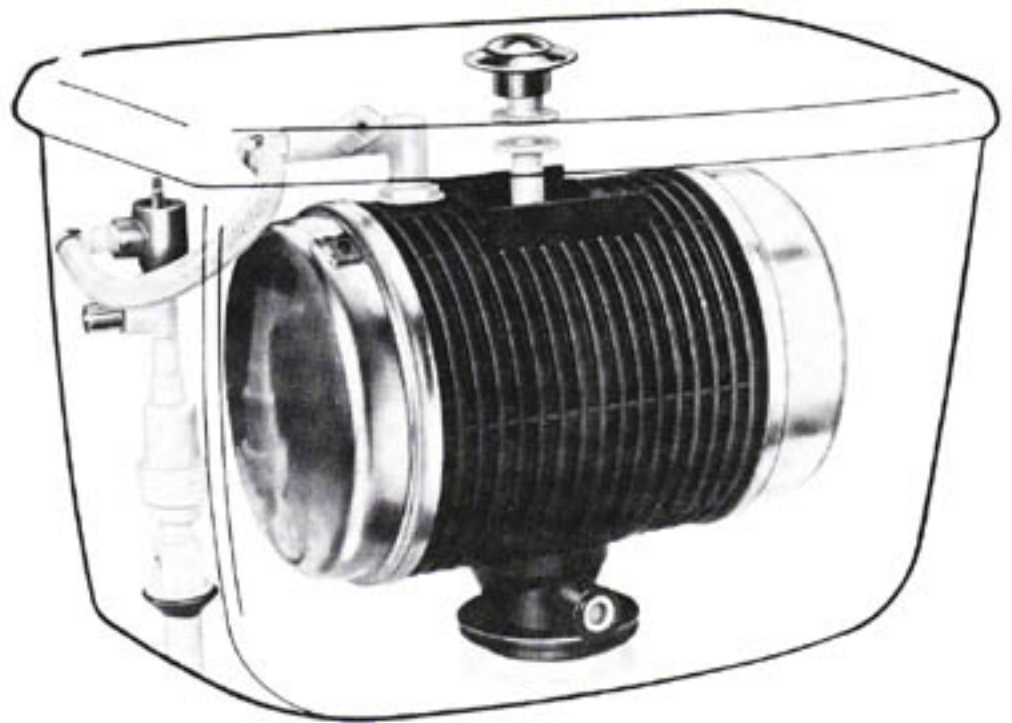


FLUSHMATE[®]

