

Fig. 24—1.06 Pump Disassembled View

includes the entire pump with the exception of the reservoir, filler cap, mounting brackets, and drive pulley.

Assembly

- (1) Install 1/8 inch pipe clean out plug. Tighten to 80 inch-pounds.
- (2) Place pump body on flat surface and drive new shaft seal into bore with Tool C-4061.
- (3) Install new end cover, "O" ring in groove in pump bore. Lubricate with power steering fluid.

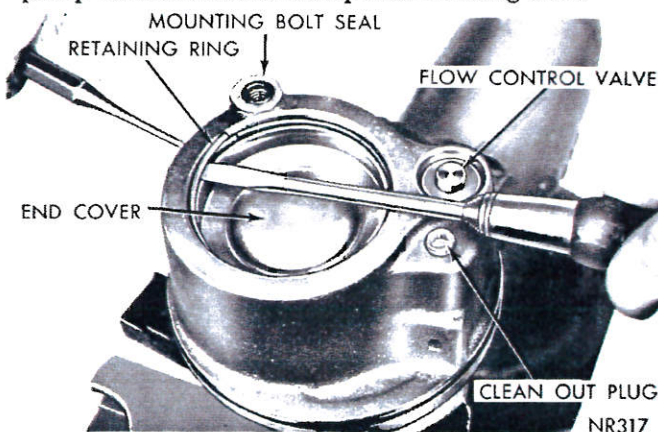


Fig. 25—Removing End Cover Retaining Ring

- (4) Lubricate new large pump body to reservoir "O" ring and install on pump body.

(5) Install new fibre gasket and brass seal plate to bottom of housing floor (fibre gasket on floor and brass seal plate on top of fibre). Note: **Pumps originally built with brass seal plate only, must be serviced with both brass seal plate and fibre gasket. Align index notches in plate and gasket with dowel pin hole in housing; cut-out sections of gasket and plate should be in line with core pockets on side of housing bore (Fig. 26).**

Caution: Pump will not operate properly if either gasket or seal plate are improperly installed.

(6) Carefully install front plate in pump bore. Chamfered edge first. Align index notch in plate with dowel pin hole in housing.

CAUTION: Use extreme care in aligning dowel pin. Pump can be completely assembled with dowel pin improperly positioned in end plates and not in indexing hole in housing.

(7) Place dowel pin in cam ring and position cam ring inside pump bore. Notch on cam ring must be up or away from pulley end of pump (Fig. 27). If cam ring has two notches, one machined and one cast, install with machined notch up. Machined notch has sharp corners and cast notch rounded corners.

If end of dowel pin in cam ring is more than 3/16

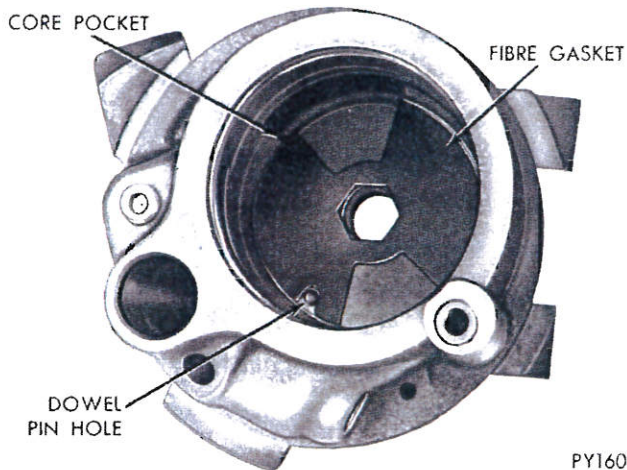


Fig. 26—Fibre Gasket Installed

inch above surface of installed cam ring, it is not seated in index hole in housing.

(8) Install rotor and shaft in cam ring and carefully place 12 rollers in cavities of rotor (Figs. 28 and 29). Lubricate rotor, rollers, and cam I.D. with power steering fluid.

(9) Before installing pressure plate, rotate shaft by hand to make sure rollers are all seated parallel with pump shaft.

(10) To insure proper alignment of pressure plate to dowel pin, insert the largest possible number drill into the large 3/16 inch diameter oil hole in the cam ring, next to the cam notch. Select from a number 13 through 16 drill, clean thoroughly, and bottom on housing floor (Fig. 30).

