

Maintenance Guide



Royal and Regal Series 900™ Hydraulic Flushing System Repair and Maintenance Guide

Royal Models

PARTS LIST

Item	Code No.	Part No.	Description
1.	0301173	A-72	RB Cover
2.	0301168	A-71	Inside Cover
3.	SEE THE INSIDE PARTS KIT CHART BELOW		
4.	3323182	V-651-A	Vacuum Breaker Repair Kit
5.	0308690	H-550	RB Tailpiece Coupling
6.	0308802	H-551-A	RB Adjustable Tailpiece, 2-1/16" (52 mm)
7A.	5308696	H-553	O-ring – 24 per package
7B.	5308381	H-552	Locking ring – 12 per package
8.	0388010	H-730-A	RB Wheel Handle Bak Chek® Control Stop
9A.	0308855	H-541-A	1" Wheel Handle Repair Kit for H-730-A Control Stop
9B.	0308858	H-543-A	3/4" Wheel Handle Repair Kit for H-730-A Control Stop
10.	0308919	H-558-A	Wheel Handle
11A.	0308615	H-623	1" RB Bonnet
11B.	0208083	H-623	3/4" RB Bonnet
12.	0323188	V-500-AA	Royal Vacuum Breaker Flush Connection (specify length and size)
13.	0306619	F-2-AA	1-1/2" (38 mm) RB Couplings (2 each), Friction Rings (2 each), and Rubber Gaskets (2 each)
14.	0206146	F-21	RB Elbow
15.	0306087	F-2-A	1-1/2" (25 mm) RB Coupling, Friction Ring, and Rubber Gasket
16.	0396161	F-100	RB Flared End Flush Connection (specify length and size)
17.	0306366	F-15-A	3/4" (19 mm) RB Elbow Flush Connection with Coupling and Rubber Gasket (specify length)
18.	0306054	F-2-A	3/4" (19 mm) RB Coupling, Friction Ring, and Rubber Gasket
19.	0318024	HY-25	RB Valve Actuator Housing only
20.	0318023	HY-24	Tube Fitting (2 required)
21.	0318033	HY-35	Tube Fitting Nut (2 required)
22.	0318093	HY-30	1/4" (6 mm) x 48" (1219 mm) Connecting Tubes (2 required)
23.	0301082PO	A-6	RB Handle Coupling Nut
24.	3318005	HY-109-A	Actuator Housing Assembly (includes Items 19,20,21 and 23)
25.	3318001	HY-83-A	Actuator Cartridge Assembly

ABBREVIATIONS:
 CP = Chrome plated
 RB = Rough brass
 gpf = gallons per flush
 Lpf = Liters per flush
 LC = Low consumption
 WH = Wheel handle

‡ Part number varies with model variation. Consult factory.

Hydraulic Inside Parts Repair Kits		
Code No.	Part No.	Description
3318011	HY-1101-A	Hydraulic Royal 1.6C
3318012	HY-1102-A	Hydraulic Royal 3.5C
3318013	HY-1103-A	Hydraulic Royal 2.4C
3318014	HY-1106-A	Hydraulic Royal 0.5U
3318015	HY-1107-A	Hydraulic Royal 1.0U
3318016	HY-1108-A	Hydraulic Royal 1.5U



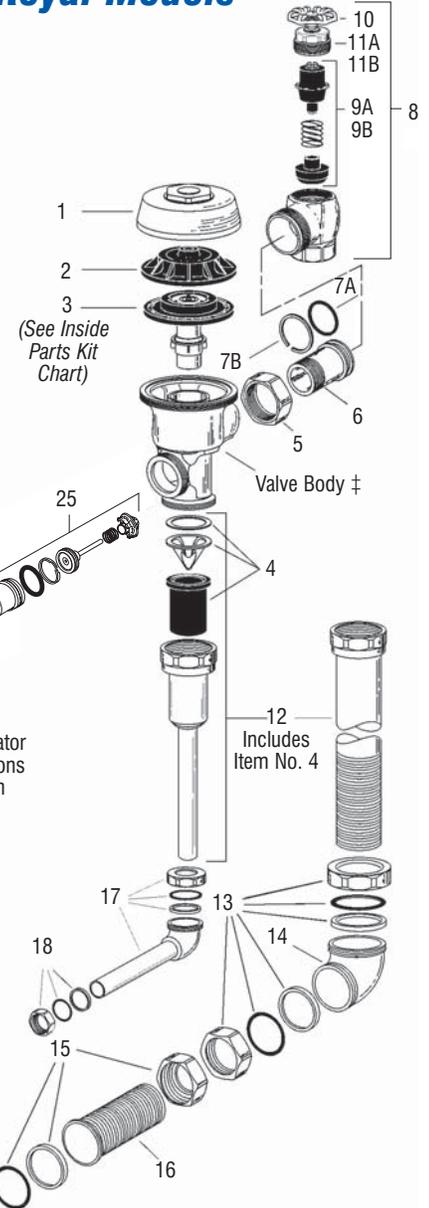
Comes with: Diaphragm, Actuator Cartridge Assembly, Tailpiece O-ring and Vacuum Breaker Assembly

