



# Tsunami Bilge Pump

4606, 4608, 4612, 4613 Series

## Installation Instructions

SAVE THESE INSTRUCTIONS

Form Number 69390 Rev. C

08-08

### WARNING

Read all instructions carefully before installing and using this product. To prevent personal injury, disconnect the power source when installing or servicing this product. Always remove the boat from the water before using 120V AC power tools.

DO NOT use pump to remove gasoline, oil or other flammable liquids. Always use the fuse amperage rating specified for your pump model. Failure to do so could result in serious personal injury or fire hazards.

Attwood bilge pumps are designed to exhaust **STANDING WATER ONLY**. They are not intended to prevent rapid accumulation of on-board water due to rough weather, hull damage, and/or other unsafe navigational conditions.

Refer to Specification Chart to be sure you have selected the proper pump:

				ABYC Specifications @13.6 VDC (GPH = Gal. Per Hour)			ISO Specifications @12 VDC (LPH = Liters Per Hour)		
Part Num./ Series	Outlet Hose I.D.	Motor Cart.	Amp Fuse	0 ft. Head GPH/ amps	3.3 ft Head GPH/ amps	6.7 ft Head GPH/ amps	0kPa Head LPH/ amps	10kPa Head LPH/ amps	Max Head (ft.@13.6v/ kPa@12v)
4606/500	3/4"	4620	3A	500/1.5	400/1.5	250/1.5	1705/1.3	1250/1.3	8'/27
4608/800	3/4"	4622	4A	800/3.0	660/3.0	510/3.0	2840/2.5	2274/2.5	14'/33
4612/1200	1-1/8"	4624	5A	1200/3.5	900/3.5	700/3.5	4169/3.0	3000/3.0	11' 7'/28

				ABYC Specifications @24.0 VDC (GPH = Gal. Per Hour)			ISO Specifications @24.0 VDC (LPH = Liters Per Hour)		
Part Num. Series	Outlet Hose I.D.	Motor Cart.	Amp Fuse	0 ft. Head GPH/ amps	3.3 ft Head GPH/ amps	6.7 ft Head GPH/ amps	0kPa Head LPH/ amps	10kPa Head LPH/ amps	Max Head (ft.@24v/ kPa@24v)
4609/800	3/4"	4623	2A	800/1.3	660/1.3	500/1.3	2842/1.1	2160/1.1	14'/31
4613/1200	1-1/8"	4625	2A	1200/1.5	900/1.5	725/1.5	4100/1.3	3100/1.3	11'/28

### MATERIALS REQUIRED

- Three #8 stainless fasteners, suitable length for mounting surface
- Cordless drill and 1/8" (3 mm) bit
- Hose clamps (Attwood # 9185, 2 per connection)
- Mounting pad: marine plywood, fiberglass cloth and resin
- Manual (# 7615A) or automatic float switch (#4201 or 4202)
- Fuel-resistant, reinforced smooth bore outlet hose

### INSTALLATION LOCATION

1. Position pump in the lowest accessible part of the bilge. On sailboats, location should be centered over keel. (Figure 1)
2. Do not mount pump directly to hull. Attach base strainer to a marine plywood mounting pad that is fiberglassed to the hull.

### HOSE CONNECTION INSTRUCTIONS

**IMPORTANT:** To prevent airlock, hose must rise continually upward to the thru-hull connector with no dips or sharp bends. Support hose if necessary.

1. Orient pump outlet for a direct, unobstructed hose path.
2. Secure all connections with hose clamps.
3. If no thru-hull connector exists, install at 12" min. (30.5 cm) above water line. Apply marine sealant around thru-hull flanges on interior and exterior of hull.

### PUMP MOUNTING INSTRUCTIONS

1. To access mounting holes, remove base strainer. Hold housing with one hand, depress locking tab with other. Twist counter-clockwise and remove pump housing from base. It is not necessary to remove motor cartridge for installation. (Figure 2)
2. Use base as template to mark 3 mounting holes in mounting pad.

**CAUTION:** Do not drill through hull. Before drilling be sure mounted pump will be correctly positioned with pump nozzle pointing toward thru-hull connector. (Figure 1)

3. Remove base. Drill three 1/8" (3 mm) pilot holes at marked locations.
4. Replace base. Attach with #8 stainless steel fasteners.
5. Re-attach pump to base. Insert into base, twist clockwise until tab snaps in and prevents turning. (Figure 2)

### WIRING INSTRUCTIONS

Make all wire connections above the highest water level. Use marine grade wire connectors only. Waterproof all connections with suitable materials. (Figure 3)

**NOTE:** Failure to make waterproof connections and fuse pump properly will void the product warranty.

1. Connect positive lead (brown) to switch. For automatic operation, use Attwood Automatic Float Switch (#4201 or 4202). Connect negative lead (black) to ground.
2. Install fuse holder within 72" (183 cm) of the positive (+) battery terminal. Use standard automotive (SAE J554) glass tube type electrical fuse.
3. To test system, feed water into the pump. If flow appears low, be sure wires have been connected properly: Brown-to-positive (switch), and black-to-negative. Reversed wiring reduces performance and can cause pump failure.

