

# M9203-115 Remote Mounting Kit

## Installation Instructions

M9203-115

Part No. 34-636-2316, Rev. —  
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### Applications

The M9203-115 Remote Mounting Kit enables remotely mounted, linkage-driven applications of the M9203 Series Electric Spring Return Actuators when the hardware needed for final connection to the damper is pre-existing or is supplied separately. The M9203-115 Remote Mounting Kit is intended for applications that require parallel mounting of actuator.

Mount the M9203-115 Remote Mounting Kit internally or externally on a duct, damper, or air handling unit. The factory installed actuator gripper and retaining ring must be discarded when the M9203-115 Remote Kit is used.

### Installation

#### Parts Included

See Figure 1 for the parts included in the M9203-115 Remote Mounting Kit.

**Note:** Refer to the appropriate installation instructions listed in Table 1 for complete actuator mounting and adjustments.

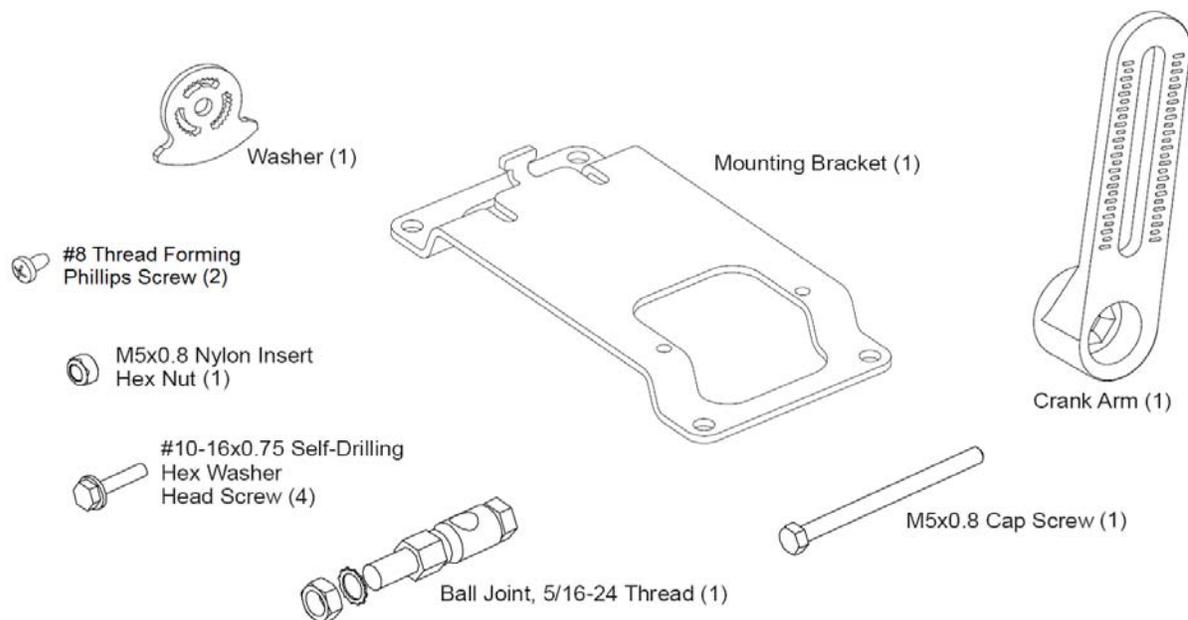


Figure 1: Parts Included in M9203-115 Remote Mounting Kit

Table 1: Mounting Kit, Actuators, and Corresponding Documentation

Mounting Kit	Actuator	Installation Instructions
M9203-115	M9203-Bxx-2(Z)	<i>M9203-Bxx-2(Z) Series On/Off Electric Spring Return Actuators Installation Instructions (Part No. 34-1791-24)</i>
	M9203-AGx-2(Z)	<i>M9203-AGx-2(Z) Series On/Off and Floating Point Electric Spring Return Actuators (Part No. 34-1791-8)</i>
	M9203-GGx-2(Z)	<i>M9203-GGx-2(Z) Series Proportional Electric Spring Return Actuators Installation Instructions (Part No. 34-1791-16)</i>

## Dimensions

See Figure 2 for overall dimensions and proper mounting orientations.

