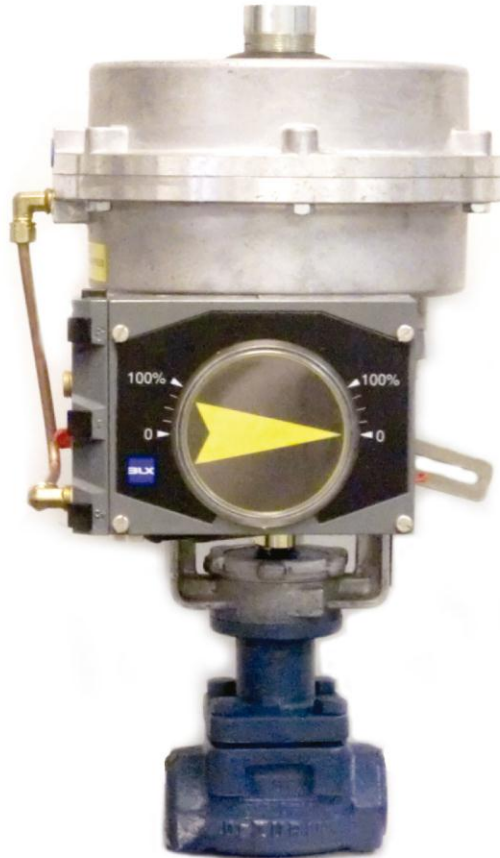


Instruction  
D-4800-1NE  
December 2010

# NOR'EAST

— CONTROLS, INC.

A DIVISION OF ALLGASH INTERNATIONAL, INC.



## Operator's Manual SERIES 4800 SINGLE SEATED, GLOBE VALVES

Previously manufactured by Dezurik® and Honeywell®

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

---

**Instructions** These instructions are intended for personnel who are responsible for installation, operation and maintenance of your Nor'East Controls 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 Nor'East Controls 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 suitable protection for any potential pipeline material in the valve.**

---

**Inspection** Your Nor'East Controls 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 Nor'East Controls, as listed on the back cover. Recommended spare parts are listed on the assembly drawing. These parts should be stocked to minimize downtime.

**Nor'East Controls Service** Nor'East Controls service personnel are available to install, maintain and repair all Nor'East Controls products. Nor'East Controls also offers customized training programs and consultation services.

For more information, contact your local Nor'East Controls sales representative or visit our website at [www.Nor'East Controls .com](http://www.Nor'East Controls .com).

**Table of Contents**

Description - - - - -	2
Valve Pressure Rating - - - - -	2
Installation - - - - -	2
Parts Identification - - - - -	4
Maintenance	
Packing Box - - - - -	5
Connections - - - - -	5
Valve Overhaul	
Actuator Removal - - - - -	6
Valve Disassembly - - - - -	9
Valve Re-assembly - - - - -	10
Lapping Plug - - - - -	11
Packing Replacement - - - - -	12
Mounting Actuator - - - - -	13

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

---

### Description

The Series 4800 valve is a light duty, cast iron or bronze, single seated globe valve with an available pneumatic diaphragm spring actuator or electric motor actuator.

---



#### **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.**

---

### Valve Pressure Ratings

See Table A for valve pressure ratings.

Table A: Valve Pressure Ratings

Valve Size	Pressure Rating (ANSI)
	Cast Iron (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.**

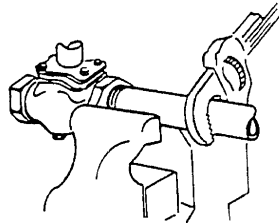
---

- 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 direction of the arrow on the valve body (pressure under plug). 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.

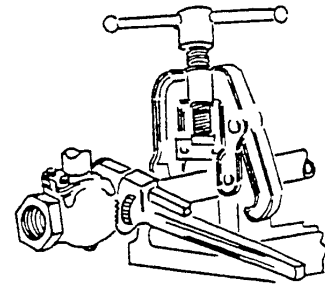
**Installation**  
*(Continued)*

**Piping Tips for Valves with Screwed Ends**

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

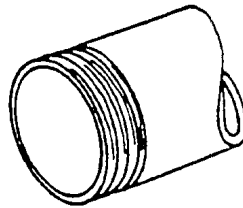


Vise grips hex end next to pipe.



