



**BU-3155**

**MAINTENANCE INSTRUCTIONS FOR SFPV81V/R-LT-ATC5**  
**AIR OPERATED LOW TEMPERATURE VALVES**

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## 1.0 REFERENCE

- 1.1 Applicable assembly drawing C-2263, latest revision
- 1.2 BU-3057 - Maintenance instructions for ATO and ATC air actuators.

## 2.0 PURPOSE

- 2.1 To establish maintenance instructions for SFPV81V-LT-ATC5 air operated low temperature valves.

## 3.0 SCOPE

- 3.1 This maintenance instruction (BU-3155) is to be used for all SFPV81V-LT-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 assembly in vise equipped with "soft jaws".
  - 4.1.3 Loosen and remove hex socket cap screws (item 21) that hold the valve body (item 1) and bottom mounting plate (item 19) together.
  - 4.1.4 Loosen the hex jam nut (item 22) and rotate actuator and bottom plate subassembly counterclockwise until coupling (item 20) disengages from the upper stem (item 4).
  - 4.2.3 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.*
  - 4.1.6 Loosen and remove the housing (item 11) from the body (item 2). The cone ring (item 12) will be attached.



- 4.1.7 Secure the housing (item 11) in the vise. Loosen the locknut (item 14) and loosen and remove the packing gland (item 3) from the housing. Pull the packing gland from upper stem (item 4).
- 4.1.8 Pull the stem assembly and the attached packing components from the body. Carefully drive out the stem assembly dowel pin (item 6) holding the upper stem (item 4) and lower stem (item 5) together. Remove the top packing washer (item 7), packings (items 8), packing support washers (items 9) and bottom washer (item 10) from the lower stem.

## 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
- 4.2.2 The assembly technician shall lubricate all components of the stem assembly with an approved lubricant as follows:
  - 4.2.2.1 The lower stem (item 5) shank in the area of the packing.
- 4.2.3 The assembly technician shall lubricate all remaining components with an approved lubricant as follows:
  - 4.2.3.1 Cone ring (item 12) shall be lubricated on both faces.
  - 4.2.3.2 Lubricate the first three threads of the housing (item 11).
  - 4.2.3.3 Lubricate the external threads of the packing gland (item 3).
  - 4.2.3.4 The bottom washer (item 10) shall be lightly lubricated on the outside diameter.
- 4.2.4 Slip the bottom packing washer (item 10), packing support washers (items 9), packings (items 8) and top packing washer (item 7) over shank of lower stem (item 5).
- 4.2.5 Engage the upper stem (item 4) with the shank of the lower stem (item 5). Align the "pre-drilled" holes and carefully press the dowel pin (item 6) into the pre-drilled holes to secure the upper and lower stem sections.
- 4.2.6 Slide the stem assembly with installed packing components into top of housing (item 11).



- 4.2.7 Install the packing gland (item 3) with locknut (item 14) into the housing. Tighten to approximately 60 ft-lbs.
- 4.2.8 Slide the cone ring (item 12) over the exposed stem.
- 4.2.9 Secure the body in the vise. Carefully align the housing sub-assembly with installed cone ring into the opening in the body (item 1) and rotate the housing until the external threads are engaged with the body internal threads. Tighten to approximately 100 ft-lbs.
- 4.2.10 Grasping the actuator and plate assembly, carefully align and engage the upper stem (item 4) with the coupling (item 20).
- 4.2.11 Rotate the actuator and bottom plate sub-assembly clockwise until the bottom plate (item 19) contacts the body. Install and tighten the hex socket cap screws (item 21) that hold the bottom plate to the body.
- 4.2.12 Tighten the hex jam nut (item 22) against coupling (item 22).
- 4.2.13 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	10/Oct/02	DTG	DTG