ALD7A Series Diaphragm Valve
Field Adjustable Valve Instructions

NOTE
Appropriate testing should be performed after reassembly is complete to ensure proper installation.

⚠ WARNING

Before removing the valve from service, to avoid personal injury, you must:

- **Depressurize the system**
- **Cycle the valve**
- **Purge system to remove any residual system media left in valve**

⚠ WARNING

Residual material may be left in the valve and system. Take proper precautions to prevent personal injury from contact.

Tool Requirements

Tool	Size	For Use With	Specifications
Swagelok® Tooling			
Swagelok Spanner Tool MS-TOOL-ALD-FA 	1/4 in. Square Drive	Actuator: Removal and Flow setting/ adjustment	Max Torque: 160 in-lbs. (18.1 N·m)
Standard Tooling			
Socket Extension (optional) 	1/4 in. 2 in. min length	Swagelok Spanner Tool	–
Torque Wrench 	1/4 in. Up to 160 in.·lb (up to 18.1 N·m)	Swagelok Spanner Tool	–

Field Flow Adjustable Instructions

Field Flow Adjustable Configurations Only

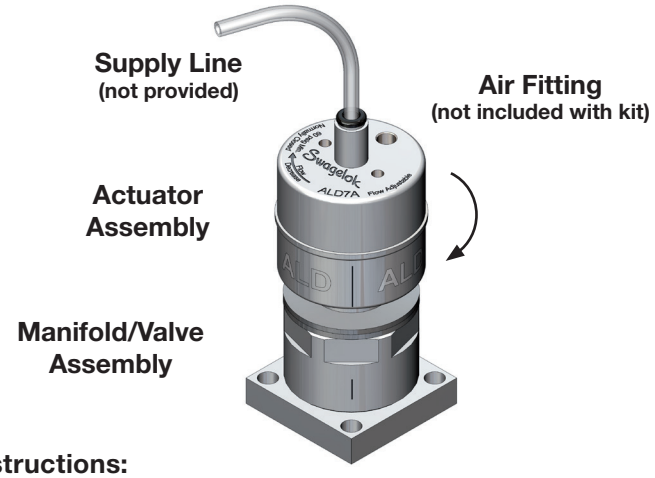
Tool Requirements:

- **Swagelok Spanner Tool**
- **1/4 in. Torque Wrench**

Kit Requirements: N/A

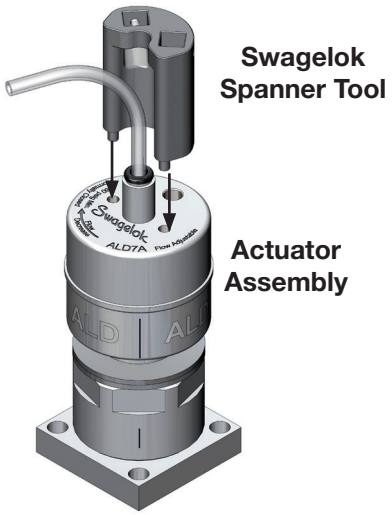
NOTICE

- Ensure **valve assembly** is properly installed into system or test bench and at process temperature and pressure. Have target process parameters available, either from previous measurements or a desired new target.
- Ensure manifold/valve assembly is tightly secured in system to withstand a torque up to 160 in-lbs (18.1 N·m).
- Selected air fitting should be installed on **actuator assembly** and **supply line** attached.
- Ensure supply line allows for rotation of the actuator assembly during flow adjustment.
- When installing **air fittings**, effort must be made to not turn actuator. Rotation will affect the factory setting.
- Be careful not to damage sensor (if installed).

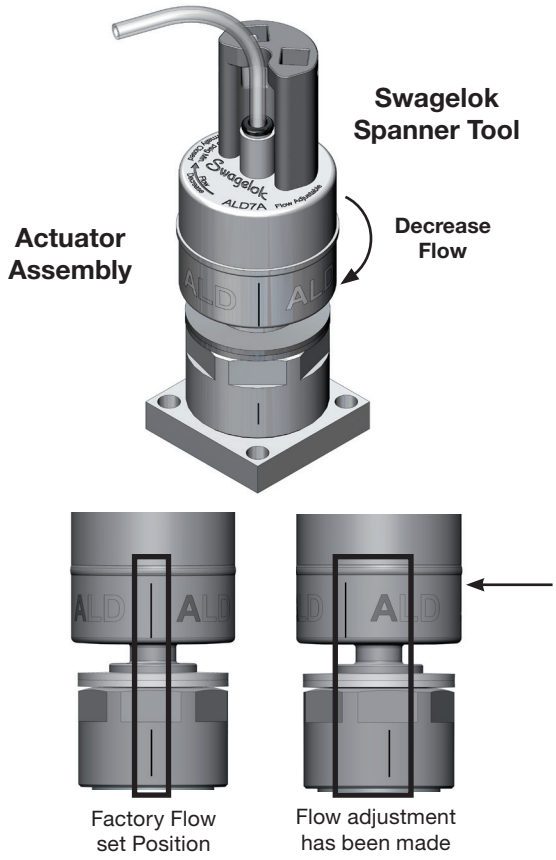


Instructions:

1. Actuate valve to open position (air supplied to **actuator assembly**, 60 to 120 psig [4.1 to 8.2 bar]).
2. Connect a 1/4 in. torque wrench to the **Swagelok spanner tool** (either square drive may be used).
3. Align the Swagelok spanner tool's pins with the two matching cap holes on the actuator assembly.



4. Rotate **actuator assembly** clockwise using **Swagelok spanner tool** to decrease flow until desired process parameter(s) are achieved.
   - Flow adjustment sensitivity and range will depend on manifold/valve configuration and process parameters. Typically, the C_V will adjust approximately 5% for every 10 degrees of actuator rotation.
   - Use of a separate flow measurement device is required for actual flow adjustment.
   - The minimum set torque should be 40 in.·lb (4.5 N·m or greater after adjustment.
   - To avoid damage to the valve, do not exceed 160 in.·lb (18.1 N·m) during adjustment.
   - For relative adjustment use only: Factory flow set line on side of actuator may be used in conjunction with stamped marking on bonnet nut to indicate approximate adjustment amount.



Relative Flow Adjustment Indication

NOTE

The actuator can be rotated counterclockwise to increase flow for fine adjustment; however, the flow is limited to the valve's maximum C_V of 0.7, which is the initial factory flow setting value. Ensure torque remains above 40 in-lb.

- Removal of the actuator does not impact the envelope seal integrity of the valve.
- Flow may not change during initial rotation until actuator button contact to diaphragm is achieved.
- Once desired process parameter is achieved, flow adjustment is complete.
- Appropriate testing should be performed after reassembly is complete to ensure proper operation. See page 4 Testing.

Testing

1. With the valve in the OPEN position, verify that flow passes through the valve.
2. With the valve in the CLOSED position, verify that no flow passes through the valve.
3. Test the envelope seal and seat seal for leakage.

*For additional information, see **swagelok.com**.*

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