

Installation Instructions

Part No. CRECOMZR054B00, CRECOMZR055B00

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PACKAGE CONTENTS


UNIT SIZE	PART NUMBER
Short Chassis 44 in. Tall	CRECOMZR054B00
Tall Chassis 52 in. Tall	CRECOMZR055B00

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions of cleaning coils and filters and replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for unbrazing operations. Have fire extinguisher available for all brazing operations.

It is important to recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

IMPORTANT: Read these instructions completely before attempting to install the accessory EconoMiSer2 system.

PACKAGE CONTENTS

UNIT NO.	QTY	CONTENTS
CRECOMZR054B00	1	Damper Assembly
	1	Upper End Economizer Panel
	1	Bottom Panel with Relief Damper (for vertical only)
	1	Bottom Panel #2 (for horizontal only)
	1	Side Replacement Panel (for horizontal only)
	3	Filter Supports
	3	Central Retainer
	2	Side Retainer
	1	Hood Top
	1	Left Hood Side
	1	Right Hood Side
	2	Top Diverters
	3	Deflector
	4	Outside Air Filter Screens
	1	Hardware bag with screw, etc.
CRECOMZR055B00	1	Damper Assembly
	1	Upper End Economizer Panel
	1	Bottom Panel with Relief Damper (for vertical only)
	1	Bottom Panel #2 (for horizontal only)
	1	Side Replacement Panel (for horizontal only)
	3	Filter Supports
	3	Central Retainer
	2	Side Retainer
	1	Hood Top
	1	Left Hood Side
	1	Right Hood Side
	2	Top Diverters
	3	Deflector
	4	Outside Air Filter Screens
	1	Hardware bag with screw, etc.

CAUTION

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury and/ or death.

Disconnect power supply and install lockout tag before attempting to install accessory.

GENERAL

IMPORTANT: Read these instructions completely before attempting to install the accessory EconoMi\$er2 system.

IMPORTANT: These economizers meet all the economizer requirements as laid out in California's Title 24 mandatory section 120.2 (fault detection and diagnostics).

The EconoMi\$er2 accessories with 4 to 20 mA actuator signal control, do not have a built-in controller. The EconoMi\$er2 actuator is operated by a 4 to 20 mA signal from an existing field-supplied controller (such as PremierLink™ control).

A 12-pin plug is provided for connection to the control. (See Fig. 1.)

The EconoMi\$er2 system utilizes gear-drive technology with a direct-mount, spring-return actuator that will close upon loss of power. Differential dry bulb, enthalpy, and differential enthalpy sensors are available for field installation. Field-installed CO₂ sensors are available. (See Table 1.)

Standard barometric relief dampers provide natural building pressurization control. An optional power exhaust system is available for applications requiring even greater exhaust capabilities. Power exhaust is controlled by the field-supplied controller.

Table 1 — Sensor Usage

APPLICATION	OUTDOOR AIR TEMPERATURE SENSOR	RETURN AIR TEMPERATURE SENSOR	OUTDOOR AIR ENTHALPY SENSOR	RETURN AIR ENTHALPY SENSOR
DRY BULB TEMPERATURE	Included HH79NZ039	33ZCSENSAT (Required for ComfortLink to Title 24)	—	—
DIFFERENTIAL DRY BULB TEMPERATURE	Included HH79NZ039	Required — 33ZCSENSAT	—	—
SINGLE ENTHALPY	Included HH79NZ039	33ZCSENSAT (Required for ComfortLink to Title 24)	Required — HH57AC077	—
DIFFERENTIAL ENTHALPY	Included HH79NZ039	33ZCSENSAT (Required for ComfortLink to Title 24)	Required — HH57AC077	—

NOTES:

1. CO₂ Sensors (Optional)

- 33ZCSENSCO2 - Room sensor (adjustable). Aspirator box is required for duct mounting of the sensor.
- 33ZCASPCO2 - Aspirator box used for duct-mounted CO₂ room sensor.

- 33ZCT55CO2 - Space temperature and CO₂ room with override.

- 33ZCT56CO2 - Space temperature and CO₂ room sensor with override and setpoint.

2. All units include the following standard Sensors:

- Outdoor - Air Sensor - HH79NZ039

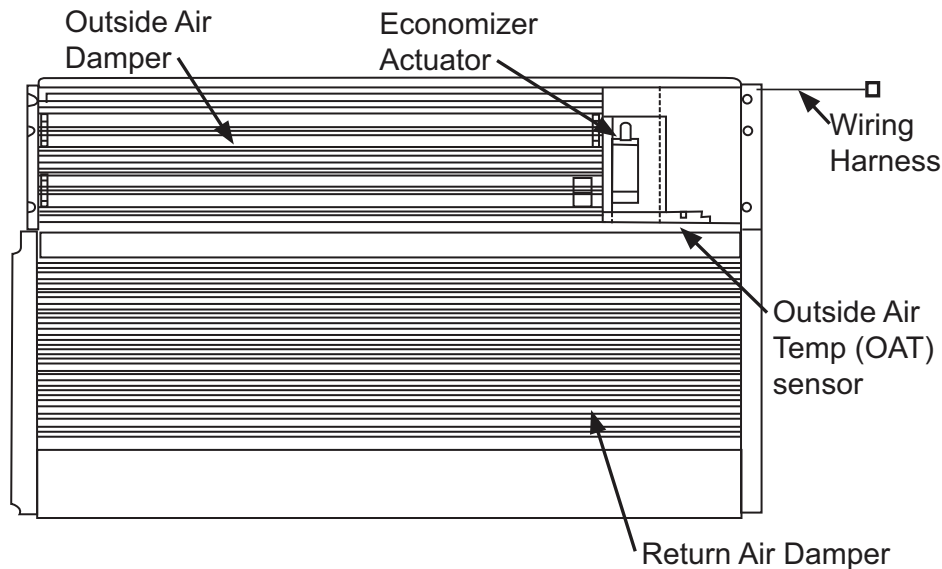


Fig. 1 — EconoMi\$er2 Component Locations

VERTICAL INSTALLATION

These economizers are designed to work in both a vertical and horizontal applications. These instructions are for a vertical installation.

1. Turn off unit power supply and install lockout tag.
2. Prepare the unit for economizer installation:
 - a. For units with 2 position damper installed, remove the outside air hood. Unplug the damper actuator and remove assembly from unit.
 - b. For units with manual damper installed, remove the manual damper and hood.
3. Remove the upper panel and bottom panel (provided with the HVAC unit) on the end of the unit to expose the return section. (See Fig. 2.) Save the screws for use later when replacing the panel. The panels can be discarded.
4. Remove the unit's left side corner post and left side panel from the unit to allow for easy economizer installation. (See Fig. 3.)
5. Install economizer, as shown in Fig 3, into the return air section of the unit. Be careful not to pinch the wires during installation. The bottom of economizer will rest on the base of the unit. (See Fig. 4.)
6. Reinstall the left side corner post on to the unit.
NOTE: The corner post will sit behind the economizer flange. (See Fig. 5.) Screw through the corner post and through the economizer. (See Fig. 5 and 6.)

7. Insert provided screw through the bottom left rear of the economizer and into the unit base. (See Fig. 4.) Reinstall the unit's left side panel.
8. Before the economizer is secured in place on the right hand side, remove and save the 12-pin jumper plug from the unit wiring harness. (See Fig 7.) Insert the economizer plug into the unit wiring harness plug. (See Fig 7 and 12.)

NOTE: The 12-pin jumper plug should be saved for future use in the event that the EconoMi\$er2 component is removed from the unit. The jumper plug is not needed as long as the EconoMi\$er2 component is installed.

