
VACUFLUSH® SANITATION SYSTEM OWNER'S MANUAL



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PRODUCT FEATURES

SeaLand Technology, Inc. brings the technology, comfort and efficiency of VacuFlush Sanitation Systems in an easy-to-use and easy-to-maintain package.

- **Freshwater Flush**
 - Eliminates the unpleasant sulfide odors which plague saltwater systems.
 - Eliminates the need to draw flush water through the through-hull, seacock and vented loop.
 - Significantly extends life of system components by eliminating saltwater and impurities from accumulating in the system over time.
- **Efficient Design**
 - Consumes a little over a pint of water per flush and allows boat owners to use a small waste tank. The VacuFlush system fills a ten-gallon (28.4 liter) tank in the same time that an electric toilet fills a 40-gallon (113.6 liter) tank.
 - Uses only 4-6 amps per flush on 12 VDC.
- **Delightful Operation**
 - Simple one-lever flush control. No complex instructions needed.
 - Comfortable adult-sized seat.
 - Large water surface maintains clean bowl.
 - Vitreous china bowl.
- **Reliability is Built-In**
 - USCG Certified Type III Marine Sanitation Device.
 - No impellers or macerators - vacuum pump motor can run dry without burning up. No dynamic seals.
 - Vacuum tank and vacuum generator design eliminates clogging problems associated with other systems.
- **Dispose of Sewage Conveniently and Safely**
 - Toilet can be used without discharging sewage into sensitive waters.
 - Holding tank discharge is at a dockside pump or at sea with optional overboard discharge.
 - No portable toilet tanks to haul or dump.
- **Backed By the Best in Service and Quality**
 - The VacuFlush system is from the leader in marine sanitation.
 - Worldwide parts availability and technical backup.

SeaLand Technology, Inc. reserves the right to change specifications without notice.
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MARINE SANITATION REGULATIONS

All boats with fixed toilets in U.S. waters and in the waters of some other countries are required to be equipped with an operable marine sanitation device (MSD). The VacuFlush system is a holding tank or Type III system as defined by the U.S. Coast Guard.

Type III systems are designed to permit operation of the toilet without the direct discharge of untreated waste after every flush. This means onboard toilet facilities can be used when the boat is near swimmers, beaches or shellfish beds.

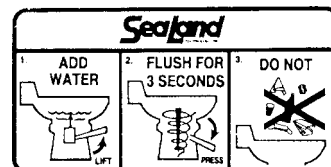
Type III systems can be discharged at marina dockside pump-out stations or, if in coastal waters, a minimum of three miles offshore. **Overboard discharge capability must remain secured while within the three-mile limit.** The overboard discharge pump is activated by a keyed switch located in the toilet compartment. **This key should be removed at all times except when discharge pump is operating.**

Recent Federal legislation has provided grants to private marinas to install dockside pumps especially in coastal water. It is estimated that over 3500 pump-out stations, in total, will be added due to this legislation.

Sewage from any source should not be discharged directly into our waters. If you are interested in learning more about this issue, please contact SeaLand Technology at the phone number or address listed on the back page of this manual. Request Clean Water Notebook, Volumes 1 and 2.

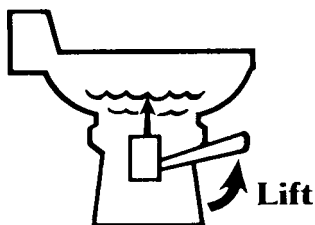
IMPORTANT INFORMATION BEFORE OPERATION

1. Fill freshwater tank and add deodorant to holding tank through toilet bowl. (See System Start Up Section)
2. Make sure all guests understand the operation of the VacuFlush system and the instruction label is in plain sight and easy for guests to read. **If this label is not included in this manual, please contact SeaLand's Customer Service Department immediately.**
3. Remember the vacuum pump starts automatically. Shut off the system before servicing and do not leave the boat with toilet system breaker on.
4. **Never use drain openers, alcohol, solvents, etc. in the system.**
5. If the system does not function properly, refer to the Troubleshooting Section of this manual and repair as necessary. If problem persists, contact your local SeaLand Technology dealer or see the Need Help section of this manual.

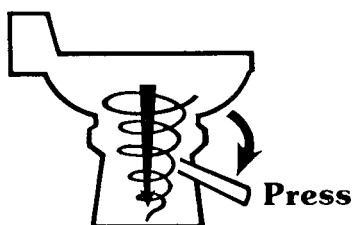


NORMAL OPERATION

1. To add water to the toilet before using, raise flush lever until desired water level is reached. Generally, more water is required only when flushing solids.



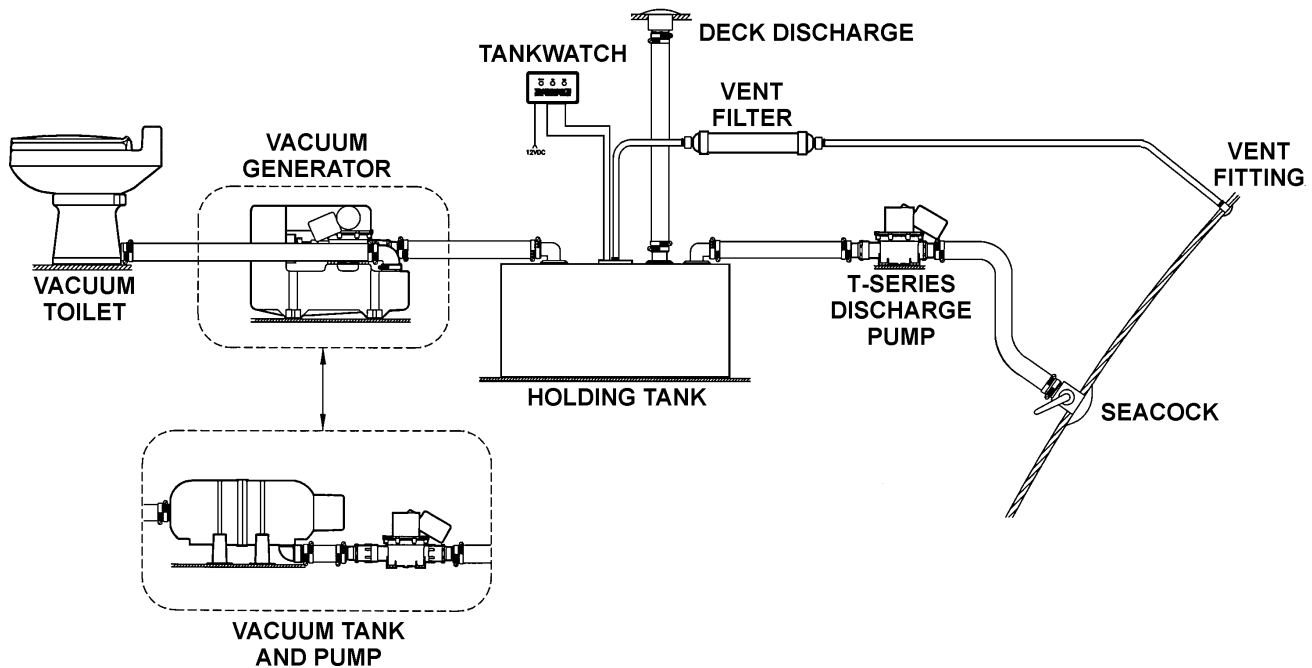
2. To flush toilet, press flush lever sharply down to the floor until contents clear bowl. A sharp popping noise is normal when the vacuum seal is broken and flushing action begins. Be sure to hold lever down for three (3) seconds. If flush lever is accidentally released before waste clears bowl, do not attempt to flush toilet again until vacuum pump stops running. A small amount of water should remain in the bowl after flushing.



3. Do not dispose of sanitary napkins or other non-dissolving items in toilet, such as facial tissue or paper towels. These items can cause plugging of the system. Refer to the Deodorants and Special Tissue section in this manual for more information.



KEY SYSTEM COMPONENTS



Vacuum Toilet: The VacuFlush toilet operates in a way different from other marine toilets. VacuFlush systems use a small amount of water (a little more than a pint) per flush in addition to a simple vacuum. The toilet is connected to a pressurized freshwater system. Fresh water is the key to an **odor-free bathroom compartment**. VacuFlush toilets are equipped with an integral vacuum breaker which prevents the possible contamination of the potable water supply.

Vacuum Tank: The vacuum tank stores vacuum energy. System vacuum level is monitored by a vacuum switch located on the vacuum tank. When this switch senses a drop in vacuum in the system, it automatically signals the pump to energize and bring the vacuum to operating level. This process is normally completed in less than one minute. In a properly operating system, the stored vacuum will leak down between flushes, causing the vacuum pump to run for a short period.

Vacuum Pump: The vacuum pump is an electric, straight-through bellows type. It is manufactured of long-lasting polypropylene and draws only 4 to 6 amps of current at 12 VDC. This unique pump design is both an efficient air and liquid pump and handles solids without a problem. It has two duckbill valves on each side of the pump chamber.

Vacuum Generator: The vacuum generator combines the vacuum tank and vacuum pump in one unit. It greatly reduces installation time and eliminates the hose run between the tank and pump. Its compact size makes it especially well-suited to smaller crafts.

Holding Tanks: Holding tanks from SeaLand are made of super-strong, 3/8" (9.5mm) thick polyethylene — 50% thicker than most other holding tanks. Each unit has a solid, one-piece construction with no seams for unmatched durability and no leaks. Tanks come in several capacities and shapes. Refer to page 18 for holding tank specifications. A deodorant additive is required to keep the holding tank odor-free. See Deodorants and Special Tissue section for further information.

TankWatch® Level Indicator: The TankWatch unit utilizes micro-float switches which activates a three-light panel. The inspection cap in the holding tank contains the micro-float switch units. The adjustable probe assemblies are flexible polybutylene tubing and are designed to flex when tank contents move. One adjustable probe in the three-light system is set to sense when tank is empty.

In-Line Vent Filter: SeaLand's vent filter has special odor-removing filter materials to help keep your boat smelling clean and pleasant. Heavier-than-air malodors accumulate in the holding tank. The SeaLand vent filter has two types of activated filter media to remove these odors before they offend. Each cartridge is good for an entire season, and is easily replaced for a fresh start. Replacement cartridges are available from your local marine dealer.

Dockside Discharge Deck Fitting: The holding tank is connected to a deck discharge fitting. This fitting, in turn, can be connected to a dockside pump which may have a rubber, cone-shaped nozzle or a cam lock fitting. Refer to Accessories section for further information on the SeaLand NozAll™ fitting which makes using a dockside pump easy and convenient.

