Hale Products, Inc.  Service Bulletin

BODY OF BULLETIN

The Torrent SVS Valve line is a heavy-duty product that will withstand serious use. The patented duplex seal provides exceptional durability and requires some installation considerations to minimize operating effort.

**Linkage Design for Torrent SVS Valves**

Proper linkage design and installation is critical to valve actuation. To maximize the available actuation force on a remote valve, the linkage lines should be as straight as possible.

It is recommended that the pull rod lines do not exceed a 10° line of travel (see Plate No. 1067A). Also, limit the number of bends to minimize flexing of the remote control rod(s).

**Valve Handle / Lever Selection**

In order to transmit the most torque to the valve stem, the longest SVS valve handle / lever available should always be used. Handle and lever selection and linkage become more critical on the 2.5" and 3" SVS valves. For the appropriate handle / lever actuator to use based on valve size, see Chart 1: “2.5” and 3” Handle / Lever Actuator Selection” on page 2. (Also refer to Hale plate no. 1060A, Sheet 2 for actuator option selection, located at the back of this service bulletin for additional information. Connect linkage to the outermost hole on the lever. This reduces the amount of force required to operate the valve.

The 4” discharge valve requires a manual or electric gear actuator to provide the additional leverage needed for operation. A 4” **discharge valve should NEVER use a lever for operation.**

A 4” tank to pump valve should be used an air cylinder to move the valve with ease.
### 2-1/2” SVS Valve

<table>
<thead>
<tr>
<th>Option #</th>
<th>HANDLE Operation</th>
<th>Length in. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10, 15</td>
<td>Locking Handle, Direct Control, SHORT (Left and Right)</td>
<td>8.25” (210)</td>
</tr>
<tr>
<td>20, 25</td>
<td>Locking Handle, Slow-Close, SHORT, (Left and Right)</td>
<td>8.25” (210)</td>
</tr>
<tr>
<td>08</td>
<td>Non-Locking, Plain Handle Only</td>
<td>8.25” (210)</td>
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<thead>
<tr>
<th>Option #</th>
<th>LEVER Operation</th>
<th>Length in. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>23, 28</td>
<td>Locking Lever, Remote, Slow-Close (Left and Right)</td>
<td>6.75” (172)</td>
</tr>
<tr>
<td>13, 18</td>
<td>Locking Lever, LONG, (Left and Right)</td>
<td>6.75” (172)</td>
</tr>
<tr>
<td>08</td>
<td>Non-Locking, Plain Lever Only</td>
<td>6.75” (172)</td>
</tr>
<tr>
<td>22, 27</td>
<td>Locking Lever, Slow-Close, LONG, for Side Discharge Remote Only (Left and Right)</td>
<td>4.5” (114)</td>
</tr>
</tbody>
</table>

**CAUTION !** The 4.5” lever requires more force and better linkage to open and close.

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<tr>
<td>09</td>
<td>Non-Locking, Side Discharge Remote, Plain Lever Only</td>
<td>4.5” (114)</td>
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**CAUTION !** The 4.5” lever requires more force and better linkage to open and close.

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<tr>
<td>07</td>
<td>Non-Locking, Plain Lever Only &quot;Use only with Top Mount or Remote Swing Lever - see Figure 2: “Top Mount or Remote Handle” on page 3,&quot; ++</td>
<td>4” (102)</td>
</tr>
</tbody>
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### 3” SVS Valve

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<th>Length in. (mm)</th>
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</thead>
<tbody>
<tr>
<td>11, 16</td>
<td>Locking Handle, Direct Control, SHORT (Left and Right)</td>
<td>8.25” (210)</td>
</tr>
<tr>
<td>21, 26</td>
<td>Locking Handle, Slow-Close, SHORT, (Left and Right)</td>
<td>8.25” (210)</td>
</tr>
<tr>
<td>08</td>
<td>Non-Locking, Plain Handle Only</td>
<td>8.25” (210)</td>
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<td>Non-Locking, Plain Handle Only</td>
<td>6.75” (172)</td>
</tr>
<tr>
<td>22, 27</td>
<td>Locking Lever, Slow-Close, LONG, for Side Discharge Remote Only (Left and Right)</td>
<td>4.5” (114)</td>
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**CAUTION !** The 4.5” lever requires more force and better linkage to open and close.