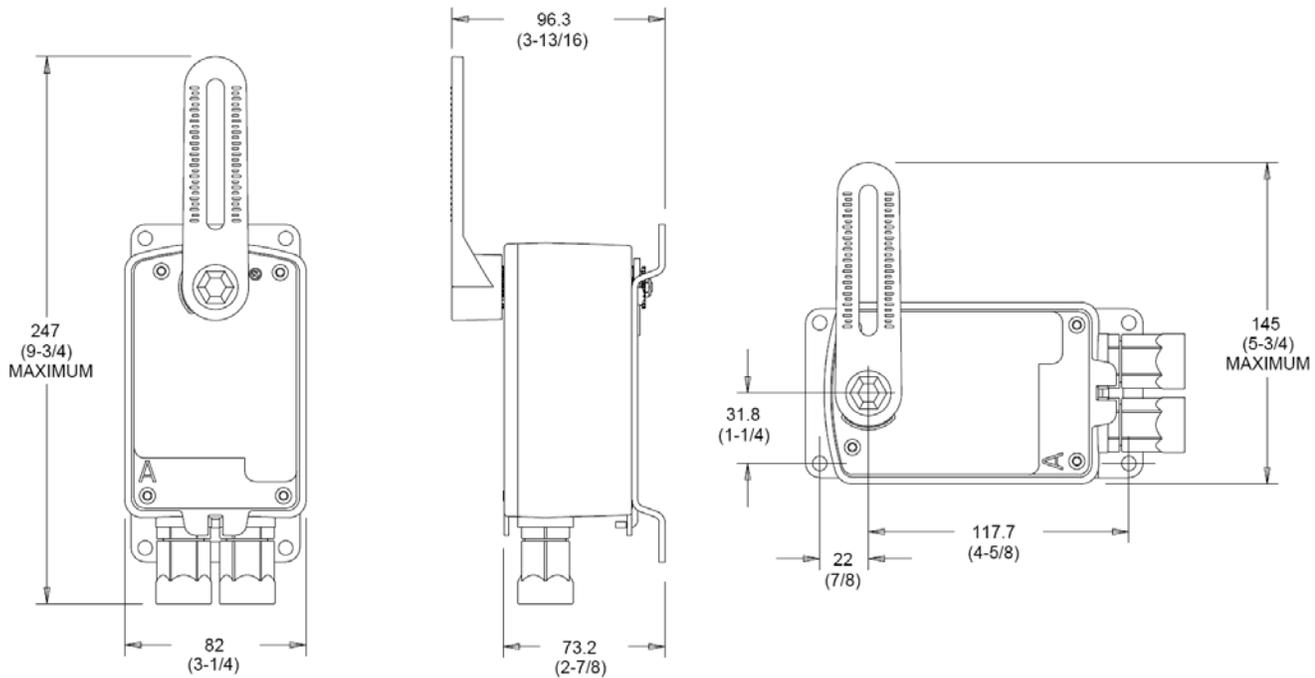


Figure 2: M9203-115 Remote Mounting Kit Overall Dimensions, mm (in.)

## Mounting

### Location Considerations

Prior to installation, consider the following factors to determine the best location:

- mounting position of the actuator: internal or external to damper frame or duct
- mounting position of the actuator crankarm
- operation of the damper: normally open or normally closed
- direction of rotation for the damper
- actuator spring return direction: Clockwise (CW) or Counterclockwise (CCW)

**Note:** If the actuator is in a difficult-to-reach location, adjust the auxiliary switch and stroke settings before continuing with the installation. See the [Setup and Adjustments](#) section for adjustable stroke instructions.

### Mounting Positions

The M9203-115 Remote Mounting Kit allows the installer to select spring-return direction as required by the application. The label on the actuator indicates the spring-return direction.

To set the spring-return direction of the actuator when mounted in a bracket, rotate the actuator as required. Choose CW or CCW spring-return direction by flipping the actuator over.

