

NOTE

The wormshaft will back out of the rack piston when rotated during bearing installation. Do not allow the wormshaft to back completely out of the rack piston.

- (16) Fill one ball return guide (29) half with petroleum jelly (21, table 5-1) and install 6 remaining ball bearings in guide (29). Be sure bearings in guide (29) are in sequence with bearings in rack piston and that a total of 24 ball bearings are installed.
- (17) Assemble both ball return guide halves (29) and insert guides in rack piston. Guides should fit loosely.
- (18) Position retaining strap (27) over guides and install using screws and washers (28). Tighten screws (28) to torque specified by table 6-2.
- (19) Insert arbor tool #J-21552 into rack piston until it contacts wormshaft.
- (20) Apply steady pressure against arbor tool to maintain contact with wormshaft and back wormshaft out of rack piston.

NOTE

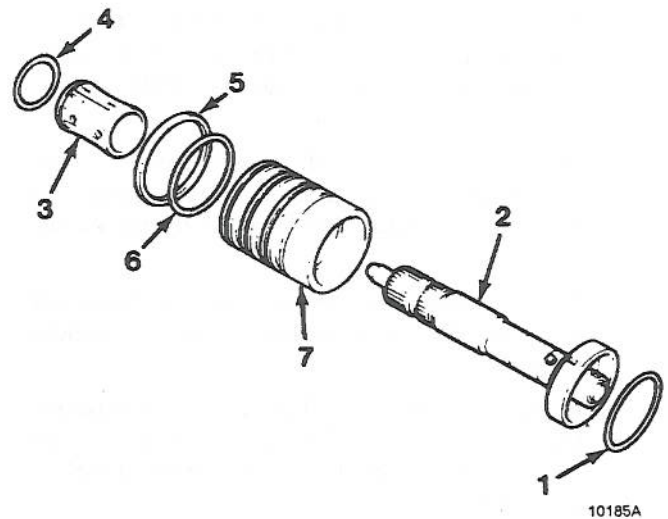
Do not allow the arbor tool and wormshaft to separate during wormshaft removal. The ball bearings could drop out of their circuits and fall inside the rack piston making another disassembly/assembly necessary.

- (21) Position assembled rack piston and arbor tool on end and support assembly on wood blocks until ready to install in gear housing assembly (21).
- (22) Lubricate valve assembly (10) components shown in figure 5-106 with power steering fluid.
- (23) Install replacement backup rings (6, figure 5-106) in seal ring grooves on valve body (7).
- (24) Install replacement seal rings (5) over backup rings (6). Take care to avoid damaging seal rings (5) during installation.

NOTE

The seal rings may appear to be distorted after installation. However, the heat generated by power steering fluid during normal operation will straighten them.

- (25) Lubricate preformed packing (4) and install on spool valve (3).



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|----------------------|---------------------------|
| 1. Preformed Packing | 5. Replacement Seal Rings |
| 2. Stub Shaft | 6. Backup Rings |
| 3. Spool Valve | 7. Valve Body |
| 4. Preformed Packing | |

Figure 5-106. Valve Assembly Components

- (26) Insert spool valve (3) in valve body. Do not attempt to force spool valve (3) into place.
- (27) Push spool valve (3) through valve body (7) until spool valve locating pinhole is visible at opposite end of valve body (7) and spool valve (3) is flush with notched end of valve body (7).
- (28) Install stub shaft (2) in spool valve (3) and valve body (7). Be sure stub shaft locating pin is aligned with spool valve locating hole.
- (29) Align notch in stub shaft cap with stub shaft locating pin in valve body (7) and press stub shaft (2) and spool valve (3) into valve body.

CAUTION

Before installing the assembled valve body in the gear housing, be sure the valve body stub shaft locating pin is fully engaged in the stub shaft cap notch.

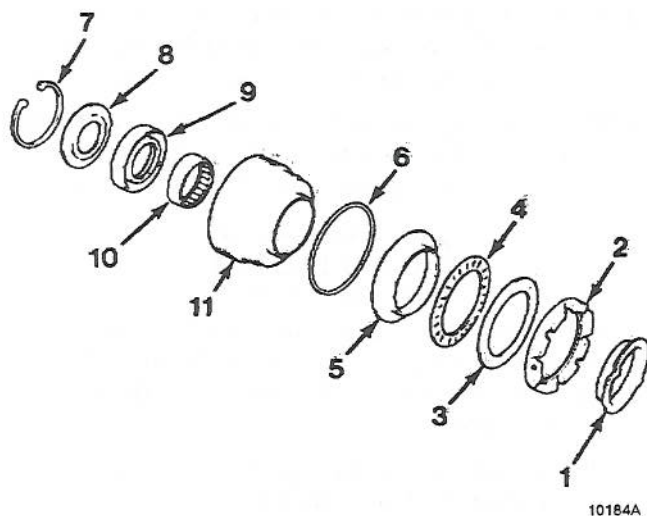
- (30) Lubricate preformed packing (1) with power steering fluid and install in valve body (7).

CAUTION

Do not allow the stub shaft to disengage from the valve body pin. If disengagement occurs, the spool valve will extend too far into the valve body, allowing the preformed packing to expand into the valve body grooves and preventing valve withdrawal.

- (31) If disengagement occurs, attempt to remove the valve using a pull and turn motion. If this fails, perform steps (32), (33) and (34). If the valve is removed, go to step (35).
- (32) First be sure the spool valve is free to rotate, then place the valve body on a flat surface with the notched end of the valve body facing upward.
- (33) Tap the spool valve with a wood or plastic rod until the preformed packing is cut and remove the valve.
- (34) Replace the preformed packing and reassemble the valve body. Be sure all pieces of the cut preformed packing are removed before assembly.
- (35) Lubricate dust seal preformed packing (8, figure 5-107) with petroleum jelly (21, table 5-1). Lubricate all other components shown in figure 5-107 with power steering fluid.
- (36) Position needle bearing assembly (10) on tool #J-6221 so bearing manufacturers identification number is facing tool.
- (37) Install needle bearing assembly (10) in adjuster plug until bearing (10) is flush with bottom surface of stub shaft seal counterbore.

- (38) Install stub shaft seal in adjuster plug deep enough to provide clearance for dust seal and retaining ring.
- (39) Install dust seal (8) and oil seal (9) in adjuster plug (11). Rubber face of seal must face away from plug (outward).
- (40) Install retaining ring using snap ring pliers #J-4245.
- (41) Install preformed packing (6) in adjuster plug ring groove.
- (42) Install large thrust washer (5), upper thrust bearing (4), small thrust washer (3) and spacer (2) in adjuster plug (11).
- (43) Install retainer (1) in adjuster plug (11).
- (44) Mount gear assembly (1, figure 5-105) in vise. Clamp unmachined base portion of housing in vise only.
- (45) Lubricate all components with power steering fluid.
- (46) Install bearing assembly (17) on wormshaft. Coned sides of races must face rack piston when installed.
- (47) Insert wormshaft into valve body. Rotate wormshaft until drive lugs engage in stub shaft cap and wormshaft locating pin engages in valve body notch.
- (48) Install assembled valve assembly (10) in gear housing assembly (21). Be sure wormshaft locating pin is still fully engaged in valve body notch before installing.



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|-------------------------|-----------------------------|
| 1. Retainer | 7. Retaining Ring |
| 2. Spacer | 8. Dust Seal |
| 3. Small Thrust Washer | 9. Oil Seal |
| 4. Upper Thrust Bearing | 10. Needle Bearing Assembly |
| 5. Large Thrust Washer | 11. Adjuster Plug |
| 6. Preformed Packing | |

CAUTION

Do not press against the stub shaft to install the valve body and wormshaft. This could cause the stub shaft to disengage from the valve body, allowing the spool valve preformed packing to slip into the valve body oil grooves. Perform installation by pressing directly on the valve body with the fingertips only (figure 5-108). In addition, be sure the valve body is properly seated before installing the adjuster plug. When the valve body is seated correctly, the fluid return port in the gear housing will be fully visible (figure 5-109). If the port is not visible, the valve body and wormshaft are misaligned or the thrust bearing and races are improperly installed.

Figure 5-107. Adjuster Plug Components

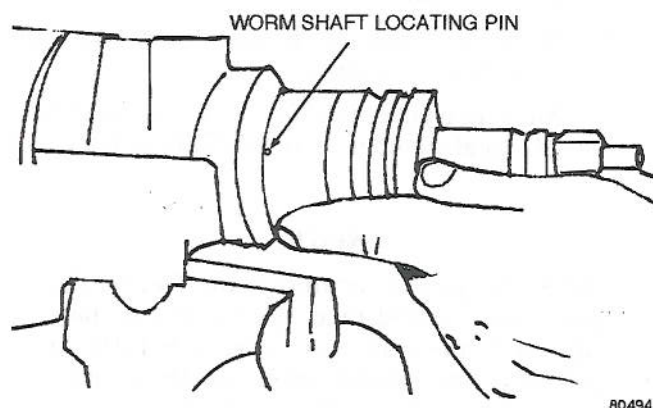


Figure 5-108. Valve Body - Wormshaft Installation

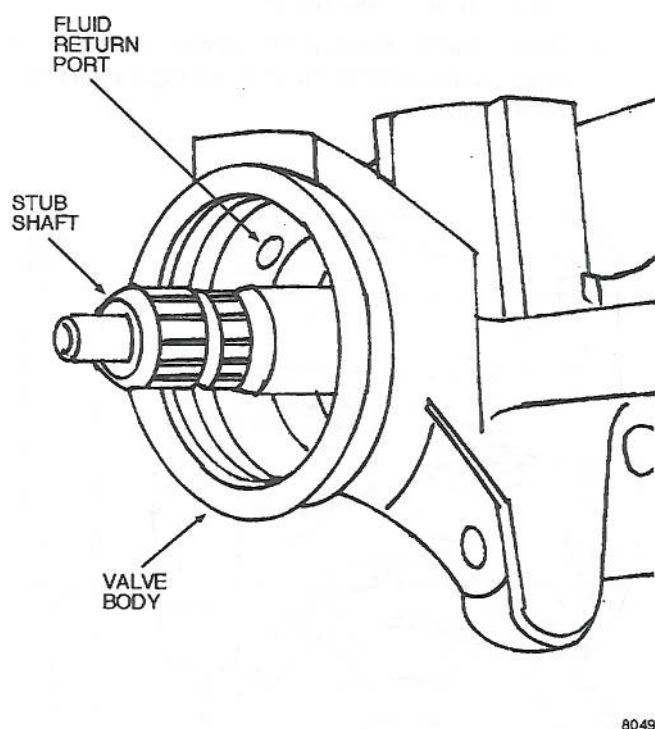


Figure 5-109. Seating Valve Body

- (49) Install rack-piston-nut kit (36, figure 5-105) in gear housing assembly (21). Be sure wormshaft remains engaged with stub shaft. Do not damage rack piston ring (33) during installation. Install machine bolts (37).

- (50) Make sure arbor tool is on rack piston. Remove arbor tool when rack piston seal ring (33) is inside housing (21).
- (51) Rotate stub shaft until center tooth groove in rack piston is aligned with center of steering shaft (19).
- (52) Install side cover gasket on side cover. Be sure gasket rubber seal is seated in cover groove.
- (53) Install steering shaft (19) in housing (21) and mesh center sector tooth of shaft (19) with center tooth groove in rack piston.
- (54) Align side cover and gasket, components of cover parts kit (14), on housing (21) and install capscrews (20). Tighten capscrews to torque specified by table 6-2.
- (55) Thread self-locking nut (15) halfway onto machine bolt (16). Use hex wrench to prevent machine bolt (16) from turning while installing self-locking nut (15).
- (56) Install end plug (34) in rack piston and tighten plug (34) to torque specified by table 6-2.

