

Instruction
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NOR'EAST

— CONTROLS, INC.

A DIVISION OF ALLGASH INTERNATIONAL, INC.



Operator's Manual

SERIES 8300 THREE-WAY, GLOBE VALVES

Previously manufactured by Dezurik® and Honeywell®

Nor' East

1/2" – 2" 8300 Series Three-Way Globe Valves

Instructions These instructions are intended for personnel who are responsible for installation, operation and maintenance of your DeZURIK Globe Valve.

Safety Messages All safety messages in the instructions are flagged with the word Caution, Warning or Danger. These messages must be followed exactly to avoid equipment damage, personal injury or death.

Safety label(s) on the product indicate hazards that can cause equipment damage, personal injury or death. If a safety label becomes difficult to see or read, or if a label has been removed, please contact DeZURIK for replacement label(s).



WARNING!

Personnel involved in the installation or maintenance of valves should be constantly alert to potential emission of pipeline material and take appropriate safety precautions. Always wear suitable protection when dealing with hazardous pipeline materials. Handle valves which have been removed from service with the assumption of pipeline material within the valve.

Inspection Your DeZURIK Globe Valve has been packaged to provide protection during shipment. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.

Parts Order parts from your local sales representative, or directly from DeZURIK, as listed on the back cover. Recommended spare parts are listed on the assembly drawing. These parts should be stocked to minimize downtime.

DeZURIK Service DeZURIK service personnel are available to install, maintain and repair all DeZURIK products. DeZURIK also offers customized training programs and consultation services. For more information, contact your local DeZURIK sales representative or visit our website at www.dezurik.com.

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Nor' East

1/2" – 2" Series 8300 Series Three-Way Globe Valves

Description

The Series 8300 valve is a light duty, bronze body, three-way globe valve for mixing applications with an available pneumatic diaphragm spring actuator or electric motor actuator. See Figure 1 for flow direction.



WARNING!

This valve is a pressure vessel. Failure to release pipeline pressure may result in personal injury and/or flow system damage. Completely release pipeline pressure before removing the actuator from the valve or removing the valve from the pipeline.

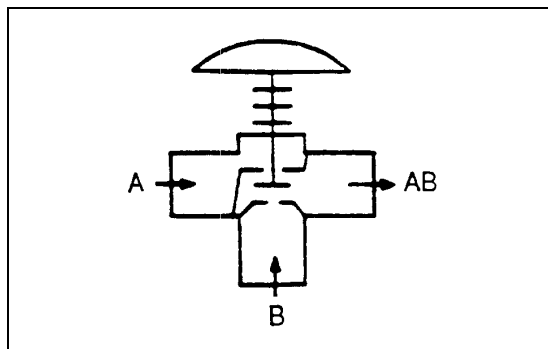


Figure 1: Mixing Service

Valve Pressure Ratings

See Table A for valve pressure ratings.

Table A: Valve Pressure Ratings

Valve Size	Pressure Rating (ANSI)
	Bronze (ANSI B16.1)
	Screwed Ends
1/2"	125 lbs
3/4"	
1"	
1-1/4"	
1-1/2"	
2"	

Installation



CAUTION!

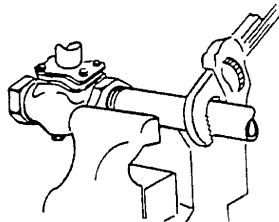
If valve is used in a water system, the water must be adequately treated to prevent the formation of rust, carbonates and other undesirable deposits on valve parts. Otherwise, deposit build ups can damage packing, seats or other internal valve parts.

