

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 Sprinkler / Booster Pumps

Refer to form 1808-634-00 for General Operating and Safety Instructions.

## Description

These self-priming (to 20 ft. lift) lawn sprinkler pumps are equipped with a check valve to assist in positive priming, a high performance closed impeller, a Buna-N mechanical seal to prevent leakage, and a continuous duty motor.

Pumps are designed for higher pressure applications such as lawn sprinkling, spraying irrigation, also draining and general de-watering applications. Casing working pressure to 150 psi. Handles fluids from 40° to 180° F. For use with nonflammable, non-abrasive liquids compatible with pump component materials.

## Maintenance

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

### MECHANICAL SEAL REPLACEMENT

Refer to Figures 2, 3, and 4.

**IMPORTANT:** Always replace both seal seat (Ref. No. 6) and seal head (Ref. No. 7) to insure proper mating of components! Also, impeller seal (Ref. No. 22) (where applicable) should be replaced anytime impeller fastener (Ref.

No. 23) has been removed.

1. Unthread fasteners (Ref. No. 16) and remove pump casing (Ref. No. 14), casing seal (Ref. No. 5), and flapper valve (Ref. No. 13) from adapter (Ref. No. 4).
2. Unthread fasteners (Ref. Nos. 12 and 17) and remove volute (Ref. No. 10) from adapter.
3. Remove impeller fastener, impeller seal (where applicable), and impeller (Ref. No. 9).
4. Shaft sleeve (Ref. No. 21) (where

applicable) and seal head can now be pulled from shaft.

**IMPORTANT:** Care should be taken to insure that the same number of shim washers (Ref. No. 8) are replaced behind impeller as were removed. These shim washers are located directly behind impeller. These washers as well as impeller key (Ref. No. 24) (where applicable) become loose as impeller is removed.

**NOTE:** Some motors (Ref. No. 20) use an open end 7/16" wrench across flats on rear of motor shaft (remove bearing cap for access) to prevent shaft from turning. Other motor shafts have a screwdriver slot instead of flats.

5. Unscrew fasteners (Ref. No. 23). Remove mounting base and handle (Ref. Nos. 18 & 2) (where applicable), and adapter from motor mounting face.

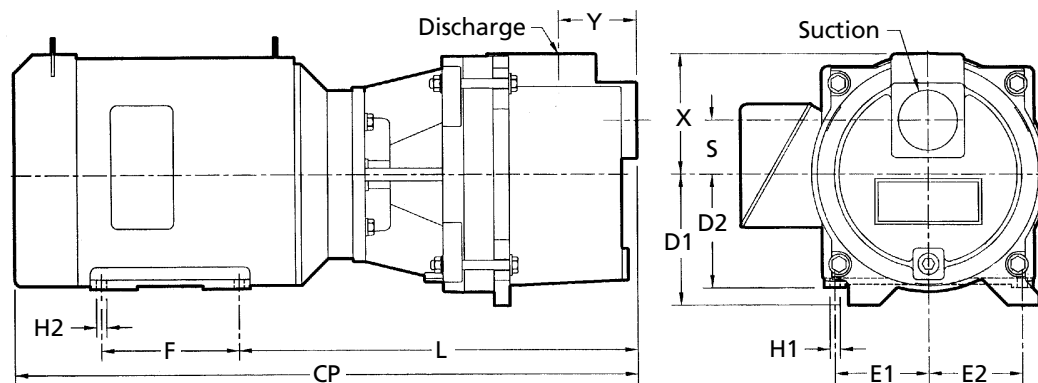


Figure 1 - Dimensions

## Dimensions (Inches)

Model	Suc.*	Dis.*	CP†	D1	D2	E1	E2	F	H1	H2	L	S	X	Y
365 Series	2"	2"	25.75	5.19	4.50	3.75	3.75	5.00	0.41	0.41	15.94	2.13	4.75	3.13
379 Series	1½"	1½"	20.00	—	4.36	2.25	2.25	2.88	0.50	0.75	6.21	2.12	4.75	3.09

(\* Standard NPT (female) pipe thread.

(†) This dimension may vary due to motor manufacturer's specifications.

