Installer's Guide

Horizontal Economizer & Rain Hood

Model:	Used with:
BAYECON200A	2/4TC*,WC*,YC*,DC* *018-036A
BAYECON201A	2/4TC*,WC*,YC*,DC* *042-060A
BAYRLAY004A	(Required with WC* models)

⚠ WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER BEFORE SERVICING

ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES

IMPORTANT — This Document is **customer property** and is to remain with this unit. Please return to service information pack upon completion of work.

General

The economizer is a multi-damper design. It inserts into the return air stream and is connected to the unit low voltage supply through wire leads. The economizer is fully accessible through an access panel.

Important: The Economizer installation requires that you first install an air filter rack ordered separately. Use:
BAYFLTR101A for 2/4YC*, WC*, TC*, DC* *018-3036A
BAYFLTR201A for 2/4YC*, WC*, TC*, DC* *042-3060A.

When the economizer is installed in WC* models, relay accessory kit BAYRLAY004A is required. Refer to the drawing on page 6 to make your relay wiring connections in the Control Box.

Identify Economizer Kit Contents

Refer to Figure 2 on page 3 to identify the kit contents.

Inspect Contents

You must report damage and make claims to the transportation company immediately. Report missing parts to your supplier immediately and replace with authorized parts only.

! WARNING

ELECTRIC SHOCK HAZARD
OPEN AND LOCK OUT ALL UNIT DISCONNECTS PRIOR TO ACCESSORY INSTALLATION OR UNIT MAINTENANCE, TO PREVENT INJURY OR DEATH FROM ELECTRICAL SHOCK OR CONTACT WITH MOVING PARTS.

! WARNING

SAFETY HAZARD
DO NOT REMOVE END COVERS FROM ECONOMIZER ACTUATOR; THE SPRING-RETURN ASSEMBLY MAY RELEASE AND CAUSE PERSONAL INJURY.

Install Economizer Kit

1. Remove the unit economizer/filter access panel, the evaporator coil and blower access panel, and the electri cal control box access panel, see Figure 1 on page 2.
2. Filter frame must be installed prior to economizer installation.
3. Apply two gaskets to horizontal economizer mounting flanges. See Figure 2 on page 3.

4a. **Small Cabinet - BAYECON200A**
(TC*,WC*,YC*,DC* *018A to 3036A)

Set the horizontal economizer over the horizontal return air opening on the unit. The notches in the bottom flange of the economizer clear the two existing screws below the return air opening of the unit.

4b. **Medium Cabinet Only - - BAYECON201A**

(TC*,WC*,YC*,DC* *042A to 3060A)

Apply a gasket to the economizer and slide the top flange of the economizer under the lip between the top and bottom sections of the unit. Mate the notches on the top flange of the economizer with the existing screws between the top and bottom sections of the unit. The notches on the bottom flange of the economizer clear the two existing screws below the return air opening of the unit.

! CAUTION

Use care when inserting the economizer in the return air compartment, to prevent damaging the foil faced insulation.

5. Drill three (3) 9/64" holes through the mating holes in the top flange of economizer and into the unit. Then, drive three (3) #10 sheet metal screws to secure the top.
6. Drill three (3) 9/64" engagement holes on each side of the economizer. Then, drive three (3) #10 sheet metal screws into each side of the economizer to the unit.
7. Mount the Mixed Air sensor to the left Blower partition using two sheetmetal screw. See Figure 4, page 4. The 2 yellow wires will connect to the Economizer wiring harness in a later step. Install any economizer options (enthalpy sensor or CO2 sensor) at this time per instructions provided with the sensor.
8. Apply a gasket to the Rain Hood flanges. See Figure 2.
9. Place the Rain Hood over the horizontal return air opening of the economizer. See Figure 2. Use the #10 sheet metal screws provided to attach the hood to the economizer.
10. Route the main wiring harness. From the Economizer assembly, route the main wiring harness to the Mixed Air sensor and to the Control Box. See Figure 3.
11. Connect the two (2) Mixed Air Sensor wires (pulled from harness) to the mating pigtail wires (with Stake-Ons) from the Mixed Air Sensor.
12. In the Control Box, complete the wiring connections per the wiring diagram on page 5. Secure all wires with wire ties so that there is no interference with any moving parts in the unit.

