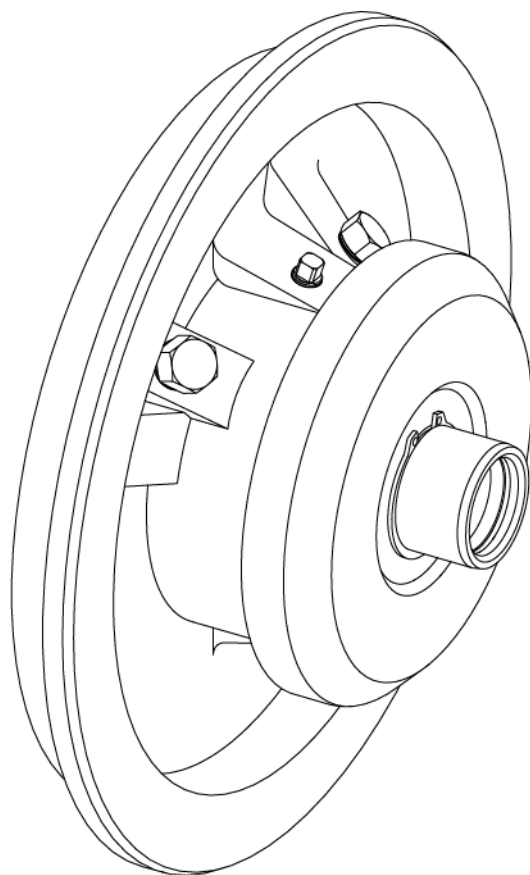


WILFLEY[®]

HEAVY DUTY CENTRIFUGAL PUMPS

Supplemental Assembly Manual



DryLock[®] 1 Static Seal Cartridge

1. Place the slide rings (24A & 24B) into the bore of the rotary seal housing (24). The shortest slide ring goes into the rear of the housing.



2. Insert the lip seal (25) into the rotary seal housing (24). Be sure the internal spring of the seal faces out. The seal (25) must seat completely in the groove of the rotary seal housing (24).

Note: For **excluder shaft seal** installation, reference steps 2a-2f. Otherwise, proceed to step 3.



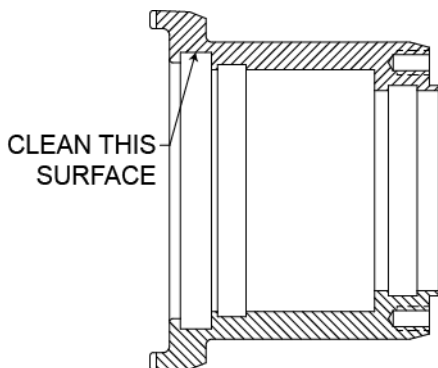
- b. Bend the excluder shaft seal (25) into the shape of a kidney bean. Take care not to crease the seal. (To make the seal more flexible, it can be submerged in hot water for 5 minutes before installation).



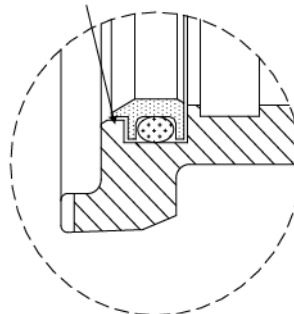
- c. Position the large radius of the excluder shaft seal (25) in the rotary seal housing (24). **Please note: the excluder shaft seal is not symmetrical.** Make sure the step of the seal (25) is orientated so it is located over the short leg of the seal groove in the rotary seal housing (24).



- a. Check to make sure the seal groove in the rotary seal housing (24) is free of debris.



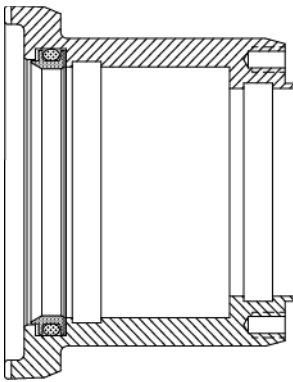
THE SEAL SHOULD SIT
IN THE LOCATION AS SHOWN



- d. Remove the bend in the excluder shaft seal (25) allowing it to snap into the groove in the rotary seal housing (24). Make sure the o-ring stays in position.



