

## POWER EXHAUST FANS

### Installation Instructions for Power Exhaust Fans used with ZC, ZG, ZH 036, 048, 060 Packaged Units

#### Shipping and Packing List

- 1 - Power Exhaust Assembly
- 1 - High Voltage Harness (3 pin)
- 1 - Hardware Bag
  - 1 - Instructions
  - 8 - #10 x 5/8" screws
  - 1 - Terminal Adaptor (Z1PWRE10A-1P only)
  - 1 - 7/8" Webbed Snap Bushing

#### Application

Check packaging for shipping damage. Contact the last carrier immediately if any shipping damage is found. Power exhaust fans are applied to units equipped with an economizer in down flow air discharge. The power exhaust fan option cannot be used in horizontal air discharge applications. See Table 1.

Locate all other accessories to be installed. Install accessories in the following order:

- 1 - Economizer Dampers
- 2 - Sensors
- 3 - Power Exhaust Fans
- 4 - 575 volt transformer (if required)
- 5 - Filter Door
- 6 - Side Economizer Panel

**Table - 1**

Unit	Unit Voltage	Cat. No.
ZC,ZG,ZH 036,048,060	208/230v 1ph	Z1PWRE10A-1P
	460v 3ph	Z1PWRE10A-1G

1. For 575 applications, a field-supplied and installed transformer (Cat no. 59E02) must be used with a 208/230V power exhaust assembly.

#### **WARNING**

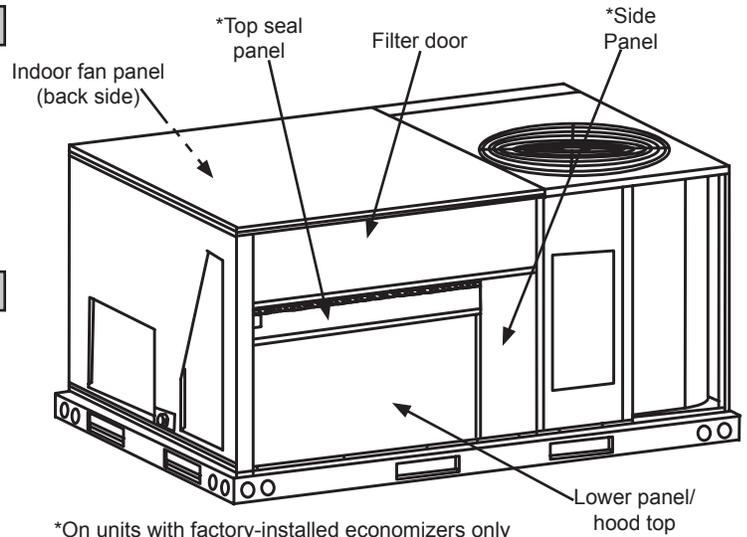
**Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

#### Installation

1. Disconnect electrical power to unit.
2. If unit does not already contain an economizer, install using instructions provided with economizer.
3. Install any economizer related optional sensors.
4. Remove filter door and indoor fan panel from unit. Retain screws and set aside for later use. (See Fig. 1.)
5. If economizer hood is already installed it can be removed and discarded.

IMPORTANT: Set aside hood's aluminum filter for use in power exhaust.

NOTE: If unit has factory installed economizer also remove and discard top seal panel and lower panel / hood top (see Fig. 1).



