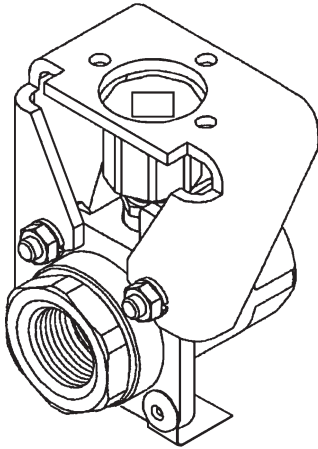


# AMI - 388

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## INSTALLATION, MAINTENANCE, AND OPERATING INSTRUCTIONS

# TO MOUNT ACTUATORS ON 1/4" - 2" (DN 6-50) ELIMINATOR® BALL VALVES



Read entire instructions carefully before installation or servicing

## 1 GENERAL

These actuator mounting instructions describe the steps required to mount actuators to the Jamesbury 1/4" – 2" (DN 6-50) *ELIMINATOR* Ball Valves.

### 1.1 WARNING

BEFORE INSTALLING THE VALVE AND ACTUATOR UNIT, BE SURE THAT THE INDICATOR POINTER ON TOP OF THE ACTUATOR IS CORRECTLY INDICATING THE VALVE POSITION. FAILURE TO ASSEMBLY THESE PRODUCTS TO INDICATE CORRECT VALVE POSITION COULD RESULT IN PERSONAL INJURY.

**CAUTION:** VALVES WITH STEM NUTS, PER (FIGURE 1, ITEM 17), MUST BE FULLY DEPRESSURIZED PRIOR TO INSTALLATION OF THE NEW SELF-LOCKING PACKING NUT (10). AFTER SYSTEM DEPRESSURIZATION AND ANY REQUIRED DRAINING, CYCLE THE VALVE SEVERAL TIMES TO ELIMINATE RESIDUAL PRESSURE.

**CAUTION:** WHEN INSTALLING A LINKAGE OR SERVICING A VALVE/ACTUATOR ASSEMBLY, THE BEST PRACTICE IS TO REMOVE THE ENTIRE ASSEMBLY FROM SERVICE.

**CAUTION:** AN ACTUATOR SHOULD BE REMOUNTED ON THE VALVE FROM WHICH IT WAS REMOVED. THE ACTUATOR MUST BE READJUSTED FOR PROPER OPEN/CLOSE POSITION EACH TIME IT IS REMOUNTED.

**CAUTION:** THIS LINKAGE HAS BEEN DESIGNED TO SUPPORT THE WEIGHT OF THE Jamesbury ACTUATORS AND RECOMMENDED ACCESSORIES. USE OF THIS LINKAGE TO SUPPORT ADDITIONAL EQUIPMENT SUCH AS PEOPLE, LADDERS ETC. MAY RESULT IN THE FAILURE OF THE LINKAGE, VALVE OR ACTUATOR AND MAY CAUSE PERSONAL INJURY.

### RECOMMENDED TOOLS

(2) Open end wrenches for flange bolts	7/16" (11 mm) for 1/4" (DN 6), 3/8" (DN 10), 1/2" (DN 15) & 3/4" (DN 20) Valves
(1) Open End Wrench for Stem Nut	1/2" (13 mm) for 1" (DN 25) Valve 9/16" (14mm) for 1-1/4" (DN 30), 1-1/2" (DN 40) & 2" (DN 50) Valves
(1) Open End Wrench for Actuator to Bracket Screw	1/2" (13 mm) for 1/4" (DN 6), 3/8" (DN 10) 1/2" (DN 15) & 3/4" (DN 20) Valves 3/4" (19 mm) for 1" (DN 25) & 1-1/4" (DN 30) Valves
(1) Socket for Series "C" Adapter Plate	15/16" (24 mm) for 1-1/2" (DN 40) & 2" (DN 50) Valves

## 2 DESCRIPTION

These actuator mounting instructions describe the steps required to assemble Jamesbury valves and actuators using appropriate linkage kits that are available from Jamesbury.

## 3 VALVE PREPARATION

### READ THE WARNING SECTION

1. Refer to (Figure 1 and 3).
2. Remove the stem nut (17), lockwasher (16), handle (15), and second stem nut (17) only if a stem nut lock (10) is not already installed. The handle (15) will be needed for linkage kit assembly.
3. If not already installed, assemble the stem nut lock (10) from linkage kit onto the valve stem. Use the handle

(15) to keep stem from turning. Tighten stem nut to specified torque in **(Table 1)**. After tightening stem nut, bend nut lock (10) over flat to prevent loosening.