Discharge Pump: The T-series discharge pump can run dry without harm and draws just 6 amps at 12 VDC. The T-pump has a flow rate of just over 3.0 gallons per minute (11.4 liters per minute). Emptying an onboard tank usually takes four to six minutes. The T-pump is connected to a through-hull fitting. Check the section on Marine Sanitation Regulations for information on areas where discharge is allowed.

SYSTEM START UP

1. Turn on electrical power to system.
2. Flush water into system by depressing flush lever until water starts flowing to the vacuum pump, approximately 15 seconds. This wets the pump interior for efficient operation. If vacuum pump does not run, check for loose electrical connections. Refer to the wiring diagram at the end of the Troubleshooting Guide section.
3. The vacuum pump will run for approximately 30 to 90 seconds until system reaches operating vacuum level and then will shut off.

CLEANING

Toilet Bowl: Everyday cleaning of a VacuFlush toilet bowl may be accomplished by using liquid dishwashing soap and water. Do not use chlorine-based cleaners, caustic cleaners or chemicals, such as drain-opening products, as they may damage the system's seals.

For stubborn stains, use Brilliance™ liquid toilet bowl cleaner manufactured by SeaLand especially for use with VacuFlush systems. This product is available at your marine dealer.

In certain areas where water is hard, a build-up of lime may dull the toilet bowl finish. Restore the shine with a cleansing of Brilliance cleaner. If Brilliance cleaner is not available, use Barkeepers Friend® Cleanser for best results. Note that it is not necessary to vigorously scrub with either product. Follow the label instructions.

Holding Tank: A small amount of water remains in all marine holding tanks. It is good practice to rinse the tank after the contents have been discharged. This can be accomplished by lifting up on the toilet foot pedal and letting water flow into the toilet bowl. Add 8 ounces (236.6 ml) of Secure® Holding Tank Deodorant and Cleaner to the bowl. Release the foot pedal when the bowl is near full. Flush the entire contents into the holding tank and continue flushing until the discharge from the holding tank is clear.

WINTERIZING

At the end of each boating season, the VacuFlush system must be winterized for storage. The following procedure should be used:

1. Pump out holding tank.
2. Thoroughly flush system with fresh water.
3. Shut off water supply to toilet, remove water line.
4. Press flush lever until all water is drained from toilet.
5. Turn off electrical power.

To use antifreeze, repeat Steps 1 and 2 above and continue as follows:
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CAUTION: The use of freshwater antifreeze that contains alcohol will result in damage to your sanitation system. Only use propylene glycol freshwater antifreeze that **does not contain alcohol**.

6. Drain potable water tank.
7. Add freshwater antifreeze to potable water tank.
8. Flush potable water antifreeze and water mixture through toilet and into the waste holding tank. Each installation is different so amounts may vary. User discretion is required to assure adequate protection.
9. Turn off electrical power.

MAINTENANCE

Maintenance intervals and normal parts replacement vary widely depending on numerous factors such as: type of vessel, frequency of system use, quality of flushing water, etc. The chart below is intended strictly as a general guideline. Owner discretion and consideration of actual usage must be the first basis for determining proper maintenance levels.

Maintenance Procedure	Part Number	Approximate Maintenance Level
Follow cleaning procedures above.	—	Monthly
Tighten all clamps, including base clamp ring.*	—	Annually
Check all wire connections.	—	Annually
Check & tighten water valve mounting screws.	—	Annually
Clean filter screen in water valve.	—	Annually
Check pump and in-line valves.	347802	2-3 years or as needed
Check toilet seals.	316140	3-5 years or as needed
Check vacuum breaker.	316906	3-5 years or as needed
Check water valve.	314349	3-5 years or as needed

*See Base Assembly - Page 10.

SPARE PARTS

To calculate total spare parts required, determine number and type of toilets and pumps.

On Board Spare Parts Calculation Chart: (Per System)													
Type of System				316140 Seal Kit 500-800	314349 Valve Kit 500-800	310076 Valve Kit S Pump	348702 Valves M Pump	318065 Vacuum Breaker 500	316906 Vacuum Breaker 800	318032 Vacuum Switch Vac Tank	310048 Ring/ Clamp Kit (Bone)	318162 Ball/Shaft Cartridge Kit	310540 Vacuum Generator Kit
Toilet Series & Quantity		Pump Series & Quantity											
500	800	S	M										
1		1		1 each	1 each	2 each							
2		1		1 each	1 each	2 each		1 each					
	1	1		1 each	1 each	2 each							
	2	2		1 each	1 each	2 each			1 each			1 each	
1			1	1 each	1 each		4 each						
2			1	1 each	1 each		4 each	1 each				1 each	
3			1	1 each	1 each		8 each	1 each		1 each	1 each	1 each	1 each
4			1	2 each	2 each		8 each	2 each		1 each	1 each	1 each	1 each
5			1	2 each	2 each		8 each	2 each		1 each	1 each	1 each	1 each
6			1	2 each	2 each		8 each	2 each		2 each	2 each	2 each	2 each
	1		1	1 each	1 each		4 each						
	2		1	1 each	1 each		4 each		1 each				
	3		1	1 each	1 each		8 each		1 each	1 each	1 each	1 each	1 each
	4		1	1 each	1 each		8 each		2 each	1 each	1 each	1 each	1 each
	5		1	2 each	2 each		8 each		2 each	1 each	1 each	1 each	1 each
	6		1	2 each	2 each		8 each		2 each	2 each	2 each	2 each	2 each
Per Vessel: Vacuum Tester – 530002 (1 each) & Owner's Manual – (1 each)													

VACUFLUSH MAINTENANCE KIT

The VacuFlush Maintenance Kit contains replacement parts used in routine maintenance of VacuFlush toilets. A “must” for those who cruise to remote locations. The kit includes vacuum tester, water valve, seal kit, duckbill valves (4) and an owner’s manual.

VacuFlush
Maintenance
Kit



ORDERING PARTS

SeaLand Technology is ready to assist you in the event service is required. Before calling, please have the following information available. Your cooperation in having this information ready is appreciated and allows our Customer Service Department to better meet your needs. When you call, we will direct you to the nearest stocking parts distributor.

1. Toilet Model Number (See following section.)
2. Serial Number
3. Part Number, Description and Quantity (See Parts information.)

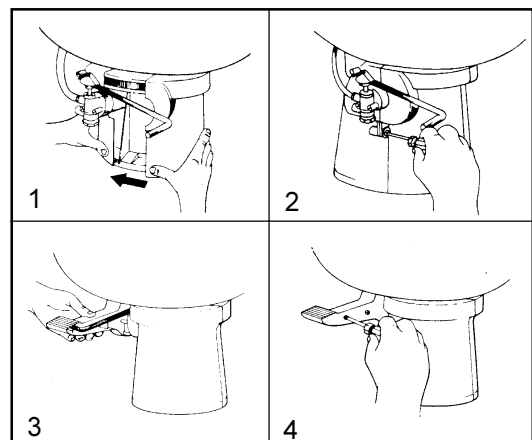
TOILET MODEL IDENTIFICATION



The above label is located on the toilet base and will show the model number and serial number. Follow instructions for removing Toilet Pedestal Cover in following section. If label is not available, please refer to the Dimensional Specifications section for toilet model identification.

PEDESTAL COVER INSTALLATION

1. Install pedestal cover around base and snap bottom into place.
2. **Tall base unit only**, install mounting screw. For **short base units** simply snap cover closed.
3. Slide pedal cover onto foot pedal rod.
4. Attach pedal cover side plate and secure with two (2) mounting screws. For **short base units**, secure front screw, then press foot pedal down completely to secure second screw.



DEODORANTS AND SPECIAL TISSUE

Your VacuFlush sanitation system requires the regular addition of a deodorant product to reduce malodors and to help break down holding tank contents. Several factors should be considered in selecting a deodorant product.

Liquid or Dry: Liquid products obviously work more quickly by readily going into solution. Dry powder formulations, on the other hand, have the advantage of requiring less storage space and are less likely to leak if the package is inadvertently damaged.

Formaldehyde versus Non-Formaldehyde: SeaLand manufactures both types of deodorants. Generally speaking, formaldehyde formulas (such as SeaLand® brand) control odor very effectively at all temperatures and with all degrees of water hardness. Secure® brand, which is formaldehyde-free and also manufactured by SeaLand, is similarly effective, but may cost a bit more.

Environmental Hazards: If you would like further information on the impact of holding tank deodorants, call or write SeaLand Technology at the number and address listed on the back page of this manual. Request a copy of Clean Water Notebook, Volume 5, which provides complete information in this regard.

How Much Deodorant and How to Add It: The deodorant is added directly into the toilet bowl, then flushed over into the holding tank. Follow bottle or package instructions. Conditions of extremely warm weather, longer waste holding time and larger tank capacities may require more deodorant treatment. Also, to maintain optimum efficiency in odor control, the waste holding tank should be cleaned thoroughly at least once or more each season, depending on use.

Why Not Use Household Toilet Paper in Your VacuFlush Toilet? You can, providing the household tissue you select readily breaks up in water. Household tissues often contain adhesives which bond together the paper fibers from which the tissue is made. The adhesives prevent the tissue from breaking apart, and their use in “ultra-low flow” systems can cause system clogging. SeaLand tissue is especially designed for use in marine toilet systems. Its rapid dissolving properties minimize the amount of residual paper in the holding tank and allow deodorizers to work more efficiently.

SeaLand versus Other Brands: SeaLand Technology is the leading supplier of marine toilet systems, deodorant products and dockside pumps. We constantly strive to provide our system owners with effective products that have minimal environmental impact and good value. Many deodorant products do not measure up to our standards of performance and value. Your marine dealer has our deodorants, tissue and other accessories on hand.

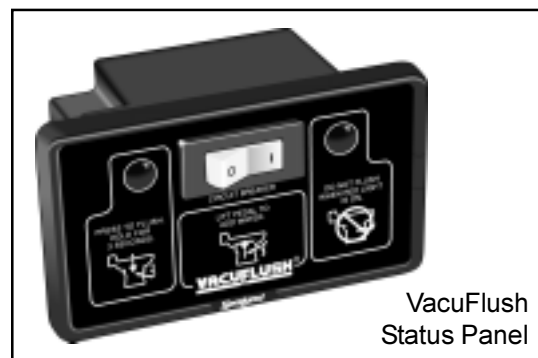
SeaLand® Dry Deodorant	SeaLand® Liquid Deodorant	Brilliance™ Cleaner	Secure® Liquid Deodorant	SeaLand® Tissue
				
Part No. 000606	Part No. 000208	Part No. 000016	Part No. 000832	Part No. 000404

ACCESSORIES

NozAll™ Pump-Out Adapter: The NozAll heavy-duty, chrome-plated adapter provides an airtight seal between your boat's deck waste fitting and the pump-out station nozzle. Just screw your personal NozAll adapter into your deck fitting, and be assured of an airtight connection for pumping out holding tank contents. Each adapter contains a chrome-plated NozAll adapter, gasket and vinyl cap. Order part number 342358 (1-1/2"-11.5TPI), 342359 (1-1/4"-11.5TPI), or 342391 (1-1/4"-16TPI).

