

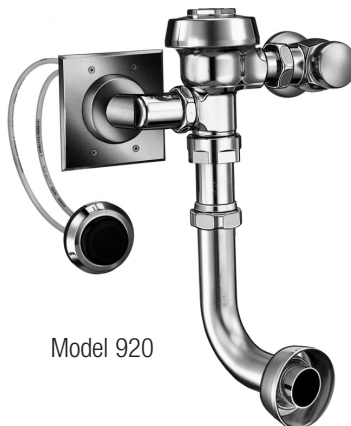
## INSTALLATION INSTRUCTIONS FOR SLOAN SERIES 900 HYDRAULIC FLUSHING SYSTEM — EXPOSED CLOSET, URINAL AND SERVICE SINK



Model 910/911



Model 986



Model 920

### Exposed Closet Flushometer 1½" (38 mm) Top Spud

MODEL 910/911

MODEL 913

MODEL 915

MODEL 916

### Exposed Closet Flushometer 1½" (38 mm) Back Spud

MODEL 920

MODEL 921

MODEL 922

### Exposed Urinal Flushometer 1" (32 mm) Top Spud

MODEL 980

### Exposed Urinal Flushometer ¾" (19 mm) Top Spud

MODEL 986

### Exposed Service Sink Flushometer 1½" (38 mm) Top Spud MODEL 917



### LIMITED WARRANTY

Unless otherwise noted, Sloan Valve Company warrants this product, manufactured and sold for commercial or industrial uses, to be free from defects in material and workmanship for a period of three (3) years (one (1) year for special finishes, SF faucets, PWT electronics and 30 days for PWT software) from date of first purchase. During this period, Sloan Valve Company will, at its option, repair, replace, or refund the purchase price of any product which fails to conform with this warranty under normal use and service. This shall be the sole and exclusive remedy under this warranty. Products must be returned to Sloan Valve Company, at customer's cost. No claims will be allowed for labor, transportation or other 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. This warranty does not cover the life of the batteries.

**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.**

### PRIOR TO INSTALLATION

Prior to installing the flushometer, install the items listed below as illustrated in the Rough-in Diagrams on Page 2.

- Install closet or urinal fixture.
- Install 1-1/2" (38 mm) drain line (NOT supplied by Sloan).
- Bore a hole (see rough-in for size) in wall for water supply line, and install water supply line.
- Bore 1-1/2" (38 mm) holes in wall for both the Hydraulic Push Button Actuator and the Valve Actuator.
- For Model HY-72-A Push Button Actuator, install an electrical box at both Push Button Actuator and Valve Actuator. Run conduit between the two electrical boxes.

#### IMPORTANT:

- **INSTALL ALL PLUMBING 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.**

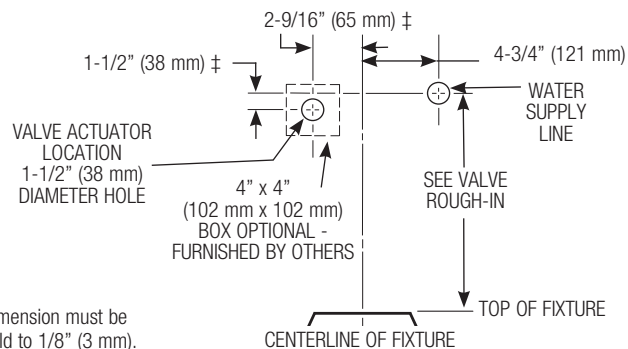
Sloan's flushometers are designed to operate with 10 to 100 psi (69 to 689 kPa) of water pressure. **THE MINIMUM PRESSURE REQUIRED TO THE VALVE IS DETERMINED BY THE TYPE OF FIXTURE SELECTED.**

Consult fixture manufacturer for minimum pressure requirements.

Most Low Consumption water closets (1.6 gpf/6.0 Lpf) require a minimum flowing pressure of 25 psi (172 kPa).

**IMPORTANT: With the exception of Control Stop Inlet, DO NOT use pipe thread sealant or plumbing grease on valve components or couplings!**

### SUPPLY AND ACTUATOR ROUGH-IN

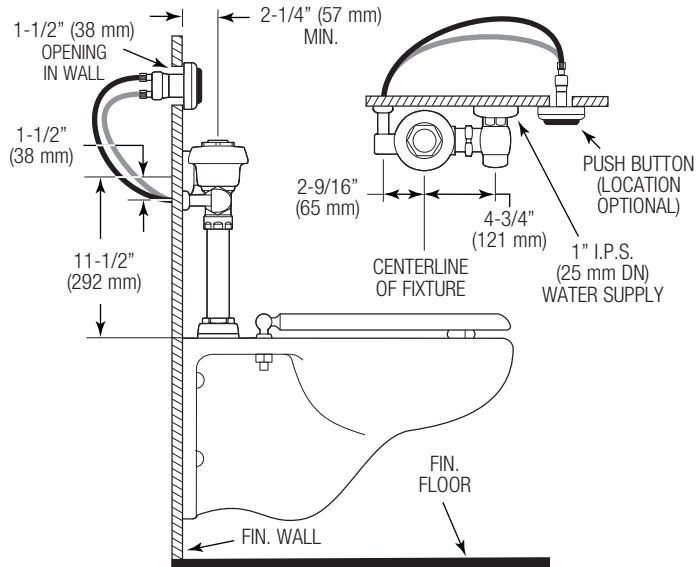


### TOOLS REQUIRED FOR INSTALLATION

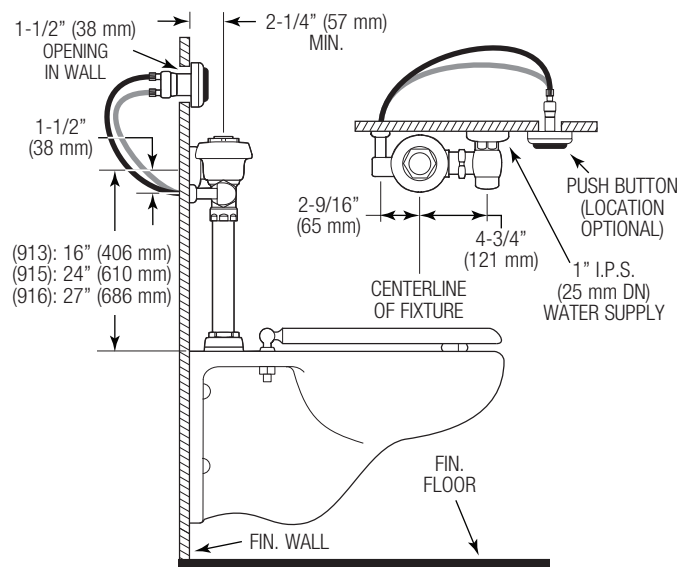
- Straight blade (flathead) screwdriver
- 5/64" hex wrench
- Sloan A-50 Super-Wrench™, Sloan A-109 Plier Wrench or smooth jawed spud wrench

