

18120015 Drillhead Assembly

The assembly of the Drillhead 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, o-rings and other internal parts 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 applying silicone to the Drillhead Housing Cover and the Input Shaft Cover (18100518). Allow the silicone to dry. Will be assembled later.



Apply a small bead of grease in the 2 U-Cup Seals and the Wiper Seal.



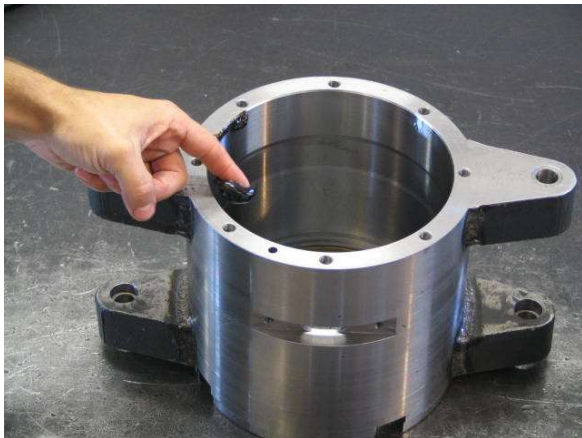
Install the smallest U-Cup Seal (18100284) in the Chuck Housing (18100343) bottom groove, with the groove facing down.



Install the Wiper Seal groove up (18100316) in the Chuck Housing (18100343) in the groove above the U-Cup Seal.



Install the U-Cup Seal (18100283) in the Piston (18100337-S) with the groove facing up.



Flip the Chuck Housing (18100343) over, and apply grease on the inside surface, to facilitate the installation of the Piston (18100337-S).



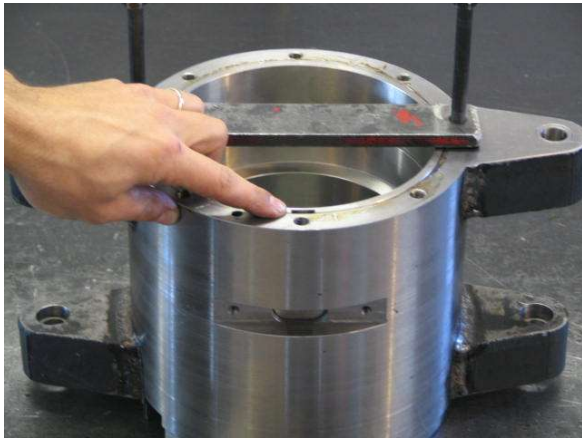
Apply grease to the outside surface of the Piston (18100337-S) before installing in the Chuck Housing (18100343).



Install the Piston in the Chuck Housing. Ensure that the keyway is properly lined up



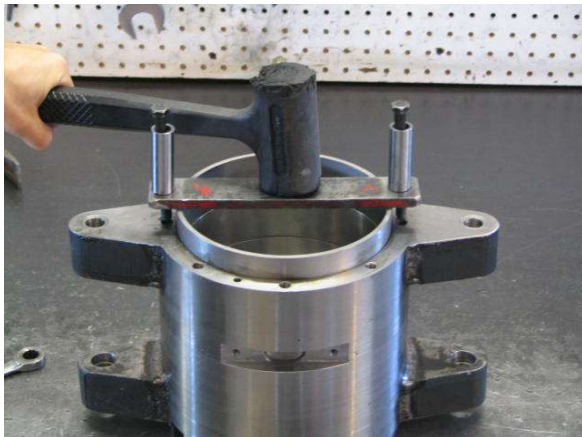
Care must be taken to ensure that the U-Cup Seal is properly installed, when lowering the Piston.



Ensure that the keyways are properly lined up



Use the Stop Tube (18100415) to push the Piston further down in the Chuck Housing



Hammer on the Stop Tube until it is flush with the top of the Chuck Housing



Turn the Chuck Housing over on its side and verify that the U-Cup Seal and the Wiper Seal are properly installed.