VacuFlush Status Panel: An ideal add-on to any VacuFlush system. The Status Panel is mounted in the bathroom compartment. A green light indicates sufficient vacuum is available for the next flush. A red light indicates the vacuum level is building and the pump is running. Each panel has an integral circuit breaker which allows the system to be shut down at night. Order part number 500012 (12VDC) or 500024 (24/32VDC).

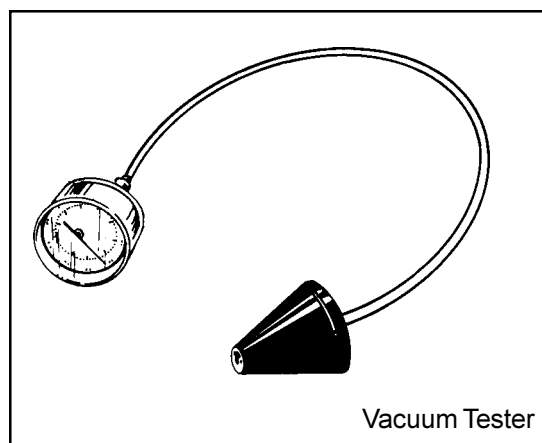
TankWatch III Optional Relay: This relay can be added to the TankWatch III panel to automatically shut down power to the VacuFlush toilet system to prevent overfilling of the onboard holding tank.



VACUUM TESTER

SeaLand has developed a simple tool to assist in identifying the location of vacuum leaks. The vacuum tester consists of a vacuum gauge and a cone-shaped plug. Inserting the plug in the inlet of the vacuum tank or generator isolates the toilet from the system. In this way a troublesome leak can easily be located in either system.

Order only the Vacuum Tester (Part Number 530002) or as part of the complete system maintenance kit (Part Number 310228).

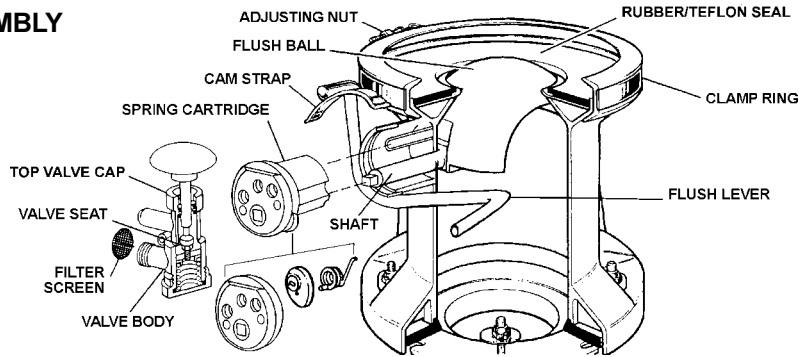


SERVICE TIP

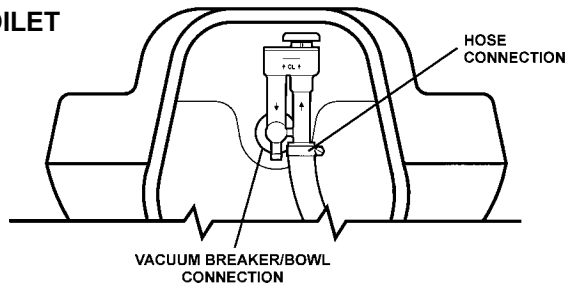
Finding Leaks: Checking for leaks behind or under toilets or other appliances can make it difficult to locate the source. Dripping water at room temperature makes it difficult to feel wetness. Taking four or five sheets of toilet tissue and wiping all seams and waterline connections offers a simple means of locating the general area of the leakage. Start at the top of the unit since gravity will cause a leak to run downward. When the tissue comes in contact with the leaking water, it will immediately change texture.

TROUBLESHOOTING GUIDE

BASE ASSEMBLY



REAR VIEW, VACUUM TOILET



Problem	Possible Cause	Service Instructions
1. Water will not stay in bowl.	a. Loose clamp. b. Improper seal around flush ball due to dirt or debris on underside of Teflon ball seal. c. Worn or damaged seal. d. Worn or damaged flush ball.	a. Tighten clamp ring adjusting nut. b. Inspect flush ball and underside of Teflon seal for foreign objects. c. Replace seal. d. Replace flush ball.
2. Plastic flush ball will not close completely.	a. Clamp ring is overtightened, causing too much tension on seal and flush ball. b. Weak or defective spring cartridge.	a. Loosen clamp ring. b. Check spring tension by letting up on flush lever suddenly. If lever does not snap back, replace spring cartridge.
3. Water does not shut off in toilet (toilet overflows).	a. Dirt lodged in water valve seal. b. Cam strap is bent down, holding water valve open. c. Worn or defective water valve. d. Worn or defective spring cartridge.	a. Disassemble and clean water valve. b. Bend front of cam strap up about 1/16" (1.6mm). c. Replace valve assembly. d. Replace spring cartridge.
4. Water does not enter toilet bowl properly.	a. Low water pressure. b. Water valve clogged.	a. Check incoming water pressure. b. Remove and clean filter screen located on inlet of water valve.
5. Water leaking from water valve. (See Service Tip on page 9.)	a. Loose connection. b. Worn or defective water valve. c. Water line connection not seated properly. d. Stripped threads. e. Seal is worn or missing. f. Valve body cracked.	a. Tighten bottom cap, inlet fitting and outlet hose clamp. b. Replace water valve. c. Remove water line and assemble correctly. d. Replace water valve. e. Replace water valve. f. Replace water valve.

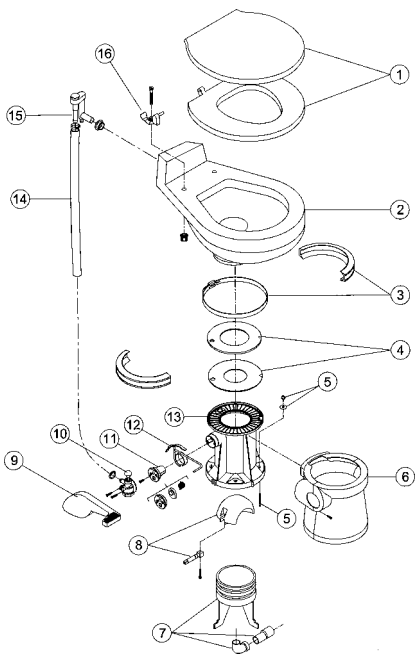
TROUBLESHOOTING GUIDE

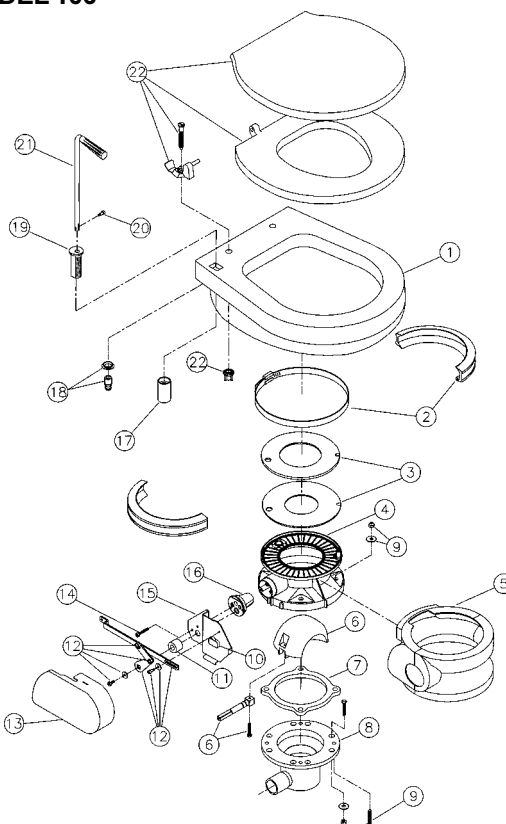
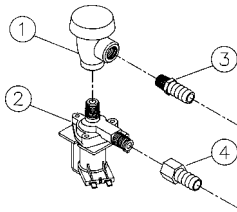
Problem	Possible Cause	Service Instructions
6. Water leaking from rear of toilet bowl. (See Service Tip on page 9.)	a. Loose hose connection. b. Loose vacuum breaker. c. Worn or defective vacuum breaker. d. Cracked or defective toilet bowl.	a. Tighten hose connections. b. Tighten vacuum breaker to bowl connection. c. Replace vacuum breaker assembly. d. Replace toilet bowl.
7. Pump running too much between flushes. (See Vacuum Tester Information on page 9.)	a. Flush ball leaks. b. Vacuum line leak. c. Duckbill valves in pump not sealing. (This problem normally occurs gradually. The pump takes longer periods of time to shut off between flushes.) d. Pump bellows worn or damaged.	a. Leave small amount of water in toilet. If water is sucked from bowl, see problems 1 and 2. b. Tighten all hose connections at pump, vacuum tank, toilet and check valve (when used). c. Disassemble inlet and outlet fittings on pump and inspect all four duckbill valves. If valves are not sealing, replace them. d. Inspect bellows in pump for small hole or rip. Replace if necessary.
8. Toilet will not flush. (No vacuum.)	a. Pump will not run. b. Plugged vacuum line. c. Duckbill valves or pump installed backwards. d. Vacuum pump discharge or intake lines plugged. e. Plugged vacuum tank.	a. See problem 9. b. You may have to disconnect line and clear. c. Make certain pump and duckbill valves are not installed backwards, or replace if stuck open. d. Disassemble lines and clean. e. Unplug vacuum tank.
9. Pump will not run.	a. No power. b. Loose or broken electrical wiring. c. Improper electrical connections. d. Faulty vacuum switch. e. Faulty motor.	a. Check input power, circuit breaker and fuse. b. Tighten or reconnect wires at pump and vacuum tank. c. Make certain wires at vacuum switch are connected to the "B" terminals. d. To check vacuum switch, short across "B" terminals. e. Replace motor.
10. Pump will not shut off.	a. Excessive vacuum leak. b. Faulty vacuum switch. c. Improper wiring.	a. See problem 7. b. To check switch, remove one of the "B" terminal wires. c. Check wiring, refer to wiring diagram.
11. Pump running too slow, overheating, blowing fuses or circuit breaker.	a. Improper voltage. b. Loose or broken electrical wiring. c. Improper wire size.	a. Check input power for low voltage. b. Tighten or reconnect wires. c. Wire size too small – check electrical diagram for proper wire size for voltage of pump used.