Installation
(Continued)

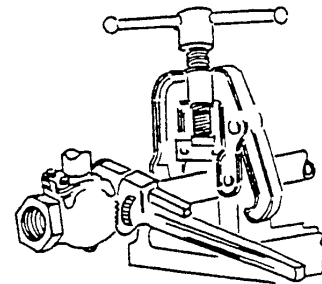
- For maximum efficiency and minimum wear, install valve in the vertical position with valve stem pointing up.
- Be sure to leave a minimum of 4 inches clearance for actuator removal.
- Before installing, be sure valve and pipeline are clean inside and free of scale, chips and welding spatter.
- The valve must be installed with the fluid flow in the required by the application (mixing or diverting). Common port is stamped AB. This AB port is the outlet for mixing service and inlet for diverting service. Pipes must be lined squarely with the valve at each connection. If they are forced into the valve, the body may become twisted, causing improper seating. Be sure there are no pockets in the line where condensate could accumulate and cause an undesirable water hammer.
- Be sure that the flow medium and ambient temperature and the selected location will not exceed the maximum temperature limitations for the valve or actuator.
- If the valve has screwed ends, do not apply pipe dope or seal tape to the threads of the valve body or to the first two threads of the pipe.

Piping Tips for Valves with Screwed Ends

Valve held by hex next to pipe.
(no twist, no squeeze on valve body)

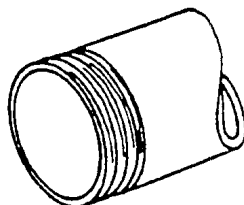


Vise grips hex end next to pipe.



Vise holds pipe securely against turning. Parallel – jaw wrench grips hex or flats next to pipe.

Pipe reamed and cleaned.



Moderate amount of dope.
(2 threads bare.)

Pipe Size	Effective Length of Threads
1/2"	1/2"
3/4"	9/16"
1"	11/16"
1-1/4"	11/16"
1-1/2"	11/16"
2"	3/4"

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Identification

Nameplate Data

The nameplate gives vital information on valve construction and operation. Always reference the serial number when ordering spare parts.

The spring range (on spring diaphragm actuators) is factory set to specifications on the order. Note the type of trim material, packing and lubricant number ("NONE" means packing does not require lubrication.) Remember that a change in operating conditions may mean a change in trim material, packing and lubricant type. Keep a permanent record of all nameplate information.

See Figure 4 for parts identification.

Maintenance

Preventive maintenance consists of making a periodic visual inspection. This will reveal packing box leaks, loosening of air connections due to vibration and visible failures of valve parts and accessories.

Packing Box

Checking packing box for leakage. If leakage is evident;

- With spring-loaded Buna N/Teflon packing, replace packing.

Connections

Check all mechanical and air connections. In some applications, particularly where the valve is located in a line near a pump, vibrations may cause both mechanical and air connections to work loose.

If possible, stroke the valve through several cycles, noting the operation, the pressure required to for stroking and the normal action of the valve.

**Valve
Overhaul**

Generally, when a valve is overhauled the bonnet and actuator are removed from the valve body, the packing is removed from the packing box and all parts are cleaned. Make a thorough inspection of the plug, cage and stem to determine whether these parts should be re-used, re-worked or replaced. To minimize the possibility of leakage, always replace the bonnet and cage gaskets whenever the valve is disassembled.

Actuator Removal

- Stop pipeline flow and completely release pipe line pressure.
-

**WARNING!**

This valve is a pressure vessel. The bonnet will blow off the actuator if the bonnet bolts are removed with pressure in the valve. Completely release pressure before disassembling the valve.

- Disconnect and lock out the pneumatic or electrical power to prevent accidental operation of the actuator.
-

**WARNING!**

Moving parts from accidental operation of power actuator can cause personal injury or equipment damage. Disconnect and lock out power to actuator before removal.

- Remove actuator from valve. See Figures 2 and 3 for actuator removal.

Valve Overhaul (Continued)

Actuator Removal (Pneumatic Actuator)

1. Loosen stem lock nut.
2. **IMPORTANT:** For **Air-to-Close** action, apply enough air pressure to almost close the valve but not seat the plug, to prevent damage.

For **Air-to-Open** action, apply air pressure to lift the plug slightly off the seat to prevent damage.

3. Unscrew stem connector from actuator stem.
4. Disconnect pneumatic connections.
5. Loosen hex socket head capscrew in yoke collar and lift actuator off valve.