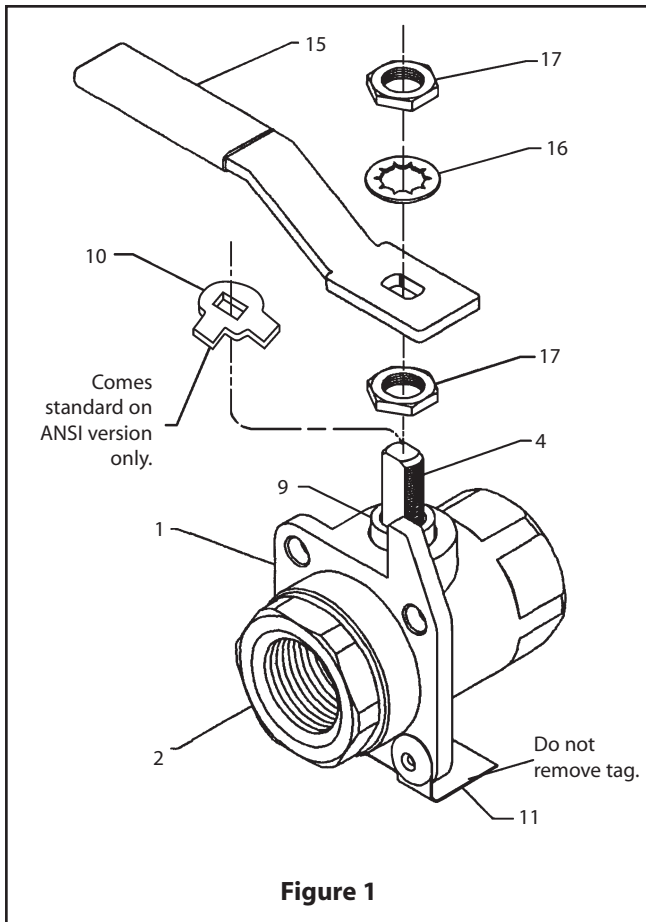
TABLE 1 STEM NUT TORQUES	
Valve Size	Torques – lb-in (Nm)
1/4" – 3/4" (DN 6-20)	50 – 60 (5.7 – 6.9)
1" & 1-1/4" (DN 25-30)	60 – 72 (6.9 – 8.2)
1-1/2" & 2" (DN 40-50)	135 – 145 (15.4 – 16.6)

- Identification tag (11) should not be removed from the valve.

## 4 ASSEMBLY

(Refer to Figure 3)

- When a spring return actuator is being mounted, the valve should be in the closed position for spring-to-close operation or in the open position for the spring-to-open operation. When an electric or double-acting pneumatic actuator is being mounted, the valve position should correspond to the actuator indicator call out. Use the handle (15) to position the valve, remove the handle (15) and discard.
- Place the bracket (1) onto the body cap side of valve.



- Install the three hex head bolts (5) in the direction shown. Place three lockwashers (10) and three hex nuts (7) on the hex head bolts. Snug up the three hex nuts (7) but do not fully tighten.

- Place the coupling (2) onto the valve stem and insert the reducer (3) only if the actuator shaft is 3/8" (9.5mm) square.

### 5. Mounting:

- When provided in linkage kit, secure the adapter plate (11) to the actuator using the four hex head bolts (13) with the four Shakeproof® washers (12). Tighten to torque in **(Table 2)**.
  - When mounting any Family "A" component to a 1/4" - 3/4" (DN 6-20) valve, item (16) should be used instead of item (9). To distinguish between item (9) and (16) see Detail "A" on page 4.
- Lower the actuator onto the bracket and valve assembly. Carefully insert the actuator shaft through the spacer (if required) and into the coupling (2).
    - Secure the actuator to bracket (1) using the three hex head bolts (6) or (15) with the three lockwashers (8). Tighten to torque in **(Table 2)**.
  - Visually straighten the actuator over the valve. Using 2 lb.-ft. increments, tighten the flange bolts (5) alternately in a diagonal pattern until the torque shown in **(Table 2)** is met. **DO NOT TIGHTEN ONE NUT COMPLETELY, THEN PROCEED TO THE NEXT.**
  - Refer to the appropriate actuator IMO for instructions on setting the actuator travel stops or limit switches for proper full-open and full-closed positions. Actuator IMO's are provided with the actuator.

## 5 REPAIR KITS/SPARE PARTS

For further information on spare parts and service or assistance visit our web-site at [www.Jamesbury.com](http://www.Jamesbury.com).

PARTS LIST FOR (FIGURE 1)		
ITEM	PART NAME	QTY
1	Body	1
2	Body Cap	1
4	Stem	1
9	Compression Ring	1
10	Stem Nut Lock (Standard w/ANSI vesion)	1
11	Tag	1
15	Handle	1
16	Lockwasher	1
17	Stem Nut	2

**TABLE 2**

**BRACKET BOLTING TORQUE FOR GRADE 5 BOLTS\***

Bolt Size	Maximum Allowed Torque		
	Lb. - Ft.	Lb. - In.	Nm
#10	1.25	15	1.7
1/4	2.75	33	3.7
5/16	5.5	66	7.5
3/8	10	120	13.6
7/16	15	180	20.3
1/2	22	264	30
M5	1.25	15	1.7
M6	1.5	18	2.0
M8	5.5	66	7.5
M10	11	132	15
M12	19	228	26.0

