

2400S
SPLIT DOUBLE SEAL

I-4668
3/26/99
US PAT. 5,820,129

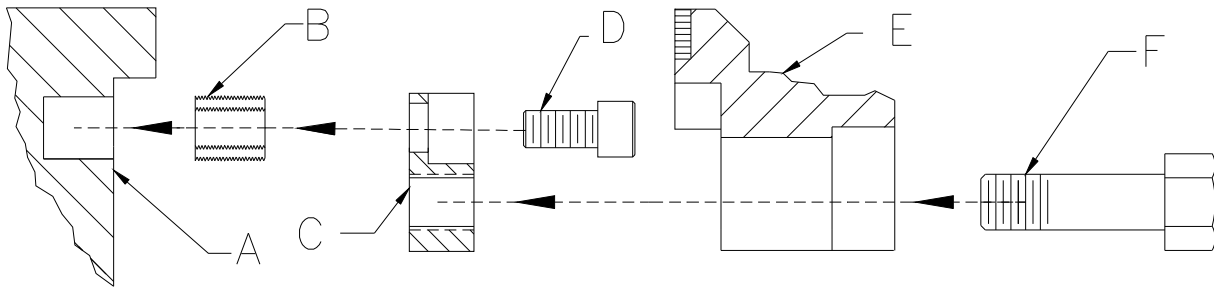
INSTALLATION INSTRUCTIONS

The 2400S is designed to be used with the API Plan 54. The water circulating through the gland should be clean water from an external system. The recommended minimum flow for the water is 0.2 Gal./Min.

Prepare Pump

- STEP 1. Remove packing and packing follower.
- STEP 2. Remove studs.
- STEP 3. Clean and inspect face of stuffing box. Angular misalignment should not exceed .015". If face is pitted, repair with: Belzona "super metal" or equivalent, RTV sealant or use an expanded teflon gasket material between the gland and the face of the stuffing box.
- STEP 4. Clean, inspect, and lightly lubricate shaft with grease provided. The shaft should not be scratched or grooved (32 finish required).
- STEP 5. **This step is only for those seals requiring an adapter kit. A kit will be used only when the bolt circle is too small. Adapter kit 1 for 0.500" -13NC studs, which includes threaded inserts (B) or adapter kit 2 for 0.375"-16 NC studs.**
- I) Remove existing studs from the stuffing box.
 - II) Screw the threaded insert (B) supplied into the stuffing box stud holes (A).
Omit this step if inserts are not required.
 - III) Set the tab (C) in place using the cap head screws (D) provided.
 - IV) Make sure to check the alignment of the adapters before bolting the gland (E) halves together to insure a proper installation. Make all adjustments required before assembling gland halves (E). The .375"-16NC bolt (F) is not included.

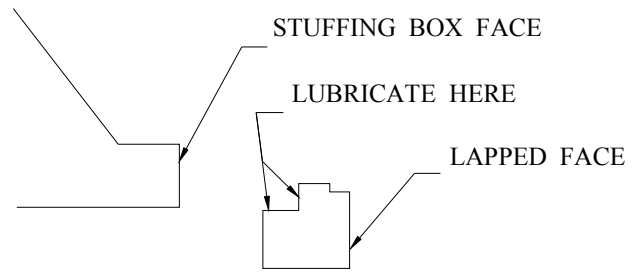
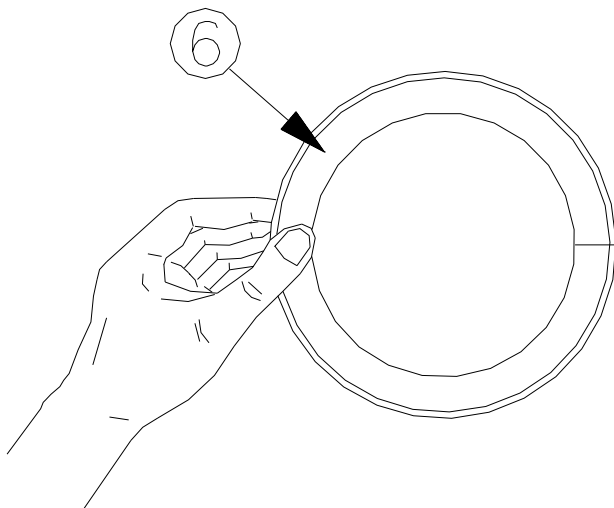
NOTE: WHEN BOLTING THE GLAND TO THE STUFFING BOX DO NOT OVER TORQUE. (MAXIMUM OF 20 Ft Lbs.)



