TRANE SO-SVN013A-EN Replacing Obsolete Honeywell Actuators Instruction Manual

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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.

Contents

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 Labeling 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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Revision History

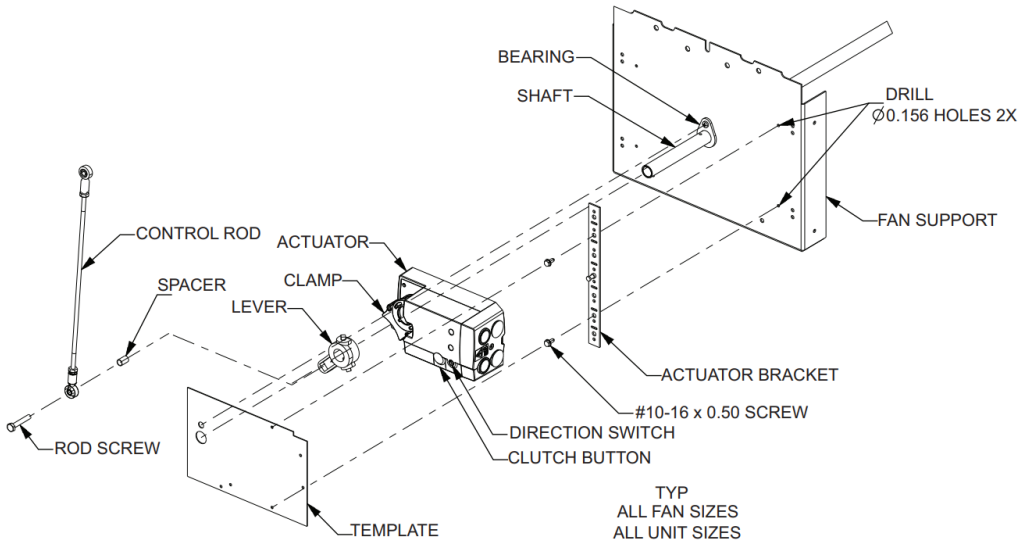
Document updated to reflect Service Offering number.

Actuator Assembly

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 energ

Figure 1. Actuator installation overview (RT 20 – 89)(a)



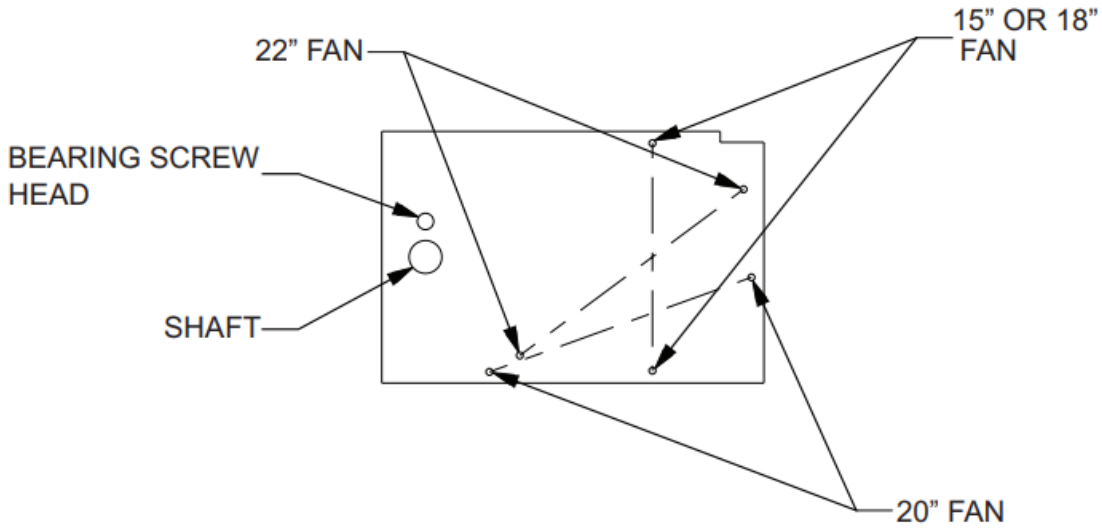
(a) Dimensions in inches unless otherwise specified.