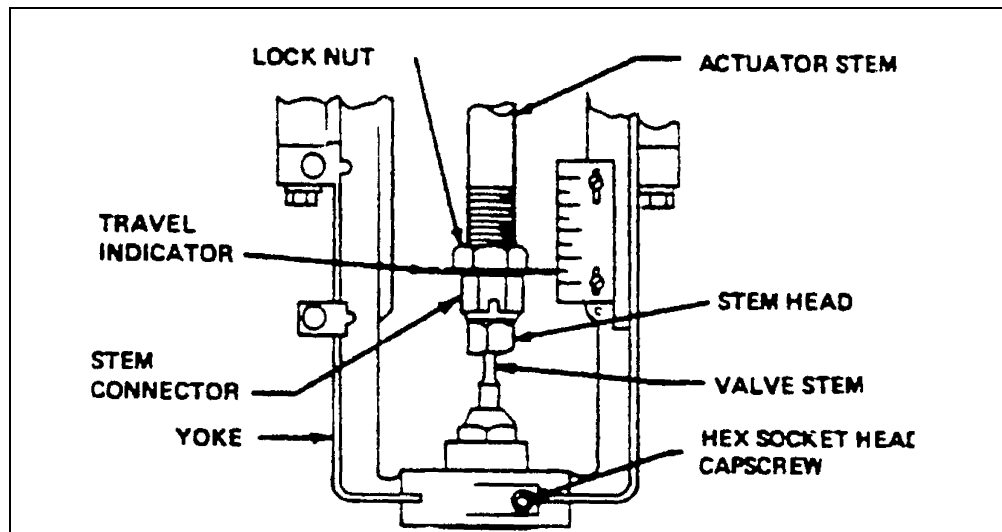
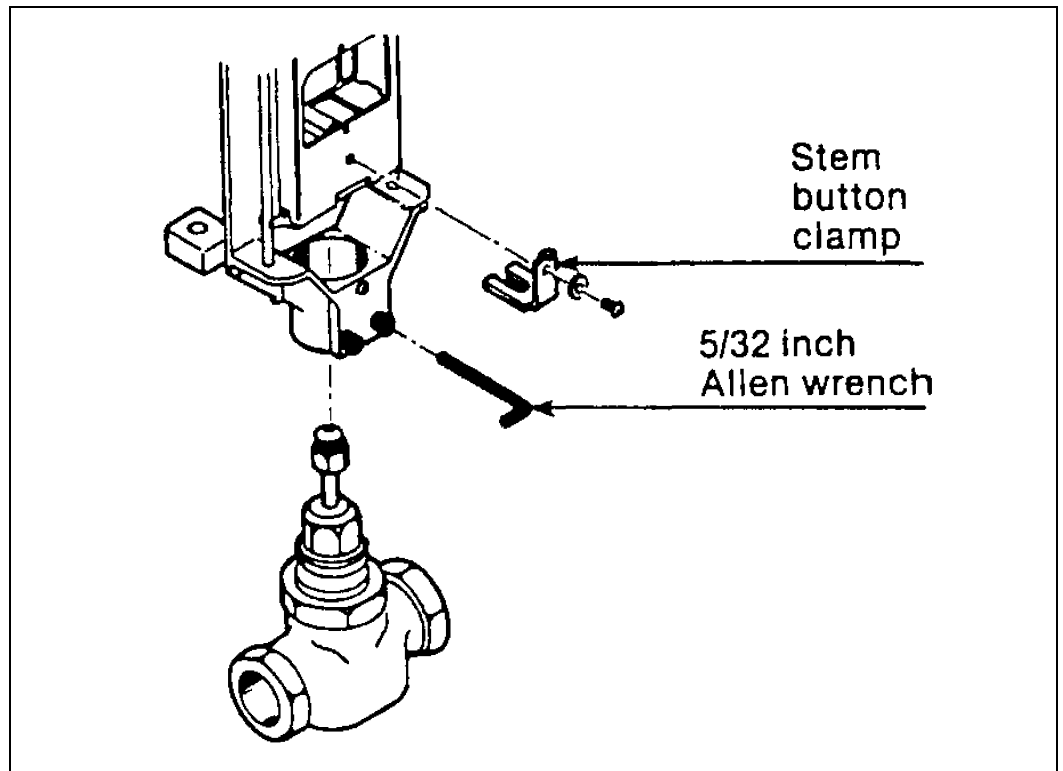