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Service Instructions
11. Continued	d. Discharge line blocked causing back pressure. e. Plugged or defective duckbill valve. f. Plugged vent in holding tank. g. Gear motor worn or defective. h. Pump bellows clogged with tissue.	d. Check to be certain seacocks and in-line valves are in proper position. Disassemble and clean discharge line. e. Disassemble and clean duckbill valve. Replace parts or valve if necessary. f. Disassemble and clean. g. Check motor and replace if necessary. h. Remove and clean bellows assembly. (When flushing toilet, use of additional water may alleviate this problem.)
12. Pump emits odor.	a. Loose or defective hose connection on pump. b. Loose intake or discharge fittings on pump. c. Worn, torn or punctured pump bellows.	a. Tighten connections or replace hose and make new connections. b. Tighten intake or discharge fittings on pump. Replace nipples or adapters if necessary. c. Replace pump bellows.
13. Blockage between toilet and vacuum tank.	a. Collapsed vacuum line. b. Sharp bends or kinks in vacuum line. c. Improper operation of toilet. d. Flushing foreign objects down toilet.	a. Inspect vacuum line for collapsed condition and replace line. b. Inspect vacuum line for kinks or bends with less than 5" (12.7mm) radius on all bends. c. Make sure toilet is being operated correctly and each person using toilet knows correct operating procedure. d. DO NOT flush any non-dissolving items (i.e. sanitary napkins, facial tissue, wet strength tissue, paper towels, etc.) or excessive toilet tissue down toilet. Biodegradable SeaLand brand toilet tissue is best.

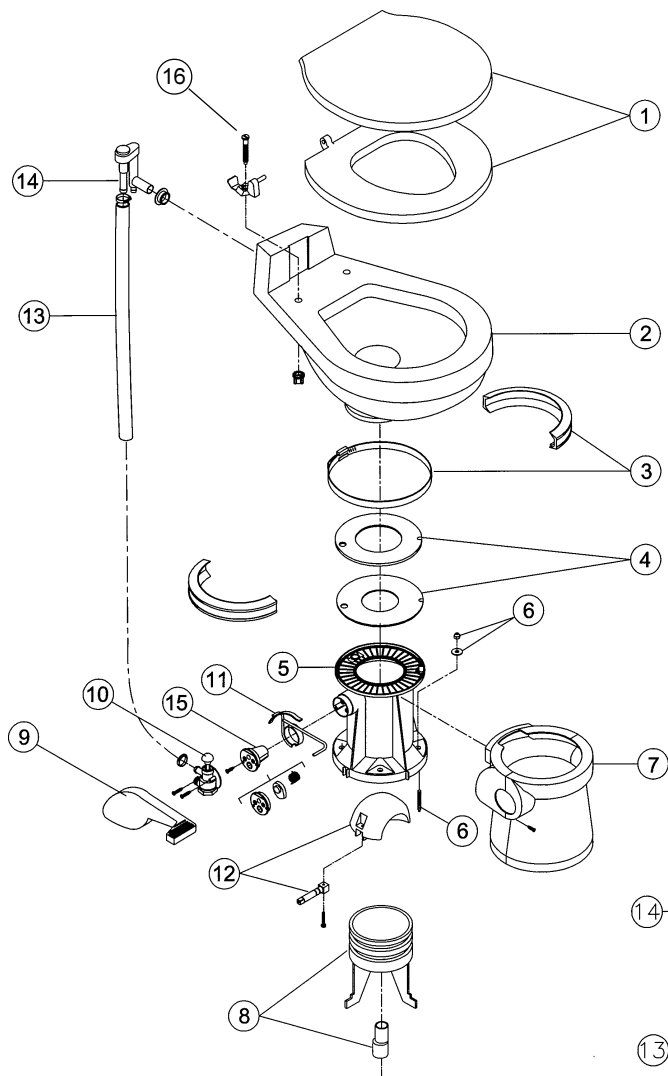
PARTS LIST

MODEL 847/547/1047	Item	Part Number			Description
		547	847	1047	
	1	341605 340816	340590 340591	340590 340591	Seat Assembly, White Seat Assembly, Bone
	2	310080 310081	310032 310033	310615 310616	China Bowl Kit, White China Bowl Kit, Bone
	3		310048		Ring & Half Clamp Kit
	4		316140		Teflon® & Rubber Seal Kit
	5		316323		Mounting Kit
	6		310674 310613		Pedestal Cover Kit, White Pedestal Cover Kit, Bone
	7		318741		Funnel Kit
	8		318162		Ball/Shaft/Cartridge Kit
	9		310114		Pedal Cover Kit, White
			310115		Pedal Cover Kit, Bone
	10		314349		Water Valve Kit
	11		236096		Spring Cartridge Assembly
	12		310578		Flush Lever (Includes Item 11)
	*13		310665 310614		Base Kit, White Base Kit, Bone
	14		340177		Supply Hose, Bone
	15	318065	316906	316906	Vacuum Breaker Kit
	16	341706 341707	342130 342131	342130 342131	Seat Hinge Hardware, White Seat Hinge Hardware, Bone
* Includes all items except 1, 2, 14, 15 & 16					

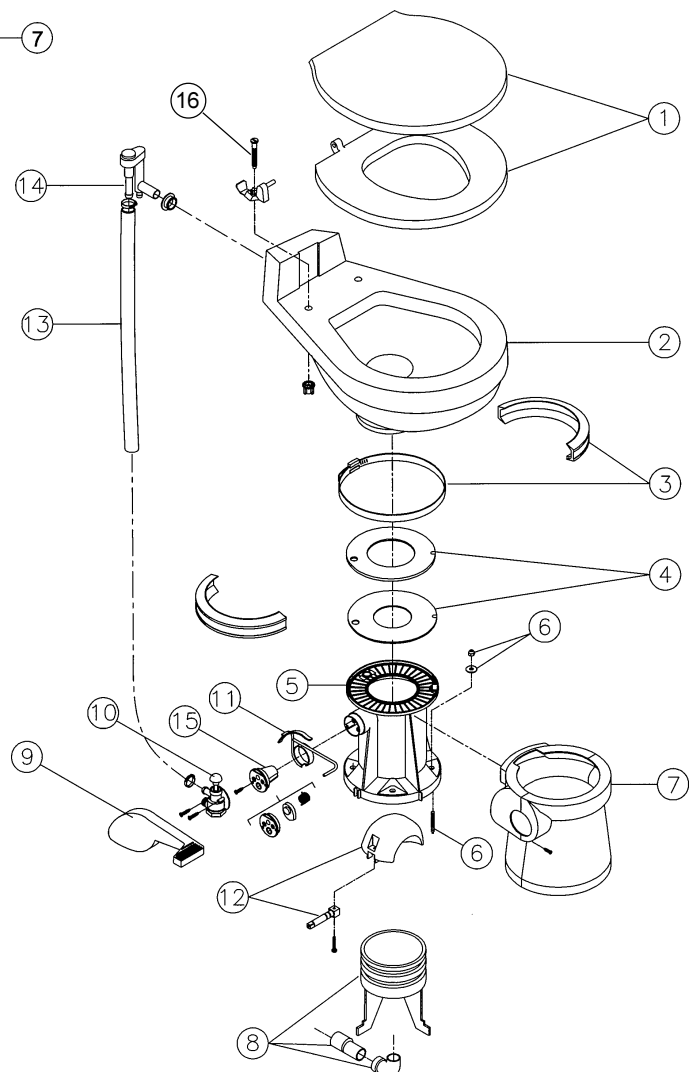
MODEL 106	Item	Part Number	Description
	1	310530 340529	China Bowl Kit, White China Bowl Kit, Bone
	2	310048	Ring & Half Clamp Kit
	3	316140	Teflon® & Rubber Seal Kit
	4	341653	Base, Black
	5	310108 310109	Pedestal Cover Kit, White Pedestal Cover Kit, Bone
	6	310525	Half Ball Kit
	7	341549	Floor Flange Kit
	8	310550	Funnel Kit
	9	310064	Toilet Mounting Kit
	10	342541	Snap Action Switch
	11	342579	Ball Shaft Collar
	12	310528	Flush Arm Lever Kit
	13	342635 310641	Flush Mechanism Cover, White Flush Mechanism Cover, Bone
	14	346221	#10 x 1½" Pan Phil Screw, SS
	15	342580	Flush Lever Bracket
	16	236096	Spring Cartridge Assembly
	17	342582	Flush Rod Guide Collar
	18	310527	Inlet Adapter Kit
	19	342581	Flush Rod Guide
	20	342567	Socket Head Shoulder Screw, 3/16 x 5/16, 8-32 SS
	21	310526	Flush Lever Kit
	22	340590 340591	Seat & Lid, White Seat & Lid, Bone
VACUUM BREAKER WATER VALVE			
	Item	Part Number	Description
	1	342587	Vacuum Breaker
	2	347849 342894	Water Valve, 12 VDC Water Valve, 24 VDC
	3	342588	Barbed Fitting, ½"Insert x ¼"MPT
	4	342546 310523	Barbed Fitting, ½"Insert x ¼"FPT Wiring Harness (not shown)

