

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.

High Head Centrifugal Pumps

12-Volt DC Models



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

DESCRIPTION

These pumps are non self-priming units designed for use where higher heads are needed to handle liquid transfer, heating and cooling applications, where no suction lift is required. All models feature high-efficiency closed impellers with 3450 RPM, 56J frame, 12 VDC motors. The discharge port on all models can be rotated in 90° increments to accommodate specific applications. Casing working pressure to 150 psi (1034 kPa). These are manual units, no controls are supplied. Check motor wiring before putting unit into operation (see motor nameplate for specific wiring diagrams). All units are for use with non-flammable, non-abrasive liquids compatible with pump component materials

CAST IRON UNITS

Pump construction is cast iron casing and adapter. Cast 316 stainless steel impeller. Buna N type 21 mechanical shaft seal with carbon and ceramic wear faces. O-ring casing seal. Handles liquids from 40° to 180° F (4° to 82° C).

BRONZE UNITS

Pump construction is cast bronze casing and adapter. Cast 316 stainless steel impeller. Viton type 21 mechanical shaft seal with carbon and ceramic wear faces. O-ring casing seal. Handles liquids from 40° to 200° F (4° to 93° C).

316 STAINLESS STEEL UNITS

Pump construction is cast 316 stainless steel casing, adapter, and impeller. Viton type 21 mechanical shaft seal with carbon and ceramic wear faces. O-ring casing seal. Handles liquids from 40° to 200° F (4° to 93° C).

General Safety Information for 12 Volt DC Power

- When connecting power leads, follow this order:
 - Connect POSITIVE or PLUS(+) terminal on motor to supply lead first.
 - Connect NEGATIVE or MINUS(-) terminal last.
 - When DISCONNECTING – Disconnect NEGATIVE (-) first, then disconnect POSITIVE (+) lead from motor terminal.
- When attaching line leads to motor or battery/power supply terminals, be sure that surrounding area is adequately ventilated to prevent an explosion or fire from explosive or flammable vapors that may be present

▲ WARNING

Batteries emit hydrogen gas which is explosive. Avoid smoking, sparks or open flame anywhere in vicinity of battery. Explosion from battery can cause blindness. Shield eyes when working near any battery.

Batteries contain sulfuric acid. In case of contact with eyes, skin or clothing, flush immediately with large amount of water, get medical attention.

- When running leads, be sure wire gage is adequately sized and all electrical connections are properly insulated and enclosed.

▲ WARNING

Do not add acid or electrolyte to battery being used – add only water. Consult battery manufacturers for any additional safety instructions.

- Motor must be located out of the weather with access to adequate ventilation for cooling. Motor is not waterproof!
- All wiring should be performed by a qualified electrician.

Maintenance

▲ WARNING

Make certain that the unit is disconnected from the power source before attempting to service or remove any components!

SHAFT SEAL REPLACEMENT

Refer to Figures Nos. 2 and 3.

REMOVAL OF OLD SEAL

IMPORTANT: Always replace both seal seat (Ref. No. 5) and seal head (Ref. No. 6) to insure proper mating of components! Also, impeller seal (Ref. No. 9) should be replaced anytime impeller fastener (Ref. No. 10) has been removed.

- Remove fasteners (Ref. No. 3) connecting casing (Ref. No. 12) to adapter (Ref. No. 4).

High Head Centrifugal Pumps 12-Volt DC Models

- Remove casing.

⚠ CAUTION

Care should be taken not to pinch or "shave" casing seal (Ref. No. 11) between adapter and casing.

- Use a box and/or socket wrench to remove impeller fastener. Remove impeller seal and impeller (Ref.No. 8).

NOTE: Motor shaft must be held in place to remove impeller. Back of the motor either has slot in shaft (use large screwdriver to hold) or has 2 flats on motor shaft (use 7/16 open end wrench to hold). Impeller and impeller fastener unscrew CCW when looking at the front of pump.

IMPORTANT: Care should be taken to ensure that the same number and thickness of shim washers (ref. No. 7) are replaced behind the impeller as was removed. Shim washers are located directly behind impeller and become loose as impeller is removed.

