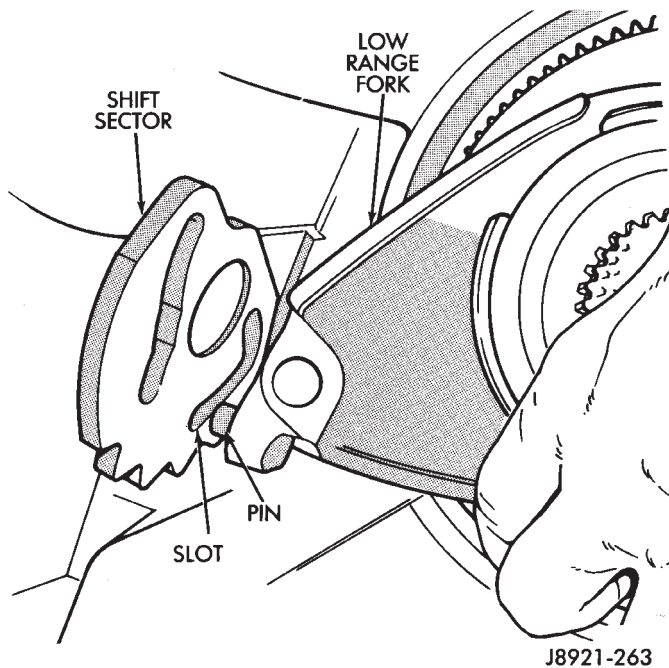
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Fig. 31 Differential Removal

(13) Slide low range fork pin out of shift sector slot (Fig. 32).

(14) Remove low range fork and hub (Fig. 33).

(15) Remove shift sector (Fig. 34).



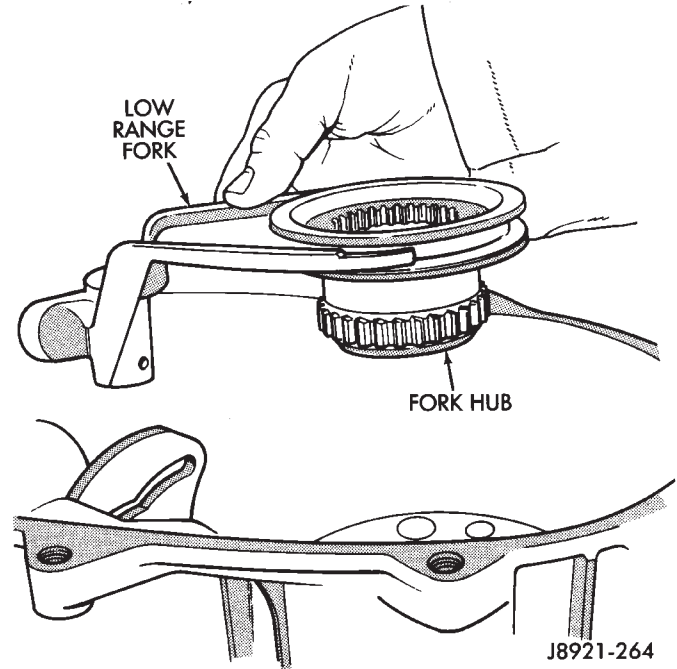
SHIFT SECTOR

LOW RANGE FORK

PIN

SLOT

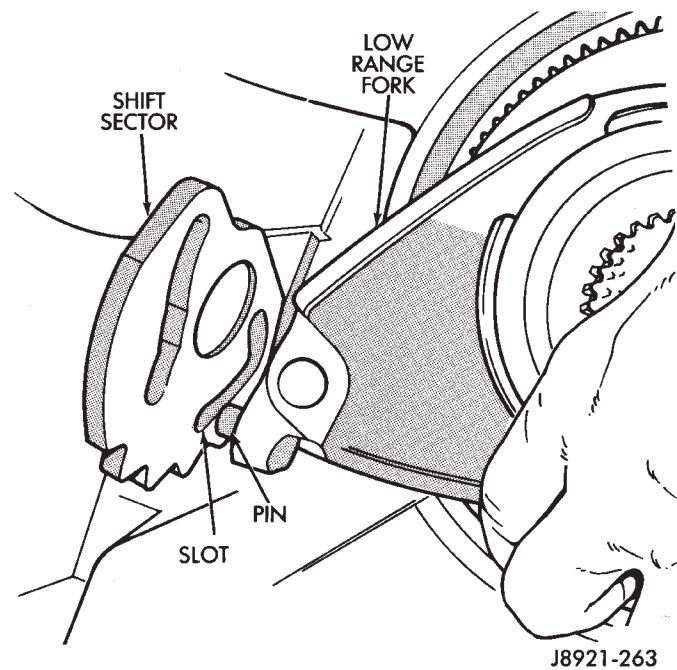
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Fig. 32 Disengaging Low Range Fork


LOW RANGE FORK

FORK HUB

J8921-264

Fig. 33 Low Range Fork And Hub Removal


SHIFT SECTOR

LOW RANGE FORK

PIN

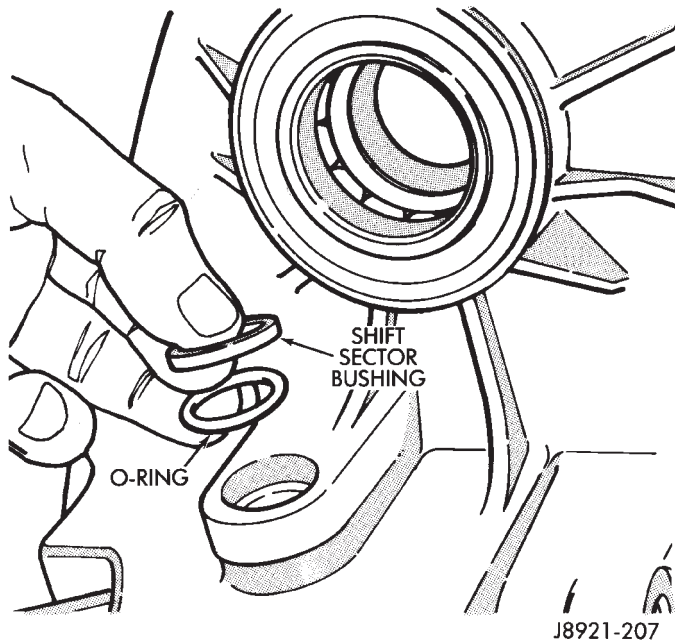
SLOT

J8921-263

Fig. 34 Shift Sector Position

DISASSEMBLY AND ASSEMBLY (Continued)

(16) Remove shift sector bushing and O-ring (Fig. 35).

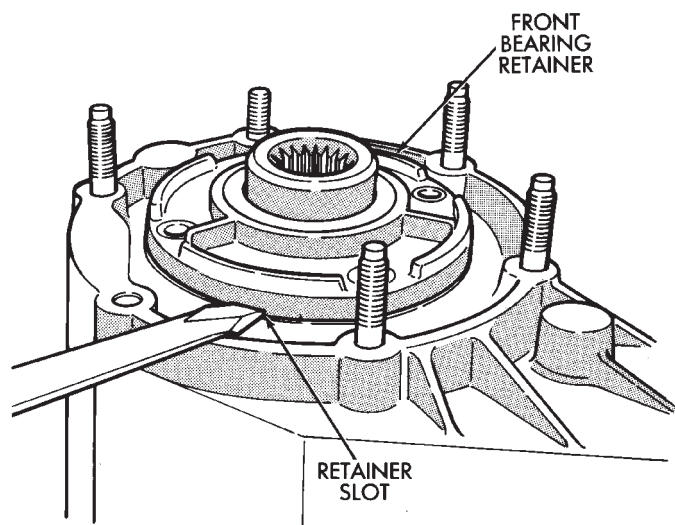


J8921-207

Fig. 35 Sector Bushing And O-Ring Removal

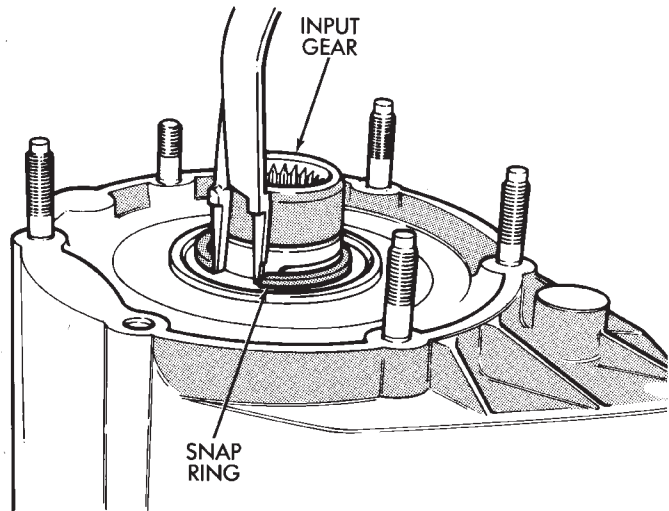
INPUT GEAR/LOW RANGE ASSEMBLY REMOVAL AND DISASSEMBLY

- (1) Remove front bearing retainer bolts.
- (2) Remove front bearing retainer. Carefully pry retainer loose with screwdriver (Fig. 36). Position screwdriver in slots cast into retainer.
- (3) Remove input gear snap ring (Fig. 37).



J8921-266

Fig. 36 Front Bearing Retainer Removal



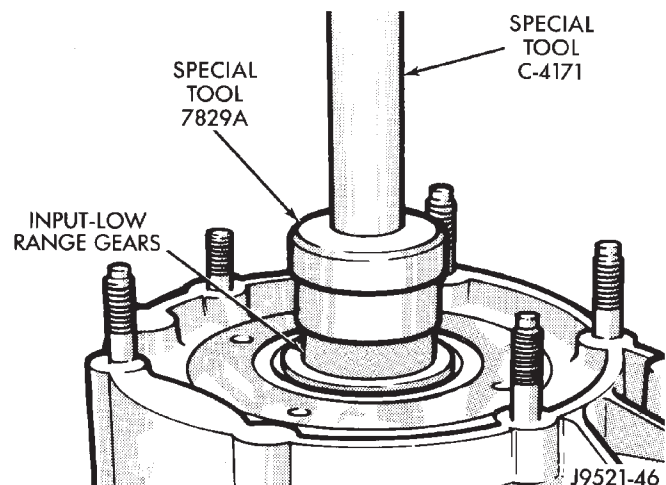
J8921-267

Fig. 37 Input Gear Snap Ring Removal

(4) Remove input/low range gear assembly from bearing with Tool Handle C-4171 and Tool 7829A (Fig. 38).

(5) Remove low range gear snap ring (Fig. 39).

(6) Remove input gear retainer, thrust washers and input gear from low range gear (Fig. 40).



J9521-46

Fig. 38 Input And Low Range Gear Assembly Removal

(7) Inspect low range annulus gear (Fig. 41). **Gear is not a serviceable component. If damaged, replace gear and front case as assembly.**

(8) Remove oil seals from following components:

- rear retainer
- oil pump
- case halves

DISASSEMBLY AND ASSEMBLY (Continued)

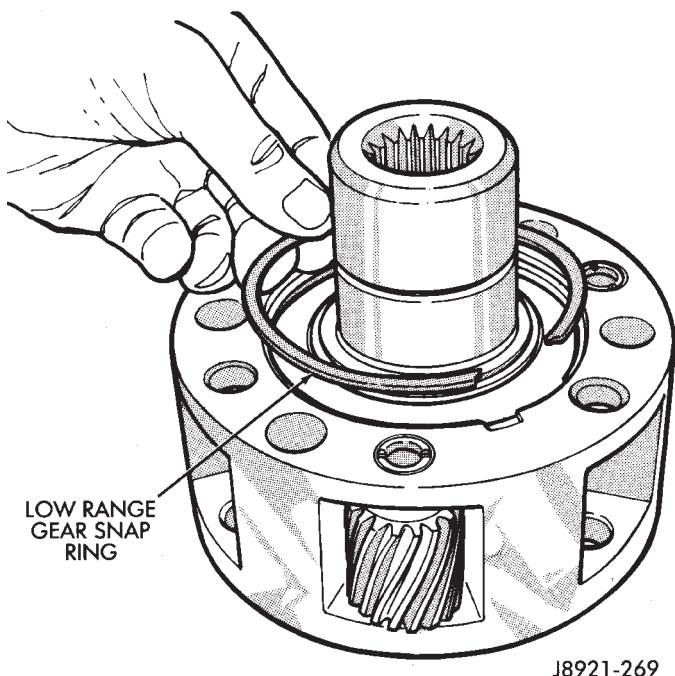


Fig. 39 Low Range Gear Snap Ring Removal/Installation

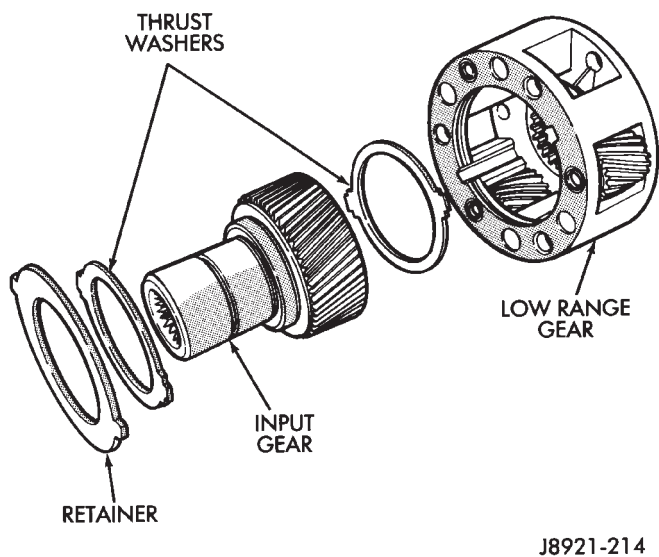


Fig. 40 Low Range Gear Disassembly

DIFFERENTIAL DISASSEMBLY

- (1) Mark differential case halves for reference.
- (2) Remove differential case bolts.
- (3) Invert differential on workbench.
- (4) Separate top case from bottom case. Use slots in case halves to pry them apart (Fig. 42).

