

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. AMT reserves the right to discontinue any model or change specifications at any time without incurring any obligation.

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Periodic maintenance and inspection is required on all pumps to ensure proper operation. Unit must be clear of debris and sediment. Inspect for leaks and loose bolts. Failure to do so voids warranty.

# 4-Inch Self-Priming Centrifugal Pumps



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

## DESCRIPTION

These centrifugal pumps are self-priming (to 20 ft. lift) units designed for high volume liquid transfer – irrigation, de-watering, lawn sprinkling, etc. These units can also accommodate semi-solids (up to 3/8" diameter), sediment laden liquids and liquids with entrained air or gases. Casing working pressure to 125 psi (862 kPa).

The units are equipped with a cast iron pump casing designed with a full dual volute, clog resistant semi-open stainless steel impeller and a cast iron adapter. Units are equipped with flapper valves to ensure a positive prime. A mechanical seal isolates the motor from the liquid in the pump casing. The units are coupled to 3450 RPM, totally enclosed fan cooled motors. All units are manual models, no controls are supplied. For use with nonflammable, non-abrasive liquids compatible with pump component materials.

### ⚠ WARNING

**All units are for use with non-flammable, non-abrasive liquids compatible with pump component materials.**

## MAINTENANCE

### ⚠ WARNING

**Make certain that the unit is disconnected and locked out from the power source before attempting to service or remove any components.**

**NOTE:** Pump casing should be removed and inspected periodically to ensure that any foreign material or rust is not clogging internal pump parts. This unit is equipped with a dual volute pump casing. One of the volutes runs 180 degrees, all the way from side opposite discharge into discharge through a completely enclosed passageway. If foreign material clogs this area, it can be dislodged by using a wire or long spring.

## REMOVAL OF OLD SHAFT SEAL

Refer to Figure 1

**IMPORTANT:** Always replace both seal seat (Ref. No. 28) and seal head (Ref. No. 27) to ensure proper mating of components! Also, impeller O-ring (Ref. No. 30) should be replaced anytime impeller screw (Ref. No. 15) has been removed.

1. Remove four bolts (Ref. No. 8) that connect adapter (Ref. No. 2) to casing (Ref. No. 7).
2. Remove casing and casing seal O-ring (Ref. No. 29).

### ⚠ CAUTION

Care should be taken not to "pinch" or "shave" the O-ring gasket between adapter and casing.

3. Using an hex wrench, remove impeller screw, impeller O-ring, and impeller (Ref. No. 13).

**IMPORTANT:** Care should be taken to ensure that same number of shim washers (Ref. No. 16) are replaced behind impeller as were removed. These shim washers are located directly behind impeller. These washers as well as impeller key (Ref. No. 14) become loose as impeller is removed.

4. Seal head and shaft sleeve (Ref. No. 6) can now be pulled from motor shaft.
5. Remove casing cover (Ref. No. 5) from adapter.
6. Pry seal seat from casing cover.
7. Push seal head from shaft sleeve.

## INSTALLATION OF NEW SEAL

### ⚠ CAUTION

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

1. Thoroughly clean all surfaces of seal seat cavity.
2. Using a clean cloth, wipe shaft and shaft sleeve and make certain that they are perfectly clean.
3. Wet the rubber portion of new seal seat with a light coating of soapy water. While wearing clean gloves or using a clean light rag, press seal seat squarely into casing cover recess. Avoid scratching polished surface. If seal will not position properly, place a cardboard washer over polished surface and use a piece of pipe to press in, firmly but gently.
4. Dispose of cardboard washer. Check again to see that polished surface is free of dirt and all other foreign particles and that it has not been scratched or damaged. Install casing cover in adapter.
5. Wet the inside of rubber portion of new seal head with a light coating of soapy water. Slide head onto shaft sleeve. Slide shaft sleeve with seal head onto motor shaft. Seal head and seal seat will meet. Reinstall any shims which have been removed. (See SHIM ADJUSTMENT section.)

**IMPORTANT:** Before installing new shaft sleeve, apply a bead of non-hardening, pliable sealant (such as Permatex®, Form-A-Gasket® No. 2) to motor shaft shoulder.

6. Replace impeller key and impeller. Replace impeller O-ring before screwing impeller screw in place.
7. Reassemble pump.

