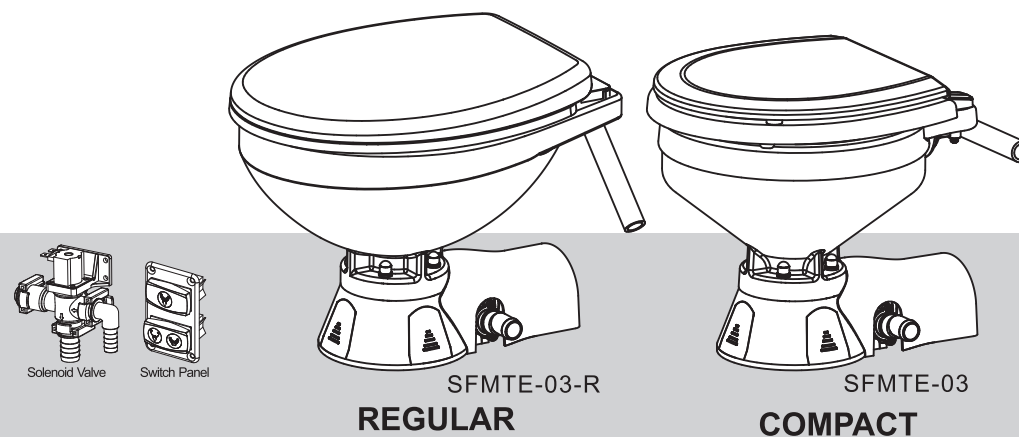


SEAFLO[®]

Quiet Flush Electric Toilet Freshwater Instruction Manual



Designed to radically reduce noise levels, Quiet Flush Toilets make life onboard more comfortable for all crew members, even those sleeping! Can be connected to the vessel's existing pressurized water system for flushing with fresh water. Very quiet flush cycle, available in regular and compact versions, water control solenoid valve with anti-siphon breaker to prevent contamination of the potable water supply. Equipped with a powerful sewage pump to break down waste and empty the toilet. With the one-button button on the switch panel, you can solve your sewage troubles.

FEATURES

- Very quiet flush cycle - like a household toilet
- Single button flush actuator - with dual function water level control switch
- Can be plumbed to any pressurized water system that can provide a 3.5 GPM (13.5 LPM) flow rate
- Water control solenoid valve with anti-siphon breaker to prevent contamination of potable water supply
- White vitreous china bowl available in compact or comfortable household size
- Built in upgraded macerator pump makes flushing quieter
- All spare parts can be ordered individually
- All corrosion resistant material for marine use

Model	SFMT1-03	SFMT2-03	SFMT1-03-R	SFMT2-03-R
Type	Electric			
Control Type	Switch Panel			
Max Draw	16A at 12V	8A at 24V	16A at 12V	8A at 24V
Size	Compact		Regular	
Diameter	Inlet 3/4" Hose Barb		Outlet 1" Hose Barb	
Material	Ceramic bowl, wood seat with baked enamel finish		Ceramic bowl, soft close seat	
Box Dimension (L * W * H)	490 * 390 * 370mm		545 * 430 * 400mm	

OPERATION

The Quiet-Flush toilet provides both quiet operation and user control of water levels in the toilet bowl. A single large push button switch provides a simple flush mode by activating both the rinse water supply and the macerator discharge pump simultaneously. An additional rocker switch offers independent control of the rinse water supply and discharge pump separately so the bowl water level can be easily raised or lowered by the user. This provides a method of minimizing water use, when desired, as well as a means of raising the water level in the bowl when appropriate for user comfort. It also allows for complete evacuation of the bowl water while underway in rough sea conditions.

INSTALLATION

The Quiet-Flush toilet can be plumbed to any pressurized water system that can provide a minimum of 3-1/2 GPM (13.5 LPM). This may be a fresh water system including the vessel's potable water system or a washdown system utilizing either fresh or salt water. However, it must be connected to a pressurized system that normally remains on at all times while the vessel is in use.

To make the water connection, shut off the water system pump and open one of the systems faucets or fixtures to drain the pressure from the system. Select an appropriate tee type fitting that can be installed in the existing pressurized water system and will provide a 1/2"(13mm) hose barb to feed water to the toilet. Install the tee fitting at a location on the pressurized water system that provides convenient connection to the toilet's solenoid valve/ siphon breaker assembly. If the toilet is being connected to the vessel's fresh water system and the vessel may be connected to an unregulated city water supply, it is recommended that a valve be installed in the toilet water supply line ahead of the solenoid valve/ siphon breaker to regulate the flow rate of incoming pressurized city water.