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**CAUTION !** The 4.5” lever requires more force and better linkage to open and close.

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**Chart 1: 2.5” and 3” Handle / Lever Actuator Selection**
Valve Handle / Lever Selection

1. The **07** actuator option is a **4” lever** for use strictly with a top-mount controller or remote swing handle. (See Figure 3: “Remote Swing Handle.”)

   The short lever arm is compensated for in the longer top-mount control handle. This should not be used with a push-pull handle. Only use the 4” lever with a remote swing handle or top mount control to provide the additional leverage.

2. **Remote-operated officer’s side discharge valve option** -

   The **09** option has a 4.5” long lever arm. While not as efficient in actuation as the 6.75” lever arm, this is the MAXIMUM allowed for panel clearance in most apparatus. **Push-pull rods are not recommended for this application.** To overcome this reduced leverage, a remote stack swing handle installation is recommended with the 07 lever option. (See Hale plate no. 962B for details.)

   Some apparatus panels do not allow clearance for the 4.5” long lever arm. In those cases, the remote stack swing handle is the best option. Other options require INCREASED force to operate.

   Additional holes are provided on these remote levers for utilization with various top-mount actuation panels. These holes are located closer to the valve stem, at 2.75”, 3.25” and 4” but will not provide optimal leverage when used with a push-pull handle. (See Figure 4: “Linkage Connection.”) **Always use the outermost holes possible (4.5” or 6.25”).**
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All 4” discharge valves, and any 3” valves with potentially less than optimum push-pull rod geometry, should be operated with a manual or electric gear actuator for ease of operation.

Manual and Electric Gear Actuator Options

When proper (straight) linkage runs are not obtainable, Hale gear actuators are available in both manual (hand wheel) and electric operation. These actuators provide smooth operation, as well as slow closing of the valve. Refer to Hale plate no. 1060A, Sheet 3, for actuator option selection.

Lubrication

For optimal valve actuation, the SVS Torrent Valve requires periodic lubrication. Lubrication intervals vary with many different conditions (amount of usage and water conditions). Refer to Hale Service Bulletin # SB-91 for lubricant details. Lubrication information is also available in the standard Torrent SVS Valve Installation, Operation and Service Manual.

Additionally

Actual installed actuation force, is dependent upon many factors:

- **Pump pressure** - Valves are harder to operate at higher pressures.
- **Condition of linkage** - The remote pull rods, linkages and hardware should be kept clean and well lubricated. Linkage joints should be lubricated regularly.
- ** Plumbing interferences** - When running remote linkage lines, be careful that they DO NOT come in contact with the pump, plumbing, or other linkage rods. This contact causes friction which increase the forces required to operate the valve handle.
- **Slow-close valve actuators** - The Hale slow-close actuators use a damping system that restricts rapid movement of the valve handle. (This prevents damage caused by excessive force generated when opening or closing valves too quickly while under pressure, i.e., water hammer.) These valves require “more” force to actuate than a standard locking valve.
- **Linkage Design** - As covered in this bulletin, there are different combinations possible to REDUCE valve operation effort. Selection of the best component combinations and careful installation will REDUCE the effort required to operate a valve.

Service Bulletins

Check your Hale / Customer Service / Service Bulletin internet site regularly for additional information about SVS valves and other Hale product information.
PL-1060AC

(SHEET 2 OF 3)
GEAR ACTUATORS:

GEAR ACTUATORS
(1-1/2" THRU 4")

(30)

GEAR ACTUATORS
W/ELECTRIC MOTOR
(2-1/2" THRU 4")

(31)

ELECTRIC ACTUATORS
(1-1/2" THRU 3")

(32)

SEE ORDER SHEET, HALE BULLETIN NO. 996

CLASS-1 CONTROLLER
P/N 107720
(STANDARD FOR ACT.
OPTION-31)

