

# SUPER GALLEY MATE WATER PRESSURE SYSTEM

**WARNING:** *Raritan Engineering Company, Inc. recommends that a qualified person or electrician install this product. Equipment damage, injury to personnel or death could result from improper installation. Raritan Engineering Company, Inc. accepts no responsibility or liability for damage to equipment, or injury or death to personnel that may result from improper installation or operation of this product.*

**WARNING: HAZARD OF FLOODING** - Do not connect directly to pressurized dockside water supply without proper safety precautions. Turn off power to unit when not in use.

**WARNING: HAZARD OF EXPLOSION** - Ignition protected models are available.

**DO NOT** install non-ignition protected unit(s) in area(s) requiring ignition protection.

**CAUTION: DO NOT** run pump dry; damage to pump will result.

## DESCRIPTION

The Super Galley Mate Water Pressure System draws water from a potable water tank and delivers a flow of pressurized water. The system can be installed using the GMPT alone or by installing the Galley Mate Pump (GM) and the Pressure Accumulator Tank (PT) separately.

The Galley Mate Pump (GM) is a rubber impeller pump with a pressure sensitive switch, factory set to turn on at 15 PSI and to turn off at 22 PSI. (8" [20.3cm] L x 4" [10.2cm] W x 6 1/2" [16.5cm] H)

The Pressure Accumulator Tank (PT) helps to equalize the flow of water. (12 1/4" [31.1cm] L x 5 1/4" [13.3cm] W x 9 3/8" [23.8cm] H)

The GMPT is a single unit containing a rubber impeller pump, pressure switch and a pressure accumulator tank. (12 1/4" [31.1cm] L x 5 1/4" [13.3cm] W x 9 7/8" [25.1cm] H)

The Pressure Switch (G8B) located on both the GM and GMPT automatically controls pressure when in the AUTO position.

## OPERATION

### When boarding the boat:

1. Check that fresh water tank is full.
2. Restore power to unit.
3. Switch GM or GMPT Pressure Switch to AUTO.
4. Check the level of the fresh water supply tank regularly.

**WARNING: Allowing the tank or pump to run dry will destroy the GM or GMPT impeller and/or pump housing.**

### Pressure Switch Adjustment:

**WARNING - DO NOT tamper with Pressure Switch if it is an Ignition Protected (I.P.) unit.**

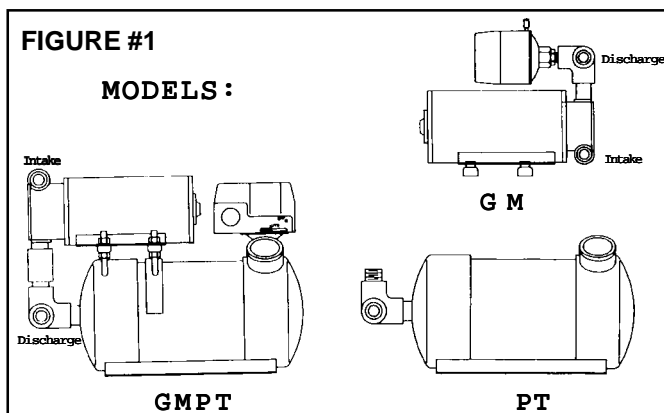
The Pressure Switch (G8B) has been preset to an operating range of 15-22 PSI and further adjustment should not be necessary. If adjustment becomes necessary (non I.P. units only) please follow instructions printed inside the switch cover or contact Raritan Customer Service. **DO NOT** adjust switch above 22 PSI, it will **NOT** increase water volume and may damage pump or motor.

## MAINTENANCE

1. Inspect electrical connections for corrosion.
2. Inspect plumbing connections for leaks.
3. Replace impeller when pump has difficulty reaching shut-off pressure.

## WINTERIZATION

USE ONLY NON-TOXIC ANTI-FREEZE (propylene glycol). Two methods for winterizing your



Super Galley Mate are outlined below. It is important to use one of the these methods. Improper winterization may cause damage.

1. Be sure that the OFF/AUTO switch is in the OFF position. Disconnect the water intake hose at the pump and replace it with a short piece of the same size hose, and submerge free end of hose in a container of NON-TOXIC anti-freeze (propylene glycol).
2. Flip switch to AUTO position (be sure pump does not run dry) and open each faucet until anti-freeze can be seen. Turn switch OFF and shut off power to the unit (circuit breaker). Flush the system to remove the anti-freeze.

