



**VALVE &  
HYDRANT**

# U-20814 Wall Type Indicator Post

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**▲ WARNING:**

1. Read and follow instructions carefully. Proper training and periodic review regarding the use of this equipment is essential to prevent possible serious injury and/or property damage. The instructions contained herein were developed for using this equipment on fittings manufactured by Mueller Co., LLC only, and may not be applicable for any other use.
2. DO NOT exceed the pressure ratings of any components or equipment. Exceeding the rated pressure may result in serious injury and/or property damage.
3. Safety goggles and other appropriate protective gear should be used. Failure to do so could result in serious injury.

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# U-20814 Wall Type Indicator Post

## General Information

### OVERVIEW

The Model U-20814 Wall Indicator Posts are designed to operate 4" – 14" non-rising stem (inside screw) gate valves, which are used to control the water supply to automatic sprinkler, water spray deluge, foam water deluge, or standpipe fire protection systems. They permit operation of valves located immediately inside exterior walls while providing an exterior visual indication as to whether the valves are open or shut, in addition to a means for locking the valves in a particular position. Indicator posts provide for valve operation from outside of the protected property and, therefore, the opportunity for more prompt valve operation in an emergency situation.

The U-20814 Posts will accommodate 4" – 14" size post indicator valves requiring 14 to 43 turns to open and that are listed or approved for fire protection service.

Posts are provided "standard order" for use with left hand opening valves; however, they may be "special ordered" for use with right hand opening valves or converted in the field for use with a right hand opening valve by changing the left hand opening Cover to a right hand opening Cover.

The U-20814 Posts accept direct attachment of a 1/2" NPT mounting electric supervisory switching device (supplied by customer) which can be used by proprietary and central stations to monitor the open position of the U-20814 Post.

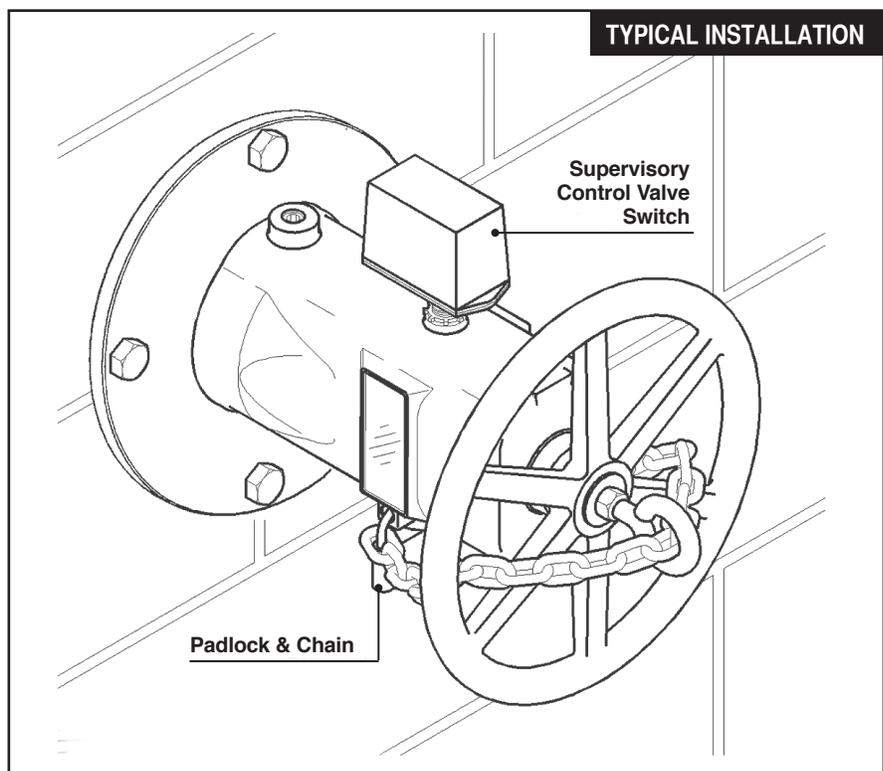
The Handwheel is fastened to the Post with an eyebolt so that the Post can be secured in position using a padlock and chain.