Figure 2: Actuator Removal (Pneumatic Actuator)

**Valve Overhaul
(Continued)*****Actuator Removal (Electric Actuator)***

1. Remove linkage cover and remove stem bottom clamp.
2. Loosen setscrews in linkage collar.
3. Lift linkage and motor off valve

**Figure 3: Actuator Removal (Electric Motor)**

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1/2" – 2" Series 8300 Series Three-Way Globe Valves

Valve Overhaul

(Continued)

Valve Disassembly

See Figure 4 for disassembly of valve.

1. Unscrew lower port from valve body.
2. Loosen packing nut.
3. Rotate plug and stem assembly out of bonnet and valve body through lower port.
4. Unscrew stem retainer from bottom of plug.
5. Remove o-ring, spring, lower stem support, stem and upper stem support from plug.
6. Unscrew bonnet from valve body.

Valve Overhaul
(Continued)

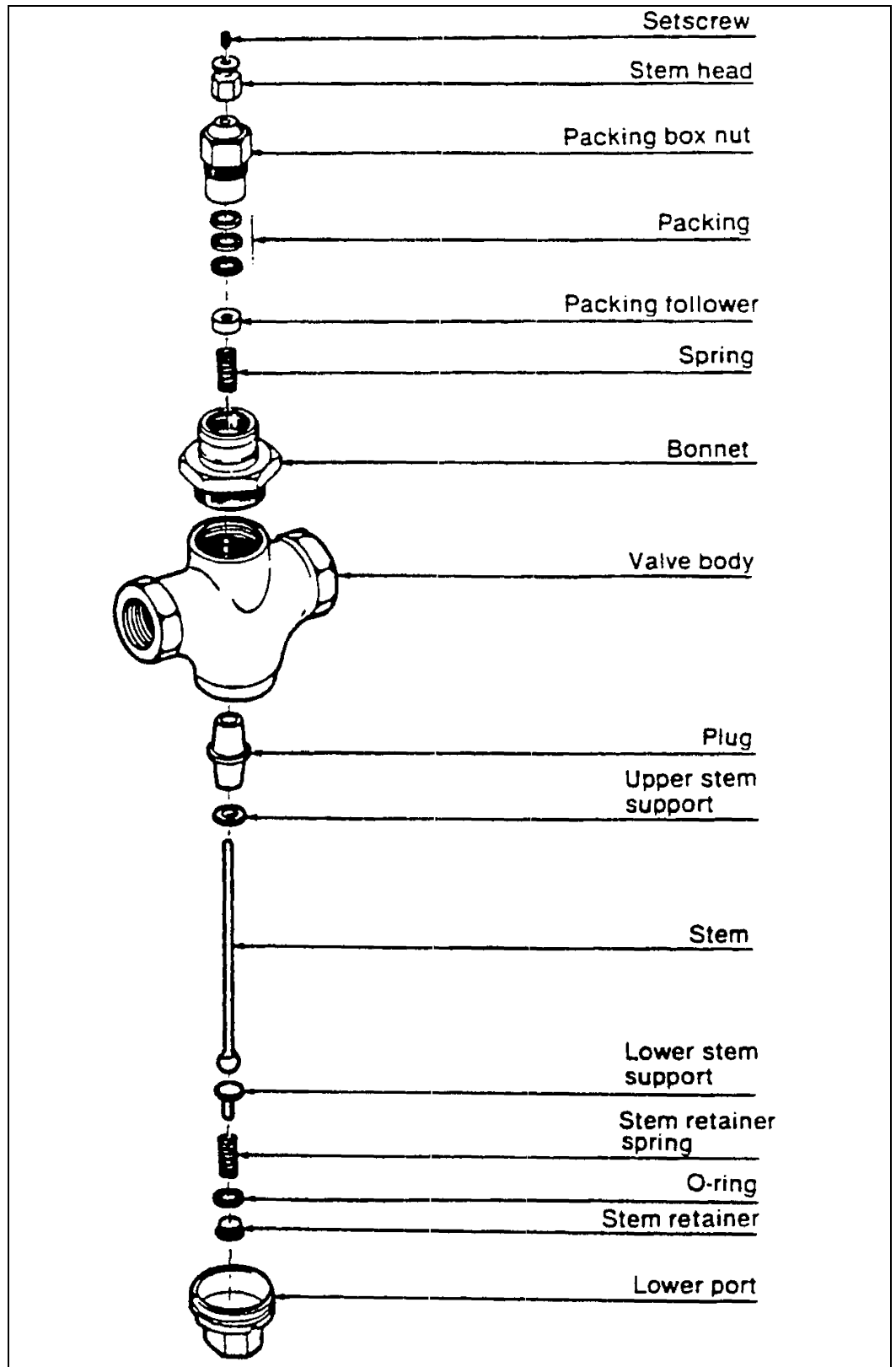


Figure 4: Disassembly of Valve

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Valve Overhaul *Valve Re-assembly*

(Continued)

NOTE: Always replace required gaskets and o-rings whenever the valve is disassembled to prevent leakage.

1. Re-assemble plug and stem. Slide upper stem support and plug down stem. Insert lower stem support, spring and o-ring into lower end of plug. Screw stem retainer against lower stem support and back off 1/4 turn.
2. Insert the plug and stem assembly into lower end of valve body.
3. Screw lower port into lower end of valve body.
4. Screw bonnet tight against valve body.