Royal — item 3 — Dual Filtered Diaphragm™ Assembly Sold ONLY in ROYAL Performance™ Kits

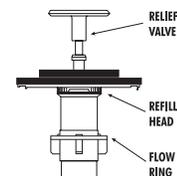
ROYAL Performance™ KIT includes: Dual Filtered Diaphragm Assembly (item 3);
 High Back Pressure Vacuum Breaker Repair Kit (item 4); and one Tailpiece O-Ring (item 7A)
 Diaphragm Only KIT includes: Dual Filtered Diaphragm Assembly (item 3) ONLY

Performance KIT		DIAPHRAGM Only Kit		Flush Volume	Use with	Relief Valve	Refill Head †	Flow Ring	
Code No.	Kit No.	Code No.	Kit No.						
A	3301070	A-1101-A	3301502	A-1041-A	1.6 gpf/6.0 Lpf	Low Consumption Water Closets	Green	Gray	Smooth
B	3301071	A-1102-A	3301501	A-1038-A	3.5 gpf/13.2 Lpf	Water Saver Water Closets	White	Gray	Smooth
C	3301072	A-1103-A	3301505	A-1044-A	2.4 gpf/9.0 Lpf	9 Liter European Water Closets	Blue	Gray	Smooth
D	3301073	A-1106-A	3301504	A-1043-A	0.5 gpf/1.9 Lpf	Wash Down Urinals	Green	Black	Smooth & Slotted
E	3301074	A-1107-A	3301503	A-1042-A	1.0 gpf/3.8 Lpf	Low Consumption Urinals	Green	Black	Slotted
F	3301075	A-1108-A	3301500	A-1037-A	1.5 gpf/5.7 Lpf	Water Saver Urinals	Black	Black	Smooth

† NOTE: Water Closet Refill Heads (Gray) have larger slots than Urinal Refill Heads (Black).



To identify the Flush Volume of a DUAL FILTERED DIAPHRAGM ASSEMBLY, look at the color of the Relief Valve, the Refill Head and the shape of Flow Ring.