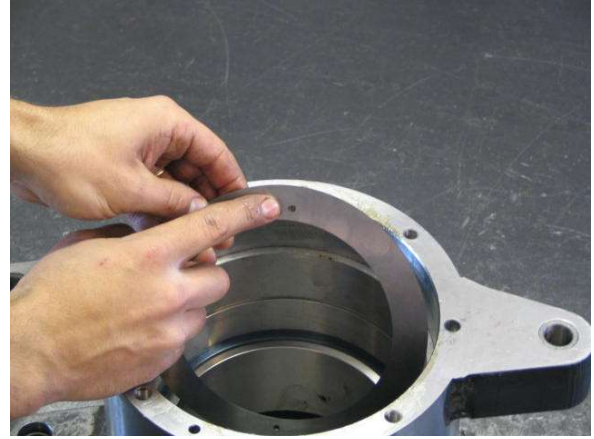
Turn the Chuck Housing over, and remove the Stop Tube and put off to the side. It will be installed later.



Install the Circlip Ring (18100404)



Ensure the Circlip is properly positioned at the bottom of the Piston.



Install the Shield with holes (18100403).



Apply a generous quantity of grease in the Ball Bearing (18100405)



Flip the Ball Bearing over and install it in the Chuck Housing.



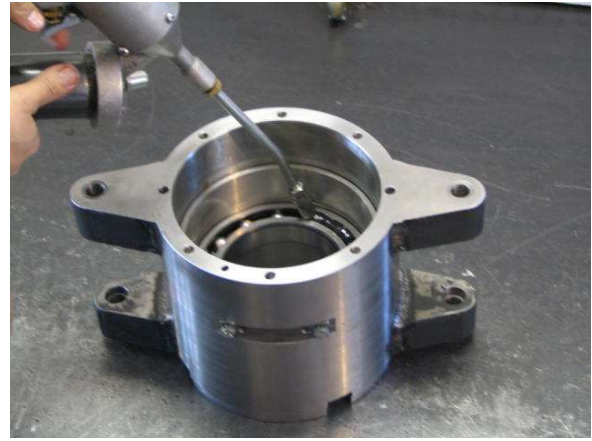
Hammer the Ball Bearing into place.



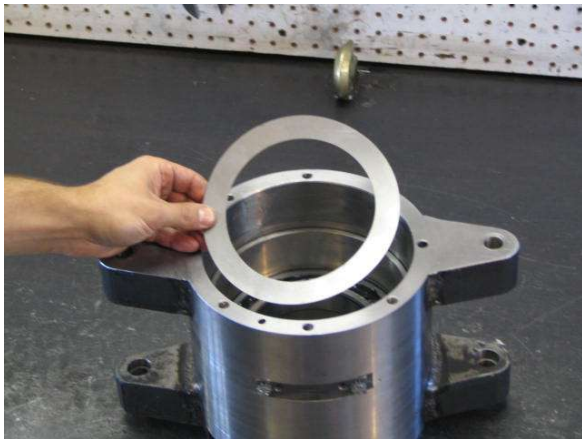
Install the Key (18100267)



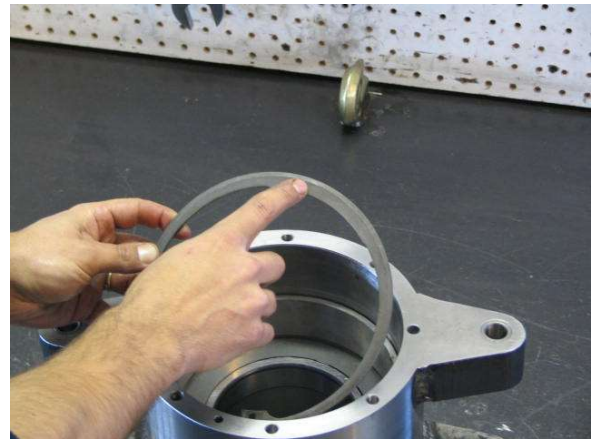
Install the 2 bolts (1/4" x 1/2" long) and the External Tooth Lockwashers.



Apply a generous quantity of grease on the other side of the bearing



Install the Shield with no holes (18100414)



Install the Retaining Ring (18100416) with the bevel on the outside edge facing up.



Use Retaining Ring Pliers to install



Ensure that the Retaining Ring is properly positioned in its groove in the Piston



Flip the Chuck Housing over and apply grease to the inside surface of the Piston



Install the Wear Ring (18100411) in its groove on the Chuck Bowl (18100419).



Apply grease to the outside surface of the Wear Ring.



Flip the Chuck Bowl over and install it in Chuck Housing.



Hammer the Chuck Bowl into place.