(11) Install new "O" ring on pressure plate, lubricate with power steering fluid and carefully position in pump bore. Before seating plate in pump bore, align index notch in plate with dowel pin and oil passage slot in plate with number drill. Seat plate on cam ring using a clean 1-1/8 inch socket and plastic hammer (Figs. 31 and 32). Remove drill. Inspect pressure plate at both oil passage slots to insure that plate is

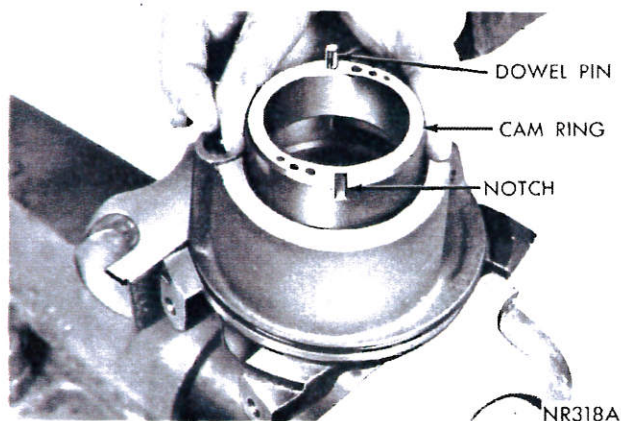


Fig. 27—Installing Cam Ring

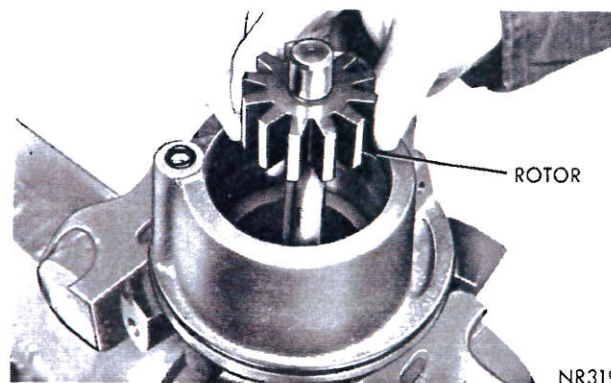


Fig. 28—Installing Rotor

squarely seated on cam ring end face.

(12) Place large coil spring over raised portion of installed pressure plate.

(13) Position end cover, lip edge UP, over spring. Press end cover down below retaining ring groove with thumb and install ring making sure it is seated in groove. Light tapping on the end cover may be necessary to insure that the end cover chamfer is squarely seated against snap ring.

