

SLOAN FLUSHMATE

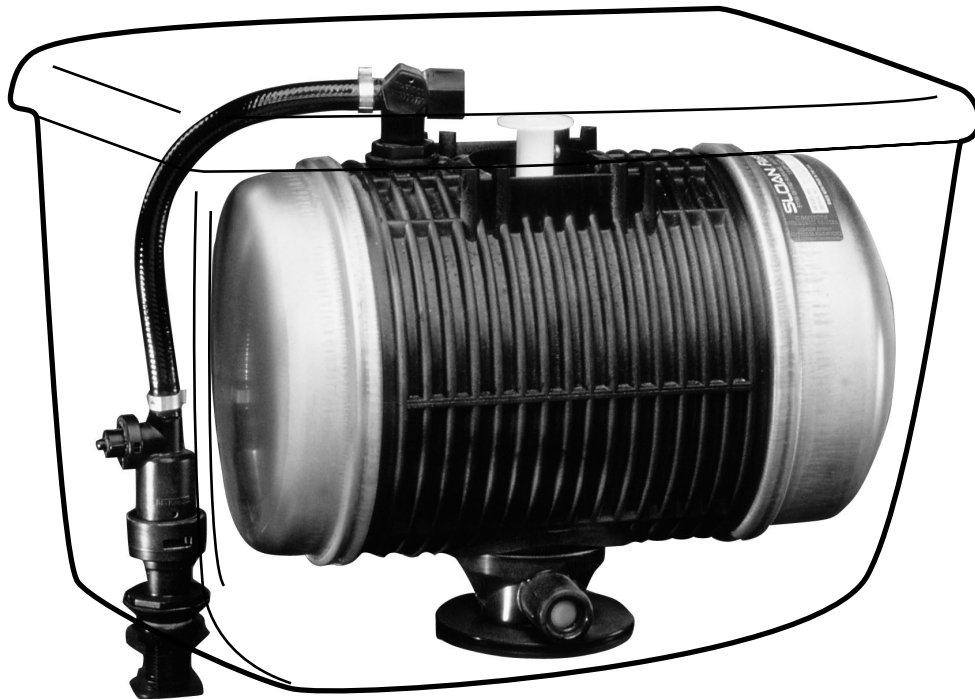
FLUSHMATE 501A SERVICE MANUAL	1 - 6
FLUSHMATE 501B SERVICE MANUAL	7 - 12
FLUSHMATE 503 & 503 SERVICE MANUAL	13 - 18
PS/2 CHANGE OUT KIT	19
FLUSHMATE REPAIR PARTS	20-23

FOR MORE INFORMATION OR TO PLACE AN ORDER CALL 800-875-7952

*Owner's Service Manual
501-A Series*

FLUSHMATE®

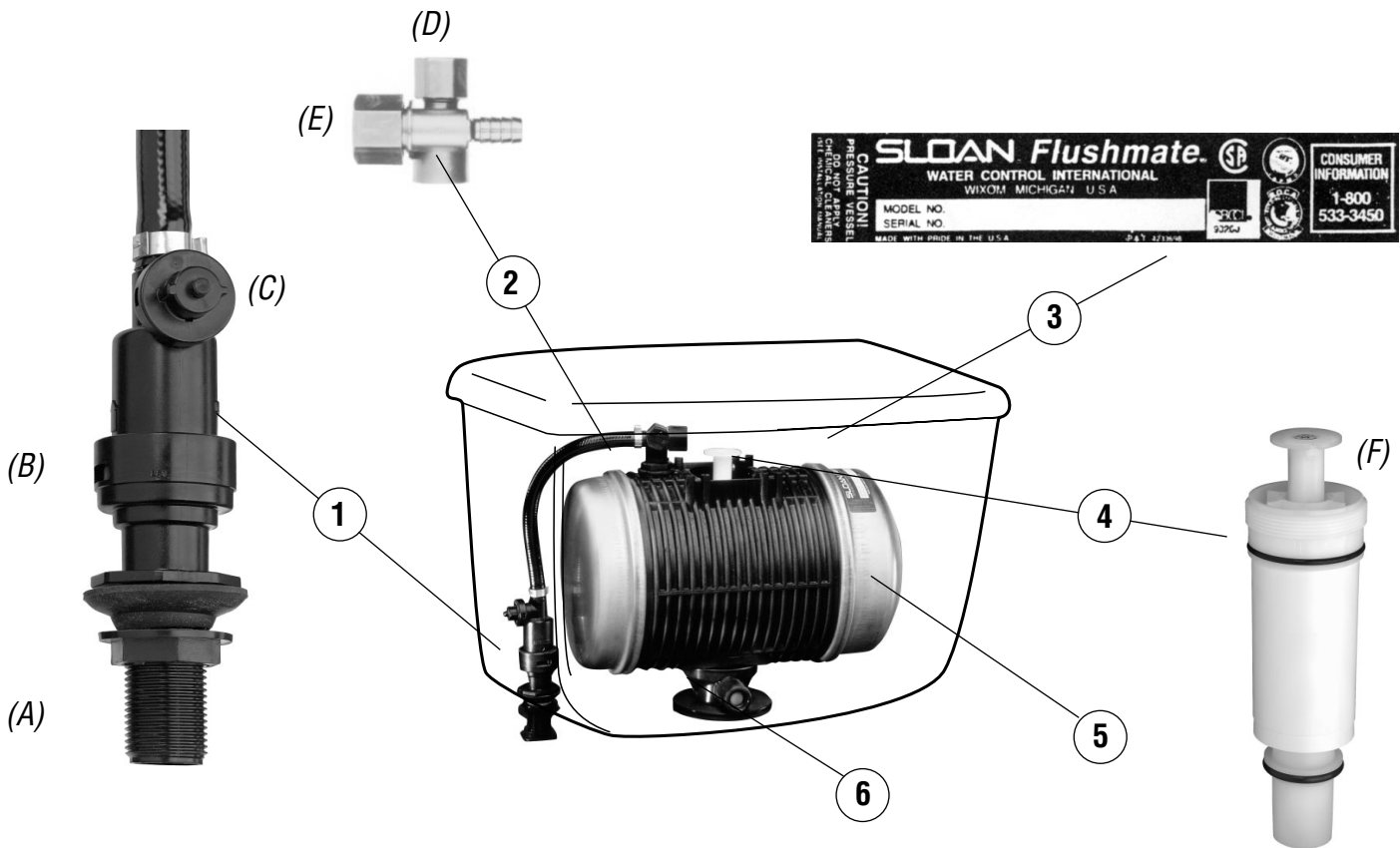
FLUSHOMETER - TANK SYSTEM



501-A Series

FLUSHMATE®

FLUSHMATE® 501-A SERIES



List of Components for 501-A Series*:

- | | |
|--|--|
| <p>1. Lower Supply Group w/Hose BL100504
 (A) Supply Shank with Screen
 (B) Pressure Regulator w/Back Check
 (C) Relief Valve</p> <p>2. Upper Supply Group BU100505
 (D) Air Inducer
 (E) Vacuum Breaker</p> | <p>3. Name Plate w/Serial Number</p> <p>4. Flush Valve Cartridge Assembly C-100500
 (F) Actuator w/setscrew</p> <p>5. Vessel</p> <p>6. Discharge Extension w/Drain</p> |
|--|--|

* Components identified may appear different but are a direct replacement for this series.

FLUSHMATE®
 A Division of Sloan Valve Company

Manufactured under one or more of the following U.S. patents: 3,817,279; 3,817,286; 3,817,489; 3,820,171; 754; 4,233,698 and 5,802,628. Also covered by various foreign patents (country and number available upon request) and other patents pending.

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/6 liters of water 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 distinct advantages.

