

**INSTALLATION INSTRUCTIONS FOR PISTON TYPE FLUSHOMETER  
EXPOSED CLOSET AND URINAL INSTALLATIONS**



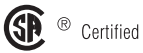
**Closet Flushometer for 1½" Top Spud**  
Crown II & Crown 111  
Crown II & Crown 115  
Crown II & Crown 116



**Urinal Flushometer for 1¼" Top Spud**  
Crown II & Crown 180  
**Urinal Flushometer for ¾" Top Spud**  
Crown II & Crown 186



**Closet Flushometer for 1½" Back Spud**  
Crown II & Crown 120



Made in the U.S.A.



**LIMITED WARRANTY**

Sloan Valve Company warrants its Crown II® and Crown® 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.**

**PRIOR TO INSTALLATION**

Before you install the Sloan Crown II and Crown Flushometer, be sure the items listed below are installed. Also, refer to the rough-in diagrams below.

- Closet/urinal fixture
- Drain line
- 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.

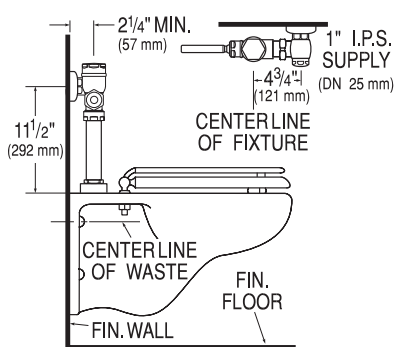
The Sloan Crown II and Crown Flushometer is designed to operate with 10 to 100 psi (69 to 689 kPa) of water pressure. THE MINIMUM PRESSURE REQUIRED TO THE VALVE IS DETERMINED BY THE TYPE OF FIXTURE SELECTED. Consult fixture manufacturer for minimum pressure requirements. Most Low Consumption water closets (1.6 gpf/6.0 Lpf) require a minimum flowing pressure of 25 psi (172 kPa).

**TOOLS REQUIRED FOR INSTALLATION**

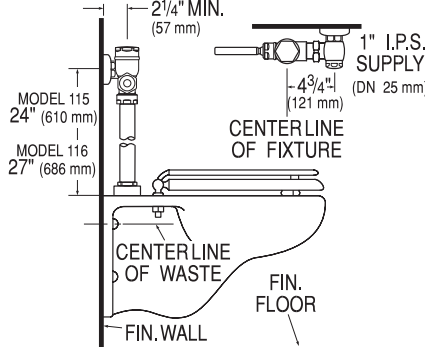
- Straight blade screwdriver
- Sloan A-50 Super-Wrench™, Sloan A-109 Plier Wrench or smooth jawed spud wrench

**VALVE ROUGH-IN**

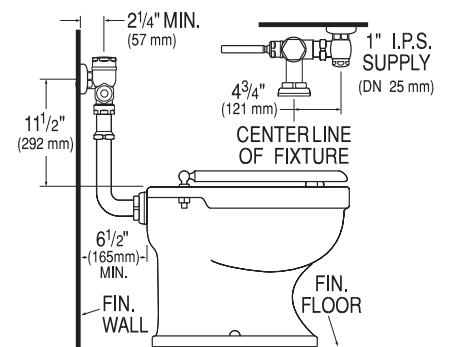
**MODEL 111**



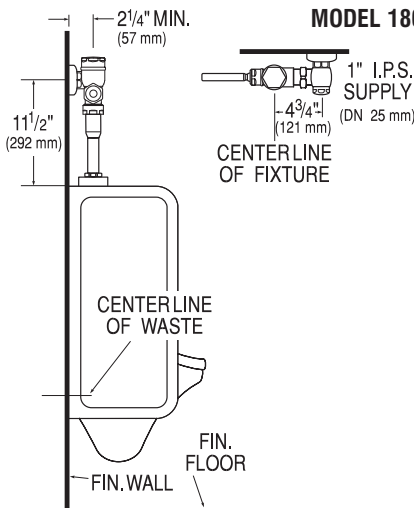
**MODELS 115 & 116**



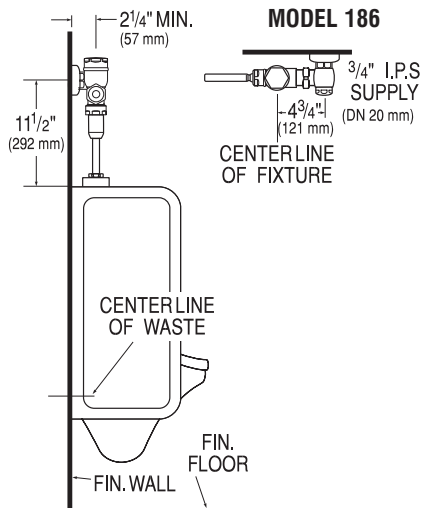
**MODEL 120**



**MODEL 180**



**MODEL 186**



**!!! IMPORTANT !!!**

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

**!!! IMPORTANT !!!**

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.