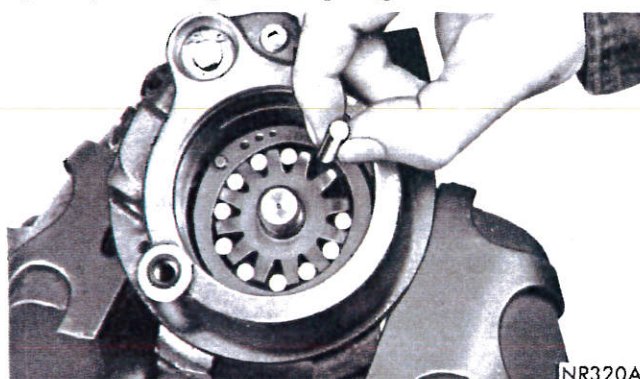


Fig. 29—Installing Rollers In Rotor

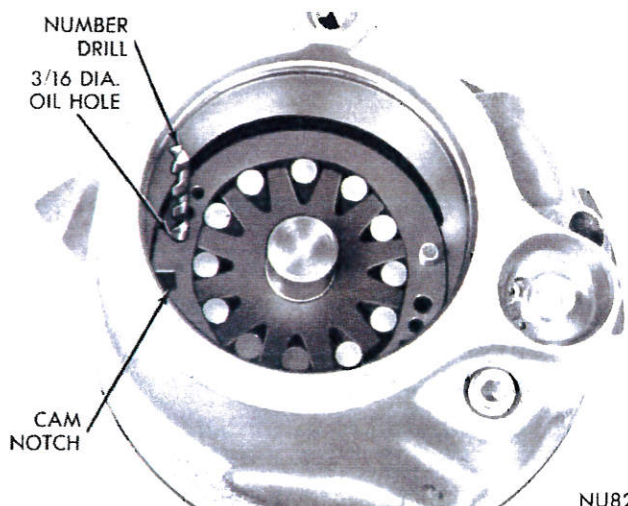


Fig. 30—Aligning Oil Holes

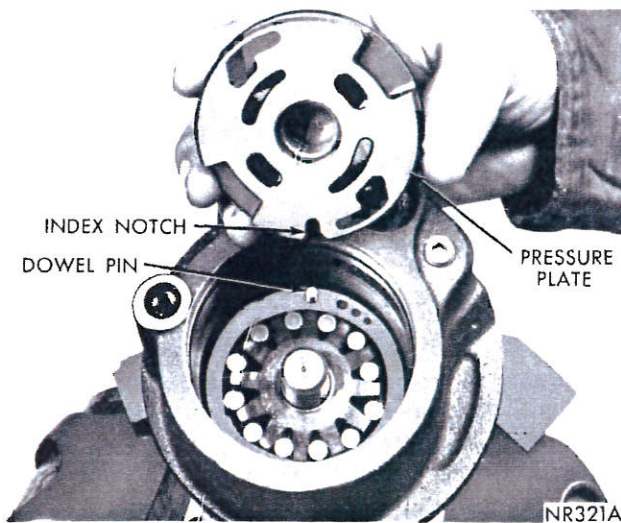


Fig. 31—Installing Pressure Plate

(14) Replace reservoir mounting bolt seal.

(15) Lubricate flow control valve with power steering fluid and insert valve spring and valve into bore (spring first then hex plug end of valve). Install new "O" ring on bore plug, lubricate with power steering fluid and carefully install into bore. Install snap ring, with sharp edge UP.

CAUTION: Do not depress the bore plug more than 1/16 inch beyond snap ring groove.

(16) Place reservoir on pump body and visually align mounting bolt hole. Tap reservoir down on pump with plastic hammer.

(17) Remove pump from vise and install mounting brackets with three mounting bolts, tighten to 18 foot-pounds.

(18) Install drive pulley. See "Pulley Installation" (Figs. 33 and 34).

Power steering pump drive pulleys installed on six cylinder engines are not pressed flush with the end of the pump shaft. With drive pulley placed on end of

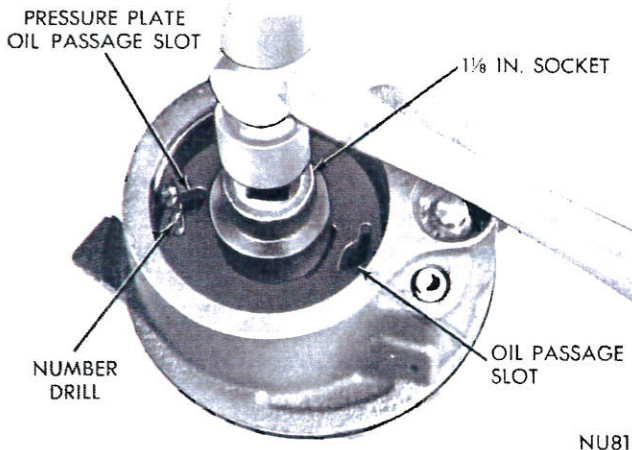


Fig. 32—Seating Pressure Plate

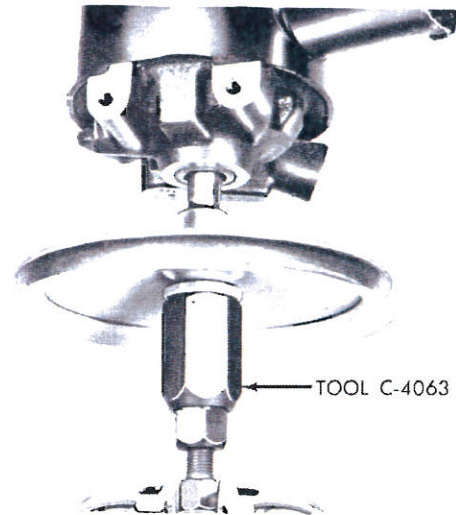


Fig. 33—Pulley Installation—6 Cylinder Engines

shaft, securely thread installer Tool C-4063, **without** adapter, into 3/8 inch threaded hole in end of shaft. (Fig. 33).

Pumps installed on eight cylinder engines have drive pulleys pressed flush with the end of the pump shaft. With drive pulley placed on end of shaft, securely thread installer Tool C-4063, **with** adapter SP-5399, into 3/8 inch threaded hole in end of shaft (Fig. 34).

(19) With installer shaft clamped securely in vise, tighten drive nut against thrust bearing and press pulley onto shaft.

CAUTION: Do not attempt to press pulley on to shaft **without** the use of special tool as serious damage will result to interior of pump.

A small amount of drive shaft end play will be observed when pulley is installed. This movement is necessary and will be minimized by a thin cushion of oil between the rotor and end plates when pump is in operation.