Flip the Chuck Housing over. Install the Retaining Ring (18100406)



Ensure the Retaining Ring is properly positioned in the groove in the Chuck Bowl



Once the silicone has dried, install the Input Shaft Cover. Fasten with 3 bolts ($\frac{3}{8}$ " x $\frac{3}{4}$ " long) and lock washers. Put off to the side.



Install the O-Ring (18100413) in the Thrust Bearing Housing (18100521).



Apply grease to the O-Ring and the outside surface of the Thrust Bearing Housing. Install the Oil Seal (18100424).



Hammer the Chuck Bowl into place.



Flip the Chuck Housing over. Install the Retaining Ring (18100406)



Apply grease to the Ball Bearing (18100410)



Flip the Ball Bearing over and install it in the Thrust Bearing Housing.



Hammer the Ball Bearing into place.



Apply grease the other side of the Ball Bearing



Install the Bearing Spacer (18100408) with the notches facing down.



Install the Bearing Shield (18100409)



Install the Retaining Ring (18100407) with the Retaining Ring Pliers.



Install the Spring Retainer (18100520).



Install the Oil Seal (18100317) in the Spindle (18100001) with the groove facing up.



Place the Thrust Bearing Housing over a hole in the work bench.



Apply grease to the inside surface of the Thrust Bearing Housing before installing the Spindle.



Gently hammer on the Spindle until it bottoms out in the Spring Retainer.



Apply grease to the outside surface of the Oil Seal Spacer (18100128) and install on the Spindle.
Gently hammer on it until it bottoms out on the Bearing.



Apply an anti-seize compound on the key (18100509) and insert it in the Spindle.

Install the 51 tooth Output Gear (18100508).
Ensure that the Key does not protrude.



Apply an anti-seize compound to the thread on the Spindle



Install a Lock Nut (18100510) with the bevel facing up.



Tighten the Lock Nut. Spindle lock and lock nut wrench in grey cabinet. Bolt Spindle lock to table.



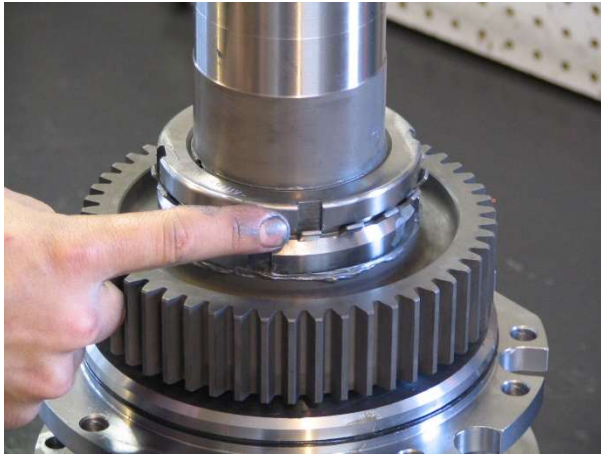
Install the Lock Washer (18100511) over top of the Nut. Ensure that the tab is lined up with the keyway in the Spindle.



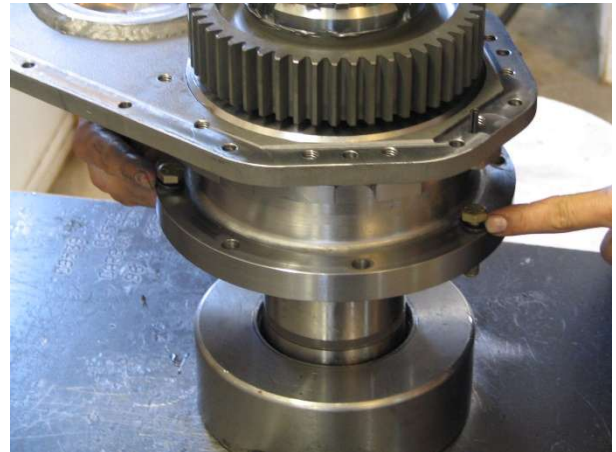
Install the 2nd Lock Nut (18100510) with the bevel facing down.



Tighten the Lock Nut.



Ensure that 1 of the notches in the Lock Nut is in line with 1 of the tabs on the Lock Washer. Bend the tab over using a screw driver. This will lock the Nut and prevent it from turning.