**!!! IMPORTANT !!!**

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™, Sloan A-109 Plier Wrench or smooth jawed spud wrench to secure all couplings. Also see "Care and Cleaning" section of this manual.

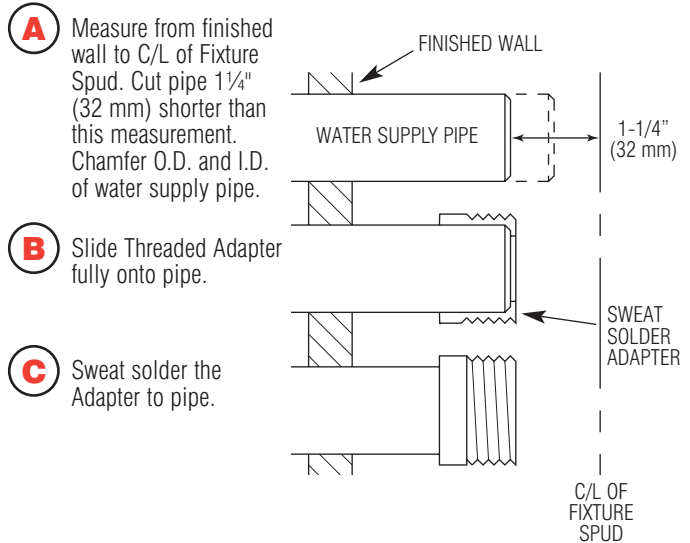
**!!! IMPORTANT !!!**

This product contains mechanical and/or electrical 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.

If you have questions about how to install or maintain your Sloan Flushometer, consult your local Sloan Representative or call Sloan Installation Engineering Department at:

**1-888-SLOAN-14 (1-888-756-2614) OR 1-847-233-2016**

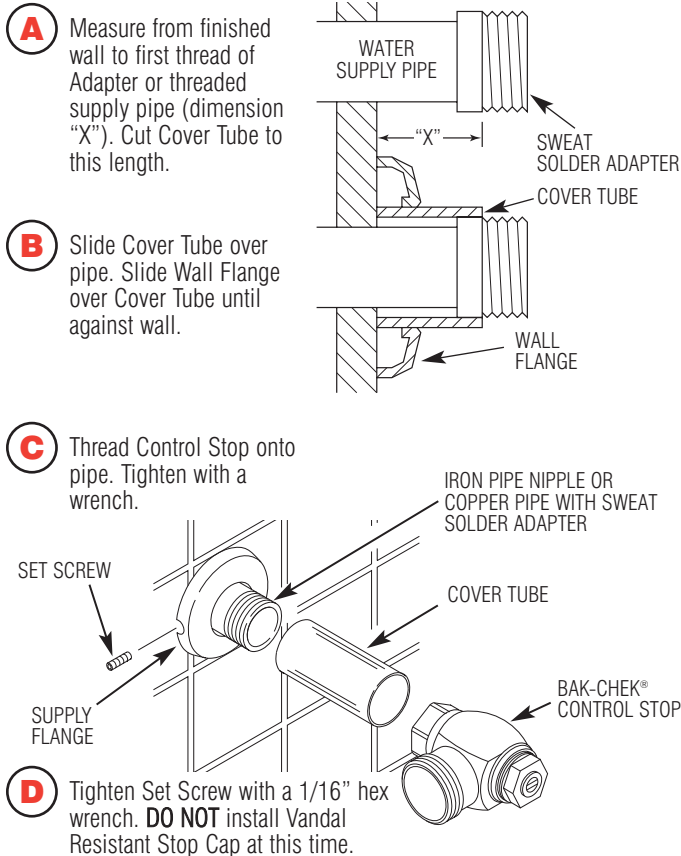
# 1 Install Optional Sweat Solder Adapter (only if your supply pipe does not have a male thread)