- e. Make sure the excluder shaft seal (25) is centered in the rotary seal housing (24). The shaft sleeve (39) can be used to fully seat the seal.



- f. The excluder shaft seal (25) is now properly installed in the rotary seal housing (24). Before proceeding to step 3, be sure to lubricate the seal (25) with a non-reactive grease such as DOW-111.

3. Insert the spring (42) into the bore of the rotary seal housing (24). Be careful not to damage the lip seal (25).



4. Slide the rotary seal housing (24) over the shaft sleeve (39). Carefully push the sleeve (39) past the slide rings and the lip seal. The rotary seal housing (24) must fit completely over the shaft sleeve (39). Install the shaft o-ring (20) into the groove in the shaft sleeve (39).



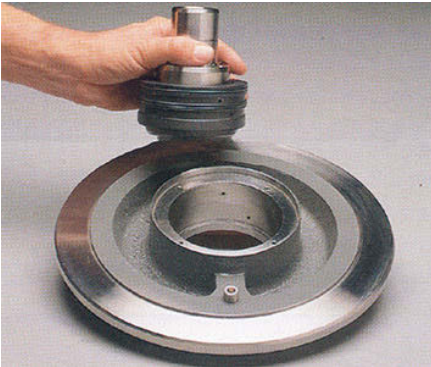
5. Carefully inspect the stationary seal ring (23) before installation. The inside surface of the seal ring (23) is the stationary seal face and must be free of scratches or nicks. Install the stationary seal ring (23) onto the rotary seal housing (24). Be careful not to damage the lip of the seal. The seal lip must seat on the widest diameter at the end of the housing (24).



6. Place the backup seal (28) (which ever type that was supplied) onto the top of the stationary seal ring (23). (Note: if using a lube seal, pack with grease before installing on the stationary seal ring.)



7. Lightly lubricate all seal o-rings to prevent damage. Insert the seal assembly into the seal housing (30).



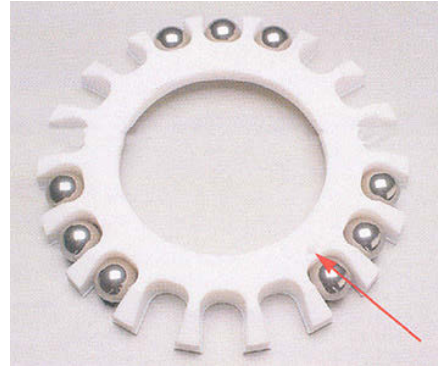
8. Attach the seal retainer (26) to the seal housing (30). Lock washers (26A) must be used with cap screws (26B). Be sure the cap screws (26B) are securely tightened.



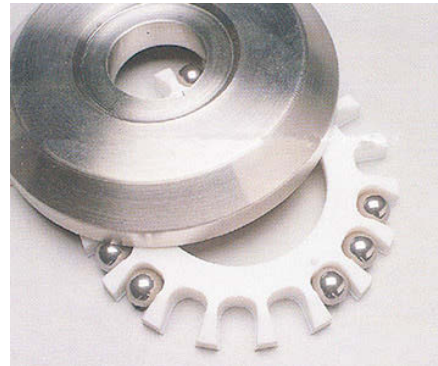
9. Attach the actuator (43) to the top of the rotary seal housing (24). Be sure the drive screws (24C) and drive nuts (24D) are securely tightened, and use Loc-Tite® 261 or its equivalent on the threads.



10. Place the balls (40A) into the slots of the ball retainer (40). For smooth operation, the balls (40A) must be symmetrically placed. Please note the small hole on the face of the ball retainer. This hole will fit over the spring pin (34B) in the ball housing (34).



11. Set the ball housing (34) on top of the ball retainer (40). Be sure the spring pin (34B) is installed and fits into the hole of the ball retainer (40). Turn the assembly over.