⚠ CAUTION

EQUIPMENT DAMAGE HAZARD

Failure to follow this caution may result in personal injury and damage to unit.

Cover the duct opening as a precaution so objects cannot fall into the return duct opening. Be sure to remove the cover when installation is complete.

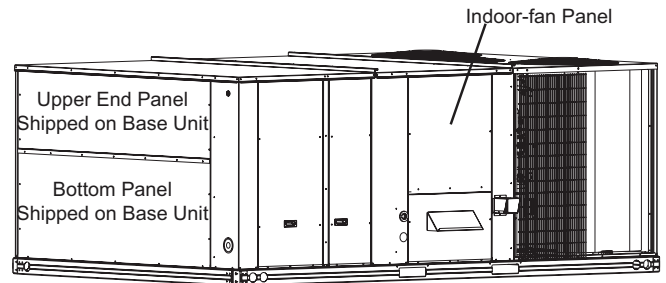


Fig. 2 — Upper and Bottom Panel on end of Unit

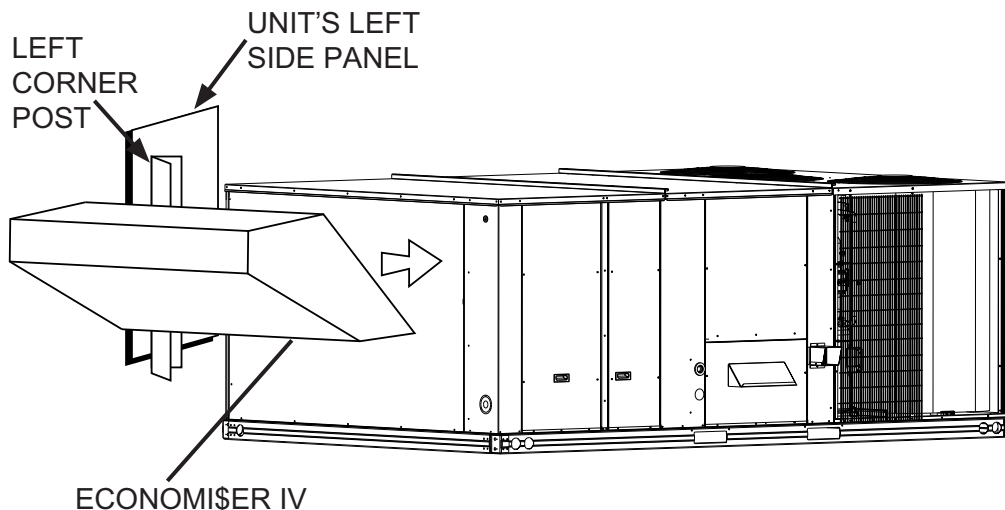


Fig. 3 — Unit Left Side Panel and Corner Post

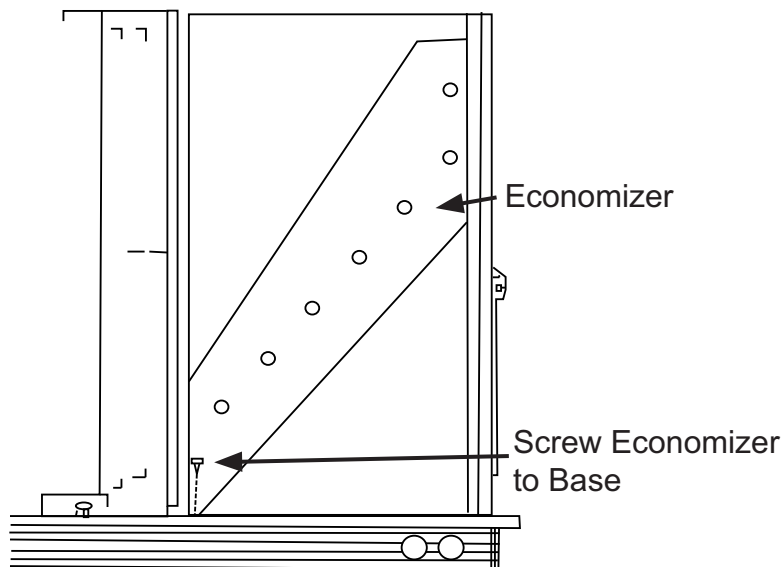


Fig. 4 — Side View

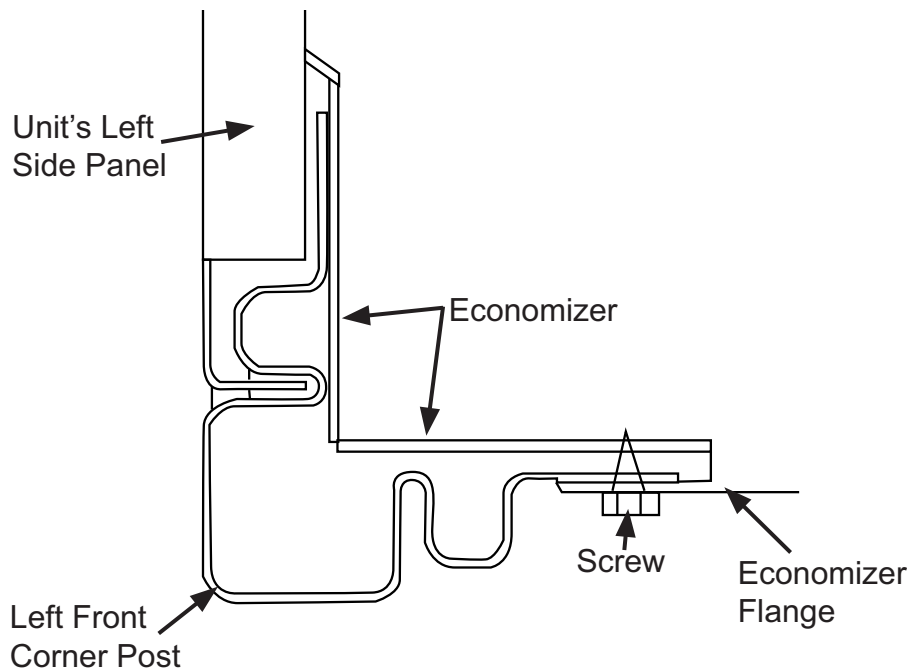


Fig. 5 — Top View

9. Install the bottom panel with the relief damper attached on the unit. (See Fig. 7.) Screw panel in place.

NOTE: Remove the bottom screw holding the relief blade closed.

10. Install the upper end economizer panel over the economizer's outside air damper, and above the bottom panel. Screw panel in place and screw panel into economizer in 2 places. (See Fig. 8.)