NOTE

The lash nut has left hand threads.

- (57) Lubricate steering parts kit (31) with (21, table 5-1) petroleum jelly.
- (58) Install end plug (35) and seat end plug (35) against steering parts kit (31). If necessary, tap end plug (35) to seat it. Do not displace steering parts kit (31) during installation.
- (59) Install end plug retainer ring, a component of steering parts kit (31). Position ring end gap at distance specified by table 6-2.

NOTE

The steering gear requires two adjustments; wormshaft bearing preload and steering shaft overcenter drag torque.

Wormshaft bearing preload is controlled by the amount of compression force exerted on the conical wormshaft thrust bearing races by the adjuster plug.

Steering shaft overcenter drag torque is controlled by the steering shaft adjuster screw which determines the clearance between the rack piston and pitman shaft sector teeth.

CAUTION

The following adjustment procedures must be performed exactly as described and in the sequence outlined. Failure to do so can result in damage to the gear internal components and poor steering response. Always adjust wormshaft bearing preload first; then adjust pitman shaft overcenter drag torque last.

- (60) Seat adjuster plug assembly (5) in housing (21) using spanner wrench #J-7624. Tighten plug (21) to torque specified by table 6-2.
- (61) Place index mark on gear housing assembly (21) in line with one of the holes in adjuster plug (5).
- (62) Measure back (counterclockwise) 3/16 to 1/4 inch from first index mark and index mark housing (21).
- (63) Turn adjuster plug (5) counterclockwise and align adjuster plug hole with second mark made on housing (21).
- (64) Install locknut (4). Place spanner wrench or adjuster plug (5) to prevent it from turning and tighten locknut to torque specified by table 6-2 using tool #J-25194. Do not allow adjuster plug (5) to turn while tightening locknut (4).
- (65) Turn stub shaft clockwise to stop, then turn stub shaft back 1/4 turn.
- (66) Assemble torque wrench with maximum capacity of 50 inch-pounds and 12-point deep socket and install wrench on splined end of stub shaft.
- (67) Measure amount of torque required to turn stub shaft. Take reading with beam of torque wrench at or near vertical position while turning stub shaft at an even rate.
- (68) Record reading. Torque required to turn stub shaft should be equal to that specified by table 6-2.

NOTE

If the measured torque reading is above or below the specified limits, the adjuster plug may have turned when the locknut was tightened, or the gear may be incorrectly assembled, or the wormshaft thrust bearings and races may be defective. Repair as required and remeasure preload.

- (69) Loosen self-locking nut (15). Turn machine bolt (16) counterclockwise until machine bolt (16) is fully extended, then turn machine bolt (16) back one full turn in clockwise direction.
- (70) Rotate stub shaft from stop-to-stop and count total number of turns.
- (71) Starting from either stop, turn stub shaft back 1/2 total number of turns. This is gear center.

NOTE

When the gear is centered, the flat on the stub shaft should face upward and be parallel with the side cover (figure 5-110). In addition, the master spline on the pitman shaft should be in line with the adjuster screw (figure 5-111).

- (72) Install 50 inch-pound torque wrench and deep socket on stub shaft and place wrench in vertical position to take reading.
- (73) Rotate torque wrench 45 degrees each side of center and record highest drag torque measured on or near center.

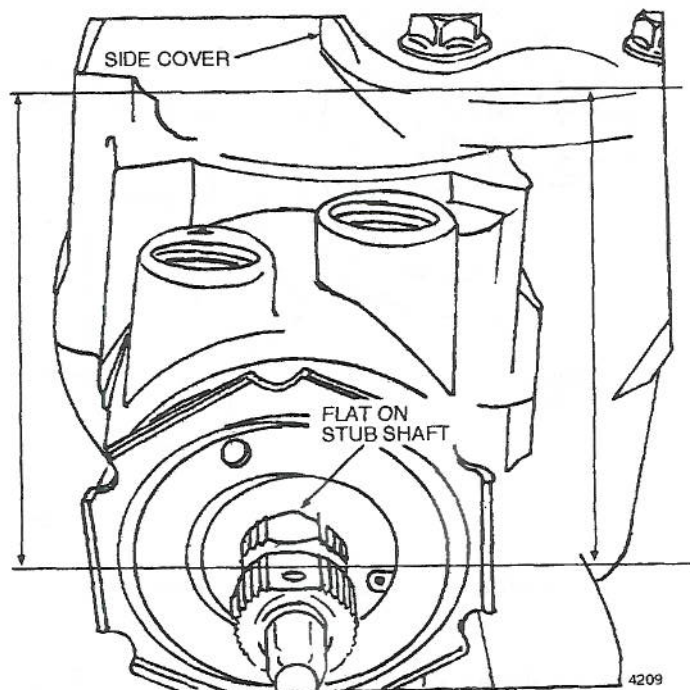
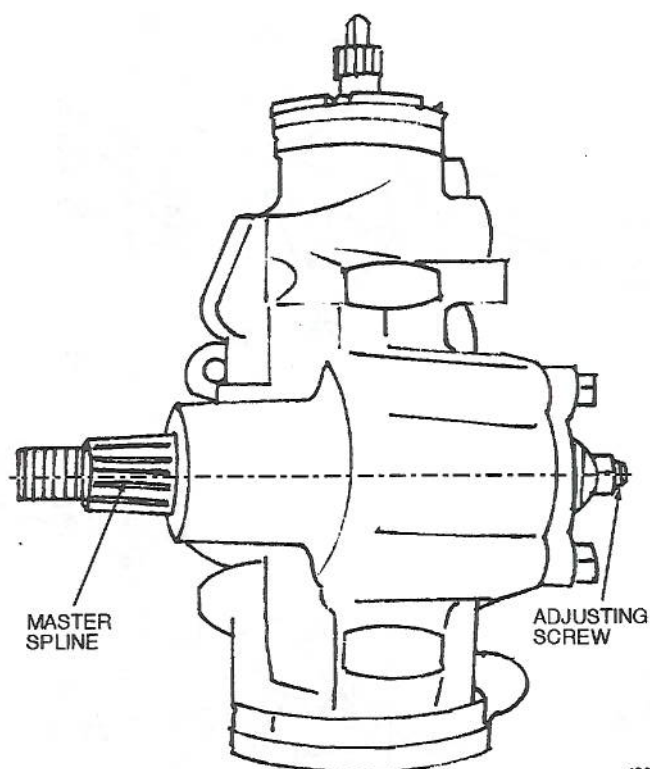


Figure 5-110. Stub Shaft Position With Gear Centered



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Figure 5-111. Pitman Shaft Master Spline Position With Gear Centered

- (74) Adjust drag torque by turning machine bolt (16, figure 5-105) clockwise until desired drag torque is obtained. Adjust drag torque to figures specified in table 6-2.
- (75) Tighten machine bolt (16) after adjusting over-center drag torque. Tighten lash nut to torque specified by table 6-2. Use hex wrench to prevent self-locking nut (15) from turning while tightening machine bolt (16).
- f. Installation. Install steering gear components as follows:

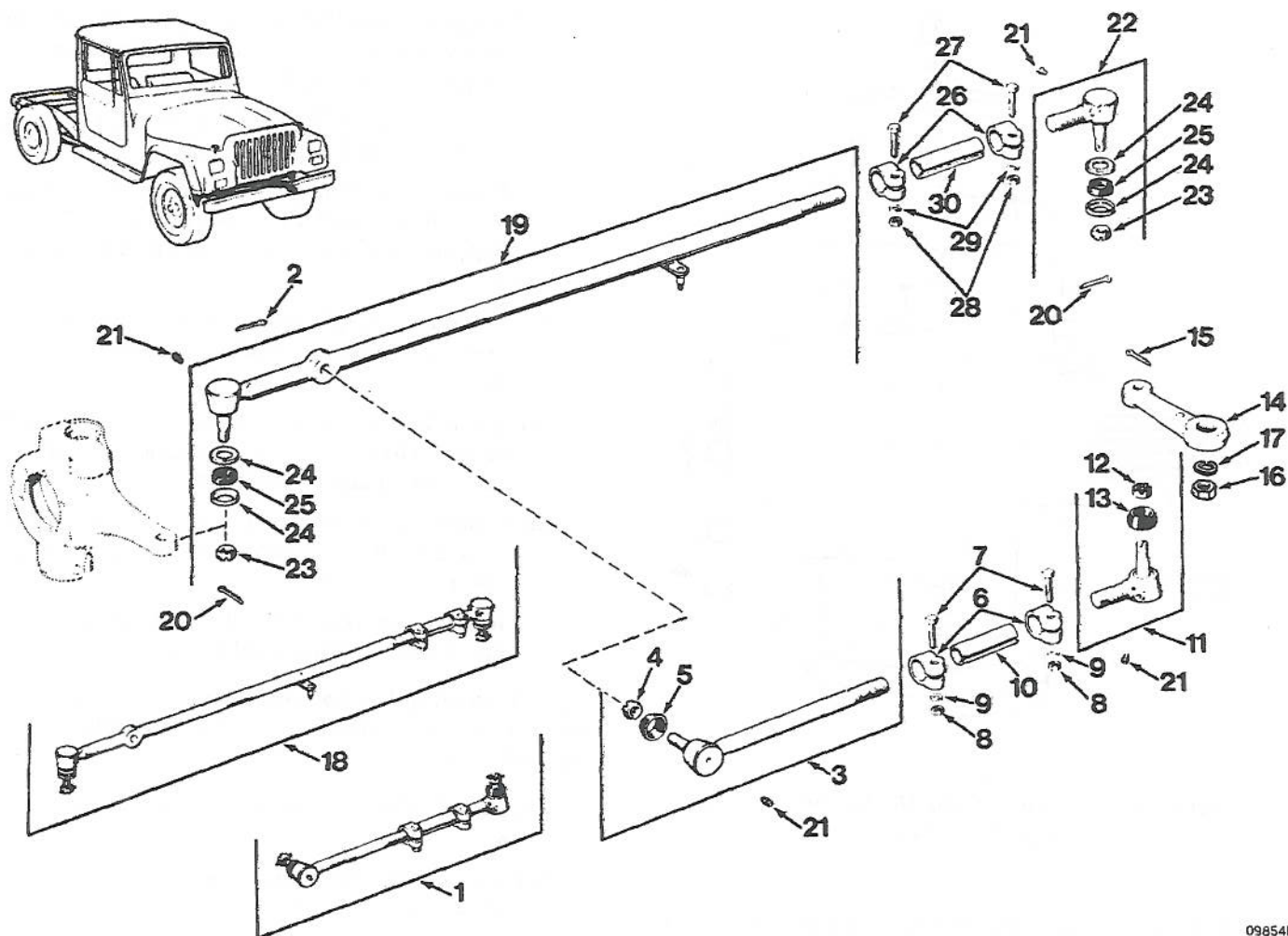
NOTE

Proper retention of the steering gear is important. Some of the following procedural steps in gear installation require the application of Loctite or equivalent material to attaching bolt threads. Wherever indicated, use Jeep Adhesive Sealant or Loctite 271 Adhesive/Sealant, or equivalent. When applying this material, clean all bolt threads thoroughly to remove dirt and grease, and apply the material liberally to the bolt threads no more than 5 minutes before installation.

