GENIE®
Direct Drive Probes™

Direct Drive Packing Gland Replacement Seals Maintenance Instructions

Tools & Materials

- ☐ 1-3/16” wrench
- ☐ 1-3/8” wrench
- ☐ Pick, small flat-head screwdriver or similar tool
- ☐ Torque wrench (Capable of 10-80 ft-lbs)
- ☐ 1-3/16” Crowfoot for torque wrench
- ☐ Liquid leak detector
- ☐ Krytox GPL206, or other inert grease
- ☐ Safe pressure source (Capable of the pressure for your application.)
- ☐ Pipe thread sealant (PTFE tape)

Additional Information

- N/A

Safety Warnings

⚠ Failure to abide by any of the safety warnings or operation of this device outside the limits stated below may result in equipment failure and serious injury or death.

- Shut off the sample flow before removal.
- Do not exceed any equipment pressure ratings.

Model Identification

(Models 750, 751, 752, 755, 760)

U.S. Patents 8,522,630; 9,200,986.

Direct Drive Packing Gland Replacement Seals Maintenance Instructions

Overview Instructions & Explanations

1- Removing the old packing

1.1 The Direct Drive Probe™ must be depressurized and removed from the process line.

1.2 Use a 1-3/16" wrench in the wrench flats of the packing gland nut and a 1-3/8" wrench on the wrench flats of the base to unscrew the packing gland nut. **(Figure 1 & 2)**

1.3 Use a pick, small flat-head screwdriver or similar tool to remove and discard all rubber gaskets inside the base. **(Figures 3 - 6)**

⚠ NOTE: **The number of rubber gaskets will vary, depending on the seal material.**

1.4 Use a pick, small flat-head screwdriver or similar tool to remove and discard the packing seal inside the base. **(Figures 7 - 9)**

1.5 Check inside the base and remove any debris left behind from the rubber gaskets or packing seal.

Figure 1

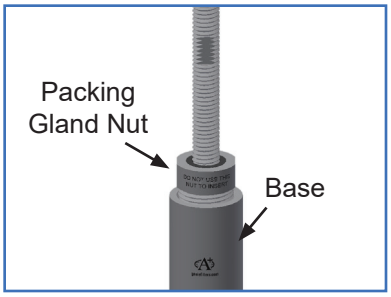


Figure 2

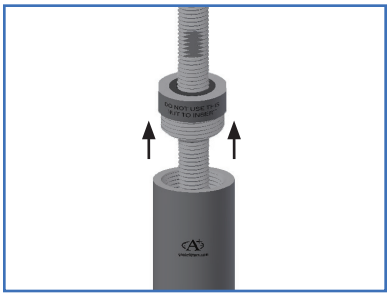


Figure 3

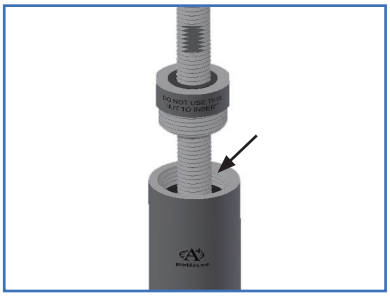


Figure 4

Figure 5

Figure 6

Figure 7

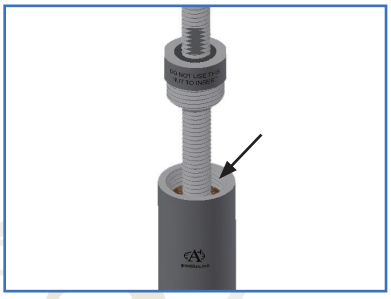


Figure 8

Figure 9

Direct Drive Packing Gland Replacement Seals Maintenance Instructions

Overview Instructions & Explanations

2- Installing the 1/8" Packing Seal

2.1 Insert the new packing rope in the base by wrapping it in a clockwise direction around the threaded probe. **(Figures 10-11)**