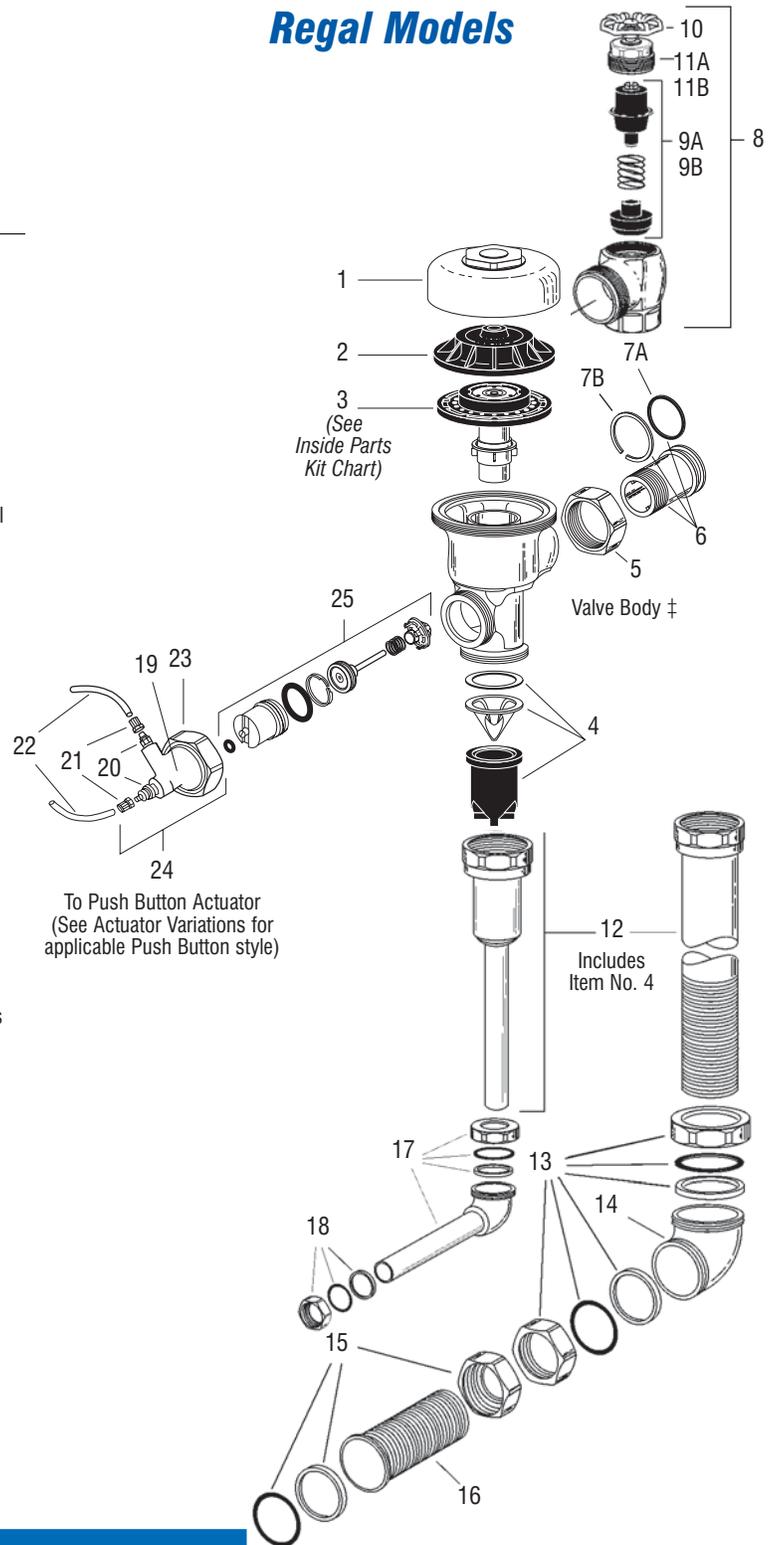
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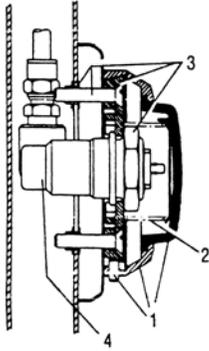


3. INSIDE PARTS KITS						
A	B	C	D	E	F	G
A-36-A 3301036 4.5 gpf/17.0 Lpf CLOSET	A-37-A 3301037 1.5 gpf/5.7 Lpf URINAL	A-38-A 3301038 3.5 gpf/13.2 Lpf CLOSET	A-41-A 3301041 1.6 gpf/6.0 Lpf CLOSET	A-42-A 3301044 1.0 gpf/3.8 Lpf URINAL	A-43-A 3301081 0.5 gpf/1.9 Lpf URINAL	A-44-A 3301024 2.4 gpf/9.0 Lpf CLOSET

‡ Part number varies with model variation. Consult factory.

PUSH BUTTON ACTUATOR VARIATIONS

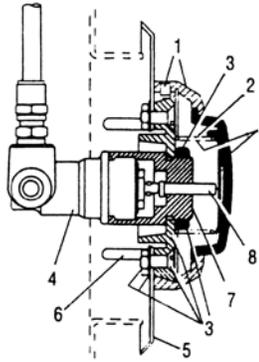
HY-49-A (0318049) METAL PARTITION PUSH BUTTON



Item	Code No.	Part No.	Description
1.	3318007	HY-1000-A	Push Button Kit – includes Push Button, Flange, Spring & Set Screw
2.	0318004	HY-3	Spring
3.	3318010	HY-1003-A	Mounting Flange Kit – includes Mounting Flange, Mounting Nut, Screws (2) & Tinnerman Nuts (2)
4.	0318123	HY-71-A	Actuator Assembly

NOTE: Includes HY-32-A cartridge (shown at right)

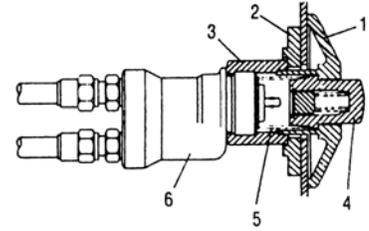
HY-72-A1 (0318072) SIDE WALL PUSH BUTTON