1. Disconnect control rod from lever. Reserve screw and spacer.
2. Remove lever from shaft. Reserve lever and set screws.
3. Remove old actuator and anti-rotation bracket.
4. Locate and drill holes for mounting of new actuator bracket. (Refer to full-size template, Figure 6, p. 7 and fan size/ angle reference Figure 2).

   a. Slide 0.750 hole in template over shaft and align 0.375 hole in template over bearing screw head.

   b. Drill two 0.156 holes in fan support using 0.156 holes in template as guide.

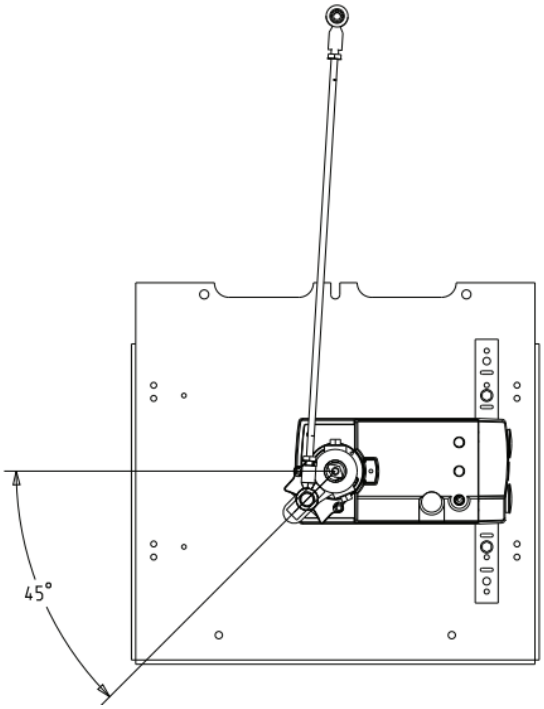
   Figure 2. Fan size/angle reference (RT 20 – 89)(a)



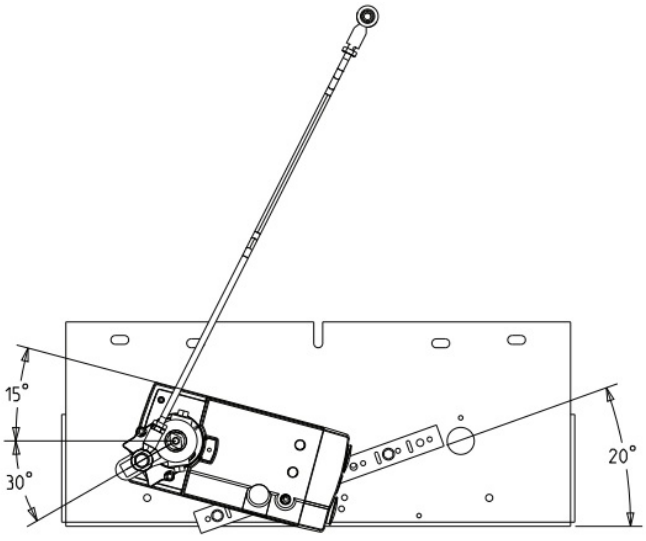
5. Install new actuator on fan support by sliding actuator over shaft.
6. Mount actuator bracket by using two #10-16 x 0.50 screws supplied with kit to secure actuator.
7. Reinstalll ever on shaft with arm offset to inboard side.
8. Reconnect control rod to lever using reserved screw and spacer.
9. Bring lever to a 45 degree angle (30 degree for 20-inch fan) shown in Figure 3 by adjusting control rod if needed.

Figure 3. Adjusting control rod (RT 20 – 89)(a)

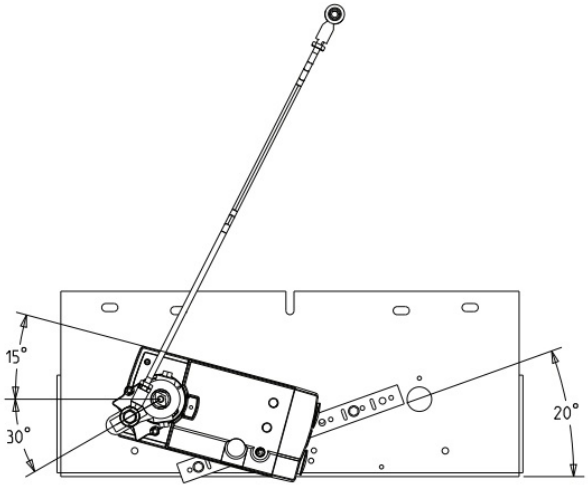
- 15″ FAN 20-29 TON UNITS 18″ FAN 30-36 TON UNITS



