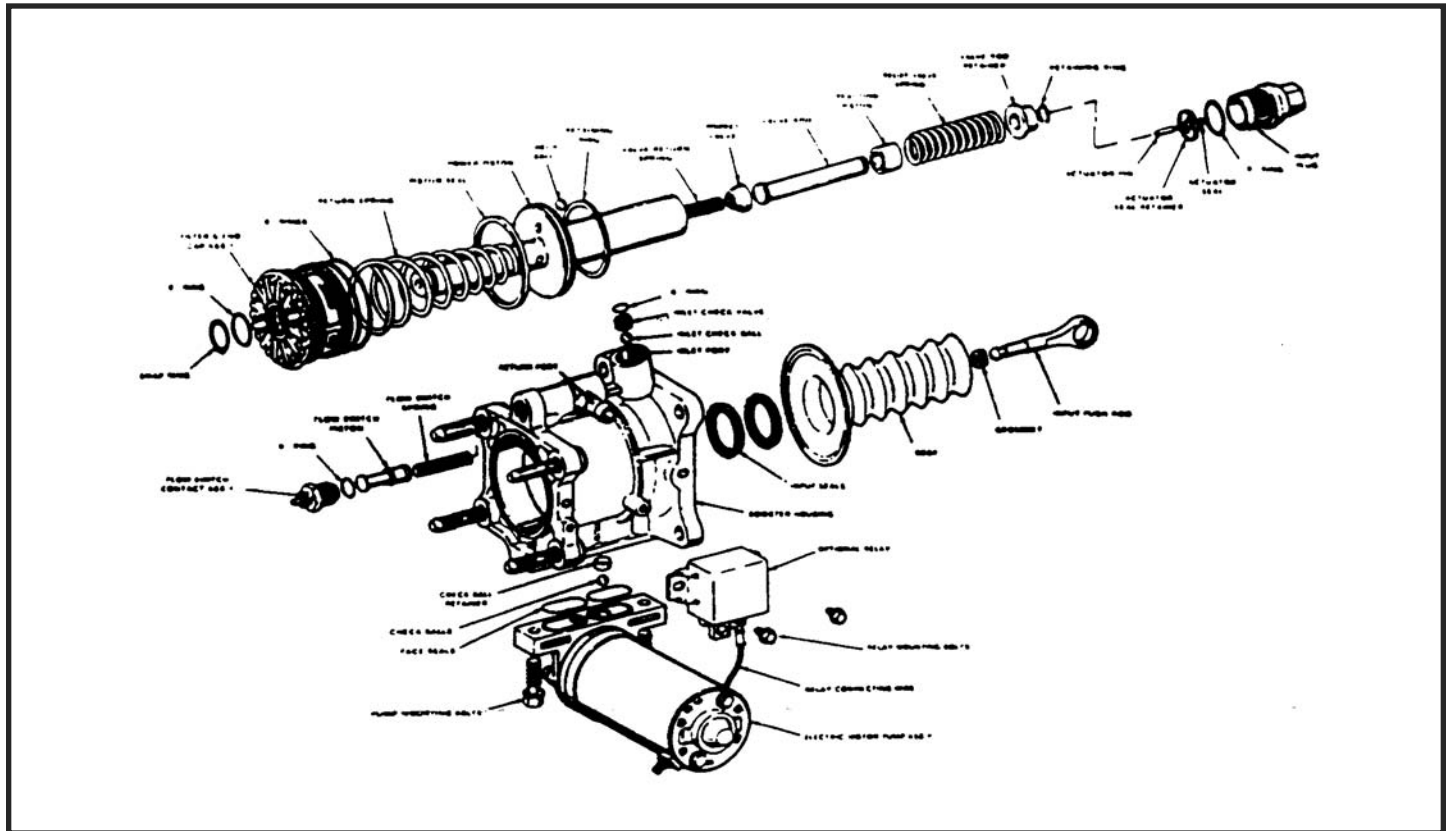




HYDRO-MAX HYDRAULIC POWER BRAKE BOOSTER

— SERVICE INSTRUCTIONS —

This instruction sheet covers service replacement of hydraulic seals to repair leaks in the HYDRO-MAX unit.



UNIT REMOVAL

1. Disconnect negative battery terminal.
2. Disconnect input push rod from brake pedal.
3. Detach electric power lead from pump motor.
4. Remove inlet and return port hose. Plug open end of hoses and port fittings.
5. Separate master cylinder from booster. Support cylinder so that weight is not exerted upon the steel brake lines.
6. Unbolt booster and remove from vehicle

DISASSEMBLY

1. Unbolt pump motor from booster.
- NOTE** Approximately 3 cups of oil will drain out when electric motor is loosened.
- When separating motor from booster housing, avoid damaging the mating surfaces. Remove and discard the (2) face seals.
2. Remove boot from input push rod.
 3. Push in on input push rod to force power piston assembly from booster (Rotate end cap to ease piston removal)

NOTE During piston removal, pull straight out on piston to avoid scratching rear piston on external bore surface area. HANDLE PISTON WITH CARE. ALUMINUM SURFACE WILL SCRATCH EASILY.

