

Installation Instructions

Economizer/Motorized Damper Adapter Kit

Model Number: Kit 16682
Used With: T/Y*C(036 -120)**E with Honeywell Damper Actuator Assembly
Note: For Precedent™ units only, built before 26August2013 (serial number prefix less than 1335)

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.

April 2020 ACC-SVN149C-EN
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1 Warnings, Cautions, and Notices

Read this manual thoroughly before operating or servicing this unit. 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 equipment or property-damage only accidents.
- 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-including industry replacements for CFCs such as HCFCs and HFCs.

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.

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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 electrical codes.

WARNING
Personal Protective Equipment Required!
 Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards. Before installing/servicing this unit, technicians MUST put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. ALWAYS refer to appropriate SDS sheets and OSHA guidelines for proper PPE. When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations. If there is a risk of arc or flash, technicians MUST put on all necessary Personal Protective Equipment (PPE) in accordance with NFPA70E for arc/flash protection PRIOR to servicing the unit. Failure to follow recommendations could result in death or serious injury.

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.

3 Parts List

Qty	Description
1	Actuator, Economizer
1	Angle Bracket
1	Control Module, Economizer
1	Harness, Economizer Module Adapter
1	Harness, Powered Exhaust
2	Label, Controls Modification
1	O-Ring Grommet, Outdoor Air Sensor
3	Quick Splice; 14 ga. (Blue)
6	Quick Splice; 18 ga. (Red)
2	Screws, Angle Bracket; #6-32 x 0.50; Phillips Head
4	Screws, Economizer Actuator Mount; #10-32 x 0.50; Hex Locking Head
1	Screw, Economizer Module Mount; #6-19 x 0.75; Torx Pan Head
1	Sensor, Mixed Air (X1379_0099_180)
1	Sensor, Outdoor Air (X1379_099_210)
1	Snap Bushing, Outdoor Air Sensor
3	Wire Tie
10	Wire Tie; Pop-In
1	Document: ACC-SVN57J*-EN Powered Exhaust 6 to 10 Ton
1	Document: ACC-SVN105*-EN Powered Exhaust 3 to 5 Ton

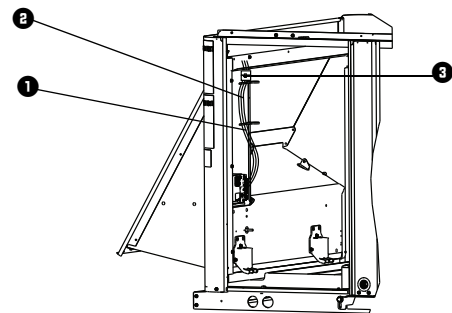
Installation

1. Disconnect economizer adapter harness ① from unit harness ②. The harness is disconnected by unplugging a 9-pin quick connect ③ located above economizer module.

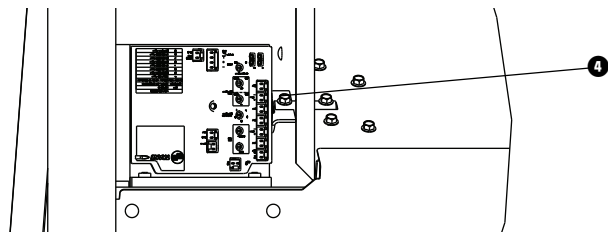
Note: If the unit has a powered exhaust kit installed, follow the installation instructions to complete the following steps:

- a. Remove and replace the powered exhaust harness.
- b. Remove the damper switch kit.

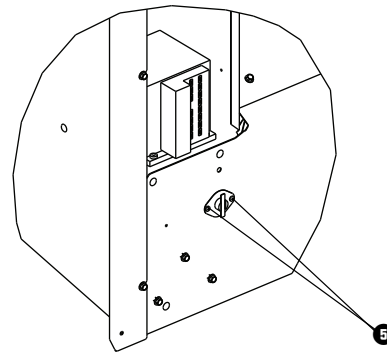
2. Remove the 2 pop-in wire ties securing the economizer adapter harness to the economizer.



3. Remove actuator/damper interconnect lock screw ④. The interconnect is secured with two lock screws. The screw closest to the actuator is the only screw that should be removed.

