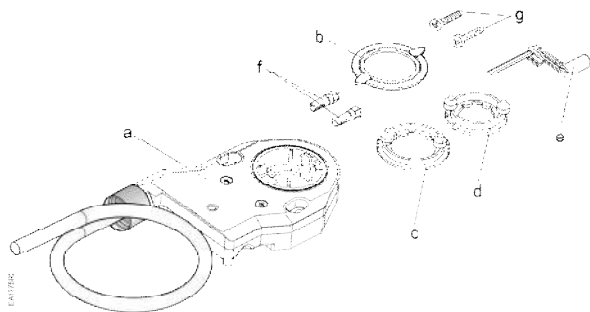


OpenAir™ External Auxiliary Switch



- a. External dual auxiliary switch
- b. Position indicator
- c. GCA/GBB/GIB position adapter
- d. GMA/GEb position adapter
- e. 3 mm hex key
- f. Plastic mounting adapter inserts (2)
- g. Threaded M5 × 25 screws (2)

Figure 1. External Auxiliary Switch Kit Contents.

Product Description

The OpenAir External Auxiliary Switch (EAS) provides switch functionality for standard model damper actuators with easy installation for in-service units.

Product Number

ASC77.2U

Specifications

| Dual Auxiliary Switches |                                                    |
|-------------------------|----------------------------------------------------|
| AC rating               | 24 Vac to 250 Vac                                  |
|                         | AC 6A resistive                                    |
|                         | AC 2 FLA, 12 LRA                                   |
| DC rating               | 12 Vdc to 30 Vdc                                   |
|                         | DC 2A                                              |
| Insulation system       | Double insulated                                   |
| Switch range            |                                                    |
|                         | Switch A                                           |
|                         | 0° to 90° with 5° intervals                        |
|                         | Recommended usage                                  |
| Switch B                | 0° to 45°                                          |
|                         | 0° to 90° with 5° intervals                        |
|                         | Recommended usage                                  |
|                         | 45° to 90°                                         |
| Switching hysteresis    | 2°                                                 |
| Agency certification    | UL listed to UL 873                                |
|                         | cUL certified to Canadian Standard C22.2 No. 24-93 |
|                         | Electromagnetic compatibility 89/336/EEC           |
|                         | Low voltage directive 73/23/EEC                    |
| Conduit Connection      | Threaded 1/2-inch NSPT, flex only                  |
| Shipping Weight         | 1.1 lb (0.48 kg)                                   |

Warning/Caution Notations

|          |  |                                                                                               |
|----------|--|-----------------------------------------------------------------------------------------------|
| WARNING: |  | Personal injury/loss of life may occur if you do not follow the procedures as specified.      |
| CAUTION: |  | Equipment damage, or loss of data may occur if you do not follow the procedures as specified. |

Required Tools

- Phillips screwdrivers
- No. 2 for screws, No. 1 for adjustment

Expected Installation Time

15 minutes

Prerequisites

- CAUTION: Remove power from in-service damper actuator before installing external auxiliary switch.
- WARNING: Do not open the external auxiliary switch.

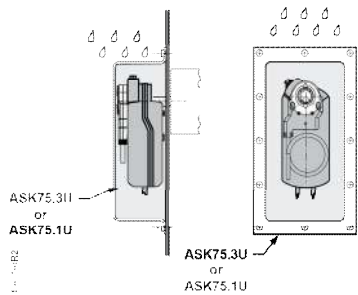


Figure 2. NEMA Type 3R Rating Only With Use of Weather Shield.

## Installation

### New Actuators, Remove Pre-load

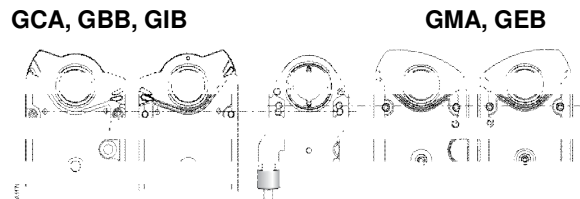


Figure 3. Determine Actuator Model and Orientation.

**NOTE:** For in-service actuators, skip *Removing Pre-load*. For new actuators, remove the factory-installed 5° pre-load.

### Removing Preload

Before the External Auxiliary Switch can be installed on a new, out-of-the-box actuator, you must remove the factory-installed preload.

#### New Non-Spring Return Actuators

1. Insert shaft adapter at position A (See Figure 4).
2. Press the manual override button and move the shaft adapter counterclockwise until actuator reaches the internal stop (actuator will not move past this point).
3. Remove the shaft adapter and manually reinstall it against the external end stop at position B (See Figure 4).
4. Proceed with EAS installation.