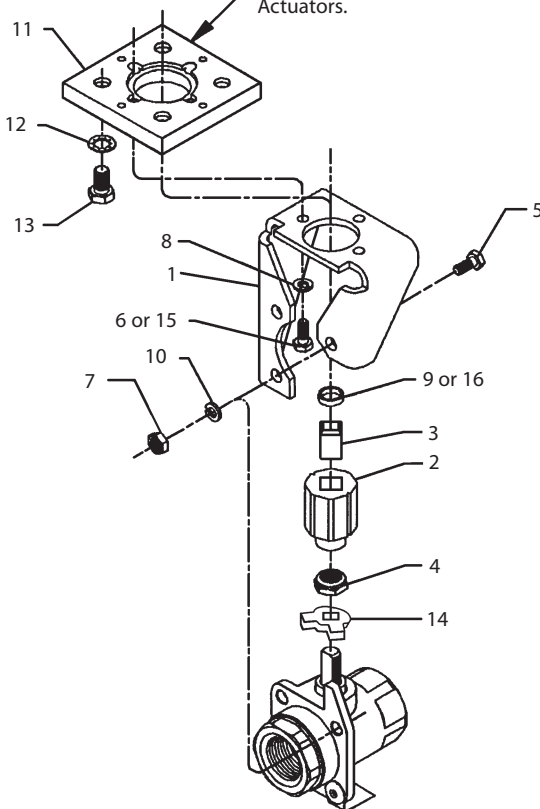
**DO NOT PRELOAD BRACKET BOLTS TO ALUMINUM OR PLASTIC BODY ACTUATORS.**

\* Does not apply to body bolts or stem nuts.

**NOTE:** The SL10 actuator will only mount with the cylinder parallel to the pipe over the body cap side. To prevent interference between the diaphragm casing and the pipe, *QUADRA-POWR* QP1 and QP2 actuators should be mounted perpendicular to the pipe.

All other actuator/valve combinations allow for the actuator to be mounted in any 90 degree position.

For *QUADRA-POWR* Series C, QP3, SP100/200, SP18SR40, SP26SR60, SP36SR80, SP36SR40, SP52SR60, SP72SR80 Actuators.



**NOTE:**

A Family "A" Actuator has a 3/8" Square Driver  
 A Family "B" Actuator has a 9/16" Square Driver

Valve Size	Family "A" Item (16)	Family "B" Item (9)
1/4" - 1/2" (DN 6-15)	( $\phi 0.548$ )  ( $\phi 0.665$ ) (0.160)	( $\phi 0.705$ )  ( $\phi 0.864$ ) (0.170)
3/4" (DN 20)	( $\phi 0.546$ )  ( $\phi 0.754$ ) (0.265)	( $\phi 0.704$ )  ( $\phi 0.910$ ) (0.265)

**DETAIL "A"**

**Figure 3**

PARTS LIST FOR (FIGURE 3)			
ITEM	PART NAME	QTY.	REMARKS
1	Bracket	1	
2	Coupling	1	
3	Reducer	1	Family "A" Actuators only
4	Stem Nut	1	
5	Hex Head Bolt	3	1/4" - 1/2" (DN 6-15) Valves: 1/4" - 20x3/4" ; 3/4" (DN 20) Valve: 1/4" 20x7/8"; 1" (DN 25) Valve: 5/16" - 18x7/8"; 1-1/4" (DN 30) Valve: 3/8" - 16x1-1/4"; 1-1/2" (DN 40) & 2" (DN 50) Valves: 3/8" - 16x1"
6	Hex Head Bolt	3	1/4" 20x5/8"
7	Hex Nut	3	1/4" (DN 6) - 1/2" (DN 15) Valves: 1/4" - 20; 3/4" (DN 20) Valve: 1/4" - 20; 1" (DN 25) Valve: 5/16" - 18; 1-1/4" (DN 30) Valve: 3/8" - 16; 1-1/2" (DN 40) & 2" (DN 50) Valves: 3/8" - 16
8	Lockwasher	3 or 6*	1/4" Split
9	Spacer	1	Used on 1/4" (DN 6) - 3/4" (DN 20) ( <i>ELIMINATOR</i> ) Valves
10	Lockwasher	3	1" (DN 25) Valve: 5/16" Split; 1-1/4" (DN 30) - 2" (DN 50) Valve: 3/8" Split
11	Adapter Plate	1	For use with Family "C" Actuators which have a 3/4" square driver
12	<i>SHAKEPROOF</i> Washer	4	3/8" Internal Tooth
13	Hex Head Bolt	4	3/8" - 16x5/8"
14	Stem Nut Lock	1	
15	Hex Head Bolt\	3	1/4" - 20 x 3/4"
16	Spacer	1	For use with mounting of Family "A" components to 1/4" (DN 6) - 3/4" (DN 20) <i>CLINCHER</i> & <i>ELIMINATOR</i> Valves

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