PARTS LIST

MODEL 508/808/1008



MODEL 548/848/1048



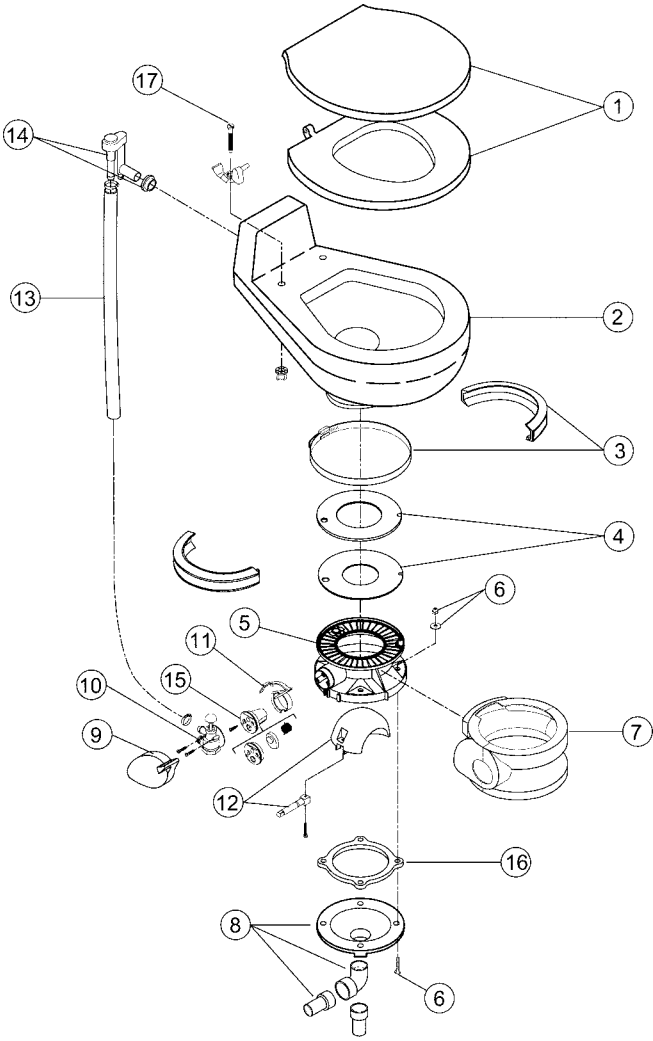
PARTS LIST

MODEL 808/848/1008/1048/508/548

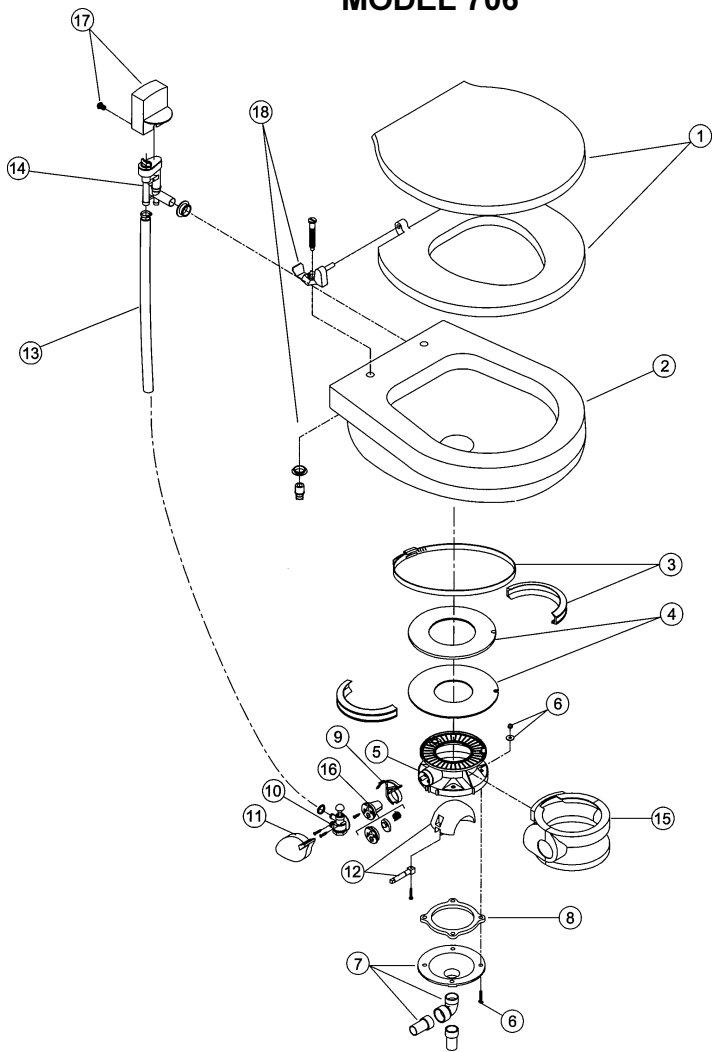
Item	808	848	1008	1048	508	548	Description
1	340590 340591	340590 340591	340590 340591 342867	340590 340591 342867	341605 340816 340817 341767 341909	341605 340816 340817 341767 341909	Seat Assembly, White Seat Assembly, Bone Seat Assembly, Platinum Seat Assembly, Ebony Seat Assembly, Teal
2	310032 310033	310032 310033	310615 310616 310585	310615 310616 310585	310080 310081 319033 310176 310183	310080 310081 319033 310176 310183	China Bowl Kit, White China Bowl Kit, Bone China Bowl Kit, Platinum China Bowl Kit, Ebony China Bowl Kit, Teal
3	310048	310048	310048	310048	310048	310048	Ring & Half Clamp Kit
4	316140	316140	316140	316140	316140	316140	Teflon & Rubber Seal Kit
*5	310126 310127	310129 310130	310126 310127 310171	310129 310130 310172	310126 310127 310128 310171 310213	310129 310130 310131 310172 310218	Base Kit, White Base Kit, Bone Base Kit, Platinum Base Kit, Ebony Base Kit, Teal
6	316323	316323	316323	316323	316323	316323	Toilet Mounting Kit
7	310111 310112	310136 310137	310111 310112 310173	310136 310137 310174	310111 310112 310113 310173 310203	310136 310137 310138 310174 310223	Pedestal Cover Kit, White Pedestal Cover Kit, Bone Pedestal Cover Kit, Platinum Pedestal Cover Kit, Ebony Pedestal Cover Kit, Teal
8	318741	318741	318741	318741	318741	318741	Funnel Kit
9	310114 310115	310114 310115	310114 310115 310175	310114 310115 310175	310114 310115 310116 310175 310193	310114 310115 310116 310175 310193	Pedal Cover Kit, White Pedal Cover Kit, Bone Pedal Cover Kit, Platinum Pedal Cover Kit, Ebony Pedal Cover Kit, Teal
10	314349	314349	314349	314349	314349	314349	Water Valve Kit
11	310578	310578	310578	310578	310578	310578	Flush Lever
12	318162	318162	318162 310177	318162 310177	318162 319034 310177 310188	318162 319034 310177 310188	Ball/Shaft/Cartridge Kit, White Ball/Shaft/Cartridge Kit, Platinum Ball/Shaft/Cartridge Kit, Ebony Ball/Shaft/Cartridge Kit, Teal
13	340177	340177	340177	340177	340177	340177	Supply Hose, Bone
14	316906	316906	316906	316906	318065	318065	Vacuum Breaker Kit
15	236096	236096	236096	236096	236096	236096	Spring Cartridge Assembly
16	342130 342131	342130 342131	342130 342131	342130 342131	341706 341707 341708 342232 342235	341706 341707 341708 342232 342235	Seat Hinge Hardware, White Seat Hinge Hardware, Bone Seat Hinge Hardware, Platinum Seat Hinge Hardware, Ebony Seat Hinge Hardware, Teal
* Includes all items except 1, 2, 13, 14 & 16							

PARTS LIST

MODEL 506/806/1006



MODEL 706



PARTS LIST

MODEL 806/1006/506

Item	806	1006	506	Description
1	340590 340591	340590 340591 342867	341605 340816 340817 341767 341909	Seat Assembly, White Seat Assembly, Bone Seat Assembly, Platinum Seat Assembly, Ebony Seat Assembly, Teal
2	310032 310033	310615 310616 310585	310080 310081 319033 310176 310183	China Bowl Kit, White China Bowl Kit, Bone China Bowl Kit, Platinum China Bowl Kit, Ebony China Bowl Kit, Teal
3	310048	310048	310048	Ring & Half Clamp Kit
4	316140	316140	316140	Teflon & Rubber Seal Kit
*5	310132 310133	310132 310133 310607	310132 310133 310134 310607 310610	Base Kit, White Base Kit, Bone Base Kit, Platinum Base Kit, Ebony Base Kit, Teal
6	310064	310064	310064	Toilet Mounting Kit
7	310108 310109	310108 310109 310173	310108 310109 310110 310600 310603	Pedestal Cover Kit, White Pedestal Cover Kit, Bone Pedestal Cover Kit, Platinum Pedestal Cover Kit, Ebony Pedestal Cover Kit, Teal
8	318864	318864	318864	Funnel Kit
9	310117 310118	310117 310118 310593	310117 310118 310119 310593 310596	Pedal Cover Kit, White Pedal Cover Kit, Bone Pedal Cover Kit, Platinum Pedal Cover Kit, Ebony Pedal Cover Kit, Teal
10	314349	314349	314349	Water Valve Kit
11	310579	310579	310579	Flush Lever
12	318162	318162 310177	318162 319034 310177 310188	Ball/Shaft/Cartridge Kit, White Ball/Shaft/Cartridge Kit, Platinum Ball/Shaft/Cartridge Kit, Ebony Ball/Shaft/Cartridge Kit, Teal
13	340177	340177	340177	Supply Hose, Bone
14	316906	316906	318065	Vacuum Breaker Kit
15	236096	236096	236096	Spring Cartridge Assembly
16	341549	341549	341549	Floor Flange Seal
17	342130 342131	342130 342131	341706 341707 341708 342232 342235	Seat Hinge Hardware, White Seat Hinge Hardware, Bone Seat Hinge Hardware, Platinum Seat Hinge Hardware, Ebony Seat Hinge Hardware, Teal
* Includes all items except 1, 2, 13, 14 & 16				

