Delany Hydro-Flush Genuine Renewal Parts

Actuator Assembly

NOTE: For detailed parts information of the FLUSHBOY valve refer to Renewal Parts & Service Folder

Piston Assembly

Concealed Vlv. Assy.

Hydro-Flush Actuator

Partial Assemblies

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2105A</td>
<td>3&quot; Oscillating Disc Assembly</td>
</tr>
<tr>
<td>2117A-B</td>
<td>Actuator Assembly (for 1/2&quot; push button)</td>
</tr>
<tr>
<td>2117A-B-1</td>
<td>Actuator Assembly (with 124 sink flange)</td>
</tr>
<tr>
<td>2117A-C</td>
<td>Actuator Assembly (for 3&quot; disc)</td>
</tr>
<tr>
<td>2119A</td>
<td>Internal Actuator Assembly</td>
</tr>
<tr>
<td>2119A-B</td>
<td>Complete Actuator Assembly (for 1/2&quot; push button)</td>
</tr>
<tr>
<td></td>
<td>with nylon tubing</td>
</tr>
<tr>
<td>2119A-B-1</td>
<td>Complete Actuator Assembly (with 124 sink flange)</td>
</tr>
<tr>
<td></td>
<td>with nylon tubing</td>
</tr>
<tr>
<td>2119A-C</td>
<td>Complete Actuator Assembly (for 3&quot; disc)</td>
</tr>
<tr>
<td></td>
<td>with nylon tubing</td>
</tr>
</tbody>
</table>

Hydro-Flush Piston Assembly

Partial Assemblies

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2143A</td>
<td>Piston Operating Stem Assembly</td>
</tr>
<tr>
<td>2147A</td>
<td>Piston Internal Operating Assembly</td>
</tr>
<tr>
<td>2154A</td>
<td>Piston Valve Assembly</td>
</tr>
</tbody>
</table>

Individual Parts Listing

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>Clamping nut</td>
</tr>
<tr>
<td>58</td>
<td>Union Nut</td>
</tr>
<tr>
<td>**64</td>
<td>KwikFit union tailpiece, 2&quot; standard length overall (allows 4 1/2&quot; to 5 1/2&quot; centers. Complete with No. 65 and No. 66 parts)</td>
</tr>
<tr>
<td>65</td>
<td>&quot;0&quot; ring</td>
</tr>
<tr>
<td>66</td>
<td>Clamping ring</td>
</tr>
<tr>
<td>243</td>
<td>Locknut</td>
</tr>
<tr>
<td>293</td>
<td>Bearing plate</td>
</tr>
<tr>
<td>340</td>
<td>Set screw</td>
</tr>
<tr>
<td>*2103</td>
<td>Wall sleeve (for use with Hydro-Flush Vlv.)</td>
</tr>
<tr>
<td>2104</td>
<td>1/2&quot; push button</td>
</tr>
<tr>
<td>2105</td>
<td>3&quot; Oscillating disc</td>
</tr>
<tr>
<td>2106</td>
<td>Retainer for disc</td>
</tr>
<tr>
<td>2107</td>
<td>Wall flange (with No. 340 allen head set screw)</td>
</tr>
<tr>
<td>2108</td>
<td>Holding screw for disc</td>
</tr>
<tr>
<td>2109</td>
<td>Wall flange with set screw</td>
</tr>
<tr>
<td>2111</td>
<td>Spring (for push button)</td>
</tr>
<tr>
<td>2114</td>
<td>&quot;0&quot; ring for spindle</td>
</tr>
<tr>
<td>2115</td>
<td>Spindle guide</td>
</tr>
<tr>
<td>2116</td>
<td>&quot;0&quot; ring for spindle guide</td>
</tr>
<tr>
<td>2118</td>
<td>&quot;0&quot; ring holder</td>
</tr>
<tr>
<td>2120-2</td>
<td>Actuator body</td>
</tr>
</tbody>
</table>
**Service Procedures**

**HOW TO SERVICE VALVE**

1) Shut off water at control stop. Remove cover assembly by turning counterclockwise, using Delany No. 740 cover wrench, standard 1 1/4" hex box wrench, or taped flat jaw adjustable wrench. Inspect cover parts for possible replacement.

2) Place fingers on both sides of auxiliary valve seat holder and lift vertically to remove entire diaphragm operating assembly, except for main valve seat. Inspect for possible replacement of individual parts or entire assembly.