# 4-Inch Self-Priming Centrifugal Pumps

8. A short "run-in" period may be necessary to provide completely leak free seal operation.

## SHIM ADJUSTMENT

When installing a replacement impeller (Ref. No. 13) or motor (Ref. No. 1), it may be necessary to adjust the number of shims (Ref. No. 16) to ensure proper running clearance between impeller and casing (Ref. No. 7). Proceed as follows:

**NOTE:** A proper running clearance is less than 0.020".

1. For impeller replacement, add one (1) shim in addition to those removed originally.
2. For motor replacement, add two (2) shims in addition to shims removed during disassembly.
3. Reassemble pump as described in steps 6 and 7. (See INSTALLATION OF NEW SEAL section.)

**IMPORTANT:** Be sure that casing is snugly in place and check shaft to make sure it is turning freely. If it turns freely, check to ensure that adapter/seal plate (Ref. No. 2 & 5) and casing are fitted metal-to-metal where they meet on outside. If they are not metal-to-metal, tighten fasteners (Ref. No. 8) 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, disassembly pump and remove one (1) shim and repeat reassembly.

# 4-Inch Self-Priming Centrifugal Pumps

**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

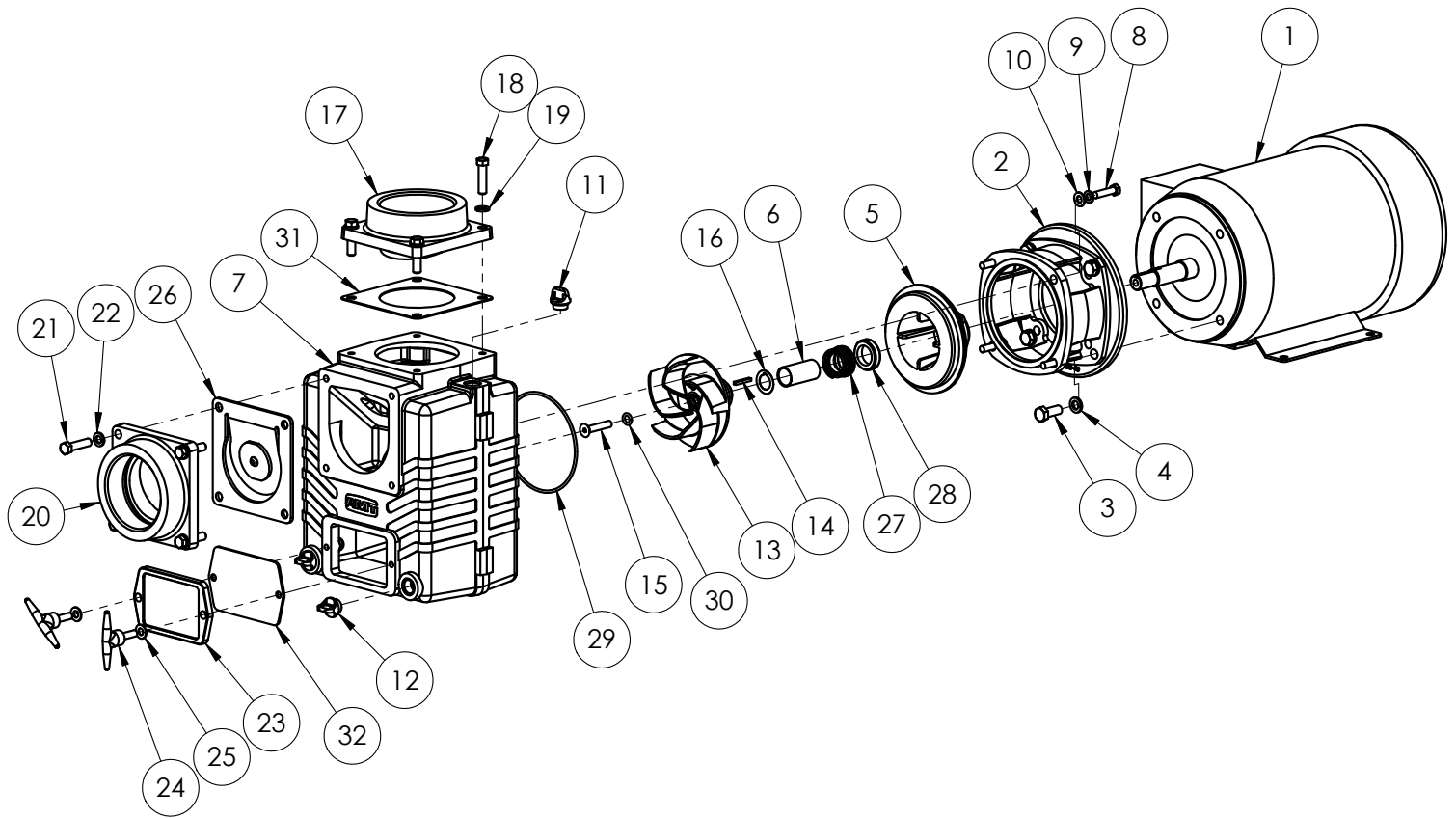


Figure 1 - Repair Parts Illustrations

## Repair Parts List

Ref No.	Description	Part Number for Models		Qty
		4873-95	4872-95	
1	Motor - 1-Phase	1626-080-00	N/A	1
	Motor - 3-Phase	1627-354-00	1627-355-00	1
2	Adapter Kit (includes Ref. Nos. 2, 3, 4, 5 and 6)	3150-035-95	3150-035-95	1
3	Hex Head Screw	Incl. w/Ref. 2	Incl. w/Ref. 2	4
4	Lock Washer	Incl. w/Ref. 2	Incl. w/Ref. 2	4
5	Casing Cover	3150-025-09 & Incl. w/Ref. 2	3150-025-09 & Incl. w/Ref. 2	1
6	Shaft Sleeve	1555-142-00 & Incl. w/Ref. 2	1555-142-00 & Incl. w/Ref. 2	1
7	Casing Kit (includes Ref. Nos. 7, 8, 9, 10, 11 and 12))	4870-001-95	4870-002-95	1
