

### Valve Linkage for Pneumatic Actuators General Instructions

### **Application**

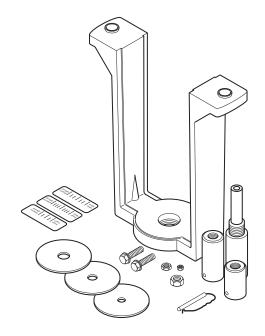
The AV-430 valve linkage is used to field assemble MK-66X1, MK-68X1, and MK-6911 actuators to applicable 1/2" to 6" two-way and three-way valve bodies.

### **Features**

- Die cast aluminum mounting bracket
- Valve position indication is provided as a standard feature

### **Applicable Literature**

- Environmental Controls Cross-Reference Guide, F-23638
- Environmental Controls Reference Manual, F-21683
- Environmental Controls Application Manual, F-21335
- Pneum, atic Products Catalog, F-27383
- Environmental Controls Valve Selection Guide, F-26094
- EN-205 Water System Guidelines, F-26080



### **SPECIFICATIONS**

## **Close-Off Pressure Rating**

Refer to Table-1 and Table-2 to make sure the valve and actuator are compatible with each other, and that the close-off rating is adequate for the application. Refer to Table-3 and Table-4 for listings of obsolete valves and their corresponding actuators that used the AV-430 valve linkage. Verify that the valve body differential pressure is in compliance with the limitations specified for the valves being used with MM-400/500 actuators. Refer to **Environmental Controls Valve Selection Guide, F-26094** for detail information.

Table-1 Selection and Close-Off Ratings for Current VB-7XXX Valves.

					CLOSE-OFF PRESSURE, psi (kPa) <sup>a</sup>									
						Actuator MK-6601			Actuator MK-6611			Actuator MK-6621		
VALVE BODY INFORMATION						Stem Down			Stem Down			Stem Down		
Valve Body Part Number	Description	Normal Position (SU)	C <sub>v</sub>	Size	Size Stem Up	15 <sup>b</sup> (104)	20 <sup>b</sup> (138)	Stem Up	15 <sup>b</sup> (104)	20 <sup>b</sup> (138)	Stem Up	15 <sup>b</sup> (104)	20 <sup>b</sup> (138)	
VB-7213-0-4-10 VB-7214-0-4-10 VB-7215-0-4-10		0	28	1-1/2"	_	160 (1104)	250 (1725)	_	115 (794)	230 (1587)	_	30 (207)	160 (1104)	
VB-7213-0-4-11 VB-7214-0-4-11 VB-7215-0-4-11	2-Way, FNPT, Union Sweat,	Open	40	2"	_	90 (621)	160 (1104)	_	60 (414)	125 (862)	_	15 (104)	90 (621)	
VB-7223-0-4-10 VB-7224-0-4-10 VB-7225-0-4-10	and R <sub>p</sub>	Olesed	28	1-1/2"	40 (276)	_	_	85 (586)	_	_	170 (1173)	_	_	
VB-7223-0-4-11 VB-7224-0-4-11 VB-7225-0-4-11		Closed	40	2"	20 (138)	_	_	50 (345)	_	_	85 (586)	_	_	
VB-7253-0-4-10		Open -	28	1-1/2"	_	160 (1104)	250 (1725)	_	115 (794)	230 (1587)	_	30 (207)	160 (1104)	
VB-7253-0-4-11	2-Way, FNPT Stainless Steel		Ореп	40	2"	_	90 (621)	160 (1104)	_	60 (414)	125 (862)	_	15 (104)	90 (621)
VB-7263-0-4-10	Trim & Teflon Disc		28	1-1/2"	40 (276)	_	_	85 (586)	_	_	170 (1173)	_	_	
VB-7263-0-4-11			40	2"	20 (138)	_	_	50 (345)	_	_	85 (586)	_	_	
VB-7273-0-4-10		Onen	28	1-1/2"	_	160 (1104)	250 (1725)	_	115 (794)	230 (1587)	_	30 (207)	160 (1104)	
VB-7273-0-4-11	2-Way, FNPT Stainless Steel	Open	40	2"	_	90 (621)	160 (1104)	_	60 (414)	125 (862)	_	15 (104)	90 (621)	
VB-7283-0-4-10	Trim	Closed	28	1-1/2"	40 (276)	_	_	85 (586)	_	_	170 (1173)	1	_	
VB-7283-0-4-11		Closed	40	2"	20 (138)	_	_	50 (345)	_	_	85 (586)		_	
VB-7313-0-4-10 VB-7314-0-4-10 VB-7315-0-4-10	3-Way, Mixing FNPT,	Flow B to AB	28	1-1/2"	50 (345)	150 (1034)	250 (1724)	100 (689)	100 (689)	230 (1586)	180 (1241)	25 (172)	150 (1034)	
VB-7313-0-4-11 VB-7314-0-4-11 VB-7315-0-4-11	Union Sweat, and R <sub>p</sub>		41	2"	50 (345)	150 (1034)	250 (1724)	100 (689)	100 (689)	230 (1586)	180 (1241)	25 (172)	150 (1034)	
VB-7323-0-4-10	3-Way, Diverting		28	1-1/2"	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	
VB-7323-0-4-11	FNPT		40	2"	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	_	250 (1725)	

