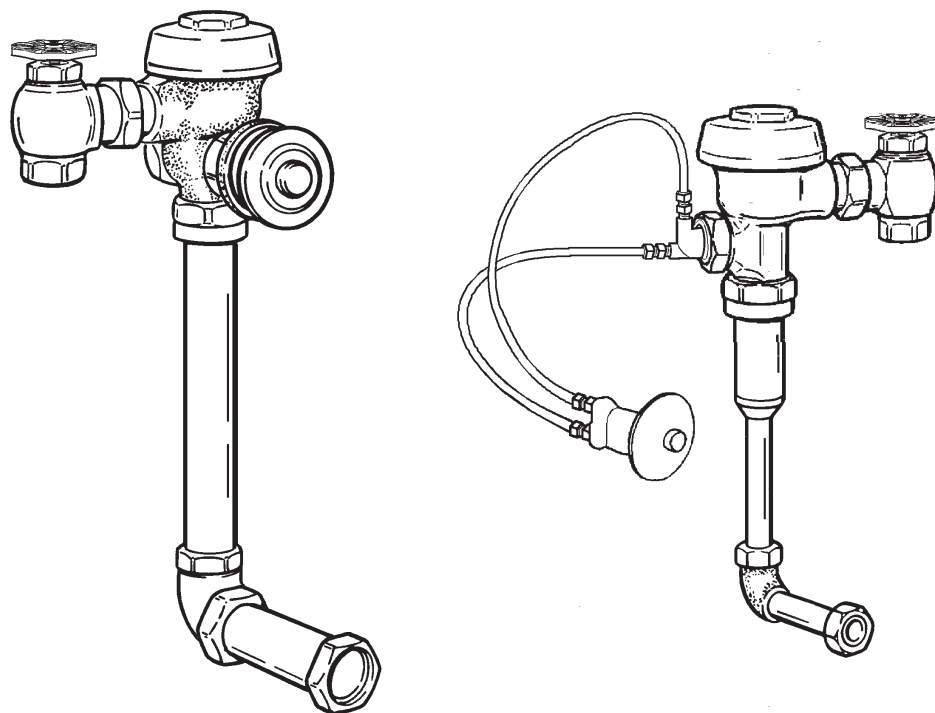


# SLOAN®

## Prison Flushometer

### INSTALLATION INSTRUCTIONS FOR STAINLESS STEEL WATER CLOSETS, URINALS AND COMBINATION FIXTURES

Also for use with Royal®, Regal® and Naval® Prison Flushometers



#### CONCEALED FLUSHOMETER WITH STANDARD PUSH BUTTON ACTUATOR

##### For Closet Flushometer

1-1/2" (38 mm) Back Inlet

- MODEL 601
- MODEL 603
- MODEL 611
- MODEL 681

##### For Urinal Flushometer

Back Inlet

- MODEL 609
- MODEL 613

#### CONCEALED FLUSHOMETER WITH HYDRAULIC PUSH BUTTON ACTUATOR

##### For Closet Flushometer

1-1/2" (38 mm) Back Inlet

- MODEL 9603

##### For Urinal Flushometer

Back Inlet

- MODEL 9609
- MODEL 9613



Made in the U.S.A.

Installation of the Sloan Prison Model Flushometer provides the quality, long life and water economy that makes Sloan Flushometers the most dependable ever. Sloan Flushometers provide outstanding water saving capabilities by precisely metering every flush and have been engineered to deliver a consistent, quiet flush, time after time. No internal adjustment of the Flushometer is required. Patented features provide unequaled performance on today's new generation of low consumption fixtures. Sloan Concealed Flushometers are directly actuated by use of a standard or hydraulic push button.

Sloan Prison Model Flushometers are designed for easy installation and maintenance and come complete with a standard or hydraulic push button actuator, Bak-Chek® control stop, adjustable tailpiece, vacuum breaker flush connection and spud coupling.

The following instructions will serve as a guide when installing the Sloan Flushometer. As always, good safety practices and care are recommended when installing your new Flushometer. If further assistance is required, contact your nearest Sloan Representative office.

#### LIMITED WARRANTY

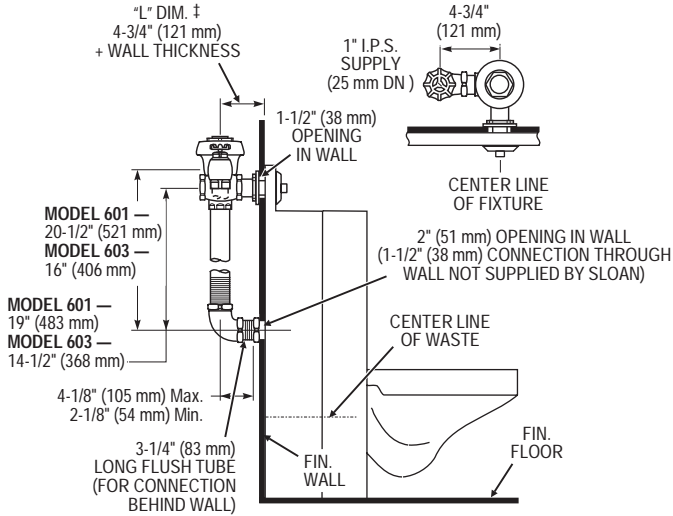
Sloan Valve Company warrants its Concealed Prison Model Flushometers to be made of first class materials, free from defects of material or workmanship under normal use and to perform the service for which they are intended in a thoroughly reliable and efficient manner when properly installed and serviced, for a period of three years (1 year for special finishes) from date of purchase. During this period, Sloan Valve Company will, at its option, repair or replace any part or parts which prove to be thus defective if returned to Sloan Valve Company, at customer's cost, and this shall be the sole remedy available under this warranty. No claims will be allowed for labor, transportation or other incidental costs. This warranty extends only to persons or organizations who purchase Sloan Valve Company's products directly from Sloan Valve Company for purpose of resale.

**THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT IS SLOAN VALVE COMPANY RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.**

## VALVE ROUGH-IN — Figure A

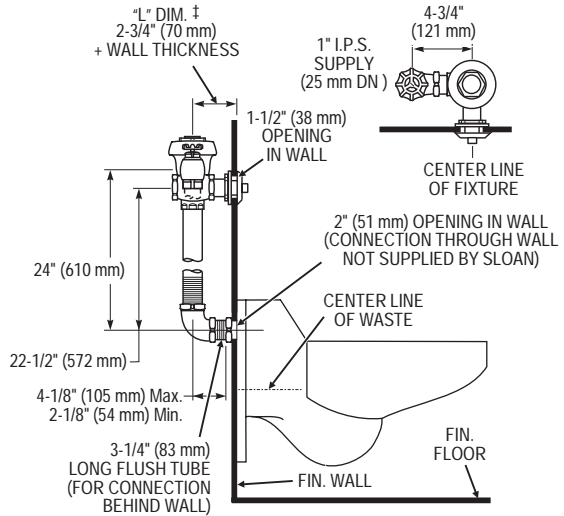
**MODELS 601 & 603 — Water Saver, 3.5 gpf (13.2 Lpf)**

