



## Repair Instructions for Seal Replacement Kits No. 312-0022, 314-0022, 316-0022 and 320-0022

MANUFACTURED BY PARKER PGI

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**IMPORTANT: KEEP THIS DOCUMENT WITH THE PRODUCT UNTIL IT REACHES THE END USER.**

### WARNING!

1. Contact with or inhalation of Liquid Anhydrous Ammonia (NH<sub>3</sub>) or of LP Gas, can cause **SERIOUS INJURY OR DEATH**.
2. Before installation or removal of any tank valve, the system must be purged of all product.
3. Personal Protective Equipment (PPE), safety gloves, goggles and clothing should be worn.
4. For proper handling and storage of NH<sub>3</sub> and Liquefied Petroleum Gas, refer to ANSI Standard K61.1. and NFPA Pamphlet 58.
5. An abundant supply of fresh water should be available to provide immediate first aid treatment for exposure to NH<sub>3</sub> and LP Gas.
6. To prevent the accidental opening of any valve, never grasp or carry a valve by its Hand wheel or handle.
7. To ensure a long term and safe operation, the manufacturer recommends that under normal service conditions this product should be inspected at least once every year and be repaired or replaced as required.

**TOOLS REQUIRED:** Safety Equipment (i.e. Gloves, Goggles, and Clothing), 12" Adjustable Wrench, 7/16" Open End Wrench, 12" & 18" Pipe Wrench.

### Repair Instructions

### WARNING!

#### VALVE TO BE REPAIRED MUST BE IN FULL OPEN POSITION:

1. To prevent unexpected pressure buildup in the system, always keep the Valve handle in the OPEN POSITION during installation or removal.
2. Safety equipment (I.E. gloves, goggles and clothing) must be worn before continuing with the next step.
3. Turn hand wheel counter-clockwise until hand wheel stops to achieve full open position. Remove nut holding hand wheel to stem, then remove hand wheel.  
Make sure system has been purged before continuing. Valve may be repaired in line or by securing valve in a holding fixture such as a large, heavy-duty bench vise. Loosen and remove four (4) bolts holding bonnet to body. Remove the bonnet assembly from valve body. Check seat area for damage (nicks, severe or deep scratches, etc.). Replace valve body or install new valve if nicks or scratches cannot be polished out by hand. Remove gasket material left in gasket recess of body. Take care not to scratch sealing area where new gasket will rest.
4. Clamp hex of bonnet assembly in a vise with disc holder up or facing you. Loosen and remove packing nut from bonnet. Remove packing, male adapter, spring, and gasket from stem and bonnet. Remove packing (if packing did not stay on stem when packing nut was removed) and O-ring from packing nut. Take care not to scratch or mar inside diameter of packing nut when removing packing and O-ring. Discard old packing, O-ring, and packing nut gasket. Using hand wheel, turn stem clockwise and remove stem and disc holder assembly from bonnet.
5. Place stem and disc holder assembly in vise. Clamp on underside of disc holder. Loosen and remove disc nut and washer. (Note: On larger valves, disc nut and washer are on one piece construction). Remove old seat disc and discard. At this point, clean all parts thoroughly to remove dirt, old grease, etc.
6. Inspect stem surface for smoothness. Scratches, pitting, etc. are unacceptable in sealing area. Inspect threads of stem and bonnet for signs of wear. If any of these conditions exist, part or parts must be replaced with new ones.
7. Place stem and disc holder assembly back in vise. Clamp on under side of disc holder. Install new disc with mold marks down and facing disc holder. Install old washer / disc nut and tighten to 20 ft. / lbs. when using 312 and 314 kits, 40 ft. / lbs. for 316 kit, and 50 ft. / lbs. for 320 kit. Re stake disc nut at disc holder threads in two (2) places.
8. Install new o-ring in I.D. groove of packing nut. Push in place with finger tips. Do not use sharp object as you may cut o-ring. Install new packing rings into packing nut. Place male adaptor into packing. Set aside for later assembly.
9. Lubricate threads of stem with a good type grease. Screw stem and disc holder assembly back into bonnet until disc holder rests against bottom of bonnet. Drop packing nut gasket down into bonnet making sure that gasket rests on shoulder inside of bonnet. Place spring over stem and drop into bonnet. Lubricate exposed surface area of stem with a good pump and packing sealing type lubricant (John Crane style 279A, or equal, is recommended). Place assembly into vise and clamp on hex of bonnet. Very carefully place packing nut assembly over end of stem. Push straight down on packing nut with a slight twisting motion to avoid cutting packing and engage threads of packing nut to threads of bonnet. Great care must be taken not to cross thread. Tighten packing nut to 90 ft./lbs. for kit no.'s 312, 314, and 316. Tighten to 175 ft. / lbs. when using 320 kit.
10. Place valve body back into vise. Place body gasket in gasket recess of body. Place bonnet assembly onto body and line up four (4) holes. Grease bolts lightly and install finger tight. Snug up with wrench for torque setting. Proper torque for 1-1/4" thru 2" valves (312 thru 317) is 55ft. / lbs. Torque for 3" valves (320 thru 321) is 95 ft. / lbs. Tighten four (4) bolts in a crisscross pattern. If torque wrench is not available, tighten bolts in a little at a time in the same crisscross pattern. This is extremely important to avoid cocking of bonnet to one side which could create a leaking condition. Place hand wheel on stem, washer on hand wheel, start nut on stem threads, and tighten.
11. Turn hand wheel clockwise to fully closed position.
12. Pressurize system, check for leaks using leak detector. Check for proper operation of valve by opening and closing several times.

*While this information is presented in good faith and believed to be accurate, individuals using this literature must exercise their independent judgment in evaluating product selection and determining product appropriateness for their particular purpose, system requirements and certifications. The manufacturer reserves the right to change product designs and specifications without notice.*