

# INSTALLATION INSTRUCTIONS AECON817-1 DOWNFLOW ECONOMIZER FOR SG/SH/SA 24-60 UNITS

AECON817-1 economizers are used with SG/SH/SA units for automatic sensor-controlled introduction of outdoor air into the system through an electro-mechanically controlled damper.

## **WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or gas supplier.

## **CAUTION**

Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.

### Step 1:

Check for correct number of parts. See list below.

- 1 - Economizer Assembly
- 1 - Economizer Adaptor Plate
- 2 - Internal Divider
- 1 - Outdoor Air Hood (Attached to Economizer)
- 1 - Wiring Diagram Sticker
- 8 - #10 - 16 x ½ Hex Tec Screw

### Step 2:

Disconnect all power to unit.

### Step 3:

Remove the filter access panel.

### Step 4:

Install air filter kit if not already installed. Refer to filter kit instructions.

### Step 5:

This economizer requires an upper and lower return opening. All three phase models and single phase 2 - 2.5 commercial units come with both openings. All other single phase models come only with the lower return opening. Cut the upper return opening if required. Refer to Figure 2. Upper opening is the same size as the lower opening with 2" between openings.

### Step 6:

This economizer requires control wiring connections within the unit. For models that are not already wired with the economizer harness the economizer cable provided on the economizer must be routed through the unit to the control area. The unit top panel needs to be removed in order to install the economizer cable. Route the economizer cable over the coil bracket and through the separator panel wire chase to the control box. A bend tab is provided on the coil mounting bracket. Refer to Figure 3 for wire routing.

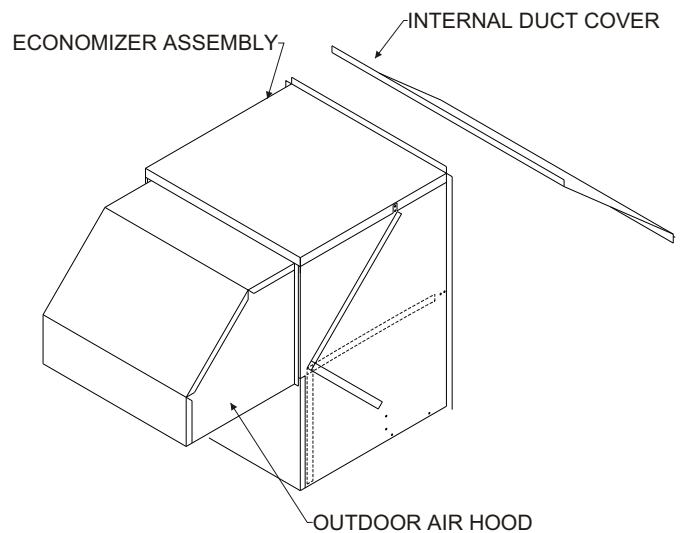


Figure 1

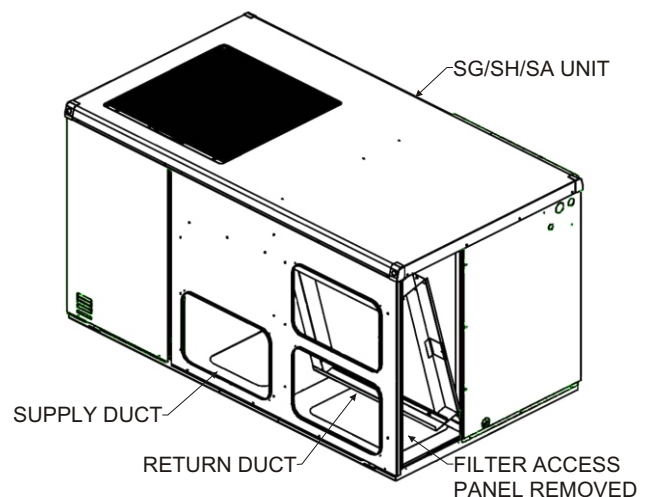


Figure 2

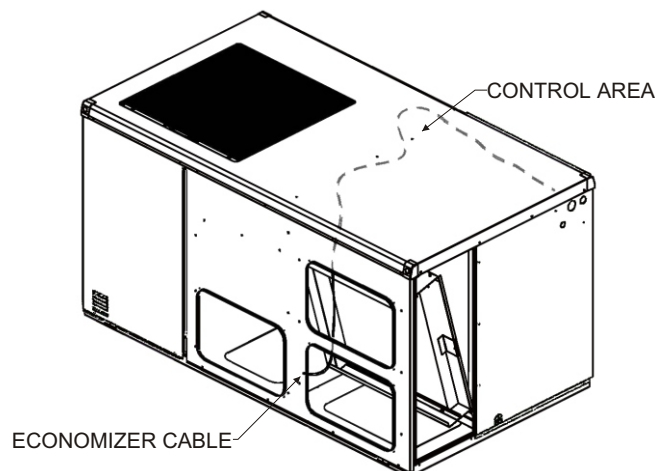


Figure 3

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**Step 7:**

Install the internal divider through the filter access panel. The internal divider goes between the two side return openings and the bottom filter rail. The internal divider must be fastened to the side return panel. There are two different internal dividers provide for the small and large cabinet unit. Refer to Figure 4.