a Close-Off Pressures for 3-Way Valves are Determined as Follows:

The value for SU is the "A" port close-off pressure, and is based on the pressure at "A" port minus the pressure at "B" port. The value for SD is the "B" port close-off pressure, and is based on the pressure at "B" port minus the pressure at "A" port.

b Supply Air Pressure, psig (kPa).

Refer to Table-2 to make sure the valve and actuator are compatible with each other, and that the close-off rating is adequate for the application.

Table-2 Selection and Close-Off Ratings for Current VB-9XXX Valves.

				CLOSE-OFF PRESSURE, psi (kPa) <sup>a</sup>																																
				Actuator MK-6801			Actuator MK-6811			Actuator MK-6821			Actuator MK-6911																							
V	ALVE BODY INF	ORMATION				Stem	Down	Stem		Stem Down		Stem Down			Stem Down																					
Valve Body Part Number	Description	Normal Position (SU)	C <sub>v</sub>	Size	Stem Up	15 <sup>b</sup> (104)	20 <sup>b</sup> (138)																													
VB-9323-0-4-12		Flow B to AB	75	2-1/2"	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	_	_	_																				
VB-9323-0-4-13			ng, 125   Flow B to	95	3"	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	125 (862)	_	_	_																			
VB-9323-0-4-14	3-Way, Diverting, 125 psi, Flanged																						180	4"	_	_	_	_	_	_	_	_	_	125 (862)	125 (862)	125 (862)
VB-9323-0-4-15	po, ranged			220	5"	_	_	_	_	_	_	_	_	_	125 (862)	125 (862)	125 (862)																			
VB-9323-0-4-16			275	6"	-	_		-	_	_	_	_	_	125 (862)	125 (862)	125 (862)																				

Close-Off Pressures for 3-Way Valves are Determined as Follows:
 The value for SU is the "A" port close-off pressure, and is based on the pressure at "A" port minus the pressure at "B" port.

 The value for SD is the "B" port close-off pressure, and is based on the pressure at "B" port minus the pressure at "A" port.
 Supply Air Pressure, psig (kPa).

Table-3 Selection and Close-Off Ratings for Obsolete Valves.

