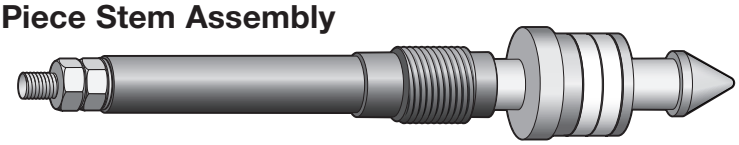
IPT Series Manual NV Needle Valve
Service Instructions

NV Kit Contents

This kit contains **one** of the stem assemblies shown below. It is preassembled as shown.

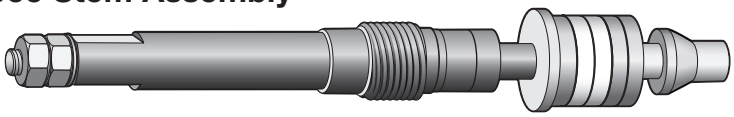
NOTE: The image below may vary from the actual stem assembly. Compare kit contents with the original stem assembly in the valve. Moly-lithium grease is required for repair, but is not included with the kit.

Single-Piece Stem Assembly



or

Two-Piece Stem Assembly



Tools Required

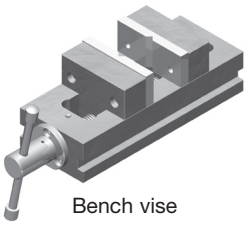
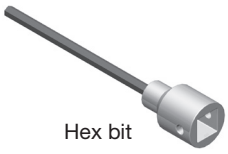
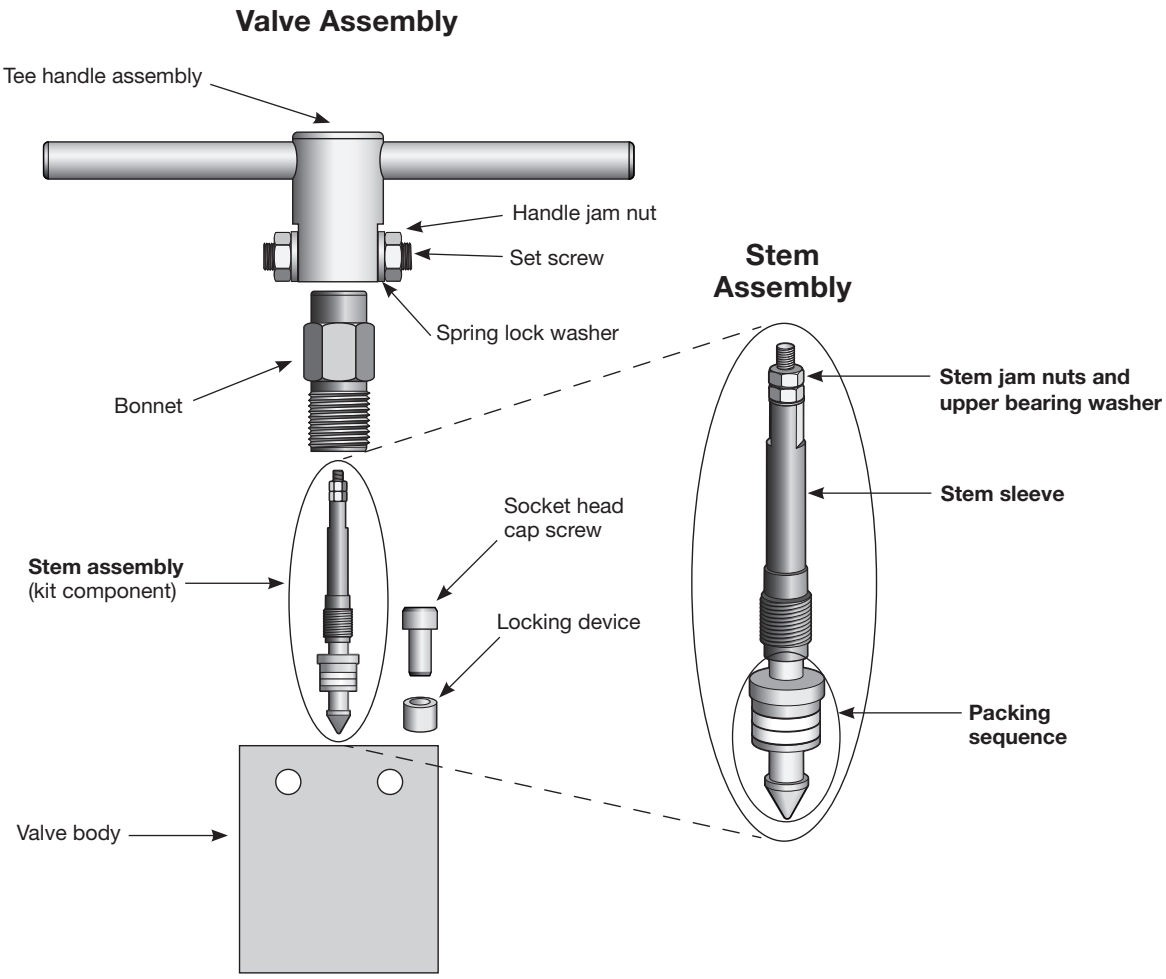
Part	Size	Tool
Valve body	—	 Bench vise
Handle jam nut	5/8 in.	 Hex socket
Bonnet	capable of 150 ft·lb (203 N·m)	 Torque wrench
	See Table 1	 Crow's foot adapter
Set screw and socket head cap screw	5/8 in.	 Hex bit

