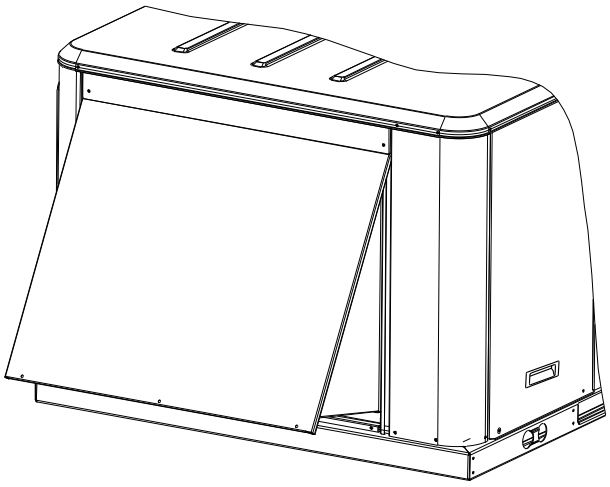
Installer's Guide

Economizer

Packaged Rooftop Units



Model Number:	Used With:	
BAYECON085A	TSC/YSC036E-060E*R THC/YHC036E*R WSC036E-048E*R	WSC060EDR
BAYECON086A	THC/YHC036E*E	TSC/YSC036E-060E*E
BAYECON087A	THC/YHC048E-120E*R TSC072E-120E*R YSC072E-120E*R	WSC060E(3/4/W)R WSC072E-120E*R
BAYECON088A	THC/YHC048E-120E*E TSC072-120E*E YSC072-120E*E	

January 2010 **ACC-SVN44D-EN**

Warnings, Cautions and Notices

Warnings, Cautions and Notices. Note that warnings, cautions and notices appear at appropriate intervals throughout this manual. Warnings are provided to alert installing contractors to potential hazards that could result in personal injury or death. Cautions are designed to alert personnel to hazardous situations that could result in personal injury, while notices indicate a situation that could result in equipment or property-damage-only accidents.
Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

ATTENTION: Warnings, Cautions and Notices appear at appropriate sections throughout this literature. Read these carefully.

⚠**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-including industry replacements for CFCs such as HCFCs and HFCs.

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. 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
Personal Protective Equipment (PPE) 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 MSDS sheets and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate MSDS 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.

Table of Contents

Installation

Model Number Description

All products are identified by a multiple-character model number that precisely identifies a particular type of unit. Its use will enable the owner/operator, installing contractors, and service engineers to define the operation, specific components, and other options for any specific unit.

When ordering replacement parts or requesting service, be sure to refer to the specific model number and serial number printed on the unit nameplate.

Parts List

- 1 - Economizer Assembly
- 1 - Mist Eliminator
- 10 - Screws (T/YSC036-060E, T/YHC036E, WSC036-048E, and WSC060ED)
- 12 - Screws (T/YSC072E-120E, T/YHC048-120E, WSC060E(3/4/W), and WSC072-120E)
- 1 - Sensor; Thermistor
- 1 - Grommet
- 1 - Tie; Wire
- 1 - Barometric Duct Blockoff Plate

Installation - Field Installed

Note: *This instruction covers installation of BAYECON085A, BAYECON086A (T/YSC036-060E, T/YHC036E, WSC036-048E, and WSC060ED) and BAYECON087A, BAYECON088A (T/YSC072E-120E, T/YHC048-120E, WSC060E(3/4/W), and WSC072-120E).*

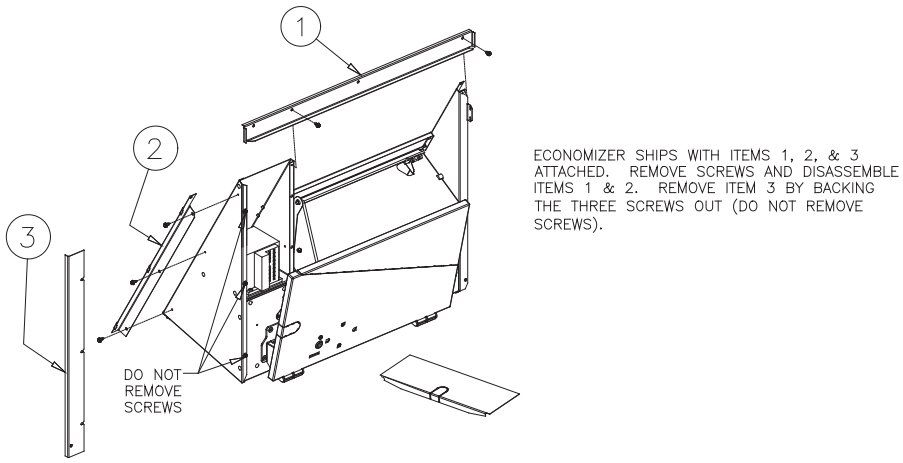
⚠WARNING
Hazardous Voltage!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

Uncrate the economizer and locate all parts shown in Figure 1, p. 5.

