



BU-3107

MAINTENANCE INSTRUCTIONS FOR 20V121V-LT GLOBE VALVES

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1.0 REFERENCE

- 1.1 Applicable Assembly Drawing C-2099
- 1.2 Stem Assembly Drawing B-1277, latest revision

2.0 PURPOSE

- 2.1 To establish maintenance instructions for 20V121V-LT globe valves.

3.0 SCOPE

- 3.1 This maintenance instruction (BU-3107) is to be used for all 20V121V-LT globe valves.

4.0 INSTRUCTIONS

CAUTION: Vent all pressure from system before removing valve for maintenance.

4.1 Disassembly

- 4.1.1 To remove valve from system, loosen gland (item 15) by turning counterclockwise, until gland threads are completely disengaged from the body (item 1). This will allow the valve assembly to be removed from the system.
- 4.1.2 Place valve assembly in vise equipped with "soft jaws" and tighten vise.
- 4.1.3 Turn valve handle (item 11) counterclockwise until the valve stem is in the full open position.
- 4.1.4 Insert standard 3/16" hex wrench into the hex set scr(s) (item 13) located inside the valve handle hub (item 10) and turn counterclockwise until set scr is loosened.
- 4.1.5 Remove valve handle from stem assembly.
- 4.1.6 Place an appropriate open-ended wrench on the flats of the upper locknut (item 7). Turn open-ended wrench counterclockwise until locknut is loosened.
- 4.1.7 Place an appropriate open-ended wrench on the flats of the lower locknut (item 7). Turn open-ended wrench counterclockwise until locknut is loosened.
- 4.1.8 Place an appropriate open-ended wrench on the flats of the housing (item 8). Turn the housing (item 8) and packing gland (item 3) sub-assembly and continue

to turn housing (item 8) until sub-assembly is disengaged from body (item 1).

- 4.1.9 Place an appropriate open-ended wrench on the flats of the packing gland (item 3) and stem assembly (item 2) (sub-assembly) and turn sub-assembly until packing gland (item 3) threads are disengaged from housing (item 8).

- 4.1.9.1 Remove the packing gland (item 3) from the stem assembly (item 2) by turning counterclockwise until the threads are disengaged.

NOTE: When stem assembly (item 2) is disengaged from the packing gland (item 3) the packing (item 6), the bottom washer (item 2) and the top packing washer (item 4) will be attached to the stem assembly.

- 4.1.10 Remove cone ring (item 9) from the body (item 1).

4.2 ASSEMBLY

- 4.2.1 The assembly technician shall, as a minimum, check all repair kit components for the following:

- 4.2.1.1 Cleanliness.

- 4.2.1.2 Nicks, dents and/or scratches.

CAUTION: All damaged components are to be replaced.

- 4.2.2 The assembly technician shall lubricate all components of the stem assembly (sub-assembly) with an approved lubricant as follows:

- 4.2.2.1 Bottom washer (item 5) shall be lightly lubricated on the outside diameter.

- 4.2.2.2 Stem sleeve (item 3) of the stem assembly (item 2) shall be lightly lubricated on the external threads.

- 4.2.2.3 Packing gland (item 3) shall be lightly lubricated on the first three internal threads.

- 4.2.3 Grasp the lubricated stem assembly (sub-assembly) with your fingers and insert the sub-assembly into the packing gland (item 3). Rotate the packing gland (item 3) clockwise until the internal threads are engaged.

- 4.2.3.1 Rotate the packing gland clockwise until the internal threads of the packing gland (item 3) "bottom out."

- 4.2.4 The assembly technician shall lubricate all components of the stem assembly and packing gland (sub-assembly) with an approved lubricant as follows:

- 4.2.4.1 Packing gland (item 3) shall be lightly lubricated on the external threads.

- 4.2.4.2 Housing (item 8) shall be lightly lubricated on the first three internal

threads and all the external threads.

4.2.4.3 Cone ring (item 9) shall be lightly lubricated on both sealing surfaces.

4.2.5 Place housing (item 8) in vise equipped with "soft jaws" and tighten vise.

4.2.6 Grasp the lubricated stem assembly (item 2) and packing gland (item 3) (sub-assembly) with your fingers and insert the sub-assembly into the housing (item 8). Rotate the packing gland (item 3) until the external threads of the packing gland (item 3) are engaged with the housing (item 8) threads.

4.2.7 Place an appropriate open-ended wrench on the flats of the packing gland (item 3). Turn the open-ended wrench clockwise until the packing gland (item 3) is tight in the housing (item 8).

CAUTION: When aligning, engaging, turning and tightening the aforementioned threads, the packing (item 6), the bottom washer (item 5) and the top packing washer (item 4) are to be aligned before the packing gland (item 3) is tightened.

4.2.8 Place a torque wrench on the flats of the packing gland (item 3) and torque to the value indicated on the assembly drawing.

4.2.8.1 Place an appropriate open-ended wrench on the flats of the upper locknut (item 7) and turn wrench clockwise until locknut (item 7) is tight.

4.2.9 Remove packing gland (item 3) and housing (item 8) (sub-assembly) from vise.

4.2.10 Insert cone ring (item 9) into the body (item 1).

4.2.11 Carefully align the housing sub-assembly with the opening in the body (item 1) and rotate the housing until the external threads are engaged.

4.2.12 Place an appropriate open-ended wrench on the flats of the housing (item 8) and turn clockwise until the housing (item 8) is tight in the body (item 1).

4.2.13 Place a torque wrench on the flats of the housing (item 8) and torque to the value indicated on the assembly drawing.

4.2.13.1 Place an appropriate open-ended wrench on the flats of the lower locknut (item 7) and turn wrench clockwise until locknut (item 7) is tight.

4.2.14 Reattach the handle (item 11) the hub (item 10) and set scr(s) (item 13) to the stem sleeve (item 3) of the stem assembly (item 2).

4.2.14.1 Insert standard 3/16" hex wrench into the hex soc set scr(s) (item 13) and tighten screw(s).

4.2.14.2 Place an appropriate open-ended wrench on the flats of the set screw locknut(s) (item 14) and turn wrench clockwise until locknut(s) (item 14) is tight.

4.2.15 Turn handle (item 11) clockwise to close valve. Loosen vice and remove refurbished valve assembly.

General Note: Butech Pressure Systems recommends that refurbished valves be pressure tested before being returned to service.

RECORD OF REVISIONS

| REV NO | DESCRIPTION OF CHANGES | DATE | BY | APPR |
|--------|------------------------|----------|-----|------|
| 0 | Original document | 11/22/99 | DTG | DTG |