**Step 8:**

For large cabinet units (30-60) install the adaptor plate under the top panel edge. One of the top panel screws needs to be removed for installation. Refer to Figure 6. The small cabinet units (24-30) do not use the adaptor plate.

**Step 9:**

Two of the top panel screws need to be removed on the small cabinet (24-30) to install the economizer cabinet. Attach the economizer cabinet to the side of the unit over the two return openings.

**Step 10:**

Make plug connection from the economizer to the harness plug. See the enclosed specification data for operation and check out. For heat pump units change the relay wiring as directed on the economizer wiring diagrams.

**Step 11:**

Install all access panels.

**Step 12:**

Turn power back on to the unit.

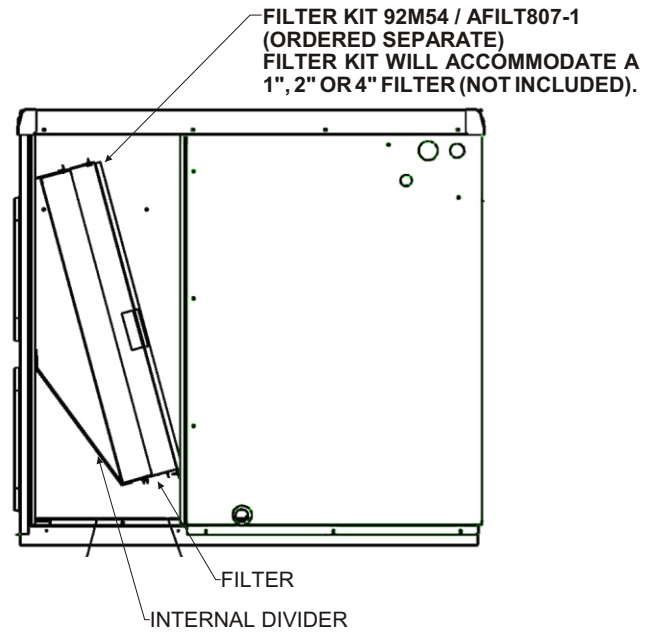


Figure 4

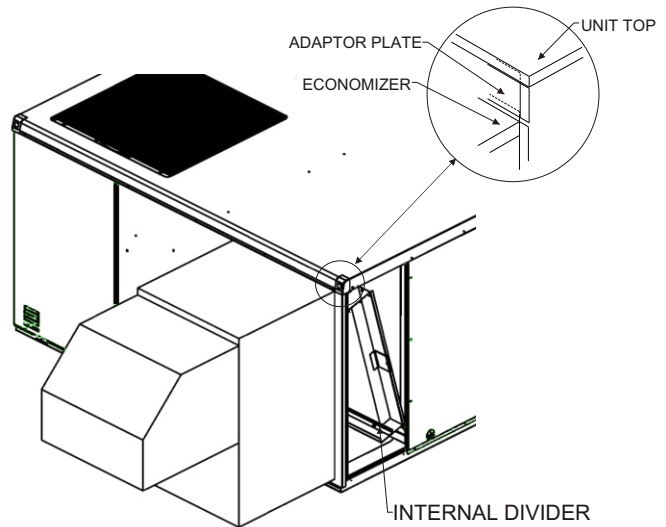


Figure 5

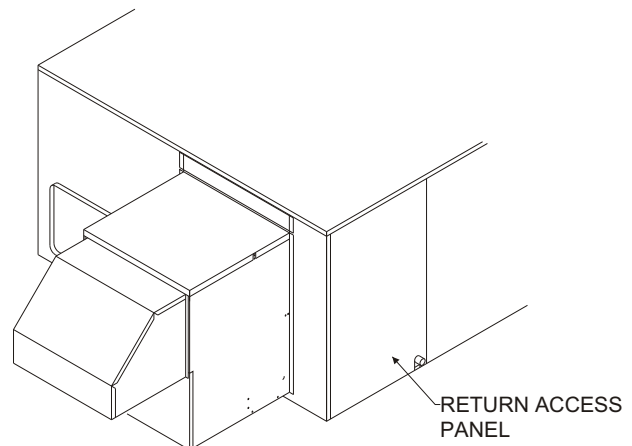
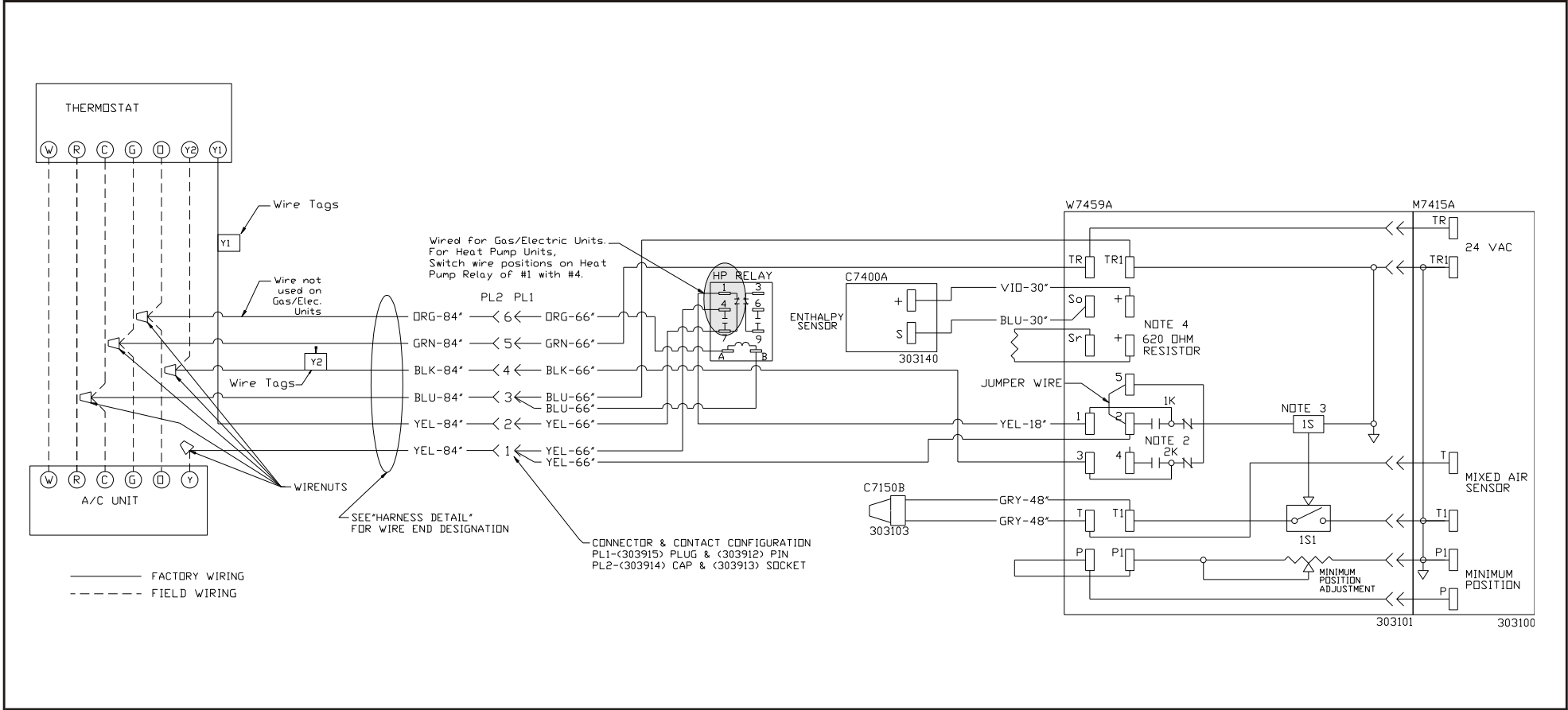


Figure 6

HARNES DETAIL		COMPONENT CODE	WIRE COLOR CODE	Revision	Change	Date