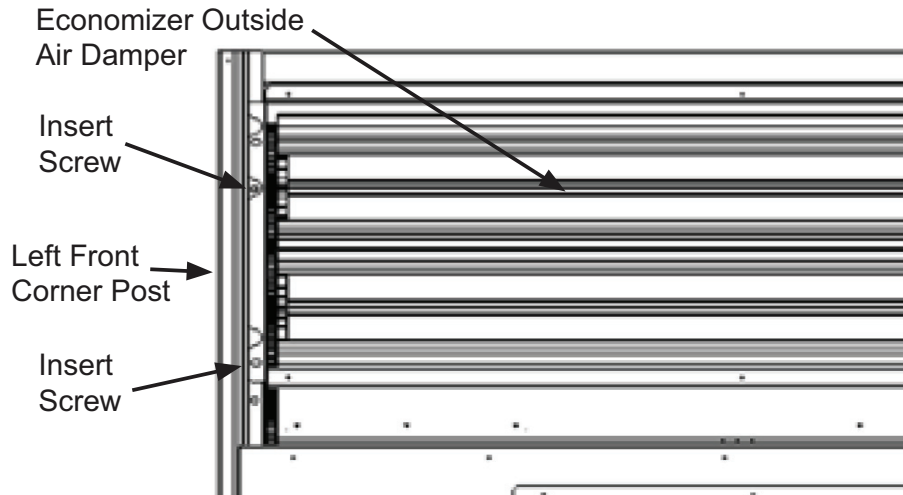


Fig. 6 — Front Left View

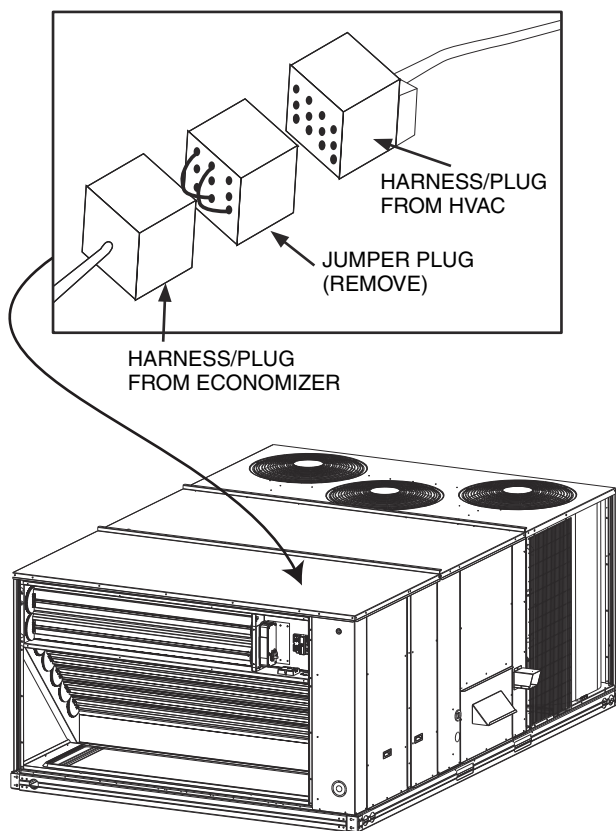


Fig. 7 — Unit Wiring Harness

11. Assemble the outside air hood per Fig. 9-11.
 - a. Install filter supports (Item #1) to the upper end panel using the screws provided.

- b. Install each deflector (Item #8) on to each filter support (Item #1) using the screws provided.
 - c. Apply seal strip to mating flanges on the side plates of the hood (Item # 4 and #5).
 - d. Secure the side panels (Item #4 and #5) to the upper panel using the screws provided.
 - e. Apply the seal strip to the mating flange of the hood. (See Fig. 10.)
 - f. Secure hood top (Item #3) to the upper panel using the screws provided. On the 44 in. chassis remove the screws from across the top cover of the unit. The rear flange of the hood top will slide behind the unit top over the flange.
 - g. Secure side retainers (Item #6) to side panels (Item #4 and #5) using the screws provided, screwing from the outside of the hood.
 - h. Secure each central retainer (Item #2) to the hood top (Item #3). Align the central retainers to the holes located on the filter support (Item #1), so the central retainer is perpendicular to the hood and each filter support. Secure using the screws provided.
 - i. Apply seal strip to top diverters (Item #7).
 - j. Secure top diverters (Item #7) to the hood top (Item #3).
 - k. Install outdoor air screens by sliding them into each of the four spaces created by the hood, filter support and, central retainers. First insert the air screens into the pocket created at the end of the hood (Item #3), then fully put the air screen into place. Slide the air screens back into the pocket created in the filter support (Item #1). Repeat this step for each air screen. (See Fig. 11.) See Fig. 12 for complete hood assembly.
12. Install the hood screens and other approved EconoMiSer2 accessories.

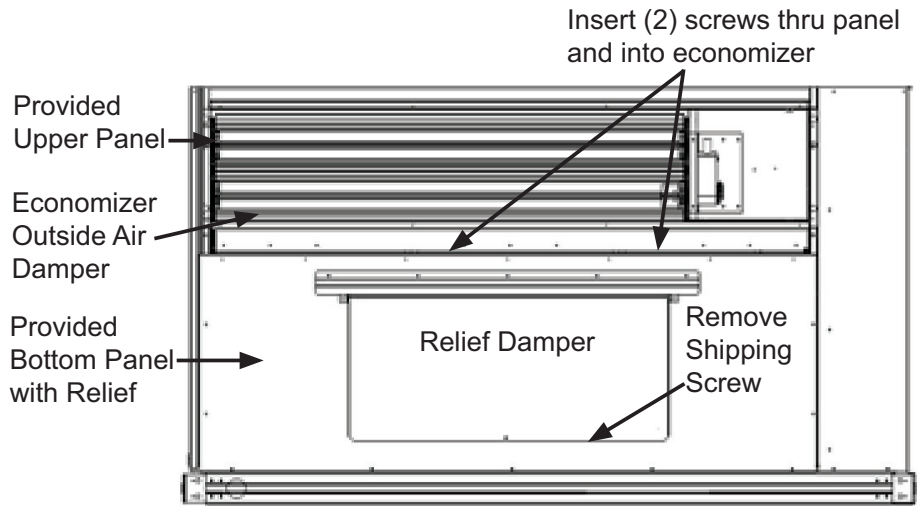
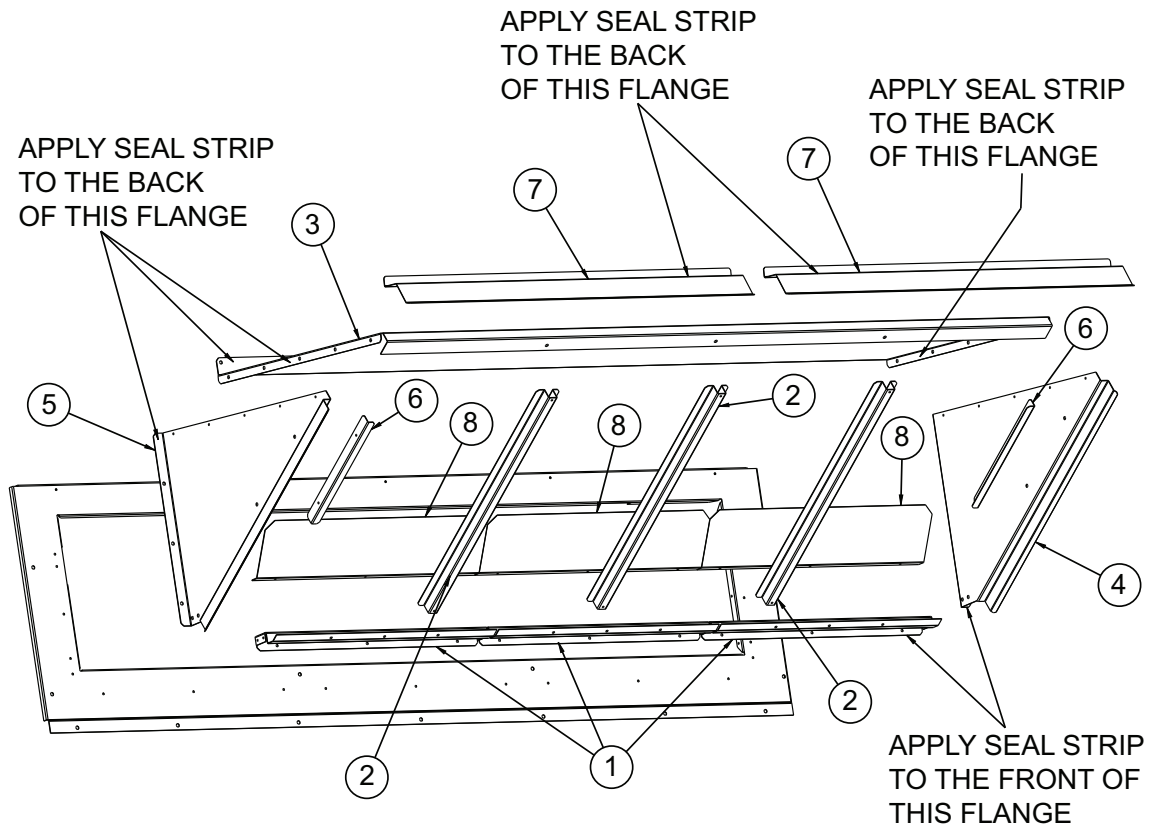


