

# POWER STEERING PUMP

1988 Jeep Cherokee

1988 STEERING  
Jeep Power Steering Pumps - Saginaw Vane-Type

Cherokee, Comanche, Grand Wagoneer, Pickup, Wagoneer,  
Wrangler

## DESCRIPTION

Saginaw vane-type power steering pump can be identified by "ham-shaped" fluid reservoir can. Rectangular pumping vanes carried by a shaft driven rotor move fluid from intake to pressure cavities of cam ring.

Centrifugal force throws vanes against inside surface of cam ring to pick up residual oil. As more oil is picked up, it is forced into cavities of thrust plate, into 2 cross-over holes in cam ring and pressure plate and into a high pressure area between pressure plate and housing end plate.

Filling the high pressure area causes oil to flow under vanes in slots of rotor. This forces vanes to follow inside oval surface of cam ring. As vanes rotate to small area of cam ring, oil is forced out from between vanes.

## TROUBLE SHOOTING

Refer to TROUBLE SHOOTING - BASIC PROCEDURES article in the GENERAL TROUBLE SHOOTING section.

## LUBRICATION & TESTING

See POWER STEERING GENERAL SERVICING article in the STEERING section.

## REMOVAL & INSTALLATION

### POWER STEERING PUMP

Removal & Installation

1) Loosen pump adjusting bolt (or nut) and pump mounting bolts. Remove pump drive belt. Disconnect pressure and return hoses from pump. Cap ends to prevent loss of fluid or contamination.

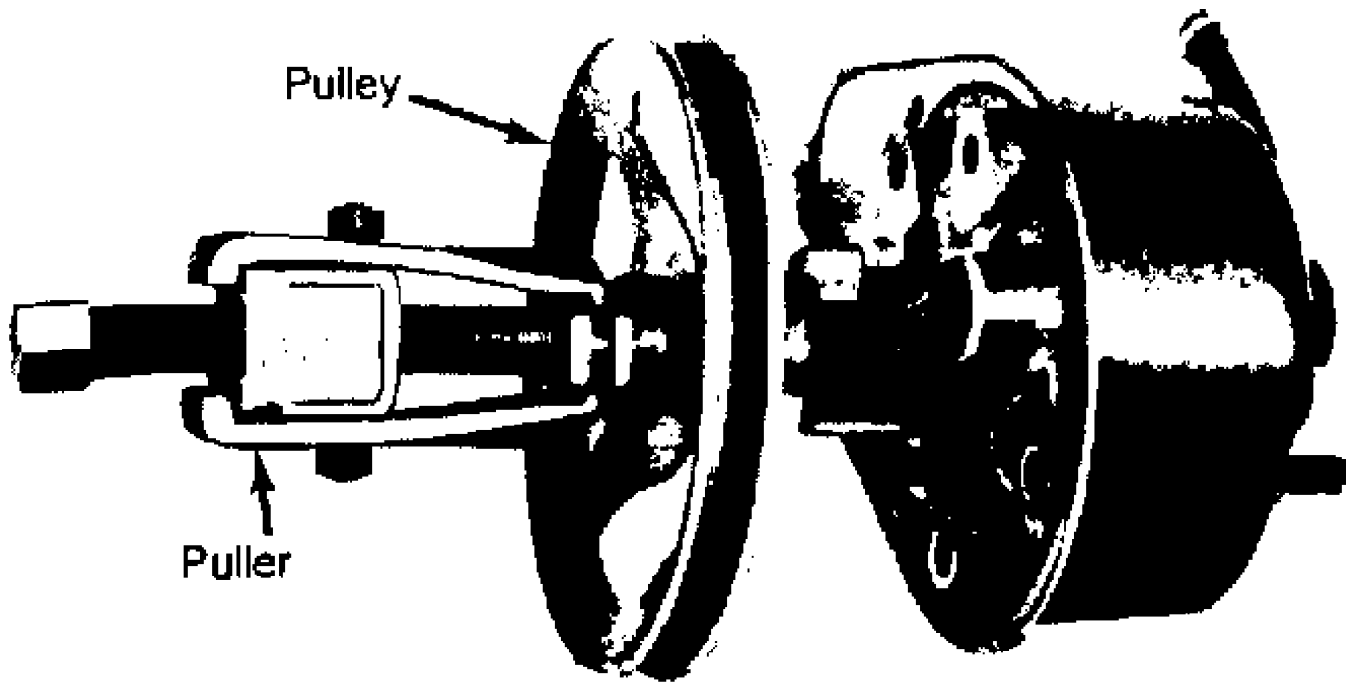
2) Remove pump bracket-to-engine bolts. Remove pump, pulley and mounting bracket as an assembly. To install, reverse removal procedure. Bleed system.

