SHURflo®

RV FRESH WATER PUMP

for use on RV/Caravans

INSTALLATION AND OPERATION MANUAL
Mounting

The pump should be on a dedicated (individual) circuit protected by the specified fuse as indicated on the motor label. A switch rated at or above 15 amps is recommended, and must interrupt current flow on the positive (+ red) lead. The pump must be grounded to an earth (battery). The earth wire must be the same size (gauge/mm²) as the positive wire.

Shurflo recommends at least 1 ft. (0.3m) of 1/2" (13mm) I.D. flexible high pressure tubing to both ports. Ideally the pump's ports/strainer should not be connected to plastic or rigid pipe. The pump's normal oscillation may transmit through rigid plumbing causing noise, and possibly loosen or crack components.

Installation of a 50 mesh strainer is recommended to prevent foreign debris from entering the pump. The Shurflo In-Line Strainer (1/B and 2/B) has a twist-lock feature allowing simple cleaning when plumbed with flexible tubing. Shurflo swivel barb fittings provide easy removal if maintenance or access is required. The fittings are designed with a "taper-seal", creating water tight connection when hand tightened. Always secure barb tubing connections with properly sized stainless steel clamps to prevent leaks. Never use Teflon tape or sealing compounds on threads. Sealer may enter the pump causing a failure. Failure due to foreign debris is not covered under warranty.

Plumbing

Restrictions in a plumbing system may cause the pump to rapid cycle (ON/OFF within 2 sec.) during low flow demands. Cycling should be minimized to prevent pulsating flow, and to achieve maximum pump life.

To determine if adjustment is necessary, turn tap on to lower than average flow of water. The pump should cycle, but its "OFF time" must be 2 sec. or longer. If the cycling is correct, leave well enough alone. If the pump is cycling rapidly increase the setting by turning the screw clockwise (1 1/2 turn MAX.) until the pump operates for 1 sec. with at least 2 sec. "OFF time". If cycling cannot be minimized consider removing plumbing restrictions or simply install a Shurflo Accumulator.

Sanitizing

Fresh water systems require periodic maintenance to deliver a consistent flow of fresh water. Depending on the use and the environment the system is subject to, sanitizing is recommended prior to storing and before using the water system after a period of storage. Systems with new components, or ones that have been subjected to contamination, should also be disinfected as follows:

1. Use one of the following methods to determine the amount of common household bleach needed to sanitize the tank.
   A) Multiply "gallons (UK) or tank capacity" by 0.156; the result is ounces of bleach needed to sanitize the tank.
   B) Multiply "litres of tank capacity" by 1; the result is the millilitres of bleach needed to sanitize the tank.

2. Mix into solution the proper amount of bleach within a container of water.

3. Pour the solution (water/bleach) into the tank and fill the tank with fresh water.

4. Open all taps (HOT & COLD) allowing the water to run until the distinct odour of chlorine is detected.

5. The standard solution must have four (4) hours of contact time to disinfect completely. Doubling the solution concentration allows for contact time of (1) hour.

6. When the contact time is completed, drain the tank. Refill with fresh water and purge the plumbing of all sanitizing solution.

NOTE: The sanitizing procedure outlined above is in conformance with the approved procedures of the U.S. Public Health Service.
Winterizing

If water is allowed to freeze in the system, serious damage to the plumbing and the pump may occur. Failures of this type will void the warranty. The best guarantee against damage is to completely drain the system. However, non-toxic anti-freeze for fresh water, available at local RV centres, may be used.

CAUTION: Do not use Automotive Antifreeze to winterize drinking water systems. Such solutions are highly toxic. Ingestion may cause serious injury or death. To properly drain the system perform the following:

1. Drain the water tank. If the tank doesn't have a drain valve open all taps allowing the pump to operate (15 min. ON, 15 min. OFF) until the tank is empty.
2. Open all the taps (including the lowest valve or drain in the plumbing) and allow the water to purger from the plumbing, then turn the pump OFF.
3. Using a pan to catch the remaining water, remove the plumbing at the pump's inlet/outlet ports. Turn the pump ON, allowing it to operate until the water is expelled. Turn OFF power to the pump once the plumbing is emptied. Do not reconnect pump plumbing. Make a note at tank filler as a reminder: "Pumping Disconnected".
4. All taps must be left open to guard against any damage.

Troubleshooting

Vibration induced by road conditions or transporting can cause pluming or pump hardware to loosen. Check for system components that are loose. Many problems can be resolved by simply tightening the hardware. Check the following items along with other particulars of your system.

PUMP WILL NOT START/BLOWS CIRCUIT:
- Electrical connections, fuse or breaker, main switch, and ground connection.
- Is the motor hot? Thermal breaker may have triggered; it will reset when cool.
- Is voltage present at the switch? Bypass the pressure switch. Does the pump operate?
- Charging System for correct voltage (±10%) and good ground.
- For an open or grounded circuit, or motor; or improperly sized wire.
- For seized or locked diaphragm assembly (water frozen?)

