COMPACT II MARINE TOILET

Installation & Maintenance Instructions

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



Raritan Engineering Company, Inc. recommends that a qualified person 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 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.

INTRODUCTION

The **Compact II** is a manually operated marine toilet. Its vertically mounted double-action piston type pump can be changed from right hand to left hand operation. Its size and simple installation make it best suited where space is limited. Space requirements are: Height 13 3/4"(34.9cm)

ments are: Height 1 Width 1

Width 17 1/2"(44.5cm) Depth: 17"(43.2cm)

The **Compact II** is suitable for use with Raritan's Lectra/San[®] MCTM, U.S. Coast Guard certified Type I Marine Sanitation Device (MSD) and/or holding tank installations.

OPERATION

- 1. With the shutoff handle in the *wet bowl* position, pump the handle up and down. This will allow water to be pumped into the bowl and forced through the discharge at the base of the pump. It is advisable to flush the toilet briefly before using, to minimize staining of the bowl.
- 2. The pump is designed to pump *in* rinse water and pump *out* waste water at the same time. If the water level in the bowl rises, move the shutoff handle to the *dry bowl* position, then pump for several strokes as needed. After doing this, flush the toilet several strokes with the intake valve in the wet bowl position to clear all lines.

CAUTIONS: Hard objects or stringy substances (paper towels, feminine hygiene products, filter tip cigarettes, etc.) thrown into the toilet will cause damage. These objects MUST NOT BE PLACED IN THE TOILET.

MAINTENANCE

With normal use very little maintenance is required other than inspection and periodic replacement of rubber parts. Using C.P., a bio-enzymatic toilet bowl cleaner (available from Raritan Engineering), will keep the bowl clean and fresh smelling. Introducing Raritan Concentrate into the flush water through a Toilet Water Kit (#TWK) will deodorize and lubricate the unit.

Super Lube[®] (#SL) applied to the piston rod will prolong the life of the seal. This should be done every spring and fall or more regularly if the head is used frequently.

CAUTIONS: Using improper deodorants or cleaners can result in damage to rubber and plastic parts. DO NOT USE pine oil, formaldehyde, ammonia, ethyl acetate, phosphoric acid, chlorine bleach or solvent based products.

Before attempting repairs, refer to the Troubleshooting section of this manual.

STORAGE

Short Term Storage

If the toilet is not going to be used for up to one week, flush the toilet several strokes with the shut off handle in the *wet bowl* position to clear all lines, then switch to the *dry bowl* position.

Long Term Storage

If the toilet is not going to be used for over a week, follow the short term storage, then switch to the *dry bowl* position and purge the toilet with at least two gallons of fresh water added to the bowl.

Super Lube[®] is a registered trademark of Synco Chemical Corp. Lectra/San[®] is a trademark of Exceltec.

¹LST/MC[™] is a trademark of Raritan Engineering Co., Inc.

WINTERIZING

Improper winter lay up is a major cause of marine toilet failures.

- 1. Close the intake and discharge seacock. Disconnect and drain the intake and discharge hoses. Winterize seacocks and hoses.
- You will need two buckets, three feet (9M) of 3/4" (19mm) hose, three feet (9M) of 1 1/2" (38mm) hose and a quart (.95liter) of non-toxic antifreeze.
- 3. Prepare one half gallon (1.9 liters) of non-toxic antifreeze/water mixture in a bucket (refer to the antifreeze instructions for antifreeze/water ratio). Place intake hose in this bucket. Place discharge hose into the empty bucket. Pump toilet until antifreeze has circulated and is being discharged.
- 4. Antifreeze should remain in the toilet until recommissioning. This will protect both intake and discharge sides of the pump. Pouring antifreeze into the bowl will only protect the discharge side of the pump, allowing the intake side to possibly freeze.

NOTE: Holding tanks, seacocks and treatment systems need to be independently winterized, stored and recommissioned (see manufacturer's instructions).