PLUMBING CONNECTIONS

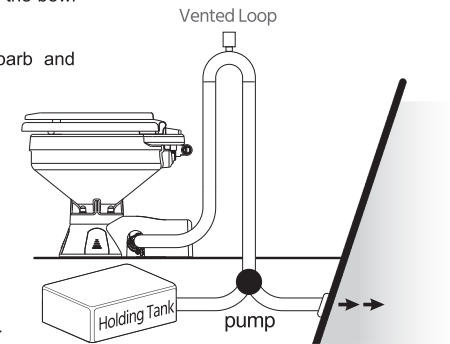
The solenoid valve/siphon breaker should be positioned a minimum of six inches above the hose connection at the back of the toilet bowl (at all angles of heel and trim) and located as close to the toilet as possible.

It should be located where an occasional drop or two of water from the siphon breaker will not adversely affect nearby equipment or supplies. It must be installed in a vertical position with the hose barb connections pointing down. The solenoid valve/siphon breaker bracket should be secured to a solid mounting surface with four screws. If the valve assembly is attached to a wood surface, 3/8" (10mm) long screws are generally adequate to support the weight of the valve assembly. If desired, the valve assembly may be installed inside a cabinet or locker to conceal it from view of the vessel's occupants. To provide a clean sanitary appearance inside the head area, a six foot section of smooth white hose is provided with the toilet to connect the toilet bowl spud fitting to the siphon breaker outlet hose barb.

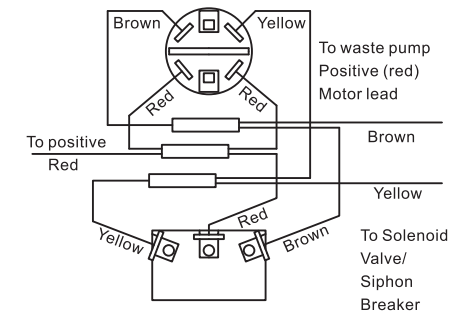
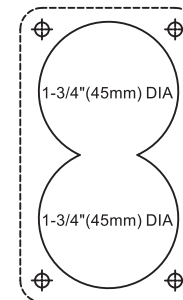
The solenoid valve inlet hose barb is then connected with 1/2" (13mm) reinforced vinyl hose suitable for pressurized water to the tee fitting installed in the water system line. All pressurized water system connections should be secured with stainless steel band type hose clamps.

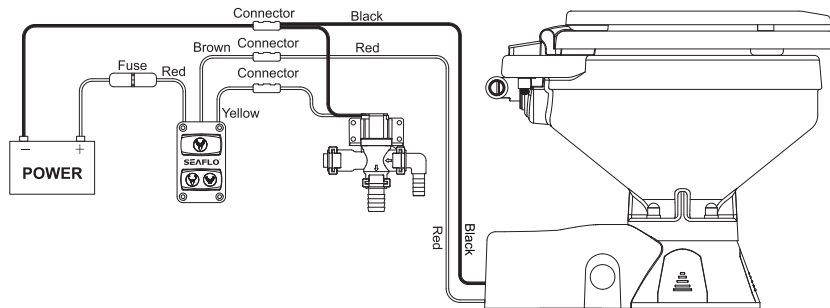
The 3/4" hose connecting the siphon breaker to the bowl should be secured with a band clamp at the siphon breaker to prevent it from being accidentally dislodged but generally does not need a hose clamp to secure it to the bowl spud fitting unless desired for added security.

The discharge port includes a 1" (25mm) hose barb and should be plumbed with 1" (25mm) hose to an on board holding tank or, if appropriate, to an overboard discharge through hull. A 1" (25mm) to 1-1/2" (38mm) barbed hose adapter is provided to adapt a 1" (25mm) discharge hose to 1-1/2" (38mm) hose, if desired. The discharge plumbing should be kept as short as possible and bends in the discharge hose should be kept to a minimum. If the toilet is below the water line and is plumbed to an overboard discharge through hull, the discharge plumbing must include a vented loop positioned so it remains above the water line at all angles of heel and trim. Total discharge head should not exceed 4 feet (1.2m). To retain water in the bowl, the discharge hose should be looped upward about eight to ten inches above the base of the toilet and as near to the toilet as can be practically accomplished without creating an unsightly plumbing situation.