2.2 Screw the packing gland nut down snug with a wrench to press the packing seal in place (Figure 12).

2.3 Unscrew the packing gland nut. **(Figure 13)**

Figure 10

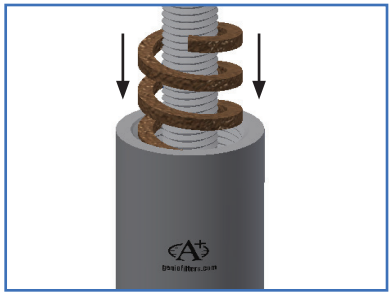


Figure 11

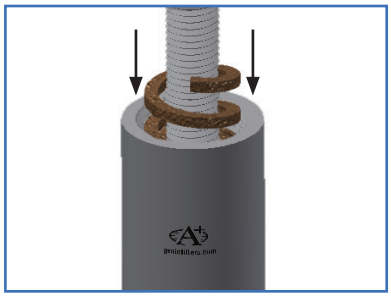


Figure 12

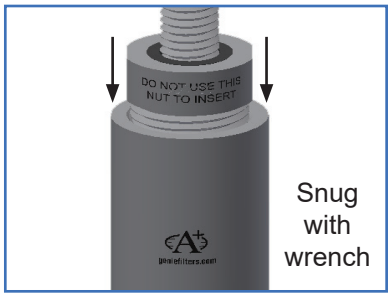
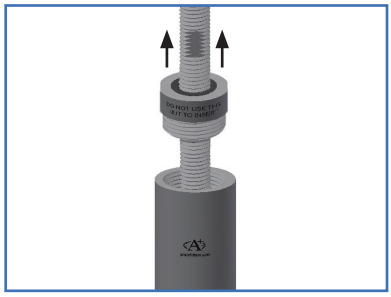


Figure 13



Overview Instructions & Explanations

3- Installing the First Rubber Gasket

3.1 Notice that each of the rubber gaskets have slits on them. (**Figure 14**)
3.2 Wrap one rubber gasket on the threaded probe under the packing gland nut. (**Figure 15**)
3.3 Insert the rubber gasket in the base. (**Figure 16**)
3.4 Screw the packing gland nut down snug with a wrench to press the rubber gaskets in place. (**Figure 17**)
3.5 Unscrew the packing gland nut. (**Figure 18**)

Figure 14

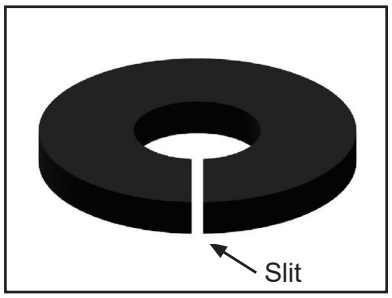


Figure 15

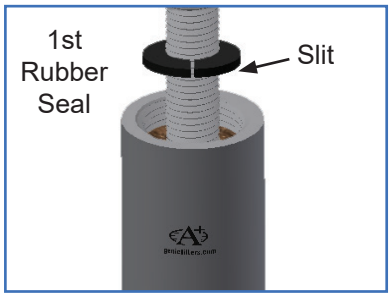


Figure 16

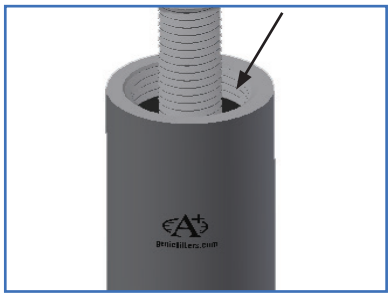


Figure 17

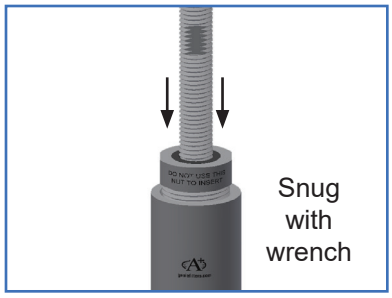
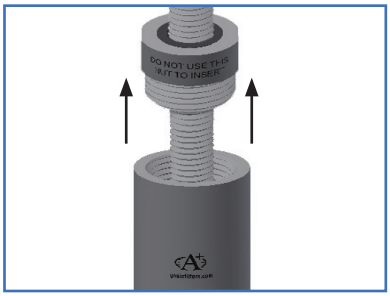


Figure 18



Direct Drive Packing Gland Replacement Seals Maintenance Instructions

Overview Instructions & Explanations

4- Installing the Remaining Rubber Gasket

4.1 Notice that each of the rubber gaskets have slits on them. **(Figures 19)**

4.2 Wrap the next rubber gasket on the threaded probe under the packing gland nut with its slit facing opposite direction (180°) of the last gasket installed. **(Figure 20)**

4.3 Insert the rubber gaskets in the base. **(Figures 21)**

4.4 Screw the packing gland nut down snug with a wrench to press the rubber gaskets in place. **(Figures 22)**

4.5 Unscrew the packing gland nut. **(Figures 23)**

4.6 Repeat this section until all the rubber gaskets have been installed.

⚠ **NOTE: The number of rubber gaskets will vary, depending on the seal material.**

