

Please read and save this Repair Parts Manual. Read this manual and the General Operating Instructions carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. The Safety Instructions are contained in the General Operating Instructions. Failure to comply with the safety instructions accompanying this product could result in personal injury and/or property damage! Retain instructions for future reference.

Self-Priming Centrifugal Pedestal Pumps

High Volume Dewatering

Cast Iron and Stainless Steel Models

Refer to form 1808-635-00 for General Operating and Safety Instructions.

Description

These self-priming (to 20 ft. lift) centrifugal pumps are heavy-duty units designed for high volume liquid transfer involving irrigation, dewatering, lawn sprinkling, etc. Pumps are equipped with a flapper valve (to eliminate repriming after each use) and a clog-resistant impeller which enables the pumps to handle semi-solids (up to 3/8" dia.) & sediment laden liquids. Handles liquids from 40° to 180° F (4° to 82° C). For use with nonflammable, non-abrasive liquids, compatible with pump component materials.

Units can be installed with direct-coupling drive or pulley drive and can be driven by electric motor or gasoline engine.

For further pump information, see Specifications, Performance and Pulley Drive Charts.

Specifications

Description	Model 2820-98	Model 2820-99	Model 2760-99	Model 2761-99
Suction inlet	1½" NPT	1½" NPT	2" NPT	2" NPT
Discharge outlet	1½" NPT	1½" NPT	2" NPT	2" NPT
Shaft diameter	3/4"	5/8"	3/4"	3/4"
Keyway	3/16" x 3/32" x 1⅞"	3/16" x 3/32" x 3/4"	3/16" x 3/32" x 1⅞"	3/16" x 3/32" x 1⅞"
Dimensions (overall)	14½" L x 7⅞" W x 10" H	10½" L x 7⅞" W x 10⅞" H	15¾" L x 7⅞" W x 10⅞" H	15¾" L x 7⅞" W x 10⅞" H
Weight (approximate)	33 lbs.	32 lbs.	44 lbs.	46 lbs.
Basic construction	316 Stainless steel	Cast iron	Cast iron	316 Stainless Steel
Seal	Viton elastomers, ceramic seat, carbon head, and stainless steel spring	Buna-N elastomers, ceramic seat, carbon head, and stainless steel spring	Buna-N elastomers, ceramic seat, carbon head, and stainless steel spring	Viton elastomers, ceramic seat, carbon head, and stainless steel spring

IMPORTANT: Find desired pump speed in accordance with the performance chart. Select the driver with the proper RPM and corresponding pulley sizes. The chart covers both models.

Pulley Drive Chart

Pump Speed RPM	Motor Speed	*Pulley Diameter Motor	Pump
1725	1725 RPM	3"	3"
	3450 RPM	2½"	5"
2300	1725 RPM	4"	3"
	3450 RPM	3"	4½"
2800	1725 RPM	4"	2½"
	3450 RPM	2½"	3"
3450	1725 RPM	6"	3"
	3450 RPM	3"	3"

(*) All A section, single groove.

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Performance

Model	Pump RPM	Min. Motor Required	GPH of Water at Total Head in Feet									Max.* Head
			10'	20'	30'	40'	50'	60'	70'	80'	90'	
2820-99,	1725	1/2 HP	2580	600	—	—	—	—	—	—	—	22 Ft.
2820-98	2300	3/4	4200	3000	1260	—	—	—	—	—	—	34
	2800	1	—	4380	3600	2400	600	—	—	—	—	52
	3450	2	—	6360	5880	5280	4500	3600	2400	1200	—	88
2760-99,	1725	1/2	3120	—	—	—	—	—	—	—	—	16
2761-99	2300	1	5040	3540	1440	—	—	—	—	—	—	33
	2800	1½	—	5650	4440	2940	600	—	—	—	—	52
	3450	3	—	8100	7320	6000	5100	4260	3000	1260	—	84

(*) Shut-off; to convert to psi, divide by 2.31.

Maintenance

⚠ WARNING *Make certain that the unit is disconnected from the power source before attempting to service or remove any component!*

MECHANICAL SEAL REPLACEMENT

IMPORTANT: Always use a new casing gasket whenever the unit is disassembled.

Use Figures 1, 1A and 2 for reference.