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"

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

### Parts 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 1 and 2 for parts identification.

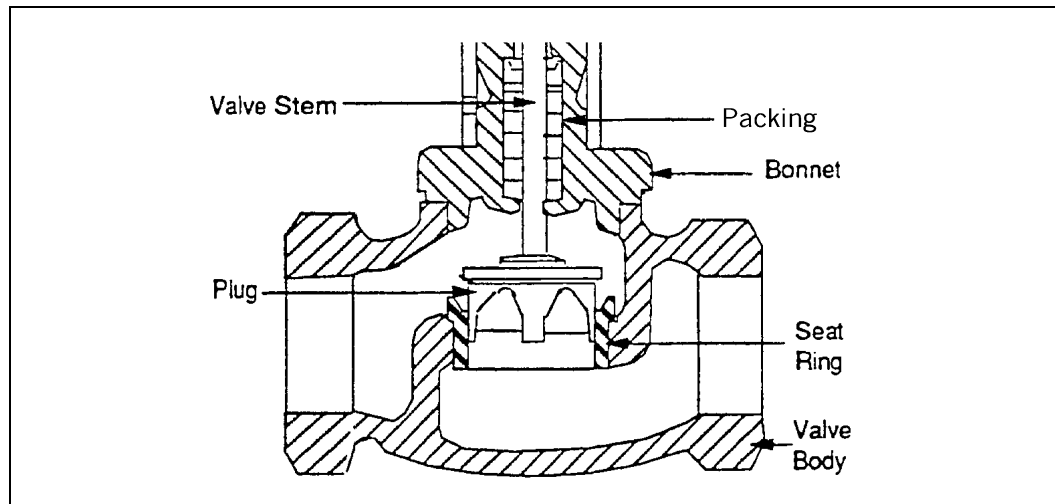


Figure 1 – Parts Identification

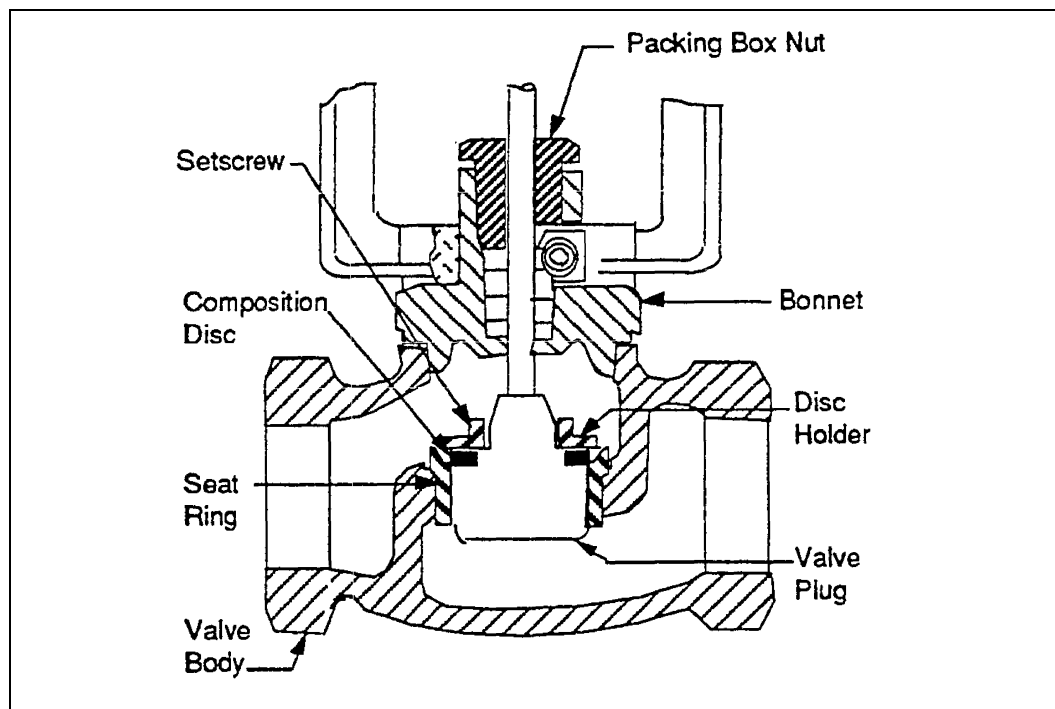


Figure 2 – Parts Identification (Composition Disc)

