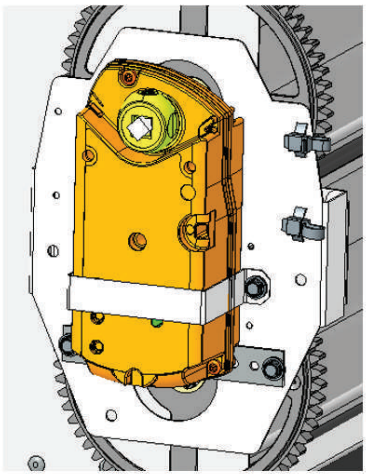
Installation Instructions

Siemens Actuator Replacement Kit

For Precedent™ Units with Low Leak Economizer FIAECON102AA



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) FIAECON102AA (B.0 and C.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.

September 2024 **PART-SVN260B-EN**

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:

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	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	704B/102A Siemens Bracket	1
2	Actuator Support Strap for 62 in-lb Siemens	1
3	3/8 in. Square x 3 3/4 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!

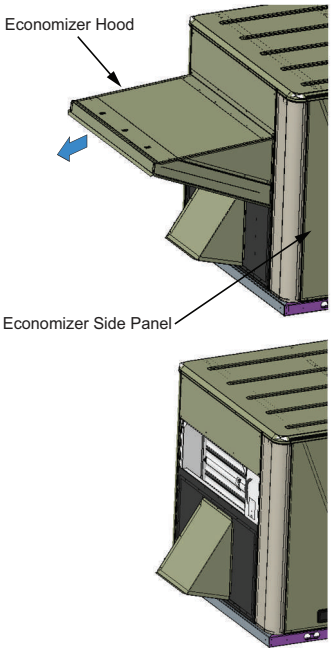
Failure to disconnect power before servicing could result in death or serious injury.
Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/ tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.

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 existing economizer hood (factory installed) from the unit and keep it in a safe area for later installation. See Figure 1, p. 5.

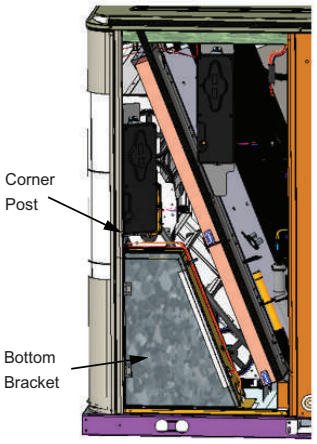
Figure 1. Economizer hood removal

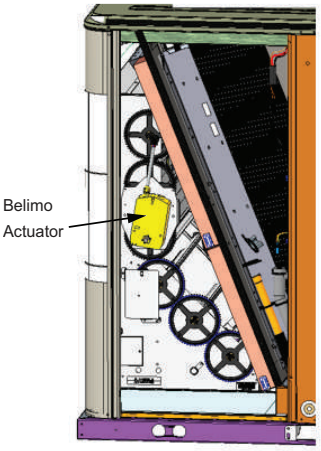


2. If necessary, remove the screws in the corner post and bottom bracket and remove the electrical box. See Figure 2, p. 5.

Note: *Do not strain or damage the wiring.*

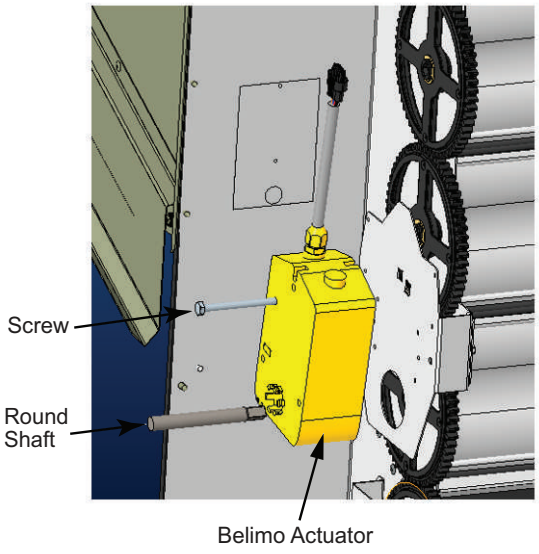
Figure 2. Electrical box removal





3. Remove the screw that attaches the Belimo actuator to the mounting bracket. See Figure 3, p. 6.
4. Remove the Belimo actuator and the round shaft and discard them. See Figure 3, p. 6.

