

MP909E UL Listed Damper Actuator

INSTALLATION INSTRUCTIONS

BEFORE INSTALLATION

The MP909E UL Listed Pneumatic Damper Actuator is used for control of Leakage Rated (Smoke) Dampers, classified under Underwriters Laboratories Standard 555S, for use in smoke control systems. The MP909 is a piston-type, rolling-diaphragm operated actuator and can be mounted in any position and installed either externally or internally.

The UL listing of the actuator and the damper classification apply only when Listed Honeywell Actuators are installed on Honeywell D640SD, D641SD, D644SD, or D645SD Series Dampers as specified in the installation instructions shipped with the devices.

All installations must also comply with the requirements of NFPA 90A, National Fire Protection Standard for the Installation of Air Conditioning Systems.

Table 1 lists the only MP909 Actuators approved for use with UL Classified Leakage Rated (Smoke) Dampers.

Table 1. Damper Actuators for Leakage Rated Dampers.

Actuator Model	Spring Range psi (kPa)	Mounting	Bracket
MP909E1422	5-10 (34-69)	Internal/ Normally Open	Trunnion
MP909E1414	5-10 (34-69)	Internal/ Normally Closed	Trunnion
MP909E1034	5-10 (34-69)	External	90° Fixed
MP909E1364	5-10 (34-69)	External	Trunnion

Mainline pressure limits:

- 15 psi minimum
- 25 psi maximum

Tools needed:

1. 7/16-inch box end wrench
2. 1/8-inch Allen wrench
3. Squeeze bulb

INSTALLATION

External Mounting

- 1 For external mounting dimensions, see Figure 1.
- 2 Check faceplate position (Fig. 2). Adjust faceplate position if necessary.
- 3 Determine the damper drive axle direction of rotation to the normal position (position with 0 psi applied to actuator).
- 4 Rotate damper drive axle to normal position.
- 5 Locate proper shaft hole (Fig. 3) over damper shaft. Arrow on bracket surrounding hole should match rotation determined in Step 3.
- 6 Position mounting bracket.
- 7 Secure mounting bracket. Use four of the 10 holes available in bracket and drill screws provided.
- 8 To provide close-off force, use a squeeze bulb and stroke the actuator:
 - a. For normally open dampers, fully extend actuator shaft then retract 1/2-inch (13 mm).
 - b. For normally closed dampers, extend actuator shaft 1/2-inch (13 mm).



CAUTION

See Figure 4 for proper tightening of crankarm bolts.

- 9 Go to PIPING section.

Internal Mounting

Normally Closed

- 1 For normally closed internal mounting dimensions, see Figure 5.
- 2 Check faceplate position (Fig. 6). Adjust faceplate position if necessary.
- 3 Use a 1/8-inch Allen wrench to loosen mounting set screws on damper mounting clamp (Fig. 6) one turn. Remove and discard shipping stop.
- 4 Locate factory-installed drive ear on damper. (Mounted per Damper Ordering Instructions.) Actuators must be mounted only in this (these) position(s)



- 5 Remove mounting screw from damper end of truss link. Loosen screw between base and truss link. Remove clevis pin from damper end of actuator pushrod.
- 6 Set actuator in place by hooking actuator mounting clamp over bottom edge of damper frame.
- 7 Set damper to the normal (closed) position.
- 8 Insert clevis pin in drive ear hole marked P and the pushrod hole nearest the actuator.
- 9 Connect truss link to damper and tighten both truss link screws.
- 10 Tighten damper mounting screws.
- 11 Go to PIPING section.