## OVERHAUL

CAUTION: When clamping pump in vise, be careful not to exert excessive force on front hub or pump. DO NOT use hammer to remove pulley.

## DISASSEMBLY

1) Drain pump reservoir. Clean exterior of unit. Remove mounting bracket(s). Using a puller, withdraw pulley from shaft. See Fig. 1.



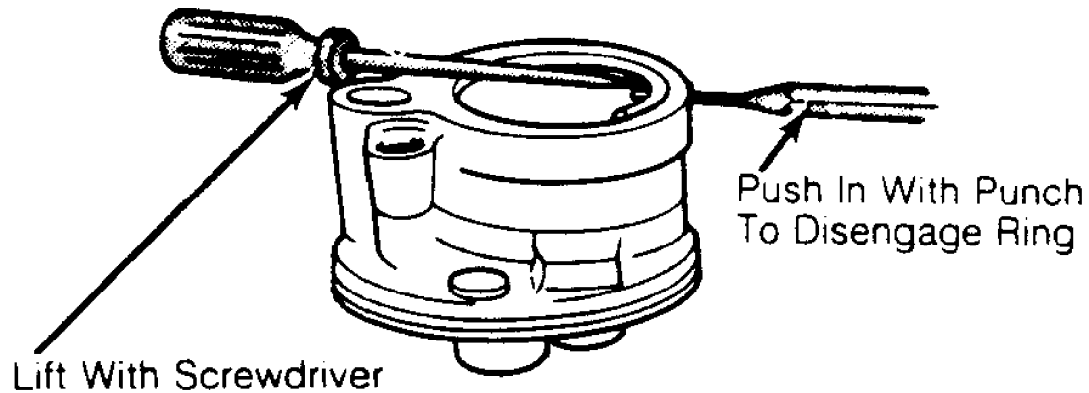
### 30342

Fig. 1: Removing Pump Pulley

2) Clamp pump, with shaft pointing down and at the square boss of the shaft housing, into a soft-jawed vise. Remove pressure line union and "O" ring. Remove reservoir retaining studs.

3) Tap against filler tube with plastic hammer to loosen reservoir on pump body. Remove reservoir from body. Remove and discard "O" rings.

4) Using 1/8" punch, tap end plate retaining ring around until end of ring is near hole in pump body. Inserting punch in hole, disengage ring from groove in pump bore. Using a screwdriver, pry ring from body. See Fig. 2.



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Fig. 2: Removing Pump End Plate Retaining Ring

5) Tap end plate with a soft-faced hammer to loosen. Spring tension should push plate up. Remove spring. Remove pump from vise.

6) Invert pump and place on flat surface. Using soft-faced

hammer, tap end of drive shaft to loosen pressure plate, rotor, and thrust plate assembly from body.

7) Lift pump body off rotor assembly. Flow control valve and spring should slide out of bore. Remove and discard end plate and pressure plate "O" rings.

8) Using a screwdriver, pry drive shaft oil seal from body. Lift pressure plate and cam ring from rotor. Remove rotor vanes.

9) Clamp drive shaft in soft-jawed vise, with rotor and thrust plate facing up. Remove rotor lock ring from shaft. Use care not to nick shaft or rotor. Slide rotor and thrust plate off shaft. Remove shaft from vise.

## CLEANING & INSPECTION

1) Clean all pump components (except drive shaft seal) in clean solvent. Blow dry. Inspect flow control valve assembly for wear, scoring, burrs or other damage. Inspect seal bore for burrs, nicks, or score marks that would allow oil to by-pass outer seal surface.

2) Check all machined surfaces of body for scratches or burrs which might allow leaks. Check "O" ring mating surfaces. Inspect pump body drive shaft bushing for excessive wear.

3) If replacement is required, replace pump body and bushing as an assembly. Inspect end cover "O" ring mating surface for nicks and burrs. Polish with oil stone (if necessary).

4) Inspect rotor ring for roughness or irregularities. Use oil stone to correct minor irregularities. Replace ring if outside cam surface is worn or scored. Check thrust plate and pressure plate for scoring and wear.

5) To remove light scoring, lap with crocus cloth until surface is smooth and flat. Clean thoroughly. Check that vanes slide freely but fit snugly into slots.

6) If vanes are loose in slots, replace rotor and/or vanes. Scoring on rotor may be removed by lapping with crocus cloth. Clean thoroughly.

## REASSEMBLY

1) Lubricate all "O" rings, seals and seal surfaces with power steering fluid. On Jeeps, lubricate "O" rings with petroleum jelly. With pump on flat surface, drive new shaft seal in until it bottoms on bore shoulder.

2) Clamp body in vise with shaft pointing down. Install end plate and pressure plate "O" rings on body. Install body to reservoir "O" rings. Install on pump body.