    IMPORTANT - When the economizer is installed in heat pump models (WC*), a relay accessory kit (BAYRLAY004A) is required. Mount relay accessory kit in unit control box as illustrated on page 6.
13. Attach the return duct to the economizer.
14. Power the economizer and run the checkout procedure on page 7. Make desired adjustments to the controller: set the minimum occupied damper position, set the outside air (if enthalpy used), and the IAQ sensor (if used).
15. Replace the unit Coil access panel, the Blower access panel, and the Control Box access panel.

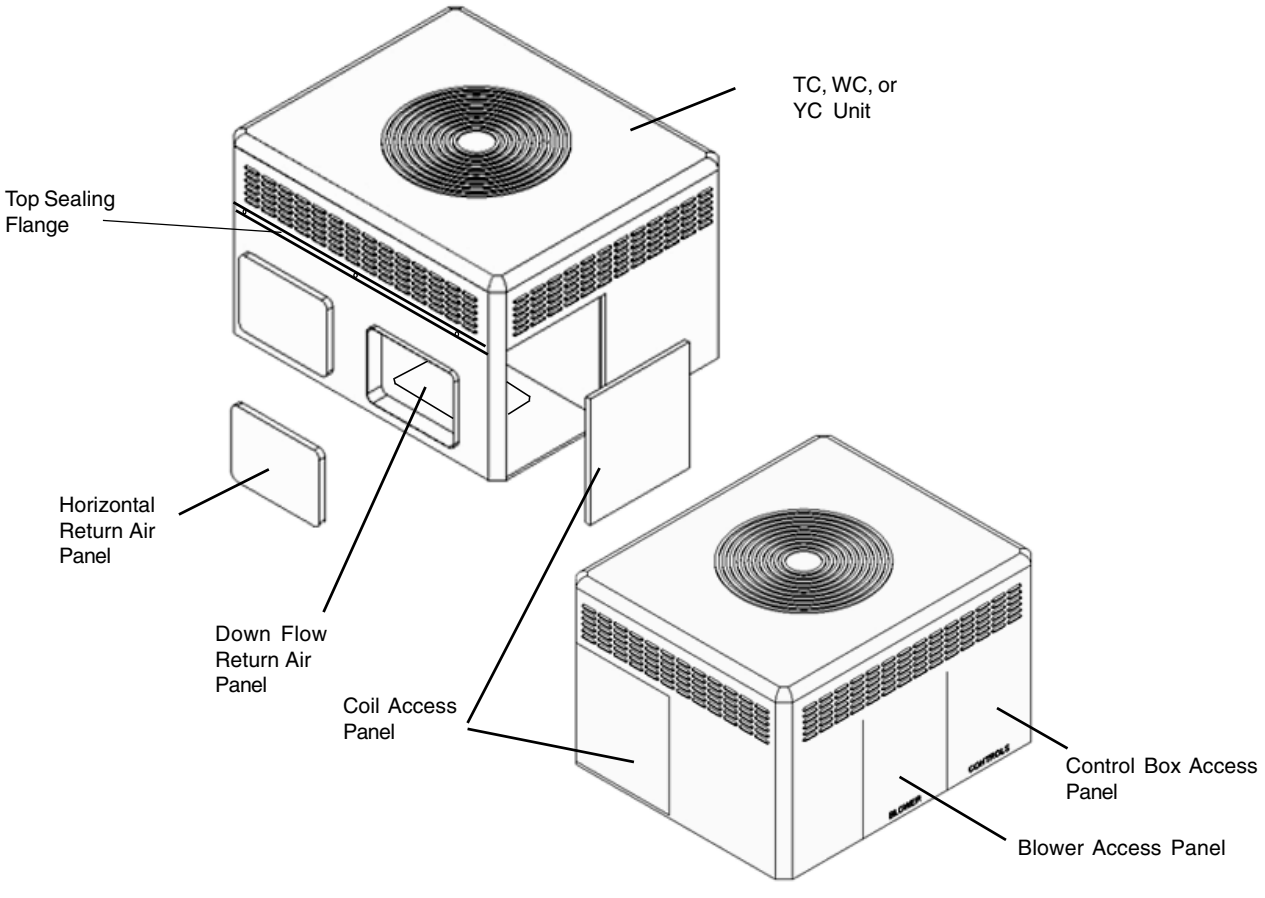
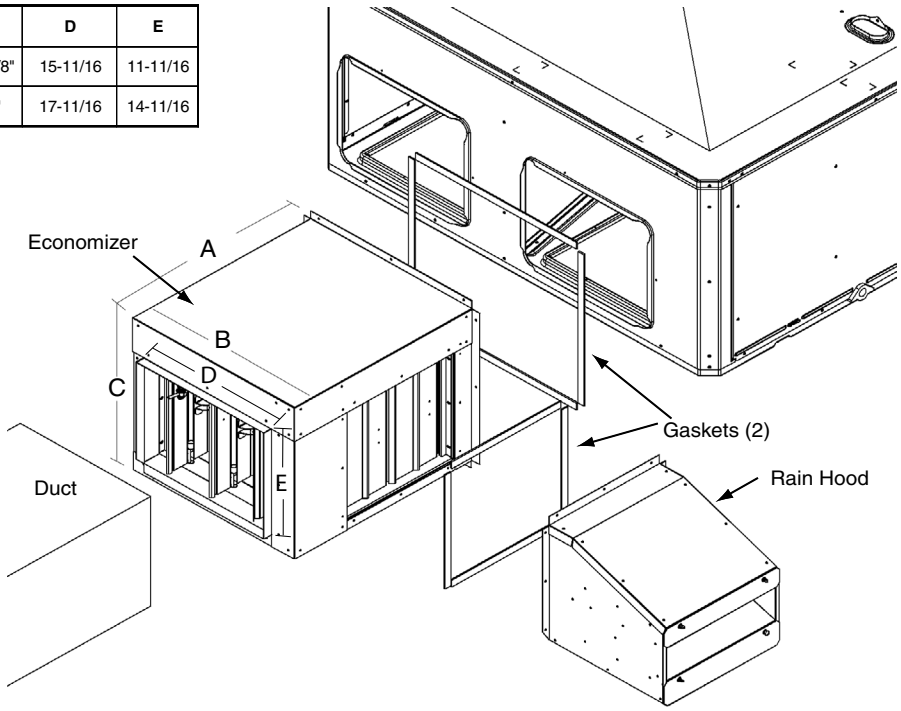