# **VALVE ROUGH-INS (NOTE: SPECIFY ACTUATOR VARIATION NEEDED FOR YOUR APPLICATION)**

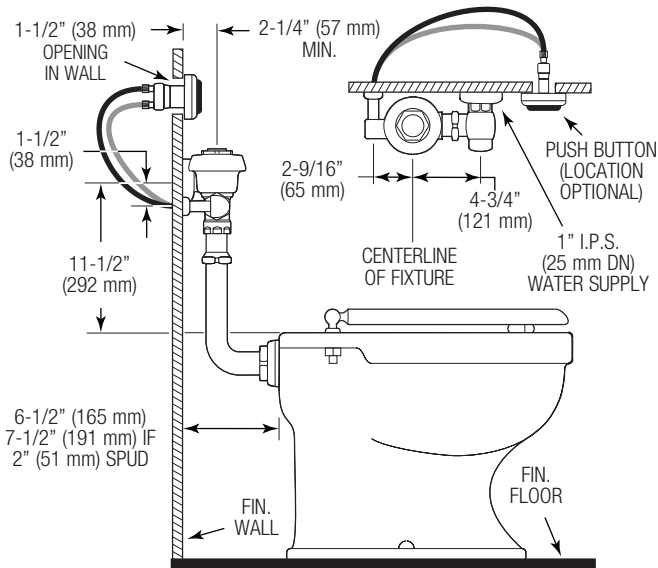
## **MODEL 910/911**



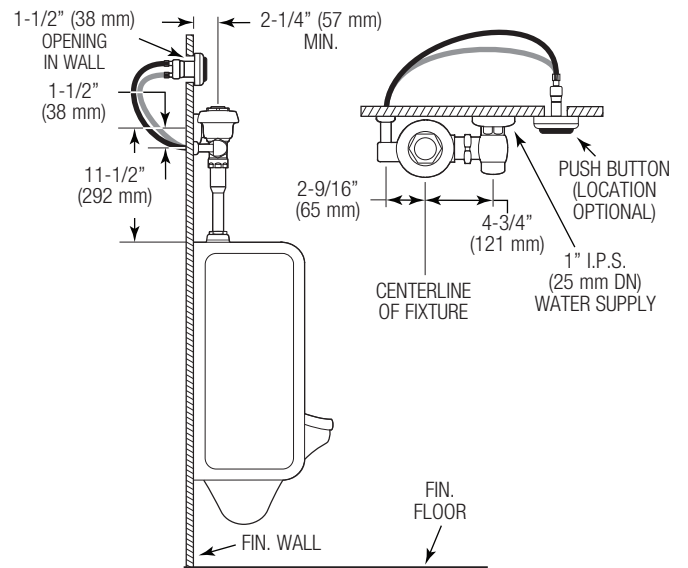
## **MODELS 913/915/916**



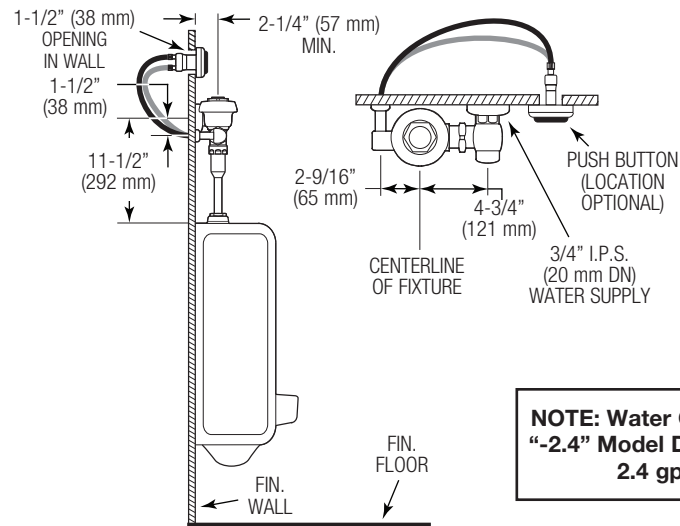
## **MODELS 920/921/922**



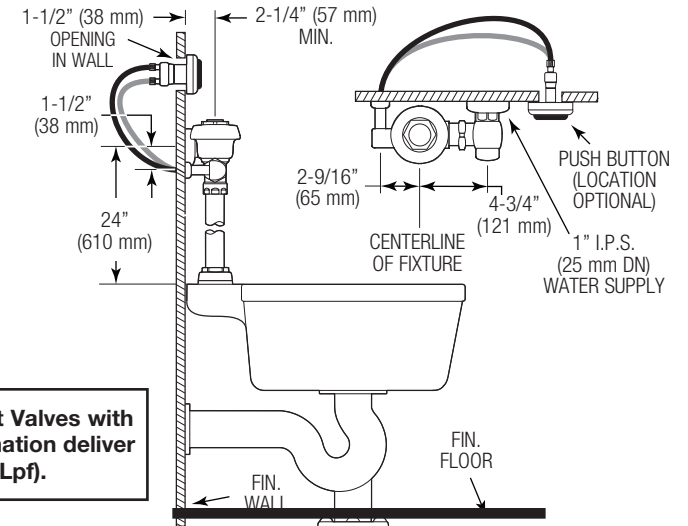
## **MODEL 980**



## **MODEL 986**



## **MODEL 917**



**NOTE: Water Closet Valves with "-2.4" Model Designation deliver 2.4 gpf (9.0 Lpf).**

**!!! IMPORTANT !!!**

NEVER OPEN THE CONTROL STOP TO WHERE THE FLOW FROM THE VALVE EXCEEDS THE FLOW CAPABILITY OF THE FIXTURE. IN THE EVENT OF A VALVE FAILURE, THE FIXTURE MUST BE ABLE TO ACCOMMODATE A CONTINUOUS FLOW FROM THE VALVE.

**!!! IMPORTANT !!!**

PROTECT THE CHROME OR SPECIAL FINISH OF SLOAN'S FLUSHOMETERS. DO NOT USE TOOTHED TOOLS TO INSTALL OR SERVICE VALVES. USE A SLOAN A-50 SUPER WRENCH™, SLOAN A-109 PLIER WRENCH OR SMOOTH JAWED SPUD WRENCH TO SECURE COUPLINGS. SEE "CARE AND CLEANING" SECTION FOR MORE DETAILS.

**!!! IMPORTANT !!!**

THIS PRODUCT CONTAINS MECHANICAL COMPONENTS THAT ARE SUBJECT TO NORMAL WEAR. THESE COMPONENTS SHOULD BE CHECKED ON A REGULAR BASIS AND REPLACED AS NEEDED TO MAINTAIN THE VALVE'S PERFORMANCE.

