

**POWER EXHAUST FANS**

**INSTALLATION INSTRUCTIONS FOR POWER EXHAUST FANS USED WITH LGH/LCH/KG/KC/KH 092-152 & 242-360 PACKAGED UNITS**

**Shipping and Packing List**

**53W44, 45, 46, & 47**

**Package 1 of 1 contains:**

- 1- Power exhaust assembly
- 1- Bag assembly containing:
  - #10 Sheet metal screws
  - #12 Sheet metal screws
  - 1-K65 exhaust fan relay
- 3-Harnesses

**74W21, 22, 23, 24**

**Package 1 of 1 contains:**

- 1- Power exhaust assembly
- 1- Harness (3 in 74W24 kits)
- 1- K65/K123 Relay (2 in 74W21, 22, 23, 24 kits)
- 1- Bag assembly containing:
  - Self tapping screws
  - Thread forming screws
  - 1-Foam insulating tape
- 74W21 Kits Only:
  - 2-Fuse holders
  - 2-Fuses
  - 1-Fuse block bracket

Check packaging for shipping damage. Contact the last carrier immediately if any shipping damage is found.

**⚠ CAUTION**

**As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.**

**Application**

Power exhaust fans are applied to units equipped with an economizer in downflow air discharge. The power exhaust fan option cannot be used in horizontal air discharge applications. See table 1.

**⚠ 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 licensed professional HVAC installer or equivalent, service agency, or the gas supplier**

**TABLE 1**

Unit	Voltage	Part #	CAT. #
092-152	Y (208/230)	603365-01	53W44
092-152	G (460)	603365-02	53W45
092-152	J (575)	603365-03	53W46
092-152	M (380/420)	603365-04	53W47
242, 300H, 360	Y (208/230)	606210-01	74W21
242, 300H, 360	G (460)	606210-02	74W22
242, 300H, 360	J (575)	606210-03	74W23
242, 300H, 360	M (208/420)	606210-04	74W24

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

- 1-Outdoor Air or Economizer Dampers
- 2-Sensors
- 3-Power Exhaust Fans
- 4-Gravity Exhaust Dampers
- 5-Exhaust Hoods
- 6-Intake Hoods



## Wiring

### IMPORTANT -

#### 53W44, 45, 46 & 47 Kits

Discard harness labeled 603541-01 when installing the exhaust fan in KG/KC/KH 092-150 units.

Discard harness labeled 600771-01 when installing the exhaust fan in M-volt CE units.

#### 74W21 Kit

Discard harness labeled 606666-01 and one relay when installing single-stage exhaust fans.

Discard harness labeled 607048-01 when installing dual-stage exhaust fans.

#### 74W22 & 23 Kits

Discard harness labeled 606665-01 and one relay when installing single-stage exhaust fans.

Discard harness labeled 607049-01 when installing dual-stage exhaust fans.

#### 74W24 Kit

Discard harness labeled 606665-01 and one relay when installing single-stage exhaust fans.

Discard harness labeled 607049-01 when installing the exhaust fan in M-volt CE units.

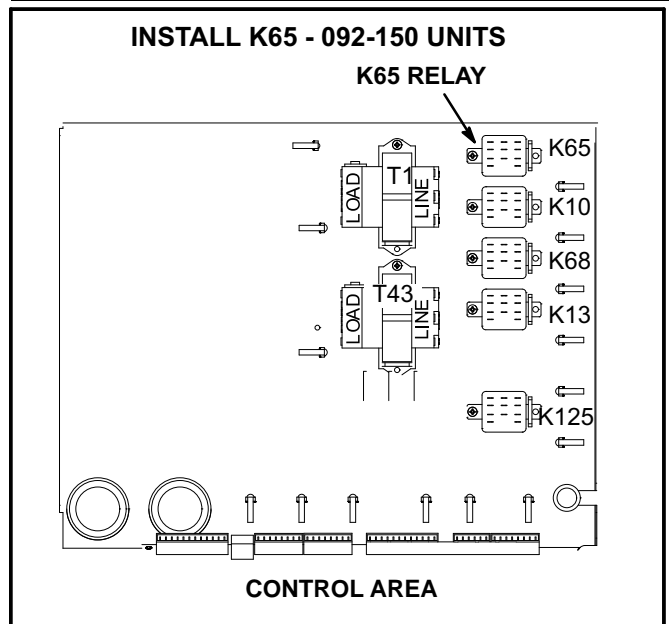
Discard harnesses labeled 607049-01 and 607050-01 when installing dual-stage exhaust fans.