RECOMMISSIONING

- 1. Lubricate piston rod with Super Lube[®] (#SL).
- 2. Using the buckets, hoses and a gallon (3.8 liters) of clean water, flush the antifreeze out of the toilet. Dispose of antifreeze properly, in accordance with local and federal regulations.
- 3. Reconnect the hoses and open both seacocks.
- 4. Check all connections for leaks with several test flushes.

INSTALLATION

To install the Compact II marine toilet several installation accessories are required:

- 1. A nominal 3/4" (19mm) thru-hull fitting and seacock (shutoff valve).
- 2. 3/4" (19mm) I.D. reinforced intake hose and hose clamps.
- 3. 1 1/2" (38mm) I.D. reinforced sanitation discharge hose (#SH) and hose clamps.

4. A nominal 1 1/2" (38mm) discharge thru-hull fitting with seacock may be required, depending on the specific installation.

MOUNTING

The Compact II may be mounted above (Fig. #1) or below (Fig. #2) the waterline. For below waterline installations, vented loops (#VL3/4 and #VL1 1/2) are required and hose connections must be double clamped. Mount the unit securely on a flat solid deck using stainless steel bolts backed up with nuts and large washers or stainless steel lag screws long enough not to pull out.

PLUMBING

WARNING: Below waterline installations require vented loops. The top of the loops must be above the waterline at the greatest angle of heel. Intake vented loops must be installed between the pump and the back of the bowl. Discharge vented loops must be installed between the discharge of the toilet and the seacock. See Fig. #1 and #2.

- 1. Route the discharge hose above the discharge outlet with a vented loop. This will enable the toilet to discharge more efficiently and will help to prevent backflow.
- 2. A In-Line Strainer (#163000) or equivalent is recommended. This will help minimize odors and help prevent clogging.
- 3. Intake and discharge thru-hull fittings should be located far enough apart and in such a manner as to prevent discharge water from being drawn through the intake. One means of accomplishing this is to place them on opposite sides of the hull. Intake thru-hull should be located so that during shallow water conditions sand and other debris are not drawn into thru-hull fitting.
- 4. The optional Raritan Toilet Water Kit (#TWK) permits use of Raritan Concentrate (#CON22) with the Compact II toilets. Raritan Concentrate deodorizes the bowl and lubricates internal parts.
- 5. Test flush and check for leaks.

TROUBLESHOOTING

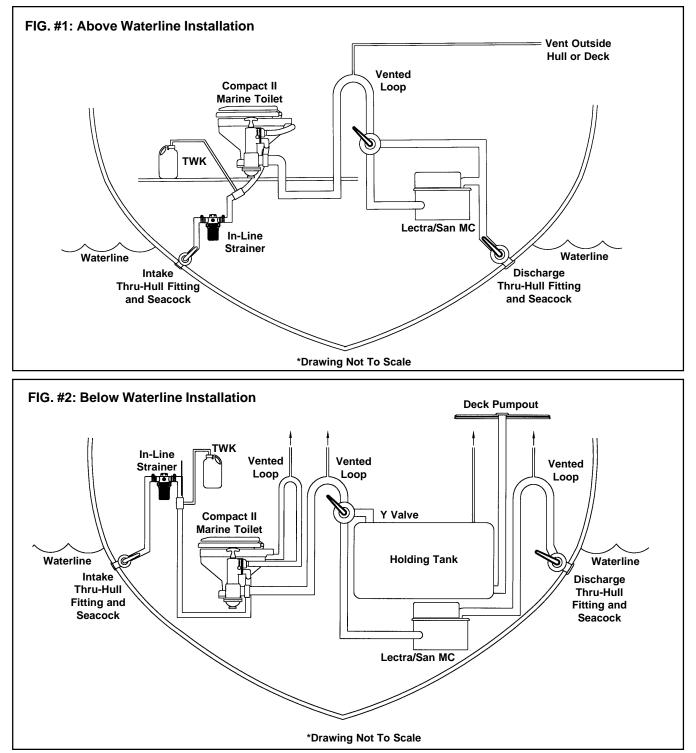
Before attempting repairs be sure you have studied this manual and parts list thoroughly and have checked the terms of the Limited Warranty. If you have questions please contact our Technical Support Department in either Millville, NJ or Ft. Lauderdale, FL.