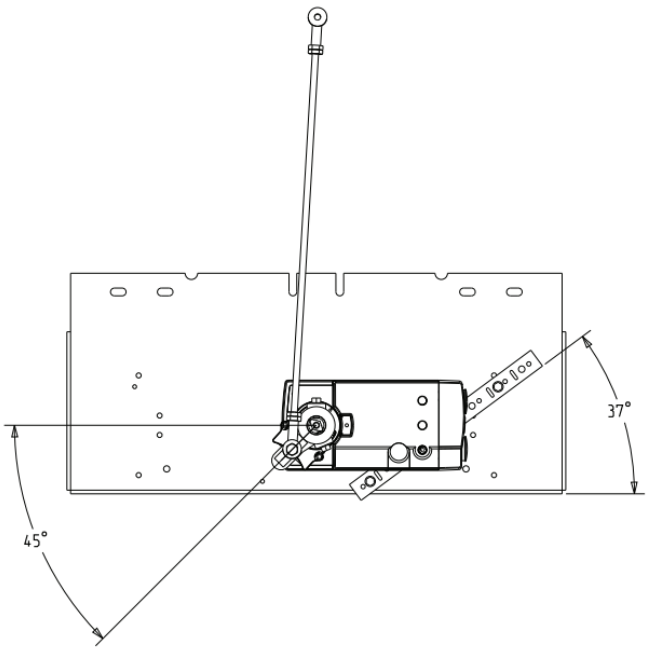
- 20″ FAN 40-59 TON UNITS



- 20″ FAN 40-59 TON UNITS



- 22″ FAN 60-89 TON UNITS



(a) Dimensions in inches unless otherwise specified.

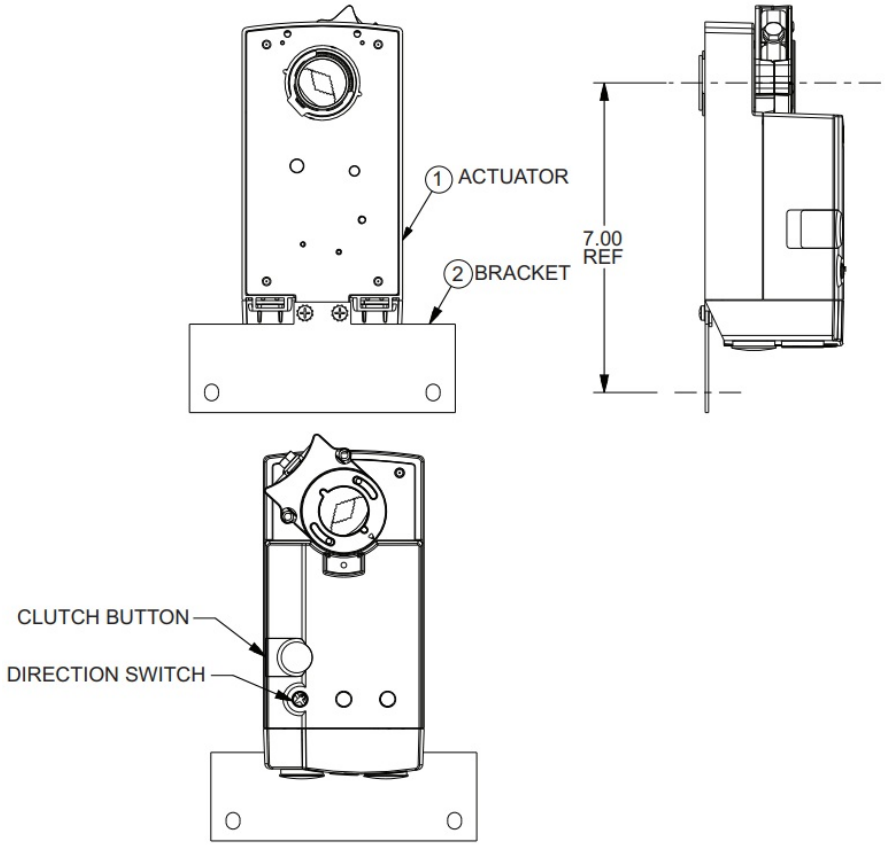
10. Place vanes in full closed position and tighten lever set screws.
11. Setup actuator for proper shaft rotation to open inlet guide vanes by pressing the clutch button on the actuator and rotating the actuator clamp to the full counter-clockwise position.
12. Set the direction switch on the actuator to 2…10V (switch rotated to the full counter-clockwise position).
13. Confirm vanes are fully closed, then tighten actuator clamp to the shaft.