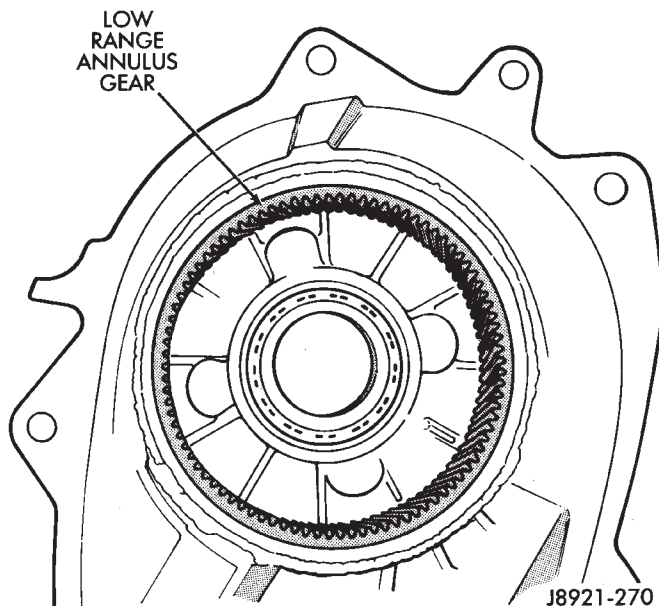


Fig. 41 Inspecting Low Range Annulus Gear

(5) Remove thrust washers and planet gears from case pins (Fig. 43).

(6) Remove mainshaft and sprocket gears from bottom case (Fig. 44). Note gear position for reference before separating them.

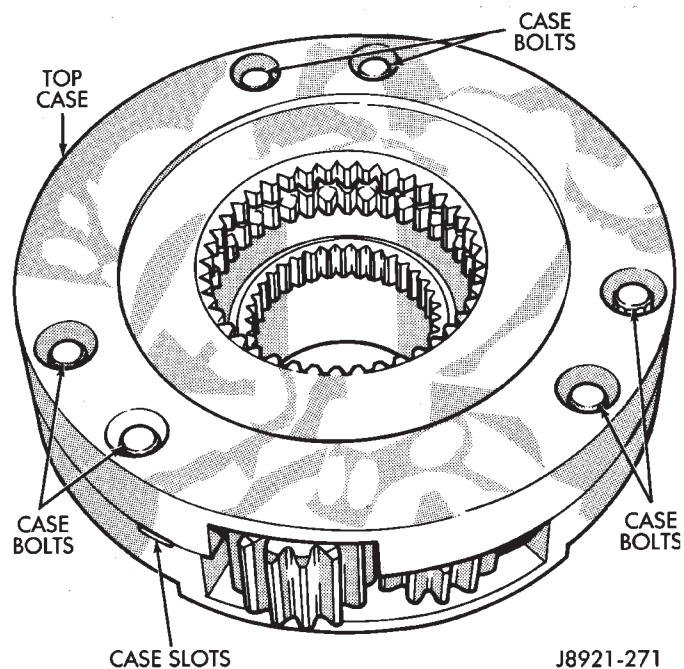


Fig. 42 Separating Differential Case Halves

DISASSEMBLY AND ASSEMBLY (Continued)

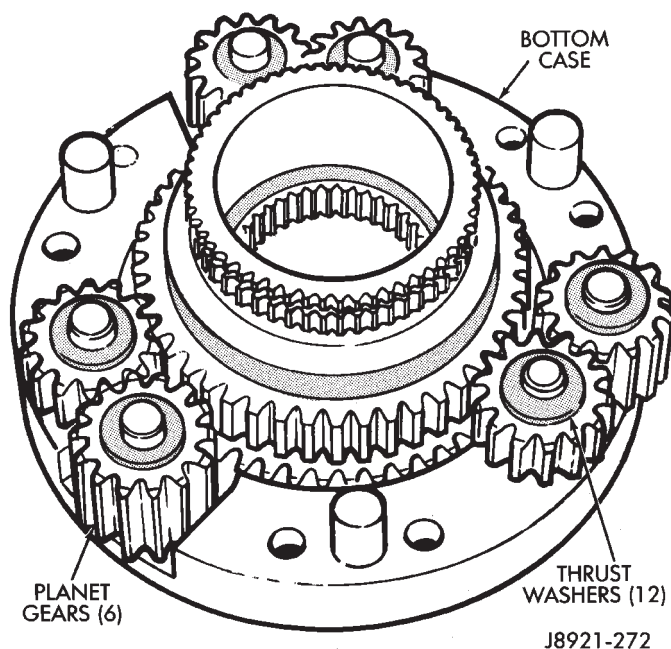


Fig. 43 Planet Gears And Thrust Washer Removal

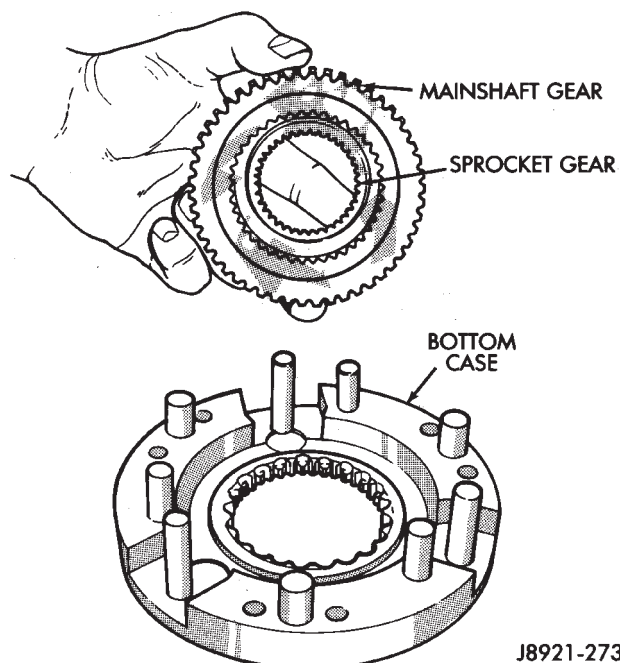


Fig. 44 Mainshaft And Sprocket Gear Removal

ASSEMBLE

(1) Lubricate transfer case components with automatic transmission fluid or petroleum jelly (where indicated) during assembly.

CAUTION: The bearing bores in various transfer case components contain oil feed holes. Make sure replacement bearings do not block the holes.

BEARING AND SEAL INSTALLATION

(1) Remove snap ring that retains front output shaft front bearing in case (Fig. 45). Then remove bearing. Use hammer handle, or hammer and brass punch to tap bearing out of case.

(2) Install new front output shaft bearing with Tool Handle C-4171 and Installer 8033A with the tapered cone upward (Fig. 46).

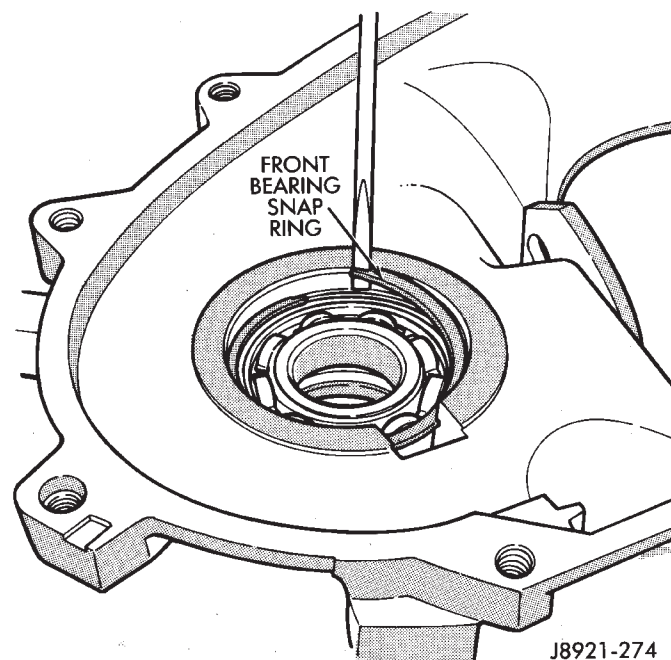


Fig. 45 Front Output Shaft Front Bearing Snap Ring Removal

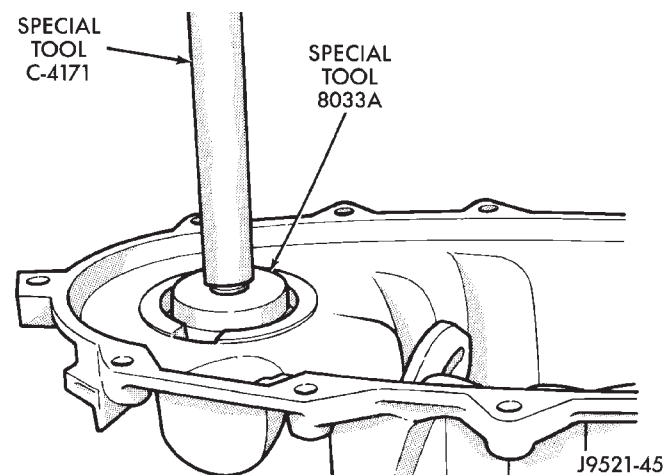


Fig. 46 Front Output Shaft Front Bearing Installation

(3) Install front bearing snap ring (Fig. 45).

(4) Install new front output shaft oil seal as follows:

(a) Tap seal into bore until flush with upper edge of case bore. Use Installer 6888 to start seal into place (Fig. 47).

DISASSEMBLY AND ASSEMBLY (Continued)

(b) Seat seal 2.03 to 2.5 mm (0.080 to 0.100 in.) **below** top edge of seal bore in front case (Fig. 48). This is correct final seal position. Use Installer 6888 to final seat seal. Check seal depth with a dial caliper or depth micrometer.

CAUTION: Be sure the front output seal is seated below the top edge of the case bore as shown (Fig. 48). The seal could work loose if not seated to the recommended depth.

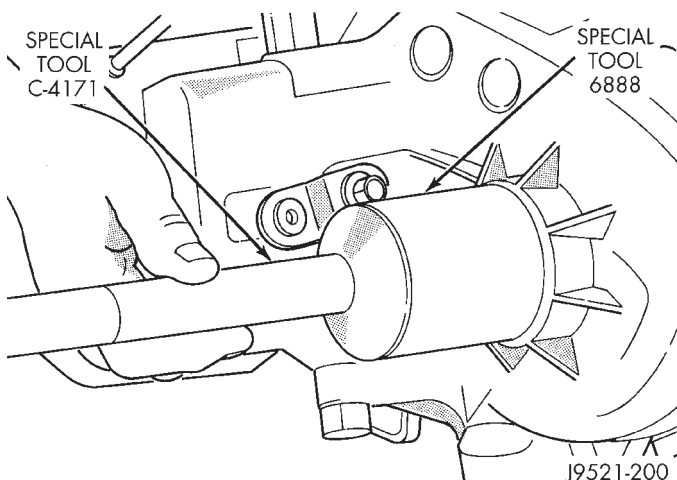


Fig. 47 Starting Front Output Shaft Seal Into Case Bore

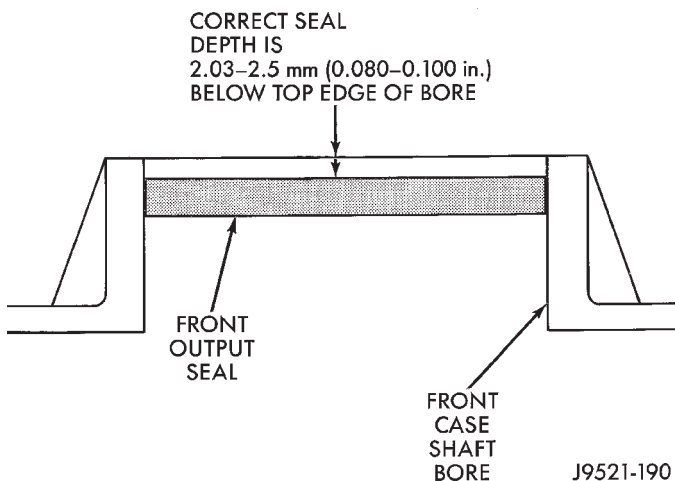
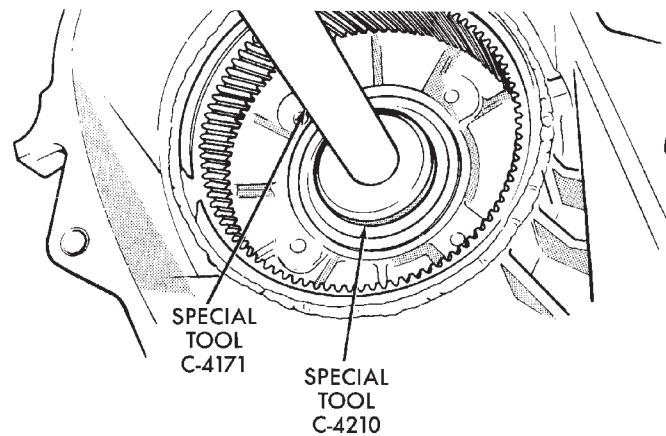


