1965-74 THOMPSON SLIPPER TYPE PUMPS

Dodge (1965-74)
Ford (1965-74)
International Harvester (1965-74)
Jeep (1965-74)

NOTE — Some models use other units. See Eaton Roller Type Pumps and Saginaw Vane Type Pumps in this Section.

DESCRIPTION

Thompson power steering pump is a belt driven, slipper-type assembly with integral reservoir. Pump can be identified by small round filler neck, welded to reservoir. Reservoir is attached to rear of pump housing front plate, and pump body is encased within reservoir. Spring loaded slippers in pump are in constant contact with eccentric, inside diameter of pump housing. As rotor revolves, slippers force fluid from inlet side of pump to flow to control valve. Maximum pressure in system is regulated by pressure relief valve. Valve opens once maximum pressure is reached, thus allowing fluid to flow back into reservoir.

LUBRICATION

Check fluid level visually or on dipstick with fluid at normal operating temperature and engine OFF. Maintain proper level using only Power Steering Fluid.

ADJUSTMENT

DRIVE BELT

International Harvester — Loosen pump adjusting bracket bolt, and move pump in or out to obtain 3/8" deflection of belt at a point midway between pulleys. Tighten adjusting bracket bolt.

All Others — Loosen pump adjusting bracket bolt and move pump in or out to obtain correct drive belt tension. Tighten adjusting bracket bolt.

Tension (Using Strand Tension Gauge)

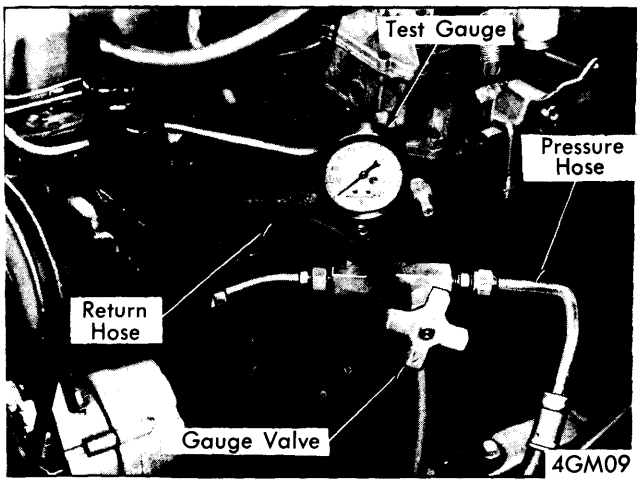
Application	Lbs.
Dodge	70
Ford	90-120
Jeep	70-80

HYDRAULIC PRESSURE TEST

With fluid at correct level in reservoir, belt tension properly adjusted, and power steering fluid at normal operating temperature, install suitable gauge and valve assembly between pump and high pressure hose. With engine idling at 600-800 RPM, and gauge valve open, note pressure reading while turning wheels from steering stop to steering stop. If maximum pressure reading is below relief valve setting, temporarily close gauge valve and note maximum pressure reading obtained. If this reading is below valve setting, power steering pump is faulty. If reading within maximum, steering gear is faulty.

Relief Valve Setting

Application	PSI
Dodge	900
Ford	620
IHC	950
Jeep	1050



TESTING POWER STEERING PUMP

BLEEDING HYDRAULIC SYSTEM

Ford — Fill reservoir to proper level, and disconnect coil wire. Crank engine and continue adding fluid until fluid level remains constant. While cranking engine turn wheels from steering stop to steering stop several times. Recheck fluid level and fill as necessary. Reconnect coil wire and run engine for several minutes, rotating wheels from stop to stop. Check fluid level and refill as necessary.

International Harvester — Fill pump reservoir to proper level and turn pump pulley backwards until all air is expelled from system. Recheck fluid level in pump.

All Others — Fill reservoir to proper level and let fluid remain undisturbed for at least two minutes. Start engine and run at idle speed for a short time, adding fluid as necessary to maintain proper level in pump reservoir. Turn wheels to left and right, contacting steering stops lightly. Check oil level and refill as necessary. Continue process as long as necessary to expel all air from system.

REMOVAL & INSTALLATION

POWER STEERING PUMP

Removal & Installation — Drain fluid from pump by disconnecting pump return hose. Disconnect pressure hose and cap both hoses. Remove pump-to-mounting bracket attaching hardware, and remove drive belt. Remove pump from vehicle. To install, reverse removal procedure and bleed system. *See Bleeding Hydraulic System.*

1965-74 THOMPSON SLIPPER TYPE PUMPS (Cont.)