Item	Code No.	Part No.	Description
1.	3318007	HY-1000-A	Push Button Kit – includes Push Button, Flange, Spring & Set Screw
2.	0318004	HY-3	Spring
3.	3318008	HY-1001-A	Mounting Flange Kit – includes Mounting Flange, Mounting Nut, Screws (2), Nuts (2) & Washers (2)
4.	0318123	HY-71-A	Actuator Assembly
5.	0318041	HY-40	Plate
6.	0305173	EL-173	Screws (4)
7.	0318073	HY-73	Extension Adapter
8.	0318074	HY-74	Extension Stem

NOTE: Includes HY-32-A cartridge (shown at right)

HY-108-A (0318119) PENAL WARE METAL PUSH BUTTON



Item	Code No.	Part No.	Description
1.	0318116	HY-91	Flange
2.	0318111	HY-94	Mounting Washer
3.	0318112	HY-93	Mounting Nut
4.	0318115	HY-86-A	Push Button Assembly
5.	0305134	EL-109	Spring
6.	0318078	HY-50-A	Actuator Assembly

NOTE: Includes HY-32-A cartridge (shown below)

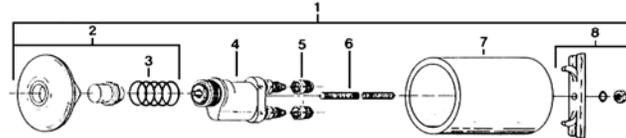
HY-32-A ACTUATOR CARTRIDGE ASSEMBLY



For use with HY-50-A and HY-71-A actuator assemblies.

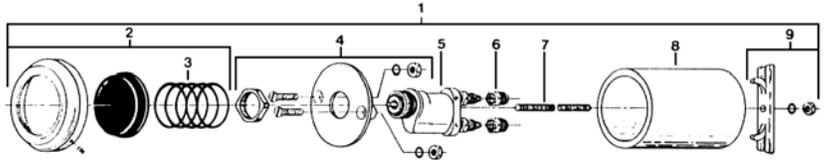
HY-100-A (0318117) Fixture Wall Metal PUSH Button

Item	Code No.	Part No.	Description
1.	0318117	HY-100-A	Fixture Wall Metal Button Assembly
2.	3318006	HY-111-A	Metal Button Kit
3.	0305134	EL-109	Spring
4.	0318078	HY-50-A	Actuator Assembly
5.	0318033	HY-35	Tube Fitting Nut (2 required)
6.	0318028	HY-29	Threaded Rod
7.	0318109	HY-105	Spacer
8.	3318009	HY-1002-A	Mounting Strap Kit



HY-33-A (0318001) Fixture Wall PUSH Button

Item	Code No.	Part No.	Description
1.	0318001	HY-33-A	Fixture Wall Push Button Assembly
2.	3318007	HY-1000-A	Push Button Kit
3.	0318004	HY-3	Spring
4.	3318008	HY-1001-A	Mounting Flange Kit
5.	0318078	HY-50-A	Actuator Assembly
6.	0318033	HY-35	Tube Fitting Nut (2 required)
7.	0318028	HY-29	Threaded Rod
8.	0318109	HY-105	Spacer
9.	3318009	HY-1002-A	Mounting Strap Kit



Care and Cleaning Instructions

DO NOT USE abrasive or chemical cleaners to clean Flushometers that may dull the luster and attack the chrome or decorative finish. Use **ONLY** soap and water, then wipe dry with a clean towel or cloth. When cleaning the bathroom tile, protect the Flushometer from any splattering of cleaner. Acids and cleaning fluids can discolor or remove chrome plating.

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

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

Troubleshooting Guide

ATTENTION INSTALLERS: With the exception of the control stop inlet, **DO NOT USE** pipe sealant or plumbing grease on any valve component or coupling! To protect the chrome or special finish of Sloan Flushometers, **DO NOT USE** toothed tools to install or service these valves. Use our A-50 Super-Wrench™ or other smooth-jawed wrench to secure couplings. Regulations for low consumption fixtures (1.6 gpf/6.0 Lpf closets and 1.0 gpf/3.8 Lpf urinals) prohibit use of higher flush volumes. Push Button Actuator Assembly

Push Button Actuator Assembly

1. **Leakage occurs at the push button.**
 - A. Damaged or worn seals or lime build-up in the actuator cartridge. Replace with new HY-32-A cartridge.
2. **Flushometer does not flush and a small amount of leakage is visible on the fixture.**
 - A. Foreign material is lodged in the cartridge. Remove and inspect cartridge for foreign material. Clean cartridge under running water.
 - B. Damaged or worn seals or lime build-up in the actuator cartridge. Replace with new HY-32-A cartridge.
 - C. Plastic tubing installed incorrectly. Install plastic tubing correctly.