Fig. 48 Front Output Seal Installation Depth

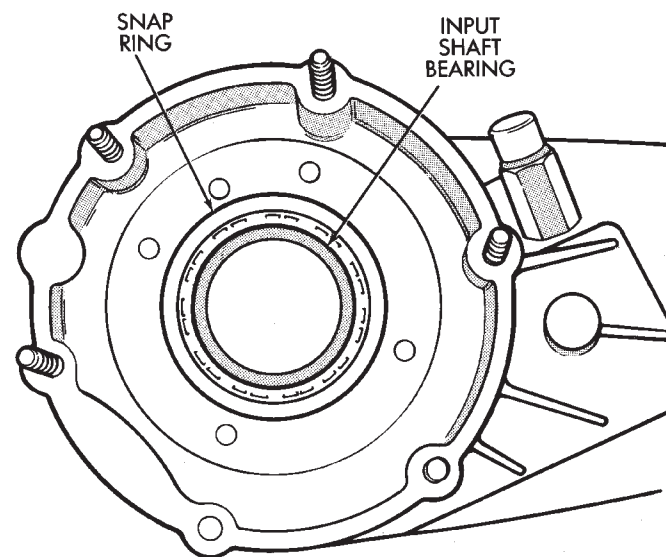
(5) Remove input gear bearing with Tool Handle C-4171 and Remover C-4210 (Fig. 49).

- (6) Install snap ring on new input gear bearing.
- (7) Install new input gear bearing with Tool Handle C-4171 and Remover C-4210. Install bearing far enough to seat snap ring against case (Fig. 50).
- (8) Remove input gear pilot bearing with slide hammer and internal puller (Fig. 51).



J9521-43

Fig. 49 Input Gear Bearing Removal

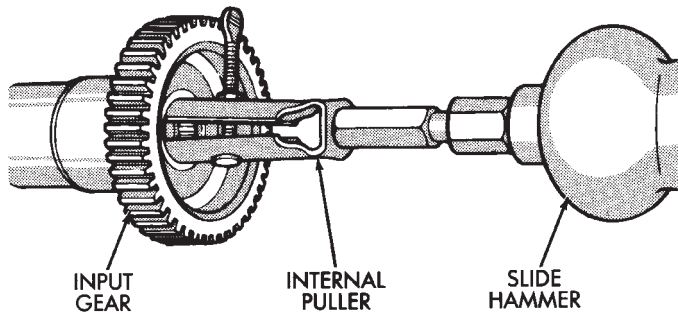


J8921-219

Fig. 50 Seating Input Gear Bearing

(9) Install new pilot bearing with suitably sized driver tool.

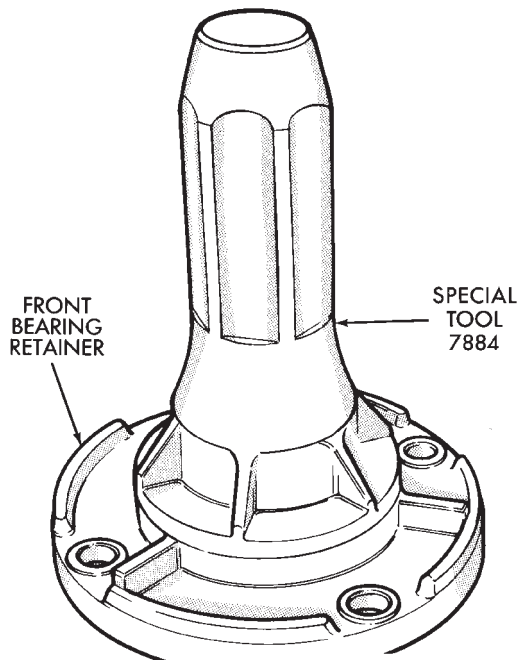
DISASSEMBLY AND ASSEMBLY (Continued)



J8921-220

Fig. 51 Input Gear Pilot Bearing Removal

(10) Install new seal in front bearing retainer with Tool Handle C-4171 and Installer 7884 (Fig. 52).



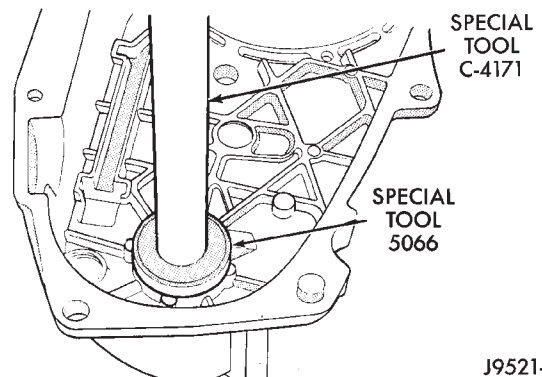
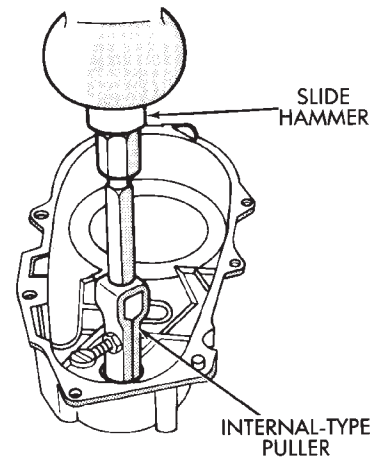
J9521-41

Fig. 52 Front Bearing Retainer Seal Installation

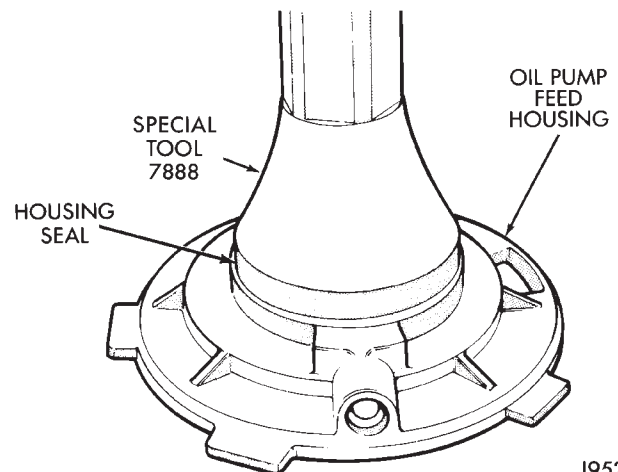
Replace output shaft rear bearing (Fig. 53). Remove bearing with internal puller and slide hammer.

(12) Install new bearing with Tool Handle C-4171 and Installer 5066. Lubricate bearing after installation.

(13) Install new seal in oil pump feed housing with Special Tool 7888 (Fig. 54).



J9521-40

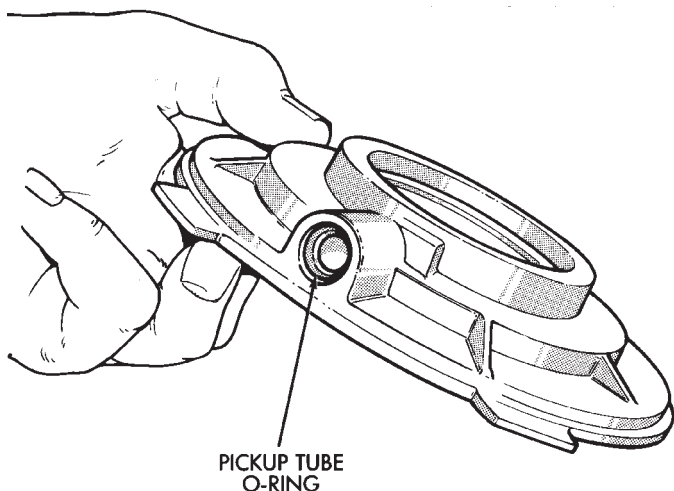
Fig. 53 Front Output Shaft Rear Bearing Installation

J9521-35

Fig. 54 Oil Pump Seal Installation

DISASSEMBLY AND ASSEMBLY (Continued)

(14) Install new pickup tube O-ring in oil pump (Fig. 55).



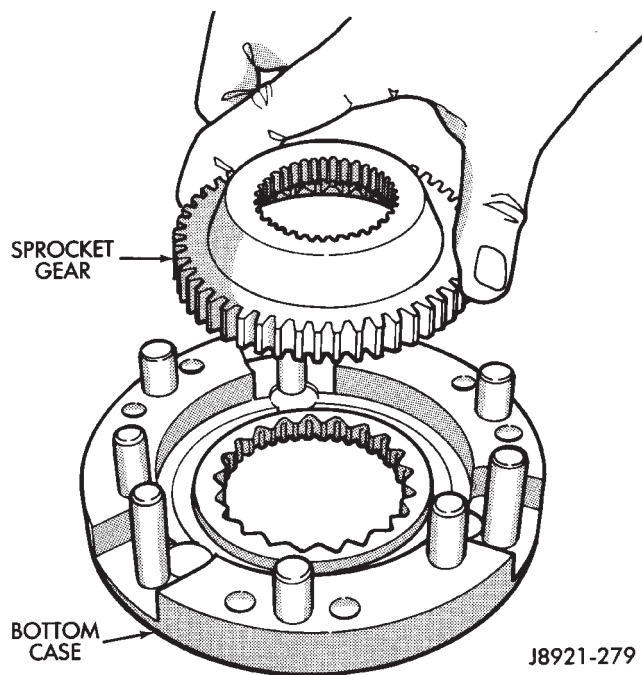
J8921-286

Fig. 55 Pickup Tube O-Ring Installation

DIFFERENTIAL ASSEMBLY

(1) Lubricate differential components with automatic transmission fluid.

(2) Install sprocket gear in differential bottom case (Fig. 56).



J8921-279

Fig. 56 Installing Differential Sprocket Gear

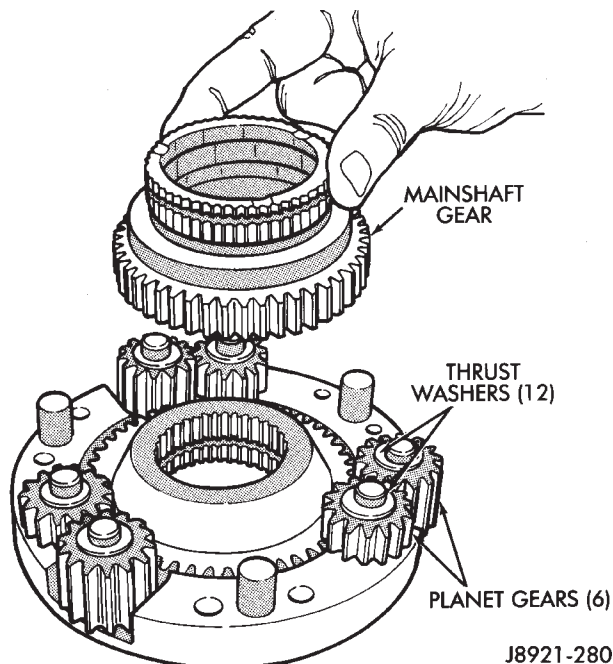
(3) Install differential planet gears and new thrust washers (Fig. 57). **Be sure thrust washers are installed at top and bottom of each planet gear.**

(4) Install differential mainshaft gear (Fig. 57).

(5) Align and position differential top case on bottom case (Fig. 58). Align using scribe marks made at disassembly.