Fig. 8 — End View of Unit



ITEM #	DESCRIPTION	QTY
1	Filter Supports	3
2	Central Retainer	3
3	Side Retainer	2
4	Hood Top	1
5	Left Hood Side	1
6	Right Hood Side	1
7	Top Diverters	2
8	Deflector	3

Fig. 9 — Hood Assembly and Hood Part Identification/Seal Strip Application Areas

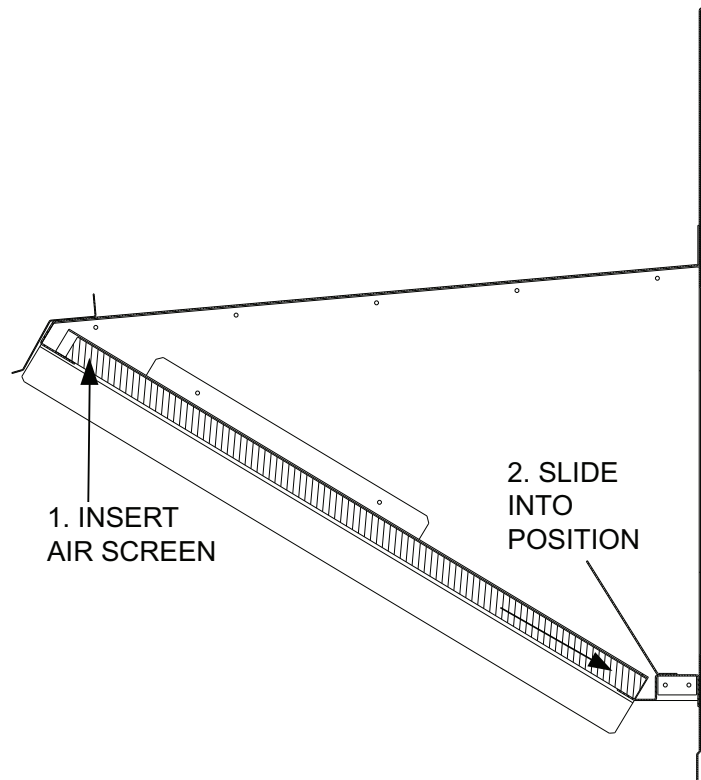


Fig. 10 — Air Screen Installation

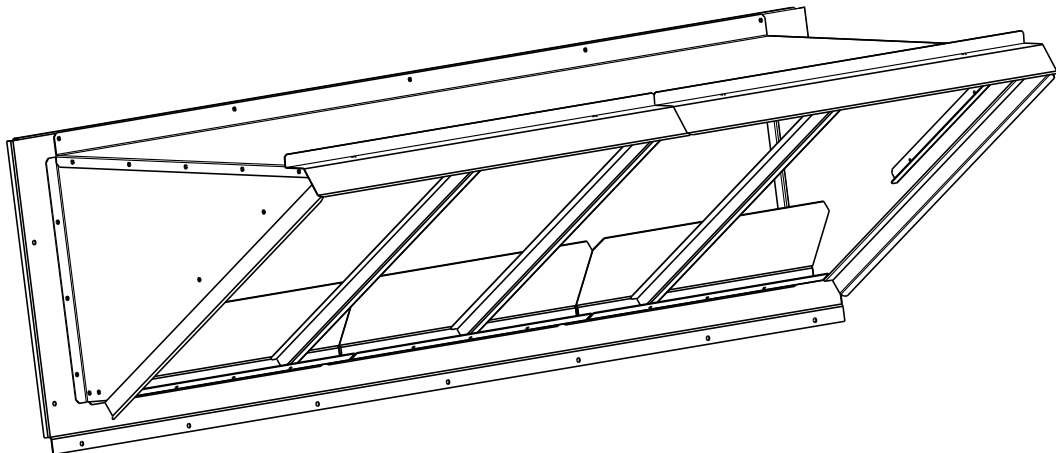


Fig. 11 — Completed Hood Assembly

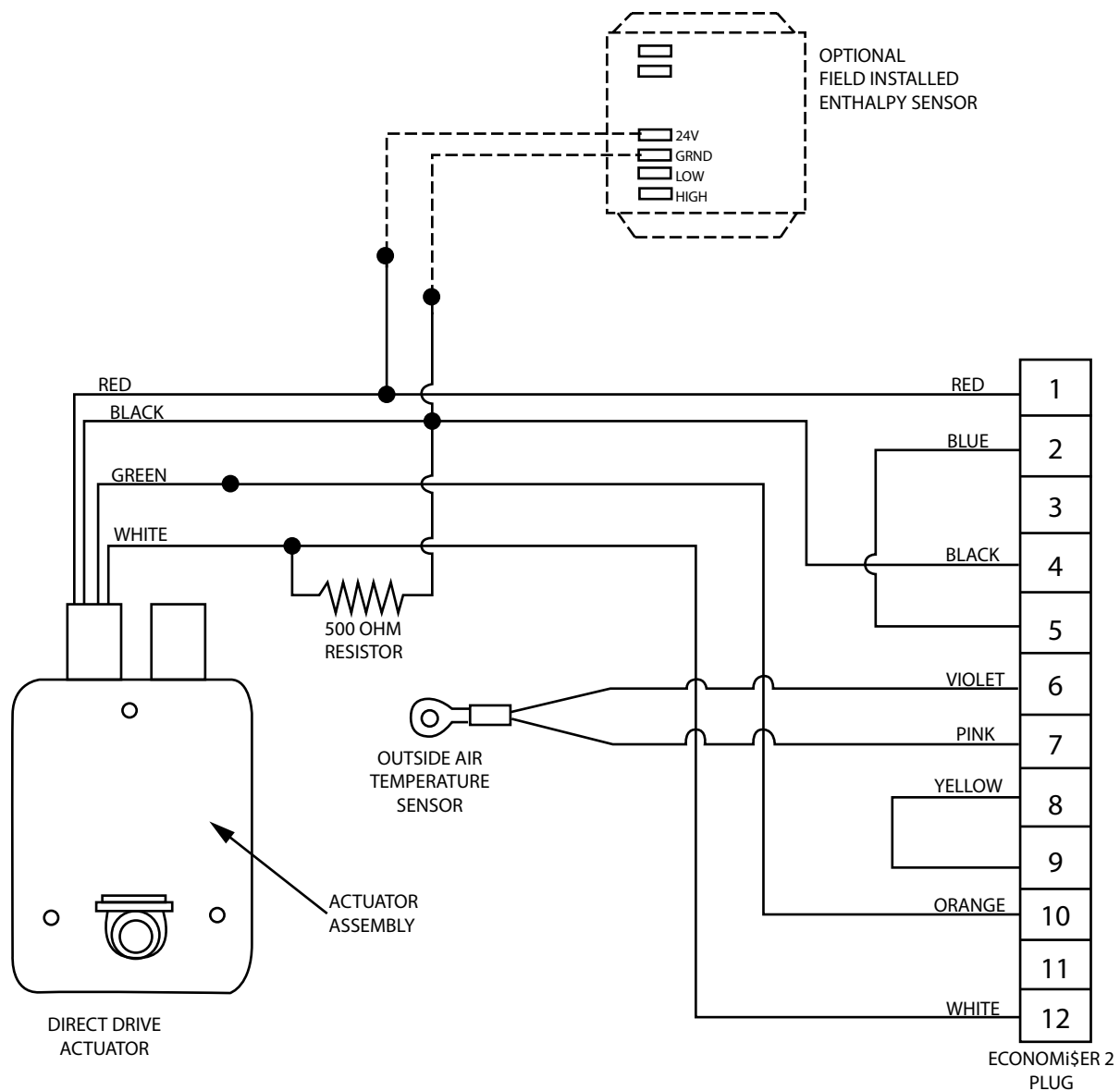


Fig. 12 — Wiring Diagram

Barometric Hood Assembly

The barometric hood can be assembled in vertical or horizontal configuration. Figure 13 illustrates the barometric hood parts.

BAROMETRIC HOOD (VERTICAL CONFIGURATION)

1. Remove the hood top panel from its shipping position on the unit end. (See Fig. 14.)
2. Remove the side panels located in the hood parts box (see Fig. 15).
3. Install parts as shown in the following exploded view (see Fig. 16) using the seal strip and screws provided in the parts box.

Figure 17 illustrates the installed barometric hood parts.

