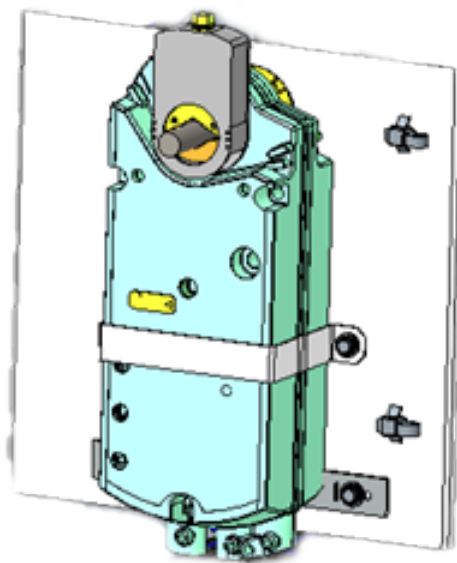


Installation Instructions

Siemens Actuator Replacement Kit

For Precedent™ Units with Low Leak Economizer FIAECON103AA



Note: Graphics in this document are for representation only. Actual model may differ in appearance.

These instructions are for replacing a factory installed Belimo actuator to a Siemens actuator on a unit with an existing low leak economizer (LLE) FIAECON103AA (D.0 cabinet).

▲ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE

Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:**

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**
- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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General Information

Parts List

Table 1. Parts list

| Item | Description | Qty |
|------|---|-----|
| 1 | 4369 Siemens Bracket | 1 |
| 2 | Actuator Support Strap for 160 in-lb Siemens | 1 |
| 3 | 1/2 in. RND to 3/8 sq. x 4-3/4 in. Drive Pin | 1 |
| 4 | #10-14 x 1/2 in. SMS Type AB, Slot HWH, Screw | 4 |
| 5 | 6-in. Plastic Wire Tie | 2 |
| 6 | Push Mount for Wire Tie | 2 |

Table 2. Tools required

| Item | Description | Qty |
|------|----------------------------|-----|
| 1 | 5/16-in. Nut Driver/Socket | 1 |
| 2 | Wrench (10 mm) | 1 |

Installation

⚠ WARNING

Hazardous Voltage!

Failure to disconnect power before servicing could result in death or serious injury.

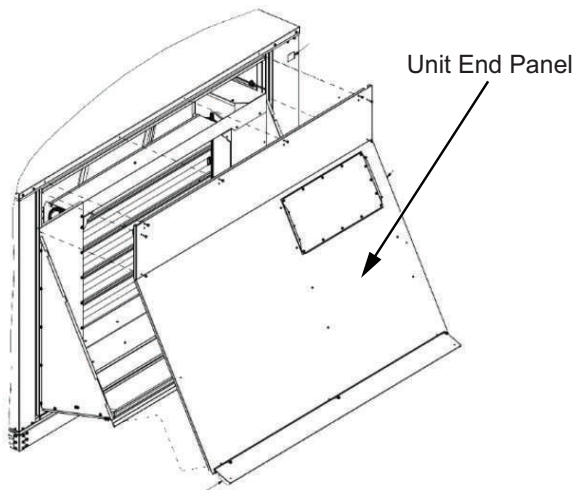
Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.

Notes:

- The technician will receive an aftermarket KIT and a Siemens actuator when replacing the factory installed Belimo actuator on site. Bring the necessary tools as listed in [Table 2, p. 4](#).
- Economizer weighs over 50 pounds and should be installed by two people. Attempting to complete it alone may result in unintentional damage.
- Do not cut factory pop-in wire ties. Factory white pop-in wire ties can be released by pulling up on the small tab on the outlet of the wire tie to release and open.

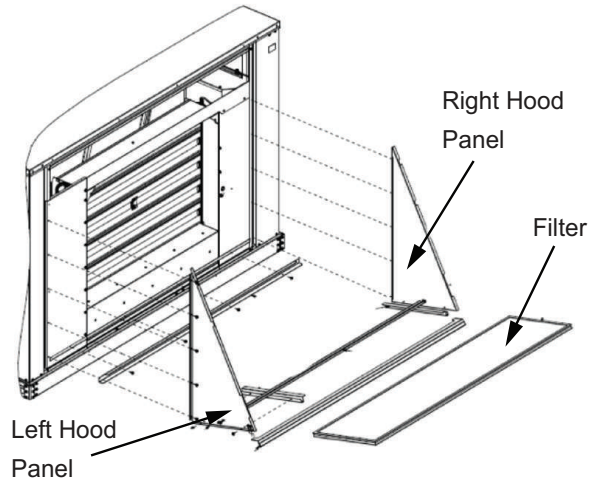
1. Remove the unit end panel and set it aside for later installation. See [Figure 1, p. 5](#).