Table 1

Valve Size	Crow's Foot Size in.
NV9M	13/16
NV12M	1 1/8
NV (12F, 12N, 16M, 16N)	1 3/8

Exploded View



***Bold indicates kit component**

Instructions

⚠ WARNING

Before removing the valve from service, to avoid personal injury, you must:

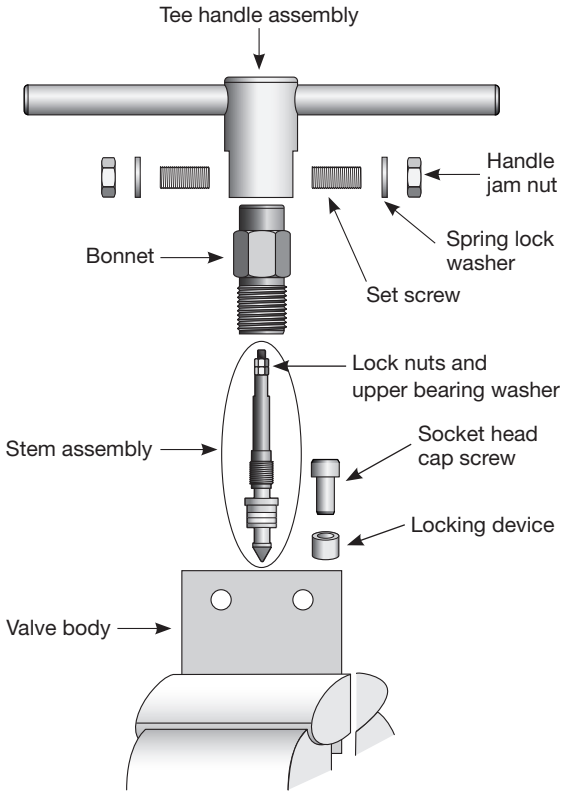
- **Depressurize the system.**
- **Cycle the valve.**
- **Purge system to remove any residual system media left in valve.**

NOTICE

Do not scratch any sealing surfaces while following these instructions. Scratches on sealing surfaces may affect valve performance.

