



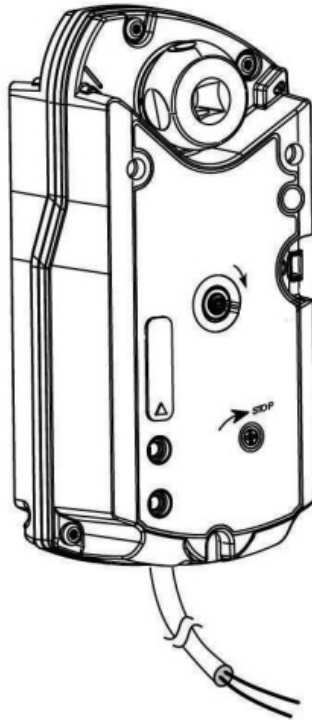
TRANE PART-SVN264A Rotary Spring Return Actuators Installation Guide

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TRANE

Installation Instructions
Rotary Spring Return Actuators
62 lb-in Series



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PART-SVN264A Rotary Spring Return Actuators

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



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:



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

Note: Keep these instructions with the actuator or with the plant documentation.

Parts List

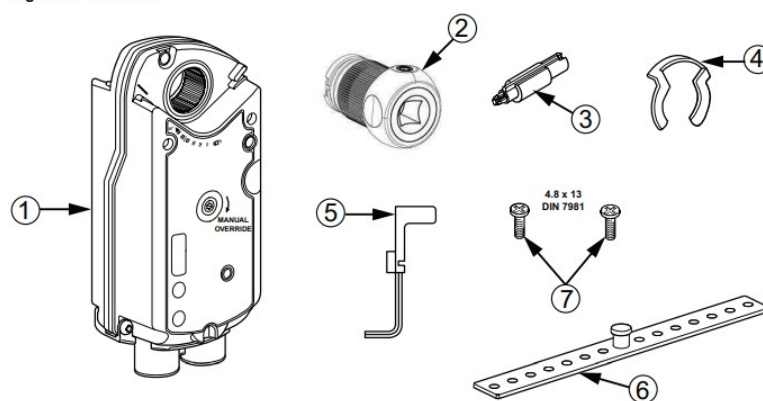
Table 1. Parts list

Item	Description	Qty
1	Actuator	1
2	Self-centering shaft adapter	1
3	Auxiliary switch adjustment tool	1
4	Shaft adapter locking clip	1
5	3 mm hex wrench	1
6	Mounting bracket	1
7	Mounting screws	2

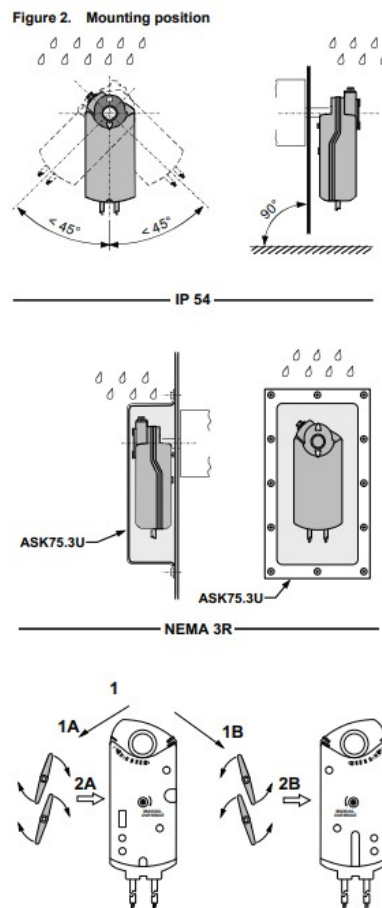
Required Tools

Qty	Description
1	4 mm hex wrench (provided)
1	Drill
1	4 mm (5/32-in.) drill bit
1	3 mm hex wrench (provided)
1	Phillips screwdriver
1	Small flat-blade screwdriver
1	Marker or pencil

Figure 1. Parts list



Mounting Position



Installation

Note: Actuator is shipped with 5° preload. When power is applied to the actuator, the preload is released. To manually release the preload, insert the 3 mm hex key in the override opening and turn the key in the direction of the arrow. See “Manual Override,” p. 8.

The expected installation time is 30 minutes. Important:

- Do not open actuator.
- Do not turn the 3 mm hex key against the direction of the arrow.