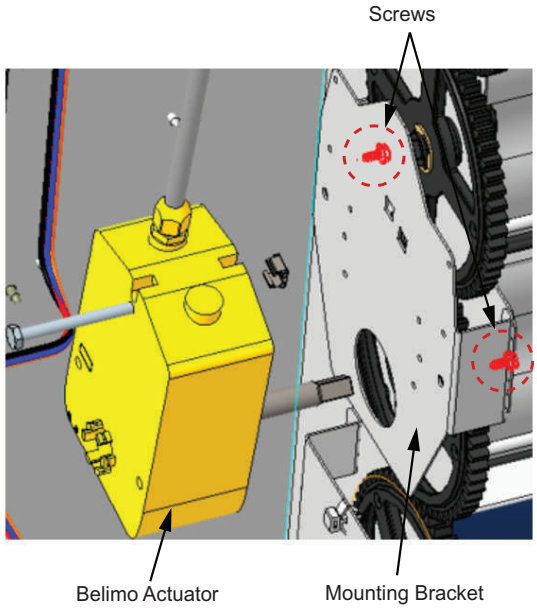
Figure 3. Belimo actuator removal



5. Remove two screws (highlighted) and remove the actuator mounting bracket and discard. See Figure 4, p. 6. Retain the screws for new bracket installation.

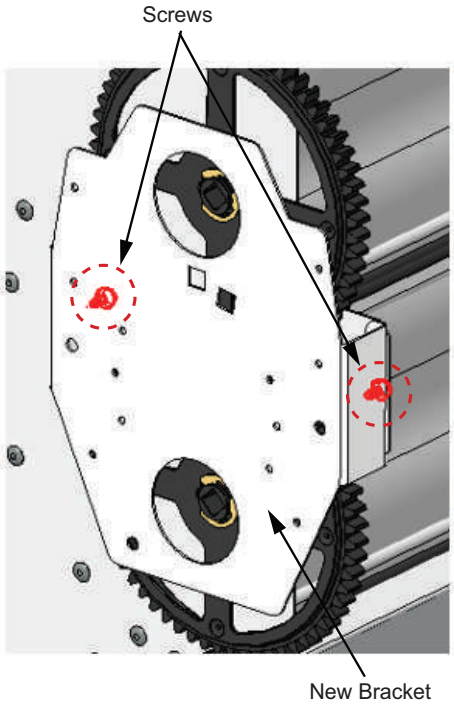
   Note: *Do not damage the evaporator coil.*

Figure 4. Mounting bracket removal



6. Assemble the new bracket using original screws and holes. See Figure 5, p. 6.

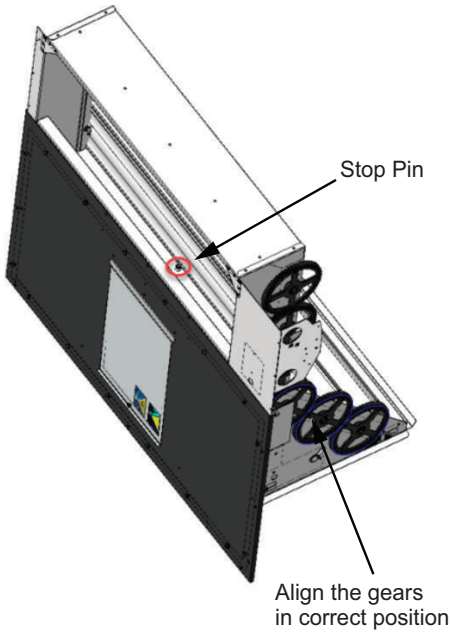
Figure 5. New bracket installation



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

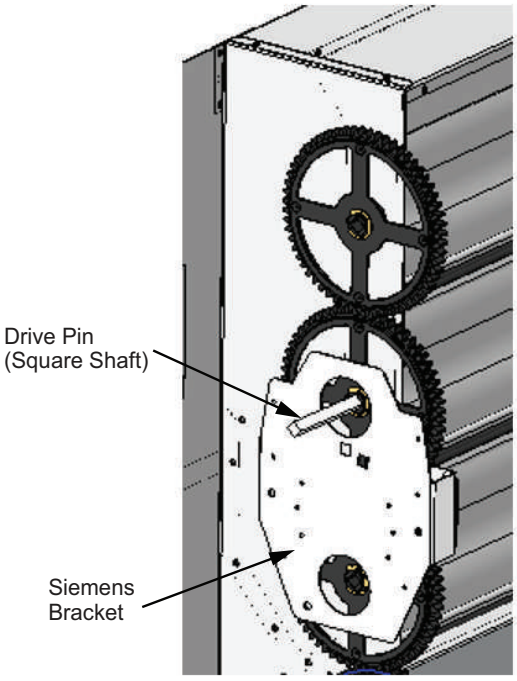
   Note: *Confirm that the gears are in the position as shown in Figure 6, p. 6 and the actuator drive pin (square shaft) fits into the blade bracket.*