12. Attach the retaining ring (34A) to the hub of the ball housing (34).



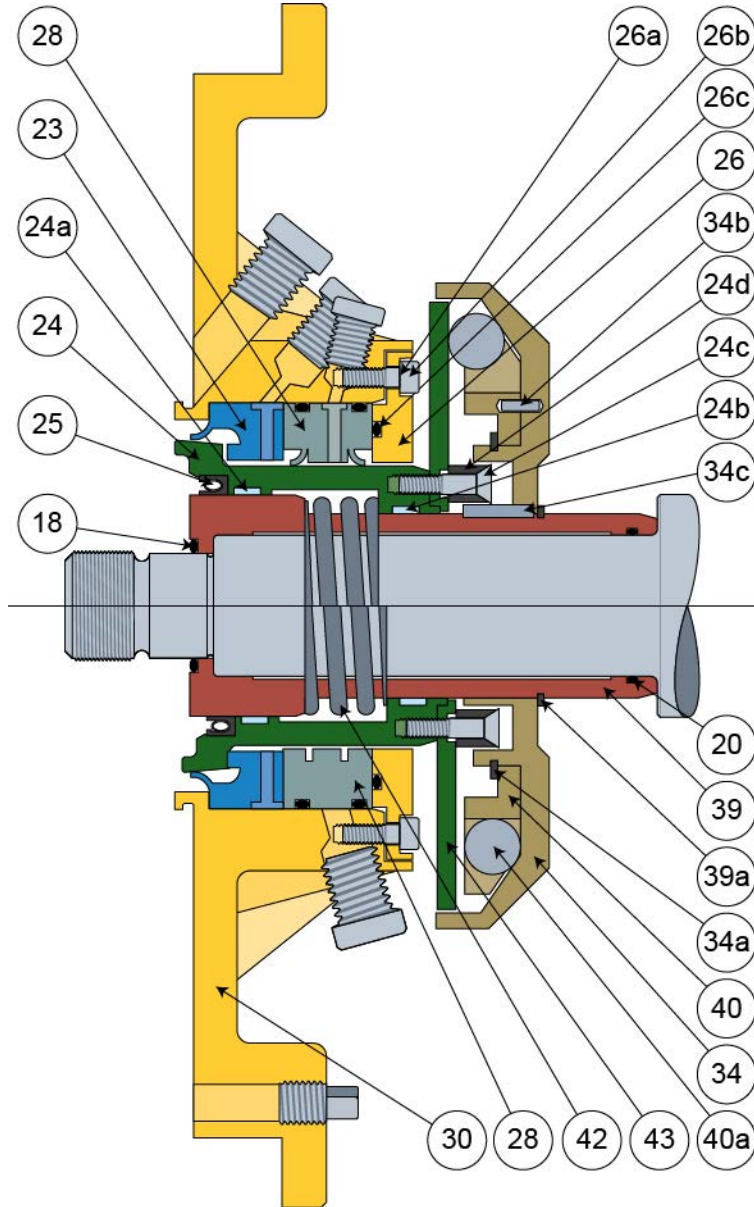
13. Slide the key (34C) into the slot on the shaft sleeve (39). You may need to push down and compress the seal assembly to fit the key (34C) into its slot.



14. Place the ball housing assembly over the shaft sleeve (39) and secure with retaining ring (39A). Be sure the drive screws (24C) are seated in the holes of the ball housing (34). You may need to push down and compress the seal assembly to fit the retaining ring (39A) into its groove. A small block placed under the shaft sleeve (39) will help compress the assembly.



Cross Section (Standard Configuration)



Item No.	Description	Qty.
18*	O-ring, Shaft Sleeve	1
20*	O-ring, Shaft	1
23*	Stationary Seal Ring	1
24*	Rotary Seal Housing	1
24a*	Slide Ring	1
24b*	Slide Ring	1
24c*	Drive Screw	4
24d	Drive Screw Nut	4
25*	Lip Seal	1
26*	Seal Retainer	1
26a	Lockwasher	4
26b	Cap Screw	4
26c	O-ring, Seal Retainer	1
28	Lube Seal / Labyrinth Seal	1
30	Seal Housing	1
34	Ball Housing	1
34a	Retaining Ring	1
34b	Spring Pin	1
34c	Key	1
37*	Lubricator (NOT SHOWN)	1
37a	Pipe Nipple (NOT SHOWN)	1
39	Shaft Sleeve	1
39a	Retaining Ring	1
40	Ball Retainer	1
40a	Balls	TBD ¹
42	Spring	1
43	Actuator	1

* Recommended spare parts.

1. Quantity varies with pumps size and operating speed.

Revision History

Revision	Description	Date
0	Initial Release	Sep. 2016