Figure 1. Unit end panel removal



2. Remove the existing economizer hood from the unit and keep it in a safe area for later installation. See [Figure 2, p. 5](#).

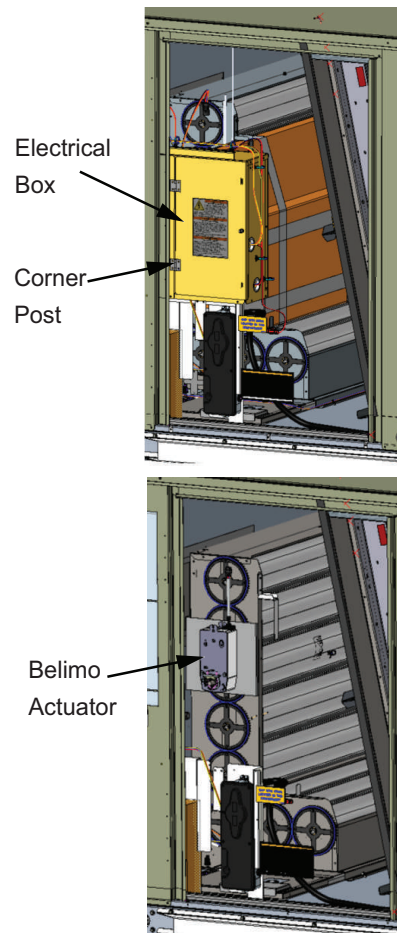
Figure 2. Economizer hood removal



3. If necessary, remove the screws in the corner post and bottom bracket and remove the electrical box. See .

Note: Do not to strain or damage the wiring.

Figure 3. Electrical box removal

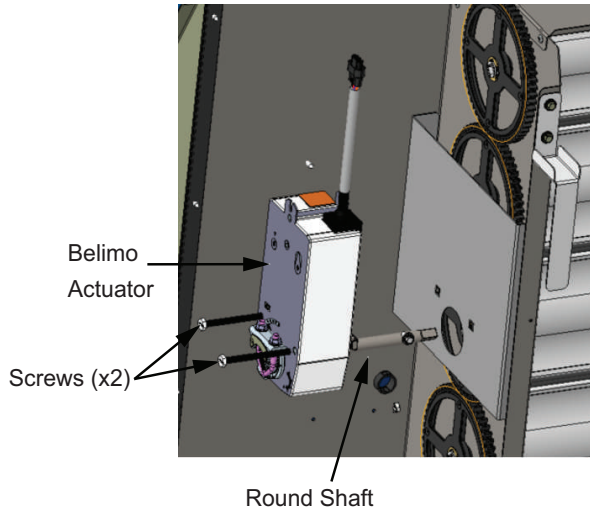


Installation

- Remove the screws that attaches the Belimo actuator to the mounting bracket. See [Figure 4, p. 6](#).
- Remove the Belimo actuator and the round shaft and discard the Belimo actuator. See [Figure 4, p. 6](#).

Note: Keep the shaft aside to use with the replacement actuator.

Figure 4. Belimo actuator removal

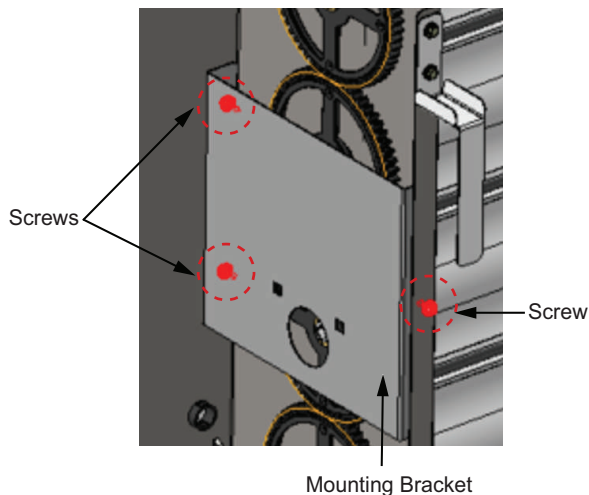


- Remove three screws (highlighted) and remove the actuator mounting bracket and discard. See [Figure 5, p. 6](#).