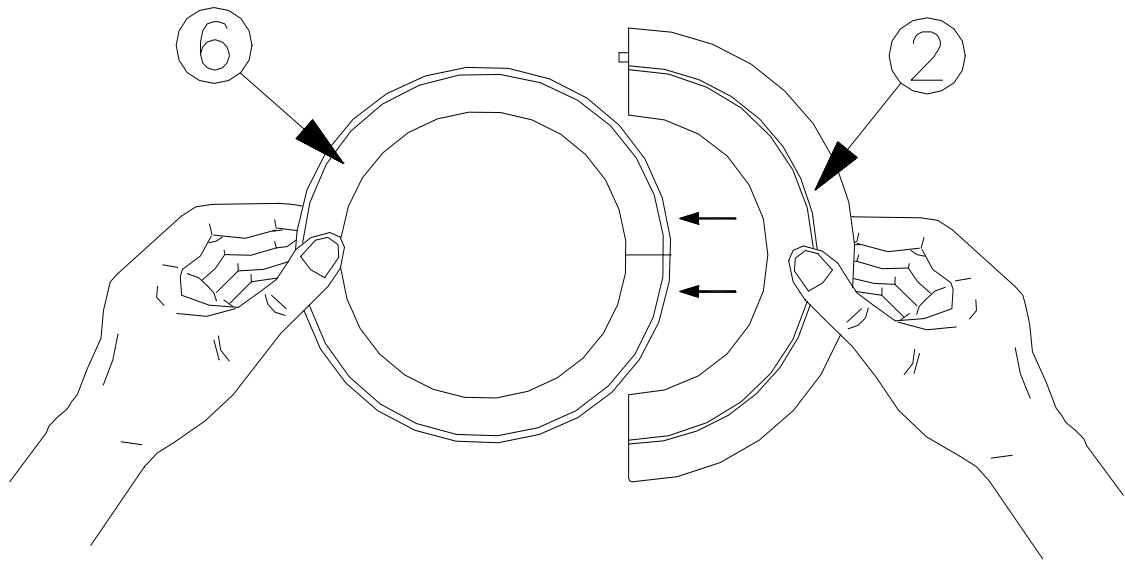
INSTALLING SEAL

Important: Seal faces should be kept perfectly clean at all times. Faces are easily chipped, please handle with care. **Apply a minimum amount of o-ring lubricant to rotary face O.D. shoulder as shown.** **Caution:** Do not get lubricant on split ends and lapped faces.

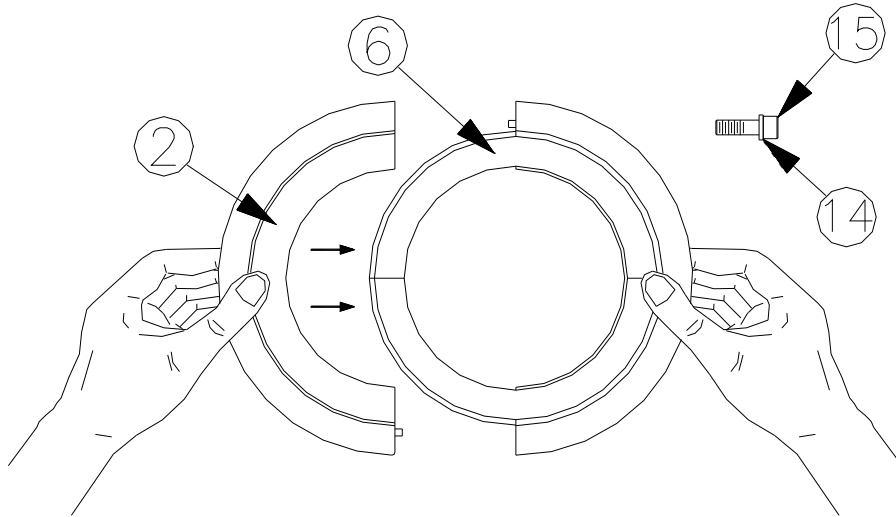
STEP 1. Assemble and hold rotary face halves (#6) around shaft with lapped face outward.



