

ELECTRIC ACTUATORS



AVE INSTALLATION, OPERATION & MAINTENANCE MANUAL

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A. MOUNTING THE ACTUATOR

****NOTE****

If this actuator is part of an automated valve assembly provided by AVCS, then no travel adjustments should be necessary.

!!!WARNING!!!

Disconnect power before removing the actuator cover!

The actuator must be handled with care when the cover is removed and voltage is present!

1. Verify the drive bushing is installed correctly, and the correct bolt circle is being used.
2. Make sure the actuator and valve are in the same position (fully open or closed). *See page 4 to rotate mounting pad.*
3. Check that the drive bushing fits correctly onto the valve stem (Or coupler if using a mounting kit).
4. Properly align and install the actuator to limit side loading of the valve stem. If a mounting kit is being used, properly line up the actuator output drive and the mounting kit coupler to avoid side loading of the valve stem.
5. Verify all hardware and fasteners are properly secured.
6. Operate the valve via the actuator handwheel. Operation should be smooth, consistent, and have even resistance throughout the stroke.



To rotate the mounting pad

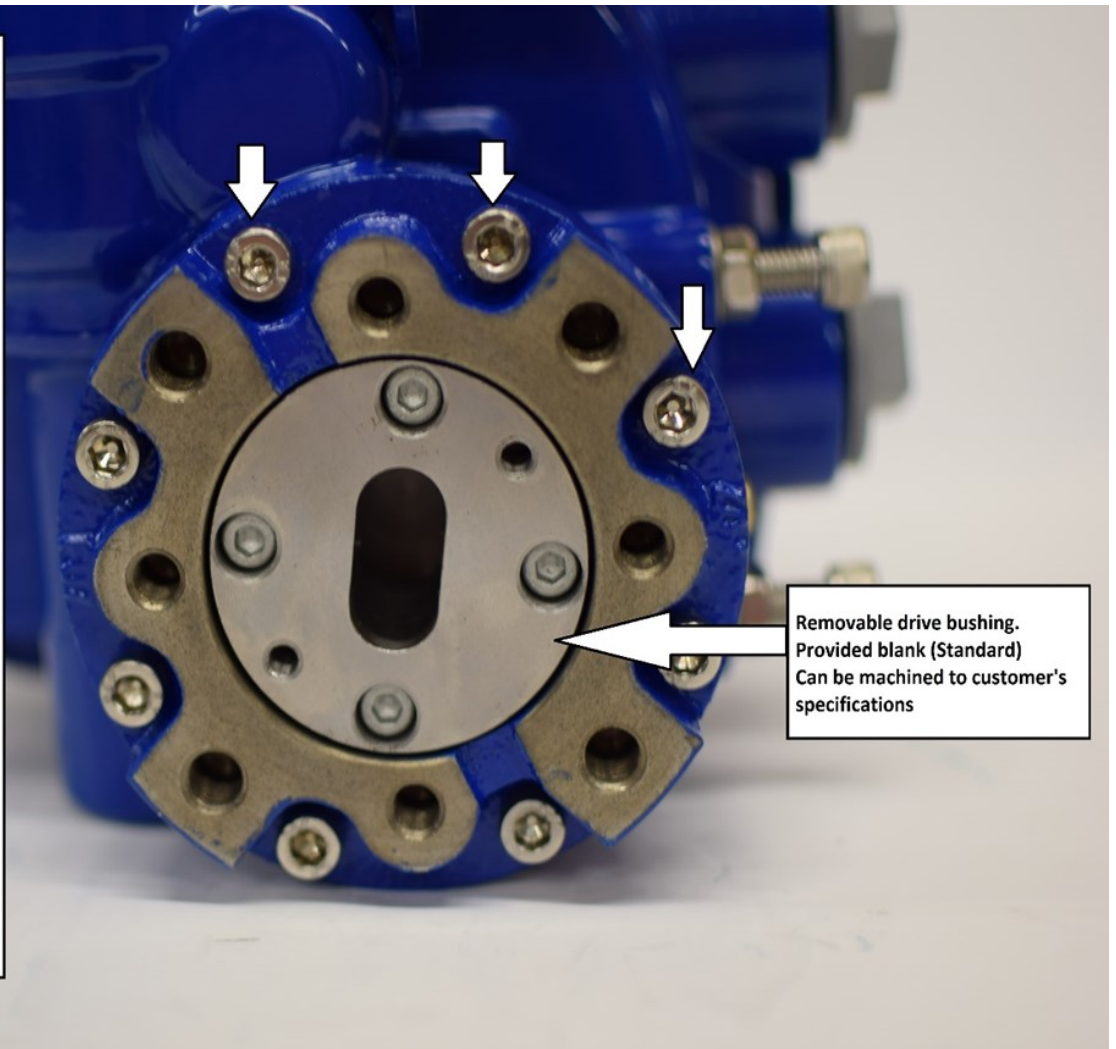
See page 4

MOUNTING THE ACTUATOR....Rotate Mounting Pad

Most AVE Electric actuators come with additional bolt circles. This provides flexibility when replacing existing actuators in the field or directly mounting actuators onto new valves. The mounting base can be rotated to utilize the additional bolt circles.