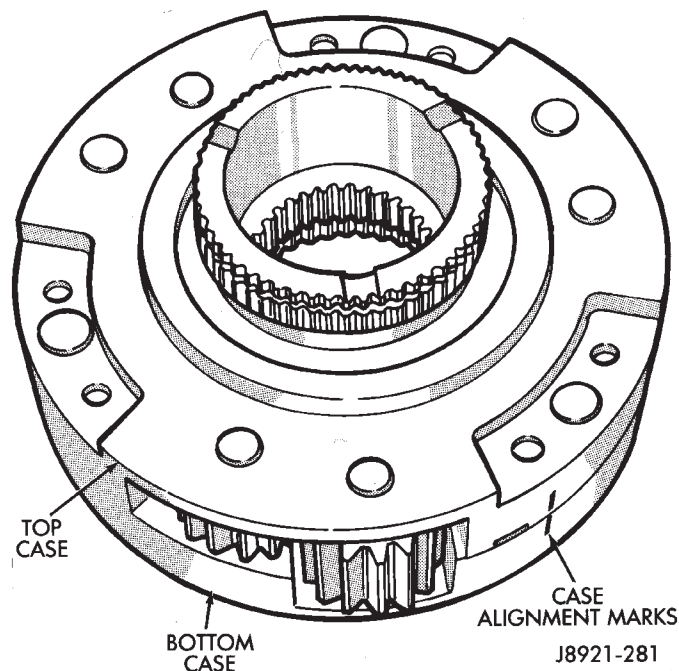
(6) While holding differential case halves together, invert the differential and start the differential case bolts.

(7) Tighten differential case bolts to specified torque.



J8921-280

Fig. 57 Installing Mainshaft And Planet Gears



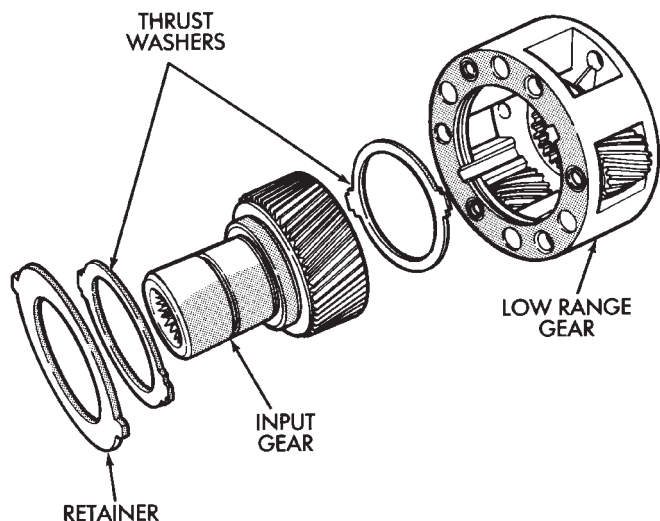
J8921-281

Fig. 58 Differential Case Assembly

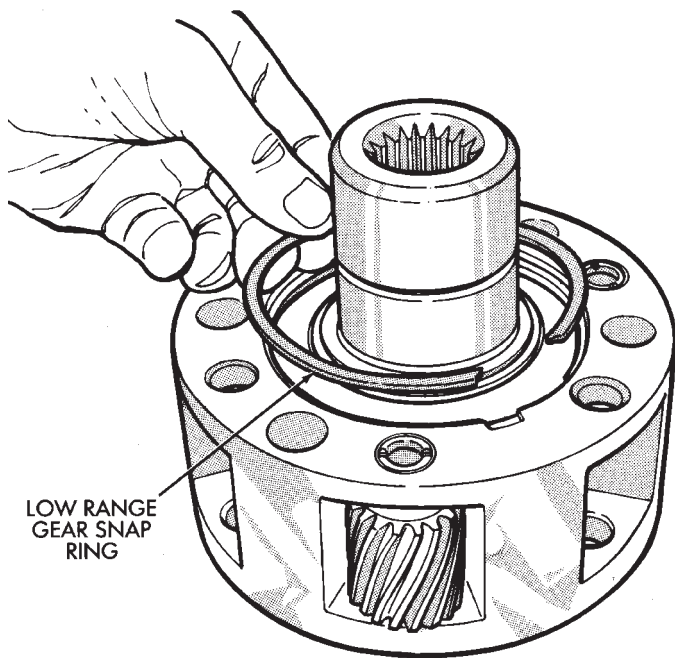
DISASSEMBLY AND ASSEMBLY (Continued)

INPUT GEAR/LOW RANGE ASSEMBLY

- (1) Assemble low range gear, input gear thrust washers, input gear and input gear retainer (Fig. 59).
- (2) Install low range gear snap ring (Fig. 60).



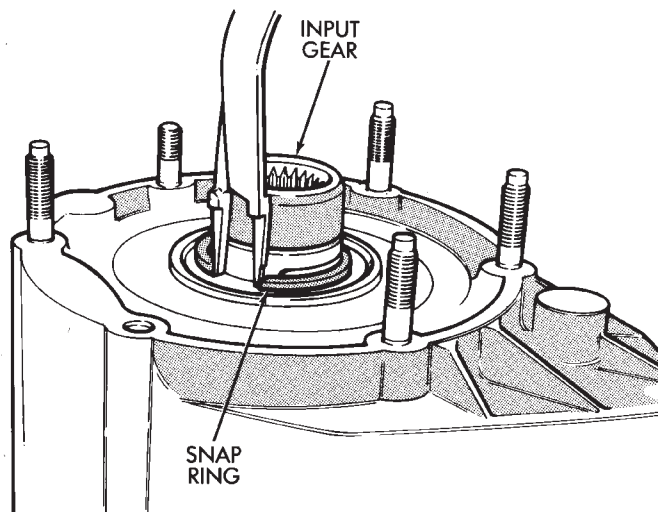
J8921-214

Fig. 59 Low Range And Input Gear Assembly

J8921-269

Fig. 60 Install Low Range Gear Snap Ring

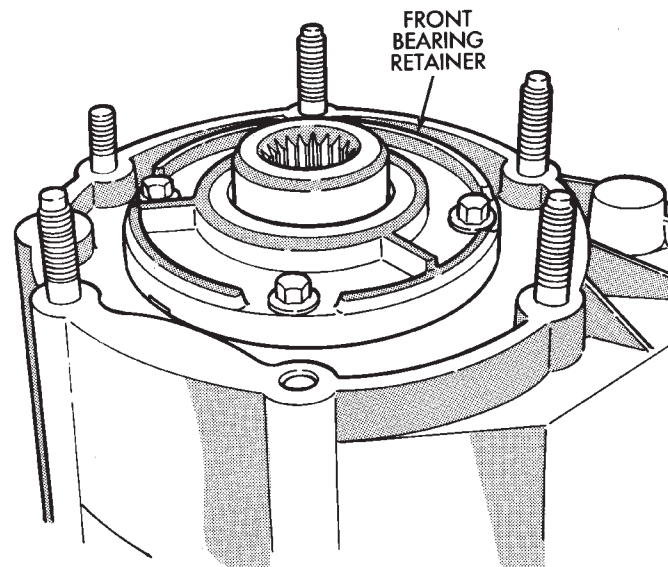
- (3) Lubricate input gear and low range gears with automatic transmission fluid.
- (4) Start input gear shaft into front case bearing.
- (5) Press input gear shaft into front bearing.
- (6) Install new input gear snap ring (Fig. 61).
- (7) Apply 3 mm (1/8 in.) wide bead of Mopar® gasket maker, silicone adhesive sealer, or Loctite® 518 to seal surface of front bearing retainer.



J8921-267

Fig. 61 Input Gear Snap Ring Installation

- (8) Install front bearing retainer (Fig. 62). Tighten retainer bolts to 16 ft. lbs. (21 N·m) torque.



J8921-276

Fig. 62 Installing Front Bearing Retainer

SHIFT FORKS AND MAINSHAFT ASSEMBLY AND INSTALLATION

- (1) Install new sector shaft O-ring and bushing (Fig. 63).
- (2) Install shift sector.
- (3) Install new pads on low range fork, if necessary, (Fig. 64).
- (4) Assemble low range fork and hub (Fig. 64).
- (5) Position low range fork and hub in case. Be sure low range fork pin is engaged in shift sector slot (Fig. 65).

DISASSEMBLY AND ASSEMBLY (Continued)

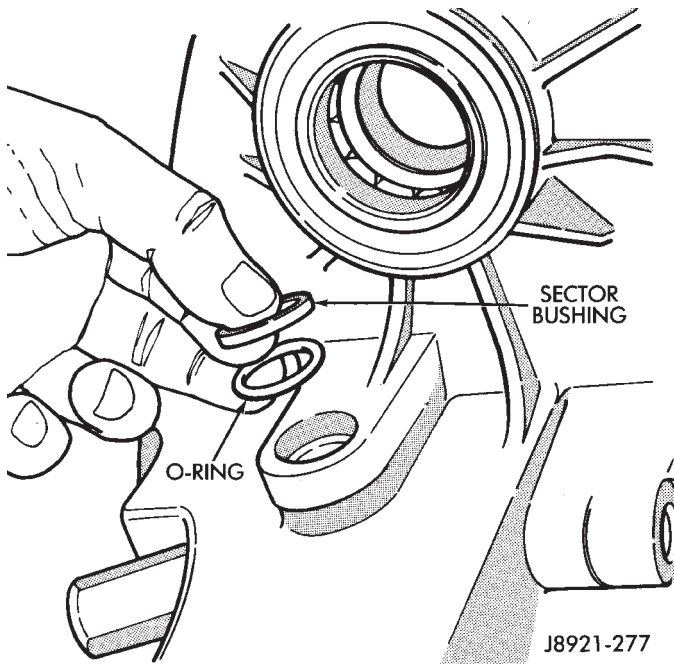


Fig. 63 Sector O-Ring And Bushing Installation

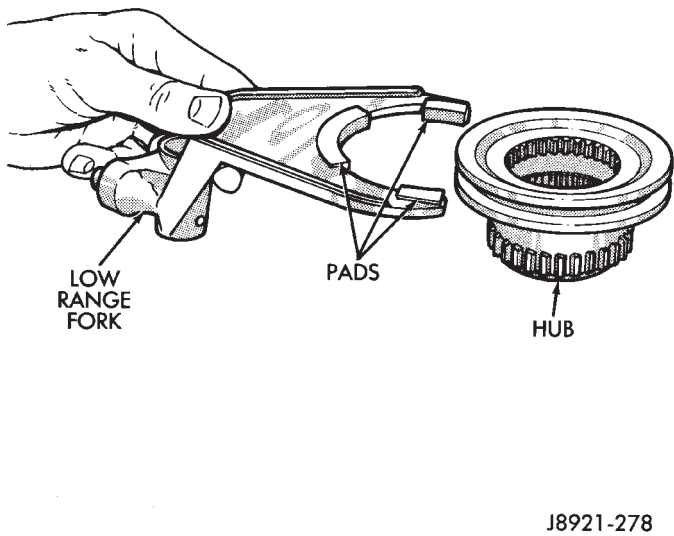


Fig. 64 Assembling Low Range Fork And Hub

(6) Install first mainshaft bearing spacer on mainshaft (Fig. 66).

(7) Install bearing rollers on mainshaft (Fig. 66). **Coat bearing rollers with generous quantity of petroleum jelly to hold them in place.**

(8) Install remaining bearing spacer on mainshaft (Fig. 66). Do not displace any bearings while installing spacer.

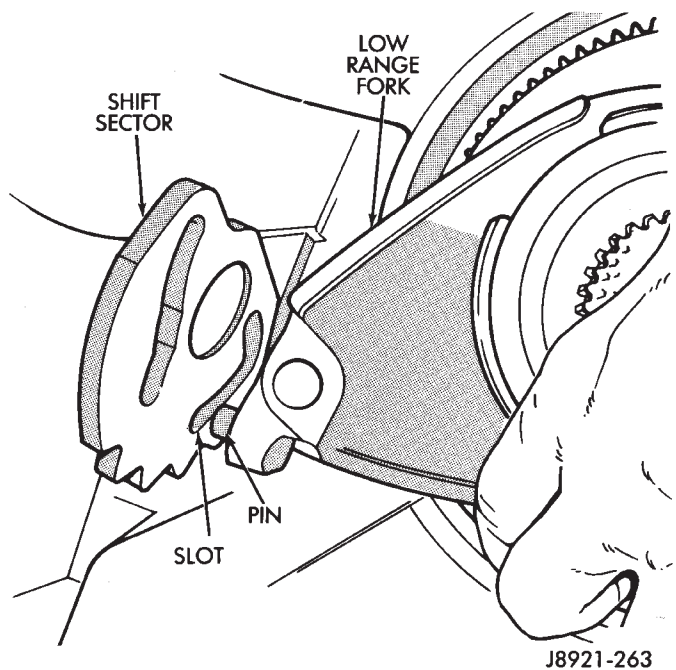


Fig. 65 Positioning Low Range Fork

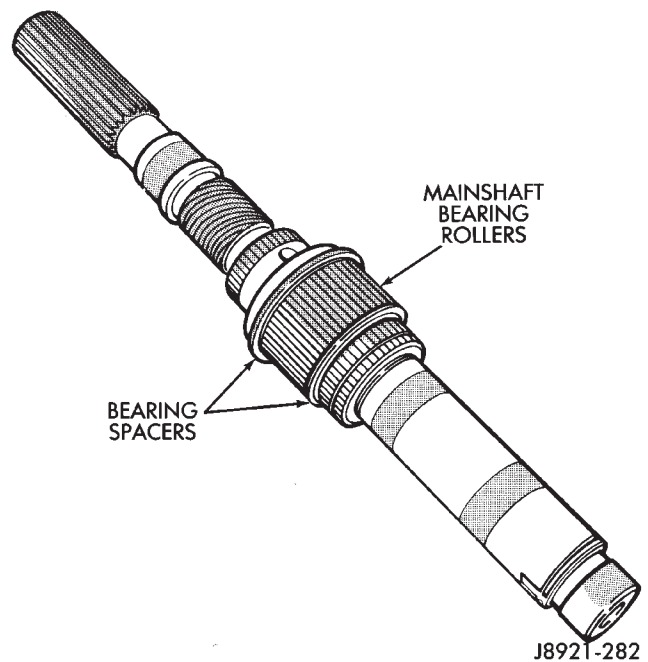
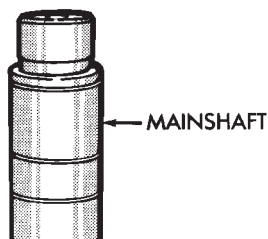
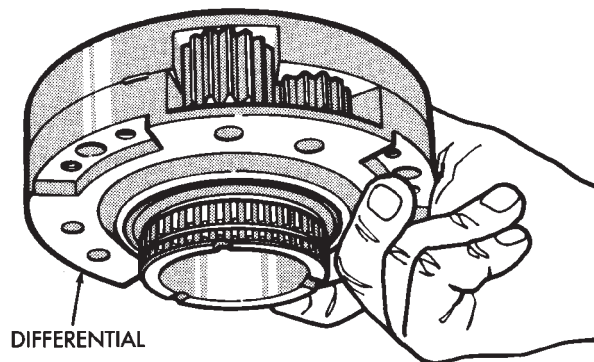


