

# FOUR GALLON SALT FEED SYSTEM WITH PUMP (Part #32-3005 [12 VDC] or #33-3005 [24 VDC])

## Installation and Maintenance Instructions

**THE FOLLOWING ARE CAUTIONARY STATEMENTS THAT MUST BE READ AND FOLLOWED DURING BOTH INSTALLATION AND OPERATION**

**WARNING:** *Raritan Engineering Company, Inc. recommends that a qualified person or technician 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 Electrical Shock.**



### INTRODUCTION

The Four Gallon Salt Feed System with Pump is designed for boats that operate in fresh or brackish water and can only be used with the Lectra/San<sup>®</sup> MC<sup>™</sup> or *electro-scan*<sup>™</sup> Type I MSD's. Salinity is monitored by the unit's Control Panel and salt solution will automatically be added to the MSD when needed.

Pressurized freshwater is required. Minimum of 15 psi (103 kPa) working pressure.

**Additional parts included:** , strapping for tank and salt feed pump cable with terminals. For Lectra/San MC only: Heat sink for transistor (Fig. #4)

**Additional parts required:** Mounting hardware, shutoff valve, plumbing fittings, 1/2" (12.7mm) hose for pressurized water and 3/4" (19mm) hose for overflow.

### OPERATION

Solar salt is added directly to the tank. Water supplied by the boats pressurized freshwater maintains the water level in the tank and continues to make saturated salt solution from the solar salt. A pump is used to add salt solution directly into the treatment tank when needed. The pump is controlled by the circuit board that monitors the electrode current in the treatment tank and automatically turns on the pump when salt is required.

When the slow blink-extended cycle light (amber on Lectra/San MC; red on electro-scan) is on and blinking (one blink per second) for an extended

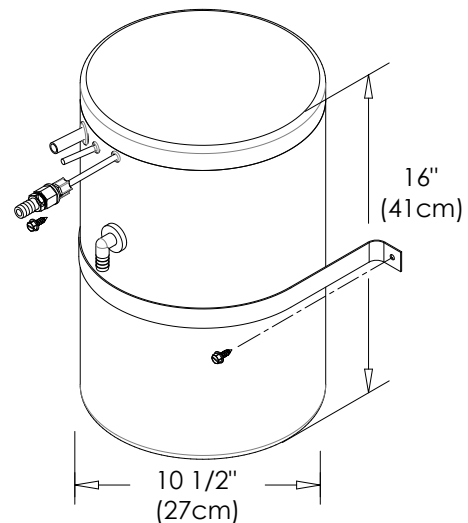
period, during the normal treatment cycle, check the salt feed system to see if more solar salt is needed. On the electro-scan, the LCD display will also display a warning that system amps are low.

**Refilling salt in the system:** Add up to 10 lbs. (4.5kg) of solar salt directly into the tank. .

### WINTERIZING

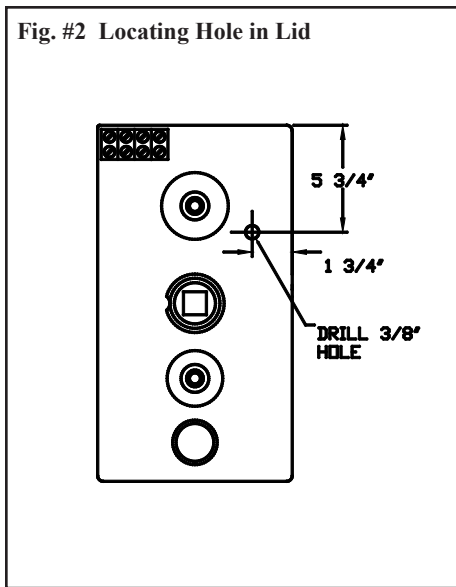
1. Rinse tank thoroughly with freshwater and wipe out tank.
2. Shut off pressurized freshwater, disconnect and drain pressurized freshwater line.
3. Rinse salt feed pump, tubing and check valve thoroughly with freshwater.

**Fig. #1 Four Gallon Salt Feed System Dimensions and Mounting**



Lectra/San<sup>®</sup> is a trademark of Exceltec.

LST/MC<sup>™</sup> and electro-scan<sup>™</sup> are trademarks of Raritan Engineering Co., Inc.