**MODELS 601-1.6 & 603-1.6 — Low Consumption, 1.6 gpf (6.0 Lpf)**



**MODEL 611 — Water Saver, 3.5 gpf (13.2 Lpf)**

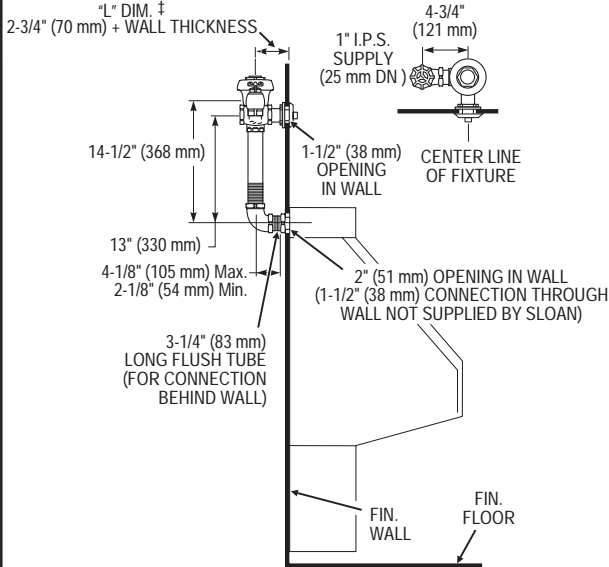
**MODEL 611-1.6 — Low Consumption, 1.6 gpf (6.0 Lpf)**



**MODEL 609 — Conventional, 3.5 gpf (13.2 Lpf)**

**MODEL 609-1.5 — Water Saver, 1.5 gpf (5.7 Lpf)**

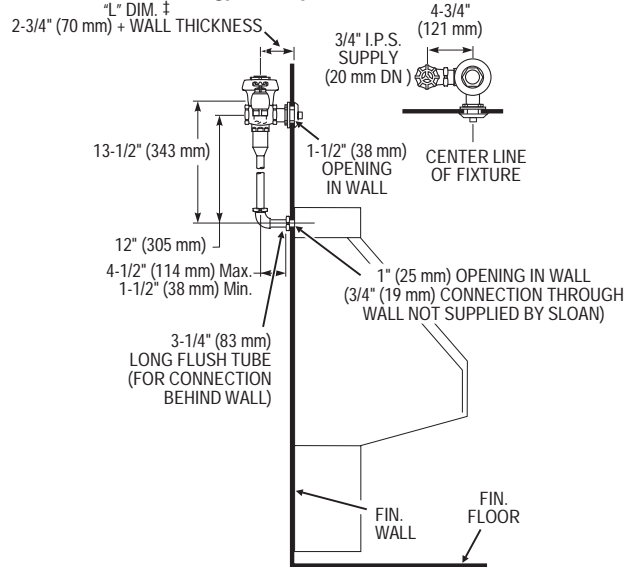
**MODEL 609-1 — Low Consumption, 1.0 gpf (3.8 Lpf)**



**MODEL 613 — Water Saver, 1.5 gpf (5.7 Lpf)**

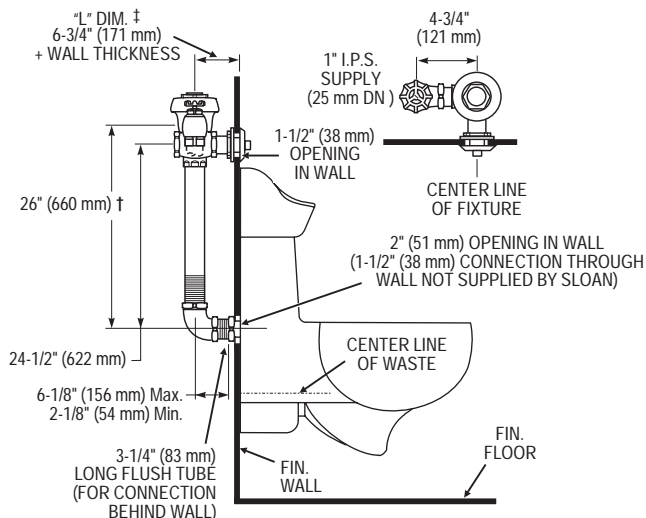
**MODEL 613-1 — Low Consumption, 1.0 gpf (3.8 Lpf)**

**MODEL 613-0.5 — 0.5 gpf (1.9 Lpf)**



**MODEL 681 — Water Saver, 3.5 gpf (13.2 Lpf)**

**MODEL 681-1.6 — Low Consumption, 1.6 gpf (6.0 Lpf)**



### AFD VARIATION

If the Valve installation includes an Anti-Flood Device installed between the Valve Body and the Vacuum Breaker, the valve must be ordered with the "AFD" variation. This assures that the proper length Vacuum Breaker tube is supplied. Anti-Flood Device is supplied by the Fixture Manufacturer. Consult Fixture Manufacturer for installation requirements.

‡ Check that the "L" dimension shown on the Flushometer package is correct for your application. Determine the "L" dimension for your application by using the following formula:

**For Models 609, 611 and 613:**

"L" Dim. = wall thickness (measured to nearest whole inch) + 2-3/4" (69 mm)

**For Models 601 and 603:**

"L" Dim. = wall thickness (measured to nearest whole inch) + 4-3/4" (120 mm)

**For Model 681:**

"L" Dim. = wall thickness (measured to nearest whole inch) + 6-3/4" (171 mm)

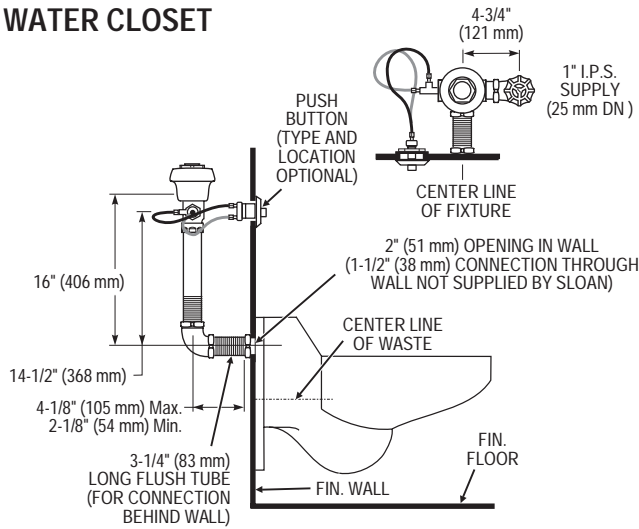
† For Solenoid Operated Flushometers (ES and ESM variations), the Water Supply Rough-in dimension is 16" (406 mm).

## VALVE ROUGH-IN — Figure A (Continued)

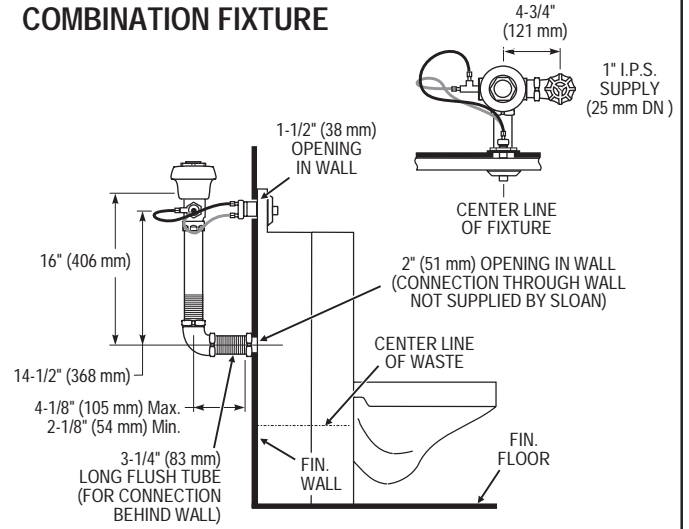
MODEL 9603 — Water Saver, 3.5 gpf (13.2 Lpf)