## Installing the Remote Mounting Kit

See Figure 3 for the hole mounting pattern of the mounting brackets. The hole pattern locates the actuator crankarm assembly with respect to the drive blade, jackshaft, or crankarm to be driven.

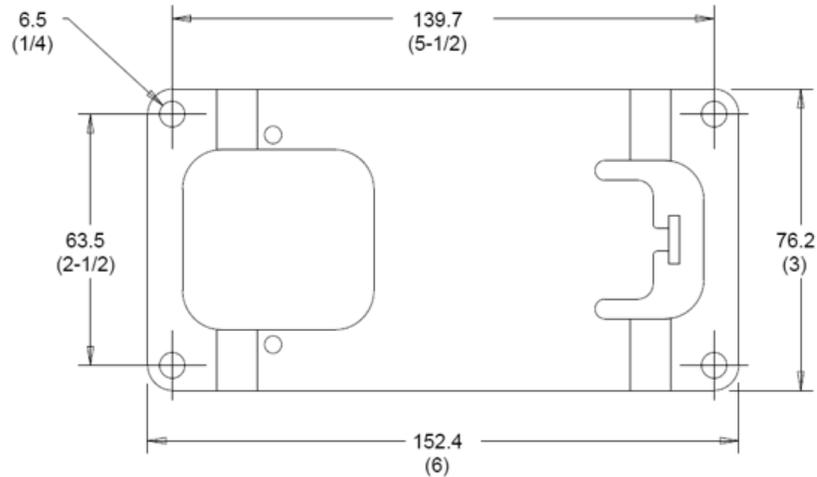


Figure 3: Hole Patterns in Mounting Brackets with Dimension, mm (in.)

**IMPORTANT:** Remotely-mounted M9203 Series actuators can develop high linear and rotational forces. Confirm that mounting surfaces are sufficiently rigid and strong before installing the remote mounting kit.

To install the mounting bracket:

1. The bracket is secured using an anti-rotation tab and two thread forming screws (Figure 5).
2. Locate the actuator mounting holes that are located under the label at the  symbol printed on the label, shown in Figure 3. Puncture the label with a sharp object to help start the thread forming screws.
3. Using the two No. 8 Thread Forming Phillips Screws, secure the actuator to the mounting bracket as shown in Figure 2. Use the recommended torque of 1.7 to 2.3 N·m (15 to 20 lb·in).

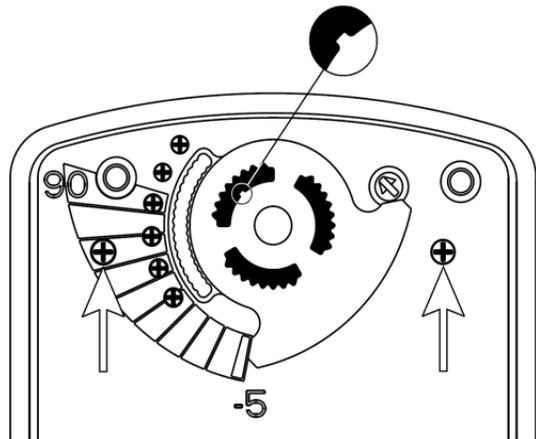
4. Install the crankarm and washer using the M5 cap screw and nylon insert hex nut, as shown in Figure 5. The washer only fits in one direction from the tab shown in Figure 4. Install the M5 nylon insert hex nut using the recommended torque of 1.7 to 2.3 N·m (15 to 20 lb·in).

**Note:** If an adjustable stop is required, you must install it at this time.

**Note:** Proper orientation of the crankarm is critical for correct operation. Observe the full open and close positions of the actuator, and ensure that the crankarm does not interfere with the mounting surface.