- (1) Align and install flexible coupling on stub shaft and install hose clamp screw. Tighten screw to torque specified by table 6-2.
- (2) Apply Loctite (23, table 5-1) or equivalent material to special capscrews (2).
- (3) Position steering gear assembly (1) on frame and install special capscrews (2). Tighten capscrews (2) to torque specified by table 6-2.
- (4) Align and install pitman arm on steering shaft (19) using reference marks made during removal.
- (5) Install hex nut (25) and lockwasher (26). Tighten nut to torque specified by table 6-2 and stake nut in two places to retain it.
- (6) Connect pressure and return hoses to steering gear assembly. Tighten hose fittings to torque specified by table 6-2.
- (7) Refer to paragraph 5-5.4.8 and check and adjust power steering fluid level.

5-5.4.5 *Steering Linkage Group*. Refer to figure 5-112, and perform the following steps to overhaul the steering linkage group.

- a. Removal. Remove steering linkage group as follows:
 - (1) Remove hex nut (16), lockwasher (17) and power steering arm (14).
 - (2) Remove cotter pin (2), hex nut (4) and connecting rod assembly (1).
 - (3) Remove cotter pins (20), hex nuts (23) and tie rod assembly (18).
- b. Disassembly. Disassemble steering linkage group as follows:
 - (1) Remove cotter pin (15) and hex nut (12).
 - (2) Remove power steering arm (14) and dust cover (13).
 - (3) Remove nuts (8) and lockwashers (9) and capscrews (7); remove end assemblies (3) and (11).
 - (4) Remove clamps (6) from adjusting tube (10).
 - (5) Remove dust cover (5).
 - (6) Remove lubrication fittings (21).
 - (7) Remove washers (24) and dust covers (25).
 - (8) Remove hex nuts (28), lockwashers (29) and capscrews (27).
 - (9) Remove end assemblies (19) and (22).
 - (10) Remove clamps (26) from adjusting tube (30).

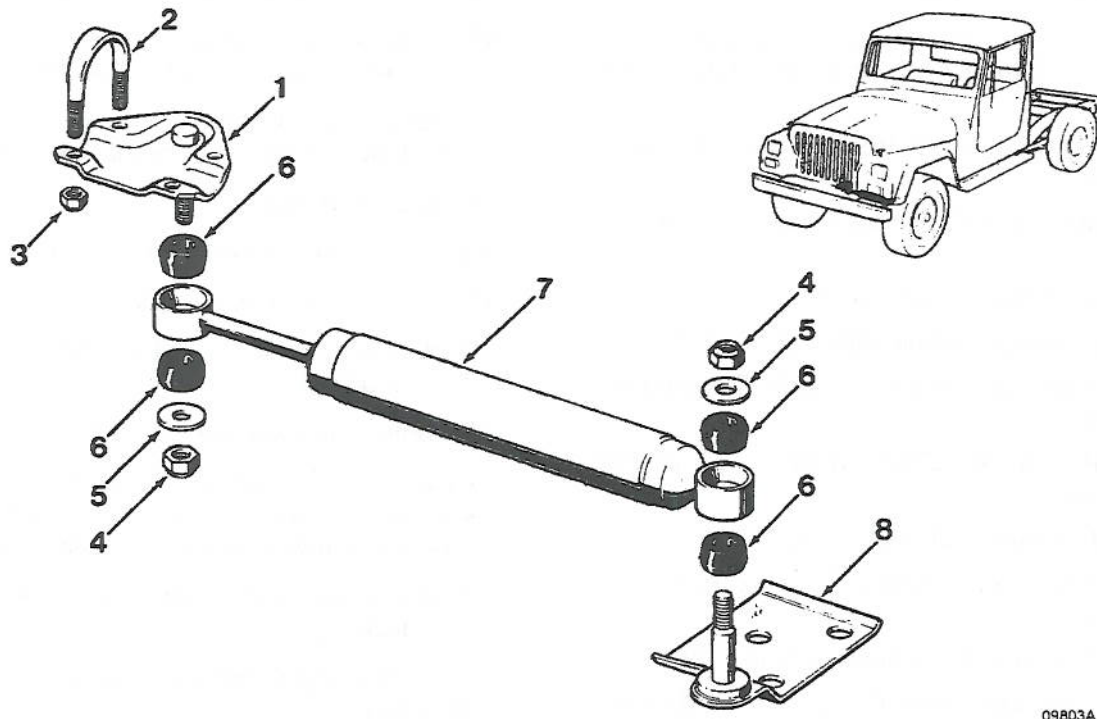


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| 1. Connecting Rod Assembly | 11. End Assembly | 21. Lubrication Fitting |
| 2. Cotter Pin | 12. Slotted Hex Nut | 22. End Assembly |
| 3. End Assembly | 13. Dust Cover | 23. Plain Hex Nut |
| 4. Slotted Hex Nut | 14. Power Steering Arm | 24. Flat Washer |
| 5. Dust Cover | 15. Cotter Pin | 25. Dust Cover |
| 6. Clamp | 16. Plain Hex Nut | 26. Clamps |
| 7. Capscrew | 17. Lockwasher | 27. Capscrew |
| 8. Plain Nut | 18. Tie Rod Assembly | 28. Plain Hex Nut |
| 9. Lockwasher | 19. End Assembly | 29. Lockwasher |
| 10. Adjusting Tube | 20. Cotter Pin | 30. Adjusting Tube |

Figure 5-112. Steering Linkage Group

- (11) Remove lubrication fittings (21).
 - c. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for general cleaning and inspection procedures.
 - d. Repair and replacement. Replace all worn or damaged parts.
 - e. Assembly. Assemble steering linkage group as follows:
 - (1) Install lubrication fittings (21).
 - (2) Install clamps (26) on adjusting tube (30).
 - (3) Install end assemblies (19) and (22) in adjusting tube (30).
 - (4) Install capscrews (27), lockwashers (29) and hex nuts (28).
 - (5) Install washers (24) and dust covers (25).
 - (6) Install lubrication fittings (21) in connecting rod assembly (1).
 - (7) Install clamps (6) on adjusting tube (10).
 - (8) Install end assemblies (3) and (11) in adjusting tube (10).
 - (9) Install capscrews (7), lockwashers (9) and nuts (8).
 - (10) Install dust covers (5) and (13).
 - (11) Install power steering arm (14) using hex nut (12) tightened to torque specified in table 6-2. Install cotter pin (15).
 - f. Installation. Install steering linkage group as follows:
 - (1) Install tie rod assembly (18) using hex nuts (23) tightened to torque specified by table 6-2 and cotter pins (20).
 - (2) Install connecting rod end assembly (3) in tie rod assembly (18) using hex nut (4) tightened to torque specified by table 6-2 and cotter pin (2).
 - (3) Install power steering arm (14) using lockwasher (17) and hex nut (16).
 - (4) Align tie rod assembly (18) and connecting rod assembly (1); tighten capscrews (27) and (7) to torques specified by table 6-2.
- 5-5.4.6 Steering Damper Group.** Refer to figure 5-113, and perform the following steps to overhaul steering damper group.
- a. Removal and disassembly. Disassembly is accomplished during removal. Remove the steering damper group as follows:
 - (1) Place wheels in straight-ahead position.
 - (2) Remove self-locking nut (4), shock absorber (7) and washer (5) to bracket assembly (8).
 - (3) Remove self-locking nut (4) and washer (5) attaching damper (7) to bracket assembly (1).
 - (4) Remove damper.
 - (5) Remove bushings (6) from shock absorber (7).
 - (6) Remove self-locking nuts (3).
 - (7) Remove U-bolt (2) and bracket assembly (1) from tie rod.
 - (8) Remove bracket assembly (8).
 - b. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for general cleaning and inspection procedures. In addition, perform the following step:
 - (1) Inspect shock absorber (7) carefully for signs of leaking.
 - c. Repair and replacement. Replace all worn or damaged parts.
 - d. Assembly and installation. Assembly is accomplished during installation. Install steering rod group as follows:
 - (1) Install bracket assembly (8).
 - (2) Extend push rod of shock absorber (7) completely.
 - (3) Measure distance from cylinder of shock absorber (7) to center of push rod eyelet.
 - (4) Divide figure by two.
 - (5) Move push rod into cylinder of shock absorber (7) until center of push rod eyelet is extended to half the maximum travel of push rod.
 - (6) Scribe line on tie rod at center position between shock absorber (7) and push rod eyelet.
 - (7) Position bracket assembly (1) on tie rod with push rod stud centered over scribed line.
 - (8) Install U-bolt (2); install and tighten self-locking nuts (3) to torque prescribed by table 6-2.
 - (9) Recheck to ensure bracket assembly (1) is correct to measurement.
 - (10) Insert bushings (6) in shock absorber (7).
 - (11) Install shock absorber (7) on stud of bracket assembly (1) using self-locking nuts (4) and washers (5).



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| 1. Bracket Assembly | 5. Washer |
| 2. U-Bolt | 6. Bushing |
| 3. Self-Locking Nut | 7. Shock Absorber |
| 4. Self-Locking Nut | 8. Bracket Assembly |

Figure 5-113. Steering Damper Group

- (12) Attach shock absorber (7) to bracket assembly (8) using self-locking nut (4) and washer (5).

5-5.4.7 *Power Steering Pump Mounting Group*. Refer to figure 5-114, and perform the following steps to overhaul the power steering pump mounting group.

- a. Removal and disassembly. Disassembly is accomplished during removal. Remove power steering pump mounting group as follows:



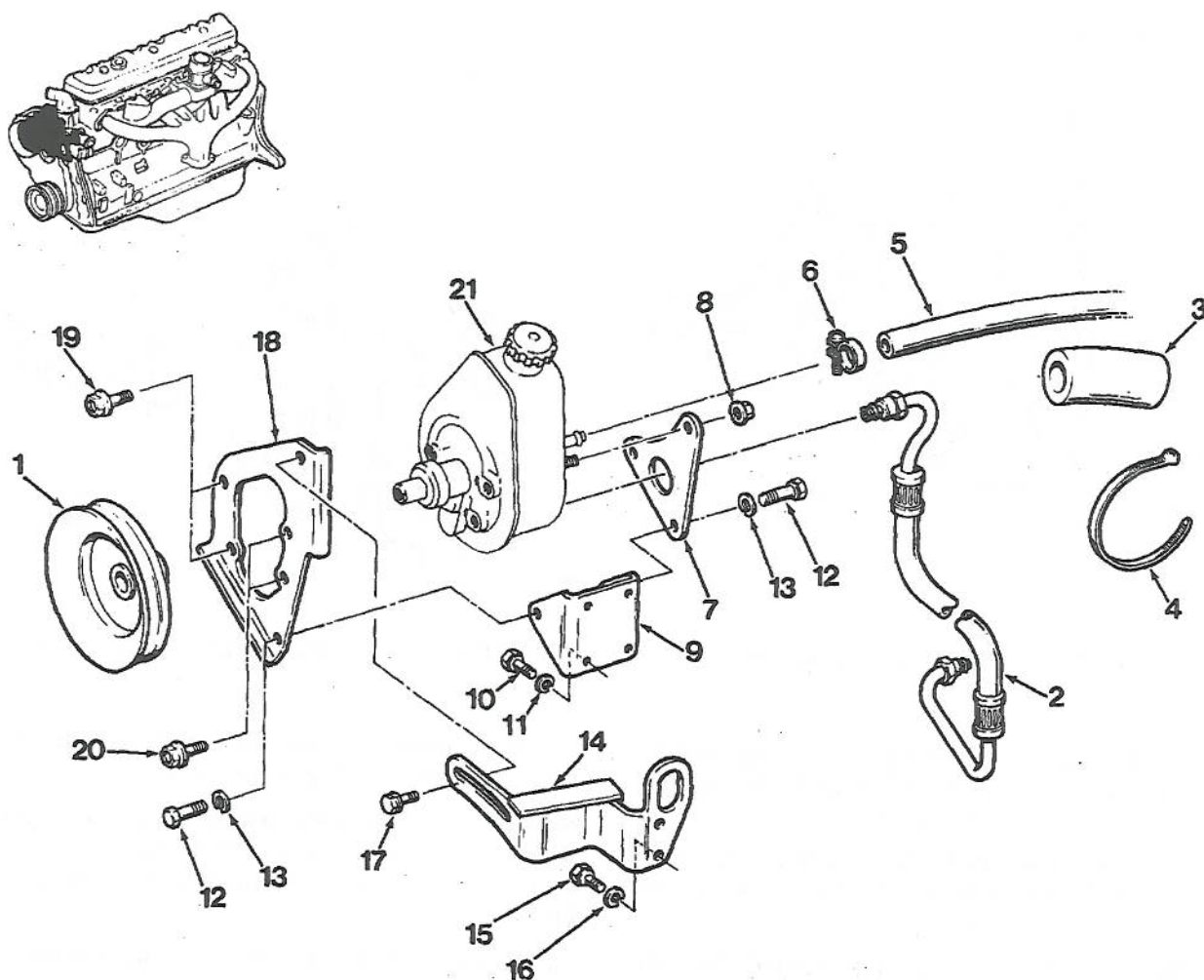
The power steering gear and pump form a closed system. Contaminants or foreign material must not be allowed to enter the system at any point. If the pump (or gear) is contaminated or damaged so as to produce debris, both the pump and gear must be disassembled, cleaned and serviced.

- (1) Loosen screw and washer (17); push pump assembly (21) toward engine and remove pump belt.
- (2) Remove pulley (1) using special tool #J-25034, as shown in figure 5-115.

NOTE

Cap hoses immediately after they are disconnected to prevent entry of dirt.

- (3) Remove hose (5, figure 5-114) by loosening clamp (6) and remove hose assembly (2).
- (4) Remove extended nuts (8), capscrews (12), lockwashers (13) and bracket (7).
- (5) Remove screw and washer (17), capscrews (12) and lockwashers (13).
- (6) Remove capscrews (19) and capscrews (20), bracket assembly (18) and power steering pump (21).

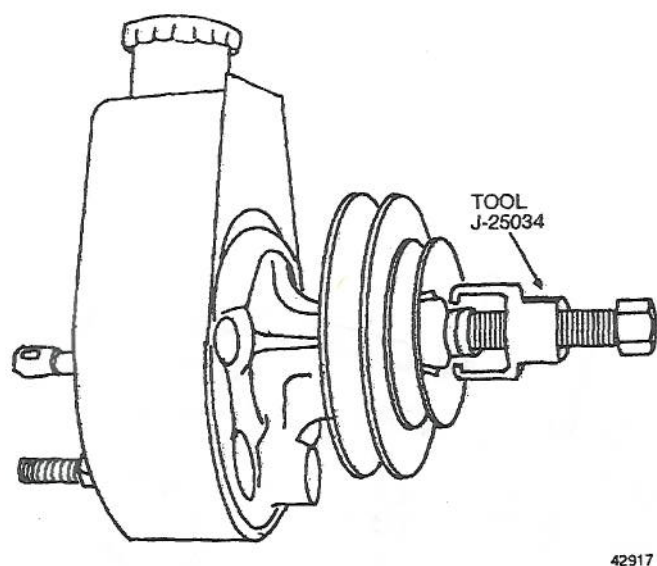


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| 1. Pulley | 8. Extended Nut | 15. Capscrew |
| 2. Hose Assembly | 9. Bracket Assembly | 16. Lockwasher |
| 3. Hose | 10. Capscrew | 17. Screw and Washer |
| 4. Strap | 11. Lockwasher | 18. Bracket Assembly |
| 5. Hose | 12. Capscrew | 19. Capscrew |
| 6. Clamp | 13. Lockwasher | 20. Lockwasher |
| 7. Bracket | 14. Bracket Assembly | 21. Power Steering Pump |

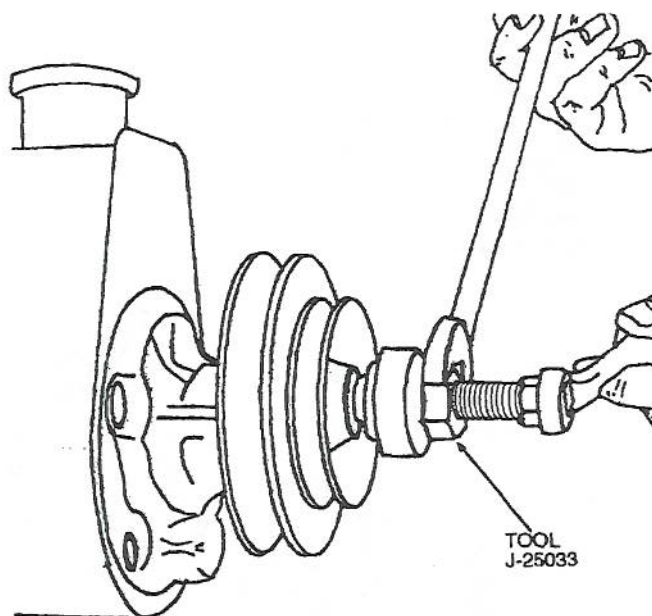
Figure 5-114. Power Steering Pump Mounting Group

- (7) Remove capscrews (10), lockwashers (11) and bracket assembly (9).
- (8) Remove capscrews (15), lockwashers (16) and bracket assembly (14).
- (9) Remove strap (4) and sleeve (3).
- b. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for cleaning and inspection procedures.
- c. Repair and replacement. Replace all worn or damaged parts.
- d. Assembly and installation. Assembly is accomplished during installation. Install the power steering pump mounting group as follows:
 - (1) Install bracket assembly (14) using capscrews (15) and lockwashers (16). Tighten to torque specified in table 6-2.



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Figure 5-115. Pump Pulley Removal



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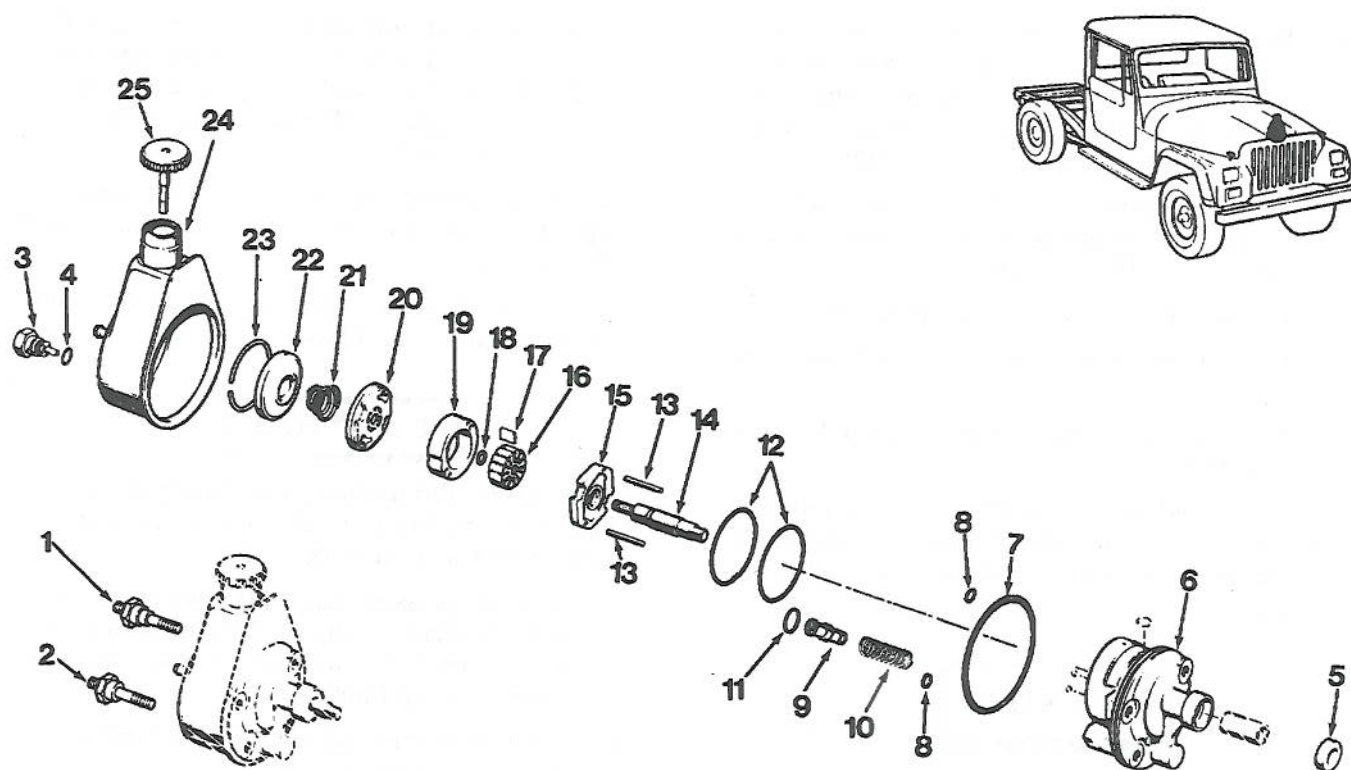
Figure 5-116. Pump Pulley Installation

- (2) Install bracket assembly (18) on pump assembly (21) using capscrews (19) and (20). Tighten to torque specified in table 6-2.
- (3) Install bracket assembly (9) using capscrews (10) and lockwashers (11). Tighten to torque specified in table 6-2.
- (4) Install bracket (7) on pump assembly (21) with extended nuts (8).
- (5) Install power steering pump (21) in bracket assembly (9) with capscrews (12) and lockwashers (13). Tighten to torque specified in table 6-2.
- (6) Install hose assembly (2) and tighten hose fittings to torque specified in table 6-2.
- (7) Install hose assembly (5) with clamp (6) and tighten clamp (6) to torque specified in table 6-2.
- (8) Install sleeve (3) and strap (4).
- (9) Install screw and washer (17) finger tight.
- (10) Install pulley (1) using tool #J-25033, as shown in figure 5-116.
- (11) Install pump belt and adjust belt tension according to procedures in paragraph 5-5.1.10.

- (12) Tighten screw and washer (17, figure 5-114) to torque specified in table 6-2.

5-5.4.8 Power Steering Hydraulic Pump Assembly. Refer to figure 5-117, and perform the following steps to overhaul the power steering hydraulic pump assembly.