**NOTE:** All dimensions have a tolerance of  $\pm 1/8"$ .

# Self-Priming Sprinkler / Booster Pumps

## Specifications

DRIVER				Power Supply @60 Hz	PUMP Port Size (Inches)*	Weight (lbs.)
Model	HP	Enclosure	NEMA Frame			
3655-95	5	TEFC	184JM	230/460 VAC, 3-phase	2 x 2	130
3656-95	7½	TEFC	184JM	230/460 VAC, 3-phase	2 x 2	134
3657-95	5	TEFC	184JM	230 VAC, 1-phase	2 x 2	146
3790-95	¾	ODP	56J	115/230 VAC, 1-phase	1½ x 1½	59
3791-95	1	ODP	56J	115/230 VAC, 1-phase	1½ x 1½	64
3792-95	1½	ODP	56J	115/230 VAC, 1-phase	1½ x 1½	66
3793-95	2	ODP	56J	115/230 VAC, 1-phase	1½ x 1½	72
3797-95	1½	ODP	56J	230/460 VAC, 3-phase	1½ x 1½	61
379A-95	1	TEFC	56J	115/230 VAC, 1-phase	1½ x 1½	67
379B-95	1½	TEFC	56J	115/230 VAC, 1-phase	1½ x 1½	74
379C-95	2	TEFC	56J	115/230 VAC, 1-phase	1½ x 1½	80
379D-95	3	TEFC	56J	230 VAC, 1-phase	1½ x 1½	88
379E-95	2	TEFC	56J	230/460 VAC, 3-phase	1½ x 1½	78
379F-95	1	TEFC	56J	230/460 VAC, 3-phase	1½ x 1½	65
379G-95	¾	ODP	56J	230/460 VAC, 3-phase	1½ x 1½	55
379H-95	1	ODP	56J	230/460 VAC, 3-phase	1½ x 1½	60
379J-95	1½	TEFC	56J	230/460 VAC, 3-phase	1½ x 1½	72
379K-95	2	ODP	56J	230/460 VAC, 3-phase	1½ x 1½	72
379L-95	3	TEFC	56J	230/460 VAC, 3-phase	1½ x 1½	81

**NOTE:** Driver data is subject to change without notice, see label on driver for actual specifications.

(\*) Standard NPT (female) pipe thread.

(ODP) Open Drip Proof

(TEFC) Totally Enclosed Fan Cooled.

## Performance

Model	HP	GPM of Water at Total Head in Feet*								Max. Head*
		30'	40'	60'	80'	100'	120'	140'	160'	
3790-95, 379G-95, 379A-95 & 379F-95	¾	48	45	36	21	—	—	—	—	94 ft.
3791-95, 379H-95, 379B-95 & 379J-95	1	56	52	42	29	10	—	—	—	106
3792-95, 3797-95, 379C-95 & 379E-95	1½	76	70	59	44	28	0	—	—	120
3793-95, 379K-95, 379D-95 & 379L-95	2	89	82	68	53	34	13	—	—	130
3655-95 & 3657-95	5	118	112	97	82	66	47	26	2	161
3656-95	7½	152	150	140	126	106	82	56	28	178

(\*) Shutoff: to convert to psi, divide by 2.31.

## Maintenance (Continued)

- Push seal seat from back of adapter recess with a screwdriver.
- Clean adapter recess before inserting a new seal seat.

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

- Carefully wipe polished surface of new seal seat with a clean cloth.
- Wet rubber portion of seal seat with a light coating of soapy water.
- Press new seal seat squarely into recess in adapter. If seal seat does not press squarely into cavity, it can be adjusted in place by pushing on it with a piece of pipe. Always use a piece of cardboard between pipe

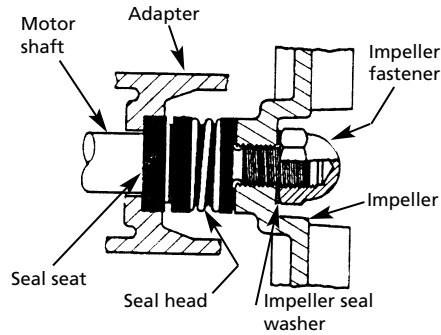
and seal seat to avoid scratching polished surface.

- After seal seat is in place, ensure that it is clean and has not been marred.

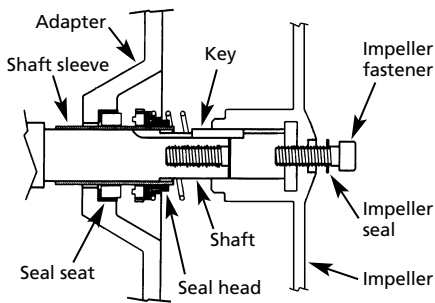
**NOTE:** If removed, slide slinger washer (Ref. No. 1) onto shaft until it is located approximately 1/8" from face of motor bearing hub.