Outstanding FLUSHMATE® Features:

- Positive Bowl Extraction (No Double Flushing)
- Stronger Flushing Action Improves Drainline Carry & Leaves Bowl Cleaner
- Large Water Spot for Reduced Housekeeping
- Uses less than 1.6 gallons per flush
- Larger Trapway to Eliminate Stoppages
- No Water Leakage Between Flushes
- Non-Sweating Tank Enclosure

WARNING: When servicing or replacing components to the **FLUSHMATE®** Flushometer-Tank System, make certain that the water supply is turned **OFF** and the toilet is then flushed to relieve pressure in the vessel.

The Sloan **FLUSHMATE®** Flushometer-Tank System Fixture installs in the same manner as other water closets. Please follow the instructions provided by the fixture manufacturer.

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 until water flows clear.

After connecting the supply line to the tank, turn on the water again and check for leaks. You may be required to make adjustments to the actuator for either pushbutton type or trip lever type units. Please follow the instructions provided by the fixture manufacturer.

TROUBLESHOOTING

CONDITION: Water runs on and will not shut off.

A newly installed toilet that does not shut off may be caused by inadequate or low pressure, and is usually the result of an insufficient water supply flow rate into the **FLUSHMATE** Vessel. (NOTE: The recommended static pressure range by code is 20 p.s.i. to 125 p.s.i.).

If sufficient supply pressure has been verified and the toilet continues to run, the following steps may be required:



FIGURE 1

Step 1. Make sure supply stop is fully open.

Step 2. Check the Supply Shank Screen for any obstruction that would restrict the supply.

Step 3: Check the Actuator adjustment (see Installation Procedure). The linkage rod or push button should not interfere with the flush. On Pushbutton type units, loosen the setscrew on the actuator (See Number 4F on the component list) and rotate the Actuator up or down until proper clearance is obtained (1/8"). For trip lever units, gently lift the actuator rod and observe proper clearance is maintained (approximately 1/8" gap between rod and actuator). See *Figure 1*.

Step 4. Check the Flush Valve Cartridge Assembly for proper installation. Proceed as follows:

- Turn off the water supply and flush the toilet.
- Remove the Flush Valve Cartridge Assembly using pliers' handles as shown in *Figure 2*. **NOTE:** You may be required to disconnect the Actuator Linkage Rod to remove the Flush Valve Cartridge Assembly.
- Inspect the "O" Rings on the Flush Valve Cartridge and the seating area inside the tank for wear and/or improper seating.



FIGURE 2

Step 5. Reinstall the Flush Valve Cartridge Assembly. First, insert the cartridge into vessel and, while gently pushing down on the Cartridge, turn the Cartridge counter-clockwise until you hear an audible click, indicating that the threads are now aligned. Screw Cartridge clockwise into place until two black threads of the Vessel are showing. Next, turn on the water and continue to turn cartridge until the water stops running. Do not over-tighten.

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Step 6. If the Tank continues to *run on*, push down lightly on the Flush Valve Actuator. If the water stops running, it is an indication that the Flush Valve Cartridge requires tightening (clockwise). If water still runs on while pushing down on the Actuator, the Flush Valve Cartridge requires loosening (counter-clockwise).

NOTE: Adjust the Flush Valve Cartridge Assembly in quarter- to half-turn increments until the water stops running. Always turn the water supply off for all adjustments. Flush Valve Cartridge turns the water off.

Step 7. If replacement of the Flush Valve Cartridge is necessary, follow the instructions in *Step 5*.

TROUBLESHOOTING

CONDITION: *Weak or Sluggish Flush.*

Step 1. Check the water pressure (20psi - 125psi recommended). If OK, then check the Flush System by removing the Tank Cover and tripping the Actuator. While the unit is flushing, gently raise the Actuator. Water should flow freely and wash away any debris in the supply line and Vessel.

Step 2. Check the Air Inducer for sufficient air draw. The Air Inducer is designed to draw air during the refill cycle. To test the Air Inducer, place a small amount of water (2 to 3 drops) in the orifice of the Air Inducer cap and flush the toilet. If the Air Inducer is functioning properly the water will be drawn in. If not, it will need to be cleaned and tested again.

TO CLEAN AIR INDUCER: (Figures 3 & 4)

- a) Turn off the water supply and trip the Actuator.
- b) Unscrew the Air Inducer Cap, clean thoroughly and remove any obstructions. Reassemble. (Hand tighten ONLY)
- c) Turn on water supply. Wait for the Vessel to refill (30 to 60 seconds). Repeat *Step 2* above. If the Air Inducer does not function properly, replace the Upper Supply Assembly.

Step 3. Check the Flush Valve Cartridge for leaks. Turn the water supply off and drain the Vessel by tripping the Actuator and holding it down until completely drained. Next, pour a cup of water onto the Cartridge Housing area as shown in *Figure 5*. Turn on the water supply. If a leak is detected (a steady flow of bubbles from the center of the Cartridge Area), the Cartridge should be replaced.

Step 4. Check Lower Supply. Turn the water off and relieve the Vessel pressure by flushing the toilet. Remove the supply line connection to the shank. Remove any obstruction in the supply shank screen. If necessary, you can use a small brush to gently brush the screen. Reattach the supply line to the supply shank and observe connections to assure no leakage.

IMPORTANT: If you are still experiencing a weak or sluggish flush after this point, it is recommended you replace the entire lower supply group.

Step 5. Check the following:

1. water line pressure (20 - 125psi)
2. obstruction in the bowl trapway
3. obstruction in the drain
4. proper drain ventilation

Consult a professional for their recommendations if any of these conditions exist. If the drain and drain vent are clear, and the flush has not been improved, replace the Lower Supply Assembly.

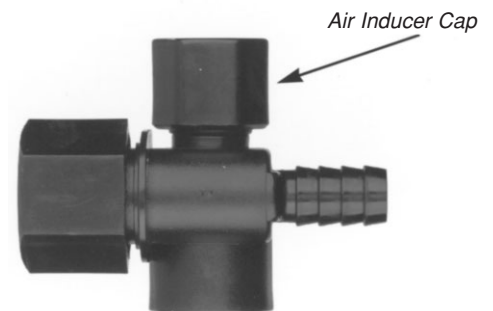


FIGURE 3

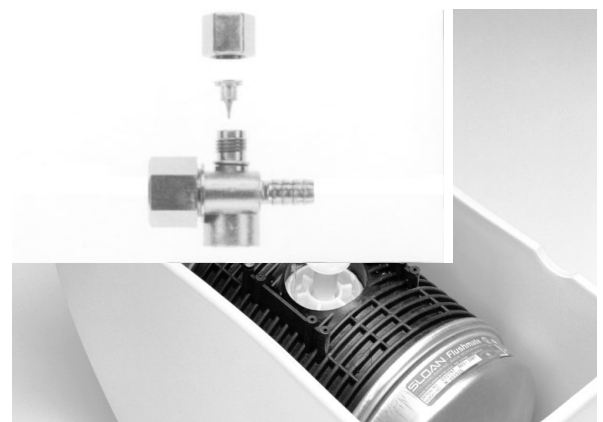


FIGURE 4



FIGURE 5

TROUBLESHOOTING

CONDITION: *No Flush*



FIGURE 6

Step 1. Check the water pressure (20 psi to 125 psi).

Step 2. Check the Air Inducer for sufficient air draw. Refer to *Step 2* of “Weak or Sluggish Flush”.

Step 3. Review all of *Step 3* and *Step 4* covered in “Weak or Sluggish Flush” Condition.

Step 4. Replace the Flush Valve Cartridge. NEVER use lubricant on the “O” Ring (*Arrow - Figure 6*).