FLUSHOMETER - TANK SYSTEM

501 Series

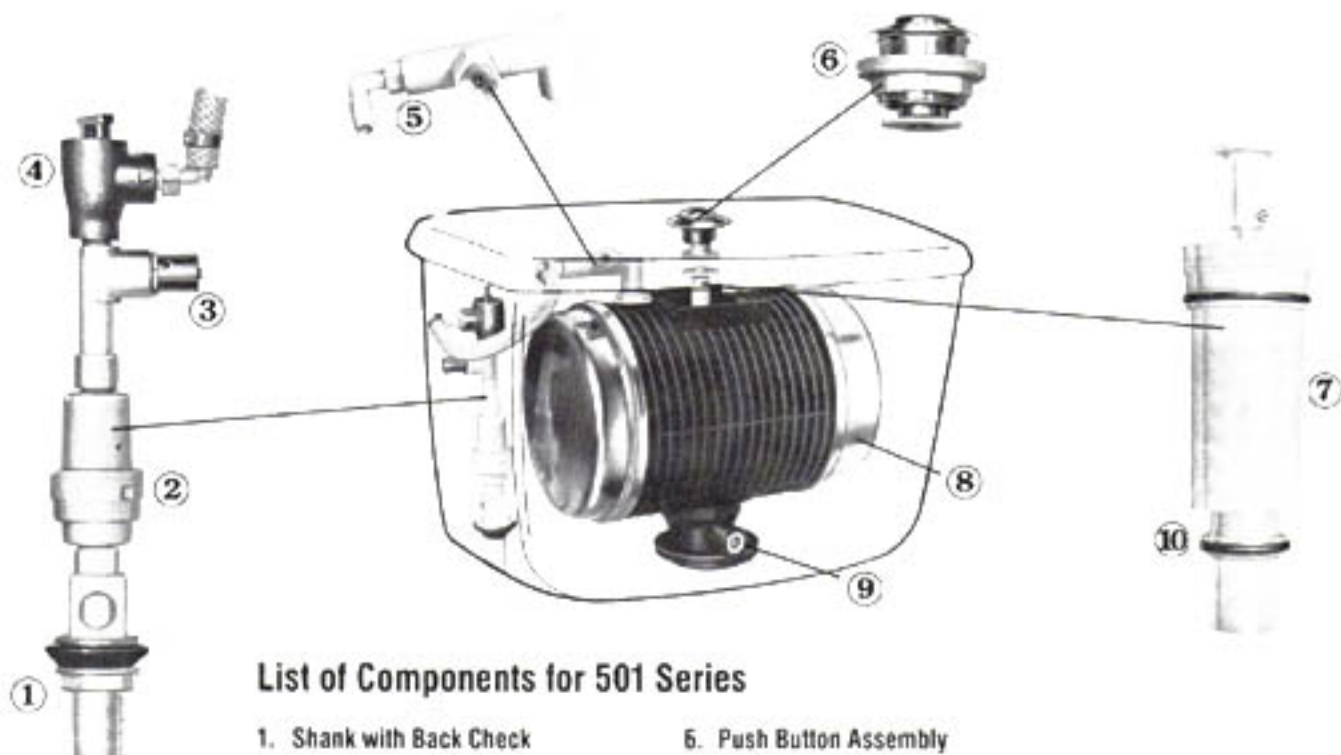


FLUSHMATE[®]

A Division of Sloan Valve Company
10500 Seymour Avenue • Franklin Park, IL 60131

WARNING! When servicing or replacing components, make certain that the water supply is turned *OFF* and the push button tripped to relieve pressure in the vessel.

FLUSHMATE 501 SERIES



List of Components for 501 Series

- | | |
|----------------------------------|--|
| 1. Shank with Back Check | 6. Push Button Assembly |
| 2. Pressure Regulator (B-112000) | 7. Flush Cartridge Assembly (C-100500) |
| 3. Relief Valve | 8. Vessel |
| 4. Vacuum Breaker (Primary) | 9. Discharge Extension with Ball Check |
| 5. Air Inducer (BU-100501) | 10. O-Ring Cartridge (C121288) |

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Manufactured under one or more of the following U.S. patents: 3,917,279; 3,917,285;
3,917,499; 3,929,111; 3,929,754; and 4,733,898. Also covered by various foreign
patents (country and number available upon request).

The Sloan *FLUSHMATE* Flushometer-Tank System provides the highest performance capability available today in the ULF (Ultra-Low Fixture) category. That means it consumes less than 1.6 gallons per flush. It achieves this remarkable performance by using compressed air inside the tank, which creates a **turbo-charged** flushing action for effective bowl cleaning. Compared to other types of low consumption water closets, *FLUSHMATE* offers many distinctive advantages.

- No Water Leakage Between Flushes
- Positive Bowl Extraction (No Double Flushing)
- Larger Trapway To Eliminate Stoppages
- Stronger Flushing Action Improves Drainline Carry & Leaves Bowl Cleaner
- Non-Sweating Tank Enclosure
- Large Water Spot For Reduced Houskeeping

WARNING! NEVER use lubricants on any of the components unless otherwise noted in this manual.