**!!! IMPORTANT !!!**

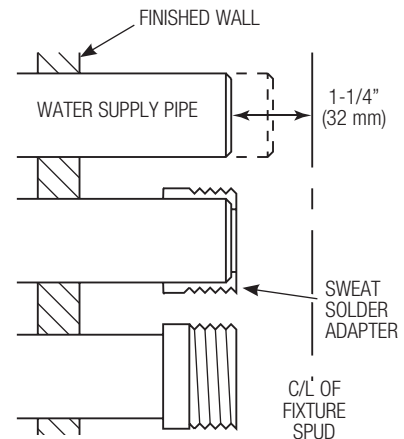
WITH THE EXCEPTION OF THE CONTROL STOP INLET, DO NOT USE PIPE THREAD SEALANT OR PLUMBING GREASE ON VALVE COMPONENTS OR COUPLINGS.



When further assistance is required, please consult your local Sloan Representative, or Sloan Technical Support at:  
1-888-SLOAN-14 (1-888-756-2614)

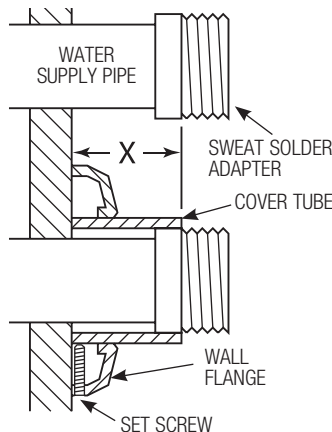
## 1 - INSTALL OPTIONAL SWEAT SOLDER ADAPTER (ONLY IF YOUR SUPPLY PIPE DOES NOT HAVE A MALE THREAD)

- A** Measure from finished wall to C/L of Fixture Spud. Cut pipe 1 1/4" (32 mm) shorter than this measurement. Chamfer O.D. and I.D. of water supply pipe.
- B** Slide Threaded Adapter fully onto pipe.
- C** Sweat solder the Adapter to pipe.

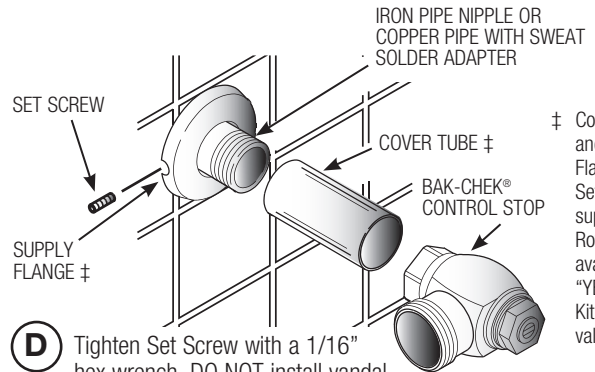


## 2 - INSTALL COVER TUBE, WALL FLANGE, AND CONTROL STOP TO SUPPLY PIPE

- A** Measure from finished wall to first thread of adapter or threaded supply pipe (dimension "X"). Cut cover tube to this length.
- B** Slide cover tube over pipe. Slide wall flange over cover tube until against wall.
- C** Install the Sloan Bak-Chek® control stop to the water supply line with the outlet positioned as required.



- D** Tighten Set Screw with a 1/16" hex wrench. DO NOT install vandal resistant stop cap at this time.



† Cover Tube and Supply Flange with Set Screw is supplied with Royal valves; available in "YBYC" Sweat Kit for Regal valves.

### 3 - INSTALL VACUUM BREAKER AND FLUSH CONNECTION

**!!! IMPORTANT !!!**

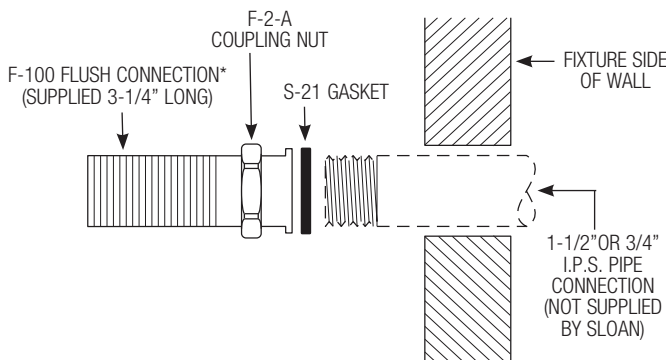
**DUE TO THE HIGH BACK PRESSURES THAT CAN BE CREATED BY STAINLESS WATER CLOSETS AND COMBINATION FIXTURES, THE FOLLOWING PROCEDURES MUST BE FOLLOWED WHEN INSTALLING THE FLUSH CONNECTION. FAILURE TO FOLLOW THESE PROCEDURES CAN RESULT IN SEPARATIONS. FOR SECURE CONNECTIONS IN HIGHER PRESSURE AND OTHER SEVERE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

#### NOTE

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.

- A** Secure flanged end of F-100 Flush Connection to the 1-1/2" (38 mm) pipe using a 1-1/2" F-2-A Coupling Nut with S-21 Gasket. Tighten securely.

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



- B** Cut Vacuum Breaker and Flush Connection tubes to length.

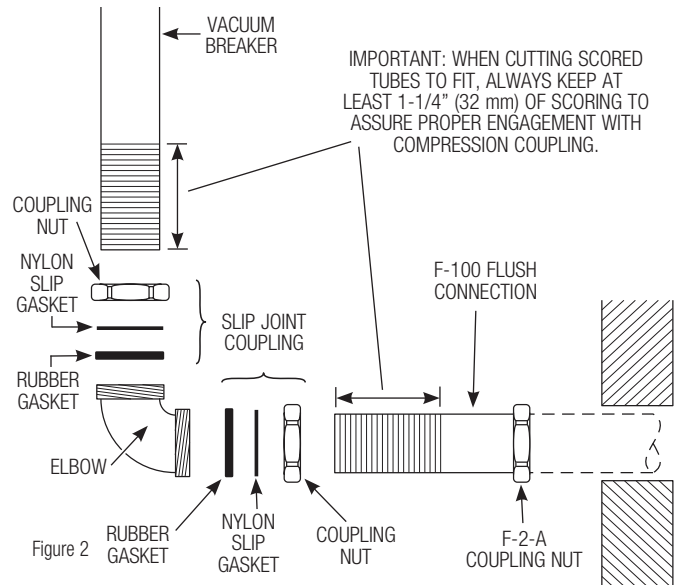
**!!! IMPORTANT !!!**

**IMPORTANT: WHEN CUTTING SCORED TUBES TO FIT, ALWAYS KEEP AT LEAST 1-1/4" (32 MM) OF SCORING TO ASSURE PROPER ENGAGEMENT WITH COMPRESSION COUPLING.**

