



ME551

Pneumatic Cylinder Actuator Instruction Manual

WARNING

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death.

Install, operate and maintain Marshall Excelsior Co. equipment in accordance with federal, state, and local codes and these instructions. The installation in most states must also comply with NFPA Pamphlet #58, ANSI K61.1 and DOT standards.

Proper installation of remote actuation devices should include thermal protection to close the emergency shutoff valve in case of a fire. The pneumatic actuator does not include thermal protection.

Only personnel trained in the proper procedures, codes, standards, and regulations of the LP-Gas or anhydrous ammonia (NH₃) industries should install and service this equipment.

INTRODUCTION

SCOPE OF MANUAL

This manual covers installation instructions for the type ME551 Pneumatic Actuator kit. This kit allows for remote operation of the ME980-10, ME980-16, ME980-16-2F, ME980-24, ME980-24-3F and the ME980-24-4F (Fisher® N550) emergency shutoff valves.

DESCRIPTION

The ME551 Marshall Excelsior Co. Pneumatic Actuator Kit fits all three sizes of emergency shutoff valves (1¼", 2" & 3") to allow for remote valve operation utilizing air pressure. Applying air pressure to the actuator moves the cylinder rod and the emergency shutoff valve's operating lever to open the valve. Upon loss of air pressure, the valve's operating lever immediately returns to the closed position.

Type ME551 – For ME980-10, ME980-16, ME980-16-2F, ME980-24, ME980-24-3F and the ME980-24-4F (Fisher® type N550-10, N550-16 & N550-24) emergency shutoff valves.

This kit features a spring return design that eliminates the need for an air return.

SPECIFICATIONS

Pressure Source: Air

Cylinder Pressure Limits:

Minimum – 20 psig

Maximum – 125 psig

Recommended – 20-25 psig

Marshall Excelsior Co.

1506 George Brown Drive Marshall, MI 49068

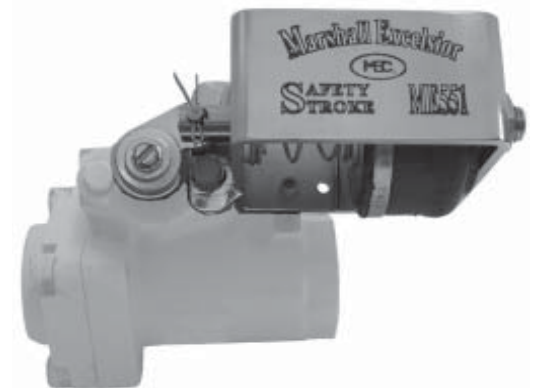
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MAINTENANCE

A simple preventive maintenance program for the valve and its controls will eliminate potential problems.

Marshall Excelsior Co. recommends these steps be conducted at least once a month:

1. Inspect the operating lever to verify that it operates freely.
2. Confirm the actuating cylinder fully opens and closes the emergency shutoff valve without sticking. Keep the actuator's cylinder rod free of any buildup of dirt, corrosion, or other foreign material. Such a buildup could prevent the cylinder from closing which could jam the emergency shutoff valve in the open position. Do not permit this condition to occur.
3. Because the actuator has a diaphragm seal, internal lubrication is not required. For smooth operation, lubricate the operating lever/cylinder rod pivot point.
4. Inspect, clean and oil all operating controls.



INSTALLATION

WARNING

Release all downstream pressure before starting installation of this product. Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death.

CAUTION

Do not manually stroke the cylinder.

The use of a pressure reducing regulator to supply the minimum cylinder operating pressure (20-25 psig) to the actuator will maximize cylinder life and minimize air consumption.

To install an actuator kit, first remove the existing operating lever and remote cable release box from the emergency shutoff valve. Retain one cap screw (#10) that held the remote cable release box. Retain the screw (#13), spacer (#15) and fusible element (#12) from the shaft assembly.