### MAINTENANCE AND TROUBLESHOOTING

Disconnect power to the pump. Regularly inspect and clean to be sure that debris is not blocking the strainer or impeller.

#### If pump runs but does not pump water:

1. Check for airlock. Be sure that outlet hose runs upward to the thru-hull connector, with no dips. (Figure 1)
2. Remove pump housing from base. Remove debris from chamber and impeller. Be sure impeller is firmly attached to shaft and is not cracked or broken. (Figure 2)

#### If pump does not run:

1. Check fuse. Be sure electrical connections and fuse are waterproof and haven't loosened. (Figure 3)

#### To replace motor cartridge:

1. Hold pump housing, depress motor cartridge tab and twist cartridge counter-clockwise to remove (Figure 2).
2. Check motor cartridge fit: See specification chart for replacement motor cartridge number. Motor must match housing color: 500 Series = RED, 800 = BLUE, 1200 = GRAY.
3. To reinstall cartridge: Coat O-ring with vegetable oil (petroleum-based oils will cause deterioration).
4. Insert cartridge into housing. Twist clockwise until you hear tab snap up into slot. (Figure 2)

Figure 1

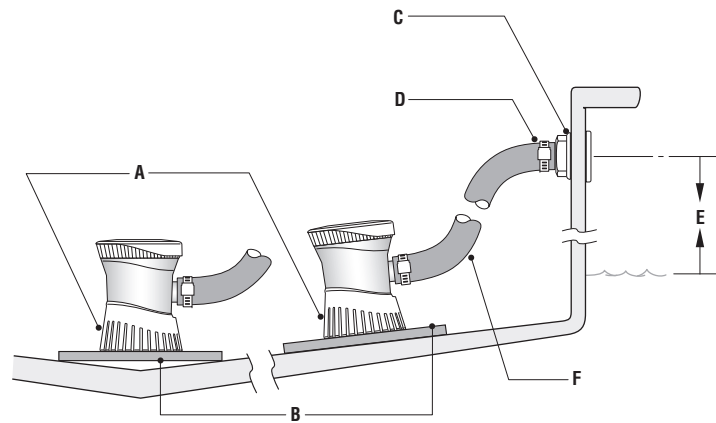


Figure 1

- A. Base Strainer
- B. Suitable Mounting Pad
- C. Thru-Hull Connector
- D. Hose & Clamp
- E. 12" min. Above Water Line
- F. Hose MUST Rise Upward with NO DIP

Figure 2

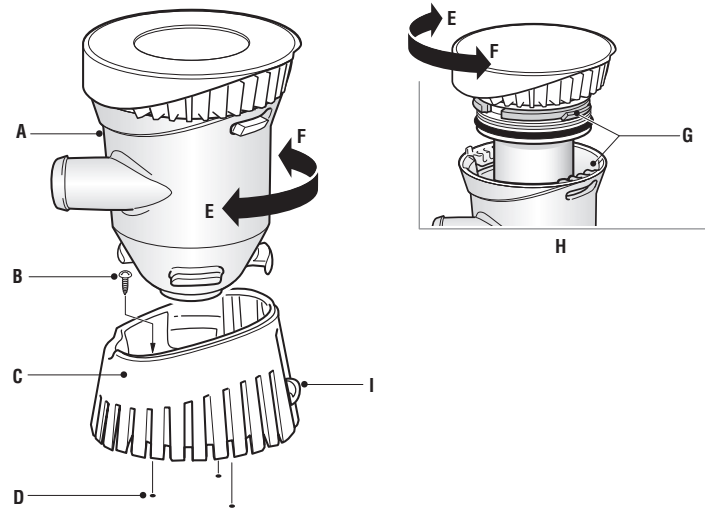


Figure 2

- A. Pump Housing
- B. (3) #8 Fasteners
- C. Base Strainer
- D. 1/8" Pilot Holes
- E. Lock
- F. Unlock
- G. Motor Cartridge Tab
- H. Motor Cartridge Replacement
- I. Press Tab To Unlock