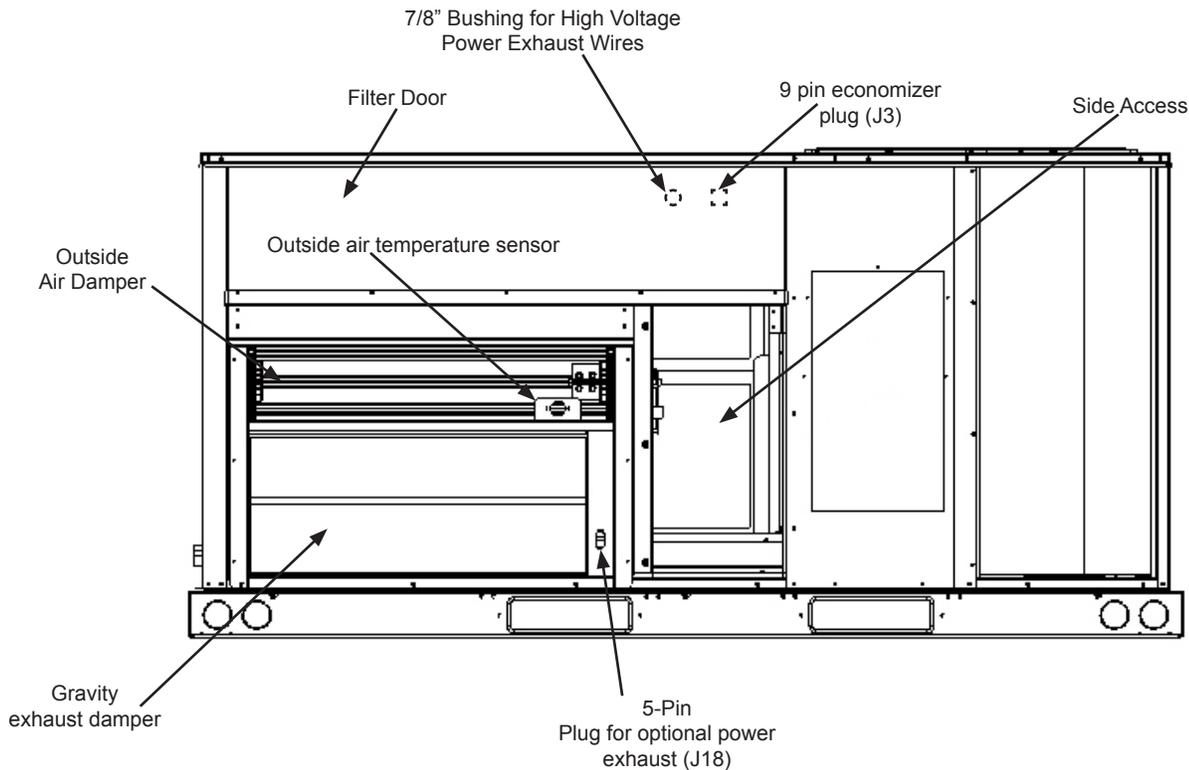
**Figure 1**

6. Set power exhaust in front of installed economizer, close enough to make wiring connections.
7. Connect the 5 pin plug (P18) from power exhaust into plug (J18) on bottom right corner of economizer. (See Fig. 2 and 5.) The 5 pin plug contains 2 wires for the low voltage connection to the economizer controller for power exhaust setpoint activation, and 2 or 3 (depending on voltage) high voltage wires.

#### **CAUTION**

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

8. Secure wires from power exhaust in place so they do not interfere with gravity exhaust dampers.
9. Lift power exhaust in place over economizer. Bottom of power exhaust will rest on unit. Screw power exhaust to unit and economizer through pre-punched holes in power exhaust side flanges. (See Fig. 5 and 6.)
10. Through the side access opening in the unit (See Fig. 2), connect the 3 pin high voltage harness (P24) shipped with the power exhaust, to the 3 pin high voltage plug on the side of economizer (J24). See Fig. 3 and 5 for plug location.
11. Remove 7/8" knock out from indoor top coil seal. Insert 7/8" webbed snap bushing into place. (See Fig. 2.)
12. Route the high voltage harness through bushing (see Fig. 2) into the supply air section. Then, continue to route the harness through the igniter wire port at the top of the panel on left side of supply air section, and to unit electrical control box. Secure wires in place.



**Figure 2**

13. Connect high voltage harness to power connections. (See Fig. 7 and 8.) NOTE: On 575 volt units a separate transformer (Cat no. 59E02) must be purchased and installed.

**a. 208/230V - 1 and 3 PH**

1. Temporarily remove pink and yellow wires from the transformer T1-240 and C terminals
2. Attach Y-terminal adaptor to 240V terminal on the transformer.
3. Attach High Voltage Power Exhaust (P24) red and yellow wires to open terminals T1-240 and C
4. Reattach unit pink and yellow wires onto the open Y terminal on T1-240 and T1-C, resp.