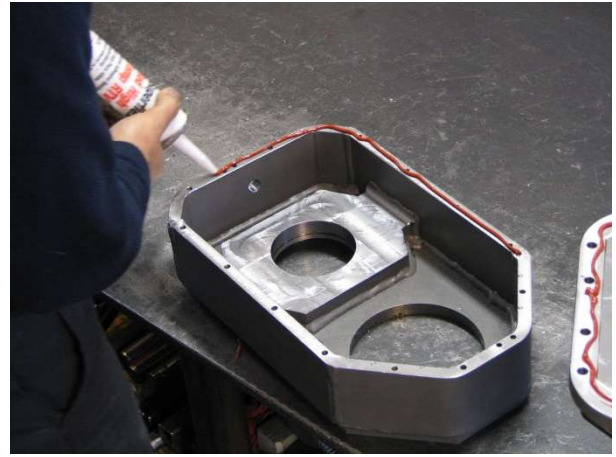
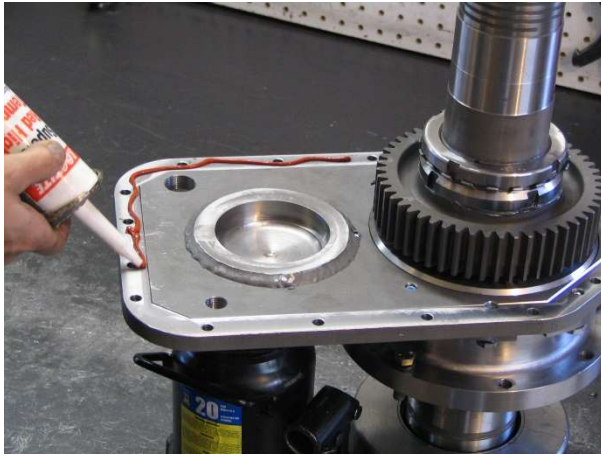


Install the Drillhead Housing Cover as shown.

Install 4 (3/8-24 x 1-1/2" HHCS) with lock washers. One to front flat on lid and 3 at back with 2 open holes on each side from front.



Apply Loctite to the 10 tapped holes and fasten the Cover to the Thrust Bearing Housing with 10 (3/8-16 x 1" HHCS) with lock washers.



Apply silicone to the Cover and the Drillhead Housing (18100507). Finish assembling the Drillhead while the silicone dries.



Install the Bearing (18100515) and hammer it into place.



Install the Input Shaft (18100516) Id spline up as shown, into the Bearing and hammer it into place.



Install the 50 tooth Input Gear (18100517) on the Input Shaft.
Ensure that it is flush with the Output Gear.



Install the Retaining Ring (18100224) and the Bearing (18100515) in the Drillhead Housing.



Hammer the Bearing into place.

Turn the Housing over and ensure that the Bearing is tight against the Retaining Ring



Install the Oil Seal (18100426) open spring side up in the Upper Bearing and Seal Housing (18100512)



Hammer the Oil Seal until it bottoms out in the Housing.



Remove one of the seals in the Bearing (18100425) and install it in the Upper Bearing and Seal Housing, with the open side of the bearing facing down towards the Oil Seal



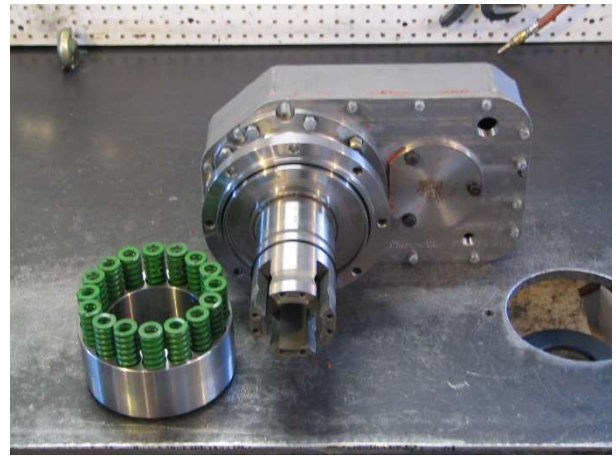
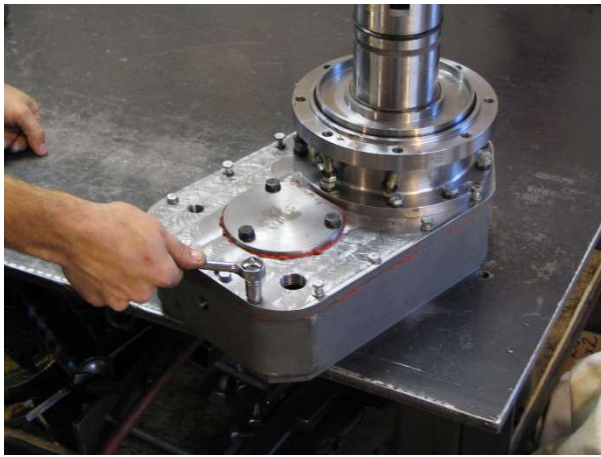
Hammer the Bearing down until it bottoms out on the Oil Seal.