STEP 2. Slide one half of rotary collar (#2) over face halves (#6) with collar split approximately **90 degrees apart from face split.** (**Do not push together tightly.**)

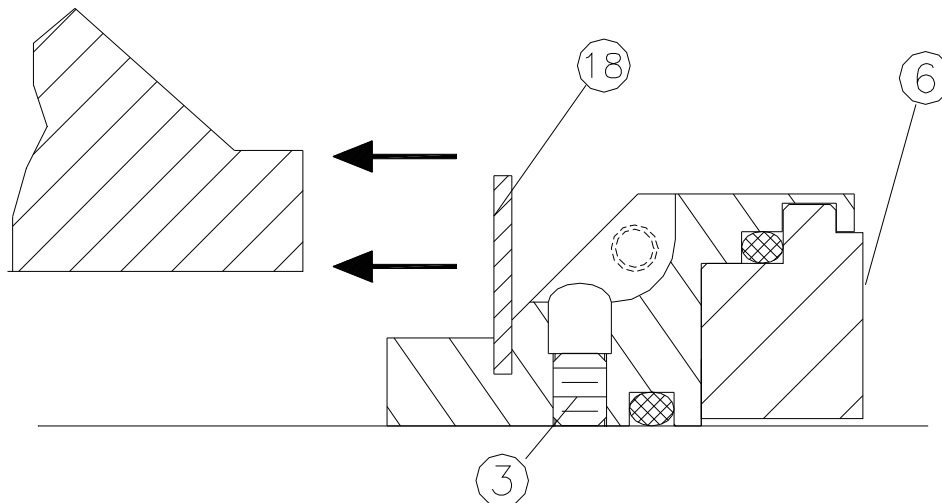


- STEP 3. Slide remaining half of rotary collar (#2) over face halves (#6), but do not force the collar halves together. Make sure face joints are perfectly matched, push on high side with finger if mismatch occurs. Lapped face surfaces must match as well as outside diameters. Loosely thread the (2) cap screws (#15) with lock washers (#14) into collar halves. Snug down the (2) cap head screws evenly, until only a **1/32" gap** remains between metal halves. **Important: DO NOT** completely tighten screws at this time.