Follow OPERATION instructions when putting unit back into service.

**Winterizing without Anti-freeze:**

1. Disconnect pump and tank intake and discharge connections. Clear water lines with compressed air, if available.
2. Run pump briefly (three to five seconds). Remove the Pump Cover Plate (CH6) and dry inside of housing.
3. Apply a small amount of Raritan's Super Lube (SL) to the inside of the pump cavity. This will prevent adhesion of the impeller to the pump body. Manually rotate impeller half a turn.
4. Replace pump cover.

**INSTALLATION**

**Materials Required:** reinforced 3/4" I.D. 50 PSI potable water hose, 3/4" hose clamps, 3/4" adapter

fittings, four noncorrosive 5/16" fasteners (for mounting) and 25 PSI water pressure regulator (if system is to be connected to external pressurized fresh water supply). See Figure #2.

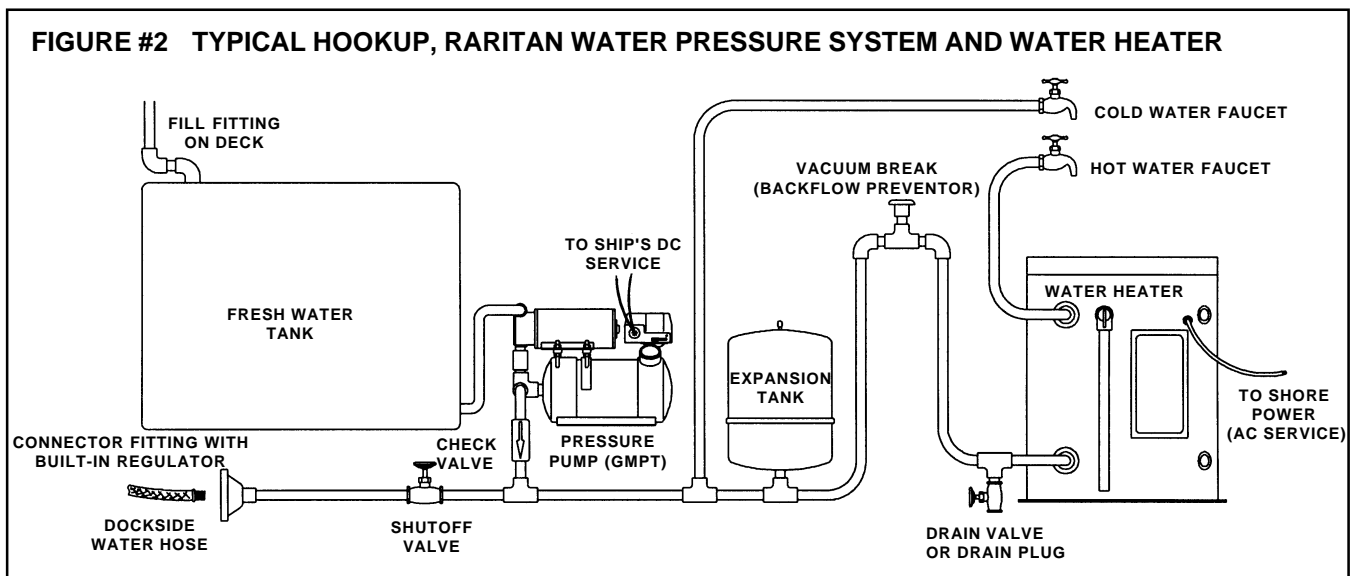
**MOUNTING**

**CAUTION: Do not install GM or GMPT in an area where the temperature may exceed 120° F. DO NOT install a GM or GMPT in an area requiring ignition protection unless you have an Ignition Protected (I.P.) unit.**

1. Select a convenient location, on a horizontal surface, where unit) can be easily secured. The GMPT or GM should be as close as possible to the freshwater supply tank, with lift not exceeding three feet (total distance pump must draw from should be less than six feet). If a separate PT is used, mount it near the pump and before the first faucet.
2. Carefully mark the pattern of mounting holes before drilling.
3. Mount with noncorrosive fasteners. The rubber mounting strips provided with the GMPT or PT should be placed under the unit before it is installed.