POWER STEERING PUMP PULLEY

Removal & Installation – Siphon as much fluid as possible from pump through filler pipe. Install a ⅜-16 inch bolt in end of pump shaft to prevent damage to shaft end by removal tool screw. Install suitable pulley remover (T69L-10300-A Ford; C-3615 Dodge; C-3934 Jeep) on pulley hub and remove pulley. *CAUTION – Pulley must be removed without in and out movement of shaft to prevent damage to internal thrust areas.* To install, use suitable tool to press pulley onto hub.

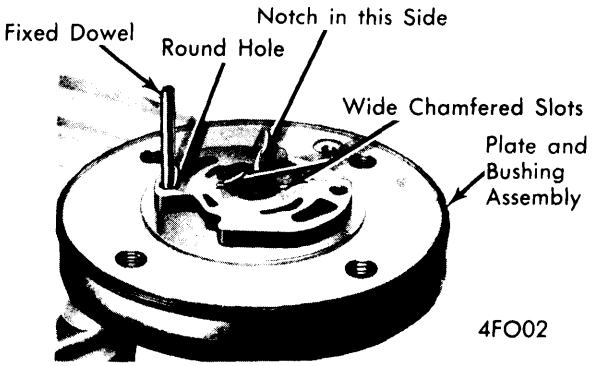
OVERHAUL

Disassembly – 1) Remove outlet fitting and identification tag from pump. Invert pump assembly, and remove pump reservoir and seal using a soft-faced hammer. Again invert assembly, loosen and remove pump housing attaching hardware, and remove pump housing.

2) If necessary, remove housing cover, "O" ring seal, and pressure springs. Remove and discard pump cover gasket. Remove retainer end plate and upper pressure plate. Remove loose fitting dowel pin. *CAUTION – Do not bend fixed dowel pin which remains in housing assembly.*

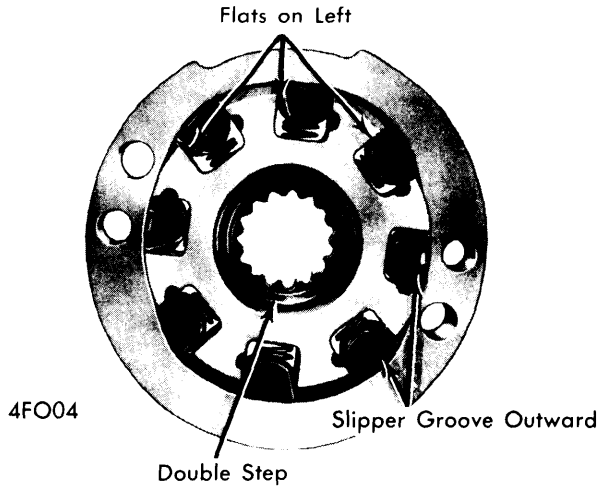
3) Remove rotor assembly, being careful to prevent springs and slippers from falling out. *NOTE – Further disassembly is not necessary unless lower pressure plate, housing plate, rotor shaft and/or seal are to be replaced.* Invert pump and, using suitable puller, remove pump pulley. Clean pulley end of rotor shaft thoroughly, then remove pump rotor shaft. Remove lower pressure plate.

Reassembly – 1) Place plate and bushing assembly in a suitable holding fixture, with pulley side facing down. Position lower pressure plate in anchor pin with wide chamfered slots at center hole facing up. Lubricate rotor shaft, and insert shaft into lower pressure plate and bushing assembly. If rotor was disassembled, hold cam insert, with notch on O.D. of cam at top, and arrow on O.D. of cam pointing downward.



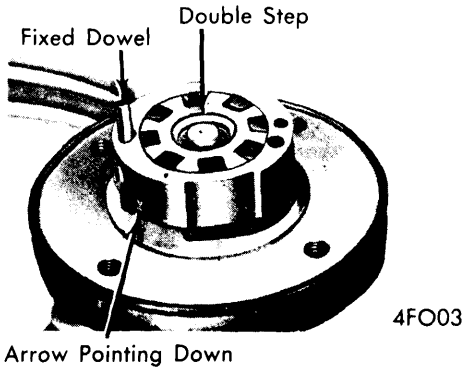
LOWER PRESSURE PLATE INSTALLATION

2) Insert rotor in cam with double step in the I.D. of rotor facing upward. With rotor extended upward, approximately ½ way out of cam, insert a spring into rotor spring pocket, working in rotor cavity directly beneath cam notch. Use one of the slippers to compress spring, then install slipper, with groove in slipper facing toward cam notch. Flats on side of slipper should be on the left.