CLASS-1 CONTROLLER
W/FLow-MINDER
P/N 107721 (12V)
109812 (24V)

CLASS-1 CONTROLLER
W/2.5" ANALOG GAUGE
P/N 107722

CLASS-1 CONTROLLER
W/2.5" ANALOG GAUGE
AND FLOW-MINDER
P/N 107723 (12V)
109811 (24V)
SVS REMOTE CONTROL ASSEMBLY

FOR 2-1/2" AND 3" SVS VALVES (2-1/2" SHOWN)

DOUBLE STACK OPTION

TRIPLE STACK OPTION

PLATE NO. 962BB
HALE TORRENT VALVE SERIES
ADJUSTABLE LINKAGE ANGLE INSTALLATION GUIDE

(1) CLEVIS JOINT CONNECTION PER LINKAGE RUN IS RECOMMENDED

⚠️ VALVE HANDLE LENGTH TO LINKAGE CONNECTION SHOULD NOT BE LESS THAN 45°
A SHORTER LENGTH HANDLE WILL RESULT IN GREATER ACTUATION FORCE REQUIREMENTS

△ MIN
10° MAX

A BALL SWIVEL MAY ALSO BE USED AS AN ALTERNATE ATTACHMENT METHOD.
HALE P/N: 088-0060-00-0

OFFSETS GREATER THAN 5 DEGREE WILL RESULT IN SIDELOADING OF THE VALVE RESULTING IN DECREASED VALVE COMPONENT LIFE.

NOTES:
1) MAXIMUM LINKAGE MOUNTING ANGLE SHOWN ABOVE IS USED FOR ALL LINKAGE CONNECTIONS. ANY DEVIATION FROM THIS VALUE WILL RESULT IN LARGER ACTUATION FORCE REQUIREMENTS AND POSSIBLE LINKAGE BINDING.

2) CONNECTING RODS MUST NOT COME IN CONTACT WITH ANY PLUMBING OR COMPONENTS WITHIN THE PANEL.

3) VALVES MUST BE LUBRICATED PER HALE RECOMMENDATIONS FOR OPTIONAL PERFORMANCE.

PLATE NO. 1067AC

HALE PRODUCTS, INC.
A Unit of IDEX Corporation
Conshohocken, PA 19428 USA

PLATE NO. 1067AC
The SVS Torrent Valve is designed to use grease. The recommended types of grease are outlined below and can be found in Section 4, Routine Maintenance, of the SVS Installation and Service Manual, Hale p/n: 029-0020-90-0. Lubrication intervals vary dependent upon operating conditions (amount of usage, water conditions, etc.). When SVS Torrent Valves are inadequately lubricated it shortens the life span of smooth operation and causes unnecessary “downtime.” The warranty on the SVS Torrent Valve is ten (10) years workmanship and two (2) years on the seals. FAILURE TO PROPERLY MAINTAIN and LUBRICATE VALVES COULD RESULT IN WARRANTY DENIAL.

**LUBRICANTS:**

Use one of the following lubricants. DO NO substitute other lubricants.

- **Never-Seez** - White Food Grade with PTFE, manufactured by:
  Bostik Findley, Inc.
  211 Boston Street
  Middleton, MA. 01949-2128
  Web: [www.neverseezproducts.com/bostik.htm](http://www.neverseezproducts.com/bostik.htm)

- **White Knight™** - Food Grade Anti-Seize Compound, manufactured by:
  Jet Lube Inc.
  4849 Homestead Road
  Suite 500
  Houston, TX 77028
  Web: [www.jetlube.com](http://www.jetlube.com)

- **Anti-Seize™** - manufactured by:
  U.S. Valve Service & Training, Inc.
  11875 West Little York
  Suite 502
  Houston, TX. 77041
  Web: [www.usvalveservices.com](http://www.usvalveservices.com)

Also see SVS Torrent Installation and Service Maintenance Manual, Hale p/n: 029-0020-90-0, Section 4 “Routine Maintenance” for additional information.