**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 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.

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

---

### **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 3 and 4 for actuator removal.



**Valve Overhaul**  
*(Continued)*

2. Disconnect pneumatic connection. (Location varies depending on actuator type.)

1. Disconnect stems by removing stem clamp bolts and stem clamp. Remove air pressure.

3. Unscrew yoke locknut and lift actuator off valve.

**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.

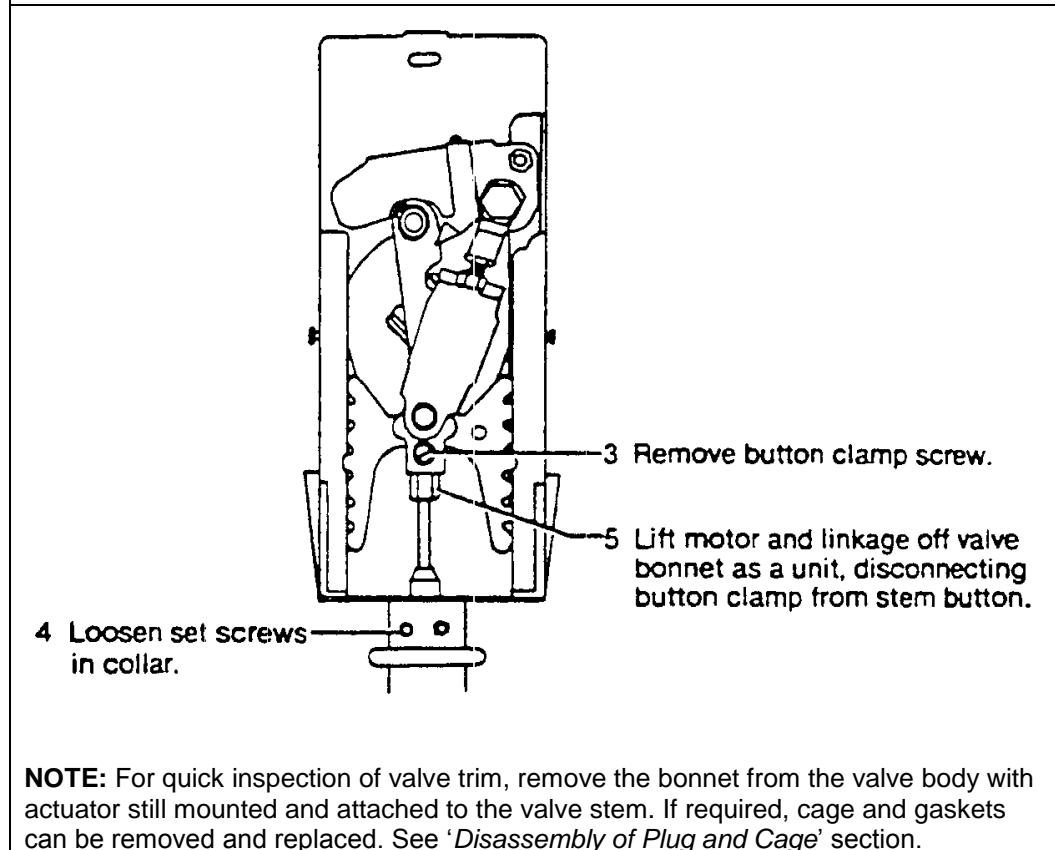
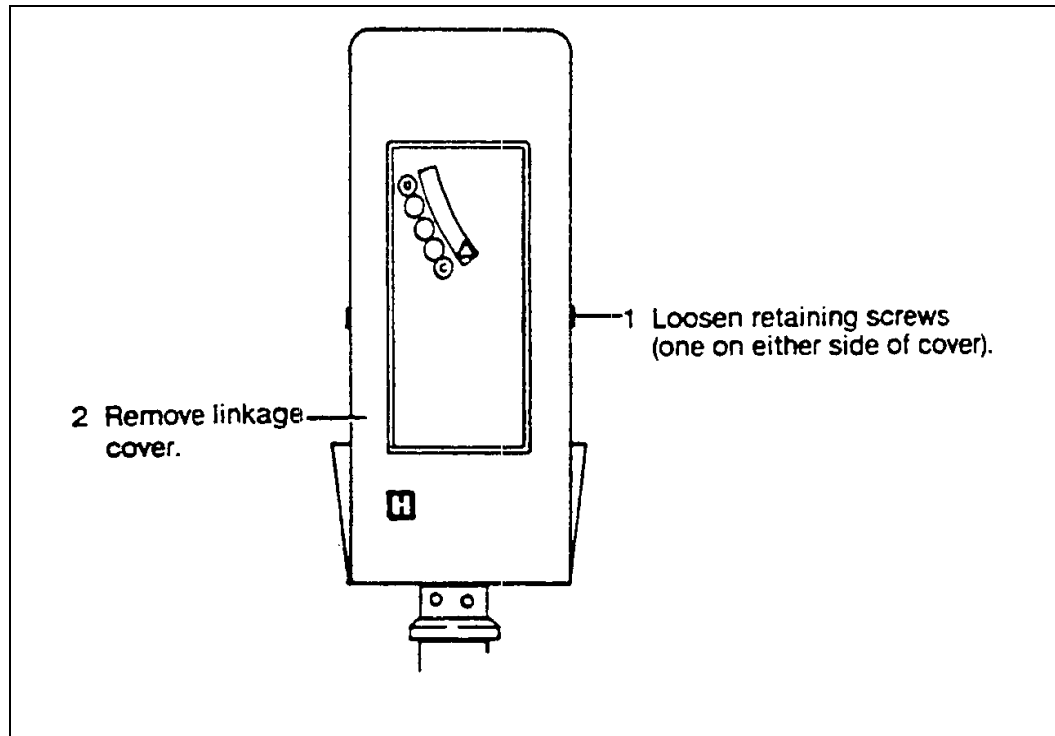
**NOTE:** For quick inspection of valve trim, remove the bonnet from the valve body with actuator still mounted and attached to the valve stem. If required, cage and gaskets can be removed and replaced. See 'Disassembly of Plug and Cage' section.