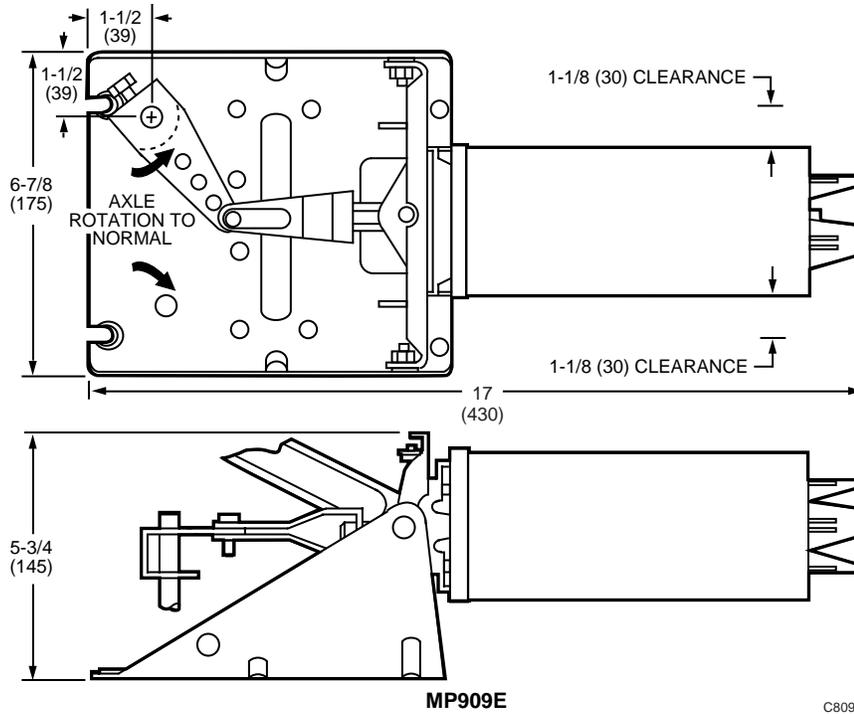


Fig 1. External Mounting Dimensions in Inches (Millimeters).

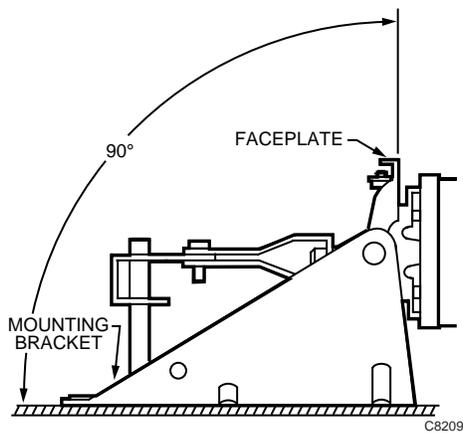


Fig. 2. External Mounting Faceplate Positioning.

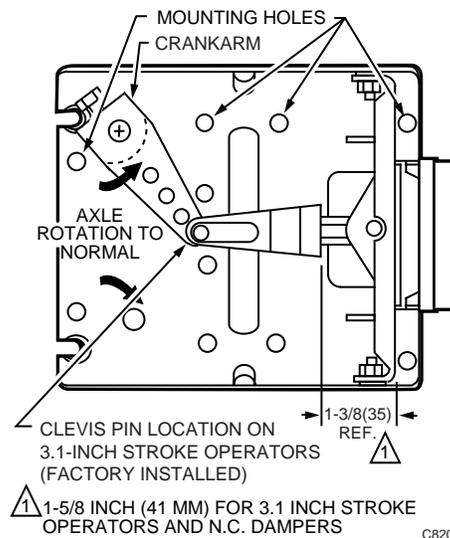
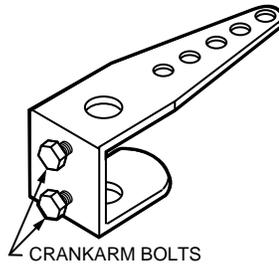