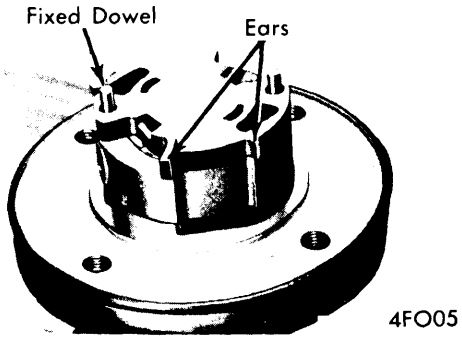


SPRING & SLIPPER INSTALLATION

3) Hold cam stationary and turn rotor either right or left, one space at a time, repeating slipper installation until all slippers have been installed. *CAUTION – When turning rotor, use care to prevent springs and slippers already installed from falling out.* Install cam and rotor assembly onto pump housing plate with fixed dowel passing through first hole to left of cam notch when arrow on cam O.D. is pointing toward lower pressure plate. If cam and rotor will not seat, turn rotor shaft slightly until splined teeth mesh, allowing cam and rotor to drop into position.



CAM & ROTOR INSTALLATION

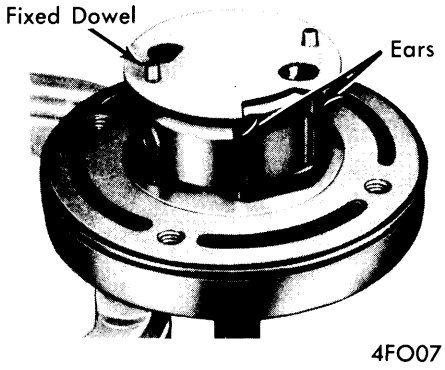


PRESSURE PLATE INSTALLATION

1965-74 THOMPSON SLIPPER TYPE PUMPS (Cont.)

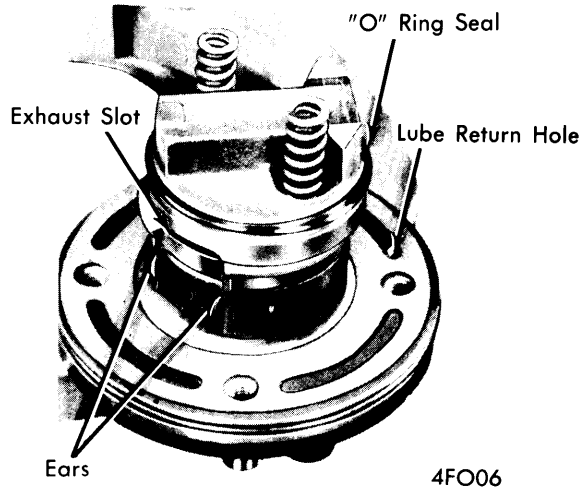
4) Insert loose fitting dowel through cam insert and lower insert into hole in housing plate assembly. Place upper pressure plate, with face having tapered notch down, against cam insert. Fixed dowel should pass through round dowel hole and loose dowel through elongated hole. Install retainer end plate so slot on end plate O.D. matches corresponding notches of upper pressure plate and cam.

5) Install pump valve assembly "O" ring seal into pump valve assembly. Place assembly on top of retainer end plate with large exhaust slot on pump valve in line with O.D. notches of previously assembled parts. Stack of parts must be fully seated.