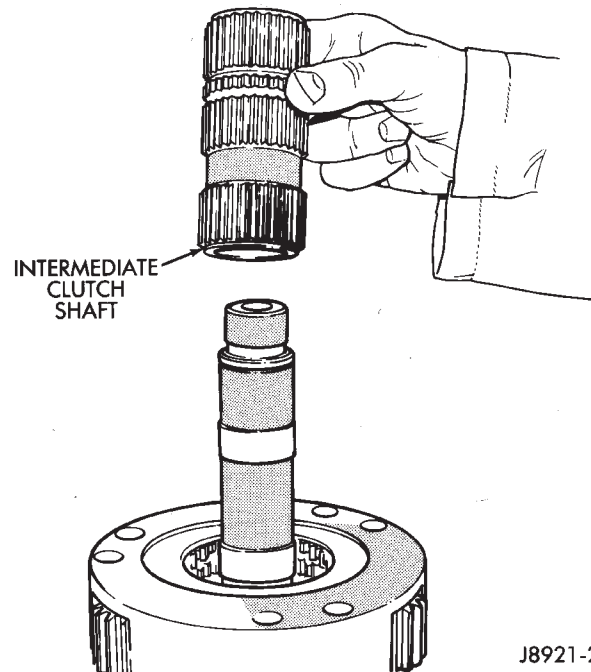
Fig. 66 Installing Mainshaft Bearing Rollers and Spacers

DISASSEMBLY AND ASSEMBLY (Continued)

- (9) Install differential (Fig. 67). **Do not displace mainshaft bearings when installing differential.**
 (10) Install differential snap ring (Fig. 68).
 (11) Install intermediate clutch shaft (Fig. 69).



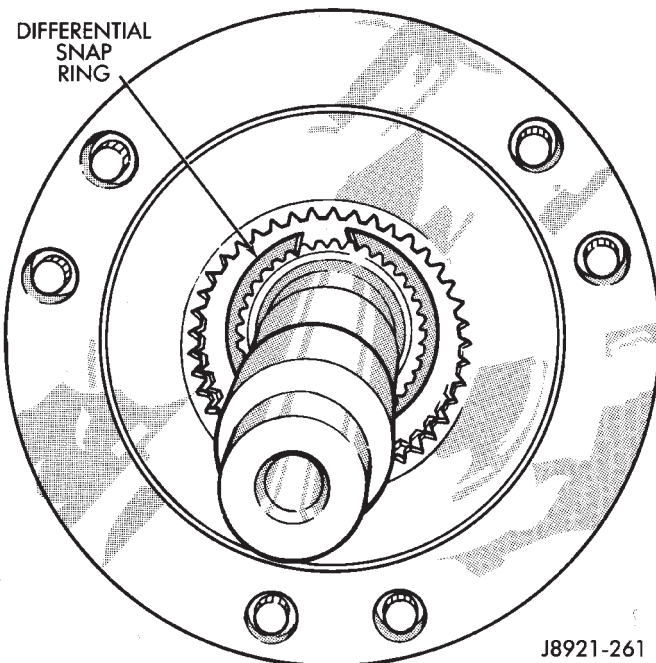
J8921-283

Fig. 67 Differential Installation

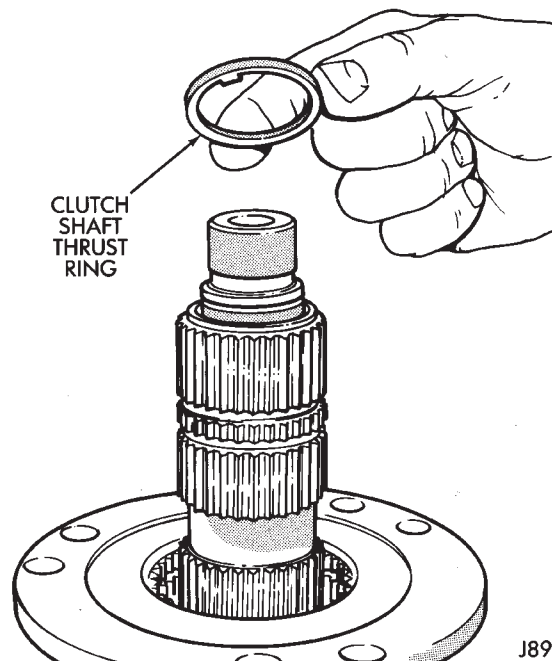
J8921-260

Fig. 69 Installing Intermediate Clutch Shaft

- (12) Install clutch shaft thrust washer (Fig. 70).
 (13) Install clutch shaft snap ring (Fig. 71).
 (14) Inspect mode fork assembly (Fig. 72). Replace pads and bushing if necessary. Replace fork tube if bushings inside tube are worn or damaged. Also check springs and slider bracket (Fig. 72). Replace worn, damaged components.



J8921-261

Fig. 68 Installing Differential Snap Ring

J8921-259

Fig. 70 Installing Clutch Shaft Thrust Washer

DISASSEMBLY AND ASSEMBLY (Continued)

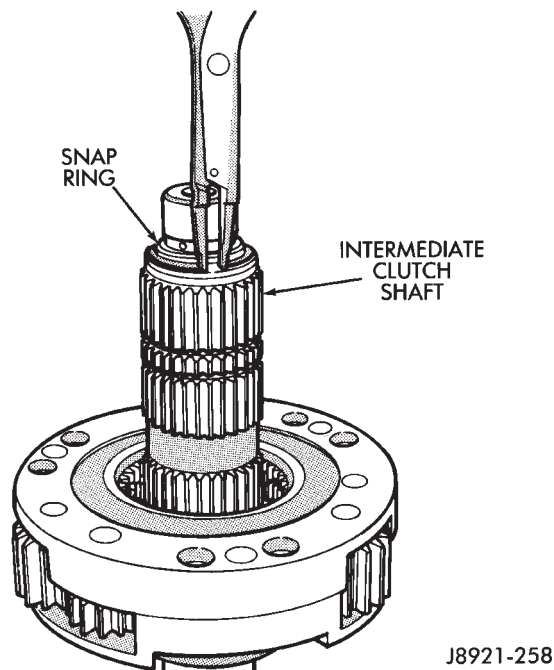


Fig. 71 Installing Clutch Shaft Snap Ring

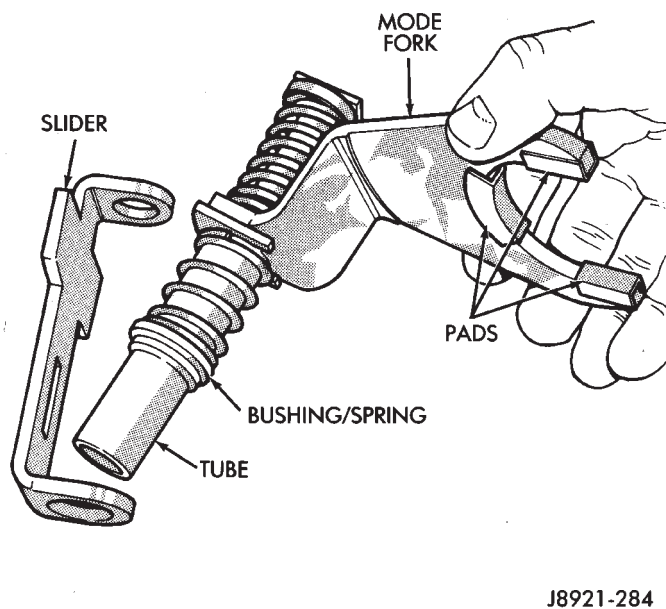
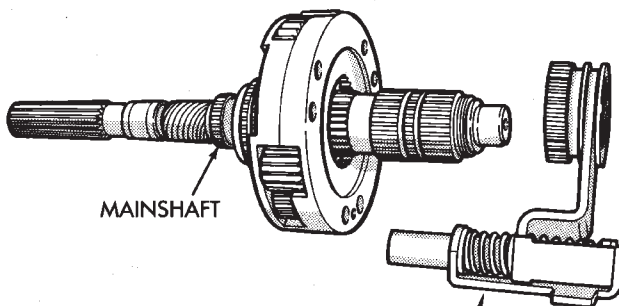


Fig. 72 Mode Fork Assembly Inspection

(15) Install mode sleeve in mode fork (Fig. 73). Then install assembled sleeve and fork on mainshaft. Be sure mode sleeve splines are engaged in differential splines.

(16) Install mode fork and mainshaft assembly in case (Fig. 74). Rotate mainshaft slightly to engage shaft with low range gears.

(17) Rotate mode fork pin into shift sector slot.



J8921-257

Fig. 73 Installing Mode Fork And Sleeve

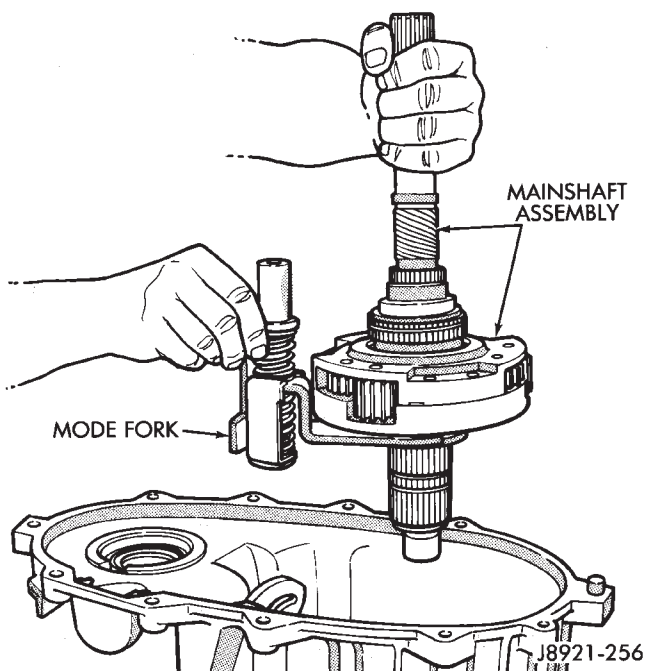


Fig. 74 Assembled Mainshaft And Mode Fork Installation

DISASSEMBLY AND ASSEMBLY (Continued)

(18) Install shift rail (Fig. 75). **Be sure rail is seated in both shift forks.**

(19) Rotate shift sector to align lockpin hole in low range fork with access hole in case.

(20) Insert an easy-out in range fork lockpin to hold it securely for installation (Fig. 76). **Lockpin is slightly tapered on one end. Insert tapered end into fork and rail.**

(21) Insert lockpin through access hole and into shift fork (Fig. 76). Then remove easy-out and seat the pin with pin punch.