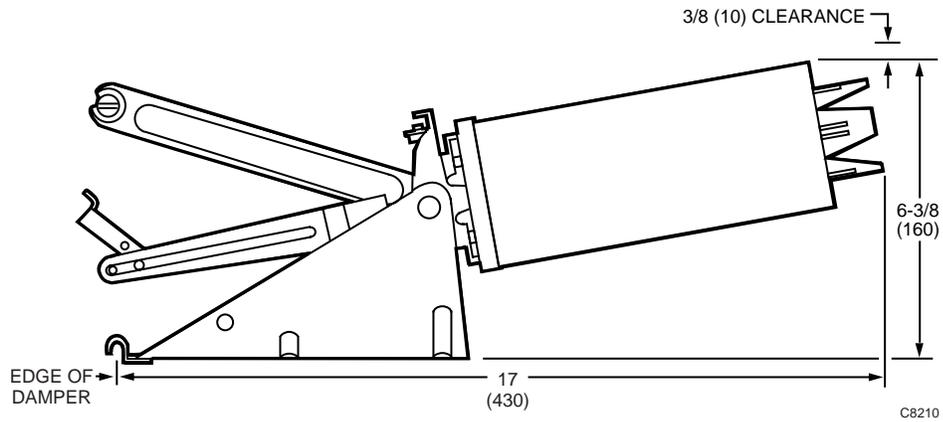
Fig. 3. External Installation.



1. BOLTS ARE TIGHTENED TO MORE THAN 90 LB-IN BUT LESS THAN 200 LB-IN.
2. TIGHTEN BOTH BOLTS (WITH 7/16 BOX END WRENCH IF AVAILABLE).
3. TIGHTEN EACH BOLT AGAIN TO THE REQUIRED TORQUE.

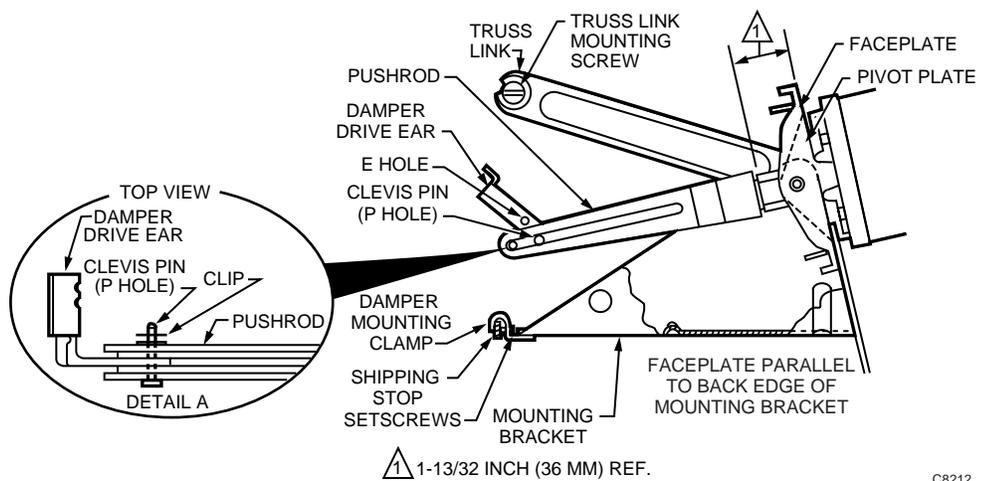
C8211

Fig. 4. Crankarm Bolt Tightening.



C8210

Fig. 5. Internally Mounted Normally Closed Mounting Dimensions in Inches (Millimeters).



C8212

Fig. 6. Internal Mounting Normally Closed Damper.

Normally Open

- 1 For internal mounting dimensions, see Figure 7.
- 2 Check faceplate position (Fig. 6). Adjust faceplate position if necessary.
- 3 Use 1/8-inch Allen wrench to loosen set screws on mounting clamp (Fig. 6) one turn. Remove and discard shipping stop.
- 4 Determine height of damper drive blade. Dampers with 10, 12, 18, 26, 34, and 42-inch B dimensions have 8-inch drive blades. All others have 6-inch drive blades.
- 5 For installation with 6-inch drive blades, go to Step 6. For installation with 8-inch drive blades, remove clevis pin A (Fig. 8) and reinstall in pushrod hole marked 8. (Hole in crankarm marked 90.)