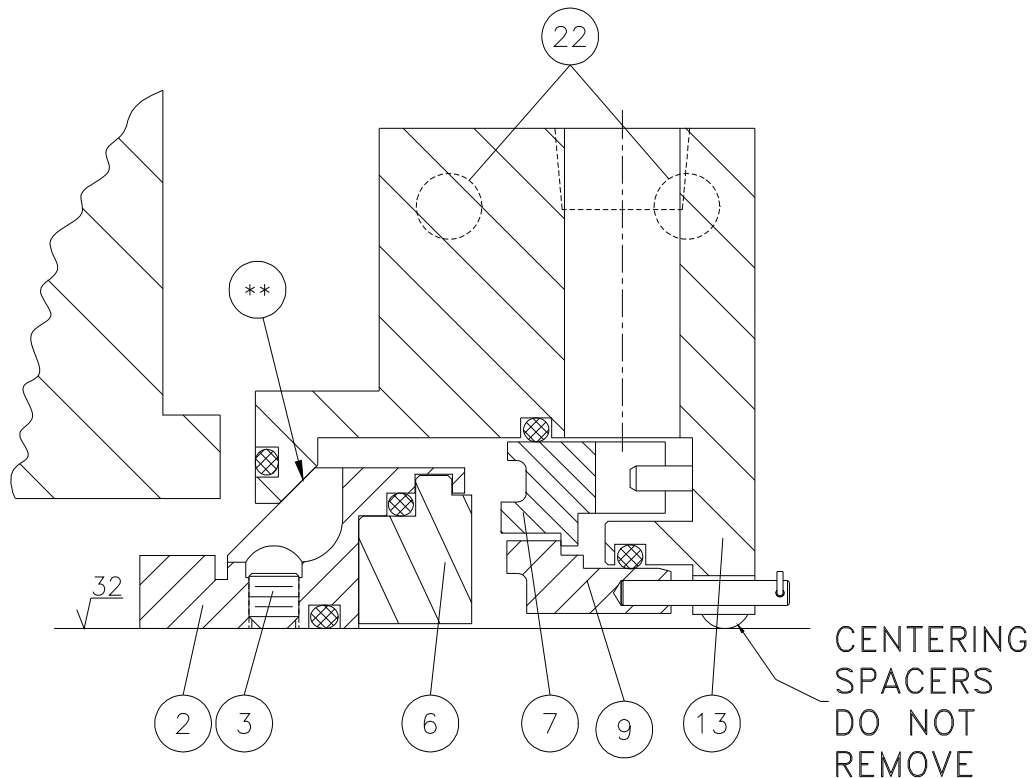
- STEP 4. Slide rotary unit towards stuffing box until setting spacer (#18) comes in contact with the face of the stuffing box.

- STEP 5. **Evenly** tighten the (2) collar cap head screws (#15). (Seal sizes 1-3/4" thru 2-5/8" to 40 inch-Lbs.; 2-3/4" thru 4-3/4" to 95 inch-Lbs.)



- STEP 6. Tighten the set screws (#3) on rotary collar. (Seal sizes 1-3/4" thru 4-7/8" to 70 inch-Lbs.; 5" and above to 130 inch-Lbs.) After initial tightening, retighten each screw for proper torque as they have a tendency to loosen, as the remaining screws are tightened.

- STEP 7. Remove halves of setting spacer (#18) and discard.
- STEP 8. Wipe fingerprints from face (#6) with the alcohol pad provided.
- STEP 9. Position gland halves (#13) around rotary unit so that angled lip (**)
inside of gland touches angled back of rotary collar (#2) before bringing gland halves together. This will help prevent stationary faces (#7 & #9) from hitting rotary face (#6) during gland assembly.