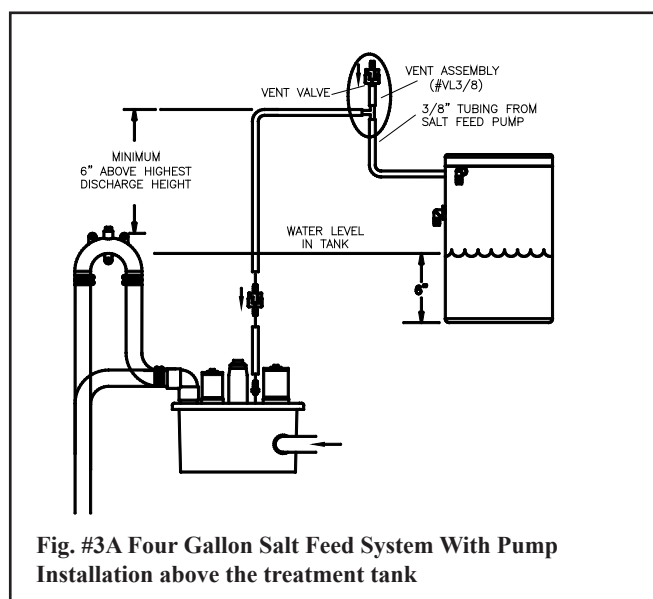
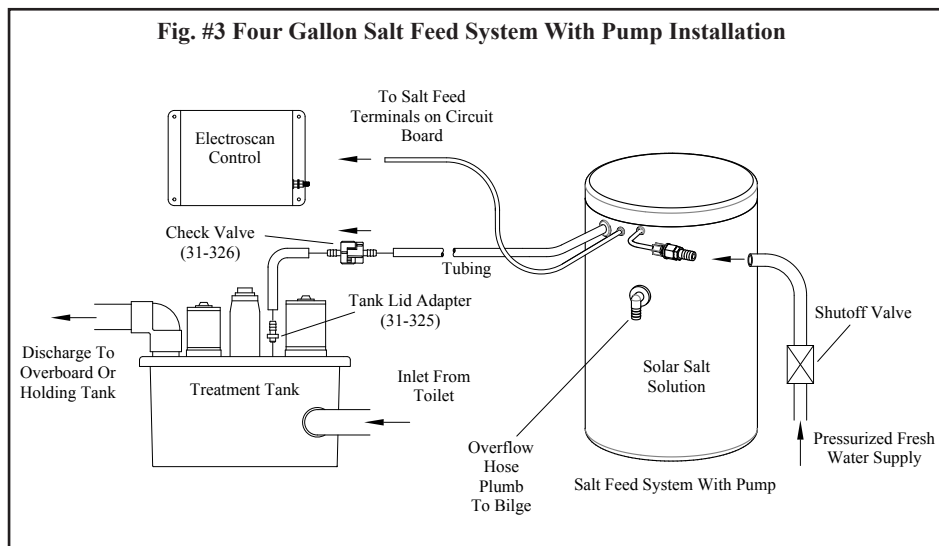
### INSTALLATION/ MOUNTING

Locate salt feed system within twelve feet (3.6 m) of and on the same level or lower than treatment tank. Make sure tank is accessible for refilling. Secure salt feed tank (Fig. #1).

*If salt feed tank is higher than the treatment tank then a siphon break assembly, "VL3/8" (not included) must be installed to prevent the siphoning of the tank. (Fig 3a)*

### PLUMBING

1. Drain and empty treatment tank for an existing system. If new system, perform following steps before installing treatment tank.
2. Drill a 3/8" hole in treatment tank lid (Fig. #2).
3. Glue tank lid adapter (#31-325) in 3/8" hole drilled in treatment tank lid using PVC cement per PVC cement instructions.
4. Remove lid from salt feed tank by pulling sides of lid up.
5. Remove packaging insert and unwrap salt feed pump.
6. Place salt feed pump in small pipe. Make sure pump is sitting all the way to bottom. (Fig. #5).
7. Route tubing from salt feed tank to check Valve and to fitting on the Lectra/San treatment tank lid. Be sure arrow on check valve points toward the treatment tank (Fig. #3 or #3A).
8. Install overflow hose to bilge.



9. Connect pressurized freshwater with a shutoff valve to the barbed nipple (Fig. #3). Secure hoses as vibration and fluttering is normal on fill cycle.
10. Turn on water and check for leaks.
11. Fill tank with solar salt.

### WIRING

**WARNING: Hazard of Electrical Shock. Disconnect Power at source before proceeding.**

- A. electro-scan only:** 1. Open cover of electro-scan control unit and connect one of the pump wires to the connection marked "Salt Feed" and the other pump wire to the connection next to it, marked "NEG."

The pump is not polarity-sensitive, so it makes no difference which wire goes to which connection.