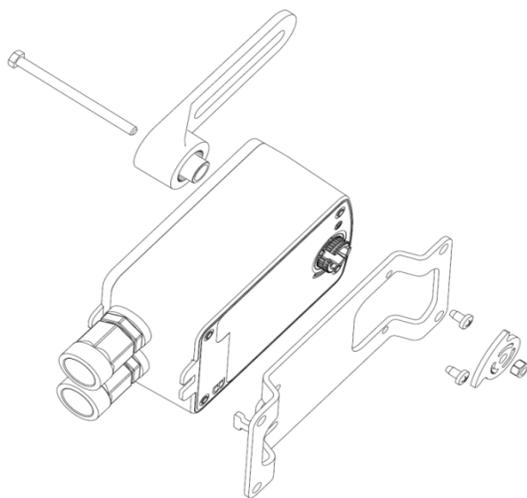
5. Locate the mounting bracket in the desired position.
6. Use the center punch to mark the hole locations for the bracket in the duct or damper frame (Figure 3).
7. Fasten the mounting bracket by drilling the No. 10-16 x 0.75 in. self-drilling screws through the holes in the mounting bracket and into the duct or damper frame.

**Note:** Ensure that the orientation of the actuator is correct with respect to the application. Observe the spring-return direction of the actuator during the installation.



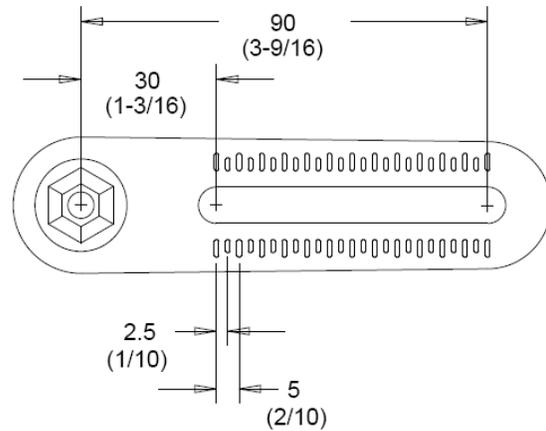
**Figure 4: Washer Orientation on Actuator and Location of Mounting Holes**

8. An adjustable end-stop may be installed on the washer side to limit the stroke (Figure 5).



**Figure 5: Actuator Crankarm with Washer Assembly**

9. Assemble the ball joint in the crankarm:
  - a. Remove the hex nut and washer from the ball joint.
  - b. Insert the ball joint through the slot in the crankarm.
  - c. Add the serrated lock washer and tighten the ball joint hex nut using the recommended torque of 2.3 to 2.8 N·m (20 to 25 lb-in.).
  - d. See Figure 6 for the crankarm slot dimensions.



**Figure 6: Crankarm Dimensions**

10. Proceed with the installation of the remaining hardware required to connect the actuator crankarm to the drive blade, jackshaft, or crankarm to be driven.

## Setup and Adjustments

### Adjusting the Linkage



**CAUTION: Risk of Property Damage.** Before applying power to an electric actuator that is installed in a damper application using a remote-mount linkage kit, confirm that the actuator end-stops are used to control the stroke applied to the damper linkage. Failure to use actuator end-stops to control the stroke can lead to premature equipment failure and/or property damage.

Make the necessary adjustments to fit the actuator's stroke limit to the application:

- Adjust the field-supplied linkage components to use the actuator's internal end-stops for stroke control, whenever practical.
- Apply the external adjustable end-stop if linkage adjustment is not practical. An end-stop kit is available separately for the M9203 Series Actuators (M9203-603 Adjustable Stop Kit). Refer to the Rotation Range Using Optional M9203-603 Adjustable Stop Kit section of the actuator installation instructions, listed in Table 1, for limiting the stroke of the actuator. When you use the M9203-115 Remote Mounting Kit, the washer is used to limit the stroke in place of the gripper.

### Checkout

Use the following steps to ensure that the actuator assembly components function properly, and that the actuator operates freely from one rotation limit to the other.

1. Connect all control wires to the actuator.

**Note:** Refer to the Wiring section of the actuator installation instructions listed in Table 1.

2. Apply power to the actuator.
3. Cycle the actuator fully in both CW and CCW directions. Ensure that the mechanism's stroke is limited by the actuator internal or external end-stops.
4. Ensure that the crankarm properly exercises the full range of the drive blade, jackshaft, or crankarm as required by the application without over-driving the linkage hardware.

If the actuator is not operating properly, refer to the appropriate actuator installation instructions indicated in Table 1.



**Building Efficiency**

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