

# SHURFLO® MODEL 3300 HIGH FLOW BALLAST PUMP INSTALLATION AND OPERATION MANUAL

MODEL 3300



## SPECIFICATIONS/FEATURES

<b>Motor:</b>	12 VDC sealed corrosion resistant electro-coated motor
<b>Lead Wires:</b>	14 AWG
<b>Fuse:</b>	See motor label for fuse size
<b>Pump Type:</b>	Reversible Flexible Impeller
<b>Self-Prime:</b>	Up to 4 feet vertically
<b>Duty Cycle:</b>	Intermittent duty only
<b>Ports:</b>	½" Internal Pipe Threads, 1" External Hose Barb
<b>Impeller:</b>	Neoprene
<b>Pump Body:</b>	Bronze
<b>Weight:</b>	7 lbs.
<b>Dimensions:</b>	See drawing
<b>Approvals:</b>	USCG Electrical Standards 183.410 and ISO 8846 Marine for IGNITION PROTECTION on gasoline powered vessels, CE and IMCI certification.

## INSTALLATION TIPS

- Mount within 4 feet from source
- Mount in a dry well ventilated location
- Use smooth ID tubing or hose that will not collapse under suction
- Use full flow style valves for ultimate performance
- Install a strainer on inlet to prevent large particles from entering the pump
- Use proper fuse size indicated on pump label

## OPERATION TIPS

- Never operate pump if gasoline fumes are present
- Do not run dry
- Pump works best when full voltage is provided

## APPLICATION TIPS

- Fill and empty ballast tank/bags
- Water transfer

## MOUNTING

■ Consider a dry location that allows easy access if maintenance is required. The pump should not be located in an area of less than one cubic foot unless adequate ventilation is provided. Excessive heat may trigger the thermal protector and interrupt operation. When the temperature drops the thermal breaker will automatically reset and start operation.

■ Mount above the water level. The pump is capable of 4 ft. vertical prime. The pump can be mounted in any position. If mounting the pump vertically, the pump head should be in the down position.

■ **CAUTION:** Do not drive screws through the vessel's hull. Use #8 stainless steel screws to fasten the pump. Choose a solid surface (bulkhead or stringer) that will not amplify pump sound. The mounting feet are intended to isolate the pump from the mounting surface; over-tightening, flattening or oversize screws will reduce the mounting ability to isolate vibration and noise.

## PLUMBING

■ Installation of a strainer [such as SHURFLO 253 series] is required to prevent large debris from entering the pump.

■ Avoid any sharp radius in the tubing that may kink over time. Route tubing away from any heat (exhaust manifolds etc.) and fasten securely.

■ Inlet tubing from the source to the pump should be rated for vacuum to prevent from collapsing during operation. The discharge tubing should be rated for high pressure.

## ELECTRICAL

■ The pump should be on a dedicated (individual) circuit protected by the specified fuse on the motor label.

■ A UL marine duty switch (ignition protected) rated for 25 amps or higher is recommended, and must interrupt current flow on the positive (+ red) lead.

■ **WARNING:** If the pump is operated in an area containing flammable vapors, the wire leads must be joined by insulated mechanical locking connectors. Loose or inadequate wire connections can spark resulting in an explosion causing property damage, injury or death.

■ Turn off power to the pump when leaving the boat unattended

## MAINTENANCE

■ Normal pump maintenance is all that is needed: Checking and cleaning of the strainer and occasionally checking all plumbing hardware and fittings for tightness.

12 Volt System Total Wire Length*	Min. Wire Size (20 Amps)	
	3% Drop	10% Drop
Feet [m]	GA	GA
1-10 [.3-3]	#10	#16
11-20 [3.3-6]	#8	#14
21-30 [6.4-9.1]	#6	#12
30-60 [9.1-18.2]	#4	#10

\*length from power source to motor and back to ground.

## TROUBLESHOOTING

■ Vibration induced by moving can loosen plumbing, strainers and pump hardware. Check for system components that are loose. Also, refer to the chart below for trouble-shooting tips.

### 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 motor?
- √ - Charging System for correct voltage (±10%) and good ground.
- √ - Open or grounded circuit, or motor; or improperly sized wire.
- √ - Seized or locked impeller assembly.

### NOISY OR ROUGH OPERATION:

- √ - Has plumbing vibrated loose?
- √ - Is there a restricted inlet (clogged strainer, kinked hose)?
- √ - Does the mounting surface amplify noise?
- √ - Are mounting feet loose or compressed too tight?