Figure 3

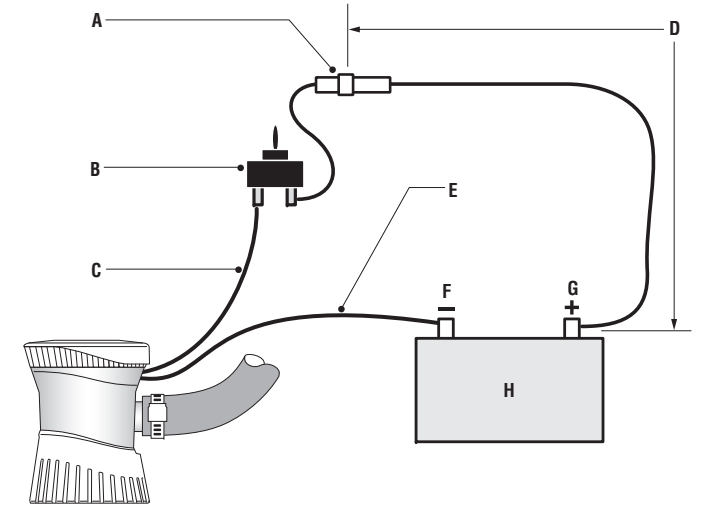


Figure 3

- A. Fuse Holder
- B. 2-Terminal On/Off Switch
- C. Brown Wire
- D. 72" (183cm) Max. Length From (+) Terminal to Fuse
- E. Black Wire
- F. (negative) Terminal
- G. (positive) Terminal
- H. Power Source



# Tsunami Bilge & Aerator Pump Replacement Motor Cartridge

4620, 4622, 4624, 4623, 4625 Series

SAVE THESE INSTRUCTIONS  
Form Number 69397

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## PRODUCT FEATURES

The Attwood Motor Cartridges are an easy solution for replacement of an Attwood Cartridge Bilge or Aerator Pump. The Replacement Motor Cartridges are interchangeable between same-capacity bilge pumps and aerator pumps. And you can replace the motor without changing the hose or base installations.

The cartridges are color-coded to help you match cartridge size to the pump or aerator:

12-VOLT CARTRIDGES	Product Number	Color
500 Series	4620	Red
800 Series	4622	Blue
1200 Series	4624	Gray
24-VOLT CARTRIDGES	Product Number	Color
800 Series	4623	Blue
1200 Series	4625	Gray

## TO REMOVE EXISTING CARTRIDGE

### WARNING

If Aerator is installed thru-hull, **BOAT MUST BE OUT OF THE WATER** to remove or replace motor cartridge.

The pump, plumbing and connections may be below the water level. Removing the cartridge while the boat is in the water may result in flooding and sinking of your boat.

1. Hold pump housing firmly. Depress motor cartridge tabs, then twist cartridge counter-clockwise to remove.

## TO INSERT NEW MOTOR CARTRIDGE

1. Check motor cartridge fit. Motor color must match housing color:  
500 Series = RED, 800 = BLUE, 1200 = GRAY.
2. Coat O-ring with vegetable oil to ease insertion.
3. Insert cartridge into housing. Twist clockwise until you hear tabs snap up into slot.

### WARNING

To avoid leaking or sinking, the aerator **RED TAB MUST BE LOCKED AND VISIBLE** through aerator housing slot.

Figure 1

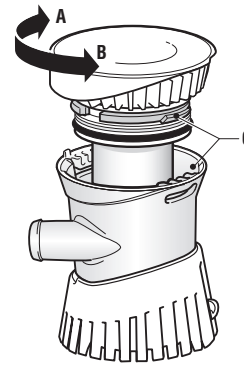


Figure 1  
A. Lock  
B. Unlock  
C. Motor Cartridge

Figure 2

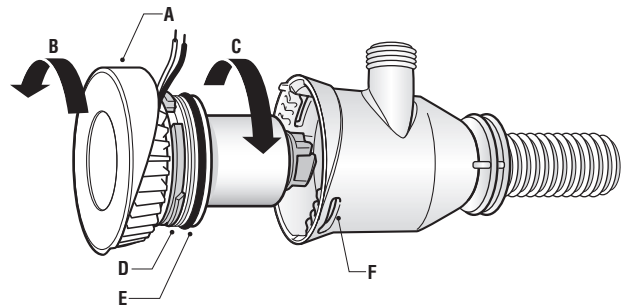


Figure 2  
A. Motor Cartridge  
B. Unlock  
C. Lock  
D. Red Tab  
E. "O" Ring  
F. Red Tab Must Be Extending Through Slot