- a. Removal. Remove power steering hydraulic pump assembly as follows:
 - (1) Loosen pump adjusting bracket bolts and nuts and remove pump belt. Also remove air pump belt, if present.
 - (2) Disconnect pressure and return hoses at pump. Cap hoses to prevent dirt entry.
 - (3) Remove nuts from mounting studs (1) and (2) and remove pump assembly.
- b. Disassembly. Disassemble steering hydraulic pump assembly as follows:
 - (1) Remove cap (25) and drain fluid from pump.
 - (2) Reinstall cap (25) and clean pump with solvent to remove exterior dirt.
 - (3) Remove pump pulley using tool #J-25034.



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| 1. Stud | 9. Control Valve Assembly | 17. Pump Vane |
| 2. Stud | 10. Valve Spring | 18. Retaining Ring |
| 3. Assembly Fitting | 11. Preformed Packing | 19. Pump Ring |
| 4. Preformed Packing | 12. Preformed Packing | 20. Pressure Plate |
| 5. Seal | 13. Pin | 21. Spring |
| 6. Pump Housing | 14. Drive Shaft | 22. End Plate |
| 7. Preformed Packing | 15. Thrust Plate | 23. Retaining Ring |
| 8. Preformed Packing | 16. Pump Rotor | 24. Reservoir Assembly |
| | | 25. Cap |

Figure 5-117. Power Steering Hydraulic Pump Assembly

CAUTION

Inspect the exposed surface of the pump shaft. Remove all traces of corrosion or nicks and scratches before disassembling the pump. This will prevent damage to the pump occurring during disassembly which might necessitate replacement of the entire pump body. Do not overtighten vise as pump body could be distorted.

(4) Mount pump in vise with shaft facing downward.

(5) Remove assembly fitting (3) and preformed packing (4).

(6) Remove studs (1) and (2).

(7) Remove pump reservoir (24) and preformed packing (7) from pump housing (6).

(8) Remove preformed packings (8).

(9) Remove retaining ring (23), end plate (22) and spring (21).

(10) Remove preformed packing (11), control valve assembly (9) and valve spring (10).

- (11) Remove drive shaft (14), thrust plate (15), pump rotor (16), vanes (17), pump ring (19) and pressure plate (20) as an assembly. Remount pump in vise so shaft bore faces downward and tap end of pump shaft to remove assembly.
 - (12) Remove retaining ring (18), pressure plate (20), pump ring (19), pump rotor (16), vanes (17) and thrust plate (15) from shaft.
 - (13) Remove pins (13) from thrust plate (15).
 - (14) Remove preformed packings (12) from pump body bore.
 - (15) Remove seal (5) from housing assembly using tool #J-8842.
- c. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for general cleaning and inspection procedures. In addition, perform the following steps:

WARNING

Compressed air used for cleaning can create airborne particles that may enter the eyes. Pressure may not exceed 30 psi and wearing of goggles is required.

- (1) Discard all preformed packings and seals, clean remaining parts in solvent (7, table 5-1) and dry with filtered compressed air.
- (2) Inspect control valve assembly (9) and valve bore for pitting, scoring or wear and inspect valve spring for distortion or loss of tension.
- (3) Insert valve (9) in valve bore and check for free movement.
- (4) If either valve (9) or spring (10) fails to operate correctly, they must be replaced as an assembly. If valve bore is damaged, pump body must be replaced.
- (5) Check capscrew located in end of control valve assembly (9). Tighten capscrew if loose.
- (6) Inspect pressure plate (20), pump ring (19) and thrust plate (15) for wear, cracks, pitting, etc. Also, check surfaces for flatness.
- (7) Inspect rotor (16) surfaces for pitting, wear, cracks or scoring. Check all vanes (17) for free movement in rotor slots. If rotor (16) or vanes (17) are damaged, they must be replaced.
- (8) Inspect pump shaft (14) for nicks, scoring, wear, cracks or worn splines. If pump shaft (14) exhibits any of these conditions, it must be replaced.

- (9) Inspect pump body and reservoir assembly (29) for cracks, porosity or distortion and check pump body bores and O-ring counter bores for damage. Replace either part if any of these conditions is noted.

- d. Repair and replacement. Replace all worn or damaged parts. All seals and preformed packings must be replaced.
- e. Assembly. Assemble power steering hydraulic pump assembly as follows:

CAUTION

Do not allow dirt to enter pump during assembly. Clean and lubricate all parts and perform assembly on a clean work surface.

- (1) Lubricate pressure plate (20), end plate (22) and all replacement O-ring seals with petroleum jelly (21, table 5-1). Lubricate all other parts with power steering fluid.
- (2) Install preformed packing (12) in third groove of pump housing (6) bore.
- (3) Install pins (13) in thrust plate (15).
- (4) Position pump rotor (17) on thrust plate (15) and align shaft bores in rotor (17) and thrust plate (15).

CAUTION

Do not overspread retaining ring. Open it only enough to install it.

- (5) Assemble drive shaft (14), thrust plate (15) and pump rotor (17) and install retaining ring (18).
- (6) Install assembled thrust plate (15), pump rotor (17) and drive shaft (14) in pump housing (6) bore.
- (7) Align pins (13) with dowel holes in pump ring (19).
- (8) Install pump ring (19) on pins (13) and over pump rotor (16) and thrust plate (15). Pump rotation arrow must face upward when pump ring (19) is installed. Do not displace preformed packing (12) during installation of pump ring (19).
- (9) Install rotor vanes (17) in pump rotor (16) slots. Rounded edges of vanes must face outward.
- (10) Lubricate outside diameter and chambered surface of pressure plate (20) with petroleum jelly (21, table 5-1).

- (11) Install pressure plate (20) on pins (13). Spring groove in pressure plate (20) must face upward when installed.
- (12) Seat pressure plate (20).
- (13) Lubricate remaining preformed packing (12) in second groove of pump housing (6) bore.
- (14) Install spring (21) on pressure plate (20). Be sure spring is rested in spring groove.
- (15) Lubricate outside diameter of end plate (22) with petroleum jelly (21, table 5-1) and install end plate (22) in housing assembly (6) bore.
- (16) Press end plate downward and install retaining ring (23).
- (17) Install preformed packing (11) on control valve assembly (9) and insert hex end of control valve assembly (9) in valve spring (10). Install assembled valve (9) and spring (10) in housing assembly (6) valve bore and install assembly in bore, spring end first.
- (18) Lubricate and install preformed packings (8) in housing assembly (6) counter bores.
- (19) Lubricate preformed packing (7) with petroleum jelly (21, table 5-1) and install preformed packing (7) in housing assembly seal groove.
- (20) Lubricate preformed packing (7) surface with petroleum jelly (21, table 5-1) and install reservoir assembly (24) on housing assembly. Be sure reservoir is aligned with stud bores and seals. Install seal (5).

CAUTION

Be careful to avoid displacing or damaging any of the seals during assembly. Use a wood or plastic tool to keep the preformed packing in its groove when installing the reservoir.

- (21) Install studs. Tighten to torque specified by table 6-2.
- (22) Lubricate preformed packing (4) with petroleum jelly (21, table 5-1) and install preformed packing (4) an assembly fitting (3).
- (23) Install assembly fitting (3) in control valve assembly (9) bore and tighten to torque specified by table 6-2.

CAUTION

Some pump units have metric threaded assembly fittings which are designed for use with

metric hose fittings that use an O-ring seal. If the fitting is to be replaced, be sure to install the correct thread-type fitting.

- (24) Install pump pulley using tool #J-25033.
- f. Installation. Install power steering hydraulic pump assembly as follows:

- (1) Install pump assembly, tightening nuts on studs (1) and (2) to torque specified by table 6-2.
- (2) Connect pressure and return hoses at pump.
- (3) Install pump belt and tighten adjusting bracket nuts and bolts to torque specified by table 6-2.
- (4) Add fluid and cap (25).

5-5.5 Front Axle and Suspension.

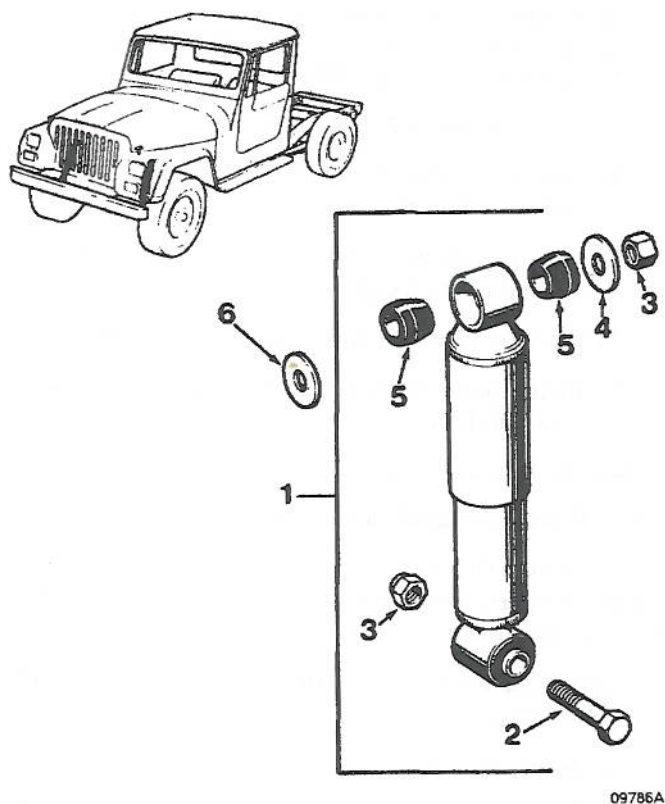
5-5.5.1 *Front Shock Absorber Group.* Refer to figure 5-118, and perform the following steps to overhaul the front shock absorber group.

- a. Removal. Remove the front shock absorber group as follows:
 - (1) Raise vehicle.
 - (2) Position hydraulic jack under axle and raise axle to relieve springs of axle weight.
 - (3) Remove self-locking nuts (3) and flat washers (4) from top mounting pins.
 - (4) Remove self-locking nuts (3) from capscrews (2) and remove capscrews (2).
 - (5) Remove shock absorber assemblies (1) and flat washers (6); remove bushings (5) from shock absorber mounting eyes.
- b. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for general cleaning and inspection procedures.
- c. Repair and replacement. Replace worn shock absorbers and any worn or damaged attaching parts.
- d. Installation. Install shock absorber assembly as follows:
 - (1) Install bushings (5) in shock absorber mounting eyes.

NOTE

Do not lubricate bushings before installing them in shock absorber mounting eyes.

- (2) Install flat washers (6) and position shock absorbers on top mounting pins.
- (3) Install capscrews (2).



- | | |
|----------------------------------|----------------|
| 1. Front Shock Absorber Assembly | 4. Flat Washer |
| 2. Capcrew | 5. Bushing |
| 3. Self-Locking Nut | 6. Washer |

Figure 5-118. Front Shock Absorber Group

- (4) Install self locking nuts (3) on capscrows (2,) and tighten to torque prescribed by table 6-2.
- (5) Install flat washers (4) and self-locking nuts (3) on top mounting pins and tighten to torque prescribed by table 6-2.
- (6) Lower axle, remove hydraulic jack and lower vehicle.