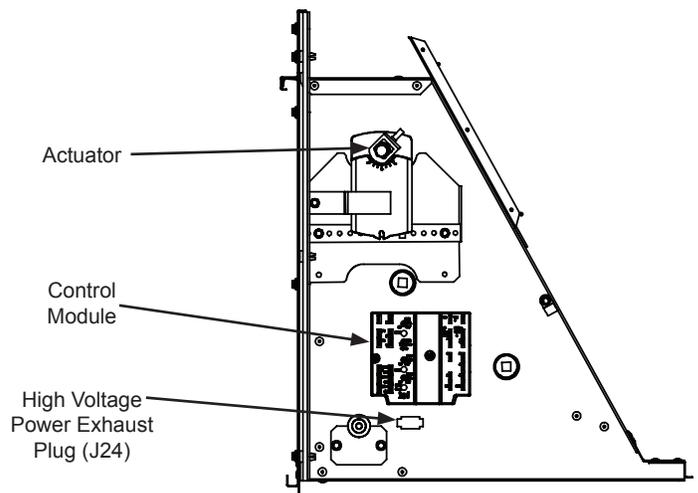
**b. 460 - 3 PH**

1. Temporarily remove pink and yellow wires from the transformer T1-480 and C terminals.
2. Attach High Voltage Power Exhaust (P24) red and yellow wires to open T1-480 and C terminals.
3. Attach High Voltage Power Exhaust (P24) blue wire onto K3-L3 terminals.
4. Reattach unit pink and yellow wires onto the open terminal on T1-480 and T1-C, resp.

