

## MS4120F, MS4620F, MS8120F Fast-Acting, Two-Position Actuator TANDEM MOUNTING

### INSTALLATION INSTRUCTIONS

## INSTALLATION

### When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.



#### NOTES:

- Individual actuator specifications do not change when tandem mounted. For specification details see form 63-2584.
- A tandem mounted pair of actuators provides a driving/spring return torque of 350 lb-in. and a maximum stall torque of 850 lb-in. (96 N•m).

#### Required Accessories (not supplied with actuator):

205649 Mounting Bracket.  
1/4 in.-20 bolt, 1 in. long, SAE grade 5 minimum.  
1/4 in.-20 nut, SAE grade 5 minimum.

### Location

MS4120F, MS4620F, and MS8120F DCA are designed to operate a damper by driving the shaft in either clockwise  or counterclockwise  direction. Each actuator housing has two slots on the bottom, either of which, with a 205649 Mounting Bracket, secures it flush to a damper box.

NOTE: When mounted correctly, these slots allow actuators to *float* without rotating relative to the damper shaft.

### Preparation

Before mounting actuators, determine the damper opening direction for correct spring return rotation. The actuators can be mounted to provide clockwise or counterclockwise spring return.

### Determine Appropriate Mounting Orientation

See actuator instructions (form 63-2584) for mounting orientation details.

#### IMPORTANT

*Be sure to mount both actuators to spring return in the same direction.*

### Measure Shaft Length

#### IMPORTANT

*Minimum required shaft length for tandem mounting is 4 in. Honeywell recommends a shaft length of at least 6-1/4 in.*

If the shaft is less than 6-1/4 in. long, the shaft coupling must be located between the damper and actuator housing. If the shaft length is more than 6-1/4 in., the shaft coupling may be located on either side of the actuator housing.

If the coupling must be moved from one side of the actuator to the reverse, follow the instructions provided with the actuator (form 63-2584).

### Mounting



## CAUTION

#### Equipment Damage Hazard.

**Tightly securing an actuator can damage the actuator and reduce the output torque.**

Mount each actuator to allow it to float independently along its vertical axis.



## CAUTION

#### Device Malfunction Hazard.

**Improper shaft coupling tightening causes device malfunction.**

Tighten shaft coupling with proper torque to prevent damper shaft slippage.



## CAUTION

#### Actuator Damage Hazard.

**Using actuator as shaft bearing causes device damage.**

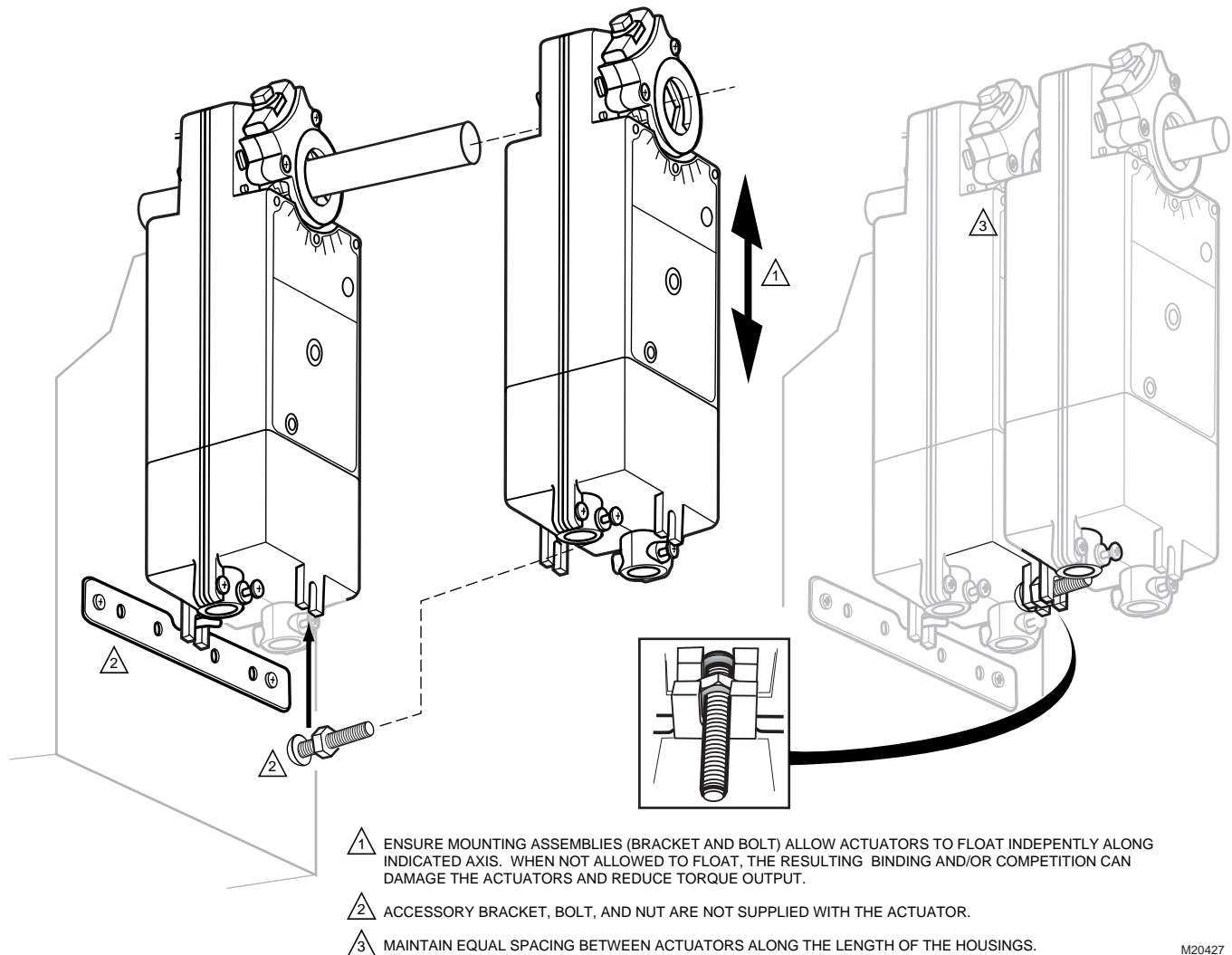
Use actuator only to supply rotational torque. Avoid any side loads to actuator output coupling bearings.



To tandem mount actuators, proceed as follows:

1. Attach the bolt to the inner actuator's outer slot with the nut. See Fig. 1.
2. Place inner actuator over damper shaft; and hold mounting bracket in place.
3. Mark screw holes on damper housing.
4. Remove actuator and mounting bracket.
5. Drill or center-punch holes for mounting screws (or use no.10 self-tapping sheet metal screws).
6. Turn damper blades to desired normal (closed) position.
7. Place actuator and mounting bracket back into position.
8. Secure bracket to damper box with sheet metal screws.
9. Using 10 mm wrench, tighten shaft coupling securely onto damper shaft using minimum 120 lb-in., maximum 180 lb-in. torque.
10. Place outer actuator over damper shaft using the bolt as an anti-rotation tab.
11. Using 10 mm wrench, tighten shaft coupling securely onto damper shaft using minimum 120 lb-in., maximum 180 lb-in. torque.

NOTE: Maintain equal spacing between actuators along the length of the housings. See Fig. 1.



M20427

Fig. 1. Tandem mounting actuators to damper housing.

**IMPORTANT**

*Attach the bolt only to the inner actuator. Ensure the outer actuator is free to float, affixed only to the shaft.*

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