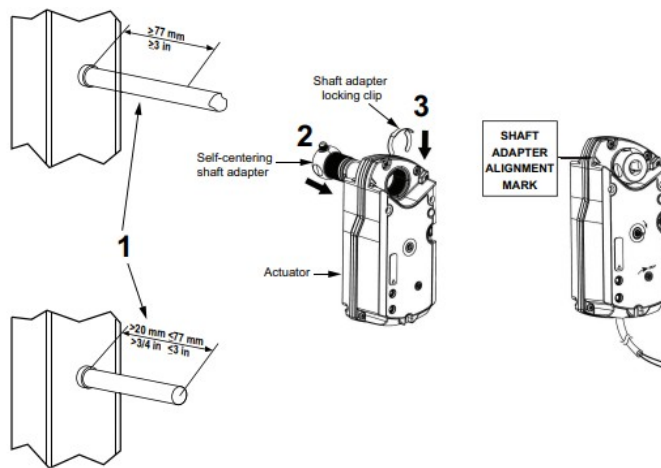
See Figure 3, p. 7 for step 1 through 3.

1. Adjust the shaft length for mounting the actuator.
2. Align the self-centering shaft adapter to the alignment mark on the actuator and insert the shaft adapter into the mounting hole on the adapter.

Note: Confirm that the shaft adapter is placed next to the alignment mark, keeping the mark visible.

3. Using the locking clip, lock the shaft adapter in place.

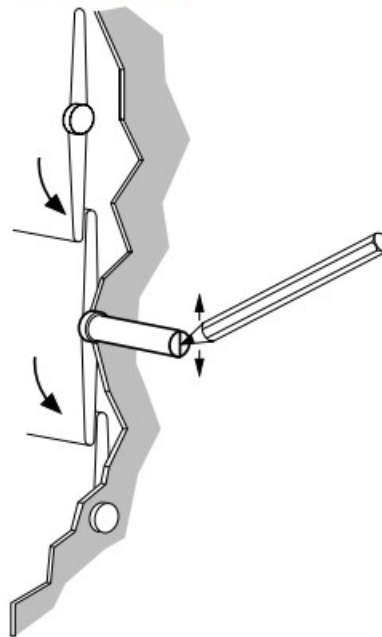
Figure 3. Shaft length and shaft adapter mounting location



Close the damper. See Figure 4, p. 8. Note: If the damper fail-safe position is open, change the actuator preload from the preset 5° to 85° .

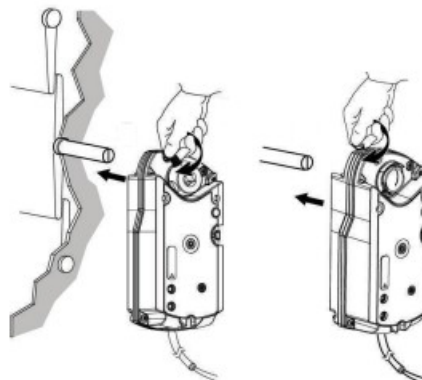
See "Manual Override," p. 8.

Figure 4. Close damper



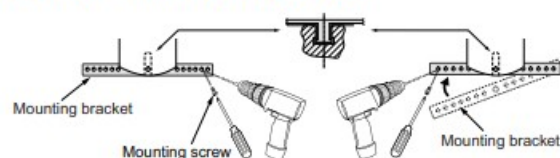
Mount the actuator onto the shaft. See Figure 5, p. 8.

Figure 5. Mount actuator



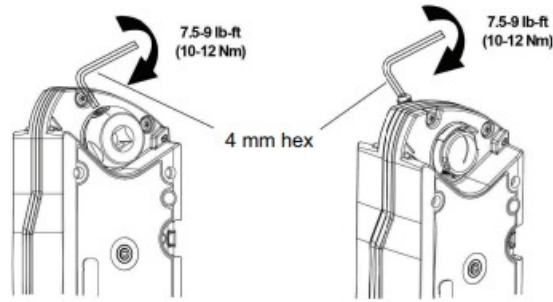
Using 4 mm (5/32-in.) drill bit, drill two holes one at each end of the mounting bracket. See Figure 6, p. 8. Attach the mounting bracket and fasten using two mounting screws. See Figure 6, p. 8.

Figure 6. Install mounting bracket



Using the 4 mm hex wrench, fasten the shaft adapter to the damper shaft. See Figure 7, p. 8.