Each economizer ships with items 1, 2 and 3 attached. Remove screws completely from items 1 and 2. Remove item 3 by loosening the 3 screws but do not remove them. Refer to Figure 1, p. 5.

Figure 1.

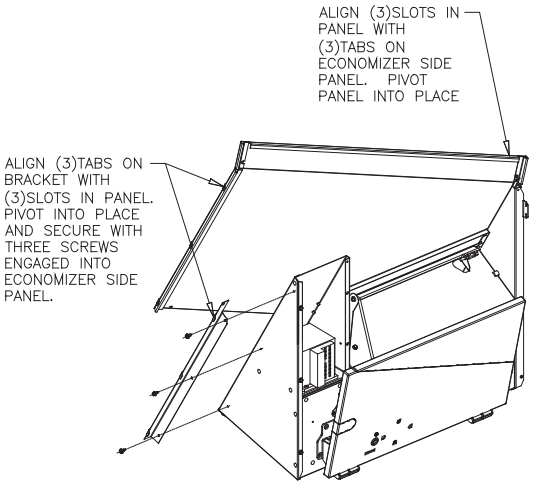


Remove unit end panel, retain the screws removed from the top of panel and the screws removed from bottom of panel for use later.

Downflow Installation

For Downflow Installation, assemble end panel to the economizer. Refer to Figure 2.

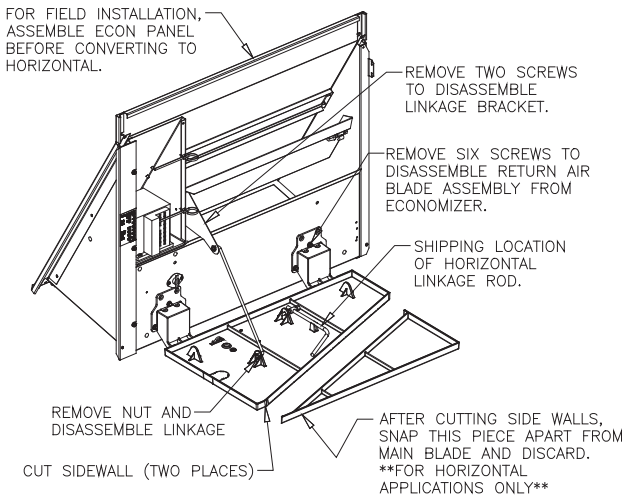
Figure 2.



Horizontal Installation

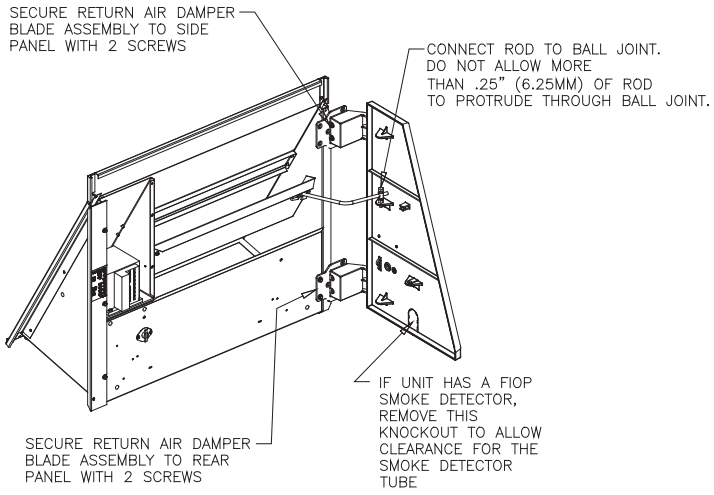
For Horizontal Installation, assemble end panel to the economizer. Refer to Figure 3 for disassembly instructions of the downflow configuration.

Figure 3.



Refer to Figure 4 for reassembly instructions to Horizontal configuration.

Figure 4.



Optional Sensors (ReliaTel Only)

If the optional sensors for humidity and temperature monitoring are to be used (BAYENTH005A and BAYENTH006B), install them now. Use the instructions provided in the kits.)