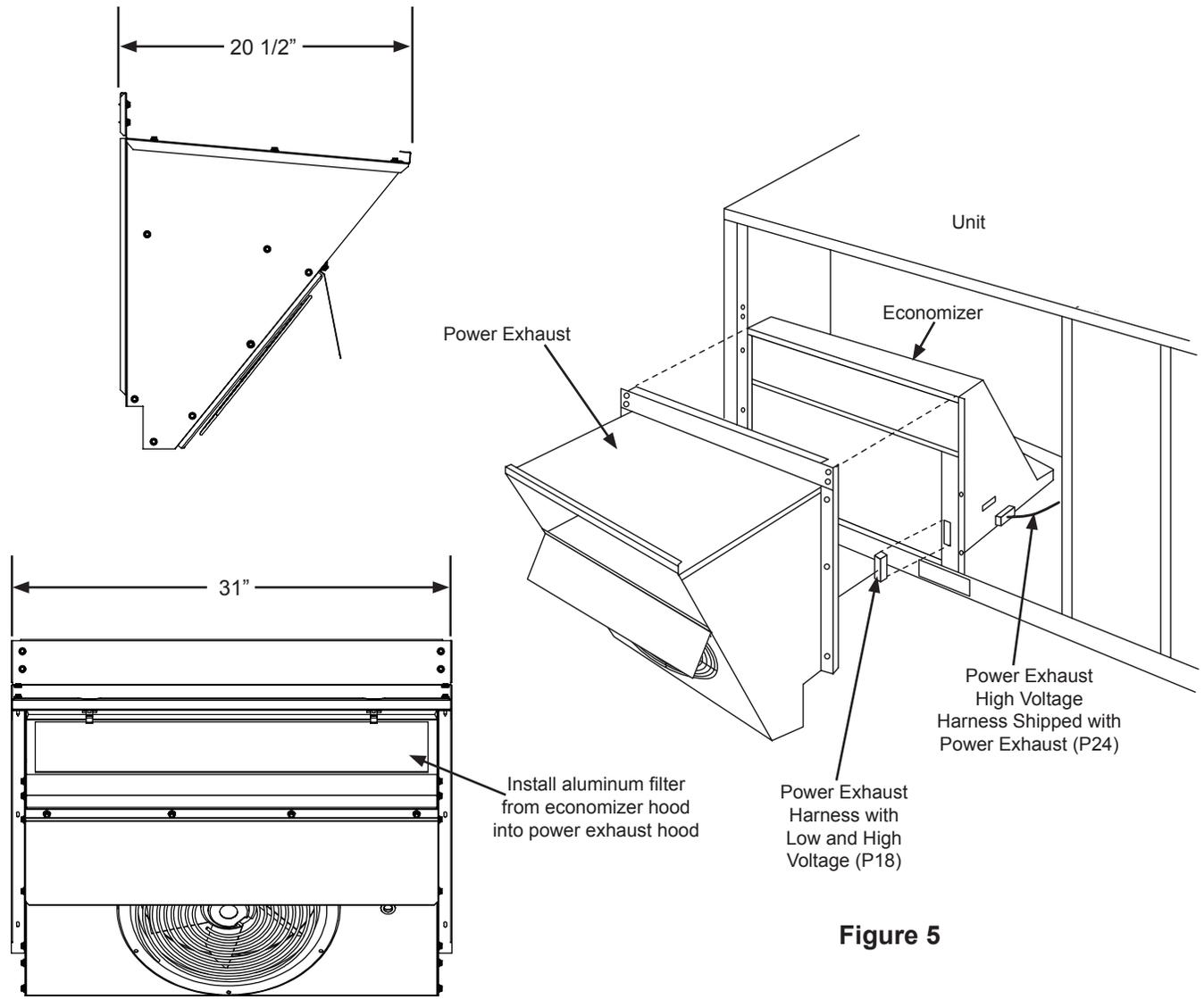
**c. 575V - 3 PH**

1. Temporarily remove pink and yellow wires from transformer T1 terminals 600V and C.
2. Attach the red and yellow wires from the 575V transformer T10 to the transformer T1 terminals 600V and C.
3. Insert T10 black wire into P24 red wire.
4. Attach P24 yellow wire onto T1 transformer terminal C.
5. Reattach unit pink and yellow wires to open T1-600V and C terminals.

14. Install aluminum filter, shipped with economizer, in outside air intake section of power exhaust hood.
15. Adjust power exhaust setpoint on economizer control module. (See Fig. 3.)
16. Reinstall filter door above economizer, and side panel to the right of the economizer. (See Fig. 6.)
17. Reapply power to unit.

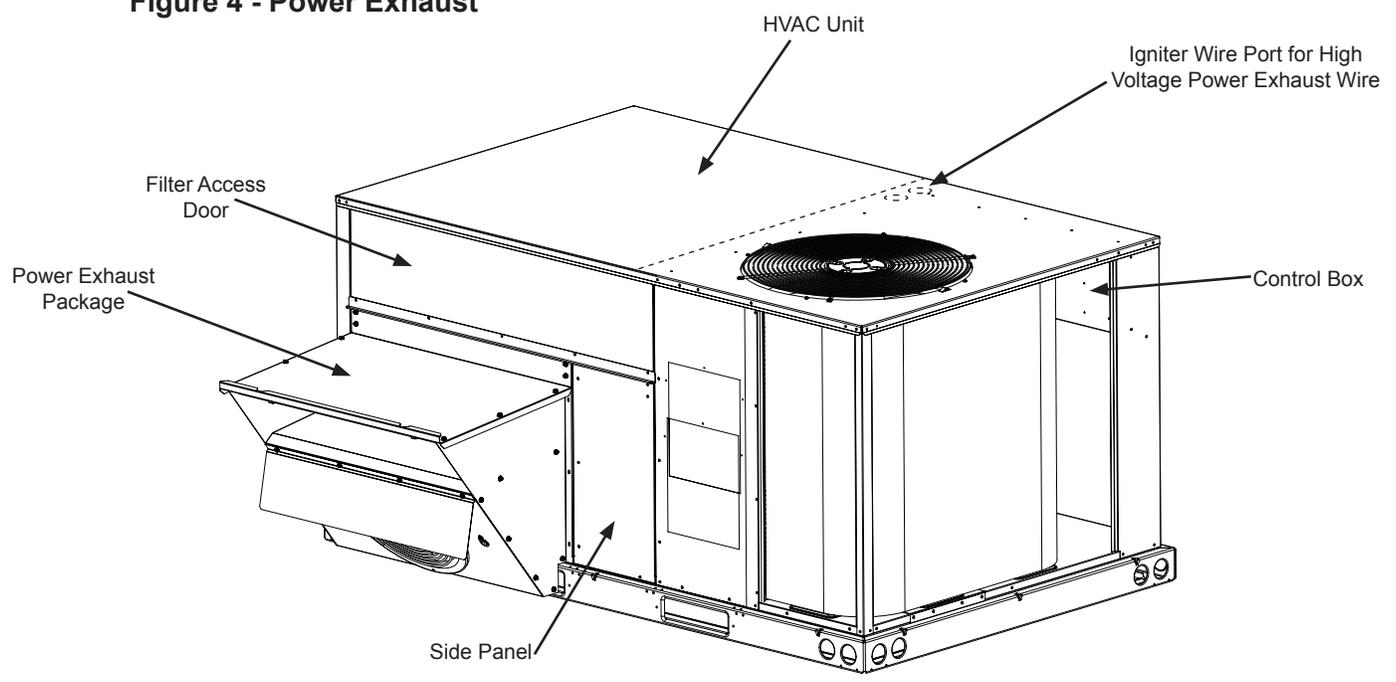


**Figure 3 - Economizer Side View**



**Figure 4 - Power Exhaust**

**Figure 5**



**Figure 6**