**Figure 3 – Actuator Removal (Diaphragm Actuators)**

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

### Valve Overhaul (Continued)



**NOTE:** For quick inspection of valve trim, remove the bonnet from the valve body with actuator still mounted and attached to the valve stem. If required, cage and gaskets can be removed and replaced. See 'Disassembly of Plug and Cage' section.

**Figure 4 – Actuator Removal (Electric Motor)**

**Valve Overhaul** *Valve Disassembly**(Continued)*

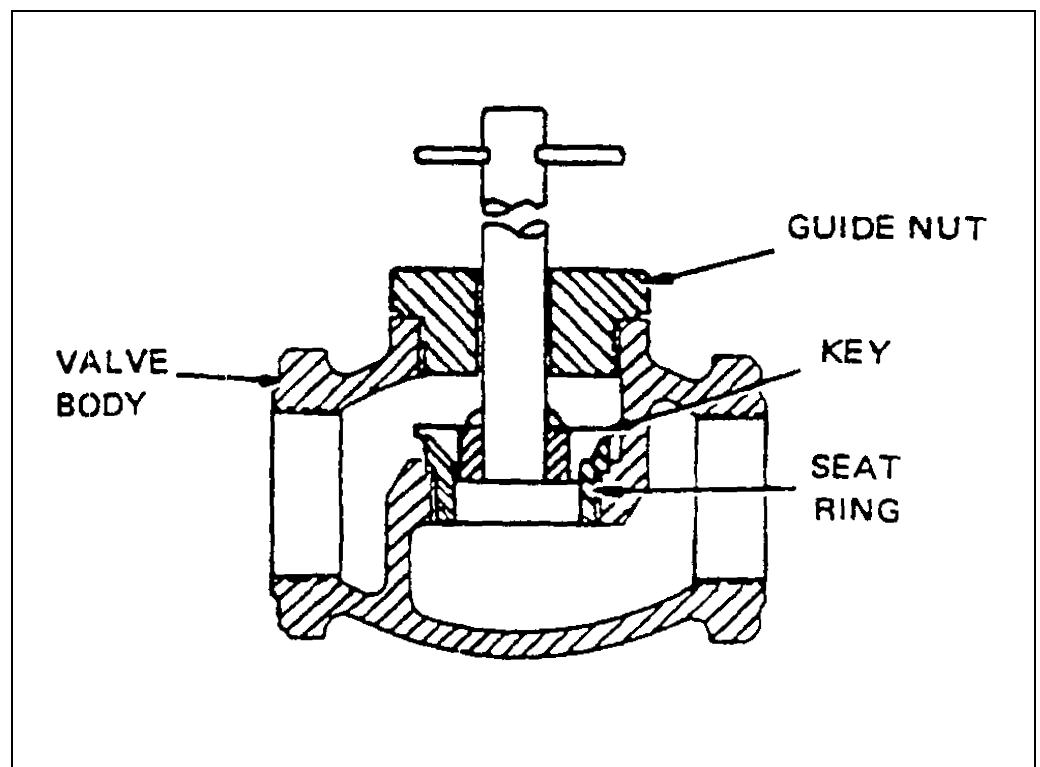
To disassemble valve, follow steps 1 – 5. See Figure 1 for parts identification.

