

AVE Series



Electric Actuators

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AVCS.CO.COM

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INSTALLATION

- A. Mounting the actuator
- B. Electrical wiring
- C. Travel adjustments
- D. Manual operation

*****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!

A. MOUNTING THE ACTUATOR

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).
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 8

B. ELECTRICAL WIRING

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

1. Verify actuator voltage and size are 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 entries and possible blind plugs are sealed.

C. TRAVEL ADJUSTMENTS

If this actuator is part of a valve assembly provided by AVCS then no adjustments should be necessary.

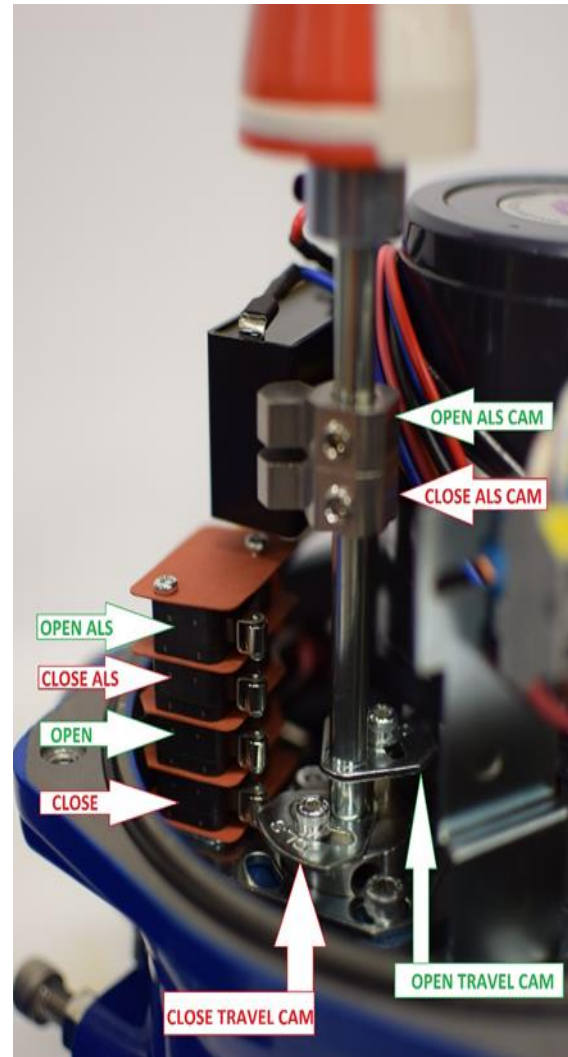
Back off both travel set screws 3 turns counter-clockwise prior to electrical travel adjustment

(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 for end of travel indication (Proof of closure, or opening)

(II) Manual travel (Set screws and lock nuts)

1. Electrically operate the actuator to the close position.
2. Screw in the close/clockwise set screw until it bottoms out (Physically hits a barrier). Loosen the set screw 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 set screw until it bottoms out (Physically hits a barrier). Loosen the set screw one full turn and secure in place with the jam nut.



(III) Adjustment of torque switches:

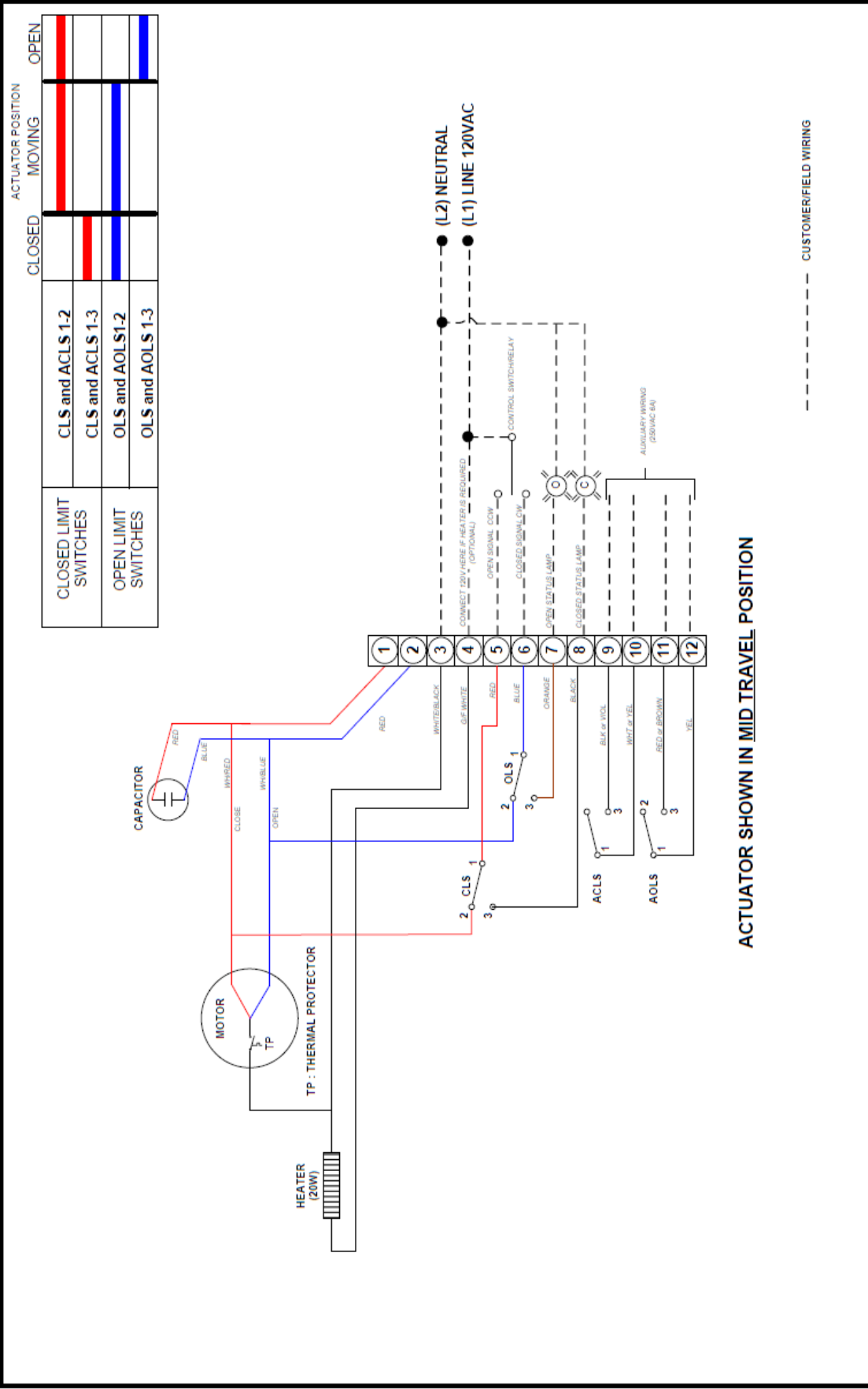
The torque switches are adjusted from the factory and shouldn't need adjustments. If adjustments are needed call AVCS for technical support.

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.