4. Remove the (2) power piston seals from booster housing.
5. Remove flow switch.
 RETAINED TYPE—press in on flow switch until tension is off the snap ring. Remove snap ring then grasp contact pin with pliers and pull, removing contact plug. Use a small magnet to extract flow switch piston and spring.
 THREADED SWITCH -use a 3/4" socket to remove the flow switch. Remove the flow switch piston and spring with a small magnet.
6. Clamp input push rod in vise. Do not clamp onto power piston. Push against end cap compressing return spring 1/4. -1/2". Remove snap ring, end cap and return spring.

(over)

7. To disassemble piston, clamp flats of input plug in a vise Grasp the large diameter of the power piston by hand and rotate counter-clockwise. Do not grip piston surface with any tool. If additional leverage IS required a drift may be inserted through the flow holes in the output shaft.
8. Pry actuator seal retainer from input plug and discard. Remove actuator pin and discard actuator seal. Discard input plug O-ring.
9. Do not attempt disassembly of valve rod and reaction piston assembly.

CLEANING

Use clean power steering fluid for cleaning and lubricating parts and seals.

INSPECTION

1. Inspect the piston input and output shaft surfaces for scratches or nicks. If any are found, replace assembly.
2. Inspect housing for scratches or nicks in the input bore area. If any are found replace housing. Wear on the large bore surface area is normal.
3. Inspect the input plug for wear in the actuator pin hole. Replace plug if wear is evident.

NOTE: The lube plastic plug is not available for service replacement and is not interchangeable with the aluminum plug.

4. Replace the filter end cap assembly if cracked or damaged. The 12 rib cap is interchangeable with the 4 rib cap.

ASSEMBLY

1. Install flow switch spring and piston into booster. Position new O-ring into flow switch and install switch. (Threaded switch - torque to 20-4- inch lb.) Be sure that the snap ring is fully seated.

NOTE: The Retained Type switch requires a smaller diameter O-ring. This O-ring along with a new retainer are packaged separately in the service kit.

2. Lubricate and install (2) new input seals into booster housing. Lip of both seals will face in.
3. Insert actuator pin seal into input plug. Install actuator pin and seal retainer.
4. Install new O-ring onto input plug and thread plug into power piston. Reverse disassembly procedure outlined in Step 7.

NOTE: Two designs of input plugs have been utilized in HYDRO-MAX. Early designs used a blue plastic plug. Later replaced with aluminum plug DO NOT ATTEMPT TO INTERCHANGE THE TWO DESIGN INPUT PLUGS. The O-ring seal for use with the plastic plug is packaged separately in kit.

5. Lubricate power piston and seals in housing with clean power steering fluid. Lubricate special tool and slip over input plug and install piston into housing.

6. Place return spring (small end first) into housing.
7. Assemble new seals and O-rings onto end cap. End cap shaft seal (not illustrated) should be installed with lip pointed towards filter end.

NOTE: Two designs of end caps have been utilized in HYDRO-MAX. The early design had (4) reinforcement ribs and accepts (2) thin section O-ring seals. (Packaged separately in kit). The later design cap has (12) reinforcement ribs (see illustration) and accepts (1) thin section O-ring and (1) thick section O-ring. The thicker cross section O-ring fits in the outer groove of the cap.

8. Lubricate O-rings and lip seal then install end cap. Use seal bullet to install end cap on piston shaft. Depress end cap and install snap ring so that it is fully seated in its groove.
9. Lubricate motor to housing seals and install motor. (DO NOT SCRAPE MATING SURFACES) Torque bolts 18-25 ft. lbs.
10. If input push rod has been removed from the input plug, a new grommet must be installed prior to reinserting the pedal rod.

INSTALLATION

Reverse REMOVAL procedures. Check pedal rod for placement on correct side of brake pedal.

TORQUE SPECIFICATIONS

HYDRO-MAX mounting studs 15-25 ft. lb.
Master Cylinder mounting nuts 25 - 30 ft. lb.
High pressure hose fitting 18-25 ft. lb.

REFILLING & BLEEDING HYDRO-MAX

NOTE: Do not use brake fluid: Use only clean power steering fluid.

1. Check pump reservoir supplying HYDRO-MAX and fill with clean power steering fluid.
2. Crank engine several revolutions. (Do Not start engine). Check reservoir and refill if necessary.
3. Again crank engine several revolutions. (Do Not start engine). Check reservoir and refill if necessary.

CHECK OUT BRAKE SYSTEM

Before moving vehicle check the system for correct operation.

1. With engine off depress the brake pedal. The warning light and/or buzzer should come on and the electric motor should run giving you some brake assistance.
2. Start the engine. Depress the brake pedal. No warning lights or buzzer or electric motor should come on. Check for leaks.
3. Stop the engine check the fluid level in power steering pump reservoir and fill if necessary.