Install the Drillhead Housing on the Cover.

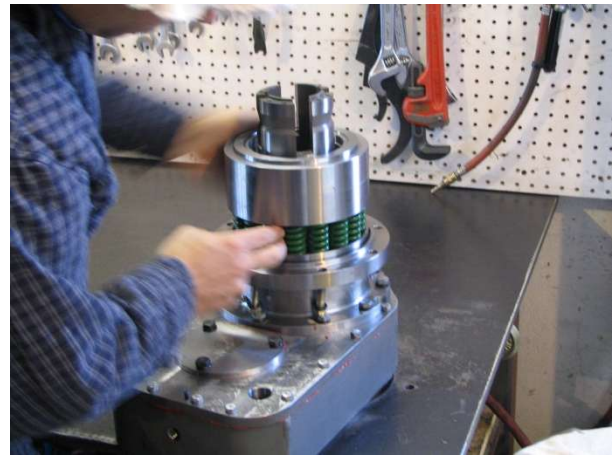
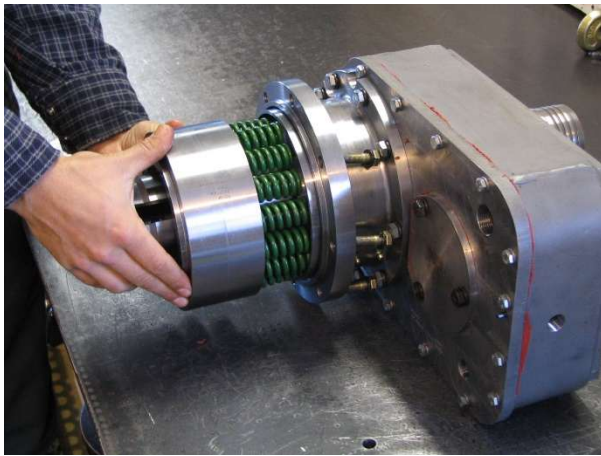


Ensure that the Spring Pin is properly lined up and hammer the Housing down onto the Cover.



Flip the Drillhead over and fasten the Cover onto the Housing with 16 bolts (1/4" x 1" long)

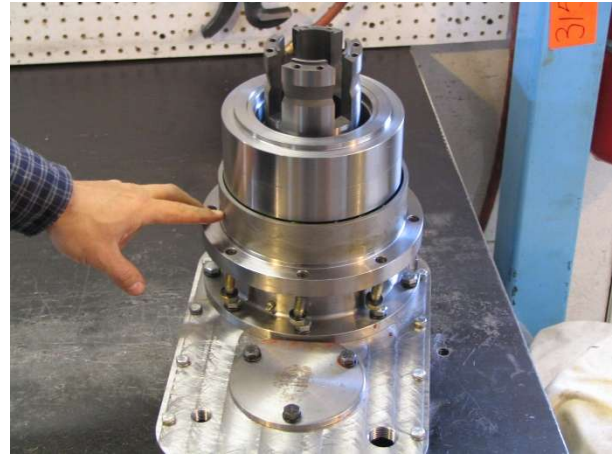
Flip the Drillhead over on its side. Install the 19 Springs (18100309) into the Spring Housing (18100004).



Install the Spring Housing and Springs in the Chuck Housing. Flip the Drillhead over again to properly position the Springs in the Spring Retainer.



Install the Stop Tube (18100415).



Apply grease to the outside surface of the Stop Tube.