MODEL 9603-1.6 — Low Consumption, 1.6 gpf (6.0 Lpf)

### WATER CLOSET



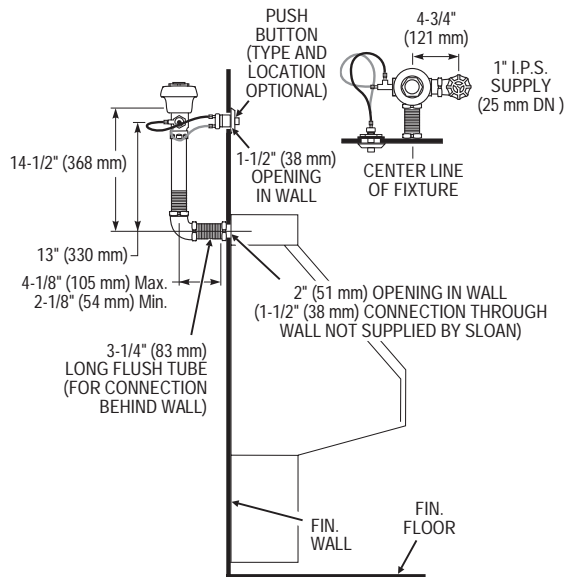
### COMBINATION FIXTURE



MODEL 9609 — Conventional, 3.5 gpf (13.2 Lpf)

MODEL 9609-1.5 — Water Saver, 1.5 gpf (5.7 Lpf)

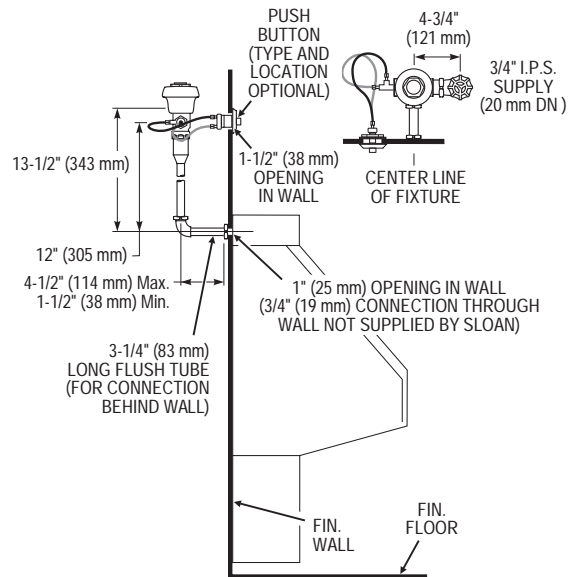
MODEL 9609-1 — Low Consumption, 1.0 gpf (3.8 Lpf)



MODEL 9613 — Water Saver, 1.5 gpf (5.7 Lpf)

MODEL 9613-1 — Low Consumption, 1.0 gpf (3.8 Lpf)

MODEL 9613-0.5 — 0.5 gpf (1.9 Lpf)



### IMPORTANT NOTES

With the exception of the Control Stop inlet, **DO NOT USE** pipe sealant or plumbing grease on any valve component or coupling!

Protect the chrome or special finish of Sloan Flushometers — **DO NOT USE** toothed tools to install or service these valves.

Use a Sloan A-50 "Super-Wrench™" or smooth jawed spud wrench to secure all couplings. Also see "Care and Cleaning" section of this manual.

## PRIOR TO INSTALLATION

Check that the "L" dimension shown on the Flushometer package is correct for your application. Determine the "L" dimension for your application by using the following formula: **"L" dimension = Wall Thickness (to nearest whole inch) + 2-3/4" (Models 609, 611 and 613), 4-3/4" (Models 601 and 603) or 6-3/4" (Model 681).**

Prior to installing the Sloan Prison Flushometer, perform the following functions using the rough-in guides illustrated in Figure A.

- Bore a 1-1/2" (38 mm) opening in wall for standard or hydraulic push button actuator.
- Bore a 2" (51 mm) opening in wall for piping. (This is NOT required if wall sleeve is used in conjunction with fixture.)
- Install stainless steel prison fixture.
- Install drain line.
- Install water supply line.

### Important:

- ALL PLUMBING SHOULD BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.
- WATER SUPPLY LINES MUST BE SIZED TO PROVIDE AN ADEQUATE VOLUME OF WATER FOR EACH FIXTURE.
- FLUSH ALL WATER LINES PRIOR TO MAKING CONNECTIONS.

Sloan Flushometers are designed to operate with 10 to 100 psi (69 to 689 kPa) of water pressure. THE MINIMUM PRESSURE REQUIRED BY THE VALVE IS DETERMINED BY THE TYPE OF FIXTURE SELECTED. Consult fixture manufacturer for minimum pressure requirements.

Most Low Consumption water closets (1.6 gallon/6 liter) require a minimum flowing pressure of 25 psi (172 kPa).

## TOOLS REQUIRED FOR INSTALLATION

- Sloan A-50 "Super-Wrench™" or smooth jawed spud wrench for couplings

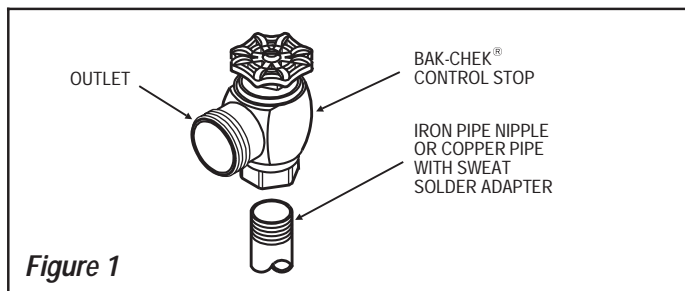
## INSTALLATION

### Step 1 — Install Control Stop (Figure 1)

Install the Sloan Bak-Chek® Control Stop to the water supply line with the outlet positioned as required.

For Sweat Solder applications, solder adapter to copper pipe prior to assembling control stop.

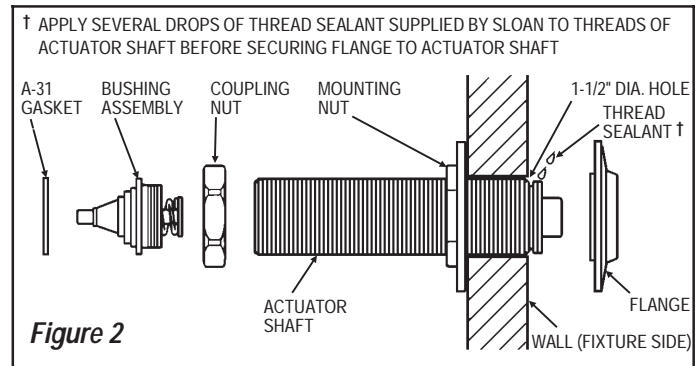
**Note:** For standard or hydraulic push button applications, concealed valves can be installed with the Control Stop on either the left or right side of the valve (refer to Figures 5A and 5B).



### Step 2 — Mount Actuator Assembly to Wall - Figure 2 (Standard Push Button Applications Only)

To mount the actuator from behind the wall, remove the Flange and insert the Actuator Shaft and Bushing Assembly from the back of the wall through the Combination Fixture or 1-1/2" (38 mm) wall opening. Before reinstalling the Flange from the fixture side of the wall, apply several drops of Thread Sealant to the threads of the Actuator Shaft at the location shown in Figure 2 and then tighten the Flange. Tighten the Mounting Nut against the back of the wall.