### WILL NOT PRIME:

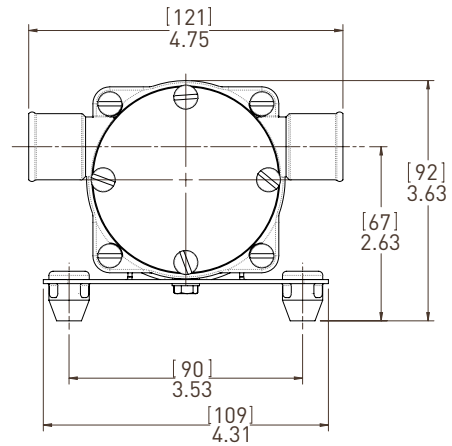
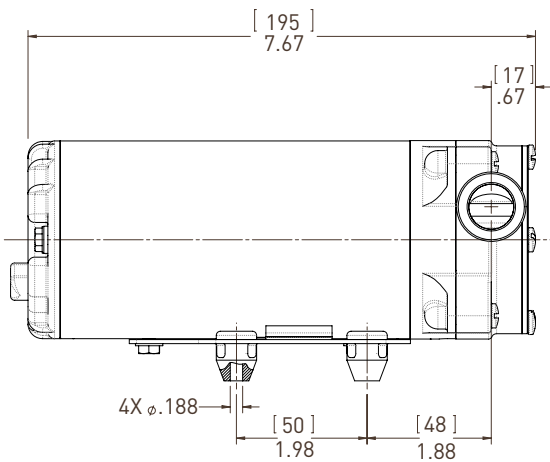
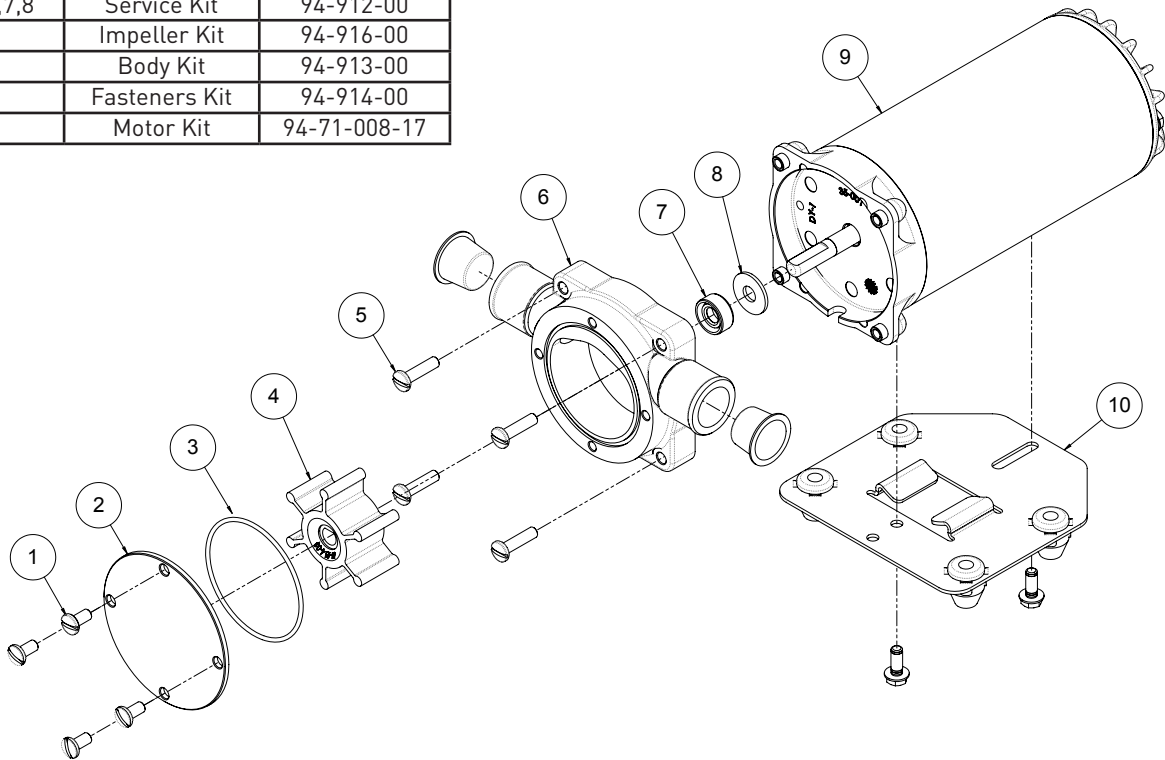
- √ - Is the strainer clogged with debris?
- √ - Is the inlet tubing/plumbing sucking in air at plumbing connections?
- √ - Is inlet plumbing severely restricted or kinked?
- √ - Proper voltage with the pump operating (±10%).
- √ - Open or grounded circuit, or motor; or improperly sized wire.

### TYPICAL PERFORMANCE

PSI	GPM	LPM	AMPS
5	12.5	47.3	15
10	10	37.8	16
15	7	26.4	17
20	0	0	19

## REPAIR KITS

ITEM	DESCRIPTION	PART NUMBER
1,3,4,5,7,8	Service Kit	94-912-00
4	Impeller Kit	94-916-00
6	Body Kit	94-913-00
1,5	Fasteners Kit	94-914-00
9	Motor Kit	94-71-008-17



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