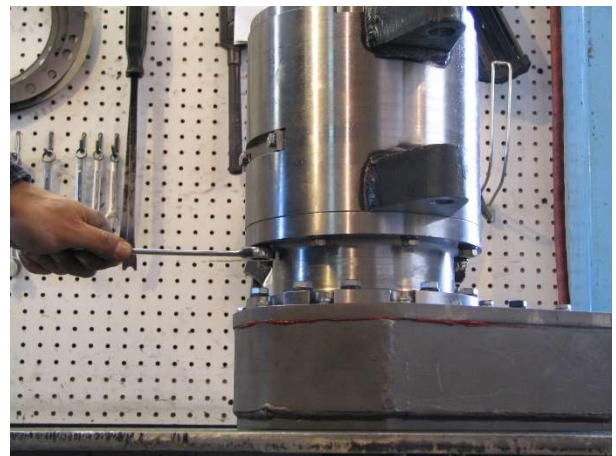
Install the Chuck Housing (18100343).



Use a Bushing to help properly align the Chuck Bowl and the Spindle, then position the Chuck Housing as shown.

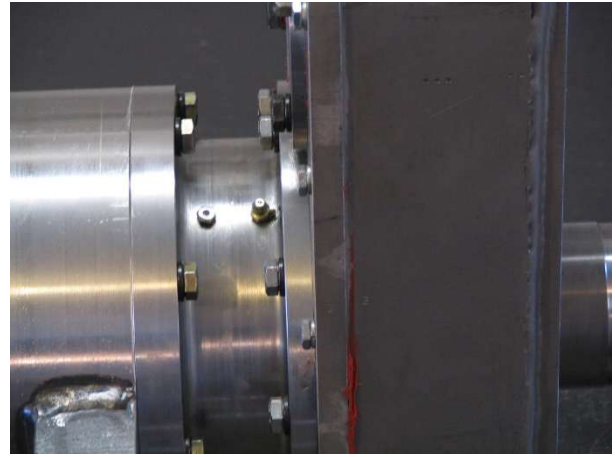


Insert the 8 bolts (3/8-24 x 1-1/2" HHCS) and Lock Washers to fasten the Chuck Housing to the Thrust Bearing Housing.

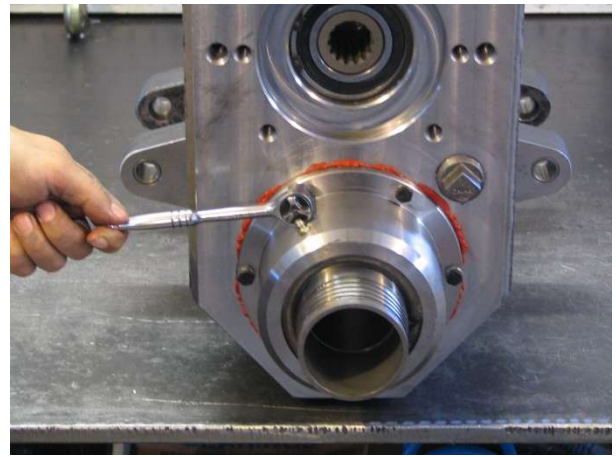




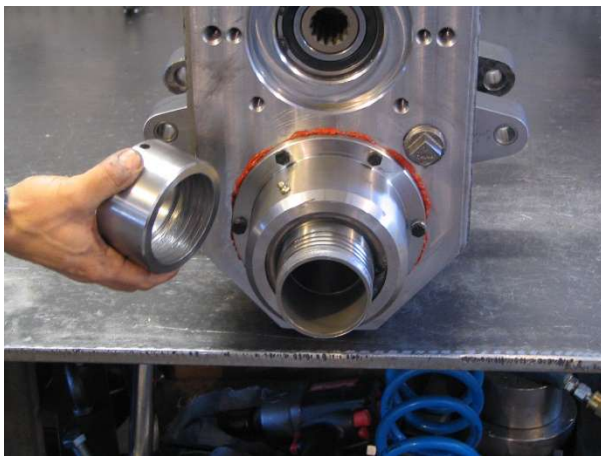
Apply silicone to the Drillhead Housing and the Upper Bearing and Seal Housing.



Install a Grease Fitting and a modified Grease Fitting (Ball ground off) as shown.



Apply grease on the Oil Seal and install over the Spindle. Fasten to the Drillhead Housing with the 6 Bolts (1/4" x 3/4" long) and the Lock Washers. Install 1" pipe plug.



Apply an anti seize compound to the thread on the end of the Spindle, and screw on the Output Shaft Nut (18100513).



Install Vent Plug (18100514) into Reducer (REDNPT340180) then install into Street elbow (STELBOW340) then install into housing lid. Also install 4 Npt Pipe Plugs (PPSQHD380). One in lid and 3 in sides of Housing.



Install 5 grease fittings (GF14028S)