NOTE: When the water flow in the toilet becomes smaller, the impurities in the filter screen in the solenoid valve need to be cleaned in time.





ELECTRICAL SPECIFICATIONS

VOLTAGE	AMP DRAW	FUSE SIZE	WIRE SIZE PER FEET OF RUN*				
			0'-10'	10'-15'	15'-25'	25'-40'	40'-60'
12	16	25	#16	#14	#12	#10	#8
24	8	15	#16	#16	#16	#14	#12

* Length of run is total distance from power source to product and back to ground.

ELECTRICAL

The electrical wiring should be independent of all other accessories. It should be made with marine grade copper stranded wire of the gauge specified in the electrical specifications chart. Make all wire connections with mechanical locking type connectors (crimp type butt connectors and terminals). Ensure the circuit is protected by a proper sized fuse or circuit breaker determined from the electrical specifications chart.

Secure all wires to a solid surface approximately every eighteen inches (1/2m) along their entire length of run. Wire the switch panel to the solenoid valve/siphon breaker and toilet pump assembly as per the following wiring diagram. Select a location for the switch panel that is convenient to the toilet user and will also allow access to run the wires from the switch panel to both the toilet's motor and the solenoid valve/siphon breaker as well as from the electrical power source to the switch panel. The red lead from the panel should be connected to an over-current protected positive power source. Connect the brown lead from the panel to the waste pump positive (red) motor lead. Connect the black waste pump motor lead to battery negative. Connect the yellow lead from the panel to a solenoid valve terminal. Connect the remaining solenoid valve terminal to battery negative. The solenoid valve is not polarity sensitive.

To install the switch panel, drill two 1-3/4" (45mm) diameter holes (slightly over-lapping) through the selected switch mounting surface per the attached template. Ensure the template is oriented correctly because it is not symmetrical. Also, drill four appropriate sized holes for the fasteners selected to secure the switch panel to its mounting surface.

SERVICE

The Quiet-Flush Toilet does not require routine maintenance other than occasional cleaning to maintain a hygienic sanitary condition. Clean toilet with mild nonabrasive cleaners without strong aromatics. Cleaners having high concentrations of aromatics such as pine scented concentrated cleaners and strongly scented

degreaser concentrates can cause the pump's seal to swell and may contribute to a premature seal leak.

The toilet has no wearing parts that need periodic replacement other than the shaft seal which, under normal conditions, should provide several years of service before needing replacement. The seal only requires replacement if signs of leakage are noticed under the seal housing positioned between the motor and toilet base assembly.

Notice: before performing any service, disconnect the power supply to the toilet and take precaution to ensure it is not reconnected until the service is complete. Also, pump all water from the toilet bowl and if connected to an overboard discharge, close the discharge seacock.

To replace the shaft seal, snap off the white motor cover and remove the pump assembly by removing the four screws with lock washers that secure it to the toilet base. Carefully slide the pump assembly from the base ensuring the macerator housing also slides out of the base with the pump.

The pump chopper will engage the macerator housing and it may be necessary to gently tap the chopper against the macerator housing to free it from the base.

Prevent the motor shaft from turning by inserting a screwdriver in the shaft slot at the rear of the motor and unscrew the nut retaining the chopper blade. Remove the chopper and macerator housing from the motor shaft. Remove the O-ring from the O-ring groove around the outer diameter of the seal housing. With an allen wrench, loosen the centrifugal impeller set screw and slide the impeller off the shaft. Remove the two screws that secure the seal housing to the motor and slide the housing off the motor shaft. Remove the two seal washers from under the head of each of the two seal housing retainer screws. With a pair of needle nose pliers grasp the shaft seal and pull it from the seal housing. Clean all parts and inspect for damage.

Lubricate the OD of the new seal with a small amount of water and press it into the seal bore with the seal's lip facing the threaded end of the shaft. Do not use the stainless steel star retaining washer supplied with the seal. Lubricate the ID of the seal and the motor shaft with a small amount of water resistant grease.

Ensure the slinger is properly positioned on the motor shaft next to the motor and slide the seal housing onto the motor shaft until it is against the motor end bell. Position a new plastic seal washer under the head of each of the flat head seal housing retainer screws and secure the seal housing to the motor. Slide the centrifugal impeller on the motor shaft positioning it about 1/32" (1mm) from the seal housing and secure it to the shaft with the set screw. Rotate the impeller to ensure it does not rub on the seal housing.