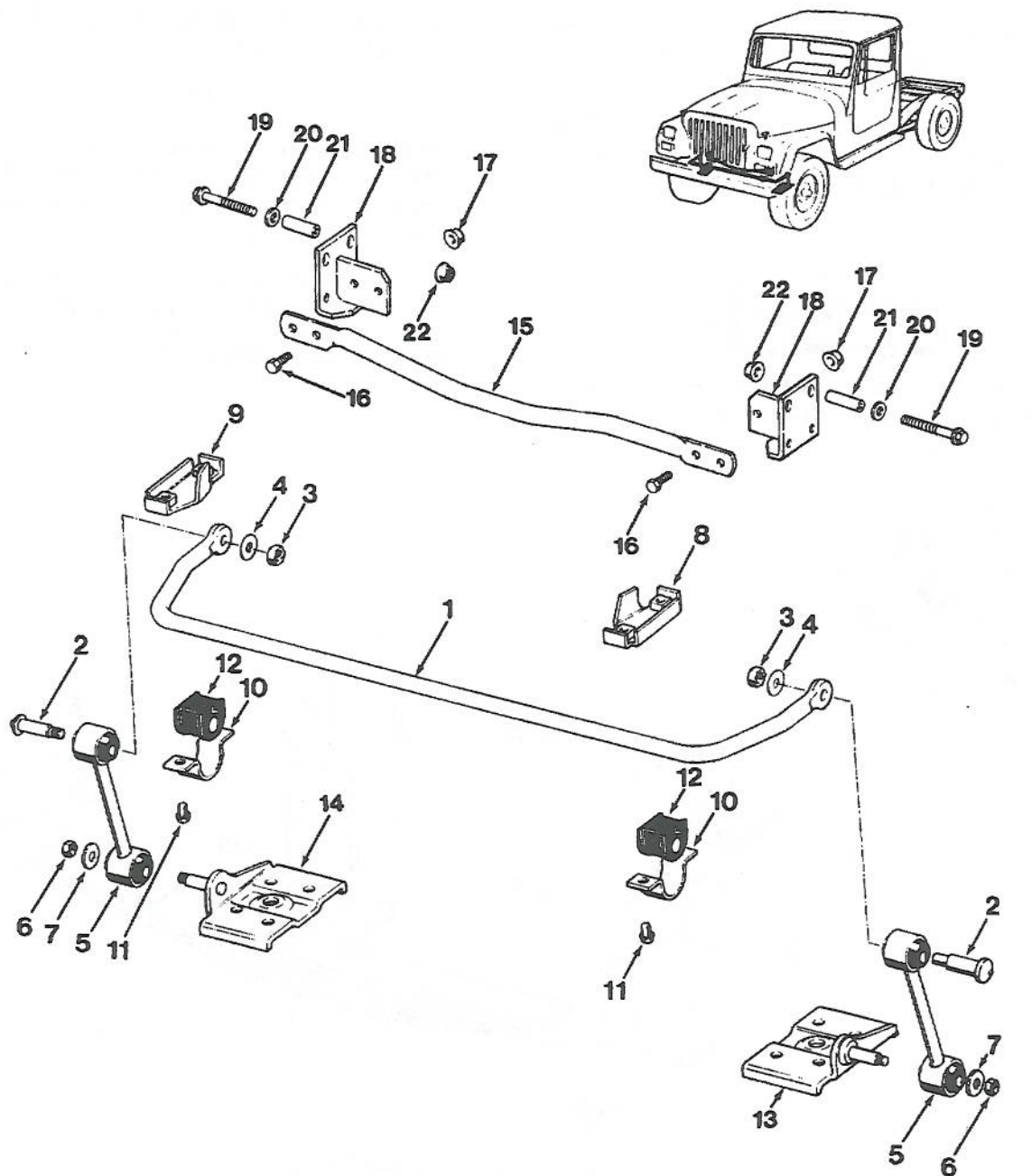
5-5.5.2 *Front Stabilizer Bar Group.* Refer to figure 5-119, and perform the following steps to overhaul the stabilizer bar group.

- a. Removal and disassembly. Disassembly is accomplished during removal. Remove front stabilizer bar group as follows:

- (1) Remove self-locking nuts (6) and washers (7).
- (2) Remove hex nuts (3) and washers (4).

- (3) Remove pins (2) and connecting link assemblies (5).
- (4) Remove shaft and spring bracket assemblies (13) and (14).
- (5) Remove machine screws (11), stabilizer bracket assemblies (10) and bushings (12).
- (6) Remove front stabilizer bar (1).
- (7) Remove right and left stabilizer bracket assemblies (8) and (9).
- (8) Remove hex nuts (17) and capscrows (16) and remove tie bar (15).
- (9) Remove hex nuts (22), machine screws (19), spacer tubes (21) and washers (20) and remove tie bar brackets (18).
- b. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for general cleaning and inspection procedures.
- c. Repair and replacement. Replace all worn or damaged parts.
- d. Assembly and installation. Assembly is accomplished during installation. Install front stabilizer bar group as follows:

- (1) Install tie bar brackets (18) using machine screws (19) washers (20), spacer tubes (21) and hex nuts (22).
- (2) Install tie bar (15) on tie bar brackets (18) using capscrows (16) and hex nuts (17).
- (3) Install right and left stabilizer bracket assemblies (8) and (9).
- (4) Position front stabilizer bars (1) and install bushings (12) and stabilizer bracket assemblies (10) using machine screws (11). Tighten machine screws to torque specified by table 6-2.
- (5) Install connecting link assemblies (5) on stabilizer bars (1) using pins (2), lockwashers (4) and self-locking nuts (3). Tighten self-locking nuts to torque prescribed by table 6-2.
- (6) Install right and left shaft and spring bracket assemblies (13) and (14).
- (7) Secure connecting link assemblies (5) to right and left stabilizer bracket assemblies (13) and (14).



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- | | | |
|-------------------------------|---|---------------------|
| 1. Front Stabilizer Bar | 8. Left Stabilizer Bracket Assembly | 15. Tie Bar |
| 2. Pin | 9. Right Stabilizer Bracket Assembly | 16. Capscrew |
| 3. Hex Nut | 10. Stabilizer Bar Mounting Bracket | 17. Hex Nut |
| 4. Lockwasher | 11. Machine Screw | 18. Tie Bar Bracket |
| 5. Connecting Link Assemblies | 12. Bushing | 19. Machine Screw |
| 6. Self-Locking Nut | 13. Shaft and Spring Bracket Assemblies | 20. Washer |
| 7. Washer | 14. Shaft and Spring Bracket Assemblies | 21. Spacer Tube |
| | | 22. Hex Nut |

Figure 5-119. Front Stabilizer Bar Group

5-5.5.3 *Front Spring Group*. Refer to figure 5-120, and perform the following steps to overhaul the front spring group.

- a. Removal and disassembly. Disassembly of the front springs is accomplished during removal. Remove the front springs as follows:

- (1) Raise vehicle.

WARNING

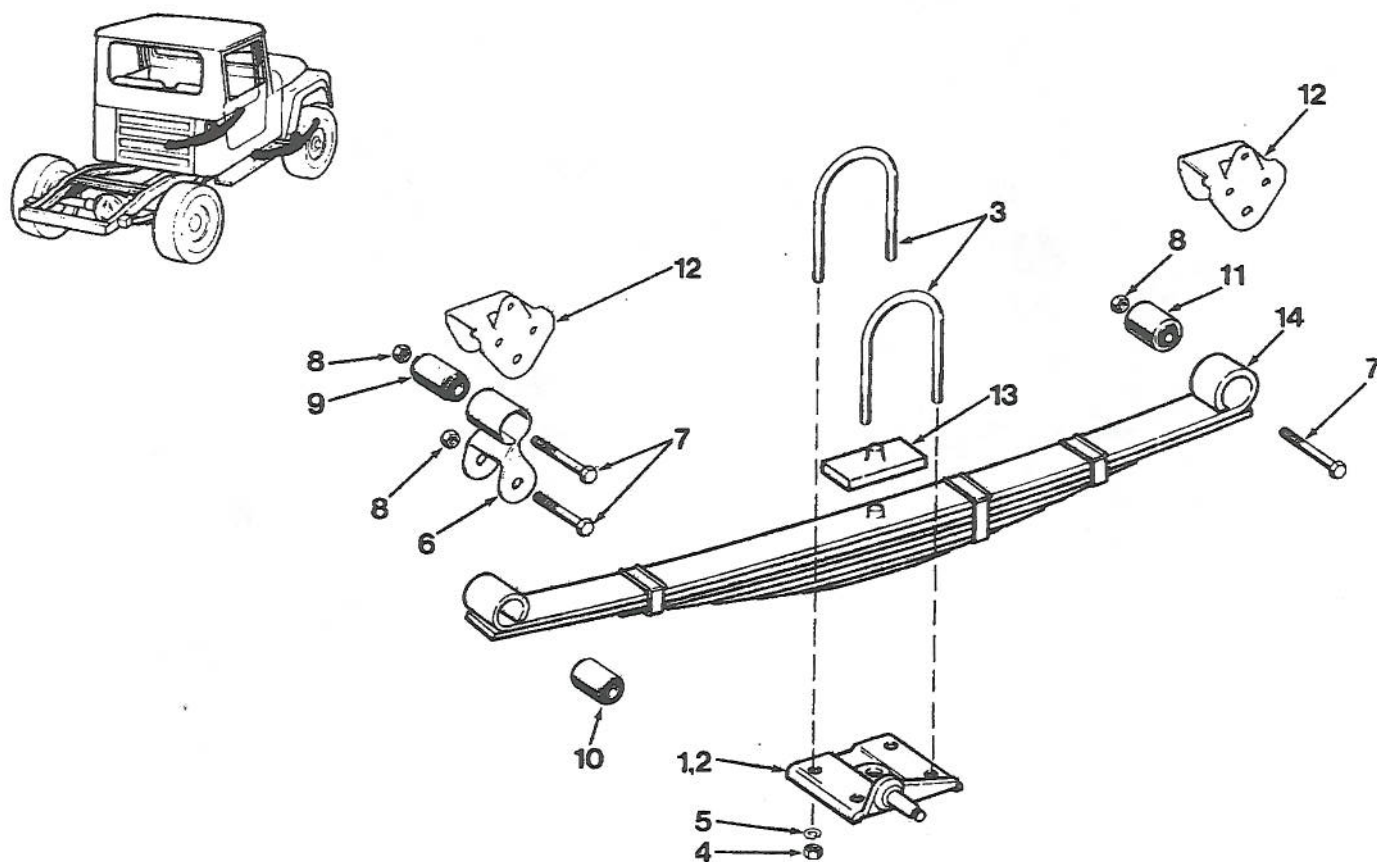
When working under chassis, raise suspension and install safety jack stands or injury to personnel may occur.

- (2) Support vehicle using safety jack stands placed under frame rails.

NOTE

There are two front spring assemblies. Use the following procedures to remove one of the assemblies. Repeat for the remaining assembly (steps 3 through 12).

- (3) Position hydraulic jack under axle and raise axle to relieve springs of axle weight.
(4) Disconnect stabilizer bar.