- The seal head can now be pulled from shaft.
- Pry seal seat from adapter.

INSTALLATION OF NEW SEAL

⚠ CAUTION

The precision lapped faces on mechanical seal are easily damaged. Handle your repair seal carefully. Do not touch polished seal faces.

IMPORTANT: Be sure that shaft shoulder does not damage polished face (see Figure No. 2).

- Thoroughly clean all surfaces of seal seat cavity in adapter.
- Using a clean cloth, wipe shaft and shaft sleeve and make certain that they are perfectly clean.
- 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 adapter recess. Use cardboard washer (usually supplied with new seal), place over polished surface and use a piece of pipe or dowel rod to press in firmly but gently. Avoid scratching polished face.
- Dispose of cardboard washer. Check again to see that polished face is free of dirt as well as all other foreign particles and that it has not been scratched or damaged.
- Wet the inside rubber portion of new seal head with a light coating of soapy water. Slide head onto motor shaft with sealing surface facing seal seat (see figure 2).

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

- Screw impeller onto shaft. Use screwdriver slot at rear of motor shaft (opposite the threaded end) to tighten impeller.

NOTE: It may be necessary to remove plug in motor end cap to expose slot. If removed, be sure to reinstall plug AFTER pump is completely assembled.

- Check if shaft turns freely by spinning impeller. If rubbing or binding is found, remove impeller and add a shim to shaft, then recheck. Repeat procedure until all rubbing is eliminated.
- Slide impeller seal onto exposed shaft. Screw acorn nut onto shaft and tighten.

- Place casing seal on adapter mounting flange. Attach casing using bolts being careful not to pinch or "shave" casing seal. As casing is being tightened, periodically spin impeller to check for interference with casing.

⚠ CAUTION

Seal will produce minor drag when spinning motor shaft, but rubbing anywhere else must be eliminated! Otherwise, damage to pump and or motor may occur.