CONDITION: *Relief Valve Discharging*

This is a sign that the Lower Supply Group (Number 1 from list of components) is not working properly and should be replaced. Follow the procedure outlined below:



FIGURE 7

REPLACE PROCEDURE FOR LOWER SUPPLY:

Step 1. Turn the water supply off. Flush the fixture to relieve pressure in the Vessel.

Step 2. Disconnect the water supply from the Shank.

Step 3. Unscrew the plastic locknut that holds the Shank to the bottom of the China Tank.

Step 4. Carefully pull the entire Lower Supply up and out of the Tank.

Step 5. Cut the Hose just above the Barbed Fitting (about 1/4” above clamp) on the Lower Supply. Discard old Lower Supply.

Step 6. Insert new Lower Supply into Hose and secure with new Hose Clamp.

Step 7. Follow *Step 3* above and in reverse to re-connect water and check for leaks.

WINTERIZING

The Sloan *FLUSHMATE*®, when installed in a summer home, cottage or cabin, can be winterized to allow for periods for non-use especially when the dwelling is subject to frigid conditions. Follow the procedures outlined below.

NOTE: A sponge, a pail and adjustable channel locks will be useful.

Tank Procedure:

Step 1. Turn off the water supply line valve and remove the Toilet Tank Cover.

Step 2. Push the Actuator on top of the Vessel to flush and discharge the water.

Step 3. Disconnect the supply line coupling nut from the Lower Supply located under the Toilet Tank Housing. **NOTE:** A small amount of water will drip out of the Shank. Be prepared to collect it in a bucket or sponge it up. Remove the Supply Shank and drain the water from the bottom of the china tank into a bucket.

Step 4. Push down on the Actuator one more time, then pull it up momentarily to allow air into the Vessel.

Bowl Procedure:

After flushing out the Vessel, remove the remaining water from the bowl or add from 1 pint to 1 quart of antifreeze or RV antifreeze to the water remaining in the bowl.

POINTS TO REMEMBER

- When servicing any component, the water supply should be turned OFF and the Actuator tripped to relieve the pressure in the Vessel.
- The Flush Valve Cartridge Assembly 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 less than an inch of water to remain in the bottom of the outside China Tank. The *FLUSHMATE*® System will automatically recirculate this water with each flush to eliminate any stagnant condition.
- **NEVER** use corrosive disinfectants, bowl cleaners or deodorant blocks on *FLUSHMATE*® Products or in the china tank.
- Cold water use only.

The Sloan *FLUSHMATE*® Flushometer-Tank System has been engineered to provide reliable performance year after year. However, if servicing is ever required, it is recommended that you follow the instructions included in this brochure. If you would like additional information or require technical assistance, write or call us at the address or telephone number below.

ATTENTION OWNER THIS IS YOUR WARRANTY REGISTRATION

Sloan *FLUSHMATE* (the "Company") warrants the *FLUSHMATE*® flushometer tank operating system (the "unit") to be free of defects in material and workmanship for a period of two (2) years from the date of installation and the Company promises to replace any part of this product that proves, upon our inspection and within two (2) years from date of installation, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

This warranty is subject to the following:

Specific Conditions to Warranty

A Warranty Registration card has been fully completed and mailed by the purchaser (the "user") to the Company within thirty (30) days of the date of installation.

The unit has been subject to proper installation, operation and maintenance as outlined in the installation instructions that were supplied with the unit. Note carefully that this warranty is voided if the unit is installed and operated subject to water supply line pressures greater than 125 psi (static) or less than 20 psi (static).

Service and repairs may only be performed by authorized representatives of the Company or by others upon specific approval by the Company. Unauthorized repairs or alterations shall specifically void the warranty.

Use of chemical disinfectants or corrosive household cleaners on *FLUSHMATE*® products will void this warranty.

Proof of purchase is required.

Exclusions

IN NO EVENT SHALL THE COMPANY BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR DAMAGES RESULTING FROM IMPROPER INSTALLATION, OR FOR DAMAGES CAUSED BY NEGLIGENCE, ABUSE OR ALTERATION. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF TWO (2) YEARS FROM DATE OF INSTALLATION.

Some states do not allow limitations on the duration of an implied warranty and some states do not allow exclusions or limitations regarding incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein.

To obtain warranty service contact Consumer Services toll free **1-800-533-3450** (outside North America, call **248-446-5300**) or write to us at:

Owner's Service Manual
501-B Series

FLUSHMATE®

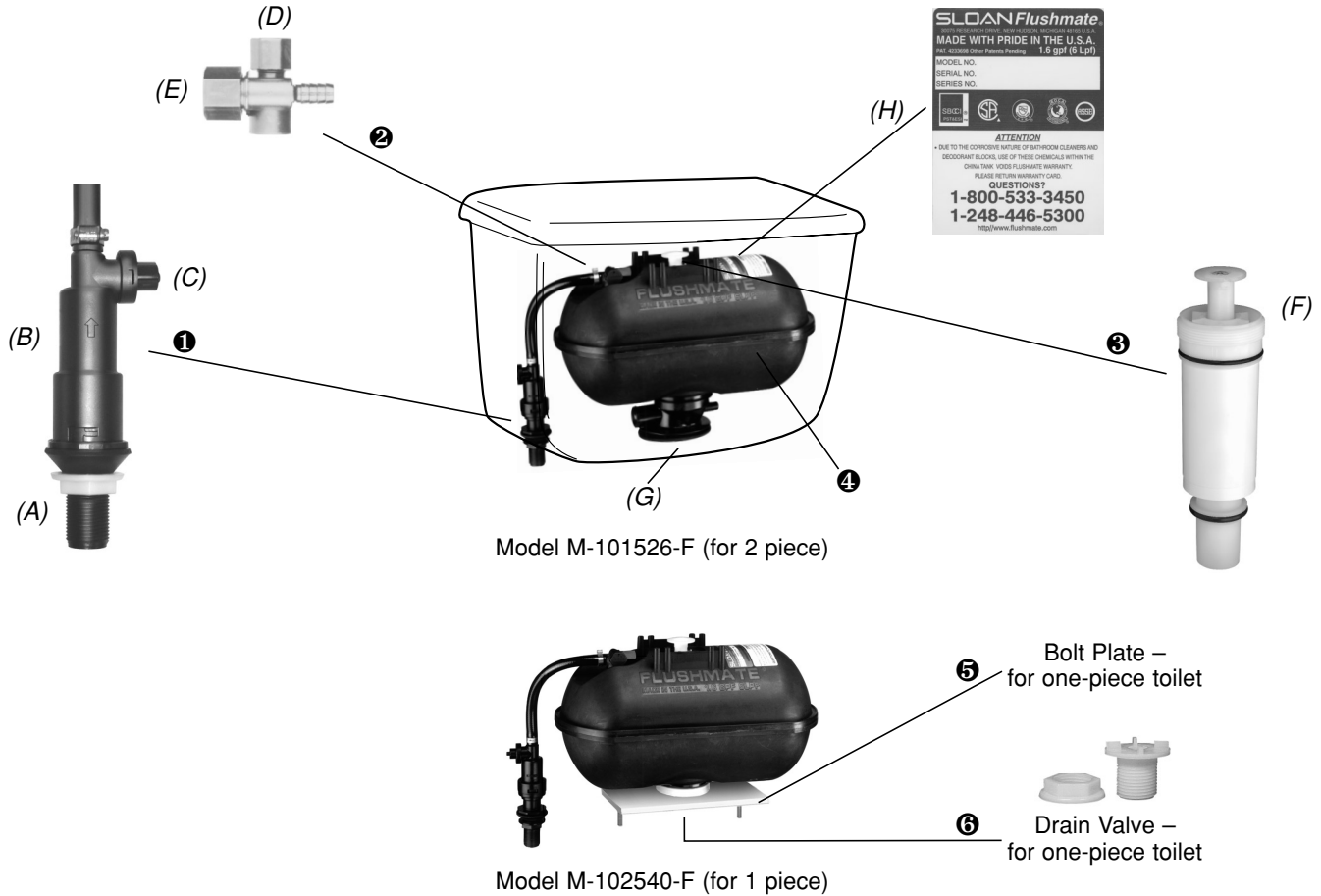
FLUSHOMETER - TANK SYSTEM



501-B

FLUSHMATE®

FLUSHMATE® 501-B SERIES



List of Components for 501-B Series:

- 1. Lower Supply Group w/Hose BL100504**
 (A) Supply Shank
 (B) Pressure Regulator w/Back Check
 (C) Relief Valve
- 2. Upper Supply Group BU100505**
 (D) Air Inducer
 (E) Vacuum Breaker

- 3. Flush Valve Cartridge Assembly C-100500**
 (F) Actuator w/setscrew
- 4. FLUSHMATE Tank**
 (G) Discharge Extension w/Drain
 (H) Name Plate w/Serial Number
- 5. Bolt Plate**
- 6. Drain Valve**

FLUSHMATE®
 A Division of Sloan Valve Company

Manufactured under one or more of the following U.S. patents: 3,817,279; 3,817,286; 3,817,489; 3,820,171; 3,820,754; 4,233,698; 5,802,628; 5,857,224; 6,029,287 and 6,029,288. Also covered by various foreign patents (country and number available upon request) and other patents pending.

The Sloan *FLUSHMATE®* Flushometer - Tank System provides the highest performance capability available today in the ULF (Ultra-Low Fixture) category. That means the system consumes less than 1.6 gallons (6 liters) of water per flush. This remarkable performance is achieved 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 distinct advantages.

WARNING:

- When replacing components on the **FLUSHMATE®** Flushometer-Tank System, make certain that the water supply valve is turned off and the toilet has been flushed to relieve pressure in the **FLUSHMATE®** tank.
- **USE OF PETROLEUM-BASED LUBRICANTS OR CORROSIVE CLEANING PRODUCTS CONTAINING CHLORINE, SUCH AS HOUSEHOLD BLEACH, DROP-IN BLOCKS OR TABLETS, OR DISINFECTANTS, THAT ARE APPLIED INSIDE THE CHINA HOLDING TANK WILL VOID YOUR FLUSHMATE® WARRANTY.**
- **FLUSHMATE®** Flushometer-Tank Systems are designed to be used with a cold water supply only and use of a tempered or hot water supply will void your warranty.



Figure 1



Figure 2

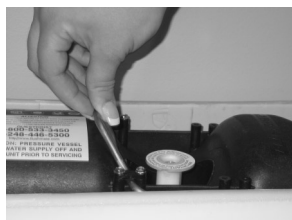


Figure 3



Figure 4



Figure 5

TROUBLESHOOTING**Condition: Water runs and will not shut off**

A run-on condition may be caused by insufficient water pressure, an improperly adjusted Flush-Valve Cartridge, or a clogged inlet-screen. The recommended static pressure range is between 20 PSI and 125 PSI. (See “Points to Remember” for a simple method to determine whether your water pressure is adequate). If sufficient water pressure has been verified and the toilet continues to run-on, the following steps may be required:

1. Make sure the water supply valve is fully open.
2. Check the actuator adjustment. The Flushrod (G) or pushbutton should not interfere with the actuator. The proper clearance should be approximately 1/16” when the pushbutton or flush-handle is stationary. On push-button type fixtures, loosen the set-screw on the actuator (see F on the component list) and rotate the actuator up (counter clockwise) or down (clockwise) until the proper clearance is obtained. For flush-handle fixtures, observe the clearance. (See Figure 1) If necessary, adjust the actuator to allow for proper clearance. When proper clearance is obtained, tighten the set-screw.
3. Remove, examine, and reinstall the Flush-Valve Cartridge (3).
 - a. Turn off the water supply valve and flush the toilet to relieve the pressure.
 - b. Remove the Flush-Valve Cartridge using the handles of a pair of pliers. (See Figure 2). Turn the Flush-Valve Cartridge counter-clockwise until you can lift it out of the **FLUSHMATE®** tank. You will need to remove the Flushrod first and disconnect the handle-linkage. Loosen the front-side retainer clip and slide the Flushrod out from under it. Lift the Flushrod and pull it toward you. NOTE: Use caution to prevent the retainer clips or screws from falling into the china holding tank; they may be difficult to retrieve. (See Figure 3)
 - c. Examine the exposed O-rings on the Flush-Valve Cartridge for obstruction or damage. If the O-rings are damaged, the Flush-Valve Cartridge should be replaced. (See Figure 4)
 - d. Insert the Flush-Valve Cartridge into the **FLUSHMATE®** tank and thread it clockwise into place until one (1) black thread (on the **FLUSHMATE®** tank) is showing above the Flush-Valve Cartridge. (See Figure 5) Fully open the water supply valve and continue to thread the Flush-Valve Cartridge clockwise, 1/4 turn at a time, pausing briefly between each 1/4 turn, until the water stops running into the toilet bowl and the **FLUSHMATE®** tank pressurizes.
 - e. Reinstall Flushrod and handle-linkage.
4. Check Inlet Screen
 - a. Turn off the water supply valve.
 - b. Flush the toilet to relieve the pressure.
 - c. Disconnect the water supply line from the supply-shank (A). (See Figure 6)

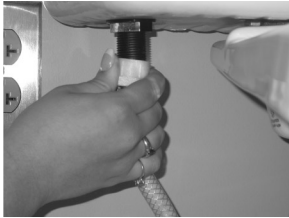


Figure 6

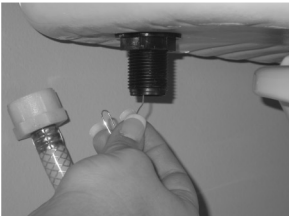


Figure 7a

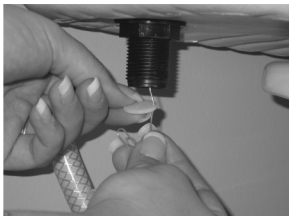


Figure 7b



Figure 7c

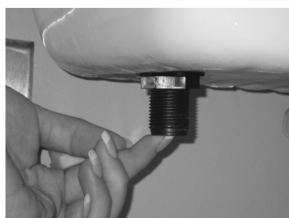


Figure 7d



Figure 8



Figure 9

- d. Examine the inlet-screen and remove anything that may be blocking the flow of water into the *FLUSHMATE*[®] tank. The inlet-screen can be removed by inserting a small pointed object (such as a large paperclip or the blade of a pen-knife) into the lower-supply shank and working the inlet-screen loose. (See Figures 7a, 7b, 7c) The inlet-screen easily snaps back into position by pushing it upward into the supply-shank with your fingertip. (See Figure 7d)
- e. Reattach water supply line and fully open water supply valve.

Condition: Weak, incomplete, sluggish, or no flush

Inadequate water pressure, an improperly adjusted Flush-Valve Cartridge, a clogged inlet-screen, or insufficient air-draw may cause a weak, sluggish, or no flush condition.