Slide the macerator housing over the motor shaft, place the lock washer on the end of the shaft and screw the chopper onto the shaft. Tighten the chopper while holding the motor shaft at the rear of the motor. Position a new O-ring in the seal housing O-ring groove (it may be retained in the groove with a small amount of grease). Slide the pump assembly into the toilet base ensuring the macerator housing is properly positioned within the base. The cut-out in the side of the macerator housing must align with the discharge port in the base (the macerator housing is keyed so it will only go in when properly positioned). Ensuring the O-ring is still properly positioned in the O-ring groove in the seal housing, place the pump assembly against the base and secure it in place with the four screws and lock washers. Replace the white motor cover by snapping it down over the pump motor. Slide the pump assembly into the toilet base ensuring the macerator housing is properly positioned within the base.

WARNING



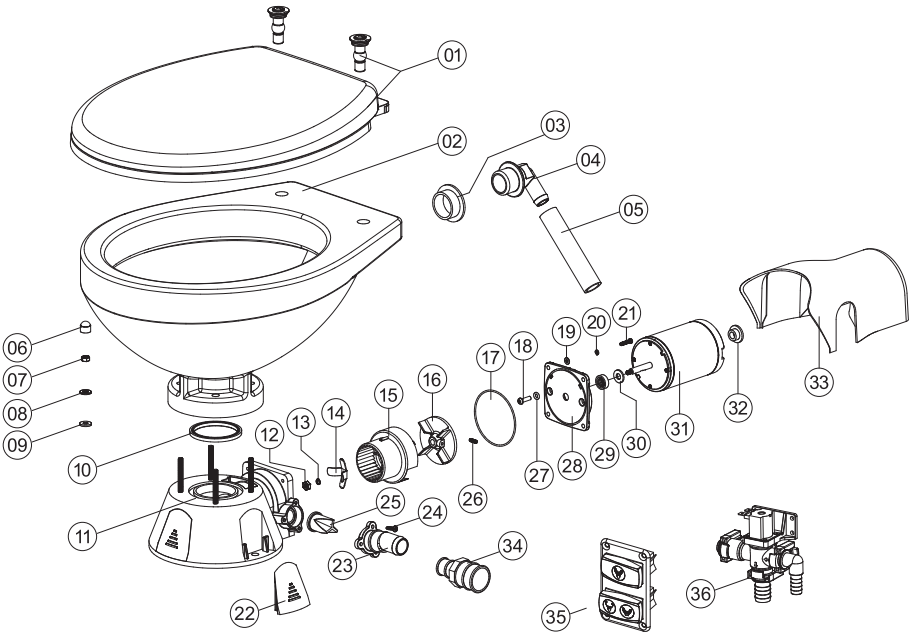
Flood hazard. If toilet is installed below the waterline, it must be installed with a properly positioned vented loop in the discharge hose. Failure to do so can result in flooding which can cause loss of property and life.

WARNING



Flood hazard. If toilet is plumbed to an overboard discharge, close the discharge seacock prior to disassembling toilet. Failure to do so can result in flooding which can cause loss of property and life.

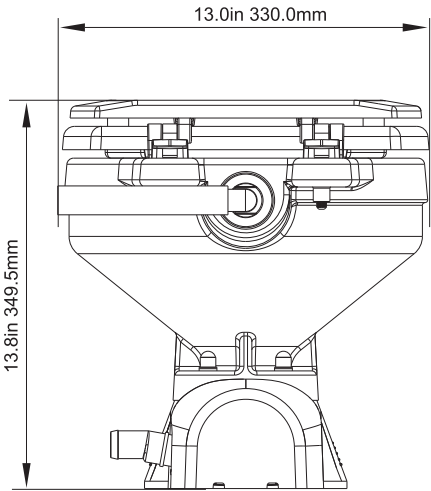
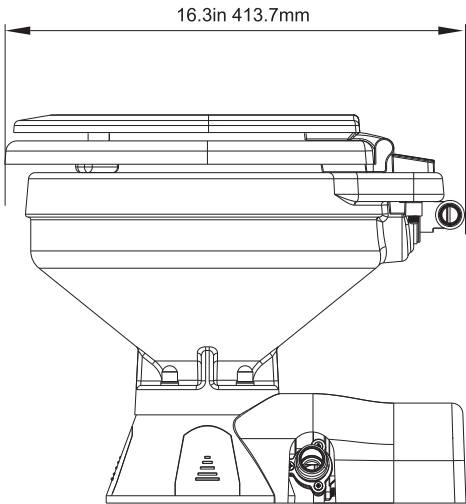
EXPLODED VIEW