4.7 Screw the packing gland nut down by hand until the first few threads are engaged. **(Figures 24)**

4.8 Tighten the packing gland nut to an internal torque value of 20 Ft-lbs, final torque will be set during test. **(Figures 25)**

Figure 19

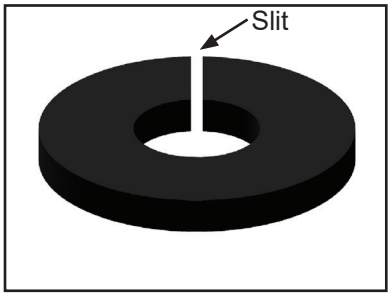


Figure 20

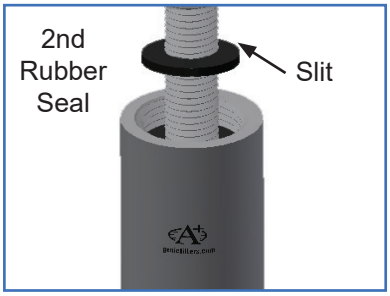


Figure 21

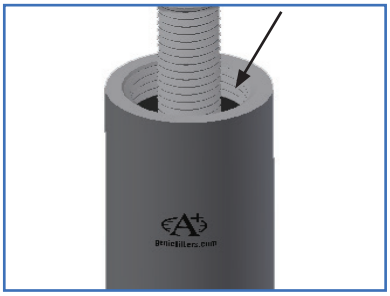


Figure 22

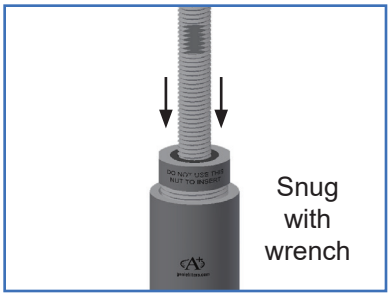


Figure 23

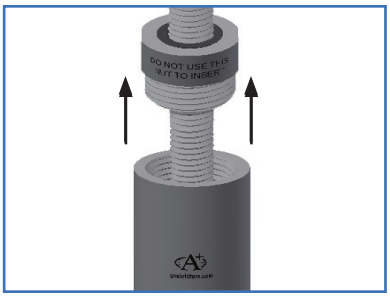


Figure 24

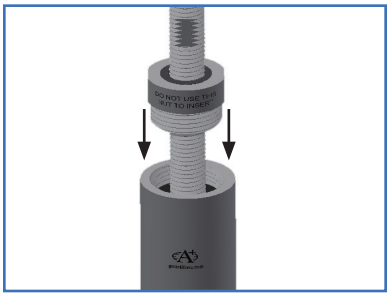


Figure 25

Direct Drive Packing Gland Replacement Seals Maintenance Instructions

Overview Instructions & Explanations

5- Pressure Testing

5.1 Apply thread sealant to the process threads of the probe and Krytox to the entire length threads on the probe. **(Figure 26)**

5.2 Using a 1-3/8" wrench install the probe into a valve or fitting connected to your safe pressure source.

5.3 Slowly pressure the probe to the pressure of the application.

5.4 Use liquid leak to. Check for leaks around the threads of the packing gland and on top of the packing gland nut. **(Figure 27)**

5.5 If leaks are present, use a 1-3/16" wrench to tighten the packing gland nut until the leak subsides.

NOTE: The amount of torque required to seal the packing gland will vary with process conditions and the sealing material. Seals with higher durometer, such as our RGD resistant HNBR and RGD resistant HNBR 985, will require significantly more torque than the standard seals. These seals, at higher pressure, may require as much as 75 ft-lbs of torque to produce a leak tight seal.

5.6 Depressurize the probe, remove it from the test valve, reapply thread sealant to the process threads.

6- Return to Service

6.1 The probe is now ready to be re-installed into the service. For installation, follow the installation instructions that came with the probe, or locate them on our website, www.geniefilters.com

NOTE: Be aware that the packing gland may need to be tighten periodically as conditions change or as the packing material wears during insertion/retraction.

Figure 26

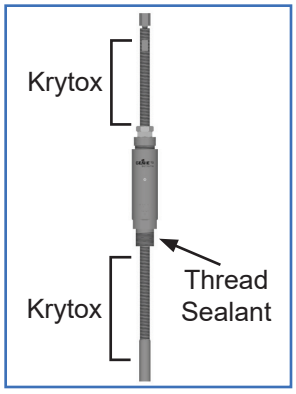


Figure 27