<b>E# = WIRE END DESIGNATION</b>		<b>Economizer</b>	BLK Black BLU Blue			
E6 Wire Nut	E6 — YEL — 84" — E9	C7150B Mixed Air Sensor	BRN Brown GRN Green			
E9 Socket Contact	E6 — YEL — 84" — E9	C7400A Fresh Air Sensor	GRY Grey ORG Orange			
	E6 — BLU — 84" — E9	M7415A Damper Actuator 24v	PNK Pink RED Red			
	E6 — BLK — 84" — E9	PL1 Economizer Plug	VIO Violet WHT White			
	E6 — GRN — 84" — E9	PL2 Field Harness Cap	YEL Yellow			
	E6 — ORG — 84" — E9	W7459A Logic Module				



- Notes:
- Unit wiring shown as reference only. Check unit wiring for actual unit wiring.
  - Relays 1K and 2K actuate when the Outdoor Air Enthalpy is lower than the Return Air Enthalpy.
  - 1S is an electronic switch which closes when powered by a 24 VAC input.
  - Factory installed resistor should be removed only if C7400 Differential Enthalpy Sensor is added.

**Modulating Economizer w/ Relief  
For SG/SH/SA 24-60 Units**

Date: April 10, 2006
Supersedes:
Drawn by:
Unit # 05-424-17
Diagram# 0542417W