Retain the screws for new bracket installation.

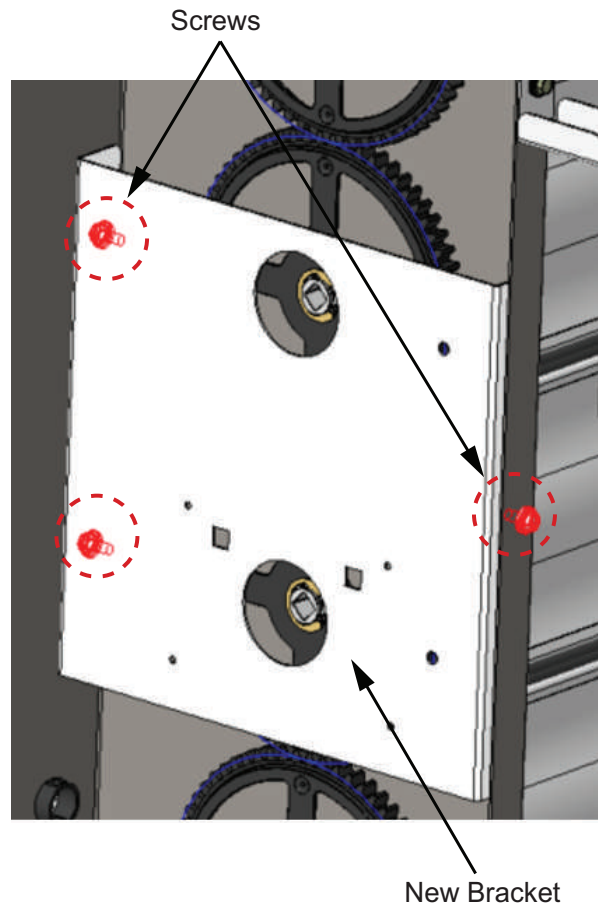
Note: Do not to damage the evaporator coil.

Figure 5. Mounting bracket removal



- Assemble the new bracket using original screws and holes. See [Figure 6, p. 6](#).

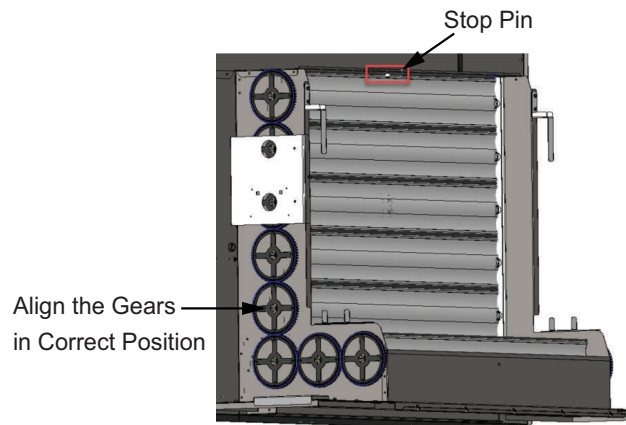
Figure 6. New bracket installation



- Adjust the OA blades until they touch the positive stop at the top of the OA damper (highlighted in red). See [Figure 7, p. 6](#).

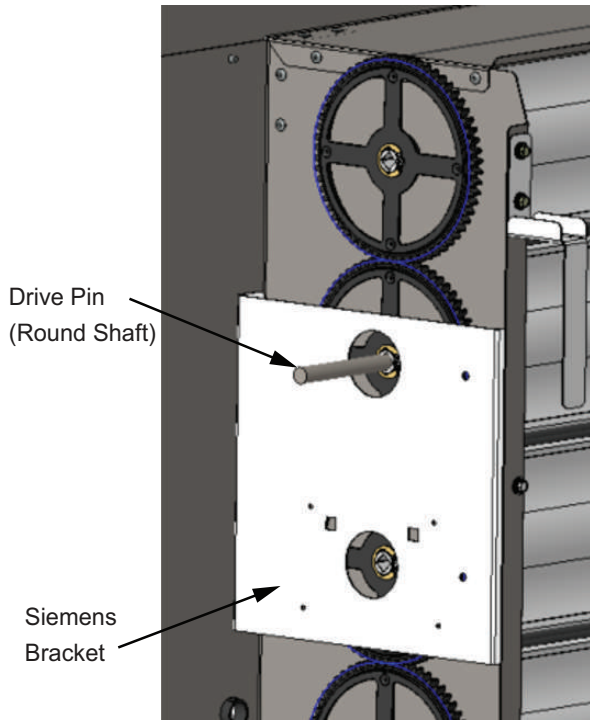
Note: Confirm that the gears are in the position as shown in [Figure 7, p. 6](#) and the actuator drive pin (round shaft) fits into the blade bracket.