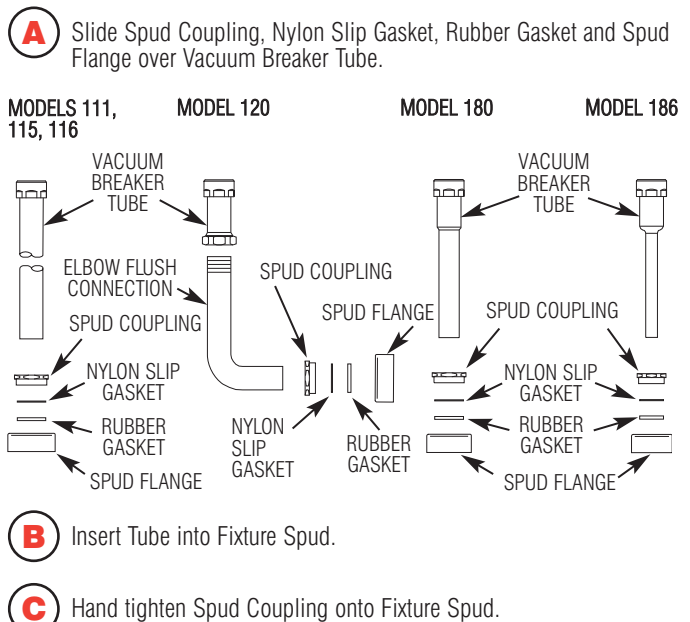
**!!! IMPORTANT !!!**

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

# 2 Install Cover Tube, Wall Flange and Control Stop to supply pipe



# 3 Install Vacuum Breaker Flush Connection



**NOTE**

If cutting Vacuum Breaker Tube to size, note that Critical Line (C/L) on Vacuum Breaker must typically be 6" (152 mm) above fixture. Consult Code for details.  
On Valves furnished less vacuum breaker, (XYV variation), connect flush tube to the bottom of the Valve using the Slip Gasket supplied.

# 4 Install Flushometer

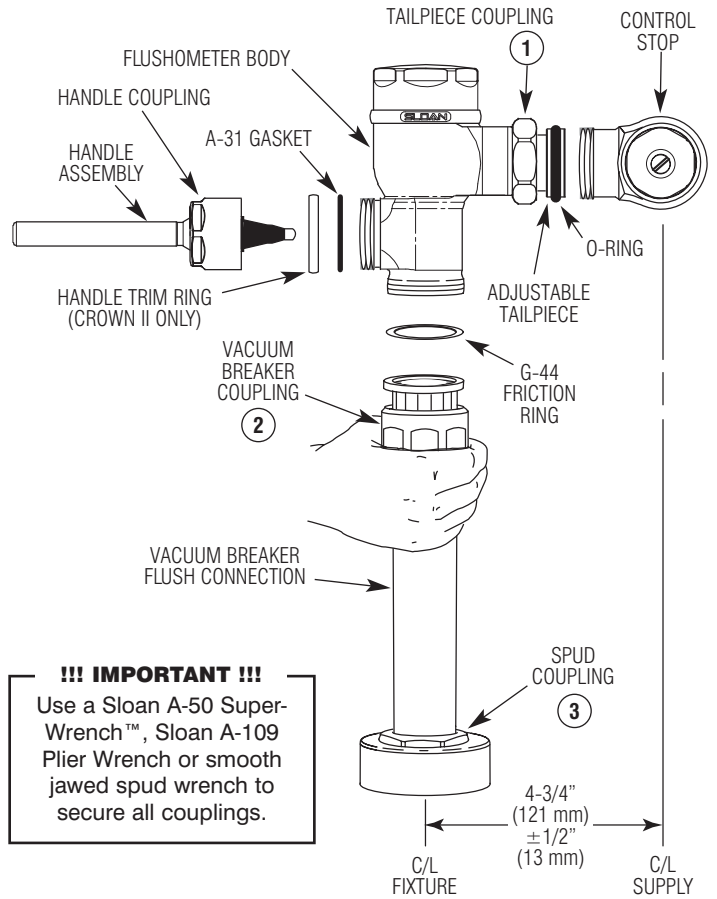
**A** Lubricate tailpiece O-ring with water. Insert Adjustable Tailpiece into Control Stop. Tighten Tailpiece Coupling by hand.