Figure 1. Remove Panels

Horizontal Economizer Assembly

Economizer	A	B	C	D	E
BAYECON200AA	22"	20"	16-7/8"	15-11/16	11-11/16
BAYECON201AA	26"	22-21/32"	19"	17-11/16	14-11/16



NOTE: BAYECON200A economizer only contains two clearance notches in the top flange.
Figure 2. Apply Two Gaskets to Mounting Flanges

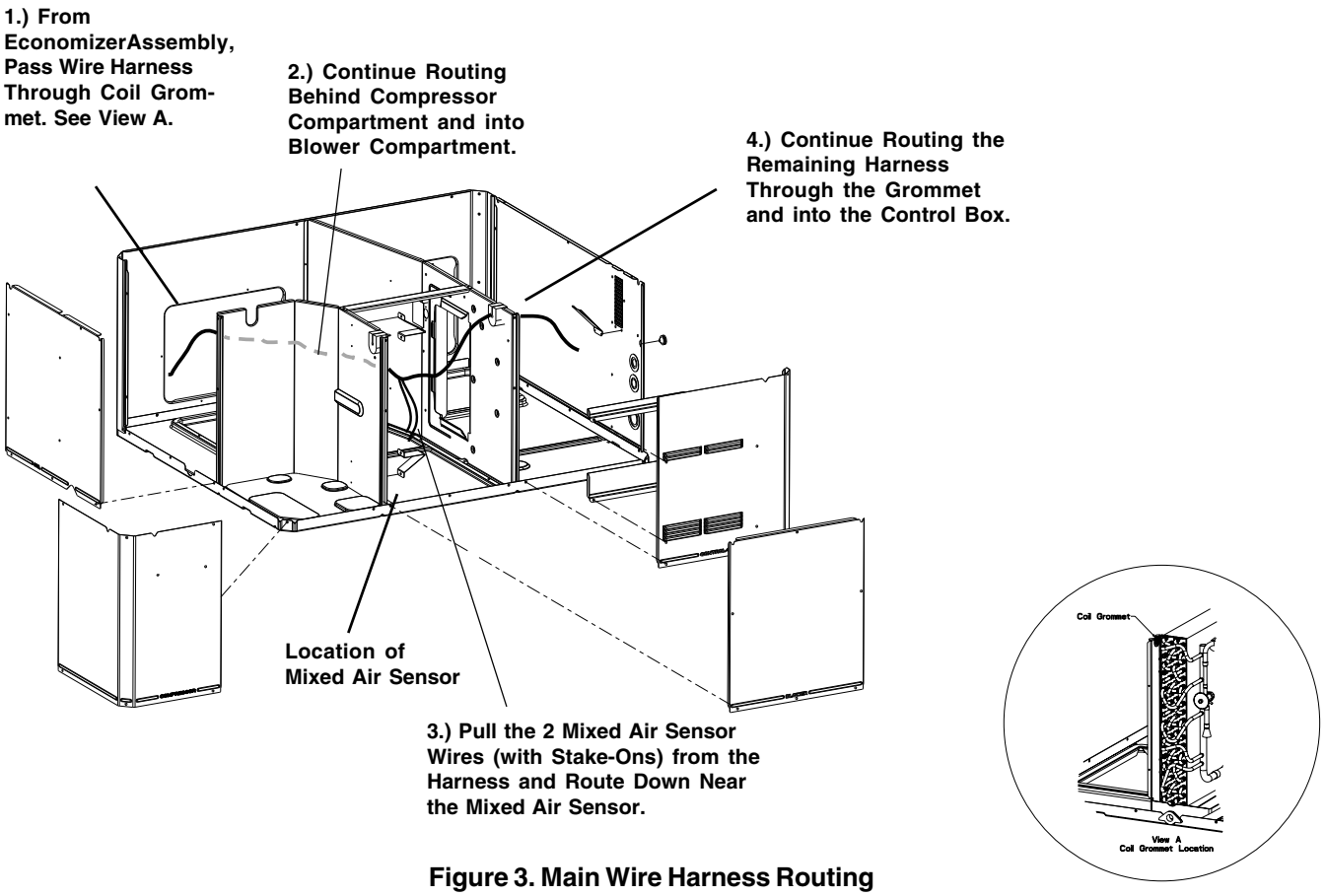
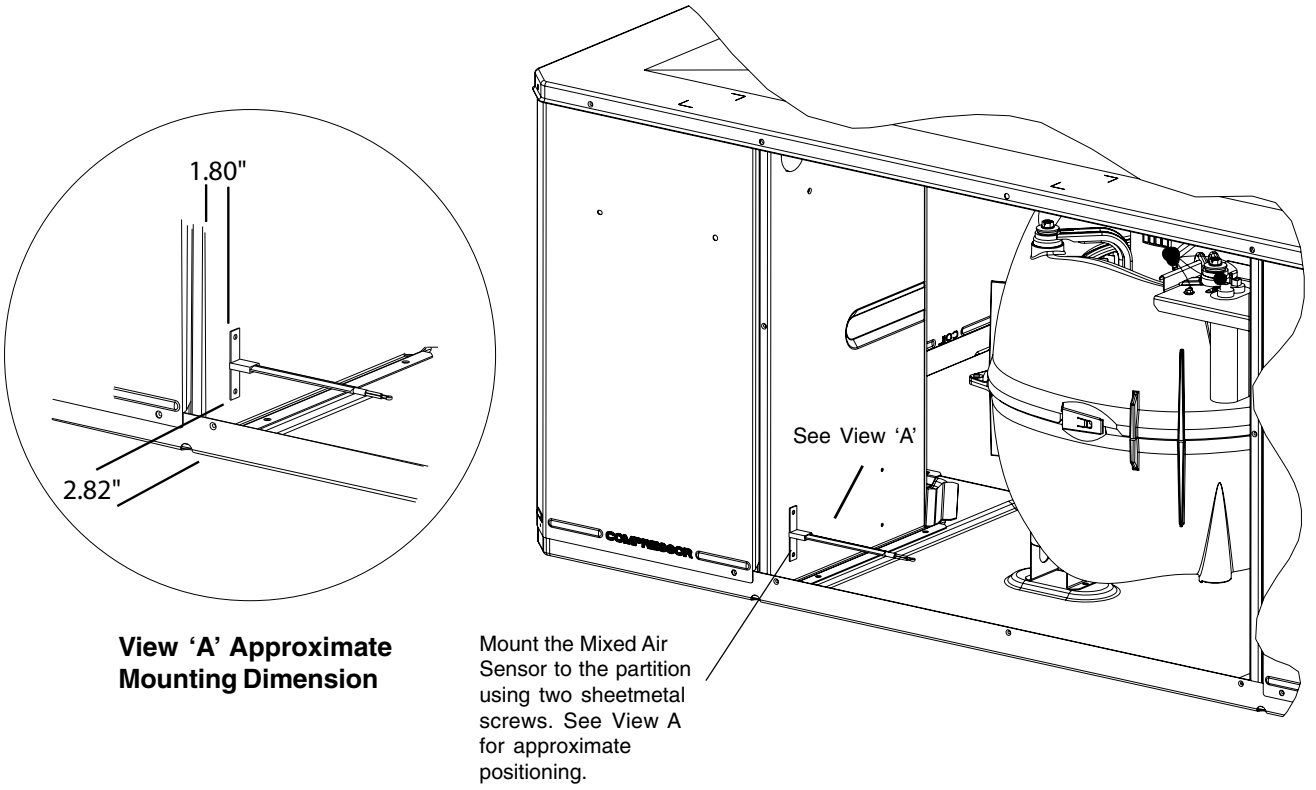