					CLOSE-OFF PRESSURE, psi (kPa) <sup>a</sup>								
						Actuator MK-6801			Actuato MK-6811			Actuato MK-6821	
VALVE BODY INFORMATION						Stem Down			Stem Down			Stem Down	
Valve Body Part Number	Description	Normal Position (SU)	C <sub>v</sub>	Size	Stem Up	15 <sup>b</sup> (104)	20 <sup>b</sup> (138)	Stem Up	15 <sup>b</sup> (104)	20 <sup>b</sup> (138)	Stem Up	15 <sup>b</sup> (104)	20 <sup>b</sup> (138)
VB-9213-0-4-10 VB-9214-0-4-10 VB-9215-0-4-10			25	1-1/2"	_	160 (1104)	250 (1725)	_	115 (794)	230 (1587)	_	30 (207)	160 (1104)
VB-9213-0-4-11 VB-9214-0-4-11 VB-9215-0-4-11	2-Way, FNPT,	Open	40	2"	_	90 (621)	160 (1104)	_	60 (414)	125 (862)	_	15 (104)	90 (621)
VB-9223-0-4-10 VB-9224-0-4-10 VB-9225-0-4-10	Union Sweat, and R <sub>p</sub>		25	1-1/2"	40 (276)	_	_	85 (586)	_	_	170 (1173)	_	_
VB-9223-0-4-11 VB-9224-0-4-11 VB-9225-0-4-11		Closed -	40	2"	20 (138)	_	_	50 (345)	_	_	85 (586)	_	_
VB-9253-0-4-10		Open -	25	1-1/2"	_	160 (1104)	250 (1725)	_	115 (794)	230 (1587)	_	30 (207)	160 (1104)
VB-9253-0-4-11	2-Way, FNPT Stainless Steel		40	2"	_	90 (621)	160 (1104)	_	60 (414)	125 (862)	_	15 (104)	90 (621)
VB-9263-0-4-10	Trim & Teflon Disc		25	1-1/2"	40 (276)	_	_	85 (586)	_	_	170 (1173)	_	_
VB-9263-0-4-11			40	2"	20 (138)	_	_	50 (345)	_	_	85 (586)	_	_
VB-9273-0-4-10		Open	25	1-1/2"	_	160 (1104)	250 (1725)	_	115 (794)	230 (1587)	_	30 (207)	160 (1104)
VB-9273-0-4-11	2-Way, FNPT Stainless Steel	Ореп	40	2"	-	90 (621)	160 (1104)	ı	60 (414)	125 (862)	_	15 (104)	90 (621)
VB-9283-0-4-10	Trim	Closed	25	1-1/2"	40 (276)	-	_	85 (586)		_	170 (1173)		_
VB-9283-0-4-11		Closed	40	2"	20 (138)	ı	1	50 (345)	1	_	85 (586)	1	
VB-9313-0-4-10 VB-9314-0-4-10 VB-9315-0-4-10	3-Way, Mixing FNPT,	33	1-1/2"	29 (1304)	85 (586)	160 (1104)	60 (414)	60 (414)	130 (897)	105 (724)	14 (97)	85 (586)	
VB-9313-0-4-11 VB-9314-0-4-11 VB-9315-0-4-11	Union Sweat, and R <sub>p</sub>	Flow B to AB	55	2"	29 (1304)	85 (586)	160 (1104)	60 (414)	60 (414)	130 (897)	105 (724)	14 (97)	85 (586)
VB-9323-0-4-10	3-Way,		30	1-1/2"	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)
VB-9323-0-4-11	Diverting FNPT		42	2"	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)	250 (1725)

<sup>&</sup>lt;sup>a</sup> Close-Off Pressures for 3-Way Valves are Determined as Follows:

The value for SU is the "A" port close-off pressure, and is based on the pressure at "A" port minus the pressure at "B" port.

The value for SD is the "B" port close-off pressure, and is based on the pressure at "B" port minus the pressure at "A" port.

b Supply Air Pressure, psig (kPa).

Refer to Table-4 for a listing of obsolete valves and their corresponding actuators that used the AV-430 valve linkage.

Table-4 Obsolete Valves and Corresponding Actuators Using Valve Linkage AV-430.