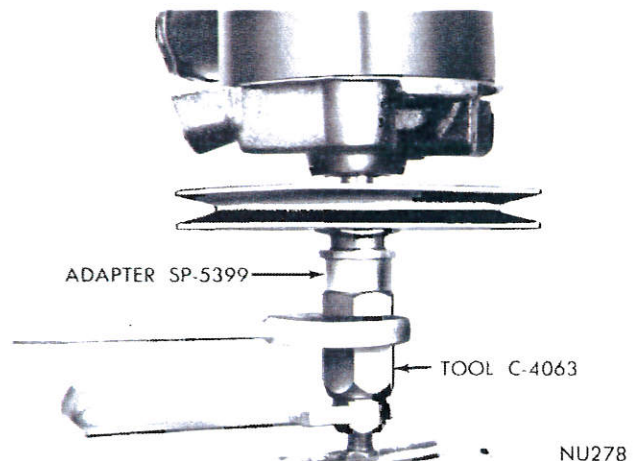


Fig. 34—Pulley Installation—8 Cylinder Engines

(20) Install pump assembly on engine, connect hoses (using new pressure hose "O" ring), and tighten drive belt see "Cooling System". Group 7. Fill reservoir with power steering fluid, test and inspect for leaks.

Disassembly—1.06 Model

(1) Remove pump from engine and reservoir from pump.

(2) Remove snap ring and plug from flow bore. Discard "O" ring from plug.

(3) Depress control valve against spring pressure and allow to spring back. The valve should pop out of bore far enough to be lifted out. Light tapping on rear face of pump body may be necessary to remove a stuck valve.

If dirt or foreign particles are found on valve or within valve bore, entire pump should be disassembled, cleaned and rebuilt. The high pressure and return hoses must also be flushed and the steering gear valve body reconditioned see "Power Steering Gear". If valve bore is badly scored, replace pump body and flow control valve.

(4) Remove nicks or burrs that might cause the valve to stick by rubbing valve over a flat surface covered with crocus cloth.

(5) Clamp land of valve in a soft jawed vise and remove hex head ball seat and shim(s). Note number and gauge of shims on ball seat. Same number and gauge of shims must be installed on assembly of valve. **Altering shim thickness will change relief**

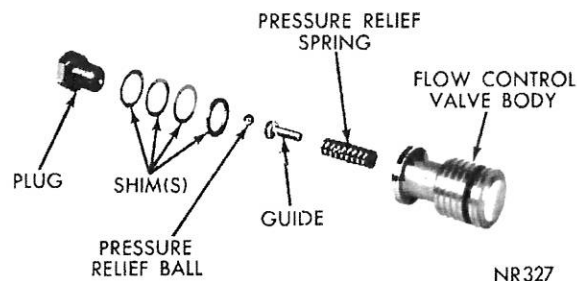


Fig. 35—Flow Control Valve Disassembled View

pressure. (Fig. 35).

(6) Remove valve from vise and remove pressure relief ball, guide and spring.

(7) Clean all parts thoroughly. **Dirt Particles On Ball or Ball Seat Will Cause Improper Pump Operation.**

Assembly

(1) Insert spring, guide and pressure relief ball in end of flow control valve (Fig. 35).

(2) Install hex head ball seat using the same number and thickness shims as were removed. Tighten to 50 inch-pounds.

(3) Lubricate valve with power steering fluid and insert flow valve spring and valve in bore. Install new "O" ring on bore plug, lubricate with power steering fluid and carefully install into bore. Install snap ring. **CAUTION: Do not depress the bore plug more than 1/16 inch beyond snap ring groove.**

STEERING COLUMN

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GENERAL INFORMATION

The steering column under head-on collision conditions is designed to telescope at a controlled rate. The telescoping action reduces the likelihood of the steering wheel being driven rearward toward the driver. If the driver is thrown forward into the wheel, the column can telescope further at the same controlled rate, thereby reducing force of the impact.

The Dart assembly (Fig. 1) has four principal components:

1. A column jacket with a mesh section designed to shorten in "accordion" fashion.
2. A two-piece telescoping transmission gearshift tube interconnected by plastic inserts and shear pins.

3. A two-piece telescoping steering shaft with upper and lower sections connected by plastic friction collars and shear pins.

4. A mounting bracket connecting steering column to the instrument panel, which allows the column to slide forward but blocks its rearward movement toward the driver.

The center section of the column jacket has diamond-shaped perforations and is formed with accordion pleats. These pleats allow it to compress like a bellows from impact forces.

The gearshift tube is made up of two sections designed to telescope together. These sections are interconnected and held together by injections of plastic