- 6 Locate factory installed drive ear on damper. (Mounted per Damper Ordering Instructions.) Actuators must be mounted only in this (these) position(s).
- 7 Loosen truss link to actuator base mounting screw. Remove clevis pin C from damper pushrod.
- 8 Set actuator in place by hooking mounting clamp over bottom edge of damper frame.
- 9 Connect damper pushrod to damper drive ear with clevis pin.
- 10 Tighten set screws on mounting clamp.
- 11 Connect truss link to damper and tighten both truss link screws. Truss link must be bent slightly.

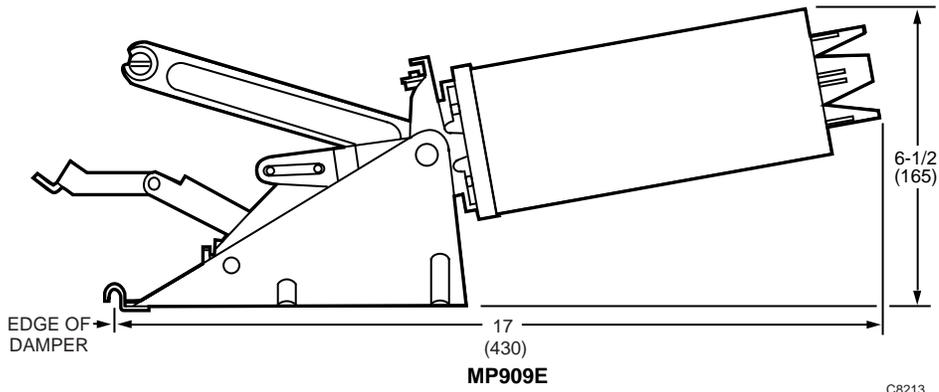


Fig. 7. Internal Mounting Normally Open Dimensions in Inches (Millimeters).

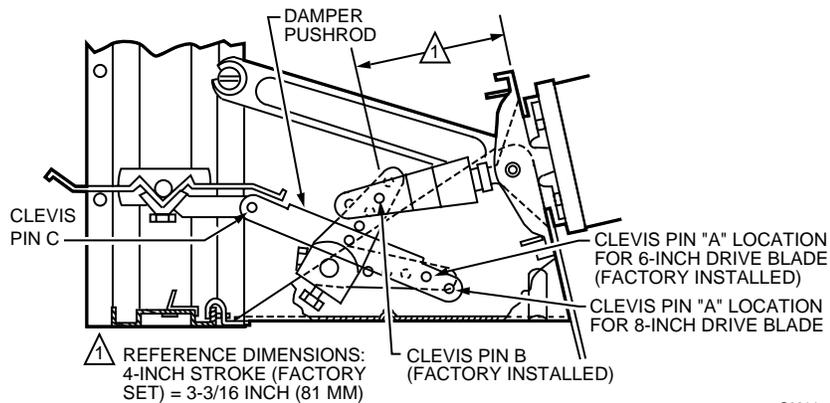


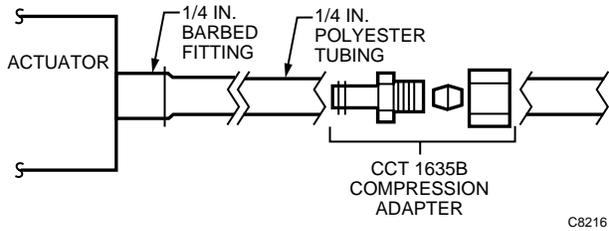
Fig. 8. Internal Mounting Normally Open Installation.