Valve	Data	Actuator Series				
Part Number Series	Sizes	MK-68X1	MK-6911			
VB-202	1/2" to 2"	Yes	No			
VB-202	2-1/2" to 4"	Yes	No			
VB-212	1/2" to 2"	Yes	No			
VB-252	1/2" to 2"	Yes	No			
VB-252	2-1/2" to 4"	Yes	No			
VB-304	1/2" to 2"	Yes	No			
VB-304	2-1/2" to 4"	Yes	No			
VB-804	1/2" to 2"	Yes	No			
VB-804	2-1/2" to 4"	Yes	No			
VB-807	1/2" to 2"	Yes	No			
VB-817	1/2" to 2"	Yes	No			
VB-817	2-1/2" to 3"	Yes	No			
VB-817	4" to 6"	No	Yes			

### **Temperature Restrictions**

Verify that the temperature of the media in the valve and the ambient temperature at the actuator do not exceed the values shown in Table-5.

Table-5 Restrictions on the Maximum Ambient Temperature for the Actuators.

Maximum Temperature of Media in the Valve	Maximum Ambient Temperature for Actuators
(Check Ratings of the Valve)	MK-68X1, MK-66X1 or MK-6911
366° F (180° C)	100° F (37° C)
340° F (171° C)	100° F (37° C)
281° F (138° C)	160° F (71° C)
250° F (121° C)	220°F (104° C) <sup>a</sup>

<sup>&</sup>lt;sup>a</sup> Maximum allowable ambient temperature for the actuator.

## Required Components

Factory assemblies of valve and actuator combinations are available for several of the selections listed in Table-1 and Table-2. Consult the **Pneumatic Products Catalog, F-27383** or **Environmental Controls Valve Selection Guide, F-26094** for availability. Actuator and valve combinations not available as factory assemblies must be purchased separately, along with the appropriate valve linkage kit.

#### INSTALLATION

### Inspection

Inspect the package for damage. If damaged, notify the appropriate carrier immediately. If undamaged, open the package and inspect the device for any obvious damage. Return damaged products.

### Requirements

- Parts:
  - See Table-6 for parts selection for the AV-430 valve linkage.
- Tools (not provided):
  - Appropriate wrenches for stem extensions, locknuts, packing nuts, and bracket nuts.
  - Appropriate screw driver for actuator mounting screws.
  - TOOL-37, 1-5/8" open-ended wrench with a maximum thickness of 3/16"
- Training:
  - Installer must be a qualified, experienced technician.

#### Caution:

- Avoid locations where excessive moisture, corrosive fumes, or vibration are present. Do
  not insulate above actuator mounting nut trapping moisture.
- Install all two-way valves so that they close against the flow. An arrow on the valve body
  or a tag indicates the proper flow direction.
- Always install three-way mixing valves with two inlets and one outlet.
- Always install three-way diverting valves with one inlet and two outlets.
- Do not install the actuator below the center line of the valve. For steam applications only, mount the actuator above the valve body at 45° from vertical.
- When selecting a location, allow sufficient room for accessories and for servicing the actuator.

### Mounting

- 1. Actuators can be mounted in any upright position above the center line of a valve body.
- 2. When selecting a location, allow sufficient room for accessories and for service of the product.
- Maintain proper flow direction when installing all globe and radiator-type valves. Flow direction is indicated by an arrow on the valve body or by information on the attached tag.

Table-6 Parts Selection for the AV-430 Valve Linkage.

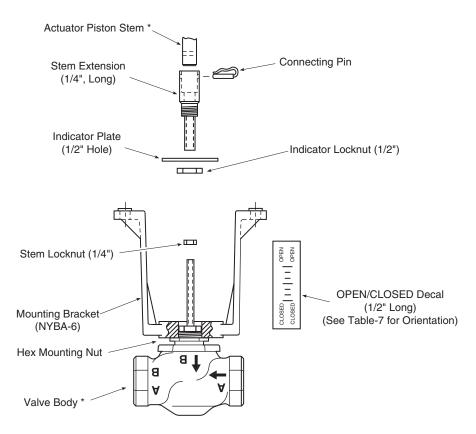
Valve Body Description	Required Locknut	Required Stem Extension	Required Indicator Plate	Required Scale Length
	Cu	rrent Valves		
1/2" to 2" (VB-7XXX)	1/4" and 1/2"	Long for 1/4" Stem	With 1/2" Diameter Hole	1/2"
	Obs	solete Valves		
1/2" to 1-1/4" (obsolete VB-9XXX)	1/4" and 1/2"	Long for 1/4" Stem	With 1/2" Diameter Hole	1/2"
1-1/2" to 2" (VB-202, -212, -252, -304, -804, obsolete VB-9XXX)	1/4"	Medium for 1/4" Stem	With 1/4" Diameter Hole	1"
2-1/2" to 4" (VB-202, -252, -304, -804)	3/8"	Short for 3/8" Stem	With 3/8" Diameter Hole	1"
1/2" to 3" (VB-817)	3/8"	Short for 3/8" Stem *	With 3/8" Diameter Hole	1"
2-1/2" and 3" (VB-9323)	3/8"	Short for 3/8" Stem <sup>a</sup>	With 3/8" Diameter Hole	1"
4" to 6" (VB-817, VB-9323)	3/8"	Short for 3/8" Stem	With 3/8" Diameter Hole	1-1/2"