### Approvals and Standards

Model U-20814 Indicator Posts are listed by Underwriters Laboratories Inc. (UL) and approved by Factory Mutual Research Corporation.

**⚠ WARNING: The Model U-20814 Indicator Posts described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the integrity of these devices.**

**The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or manufacturer should be contacted relative to any questions. Removing or disabling the tamper resistant feature of the special key wrench screw, which is used to secure the cover of the Supervisory Control Valve Switch, will void its listings and approval.**



# U-20814 Wall Type Indicator Post

## Technical Data/Dimensions

### TECHNICAL DATA – Indicator Posts

The U-20814 Post Head is mounted directly to an exterior wall, and it is designed to work with 4" – 14" PIVs employing 2" operating nuts. The Post Head has 3/4" clearance holes for the mounting bolts.

The U-20814 has a 14 pitch Threaded Sleeve which can readily accommodate field positioning of the "OPEN" and "SHUT" Targets for 4" – 14" PIVs requiring 14 to 43 turns to open.

The U-20814 is provided with an operating stem assembly that can accommodate a range of 3" – 28" between the base of the Post Head and the PIV operating nut. The Lower Stem (square tube) is field cut to the desired length. An optional 15 3/4" long, 5" steel pipe Sleeve is available for protecting the Stem/ Coupling. Use of the Sleeve is recommended except in the case of sheet metal wall construction. The Sleeve must be field cut to the desired length.

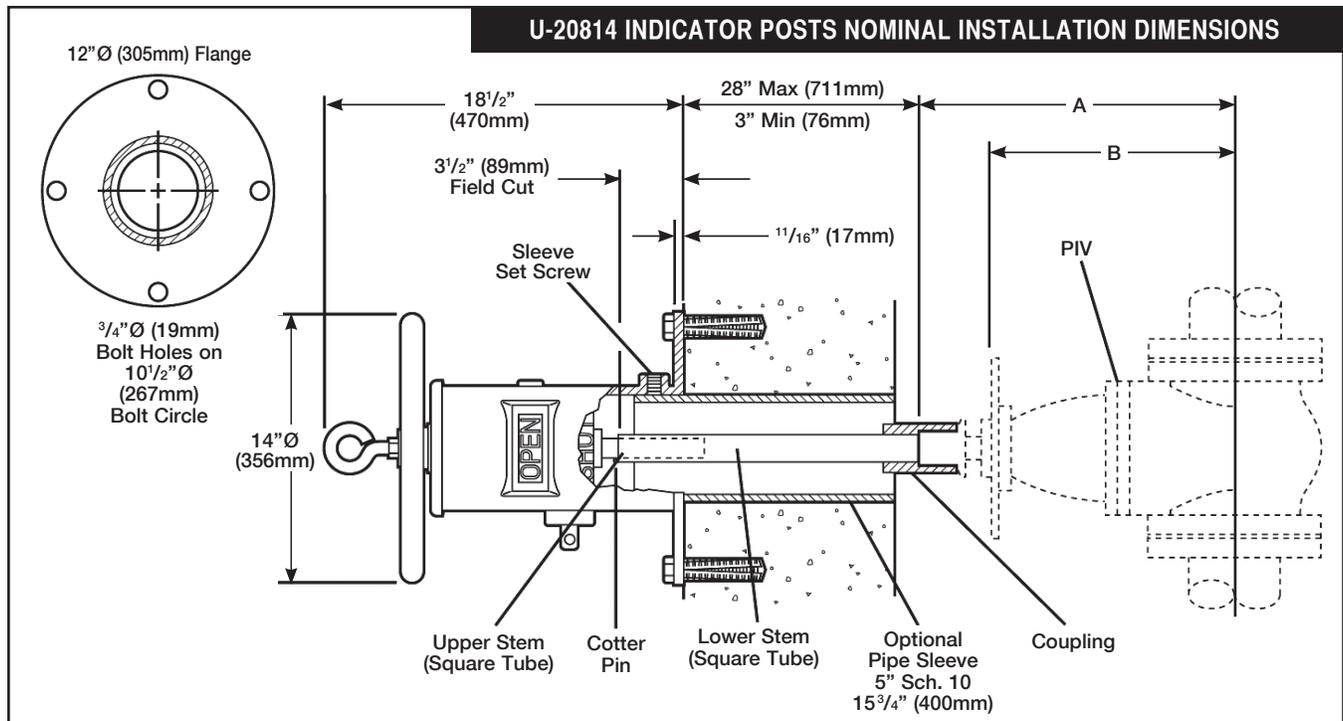
The Post Head and Cover are cast iron per ASTM A126 (Grade B). The Lower Stem, Upper Stem, Coupling, and Coupling Insert are carbon steel. The Operating Nut and Handwheel are ductile iron per ASTM A536. The Targets and Threaded Sleeve are nylon and the Cap is polypropylene. The Windows are made from polycarbonate. The Post Head, Cover and Handwheel are painted red.