**B** Align Flushometer directly above the Vacuum Breaker Flush Connection by sliding the Flushometer Body IN or OUT as needed. Tighten Vacuum Breaker Coupling by hand.



**NOTE**  
 Maximum adjustment of the Sloan Adjustable Tailpiece is 1/2" (13 mm) IN or OUT from the standard 4-3/4" (121 mm) (centerline of Flushometer to centerline of Control Stop).  
 If roughing-in measurement exceeds 5-1/4" (133 mm), consult factory for longer tailpiece.  
 If a Ground Joint Tailpiece has been specified (recommended for seawater applications), there is no lateral adjustment; therefore, the 4 3/4" (121 mm) rough-in must be exact.

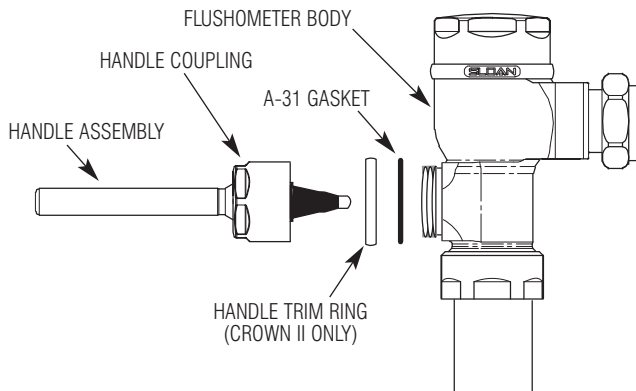
**C** Align Flushometer Body and securely tighten first the Tailpiece Coupling (1), then the Vacuum Breaker Coupling (2), and finally the Spud Coupling (3). Use a wrench to tighten these couplings in the order shown.



**!!! IMPORTANT !!!**  
 Use a Sloan A-50 Super-Wrench™, Sloan A-109 Plier Wrench or smooth jawed spud wrench to secure all couplings.

# 5 Install Handle Assembly

**A** Install Handle Assembly, Handle Trim Ring (Crown II flushometers only), and Gasket to Flushometer Body. Tighten Handle Assembly securely.

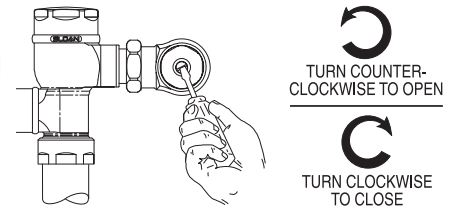


**!!! IMPORTANT !!!**  
 Use a Sloan A-50 Super-Wrench™, Sloan A-109 Plier Wrench or smooth jawed spud wrench to secure Handle coupling.

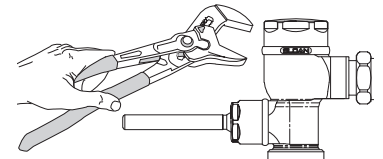


# 6 Flush Out Supply Line

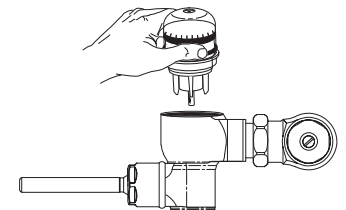
**A** Make sure Control Stop is CLOSED.



**B** Remove Flushometer Cover.

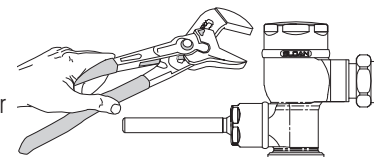


**C** Lift out the Piston Assembly.



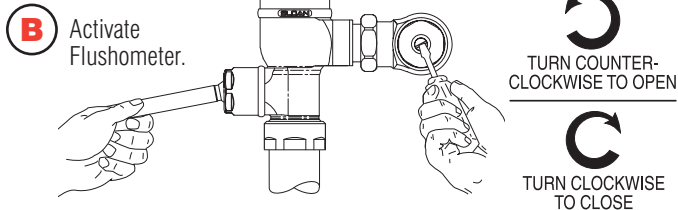
**D** Reinstall Flushometer Cover wrench tight. Open Control Stop to flush supply line. Close Control Stop and remove Flushometer Cover.