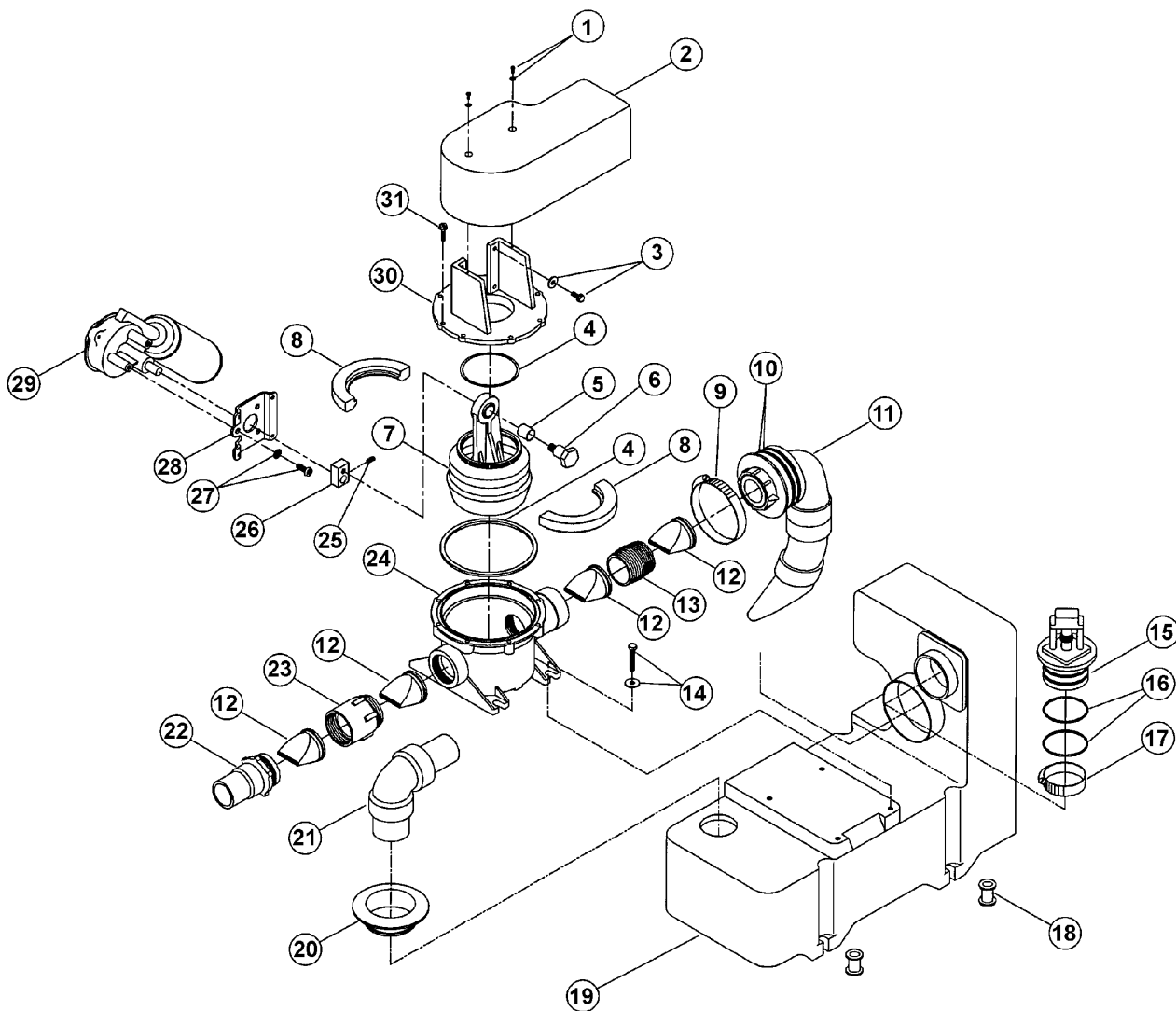
MODEL 706

Item	Part No.	Description	Item	Part No.	Description
1	340590	Seat and Cover, White	10	314349	Water Valve Kit
2	310676	China Bowl, White	11	310117	Pedal Cover Kit, White
3	310048	Ring and Half Clamp Kit	12	318162	Ball, Shaft and Cartridge Kit
4	316140	Teflon and Rubber Seal Kit	13	340177	Supply Hose, Bone
5	310132	706/1006/806 Base Kit, White	14	316906	Vacuum Breaker Kit
6	315057	Mounting Kit	15	310108	Pedestal Cover Kit, White
7	318864	Funnel Kit	16	236096	Spring Cartridge Assembly
8	341549	Floor Flange Seal	17	310696	Vacuum Breaker Cover, White
9	340825	Flush Lever	18	341706	Seat Hinges, White (1 Pair)

PARTS LIST

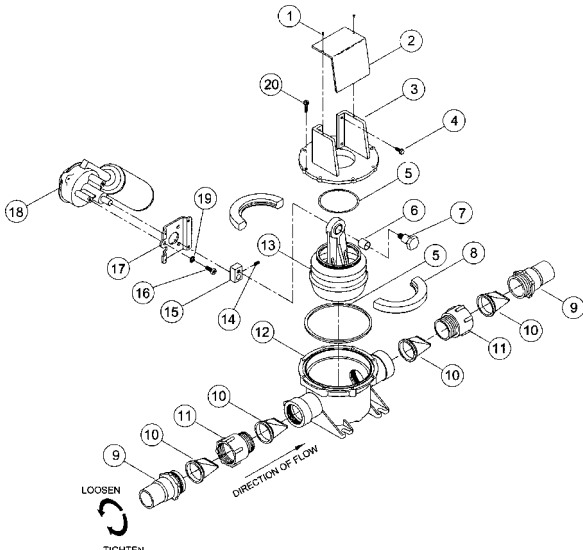
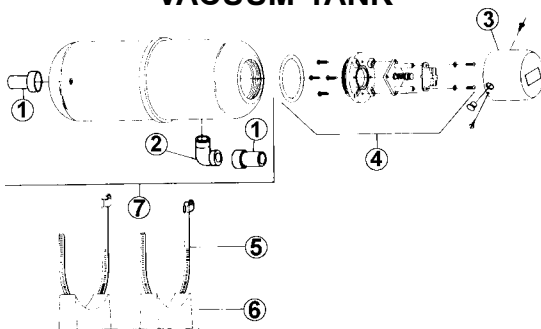
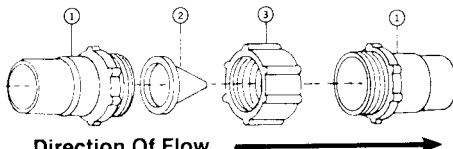
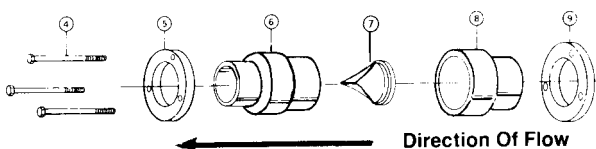
VACUUM GENERATOR

Item	Part No.	Description	Item	Part No.	Description
1	340237	#4 x 3/8" Pan Phillips Head Screw, SS	16	342778	O-Ring, 2" ID x 2-1/4" OD
	343027	Flat Washer, .312" OD x .030 Thick, SS	17	342782	2 1/2" Diameter Worm Gear Clamp
2	342804	Motor/Switch Cover	18	342798	Vacuum Generator Mounting Spindle
3	342332	#10-32 x 1/2" Hex Washer Head Screw, SS	19	310542	Vacuum Generator Tank
	344087	Flat Washer, #10 x 5/8" OD, SS	20	342932	1 1/2" Uniseal®
4	310151	O-Ring Replacement Kit	21	310635	Inlet Elbow Kit (Includes Item 20)
5	340664	Bushing	22	347800	Valve Nipple
6	343006	Shoulder Screw, 1/2 x .687 x 3/8-16	23	347801	Valve Adapter
7	230980	Bellows Replacement Kit	24	341504	Pump Body
8	347807	Bellows Clamp	25	347788	1/4-28 x 5/16" Set Screw, 1/2 Dog Point
9	342783	3-3/4" Diameter Worm Gear Clamp	26	343005	Pump Eccentric
10	342779	O-Ring, 3" ID x 3 1/4" OD	27	340017	1/4-28 x 1/2" Round Phillips Head Screw, SS
11	310539	Diptube Assembly Kit (Includes Item 10)		346615	1/4" External Tooth Lock Washer
12	347802	Duckbill Valve Kit	28	340008	Motor Mounting Bracket
13	342789	1 1/2" NPT Close Nipple	29	310245	12 VDC Motor
14	342467	1/4-20 x 3/4" Hex Head Screw, SS		310246	24 VDC Motor
	346795	Flat Washer, .625" OD x .281" ID x .050	30	341506	Pump Top Closure
15	310540	Vacuum Switch Kit (includes items 15, 16, 17)	31	341503	#10-12 x 7/8" Hex Washer Head Screw, SS

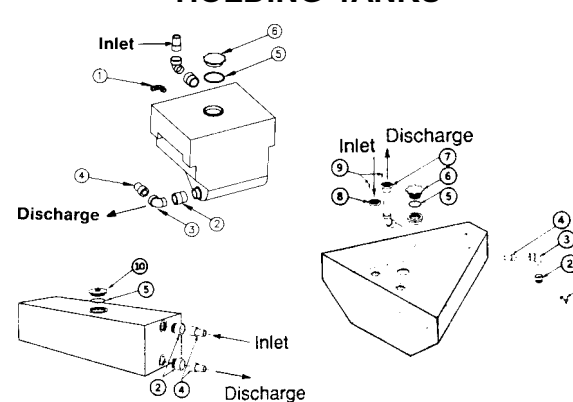
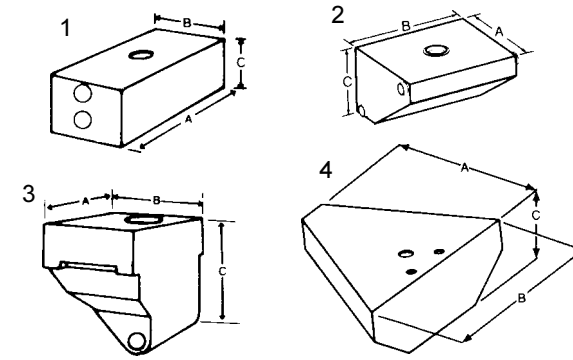
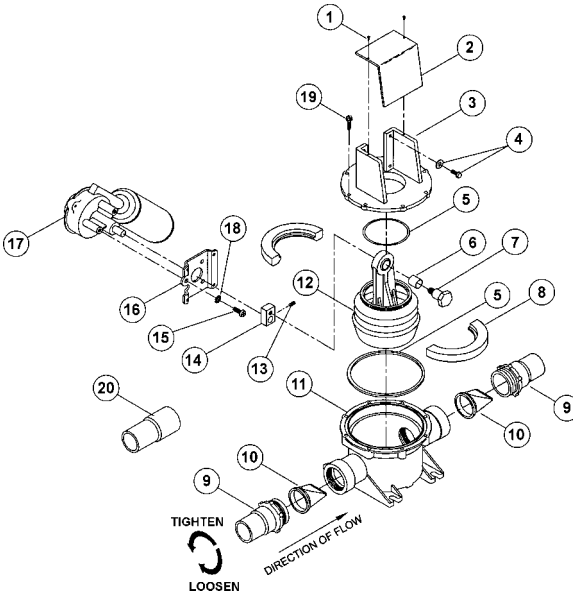


NOTE: When reassembling pump, tighten screw (Item No. 31) , to 20 ±2 lbs., or until snug. Overtightening will cause holes to strip.