Figure 3. Main Wire Harness Routing



View 'A' Approximate Mounting Dimension

Mount the Mixed Air Sensor to the partition using two sheetmetal screws. See View A for approximate positioning.

Figure 4. Mount Mixed Air Sensor in Blower Compartment

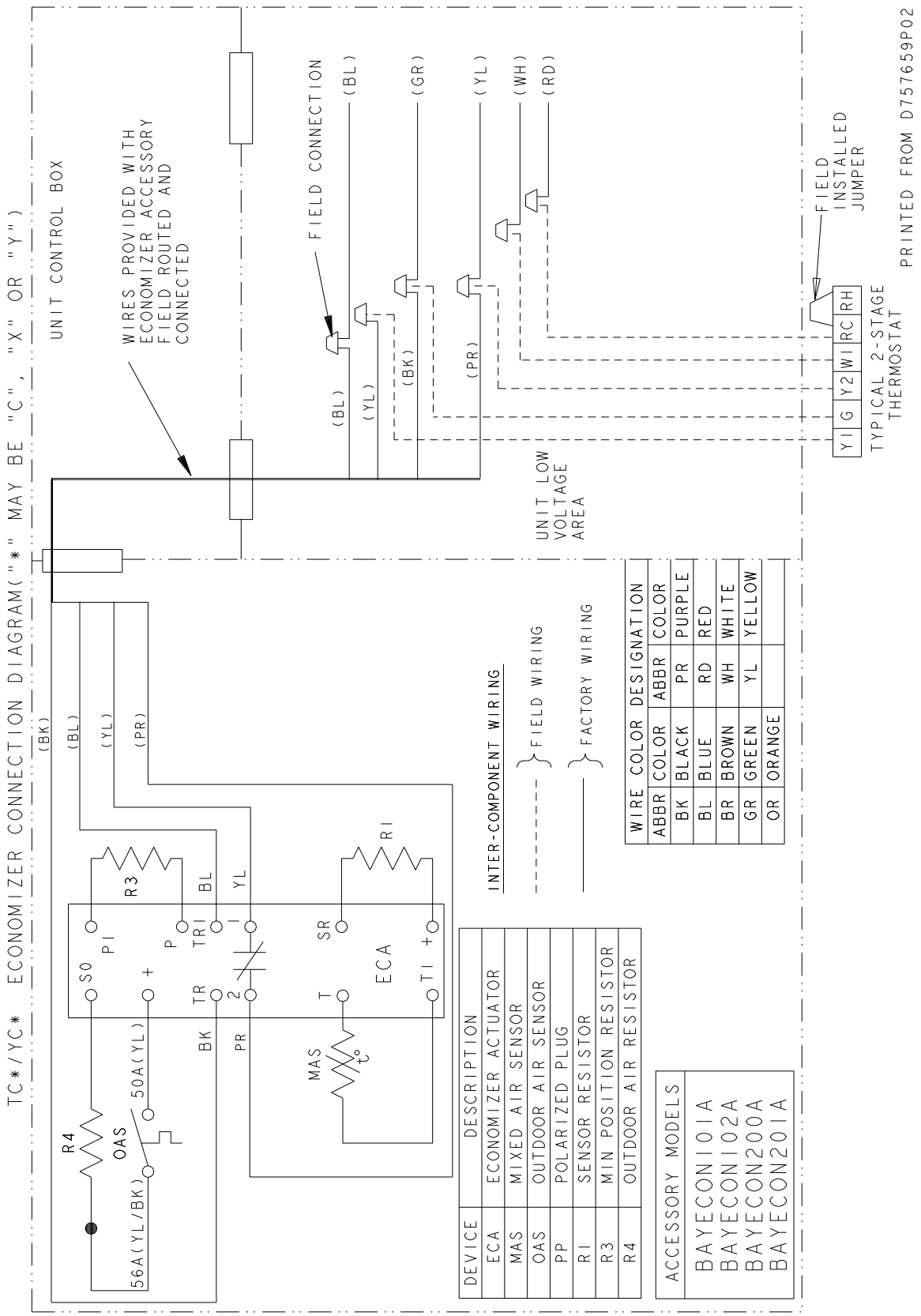


Figure 5. TC*/YC* Economizer Connection Diagram

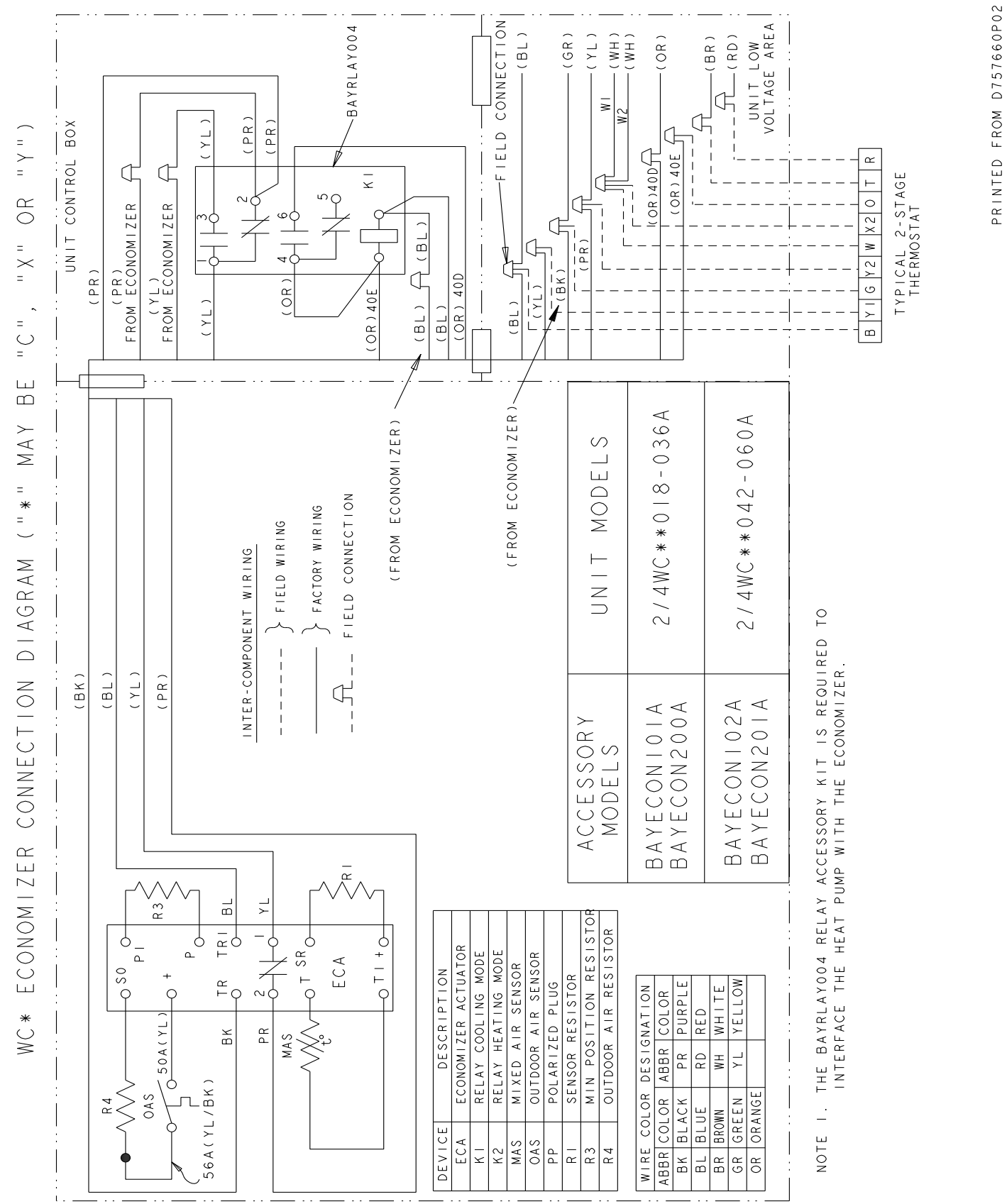


Figure 6. WC* Economizer Connection Diagram

Checkout

Operate the motor through its complete open-close stroke. If necessary, release one of the previously tightened linkage connections to prevent damage. Check for proper operation, making sure that the linkage does not bind and that the motor travels