<sup>&</sup>lt;sup>a</sup> Included with the valve body.

#### ASSEMBLY PROCEDURE

### Install AV-430 Valve Linkage onto 1-1/2" and 2" VB-7XX3, VB-7XX4, and VB-7XX5 Valve Bodies

- Thread the mounting bracket onto the hex head mounting nut on the valve body. See Figure-1.
- Position the mounting bracket, then tighten the mounting nut against it, using a 1-5/8" open-ended wrench with a maximum thickness of 3/16" (TOOL-37).



<sup>\*</sup> Not included with AV-430 Linkage Kit

Figure-1 Assembly of MK-66X1 Series Actuators onto 1-1/2" and 2" VB-7XX3, VB-7XX4, and VB-7XX5 Series Valve Bodies.

- Select the required stem extension, stem locknut, and indicator plate, according to Table-6.
- 4. Thread the stem locknut onto the valve stem. Continue threading the locknut until it is positioned near the bottom of the exposed valve stem.
- 5. Position the indicator plate onto the valve stem.
- 6. Thread the stem extension well down onto the valve stem.
- 7. Position the actuator onto the mounting bracket.
- 8. Secure the actuator, using the two bolts provided. For a view of the completed assembly, see Figure-2.
- 9. Adjust the stem height according to the instructions in the Adjustments section.
- 10. Tighten the stem locknut against the stem extension to secure the stem extension in position on the valve stem.

11. Apply the OPEN/CLOSED decal (which features a 1/2" scale length) onto the mounting bracket. See Table-7 for the orientation of the decal.

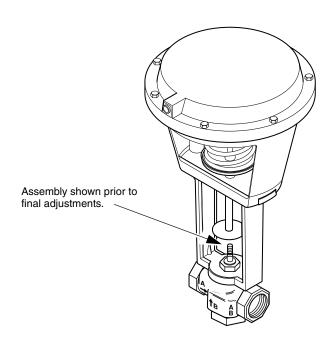


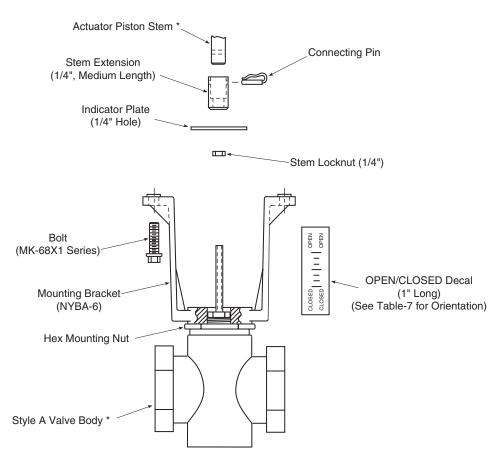
Figure-2 Typical MK-66X1 Series Actuator Using the AV-430 Valve Linkage.

Table-7 Orientation of OPEN/CLOSED Decal on Mounting Bracket.