Alternately, the actuator can be mounted from the fixture side of the wall. Remove the Bushing Assembly, Coupling Nut, and Mounting Nut from the Actuator Shaft. Insert the Actuator Shaft through the opening in the front of the wall. Unscrew the Flange from the Actuator Shaft, apply several drops of Thread Sealant to the threads of the Actuator Shaft at the location shown in Figure 2, and tighten the Flange. Reinstall the Mounting Nut onto the Actuator Shaft and tighten securely until it is against the back of the wall. Reinstall the Coupling Nut, Bushing Assembly, and A-31 Gasket.



### Step 3 — Install Push Button Actuator - Figures 3A & 3B (Hydraulic Push Button Applications Only)

#### MBFW (METAL BUTTON - FIXTURE WALL) VARIATION — HY-100-A METAL PUSH BUTTON ACTUATOR (Figure 3A)

**Note:** Access behind wall required to install HY-100-A Fixture Wall Metal Push Button.

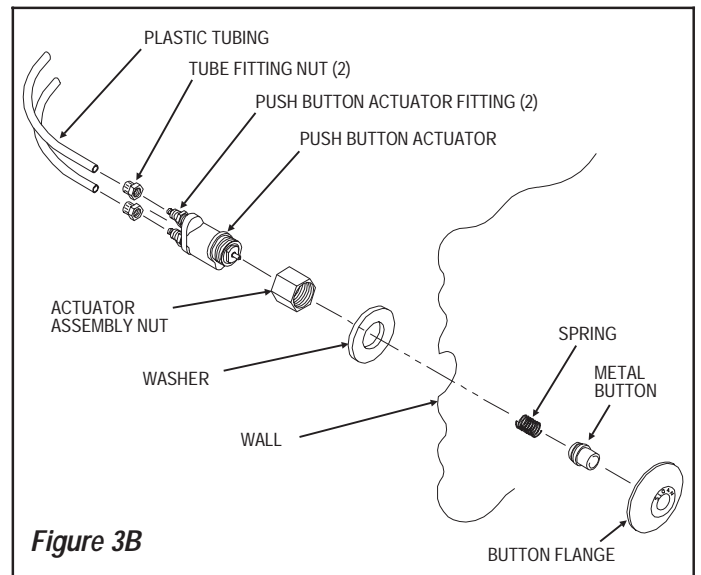
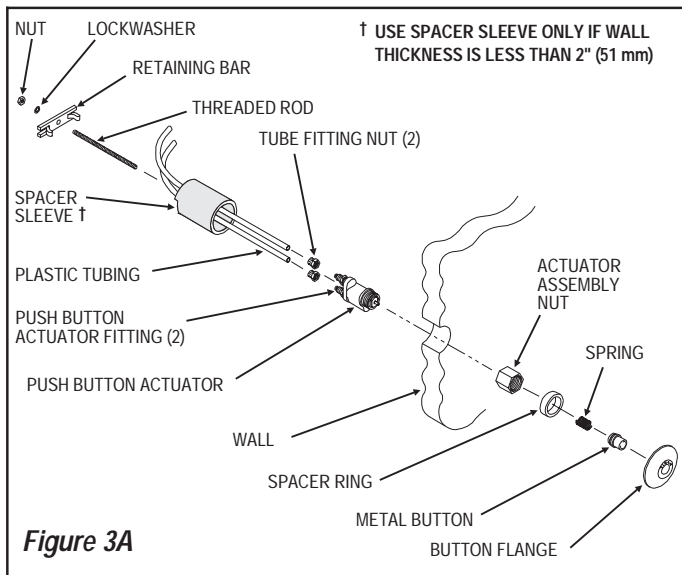
- Drill a 2" (51 mm) diameter hole through wall.
- Screw Threaded Rod into back of Push Button Actuator.
- Thread Actuator Assembly Nut onto threaded end of Push Button Actuator.
- Slide Spring over Metal Push Button until it snaps into place. Place Metal Push Button into Button Flange.
- Place Spacer Ring over threads of Button Flange and thread Button Flange Assembly into Actuator Assembly Nut.
- From behind wall, run Plastic Tubing through Spacer Sleeve (notched end of sleeve toward rear) and through wall. Spacer Sleeve is only required if wall thickness is less than 2" (51 mm).
- Remove Tube Fitting Nuts from Push Button Actuator Fittings and slide one Nut onto each Plastic Tube.

## IMPORTANT NOTES

**With the exception of the Control Stop inlet, DO NOT USE pipe sealant or plumbing grease on any valve component or coupling!**

Protect the chrome or special finish of Sloan Flushometers — DO NOT USE toothed tools to install or service these valves.

Use a Sloan A-50 "Super-Wrench™" or smooth jawed spud wrench to secure all couplings. Also see "Care and Cleaning" section of this manual.



H. Slide each Plastic Tube onto its corresponding Push Button Actuator Fitting and tighten Tube Fitting Nuts.

**Note:** Observe "L" and "O" markings on Push Button Actuator. Mark each tube so that it can be identified and connected to corresponding fittings marked "L" and "O" on Valve Actuator Housing.

- I. Insert Push Button Actuator Assembly into the 2" (51 mm) diameter hole in wall.
- J. From behind wall, slide Spacer Sleeve (if required) over Threaded Rod and rest it against rear of wall. Slide Retaining Bar onto Threaded Rod and into slots of Sleeve. Install Lockwasher and Nut onto Threaded Rod and tighten securely. Carefully cut excess Threaded Rod making certain not to damage Plastic Tubing.

#### MBPM (METAL BUTTON - PANEL MOUNT) VARIATION — HY-108-A METAL PUSH BUTTON ACTUATOR (Figure 3B)

**Note:** To be used on punched stainless steel plates and security fixtures with front access.

- A. Remove Tube Fitting Nuts from Push Button Actuator Fittings and slide one Nut onto each Plastic Tube.
- B. Slide each Plastic Tube onto its corresponding Push Button Actuator Fitting and tighten Tube Fitting Nuts.  
**Note:** Observe "L" and "O" markings on Push Button Actuator. Mark each tube so that it can be identified and connected to corresponding fittings marked "L" and "O" on Valve Actuator Housing.
- C. Thread Actuator Assembly Nut onto threaded end of Push Button Actuator.
- D. Slide Spring over Metal Push Button until it snaps into place. Place Metal Push Button into Button Flange.
- E. From front of fixture, insert Button Flange Assembly into hole of fixture. From behind fixture, place Washer over threads of Button Flange. Thread Button Flange onto Push Button Actuator. Tighten Flange securely.

#### Step 4 — Install Vacuum Breaker and Flush Connection (Figures 4A, 4B and 4C)

**IMPORTANT — DUE TO THE HIGH BACK PRESSURES THAT CAN BE CREATED BY STAINLESS WATER CLOSETS AND COMBINATION FIXTURES, THE FOLLOWING PROCEDURES MUST BE FOLLOWED WHEN INSTALLING THE FLUSH CONNECTIONS. FAILURE TO FOLLOW THESE PROCEDURES CAN RESULT IN SEPARATIONS. FOR SECURE CONNECTIONS IN HIGHER PRESSURE AND OTHER SEVERE CONDITION APPLICATIONS, THE FLUSH CONNECTIONS CAN BE SWEAT SOLDERED. REMOVE ALL PLASTIC AND RUBBER GASKETS BEFORE BEGINNING SOLDERING PROCESS.**

When cutting scored Vacuum Breaker and F-100 Flush Connection tubes to fit, always keep at least 1-1/4" (32 mm) of scoring to assure proper engagement with compression coupling (see Figure 4C).

