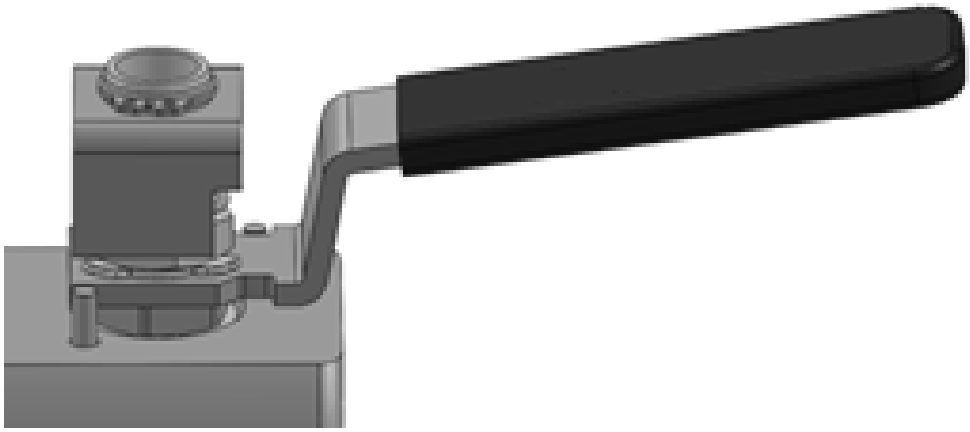
VB04 Series Process Interface Valves
Locking Handle Replacement Instructions



Kit Contents

Lock washer

Lock nut

C-clip

Lock plate

Spring

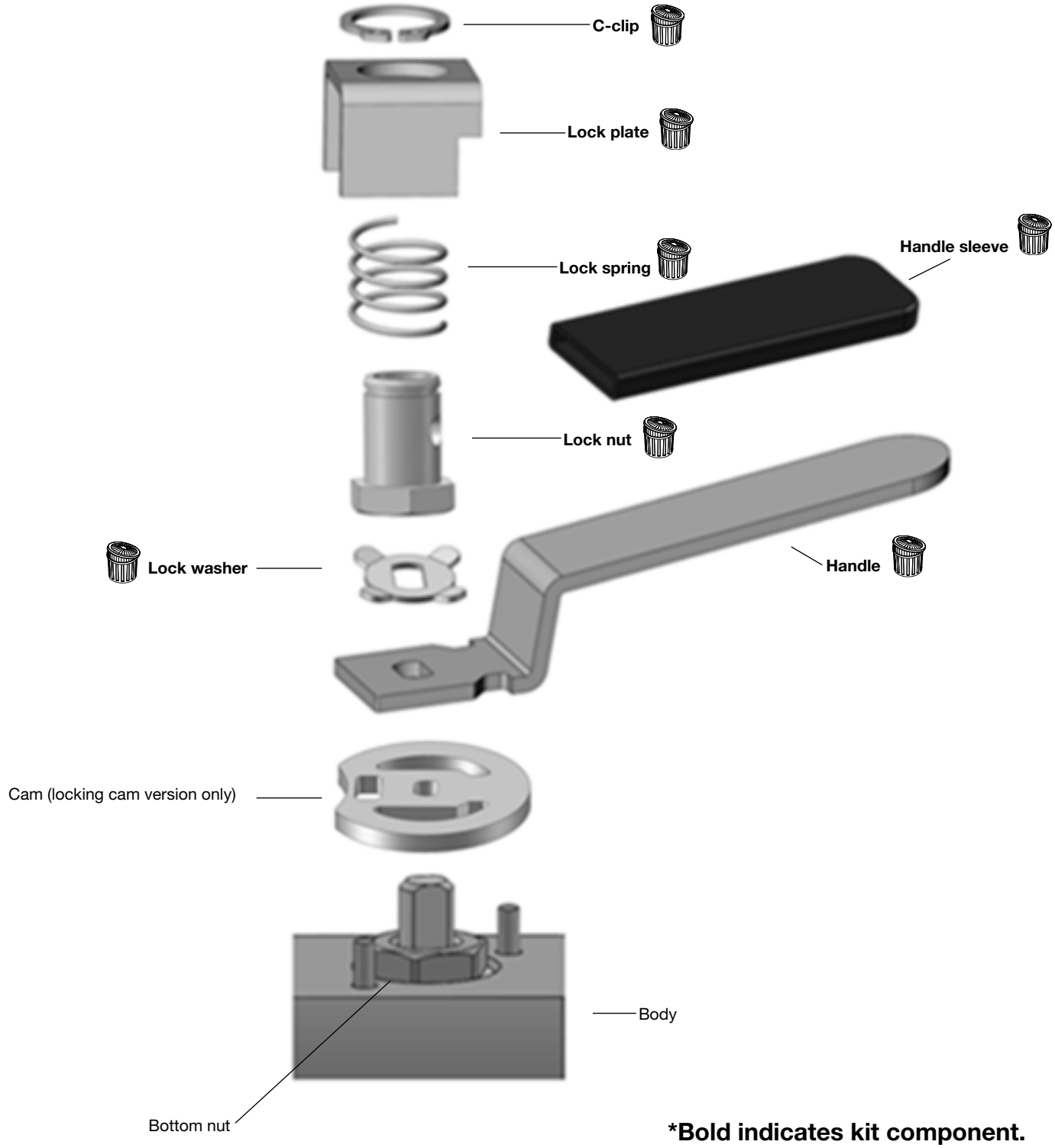
Handle sleeve

Handle (type may vary)