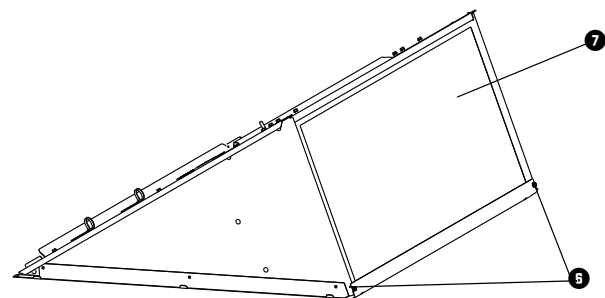


4. Remove the outdoor air switch mount screws ⑤ and remove the switch from its mounting hole. Let the switch hang from the wiring.

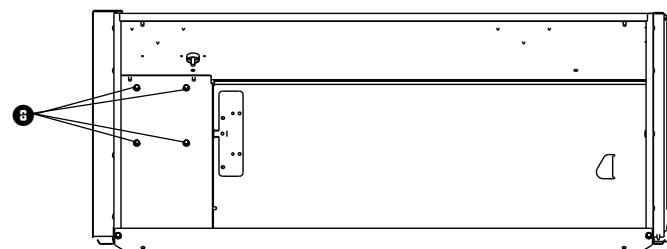


Note: The mist eliminator and actuator mount screws are accessed external to the unit on the underside of the economizer.

5. Remove mist eliminator retainer mount screws ⑥ and remove the mist eliminator ⑦.



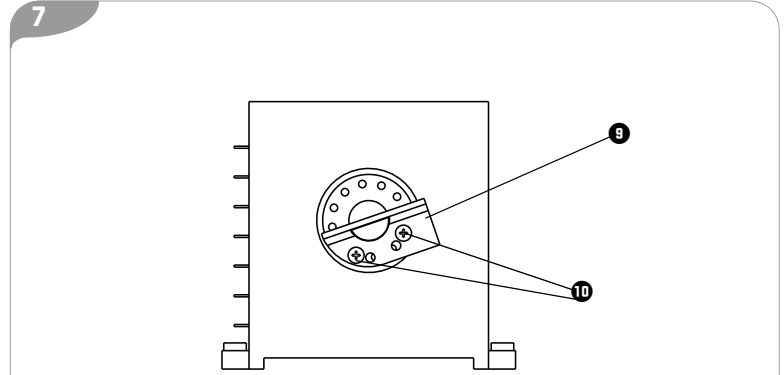
6. The economizer actuator is under a pre-load with the damper blade. As the economizer actuator mount bolts are removed the actuator will shift slightly.
7. Remove the four economizer actuator mount screws ⑧.



8. Remove the economizer actuator/module assembly, adapter harness, outdoor air switch, and wiring.

Note: Motorized damper applications will not have outdoor air switch.

9. Mount the actuator lever ⑨ to the new actuator with two screws ⑩. The lever will be angled slightly downward as shown. The removed actuator may be used as reference.



10. Lay the new actuator in the economizer and align actuator lever with the actuator/damper interconnect. Secure lever to interconnect with new lock screw. The actuator when mounted is now pre-loaded to remain closed with power off.

11. Secure the actuator to the economizer with four new mount screws. The actuator will have a preload. An assistant may be required to hold it firmly in place while mount screws are threaded into the actuator. To avoid cross-threading the actuator threads, start all screws using hand torque.

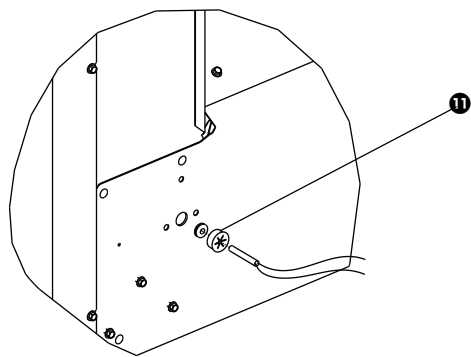
12. Install new module onto the actuator with one mount screw.
13. Replace the mist eliminator and secure it with the two retainer mount screws.

14. Connect the adapter harness to the unit harness with the 9-pin quick connect. Secure the harness to the economizer with two pop-in wire ties.

Note: For motorized damper applications skip to Step 16 for module connections.