#### Install Flush Connection (Figure 4A)

Sloan Prison Flushometers are designed to connect to a stainless steel prison fixture in the chase behind the wall. A 1-1/2" (38 mm) pipe connection (NOT supplied by Sloan) must be used to connect the fixture inlet from the wall to the flush connection. For urinals using a Model 613 or 9613 valve, a 3/4" (19 mm) pipe connection must be used to connect the fixture inlet from the wall to the flush connection.

Secure flanged end of the F-100 Flush Connection to the 1-1/2" pipe using a 1-1/2" F-2-A Coupling Nut with S-21 Gasket. For urinals using a Model 613 or 9613 valve, secure flanged end of the F-15-A Flush Connection to the 3/4" (19 mm) pipe using a 3/4" (19 mm) F-2-AW slip joint coupling (Rubber Gasket, Nylon Slip Gasket and Coupling Nut). Tighten securely.

#### Install Slip Elbow and Vacuum Breaker (Figures 4B and 4C)

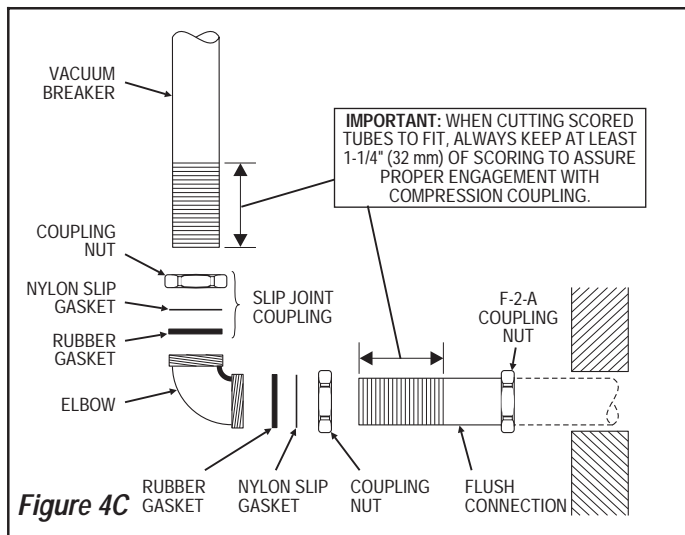
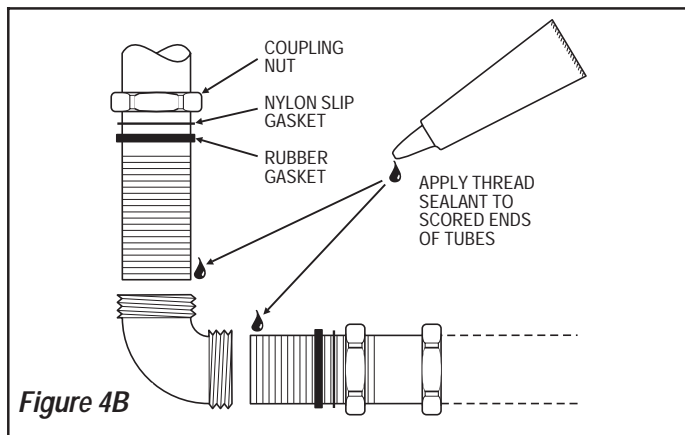
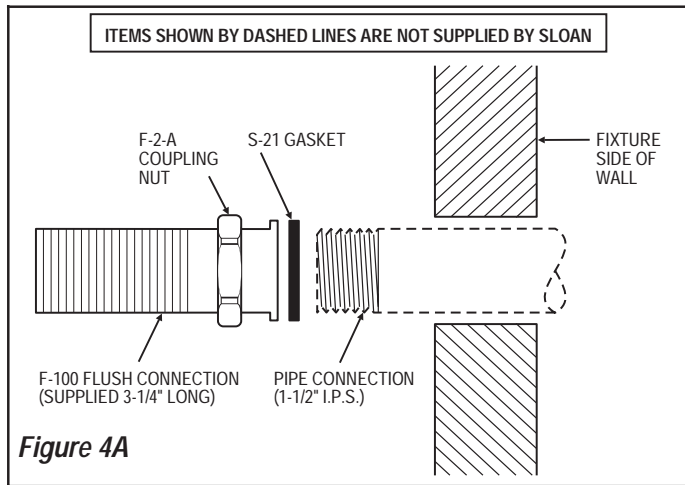
**Important:** Before inserting into the Elbow, apply thread sealant (supplied by Sloan) to the scored ends of the tubes. This sealant helps prevent separation under high-pressure conditions — **DO NOT use any other pipe sealant or lubricant on this connection.**

#### IMPORTANT NOTES

**With the exception of the Control Stop inlet, DO NOT USE pipe sealant or plumbing grease on any valve component or coupling!**

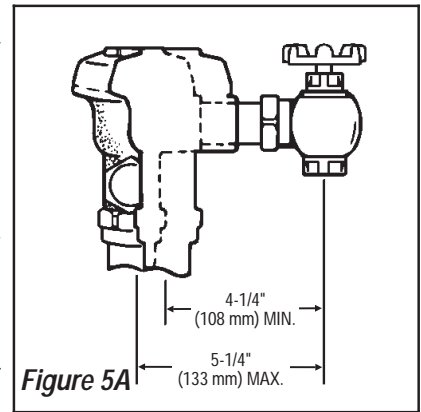
Protect the chrome or special finish of Sloan Flushometers — DO NOT USE toothed tools to install or service these valves. Use a Sloan A-50 "Super-Wrench™" or smooth jawed spud wrench to secure all couplings. Also see "Care and Cleaning" section of this manual.

Apply several drops of thread sealant to the scored ends of the F-100 Flush Connection and Vacuum Breaker tubes (Figure 4B). Connect Vacuum Breaker and F-100 Flush Connection tubes to the Elbow using Coupling Nut, Nylon Slip Gasket and Rubber Gasket (Figure 4C). Tighten securely.



## Step 5 — Install Flushometer SLOAN ADJUSTABLE TAILPIECE (Figure 5A)

The Sloan Adjustable Tailpiece compensates for "off-center" roughing-in on the job. Maximum adjustment is 1/2" (13 mm) IN or OUT from the standard 4-3/4" (121 mm) (centerline of Flushometer to centerline of Control Stop). NOTE: If roughing-in measurement exceeds 5-1/4" (133 mm), a longer tail may be purchased.

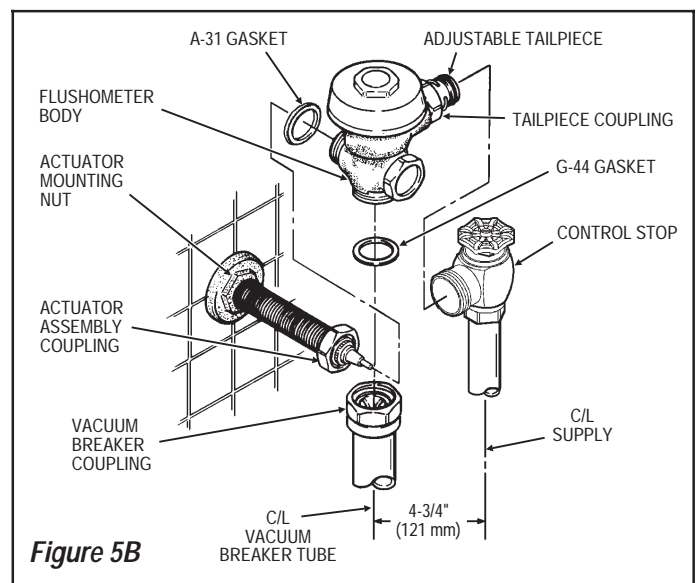


## STANDARD PUSH BUTTON FLUSHOMETER INSTALLATIONS (Figures 5B and 5C)

Insert Adjustable Tailpiece into Control Stop while mounting Flushometer to Actuator assembly. Wet O-ring seal of Adjustable Tailpiece with water to lubricate. Secure by hand tightening Actuator Assembly and Tailpiece Couplings.