Remove the drive bushing.

Remove the 8 socket head cap screws securing the base, rotate the base 45° then re-install the bolts and tighten.



Removable drive bushing.
Provided blank (Standard)
Can be machined to customer's specifications

B. ELECTRIC WIRING

NOTE: Electrical wiring must be carried out by a qualified electrical technician!

1. Verify actuator voltage is correct.
2. Remove the actuator cover (4 bolts)
3. Connect wires to proper terminals per the wiring diagram provided. The wiring diagram shows the actuator at mid-travel.
4. Before electrical operation, manually move the valve/ actuator to the mid travel position via the handwheel. Now confirm that the valve travels in the correct position electrically.
5. Test run the actuator to verify limit switch operation.
6. Check that the cable/conduit entries and possible blind plugs are sealed.

C. TRAVEL ADJUSTMENTS

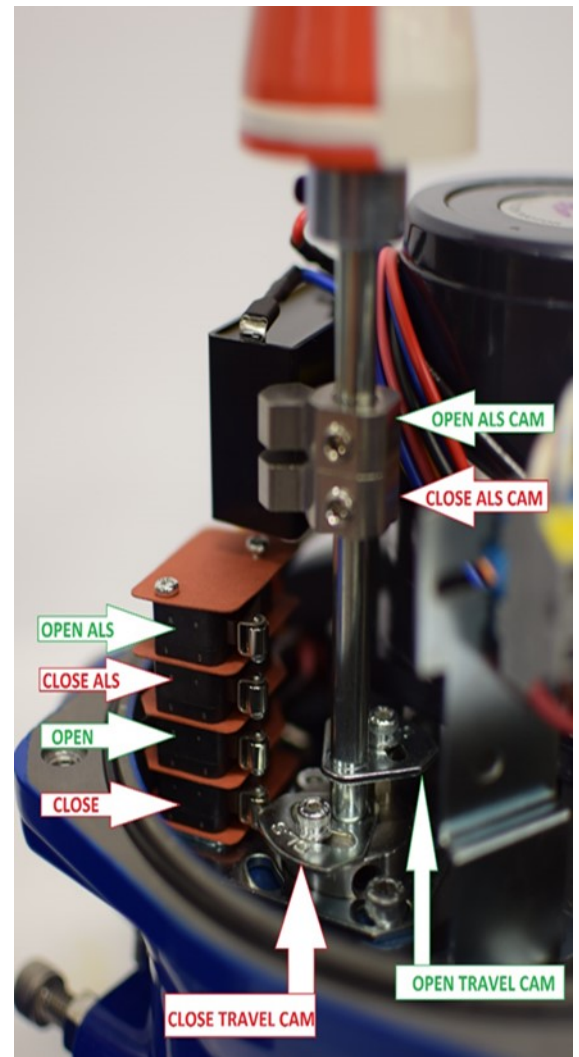
****NOTE****

If this actuator is part of an automated valve assembly provided by AVCS, then no travel adjustments should be necessary.

Back off both mechanical travel stops 3 turns counter-clockwise prior to electrical travel adjustment.

(I) Electrical travel (Cams, switches, and ALS)

1. Manually operate the actuator to the closed position via the handwheel.
2. Loosen the set screw of the lower travel cam marked CLS. Slowly rotate the cam clockwise until the switch is depressed. Secure the cam position with the set screw.
3. Manually operate the actuator to the open position via the handwheel.
4. Loosen the set screw of the upper travel cam marked OLS. Slowly rotate the cam counter-clockwise until the switch is depressed. Secure the cam position with the set screw.
5. Test run the actuator to confirm travel. Adjust travel and auxiliary (Feedback) cams as needed.



ALS (Auxiliary Limit Switch) cams and switches are dry contact switches used for Open/Close indication (Proof of closure, or opening).

C. TRAVEL ADJUSTMENTS

(II) Manual travel (Travel stops and lock nuts)

1. Electrically operate the actuator to the close position.
2. Screw in the close/clockwise travel stop until it bottoms out (Physically hits a barrier). Loosen the travel stop one full turn and secure in place with the jam nut.
3. Electrically operate the actuator to the open position.
4. Screw in the open/counter-clockwise travel stop until it bottoms out (Physically hits a barrier). Loosen the travel stop one full turn and secure in place with the jam nut.

(III) Adjustment of torque switches:
The torque switches are adjusted from the factory and shouldn't need adjustments. If adjustments are needed call AVCS for technical support.



D. MANUAL OPERATION

1. Pull the engagement lever towards the handwheel until it remains in position.
2. Turn the handwheel until the valve reaches the desired position.
3. Turn clockwise to close and counter-clockwise to open.

NOTE:
The engagement lever returns automatically to auto-position when the actuator is operated electrically.



WIRING DIAGRAMS

[AVE006 thru AVE009 - 120VAC - ON/OFF](#)



[AVE006 thru AVE009 - 120VAC - MODULATING](#)



[AVE015 thru AVE250 - 120VAC - ON/OFF](#)



[AVE015 thru AVE250 - 120VAC - MODULATING](#)