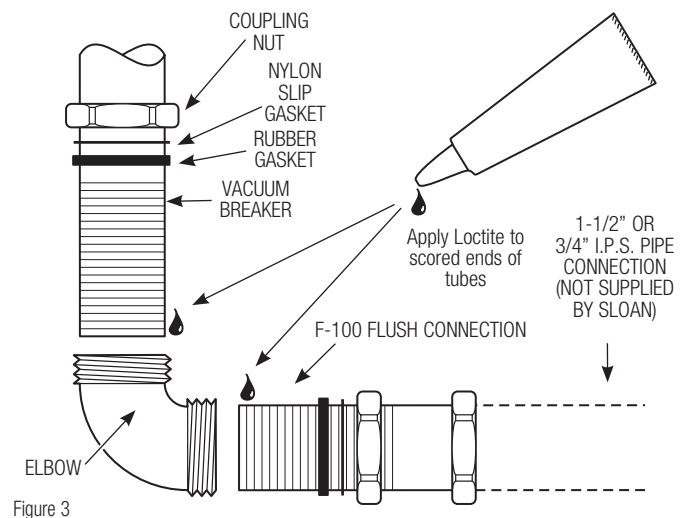
- C** Slide the Coupling Nut, Nylon Slip Gasket and Rubber Gasket onto the Vacuum Breaker and Flush Connection tubes.

#### Install Slip Elbow

Connect scored ends of vacuum breaker tube and F-100/F-102 flush connection to the elbow using coupling, slip gasket and rubber compression gasket. After applying Loctite® to scored ends, tighten securely.



**IMPORTANT:** Before inserting the scored ends into the Elbow, apply several drops of Loctite (supplied by Sloan) to the scored ends of the tubes (Figure 3). This sealant helps prevent separation under high-pressure conditions. **DO NOT** use any other pipe sealant or lubricant on this connection.



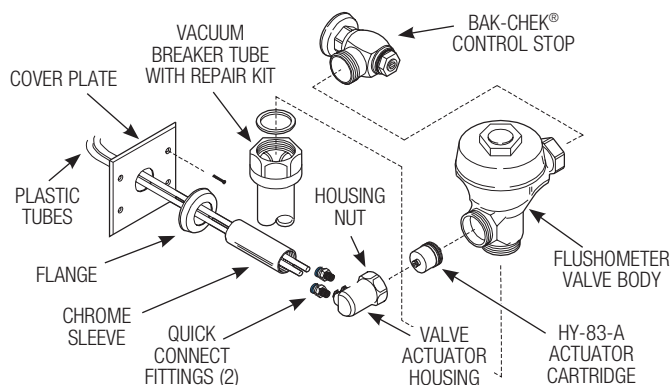
Loctite can also be used to secure Push Button Flange. See Sealant package for details.

## 4 - INSTALL VALVE ACTUATOR

!!! IMPORTANT !!!

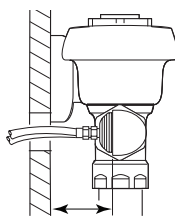
**TUBING MUST BE CONNECTED TO PROPER VALVE ACTUATOR. YELLOW TUBE MUST BE CONNECTED TO YELLOW/"O" FITTING AND BLUE TUBE MUST BE CONNECTED TO BLUE/"L" FITTING.**

- A** Insert Actuator Cartridge into Flushometer Valve Body.
- B** Install Valve Actuator Housing onto Flushometer Valve Body. Hand tighten Housing Nut with a wrench.
- C** Cut off excess tubing with a plastic tube cutter (PTC) so that there will be about 3" to 4" (76 mm to 102 mm) of slack when connected to valve actuator.
- D** Slide plastic colored tubing into its corresponding colored valve actuator fitting. Pull tubing to make sure connection is secure. (Tubing can be removed by pressing on Blue/Yellow connection button to release).



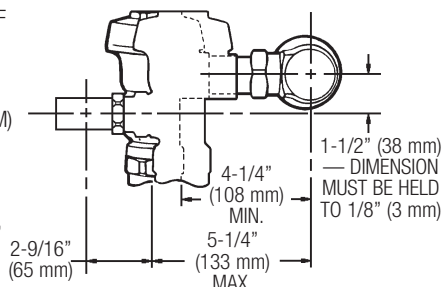
## 5 - INSTALL FLUSHOMETER

- A** Align flushometer Body on top of vacuum breaker flush connection. Measure distance from valve actuator Housing to finished wall. Cut chrome sleeve adding an additional 1" (25 mm) to the previously measured distance.  
**IMPORTANT: DO NOT cut threaded end of Chrome Sleeve. Only cut non-threaded end.**
- B** Remove flushometer Body from top of Vacuum Breaker flush Connection.
- C** Slide chrome sleeve (threaded end first) over plastic tubing. Thread onto valve actuator until chrome sleeve is tight against valve actuator housing.
- D** Slide flange and cover plate over plastic tubing and onto chrome sleeve.
- E** Run Plastic Tubing through wall hole to push Button Actuator location. (If installing HY-72-A Push Button Actuator, run Plastic Tubing through electrical box and conduit and out through the electrical box at Push Button Actuator location.)



MEASURE DISTANCE AND ADD 1" (25 mm)

MAXIMUM ADJUSTMENT OF THE SLOAN ADJUSTABLE TAILPIECE IS 1/2" (13 mm) IN OR OUT FROM THE STANDARD 4-3/4" (121 mm) (C/L OF FLUSHOMETER TO C/L OF CONTROL STOP). IF ROUGH-IN MEASUREMENT EXCEEDS 5-1/4" (133 mm), CONSULT FACTORY FOR LONGER TAILPIECE.

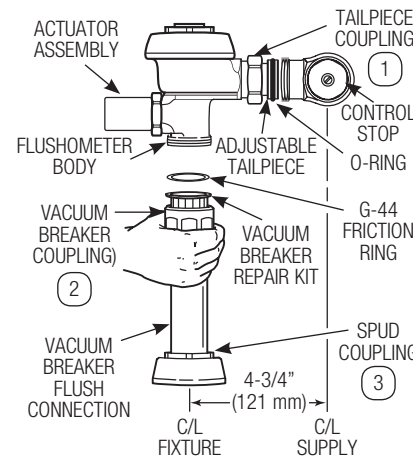


**IMPORTANT: Use a Sloan A-50 Super-Wrench™, Sloan A-109 Plier Wrench or smooth jawed spud wrench to secure all couplings. This will eliminate damage to chrome or special finish that normally occurs when slip-joint pliers, pipe wrenches or other "toothed" tools are used.**

- F** Insert Adjustable Tailpiece into Control Stop. Lubricate O-ring seal with water. Hand tighten Tailpiece Coupling.
- G** Align flushometer body on top of vacuum breaker flush connection. Hand tighten vacuum breaker coupling.
- H** Align flushometer body. Using a wrench, securely tighten couplings in order given: **(1)** tailpiece coupling, **(2)** vacuum breaker coupling and **(3)** spud coupling. Then tighten valve actuator housing nut securely.