Align Flushometer Body on top of Vacuum Breaker Flush Connection and secure by hand tightening Vacuum Breaker Coupling.

Align Flushometer Body and securely tighten Tailpiece Coupling, Actuator Coupling, Vacuum Breaker Coupling, Slip Joint Couplings, and Spud Coupling, respectively. Securely tighten Actuator Mounting Nut to wall.



### IMPORTANT NOTES

**With the exception of the Control Stop inlet, DO NOT USE pipe sealant or plumbing grease on any valve component or coupling!**

Protect the chrome or special finish of Sloan Flushometers — DO NOT USE toothed tools to install or service these valves.

Use a Sloan A-50 "Super-Wrench™" or smooth jawed spud wrench to secure all couplings. Also see "Care and Cleaning" section of this manual.

## HYDRAULIC PUSH BUTTON FLUSHOMETER INSTALLATIONS (Figure 5C)

Insert Adjustable Tailpiece into Control Stop. Wet O-ring seal with water to lubricate. Hand tighten Tailpiece Coupling.

Align Flushometer Body on top of Vacuum Breaker Flush Connection and hand tighten Vacuum Breaker Coupling.

Align Flushometer Body and securely tighten Tailpiece Coupling, Vacuum Breaker Coupling, Slip Joint Couplings and Pipe Coupling, respectively.

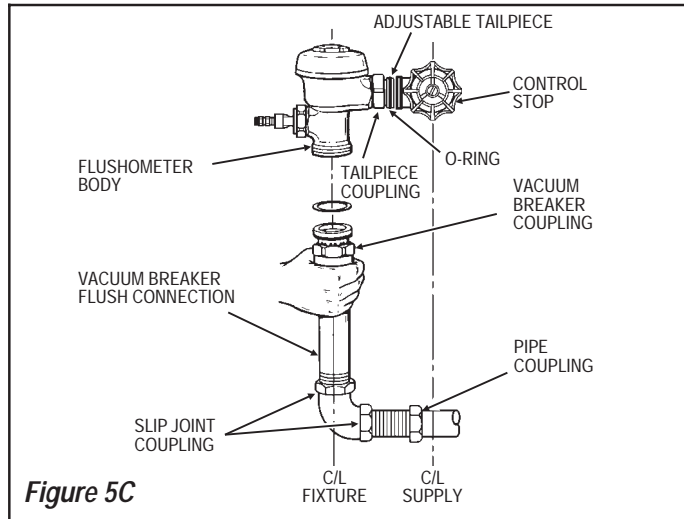


Figure 5C

## Step 6 — Install Tubing to Valve Actuator — Figure 6 (Hydraulic Push Button Applications Only)

**Note:** Observe “L” and “O” markings on Tubing. Tubing must be connected to corresponding “L” and “O” markings on Push Button Actuator.

- A. Cut off excess Plastic Tubing so that there will be about 3 to 4 inches (76 to 102 mm) of slack when Actuator is installed. If the “L” and “O” markings on the Tubing will be cut off, identify Tubing appropriately.

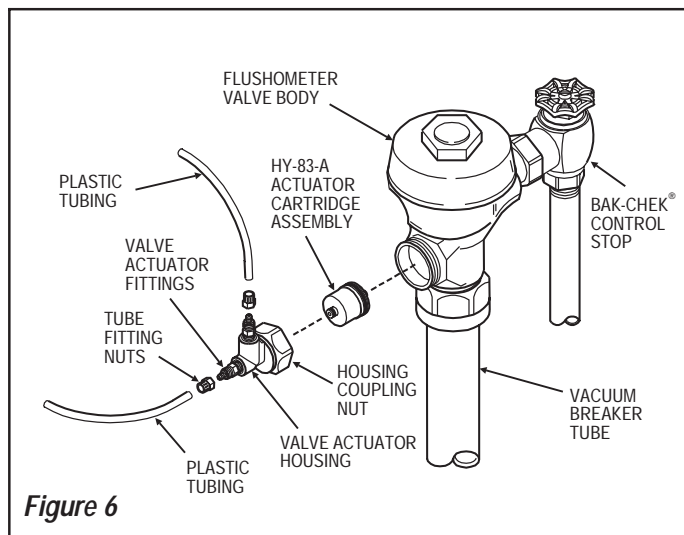


Figure 6

- B. Remove Tube Fitting Nuts from Valve Actuator and slide one Nut onto each Plastic Tube.
- C. Slide Plastic Tubing onto its corresponding Valve Actuator Fitting and tighten Tube Fitting Nuts.

## Step 7 — Flush Out Supply Line (Figure 7)

Shut off Control Stop and remove Flushometer Cover. Lift out the Inside Parts Assembly as a complete unit. Install Flushometer Cover, tighten with wrench and open Control Stop. Turn on water supply to flush line of any debris or sediment.

After completion, shut off Control Stop, remove Flushometer Cover and reinstall Inside Parts Assembly. Install Flushometer Cover, tighten with wrench. Open Control Stop and activate Flushometer Valve.

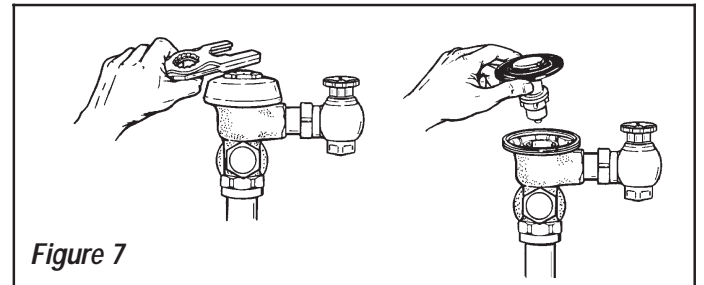


Figure 7

## Step 8 — Adjust Control Stop (Figure 8)

Adjust Control Stop to meet the flow rate required for the proper cleansing of the fixture. Open Control Stop COUNTERCLOCKWISE one full turn from the closed position. Activate Flushometer. Adjust Control Stop after each flush until the rate of flow delivered properly cleanses the fixture.

**Important:** The Sloan Prison Model Flushometers are engineered for quiet operation. Excessive water flow creates noise, while inadequate water flow may not satisfy the needs of the fixture. Proper adjustment is made when:

The plumbing fixture is cleansed after each flush without splashing water out from the lip AND a quiet flushing cycle is achieved.

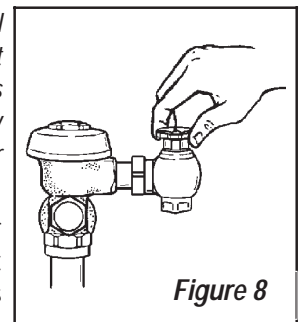


Figure 8

## CARE AND CLEANING OF CHROME AND SPECIAL FINISHES

DO NOT use abrasive or chemical cleaners to clean Flushometers that may dull the luster and attack the chrome or special decorative finishes of Flushometer components. Use ONLY soap and water, then wipe dry with clean cloth or towel.

While cleaning, protect the exposed Flushometer button from any splattering of cleaner. Acids and cleaning fluids can discolor or remove chrome plating.

