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## **CYLINDER REBUILD INSTRUCTIONS**

1. Support outboard with a hoist or a block under the skeg with bracket top plate horizontal to slightly down position.
2. Operate Porta Bracket to neutralize pressure on cylinder.
3. Loosen hydraulic hoses part way at cylinder ports. Use a tray to catch oil that drips.
4. Remove hoses from port fittings.
5. Remove cylinder mounting bolts (5 or 6 depending on model). Note the direction bolts are facing through the assembly. If they are not replaced in like manner, there will be interference with other components of the Porta Bracket.
6. Remove cylinder from bracket.
7. Clamp the base mounting wing of the cylinder in a vise horizontally. Cycle the cylinder by hand to remove remaining oil.
8. Remove six socket cap screws.
9. Apply air pressure to the port closest to the cap only! Application of pressure to the blind end fitting will eject the entire contents and could cause injury.
10. Once the cap moves up, pulling the rod assembly will remove the cap and piston together.
11. Remove piston nut and piston from rod assembly.
12. Slide cap off the rod.

### **Replacing the Seals**

1. Remove rod seal, back up ring and wiper seal from cap assembly.  
Check for corrosion around the wiper seal groove.  
Clean and spread TEF gel generously in wiper seal groove.  
Install wiper seal.  
Install back up ring in O-ring groove.  
Install O-ring seal toward the cylinder interior in the same groove as the backup ring.  
Lubricate the shaft and inside of cap assembly and install on shaft (wiper seal goes on first).  
Remove and replace external O-ring from cap assembly.

2. Put one or two drops of Loctite in the perimeter of the rod receiving cup of the piston.  
Install on rod assembly.  
Torque nut to 65 lbs. per ft.  
Remove and replace 2 O-rings and 4 back up rings.  
Lubricate cylinder bore, piston O-rings, and cap O-ring.  
Re-assemble rod assembly into cylinder body.  
Use anti-seize on 6 cap bolts.

### **Installing Cylinder in Bracket**

1. Retract cylinder to approximately ½” less than the existing cylinder mounting surfaces in bracket.
2. Install cylinder base with bolts coming **up from the bottom**. Do not tighten bolts.
3. Install hydraulic hoses and tighten fittings. (System is self-bleeding).
4. Operate hydraulic pump and carefully extend cylinder until top rod wing assembly holes align with bracket mounting holes. Install bolts **down from top**.
5. Tighten all cylinder mounting bolts.
6. Operate Porta Bracket through its entire range of travel adding fluid as necessary. Fluid should be added to top off with cylinder fully closed. Three full cycles should clear all trapped air from the system.