5. Install new packing. (See "Packing Replacement" section.)
6. Return valve to service and check for leaks before installing actuator.

Valve Overhaul *Packing Replacement***(Continued)**

Spring-Loaded Buna N/Teflon - To replace this packing, it is necessary to remove the actuator from valve and stem clamp from valve stem. See "*Actuator Removal*" section for instructions to remove actuator.

- Disconnect and lock out the pneumatic or electrical power to prevent accidental operation of the actuator.

**WARNING!**

Moving parts from accidental operation of power actuator can cause personal injury or equipment damage. Disconnect and lock out power to actuator before servicing valve.

See Figure 5 for Spring-Loaded Buna N/Teflon packing identification.

1. Unscrew packing box nut.
2. Remove old packing, packing follower and spring from bonnet.
3. Clean packing box nut, packing follower, spring, packing well and valve stem.
4. Place a small amount of Plasti-Lube #2 on the packing rings, the upper half of the valve stem and the packing box nut.
5. Replace spring and packing follower.
6. Insert new packing rings into packing chamber. Be careful not to scratch or tear the packing rings while sliding over the valve stem.
7. Replace packing box nut. Turn the packing box down tight on the bonnet.
8. Mount actuator on valve and reconnect power. Turn on system and check valve for leaks.

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1/2" – 2" Series 8300 Series Three-Way Globe Valves

Valve Overhaul (Continued)