1. Unscrew bonnet from valve body.
2. Lift bonnet, valve stem and plug assembly from valve body.
3. Unscrew seat ring from valve body. (Use tool if available shown in Figure 5 to remove seat ring.)
4. Loosen packing nut.
5. Rotate plug and stem from bonnet.

**Valve Disassembly with Composition Disc**

To disassemble valve, follow steps 1 – 5. See Figure 2 for parts identification.

1. Unscrew bonnet from valve body.
2. Lift bonnet, valve stem and plug assembly from valve body.
3. Remove setscrew from disc holder.
4. Remove disc holder and old composition disc.
5. Unscrew seat ring from valve body. (Use tool if available shown in Figure 5 to remove seat rings.)
6. Loosen packing nut.
7. Rotate plug and stem from bonnet.



**Figure 5 – Seat Ring Removal**

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

---

### Valve Overhaul *Valve Re-assembly*

*(Continued)*

**NOTE:** A new plug and seat ring should be installed at the same time to insure tight shutoff. Always replace required gaskets whenever the valve is disassembled to prevent leakage.

1. Screw seat ring into valve body.
2. If a new plug and seat ring is installed, lap plug. (See "*Lapping Plug*" section.)
3. Insert the plug and stem into bonnet.
4. Screw bonnet to the valve body.
5. Install new packing. (See "Packing Replacement" section.)
6. Return valve to service and check for leaks before installing actuator.

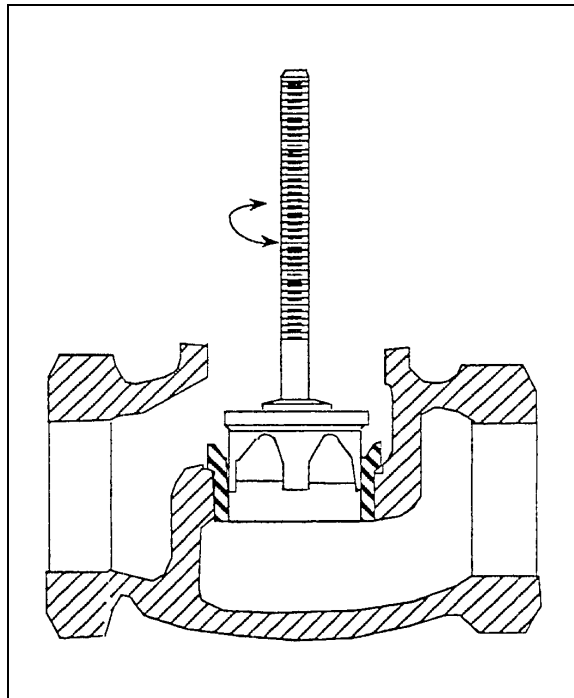
### *Valve Re-assembly with Composition Disc*

1. Screw seat ring into valve body.
2. Insert new composition disc and disc holder into plug.
3. Secure disc holder to plug with setscrew.
4. If a new plug and seat ring is installed, lap plug. (See "*Lapping Plug*" section.)
5. Insert the plug and stem into bonnet.
6. Screw bonnet to the valve body.
7. Install new packing. (See "Packing Replacement" section.)
8. Return valve to service and check for leaks before installing actuator.

**Valve Overhaul**  
**(Continued)** *Lapping Plug*

See Figure 6 for lapping plug.

1. Apply lapping compound to the seat ring as well as the seating surface of the plug.
2. Lap plug into seat ring to obtain a good seating surface. Do not remove too much metal from the plug. Stop lapping after a seating surface 1/32 inch (0.8mm) wide is obtained.
3. Be sure to remove all traces of the lapping compound from the plug and seat ring.



**Figure 6 - Lapping Plug**

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

---

### Valve Overhaul *Packing Replacement*

(Continued)