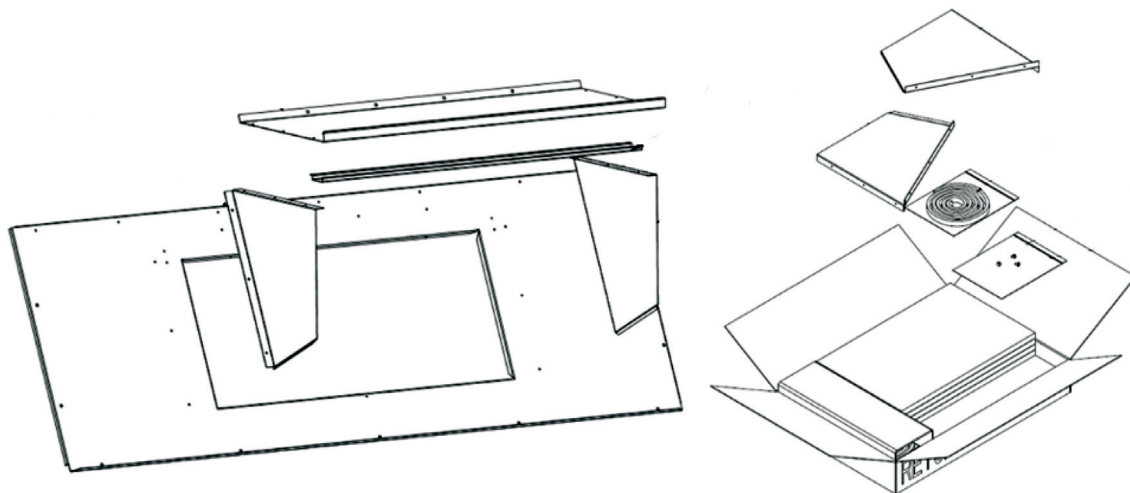


Fig. 13 — Barometric Hood Parts

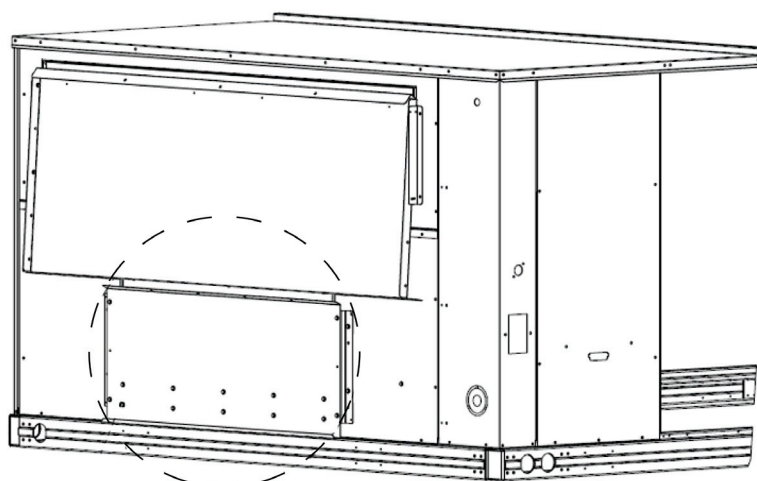


Fig. 14 — Shipping Location, Vertical Units

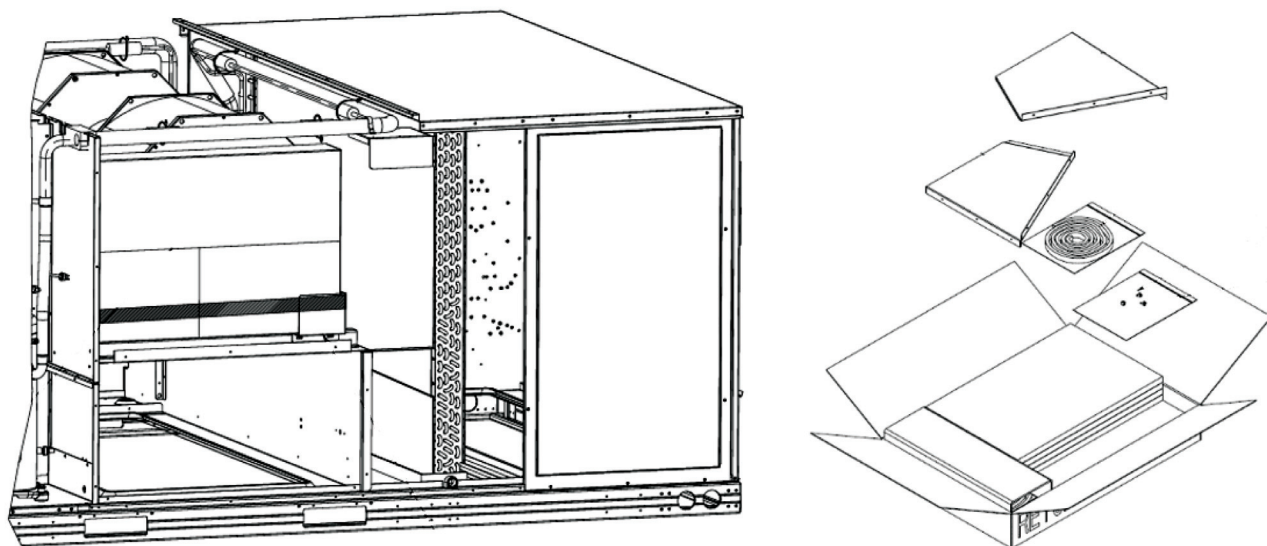


Fig. 15 — Barometric Hood Box Parts Location

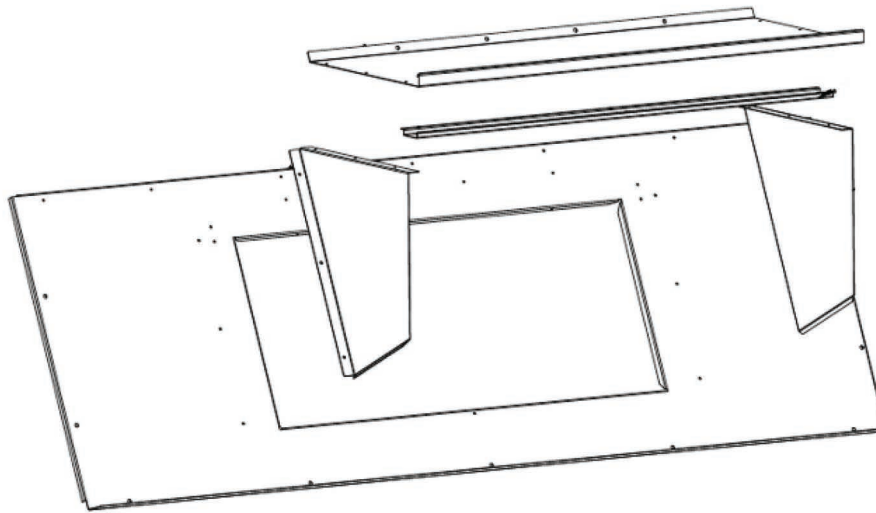


Fig. 16 — Barometric Hood Exploded View

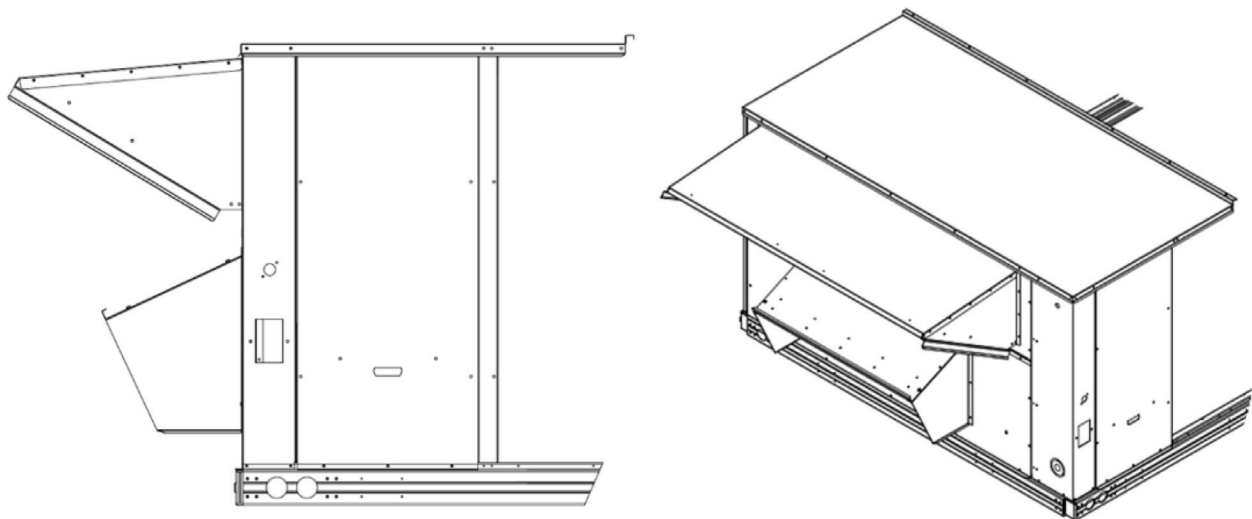


Fig. 17 — Installed Barometric Hood Side View and Isometric View

BAROMETRIC HOOD (HORIZONTAL CONFIGURATION)

For horizontal return and field-installed economizer, install the economizer as follows:

1. Install the field provided horizontal ductwork onto the unit. Duct height must be at least 19-1/2 in. high, however the duct can be no taller than the top of the relief opening in the bottom panel, or airflow into the outside air hood will be restricted. (See Fig. 18.)
2. Cut a 16 in. x 36 in. opening in the return duct for the relief damper. (See Fig. 18.)
3. On the field installed economizer (CRECOMZR0**B00), a birdscreen or hardware cloth is shipped attached to the bottom panel used for vertical applications.

NOTE: This panel is not used for horizontal return applications. Remove the screen from the provided panel and install it over the relief opening cut in return duct.

4. Using the blade brackets, install the relief damper onto the side of the return duct (see Fig. 19). The two brackets and relief damper are provided with the economizer.
5. Using the provided hardware, screw the CRBARHOD001A00 hood sides and top together. (See Fig. 19.)

Caulk the backside of the mating flanges to ensure a watertight seal. Install the CRBARHOD001A00 over the relief damper and screw to the return duct, as illustrated in Fig. 20.