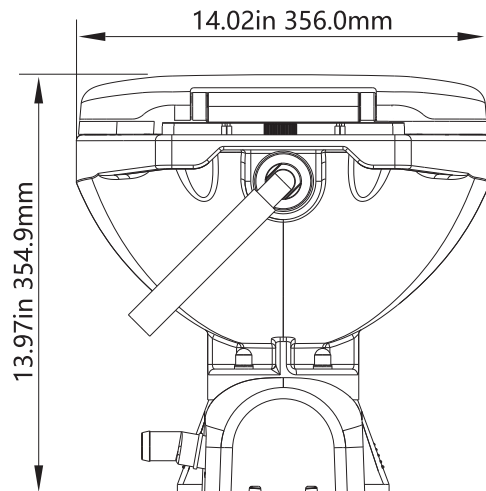
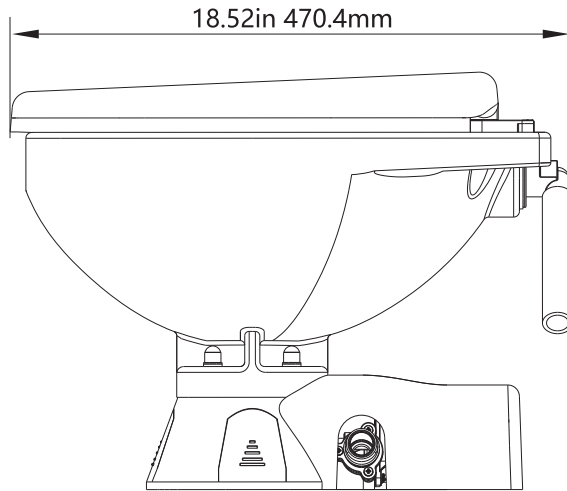
1	Cover assembly	13	M5 spring washer	25	Sewage rubber paters
2	Bowl (compact / regular size)	14	Chopper plate with lock nut	26	M4 machine screw
3	Shaped washer	15	Macerator housing	27	O-ring
4	Intake elbow	16	Centrifugal impeller	28	Seal housing
5	Hose	17	O-ring	29	Oil seal
6	Plastic screw cap	18	Screw	30	Shaft seal
7	Hex nut	19	Flat Gasket	31	Motors
8	Washer, stainless steel	20	M4 spring pad	32	Plugs
9	Washer, plastic	21	M4 machine screw	33	Motor cover
10	Bowl o-ring seal	22	Screw covers	34	1-1/2" adapter, discharge port
11	Base assembly	23	Discharge port	35	Switch panel
12	M5 nimu	24	Screw	36	Solenoid valve & siphon breaker

DIMENSIONAL DRAWING

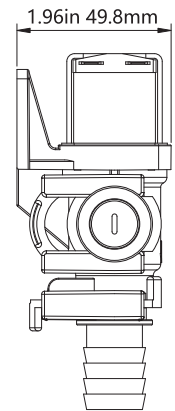
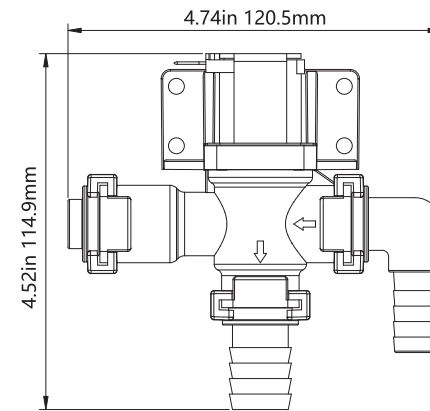
COMPACT (SFMTE-03)