1. Make sure that the water supply valve is fully open.
2. Check for proper installation/adjustment of the Flush-Valve Cartridge. (see Step 3, "Water runs and will not shut off")
3. Turn off the water supply valve.
4. Flush the toilet to relieve the pressure.
5. Disconnect the water supply line from the supply-shank (A). (See Figure 6)
 - a. Examine the inlet-screen and remove anything that may be blocking the flow of water into the *FLUSHMATE*[®] tank. The inlet-screen can be removed by inserting a pointed object (such as a large paperclip or the blade of a pen-knife) into the lower-supply shank and working the inlet-screen loose. (See Figures 7a, 7b, 7c) The inlet-screen easily snaps back into position by pushing it upward into the supply-shank with your fingertip. (See Figure 7d)
6. Examine the Air Inducer (D) for obstruction or damage. (See Figure 8)
 - a. Make sure the water supply valve is turned off and the toilet has been flushed to relieve the pressure.
 - b. Remove the Air Inducer Cap. (See Figure 9)
 - c. Remove the Duck-bill Valve from the Air Inducer Cap. (See Figure 10) The flat "lips" of Duck-bill Valve should open fully when the square sides are squeezed together. (See Figure 11) Rinse any obstruction or mineral deposits from the Duck-bill Valve. If the Duck-bill Valve is damaged, it must be replaced.
 - d. Insert the Duck-bill Valve into the Air Inducer Housing. (See Figure 12)
 - e. Put the Air Inducer Cap back on, and tighten finger-tight only. (See Figure 13)
 - f. Reconnect the water supply line and fully open water supply valve.
7. Check Air Inducer for sufficient air-draw. Place a small amount of water (two to three drops) over the hole on top of the Air Inducer Cap (See Figure 14) and flush the toilet. If the Air Inducer is working properly, the water will be drawn in. (See Figure 15)
8. Check the Flush-Valve Cartridge for leaks. Pour a small amount of water into the Cartridge Housing area. (See Figure 16) If bubbles are coming from the center or the edge of the Flush-Valve Cartridge, it should be replaced.



Figure 10

Condition: *Vacuum Breaker Leaking*

If the Vacuum Breaker (E) is leaking, it is likely that the water pressure is insufficient or that there is insufficient flow due to a plugged inlet-screen in the Lower Supply Shank. The recommended static pressure range is between 20 PSI and 125 PSI.

Note:

If the trouble-shooting steps listed in this manual do not resolve your problem, contact *FLUSHMATE*® Consumer Services at 800-533-3460 or email info@flushmate.com. Please be prepared to provide the serial number and date of installation of your *FLUSHMATE*® system.



Figure 11

Winterizing

1. Turn off the water supply valve and flush the toilet to relieve the pressure.
2. Place a bucket under the Lower Supply Shank (A) and disconnect the water supply line, allowing the water to drain into the bucket.
3. Push down on the Actuator and pull it up momentarily to allow air into the vessel.
4. Follow the fixture manufacturer's instructions for winterizing the bowl.
5. Do not put anti-freeze or any other chemical agents in the china holding tank or in the *FLUSHMATE*® Tank.



Figure 12

Points to Remember

- When replacing components on the *FLUSHMATE*® Flushometer-Tank System, make certain that the water supply valve is turned off and the toilet has been flushed to relieve pressure in the *FLUSHMATE*® tank.
- **USE OF PETROLEUM-BASED LUBRICANTS OR CORROSIVE CLEANING PRODUCTS CONTAINING CHLORINE, SUCH AS HOUSEHOLD BLEACH, DROP-IN BLOCKS OR TABLETS, OR DISINFECTANTS THAT ARE APPLIED INSIDE THE CHINA HOLDING TANK, WILL VOID YOUR *FLUSHMATE*® WARRANTY.**
- *FLUSHMATE*® Flushometer-Tank Systems are designed to be used with cold water.
- The Flush-Valve Cartridge can be removed by inserting the handles of a pair of pliers into the top of the Flush-Valve Cartridge and turning counter-clockwise.
- A small amount of water may be present in the bottom of the china holding tank. The potential for odor can be eliminated by adding a cup of white vinegar to the china holding tank. The white vinegar will act as natural disinfectant.
- Your water pressure is adequate if your water supply line will yield one or more gallons of water within thirty (30) seconds.
- Replacement parts are readily available by contacting Consumer Services at 800-533-3460 or by visiting the "Where to Buy" section of our website, www.flushmate.com.



Figure 13



Figure 14



Figure 15



Figure 16

If you would like additional information or require technical assistance, please contact *FLUSHMATE*® Consumer Services at 800-533-3460, or visit our website, www.flushmate.com. For faster service, please be prepared to provide the serial number and date of installation of your *FLUSHMATE*® system.

**ATTENTION OWNER
THESE ARE THE TERMS OF YOUR WARRANTY**

Sloan *FLUSHMATE*® (the “Company”) warrants the *FLUSHMATE*® (flushometer-tank) operating system (the “unit”) to be free of defects in material and workmanship for a period of ten (10) years on the replacement components and a lifetime limited warranty on the *FLUSHMATE* tank from the date of installation and the Company promises to replace any part of this product that proves, upon our inspection and within ten years from date of installation, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

This warranty is subject to the following:

Specific Conditions to Warranty

1. A Warranty Registration card has been fully completed and mailed by the purchaser (the “user”) to the Company within thirty (30) days of the date of installation. Product may also be registered online at www.flushmate.com or by calling 800-533-3460.
2. The unit has been subject to proper installation, operation and maintenance as outlined in the installation instructions that were supplied with the unit. Note carefully that this warranty is voided if the unit is installed and operated subject to water supply line pressures greater than 125 psi (static) or less than 20 psi (static).
3. Service and repairs may only be performed by authorized representatives of the Company or by others upon specific approval by the Company. Unauthorized repairs or alterations shall specifically void the warranty.
4. USE OF PETROLEUM-BASED LUBRICANTS OR CORROSIVE CLEANING PRODUCTS CONTAINING CHLORINE, SUCH AS HOUSEHOLD BLEACH, DROP-IN BLOCKS OR TABLETS, OR DISINFECTANTS THAT ARE APPLIED INSIDE THE CHINA HOLDING TANK, WILL VOID YOUR *FLUSHMATE*® WARRANTY.
5. Proof of purchase is required.

Exclusions

IN NO EVENT SHALL THE COMPANY BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR DAMAGES RESULTING FROM IMPROPER INSTALLATION, OR FOR DAMAGES CAUSED BY NEGLIGENCE, ABUSE OR ALTERATION. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF TEN (10) YEARS FROM DATE OF INSTALLATION.

Some states do not allow limitations on the duration of an implied warranty and some states do not allow exclusions or limitations regarding incidental or consequential damages so the above limitations may not apply to you. This warranty gives you specific legal rights and you may have other rights, which vary from state to state.

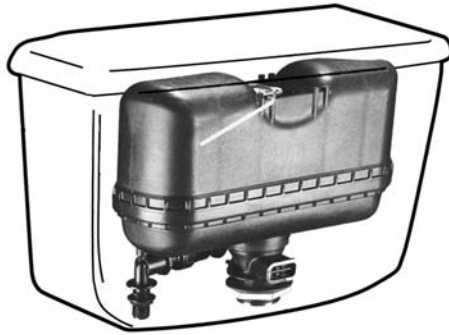
No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein.

