

## 18120017 “P” Chuck Assembly

The assembling of the chuck is accomplished in the sequence listed below.

**NOTE:** a) the housing and all internal parts must be thoroughly cleaned and free from burrs before assembly.

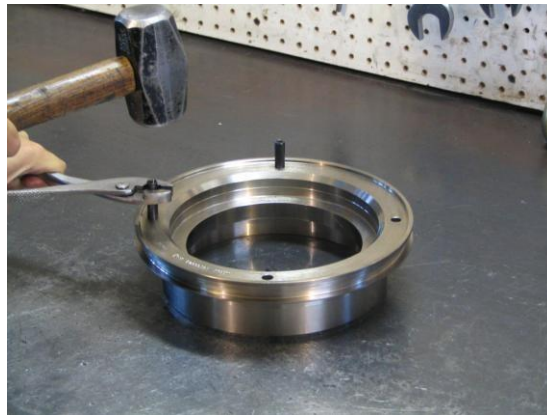
b) all seals must be oiled and/or greased before assembly.

c) all bolts should have an Anti-seize compound on them before being installed

The following is a detailed step by step procedure.....

We begin by assembling the lower portion of the chuck assembly which we refer to as the cylinder assembly.

### Cylinder Assembly



Install the 4 roll pins in the piston (18100447).



Place the piston over top of the actuator sleeve (18100443)



Install the 3 part bearing (18100449).



Install the outer race with the largest bore first.



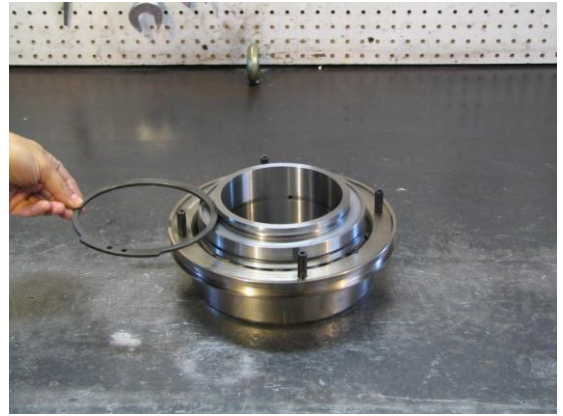
Put a bead of grease in the outer race, and then install the bearing cage.



Put a bead of grease on the bearing, and then install the outer race with the smallest bore.



The 2<sup>nd</sup> outer race must be hammered on.



Install the Back Up Ring (18100452). The Back Up Ring must also be hammered on below the Retaining Ring groove.

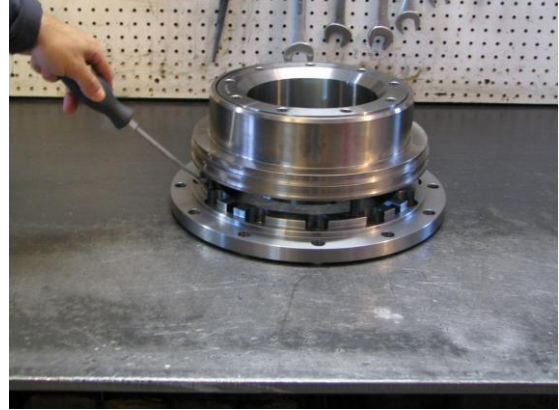


Install the Retaining Ring (18100454)

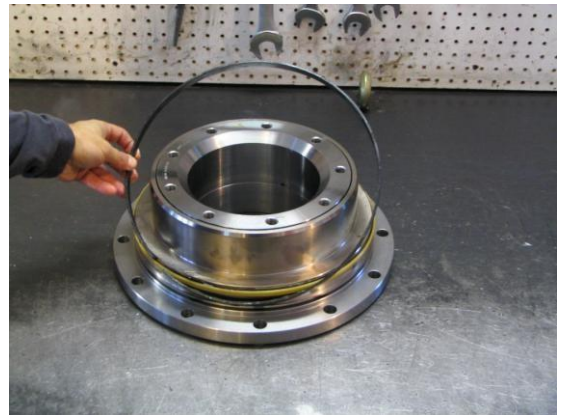
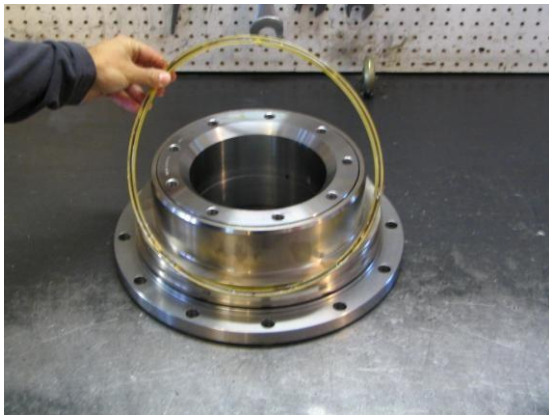




Turn the Piston and Actuator Sleeve over and gently tap on the work bench, to properly locate the Back Up Ring against the Retaining Ring.