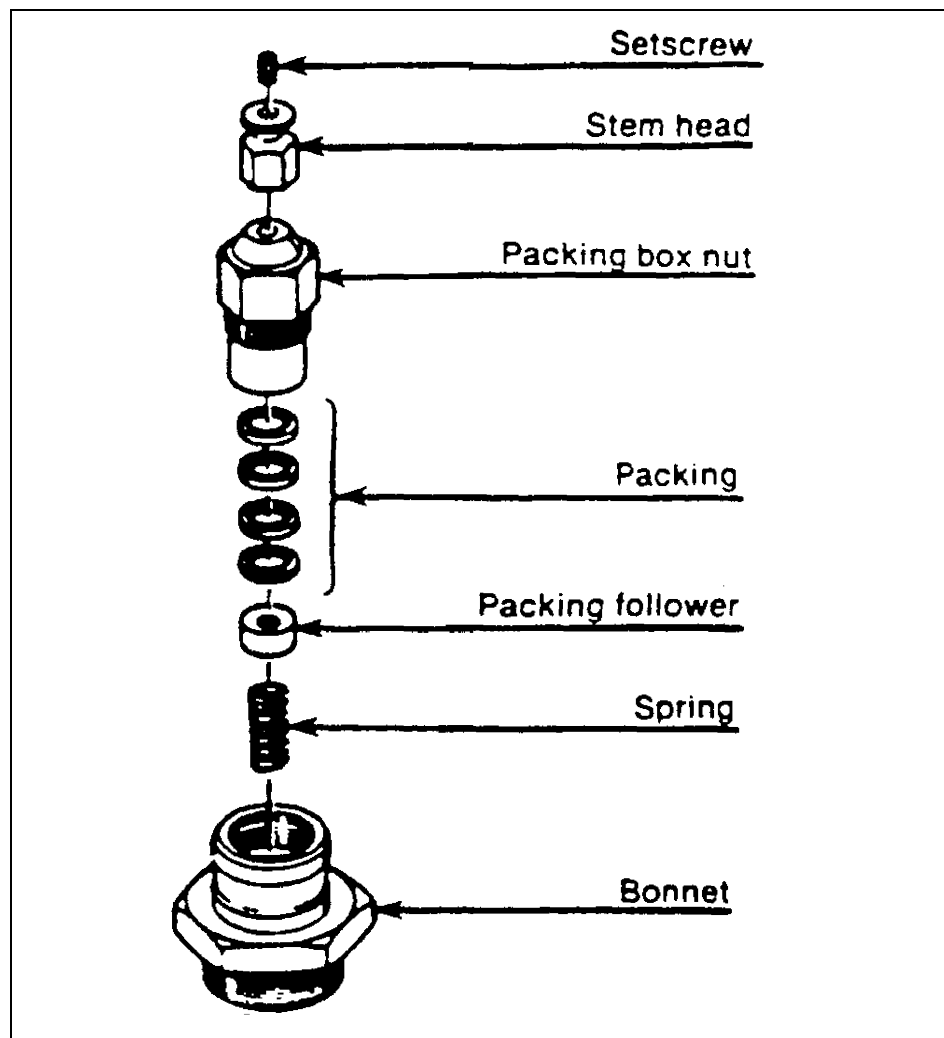


Figure 5: Spring-Loaded Buna N/Teflon Packing

Mounting Actuator

NOTE: Refer to nameplate to determine actuator and valve combination. See Figure 6 for pneumatic actuator mounting. See Figure 7 for stem connection.

Air-to-Close (Direct Acting) Actuator

1. Screw locknut onto actuator stem.
2. Place stem connector onto stem head.
3. Mount actuator onto bonnet and lock in place with hex socket head cap screw.
4. Insert travel indicator and raise valve stem to contact actuator stem.
5. Screw stem connector onto actuator stem until stem head is tight against actuator stem.
6. Hold stem connector with wrench and tighten locknut against travel indicator and stem connector.

Mounting Actuator
(Continued)

Air-to-Open (Reverse Acting) Actuator

1. Push valve stem down and seat plug.
2. Screw locknut onto actuator stem.
3. Place stem connector onto stem head.
4. Mount actuator onto bonnet.
5. Insert travel indicator and screw stem connector onto actuator stem until stem head is tight against actuator stem. **Note:** Be sure there is clearance between bottom of yoke and top of bonnet.
6. Tighten locknut against travel indicator and stem connector.
7. Apply air pressure to raise stems and permit actuator to seat on bonnet.
8. Lock actuator in place with hex socket head capscrew in yoke collar.