INSTALLATION

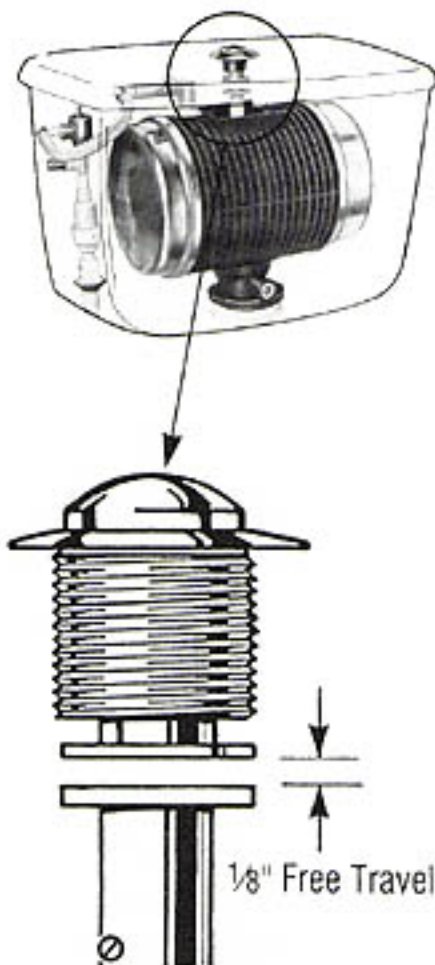


fig. 1

Using the gasket, washer and nuts provided with the fixture, assemble the tank to the bowl. Before connecting the supply to the tank, be sure the supply line is flushed clean. Do this by running water from the supply stop into a bucket.

After connecting the supply line to the tank, turn on the water and check for leaks. You may be required to adjust the actuator located on top of the flush cartridge (fig. 1). There should be approximately $\frac{1}{8}$ " free travel between the push button and the actuator. With the cover off and the water on, allow the unit to fill (45 to 60 seconds). Position the cover on the tank, and gently depress the button. If free travel between the push button and the actuator is not $\frac{1}{8}$ ", adjust the actuator.

To adjust the actuator

1. Remove the cover.
2. Loosen the set screw on the side of the actuator.
3. Screw the flush actuator "UP" or "DOWN" depending on what is required to get the $\frac{1}{8}$ " gap of free travel between the push button and the actuator.
4. Without tightening the set screw, replace the cover and check the adjustment of the push button ($\frac{1}{8}$ " gap required).
5. Tighten the set screw when the $\frac{1}{8}$ " gap is achieved.

Unit is now ready for operation.

NOTE: Sloan *FLUSHMATE* Flushometer-Tank System fixtures install in the same manner as other water closets. Please follow the instructions provided by the fixture manufacturer.

WARNING! When servicing or replacing components, make certain that the water supply is turned OFF and the push button tripped to relieve pressure in the vessel.

TROUBLESHOOTING

CONDITION: Water runs on and will not shut off.

A newly installed toilet that does not shut off may be caused by inadequate pressure, and is usually the result of an insufficient water supply flow rate into the *FLUSHMATE* vessel due to the low pressure. The recommended static pressure range by code is 20 to 80 psi. To correct this "run on" condition, follow these steps:

1. Make sure supply stop is fully open.
2. Check the actuator adjustment (see installation section).
3. Check the water supply (20 to 80 psi):
 - a) Turn off the water supply and disconnect.
 - b) Place the end of the supply tube in a bucket.
 - c) Turn the stop on completely for 30 seconds. Measure the amount of water in the bucket (should be more than one gallon).
4. Check the shank for obstruction that would restrict the supply.
5. Check the flush cartridge for proper installation (*fig. 2*):