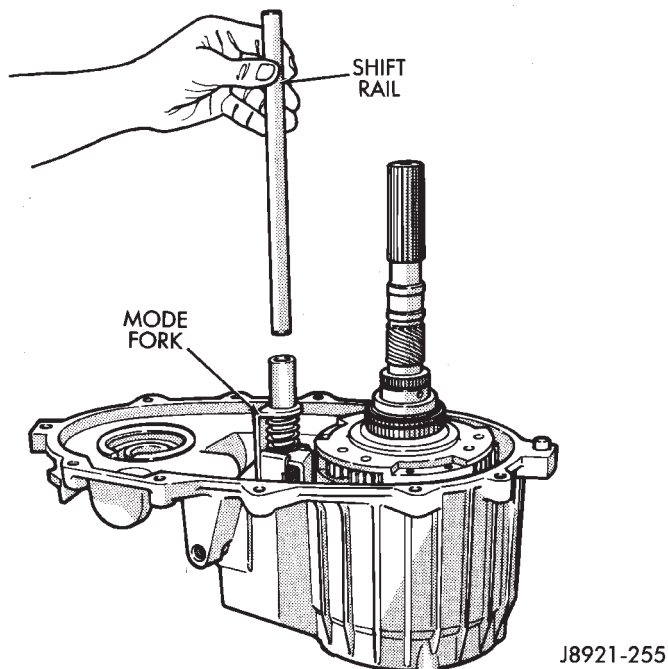


Fig. 75 Shift Rail Installation

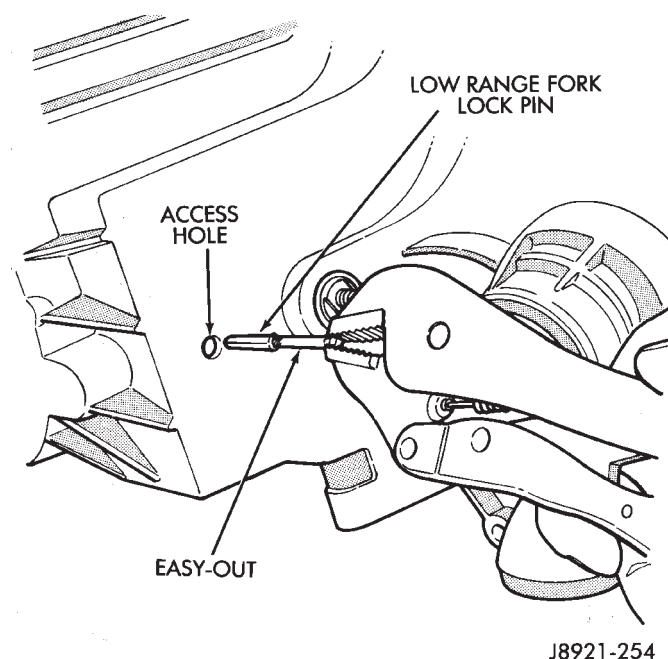


Fig. 76 Installing Low Range Fork Lockpin

(22) Install plug in lockpin access hole.

(23) Install detent plunger, detent spring and detent plug in case (Fig. 77).

FRONT OUTPUT SHAFT AND DRIVE CHAIN INSTALLATION

(1) Install front output shaft (Fig. 78).

(2) Install drive chain (Fig. 78). Engage chain with front output shaft sprocket teeth.

(3) Install drive sprocket (Fig. 78). Engage drive sprocket teeth with chain. Then engage sprocket splines with mainshaft splines.

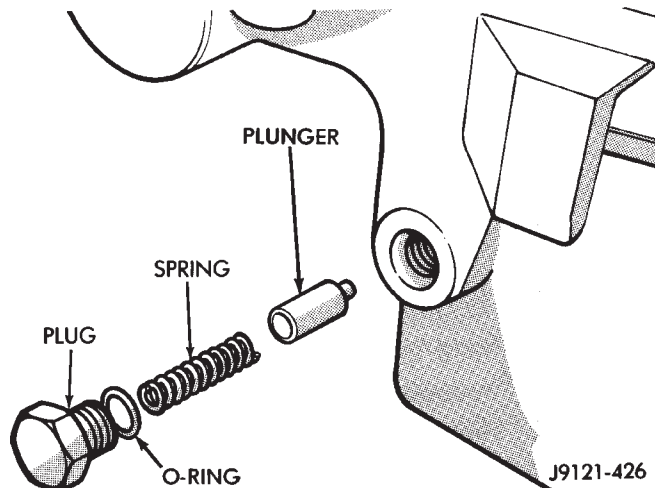


Fig. 77 Detent Pin, Spring And Plug Installation

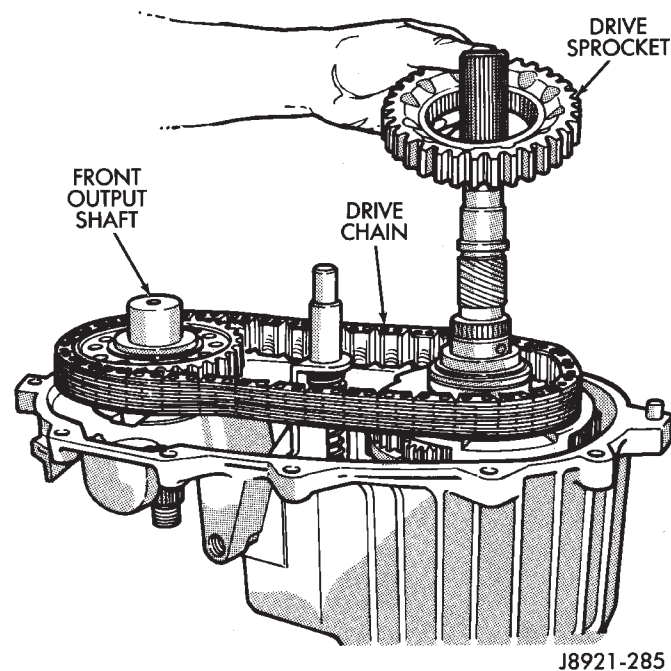
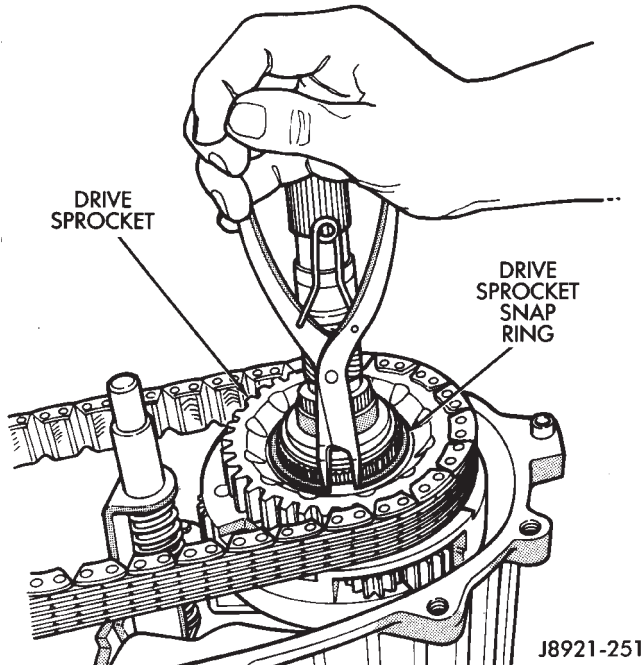


Fig. 78 Drive Chain And Sprocket Installation

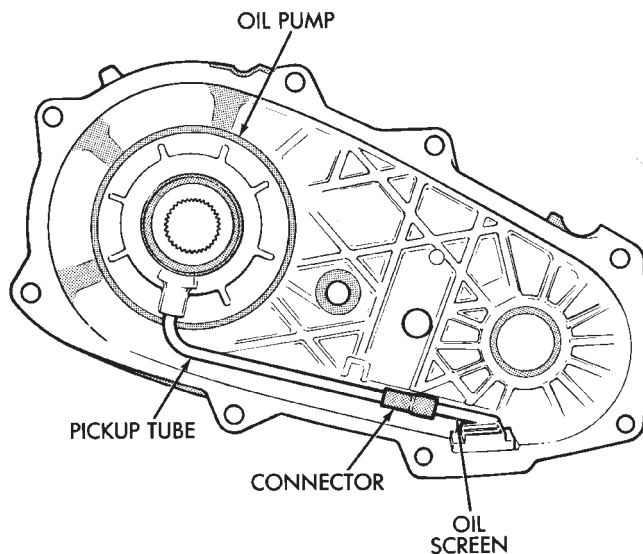
(4) Install drive sprocket snap ring (Fig. 79).

DISASSEMBLY AND ASSEMBLY (Continued)

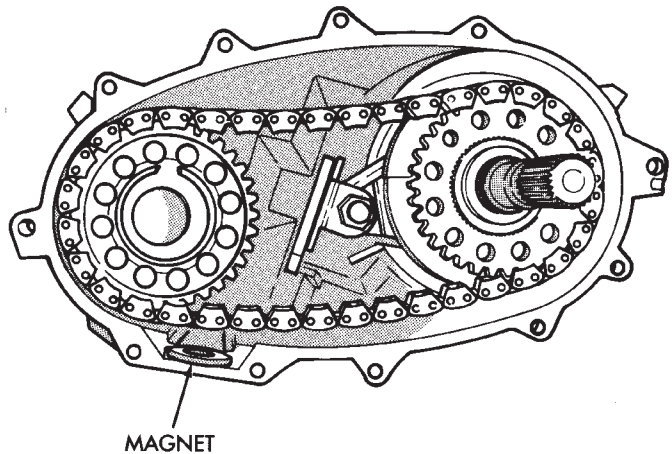
**Fig. 79 Drive Sprocket Snap Ring Installation****OIL PUMP AND REAR CASE ASSEMBLY/INSTALLATION**

(1) Insert oil pickup tube in oil pump and attach oil screen and connector hose to pickup tube. Then install assembled pump, tube and screen in rear case (Fig. 80). Be sure screen is seated in case slot as shown.

(2) Install magnet in front case pocket (Fig. 81).

**Fig. 80 Oil Screen And Pickup Tube Installation**

(3) Apply 3 mm (1/8 in.) wide bead of Mopar gas-ket maker, silicone adhesive sealer, or Loctite 518 to seal surface of front case.

**Fig. 81 Installing Case Magnet**

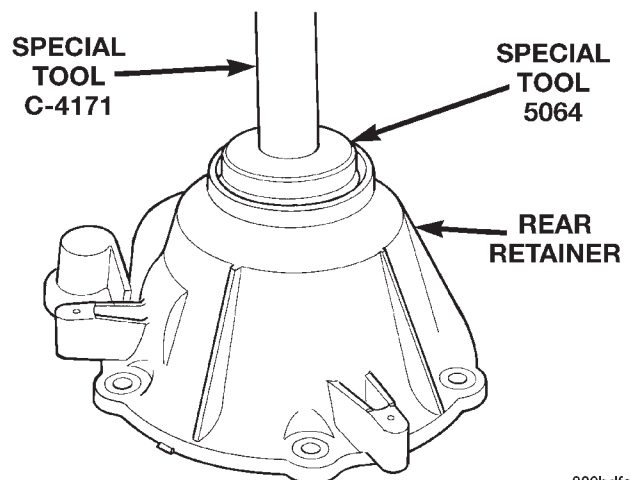
(4) Align and install rear case on front case. Be sure case locating dowels are in place and that main-shaft splines are engaged in oil pump inner gear.

(5) Install and tighten front case-to-rear case bolts to 41 N·m (30 ft. lbs.) torque. **Be sure to install a washer under each bolt used at case dowel locations.**

REAR RETAINER ASSEMBLY AND INSTALLATION

(1) Remove rear bearing in retainer using a hammer handle or a hammer and a brass drift to tap bearing from the retainer.

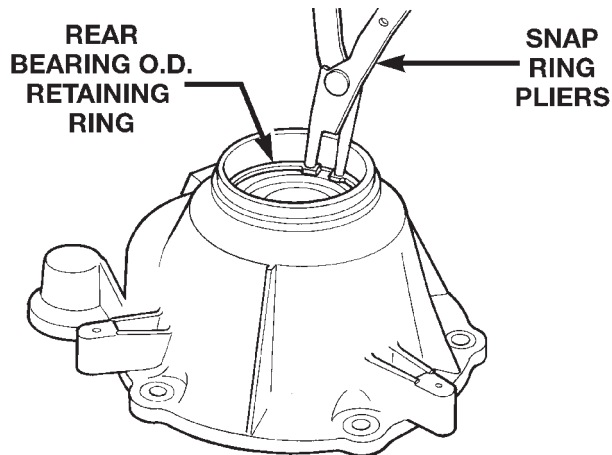
(2) Install rear bearing in retainer with Tools C-4171 and 5064 (Fig. 82).

**Fig. 82 Installing Rear Bearing In Retainer**

(3) Install rear bearing O.D. retaining ring with snap ring pliers (Fig. 83). Be sure retaining ring is fully seated in retainer groove.

(4) Apply bead of Mopar® Sealer P/N 82300234, or Loctite® Ultra Gray, to mating surface of rear

DISASSEMBLY AND ASSEMBLY (Continued)



800bdfae

Fig. 83 Rear Bearing Retaining Ring Installation

retainer. Sealer bead should be a maximum of 3/16 in.