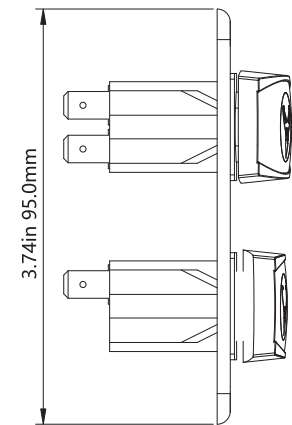
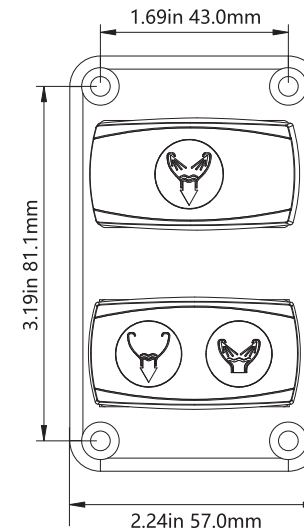
REGULAR (SFMTE-03-R)



SOLENOID VALVE & SIPHON BREAKER

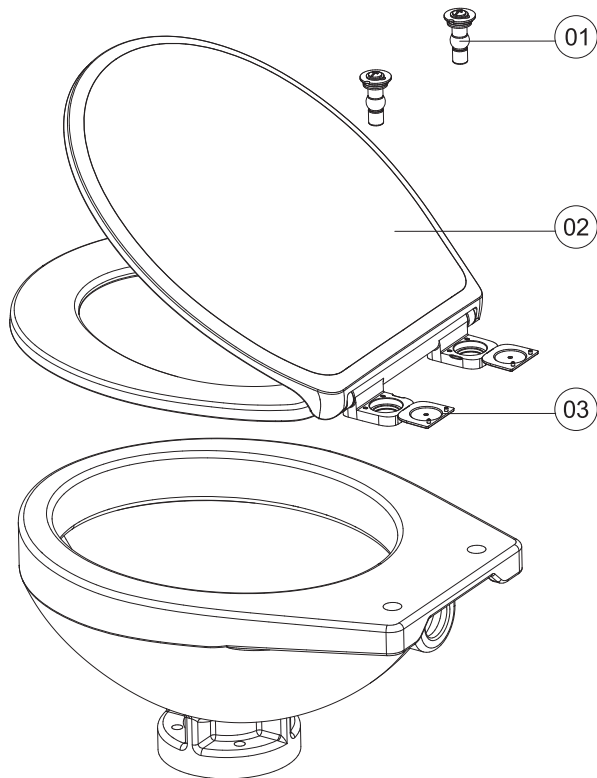


SWITCH PANEL



REGULAR TOILET LID INSTALLATION

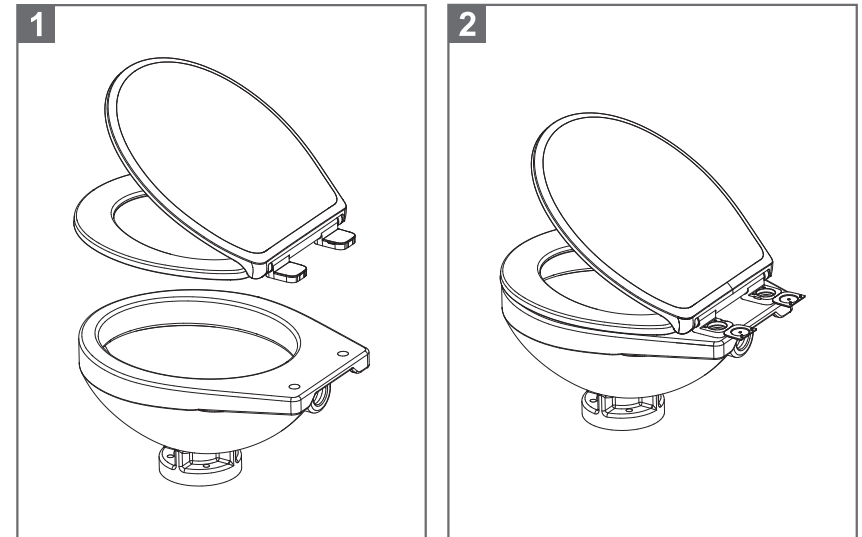
PART LIST



No.	Part name	Quantity
1	Screw Bolt	2
2	Toilet lid assembly	1
3	Bolt flip cover	2

INSTALLATION PROCEDURE

1. The toilet cover assembly is placed on the toilet ceramic basin.
2. Open Bolt flip cover and make sure the mounting holes of the toilet cover and ceramic basin are aligned.



3. Insert the screw bolt into the mounting holes of the toilet cover and ceramic basin.
4. Tighten the screw bolt and close the Bolt flip cover.