**Spring-Loaded 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!**

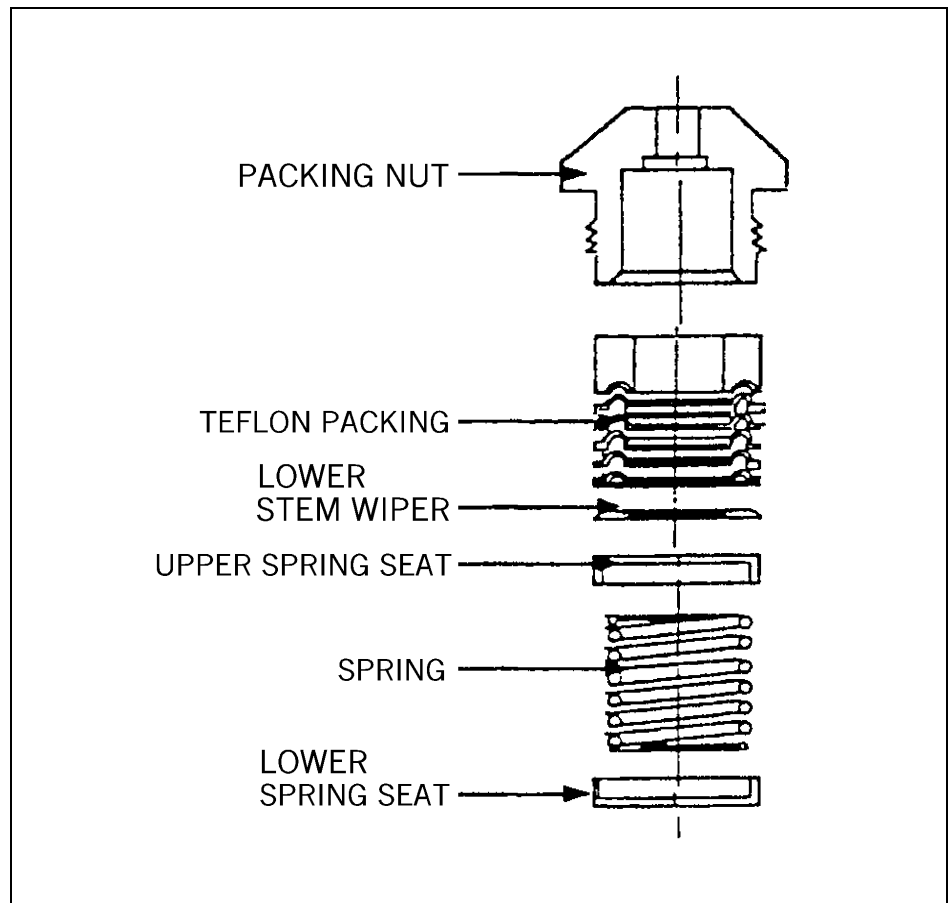
**Moving parts from accidental operation of power actuator can cause personal injury or equipment damage. Disconnect and lock out power to actuator before servicing valve.**

---

See Figure 7 for Spring-Loaded Teflon packing identification.

1. Unscrew packing box nut.
2. Slide old Teflon packing, lower stem wiper, upper spring seat, packing spring and lower spring seat off valve stem.
3. Clean lower stem wiper, upper spring seat, packing spring, lower spring seat, packing well and valve stem.
4. Place a small amount of Plasti-Lube #2 on the Teflon rings, the upper half of the valve stem and the packing box nut.
5. Replace lower spring seat, spring, upper spring seat and lower stem wiper.
6. Insert new Teflon packing into packing chamber. Be careful not to scratch or tear the Teflon 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.

**Valve Overhaul**  
(Continued)



**Figure 7 – Spring-Loaded Teflon Packing**

**Mounting Actuator**

**NOTE:** Refer to nameplate to determine actuator and valve combination. See Figure 8 for actuator mounting and Figure 9 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.

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

### 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.

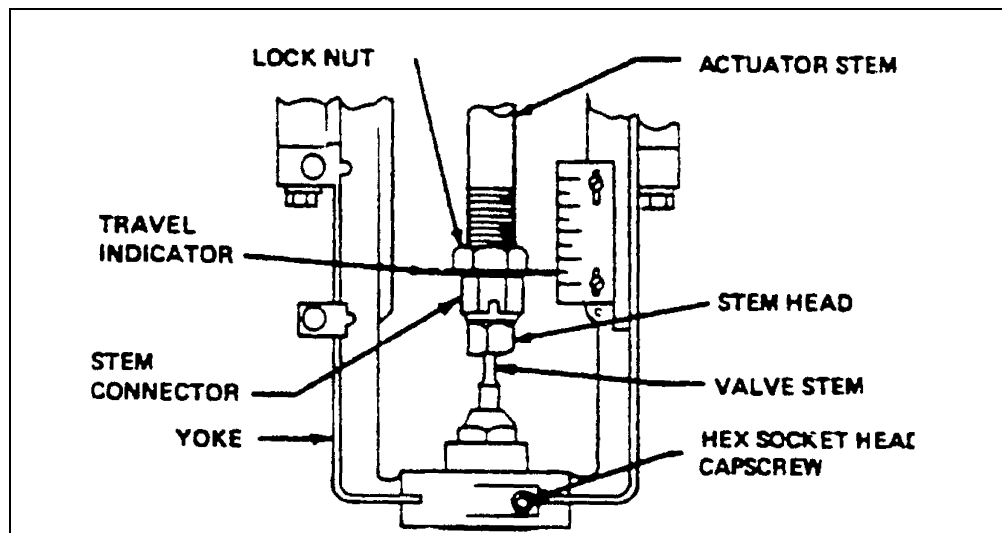


Figure 8 – Actuator Mounting (Pneumatic Actuator)