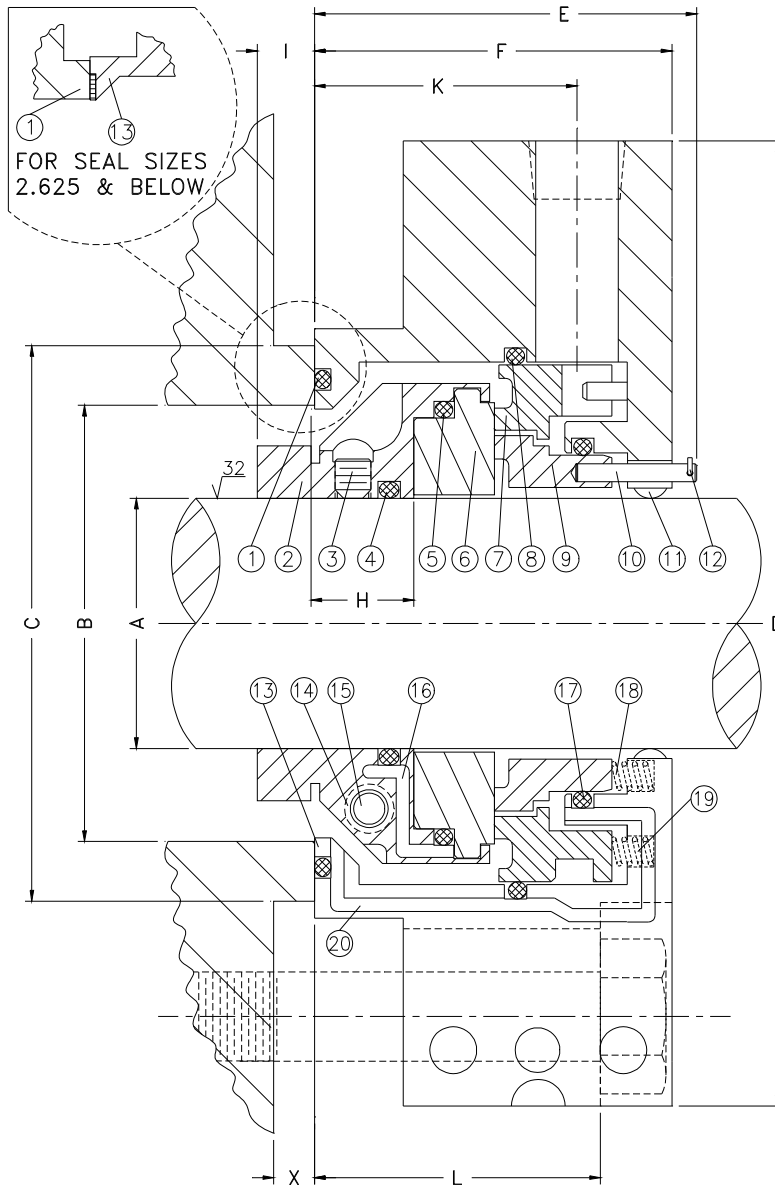


- STEP 10. Install and bring gland halves close together, but do not force the gland halves together. Allow the cap head screws (#22) and lock washers (#21) to pull the gland halves together **evenly** until the gland halves are **1/16" apart**. **Now evenly tighten** the (4) gland cap head screws (#22) to close the gap between the two halves.
- STEP 11. Start bolting your gland to the pump **stopping just before the gland comes in contact with the stuffing box**. Finish tightening the (4) gland cap head screws (#22). (Seal sizes 1-3/4" thru 2-5/8" to 170 inch-Lbs.; 2-3/4" thru 4-3/4" to 301 inch-Lbs.)
- STEP 12. Finish bolting your gland to the stuffing box, and remember to tighten the bolts **evenly**. Do not over-tighten.
- STEP 13. Connect barrier water lines to seal gland using PPC seal water control unit or other rated flowmeter.
Important: Water pressure must be maintained on seal at all times even when pump is not running.

STEP 14. Run equipment according to normal operating procedures.
See notes next page.

NOTE:

1. Some dripping may occur, but this should be barrier water since the barrier water pressure is maintained at a higher pressure than the product.
2. This seal is not designed to handle pressure reversal; therefore the barrier pressure must always exceed the product pressure.



ITEM	DESCRIPTION	REPAIR KIT
1	GLAND GASKET	*
2	ROTARY COLLAR	*
3	SET SCREWS	**
4	O-RING	**
5	O-RING	**
6	ROTARY FACE	**
7	UPPER INBD. STATIONARY FACE	**
8	O-RING	**
9	LOWER OUTBD. STATIONARY FACE	**
10	ANTI-ROTATION PINS	**
11	CENTERING SPACERS	**
12	RETAINING CLIPS	**
13	GLAND	*
14	LOCK WASHERS	**
15	CAP SCREWS	**
16	COLLAR SEAM GASKETS	**
17	O-RING	**
18	SPRINGS	**
19	SPRINGS	**
20	GLAND SEAM GASKETS	**
21	LOCK WASHERS	**
22	SOCKET HEAD CAP SCREWS	**
ADAPTER KIT 1, 2 & 3		
23	ADAPTERS	
24	THREADED INSERTS	
25	CAP SCREWS	

* ADAPTER KITS
FOR SEAL SIZES 2.625 & BELOW"
IF BOLT CIRCLE IS TOO SMALL USE
ADAPTOR KIT 1 FOR ϕ .500 STUDS, OR
ADAPTOR KIT 2 FOR ϕ .375 STUDS, OR
ADAPTOR KIT 3 FOR ϕ .625 STUDS.