


SEA FRESH SYSTEM


INTAKE WATER SELECTION KIT

RETROFIT KIT FOR CROWN HEAD

INSTALLATION, OPERATION 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 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** - Any installation made below the waterline must have vented loops positioned properly and all hose connections should be double-clamped. Both intake and discharge seacocks should always be in the closed position when the toilet is not in use. Failure to do so may result in flooding, property damage and loss of life.

IMPORTANT: These instructions are supplemental to the instructions outlined in the toilet **INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS. ALL WARNINGS, CAUTIONARY STATEMENTS, AND INSTRUCTIONS applicable must be followed.**

INTRODUCTION

The Sea Fresh System allows, at the “flip of a switch”, the choice of using either pressurized fresh water or seawater for flushing the toilet. Installing the Sea Fresh System will make your Crown Head operate more quietly.

OPERATION

Simply place the *intake water selection switch* in the desired position and flush the toilet as you normally would.

To use sea/lake water for flushing; place the *intake water selection switch* in the **SEA** position.

To use pressurized fresh water for flushing; place the *intake water selection switch* in the **FRESH** position.

For specific instructions on **FLUSHING THE TOILET** see the **OPERATION** section of the toilet manual.

MAINTENANCE

Refer to the **MAINTENANCE** Section of the toilet manual.

TIP: To reduce odors and mineral build-up; when leaving the boat unattended for an extended period, flush the toilet with fresh water several times to remove seawater from the toilet.

WINTERIZATION

Refer to the **WINTERIZATION** Section of the toilet manual.

SYSTEM COMPONENTS

Kit # SF1*04 for Crown Head toilets with Intake Pump contains the following components:

1	AM200R*	Remote Intake Pump
1	CDS*	Solenoid Relay
1	CWPS*A`	1/2” GC Solenoid Valve
1	CWPSMB	Water Solenoid Valve Mounting Bracket
1	EF3	3 AMP Fuse
1	EST1	Intake Water Selection
1	L304	Label for EST1
1	PLAVB0-5	Atmospheric Vacuum Breaker
4	PT4	Nipple 1/2” MNPT x 3/4” Barb
3	RCV	Check Valve
1	WASF01	Cable: CDS* to EST1
1	WASF02	Cable: CWPS* to EST1

* Specify Voltage

Kit # SF1*05 for Crown Head toilets with an Intake Water Solenoid (CWPS*)

1	AM200R*	Remote Intake Pump
1	CDS*	Solenoid Relay
1	CWPSMB	Water Solenoid Valve Mounting Bracket
1	EF3	3 AMP Fuse
1	EST1	Intake Water Selection Switch
1	L304	Label for EST1
1	PLAVB0-5	Atmospheric Vacuum Breaker
4	PT4	Nipple ½” MNPT x ¾” Barb
3	RCV	Check Valve
1	WASF01	Cable: CDS* to EST1
1	WASF02	Cable: CWPS* to EST1
1	1236C	Bowl Elbow

* Specify Voltage

Additional Parts Needed: 5/16” (M8) screws/bolts (for mounting the CDS), ¼” (M6) screws/bolts (for mounting the Intake Pump and CWPS), ¾” hose or piping, fittings, hose clamps, shut off valve, wire (for the Intake Pump) and wire terminals.

INSTALLATION

NOTE: No changes required to the toilets discharge plumbing.

MODIFYING THE EXISTING CROWN HEAD

WARNING: HAZARD OF FLOODING. SHUT ALL SEACOCKS TO THE TOILET BEFORE PROCEEDING.

CROWN HEAD WITH INTAKE PUMP

IMPORTANT: The current Intake Pump of the Crown Head will need to be disabled. Follow the instructions below:

1. Remove the hose that is connected to the Crown Head intake pump and the bowl elbow at the rear of the toilet bowl.
2. Remove the hose to the intake (suction) port of the Crown Head Intake Pump.
3. Remove the Intake Pump from the back of the Crown Head. This is done by removing the four screws.
4. Remove the impeller, impeller washers, inner brass wear plate and motor shaft seal from the old intake pump housing.

5. Reinstall the pump housing and cover plate on the rear of the Crown Head. This will keep the motor shaft from being exposed.