## B. Lectra/San MC only:

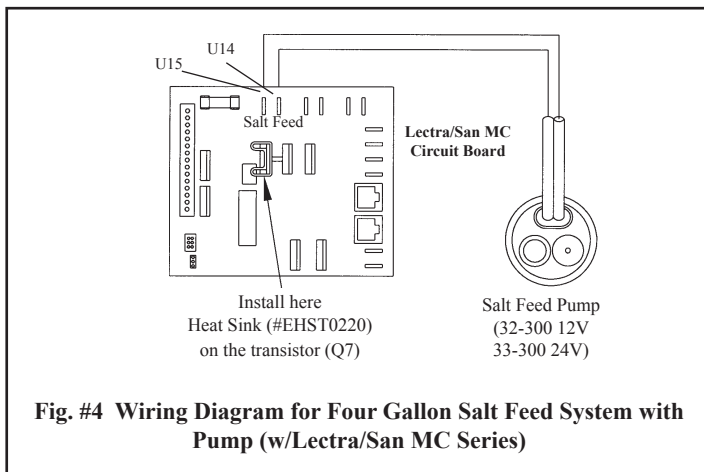
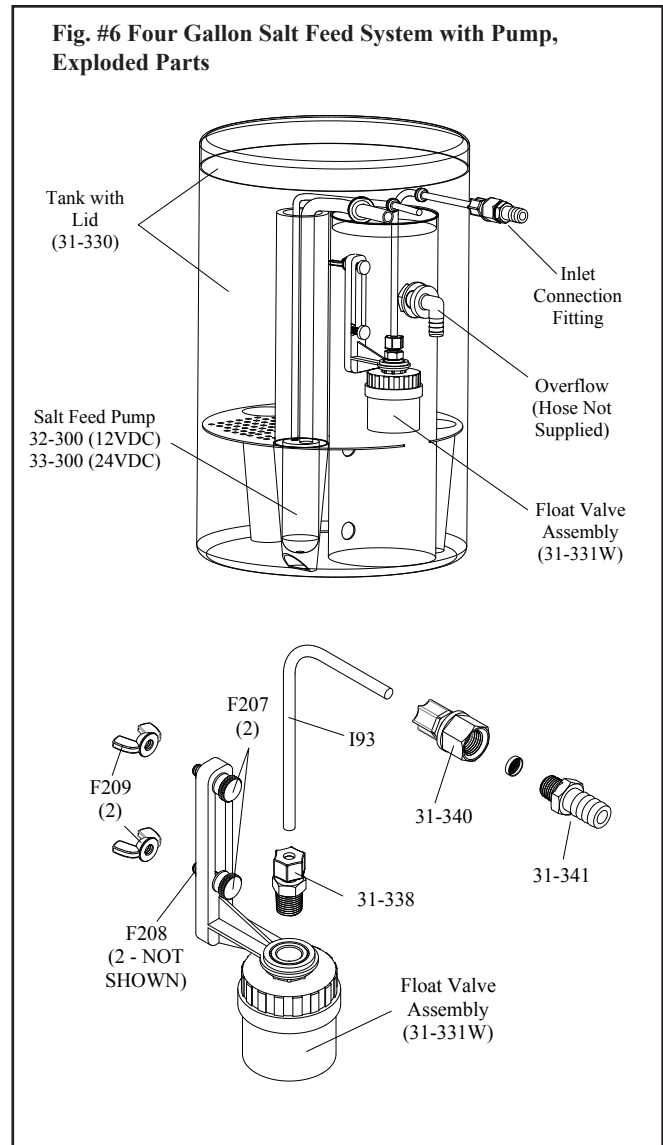
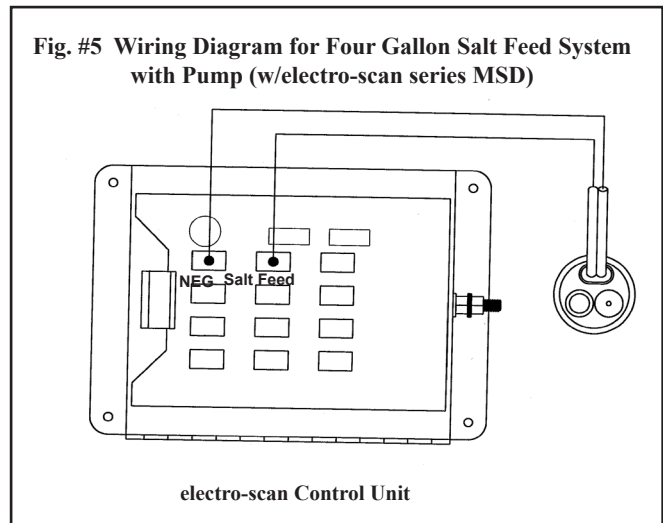
1. Remove control module cover (#31-460) from treatment tank.
2. Touch ground frequently to discharge body static. Install heat sink (#EHST0220) on transistor (Q7) located on the circuit board (Fig. #4), making sure that the heat sink is not contacting any other component. Do Not use excessive force when installing the Heat Sink. The heat sink fits in only one position.
3. Connect salt feed pump cable to LST/MC circuit board (Fig. #4). Connect red wire to terminal U14 and black wire to terminal U15.
4. Replace control module cover and reconnect electrical power.

## START UP

Refer to the Start Up procedure outlined in the Lectra/San MC or electro-scan Manual, as appropriate. The following instructions are supplementary to those instructions. Note: If utilizing a VacuFlush® toilet, see Application Note (L286).

1. Check plumbing and electrical connections.
2. Turn on water supply.
3. Check for leaks.
4. Add up to 10 lbs. Solar Salt.

No adjustments are necessary with this system.



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## 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.
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