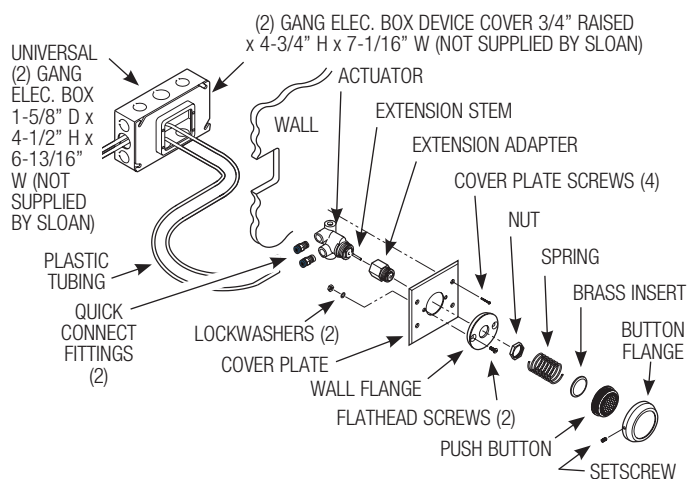


- I** With flushometer body aligned on top of vacuum breaker flush Connection, assemble cover plate to plaster ring with hex head screws. Slide flange against cover plate.



## 6A - INSTALL PUSH BUTTON ACTUATOR (HY-72-A SIDE WALL (SW VARIATION) PUSH BUTTON ACTUATOR)

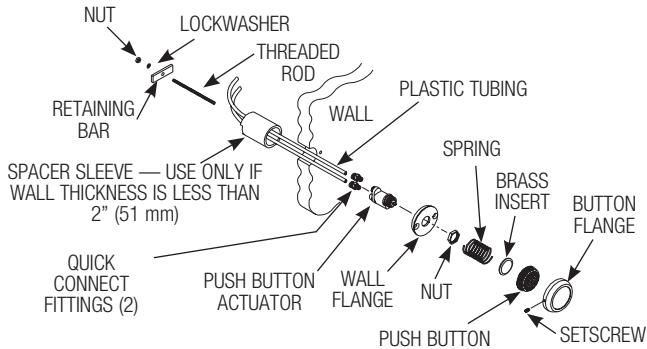
- A** Mount Wall Flange onto Cover Plate using (2) Flathead Screws, Lockwashers and Nuts provided. Tighten Fasteners securely.
- B** Insert extension Stem into extension Adapter and thread extension Adapter onto Push Button Actuator.
- C** Insert threaded end of Push Button Actuator Assembly through Cover Plate Assembly. Fasten to Plate with Nut. Tighten securely.
- D** Place Brass Insert into black Push Button. Concave side of Brass Insert must face outward of Push Button.
- E** Insert black Push Button into Button Flange. Place Spring against Brass Insert of Push Button. Install Push Button Assembly onto Cover Plate. Secure with Setscrew located on Button Flange.
- F** Attach plastic tubing. See: Steps to attach plastic tubing on next page.
- G** Mount Cover Plate Assembly onto electrical box cover using the four (4) Screws provided.





## 6B - INSTALL PUSH BUTTON ACTUATOR (HY-33-A FIXTURE WALL (FW VARIATION) PUSH BUTTON ACTUATOR – WALL INSTALLATION)

**Note:** The HY-33-A Fixture Wall may be installed directly onto fixture wall where access behind wall is available. If rear access is not available, HY-33-A may be installed onto a Sloan Easy Access Wall Box Assembly. Parts for both installations are included with the HY-33-A Push Button.

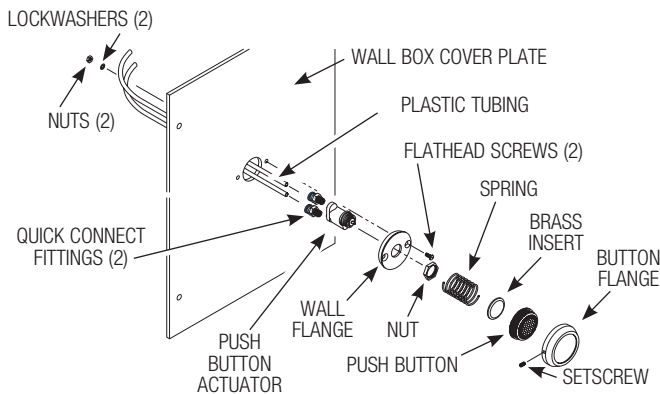


- A** If not already completed, bore a 1½" (38 mm) diameter hole in wall for the push button actuator. Refer to the rough-in drawings on pages 1 and 2.
- B** Screw Threaded Rod into back of Push Button Actuator.

- C** Insert threaded end of Push Button Actuator into Wall Flange and install Nut. Tighten Nut securely.
- D** Place Brass Insert into black Push Button. Concave side of Brass Insert must face outward of Push Button.
- E** Insert black Push Button into Button Flange. Place Spring against Brass Insert of Push Button. Install Push Button Assembly onto Wall Flange. Secure with Setscrew located on Button Flange.
- F** If spacer sleeve is required, from behind wall, run plastic tubing through sleeve (notched end of sleeve toward rear) and through wall. Spacer sleeve is only required if wall thickness is less than 2" (51 mm).
- G** Attach Plastic Tubing. See: Steps to Attach Plastic Tubing below.
- H** Insert Push Button Assembly into the 1-1/2" (38 mm) wall hole.
- I** 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 (if required), or against wall if Sleeve is not required. Install lockwasher and nut onto threaded rod. Tighten securely. Carefully cut excess threaded rod, making certain to not damage plastic tubing.

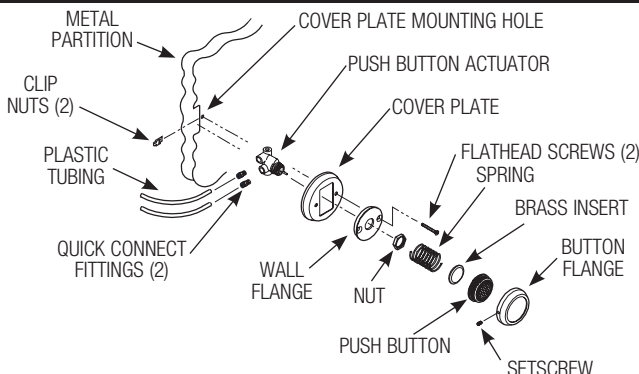
## 6C - INSTALL PUSH BUTTON ACTUATOR (HY-33-A FIXTURE WALL (FW VARIATION) PUSH BUTTON ACTUATOR – WALL BOX INSTALLATION)

**Note:** Sloan WB-1-A easy access wall box is designed for use with HY-33-A and HY-108-A Actuators.



- A** Insert threaded end of push button actuator through wall flange and install nut. Tighten nut securely.
- B** Mount wall flange and push button actuator to wall box cover plate using flathead screws, lockwashers and nuts provided. Tighten fasteners securely.
- C** Place Brass Insert into black push button. Concave side of Brass Insert must face outward of Push Button.
- D** Insert black push button into button flange. Place spring against brass insert of push button. Install push button assembly onto wall flange. secure with setscrew located on Button flange.
- E** Attach plastic tubing. See: Steps to Attach Plastic Tubing below.