Valve Body	Label Orientation
2-Way, Stem-Up, Open VB-721X VB-921X, VB-202, VB-212	"OPEN" End Towards Actuator
2-Way, Stem-Up, Closed VB-722X VB-922X, VB-252	"CLOSED" End Towards Actuator
3-Way, Mixing VB-731X VB-931X, VB-304, VB-804	Orientation Depends on Application: "OPEN" at Top Indicates Inlet Port "B" Is Open "OPEN" at Bottom Indicates Inlet Port "A" Is Open
3-Way, Diverting VB-7323 VB-9323, VB-817	Orientation Depends on Application: "OPEN" at Top Indicates Outlet Port "L" Is Open "OPEN" at Bottom Indicates Outlet Port "U" Is Open

### Install AV-430 Valve Linkage onto Obsolete 1-1/2" and 2" VB-9XX3 and VB-9XX4 Valve Bodies

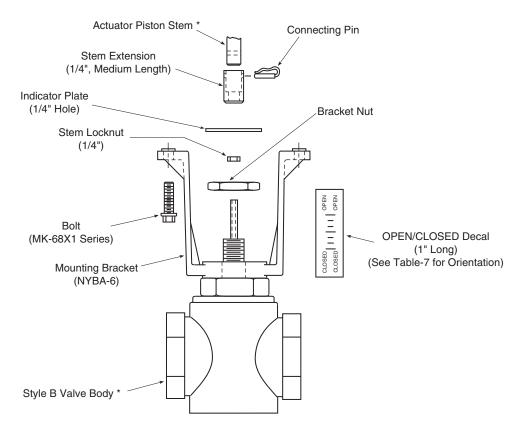
- 1. Install the mounting bracket onto a Style A valve body as follows:
  - a. Thread the mounting bracket onto the hex head mounting nut. See Figure-3.
  - b. Position the mounting bracket, then tighten the mounting nut against it, using a 1-5/8" open-ended wrench with a maximum thickness of 3/16" (TOOL-37).



<sup>\*</sup> Not included with AV-430 Linkage Kit

Figure-3 Assembly of MK-68X1 Series Actuators with Style A 1-1/2" and 2" VB-9XX3 and VB-9XX4 Series Valve Bodies.

- 2. Install the mounting bracket onto a Style B valve body as follows:
  - a. Remove the bracket nut from the valve body.
  - b. Position the mounting bracket onto the valve body. See Figure-4.
  - Replace and tighten the bracket nut onto the valve body to secure the mounting bracket.



<sup>\*</sup> Not included with AV-430 Linkage Kit

Figure-4 Assembly of MK-68X1 Series Actuators with Style B 1-1/2" and 2" VB-9XX3 and VB-9XX4 Series Valve Bodies.

- 3. Select the required stem extension, stem locknut, and indicator plate, according to Table-6.
- 4. Thread the stem locknut onto the valve stem. Continue threading the locknut until it is positioned near the bottom of the exposed valve stem.
- 5. Position the indicator plate onto the valve stem.
- 6. Thread the stem extension well down onto the valve stem.
- 7. Install the actuator onto the mounting bracket as follows:

#### MK-68X1 Series Actuators

- a. Position the actuator onto the mounting bracket.
- b. Secure the actuator, using the two bolts provided. For a view of the completed assembly, see Figure-5.

- 8. Adjust the stem height according to the instructions in the Adjustments section.
- 9. Tighten the stem locknut against the stem extension to secure the stem extension in position on the valve stem.
- 10. Apply the OPEN/CLOSED decal (which features a 1" scale length) onto the mounting bracket. See Table-7 for the orientation of the decal.

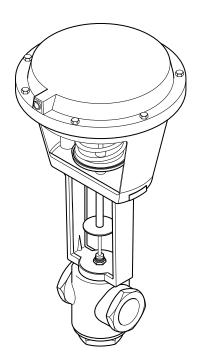
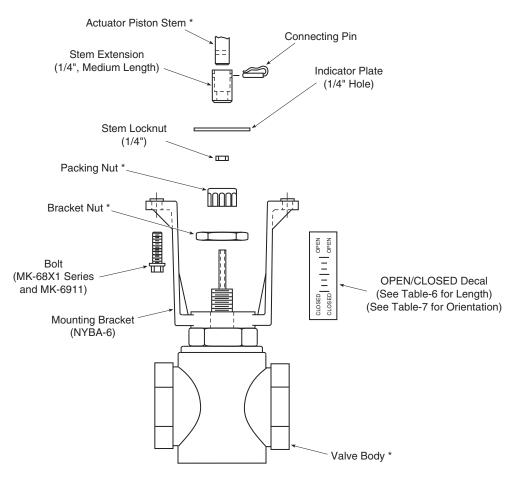


Figure-5 Typical MK-68X1 Series Actuator Using the AV-430 Valve Linkage.