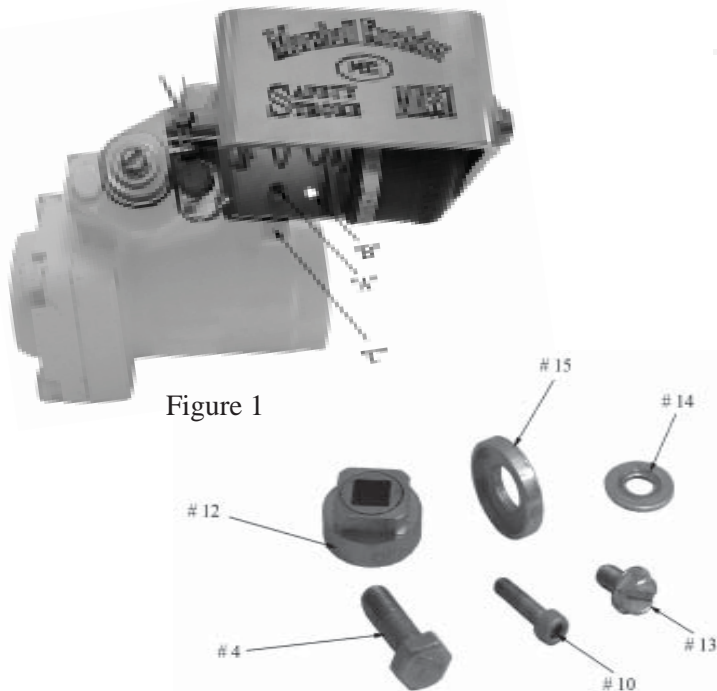


Figure 1

Remove one flange bolt (#4) from the emergency shutoff valve as shown below. Locate the brace hole of the ME551 over the flange bolt hole. Position the star washer (#9) onto the retained bolt (#4) and loosely secure the brace to the flange. Rotate the ME551 bracket assembly (#1) to align the side screw hole over the appropriate holes as shown in Figure 1.

For the 1 1/4" model only, install the actuator with the longer cap screw (#10) (retained when removing the Fisher® remote cable release box) through the lock washer (#11), the actuator mounting hole ("A") and into the top most mounting hole in the casting (not shown). (Figure 1)

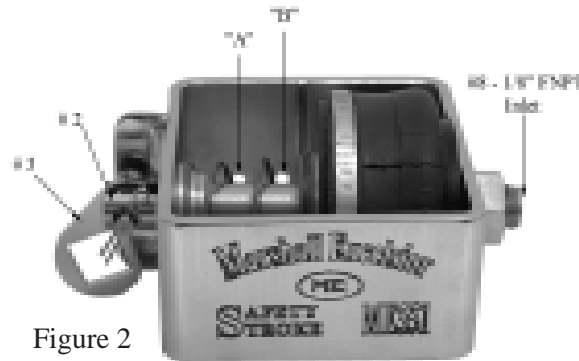


Figure 2

For the 2 & 3" models, discard the longer cap screw. Install the actuator with the shorter cap screw (#10) (provided in the MEC_{tm} kit) through the lock washer, the actuator mounting hole ("B") and into the bottom most mounting hole in the casting (hole "C", as shown) Tighten the flange bolt (#4) first until the gap between the flange and valve body is even. Ensure even tension on the valve packing. Tighten the cap screw (#10) until snug against the actuator bracket frame (On 1 1/4" model, do not over tighten the cap screw as it is used as a position locator pin only).

Place the retained fusible element (#12) and lever (#3) into position (Figure 3). Slide the linkage pin (#5) through the cylinder rod (#2) and lever (#3). Secure the linkage pin with the cotter pin (#7) included with the ME551.

Install the retained screw (#13), washer (#14) (provided in the MEC_{tm} kit) and spacer (#15) from the shaft assembly to the emergency shutoff valve shaft and tighten. Connect the actuating pressure line tubing to the 1/8" FNPT inlet (#8) and operate the actuator to confirm smooth operation.