Figure 7. Fasten shaft adapter



Manual Override

To manually override or set preload:

1. Insert the 3 mm hex key in the override opening.
2. Turn the key in the direction of the arrow until it reaches the desired degree of opening.
3. Hold the key in place.
4. Insert a small flat-blade screwdriver into the gear train lock pin. Turn the screwdriver in the same direction as the arrow until it clicks or meets slight resistance (approximately 5 degrees rotation).

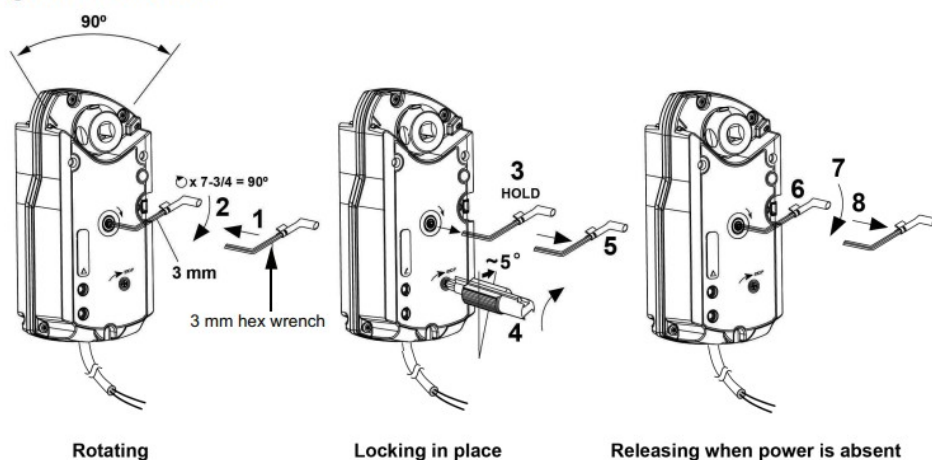
NOTICE

Manual Override

To manually override or set preload:

1. Insert the 3 mm hex key in the override opening.
2. Turn the key in the direction of the arrow until it reaches the desired degree of opening.
3. Hold the key in place.
4. Insert a small flat-blade screwdriver into the gear train lock pin. Turn the screwdriver in the same direction as the arrow until it clicks or meets slight resistance (approximately 5 degrees rotation).

Figure 8. Manual override



Wiring

- All wiring must conform to NEC and local codes and regulations.
- Use earth ground isolating step-down Class 2 transformers. Do not use autotransformers.

Note: The maximum rating for a Class 2 stepdown transformer is 100 VA. Determine the supply transformer rating by summing the VA ratings of all actuators and all other components used. It is recommended that not more than 80% of the transformer VA be utilized. The 62 lb-in actuator consumes 8 VA or less.

Either AC line voltage from the same phase must be applied to all six outputs of the dual auxiliary switches, or UL-Class 2 voltage must be applied to all six outputs.

Note: With Plenum cables, only UL-Class 2 voltage is permitted.

Table 2. Types of actuator

Actuator	Operating Voltage	Power Consumption
Modulating Control		
ACT00987 (Symbio™ Control)	24 VAC/DC	7 VA/5W
ACT00988 (ReliaTel Control)	24 VAC/DC	7 VA/5W

Figure 9. Modulating 2 to 10 VDC control, 24 VAC/DC
ACT00987

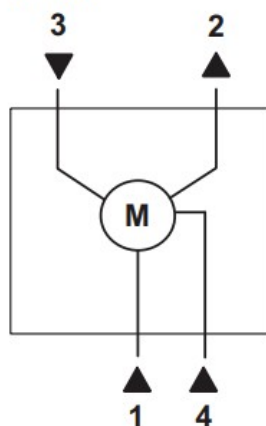


Table 3. Wire designations for 24 VAC/DC ACT00987 actuator

Pin Out Locations	Function	Terminal Connection	Color	Color Symbol
1	Supply (SP)	G	Red	RD
4	Neutral (SN)	G0	Black	BK
3	Input Signal 2 to 10 VDC (ACT 00987)	Y	Pink	PK
2	Position Output 2 to 10 VDC (ACT00987)	U	Grey	GY