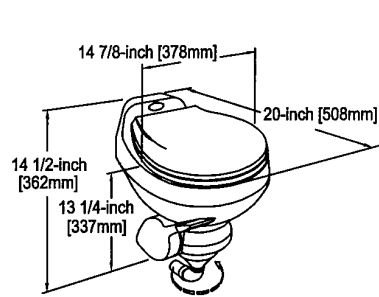
PARTS LIST

VACUUM PUMP  NOTE: S-Series pump valve adapter and nipple (items 9 and 11) have right-hand threads (clockwise to tighten, counterclockwise to loosen).	<table><tr><th>Item</th><th>Part No.</th><th>Description</th></tr><tr><td>1</td><td>340237</td><td>Cover Screw, #4 x 3/8" Pan Hd SS</td></tr><tr><td>2</td><td>640239</td><td>Pump Cover</td></tr><tr><td>3</td><td>341506</td><td>Top Closure</td></tr><tr><td>4</td><td>342332</td><td>Hex Head Screw, #10-32 x 1/2" SS</td></tr><tr><td>5</td><td>310151</td><td>O-Ring Replacement Kit</td></tr><tr><td>6</td><td>340664</td><td>Bushing, Bellows</td></tr><tr><td>7</td><td>343006</td><td>Hex Head Shoulder Screw, Brass</td></tr><tr><td>8</td><td>347807</td><td>Bellows Clamp</td></tr><tr><td>9</td><td>347800</td><td>Valve Nipple</td></tr><tr><td>10</td><td>347802</td><td>1 1/2" Duckbill Valve</td></tr><tr><td>11</td><td>347801</td><td>Valve Adapter</td></tr><tr><td>12</td><td>341504</td><td>Pump Body</td></tr><tr><td>13</td><td>230980</td><td>Bellows Assembly</td></tr><tr><td>14</td><td>347788</td><td>Set Screw, 1/4 -28 x 5/16"</td></tr><tr><td>15</td><td>343005</td><td>Eccentric</td></tr><tr><td>16</td><td>340017</td><td>Phillips Head Screw, 1/4 - 28 x 1/2" SS</td></tr><tr><td>17</td><td>340008</td><td>Motor Mounting Bracket</td></tr><tr><td>18</td><td>310245</td><td>Motor, 12VDC</td></tr><tr><td></td><td>310246</td><td>Motor, 24VDC</td></tr><tr><td>19</td><td>346615</td><td>Lockwasher, External Tooth, 1/4" SS</td></tr><tr><td>20</td><td>341503</td><td>Hex Washer Head Screw #10-12 x 7/8", SS</td></tr><tr><td>21</td><td>310249</td><td>Pump Assembly Less Motor (Includes items 3, 5, 8, 9, 10, 11, 12, 13, 14, 15, 22) (not shown)</td></tr><tr><td>22</td><td>310512</td><td>Motor Replacement Shaft (not shown)</td></tr></table>	Item	Part No.	Description	1	340237	Cover Screw, #4 x 3/8" Pan Hd SS	2	640239	Pump Cover	3	341506	Top Closure	4	342332	Hex Head Screw, #10-32 x 1/2" SS	5	310151	O-Ring Replacement Kit	6	340664	Bushing, Bellows	7	343006	Hex Head Shoulder Screw, Brass	8	347807	Bellows Clamp	9	347800	Valve Nipple	10	347802	1 1/2" Duckbill Valve	11	347801	Valve Adapter	12	341504	Pump Body	13	230980	Bellows Assembly	14	347788	Set Screw, 1/4 -28 x 5/16"	15	343005	Eccentric	16	340017	Phillips Head Screw, 1/4 - 28 x 1/2" SS	17	340008	Motor Mounting Bracket	18	310245	Motor, 12VDC		310246	Motor, 24VDC	19	346615	Lockwasher, External Tooth, 1/4" SS	20	341503	Hex Washer Head Screw #10-12 x 7/8", SS	21	310249	Pump Assembly Less Motor (Includes items 3, 5, 8, 9, 10, 11, 12, 13, 14, 15, 22) (not shown)	22	310512	Motor Replacement Shaft (not shown)
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VACUUM TANK 	<table><tr><th>Item</th><th>Part No.</th><th>Description</th></tr><tr><td>1</td><td>341513</td><td>Insert Adapter</td></tr><tr><td>2</td><td>341161</td><td>Street Elbow</td></tr><tr><td>3</td><td>348037</td><td>Vacuum Switch Cover</td></tr><tr><td>4</td><td>318032</td><td>Vacuum Switch Assembly</td></tr><tr><td>5</td><td>346835</td><td>Snap Lock Clamp</td></tr><tr><td>6</td><td>348361</td><td>Mounting Bracket</td></tr><tr><td>7</td><td>310017</td><td>Vacuum Tank Kit (Includes 2 each Item 1 and 1 each Item 2)</td></tr></table>	Item	Part No.	Description	1	341513	Insert Adapter	2	341161	Street Elbow	3	348037	Vacuum Switch Cover	4	318032	Vacuum Switch Assembly	5	346835	Snap Lock Clamp	6	348361	Mounting Bracket	7	310017	Vacuum Tank Kit (Includes 2 each Item 1 and 1 each Item 2)																																																
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SMALL IN-LINE CHECK VALVE  Direction Of Flow → LARGE IN-LINE CHECK VALVE  ← Direction Of Flow	<table><tr><th>Item</th><th>Part No.</th><th>Description</th></tr><tr><td>1</td><td>347800</td><td>Valve Nipple</td></tr><tr><td>2</td><td>347802</td><td>1 1/2" Duckbill Valve</td></tr><tr><td>3</td><td>347839</td><td>Valve Adapter</td></tr><tr><td>4</td><td>341015</td><td>Bolts</td></tr><tr><td>5</td><td>640116</td><td>Pilot Collar</td></tr><tr><td>6</td><td>230082</td><td>Male Valve Housing Assembly</td></tr><tr><td>7</td><td>348702</td><td>2" Duckbill Valve</td></tr><tr><td>8</td><td>640113</td><td>Female Valve Housing</td></tr><tr><td>9</td><td>640115</td><td>Threaded Collar</td></tr></table>	Item	Part No.	Description	1	347800	Valve Nipple	2	347802	1 1/2" Duckbill Valve	3	347839	Valve Adapter	4	341015	Bolts	5	640116	Pilot Collar	6	230082	Male Valve Housing Assembly	7	348702	2" Duckbill Valve	8	640113	Female Valve Housing	9	640115	Threaded Collar																																										
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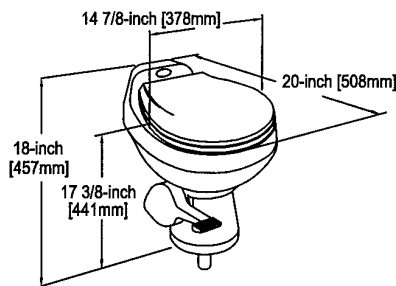
PARTS LIST

HOLDING TANKS		Item	Part No.	Description				
		1	340857	½" MPT x 5/8" Barb Elbow				
		2	341425	1½" Hub x 1½" MPT PVC Adapter				
		3	341161	1½" Hub x 90° Slip Elbow				
		4	341513	1½" Hose Adapter				
		5	347587	Cap O-Ring				
		6	342520	Cap Without Vent				
		7	231516	Diptube Assembly				
		8	340280	Flanged Adapter				
			343023	2" Uniseal®				
		9	346640	#8 x 1" Screw				
10	342522	Cap With Vent						
HOLDING TANK SPECIFICATIONS		Item	Part No.	Capacity (gallons)	Dimensions (inches)			Approx. Weight (lbs.)
		1	4020	18	28¼	14½	11½	24
		1	4030	28	30	20	12	33
		1	4040	35	30	21	13½	36
		1	4055	52	40	20	16	50
		2	4015	15	19	22	12½	24
		3	4010	9	17	14	16	14
		4	4052	52	36	42	17	60
All tanks are supplied with (2) 1½" [38mm] hose adapters and (1) vent fitting.								
DISCHARGE PUMP		Item	Part No.	Description				
 NOTE: T-Series Overboard Discharge pump valve adapter (item 9) has left-hand threads (counterclockwise to tighten, clockwise to loosen).		1	340237	#4 x 3/8" Pan Head Screw				
		2	640239	Pump Cover				
		3	341502	Pump Top Closure				
		4	342332	#10-32 x ½" Hex Head Screw				
		5	310151	O-Ring Replacement Kit				
		6	340664	Bushing				
		7	343006	Shoulder Screw, ½" x .687 x 3/8-16				
		8	347807	Bellows Clamp				
		9	340669	Valve Nipple				
		10	347802	1 ½" Duckbill Valve				
		11	341489	Pump Body				
		12	230980	Bellows Assembly				
		13	347788	Set Screw, ¼-28 x 5/16"				
		14	343005	Eccentric				
		15	340017	¼-28 x ½" Phillips Head Screw				
		16	340008	Motor Mounting Bracket				
		17	310245	12 VDC Motor				
			310246	24 VDC Motor				
		18	346615	¼" External Tooth Lock Washer				
		19	341503	#10-12 x 7/8" Hex Washer Head Screw				
20	341113	1" x 1 ½" Reducing Adapter						
	310250	Not Shown Pump Assembly Less Motor (includes items 3, 5, 6, 8, 9, 10, 11, 12, 19)						
	310512	Motor Replacement Shaft						

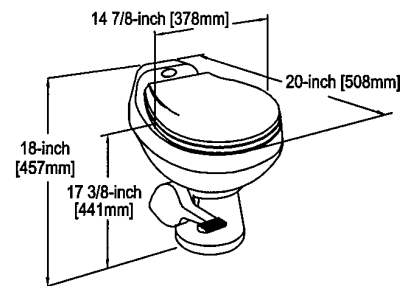
DIMENSIONAL SPECIFICATIONS



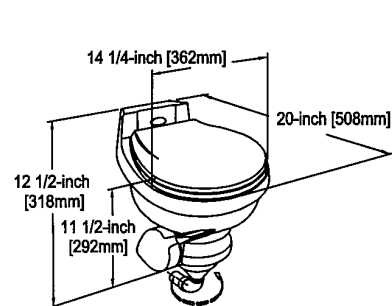
Model 1006



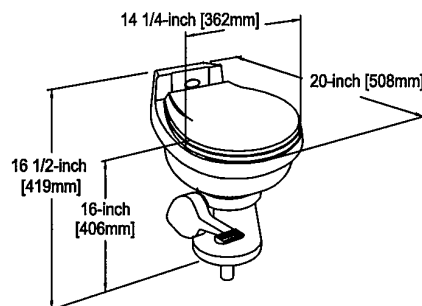
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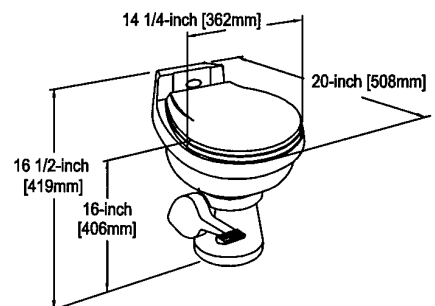
Model 1047/1048