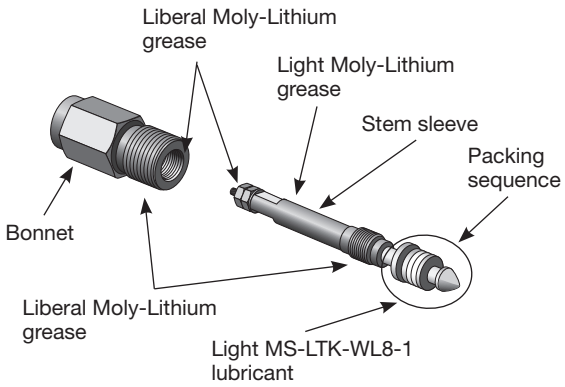
Disassembly

1. Remove the valve from the system.
2. Place the valve in a vise.
3. Loosen and remove the **spring lock washers**, **handle jam nuts,** and **set screws**.
4. Remove the **tee handle assembly**.
5. Loosen and remove the **locking device** and **socket head cap screw**.
6. Loosen and remove the **bonnet,** and remove the **stem assembly**.
7. Discard the **stem assembly**.
8. Clean all remaining components: **handle assembly, bonnet**, and **valve body**.



Valve Reassembly

1. Apply **Moly-Lithium grease** liberally to the first four outside diameter (OD) threads, the bottom face of the **bonnet**, and to the OD threads of the **stem sleeve**. Also apply the **Moly-Lithium grease** lightly to the top face of the **stem sleeve**. Apply the **MS-LTK-WL8-1** lubricant, sold separately, lightly to the packing and packing rings of the exposed lower stem.



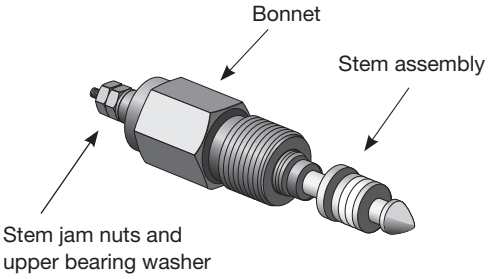
2. Assemble the **bonnet** onto the **stem sleeve** until bottomed.

NOTICE

To prevent damage to the sealing area during reassembly, thread the stem to the fully open position prior to insertion into the valve body.

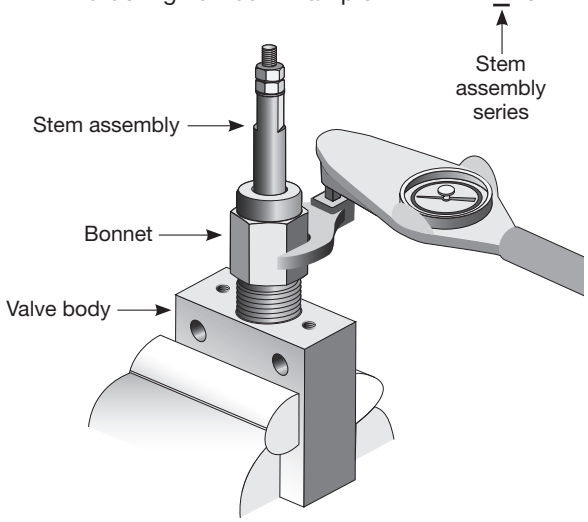
NOTICE

The stem assembly ships with the stem jam nuts and upper bearing washer appropriately tightened. Do not tighten the stem jam nuts and upper bearing washer any further; the stem assembly needs to move freely.



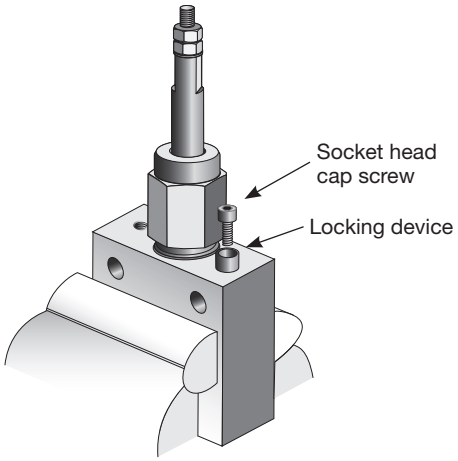
3. Insert the **stem assembly** into the **valve body.** Torque the **bonnet** according to the torque chart below.