## IMPORTANT NOTES

**With the exception of the Control Stop inlet, DO NOT USE pipe sealant or plumbing grease on any valve component or coupling!**

Protect the chrome or special finish of Sloan Flushometers — DO NOT USE toothed tools to install or service these valves. Use a Sloan A-50 “Super-Wrench™” or smooth jawed spud wrench to secure all couplings. Also see “Care and Cleaning” section of this manual.

## TROUBLESHOOTING GUIDE

### Push Button Actuator Assembly

(Hydraulic Push Button Applications Only)

#### I. Push Button Leaks.

- A. The actuator cartridge has an accumulation of lime or its seals are damaged or worn. Replace the cartridge (HY-32-A).

#### II. The Flushometer does not flush and leakage is visible below the valve.

- A. Actuator cartridge is clogged by foreign material. Remove the cartridge, inspect, and clean under running water.
- B. The actuator cartridge has an accumulation of lime or its seals are damaged or worn. Replace the cartridge (HY-32-A).
- C. Plastic Tubing is not installed correctly. Reinstall Plastic Tubing (see Steps 3 and 6).

#### ACTUATOR CARTRIDGE REMOVAL

1. Remove the button or actuator assembly from the wall or fixture.
2. Disassemble the flange or button assembly from the actuator body.
3. Unscrew the cartridge from the actuator body. NOTE: The metal Push Button was designed to be vandal-proof and must be removed from the wall or fixture for service.

### Flushometer Actuator Assembly

(Hydraulic Push Button Applications Only)

#### I. The Flushometer does not flush or flushes once but does not reactivate when the button is pushed.

- A. The plunger is lodged in the actuator cartridge or the plunger by-pass hole is clogged. Remove the actuator housing and cartridge and clean under running water. If problem persists after cleaning, replace the cartridge (HY-83-A).
- B. Plastic Tubing is not installed correctly. Reinstall Plastic Tubing (see Steps 3 and 6).

#### REMOVAL OF THE ACTUATOR FROM THE FLUSHOMETER

1. Turn off water at the control stop.
2. Unscrew the housing coupling nut from the Flushometer.
3. Remove the actuator housing from the Flushometer. The tubing connections can be left intact.
4. Carefully remove the actuator cartridge from the Flushometer body to prevent the actuator from abrupt separation due to expansion of an internal spring. If the actuator cartridge is lodged in the body cavity, grip the exposed portion of the cartridge gently with channel-lock pliers and rotate back and forth to loosen the O-ring seal.
5. Separate the actuator housing to reveal the spring and plunger.

## TROUBLESHOOTING GUIDE — Continued

### Push Button Actuator Assembly

(Standard Push Button Applications Only)

#### I. Flushometer does not function.

- A. Push Button Assembly is worn; replace Push Button.

#### II. Push Button Assembly leaks.

- A. The B-39 Seal is worn or deteriorated. Install new B-39 Seal.  
NOTE: Lubricate the Seal with water to ease installation onto the B-40 Bushing.

### Flushometer Service

(Standard and Hydraulic Push Button Applications)

#### I. Flushometer does not function.

- A. Control Stop or Main Valve is Closed. Open Control Stop or Main Valve.
- B. Relief Valve is worn.  
ROYAL: Replace with Relief Valve from Royal Performance Kit.  
REGAL: Replace with Relief Valve from Inside Parts Kit.
- C. Water pressure is too high. Reduce water pressure.

#### II. Volume of water is inadequate and will not siphon fixture.

- A. Control Stop is not open wide enough. Adjust Control Stop to deliver desired volume of water.
- B. Closet Flushometer contains Urinal parts. Replace Urinal parts with Closet parts.
- C. Low Consumption Flushometer is installed on a fixture that is not a Low Consumption Fixture.  
ROYAL: Replace Dual Filtered Diaphragm Assembly with appropriate Royal Performance Kit.  
REGAL: Replace A-41-A Inside Parts Kit with A-38-A Water Saver Kit.
- D. Water Saver parts are installed on a bowl that is not a Water Saver Bowl.  
ROYAL: Replace Dual Filtered Diaphragm Assembly with appropriate Royal Performance Kit.  
REGAL: Position Refill Head A-170 so that SIDE 1 is facing in the UP Position.
- E. Water supply volume or pressure is inadequate.
- If no gauges are available to properly measure supply pressure or volume of water at the Flushometer, remove the Relief Valve from the Inside Parts/Diaphragm Assembly, reassemble the Flushometer and open the Control Stop. If the fixture siphons, more water volume is required.  
ROYAL: Install a higher flushing volume Royal Performance Kit.  
REGAL: If a 3.5 gpf Inside Parts Kits is installed in the

## IMPORTANT NOTES

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Protect the chrome or special finish of Sloan Flushometers — DO NOT USE toothed tools to install or service these valves.

Use a Sloan A-50 "Super-Wrench™" or smooth jawed spud wrench to secure all couplings. Also see "Care and Cleaning" section of this manual.



## TROUBLESHOOTING GUIDE — Continued

Flushometer, then first flip the Refill Head (under the Diaphragm) to obtain a 4.5 gpf volume. If this volume is still inadequate, remove the Flow Ring from the Guide to obtain a 6.5 gpf Kit. If additional flow is still required, try a Low Pressure Guide Kit A-175-A (Code no. 0301104).

**IMPORTANT — Laws and Regulations requiring Low Consumption Fixtures (1.6 gpf/6.0 Lpf Water Closets and 1.0 gpf/3.8 Lpf Urinals) prohibit the use of higher flushing volumes.**

- If fixture does not siphon or if a Low Consumption fixture is installed, or if the above steps do not yield satisfactory results, steps must be taken to increase the pressure and/or supply.

### III. Flushometer closes off immediately.

A. Diaphragm or bypass hole is damaged.

ROYAL: Replace Royal Performance Kit.

REGAL: Install new Inside Parts Kit.

### IV. Length of flush is too short (Short Flushing).

ROYAL:

A. Dual Filtered Diaphragm Assembly is damaged. Replace Royal Performance Kit.

B. Incorrect Dual Filtered Diaphragm Assembly is installed in Flushometer; for instance, Urinal assembly inside a Closet Flushometer, or Low Consumption assembly inside a higher consumption fixture. Determine the flush volume required by the fixture and replace Royal Performance Kit. Use valve label and markings on fixture for reference.

REGAL:

A. Diaphragm Assembly and Guide Assembly are not hand-tight. Screw the two assemblies hand-tight.

B. By-pass orifice of Diaphragm is enlarged from corrosion or damage. Install new Inside Parts Kit.

C. A black Urinal Relief Valve is used in Closet Flushometer. Replace the A-19-AU Urinal Relief Valve with a white A-19-AC Closet Relief Valve.

D. A Low Consumption Kit (A-41-A) is installed in a fixture that is not a Low Consumption fixture. Replace with Inside Parts Kit suitable for the fixture.

### V. Length of flush is too long (Long Flushing) or valve does not close.

A. Relief Valve is not seating properly or Diaphragm By-pass orifice is clogged.

ROYAL: Remove the Dual Filtered Diaphragm Assembly. Remove the Primary and Secondary Filter Rings from the Diaphragm and wash under running water. Replace Royal Performance Kit if cleaning does not correct the problem.

REGAL: Disassemble the working parts and wash thoroughly.