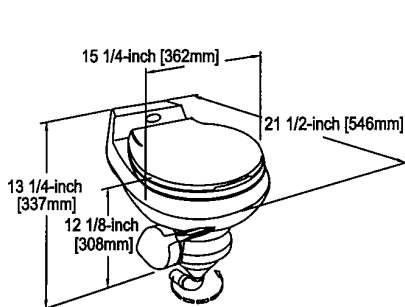
Model 806



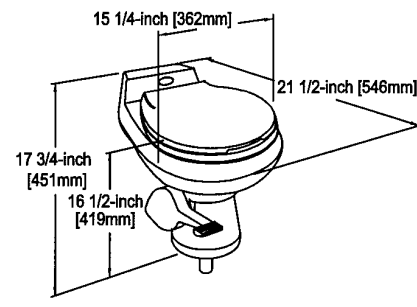
Model 808



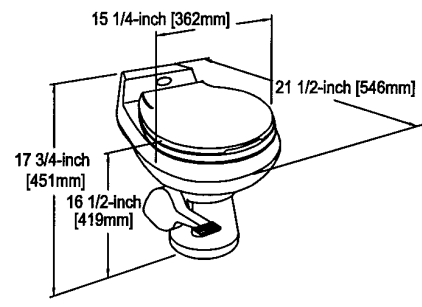
Model 847/848



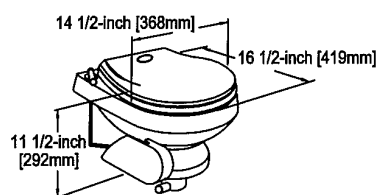
Model 506



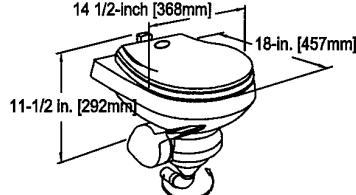
Model 508



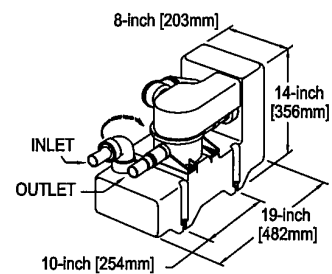
Model 547/548



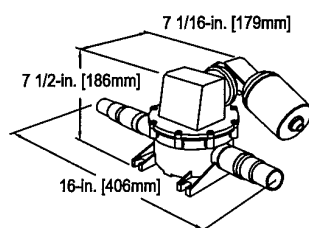
Model 106



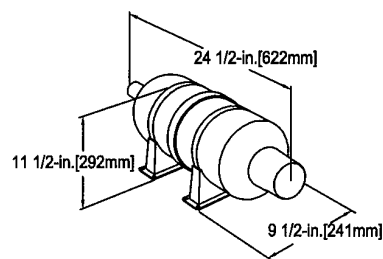
Model 706



Vacuum Generator



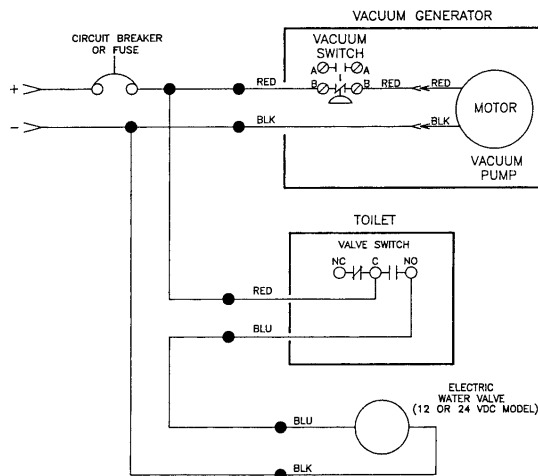
Vacuum Pump



Vacuum Tank

WIRING DIAGRAMS

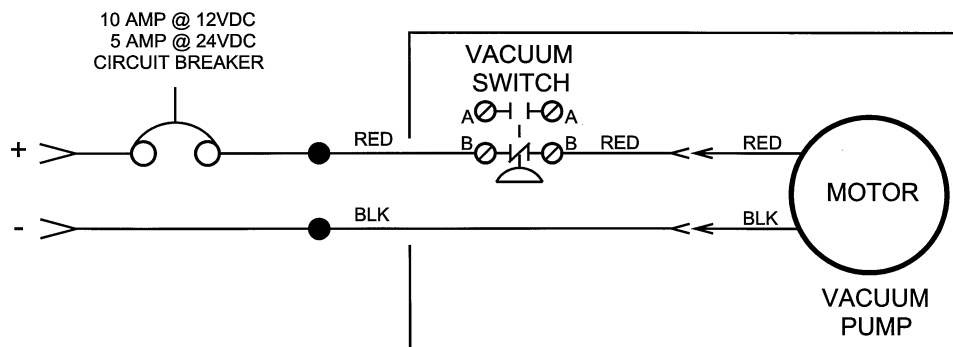
106



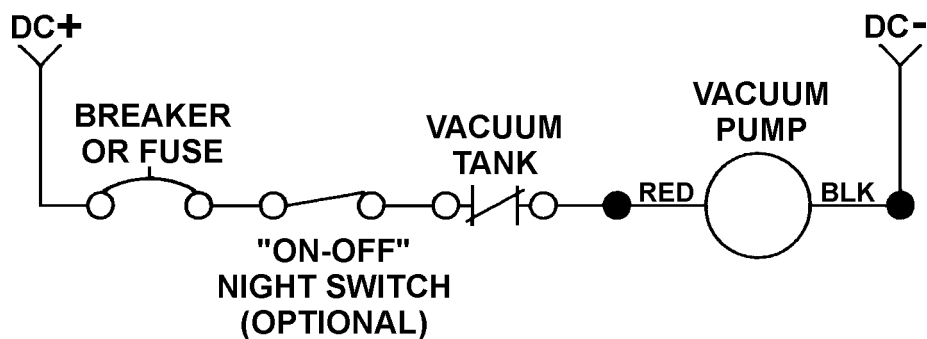
WARNING

Pump starts automatically. Turn off power before servicing.

VACUUM GENERATOR



VACUUM PUMP



PARTS DISTRIBUTORS

There is a strong, worldwide network to assist in servicing and maintaining your VacuFlush system. For the Authorized Service Center near you, please call from 8:00 a.m. to 5:00 p.m. (ET) Monday through Friday. You may also write us at SeaLand Technology, Inc., P.O. Box 38, Big Prairie Ohio 44611.

Telephone: 1 800-321-9886 U.S.A. and Canada
330-496-3211 International

You may also contact or have your local dealer contact the Parts Distributor nearest you for quick response to your replacement parts needs. They carry a complete inventory for the SeaLand product line.

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Fax: 416-465-2098
E-mail: eastmar@ibm.net
Contact: Paul Gales

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Contact: Aila Siltala

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Kent Marine Equipment
3 rue de la Dutee - BP 207
44815 Saint-Herblain
Tel: 33 2 40 92 15 84
Fax: 33 2 40 92 13 16
Contact: Luc Tavolini

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Fax: 49 (0) 2154 428675
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Fax: 49 (0) 40 219 1114
E-mail: info@ocean-marine.de
Contact: Horst von Horsten

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E-mail: technik@triton-format.de
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Contact: Alan Reid

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Fax: 390 (02) 55300397
Contact: Claudio Crosiglia

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Fax: 390 544 965734
E-mail: svama-nautica@svama-nautica.com
Contact: Pier Luigi Baldassarri

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Fax: 64 (09) 415 8304
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Contact: Caesar Christen Strom

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Fax: 65 862 4431
Contact: Johnny Lim

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Tel: 386 64 741 225
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E-mail: komarc@seaway.si
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E-mail:
sealand@dahlberg-sa.com
Contact: Rosa Dahlberg

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Lundenvagen, 473 21 Henan
Tel: 46 304 360 60
Fax: 46 304 307 43
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magnus.andersson@plastimo.se
Contact: Magnus Andersson

Switzerland

Ocean Marine
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Contact: Mercury Liu

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E-mail: aylan@superonline.com
Contact: Isik Aylan

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Fax: 44 (0) 1295 770022
E-mail: lees@cwcom.net
Contact: Chris Coburn
Midland Chandlers
Parkgate Lock, Teddesley Road
Penkridge, Staffordshire ST19
5RH
Tel: 44 (0) 1785 712437
Fax: 44 (0) 1785 714666
Contact: G.P. Calvert

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St. Clair Shores, MI 48080
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1 800-860-1540
Fax: 810-778-6108
Contact: Mike or Bob Kennedy

U.S.A. - Northeast

Northeast Marine Sanitation
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Farmingdale, NY 11735
Tel: 516-752-7606
1 800-352-4323
Fax: 516-752-7615
Contact: Mike Starito

U.S.A. - Northwest

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1900 N. Northlake Way, Suite 121
Seattle, WA 98103
Tel: 206-633-1110
1 800-624-9111
Fax: 206-633-0317
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Seabrook, TX 77586
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Fax: 281 474 2714
E-mail: aersupplyinc@msn.com
Contact: Richard Miller

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Fort Lauderdale, FL 33315
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1-800-522-2656
Fax: 954-522-5152
E-mail: hopto91@aol.com
Contact: John or Jill Hopkins

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Costa Mesa, CA 92627
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1-800-253-0115
Fax: 949-642-9582
E-mail: ardemco@earthlink.net
Contact: Rick Glasser

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PowerHouse Marine
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La Crosse, WI 54603
Tel: 608-784-9580
888-752-4539
Fax: 608-784-8422
E-mail: tucks@rconnect.com
Contact: Dave Tucker

U.S.A. - Northern California

Mercury Marine Mart
619 Lindaro Street
San Rafael, CA 94901
Tel: 415-457-7070
Fax: 415-457-5938
Contact: Tom Mercurio

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