Piping

Special piping is required for Leakage Rated (Smoke) Damper actuators. The piping from the actuator to the device which interfaces to the smoke control system must be 1/4-inch copper tubing or as required by local code. 1/4-inch polyester tubing pigtailed are provided with the actuator to interface with the copper tubing.

Figure 9 shows how to adapt 1/4-inch copper tubing to polyester tubing. CCT1635B compression adapters connect the 1/4-inch copper tubing to the 1/4-inch polyester. These adapters must be ordered separately.

Copper tubing can be connected directly to the actuator as shown in Figures 10 and 11.



NOTE: For actuators using the trunnion mounting bracket, leave enough tubing free of rigid supports to allow the actuator to swivel on the trunnion bracket without flexing the copper tubing (Fig. 11).

Fig. 9. Transition Piping for 1/4-Inch Polyester Tubing to 1/4-Inch Copper Tubing.

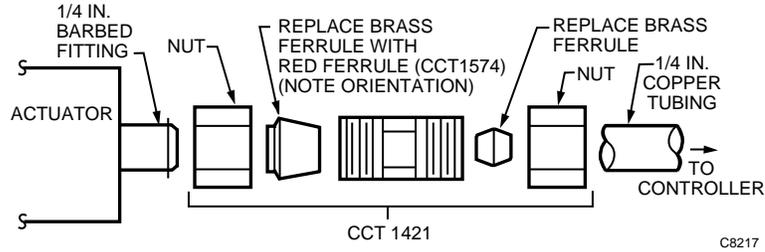


Fig. 10. Transition Piping for 1/4-Inch Barbed Fitting to 1/4-Inch Copper Tubing.

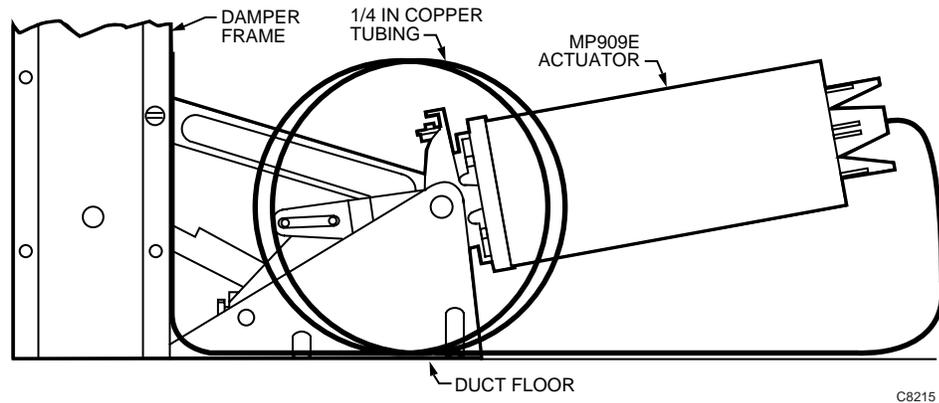


Fig. 11. Routing Copper Tubing Near Trunnion Pivot.

Multiple Actuators

Multiple actuators must be piped so the Smoke Control System operates all sections of multisection dampers simultaneously.

Pipe multiple MP909E actuators in parallel (Fig. 12).

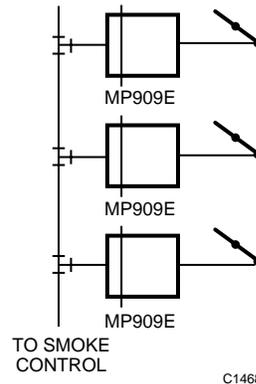


Fig. 12. MP909E Parallel Installation.

Honeywell

Home and Building Control

Honeywell Inc.
Honeywell Plaza
P.O. Box 524
Minneapolis, MN 55408-0524

Home and Building Control

Honeywell Limited-Honeywell Limitée
155 Gordon Baker Road
North York, Ontario
M2H 2C9

Helping You Control Your World