### DIMENSIONS

Valve Size	A	B	Turns to Open
4"	14.76"	10.95"	14
6"	18.55"	14.91"	20 1/2
8"	21.97"	18.02"	26 1/2
10"	25.44"	21.62"	33
12"	28.43"	24.52"	38 1/2
14"	32.75"	29.13"	43 1/2

Dimensions A & B for USPVH Resilient Wedge Indicator Valves

"Standard Order" Posts are factory set with the "OPEN" and "SHUT" Targets positioned for use with left hand (**counter-clockwise**) opening valves. An arrow on the Post Head Cover indicates the left hand direction of opening. The position of the Targets may be reversed in the field, in order to accommodate a right hand opening valve, provided that the Post Head Cover is changed to one indicating right hand opening.



# U-20814 Wall Type Indicator Post

## Installation

### INSTALLATION INSTRUCTIONS

The U-20814 Post Targets must be positioned for use with the appropriate number of turns to open the post indicator valve. Improper positioning of the Targets can result in an erroneous indication of the open or shut position of the valve. The U-20814 will accommodate positioning of the Targets to operate PIVs requiring 14 to 43 turns to open.

**NOTE: The Targets for the U-20814 Indicator Post have been factory set for use with a left hand opening, 4" USPVH PIV. Consequently, Steps 5, 6, 7, and 9 need not be performed when installing the U-20814 Post with a 4" USPVH PIV or with a PIV that requires 14 turns to open.**

#### Installing the Post

1. Completely close the PIV.
2. Along the centerline of the PIV make a 5<sup>3</sup>/<sub>4</sub>" diameter clearance hole through the wall if the Optional Sleeve is to be used or if the Coupling is to be located within the wall area. A 2<sup>1</sup>/<sub>4</sub>" diameter clearance hole may be used otherwise.
3. If it is necessary to protect the Lower Stem Assembly where it passes through the building wall, measure the thickness of the wall and cut the Optional Sleeve to an overall length equal to the wall thickness plus 2<sup>1</sup>/<sub>2</sub>". Temporarily place the Optional Sleeve into the wall clearance hole.
4. Attach the Coupling to the operating nut of the PIV using the Cotter Pin, and then cut the Lower Stem so that it will extend 3<sup>1</sup>/<sub>2</sub>" in front of the wall.
5. Remove the two bolts securing the Cover in place and remove it along with the Upper Stem Assembly from the Post Head.

6. Position the targets (see below).
7. Reinstall the Upper Stem Assembly into the Post Head and re-secure the Cover using the two bolts.
8. Slide the Upper Stem into the Lower Stem and center the base of the Post Head over the hole in the wall and fasten it securely to the wall.