**PLUMBING**

**NOTE: To ensure the system operates efficiently make all plumbing runs as direct as possible. Avoid tees and ells (right angle fittings reduce the flow of water). DO NOT use smaller than 3/4" I.D. hose or tubing.**



1. All intake and discharge to the GMPT, GM and PT require reinforced 3/4" I.D. hose and hose clamps. Use only potable water hose that is rated 50 PSI (minimum).
2. **For a GMPT system:** Connect the freshwater supply line to the intake, located on the top of the pump assembly and the faucet supply line to the pressure tank discharge.
3. **For a system using a GM and PT:** connect the freshwater supply line to the intake, located on the bottom of the GM. Connect the discharge connection, located at the top of the GM, to either nipple on the PT. Connect the other PT nipple to the faucet supply lines.
4. **When installing a GM without a PT:** connect the freshwater supply line to the intake of the GM, and the discharge connection to the faucet supply lines.
5. A Raritan Fresh Water Strainer (FWS) or a similar type strainer should be installed in line between the freshwater tank and the pump with easy access for cleaning. This will help protect the unit from trash or debris that may cause damage to system components.

**SPECIAL PLUMBING CONSIDERATIONS WHEN USING IN CONJUNCTION WITH DOCKSIDE WATER PRESSURE:** A pressure regulator **MUST** be installed before connecting the water system to a dockside water supply.

**Note:**

- 1) A check valve must be installed between the Pressure Tank and entry of dockside water to the system (Figure #2).
- 2) We also recommend a shutoff valve be included at the point of entry of dockside water. A shutoff valve will enable you to turn off dockside water without disconnecting the hose.
- 3) The fresh water tank **MUST** be filled through the deck fitting, **NOT** the water pressure system.

**WARNING: Always turn off dockside water pressure when leaving the boat unattended. If a component in the system fails, flooding and sinking could occur.**

**WIRING**

1. Calculate the amount of wire needed. **Total wire run in feet is the distance from the power source to the pump and back.**
2. Select the proper wire size and fuse or circuit breaker size using chart below.
3. Connect the RED/ORANGE lead from the pump through a proper fuse or circuit breaker to the DC electrical distribution panel (or positive battery terminal). Connect the BLACK lead from the pump to the negative battery terminal or negative DC bus.

**NOTE: This polarity must be observed or the pump will run in reverse and not pump water. Damage will occur if pump is allowed to run dry.**

**SPECIFICATIONS AND RECOMMENDED MINIMUM SIZES OF WIRE (AWG) AND FUSES**

<u>wire run</u>	<u>12V</u>	<u>24V</u>	<u>32V</u>
0' to 15'	#10	#12	#14
16' to 20'	# 8	#10	#12
21' to 50'	# 6	#10	#10
Fuse/Circuit Bkr	30amp.	20amp.	12amp.
Current	23amp.	13amp.	7amp.

**NOTE: Wire runs should not exceed 50 feet. If the installation requires a run longer than 50 feet, contact Raritan Customer Service.**

**Factory Set Pressure Range: 15-22 PSI**

**Accumulator Precharge: 2 PSI**

**GMPT: Max Pressure- 27 PSI**

**Max Flow (at zero back pressure) - 5 gpm**

**STARTUP**

1. With freshwater tank full, open faucets, restore power to unit and flip the lever on the Pressure Switch (G8B) to the AUTO position.
2. After all air has been cleared from the lines and hot water heater, and water is flowing freely, turn off the faucets. The system is now set to operate automatically.
3. Check system for leaks.