Important: Never depress actuator clutch button with actuator energized.

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.

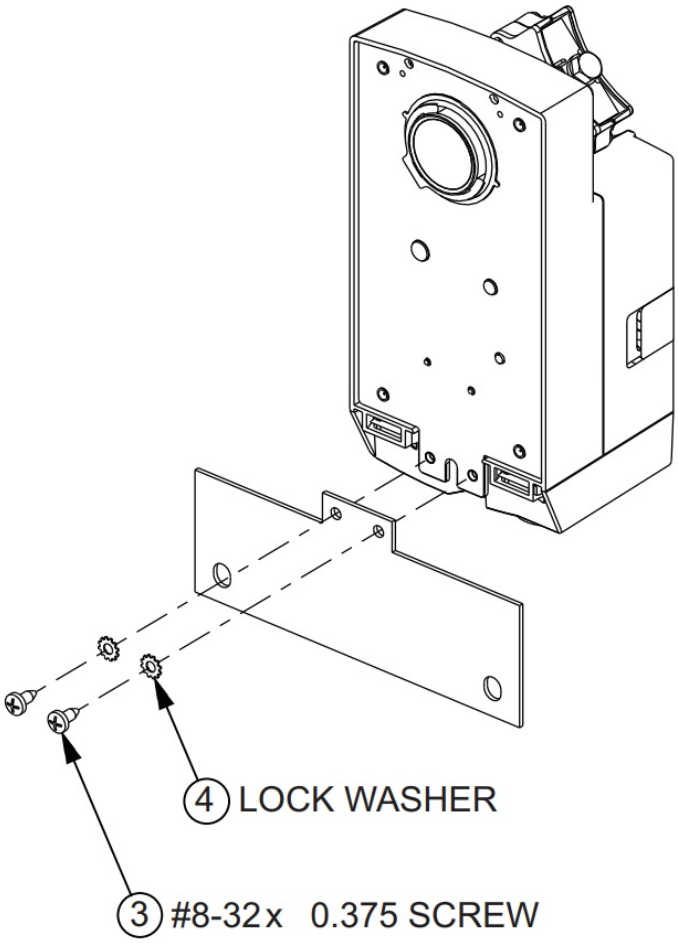
Figure 4. Actuator installation overview (RT 90 – 130)(a)



(a) Dimensions in inches unless otherwise specified.

1. Remove old actuator and anti-rotation bracket from fan. Reserve mounting hardware.
2. Assemble new actuator and bracket as shown in Figure 4 using two #8-32 x 0.375 screws and lock washers provided with kit.
3. Install new actuator on fan assembly by sliding actuator over shaft.
4. Mount actuator bracket on mounting angle using reserved hardware (see Figure 5).

Figure 5. Installing new actuator and mounting bracket (RT 90 – 130)(a)



(a) Dimensions in inches unless otherwise specified.

5. **For left-hand fan:**

   a. Set up actuator for proper shaft rotation to open inlet guide vanes by pressing the clutch button on the actuator and rotating the actuator clamp to the full clockwise position.

   b. Set the direction switch on the actuator to 10…2V (switch rotated to the full clockwise position).

   c. Confirm vanes are fully closed, then tighten the actuator clamp to the shaft.

   Important: Never depress actuator clutch button with actuator energized.