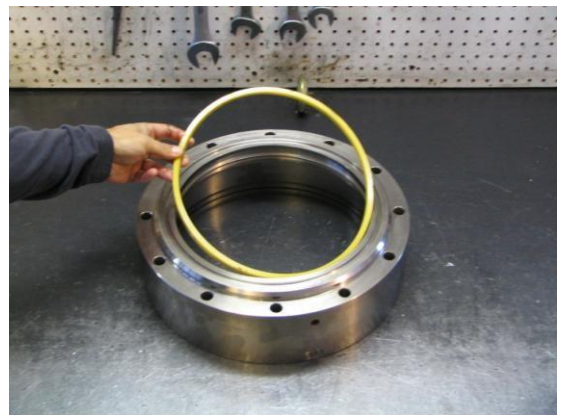
Place the Piston/Actuator Sleeve Assembly over the Adapter Flange (18100453). The 4 Roll Pins in the Piston must be properly aligned in the Adapter Flange.



Apply a small bead of grease in the U-Cup Seal (18100450). Install the U-Cup Seal in the top groove of the piston, with the groove facing up.



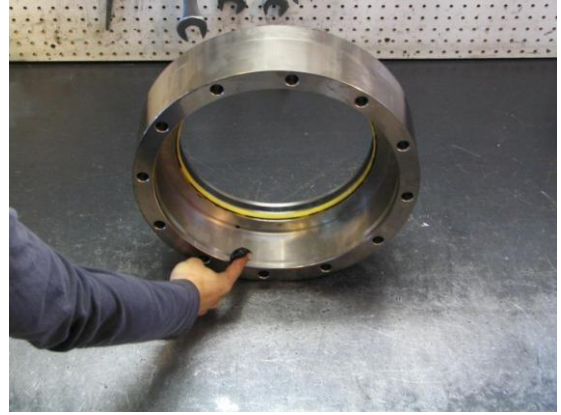
Install the Wear Ring (18100451) in the bottom groove of the piston.



Apply grease at the top of the piston, to facilitate the installation of the cylinder.



Apply a small bead of grease in the U-Cup Seal (18100446). Install the U-Cup Seal in the bottom groove of the cylinder (18100448) with the groove facing down.



Install the Wear Ring (18100445) in the top groove.



Apply grease at the bottom of the cylinder (18100448), to facilitate the installation on the piston.



Install the cylinder on the piston as shown in the above photo.



Use 4 bolts (5/8" x 8" Lg.) and Nuts to properly install the cylinder on the Piston.





Tighten the 4 nuts evenly and ensure that both U-Cup Seals do not get pinched.



When you can no longer tighten the 8" long Bolts, install the 5-1/2" long bolts and Nuts.



Install all 12 Bolts (5/8" x 5-1/2" long) and Nuts and torque the Nuts to 70 ft.lbs.



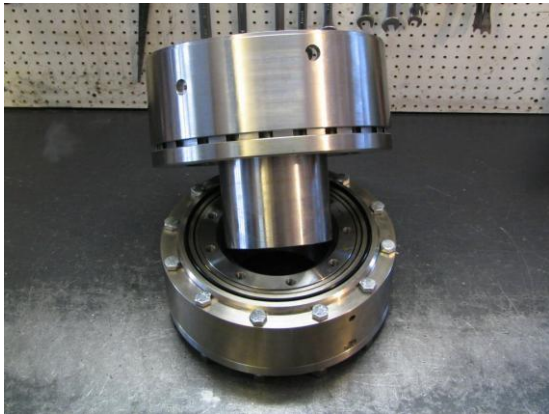
Install the V-Ring (18100444).

The assembling of the Cylinder Assembly is now complete.