### Install AV-430 Valve Linkage onto VB-202, -212, -252, -304, -804, -807, and -817 (1-1/2" to 2") Valve Bodies

- 1. Install the mounting bracket onto the valve body as follows:
  - a. Remove the packing nut and the bracket nut from the valve body.

- b. Position the mounting bracket onto the valve body. See Figure-6.
- Replace and tighten the bracket nut and packing nut onto the valve body to secure the mounting bracket.



<sup>\*</sup> Not included with AV-430 Linkage Kit

Figure-6 Assembly of MK-6800 Series Actuators with VB-202, -212, -252, -304, -804, -807, -817, and VB-9323 (1-1/2" to 2") Series Valve Bodies.

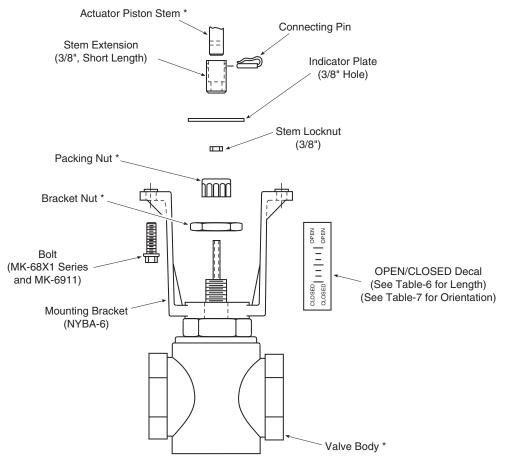
- Select the required stem extension, stem locknut, and indicator plate, according to Table-6.
- 3. Thread the stem locknut onto the valve stem. Continue threading the locknut until it is positioned near the bottom of the exposed valve stem.
- 4. Position the indicator plate onto the valve stem.
- 5. Thread the stem extension well down onto the valve stem.

- 6. Install the actuator onto the mounting bracket as follows:
  - MK-68XX and MK-6911 Series Actuators
  - a. Position the actuator onto the mounting bracket.
  - Secure the actuator, using the two bolts provided. For a view of the completed assembly, see Figure-5.
- 7. Adjust the stem height according to the instructions in the Adjustments section.
- Tighten the stem locknut against the stem extension to secure the stem extension in position on the valve stem.
- Apply the OPEN/CLOSED decal onto the mounting bracket. Refer to Table-6 for the required scale length. See Table-7 for the orientation of the decal.

### Install AV-430 Valve Linkage onto VB-202, -212, -252, -304, -804, -807, -817, and VB-9323 (2-1/2" to 6") Series Valve Bodies

- 1. Install the mounting bracket onto the valve body as follows:
  - a. Remove the packing nut and the bracket nut from the valve body.

- b. Position the mounting bracket onto the valve body. See Figure-7.
- Replace and tighten the bracket nut and packing nut onto the valve body to secure the mounting bracket.
- Select the required stem extension, stem locknut, and indicator plate, according to Table-6.
- 3. Thread the stem locknut onto the valve stem. Continue threading the locknut until it is positioned near the bottom of the exposed valve stem.
- 4. Position the indicator plate onto the valve stem.
- 5. Thread the stem extension well down onto the valve stem.
- 6. Install the actuator onto the mounting bracket as follows:
  - MK-68X1 Series Actuators
  - a. Position the actuator onto the mounting bracket.
  - b. Secure the actuator, using the two bolts provided. For a view of the completed assembly, see Figure-5.
- 7. Adjust the stem height according to the instructions in the Adjustments section.
- 8. Tighten the stem locknut against the stem extension to secure the stem extension in position on the valve stem.
- Apply the OPEN/CLOSED decal onto the mounting bracket. Refer to Table-6 for the required scale length. See Table-7 for the orientation of the decal.