smoothly throughout its fully open and closed position. Table 1 describes how to drive motors full open and closed (power connected). If there is excess length of linkage rod, cut it to size. Make necessary minor adjustments until desired operation is obtained, and tighten all nuts and set screws. This motor checkout ensures that:

1. The motor operates the load.
2. The motor responds properly to the controller.
3. There is no binding of the linkage or motor stalling at any point of travel.

If motor does not operate properly, check for proper voltage or mechanical binding in linkage or damper.

If questions arise regarding this product, contact your distributor or representative.

Table 1. Motor Operation Checkout

MODEL	DRIVE MOTOR OPEN	DRIVE MOTOR CLOSED	SPRING RETURN
M7415	Power to TR and TR1, jumper T and T1.	Disconnect jumper at T or T1 and disconnect P or P1,if connected.	Disconnect power at TR and TR1.

Single enthalpy: The enthalpy changeover set point is set to return the outdoor air damper to minimum position when the enthalpy rises above its set point. The enthalpy set point scale markings, located on W7459, are A,B,C,D; see table for the corresponding control point. The factory-installed R4 WHITE 620-ohm jumper must be in place across terminals + and SR.

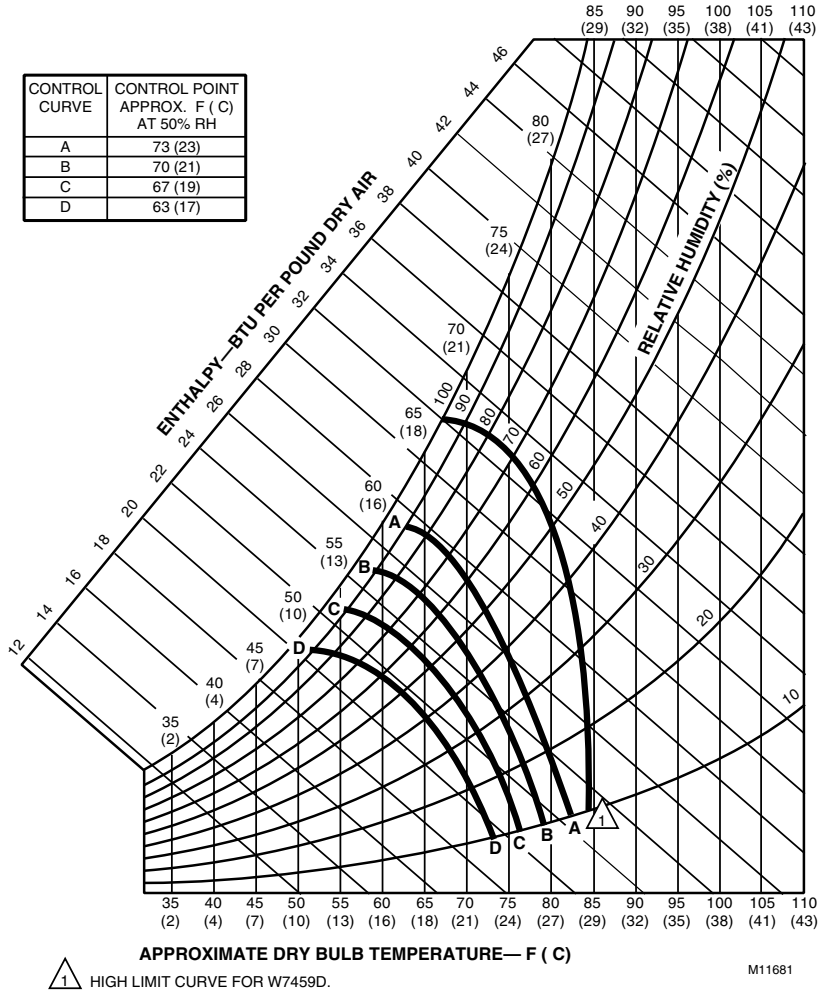
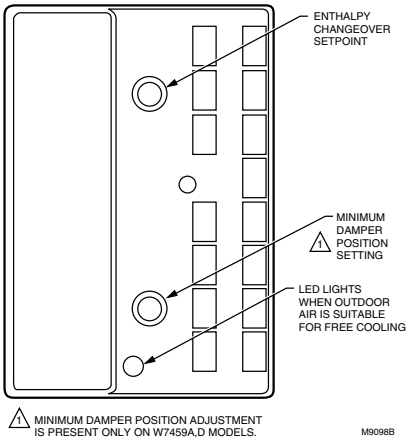