## 6D - INSTALL PUSH BUTTON ACTUATOR (HY-49-A METAL PARTITION (MP VARIATION) PUSH BUTTON ACTUATOR)



- A** Using Cover Plate as a template, drill two 3/16" (5 mm) Cover Plate Mounting holes and cut opening for Push Button Actuator into the metal partition. Install Clip Nuts with threaded side toward back.

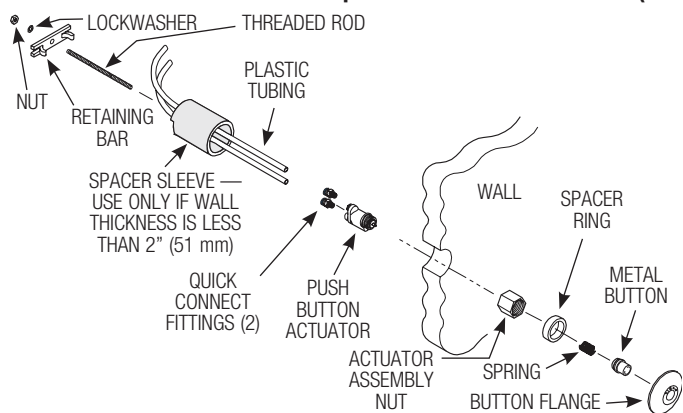
- B** Insert threaded end of push button actuator through cover plate and wall flange and install nut. Tighten nut securely.
- C** Attach Plastic Tubing. See: Steps to Attach Plastic Tubing below.
- D** Insert flathead Screws through wall flange and Cover Plate mounting holes. Mount wall flange and cover plate to metal partition using flathead screws provided. Tighten fasteners securely.
- E** Place Brass Insert into black Push Button. Concave side of Brass Insert must face outward of Push Button.
- F** Insert black Push Button into Button Flange. Place Spring against Brass Insert of Push Button. Install Push Button Assembly onto Wall Flange. Secure with Setscrew located on Button Flange.

### STEPS TO ATTACH PLASTIC TUBING

1. The push button actuator is connected to the flushometer body by two plastic tubes, yellow and blue. Match colors of the tubes to colors on the actuator.
2. Cut off excess plastic tubing leaving 3" to 4" (76 to 102 mm) of slack when push button actuator is installed.
3. Slide plastic tubing onto its corresponding valve actuator fitting. Pull tubing to make sure connection is secure. (Tubing can be removed by pressing on blue/yellow connection button to release).

## 6E - INSTALL PUSH BUTTON ACTUATOR (HY-100-A METAL BUTTON (MBFW VARIATION) ACTUATOR – FIXTURE WALL)

**Note: Behind wall access required to install HY-100-A (MBFW)**

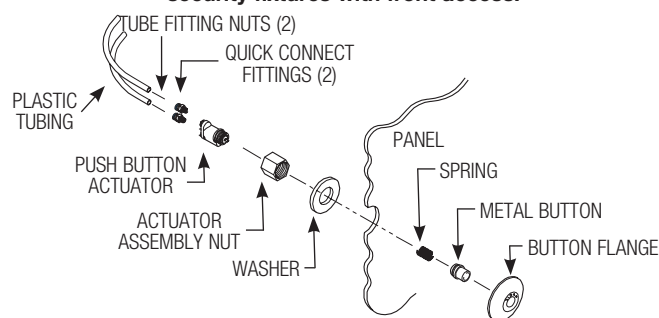


- A** If not already completed, bore a 1-1/2" (38 mm) diameter hole in wall for the Push Button Actuator. Refer to the Rough-in drawings on Pages 1 and 2.
- B** Screw Threaded Rod into back of Push Button Actuator.

- C** Thread Actuator Assembly Nut onto end of Push Button Actuator.
- D** Slide Spring over Metal Push Button until it snaps into place. Insert Metal Push Button into Button Flange.
- E** Place Spacer Ring over threads of Button Flange and thread Button Flange Assembly into Actuator Assembly Nut.
- F** From behind wall, run Plastic Tubing through optional Spacer Sleeve (notched end of sleeve toward rear) and wall. Spacer Sleeve only required if wall thickness is less than 2" (51 mm).
- G** Attach Plastic Tubing. See: Steps to Attach Plastic Tubing (Page 5).
- H** Insert Push Button Assembly into the 1-1/2" (38 mm) wall hole.
- I** 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 (if required), or against wall if Sleeve is not required. Install Lockwasher and Nut onto Threaded Rod. Tighten securely. Carefully cut excess Threaded Rod, making certain to not damage Plastic Tubing.

## 6F - INSTALL PUSH BUTTON ACTUATOR (HY-108-A METAL BUTTON (MBPM VARIATION) ACTUATOR – PANEL MOUNT)

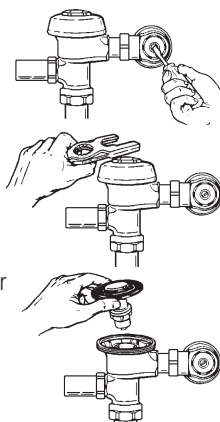
**Note: Use HY-108-A (MBPM) on punched stainless steel plates and security fixtures with front access.**



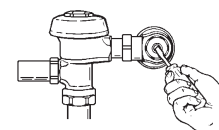
- A** Attach plastic tubing to push button actuator. See: Steps to Attach plastic tubing (Page 5).
- B** Thread actuator assembly nut onto threaded end of push button actuator.
- C** Slide Spring over Metal Push Button until it snaps into place. Insert Metal Push Button into Button Flange.
- D** From front of panel, insert Button Flange Assembly into hole of panel. Behind panel, place Washer over threads of Button Flange. Thread Button Flange onto Actuator. Tighten Flange securely.

## 7 - FLUSH OUT SUPPLY LINE AND ADJUST CONTROL STOP

- A** Shut off control stop by turning handle CLOCKWISE. Then remove flushometer cover.
- B** Lift out the inside parts assembly as a complete unit. Reinstall flushometer cover and tighten with wrench. Open control stop. Turn on water supply to flush line of any debris or sediment.
- C** Shut off control stop and remove flushometer cover. Reinstall Inside Parts assembly and flushometer cover. Tighten cover with wrench. Open control stop and activate flushometer.