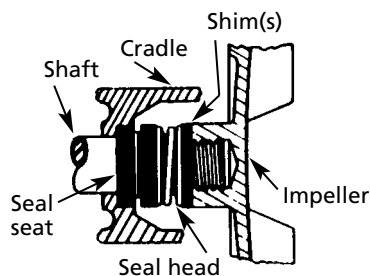
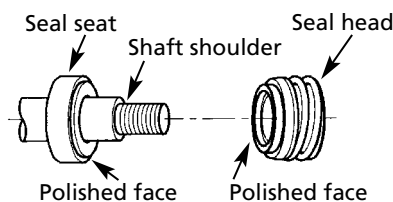


Figure 1 – Mechanical Seal Replacement



Proper installation is polished face against polished face.

IMPORTANT: Be sure that shaft shoulder does not damage either seal face.

Figure 1A

⚠ CAUTION *The precision lapped faces on the mechanical seal are easily damaged. Handle replacement seal carefully.*

1. Remove the casing (Ref. No. 5) and gasket (Ref. No. 11) by removing the fasteners (Ref. No. 23) that attach the casing to the adapter (Ref. No. 19) or bearing housing (Ref. No. 12).
2. Remove the impeller (Ref. No. 6) and shims (Ref. No. 7) by unscrewing it counterclockwise, facing impeller.

3. Carefully remove seal head (Ref. No. 9).

NOTE: For Model 2760-99, remove shaft sleeve (Ref. No. 8) also.

4. Remove the seal seat (Ref. No. 10) from the cavity in the adapter or the bearing housing using two screwdrivers or other suitable tools.

IMPORTANT: Always replace both the seal seat and the seal head to insure proper mating of components.

5. Thoroughly clean the shaft surface and all surfaces of the seal seat cavity in the adapter or bearing housing.
6. Coat the inside of the seal cavity and the outside of the rubber cup gasket on the seal seat with soapy water.

⚠ CAUTION *The polished portion of seal seat should be kept clean. HANDLE CAREFULLY!*

7. Push the seal seat into cavity, seating it firmly and squarely with FINGER PRESSURE ONLY. DO NOT use a screwdriver or any other tool that could mark the precision lapped face.

8. Coat inside of the shaft sleeve with clean cup grease or Vaseline. (Model 2760-99 only.) Remove excess grease.

⚠ CAUTION *DO NOT touch the polished face of seal head (Ref. No. 9). Seal head should be kept clean.*

9. Wet the inside rubber portion of seal head with soapy water.
10. Slide the seal head onto the shaft sleeve or pump shaft (Ref. No. 14) with polished face towards polished seal seat.
11. Replace shims and impeller. (See Shim Adjustment.)
12. Remount gasket and casing.
13. After assembly, turn pump shaft by hand slowly, to check for striking of the impeller on the casing. If rubbing or striking occurs, adjust impeller shims as required (See Shim Adjustment).

BEARING HOUSING SERVICE FOR MODELS 2760-99, 2820-98 AND 2761-99

1. Remove the front pump assembly as described under Mechanical Seal Replacement (Steps 1, 2 & 3).

Models 2820-98, 2820-99, 2760-99 and 2761-99

Maintenance (Continued)

2. Disassemble the bearing housing (Ref. No. 12) from pump adapter (Ref. No. 19) by removing the four hex head capscrews (Ref. Nos. 20 and 21).
3. Remove the shaft bearing (Ref. No. 22) and shaft (Ref. No. 14) as an assembly by first removing the snap ring (Ref. No. 17). Push the shaft bearing assembly out of the bearing housing by rapping on the threaded end of the shaft with a soft mallet, or block of wood and a hammer.
4. The ball bearings can now be removed from the shaft.
5. If shaft bearings have been removed from shaft, replace by sliding bearing on shaft to shoulder. Replace shaft bearing assembly by sliding assembly into housing threaded end first. Push shaft bearing assembly completely in by gently tapping on keyway end of shaft with a soft mallet. Replace snap ring.
6. Reverse steps 1 thru 3 to reassemble pump.

IMPORTANT: After pump is assembled, it is necessary to rotate pump shaft by hand to check for striking of the impeller. If striking or rubbing occurs, adjust impeller shims as required (See Shim Adjustment).