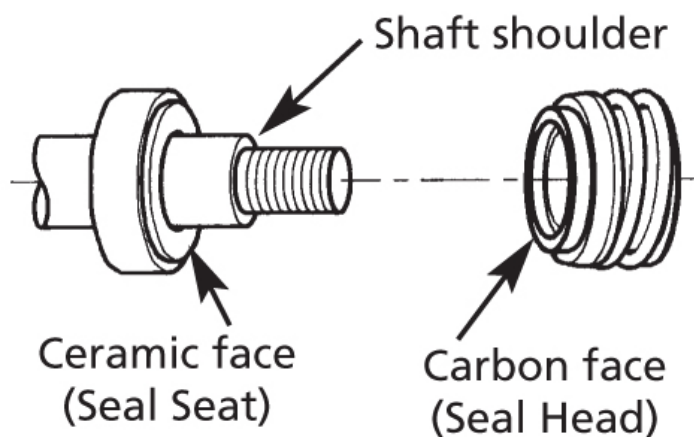


Figure 2 - Seal Installation

High Head Centrifugal Pumps 12-Volt DC Models

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

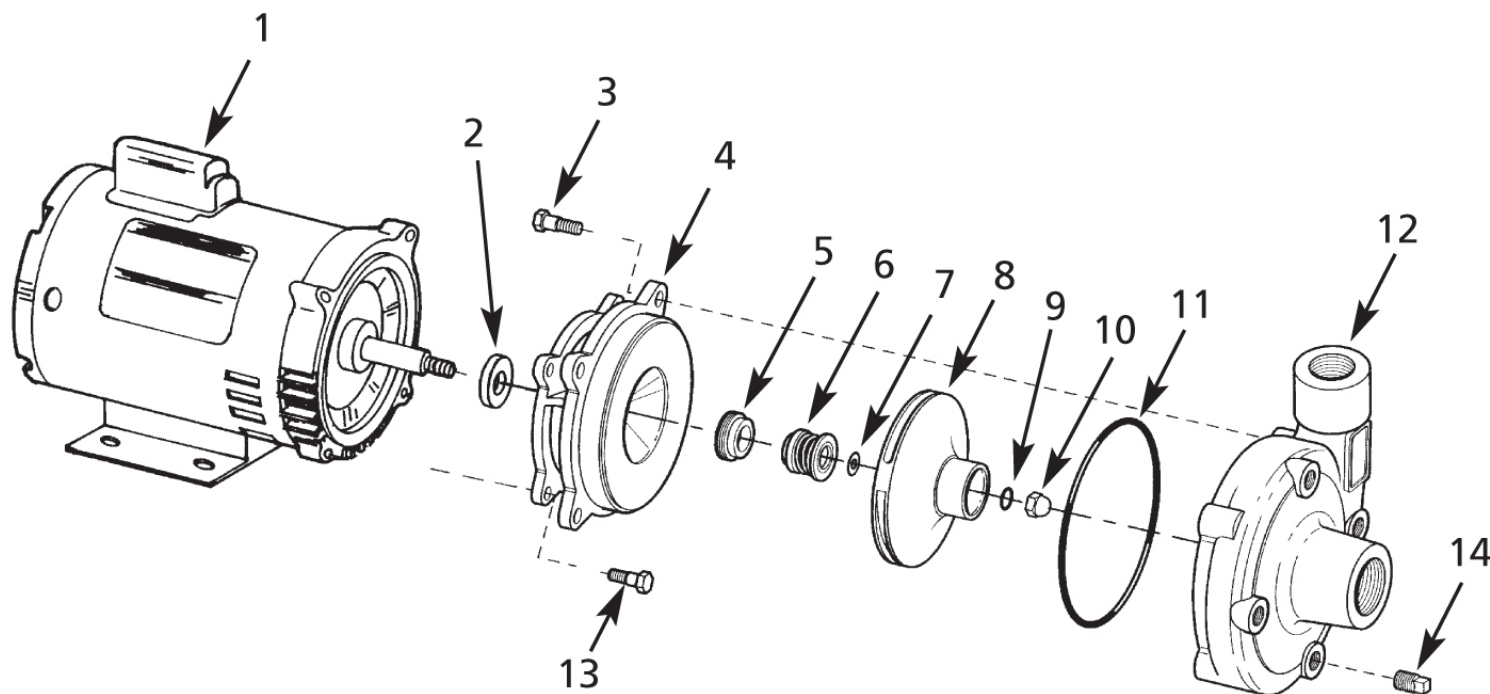


Figure 2 - Repair Parts Illustrations

Repair Parts List

Ref No.	Description	Part Number for Model	
		489G	Qty
1	Motor	1626-103-00	1
2	Slinger washer	1534-000-00	1
3	Fastener	Incl. w/ Ref 12	4
4	Adapter Kit - Cast Iron	4890-030-95	1
	Adapter Kit - Bronze	4890-030-97	1
	Adapter Kit - Stainless Steel	4890-030-98	1
	(includes Ref. Nos. 4 and 13)		
5 & 6	Shaft Seal Assembly - Buna-N	1640-161-96	1
	Shaft Seal Assembly - Viton	1640-161-97	1
7	Shim Kit	1806-044-90 & Incl. w/ Ref 8	1
8	Impeller Kit	489G-011-98	1
	(includes Ref. Nos. 7, 8 and 10)		
9	Impeller Seal	Incl. w/ Ref. KIT	1
10	Impeller fastener	Incl. w/ Ref 8	1
11	Casing seal	Incl. w/ Ref Kit	1
12	Casing Kit - Cast Iron	4890-001-95	1
	Casing Kit - Bronze	4890-001-97	1
	Casing Kit - Stainless Steel	4890-001-98	1
	(includes Ref. Nos. 3, 12 and 14)		
13	Fastener	Incl. w/ Ref 4	4
14	3/8" NPT pipe plug	Incl.w/ Ref 12	4
KIT	O-Ring Kit - Buna-N	4890-300-90	1
	O-Ring Kit - Viton	4890-301-90	1
	(includes Ref. Nos. 9 and 11)		

(*) Standard hardware item, available locally.