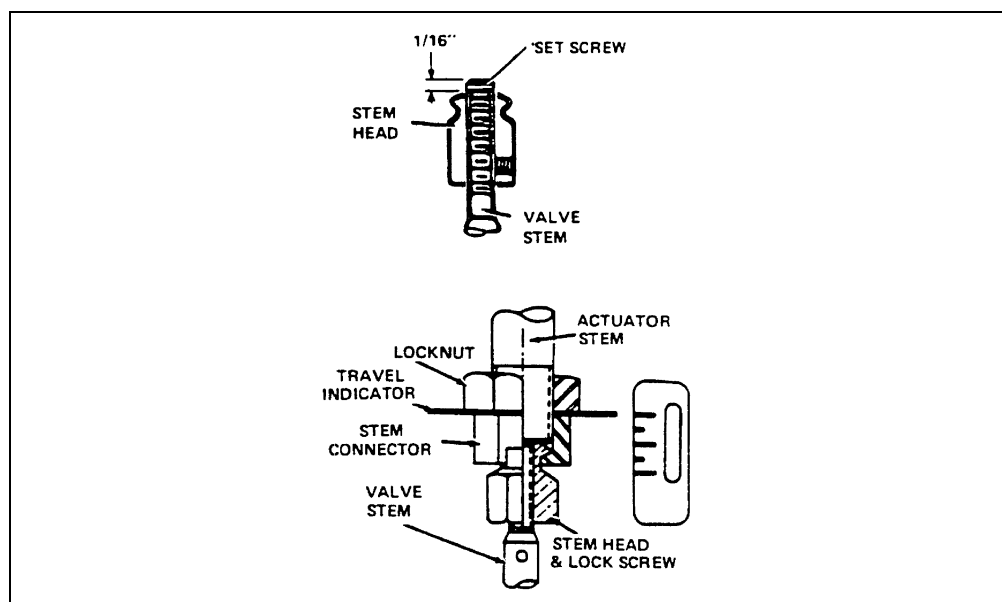


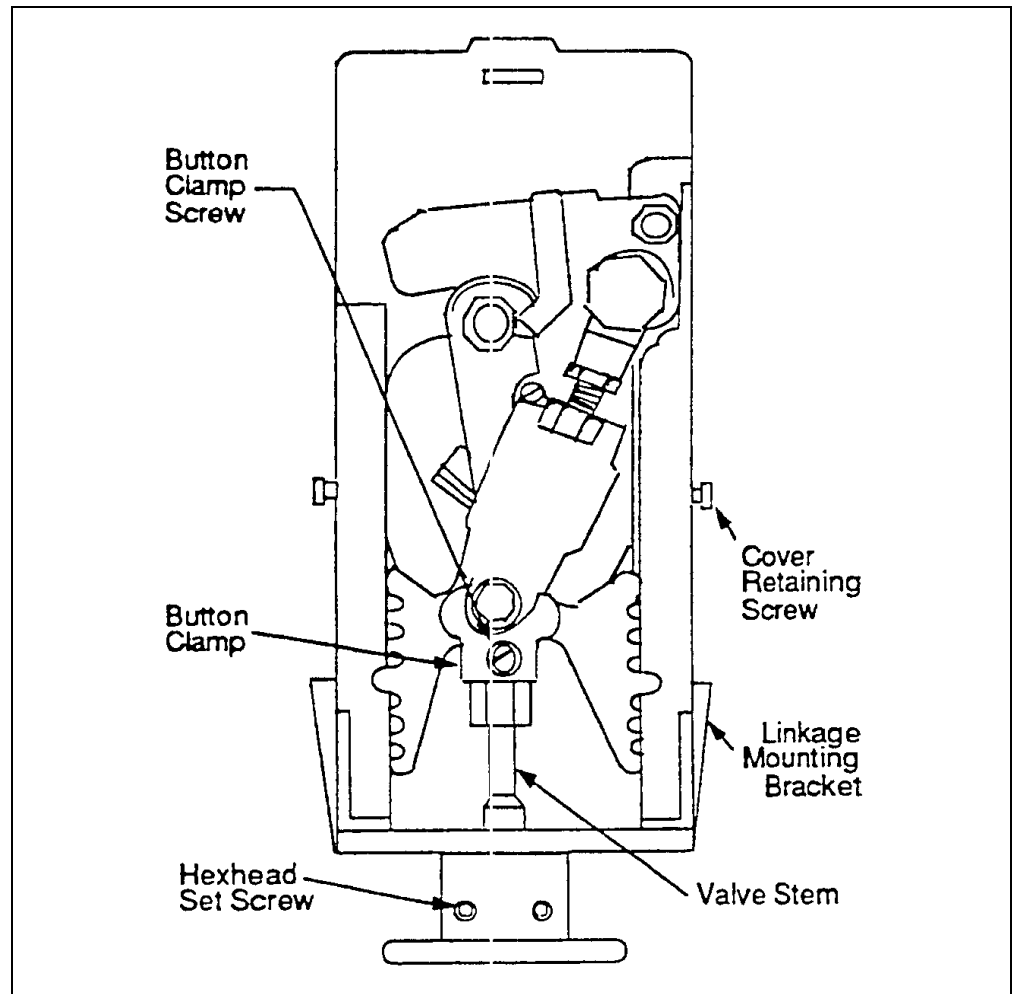
Figure 9 – Stem Connection



**Mounting  
Actuator  
(Continued)****Electric Motor Actuator**

See Figure 10 for mounting electric motor.

1. Slide motor and linkage assembly onto valve bonnet and attach button clamp to valve stem.
2. Tighten hex set screws in collar.
3. Tighten button clamp screw.
4. Replace linkage cover and tighten cover retaining screws.



**Figure 10 – Actuator Mounting (Electric Motor)**

# Nor' East

## 3/4" – 2" 4800 Series Single Seated Globe Valves

---

### Guarantee

Products, auxiliaries and parts thereof, of Nor'East Controls' manufacture, are guaranteed for a period of one year from the date of shipment against defective workmanship and material only, when properly installed, operated and serviced in accordance with Nor'East Controls' recommendations. Replacement for items of Nor'East Controls' manufacture will be made free of charge if proved to be defective within such time. No claim for special or consequential damages, transportation, or labor shall be allowed. Purchaser shall be solely responsible for determining suitability for use and in no event shall Nor'East Controls be liable in this respect. Equipment or parts manufactured by others but furnished by Nor'East Controls will be repaired or replaced, only to the extent provided in the original manufacturer's warranty to Nor'East Controls. Nor'East Controls does not guarantee resistance to corrosion, erosion, abrasion or other sources of failure, nor does Nor'East Controls guarantee a minimum length of service. Failure of the purchaser to give prompt written notice of any alleged defect under this guarantee forthwith upon its discovery, or use and possession thereof after an attempt has been made and completed by someone other than Nor'East Controls or an authorized representative to remedy defects therein, or failure to return products or parts for replacement as herein provided, of failure to install, operate, and maintain said products or parts according to instructions provided by Nor'East Controls, of failure to pay the entire contract price when due, shall be a waiver of all rights under these representations.