CAUTION: Before working on toilet or whenever leaving the boat unattended be sure that both intake and discharge seacocks are closed.

Ordering replacement parts: Repair Kit(#CPRKII) contains parts normally required to repair each unit.

In addition, individual parts for your toilet may be ordered through your dealer or direct from Raritan. To speed delivery, please specify part number and description.

Units requiring extensive repairs may be returned to Millville, N.J. or Fort Lauderdale, FL. office. Instructions, including name, address and phone number must accompany units to ensure proper handling.



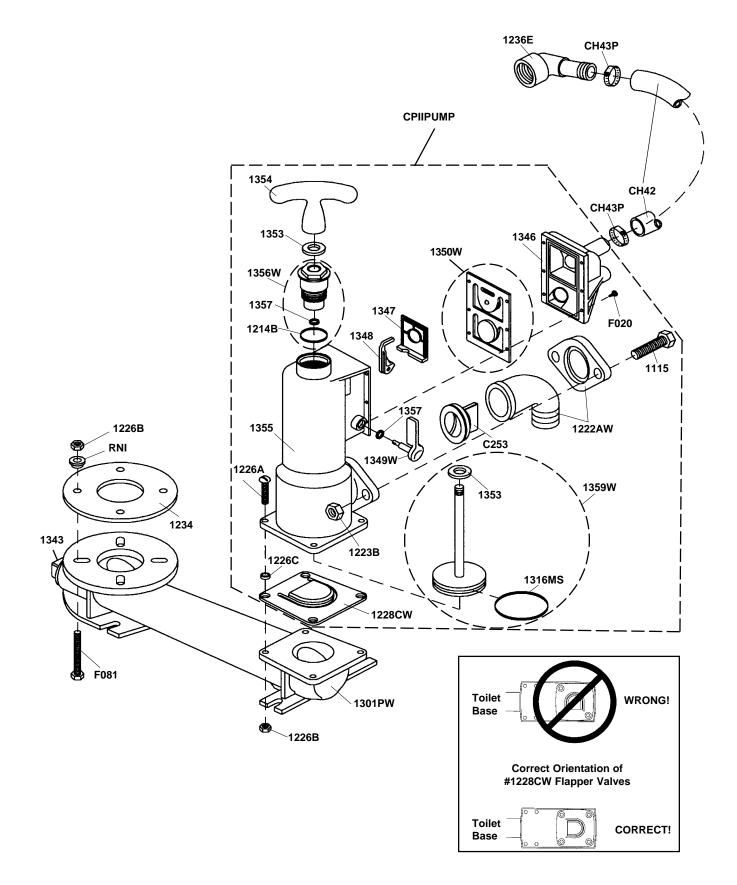
TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
A. Water accumulates in the bowl faster than it	A1. Lodged debris.	A1. Check discharge lines for obstructions. Clear any lodged debris. See #2 under "Operation".
pumps out.		A2. If the flapper is worn or swollen, replace it. Be sure improper
	properly.	cleaners are not being used.
	A3. Joker Valve not closing. A4.Holding Tank is pressurized.	A3. Check Joker Valve for wear and debris. Clean or replace.A4. Clogged holding tank vent or vented loop; clean vent(s).
	A5. Scored pump housing or	
	worn piston "O" ring.	replaced. If "O" ring is worn, replace it.
B. Water rises in the bowl		B1. Clean vented loop.
when the boat is at	B2. Improperly installed vented	B2. Refer to Fig. #2 in installation.
dockside.	loop.	
C. Intake water flow is poor.	C1. Intake line clogged.	C1. Clear intake line, check for build up in hose. Clean strainer.
D. Leak around piston shaft.	D1. Seal leaking.	D1. Replace piston U-Cup seal (#1357) or Seal Cartridge Assy. (#1356W). Refer to literature (#L190) for seal replacement instructions.
E. A persistent odor comes	E1. Organic material lodged in	E1. Connect a garden hose to the spud at the back of the bowl and
from the toilet bowl.	bowl rim.	flush it out under pressure. Install In-Line Strainer (#163000).
	E2. Foul intake water.	E2. Add a Raritan (#TWK) to deodorize intake water.
	E3. Full holding tank.	E3. Empty Holding tank, be sure vents are clean and functional.
	E4. Worn piston "O" ring.	E4. If the Piston "O" ring is worn, replace it.
	E5. Discharge line clogged.	E5. Clear any debris lodged in discharge.
	E6. Improper or contaminated discharge hose.	E6. If hose has foul odor, replace with proper sanitation hose (#SH).

