Double Check Valve Assembly Test Procedures  
(for use with five valve equipment)

**Preparation**
- Notify customer
- Inspect area
- Flush testcocks
- Install fittings
- Inspect test kit – close all needle valves

**Note:** test gauge and hoses must be at same level

**CV #1 Test**
- Install vertical tube on testcock #3
- Install compensating tee on testcock #2
- Attach high hose to compensating tee installed on testcock #2
- Open testcock #2 slowly
- Open high-pressure bleed valve then close high-pressure bleed valve
- Open testcock #3 to fill vertical tube
- Close testcock #3
- Close #2 shut-off valve
- Record line pressure
- Close #1 shut-off valve
- Open testcock #3
- Record status of check valve #1 (closed tight or leaking),
- Record value of check valve #1 (1.0 psid. or greater to pass)
- Close testcock #2 and testcock #3
- Open #1 shut-off valve

**CV #2 Test**
- Move vertical tube from testcock #3 to testcock #4
- Move high hose and compensating tee from testcock #2 to testcock #3
- Open testcock #3 slowly
- Open high-pressure bleed valve then close high-pressure bleed valve
- Open testcock #4 to fill vertical tube
- Close testcock #4
- Close #1 shut-off valve
- Open testcock #4
- Record status of check valve #2 (closed tight or leaking),
- Record value of check valve #2 (1.0 psid or greater to pass)

**Record Shut-Off Valve**
- Record #1 & #2 shut-off valve as (closed tight or leaking)

**Final**
- Close testcocks #3 & #4, remove all test equipment
- Open #1 shut-off valve  
  **Open #2 shut-off valve slowly**
Trouble Shooting

With compensating tee arrangement attached to high hose any time water continues to run out of the vertical sight tube you must observe and note gauge reading and prepare to operate the compensating tee in efforts to reduce the flow out of the sight tube to a sight drip.

NOTE: Flushing and/or cleaning the internal components can correct many problems. Carefully observe condition of components.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>MAY BE CAUSED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>During CV #1 test, water stops running Out of vertical tube and gauge drops to 0.0 psid.</td>
<td>1. Dirty or damaged CV #1 disk 2. Dirty or damaged CV #1 seat 3. Guide members hanging up 4. Weak or broken CV #1 spring</td>
</tr>
<tr>
<td><strong>(Leaking CV #1 fix and retest)</strong></td>
<td></td>
</tr>
<tr>
<td>During CV #1 test, water continues running out of vertical tube after compensating tee runs out of water. <em>(Take observed reading and record CV #1)</em></td>
<td>1. Leaking CV #2 and leaking #2 shut-off with backpressure</td>
</tr>
<tr>
<td>During CV #1 test, water continues running out of vertical tube and it <em>can be controlled</em> to a slight drip <em>(Record Check Valve #1)</em></td>
<td>1. Slightly damaged #1 shut-off</td>
</tr>
<tr>
<td>During CV #1 test, water continues running out of vertical tube and it <em>cannot be controlled</em> to a slight drip <em>(stop test, resolve problem w/valve and retest)</em></td>
<td>1. Severely damaged #1 shut-off valve</td>
</tr>
<tr>
<td>During CV #1 test, water stops running out of vertical tube and starts to recede into the tube <em>(Lower equipment to centerline of assembly and record CV #1)</em></td>
<td>1. Leaking CV #2 and Slightly Damaged #2 shut-off with flow to customer</td>
</tr>
<tr>
<td>During CV #2 test, water stops running out of vertical tube and gauge drops to 0.0 psid.</td>
<td>1. Dirty or damaged CV #2 disk 2. Dirty or damaged CV #2 seat 3. Guide members hanging up 4. Weak or broken CV #2 spring</td>
</tr>
<tr>
<td><strong>(Leaking CV #2 fix and retest)</strong></td>
<td></td>
</tr>
<tr>
<td>During CV #2 test, water continues running out of vertical tube and it <em>can be controlled</em> to a slight drip <em>(Record Check Valve #2)</em></td>
<td>1. Slightly damaged #1 shut-off</td>
</tr>
<tr>
<td>During CV #2 test, water continues running out of vertical tube after compensating tee runs out of water. <em>(Take observed reading and record CV #2)</em></td>
<td>1. Leaking #2 shut-off with backpressure</td>
</tr>
<tr>
<td>During CV #2 test, water stops running out of vertical tube and starts to recede into the tube <em>(Lower equipment to centerline of assembly and record CV #2)</em></td>
<td>1. Leaking #2 shut-off with flow to customer</td>
</tr>
</tbody>
</table>

Repair Note: Lubricants shall **only** be used to assist with the re-assembly of components, and shall be USDA approved and non-toxic.