- | | |
|----------------------------------|---------------------------|
| 1. Bracket Assembly | 8. Self-Locking Nut |
| 2. Bracket Assembly | 9. Bushing |
| 3. Spring Clip Belt | 10. Bushing |
| 4. Hex Plain Bolt | 11. Bushing |
| 5. Lockwasher | 12. Spring Pivot Bracket |
| 6. Front Spring Shackle Assembly | 13. Front Spring Spacer |
| 7. Capscrew | 14. Front Spring Assembly |

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Figure 5-120. Front Spring Group

- (5) Remove hex nuts (4), lockwashers (5), spring clip bolts (3) and one of the bracket assemblies (1) left, (2) right.
- (6) Remove front spring spacer (13).
- (7) Remove self-locking nut (8) and hex head cap-screw (7) from rear spring pivot bracket (12).
- (8) Remove lower self-locking nut (8), capscREW (7) and front spring shackle assembly (6) from front spring assembly (14).
- (9) Remove front spring assembly (14).
- (10) Refer to figure 5-121 to remove small bushing from right front spring shackle assembly (6, figure 5-120) as follows in steps (11) through (19).
- (11) Insert 3/8 inch by 8 inch length of threaded rod through bushing. Center bushing on rod.

CAUTION

When removing bushing, press only on metal outer sleeve or damage to bushing may result.

- (12) Place socket of diameter large enough to bear against metal outer sleeve of bushing, but small enough to pass through the front spring (14) eye, on one end of the threaded rod with open end of socket toward bushing. Socket will serve as bushing driver.

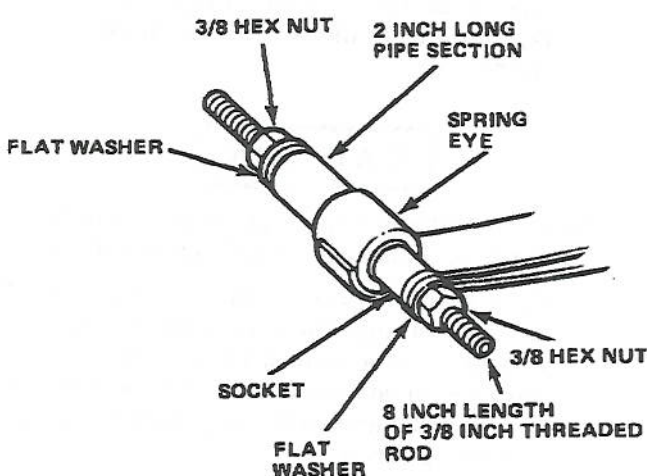


Figure 5-121. Bushing Replacement Tools - Small Bushing

- (13) Install one flat washer and one hex nut on rod behind the socket.
- (14) Install 2 inch length of pipe with diameter large enough to accommodate bushing, but small enough to seat firmly against front spring assembly (14) eye, on opposite end of threaded rod. Pipe will serve as bushing receiver.
- (15) Install one flat washer and one hex nut on rod to hold pipe section in place. Flat washer must be of large enough diameter to support and maintain alignment of pipe section.
- (16) Tighten both hex nuts, finger tight.
- (17) Align socket with bushing and align bushing with front spring (14) eye. The pipe section must butt against the front spring (14) eye surface so bushing can pass through it. Socket will act as a press ram and press the bushing out of spring (12) eye and into the pipe.
- (18) Tighten nut at socket end of rod until bushing is pressed out of spring eye into pipe.
- (19) Remove bushing tools and bushing.
- (20) Refer to figure 5-122 to remove large bushing from right front spring shackle assembly as follows in steps (21) through (29).
- (21) Insert 1/2 inch by 11 inch length of threaded rod through bushing. Center bushing on rod.

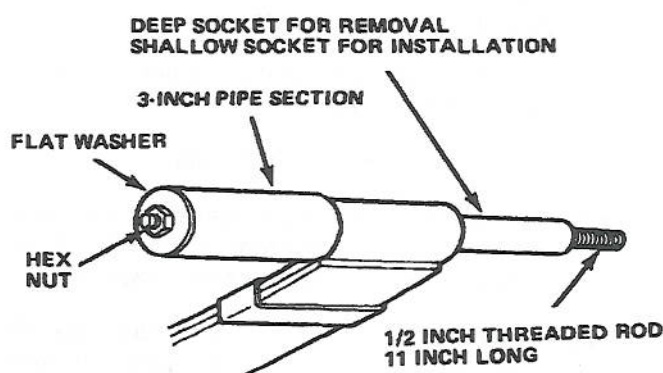


Figure 5-122. Bushing Replacement Tools - Large Bushing

CAUTION

When removing bushing, press only on metal outer sleeve or damage to bushing may result.

- (22) Place deep socket of diameter large enough to bear against metal outer sleeve of bushing, but small enough to pass through front spring (14, figure 5-120) eye, on one end of threaded rod with open end of socket toward bushing. Socket will serve as bushing driver.
 - (23) Install one flat washer and one hex nut on rod behind socket.
 - (24) Install a 3 inch length of pipe with diameter large enough to accommodate bushing, but small enough to seat firmly against the spring (12) eye, on opposite end of threaded rod. Pipe will serve as bushing receiver.
 - (25) Install flat washer and hex nut on rod to hold pipe section in place. Flat washer must be of large enough diameter to support and maintain alignment of pipe section.
 - (26) Tighten both nuts finger tight.
 - (27) Align socket with bushing and align bushing with front spring (14) eye. Pipe section must butt against front spring (14) eye surface so bushing can pass through it. Socket will act as a press ram and press the bushing out of the front spring (14) eye and into the pipe.
 - (28) Tighten nut at socket and press bushing out of front spring (14) eye.
 - (29) Remove bushing tools and bushing.
 - (30) Refer to figure 5-120 and remove self-locking nut (8), capscrow (7), front spring shackle assembly (6) and two spring pivot brackets (12).
 - (31) Use method described in steps (11) through (19) to remove small bushing (9) from left front spring shackle assembly (6).
 - (32) Use method described in steps (21) through (29) to remove large bushing (11) from left front spring shackle assembly (6).
- b. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for cleaning and inspection procedures. In addition, check for the following:
- (1) Inspect bushings (9), (10) and (11) for looseness in front spring (14) eye.

- (2) Inspect bushings (9), (10) and (11) for alignment. They should be centered in front spring (14) eye.

- (3) Inspect bushings (9), (10) and (11) for deterioration of bushing rubber.

- c. Repair and replacement. Replace all worn or damaged parts.
- d. Assembly and installation. There are two front springs assemblies. Perform steps (1) through (8) to install one of the assemblies, then repeat to install the remaining assembly. Assembly of front springs is accomplished during installation. Install the front springs as follows:

WARNING

When working under chassis, raise suspension and install safety jack stands or injury to personnel may occur.

NOTE

Vehicle should be in raised position. Refer to paragraph 5-5.5.3a, Removal and disassembly, steps (1) through (3).

- (1) Refer to figure 5-122 and install large bushing (11, figure 5-120) in right front spring shackle assembly (6) as follows in steps (2) through (10).
- (2) Center bushing on 1/2 inch by 11 inch length of pipe. Slide 3 inch length of pipe over bushing. Pipe must be of diameter to seat firmly against spring eye.

CAUTION

When installing bushings, press only on metal outer sleeve or damage to bushing may result.

- (3) Place shallow socket of diameter small enough to pass through the pipe section, but large enough to bear against metal outer sleeve of bushing, on one end of threaded rod with open end of socket toward bushing. Socket will serve as bushing driver.
- (4) Install flat washer and hex nut on rod behind socket.
- (5) Insert rod through front spring (14) eye. Seat pipe section firmly against front spring (14) eye.
- (6) Install flat washer and hex nut on end of rod against front spring (14) eye. Diameter of flat washer must exceed diameter of spring eye.

- (7) Align socket with bushing and align bushing with front spring (14) eye. The pipe section must butt against the spring eye surface so bushing can pass through it. Socket will act as a press ram and press the bushing out of the pipe into the front spring (14) eye.
- (8) Tighten nut at socket and press bushing into spring eye.
- (9) Loosen tools and check bushing position. Bushing must be centered in front spring (14) eye. Ends of bushing must be flush with or slightly inset from ends of front spring (14) eye.
- (10) If bushing is not centered, tighten tools and correct bushing position. If it is centered, remove tools.
- (11) Refer to figure 5-121 and install small bushing in right front spring shackle assembly (6, figure 5-120) as follows in steps (12) through (20).
- (12) Center bushing on 3/8 inch by 8 inch length of threaded rod. Slide 2 inch length of pipe over bushing. Pipe must be of diameter to seat firmly against front spring (14) eye.



When installing bushing, press only on metal outer sleeve or damage to bushing may result.

- (13) Place socket of diameter small enough to pass through pipe, but large enough to bear against metal outer sleeve of bushing, on one end of threaded rod with open end of socket toward bushing. Socket will serve as bushing driver.
- (14) Install flat washer and hex nut on rod behind socket.
- (15) Insert rod through front spring (14) eye. Seat pipe section firmly against spring (12) eye.
- (16) Install one flat washer and one hex nut on end of rod against front spring (14) eye. Diameter of flat washer must exceed diameter of front spring (14) eye.
- (17) Align socket with bushing and align bushing with front spring (14) eye. The pipe section must butt against the spring eye surface so bushing can pass through it. Socket will act as a press ram and press the bushing out of the pipe into front spring (14) eye.
- (18) Tighten nut at socket and press bushing into spring eye.
- (19) Loosen tools and check bushing position. Bushing must be centered in front spring (14) eye. Ends of bushing must be flush with, or slightly inset from, ends of front spring (14) eye.
- (20) If bushing is not centered, tighten tools and correct bushing position. If it is centered, remove tools.
- (21) Use method described in steps (1) through (10) to install small bushing (9) in left front spring shackle assembly (6).
- (22) Use method described in steps (12) through (20) to install large bushing (11) in left front spring shackle assembly (6).
- (23) Refer to figure 5-120 and install spring pivot brackets (12).
- (24) Install shackle assembly (13) on spring pivot bracket (12) with self-locking nut (8) and capscrew (7).
- (25) Position front spring assembly (14) rear eye in shackle (6) and loosely install self-locking nut (8) and capscrew (7). Do not tighten.
- (26) Position axle on front spring (14) and install spring bracket assembly (1) left, (2) right; front spring spacer (13); spring clip bolts (3); lockwashers (5) and hex plain nuts (4).
- (27) Connect stabilizer bar.
- (28) Remove hydraulic jack and safety stands.
- (29) Lower vehicle.

5-5.5.4 Front Axle Housing Group. Refer to figure 5-123, and perform the following steps to overhaul the front axle housing group.

- a. Removal. Remove front axle housing group as follows:
 - (1) Refer to paragraph 5-5.7.2 and remove front wheels.
 - (2) Refer to paragraph 5-5.4.5 and remove tie rod.
 - (3) Refer to paragraph 5-5.5.1 and remove front shock absorbers.
 - (4) Refer to paragraph 5-5.5.2 and remove stabilizer bar.
 - (5) Refer to paragraphs 5-5.7.6 and 5-5.7.7; remove front brake caliper and front brake disc.