## TROUBLESHOOTING GUIDE — Continued

NOTE: THE SIZE OF THE ORIFICE IN THE DIAPHRAGM BY-PASS DETERMINES THE PROPER METERING OF WATER INTO THE UPPER CHAMBER OF THE FLUSHOMETER. DO NOT ENLARGE OR DAMAGE THIS ORIFICE. REPLACE INSIDE PARTS KIT IF CLEANING DOES NOT CORRECT PROBLEM.

B. Decrease in line pressure does not force Relief Valve to seat. Shut off all control stops to restore pressure, then reopen stops.

C. White Closet Relief Valve has been used in a Urinal Flushometer. Replace Closet Relief Valve (A-19-AC) with black Urinal Relief Valve (A-19-AU).

D. Inside Cover is cracked or damaged. Replace the Inside Cover (A-71).

E. ROYAL ONLY: Incorrect Dual Filtered Diaphragm Assembly is installed in Flushometer; for instance, Closet assembly inside a Urinal Flushometer, or Water Saver assembly inside a Low Consumption Flushometer. Determine the flush volume required by the fixture and replace the Royal Performance Kit. Use valve label and markings on fixture for reference.

### VI. Water splashes out of the fixture.

A. The supply volume is too high. Throttle down the control stop.

B. Lime has accumulated on the vortex or spreader holes of the fixture. Remove the lime accumulation.

### VII. The flush is not considered Quiet.

A. The Control Stop may not be adjusted for quiet operation. Adjust the Control Stop for quiet operation while the Flushometer is flushing, bearing in mind the fixture requirements for proper siphonage.

B. Conditions in the piping system may contribute to the noise level. A degree of high pressure in the piping may be relieved by adjustments of the Control Stop. Other noises created by loose pipes, lack of air chambers, inadequate pipe sizes, etc., are problems that must be discussed with the building engineer.

### VIII. Chattering noise in Flushometer.

A. The Inside Cover is distorted. Replace Inside Cover.

B. REGAL ONLY: The Segment Diaphragm has been installed upside-down. Replace the Segment Diaphragm (A-156-A) in the orientation indicated by markings on the Diaphragm (Regal valves only).

Refer to the Royal Flushometer Maintenance Guide for additional Troubleshooting and Repair Part information.

If further assistance is required, please contact the Sloan Valve Company Installation Engineering Department at 800/982-5839.

Manufactured in the U.S.A. by Sloan Valve Company under one or more of the following patents: U.S. Pats. 5,295,655; 5,542,718; 5,558,120; 5,564,460. Other Pats. Pending. BAK-CHEK, PARA-FLO, PERMEX, TURBO-FLO.

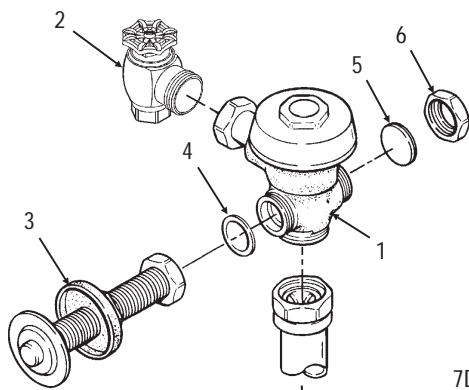
## IMPORTANT NOTES

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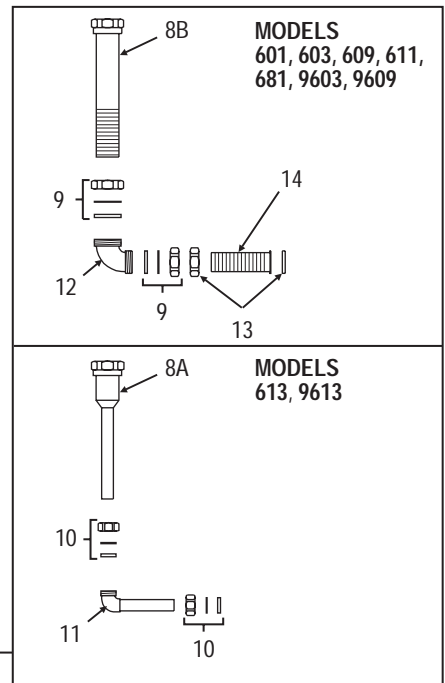
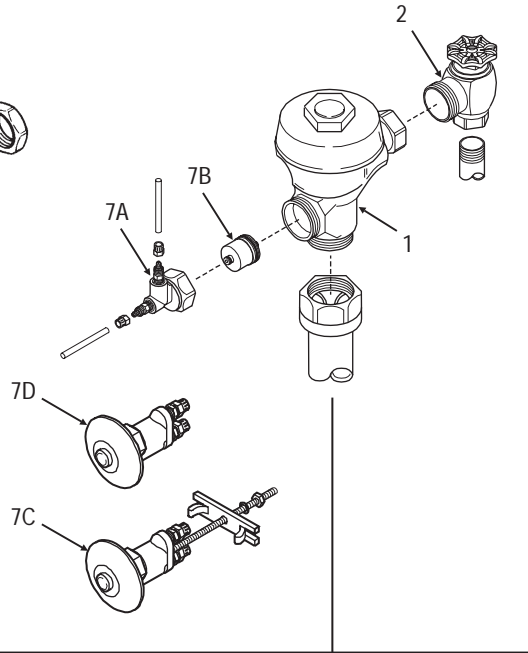
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# PARTS LIST

## Manual Push Button Flushometer



## Hydraulic Push Button Flushometer



Item No.	Part No.	Description
1	†	Valve Body
2	H-730-A	RB Wheel Handle Bak-Chek® Control Stop
3	C-9-A	Blind Nut Push Button Actuator Assembly
4	A-31	Gasket
5	K-46	Gasket
6	A-6	Coupling
7A	HY-25	Valve Actuator Housing (only)
	HY-24	Tube Fitting (two required)
	HY-30	1/4" x 48" Connecting Tubes (two required)
	HY-35	Tube Fitting Nut (two required)
7B	HY-83-A	Actuator Cartridge Assembly
7C	HY-100-A	Hydraulic Flushometer Push Button Actuator (MBFW Variation)
7D	HY-108-A	Hydraulic Flushometer Push Button Actuator (MBPM Variation)
8A	V-500-AA	3/4" (19 mm) x 10-1/2" (267 mm) Vacuum Breaker Assembly RB (Models 613 and 9613)
8B	V-500-AA	1-1/2" (38 mm) x 17-1/2" (445 mm) Vacuum Breaker Assembly RB (Model 601)
	V-500-AA	1-1/2" (38 mm) x 13" (330 mm) Vacuum Breaker Assembly RB (Models 603 and 9603)
	V-500-AA	1-1/2" (38 mm) x 11-1/2" (292 mm) Vacuum Breaker Assembly RB (Models 609 and 9609)
	V-500-AA	1-1/2" (38 mm) x 21" (533 mm) Vacuum Breaker Assembly RB (Model 611)
	V-500-AA	1-1/2" (38 mm) x 23" (584 mm) Vacuum Breaker Assembly RB (Model 681)
9	F-2-AA	1-1/2" (38 mm) Slip Joint Couplings (two per package)
10	F-2-AW	3/4" (19 mm) Slip Joint Coupling RB
11	F-15-A	ELL with 3/4" (19 mm) Tail RB
12	F-21	1-1/2" (38 mm) Double Slip Elbow
13	F-2-A	1-1/2" (38 mm) Coupling with S-21 Gasket
14	F-100	1-1/2" (38 mm) x 3-1/4" Flared End Flush Connection
Not Shown		LocTite Thread Sealant

† Part number varies with valve model variation; consult factory.

**NOTICE: The information contained in this document is subject to change without notice.**