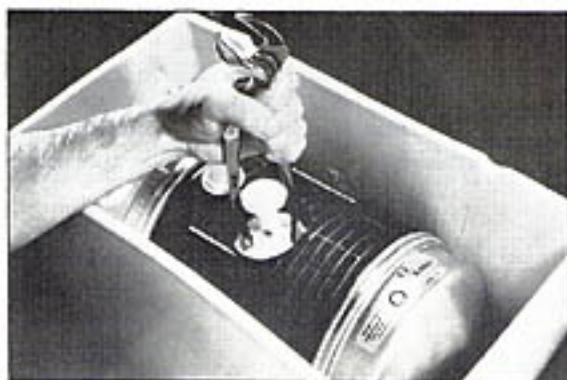


fig. 2

- a) Turn off the water supply and press the button.
 - b) Remove the flush cartridge using the handles of the pliers.
 - c) Inspect the O-rings on the flush valve and the seating area inside the tank. Check for wear and improper seating.
 - d) Re-install the cartridge assembly by placing the assembly into the vessel. Turn the cartridge in a counter clockwise direction approximately 2 turns to avoid cross-threading, then turn the cartridge in a clockwise direction until the cartridge seats against the discharge adapter at the bottom of the tank.
This normally occurs when 2 to 3 threads are showing in the top of the black vessel.
 - e) Leaving the tank cover off, turn the water on and allow the tank to refill, total cycle should be \pm one minute.
6. If the tank continues to run-on, lightly push down on the stem at the top of the cartridge. If the water stops running, this indicates that the cartridge needs to be adjusted down.
If the water continues to run, the cartridge requires an upward adjustment. NOTE: Adjust the cartridge assembly in quarter to half turn increments until the water stops running. Always turn the water off and restart the cycle after each adjustment to insure that proper adjustment has been made.
 7. If replacement of the flush cartridge is necessary follow the instructions in step 5 above.

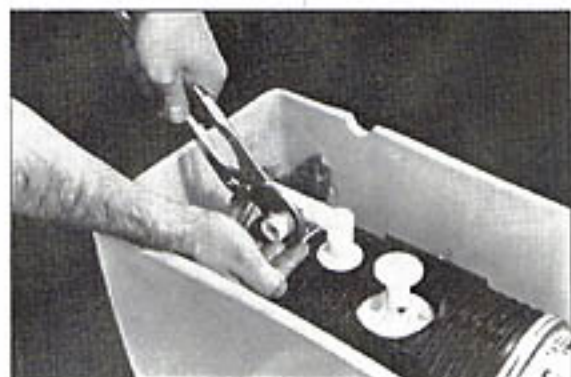


fig. 3



fig. 4

CONDITION: Weak or sluggish flush.

1. Check the water supply pressure (20-80 psi is recommended). If it's okay, then check the flush system by removing the cover and tripping the actuator. While the unit is flushing, gently raise the actuator. The water should flow freely and wash away any debris.
2. Test the air inducer by tripping the actuator. At the end of the flush cycle, when the vessel starts to refill, count the number of seconds between the actuator dropping and the air inducer expelling water. There should be three (3) seconds or longer to indicate the proper air refill.

To clean the air inducer (*figs. 3 & 4*):

- a) Turn off the water supply and trip the actuator.
- b) Unscrew the inducer cap and remove any obstruction, then reassemble.
- c) Turn on the water and wait for the vessel to refill (45 to 60 secs.) Repeat step 2 above of the air inducer test. If the inducer does not function properly, replace it.

TROUBLESHOOTING Continued

3. Check the flush valve cartridge for leaks. Turn the water off and drain the vessel by tripping the actuator and holding it down until the vessel has drained. Next, turn the water supply on and pour a cup of water in the cartridge housing area. If a leakage is detected (a steady flow of bubbles from the center of the cartridge area) the cartridge should be replaced.
4. Turn the water off and relieve the vessel pressure by tripping the actuator. Remove the supply line located outside of the tank on the bottom left-hand side. Check for blockages inside the supply shank. **NOTE:** It is normal for the air inducer to expel a few drops of water with each flush. The air inducer should be horizontal.
5. Check the main drain vent. A stopped-up bowl, poor drain ventilation or a blocked main will create excessive back pressure, thereby creating a slow flush cycle. If the main and the drain vent are clear, and the flush is not improved, replace the pressure regulator valve. Refer to section *Replacement Procedure for Pressure Regulator Valve*.