**E** Reinstall Piston Assembly and Flushometer Cover. Tighten Flushometer Cover wrench tight.



## 7 Adjust Control Stop and Install Vandal Resistant Stop Cap

**A** Open Control Stop COUNTERCLOCKWISE ½ turn from closed position.



**B** Activate Flushometer.

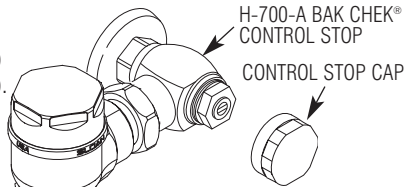
**C** Adjust Control Stop after each flush until the rate of flow delivered properly cleanses the fixture.

**!!! IMPORTANT !!!**

The Sloan CROWN II/CROWN Flushometer is 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 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.

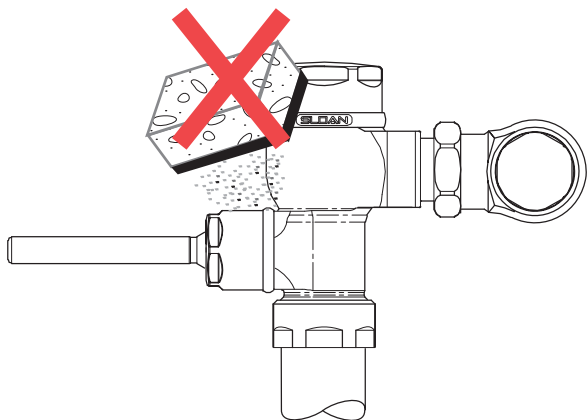
**D** Install Locking Vandal Resistant Control Stop Cap onto Control Stop.



## 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.



## TROUBLESHOOTING GUIDE

### 1. PROBLEM: Valve does not function.

**CAUSE:** (a.) Control Stop or Main Valve is Closed.  
(b.) Handle Assembly is worn.  
(c.) Relief Valve is worn and sticking in UP position.

**SOLUTION:** (a.) Open Control Stop or Main Valve.  
(b.) Install Sloan Handle Repair Kit (CR-1007) or replace Handle.  
(c.) Replace Piston.

### 2. PROBLEM: Insufficient volume of water to adequately siphon fixture.

**CAUSE:** (a.) Control Stop not open enough.  
(b.) Urinal Piston Parts inside a Closet Valve.  
(c.) Low Consumption Valve installed on a non-Low Consumption fixture.  
(d.) Inadequate volume or pressure at supply.

**SOLUTION:** (a.) Adjust Control Stop for desired delivery of water.  
(b.) Replace Piston Parts with proper Closet Piston.  
(c.) Replace with proper Flushometer. Crown II and Crown Flushometers are not available with flush volume higher than 1.6 gpf/6.0 Lpf.  
(d.) Increase water pressure or supply (flow) to valve. Consult Factory for assistance.

### 3. PROBLEM: Length of flush too short (Short Flushing) or Valve closes off immediately.

**CAUSE:** (a.) Piston Assembly is not hand-tight.  
(b.) Enlarged Bypass orifice from corrosion or damage.  
(c.) Urinal Piston in Closet Flushometer.  
(d.) Low Consumption Valve installed on a non-Low Consumption fixture.  
(e.) Handle Assembly worn.

**SOLUTION:** (a.) Screw the Piston Assembly hand-tight.  
(b.) Install NEW Inside Parts Kit to correct problem and update Flushometer.  
(c.) Replace Piston with proper Closet Piston.  
(d.) Replace with proper Flushometer. Crown II and Crown Flushometers are not available with flush volume higher than 1.6 gpf/6.0 Lpf.  
(e.) Install Handle Repair Kit (CR-1007).

### 4. PROBLEM: Length of flush too long (Long Flushing) or fails to close off.

**CAUSE:** (a.) Piston is not seating properly or Bypass orifice is clogged because of foreign material, or Bypass orifice is clogged by an invisible gelatinous film from "over-treated" water.  
(b.) Line pressure has dropped and is not sufficient to force Relief Valve to seat.  
(c.) CR-125-A Main Seat is fouled with debris or is worn.

**SOLUTION:** (a.) 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 valve. **Do not enlarge or damage this orifice.** Replace Piston if cleaning does not correct problem.

- (b.) Shut off all control stops until pressure has been restored, then open them again.
- (c.) Clean or replace CR-125-A Main Seat.