To obtain warranty service, contact Consumer Services toll free (USA & CANADA) **800-533-3460** or write to us at:

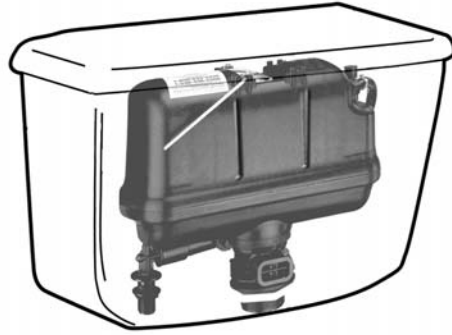
**Owner's Service Manual
503 and 504 Series**

FLUSHMATE®

FLUSHOMETER - TANK SYSTEM



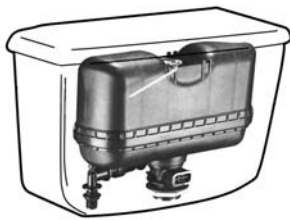
503



504

FLUSHMATE®

FLUSHMATE® 503 AND 504 SERIES



FLUSHMATE® 503

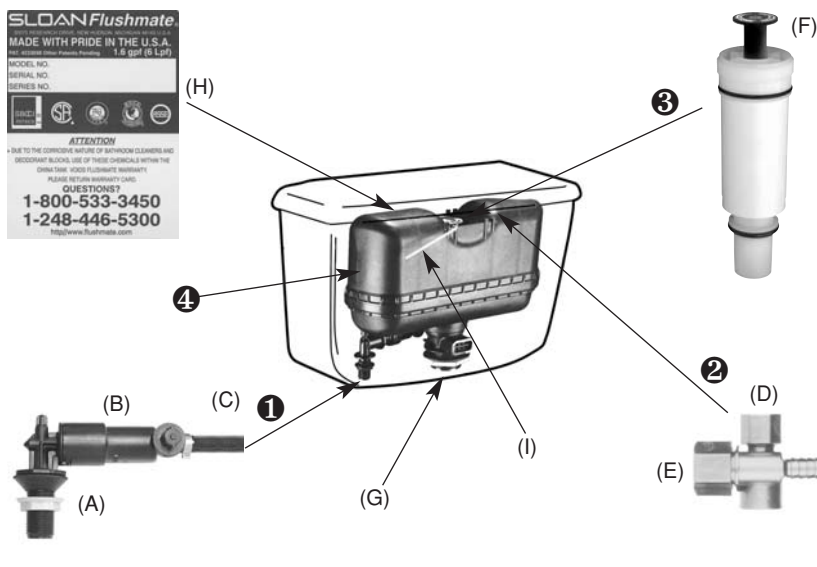
Function: Less than 1.6 gpf/6.0 Lpf
Installation Requirements: min. 20 psi static water pressure*



FLUSHMATE® 504

Function: Less than 1.0 gpf/3.8 Lpf
Installation Requirements: min. 35 psi static water pressure*

*max. 125 psi



List of Components for 503 and 504 Series:

- 1. Lower Supply Group w/Hose BL100504-3**
 - (A) Supply Shank
 - (B) Pressure Regulator w/Back Check
 - (C) Relief Valve
- 2. Upper Supply Group BU100505**
 - (D) Air Inducer
 - (E) Vacuum Breaker
- 3. Flush Valve Cartridge Assembly C-100500**
 - (F) Actuator w/setscrew
- 4. FLUSHMATE® Tank**
 - (G) Discharge Extension w/Drain
 - (H) Name Plate w/Serial Number
 - (I) Flush Rod

INSTALLATION

Please follow the toilet manufacturer’s installations instruction for installing the fixture. Note that the toilet requires a minimum water supply line pressure of 20 psi for a 1.6 gpf and 35 psi for a 1 gpf fixture. Before attaching, you should always flush the water supply lines.

After completing the installation, you are required to adjust the Cartridge Actuator (F). To adjust, make sure the water is turned on and the vessel is completely charged. The Actuator needs to be set at the proper clearance, 1/8” from either the Flush Rod or push button. To make this adjustment, hold the Actuator while loosening the Phillips setscrew in the center of the Actuator, and rotate the Actuator up (counterclockwise) or down (clockwise) until the proper clearance is obtained. See Figure 1 for clearance required for flush-handle fixture. Tighten setscrew after adjusting the Actuator.

Additional notes:

- Should your toilet continuously run-on after installing, refer to section #1 under Troubleshooting.
- You may be required to initially flush the toilet a few times to properly charge the system.
- Should your fixture develop a leak between the tank and bowl, please refer to the fixture manufacturer’s installation instructions.

WARNING:

- When replacing components on the **FLUSHMATE®** Flushometer-Tank System, make certain that the water supply valve is turned off and the toilet has been flushed to relieve pressure in the **FLUSHMATE®** tank.
- **USE OF PETROLEUM-BASED LUBRICANTS OR CORROSIVE CLEANING PRODUCTS CONTAINING CHLORINE, SUCH AS HOUSEHOLD BLEACH, DROP-IN BLOCKS OR TABLETS, OR DISINFECTANTS, THAT ARE APPLIED INSIDE THE CHINA HOLDING TANK WILL VOID YOUR FLUSHMATE® WARRANTY.** The exterior of the tank and the entire bowl can be cleaned following the manufacturer's recommendations or in the same fashion as any other toilet.
- **FLUSHMATE®** Flushometer-Tank Systems are designed to be used with a cold water supply only and use of a tempered or hot water supply will void your warranty.

TROUBLESHOOTING**A) Condition: Water runs and will not shut off**

A run-on condition may be caused by insufficient water pressure, an improperly adjusted Flush Valve Cartridge, or a clogged inlet screen. Refer to "Installation Requirements" for recommended minimum pressure. (See "Points to Remember" for a simple method to determine whether your water pressure is adequate). Check water pressure, marginal pressure can cause any of these conditions. If sufficient water pressure has been verified and the toilet continues to run-on, the following steps may be required:

1. Make sure the water supply valve is fully open.
2. Check the Actuator adjustment. The Flush Rod (I) or push button should not interfere with the Actuator. The proper clearance should be approximately 1/8" when the push button or flush-handle is stationary. On push button type fixtures, loosen the setscrew on the Actuator (see F on the component list) and rotate the Actuator up (counterclockwise) or down (clockwise) until the proper clearance is obtained. For flush-handle fixtures, observe the clearance. (See Figure 1) If necessary, adjust the Actuator to allow for proper clearance. When proper clearance is obtained, tighten the setscrew.
3. Check Inlet Screen
 - a. Turn off the water supply valve.
 - b. Flush the toilet to relieve the pressure.
 - c. Disconnect the water supply line from the Supply Shank (A). (See Figure 6)
 - d. Examine the inlet screen and remove anything that may be blocking the flow of water into the **FLUSHMATE®** tank. The inlet screen can be removed by inserting a small pointed object (such as a large paperclip or the blade of a penknife) into the lower Supply Shank and working the inlet screen loose. (See Figures 7a, 7b, 7c) Reinstall the inlet screen by pushing it upward into the Supply Shank with your fingertip. (See Figure 7d)
 - e. Reattach water supply line and fully open water supply valve. Test setup by flushing toilet.
4. Remove, examine, and reinstall the Flush Valve Cartridge (3).
 - a. Turn off the water supply valve and flush the toilet to relieve the pressure.
 - b. On flush-handle fixtures, disengage the Flush Rod from the handle linkage and flip it away from the Flush Valve Cartridge. It is not necessary to loosen the retainer clips. (See Figure 3) Remove the Flush Valve Cartridge using the handles of a pair of pliers. (See Figure 2). Turn the Flush Valve Cartridge counterclockwise until you can lift it out of the **FLUSHMATE®** tank.



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7a



Figure 7b



Figure 7c



Figure 7d



Figure 8



- c. Examine the exposed O-rings on the Flush Valve Cartridge for obstruction or damage. If the O-rings are damaged, the Flush Valve Cartridge should be replaced. Clean any debris from the O-ring before re-installing. (See Figure 4)
- d. Insert the Flush Valve Cartridge into the *FLUSHMATE*® tank and thread it clockwise into place until one (1) black thread (on the *FLUSHMATE*® tank) is showing above the Flush Valve Cartridge. (See Figure 5) Fully open the water supply valve and continue to thread the Flush Valve Cartridge clockwise, 1/4 turn at a time, pausing briefly between each 1/4 turn, until the water stops running into the toilet bowl and the *FLUSHMATE*® tank pressurizes.
- e. Test setup by flushing toilet. Reinstall Flush Rod and handle linkage.