3) Inspect condition of main valve seat. If replacement is required, remove by turning counterclockwise with Delany No. 7461 1/2" 12 point socket wrench. Make sure replacement seat is wrench tight.

4) If diaphragm with bypass is to be replaced as an individual part, hold diaphragm operating assembly in one hand and unscrew the seat guide from the bottom with the other hand. The diaphragm will then slip off the No. 16 diaphragm bushing. Take care to install the diaphragm pin with the pinchot of the bypass on the downside. Also, take care to replace the seat guide hand tight, but firmly. Good preventive maintenance calls for simultaneous replacement of No. 8 auxiliary valve seat washer, supplied in same kit as the replacement diaphragm.

5) To assemble valve, reverse all procedures above. After diaphragm operating assembly has been dropped into valve, run thumb around edge of diaphragm to insure it is tamped flat on shoulder at base of thread for cover.

**HOW TO SERVICE CONTROL STOP**

See Renewal Parts & Service Folder SVP-3 for detailed parts information.

1) Shut off water supply at branch to toilet room or at cellar main, if necessary. Make sure entire line above elevation of stop is drained.

2) If problem is leakage at shut off stem, and previous tightening of packing nut failed to correct leakage, remove packing nut. Remove old No. 49 packing, using sharp pointed tool if necessary. Insert new packing.

3) Reverse above procedure to put stop back in service.

4) For renewal of internal parts, place flat jawed adjustable wrench on large hex bonnet. To protect chrome finish, taped jaws are recommended. Turn counterclockwise to remove bonnet assembly for inspection. Replace bonnet assembly, shut off stem assembly, or individual parts as required. Before installing assembly, back off shut off stem by turning counterclockwise with screwdriver.

5) Reverse above procedure to put stop back into service.

**HOW TO SERVICE VACUUM BREAKER**

See Renewal Parts & Service Folder SVP-3 for detailed parts information.

1) Shut off water at control stop. Using taped flat jawed adjustable wrench, loose No. 58 union nut. Loosen No. 426 cowl nut at vacuum breaker and slip down flush connection. Lift valve assembly clear and set aside.

2) Lift out No. 427A rubber sleeve for inspection and possible replacement.

3) To reassemble, reverse procedure. Be sure to make up No. 426 cowl nut hand tight only, or use quarter turn of wrench at most.

**HOW TO SERVICE PISTON ASSEMBLY**

1) Shut off water at control stop. Disconnect nylon tubing from piston nut, 2148, by pushing in on release collar with finger and pulling out tube with other hand. Remove piston nut with flat jaw adjustable wrench, unscrew piston nut and remove assembly.

2) Pull out piston internal operating assembly, part 2147A for inspection and possible replacement of any parts showing wear.

3) To reassemble, install piston sleeve 2145 in piston nut 2148, with bypass hole in bottom of piston nut. Place 2145A into piston sleeve 2145 and replace return spring 2141 onto end of 2145A. Screw piston nut onto flush valve body.

**HOW TO SERVICE ACTUATOR ASSEMBLY**

1) Shut off water at control stop. Disconnect nylon tubing.

2) Loosen 243 locknut and remove handle unit from wall. Loosen No. 0346 set screw and remove 2109 wall flange & 2111 spring.

3) Untighten and remove internal assembly by turning counterclockwise No. 2115, using Delany 743 5/8" 12 point socket wrench.

4) Remove part No. 2124 and No. 2118 inspecting all parts for wear and possible replacement.

5) To reassemble, reverse procedure. Replace No. 2111 spring. Be sure that part No. 2122 centered before reassembling No. 2119A with No. 2120-2.

**HOW TO REGULATE LENGTH OF FLUSH**

The length of flush and consequently the amount of water consumed per flush can be readily varied by the No. 4 regulating screw in the valve cover. Remove the No. 3 cover screw and engage No. 4. Regulating screw with screwdriver. Turn clockwise to lower the screw and shorten flush and counterclockwise to raise the screw and increase flushing cycle. Water consumption requirements of different fixtures vary widely. The flexibility built into the Delany Valve reputation permits proper flushing action without waste of water. If valve is equipped with non hold open feature, or equipped with a "solid cover", no regulation is possible by means of the No. 4 part. For such valves, regulation is achieved by substitution of different sized bypasses on a trial and error basis.

**HOW TO ADJUST TURN-TO-SILENCE STOP**

If valve is equipped with Turn-to-Silence equipment, the stop should be checked for proper adjustment after the building has been put into service. Unless pressure at the valve changes radically, the setting is permanent.

