



**BU-3158**

**MAINTENANCE INSTRUCTIONS FOR 20UV46V/R-ATC5  
AND 20UV66V/R AIR OPERATED NEEDLE VALVES**

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## 1.0 REFERENCE

- 1.1 Applicable assembly drawings C-1293 and B-1807, latest revisions.
- 1.2 BU-3057 - Maintenance instructions for ATO and ATC air actuators.

## 2.0 PURPOSE

- 2.1 To establish maintenance instructions for 20UV46V/R-ATC5 and 20UV66V/R-ATC5 air operated needle valves.

## 3.0 SCOPE

- 3.1 This maintenance instruction (BU-3155) is to be used for all 20UV46V/R-ATC5 and 20UV66V/R-ATC5 valves.

## 4.0 INSTRUCTIONS

**CAUTION:** *Vent all pressure from system and ATC5 actuator before removing valve for maintenance.*

- 4.1 Disassembly
  - 4.1.1 Remove valve assembly from system.
  - 4.1.2 Secure valve body in vise equipped with "soft jaws".
  - 4.1.3 Refer to dwg. C-1293. Use a permanent felt pen to mark the stem (item 4) in the location where it meets the packing gland (item 3) bore. This will be useful during the reassembly procedure as the position of the stem in the opening stroke.
  - 4.1.4 Loosen and remove hex socket cap screws (items 11) that hold the valve body (item 1) and bottom mounting plate (item 10) together.
  - 4.1.5 Loosen the hex jam nut (item 9) and rotate actuator and bottom plate subassembly counterclockwise until coupling (item 8) disengages from the stem (item 4).
  - 4.1.6 Remove actuator and bottom plate subassembly from valve body (item 1). Refer to BU-3057 for instructions on the maintenance of the actuator assembly.

*CAUTION: De-pressurize actuator assembly before attempting maintenance.*



- 4.1.7 Loosen and remove the packing gland (item 3) from the body (item 1). Pull the stem assembly and the attached packing components from the body. Remove the top packing washer (item 5), packings (items 6) and bottom washer (item 7) from the stem.
- 4.1.8 Refer to dwg. B-1807. Loosen and remove the seat retainer (item 14) and seat (item 13) from the body (item 1).

## 4.2 Assembly

- 4.2.1 Check all repair kit components for the cleanliness or damage.
- 4.2.2 Refer to dwg. C-1293. Lubricate the stem (item 4) shank in the area of the packing, the bottom washer (item 7) lightly on the outside diameter and the external threads of the packing gland (item 3) with an approved lubricant.
- 4.2.3 Slip the bottom packing washer (item 7), packings (items 6) and top packing washer (item 5) over shank of stem (item 4). Transfer mark from step 4.1.3 the new stem (if included).
- 4.2.4 Slide the stem assembly with installed packing components into top of body. Secure stem with packing gland (item 3) finger tight. Locate the mark on the stem (item 4) with the top of the packing gland bore. Secure the body in the vise. Tighten the packing gland to approximately 30 ft-lbs.
- 4.2.5 Grasp the actuator and plate assembly and carefully align and engage the stem (item 4) with the coupling (item 8).
- 4.2.6 Rotate the actuator and bottom plate sub-assembly clockwise until the bottom plate (item 10) contacts the body. Install and tighten the hex socket cap screws (items 11) that hold the bottom plate to the body.
- 4.2.7 Tighten the hex jam nut (item 9) against coupling (item 8).
- 4.2.8 Refer to dwg. B-1807. Lubricate the conical faces of the seat (item 13) and the external threads of the seat retainer (item 14). Install the seat and seat retainer into the body. Tighten to approximately 25 ft-lbs.
- 4.2.9 Loosen vise and remove valve assembly. The refurbished valve is now ready to be returned to service.

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



**RECORD OF REVISION**

REV NO	DESCRIPTION OF CHANGES	DATE	BY	APPR
0	Original document	18-Feb-03	DTG	DTG