B) Condition: *Weak, incomplete, sluggish, or no flush*

Inadequate water pressure, an improperly adjusted Flush Valve Cartridge, a clogged inlet screen, or insufficient air draw may cause a weak, sluggish, or no flush condition.

1. Make sure that the water supply valve is fully open.
2. Check for proper actuation adjustment, see Condition A-2, "Water runs and will not shut off."
3. Turn off the water supply valve.
4. Flush the toilet to relieve the pressure.
5. Disconnect the water supply line from the Supply Shank (A). (See Figure 6)
 - a. Examine the inlet screen and remove anything that may be blocking the flow of water into the *FLUSHMATE*® tank. The inlet screen can be removed by inserting a pointed object (such as a large paperclip or the blade of a penknife) into the lower Supply Shank and working the inlet screen loose. (See Figures 7a, 7b, 7c) The inlet screen easily snaps back into position by pushing it upward into the Supply Shank with your fingertip. (See Figure 7d)
6. Examine the Air Inducer (D) for obstruction or damage. (See Figure 8)
 - a. Make sure the water supply valve is turned off and the toilet has been flushed to relieve the pressure.
 - b. Remove the Air Inducer Cap. (See Figure 9)
 - c. Remove the Duckbill Valve from the Air Inducer Cap. (See Figure 10) The flat "lips" of Duckbill Valve should open fully when the square sides are squeezed together. (See Figure 11) Rinse any obstruction or mineral deposits from the Duckbill Valve. If the Duckbill Valve is damaged, it must be replaced.
 - d. Insert the Duckbill Valve into the Air Inducer housing. (See Figure 12)
 - e. Put the Air Inducer Cap back on, and tighten finger-tight only. (See Figure 13)
 - f. Reconnect the water supply line and fully open water supply valve.
7. Check Air Inducer for sufficient air draw. Place a small amount of water (two to three drops) over the hole on top of the Air Inducer Cap (See Figure 14) and flush the toilet. If the Air Inducer is working properly, the water will be drawn in. (See Figure 15)
8. Check the Flush Valve Cartridge for leaks. Pour a small amount of water into the Cartridge housing area. (See Figure 16) If bubbles are coming from the center or the edge of the Flush Valve Cartridge, it should be replaced.



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14



Figure 15



Condition: *Vacuum Breaker Leaking*

If the Vacuum Breaker (E) is leaking, it is likely that the water pressure is insufficient or that there is insufficient flow due to a plugged inlet screen in the lower Supply Shank. The recommended static pressure for the 503 Series is between 20 psi and 125 psi and for the 504 Series between 35 and 125 psi.

Note:

If the trouble-shooting steps listed in this manual do not resolve your problem, contact *FLUSHMATE*® Consumer Services at 800-533-3460 or email info@flushmate.com. Please be prepared to provide the serial number and date of installation of your *FLUSHMATE*® system.

WINTERIZING

1. Turn off the water supply valve and flush the toilet to relieve the pressure.
2. Place a bucket under the lower Supply Shank (A) and disconnect the water supply line, allowing the water to drain into the bucket.
3. Push down on the Actuator and pull it up momentarily to allow air into the vessel.
4. Follow the fixture manufacturer's instructions for winterizing the bowl.
5. Do not put antifreeze or any other chemical agents in the china holding tank or in the *FLUSHMATE*® Tank.

POINTS TO REMEMBER

- When replacing components on the *FLUSHMATE*® Flushometer-Tank System, make certain that the water supply valve is turned off and the toilet has been flushed to relieve pressure in the *FLUSHMATE*® tank.
- **USE OF PETROLEUM-BASED LUBRICANTS OR CORROSIVE CLEANING PRODUCTS CONTAINING CHLORINE, SUCH AS HOUSEHOLD BLEACH, DROP-IN BLOCKS OR TABLETS, OR DISINFECTANTS THAT ARE APPLIED INSIDE THE CHINA HOLDING TANK WILL VOID YOUR *FLUSHMATE*® WARRANTY.**
- *FLUSHMATE*® Flushometer-Tank Systems are designed to be used with cold water.
- The Flush Valve Cartridge can be removed by inserting the handles of a pair of pliers into the top of the Flush Valve Cartridge and turning counterclockwise.
- A small amount of water may be present in the bottom of the china holding tank. The potential for odor can be eliminated by adding a cup of white vinegar to the china holding tank. The white vinegar will act as natural disinfectant.
- Your water pressure is adequate if your water supply line will yield one or more gallons of water within thirty (30) seconds.
- Replacement parts are readily available by contacting Consumer Services at 800-533-3460 or by visiting the "Where to Buy" section of our website, www.flushmate.com, or purchase online at www.eflushmate.com.

If you would like additional information or require technical assistance, please contact *FLUSHMATE*® Consumer Services at 800-533-3460, or visit our website, www.flushmate.com. For faster service, please be prepared to provide the serial number and date of installation of your *FLUSHMATE*® system.

ATTENTION OWNER
THESE ARE THE TERMS OF YOUR WARRANTY

Effective August 15, 2004. Sloan *FLUSHMATE*® (the “Company”) warrants the *FLUSHMATE*® (flushometer tank) operating system (the “unit”) to be free of defects in material and workmanship for a period of ten (10) years from the date of installation on original components and includes a lifetime limited warranty on the *FLUSHMATE*® tank. The Company promises to replace any part of this product that proves, upon our inspection and within ten (10) years from date of installation, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

This warranty is subject to the following:

Specific Conditions to Warranty

1. A warranty registration card has been fully completed and mailed by the purchaser (the “user”) to the Company within thirty (30) days of the date of installation. Product may also be registered online at www.flushmate.com or by calling 800-533-3460.
2. The unit has been subject to proper installation, operation and maintenance as outlined in the installation instructions that were supplied with the unit. Note carefully that this warranty is voided if the unit is installed and operated subject to water supply line pressures greater than 125 psi (static) or less than 20 psi (static) for the Series 503 or less than 35 psi (static) for the Series 504.
3. Service and repairs may only be performed by authorized representatives of the Company or by others upon specific approval by the Company. Unauthorized repairs or alterations shall specifically void the warranty.
4. USE OF PETROLEUM-BASED LUBRICANTS OR CORROSIVE CLEANING PRODUCTS CONTAINING CHLORINE, SUCH AS HOUSEHOLD BLEACH, DROP-IN BLOCKS OR TABLETS, OR DISINFECTANTS THAT ARE APPLIED INSIDE THE CHINA HOLDING TANK WILL VOID YOUR *FLUSHMATE*® WARRANTY.
5. Proof of purchase is required.

Exclusions

IN NO EVENT SHALL THE COMPANY BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR DAMAGES RESULTING FROM IMPROPER INSTALLATION, OR FOR DAMAGES CAUSED BY NEGLIGENCE, ABUSE OR ALTERATION. THE USE OF GENERIC, “KNOCK-OFF” REPLACEMENT PARTS WILL VOID OWNERS WARRANTY. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF TEN (10) YEARS FROM DATE OF INSTALLATION.

Some states do not allow limitations on the duration of an implied warranty and some states do not allow exclusions or limitations regarding incidental or consequential damages so the above limitations may not apply to you. This warranty gives you specific legal rights and you may have other rights, which vary from state to state.

No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein.

To obtain warranty service, contact Consumer Services toll free (USA & CANADA) 800-533-3460 or write to us at:

FLUSHMATE® Pressure-Assist Change-Out Kits

IMPORTANT. If you would like to replace one of the obsolete Systems listed below, you can now order a FLUSHMATE® Pressure-Assist Change-Out Kit and upgrade them immediately.