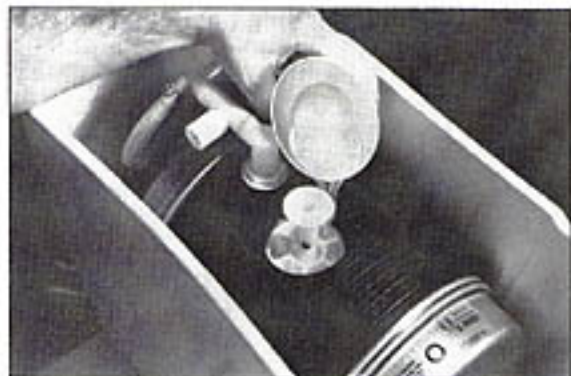


fig. 5



fig. 6

CONDITION: No Flush.

1. Check the water pressure (20 to 80 psi).
2. Review all of steps 3 and 4 above for "sluggish flush" condition.
3. Check for the water in the system by pushing in on the air inducer poppet. If water comes out, go to step 4 below. If no water comes out, then replace the pressure regulator valve. Refer to section *Replacement Procedure for Pressure Regulator Valve*.
4. Replace the O-ring located at the bottom of the flush valve (fig. 6). **NEVER** use lubricant on the O-ring. When removing the old O-ring, be careful not to damage the plastic flush cartridge.

CONDITION: Relief Valve discharging and whistling.

This is a sign that the pressure regulator valve (fig. 7) is not working properly and should be replaced. Refer to section below.

REPLACEMENT PROCEDURE FOR PRESSURE REGULATOR VALVE

1. Turn the water supply off.
2. Flush the fixture.
3. Disconnect the water supply from the bottom of the tank.
4. Unscrew the white plastic locknut that holds the shank to the bottom of the outer tank.
5. Carefully pull the entire Supply Group Assembly up and out of the tank. **NOTE:** Do not force or place a bending load on the Air Inducer. (continued on back page)



fig. 7

6. Unscrew the old Regulator.
7. Screw on the replacement Pressure Regulator. **NOTE:** Use Teflon Tape ONLY. Use three (3) turns of Teflon Tape at the TOP of the pressure regulator connection and one (1) turn of tape at the BOTTOM connection.
8. Tighten all connections. Carefully replace the entire Supply Group Assembly into the tank and tighten the white plastic locknut.
9. Reconnect the water supply. Turn on the water and check all connections for leaks.

WINTERIZING

The Sloan FLUSHMATE, when installed in a summer home, cottage or cabin, can be winterized to allow for periods of non-use, when the dwelling is to be unheated, as follows: (A sponge, a pail and adjustable channel locks will be useful):

1. Tank Procedure
 - a) Turn off the water supply line valve then remove the cover.
 - b) Push the actuator on top of the vessel to flush and discharge the water.
 - c) Disconnect the supply line coupling nut from the shank beneath the toilet tank.

NOTE: A small amount of water will drip out of the shank. Be prepared to collect it or sponge it up.

- d) Push the actuator one more time, then pull up on the actuator momentarily to allow air into the vessel.
2. Bowl Procedure (After flushing out the vessel, either of the two following steps may be taken)
 - a) Add from 1 pint to 1 quart of antifreeze or RV antifreeze to the water remaining in the bowl, OR
 - b) Bail out/sponge out all of the water remaining in the toilet bowl.

POINTS TO REMEMBER

- When servicing any component, the water supply should be turned OFF and the push button tripped to relieve the pressure in the vessel.
- The flush cartridge can be removed by inserting the handles of a pair of pliers into the top of the cartridge and turning counter-clockwise.
- It is normal for an inch or less of water to remain in the bottom of the outside tank. These additional amounts are automatically drained.
- **NEVER** use any chemicals or corrosive cleaners on FLUSHMATE parts or on the vessel.

The Sloan FLUSHMATE Flushometer-Tank System has been engineered for reliable performance year after year. Please carefully follow the instructions in this brochure. If you need more information or additional technical assistance, please contact:

Technical Service Manager
Sloan Flushmate Flushometer-Tank Systems
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Wixom, MI 48393-8710
1 800 533-3460