The foregoing guarantee shall be null and void, if, after shipment from our factory, the item is modified in any way or component of another manufacturer, such as but not limited to; an actuator is attached to the item by valves & controls other than a Nor'East Controls

Factory Service Personnel. All orders accepted shall be deemed accepted subject to this guarantee, which shall be exclusive of any other previous guarantee, and this shall be the only effective guarantee or warranty binding on Nor'East Controls, anything to the contrary contained in the purchase order, or represented by any agent or employee of Nor'East Controls, in writing or otherwise, notwithstanding, including but not limited to implied warranties.

THE FOREGOING OBLIGATIONS ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES INCLUDING WARRANTIES OF FITNESS OR MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE NOR'EAST CONTROLS AND EXCLUSIVE LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY CLAIM IN CONNECTION WITH THIS SALE OR FURNISHING OF SERVICES, GOODS, OR PARTS, THEIR OWN DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATION.

### **Limitation of Liability**

In no event shall Nor'East Controls be liable for any direct, indirect, special or consequential damages whatsoever, and Nor'East Controls' liability, under no circumstances, will exceed the contract price for the goods and/or services for which liability is claimed. Any action for breach of contract must be commenced within 1 year after the cause of the action has occurred.

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](http://www.allagashinternational.com) **E-Mail:**[sales@allagashinternational.com](mailto:sales@allagashinternational.com)

Nor' East reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing by Nor' East Controls. Certified drawings are available upon request.