Figure 10. Modulating 2 to 10 VDC control, 24 VAC/DC: ACT00988

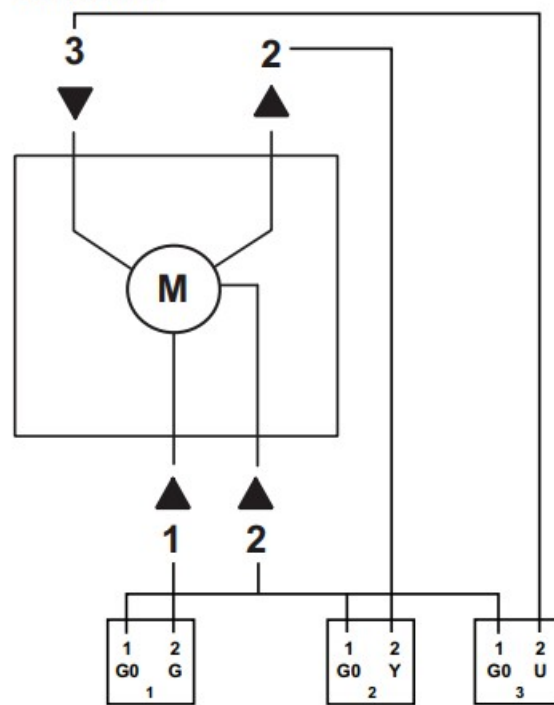


Table 4. Wire designations for 24 VAC/DC ACT00988 actuator

Connector	Pin Out Locations	Function	Terminal Connection	Color	Color Symbol
1	1	Supply (SP)	G	Red	RD
	2	Neutral (SN)	G0	Black	BK
2	1	Neutral (SN)	G0	Black	BK
	2	Input Signal 2 to 10 VDC (ACT00988)	Y	Pink	PK
3	1	Neutral (SN)	G0	Black	BK
	2	Position Output 2 to 10 VDC (ACT00988)	U	Grey	GY

Dimensions

Technical drawings of the 1000 Series fire extinguisher showing side, front, and detail views with dimensions in inches and millimeters.

Side View Dimensions:

- Top handle assembly height: 1.2 [30,4] and 1.18 [30]
- Minimum clearance from wall: min. 4 [100]
- Minimum clearance from wall (lower): min. 6 [150]
- Minimum clearance from wall (bottom): min. 2.38 [60]
- Minimum clearance from wall (bottom left): min. 1/2 [12]

Front View Dimensions:

- Top handle assembly height: 1.12 [28,33]
- Overall height: 6.99 [177,528]
- Width: 3.25 [83]
- Minimum clearance from wall: min. 4 [100]
- Bottom clearance: 5.56 [141]
- Minimum clearance from wall (bottom left): min. 4 [100]
- Bottom clearance: 3 ft. [900]

Detail View Dimensions:

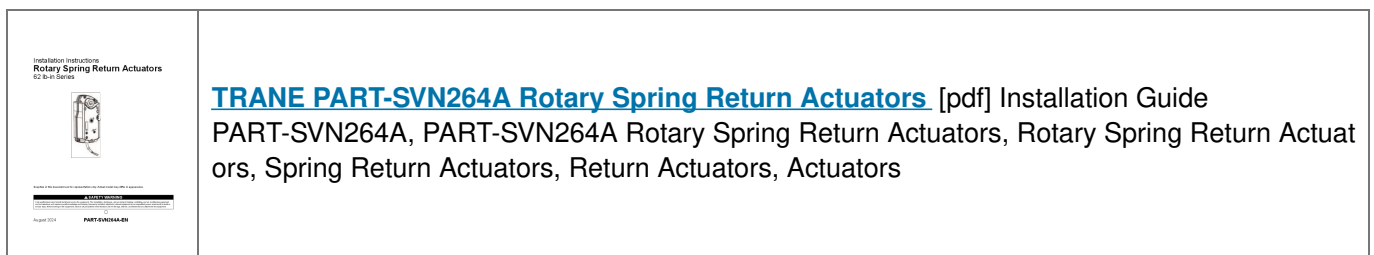
- Top handle assembly height: 25/32 (20)
- Bottom handle assembly height: 5-1/8 (130)
- Bottom handle assembly diameter: Ø 3/16 (Ø 5)

Bottom View Dimensions:

- Bottom handle assembly height: 0.46 [11,575]
- Bottom handle assembly width: (2.38) [60,4]



Documents / Resources



- [!\[\]\(fa0af60b6801543fcbf5ea18bb648edb_img.jpg\) American Standard® | Air Conditioning and Heating | HVAC Systems](#)
- [!\[\]\(48fa30317f6b1a242c6ca659445dd650_img.jpg\) Trane Heating & Air Conditioning](#)
- [**User Manual**](#)

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