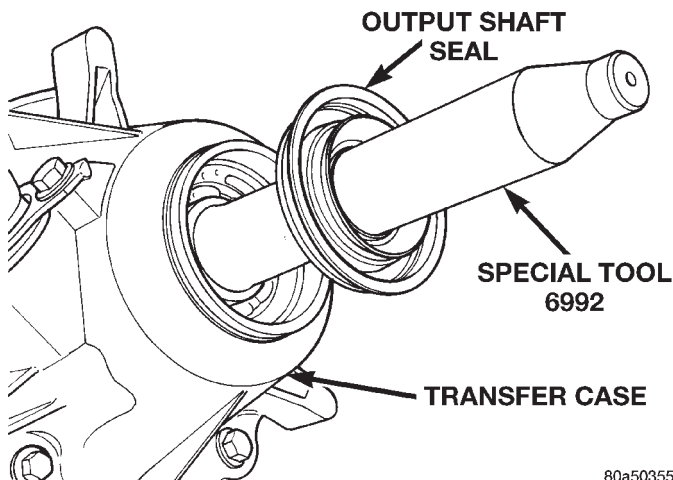
(5) Install rear retainer on rear case. Tighten retainer bolts to 20–27 N·m (15–20 ft. lbs.) torque.

(6) Install rear bearing I.D. retaining ring and spacer on output shaft.

(7) Apply liberal quantity of petroleum jelly to new rear seal and to output shaft. Petroleum jelly is needed to protect seal lips during installation.

(8) Slide seal onto Seal Protector 6992 (Fig. 84). Slide seal protector and seal onto output shaft.

(9) Slide Installer C-4076-A onto seal protector with the recessed side of the tool toward the seal. Drive seal into rear bearing retainer with installer C-4076-A and handle MD-998323 (Fig. 85).

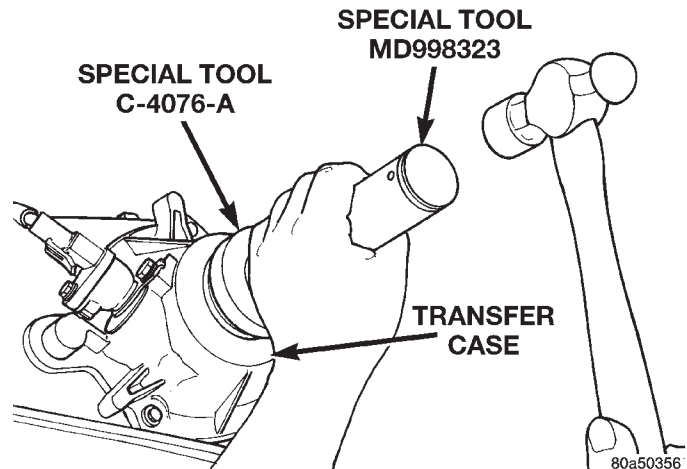


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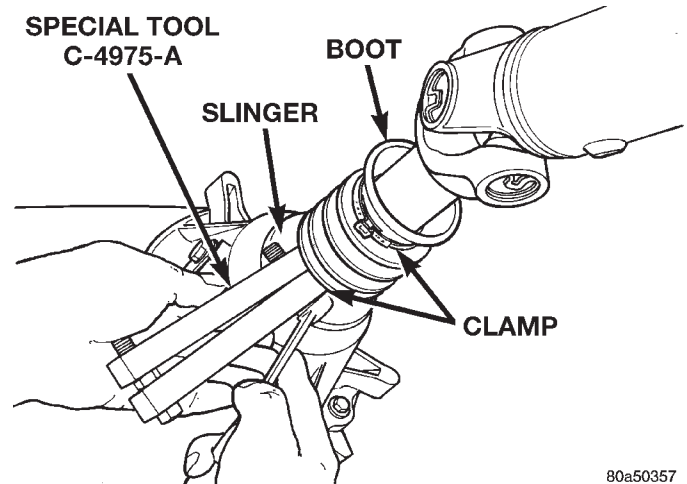
Fig. 84 Output Shaft Seal and Protector

(10) Install rear slinger with installer C-4076-A and handle MD-998323 (Fig. 85).

(11) Install boot on output shaft slinger and crimp retaining clamp with tool C-4975-A (Fig. 86).



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Fig. 85 Rear Seal Installation

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Fig. 86 Slinger Boot Installation**FRONT YOKE AND SWITCH INSTALLATION**

(1) Install indicator switch in front case. Tighten switch to 20–34 N·m (15–25 ft. lbs.) torque.

(2) Lubricate yoke hub with transmission fluid and install yoke on front shaft.

(3) Install new seal washer on front shaft.

(4) Install yoke on front shaft. Secure yoke with new nut.

CLEANING AND INSPECTION**NV242 TRANSFER CASE**

Clean the transfer case parts with a standard parts cleaning solvent. Remove all traces of sealer from the cases and retainers with a scraper and all purpose cleaner. Use compressed air to remove solvent residue from oil feed passages in the case halves, retainers, gears, and shafts.

The oil pickup screen can be cleaned with solvent. Shake excess solvent from the screen after cleaning and allow it to air dry. Do not use compressed air.

CLEANING AND INSPECTION (Continued)

MAINSHAFT/SPROCKET/HUB INSPECTION

Inspect the splines on the hub and shaft and the teeth on the sprocket. Minor nicks and scratches can be smoothed with an oilstone, however, replace any part is damaged.

Check the contact surfaces in the sprocket bore and on the mainshaft. Minor nicks and scratches can be smoothed with 320–400 grit emery cloth but do not try to salvage the shaft if nicks or wear is severe.

INPUT GEAR AND PLANETARY CARRIER

Check the teeth on the gear (Fig. 87). Minor nicks can be dressed off with an oilstone but replace the gear if any teeth are broken, cracked, or chipped. The bearing surface on the gear can be smoothed with 300–400 grit emery cloth if necessary.

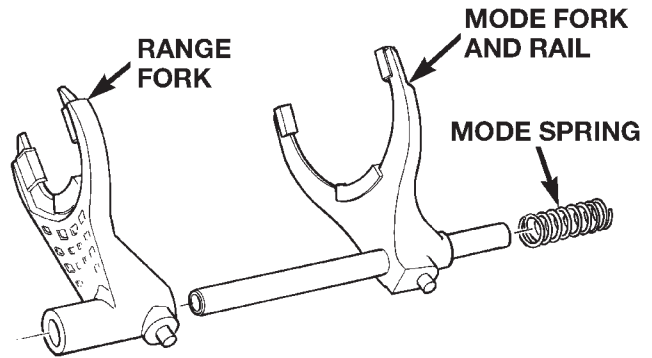
Examine the carrier body and pinion gears for wear or damage. The carrier will have to be replaced as an assembly if the body, pinion pins, or pinion gears are damaged.

Check the lock ring and both thrust washers for wear or cracks. Replace them if necessary. Also replace the lock retaining ring if bent, distorted, or broken.

SHIFT FORKS/HUBS/SLEEVES

Check condition of the shift forks and mode fork shift rail (Fig. 88). Minor nicks on the shift rail can be smoothed with 320–400 grit emery cloth.

Inspect the shift fork wear pads. The mode fork pads are serviceable and can be replaced if necessary. The range fork pads are also serviceable.



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Fig. 88 Shift forks

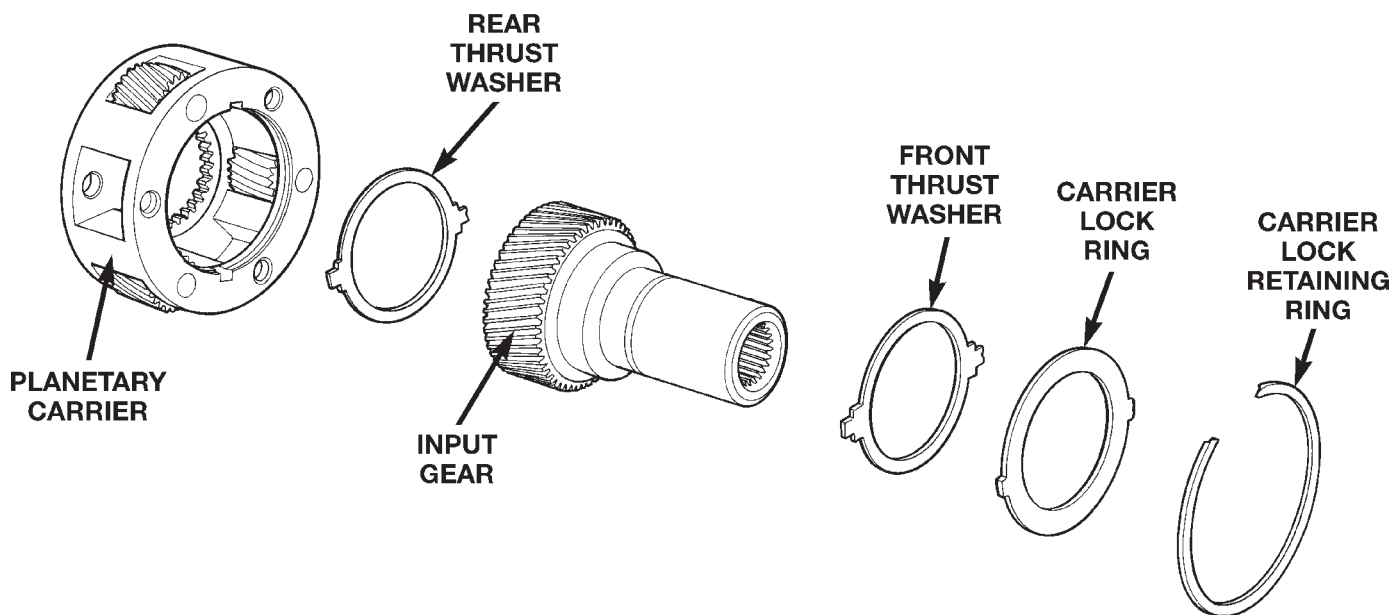
Check both of the sleeves for wear or damage, especially on the interior teeth. Replace the sleeves if wear or damage is evident.

REAR RETAINER/BEARING/ SEAL/SLINGER/ BOOT

Inspect the retainer components (Fig. 89). Replace the bearing if rough or noisy. Check the retainer for cracks or wear in the bearing bore. Clean the retainer sealing surfaces with a scraper and all purpose cleaner. This will ensure proper adhesion of the sealer during reassembly.

Replace the slinger and seal outright; do not reuse either part.

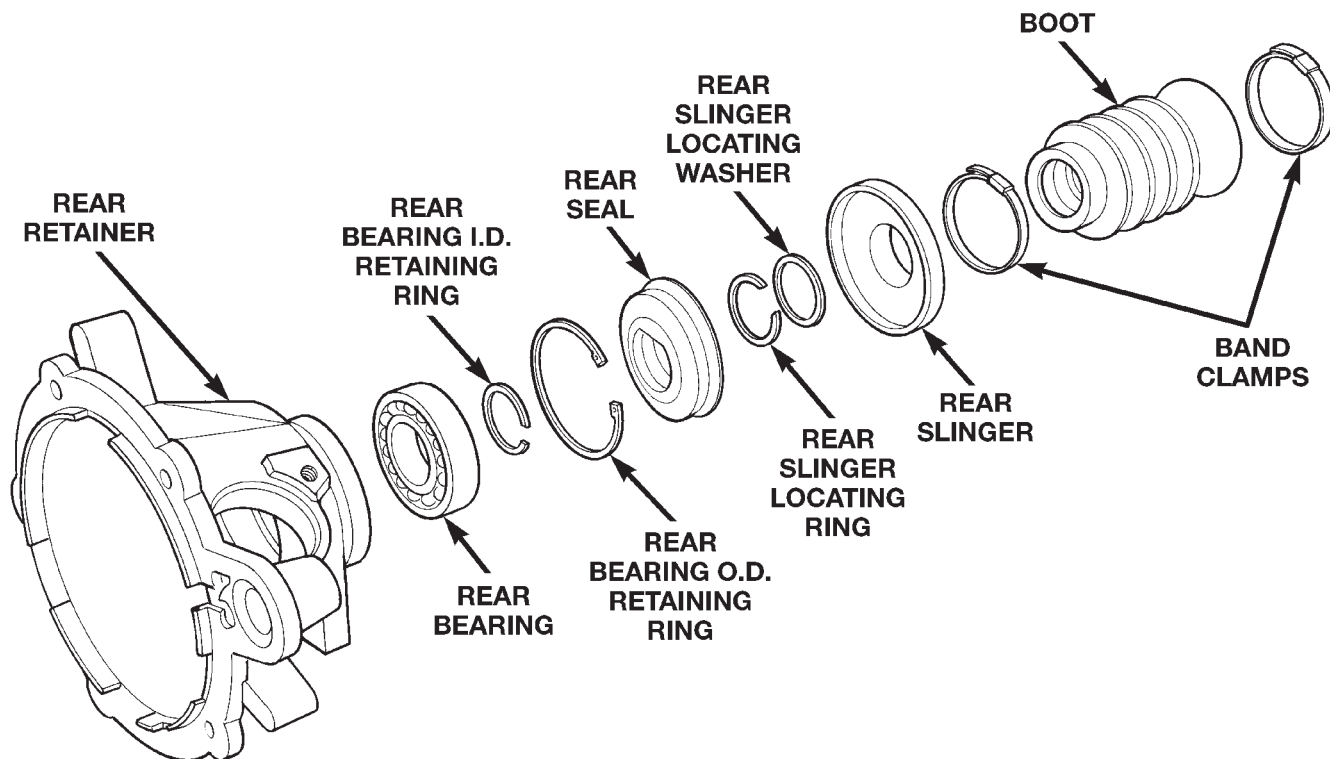
Inspect the retaining rings and washers. Replace any part if distorted, bent, or broken. Reuse is not



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Fig. 87 Input Gear And Carrier Components

CLEANING AND INSPECTION (Continued)



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Fig. 89 Rear Retainer Components

recommended. Also replace the boot if cut or torn. Replace the boot band clamps, do not reuse them.