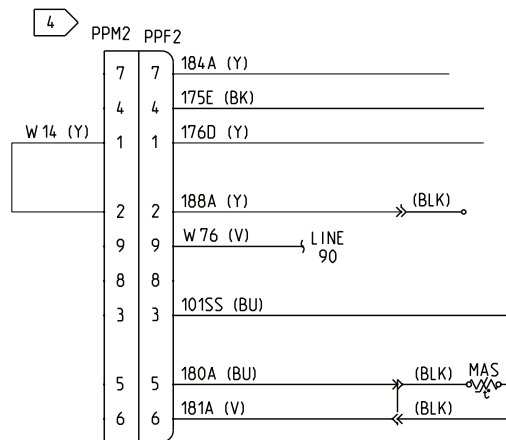
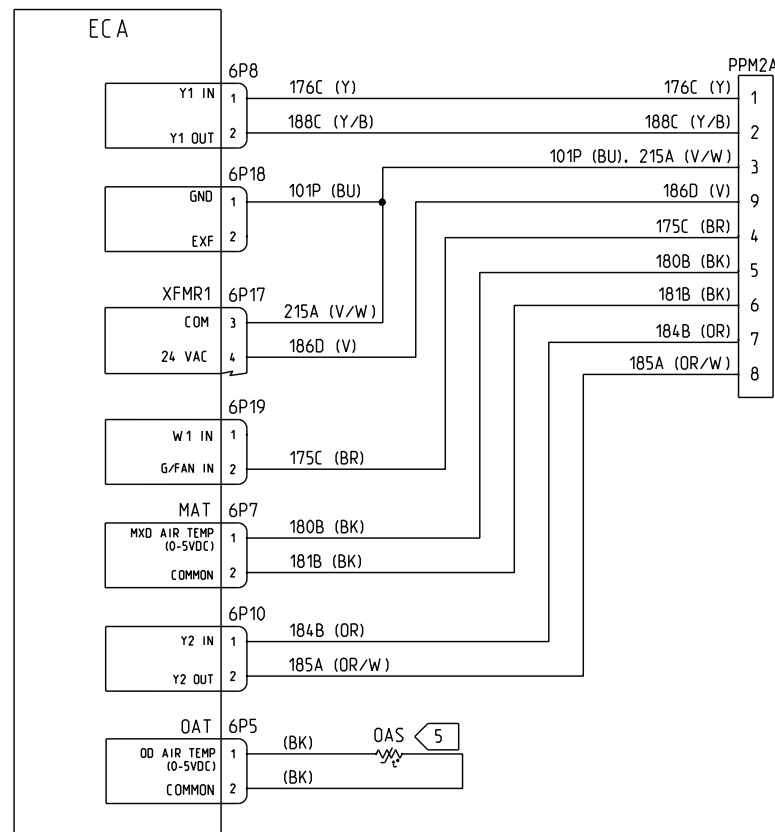
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15. Install the new outdoor air sensor 11 into the mount hole.



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16. Make wire connection to actuator module as shown.



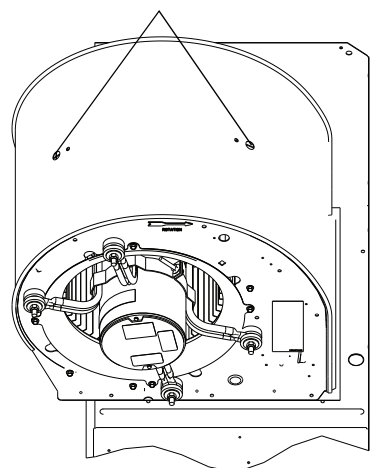
[] ALTERNATE WIRE NUMBERS
*WIRE MAY NOT BE PRESENT

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Install Mixed Air Sensor

Note: For motorized damper applications mixed air sensor is not required. Skip to minimum position setting.