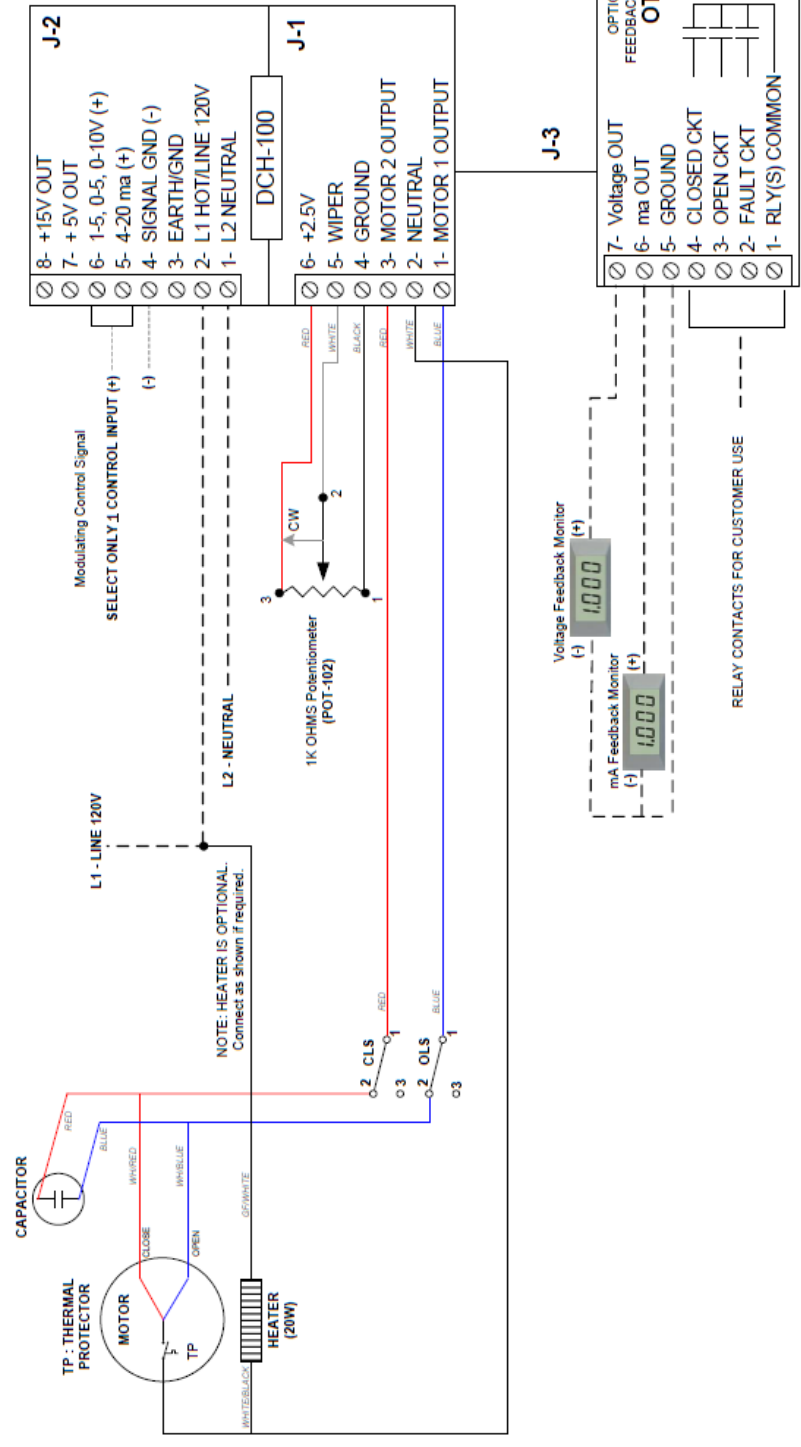


ACTUATOR POSITION	
CLOSED	MOVING OPEN
CLS and ACLS 1-2	RED
CLS and ACLS 1-3	RED
OLS and AOLS 1-2	BLUE
OLS and AOLS 1-3	BLUE


ACTUATOR SHOWN IN MID TRAVEL POSITION

----- CUSTOMER/FIELD WIRING

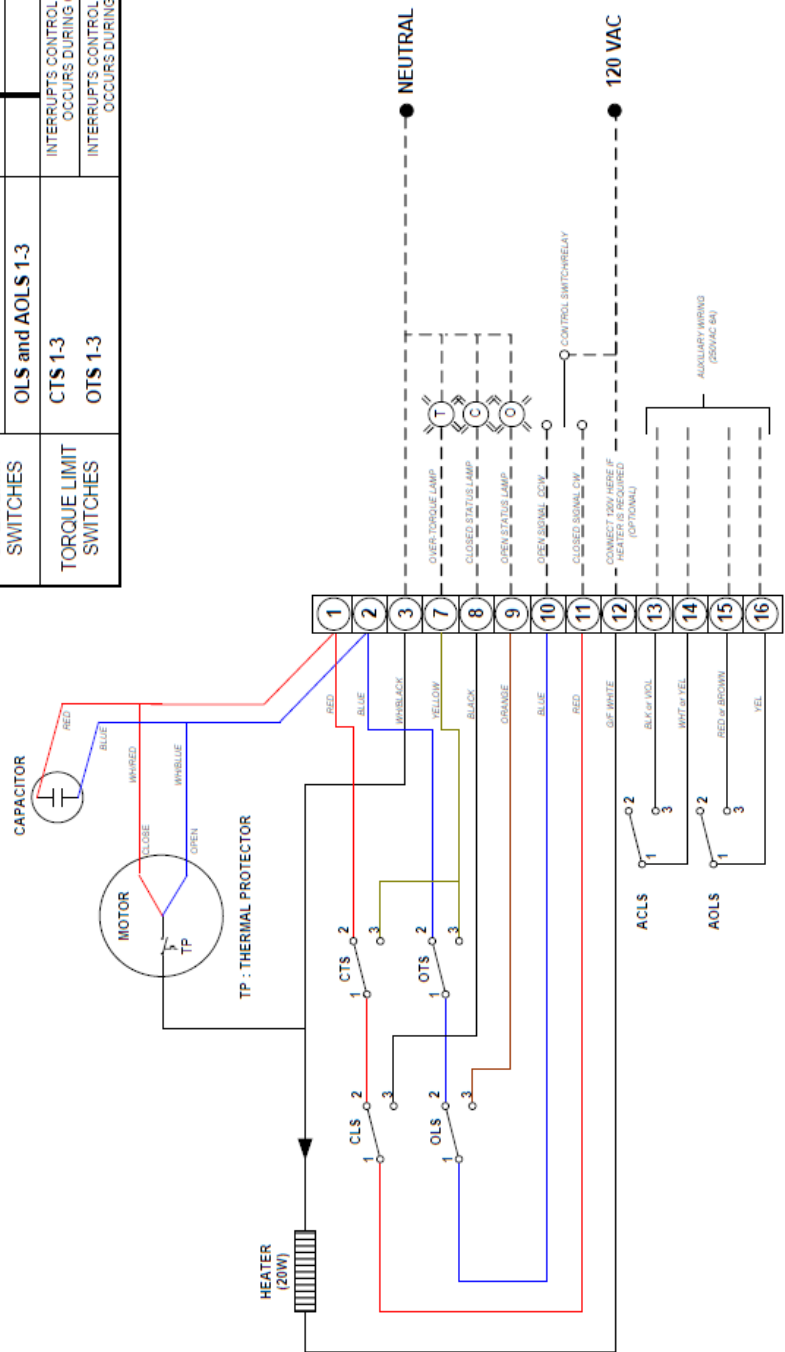
 <p>AVCS automated valve component & specialties</p>		<p>TITLE AVE006 thru AVE009 ELECTRIC ACTUATOR 120 VOLT - ON/OFF</p>	
<p>AVCS.CO.COM PH 612-486-8350</p>		<p>BY JS-6/2017</p>	<p>DWG NO. WD11202-1</p>