REAR OUTPUT SHAFT/YOKE/DRIVE CHAIN

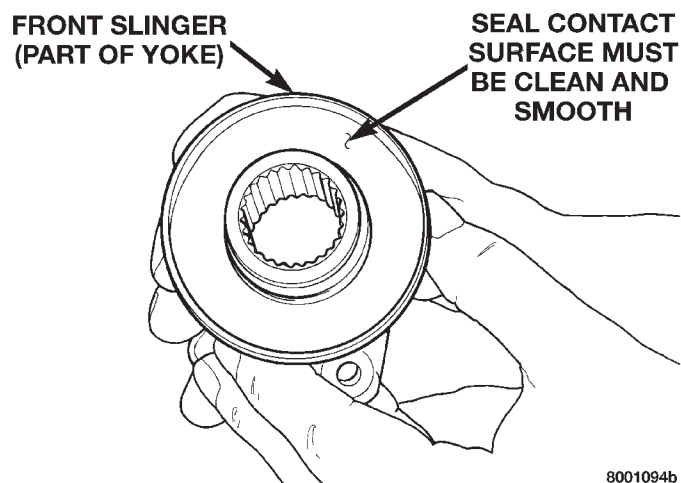
Check condition of the seal contact surfaces of the yoke slinger (Fig. 90). This surface must be clean and smooth to ensure proper seal life. Replace the yoke nut and seal washer as neither part should be reused.

Inspect the shaft threads, sprocket teeth, and bearing surfaces. Minor nicks on the teeth can be smoothed with an oilstone. Use 320–400 grit emery to smooth minor scratches on the shaft bearing surfaces. Rough threads on the shaft can be chased if necessary. Replace the shaft if the threads are damaged, bearing surfaces are scored, or if any sprocket teeth are cracked or broken.

Examine the drive chain and shaft bearings. replace the chain if stretched, distorted, or if any of the links bind. Replace the bearings if rough, or noisy.

LOW RANGE ANNULUS GEAR

Inspect annulus gear condition carefully. The gear is only serviced as part of the front case. If the gear is damaged, it will be necessary to replace the gear



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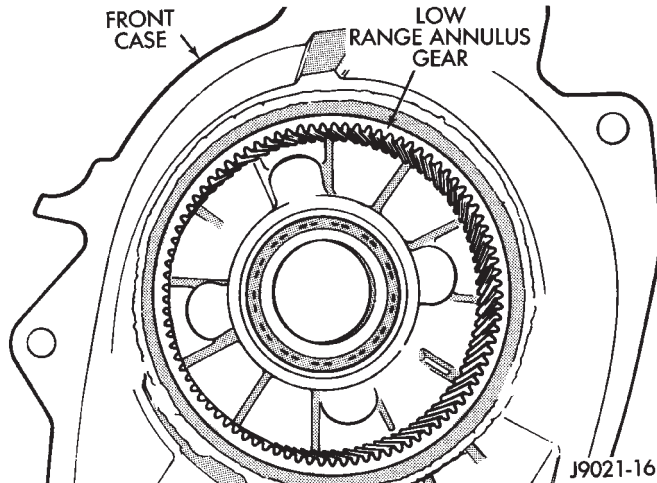
Fig. 90 Seal Contact Surface Of Yoke Slinger

and front case as an assembly. Do not attempt to remove the gear (Fig. 91)

FRONT-REAR CASES AND FRONT RETAINER

Inspect the cases and retainer for wear and damage. Clean the sealing surfaces with a scraper and all purpose cleaner. This will ensure proper sealer adhesion at assembly. Replace the input retainer seal; do not reuse it.

CLEANING AND INSPECTION (Continued)

**Fig. 91 Low Range Annulus Gear**

Check case condition. If leaks were a problem, look for gouges and severe scoring of case sealing surfaces. Also make sure the front case mounting studs are in good condition.

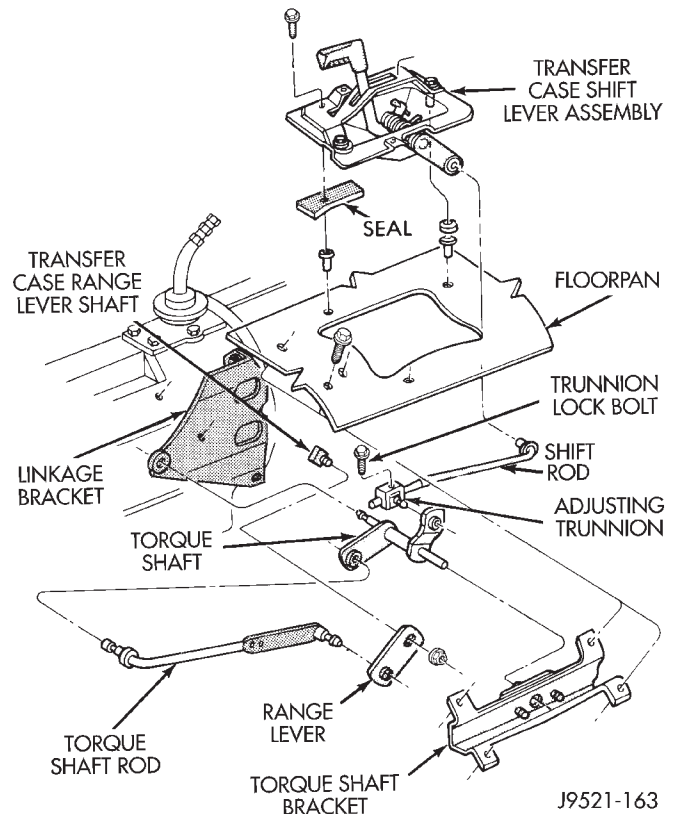
Check the front case mounting studs and vent tube. The tube can be secured with Loctite™ 271 or 680 if loose. The stud threads can be cleaned up with a die if necessary. Also check condition of the fill/drain plug threads in the rear case. The threads can be repaired with a thread chaser or tap if necessary. Or the threads can be repaired with Helicoil stainless steel inserts if required.

OIL PUMP/OIL PICKUP

Examine the oil pump pickup parts. Replace the pump if any part appears to be worn or damaged. Do not disassemble the pump as individual parts are not available. The pump is only available as a complete assembly. The pickup screen, hose, and tube are the only serviceable parts and are available separately.

ADJUSTMENTS**SHIFT LINKAGE ADJUSTMENT**

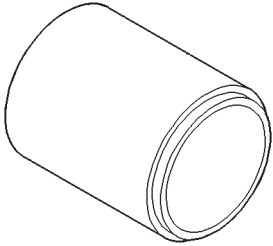
- (1) Shift transfer case into 4L position.
- (2) Raise vehicle.
- (3) Loosen lock bolt on adjusting trunnion (Fig. 92).
- (4) Be sure linkage rod slides freely in trunnion. Clean rod and apply spray lube if necessary.
- (5) Verify that transfer case range lever is fully engaged in 4L position.
- (6) Tighten adjusting trunnion lock bolt.
- (7) Lower vehicle.

**Fig. 92 Shift Linkage****SPECIFICATIONS****TORQUE**

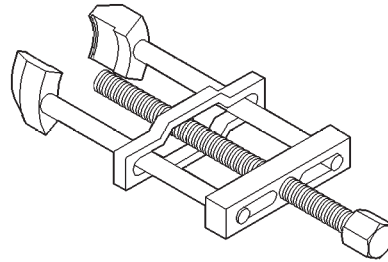
DESCRIPTION	TORQUE
Plug, Detent	16–24 N·m (12–18 ft. lbs.)
Bolt, Diff. Case	17–27 N·m (15–24 ft. lbs.)
Plug, Drain/Fill	40–45 N·m (30–40 ft. lbs.)
Bolt, Front Brg. Retainer. .	16–27 N·m (12–20 ft. lbs.)
Bolt, Case Half	35–46 N·m (26–34 ft. lbs.)
Nut, Front Yoke	122–176 N·m (90–130 ft. lbs.)
Screw, Oil Pump	1.2–1.8 N·m (12–15 in. lbs.)
Nut, Range Lever	27–34 N·m (20–25 ft. lbs.)
Bolt, Rear Retainer	35–46 N·m (26–34 ft. lbs.)
Nuts, Mounting	35–47 N·m (26–35 ft. lbs.)
Bolts, U-Joint	19 N·m (17 ft. lbs.)

SPECIAL TOOLS

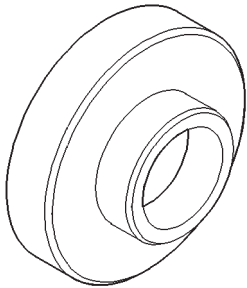
NV242



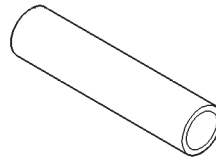
Installer—6888



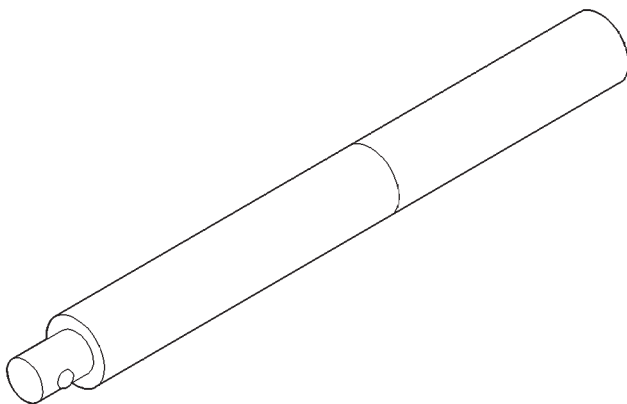
Puller, Slinger—MD-998056-A



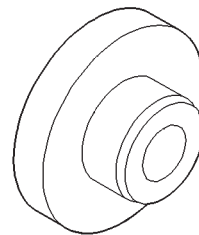
Installer—C-4076-A



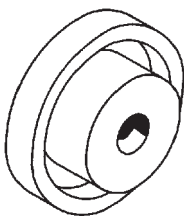
Installer—MD-998323



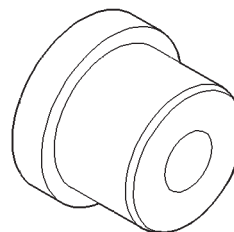
Handle, Universal—C-4171



Installer, Bearing—5064

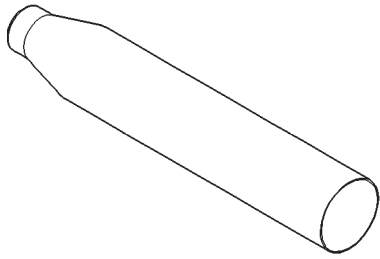


Installer, Seal—C-4210

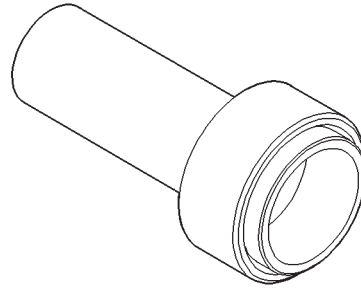


Installer, Bushing—5066

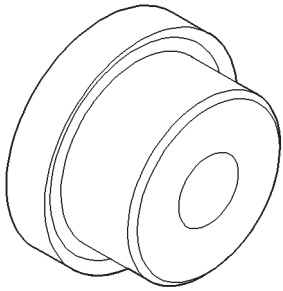
SPECIAL TOOLS (Continued)



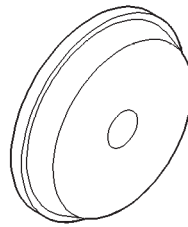
Seal Protector—6992



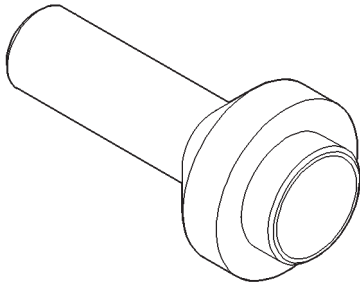
Installer, Pump Housing Seal—7888



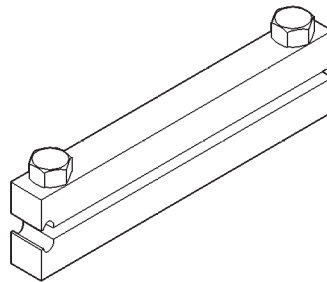
Installer, Input Gear Bearing—7829-A



Installer, Bearing—8033-A



Installer, Seal—7884



Installer, Boot Clamp—C-4975-A