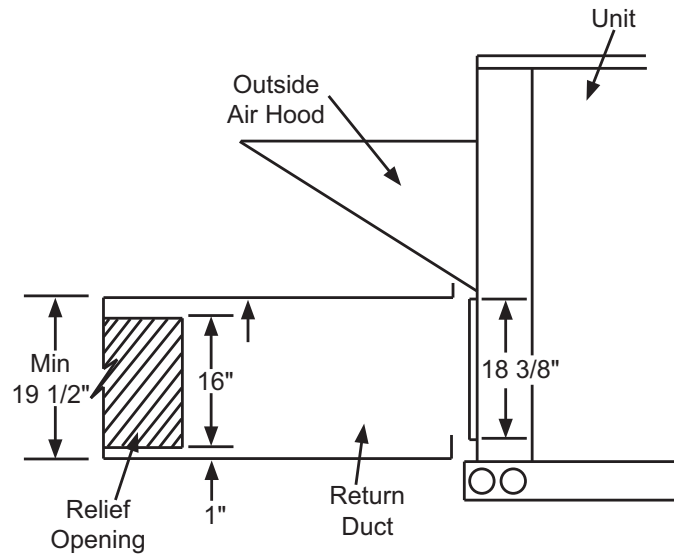


Fig. 18 — Relief Damper

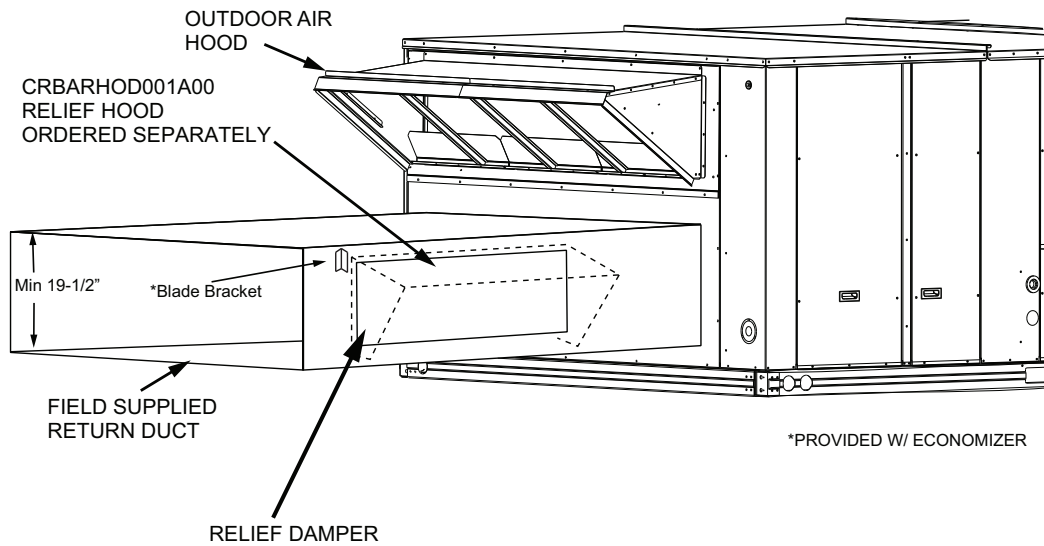


Fig. 19 — Installing CRBARHOD001A00 Over Relief Damper

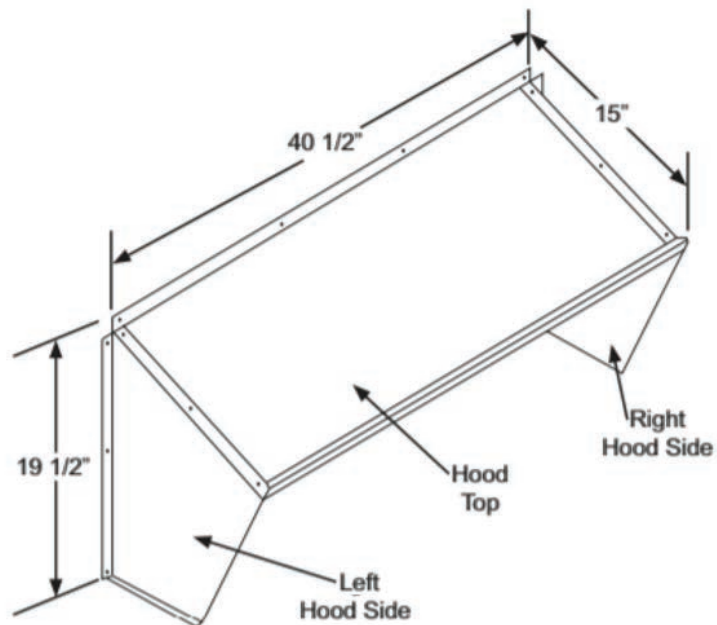


Fig. 20 — CRBARHOD001A00 Hood Sides and Top

HORIZONTAL INSTALLATION

These economizers are designed to work in both a vertical and horizontal applications. These instructions are for a horizontal.

The unit has a horizontal duct opening next to the horizontal supply duct opening. However, in this application, with an economizer, the horizontal duct will actually come into the unit underneath the outdoor air hood. (See Fig. 21 and 22.)

1. Turn off unit power supply and install lockout tag.
2. Prepare the unit for economizer installation:
 - a. For units with 2 position damper installed, remove the outside air hood. Unplug the damper actuator and remove assembly from unit.
 - b. For units with manual damper installed, remove the manual damper and hood.
3. Remove the upper panel and bottom panel (provided with the HVAC unit) on the end of the unit to expose the return section. (See Fig. 2.) Save the screws for use later when replacing the panel. The panels can be discarded.
4. Remove the unit's left side corner post and left side panel from the unit to allow for easy economizer installation. (See Fig. 21.)

NOTE: The unit's left side panel has a duct opening in it, but this panel/ duct opening will not be used in this application and can be discarded.

5. Install economizer, as shown in Fig. 3, into the return air section of the unit. Be careful not to pinch the wires during installation. Bottom of economizer will rest on the base of the unit. (See Fig. 4.)
6. Reinstall the left side corner post on to the unit. NOTE: The corner post will sit behind the economizer flange. (See Fig. 5.) Screw through the corner post and economizer. (See Fig. 5 and 6.)
7. Insert provided screw through the bottom left rear of the economizer and into the unit base. (See Fig. 4.) Install the new (provided) left side panel without the duct opening on the unit.
8. Before the economizer is secured in place on the right hand side, remove and save the 12-pin jumper plug from the unit wiring harness. (See Fig. 7 and 12.) Insert the EconoMi\$er2 plug. (See Fig. 7.)

NOTE: The 12-pin jumper plug should be saved for future use in the event that the EconoMi\$er2 component is removed from the unit. The jumper plug is not needed as long as the EconoMi\$er2 component is installed.

9. Install the (provided) bottom panel with the horizontal return duct opening on the unit. (See Fig. 22.) Screw panel in place.
10. Install the upper end economizer panel in place over the economizer's outside air damper, and above the bottom

panel. Screw panel in place and screw panel into economizer in 2 places. (See Fig. 23.)

11. Assemble the outside air hood per Fig. 9-11.
 - a. Install filter supports (Item #1) to the upper end panel using the screws provided.
 - b. Install each deflector (Item #8) on to each filter support (Item #1) using the screws provided.
 - c. Apply seal strip to mating flanges on the side plates of the hood (Item # 4 and #5).
 - d. Secure the side panels (Item #4 and #5) to the upper panel using the screws provided.
 - e. Apply the seal strip to the mating flange of the hood. (See Fig. 10).
 - f. Secure hood top (Item #3) to the upper panel using the screws provided. On the 44 in. chassis remove the screws from across the top cover of the unit. The rear flange of the hood top will slide behind the unit top over the flange.
 - g. Secure side retainers (Item #6) to side panels (Item #4 and #5) using the screws provided, screwing from the outside of the hood.
 - h. Secure each central retainer (Item #2) to the hood top (Item #3). Align the central retainers to the holes located on the filter support (Item #1), so the central retainer is perpendicular to the hood and each filter support. Secure using the screws provided.
 - i. Apply seal strip to top diverters (Item #7).
 - j. Secure top diverters (Item #7) to the hood top (Item #3).
 - k. Install outdoor air screens by sliding them into each of the four spaces created by the hood, filter support and, central retainers. First insert the air screens into the pocket created at the end of the hood (Item #3), then fully put the air screen into place. Slide the air screens back into the pocket created in the filter support (Item #1). Repeat this step for each air screen. (See Fig. 11.) See Fig. 12 for complete hood assembly.
12. Install the hood assembly into the unit. (See Fig. 3, 9, 10, 11.)
13. If barometric relief is required, remove the relief damper and hinges from the (provided) bottom panel used on vertical applications. Reinstall the hinges and damper on the side of the field supplied return duct. (See Fig. 23.)

NOTE: A relief hood for the horizontal application can be ordered separately (part number CRBARHOD001A00) or can be field-supplied.

14. Install the hood screens and other approved EconoMi\$er2 accessories.

NOTE: When setting high temperature economizer limit in California, see Table 2 for acceptable regional requirements.