3) Place shaft, splined end up, in soft-jawed vise. Install thrust plate on shaft with smooth, ported side up. Slide rotor, counter bore down, over splines.

4) Install new rotor lock ring. Ensure ring is seated in groove. Install 2 dowel pins into holes in pump cavity. Insert drive shaft, rotor, and thrust plate assembly into pump cavity. Align locating holes with dowel pins.

5) Slide cam ring over rotor and onto dowel pins, with arrow on ring facing toward rear of housing. Install vanes in rotor slots with radius edge facing out towards cam ring inner surface. Position pressure plate on dowel pins with circular spring depression facing rear of housing.

6) Using a 1 1/4" socket in groove of pressure plate, press down on socket with both thumbs to seat assembly on "O" ring in pump cavity. Place spring in groove in pressure plate. Place end cover lip edge over spring.

7) Using thumb or arbor press, press end cover down below retaining ring groove. Seat retaining ring in groove. Take care to prevent cocking end cover in bore or distorting assembly.

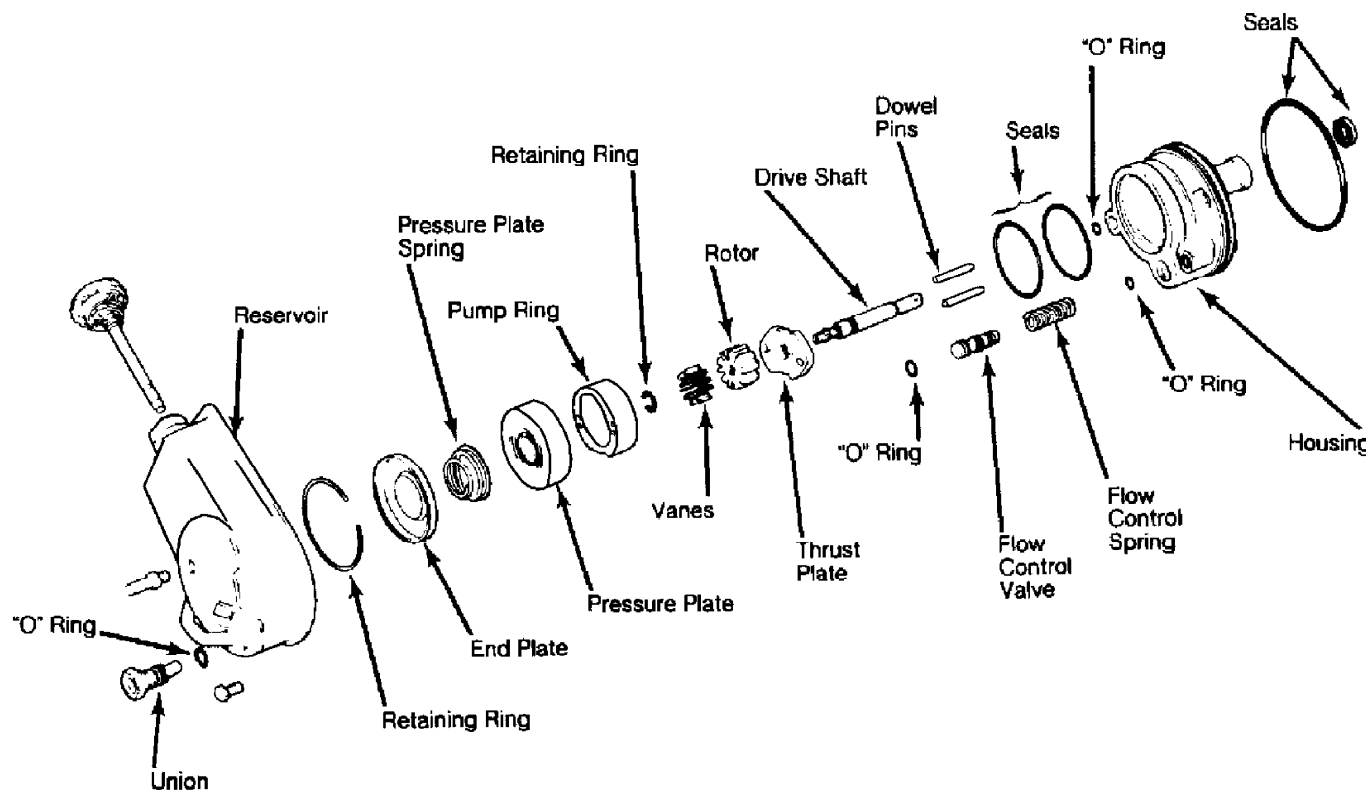
8) Using a punch, tap retaining ring ends around in groove until opening is opposite flow control valve bore. This ensures maximum retention of retaining ring.