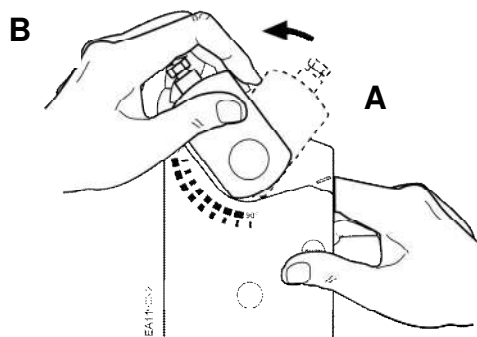


Figure 4.  
 Insert Shaft Adapter at Position A.

### New Spring Return Actuators

1. Without the shaft adapter installed, using the hex wrench, wind the manual override one full revolution and release the wrench (See Figure 5). The actuator will return to the 0° position and the preload is now removed.

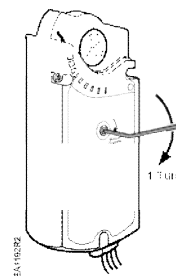


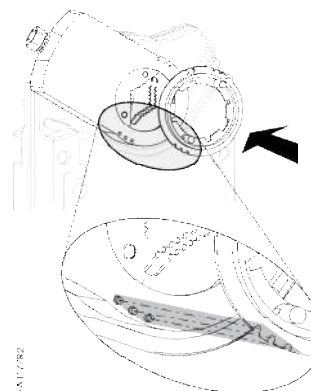
Figure 5.

2. Manually install the shaft adapter against the external stop on the left end of the actuator. (See position B in Figure 4.)

#### Removing Factory Pre-load from New SR Actuator.

### Preparing the Actuator Shaft Adapter

1. Remove the position indicator from an in-service actuator.
2. Determine the appropriate position adapter ring (See Figure 1).
3. Align and snap the three open notches on the edge of the EAS position adapter ring in place over the three raised stubs on the actuator shaft adapter. (See Figure 6).



**NOTE:**  
 GCA/GBB/GIB models use the larger ring.  
 GMA/GEB models use smaller ring.  
 See Figure 1.

Figure 6. Attaching the EAS Position Adapter Ring.

## Short shaft applications

**NOTE:** The short shaft adapter is included in the packing box with the shaft adapter.

With the short shaft adapter in place, align the notch of the EAS over the protruding tab on the position adapter ring and secure in place. (See Figure 7).

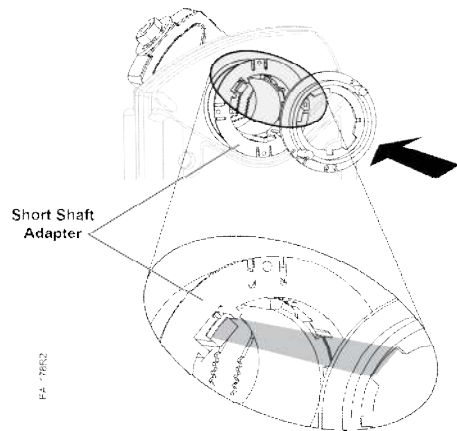


Figure 7. Attaching EAS to GCA/GIB/GBB Shaft Adapter.

## Preparing the EAS for Mounting

**NOTE:** The EAS label may cover the mounting holes. See Figure 8 and Figure 9 for the mounting hole locations.

1. On the back of the EAS, push the plastic inserts into the mounting holes. (See Figure 8 and Figure 9).
2. Mount the position indicator on the face of the EAS (See Figure 8 step 2 and Figure 9, step 2).

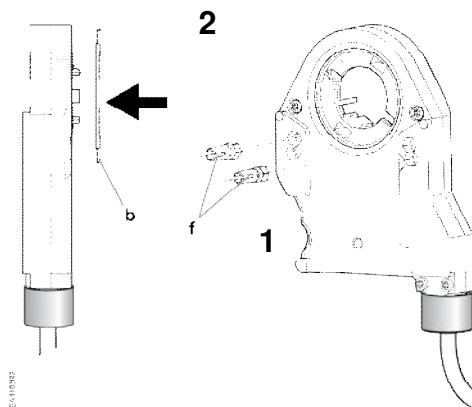


Figure 8. For GMA/GEB Actuators, Use Top Screw Holes.

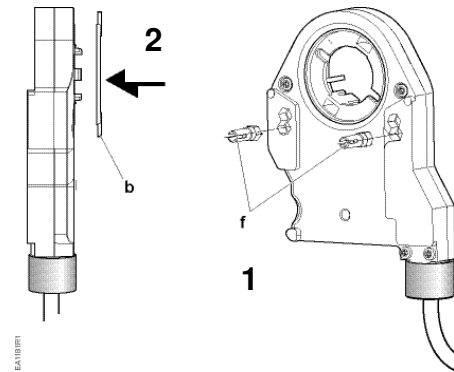


Figure 9. For GCA, GBB, GIB Actuators, Use the Bottom Screw Holes.