--- CUSTOMER/FIELD WIRING

 <p>AVCS automated valve component & specialties</p>		<p>AVCS.CO.COM PH 612-436-8350</p>	
<p>TITLE</p> <p>AVE006 thru AVE009 ELECTRIC ACTUATOR 120 VOLT - Modulating Service DCH-100 Hi Resolution Board</p>			
BY	JS-6/2017	DWG NO	WD1120M-1

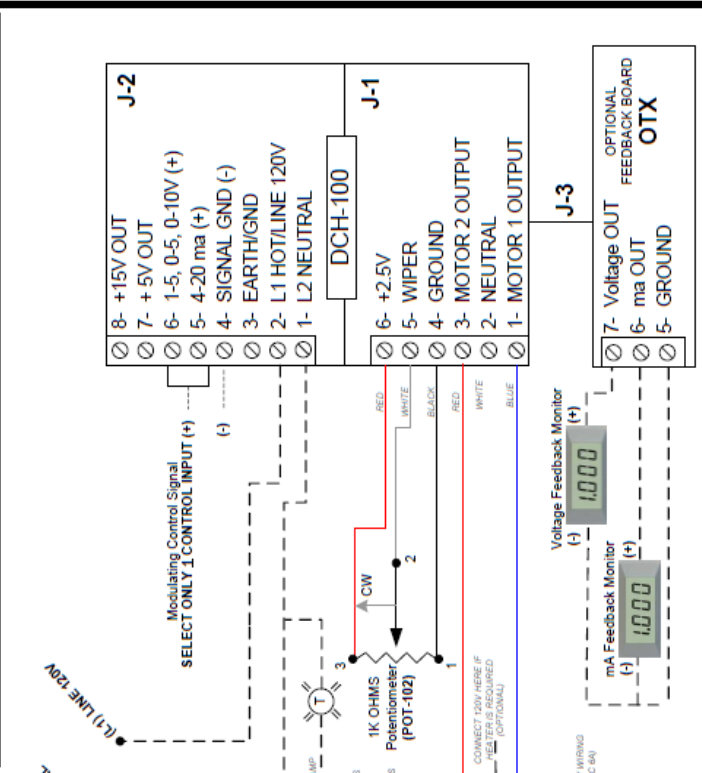
	ACTUATOR POSITION	
	CLOSED	MOVING
CLOSED LIMIT SWITCHES	CLS and ACLS 1-2 CLS and ACLS 1-3	
OPEN LIMIT SWITCHES	OLS and AOLS 1-2 OLS and AOLS 1-3	
TORQUE LIMIT SWITCHES	CTS 1-3 OTS 1-3	INTERRUPTS CONTROL IF MECH OVERLOAD OCCURS DURING CLOSED CYCLE INTERRUPTS CONTROL IF MECH OVERLOAD OCCURS DURING OPEN CYCLE



ACTUATOR SHOWN IN MID TRAVEL POSITION

 AVCS automated valve component & specialties		TITLE AVE015 thru AVE250 ELECTRIC ACTUATOR 120 VOLT - ON/OFF
AVCS.CO.COM PH 612-436-8350	BY JS-6/2017	DWG NO WD21202-1