WILL NOT PRIME/SPUTTERS:
- No discharge/motor runs
- Is the strainer clogged with debris?
- Is there water in the tank, or has air collected in the hot water heater?
- Is the inlet tubing/plumbing sucking in air at plumbing connections (vacuum leak?)
- Is the inlet/outlet plumbing severely restricted or kinked?
- Proper voltage with the pump operating (±10%).
- For debris in pump inlet/outlet valves or swivel/dry valves.
- Pump housing for cracks or loose drive assembly screws.

PUMP WILL NOT SHUT-OFF/RUNS WHEN TAP IS CLOSED:
- Output side (pressure) plumbing for leaks, and inspect for leaky valves or toilet.
- For air trapped in outlet side (water heater) or pump head.
- For correct voltage to pump (±10%).
- For loose drive assembly or pump head screws.
- Is the strainer clogged with debris?
- Is there water in the tank, or has air collected in the hot water heater?
- Is the inlet tubing/plumbing sucking in air at plumbing connections (vacuum leak?)
- Is the inlet/outlet plumbing severely restricted or kinked?
- Proper voltage with the pump operating (±10%).
- For debris in pump inlet/outlet valves or swivel/dry valves.
- Pump housing for cracks or loose drive assembly screws.

LEAKS FROM PUMP HEAD OR SWITCH:
- For plumbing which may have vibrated loose.
- For punctured diaphragm if water is present in the drive assembly.
- For loose screws at switch or pump head.
- For loose pump head to motor screws. (3 long screws)
- The motor with pump head removed. Is noise from motor or pump head?

NOISY OR ROUGH OPERATION:
- Are the valves or internal check valve held open by debris or is rubber swollen?
- Pressure switch operation/adjustment incorrect, refer to shut-off adjustment switch.

RAPID CYCLING:
- Pressure switch shut-off adjustment.
- Water filter/purifier should be on separate feed line.
- For restrictive plumbing, flow restrictors in taps/shower heads.

LEAKS FROM PUMP HEAD OR SWITCH:
- For loose screws at switch or pump head.
- Switch diaphragm ruptured or pinched.
- For punctured diaphragm if water is present in the drive assembly.

LEAKS FROM PUMP HEAD OR SWITCH:
- For plumbing which may have vibrated loose.
- For punctured diaphragm if water is present in the drive assembly.
- For loose screws at switch or pump head.
- For loose pump head to motor screws. (3 long screws)
- The motor with pump head removed. Is noise from motor or pump head?

Service Kits

(See Fig. 3)

To ensure the correct service kit, order by the complete model number, date of manufacture and name plate data. Part kits come with complete repair instructions.

1 Switch/Check valve and Upper Housing Kit (replaces all previous switch designs)
2 Switch/Check Valve plate assembly
3 Diaphragm/Drive assembly
4 Motor
5 Complete Pump Head assembly (includes part nos. 1, 2 and 3) (Replaces all previous switch designs)

Limited Warranty

Shurflo warrants its RV Duty Fresh Water Pumps to be free of defects in workmanship and materials under normal use for two years beginning with the purchase date of the unit.

This warranty does not extend to any Shurflo products which have been misapplied, improperly installed or altered outside the Shurflo factory.

Accessories & Fittings

Shurflo's warranty accessories and fittings to be free of defects in workmanship and materials under normal use for one year beginning with the purchase date of the accessory or fitting.

* = Shurflo optional accessories

Figure 1

1/A Pump
1/B Twist-on strainer*
1/C Accumulator*
1/D Pressure regulator (tap mounting model**)
1/E (wall mounting model**)
1/F Mains water supply
1/G Shutoff/Drain valve
1/H Water tank
1/I Switch
1/J Fuse
1/K Water heater

Figure 2

2/B Twist-on strainer
2/H Screw
2/I Switch
2/J Fuse
2/K Water heater
2/L 12.5 mm High Pressure tubing
2/M Stainless steel clamps (x2)
2/N 12.5 mm High Pressure tubing
2/P Fresh water inlet
2/Q Mount on solid surface
2/R Battery or earth
2/S Swivel barb fittings* (supplied)
2/T Connector

Figure 3

3/A Upper Housing Swivel
3/B Valve Assembly
3/C Drive Assembly
3/D Motor
3/E Pump Head

ENGLISH

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Fig 2

(2/R) Battery or Earth
(3/Q) Mount on a solid surface with bolts or screws
(1/R) Switch
No. 14 (2.5 mm²) gauge or heavier wire
(2/N) 12.5 mm High Pres. Braided Tubing 12 in. lengths (recommended)
(2/M) Stainless Steel Clamps (x2)
(2/L) Screw
(2/J) Fuse
Battery +
(2/F) Fresh Water Inlet
(2/T) Connector
(2/H) Twist-On Strainer
(2/5) Swivel Barb Fittings (supplied)

Fig 3

Valve Assembly 2
Drive Assembly 3
Upper Housing Switch Assembly 1
Motor 4
Pump Head 5

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