## Mounting External Auxiliary Switch to Actuator

1. Nest the alignment peg of the EAS position adapter ring into the notch (See Figure 10).

The EAS lies flush against the face of the actuator.

**Note:** GMA/GEB actuators use top screw holes, GCA, GBB/GIB models use bottom screw holes.

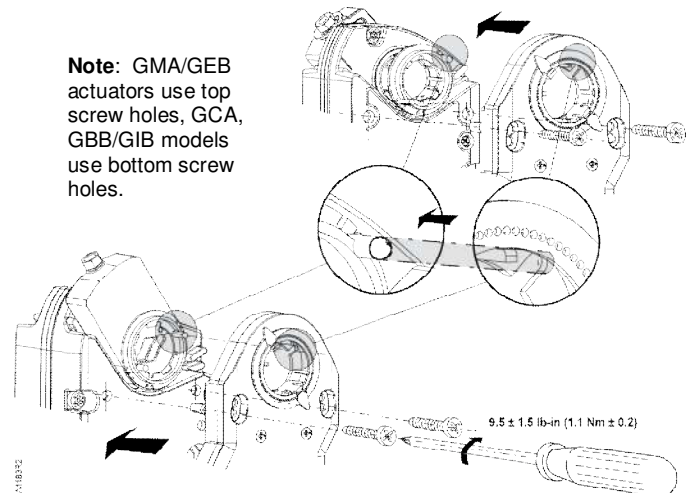


Figure 10. Bringing the EAS and the Actuator together.

2. Secure the EAS in place with the M5×25 screws provided. (See Figure 10).

### CAUTION:



The EAS should not shift when it is correctly installed firmly against the face of the actuator.

The installation is complete.

## Manual Override

**NOTE:** When EAS is installed, you can still access the manual override capability as shown in Figure 11.

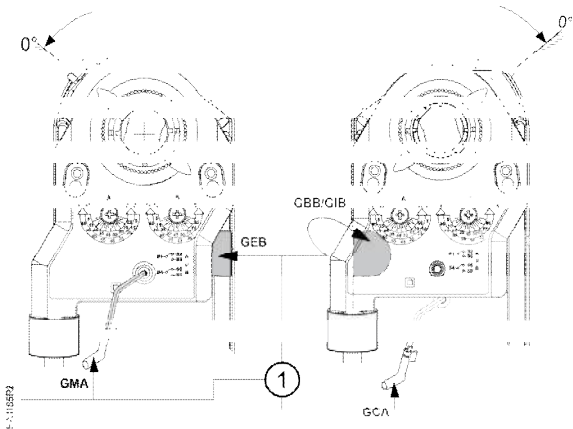


Figure 11. Manual Override.

## Auxiliary Switches



**CAUTION:**  
 There should be no load on the actuator when setting the auxiliary switches.

## Setting the Switches

With the actuator in the full-closed (0°) position, press in and turn with a Phillips screwdriver to the desired setting. Release pressure to set the switch. The switch is now set.

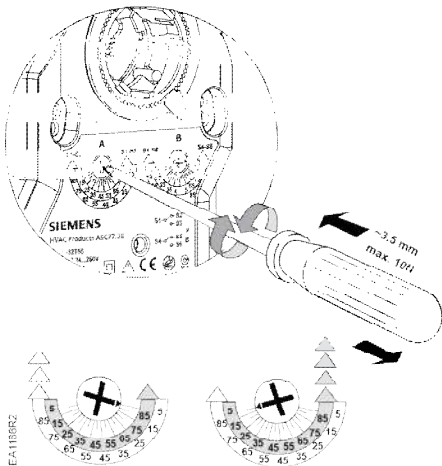


Figure 12. Press In, Turn to Adjust, Release to Set Switch.

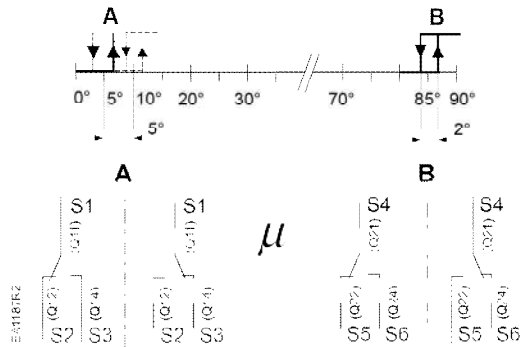


Figure 13. Example of Switches Set to 5° and 85°.

## Wiring



**WARNING:**  
 Do not mix operations. Apply only line voltage or only Class 2 voltages to the switching outputs of both auxiliary switches A and B.