8	Hex Head Screw	Incl. w/Ref. 7	Incl. w/Ref. 7	4
9	Lock Washer	Incl. w/Ref. 7	Incl. w/Ref. 7	4
10	Flat Washer	Incl. w/Ref. 7	Incl. w/Ref. 7	4
11	1/2" NPT Fill Plug	Incl. w/Ref. 7	Incl. w/Ref. 7	1
12	1/2" NPT Drain Plug	Incl. w/Ref. 7	Incl. w/Ref. 7	2
13	Impeller Kit (includes Ref. Nos. 13, 14, 15 and 16)	4871-010-98	4872-010-98	1
14	Shaft Key	Incl. w/Ref. 13	Incl. w/Ref. 13	1
15	Impeller Screw	Incl. w/Ref. 13	Incl. w/Ref. 13	1
16	Impeller Shim Kit	Incl. w/Ref. 13	Incl. w/Ref. 13	1
17	Discharge Flange Kit (includes Ref. Nos. 17, 18 and 19)	4870-080-95	4870-080-95	1
18	Hex Head Screw	Incl. w/Ref. 17	Incl. w/Ref. 17	4
19	Lock Washer	Incl. w/Ref. 17	Incl. w/Ref. 17	4
20	Suction Flange Kit (includes Ref. Nos. 20, 21 and 22)	4870-050-95	4870-050-95	1
21	Hex Head Screw	Incl. w/Ref. 20	Incl. w/Ref. 20	4
22	Lock Washer	Incl. w/Ref. 20	Incl. w/Ref. 20	4
23	Cleanout Cover Kit (includes Ref. Nos. 23, 24 and 25)	4870-040-95	4870-040-95	1
24	Hex Head Screw	Incl. w/Ref. 23	Incl. w/Ref. 23	2
25	Flat Washer	Incl. w/Ref. 23	Incl. w/Ref. 23	2
26	Check Valve Assembly - Neoprene	399C-070-90	399C-070-90	1
	Check Valve Assembly - Viton (optional)	399C-075-90	399C-075-90	1
	Check Valve Assembly - EPDM (optional)	399C-076-90	399C-076-90	1
27 & 28	Shaft Seal Assembly - Buna	1640-163-90	1640-163-90	1
	Shaft Seal Assembly - Viton/SiC/SiC (optional)	1640-167-90	1640-167-90	1
	Shaft Seal Assembly - Viton/Car/Cer (optional)	1640-163-91	1640-163-91	1
	Shaft Seal Assembly - EPDM (optional)	1645-421-00	1645-421-00	1
KIT	Gasket Kit - Buna/Neoprene	4870-300-90	4870-300-90	1
	Gasket Kit - Viton (optional)	4870-301-90	4870-301-90	1
	Gasket Kit - EPDM (optional)	4870-302-90	4870-302-90	1
	(includes Ref. Nos. 29, 30, 31 and 32)			
29	Casing O-Ring	Incl. w/Ref. KIT	Incl. w/Ref. KIT	1
30	Impeller O-Ring	Incl. w/Ref. KIT	Incl. w/Ref. KIT	1
31	Flange Gasket	Incl. w/Ref. KIT	Incl. w/Ref. KIT	1
32	Cleanout Gasket	Incl. w/Ref. KIT	Incl. w/Ref. KIT	1