9) Install new "O" rings to reservoir, mounting studs, and flow control valve. Place reservoir on pump body. Align mounting stud holes. Install studs.

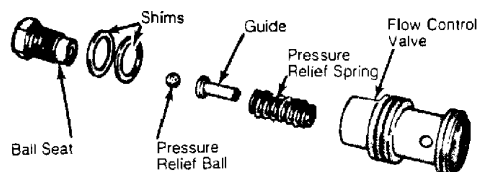
10) Using a soft-faced hammer, tap reservoir down on pump. Install flow control valve spring and valve assembly slotted end up. Install new "O" ring on pressure hose fitting uppermost groove.

CAUTION: DO NOT install pressure hose "O" ring in lower groove. This will restrict relief outlet orifice.

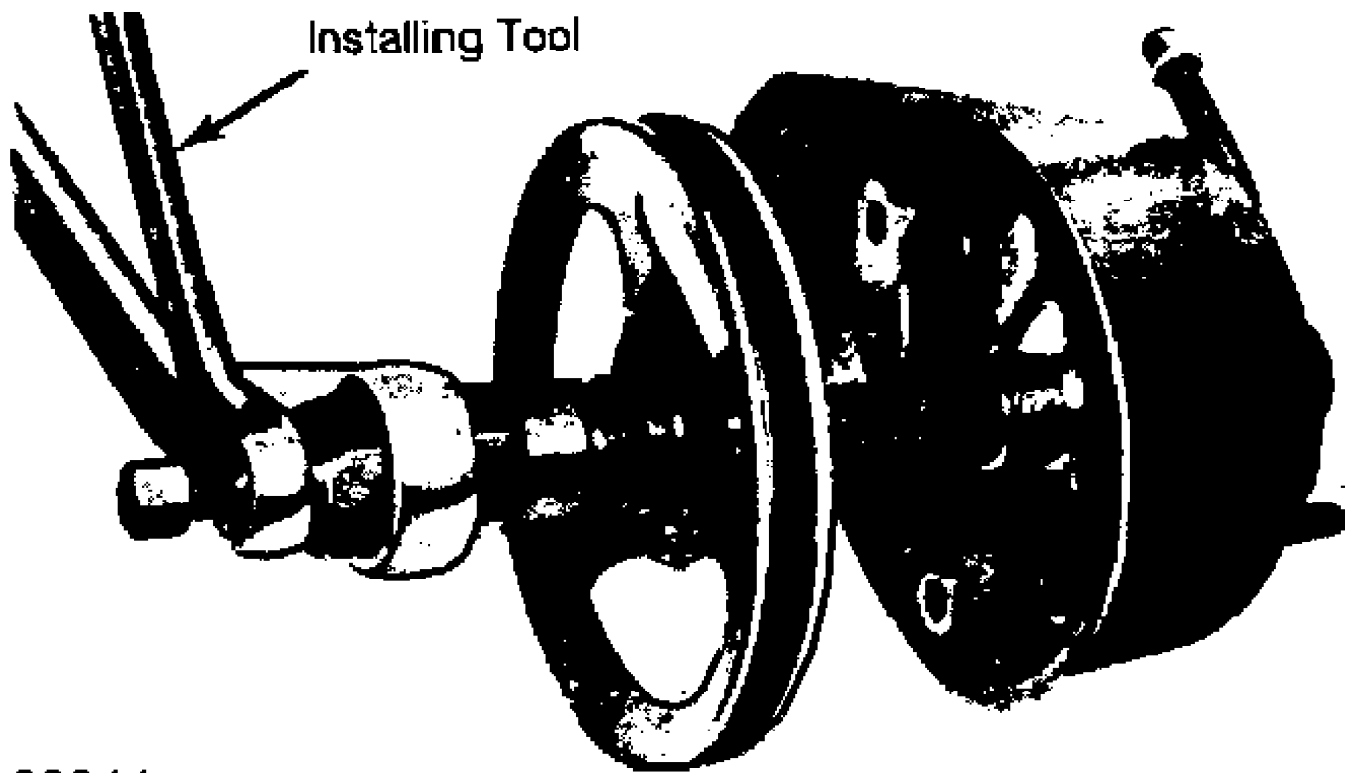
11) Install pressure hose fitting. Tighten mounting studs. Tighten hose fitting. Remove pump from vise. Install mounting bracket and pulley.



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Fig. 3: Exploded View of Power Steering Pump



30345  
Fig. 4: Exploded View of Control Valve Assembly



**30344**

Fig. 5: Installing Pump Pulley

**TORQUE SPECIFICATIONS**

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Gear End Hose Fittings .....	20 (27)
Pump End Hose Fittings .....	20 (27)
Bracket Bolts .....	35 (48)