<sup>\*</sup> Not included with AV-430 Linkage Kit

Figure-7 Assembly of MK-68X1, and MK-6911Series Actuators with VB-202, -212, -252, -304, -804, -817, and VB-9323 (2-1/2" to 6") Series Valve Bodies.

### **Adjustments**

### For VB-202, VB-212, VB-7213, VB-7253, VB-7273, VB-9213, VB-9253, and VB-9273 Valve Bodies (2-Way, Normally Open)

Adjust the stem height as follows:

- 1. Apply supply air pressure to the actuator so that the actuator piston shaft is fully extended.
- 2. Push the valve stem down completely so that the valve disc is seated against the bottom valve seat.
- 3. Turn the stem extension only until the hole in the stem extension aligns with the hole in the actuator piston.
- 4. Turn the stem extension two full rotations upward, into the actuator piston.
- 5. Remove air pressure (actuator in the retract position) and insert the connecting pin into the aligned holes in the stem extension and actuator piston.

# For VB-252, VB-304, VB-804, VB-817, VB-7223, VB-7263, VB-7283, VB-7323, VB-9223, VB-9263, VB-9283, VB-9313, and VB-9323 Valve Bodies (2-Way, Normally Closed and 3-Way)

Adjust the stem height as follows:

- 1. Without applying power, make sure the actuator is in the fully retracted position.
- 2. Make sure the valve stem is pulled completely up, so that the valve disc is seated against the top valve seat.
- 3. Turn the stem extension only until the hole in the stem extension aligns with the hole in the actuator piston.
- 4. Turn the stem extension two full rotations downward, away from the actuator piston.
- Apply air pressure to put the actuator in the fully extended position and insert the connecting pin into the aligned holes in the stem extension and actuator piston.

#### For VB-7213, VB-7253, and VB-7273 Valve Bodies (2-Way, Normally Open)

Adjust the stem height as follows:

- 1. Without applying air, make sure the actuator is in fully retracted position.
- 2. Make sure the valve stem is pulled completely up (Full Open Position).
- 3. Turn the stem extension until the hole in the stem extension aligns with the hole in the actuator piston.
- 4. Insert the connecting pin into the aligned holes in the stem extension and actuator piston.

### **CHECKOUT**

When assembly is completed, operate the actuator full-stroke several times to verify valve close-off and the performance of the assembly.

### **MAINTENANCE**

The actuator linkage requires no maintenance.

Regular maintenance of the total system is recommended to assure sustained, optimum performance.

### **FIELD REPAIR**

None. Replace an inoperative actuator linkage with a functional unit.

### **DIMENSIONAL DATA**

### Maximum Width of Bracket is 3-1/16" (77.8 mm)

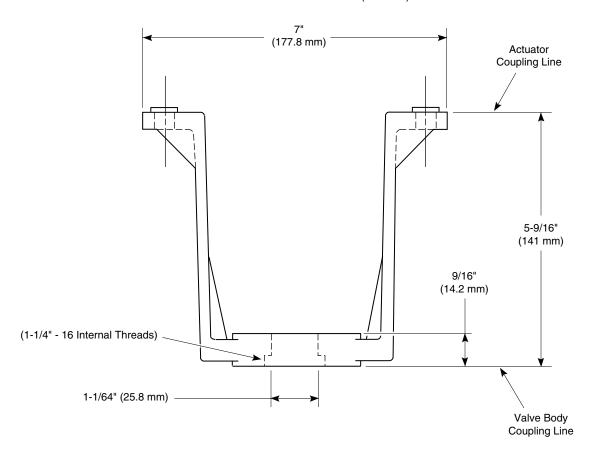


Figure-8 Dimensions of the Valve Linkage Mounting Bracket.

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