**NOTES: Before mounting the Post Head and if using the Optional Sleeve, loosen the Set Screw, insert the Sleeve into the Post Head, and then tighten the Set Screw.**

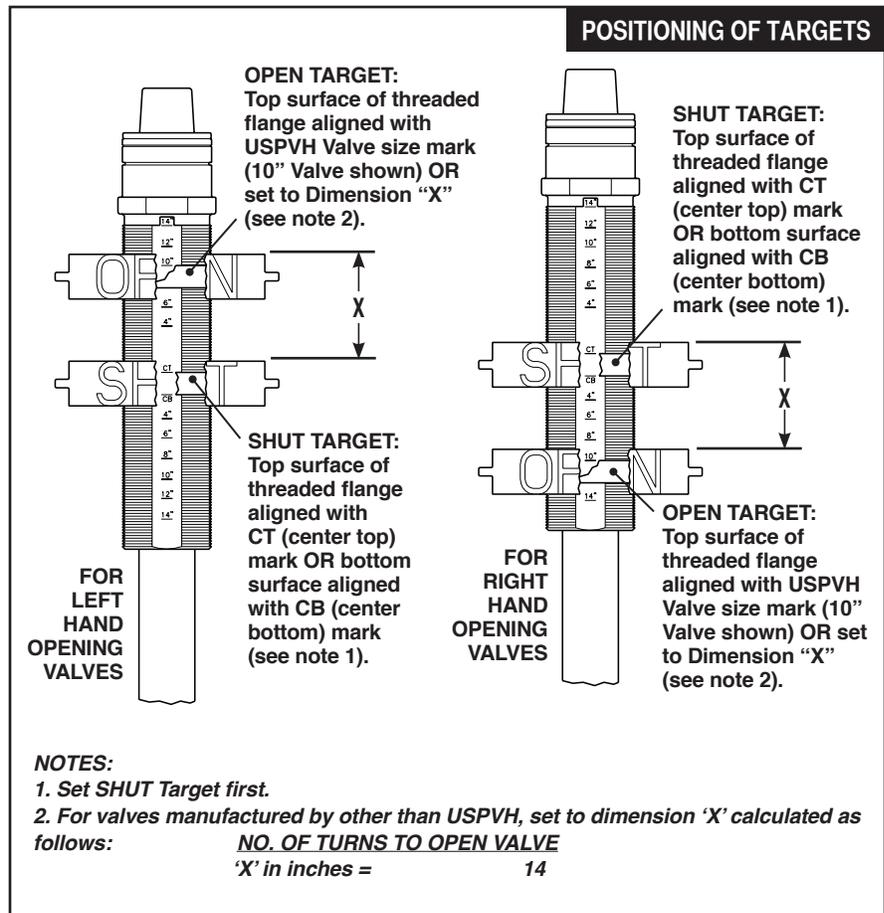
9. Reinstall the Handwheel if it had been removed.
10. Using the Handwheel, open and close the valve and check to see that the "SHUT" and "OPEN" Target Plates are clearly in view in the Windows, at their respective positions and that there is no

feeling of binding of the Upper and Lower Stem Assemblies. It is recommended that the turns to open/close be counted and compared to the valve manufacturer's specification, in order to verify full valve opening.

**NOTES: If there is any indication of binding of the internal operating parts, alignment of the Indicator Post must be corrected.**

**If the Targets are not properly in view, completely close the PIV, remove the Post Head from the wall, remove the Optional Sleeve from the Post Head if applicable, and then repeat Steps 5 – 10.**

11. Tighten the switch mounting hole plug if Supervisory Control Valve Switch is not to be immediately attached.



# U-20814 Wall Type Indicator Post

## Installation

12. Install the Supervisory Control Valve Switch (supplied by customer)

- Remove the Cover from the assembly, and then loosen the Trip Rod Screw. Adjust the position of the Trip Rod so that it extends about  $1\frac{3}{8}$ " beyond the Nipple, and then securely tighten the Trip Rod Locking Screw.
- Rotate the Handwheel until the valve is fully open. Note the position of one of the "OPEN" Targets in its Window.
- Rotate the Handwheel until the "OPEN" Targets are out of the Post Windows. Note the direction in which the "OPEN" Target will move when it is returned to the Post Window.