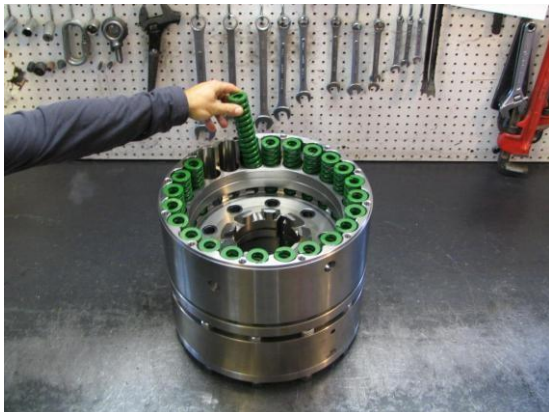
We will now start to assemble the top portion of the Chuck Assembly



Insert the 9 Oil Seals (18100439) in the Chuck Housing (18100438).



Install the Chuck Housing (18100438) in the Cylinder Assembly.



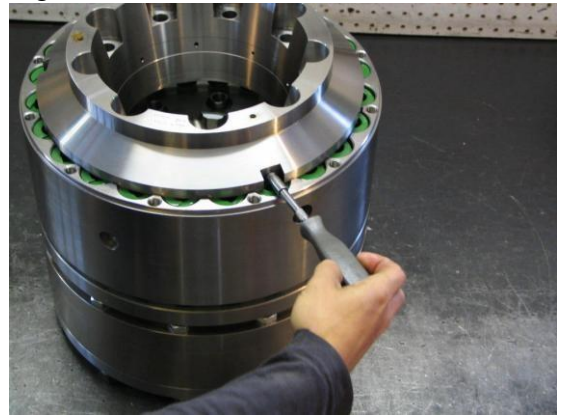
Install the 24 Springs (18100155)



Install the 9 Bottom Spacers (18100441).



Apply grease to the inside of the Chuck Housing as shown, and install the Chuck Bowl (18100437) in the Chuck Housing.



NOTE: the Grease Fittings in the Chuck Bowl must line up with the 3 holes on the side of the Chuck Housing. Install the 3 Grease Fittings (GF14028S) in the Chuck Bowl.



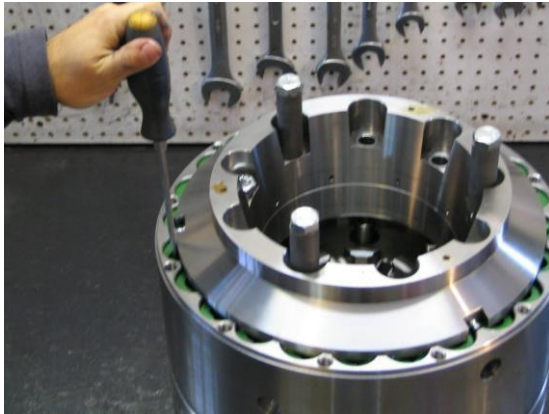
Use 3 bolts (5/8" x 8" long) to pull the Actuator Sleeve and Chuck Bowl together.





Insert 3 bolts (5/8" x 10" long) and the Top Spacers (18100436) as shown above. They must be located between 2 tapped holes on the outside edge of the Chuck Housing. Fasten these once they make contact with the Actuator Sleeve.

Remove the 3 bolts (5/8" x 8" long).



Use a screw driver to pry the springs towards the outside of the Chuck Housing. This will ensure that the springs are properly positioned under the Chuck Bowl.



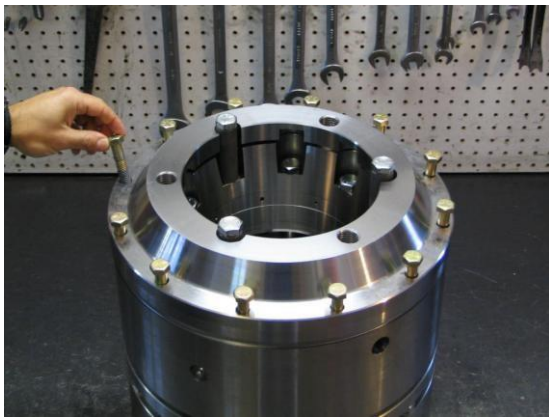
Install the 6 bolts ( 5/8" x 7" long) and then tighten and torque all 9 Bolts to 70 ft.lbs.



Install the 3 Grease Fittings (GF14028S), 2 in the Chuck Housing and 1 in the Cylinder.



Install the Top Cap Holder (18100435).



Insert the 12 bolts (1/2" x 2 1/4" long) and torque to 70 ft.lbs.



Install the Top Cap (18100434) and torque the 3 bolts ( 1" x 2" long) to 70 ft.lbs.