Figure 7. SINGLE ENTHALPY CHANGEOVER SET POINT

Table 2. Enthalpy Checkout Procedure

	Checkout Procedure	Response
A	1. Disconnect power at TR and TR1. 2. Disconnect jumper P to P1. 3. Jumper TR to 1. 4. Jumper T1 to T. 5. If connected, remove C7400 Solid State Enthalpy Sensor from teminals S0 and +. Ensure factory-installed 620 ohm resistor is connected to terminals Sr and +. 6. Apply power (24Vac) to terminals TR and TR1	LED is off. Motor is in closed position.
B	1. Disconnect factory-installed 620 ohm resistor from terminals Sr and +.	Led turns on, motor drives toward open.
C	1. To simulate high and low enthalpy (single enthalpy sensor) reconnect factory-installed 620 ohm resistor from termonals Sr and +. Connect 1.2K ohm 4074EJM Checkout Resistor across terminals So and +.	—
	2. Turn enthalpy setpoint potentiometer to "A".	LED turns on, indicating low enthalpy. Motor drives toward open.
	3. Turn enthalpy setpoint potentiometer to "D".	LED turns off, indicating high enthalpy. Motor drives toward closed.
	4. Disconnect the 1.2 K ohm checkout resistor.	—
D	1. To verify sensor operation, reconnect the + lead of the outdoor enthalpy sensor to the + terminal of W7459.	—
	2 Connect a DC millimeter between terminal So of the W7459A and terminal S of the enthalpy sensor. See Fig. 10 (positive meter lead to terminal S of the enthalpy sensor).	Millimeter indication is between 3 and 25 mA if sensor is operating properly. If millimeter indicates zero, the sensor may be wired backward.
	3. When using differential enthalpy, check the return air enthalpy sensor by connecting a DC millimeter between terminal Sr of the W7459A and terminal S of the return air enthalpy sensor. (positve meter lead to terminal S of the enthalpy sensor).	Millimeter indication is between 3 and 25 mA if sensor is operating properly. If millimeter indicates zero, the sensor may be wired backward.

Location of Enthalpy Set Point, Minimum Position and LED



Meter Location for Checkout and Trouble-shooting

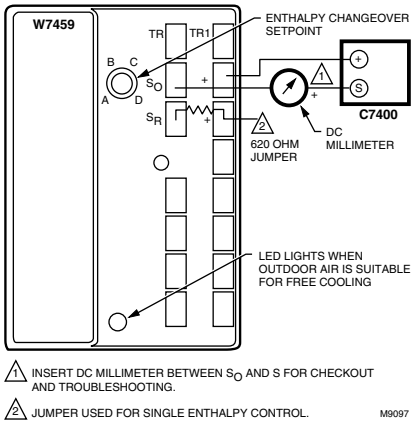


Figure 8. Enthalpy LEDs and Checkout

Trane
6200 Troup Highway
Tyler, TX 75707-9010