BEARING HOUSING SERVICE FOR MODEL 2820-99

1. Remove the front pump assembly as described under Mechanical Seal Replacement (Steps 1, 2 & 3).
2. Remove the shaft bearing assembly (Ref. No. 14) by first removing the snap ring (Ref. No. 17). Push the shaft bearing assembly out of the bearing housing by rapping on the threaded end of the shaft with a soft mallet, or block of wood and a hammer.
3. Flinger washer (Ref. No. 13) will come loose at this time.
4. Replace shaft bearing assembly by sliding assembly into the housing, threaded end first. Push shaft bearing assembly completely in by gently tapping on keyway end of shaft with a soft mallet. Replace snap ring.
5. Reverse steps 1 thru 3 to reassemble pump.

IMPORTANT: After pump is completely assembled it is necessary to rotate pump shaft by hand to check for striking of the impeller. If striking or rubbing occurs, adjust impeller shims as required (See Shim Adjustment).

SHIM ADJUSTMENT

When installing a replacement impeller (Ref. No. 6), it may be necessary to vary

the number of shims (Ref. No. 16) that will be required. This is done by adding one shim more than was removed and reassembling the pump as follows:

IMPORTANT: When the clearance between the impeller and casing (Ref. No. 5) exceeds 1/16" at the face of the impeller or 1/8" on the outside diameter of the impeller, it may be necessary to take corrective action.

1. Insure that the casing is snugly in place and check the shaft (Ref. No. 14) to make sure it is turning freely. If it turns freely, check to insure that the adapter (Ref. No. 19) or bearing housing (Ref. No. 12) and casing are firmly seated, compressing gasket (Ref. No. 11) where they meet on the outside. If a gap exists, tighten the fasteners (Ref. No. 1) and recheck the shaft for free turning. Tighten carefully, turning shaft while tightening. If shaft seizes before fasteners are completely tight, disassemble pump and remove one shim and repeat reassembly.
2. If at any time during shim adjustment the shaft does not turn free or the impeller strikes when turning the shaft, repeat Shim Adjustment procedure.

For Repair Parts, contact dealer where pump was purchased.