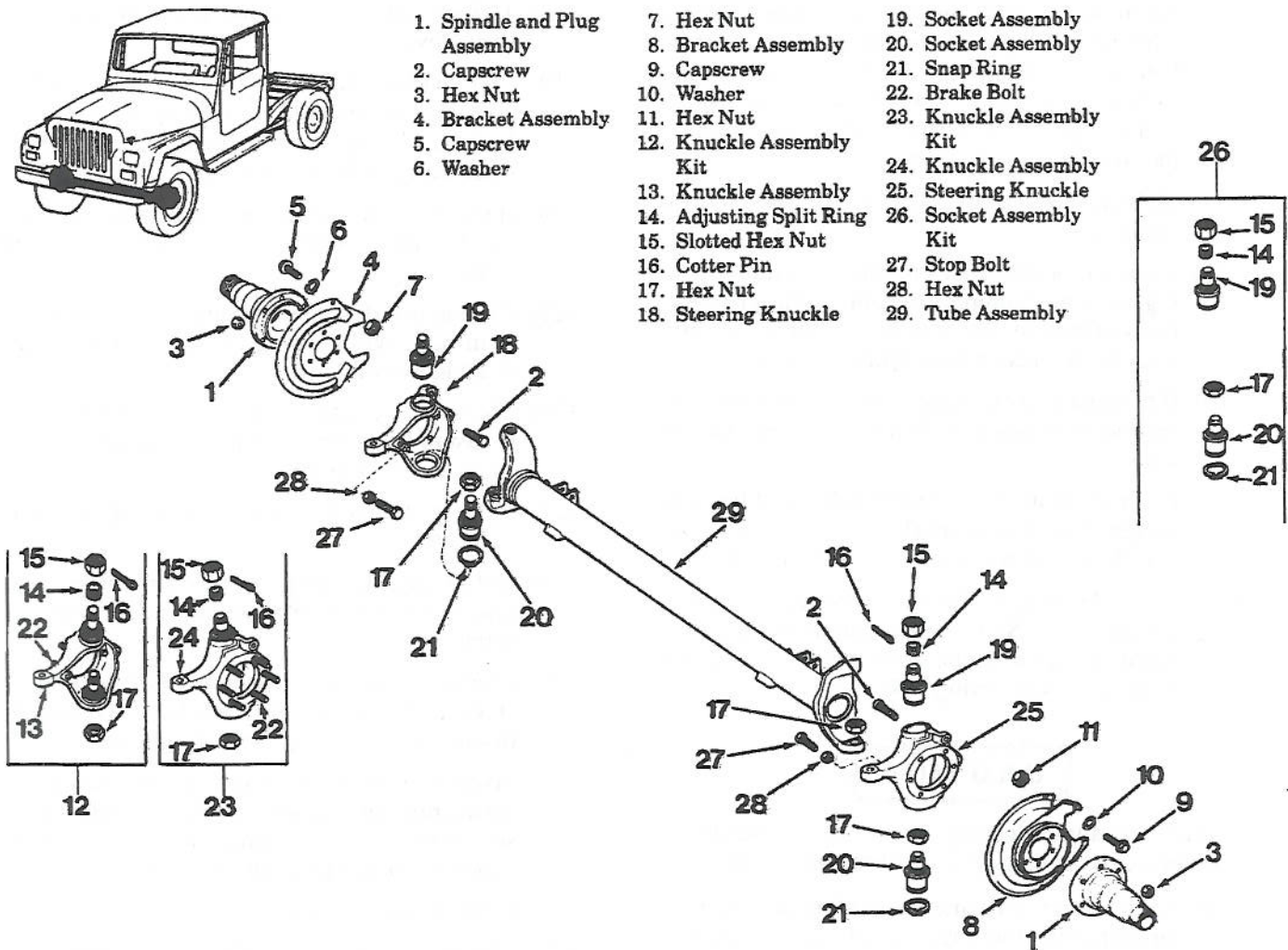


Figure 5-123. Front Axle Housing Group

- (6) Refer to paragraph 5-5.4.5 and remove U-bolts and tie plates.
- (7) Support axle housing assembly on hydraulic jack and raise jack slightly to relieve spring tension.
- (8) Refer to paragraph 5-5.5.3 and remove front springs.
- (9) Remove hydraulic jack and axle housing assembly from under vehicle.

b. Disassembly. Disassemble rear axle housing group as follows:

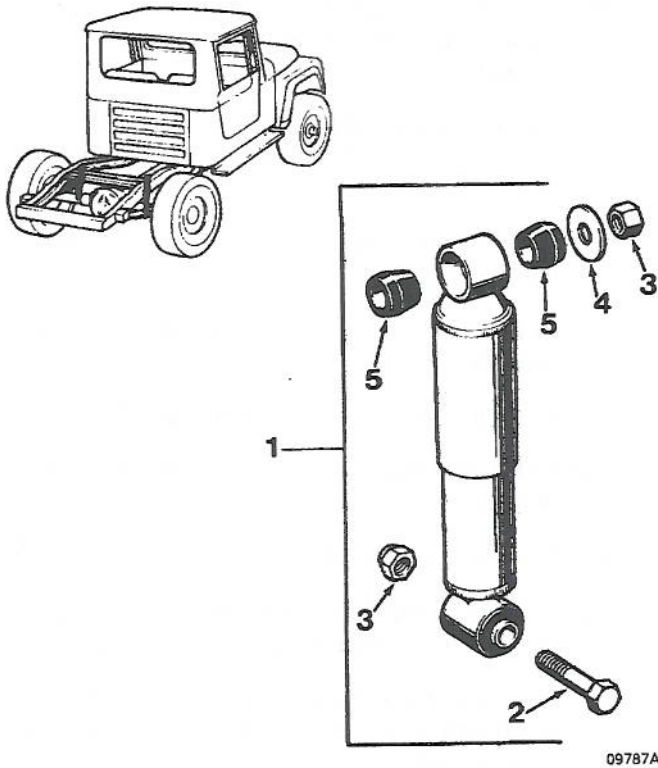
- (1) Remove knuckle assembly kit (12) and (23) and disassemble cotter pins (16), slotted hex nuts (15) and adjusting split rings (14) from steering knuckles (18) and (25).
- (2) Remove socket assembly kit (26) and disassemble snap rings (21), socket assemblies (20) and hex nuts (17) from knuckle assemblies (13) and (24).

- (3) Remove steering knuckles (18) and (25) from tube assembly (29) and remove socket assemblies (19).
- (4) Remove capscrews (2) and hex nuts (3) and remove bracket assemblies (4) and (8) and spindle and plug assemblies (1).
- (5) Remove brake bolts (22).
- (6) Remove stop bolts (27) and hex nuts (28).
- (7) Remove capscrews (5) and (9), washers (6) and (10) and hex nuts (7) and (11).
- c. Cleaning and inspection. Refer to paragraph 5-4.3 and 5-4.4 for general cleaning and inspection procedures.
- d. Repair and replacement. Replace all worn or damaged parts.
- e. Assembly. Assemble front axle housing group as follows:
 - (1) Install capscrews (5) and (9), washers (6) and (10) and hex nuts (5) and (11).
 - (2) Install stop bolts (27) and hex screws (28).
 - (3) Install brake bolts (22).
 - (4) Install bracket assemblies (4) and (8); install spindle and plug assemblies on steering knuckles (18) and (25) using capscrews (2) and hex nuts (3).
 - (5) Install socket assemblies (19) on steering knuckles (18) and (25) and install steering knuckles (18) and (25) on tube assembly (29).
 - (6) From socket assembly kit (26), install socket assemblies (20), snap rings (21) and hex nuts (17) on knuckle assemblies (13) and (24).
 - (7) Install knuckle assembly kit (12) and the following knuckle assembly kit (23) parts: adjusting split rings (14), slotted hex nuts (15) and cotter pins (16). Tighten adjusting split rings (14) and slotted hex nuts (15) to torque specified by table 6-2.
- f. Installation. Install front axle housing group as follows:
 - (1) Support axle housing assembly on hydraulic jack and position under vehicle.
 - (2) Refer to paragraph 5-5.5.3 and install front springs.
 - (3) Refer to paragraph 5-5.4.5 and install axle housing assembly on front springs using U-bolts and tie plates.
 - (4) Refer to paragraphs 5-5.7.6 and 5-5.7.7 and install front brake calipers and front brake disc.
 - (5) Refer to paragraph 5-5.5.2 and install stabilizer bar.
 - (6) Refer to paragraph 5.5.5.1 and install front shock absorbers.
 - (7) Refer to paragraph 5-5.4.5 and install tie rod.
 - (8) Refer to paragraph 5-5.7.2 and install front wheels.
 - (9) Loosen hex nuts (28).
 - (10) Using a turntable to measure angle adjust stop bolts (27) to obtain proper turning angle.
 - (11) To reduce the turning radius of this vehicle to a minimum of 17 feet the following procedures will be used:
 - a. Remove stop bolts (27) and hex nuts (28) from left and right steering knuckles.
 - b. Replace with identical bolt and hex nut combination in steering knuckles. Leave loose to allow for adjustments.
 - c. Adjust stop bolts (27) to achieve a minimum authorized turning radius of not less than 17 feet (measure center of turning circle to outer most wheel travel.)
 - d. Tighten hex nut (28) to prevent stop bolt from losing adjustment.

5-5.6 Rear Axle and Suspension.

5-5.6.1 *Rear Shock Absorber Group.* Refer to figure 5-124, and perform the following steps to overhaul the rear shock absorber group.

- a. Removal and disassembly. Disassembly is accomplished during removal. Remove the rear shock absorber assemblies as follows:
 - (1) Raise vehicle.
 - (2) Position hydraulic jack under axle and raise axle to relieve springs of axle weight.



- | | |
|---------------------------------|----------------|
| 1. Rear Shock Absorber Assembly | 4. Flat Washer |
| 2. Capscrew | 5. Bushing |
| 3. Self-Locking Nut | |

Figure 5-124. Rear Shock Absorber Group

- (3) Remove self-locking nuts (3) and flat washers (4) from top mounting pins.
- (4) Remove self-locking nuts (3) from capscrews (2) and remove capscrews (2).
- (5) Remove shock absorber assemblies (11) and remove bushings (5) from shock absorber mounting eyes.
- b. Cleaning and inspection. Refer to paragraphs 5-4.3 and 5-4.4 for general cleaning and inspection procedures.
- c. Repair and replacement. Replace worn out shock absorbers and any worn or damaged attaching parts.
- d. Installation. Install shock absorber assembly as follows:
 - (1) Install bushings (5) in shock absorber mounting eyes.

NOTE

Do not lubricate bushings before installing them in shock absorber mounting eyes.

- (2) Position shock absorbers on top mounting pins.
- (3) Install capscrews (2).
- (4) Install self-locking nuts (3) on capscrews (2) and tighten to torque prescribed by table 6-2.
- (5) Install flat washer (4) and self locking nuts (3) on top mounting pins and tighten to torque prescribed by table 6-2.
- (6) Lower axle, remove hydraulic jack and lower vehicle.

5-5.6.2 *Rear Spring Group.* Refer to Figure 5-125, and perform the following steps to overhaul the rear spring group.

- a. Removal and disassembly. Disassembly is accomplished during removal. Remove rear spring group as follows:

WARNING

Do not work under raised vehicle without first supporting vehicle with safety jack stands or injury to personnel may occur.

- (1) Raise vehicle.
- (2) Support vehicle with safety jack stands under frame rails.

NOTE

Removal procedures for left and right spring groups are identical.

- (3) Position hydraulic jack under axle to relieve spring assembly of axle weight.
- (4) Disconnect shock absorber at axle.
- (5) Refer to paragraph 5-5.7.2 and remove rear wheel.
- (6) Remove hex nuts (14), lockwashers (15) and spring clips (13).
- (7) Remove plate (12).
- (8) Remove capscrew (2) and self-locking nut (3).
- (9) Remove capscrew (6), self-locking nut (7) and spring assembly (1).
- (10) Remove capscrew (9), self-locking nut (10) and shackle assembly (8).