CROWN HEAD WITH WATER SOLENOID VALVE (CWPS*)

If the Water Solenoid Valve is mounted on the bowl elbow, it will have to be removed from the bowl elbow and installed as shown in Fig. #1A or Fig. #1B. also, the Bowl Elbow will have to be replaced.

If the Water Solenoid Valve is mounted elsewhere, reinstall it as shown in Fig. #1A and Fig. #1B.

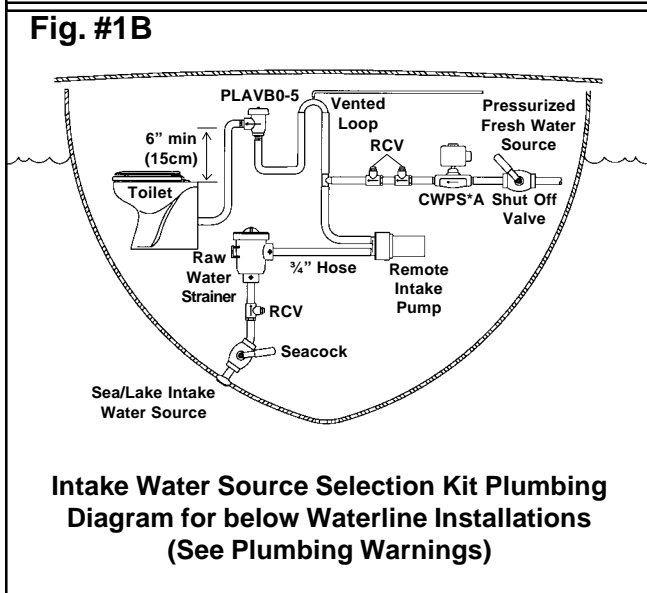
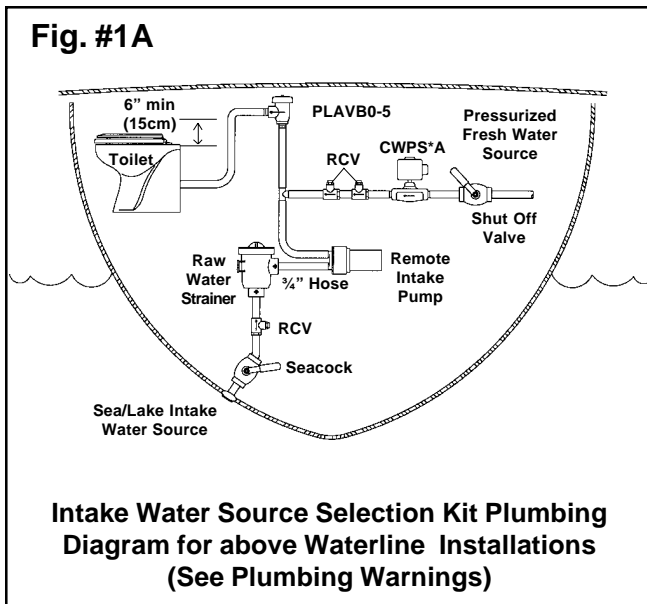
PLUMBING

WARNING

- **Hazard of Flooding:** For below waterline installations, a separate vented loop for the intake pump must be installed as outlined in the toilet manual. The Atmospheric Vacuum Breaker must NOT be considered as a vented loop for the intake pump. The vacuum breaker should be installed a minimum of six (6) inches (15cm) above the toilet bowl rim OR the water line at highest angle of heel, which ever is GREATER. The vented loop should be installed before the vacuum breaker and a minimum of three (3) inches (7.5cm) above the vacuum breaker. See Figure 1B.
- To prevent contamination of the Potable Water Supply, All Components Must Be Installed As Outlined In These Instructions and the Toilets Instructions.

IMPORTANT

- To prevent contamination of the potable water supply, any intake water deodorizing system used in the suction side of the intake pump (down stream of the intake pump) must be removed.
- The Atmospheric Vacuum Breaker may leak water under certain circumstances. Locate the Atmospheric Vacuum Breaker where spillage is not objectionable.
- Excessive leakage may indicate a malfunctioning vacuum breaker.
- Do not install any valves between the Atmospheric Vacuum Breaker and the Toilet.