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

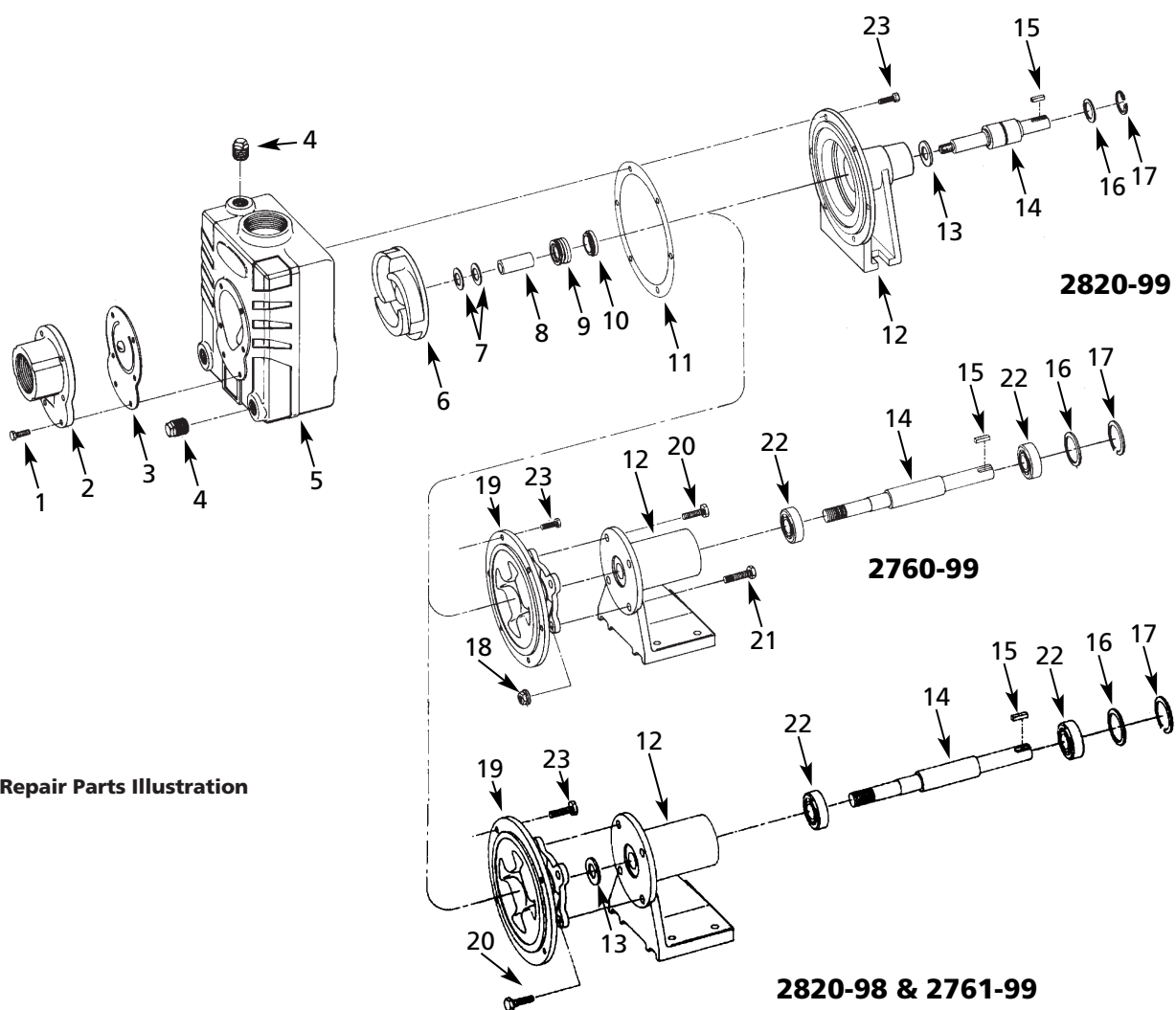


Figure 2 – Repair Parts Illustration

Models 2820-98, 2820-99, 2760-99 and 2761-99

Repair Parts List

Ref. No.	Description	Part Number for Models:				Qty.
		2820-98	2820-99	2760-99	2761-99	
1	1/4"-20 UNC x 3/4" SS hex head cap screw	-	*	*		6
		*	-	-	-	4
	5/16"-18 UNC x 7/8" SS hex head cap screw	-	-	-	*	4
2	Suction plate	2820-050-01	1501-000-01	1487-000-01	2760-050-01	1
3	Flapper valve assembly	2820-304-90	1674-000-90	1683-000-90	2760-304-90	1
4	1/2" NPT pipe plug	*	*	*	*	3
5	Casing	1497-003-01	1497-000-02	1484-000-01	2760-003-01	1
6	Impeller	2823-010-02	1512-000-01	1493-000-01	2823-010-06	1
7	Impeller shim, 1 pkg. contains (1) 0.010" (1) 0.020" (1) 0.030"	1657-000-90	1657-000-90	1658-000-90	1657-000-90	1
8	Shaft sleeve	-	-	1483-000-00	-	1
9,10	† Seal assembly, Buna-N	1640-161-90 (opt.)	1640-161-90 (std.)	1640-162-90 (std.)	1640-161-90 (opt.)	1
9,10	† Seal assembly, Viton	1640-161-91 (std.)	1640-161-91 (opt.)	1640-162-91 (opt.)	1640-161-94 (std.)	1
11	Gasket	1470-011-00	1478-000-00	1478-000-00	1470-011-00	1
12	Bearing housing	3890-090-09	1500-000-01	1695-030-01	3890-090-09	1
13	Slinger washer	1534-000-00	1534-000-00	-	1534-000-00	1
14	Pump shaft	1696-066-00	1509-000-09	1695-001-00	1696-066-00	1
15	3/16" x 3/16" x 3/4" Key	1517-000-00	1517-000-00	1517-000-00	1517-000-00	1
16	Bearing shim, 1pkg. contains (1) 0.010" (1) 0.020" (1) 0.030"	1696-008-90	1696-003-90	1696-008-90	1696-008-90	1
17	Snap ring	1695-034-00	1516-000-00	1695-034-00	1695-034-00	1
18	3/8"-16 UNC Hex flange nut	-	-	*	-	4
19	Adapter	2820-031-01	-	1474-000-01	2820-031-01	1
20	3/8"-16 UNC x 1-1/4" Hex head cap screw	-	-	*	-	2
	3/8"-16 UNC x 3/4" Hex head cap screw	*	-	-	*	4
21	3/8"-16 UNC x 1-3/4" Hex head cap screw	-	-	*	-	2
22	Bearing	1695-031-00	-	1695-031-00	1695-031-00	2
23	1/4"-20 UNC x 3/4" SS hex head cap screw	-	*	*	-	6
	3/8"-16 UNC x 1" SS hex head cap screw	*	-	-	*	4

(*) Standard hardware item, available locally.

(†) Seal assembly, available as set only. Includes both seal head and seal seat.