OEM tanks with obsolete Pressure-Assist system	FLUSHMATE® Change-Out Kits for Obsolete Systems
Crane 3612	M-101526-F3CK
Eljer 141-7000	M-101526-F3EK
Gerber One-Piece 21-012	M-102540-F3GK
Peerless 1	M-101526-F3PK

Each Kit Contains:

- FLUSHMATE System
- Mounting Hardware
- Installation Wrench
- Flush Handle
- Owner's Manual

Advantages of the FLUSHMATE upgrade

- Millions of FLUSHMATE's sold
- Proven technology with 25 years of experience
- 10-year warranty
- Field-Tested "Plumber Approved"





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Genuine Replacement Parts


Two-Piece Fixtures

	Model #	Suffix	Description
501-B 	M-101526	-F	Flushmate System All OEMs except Am Std 4086 Tank
	M-101526	-FA	Flushmate System for American Std 4086 Tank


503 	M-101526	-F31	Flushmate System All OEMS except Kohler and 10" rough-in tank
	M-101526	-F32	Flushmate System for Kohler K4404 Tank
	M-101526	-F33	Flushmate System for All 10" Rough-In Fixtures
	M-101526	-F34	Flushmate System for Kohler K4645 Tank

Rod Kits for 503*	Model #	Suffix	Description
	AP200101	-LH	American Standard 4098 Tank
	AP200103	-LH	Crane 3612 Tank, Eljer 141-7000 Tank, Western T4ULF-PF Tank
	AP200112	-LH	Gerber 28-380 Tank
	AP200106	-LH	Kohler K-4645 Tank
	AP200113	-LH	Mansfield 123 Tank


504 	M-101526	-F41	Flushmate System for Lamosa/Vorten 3468 Tank
	M-101526	-F42	Flushmate System for Kohler K4484 Tank, Mansfield 153 Tank, Peerless 1 Tank, St. Thomas/Vitromex Tank, Vitra 5066 Tank, and Western T4ULF-PF-1 Tank


Rod Kits for 504*	Model #	Suffix	Description
	AP200116	-LH	St. Thomas/Vitromex 6203 Tank, and Western Pottery T4ULF-PF-1 Tank
	AP200119	-LH	Vitra 5066 Tank
	AP200122	-LH	Kohler K4484 Tank
	AP200125	-LH	Lamosa/Vortens 3468 Tank
	AP200127	-LH	Mansfield 153 Tank
	AP200128	-LH	Peerless 1 Tank

One-Piece Fixtures


501-B 	M-102540	-F	American Standard**
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503 	M-102540	-F3A	American Standard**
	M-102540	-F3	Gerber 21-012

504 	M-102540	-C	Kohler K-3597
	M-102540	-F4M	Mansfield 704**, Corona 704**

Rod Kits for One-Piece*	Model #	Suffix	Description
	AP200111	-LH	Gerber 21-012
	AP200123	-LH	Kohler K-3597

Change Out Kits (Two-Piece fixtures)












Complete 503 	M-101526	-F3EK	Replacement Flushmate for Eljer 141-7000 Tank
	M-101526	-F3CK	Replacement Flushmate for Crane 3612 Tank
	M-101526	-F3PK	Replacement Flushmate for Peerless 1 Tank

* Additional OEM Rod Kits for LH and RH are available on request.
** Indicate Pushbutton Activated, Part # DP500999-1.

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Genuine Replacement Parts

Two-Piece Fixtures	Part Number	Description
Cartridge 	C-100500-K	Flush Cartridge Used on All Series except 200
	C-100101-K	Flush Cartridge Used on 200 Series only
Upper Supply 	BU100505-K	Upper Supply Used on all Series
Duckbill Valve 	B108288-BK	Duckbill Valve (Air inducer) 24 Count Pack
Lower Supply 	BL100504-3-K	Lower Supply Used on 503 and 504 Series
	BL100504-K	Lower Supply Used on 501-A and 501-B Series
Supply Group 	RK100100	Complete Supply for all series except 503 and 504.
Gasket 	E-406288	Universal Tank-to-Bowl Gasket (Fits all two-piece fixtures except Mansfield)
Push Button 	DP500999-1	Convex Chrome Finish (Only available in convex)
Wrenches 	ST100100	Flushmate 2-in-1 wrench
	ST100500	Cartridge Wrench

Intelli-Flush Automatic Flushing System for 501-B, 503, and 504 Series



K-100100	On-Wall Sensor with White Trim.
K-100101	On-Wall Sensor with Chrome Trim
K-100500	Override button Only - no sensor



OEM Repair Parts

OEM	Tank #	FM Series	LH Trip Lever	RH Trip Lever	Gaskets Tank to Bowl
American Standard	4086	501-A	738237-0070A	738238-0070A	047218-0070A
		501-B	Includes Arm	Includes Arm	
	4098	503	738473-YYYOA Lever Only	738494-YYYOA Lever Only	730292-0070A
			738493-0070A Actuator Rod Kit	738495-0070A Actuator Rod Kit	
Gerber	28-390	501-A	99-564 FM I		99-584
	10" Deep Tank	503	99-561 FM III		99-538 (Kit)
	28-380	503	99-571-KT		99-584
	8" Deep Tank				99-538 (Kit)
	21-012	503	99-171-KT		N/A
	One-piece				
Kohler	4413	501-A	84874	84875	84460
		501-B	84817 (Arm)	84817 (Arm)	
Universal Rundle	4463	501-A	P-312-C	P-313-C	P-4.21-A
		501-B	Flush Lever	Flush Lever	
			P-117-B Actuator Rod Only	P-118-B Actuator Rod only	

This information is provided as a service to you, please contact the manufacturer to verify this information.

SLOAN. FLUSHMATE®

Series	Serial #	Model #	Style	Description	Replacement Model #*
200	C-XXXXXX	M-101525	2 pc.	Plastic tank enclosure. Push button attached to cartridge.	MA101525-F
500	C-XXXXXX	M-101526 M-101525	2 pc.	Two hoses attached to Upper Supply. Push button attached to tank cover lid	M-101526-F M-101526FA**
		M-102540	1 pc.	Incorporates a bolt plate to attach <i>FLUSHMATE</i> to china.	M-102540-F
501	C-XXXXXX MMDDYY-111-XXXX	M-101526 M-101525	2 pc.	Stainless steel endbells. One hose attached to Upper Supply.	M-101526-F M-101526FA**
		M-102540	1 pc.	Incorporates a bolt plate to attach <i>FLUSHMATE</i> to china.	M-102540-F
501-A	MMDDYY-A01-XXXX	M-101526	2 pc.	Black Upper Supply and one piece design.	M-101526-F M-101526FA**
		M-102540	1 pc.	Incorporates a bolt plate to attach <i>FLUSHMATE</i> to china.	M-102540-F
501-B	MMDDYY-F01-XXXX	M-101526-F	2 pc.	Tank is all plastic eliminating the stainless steel end bells.	M-101526-F M-101526FA**
		M-102540-F	1 pc.	Incorporates a bolt plate to attach <i>FLUSHMATE</i> to china.	M-102540-F
503	MMDDYY-F3 [†] -XXXX	M-101526-F3	2 pc.	<i>FLUSHMATE</i> tank configured in a rectangular shape and lower supply is in a right angle from inlet to outlet.	M-101526-F3
		M-102540-F3	1 pc.	Lower supply is either straight or right angle depending on toilet manufacturer. Incorporates bolt plate to attach <i>FLUSHMATE</i> to china.	M-102540-F3
504	MMDDYY-F4 [†] -XXXX	M-101526-F4	2 pc.	<i>FLUSHMATE</i> tank configured in a rectangular shape and	M-101526-F4

M102540 1 piece style



M101526 2 piece style