- Remove the Nipple from the assembly, and then with the Locknut screwed over the Nipple threads, hand tighten the Nipple into the  $\frac{1}{2}$ " NPT hole provided in the Post Head, and then tighten the Locknut against the Post Head to secure the Nipple firmly in place.
- Refer to "Positioning of Targets" (pg. 4) as appropriate, and note the direction in which the Trip Rod must move when the "OPEN" Target is returned to the Post Window.

Slide the assembly as far as possible onto the Nipple while maintaining proper orientation of the assembly, and then tighten the Set Screw that holds the assembly onto the Nipple.

- Attach leads from an electrical continuity meter to the appropriate terminals.
- Return the valve to its fully open position. Verify that the "OPEN" Target returns to the position noted in Step b. Also, verify that the Switch contacts change position within two turns of the valve being fully open.
- Begin to return the valve to its closed position. Verify that the

Switch contacts change back to their original position within two turns from full open.

**NOTE: If the Upper Stem Assembly binds before the "OPEN" Target reaches its full open position, or the switch contacts do not change position as described in Steps g and h, then the Targets must be readjusted.**

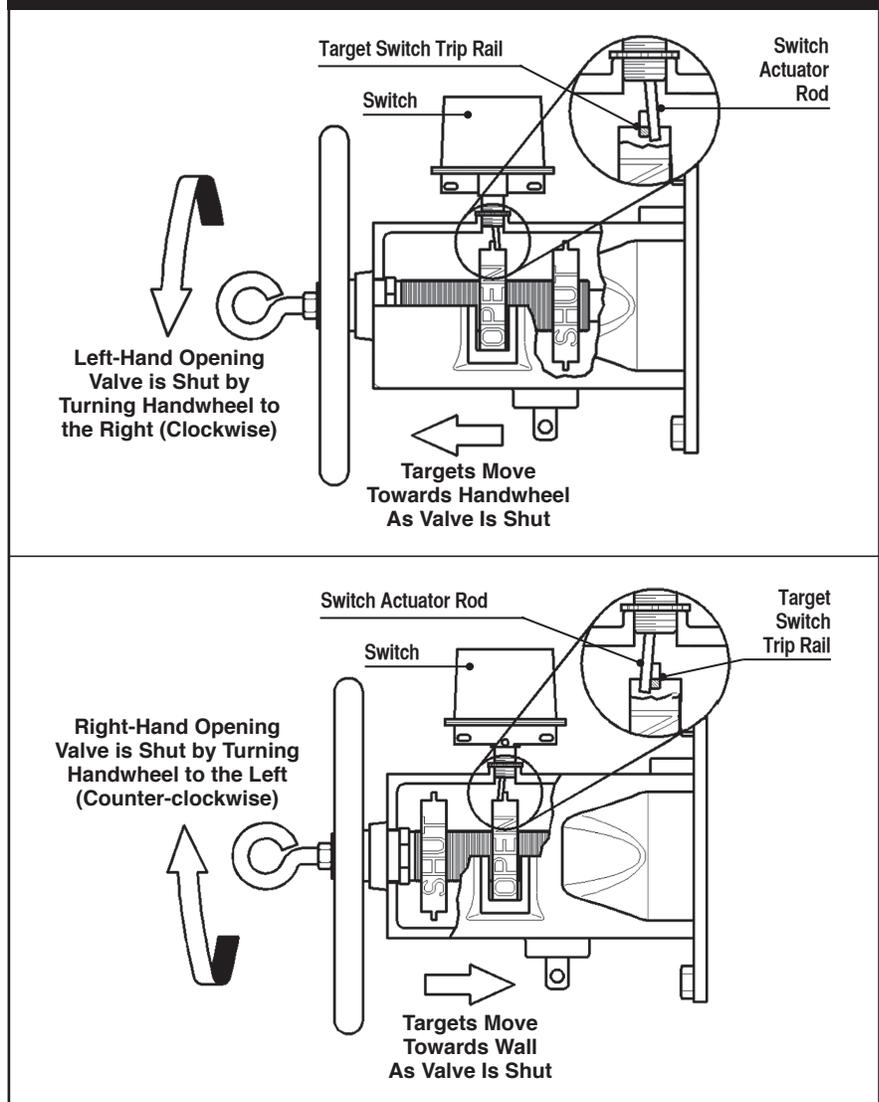
**If the Targets require readjustment, close the PIV, remove the Post Head from the wall, remove the Optional Sleeve from the Post Head if applicable, and then repeat**