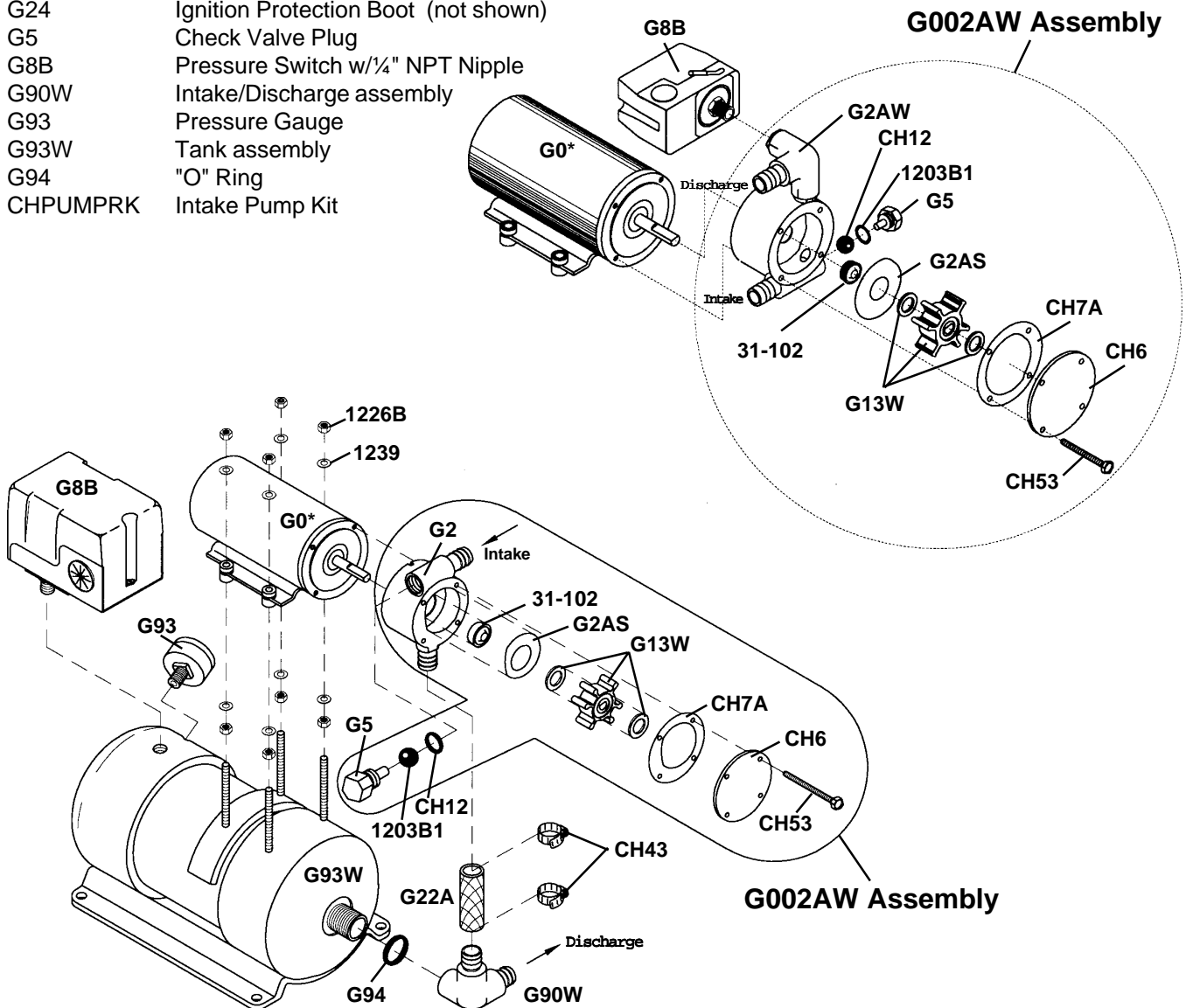
<b>TROUBLESHOOTING</b>		
<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>CONCLUSION</b>
A. Pump will not prime.	A1. Low Voltage. A2. Wiring. A3. Check ball adhering to pump seat. A4. Motor shaft seal not tight. A5. Distance required to pump is too long. A6. Worn impeller. A7. Crack in housing. A8. G5 Check Valve plug loose. A9. Filter/strainer clogged. A10. Empty tank A11. Hose connections not clamped tight. A12. Torn gasket	A1. Check voltage at pump pressure switch (G8B). If Voltage drop exceeds 10%, Check terminals and wire connections for corrosion. Charge batteries. A2. Check gauge of wire to be sure it is not undersized. A3. Remove check valve plug (G5) if check ball adheres to seat, remove and coat lightly with Super Lube. A4. If motor shaft seal is loose it will draw air. Replace. A5. Pump should be as close as possible to tank with lift not exceeding three feet. A6. Replace G13W. A7. Replace housing. A8. Secure plug - check O ring. A9. Clean filter/strainer. A10. Refill fresh water tank. A11. Double check connections. A12. Replace gasket.
B. Pump will not shut off.	B1. Low voltage. B2. Worn impeller. B3. Pressure set too high. B4. Check ball not seating properly. B5. Pressure switch failure.	B1. Check as A1 above. B2. Replace impeller. B3. Adjust pressure switch, pressure should not exceed 22 PSI. B4. Clean any debris from housing and apply a light coat of Super Lube. B5. Replace pressure switch.
C. System loses pressure and runs when faucets are closed.	C1. Check ball not seating properly. C2. Leak in system. C3. Pressure tank leak.	C1. See B4 above. C2. Check system and pressure tank for leaks; Repair as necessary. C3. Inspect tank and bladder valve - replace as necessary.
D. System cuts out while operating or will not start.	D1. Built-in thermal switch has been tripped. D2. Pressure switch failure. D3. Failed motor.	D1. Ventilate area well; Relocate pump if temperatures are likely to be in excess of 120 degrees. D2. Replace pressure switch. D3. Replace motor.
E. Motor runs but pump not pumping water.	E1. Pump ran dry- burnt housing and impeller.	E1. Replace pump assembly or damaged parts.