To set for minimum flushing noise, open Turn-to-Silence wide by turning counterclockwise with screwdriver or wheel handle. Trip the valve and note noise level. While valve is running, begin to close stop and slowly Turn-to-Silence. Depending on inlet pressure at any given flure, there is one setting of the stop at which water noise is at a minimum. If pressure is low, this optimum setting will be near the wide open stop position. If pressure is high, the setting will be near the closed position. The gallowanode of the fixture must also be satisfied. Adjustment of the No. 4 regulating screw in the valve cover may be helpful in this regard.

**HOW TO CARE FOR CHROMIUM PLATING**

Chrome finishes on Delany material are of the highest quality obtainable. Each part is coated with a thick deposit of nickel, and finally chrome plated for lasting brilliance. The life of chrome plate depends directly on the amount and type of maintenance provided. All chrome parts should be washed with a liberal amount of clear water and wiped dry with a clean cloth at least once a week. Valves subject to heavy traffic or aggressive atmospheres will benefit more from frequent cleaning. UNc acid and its forms are harmful and will blacken and destroy chrome plate if left undisburbed. Caution should be taken to insure that no paste or powder cleaners are applied to chrome. Under no circumstances should bowl and saniel cleaners, most of which are acid solutions, be allowed to contact or scatter chrome plate. Such solutions can blacken and etch chrome in a matter of hours.
# Delany Flush Valves