**5. PROBLEM: Leaking at Handle Assembly.**

- CAUSE:** (a.) *The B-85 Seal may have deteriorated.*  
(b.) *Handle Gasket has been omitted.*  
(c.) *Valve Handle Bushing is worn.*  
(d.) *Handle Trim Ring is reversed preventing gasket from sealing (Crown II only).*

- SOLUTION:** (a.) Install new B-85 Seal.  
**NOTE:** The B-85 Seal will easily slide onto the Bushing if it is wet.  
(b.) Install A-31 Handle Gasket or Sloan Handle Repair Kit (CR-1007).  
(c.) Install Sloan Handle Repair Kit (CR-1007).  
(d.) Flip Handle Trim Ring (CR-113) and reinstall Handle Assembly.

Refer to the Crown II and Crown Flushometer Maintenance Guide 0816457 for additional Troubleshooting and Repair Part information.

Manufactured in the U.S.A. by Sloan Valve Company under one or more of the following patents: U.S. Patents: 5,558,120; 6,460,825; 6,499,716; 6,550,744; 6,616,118; 6,675,827; 5,564,460; 5,730,415; Des 399,932; Des 470,222; DES 494,255; 6,550,744; CROWN II®, CROWN®, BAK-CHEK®.

When assistance is required, please contact Sloan Valve Company Installation Engineering Department at:

**1-888-SLOAN-14 (1-888-756-2614)**

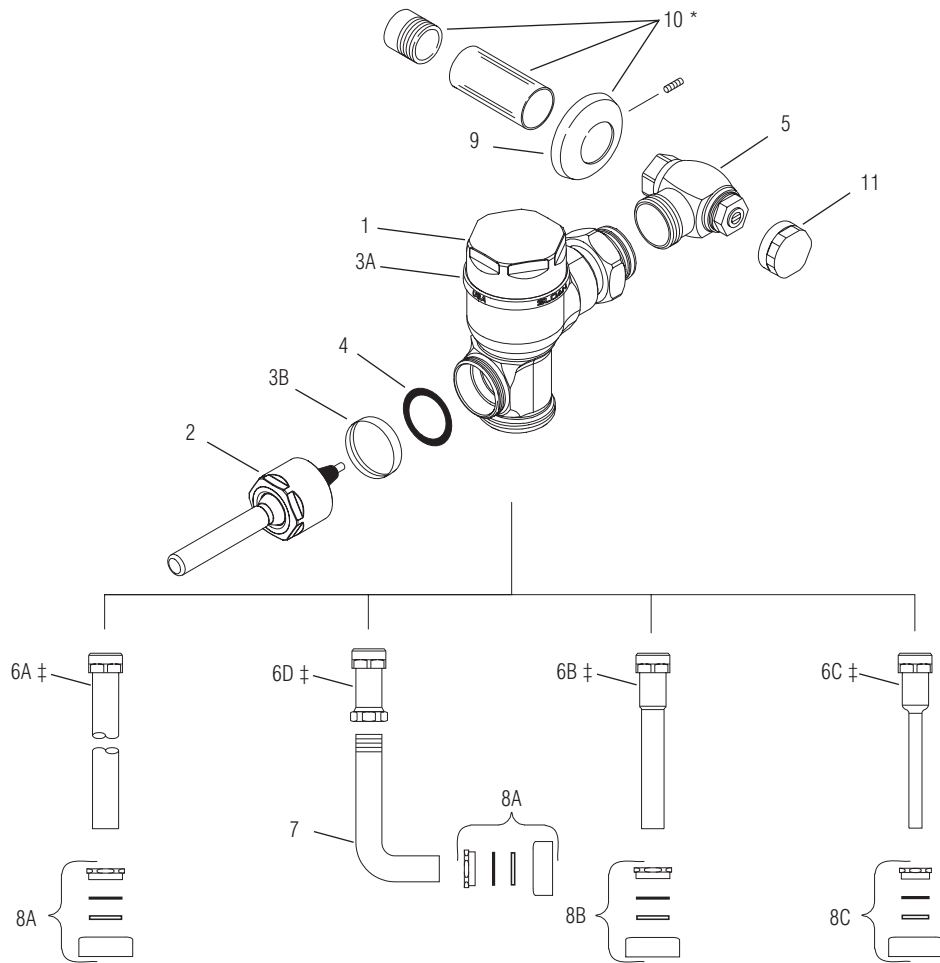
**OR**

**1-847-233-2016**

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## NOTES

# PARTS LIST



Item No.	Part No.	Description
1	†	Valve Assembly
2	B-30-A	Handle Assembly
3A	CR-120	PB (Polished Brass) Cover Trim Ring (Crown II only)
	CR-120	GP (Gold Plate) Cover Trim Ring (Crown II only)
	CR-120	BN (Brushed Nickel) Cover Trim Ring (Crown II only)
	CR-120	SF (Satin Finish) Cover Trim Ring (Crown II only)
3B	CR-113	PB (Polished Brass) Handle Trim Ring (Crown II only)
	CR-113	GP (Gold Plate) Handle Trim Ring (Crown II only)
	CR-113	BN (Brushed Nickel) Handle Trim Ring (Crown II only)
	CR-113	SF (Satin Finish) Handle Trim Ring (Crown II only)
4	A-31	Handle Gasket — 48 per pkg.
5	H-700-A	Bak-Chek® Control Stop
6A	V-500-AA	1½" (38 mm) x 9" (229 mm) Vacuum Breaker Assembly CP (Model 111) ‡
	V-500-AA	1½" (38 mm) x 21" (533 mm) Vacuum Breaker Assembly CP (Model 115) ‡
	V-500-AA	1½" (38 mm) x 24" (610 mm) Vacuum Breaker Assembly CP (Model 116) ‡
6B	V-500-AA	1¼" (32 mm) x 9" (229 mm) Vacuum Breaker Assembly CP (Model 180) ‡
6C	V-500-AA	¾" (19 mm) x 9" (229 mm) Vacuum Breaker Assembly CP (Model 186) ‡
6D	V-500-A	1½" (38 mm) Vacuum Breaker Assembly CP (Model 120) ‡
7	F-109	1½" (38 mm) Elbow Flush Connection CP (Model 120)
8A	CR-1010-A	1½" (38 mm) Spud Coupling Assembly (Models 111, 115, 116 and 120)
8B	CR-1009-A	1¼" (32 mm) Spud Coupling Assembly (Model 180)
8C	CR-1008-A	¾" (19 mm) Spud Coupling Assembly (Model 186)
9	F-7	Supply Flange (supplied when valve is not ordered with sweat solder kit)
10	H-633-AA	1" (25 mm) Sweat Solder Kit and Cast Wall Flange with Set Screw ("YBYC" Variation) *
	H-636-AA	¾" (19 mm) Sweat Solder Kit and Cast Wall Flange with Set Screw ("YBYC" Variation) *

Item No.	Part No.	Description
11	H-573-A	Locking Vandal Resistant Control Stop Cap CP §
	H-582	Locking Vandal Resistant Control Stop Cap CP •
<b>Handle and Cover Trim Ring Kits</b>		
	CR-132-A	CP (Chrome Plate) Handle/Cover Trim Ring Kit
	CR-132-A	PB (Polished Brass) Handle/Cover Trim Ring Kit (PVD Finish)
	CR-132-A	GP (Gold Plate) Handle/Cover Trim Ring Kit (PVD Finish)
	CR-132-A	BN (Brushed Nickel) Handle/Cover Trim Ring Kit (PVD Finish)
	CR-132-A	SF (Satin Chrome) Handle/Cover Trim Ring Kit
<b>Handle Repair Kit</b>		
	CR-1007	Handle Repair Kit
<b>Piston Repair Kits</b>		
	CR-1004-A	Piston Repair Kit 1.6 gpf (6.0 Lpf) Closet
	CR-1005-A	Piston Repair Kit 1.0 gpf (3.8 Lpf) Urinal
	CR-1006-A	Piston Repair Kit 0.5 gpf (1.9 Lpf) Urinal

Piston Repair Kit includes: Piston Assembly, CR-124-A Inside Cover, and CR-125-A Main Seat Assembly.

- † Part number varies with valve model variation; consult factory.
- ‡ If valve was specified less vacuum breaker ("XYV" Variation), a straight flush tube is supplied in place of the vacuum breaker assembly. Consult Factory for part number.
- § For use w/H-700-A 1" & ¾" and H-600-A 1" Screwdriver Bak-Chek® Control Stops.
- For use w/H-600-A ¾" Screwdriver Bak-Chek® Control Stops.
- \* Furnished only when ordered with YBYC variation. For a complete listing of Crown II and Crown Flushometer Valve Components and Repair Kits, refer to Maintenance Guide 0816457 or consult your nearest plumbing wholesaler.

For optimum water conservation and Flushometer performance, use only Genuine Sloan Parts.



SLOAN VALVE COMPANY • 10500 Seymour Avenue • Franklin Park, IL 60131  
 Phone: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380  
 www.sloanvalve.com