**Steps 5 – 10; however when positioning the Targets, rotate both Targets at the same time as necessary so that the "OPEN" target will trip the Actuator Rod of the Switch. Repositioning of the "OPEN" and "SHUT" Targets relative to each other should not be necessary. Repeat Steps b – h.**

- Remove the electrical continuity test leads. The external field wiring connections can now be made to the Switch.

**NOTE: Use of a weathertight conduit connector with a gasket seal is recommended.**

### ATTACHMENT OF SUPERVISORY CONTROL VALVE SWITCH



### CARE AND MAINTENANCE

The Model U-20814 Indicator Post does not require any regular schedule maintenance.

It is recommended that Indicator Posts used to operate fire protection system water control valves be locked in the fully-open position using the Handwheel as shown on page 2. The locks must be sturdy and resistant to breakage except by heavy bolt cutters.

It is also recommended that once a month a visual inspection procedure be followed, with the following items checked:

1. The Post Head, Handwheel, and Windows have not been damaged.
2. The Targets indicate that the valve is open.

3. The Post is properly locked in the "OPEN" position.

In addition, on a quarterly basis, the Indicator Post should be closed two turns and then reopened tight to verify that the PIV is in the full open position and properly engages with the Post and, that the Supervisory Switch contacts (if applicable) properly change position.