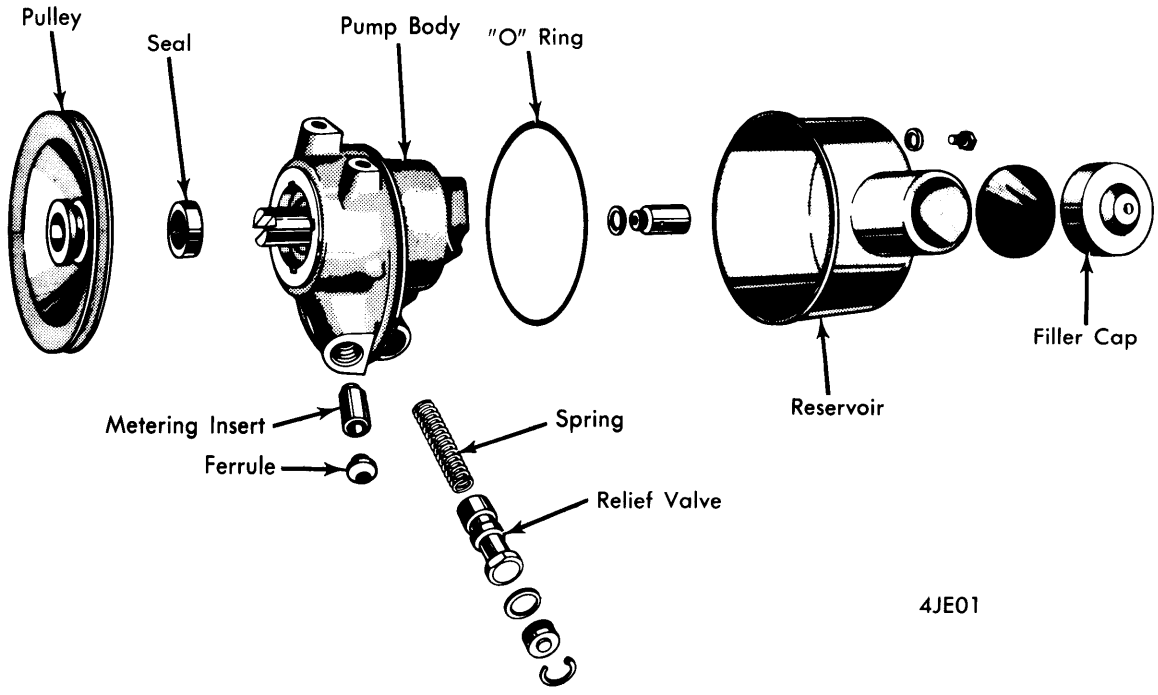


RETAINER END PLATE INSTALLATION

6) Install gasket on pump housing plate. Insert pressure plate springs into pockets in pump valve assembly. Use vaseline as an aid to hold springs in position. Using suitable tool (T-69-P-3B586-A Ford), plug intake hole in housing. Lubricate inside of housing and housing cover seal. Fabricate two studs (3/8-16x1.55") to be used as positioning guides. Install one in housing plate bolt hole closest to drain hole, and one in bolt hole directly opposite first.



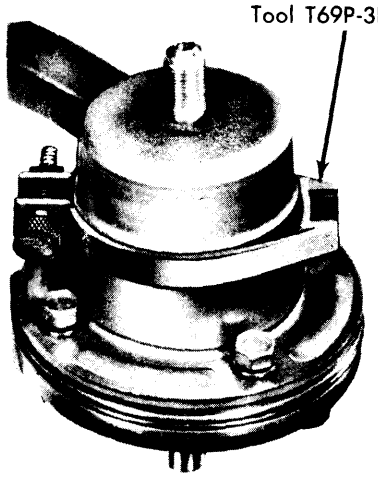
VALVE & PRESSURE SPRING INSTALLATION



THOMPSON SLIPPER PUMP ASSEMBLY

1965-74 THOMPSON SLIPPER TYPE PUMPS (Cont.)

7) Align small diameter lube hole in housing rim with lube hole in housing plate. Install housing, applying even downward pressure. *CAUTION — Pressure plate springs must not be jarred or moved out of position.* Remove guide studs. Install housing retaining bolts finger tight, then tighten retaining bolts until housing flange contacts gasket. Install 3/8-16 bolt, finger tight, into end of rotor shaft. Using a torque wrench, measure shaft rotational torque. Pump MUST NOT be used if rotational torque exceeds 15 INCH lbs.



PUMP HOUSING INSTALLATION

8) Shake pump assembly back and forth. If it rattles, pressure plate springs have fallen out of their seats and must be reinstalled. Install reservoir "O" ring on housing plate. Install reservoir, aligning notch in reservoir flange with notch in O.D. of pump housing plate and bushing assembly. Install identification tag and outlet valve fitting nut and tighten all nuts and bolts.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Housing Retaining Bolts	30
Outlet Fitting	25
Mounting Bracket Bolts	20
Pressure Hose-to-Pump	25