

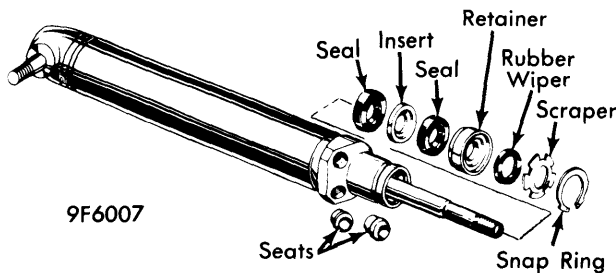


## BENDIX LINKAGE (Cont.)

### POWER CYLINDER

**Removal** – Disconnect fluid lines from power cylinder, allow them to drain into a container. Remove pal nut, attaching nut, washer and insulator from end of power cylinder rod. Remove cotter pin and castellated nut securing power cylinder stud to center link. Disconnect power cylinder stud from center link. Remove insulator sleeve and washer from end of power cylinder rod. Inspect tube fittings and seats in power cylinder for nicks, burrs or damage. Replace the seats in the cylinder or the tubes as required.

**Installation** – Install washer, sleeve and insulator on end of power cylinder rod. Extend rod as far as possible. Insert rod in bracket on frame and compress rod as necessary to insert stud in center link. Secure stud with a castellated nut and cotter pin. Secure power cylinder rod with an insulator, washer, nut and a pal nut. Connect fluid lines to their respective ports in the cylinder. Fill reservoir to correct level.



**POWER CYLINDER ASSEMBLY**

### POWER STEERING PUMP TO CONTROL VALVE HOSE

**Removal** – Remove fluid from pump reservoir with a suction gun. Raise vehicle on hoist, remove clamp retaining hose tubes to control valve. Disconnect fluid return and pressure hoses from control valve and allow fluid to drain into a pan. Lower vehicle, disconnect fluid return hose from reservoir. Disconnect fluid pressure hose from pump outlet fitting. Remove bolt attaching hoses, insulator and retainer to frame side rail. Remove hoses, insulator and retainer as an assembly. Remove pressure and return hoses from retainer and insulator.

**Installation** – To install, reverse removal procedure and note that Paint stripe on pressure hose must be aligned with slot in insulator. Paint or Tape band on return hose must be centered in insulator.

### POWER CYLINDER SEAL

**Removal** – Clamp power cylinder in vise, remove snap ring from end of cylinder. **CAUTION** – Do not distort or crack cylinder in vise. Pull piston rod out all the way to remove scraper, bushing and seals. If seals cannot be removed in this manner, remove them from cylinder with a sharp pick. **CAUTION** – When using pick, take care not to damage shaft or seal seat.

**Installation** – **NOTE** – When replacing power cylinder seals, install all parts supplied in repair kit. Coat new seals with a suitable lubricant and place the parts on the piston rod which has been coated with the same grease. Push rod in all the way, and install parts in the cylinder with a deep socket slightly smaller than the cylinder opening.

### OVERHAUL

#### CONTROL VALVE

**Disassembly** – 1) Clean exterior of unit. Remove centering spring cap from valve housing. **CAUTION** – To hold control valve for disassembly, use a soft-jawed vise and clamp valve only around sleeve flange to prevent damage.

2) Remove nut from end of valve spool bolt. Remove washers, spring seats, spacer, centering spring, adapter and bushing from bolt and valve housing. Remove bolts holding valve housing and sleeve together; separate housing from sleeve.

3) Push spool toward spring cap end of housing, remove seal and bushing, then push spool to sleeve end, (forcing out spacer, cushion, and washer). Remove four hose seats from control valve housing. Remove return port (largest port) relief valve.

4) Remove spring plugs, "O" rings, washers, and springs from housing, then remove reaction limiting valve. Remove dust shield clamp screws, and dust shield.

5) Pull control valve spool bolt out as far as possible. Remove stop pin, then remove travel regulator and control valve spool. Remove ball stud, ball stud socket, bumper, bumper spring, and ball stud seats.

**Tube Seat Replacement** – If a hose seat is worn or damaged, it should be replaced. Insert a tapered drift into the seat opening and rock the drift by hand until the seat loosens and comes out. Place a new hose seat in the port and press it in with finger pressure making certain that the seat is centered. Install the hose fitting in the seat and tighten to specifications which will press the seat into place.

**Reassembly** – 1) Coat all parts, except seals with power steering lubricant; coat seals with suitable lubricant (COAZ-19553-A). Install reaction limiting valve, springs, plugs, and "O" rings. Install port relief valve and hose seat. Insert one ball stud seat (flat end first) into ball stud socket, and insert into control valve sleeve as far as possible with threaded end toward outside.

2) Place socket in control valve sleeve so that threaded end of ball stud can be pulled out through slot in sleeve. Place other ball stud seat (round side in), bumper and bumper spring in socket, then install and tighten travel regulator.

3) Loosen stop just enough to align nearest hole in stop with slot in ball stud socket, install stop pin in ball stud socket, travel regulator stop and valve spool bolt. Install rubber boot, clamp and plug on control valve sleeve. **NOTE** – Make sure lubrication fitting is turned on tightly and does not bind on ball stud socket.

4) Insert valve spool in valve housing. Rotate spool while inserting. Move spool toward centering spring end of housing, place small seal bushing and spacer in sleeve end of housing. Press valve spool against inner lip of seal and, at the same time, guide lip of seal over spool with a small screwdriver. **CAUTION** – Do not nick or scratch seal or spool during installation.

# Power Steering

## BENDIX LINKAGE (Cont.)

5) Place sleeve end of housing on a flat surface so that seal, bushing and spacer are at the bottom end and push down valve spool until it stops. Install spool seal and bushing in centering spring end of housing. Press seal against end of spool, guiding seal over spool with a small screwdriver. Pick up housing, slide spool back and forth in housing to check for free movement.

6) Install body gasket and valve sleeve on the housing so that the ball stud is on the opposite side from the ports for the two power cylinder lines. Install two bolts in the sleeve and torque them to specifications. Place adapter on centering spring end of housing, then install bushing, washers, spacers, and centering spring on the valve spool bolt.

7) Compress centering spring, install nut on bolt and tighten (90-100 INCH lbs.); then loosen it not more than  $\frac{1}{4}$  turn. **CAUTION** - Excessive tightening may break the stop pin at the travel regulator stop. Move ball stud back and forth in sleeve slot to check for free movement. Lubricate cap attaching bolts. Install centering spring cap on valve housing and torque bolts to specifications.

8) Install nut on ball stud so that valve can be positioned in a vise. Push forward on cap end of valve to check valve spool for free movement. Turn valve around in vise, and push forward on sleeve end to check the spool for free movement.

### TIGHTENING SPECIFICATIONS

Location	Ft. Lbs.
Cylinder Mounting Bracket (side hole) .....	30-40
(bottom hole) .....	35-43
Power Cylinder to Bracket .....	18-24
Power Cylinder to Bracket Locknut .....	3-5
Connecting Arm to Spindle Arm .....	① 35-47
Idler Arm Mounting Bracket .....	30-40
Pitman Arm to Control Valve .....	① 35-47
Steering Gear to Side Rail or Frame .....	50-65
Pitman Arm to Sector Shaft .....	150-225

① - Torque to low limit of specifications, then tighten nut to nearest cotter pin slot.