MOUNTING

1. Mount the Remote Intake Pump to a deck or bulkhead.
2. Install the Atmospheric Vacuum Breaker in a horizontal position, a minimum of 6" (15cm) above the rim of the bowl. See Fig. #1A and Fig. #1B. See **WARNING** for below waterline installations.

ELECTRICAL

WARNING: HAZARD OF ELECTRICAL SHOCK AND BURN. BE CERTAIN THAT THE ELECTRICAL POWER IS OFF BEFORE PROCEEDING.

Intake Water Selection Switch

1. Drill a 1/2" (12.5mm) hole in the location where the switch will be installed.
- TIP:** It may be desirable to locate the Intake Water Selection Switch where it is not readily accessible to anyone who flushes the toilet.
2. Attach the label over the hole and install the switch. See Figure 2A.
 3. Install the switch with the keying slot downward. See Figure 2A.

WIRING

Wire per Fig. #3A or Fig. #3B.

- To reduce odors and maintenance, installation of a strainer (such as Raritan Engineering Company Raw Water Strainer #RWS) in the seawater intake line is recommended.
- The pressurized fresh water system must be minimum of 5 p.s.i. (34.5 kPa)

For *above* waterline installations, plumb per Fig. 1A.

For *below* waterline installations, plumb per Fig. 1B.

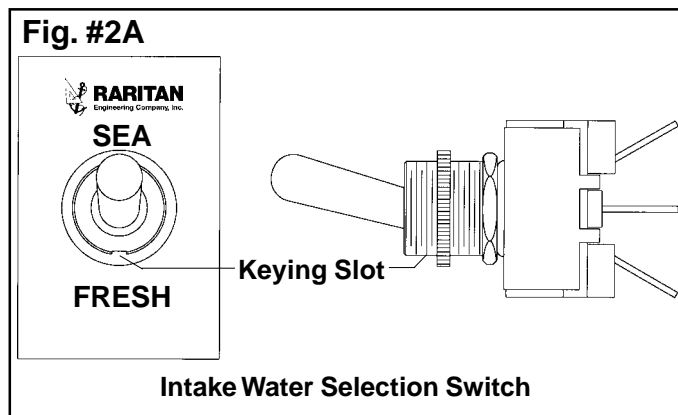
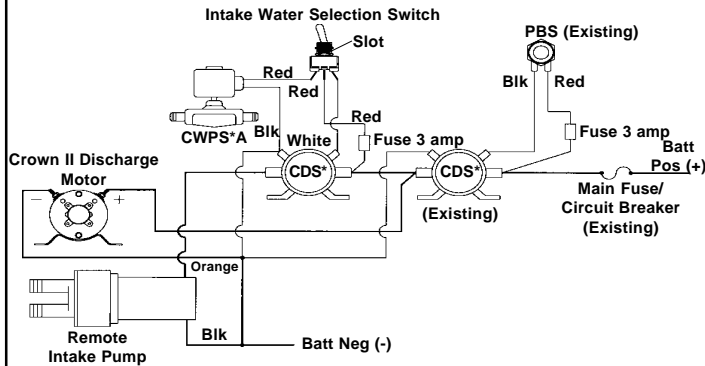
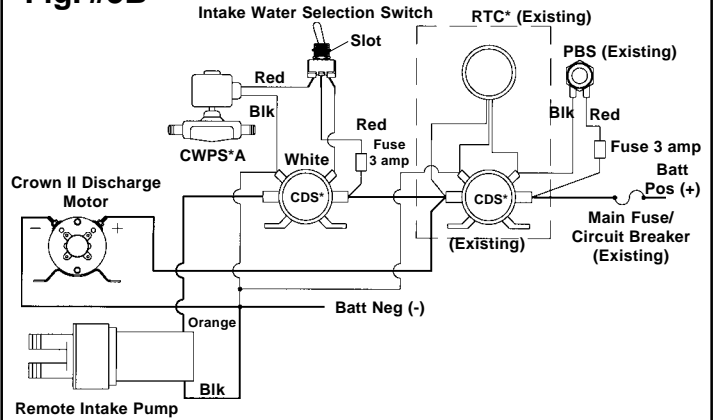


Fig. #3A**Electrical Wiring Diagram for Crown Head****Fig. #3B****Electrical Wiring Diagram for Crown Head with Raritime Control****LIMITED WARRANTY**

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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