6. **For right-hand fan:**

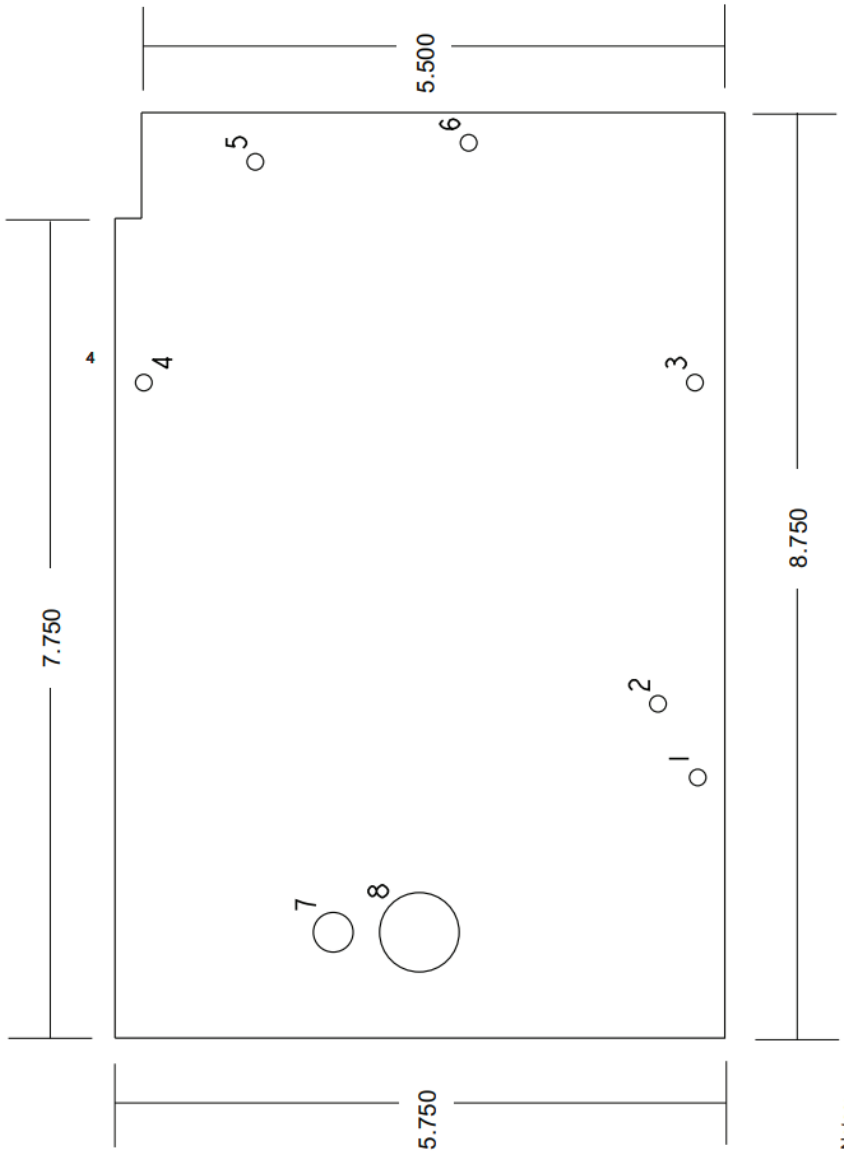
   a. Set up actuator for proper shaft rotation to open inlet guide vanes by pressing the clutch button on the actuator and rotating the actuator clamp to the full counter-clockwise position.

   b. Set the direction switch on the actuator to 2…10V (switch rotated to the full counter-clockwise position).

   c. Confirm vanes are fully closed, then tighten the actuator clamp to the shaft

   Important: Never depress actuator clutch button with actuator energized

Figure 6. Actuator template – actual size (RT 20–89)(a)



Notes:

- Material = 18 ga.
- Unless otherwise specified:
  - All bends up to 90° with 0.060 inside radius.
  - Knockouts and dimples formed up.
  - All formed dimensions are ±0.030 in.
  - All bend angles are ±3°.

Important: When printing, do not scale the print or this template will not be correctly sized.

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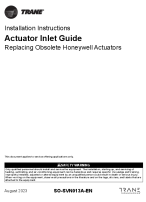
Documents / Resources

 Installation Instructions Actuator Inlet Guide Replacing Obsolete Honeywell Actuators August 2023 SO-SVN013A-EN	TRANE SO-SVN013A-EN Replacing Obsolete Honeywell Actuators [pdf] Instruction Manual SO-SVN013A-EN Replacing Obsolete Honeywell Actuators, SO-SVN013A-EN, Replacing Obsolete Honeywell Actuators, Obsolete Honeywell Actuators, Honeywell Actuators

References

- Trane Heating & Air Conditioning
- Trane Technologies | A Leader in Climate and Sustainability
- User Manual