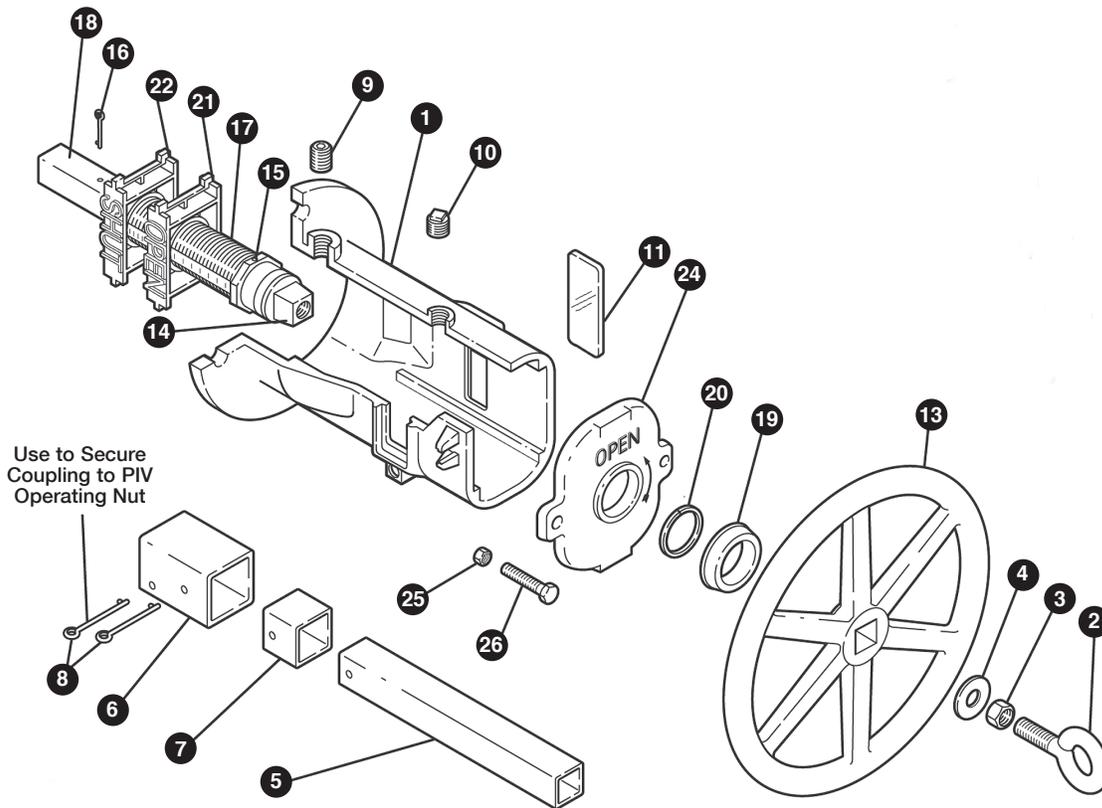
Any damaged parts must be immediately replaced. The Indicator Post should also be physically tried to be sure that the valve is in the fully-open position, if there are any damaged parts, sign of tampering, or the position of the valve is questionable.

***NOTE: Before closing a fire protection system main valve for maintenance work on either the Indicator Post or fire protection systems which it controls, permission to shut down the affected fire protection systems must first be obtained from the proper authorities and all personnel who may be affected by this decision must be notified.***

It is recommended that fire protection systems be inspected by a qualified Inspection Service.

# U-20814 Wall Type Indicator Post

## Parts



ID	PART NAME
1	Post Head
2	Eye Bolt
3	Hex Nut, 5/8"
4	Flat Washer, 5/8"
5	Lower Stem
6	Coupling
7	Coupling insert
8	Cotter Pin, 1/4" x 3" (2 req'd)
9	Hex Socket Set Screw, 3/4"-10 UNC x 1"
10	Pipe Plug, 1/2" NPT
11	Window (2 req'd)
13	Handwheel
14	Operating Nut
15	Spring Pin, 1/8" x 2 1/4"
16	Coupling Pin, 1/8" x 1 1/2"
17	Threaded Sleeve
18	Upper Stem
19	Cap
20	Retaining Ring
21	"OPEN" Target
22	"SHUT" Target
24	Wall Mount Indicator Post Cover
25	Hex Nut, 1/2"
26	Hex Bolt, 1/2" x 1 3/4"

## REPLACEMENT PARTS

### Specify Description & Part No.

- 1. Post Head.....240556
- 2. Eye Bolt.....198585
- 3. Hex Nut, 5/8"-11 UNC.....190939
- 4. Flat Washer, 5/8".....197688
- 5-8. Lower Stem Assembly ....287084
- 9. Hex Socket Set Screw, 3/4"-10 UNC x 1".....198428
- 10. Pipe Plug 1/2" NPT.....198582
- 11. Window.....148790
- 13. Handwheel..... 148767-1
- 14-18. Upper Stem Assembly.....287083
- 19. Cap.....290143
- 20. Retaining Ring.....290157
- 21. OPEN Target.....290144
- 22. SHUT Target.....290145
- 24. Wall Mount Indicator Post Cover  
Open Left..... 240554-1  
Open Right..... 240555-1
- 25. Hex Nut, 1/2".....191439
- 26. Hex Bolt, 1/2" x 1 3/4".....45330



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