Figure 7. Blades adjustment



9. Insert the original round shaft into the center of the second gear. See [Figure 8, p. 7](#).

Figure 8. Drive pin installation

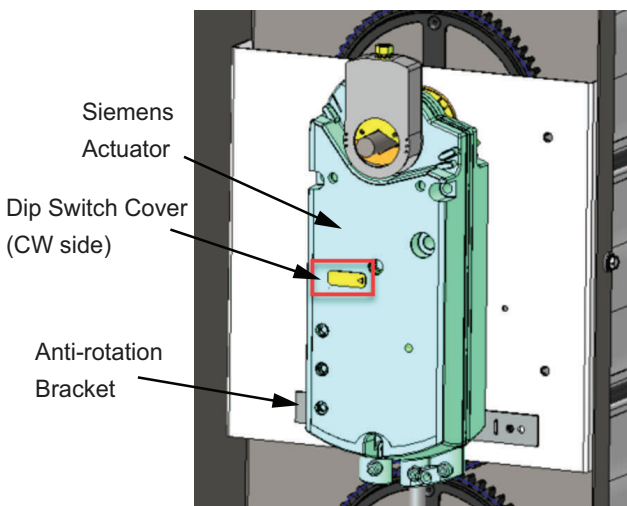


10. Assemble the Siemens actuator and anti-rotation bracket. See [Figure 9, p. 7](#).

Notes:

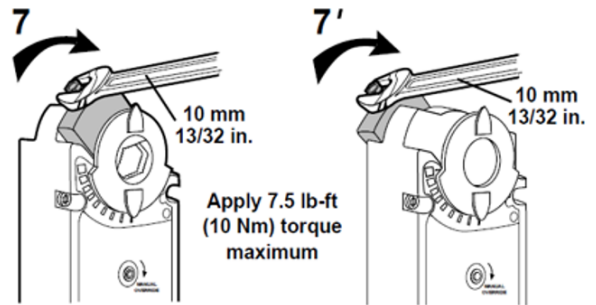
- The dip switch cover (CW side) always faces outward away from the blades (marked in red).
- The shaft adapter and actuator are mounted by Siemens.

Figure 9. Attach the Siemens actuator



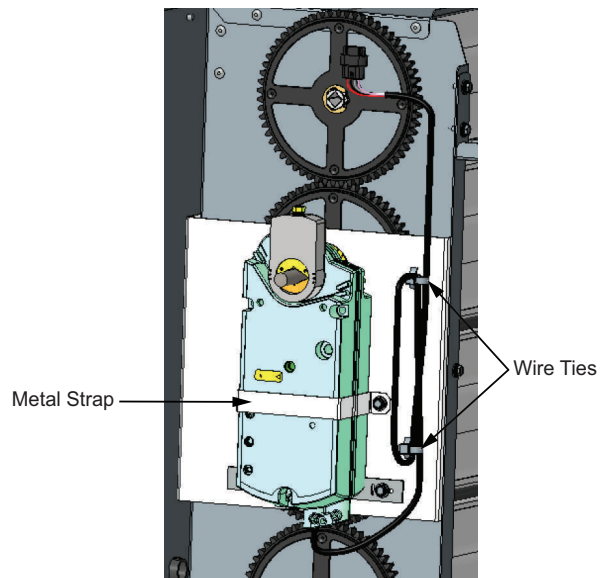
11. Fasten the actuator shaft adapter to the damper shaft using a 10 mm wrench. See [Figure 10, p. 7](#).

Figure 10. Apply torque



12. Put the metal strap around the Siemens actuator and secure using the screws provided in the kit. See [Figure 11, p. 7](#).
13. Secure the cable with the wire ties. See [Figure 11, p. 7](#).

Figure 11. Metal strap installation



14. Connect the harness and make sure the cable will not be damaged by the gears.
15. Re-install the electric box using the screws that was removed earlier in [Step 3](#).
16. Re-install the economizer hood and the unit end panel. See *Low Leak Economizer Precedent™ Packaged Rooftop Units 6 to 25 Tons with Symbio™ Installation Instructions (ACC-SVN264*-EN)*.

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