



**BU-3148**

**MAINTENANCE INSTRUCTIONS FOR, SLPV4\*-ATO5, SLPV6\*-ATO5  
SFPV2\*-ATO5, SFPV4\*-ATO5, 20UV4\*-ATO5, 20UV6\*-ATO5, DHP4F-ATO5,  
DHP6F-ATO5, DHP8F-ATO5 AIR-OPERATED NEEDLE VALVES**

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## 1.0 REFERENCE

- 1.1 Assembly Drawing C-1279.
- 1.2 BU-3057 - Maintenance instructions for ATO\* and ATC\* air actuators.

## 2.0 PURPOSE

- 3.1 To establish maintenance instructions for the following air-operated needle valves:

SLPV4\*-ATO5, SLPV6\*-ATO5  
SFPV2\*-ATO5, SFPV4\*-ATO5  
20UV4\*-ATO5, 20UV6\*-ATO5  
DHP4F-ATO5, DHP6F-ATO5, DHP8F-ATO5

## 3.0 SCOPE

- 3.1 This maintenance instruction (BU-1348) is to be used for the above actuated needle valves.

## 4.0 INSTRUCTIONS

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

### 4.1 Disassembly

- 4.1.1 Remove valve from system and place in a vise equipped with "soft jaws".
- 4.1.2 Loosen the hex nut securing actuator adjustment screw. Loosen adjustment screw to relieve spring pressure.
- 4.1.3 Connect an air line to the ¼" NPT female connection in the actuator. Pressurize actuator with 75 to 80 psi air and maintain pressure throughout valve maintenance.
- 4.1.4 Loosen and remove hex socket cap screws (item 10) that hold the valve body (item 2) and bottom mounting plate (item 9) together.
- 4.1.5 Loosen hex jam nut (item 15) 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 2). Refer to BU-3057 for instructions on the maintenance of the actuator assembly.



- 4.1.7 Place an appropriate open-ended wrench on the flats of the packing gland (item 3). Turn open-ended wrench counterclockwise until the gland is loosened. Pull packing gland and stem from body (item 1).
- 4.1.8 Remove hex nut (item 15) from stem. Lift packing gland from stem.
- 4.1.9 Remove top packing washer (item 5), packing (item 6), and bottom washer (item 7) from stem (item 4).

#### 4.2 ASSEMBLY

- 4.2.1 The assembly technician shall, as a minimum, check all repair kit components for the cleanliness and damage such as nicks, dents or scratches.
- 4.2.2 The assembly technician shall lubricate selected components of the valve assembly with an approved lubricant as follows:
  - 4.2.2.1 The stem (item 4) shank in the area of the packing.
  - 4.2.2.2 The external threads of the packing gland (item 3).
- 4.2.3 Slip the bottom washer (item 7), packing (item 6) and top packing washer (item 5) over shank of stem (item 4).
- 4.2.4 Place the packing gland (item 3) over the stem. Thread into body and tighten to approximately 50 lb-ft. Thread hex nut (item 15) to shoulder on the stem.
- 4.2.5 Grasping the actuator and plate assembly, carefully align and engage the stem with the coupling (item 8). Rotate the actuator and bottom plate sub-assembly clockwise until the bottom plate (item 9) contacts the body.
- 4.2.6 Install and tighten the hex socket cap screws (item 10) that hold the bottom plate (item 9) to the body (item 2).
- 4.2.7 Tighten the hex jam nut (item 15) against coupling (item 8).
- 4.2.8 Depressurize actuator assembly. Adjust jam nut at the top of the actuator to provide the approximate spring compression as shown on the valve assembly drawing or in the catalog.

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	5/21/02	DTG	DTG
1	Added new para's 4.1.3 and 4.2.8.	5/29/02	DTG	DTG