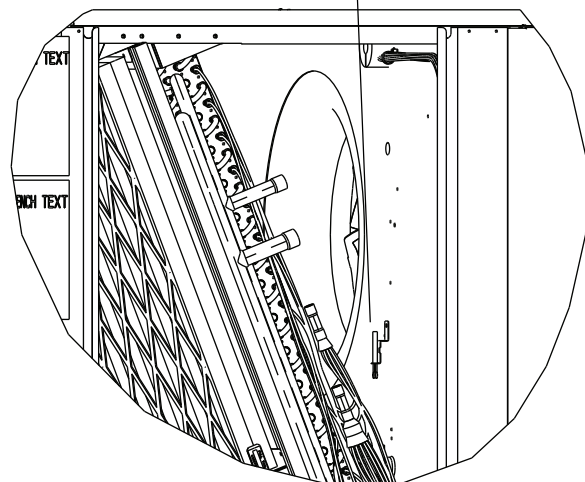
Mixed Air Sensor may be mounted in either location on



1. Remove the existing mixed air sensor and wire tie. Retain sensor mounting hardware for new sensor installation.
 2. Disconnect the mixed air sensor from unit harness. The sensor connects to the unit harness with two 1/4" quick connects.
 3. Install the new mixed air sensor, reverse of Step 1 and Step 2.
- Note:** The new mixed air sensor is similar in design to the existing sensor, but the new sensor detects temperature in a different manner. The new sensor must be used for proper economizer operation.
4. Insert wiring harness plug PPM2A into the actuator motor wiring harness, and then replace the access panels

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Sensor mounting location on units with plenum fans



Minimum Position Setting

WARNING

Live Electrical Components!
Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury. When necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

1. Apply power to the unit.

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2. Place the thermostat fan selector in the fan "ON" position and the heat/cool selector in the "OFF" position to place the damper in the minimum ventilation position.
3. Turn the min pos potentiometer (on the rooftop economizer module [RTEM]) clockwise to open or counterclockwise to close. The damper will open to this setting each time the blower circuit is energized. When adjusting minimum position, the damper may move to the new setting in several small steps.

Dry Bulb Settings

Standard economizer dry bulb changeover is field selectable to four outdoor temperatures. See Table 1 for potentiometer settings. The selection is made on the RTEM.

Table 1. Potentiometer settings

Potentiometer Setting	Dry Bulb	Enthalpy
A	73°F (22.8°C)	27 Btu/lb (63 kJ/kg)
B	70°F (21.1°C)	25 Btu/lb (58 kJ/kg)
C	67°F ^(a) (19.4°C)	23 Btu/lb (53 kJ/kg)
D	63°F (17.2°C)	22 Btu/lb (51 kJ/kg)
E	55°F (12.8°C)	19 Btu/lb (44 KJ/Kg)

(a) Factory setting

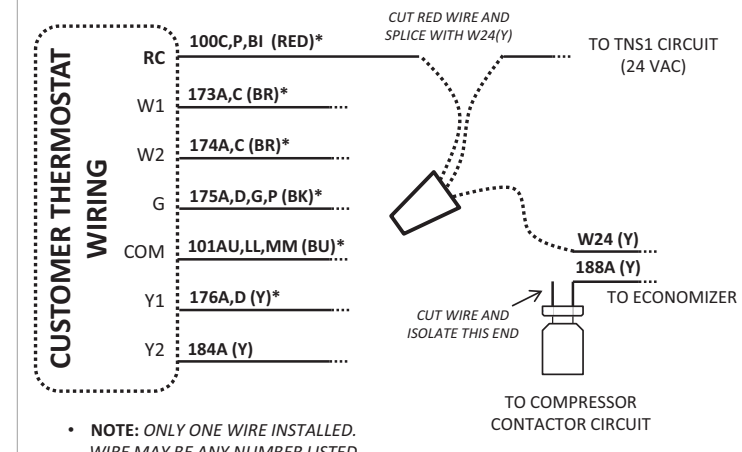
Table 2. Economizer option controls

Control Option	Enable Conditions ^(a)	Optional Sensors Required
Dry Bulb (standard)	See Table 1	None

(a) Economizing is enabled when these conditions are met

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17. Locate red wire that connects to thermostat "RC". Unit wire may be listed 100BI, 100C, or 100P. Do not cut wire until Step 21.
18. Locate W24(Y) that terminates into an insulated connector shared with 188A(Y). Wire is routed in same wire bundle as wire in Step 1.
19. Cut wire W24 from insulated connector that contains W4 AND 188A
20. Loosen W24 from bundle to allow enough length to splice with wire (100) from Step 1.
21. Cut wire located in Step 1.
22. Strip the three ends, [W24 and both ends of 100*(R)], and splice together with a wire nut.



NOTE: ONLY ONE WIRE INSTALLED. WIRE MAY BE ANY NUMBER LISTED

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