



Hydraulic Bearing Piston and Seal Replacement Instruction

The McLeod hydraulic throw out bearing assembly is adjustable by easily changing the piston in the assembly. The seals can easily be replaced and serviced by the installer as well. This instruction is intended to make this process easy to understand and reassemble the hydraulic throw out bearing correctly.

Step 1 Remove the bearing assembly from the transmission. Place caps over the end of the AN-4 hose to keep from dripping oil onto the floor and work surface.

Step 2 Grab the bearing and firmly pull to remove the bearing from the hydraulic assembly. It is only held in position with an O-Ring. Set the bearing aside. See Figure 1

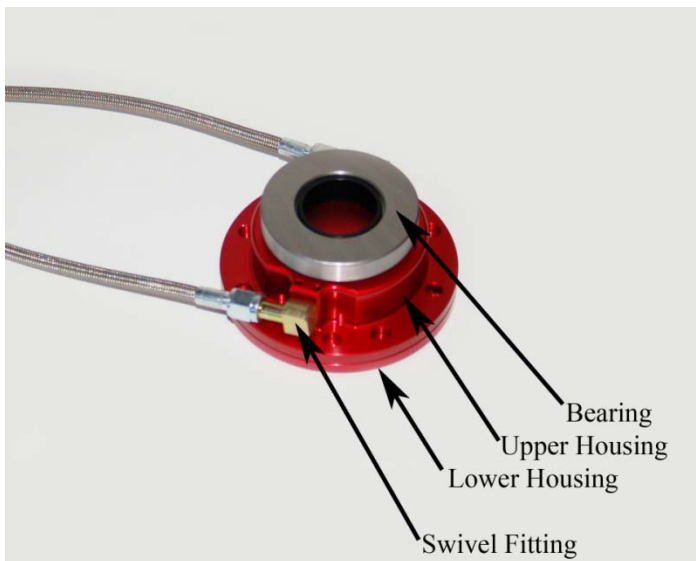


Figure 1 Bolt on Bearing Assembly Shown



Slip-On Style Bearing Shown Figure 2

Step 3 If you are disassembling a Slip-On style bearing you will need to remove the 8 screws from the bottom of the bearing assembly to disassemble the unit. See Fig 2

To separate the Upper and Lower Housings turn bearing assembly over with the lower housing facing up. Hold a hose in each hand. Drop bearing assembly so piston makes contact with a 2 x 4 piece of wood. This may require two attempts. This should separate the upper and lower housing. **Do not attempt to wedge the Upper and Lower housings with a screw driver or similar metal tool!** See Figure 3.

Pull the two pieces apart exposing the black piston. Remove the piston from the housing.

If only changing Pistons skip to step 10.

Step 4 Remove the O-Ring from the Piston Groove. Install new O-Ring from kit.

Step 5 Remove the Quad Ring from the ID of the Upper Housing. A small pick can be used to expose a small cross section of the seal to grab with your fingers. Do not cut or pierce the quad ring. Do not gouge the seal groove or housing. Remove the large O-Ring from the bottom of the Upper Housing.

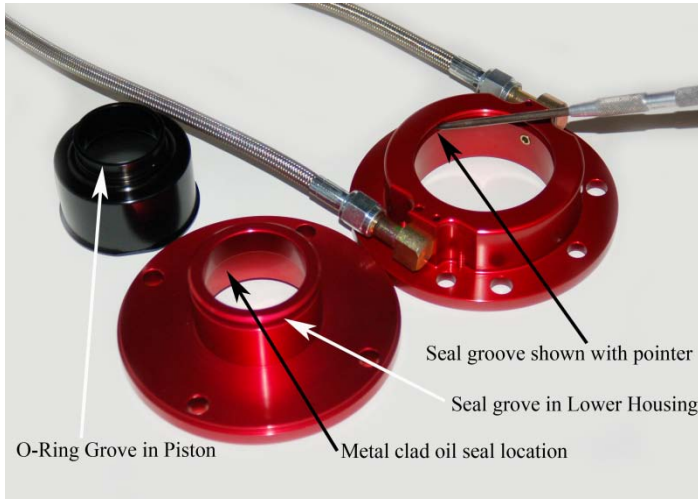


Figure 3 Bolt-On Style Shown



Figure 4

Step 6 Place the Upper Housing and hose assembly up-side down on a piece of 1"x 2" wood block or similar material. Using a small diameter 'drift' or punch (1/8" or smaller), drive the Spring Pins through the Upper Housing from the bottom. See Figure 4. The swivel fittings and hose will pull out of the Upper Housing. A small pick can be used to remove the small quad ring fitting seal from the housing. Repeat for second hose/fitting assembly.

Step 7 Remove metal clad oil seal from center of Lower Housing. **Note location of seal depth**, some are all the way down to the step in the housing, some are 1/16" down and some flush with the top of the bore. Make a note for you to reference when reinstalling the seal. You can use a socket with a 1-3/4" OD to drive the seal out of the housing from the upper side. Gently tap the seal out. Remove Quad seal from OD of Lower Housing.



Figure 5 Bolt-On Bearing Shown



Seal Guide

Figure 6

Step 8 Gently install new Quad Seal into seal groove on Upper Housing. See Figure 5. Lube with brake fluid for ease of installation. **Be careful not to roll the Quad Seal!** Install new quad ring swivel fitting seal into Upper Housing on each side. Push Swivel fitting into side of Upper Housing and install new spring pins from top into housing. Gently tap spring pins into housing until flush with top of housing. Use a small block of wood to drive the pin into the housing. This will prevent damage to housing if struck by the hammer. Spring Pin will engage swivel fitting groove and hold it in place. Pull on fitting assembly to be sure the pin engaged the fitting groove. Install second spring pin and gently tap in until flush with housing. Repeat for second hose/fitting assembly.

Step 9 Install new metal clad oil seal at center of Lower Housing to the depth of the seal you removed. Press or tap it in with the socket until it reaches the desired depth. Install new Quad Ring into groove on OD of Lower Housing. See Figure 5 Lube with brake fluid for ease of installation. **Be careful not to roll the Quad Seal!**

Step 10 Be certain the new O-ring is in Piston Groove.

Step 11 All parts should be ready to assemble at this time. Lube the Quad Ring on the Lower Housing with brake fluid and lube the ID of the piston as well. Place piston over the Lower Housing and press it down until the piston is seated on the lower housing.

Step 12 Lube the ID of the quad ring on the Upper Housing and the OD of the piston with DOT 3 or 4 brake fluid. Place the Upper Housing up-side down with the oval bolt hole at the 12 O'clock position. With the lower housing and piston assembly facing down position the housing so the drain back relief is at the 12 o'clock position. Push the Lower Housing and piston into the Upper Housing until the two housings make contact. Be certain the o-ring doesn't come out of the Upper Housing o-ring groove.

Step 13 Install bearing onto top of piston and press until the bearing seats against the piston. **It must be flat and parallel with the top of the piston!**

Step 14 Re-install bearing assembly onto front of transmission and proceed with installation of transmission. Be certain the hose with the bleeder screw is at the top!!

Question ??? Contact McLeod Tech Line 714.630.2764

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