# Models 3655-95 thru 3657-95 and 3790-95 thru 379L-95

## Maintenance (Continued)



**Figure 2 - Mechanical Seal Replacement for Threaded Shaft (379 Series).**



**Figure 3 - Mechanical Seal Replacement for Keyed Shaft (365 Series).**

12. Using a clean cloth, wipe shaft/shaft sleeve and make certain that it is perfectly clean.
13. Secure foot and handle (where applicable) and adapter on motor mounting face. Carefully guide motor shaft through seal seat.

14. Replace shaft sleeve and impeller key (where applicable).
15. Wet inside rubber portion of new seal head with a light coating of soapy water. Slide head onto shaft/shaft sleeve. Seal head and seal seat will meet. Reinstall any shims which have been removed. (See Shim Adjustment).
16. Install impeller and reassemble pump.
17. A short "run-in" period may be necessary to provide completely leak free seal operation.

### SHIM ADJUSTMENT (365 SERIES ONLY)

When installing a replacement impeller (Ref. No. 9) or motor (Ref. No. 20), it may be necessary to adjust number of shims (Ref. No. 8) to insure proper running clearance between impeller and volute (Ref. No. 10). Proceed as follows:

**NOTE:** A proper running clearance is less than 0.010". (Face of impeller to mating face of volute.)

1. For impeller replacement, add one (0.010") shim in addition to those removed originally.
2. For motor replacement, add two (0.010") shims in addition to those removed during disassembly.

3. Reassemble the pump as described in steps 16 and 17 (above).

**IMPORTANT:** Ensure that volute is snugly in place and check shaft to make sure it is turning freely (use 7/16" wrench or screwdriver to turn shaft). If it turns freely, check to ensure that adapter (Ref. No. 4) and volute are fitted "metal to metal" where they meet on outside. If they are not "metal to metal", tighten fasteners (Ref. Nos. 12 & 17) and recheck shaft for free turning. Tighten carefully, turning shaft while tightening so that motor bearings are not damaged in the event that too many shims were installed. If shaft seizes before fasteners are completely tight, disassemble pump and remove one (0.010") shim and repeat reassembly.

4. When proper clearance is obtained, reassemble.

## For Repair Parts, contact dealer where pump was purchased

Please provide following information:

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

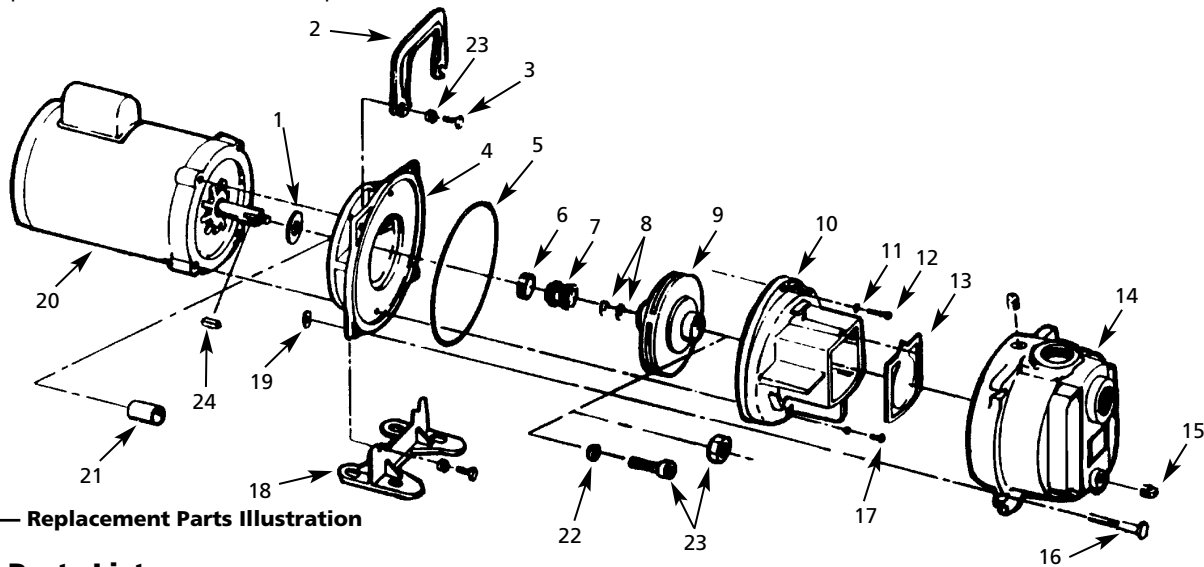


Figure 4 — Replacement Parts Illustration

### Repair Parts List

Ref. No.	Description	3790 (3/4 HP) 379G (3/4 HP) 379A (1 HP) 379F (1 HP)	3791 (1 HP) 379H (1 HP) 379B (1 1/2 HP) 379J (1 1/2 HP)	3792 (1 1/2 HP) 3797 (1 1/2 HP) 379C (2 HP) 379E (2 HP)	3793 (2 HP) 379K (2 HP) 379D (3 HP) 379L (3 HP)	3657 (5 HP) 3655 (5 HP)	3656 (7 1/2 HP)	Qty.
1	Slinger washer	1534-000-00	1534-000-00	1534-000-00	1534-000-00	1470-093-00	1470-093-00	1
2	Handle	1515-000-00	1515-000-00	1515-000-00	1515-000-00	—	—	1
3	Fastener	*	*	*	*	*	*	4
4	Adapter	1608-011-00	1608-011-00	1608-011-00	1608-011-00	3655-030-09	3655-030-09	1
5	Casing seal -Buna N (std)	1610-000-00	1610-000-00	1610-000-00	1610-000-00	2186-000-00	2186-000-00	1
	-Viton (opt)	1610-001-00	1610-001-00	1610-001-00	1610-001-00	2186-001-00	2186-001-00	
6 & 7 †	Shaft seal assembly -Buna N (std)	1640-161-96	1640-161-96	1640-161-96	1640-161-96	1640-163-90	1640-163-90	1
	† -Viton (opt)	1640-161-97	1640-161-97	1640-161-97	1640-161-97	1640-163-91	1640-163-91	
8	Impeller shim pkg. (contains 0.010", 0.020", 0.030")	—	—	—	—	1664-000-90	1664-000-90	1
9	Impeller	379A-011-09	379B-011-09	379C-011-09	379D-011-09	3655-012-09	3656-012-09	1
10	Volute	379B-150-09	379B-150-09	379D-150-09	379D-150-09	3655-150-09	3655-150-09	1
11	Washer	*	*	*	*	*	*	2
12	Fastener	*	*	*	*	*	*	2
13	Flapper valve -Buna N (std)	1609-002-00	1609-002-00	1609-002-00	1609-002-00	1609-002-00	1609-002-00	1
	-Viton (opt)	1695-011-90	1695-011-90	1695-011-90	1695-011-90	1695-011-90	1695-011-90	
14	Casing	1997-001-01	1997-001-01	1997-001-01	1997-001-00	1992-001-02	1992-001-02	1
15	Pipe plug	*	*	*	*	*	*	2
16	Fastener	*	*	*	*	*	*	4
17	Fastener	*	*	*	*	*	*	1
18	Foot	1506-000-00	1506-000-00	1506-000-00	1506-000-00	—	—	1
19	Fastener	*	*	*	*	*	*	1
20	Motor	-1 Phase ODP 1626-010-00 -3 Phase ODP 1626-014-00 -1 Phase TEFC 1626-069-00 1626-077-00 -3 Phase TEFC 1626-053-00	1626-011-00 1626-015-00 1626-050-00 1626-053-00	1626-012-00 1626-016-00 1626-070-00 1626-054-00	1626-024-00 1626-025-00 1626-071-00 1626-072-00	— — 1626-078-00 1626-044-00	— — — 1626-045-00	1
21	Shaft sleeve	—	—	—	—	1472-000-00	1472-000-00	1
22	Impeller seal	—	—	—	—	1471-020-00	1471-020-00	1
23	Impeller fastener	1784-001-09	1784-001-00	1784-001-00	1784-001-00	1756-000-00	1784-001-00	1
24	Washer	*	*	*	*	*	*	4
25	Impeller key	—	—	—	—	1471-030-00	1471-030-00	1

(\*) Standard hardware item, available locally.

(†) Seal head (Ref. No. 7) and seat (Ref. No. 6) available as a set only. When replacing a shaft seal assembly, a new impeller seal (Ref. No. 23) should also be used. (Model series 365 only).