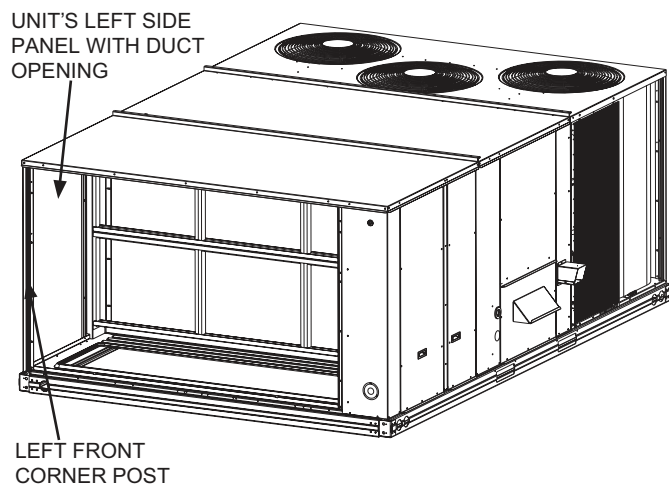


Fig. 21 — Remove unit Corner Post and Side Panel

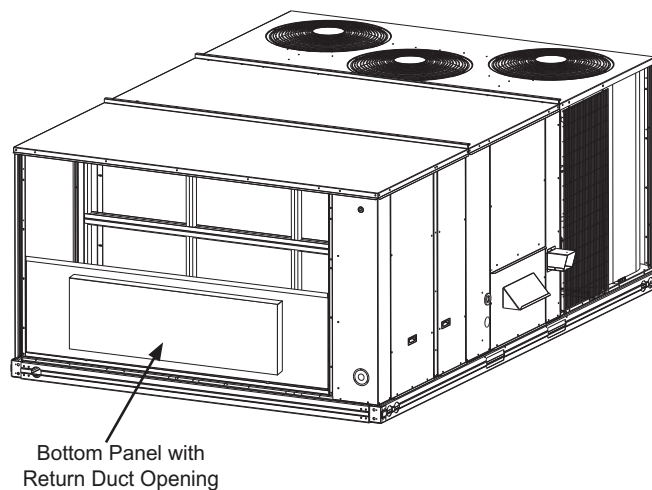


Fig. 22 — Install Bottom Panel w/ Horizontal Duct Opening

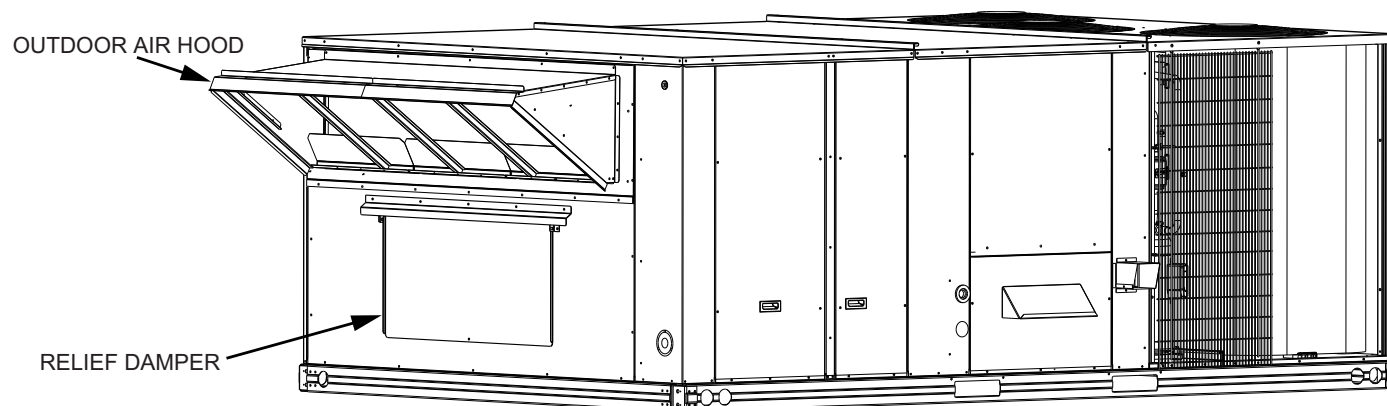


Fig. 23 — Reinstall Hinges and Damper on Return Duct

Table 2 — California Title 24 Regional High Limit Dry Bulb Temperature Settings

DEVICE TYPE	CLIMATE ZONES	REQUIRED HIGH LIMIT (ECONOMIZER OFF WHEN:)
		DESCRIPTION
FIXED DRY BULB	1,3,5,11-16	Outdoor Air Temperature Exceeds 75°F
	2,4,10	Outdoor Air Temperature Exceeds 73°F
	6,8,9	Outdoor Air Temperature Exceeds 71°F
	7	Outdoor Air Temperature Exceeds 69°F
DIFFERENTIAL DRY BULB	1,3,5,11-16	Outdoor Air Temperature Exceeds Return Air Temperature
	2,4,10	Outdoor Air Temperature Exceeds Return Air Temperature Minus 2°F
	6,8,9	Outdoor Air Temperature Exceeds Return Air Temperature 4°F
	7	Outdoor Air Temperature Exceeds Return Air Temperature 6°F
FIXED ENTHALPY* + FIXED DRY BULB	All	Outdoor Air Enthalpy Exceeds 28 Btu/lb Of Dry Air† Or Outdoor Air Temperature Exceeds 75°F

*Only the high limit control devices listed are allowed to be used and at the setpoints listed. Others such as Dew Point, Fixed Enthalpy, Electronic Enthalpy, and Differential Enthalpy Controls, may not be used in any climate zone for compliance with Section 140.4(e)1 unless approval for use is provided by the Energy Commission Executive Director.

†At altitudes substantially different than sea level, the Fixed Enthalpy limit value shall be set to the enthalpy value at 75°F and 50% relative humidity. As an example, at approximately 6,000 foot elevation, the fixed enthalpy limit is approximately 30.7 Btu/lb.

NOTE: Table 2 is based on 140.4-b Air Economizer High Limit Shut Off Control Requirements.

START-UP

Follow the procedure in Table 3 to check the EconoMi\$er2 system when the unit is started.

Table 3 — EconoMi\$er2 Start-Up and Checkout

STEP	PROCEDURE	EXPECTED RESPONSE	ECONOMISER2 RESPONDS CORRECTLY	ECONOMISER2 RESPONDS INCORRECTLY
1	Remove power reset actuator. Re-apply power. Apply control signal to actuator.	Actuator will move to its "Control Signal" position.	Actuator operates properly. Step 8	No response at all Step 2 Operation is reversed Step 3 Does not drive toward "Control Signal" Position Step 4
2	Check power wiring. Correct any problems. See Note	Power supply rating should be the total power requirement of the actuator(s). Minimum voltage of 19.2 vac or 21.6 vdc.	Power wiring corrected, actuator begins to drive Step 1	Power wiring corrected, actuator still does not drive Step 4
3	Turning reversing switch to the correct position. Make sure the switch is turned all the way left or right.	Actuator will move to its "Control Signal" position.	Actuator operates properly Step 8	Does not drive toward "Control Signal" Position Step 4
4	Make sure the control signal positive (+) is connected to Wire No. 3 and control signal negative (-) is connected to Wire No. 1. Most control problems are caused by reversing these two wires. Verify that the reversing switch is all the CCW or CW.	Drives to "Control Signal" position	Actuator operates properly Step 8	Step 5
5	Check input signal with a digital volt meter (DVM). Make sure the input is within the range of the actuator (2 to 10 vdc or 4 to 20 mA). NOTE: The input signal must be above the 2vdc or 4 mA to have the actuator move.	Input voltage or current should be $\pm 1\%$ of what controller's adjustment or programming indicate.	Controller output (actuator input) is correct Input Polarity Correct Step 6	Reprogram, adjust, repair or replace controller as needed. Step 1
6	Loosen the nuts on the V-bolt and move the damper by hand from fully closed to fully open.	Damper will go from fully closed to fully open	Damper moves properly. Step 7	Find cause of damper jam and repair. Move damper back to fully closed position and tighten the nuts. Step 1
7	Check damper torque requirement.	Torque requirement is actuator's minimum torque.	Defective Actuator Replace Actuator	Recalculate actuator requirement and correct installation
8	Actuator works properly. Test controller by following controller manufacturer's instructions.	—	—	—

NOTE: Check that the transformer(s) are sized properly. If a common transformer is used, make sure that polarity is observed on the secondary. This means connect all No. 1 wires to one leg of the transformer and all No. 2 wires to the other leg of the transformer. If multiple transformers are used with one control signal, make sure all No. 1 wires are tied together and tied to control signal negative (-). Controllers and actuators must have separate 24 vac/vdc power sources.

