

## Installation Instructions – Supplemental

### **D-SEAL REPLACEMENT INSTRUCTIONS (Grade 8 bolts)**

The following instructions are included to assist in the proper replacement of the D-seals on PVI equipment. The enclosed fastener kit includes hardware required to bolt flanged heads and heat exchangers to tank flanges. These general instructions may refer to the removal of components which may not be installed on your water heater.

**IMPORTANT: Call PVI Technical Service at 1-800-433-5654 for additional instruction when removing or installing heat exchangers. Do not attempt to hold, lift, or position the heat exchanger without proper equipment capable of handling the weight. Installation and service must be performed by a qualified installer or service agency.**

#### ***D-SEAL REPLACEMENT PROCEDURE (Requires at least a 150ft.lb. torque wrench)***

1. Shut off all electrical, fuel, and water sources to heater and drain the tank.
2. Disconnect and/or remove components, wiring to the burner, valves, pumps, electric elements or controls as needed.
3. Identify and mark top center of tank flange and head or heat exchanger flange.
4. Remove bolts and separate the head or heat exchanger flange from the tank flange. (Take extra care not to damage the tank lining)

**CAUTION: The heat exchanger is heavy. Do not attempt to hold, lift, or position the heat exchanger without proper equipment capable of handling the weight.**

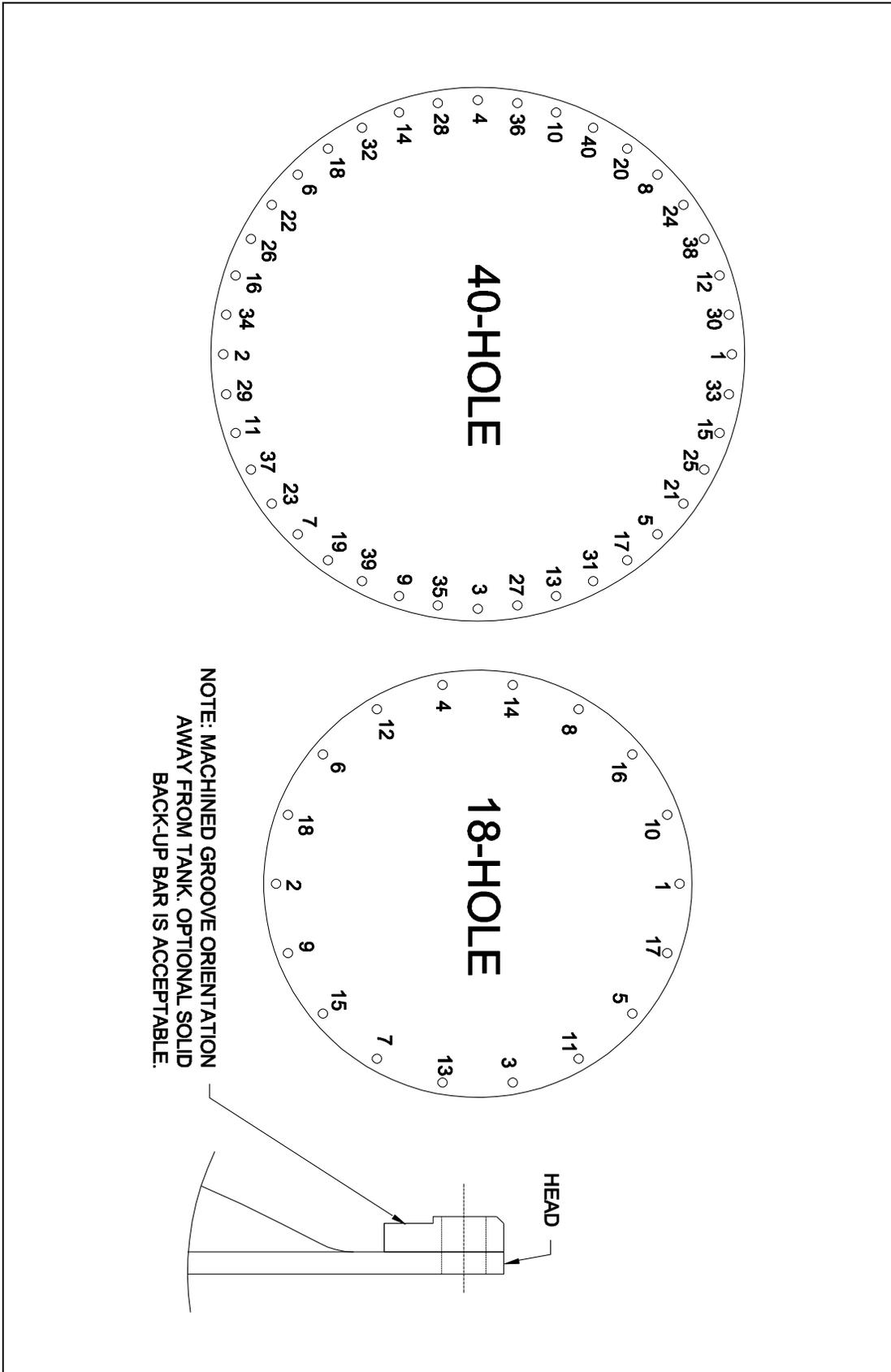
5. Clean the tank flange and head or heat exchanger and make sure nothing is left in the flange groove. (Again take care not to damage the tank lining). Inspect the D-seal for any damage. Clean any debris on the D-seal by using a small amount of acetone and wiping the surface.
6. Apply a small bead of silicone RTV at the bottom of the flange groove leaving an approximate 2" gap near the top of the flange. Starting at the gap in the RTV, press the D-seal into the center of the groove until the D-seal reaches the starting point. Note: that flat side faces outward. Match cut the finish end such that the D-seal lies naturally in the center of the groove. Apply a small drop of super glue to one end of the D-seal and hold the ends firmly together for several

seconds so that the glue can set. Pull the glue joint section of the D-seal aside far enough to apply RTV to the groove then press the D-seal into place in the groove.

7. Install the head or heat exchanger flange, aligning the marks you made at top center of the flanges from step 4. (Using 4 pieces of 9/16" all-thread is helpful in aligning the bolt holes and pulling the heat exchangers up to the tank flange). Be careful not to displace the D-seal from the tank flange groove.

**CAUTION: The bolts on the tank flange you are servicing may have GR5 bolts. Do not re-use or mix those bolts with the GR8 bolts provided with these instructions.**

8. Install the flange bolts and nuts with a flat washer under each bolt head and nut. Snug them in an alternating star pattern. (See chart, page 2)
9. Using a calibrated torque wrench, and in an alternating star pattern, tighten the bolts in 2 increments: **95ft.lb and 145ft.lb.**
10. Fill the tank and check for leaks. Check torque again if leaks noted.
11. Install the remaining hardware relative to the head or heat exchanger (pumps, burners, other heat exchangers, electric elements, etc.)
12. After re-assembly, allow the heater to get to operating temperature and check for leaks. It may be necessary to torque the bolts again.



**NOTE: MACHINED GROOVE ORIENTATION  
AWAY FROM TANK. OPTIONAL SOLID  
BACK-UP BAR IS ACCEPTABLE.**

**TORQUE PATTERN**