Blockoff Asssembly

The return duct blockoff plate(s) must be installed prior to the installation of the economizer in the unit. Refer to Figure 5 for installation in units without Return Air Smoke Detector. If the unit has a Return Air Smoke Detector, refer to Figure 6 for installation.

Note: *If either Power Exhaust or Barometric Relief Accessory kits are installed along with an Economizer, do not install the duct blockoff plate.*

Figure 5.

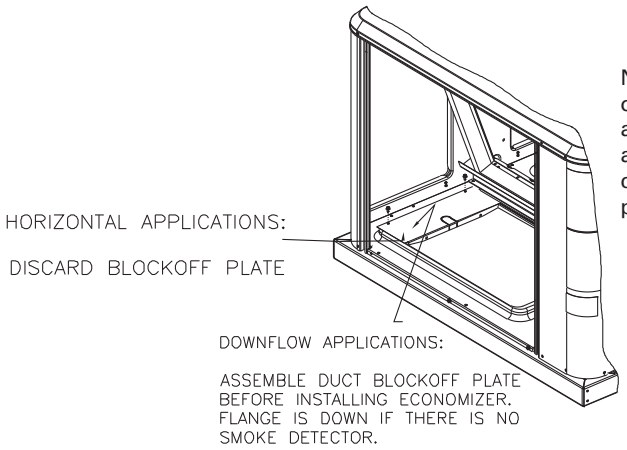
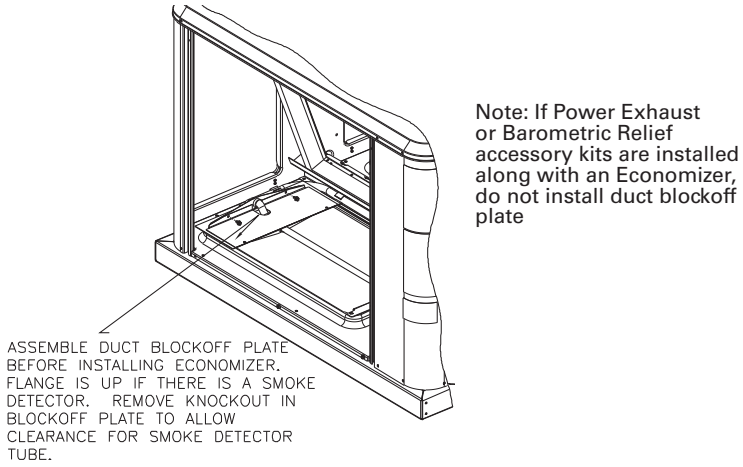


Figure 6.



Note: *On (T/YSC072E-120E, T/YHC048-120E, WSC060E(3/4/W), and WSC072-120E) downflow units only, install return air blockoff. See Figure 6.*

To install the economizer, lift into position by fitting the upper left hand corner around the channel in the cabinet post. Then pivot the economizer into the opening in the cabinet.

Once the economizer is in place, lift the economizer and panel assembly to align the upper two screw holes. Secure the top by inserting 2 screws, top left 1 then top right 2 screws.

Pull out on the bottom of the economizer and secure bottom left 3 screws.

Remove the filter access panel. Position the adapter backing plate inside the filter section. The adapter backing plate will slip over the 3 screws that were loosened in Figure 1, p. 5. Align the screw engagement hole in the adapter backing plate, with the screw clearance hole in panel and secure lower right side of economizer with screw 4.

Install the bottom blockoff and secure with 3 screws.

Install the Mixed Air Sensor with grommet, secure with pop-in wire tie. Connect to exiting jumper connections located in the Indoor Fan Section.

Figure 7. Mixed Air Sensor figure for units with FC fan (All units except Y/TSC120E(3/4/W), Y/THC092-120E, WSC120E(3/4/W)