Actuator Cartridge Removal at Push Button

Plastic Push Button

1. Loosen the set screw in the button flange and remove the button, flange and spring from the actuator body.
2. Unscrew the cartridge from the actuator body.

NOTE: An automatic check valve in the actuator body allows removal of the cartridge without turning off the water supply.

Metal Push Button

1. Remove the button or actuator assembly from the wall or the 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 resistant and must be removed from the wall before servicing.

Flushometer Actuator Assembly

1. **The Flushometer does not flush or flushes only once and will not flush a second time when the button is pushed.**
 - A. The plunger is lodged in the actuator cartridge or the plunger bypass hole is clogged. Remove the actuator housing and cartridge from the Flushometer. Clean under running water. If cartridge parts are worn, deteriorated, or limed up and the problem persists after cleaning, replace with new H-83-A cartridge (item 29).
 - B. Plastic tubing installed incorrectly. Install plastic tubing correctly.

Actuator Removal from the Flushometer

1. Turn off water at the control stop (item 11).
2. Unscrew the housing coupling nut (item 26) from the Flushometer.
3. Remove the valve actuator housing (item 22) from the Flushometer. The tubing (item 25) can be left intact.
4. Remove the actuator cartridge assembly (item 29) from the Flushometer body. Care should be taken upon removal so that the actuator does not abruptly separate due to spring compression within. If the actuator cartridge is lodged in the body cavity, grip the exposed portion gently with a pair of 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. Inspect for wear and, if necessary, replace with new actuator cartridge assembly (item 29).

Flushometer Service

1. **The Flushometer does not function.**
 - A. The control stop or main water supply valve is closed. Open control stop or main water supply valve.
2. **The volume of water is insufficient to adequately siphon the fixture.**
 - A. The control stop is not open wide enough. Open control stop for desired delivery of water.
 - B. Urinal inside parts installed incorrectly in a closet Flushometer. Replace with correct closet inside parts kit (see item 7).
 - C. Inadequate volume or pressure at the water supply valve. If no gauges

are available to properly measure the supply pressure or the volume of water at the Flushometer, completely remove the entire diaphragm assembly (item 7). Open the control stop and let water pass through the empty Flushometer body. Make sure that the water supply is adequate to siphon the fixture. If this does not provide a satisfactory siphon, steps should be taken to increase the water supply pressure and/or volume.

3. **The Flushometer closes off immediately.**

- A. The diaphragm is ruptured or damaged. Install new inside parts kit (see item 7).
- B. The bypass hole is enlarged from corrosion or damage. Install new inside parts kit (see item 7).

4. **The length of the flush is too short.**

- A. The diaphragm (item 5) and the guide assembly (item 6A, B, C, D or E) are not properly tightened. Screw diaphragm and guide assembly together and tighten by hand (see diagram for item 7).
- B. The by-pass hole is enlarged from corrosion or damage. Install new inside parts kit (see item 7).
- C. Urinal inside parts installed incorrectly in a closet Flushometer. Replace with correct closet inside parts kit (see item 7).

5. **The length of the flush is too long or continuous.**

- A. The relief valve of the inside parts assembly (item 3A, B, C or D) is not seating properly or the by-pass hole is clogged with foreign material or by a gelatinous film caused by "overtreated" water. Disassemble the working parts and wash under running water.

NOTE: THE SIZE OF THE DIAPHRAGM BY-PASS ORIFICE IS OF UTMOST IMPORTANCE. DO NOT ENLARGE OR DAMAGE THIS HOLE. DO NOT USE A PIN OR OTHER SMALL OBJECT TO REMOVE DIRT FROM THIS ORIFICE.

- B. Line pressure has dropped and is no longer sufficient enough to force the relief valve to seat properly. Close control stop until adequate pressure has been restored to the line, then reopen control stop.

6. **Water splashes out from the fixture.**

- A. The water supply volume is more than required. Throttle down control stop to reduce volume.
- B. Lime has accumulated on the vortex or spreader hole of the fixture. Remove lime accumulation.

Control Stop Setting

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.

LIMITED WARRANTY

Sloan Valve Company warrants its Flushometer Products 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 (one 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.

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

SLOAN VALVE COMPANY • 10500 SEYMOUR AVENUE • FRANKLIN PARK, IL 60131

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