APTech Miscellaneous Instructions **#123650C0**
AP3650, Panel Mount
Revision 3
April 4, 2018

Note: This procedure is intended for panel mount of AP/AZ/AK/3650/4650 Series valves.
Note: Recommended panel hole diameter: 0.78 inch (19.8 mm).

A. Required Tools and Equipment

- Size 2 Phillips bit and 20 in·lbf (2.3 Nm) torque wrench. Optionally a size 2 Phillips screwdriver may be used if an appropriate torque wrench cannot be obtained.
- 5/64 inch hex bit and 20 in·lbf (2.3 Nm) torque wrench. Optionally a 5/64 inch hex key may be used if an appropriate torque wrench cannot be obtained.
- 1 inch wrench (open end or adjustable).
- Adhesive removal (optional).

B. Knob Removal (Refer to Figure 1)

1. Remove the valve from the double plastic bag.
3 2. Carefully peel off the model number label which covers two set screws (#5) on the side of the indicator plate (#6). To preserve the label for later re-use, temporarily apply it to the plastic bag valve was packaged in.
3. Remove the label (#1) from the top of the knob (#2).
4. Using a Phillips screwdriver, unscrew and remove the screw (#3) and finishing washer (#4).
5. Close the valve by turning the knob fully clockwise.
   Note: Remember the orientation of the knob window in the "closed" position so that it may be re-oriented in the same position during re-assembly.
6. Lift up the knob to remove it from the valve.
7. Use a 5/64 inch hex key to loosen the two set screws (#5) a couple of turns.
8. Lift up the indicator plate (#6) to remove it from the valve.

C. Panel Mount (Refer to Figure 1)

1. Remove the panel mount nut (#7) from the unit.
2. Place the valve through the panel hole, position the valve as desired, connect the valve into piping system and replace the panel mount nut onto the unit.
3. Using a 1 inch wrench, tighten the panel mount nut firmly against the panel.

D. Knob Replacement (Refer to Figure 1)

1. With printed words facing up place the indicator plate (#6) on top of the cap (#8). Rotate the indicator plate so that the quarter-circular slot on the top of it is facing the desired "closed" location of the knob window.
2. Holding the knob (#2) just above the stem (#9), orient the knob window to the desired "closed" position, and then slide the knob down to engage the spline connection with the stem.
3. Rotate the indicator plate counter-clockwise until it stops.
   Note: the word "CLOSED" should be fully visible through the knob window.
4. Holding the indicator plate down, tighten the two set screws (#5) to 20 in·lbf (2.3 Nm) using a 5/64 inch hex bit.
5. Secure the knob with the finishing washer and the screw, tightening it to 20 in·lbf (2.3 Nm) using a Phillips bit.

E. Valve Testing

1. Open and close the valve several times to verify the actuator operates correctly. The valve actuator should have no excessive friction. Leave the valve in the closed position.
2. Connect the valve inlet to 60-100 psig (4.1 - 6.9 bar) pressure nitrogen source line. Pressurize the valve inlet. Verify there is no audible leakage across-the-seat. Open the valve and verify there is no flow restriction in the valve. Close the valve.
3. Perform a helium leak test to verify that the valve does not leak across-the-seat. Leak test procedures depend greatly on equipment and operator preference. Refer to SEMI F1 for typical leak testing protocols. If it is not possible to perform a helium leak test, then a pressure decay test could be performed using inert gas.

F. Labeling

1. If necessary, clean the top of the knob with adhesive removal.
2. Apply the new label provided on the top of the valve, aligning the label's slotted hole with the knob's slotted window.
3. 3. Re-apply the model number label around the indicator plate (#6).

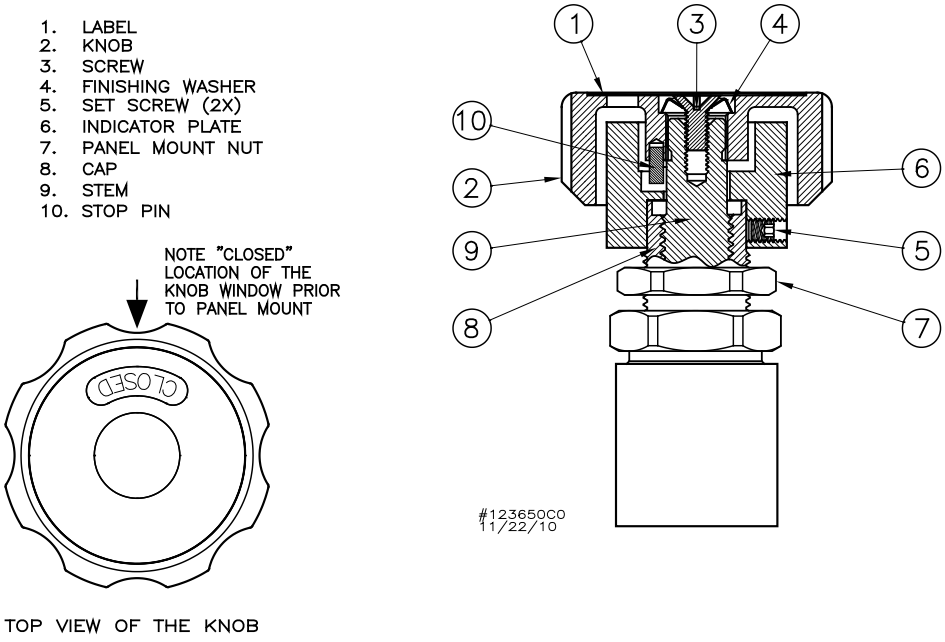

Figure 1. AP3650 Valve Assembly Diagram.

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