		ACTUATOR POSITION	
		CLOSED	MOVING
CLOSED LIMIT SWITCHES	CLS and ACLS 1-2		
OPEN LIMIT SWITCHES	OLS and AOLS 1-2		
TORQUE LIMIT SWITCHES	CTS 1-3		
	OTS 1-3		
			INTERRUPTS CONTROL IF MECH OVERLOAD OCCURS DURING CLOSED CYCLE
			INTERRUPTS CONTROL IF MECH OVERLOAD OCCURS DURING OPEN CYCLE



ACTUATOR SHOWN IN MID TRAVEL POSITION

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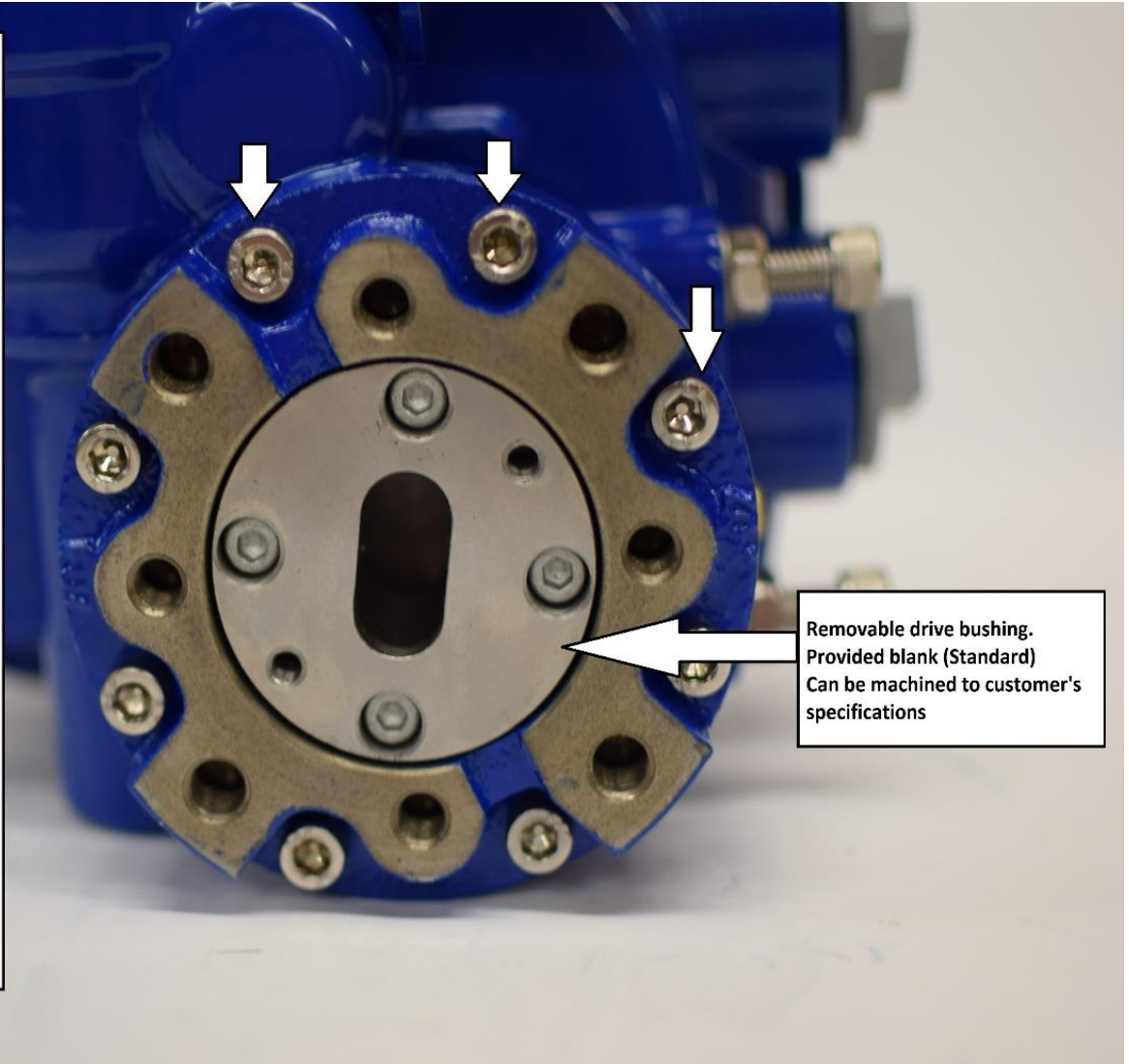
TITLE
 AVE015 thru AVE250 ELECTRIC ACTUATOR
 120 VOLT - Modulating Service
 DCH-100 Hi Resolution Board

BY JS-6/2017
 DWG NO WD2120M-1

----- CUSTOMER/FIELD WIRING

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

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