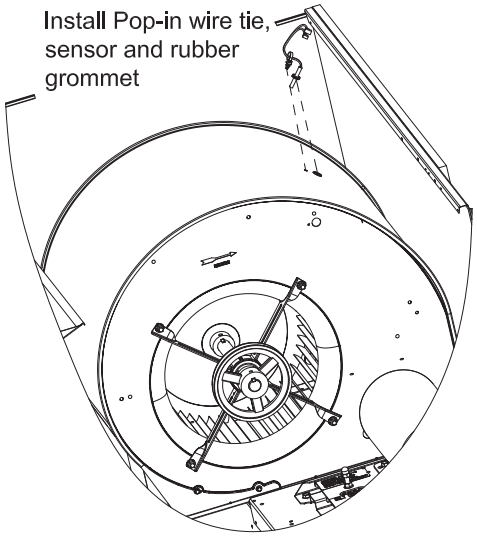
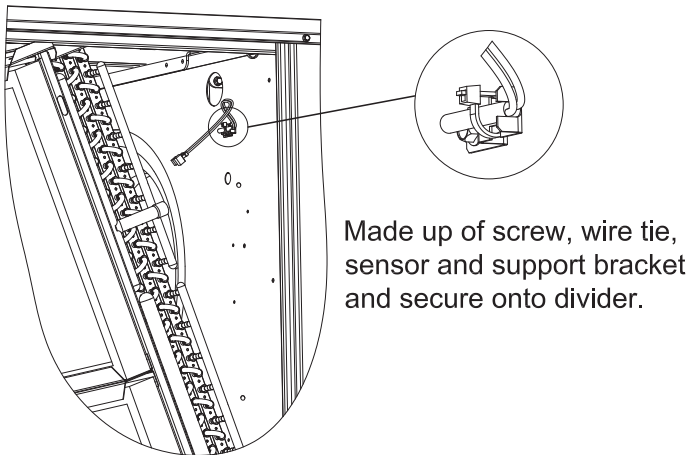


Figure 8. Mixed Air Sensor for units with Plenum fan (Y/TSC120E(3/4/W), Y/THC092-120E, WSC120E(3/4/W)



Wiring Connections ReliaTel Units

Locate unit wiring harness plug P7 and plug into J7 on the actuator motor.

Note: *If Options Module (RTOM) is not installed then connect plug 3P4 to 3J4 on the Refrigeration Module (RTRM) in the control box.*

Electromechanical Units

Locate unit wiring harness plug PPM2A and plug into the actuator motor wiring harness.

Replace access panels.

Factory Installed Economizer Set-Up

Downflow Configuration

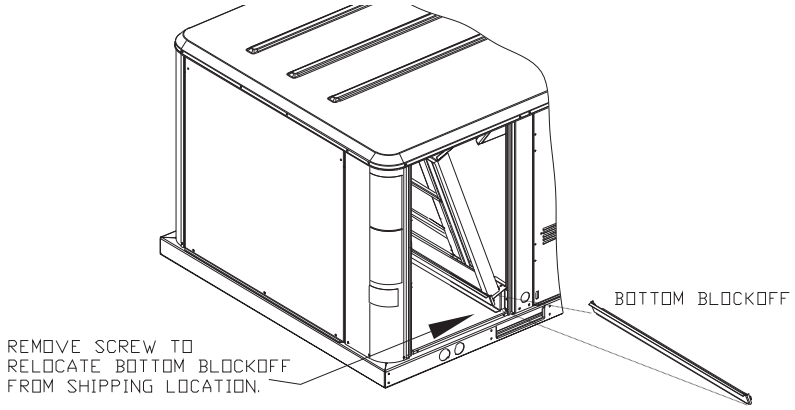
To position economizer for Downflow operation, complete the following steps:

⚠WARNING
Hazardous Voltage!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

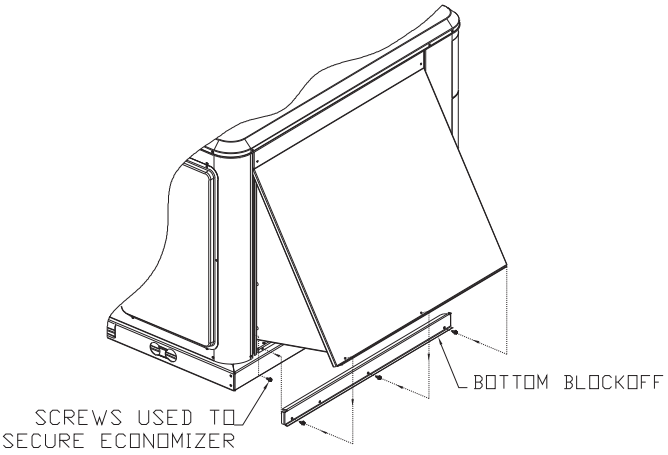
1. Remove filter access panel.
2. Remove bottom blockoff from its shipping location. See Figure 9.

Figure 9.