- D** Adjust control stop to meet flow rate required for proper cleansing of fixture. Open control stop COUNTERCLOCKWISE ONE FULL turn from closed position. Activate flushometer. Adjust control stop after each flush until the rate of flow delivered properly cleanses the fixture.



### !!! IMPORTANT !!!

**SLOAN FLUSHOMETERS ARE ENGINEERED FOR QUIET OPERATION. EXCESSIVE WATER FLOW CREATES NOISE, WHILE TOO LITTLE 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.**

**NEVER OPEN CONTROL STOP TO WHERE THE FLOW FROM THE VALVE EXCEEDS THE FLOW CAPABILITY OF THE FIXTURE. IN THE EVENT OF A VALVE FAILURE, THE FIXTURE MUST BE ABLE TO ACCOMMODATE A CONTINUOUS FLOW FROM THE VALVE.**

## CARE AND CLEANING OF CHROME AND SPECIAL FINISHES

DO NOT USE abrasive or chemical cleaners (including chlorine bleach) to clean flushometers that may dull the luster and attack the chrome or special decorative finishes. Use ONLY mild soap and water, then wipe dry with clean cloth or towel.

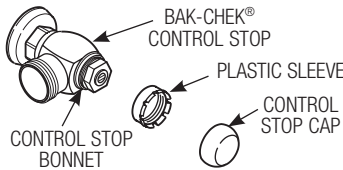
While cleaning the bathroom tile, protect the Flushometer from any splattering of cleaner. Acids and cleaning fluids will discolor or remove chrome plating.

## 8 - INSTALL VANDAL RESISTANT CONTROL STOP CAP

### ROYAL FLUSHOMETERS

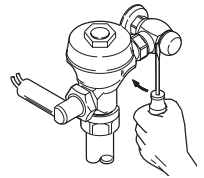
**IMPORTANT: DO NOT INSTALL CAP ONTO SLEEVE UNLESS THE SLEEVE HAS BEEN THREADED ONTO THE BONNET. IF THE SLEEVE AND CAP ARE ASSEMBLED OFF THE CONTROL STOP, THE SLEEVE WILL NOT COME APART FROM THE CAP.**

- A** Thread the plastic sleeve onto the stop bonnet until it is snug. Hand tighten only; do not use pliers or a wrench.
- B** Place the metal control stop cap over the plastic sleeve. Use the palm of your hand to push or "pop" the cap over the fingers of the Sleeve. The cap should spin freely on the sleeve.



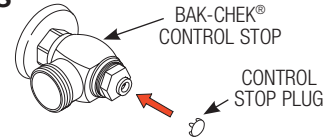
### Control Stop Cap Removal (Royal)

Use a large flat screwdriver as a lever to remove the cap from the control stop. Insert the screwdriver blade between the bottom edge of the cap and the flat surface of the control stop body as shown. Push the screwdriver handle straight back toward the wall to gently lift the cap. If necessary, work the screwdriver around the diameter of the cap until you can grasp the cap and lift it completely off the sleeve. The sleeve should remain attached to the bonnet of the control stop.



### REGAL XL FLUSHOMETERS

- A** Install Control Stop Cap onto the Control Stop. Wrench tighten Control Stop Cap to eliminate vandalism.



## TROUBLESHOOTING

- Push Button Leaks.**  
The actuator cartridge has an accumulation of lime or its seals are damaged or worn. Replace with a new HY-32-A cartridge.
- The flushometer does not flush and a small amount of leakage is visible below the valve.**
  - Foreign material lodged in the cartridge. Remove the cartridge and inspect for foreign material. Clean under running water.
  - The actuator cartridge has an accumulation of lime or its seals are damaged or worn. Replace with a new HY-32-A cartridge.
  - Plastic Tubing is installed incorrectly. Install plastic tubing correctly (blue tube/blue fittings) (yellow tube/yellow fittings).

### ACTUATOR CARTRIDGE REMOVAL

#### Plastic Push Button Actuator Removal:

- Loosen the setscrew in the button flange and remove the button, flange, and spring from the actuator body.
- Unscrew the cartridge from the actuator body.

#### Metal Push Button Actuator Removal:

- Remove the button or actuator assembly from the wall or fixture.
- Disassemble the flange or button assembly from the actuator body.
- Unscrew the cartridge from the actuator body.

**NOTE: The metal Push Button is designed to be vandal-proof and must be removed from the wall or fixture for service.**

- The flushometer does not flush or flushes only once and will not flush a second time when the button is pushed.**
  - The plunger is lodged in the actuator cartridge or the plunger bypass hole is clogged. Remove actuator housing and cartridge from the Flushometer. Clean under running water. If cartridge parts are worn, deteriorated or limed up and problem persists after cleaning, replace with a new HY-83-A cartridge.
  - Plastic Tubing is installed incorrectly. Install plastic tubing correctly (Steps 4 and 6).

### REMOVAL OF THE ACTUATOR FROM THE FLUSHOMETER:

Turn off water at the Control Stop. Unscrew the actuator housing coupling nut from the flushometer. Remove the actuator housing from the flushometer. The tubing connections can be left intact. 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 flushometer body cavity, gently grip the exposed portion of the cartridge with a channel-lock pliers and rotate back and forth to loosen the o-ring seal. Carefully separate the actuator housing to reveal the spring and plunger.

- Flushometer does not function (no flush).**
  - Control Stop or Main Valve is Closed. Open Control Stop or Main Valve.
  - Relief valve is worn. Replace Performance Kit (Royal) or Inside Parts Kit (Regal XL).
- Volume of water is not sufficient to siphon fixture.**
  - Control Stop is not open wide enough. Adjust Control Stop for desired delivery of water volume.
  - Urinal flushometer parts installed in a closet flushometer. Replace inside urinal Flushometer parts with proper closet flushometer parts.
  - Incorrect dual filtered diaphragm assembly (Royal) or inside parts kit (Regal XL) 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 or Inside Parts Kit. Use valve label and markings on fixture for reference.
  - Water supply volume or pressure is inadequate. If no gauges are available to properly measure supply pressure or volume of water at the Flushometer, then remove the Relief Valve from the Dual Filtered Diaphragm Assembly (Royal) or Inside Parts Kit (Regal XL), reassemble the flushometer and completely open the Control Stop. If the fixture siphons, more water volume is required.

**For Royal** — Install a higher flushing volume Royal Performance Kit.

**For Regal XL** — If a 3.5 gpf Inside Parts Kit is installed in the 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 (0301104).