**NOTE: Damage to pump housing, impeller, motor or other related components due to dry running voids coverage by the product's limited warranty.**

## ORDERING REPLACEMENT PARTS AND CUSTOMER SERVICE

Part #	Description
1203B1	Pump "O" Ring
1226B	Mounting Nut (8)
1239	Flat Washer (8)
31-102	Motor Shaft Seal
CH12	Check Ball
CH38	1/4 - 20 Threaded Stud (4)
CH43	Hose Clamp (2)
CH52	Rubber Mounting Strip (2) (not shown)
CH53	Pump Mounting Screw (4)
CH6	Pump Cover Plate
CH7A	Pump Cover Gasket
G002W	Pump Assembly for GMPT
G002AW	Pump Assembly with Adapter for GM
G012	Motor with Base 12V
G024	Motor with Base 24V
G032	Motor with Base 32V
G13W	Impeller w/Teflon Washers (2)
G2	Pump Body for GMPT
G2AS	Wear Plate
G2AW	Pump Body with Adapter for GM
G22A	Connecting Hose
G24	Ignition Protection Boot (not shown)
G5	Check Valve Plug
G8B	Pressure Switch w/1/4" NPT Nipple
G90W	Intake/Discharge assembly
G93	Pressure Gauge
G93W	Tank assembly
G94	"O" Ring
CHPUMPRK	Intake Pump Kit

Replacement parts may be ordered through your local Raritan dealer or directly from the factory. When ordering please state part number, description, voltage (when applicable) and quantity required. Questions or problems may be referred to Raritan's Customer Service Department, at either the New Jersey or Florida office. Our Customer Service also operates a factory repair and overhaul shop at both branches, call for details.



## LIMITED WARRANTY

Raritan Engineering Company warrants to the original purchaser that this product is free of defects in materials or workmanship for a period of one year from the product's date of purchase. Should this product prove defective by reason of improper workmanship and/or materials within the warranty period, Raritan shall, at its sole option, repair or replace the product.

1. TO OBTAIN WARRANTY SERVICE, Consumer must deliver the product prepaid, together with a detailed description of the problem, to Raritan at 530 Orange St., Millville, N.J. 08332, or 3101 SW 2nd Ave. Ft. Lauderdale, FL 33315. When requesting warranty service, purchaser must present a sales slip or other document which establishes proof of purchase. **THE RETURN OF THE OWNER REGISTRATION CARD IS NOT A CONDITION PRECEDENT OF WARRANTY COVERAGE.** However, please complete and return the owner Registration Card so that Raritan can contact you should a question of safety arise which could affect you.
2. **THIS WARRANTY DOES NOT COVER** defects caused by modifications, alterations, repairs or service of this product by anyone other than Raritan; defects in materials or workmanship supplied by others in the process of installation of this product; defects caused by installation of this product other than in accordance with the manufacturer's recommended installation instructions or standard industry procedures; physical abuse to, or misuse of, this product. This warranty also does not cover damages to equipment caused by fire, flood, external water, excessive corrosion or Act of God.
3. **ANY EXPRESS WARRANTY NOT PROVIDED HEREIN, AND ANY REMEDY FOR BREACH OF CONTRACT WHICH BUT FOR THIS PROVISION MIGHT ARISE BY IMPLICATION OR OPERATION OF LAW, IS HEREBY EXCLUDED AND DISCLAIMED. ALL IMPLIED WARRANTIES SUCH AS THOSE OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, IF APPLICABLE, AS WELL AS ANY IMPLIED WARRANTIES WHICH MIGHT ARISE BY IMPLICATION OF LAW, ARE EXPRESSLY LIMITED TO A TERM OF ONE YEAR. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG A LIMITED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.**
4. **UNDER NO CIRCUMSTANCES SHALL RARITAN BE LIABLE TO PURCHASER OR ANY OTHER PERSONS FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, OR OTHERWISE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.**
5. No other person or entity is authorized to make any express warranty, promise or affirmation of fact or to assume any other liability on behalf of Raritan in connection with its products except as specifically set forth in this warranty.
6. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



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