Symbols

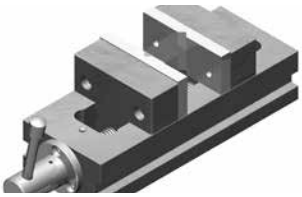
Discard

Exploded View



***Bold indicates kit component.**

Tools Required

<table>
<tr><th>Tool</th><th>Size</th><th>Component</th></tr>
<tr><td>Vise
  </td><td>—</td><td>Body</td></tr>
<tr><td>Torque wrench
  </td><td>Capable of
130 in·lb (14.7 N·m)</td><td>Lock nut</td></tr>
<tr><td>Socket
  </td><td><table><tr><th>Bore Size</th><th>Lock Nut</th><th>Bottom Nut</th></tr><tr><td>9.5 mm</td><td>17 mm</td><td>13 mm</td></tr><tr><td>14 mm</td><td>17 mm</td><td>17 mm</td></tr><tr><td>20 mm</td><td>19 mm</td><td>19 mm</td></tr></table></td><td>Lock nut</td></tr>
<tr><td>Thread-locking fluid
  </td><td>—</td><td>Stem threads</td></tr>
<tr><td>Retaining ring pliers
  </td><td>—</td><td>C-clip</td></tr>
<tr><td>Slip joint pliers
  </td><td>—</td><td>Lock washer</td></tr>
<tr><td>Punch and hammer
  </td><td>—</td><td>Lock washer</td></tr>
<tr><td>Marker</td><td>—</td><td>Handle/body</td></tr>
</table>

⚠ WARNING

Before removing valve from system, to avoid personal injury, you must

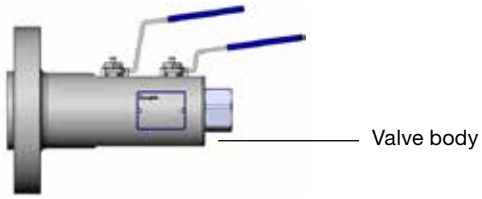
- **Depressurize the system**
- **Cycle the valve**
- **Purge the system to remove any residual system media left in the valve**

Disassembly

1. Secure the **valve body** in a vise.

NOTICE

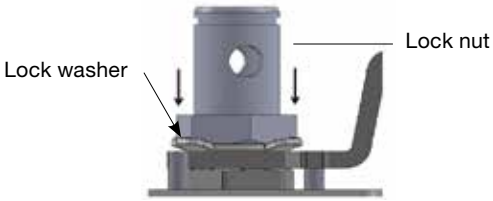
Be careful not to scratch the critical sealing surfaces. Leakage could result.



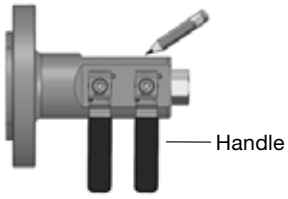
2. Remove the C-clip with retaining ring pliers.
3. Remove the lock plate and lock spring.
4. Carefully bend the **lock washer** tabs away from the **lock nut** using a punch and hammer.

NOTICE

Excessive force may damage the valve. Leakage could result.



5. Close the valve against the handle stop.
6. Document on the body the **handle** orientation relative to the body, using a marker, for proper reassembly.

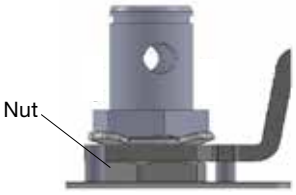


7. Remove the lock nut while holding the valve in a closed position.
8. Remove the lock washer and handle.

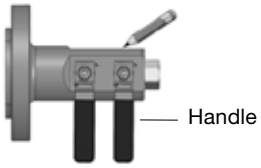
Reassembly

1. Torque the bottom **nut** using a torque wrench and socket per the following table:

Bore Size	Torque,in.·lbs (N·m)
9.5 mm	5 to 6 (0.5 to 0.6)
14 mm	5 to 6 (0.5 to 0.6)
20 mm	20 to 30 (2.2 to 3.3)



2. Assemble the handle sleeve onto the handle.
3. Assemble the **handle** onto the stem oriented with the mark on the body (from **Disassembly** step #6).



4. Assemble the lock washer onto the stem with the tabs facing up.

NOTICE

Ensure the valve is in the closed position. Unexpected flow could result.

5. Apply a thin coat of thread-locking fluid to the stem threads (20 mm bore only).
6. Assemble the lock nut onto the stem.
7. Torque the lock nut using a torque wrench and socket per the following table:

NOTICE

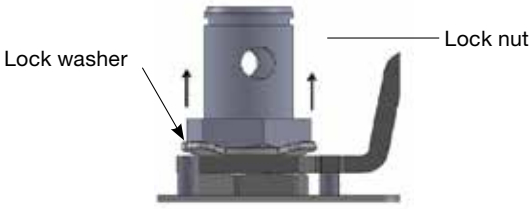
Ensure the stem does not rotate during torquing. Unexpected flow could result.

Bore Size	Torque, in.·lbs (N·m)
9.5 mm	70 to 90 (7.9 to 10.2)
14 mm	90 to 110 (10.2 to 12.4)
20 mm	110 to 130 (12.4 to 14.7)

8. Pinch the **lock washer** tabs towards the **lock nut** using slip joint pliers.

NOTICE

Ensure bottom nut does not turn. Leakage could result.



9. Assemble the lock spring and the lock plate onto the lock nut.
10. Compress the lock plate and assemble the C-clip into the groove on the lock nut with retaining ring pliers.
11. Open and close the valve several times to inspect for smooth actuation.
12. Test each valve for proper operation and leak-tight integrity.

NOTICE

Allow thread-locking fluid 24 hours to cure before installing the valve. Failure to do so could result in leakage.

*For additional information, see **www.swagelok.com**.*

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