**IMPORTANT — LAWS AND REGULATIONS REQUIRING PROHIBIT THE USE OF HIGHER FLUSHING VOLUMES THAN LISTED ON FIXTURE OR FLUSHOMETER.**

If the fixture does not siphon or if a Low Consumption flush is required, steps must be taken to increase the water supply pressure and/or volume. Contact the fixture manufacturer for minimum water supply requirements of the fixture.

- Flushometer closes off immediately.**
  - Ruptured or damaged diaphragm. Replace Royal Performance Kit (Royal) or Inside Parts Kit (Regal XL).
  - For Regal XL** — An enlarged bypass orifice from corrosion or damage. Replace Inside Parts Kit.
- Length of flush is too short (Short Flush).**
  - For Regal XL** — The diaphragm Assembly and Guide Assembly are not hand tight. Screw the two assemblies hand tight.
  - For Regal XL** — An enlarged bypass orifice from corrosion or damage. Replace Inside Parts Kit.
  - Dual Filtered Diaphragm Assembly (Royal) or Inside Parts Kit (Regal XL) is damaged. Replace Royal Performance Kit or Inside Parts Kit.
  - Incorrect dual filtered diaphragm assembly (Royal) or Inside Parts Kit (Regal XL) 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 or Inside Parts Kit. Use valve label and markings on fixture for reference.
- Length of flush is too long (Long Flush) or continuous.**
  - For Royal** — Metering bypass hole in Diaphragm is clogged. 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.
  - For Regal XL** — Relief Valve (A-19-A) is not seating properly or bypass orifice is clogged. Disassemble the working parts and wash thoroughly.

**NOTE: SIZE OF THE ORIFICE IN THE BYPASS IS OF UTMOST IMPORTANCE FOR 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.**

  - Supply line water pressure has dropped and is not sufficient to close the valve. Close Control Stop until pressure is restored.
  - Dual filtered diaphragm assembly (Royal) or Inside Parts Kit (Regal XL) is damaged. Replace Royal Performance Kit or Inside Parts Kit.
  - Incorrect dual filtered diaphragm assembly (Royal) or Inside Parts Kit (Regal XL) 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 or Inside Parts Kit. Use valve label and markings on fixture for reference.
  - 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).
  - Inside Cover is cracked or damaged. Replace the Inside Cover (A-71).
  - Conditions in the piping system may contribute to the noise. A degree of high pressure in the piping may be relieved by adjustments to 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.

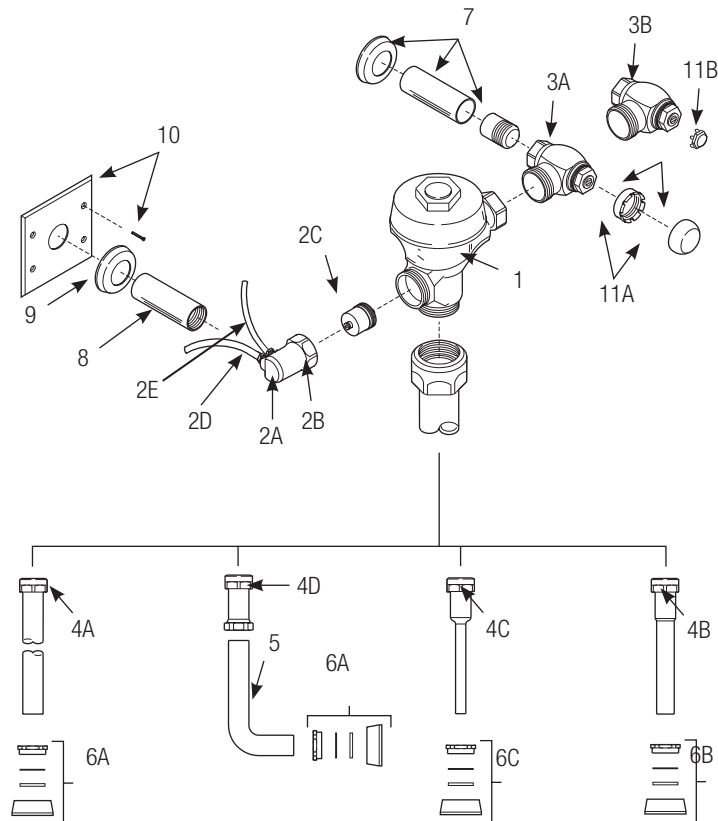
### 6. Chattering noise is heard during flush.

- Inside cover is damaged. Replace Inside Cover (A-71).
- For Regal XL** — A-156-A Segment Diaphragm has been installed upside-down. Reposition the Segment Diaphragm properly (see markings on the Diaphragm).

**When further assistance is required, please contact your local Sloan Representative or Sloan Technical Support at:  
1-888-SLOAN-14 (1-888-756-2614)**



## PARTS LIST



Item No.	Part No.	Description
1	†	Valve Assembly
2A	HY-65	Valve Actuator Housing
2B	A-6	Housing Nut
2C	HY-83	Actuator Cartridge Assembly
2D	HY-145-X	Blue 1/4" Connecting Tube
2E	HY-146-X	Yellow 1/4" Connecting Tube
3A	H-700-A	Bak-Chek® Control Stop (Royal Valves)
3B	H-790-A	Bak-Chek® Control Stop (Regal XL Valves)
4A	V-600-AA	1½" (38 mm) Vacuum Breaker Assembly
4B	V-600-AA	1¼" (32 mm) Vacuum Breaker Assembly
4C	V-600-AA	¾" (19 mm) Vacuum Breaker Assembly
4D	V-600-A	Vacuum Breaker
5	F-109	1½" (38 mm) Elbow Flush Connection
6A	F-5-A	1-1/2" (38 mm) Spud Coupling Assembly (Royal Valves)
	F-56-A	1½" (38 mm) Spud Coupling Assembly (Regal XL Valves)

Item No.	Part No.	Description
6B	F-5-A	1¼" (32 mm) Spud Coupling Assembly (Royal Valves)
	F-57-A	1¼" (32 mm) Spud Coupling Assembly (Regal XL Valves)
6C	F-5-A	¾" (19 mm) Spud Coupling Assembly (Royal Valves)
	F-58-A	¾" (19 mm) Spud Coupling Assembly (Regal XL Valves)
7	H-633-AA	1" (25 mm) Sweat Solder Kit & Cast Wall Flange w/Set Screw
	H-636-AA	¾" (19 mm) Sweat Solder Kit & Cast Wall Flange w/Set Screw
8	HY-64	Chrome Sleeve
9	F-7	Tube Flange
10	HY-112-A	Plate with Screws
11A	H-1010-A	Free Spinning Vandal Resistant Stop Cap (Royal Valves)
11B	H-528	Vandal Resistant Hole Plug (Regal Valves)

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

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

**SLOAN • 10500 SEYMOUR AVENUE • FRANKLIN PARK, IL 60131**

Phone: 1-800-982-5839 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380 • [www.sloan.com](http://www.sloan.com)