## Trouble Shooting Chart

For flush valve related problems refer to Flushboy Renewal Parts Folder, FV-3

<table>
<thead>
<tr>
<th>WHEN</th>
<th>THEN</th>
<th>AND YOU SHOULD</th>
</tr>
</thead>
</table>
| **VALVE WILL NOT START TO FLUSH** | 1) Control stop is shut.  
  2) Tip of operating stem is worn.  
  3) Nylon tubing is kinked or clogged.  
  4) Piston cup washer is worn.  
  5) Seal in piston handle is not seated properly.  
  6) Actuator/spindle in handle, not making contact with push-button.  
  7) Bypass in piston sleeve is oversized. | 1) Open control stop.  
  2) Replace operating stem.  
  3) Replace tubing.  
  4) Replace worn washer.  
  5) Replace with 2142-1 piston born washer.  
  6) Replace spindle.  
  7) Replace piston sleeve. |
| **VALVE STARTS FLUSHING BUT CLOSES IMMEDIATELY** | 1) Diaphragm is ruptured.  
  2) Valve contains an oversized bypass ori-fice (pinhole).  
  3) Tip of operating stem is worn.  
  4) Seat guide is loose.  
  5) Piston cup washer is worn.  
  6) Piston sleeve bypass hole too large.  
  7) Piston sleeve “O” ring not in place. | 1) Replace diaphragm. Good preventive maintenance includes simultaneous replacement of No. 8 auxiliary seat supplied in same kit.  
  2) Install diaphragm with correct bypass size from proper kit indicated in parts listing. Valves with 3/4” supply or smaller use larger orifice sizes than valves with 1” supply or larger. Replace No. 8 auxiliary valve seat at the same time.  
  3) Replace operating stem. (2143A).  
  4) Tighten.  
  5) Replace cup washer. (2144).  
  6) Replace piston sleeve. (2146).  
  7) Replace with 2142-1 piston born washer. |
| **VALVE GIVES TOO SHORT A FLUSH OR TOO LONG A FLUSH** | 1) Valve needs regulation.  
  2) Valve contains an oversized bypass ori-fice. (Flush too short.)  
  3) Flush valve bypass orifice is partially blocked. (Flush too long.)  
  4) Blockage of piston sleeve bypass.  
  5) Tip of operating stem is worn. | 1) Remove No. 3 cover screw. Insert screwdriver and turn No. 4 regulating screw counterclockwise for longer flush or clockwise for shorter flush. If valve is equipped with non hold open feature or a solid cover, timing must be changed by trial and error of different bypass orifices.  
  2) Install diaphragm with correct bypass size from proper kit. Replace No. 8 auxiliary valve seat at same time. (See 1) above should be tried first.  
  3) Clean monel bypass. Hold pinhole up to light. If blocked, pinhole may be cleaned with pin, air hose, or acid solution.  
  4) Clear bypass in piston sleeve. (2145).  
  5) Replace operating stem. (2143A). |
| **VALVE CONTINUES TO RUN FULL FORCE OR CONTINUES TO RUN BUT ONLY SLIGHTLY** | 1) Bypass, in diaphragm blocked.  
  2) Foreign object is blocking closing action.  
  3) Leakage is occurring at the No. 8 auxiliary valve seat due to foreign objects or wearing and pitting of the auxiliary valve.  
  4) Water pressure and/or volume is insufficient to fill upper chamber of valve.  
  5) Auxiliary valve head has separated from rod allowing leakage.  
  6) Slight leakage is present at main valve seat due to minute foreign object embedded in diaphragm.  
  7) Main valve seat is loose.  
  8) Blockage of piston sleeve bypass.  
  9) Handle actuator is leaking from foreign obstruction or torn spindle seat washer.  
  10) Actuator spindle return spring broken or not seated properly.  
  11) Piston sleeve installed wrongly. | 1) Clean as indicated in (3) immediately above.  
  2) Remove foreign object. Smooth any indentations on under side of diaphragm. If diaphragm is mutilated, replace.  
  3) Remove any foreign objects from No. 8 auxiliary valve seat. Examine seating surface of auxiliary valve for pitting or cutting. Replace as needed with new auxiliary valve. Replace No. 8 part at same time.  
  4) Increase pressure and/or volume. If several valves are running at one time, pressure may be built up by shutting off all control stops and then opening them again one by one.  
  5) Replace auxiliary valve and No. 8 auxiliary valve seat.  
  6) Remove any foreign objects. If diaphragm has been scarred at contact point with main valve seat, replace diaphragm. If main valve seat is scored or pitted, replace.  
  7) Tighten.  
  8) Clear bypass in piston sleeve. (2145).  
  9) Clear obstruction or replace torn spindle seat washer.  
  10) Replace or reseat spring properly.  
  11) Install piston sleeve properly with bypass hole in bottom of handle piston nut. |
| **WATER SPLASHES FROM BOWL** | The pressure at the fixture is in excess of that set by the fixture manufacturer as an upper limit. | Install a pressure reducing valve in the supply line. Failing this, reduce the volume of water flowing through the flush valve by partially closing the control stop. |
| **VALVE WILL NOT PASS ENOUGH WATER TO SATISFACTORILY SYPHON BOWL** | 1) Control stop not completely open.  
  2) Seat guide for valves with 1/4” supply or smaller has been installed in valve in error.  
  3) Insufficient volume of water is being supplied to valve due to low pressure or undersized piping, or both. | 1) Open control stop wide.  
  2) Replace with seat guide for valves with 1” supply or larger.  
  3) Establish volume of water available by removing entire diaphragm operating assembly from flush valve, replacing cover, and flushing valve. This converts valve into a simple elbow. If adequate flush still cannot be obtained, water pressure or pipe sizes, or both, must be increased. |
| **VALVE GOES OFF BY ITSELF** | Water in upper chamber of valve has been syphoned out by demand from lower levels. When pressure is restored, valve flushes automatically. | Install diaphragm with same type, but stouter spring. Consider increasing water pressure or replacing piping since system is in critical condition. |
| **FLUSHING ACTION IS NOT QUIET ENOUGH** | 1) High pressure is causing abnormal noise in water supply system.  
  2) Flush valve is not quiet type.  
  3) Turn-to-Silence equipment is not properly adjusted for maximum quietness.  
  4) Localized roar of noise may be contributing factor. | 1) Install pressure reducing valve in water supply line.  
  2) Install Delany Valve with Turn-to-Silence equipment, standard at no extra cost.  
  3) See instructions for adjusting elsewhere in this literature.  
  4) Make quick test to isolate fixture noise from any valve noise. Place cardboard under toilet seat all but covering opening of bowl. Valve noise will then be readily identified. If fixture noise is noisy, install quiet action bowl. |
| **WATER LEAKS FROM AIR VENTS OF VACUUM BREAKER** | 1) No. 427A rubber sleeve has ruptured from fatigue.  
  2) Vacuum breaker is being subjected to excessive back pressure by restrictive urinal or water closet. | 1) Replace No. 427A part. Refer to “How To Service Vacuum Breaker” in the Flushboy Renewal Parts Folder, FV-3.  
  2) Open up flow control on urinal if such a device is provided. Also, flow rate through valve may be reduced at control stop. If condition persists, contact manufacturer of fixture for corrective action. |