   Note: The stem series is identified by the valve ordering number. Example: NVIZN1V**D**10



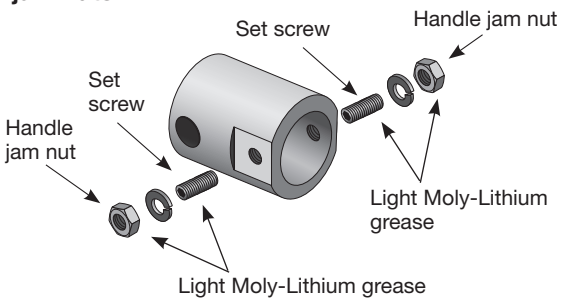
Required Torque ft·lb (N·m)	
Stem Series	**Bonnet**
A	45 to 50 (61.0 to 67.7)
B	70 to 75 (94.9 to 101)
C	90 to 95 (122 to 129)
D	120 to 125 (163 to 169)
E	45 to 50 (61.0 to 67.7)
F	65 to 70 (88.1 to 94.9)
M	60 to 65 (81.3 to 88.1)
T	145 to 150 (197 to 203)
W	60 to 65 (81.3 to 88.1)
Y	60 to 65 (81.3 to 88.1)

4. Reassemble the **locking device** and **socket head cap screw**. Torque the **socket head cap screw** according to the torque shown below.

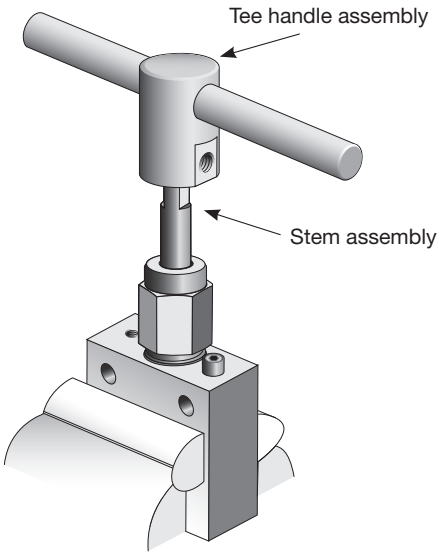


Required Torque ft·lb (N·m)	
	Socket Head Cap Screw
All	2.5 to 4.0 (3.3 to 5.4)

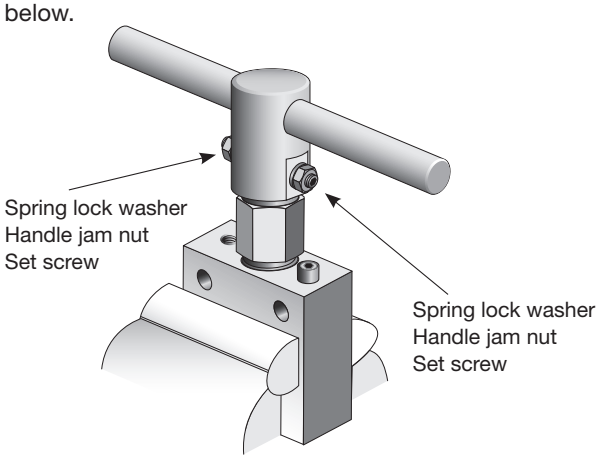
5. Apply **Moly-Lithium grease** lightly to the OD threads of the **tee handle set screws** and **handle jam nuts**.



6. Place the **handle assembly** on top of the **stem assembly**. Align the flats on the **handle assembly** with the flats on the **stem assembly**.



7. Insert the **spring lock washers**, **handle jam nuts**, and **set screws**. Tighten the **set screws** and **handle jam nuts** according to the torque chart below.



Component	Required Torque ft·lb (N·m)
Tee handle set screw	8 to 10 (10.8 to 13.5)
Handle jam nut	8 to 10 (10.8 to 13.5)

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

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