Figure 6. Blades adjustment



8. Insert the drive pin (square shaft) from the kit into the center of the second gear. See Figure 7, p. 7.

Figure 7. Drive pin installation

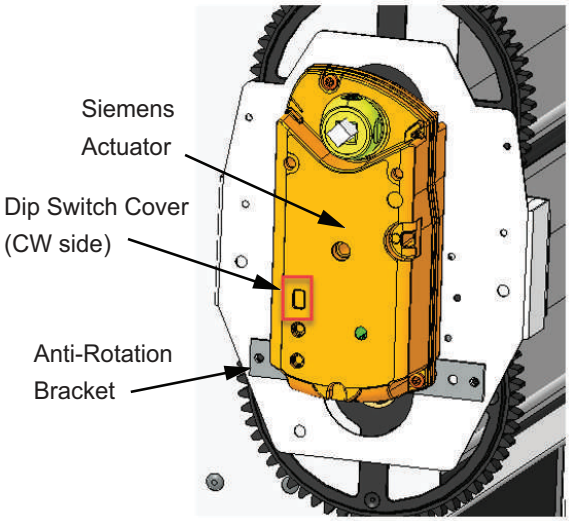


9. Assemble the Siemens actuator and anti-rotation bracket. See Figure 8, p. 7.

Notes:

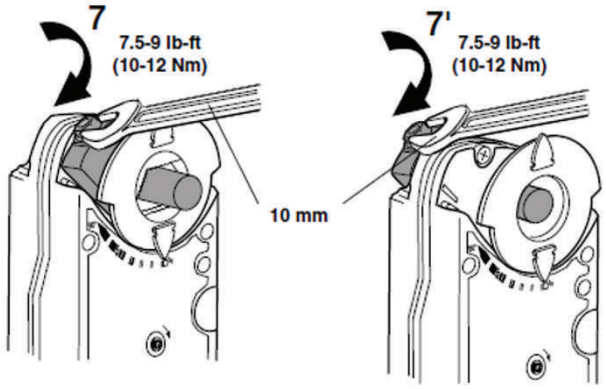
1. *The dip switch cover (CW side) always faces outward away from the blades (marked in red).*
2. *The shaft adapter and actuator are mounted by Siemens.*

Figure 8. Attach the siemens actuator



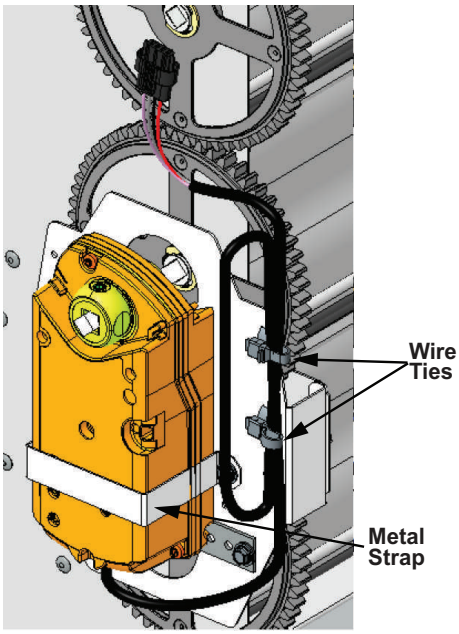
10. Fasten the actuator shaft adapter to the damper shaft using a 10 mm wrench. See Figure 9, p. 7.

Figure 9. Apply torque



11. Put the metal strap around the Siemens actuator and secure using the screws provided in the kit. See Figure 10, p. 7.
12. Secure the cable with the wire ties. See Figure 10, p. 7.

Figure 10. Metal strap installation



13. Connect the harness and make sure the cable will not be damaged by the gears.
14. Re-install the electric box using the screws that was removed earlier in Step 2.
15. Re-install the economizer hood. See *Low Leak Economizer Precedent™ Packaged Rooftop Units 6 to 25 Tons with Symbio™* (ACC-SVN264*-EN) to install the economizer hood.

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