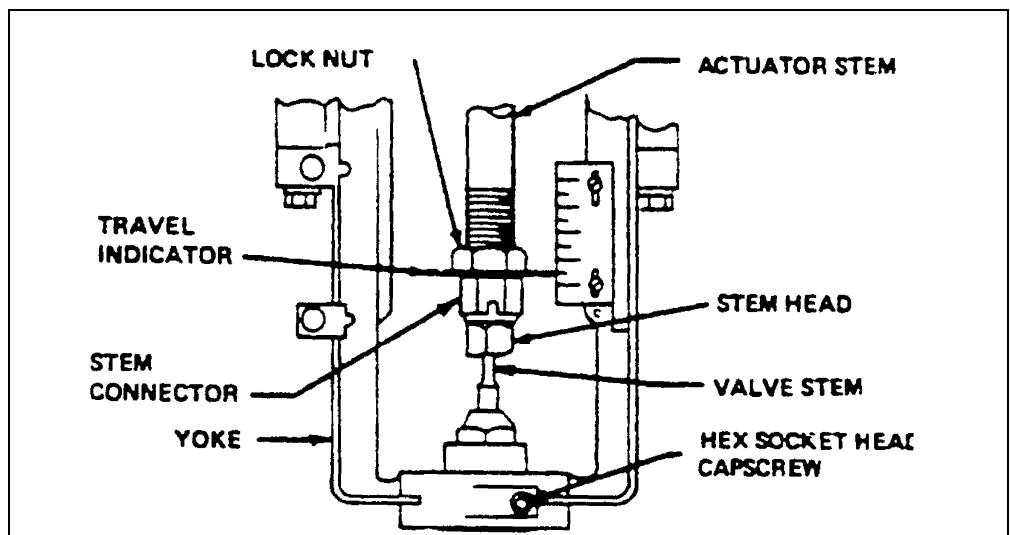


Figure 6: Actuator Mounting (Pneumatic Actuator)

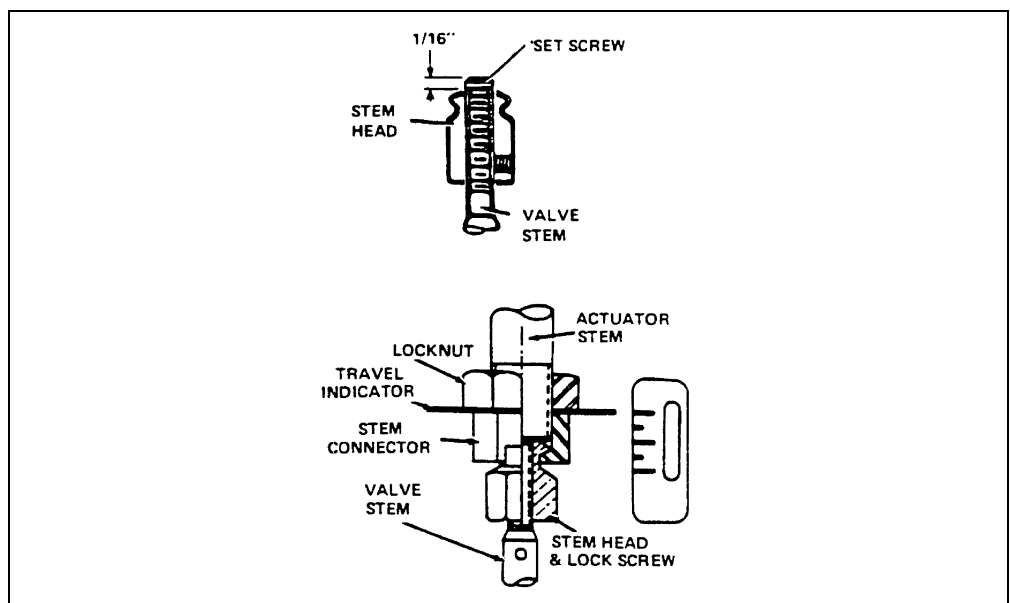


Figure 7: Stem Connection

Nor' East

1" – 12" Series 9100 Single Seated Cage Valves

Mounting *Electric Motor Actuator*

Actuator
(Continued)

See Figure 8 for mounting electric motor.

1. Slide motor and linkage assembly onto valve bonnet
2. Attach button clamp to valve stem.

Normally Closed Motors: Place heavy-duty screwdriver under linkage slide and into slot in back of linkage. Force slide mechanism up until stem button clamp can be fully inserted into its slot.