PARTS FOR COMPACT II MARINE TOILETS

Part No.	Part Name	Part No.	Part Name
1115	3/8 - 16 x 1 1/2 Hex HD S/S	CH42	Hose (3/4" I.D.)
1214B	"O" Ring		Hose Clamp, Nylon (2)
1222AW	AW 90° Discharge Ell w/flange		#10 Self-Tapping Screw (6)
1222B	Discharge Fitting - Straight (Optional,	F081	Hex head Cap S/S Screw (1/4-20 x 2") (4)
	not shown)	MAJOR	SUBASSEMBLIES
1223B	3/8 - 16 S/S Nut (2)	CPIILBA	Compact II Pump and Base Assy, Complete
1226A	1/4 - 20 x 1 1/4", RH S/S Screw(4)	CPIIPUM	IP Compact II Pump Assy. Complete
1226B	1/4 - 20 Nut, S/S (8)	BOWL AND SEAT	
1226C	Plastic Spacer Washer (4)	1234	Bowl Gasket
1228CW	Flapper Valve Assembly	1236AW	Spud Assembly (supplied w/bowls)
1301PW	Toilet Base Assembly (w/drain plug)		(not shown)
1316MS	Piston "O" Ring	1236E	Bowl Elbow
1343	Plastic Drain Plug, 1 ¹ / ₂ " NPT	1237W	Marine-size Bowl Assembly (w/1236AW
1346	Check Valve Housing	spud assy.)	
1347	Separator Plate	1238A	Marine-size Seat and Cover
1348	Cam	163000	In-Line Strainer
1349W	Shutoff Handle w/seal	1PCP22	C.P., Cleans Potties, Bio-enzymatic, 22 oz.
1350W	Check Valve Assy. (1350,1351 & 1352)	RNI	Shoulder Washer (4)
1353	Bumper Washer (2)	TWK	Raritan Toilet Water Kit. Allows Raritan
1354	Flushing Handle		"Concentrate" to be metered into the flush water.
1355	Pump Housing, Compact II	CON22	Raritan "Concentrate" head deodorant and lubricant.
1356W	Seal Cartridge Assy. (1214B & 1357)		Used with TWK. Replacement bottle 22oz.
1357	U-Cup Seal (2)	CPRKII	Compact II Repair Kit
1359W	Piston Rod Assy.(1316MS, 1353 & 1359A)	SH	1 1/2" I.D. Sanitation Hose (sold by the foot)
C253	Joker Valve	SL	Super-Lube 1/2 oz. tube

EXPLODED PARTS VIEW, COMPACT II MARINE TOILET



SPECIFICATIONS				
Space Requirements: height 133/4"(34.9cm), width	Maximum Intake Hose Lift: 36" (1m)			
17 1/2" (44.5cm) and depth 17" (43.2cm)	Maximum Intake Hose Length: 15' (4.6m)			
Manually Flushed Toilet: salt water or fresh water	Maximum Discharge Hose Lift: 5' (1.5m)			
Fitting Sizes: 3/4" (19mm) intake and 1 1/2"	Maximum Discharge Hose Length: 15' (4.6m)			
(38mm) discharge				

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 WARRAN-TIES 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, 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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