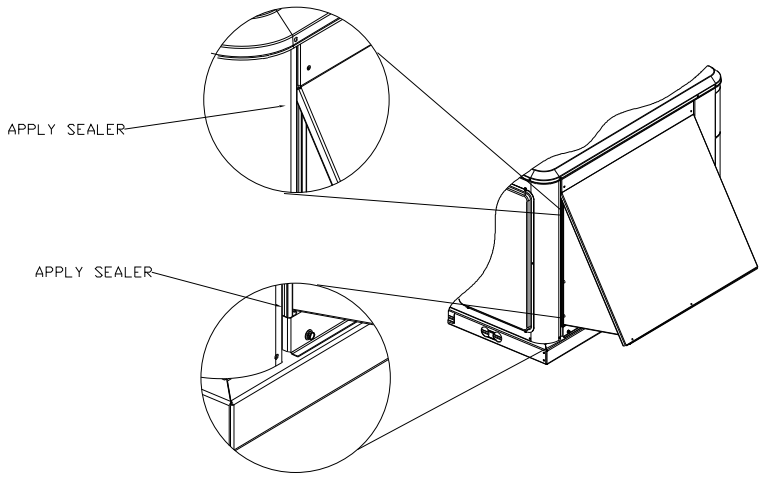
3. Remove the bottom three screws from the economizer panel.
4. Pull the economizer assembly out into operating position as shown in Figure 10.
5. Secure the economizer assembly with 2 screws at the bottom of the corner posts.
6. Install bottom blockoff and secure with 3 screws.

Figure 10.



7. Using field supplied silicone, apply sealant around economizer hood as shown in Figure 11 below.

Figure 11.



Horizontal Configuration

To position economizer for horizontal operation, complete the following steps:

1. Remove filter access panel.
2. Remove item 3, adapter panel shown in Figure 1, p. 5.
3. Remove the bottom three screws and top two screws from the economizer panel.
4. Remove return air blockoff.
5. Pull the economizer assembly and end panel out of the unit.
6. Refer to Figure 3, p. 6 and Figure 4, p. 6 for reassembly instructions to Horizontal configuration.

Note: *(ReliaTel units only) If optional sensors for humidity and temperature monitoring are to be used (BAYENTH005A and BAYENTH006B), install them now. Use the instructions provided in the kits.)*

7. Remove supply and return duct covers from the horizontal openings and install over the downflow opening.
8. To reinstall the economizer, lift into position by fitting the upper left hand corner around the channel in the cabinet post. Then pivot the economizer into the opening in the cabinet.
9. Lift the economizer and panel assembly to align the upper two screw holes. Secure the top by inserting 2 screws, top left 1 then top right 2.
10. Pull out on the bottom of the economizer and secure bottom left 3.
11. Replace adapter panel removed in Step 2.
12. Secure bottom right with screw engaging into adapter panel.
13. Install the bottom blockoff and secure with 3 screws. Refer to Figure 10, p. 9.
14. Using field supplied silicone, apply sealant around economizer hood as shown in Figure 11.

Minimum Position Setting

To adjust the minimum position setting and check out the economizer, the power must be connected.

Close the unit disconnect and place the zone sensor fan selector in the fan "ON" position and the heat/cool selector in the "OFF" position. This will place the damper in the minimum ventilation position.

To adjust the minimum position setting for the required ventilation air, turn the potentiometer (on the ECA) clockwise to "open" (to increase the amount of ventilation) or counterclockwise to "close" (to decrease the amount of ventilation). 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. Once the damper has remained in position for 10 - 15 seconds without movement, it can be assumed it is at the new position.

Replace the filter access panel.

The damper will close when the blower circuit is de-energized.

Dry Bulb Settings

Standard economizer dry bulb changeover is field selectable to 4 outdoor temperatures. See the following table for potentiometer settings. The selection is made on the ECA.

Reference Enthalpy Settings

Economizer enthalpy changeover is field selectable to 4 points. See the following table for potentiometer settings. The selection is made on the ECA.

Table 1. Potentiometer settings

Potentiometer Setting	Dry Bulb	Enthalpy
A	73F* (22.8C)	27 Btu/lb (63 kJ/kg)
B	70F (21.1C)	25 Btu/lb (58 kJ/kg)
C	67F (19.4C)	23 Btu/lb (53 kJ/kg)
D	63F (17.2C)	22 Btu/lb (51 kJ/kg)

* Factory Setting

Table 2. Economizer option controls

Control Option	Enable Conditions*	Optional Sensors Required**
Dry Bulb (standard)	See Previous Table	None
Reference Enthalpy (ReliaTel Only)	See Previous Table	Outdoor Humidity (BAYENTH005A)
Comparative Enthalpy (ReliaTel Only)	Outdoor Air Enthalpy 3.0 BTU/lb. less than Return Air Enthalpy	Outdoor Humidity Return Humidity Return Temperature (BAYENTH006B)

* - Economizing is enabled when these conditions are met.
** - Conditions level will be self configured when optional sensors are connected.

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