Normally Open Motors: Place heavy-duty screwdriver between slide mechanism and top of linkage frame. Force slide mechanism down until stem button clamp can be fully inserted into its slot.

3. Replace and tighten button clamp screw.
4. Tighten setscrews to secure linkage to valve bonnet.
5. Replace linkage cover and tighten cover retaining screws.

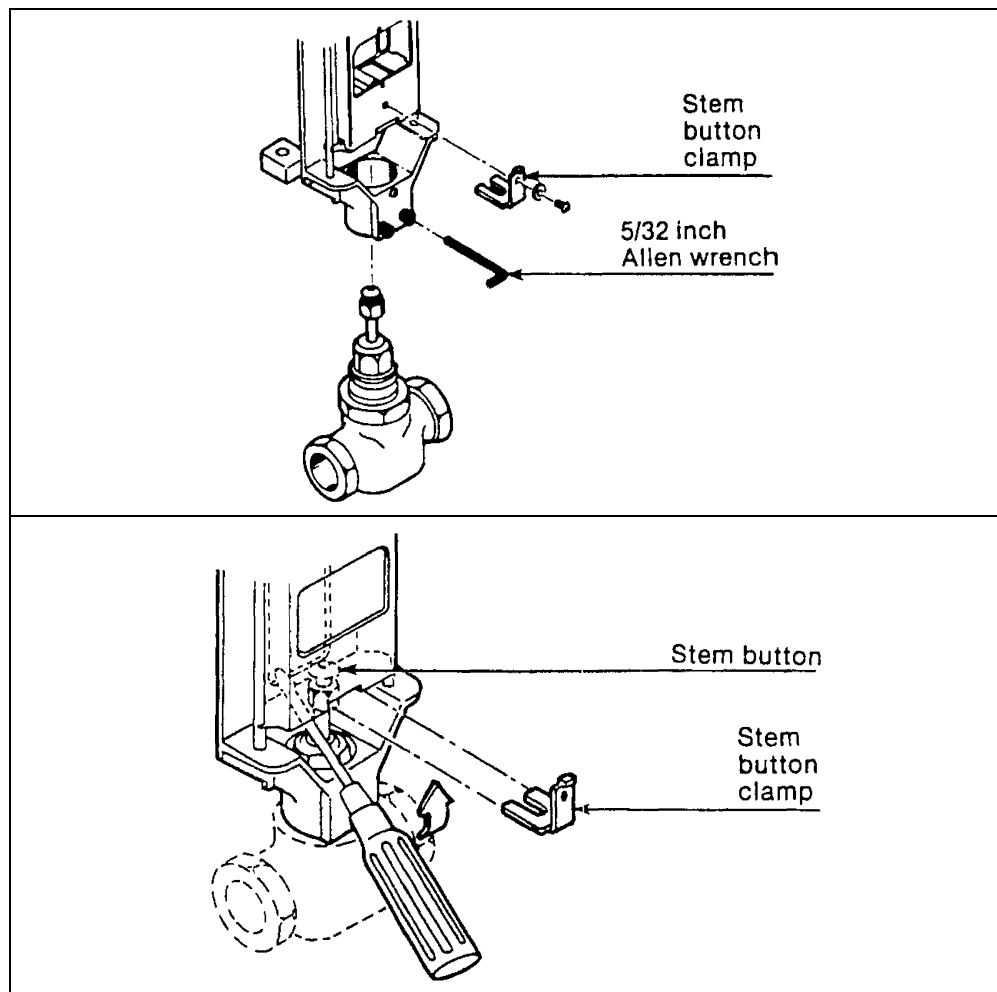


Figure 8: Mounting Electric Motor

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1000 Riverside Street, Portland, Maine 04103

Ph: 207-781-8831 Fax: 207-781-8830

Sales and Service

Nor' East Controls representatives are located in major cities throughout the world.

For the name of the representative nearest you, contact:

Web site:www.allagashinternational.com **E-Mail:**sales@allagashinternational.com

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