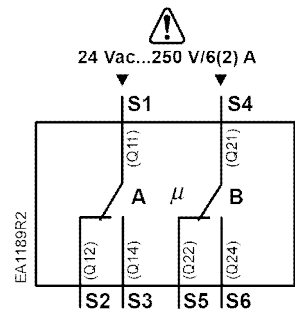


Figure 14. Wiring Diagram.

## Wiring Designation

| Wire Code | Color      | Switch - Function |
|-----------|------------|-------------------|
| S1        | Gray/red   | A Input           |
| S2        | Gray/blue  | A – NC            |
| S3        | Gray/pink  | A – NO            |
| S4        | Black/red  | B Input           |
| S5        | Black/blue | B – NC            |
| S6        | Black/pink | B – NO            |

## Dimensions

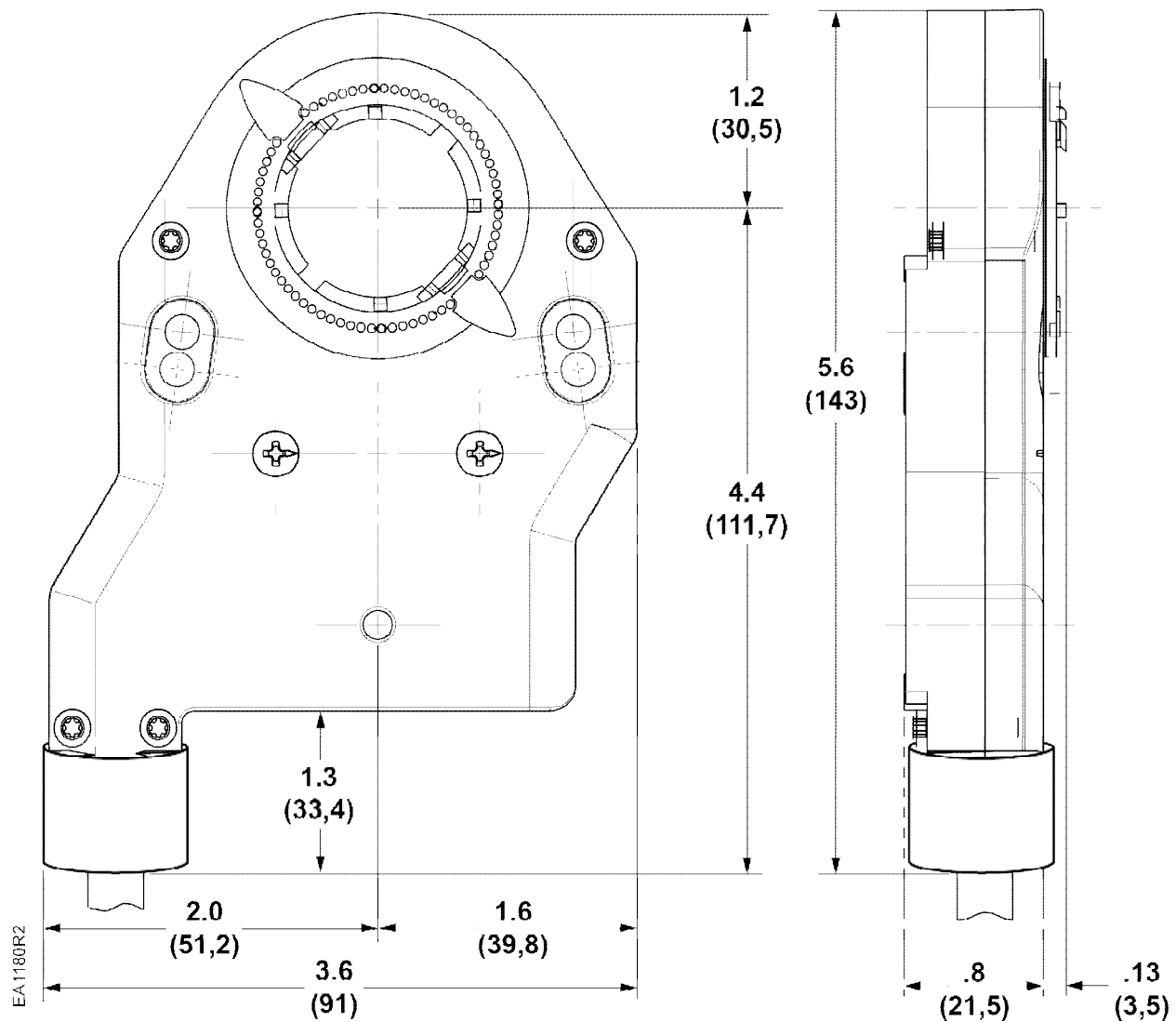


Figure 15. External Auxiliary Switch Dimensions in Inches (mm).

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