- 1- Install K65 (and K231 on dual-stage exhaust fans) exhaust fan relay(s) in unit control box using screws provided. Refer to figure shown in table 2.
- 2- *242 - 360 Y-Volt Units Only* - Install F6 fuse block near F10 fuse block. Insert fuses provided. See figure 4.
- 3- Route wire harnesses; refer to figure shown in table 2.
- 4- Harness wires are hot-stamped for identification. Make wiring connections as follows:

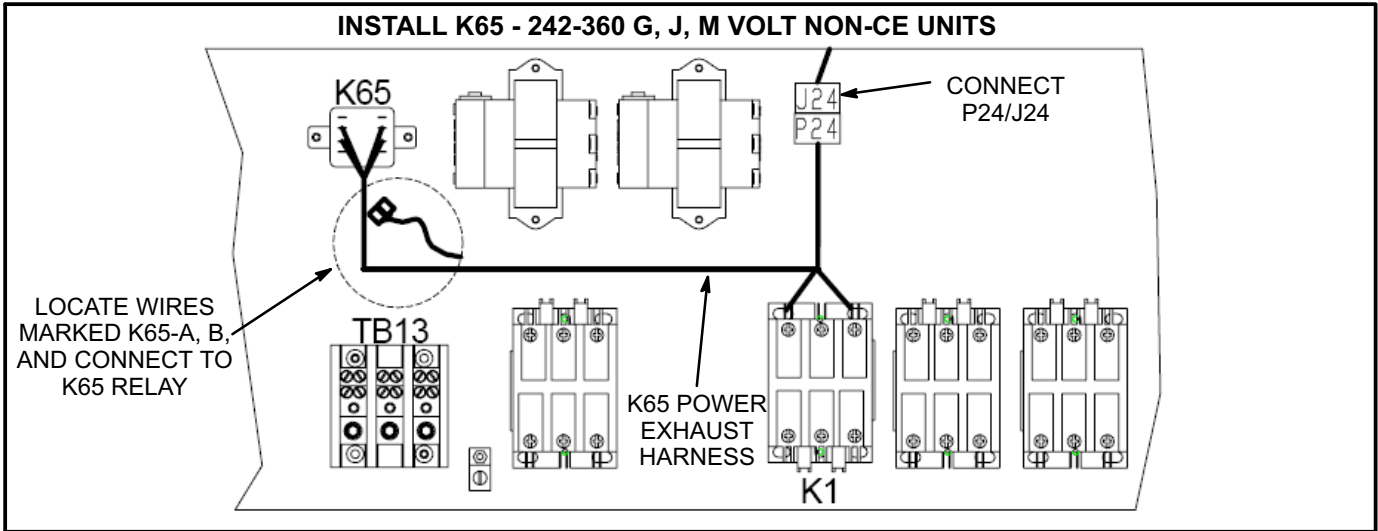
- |           |                                 |
|-----------|---------------------------------|
| Figure 8  | LG/LC 092-152 units             |
| Figure 9  | KG/KC/KH 092-150 units          |
| Figure 10 | LGH/LCH242-360 G & J volt units |
| Figure 11 | LGH/LCH242-360 Y volt units     |
| Figure 12 | LGH/LCH242-300 M volt CE units  |

**TABLE 2**

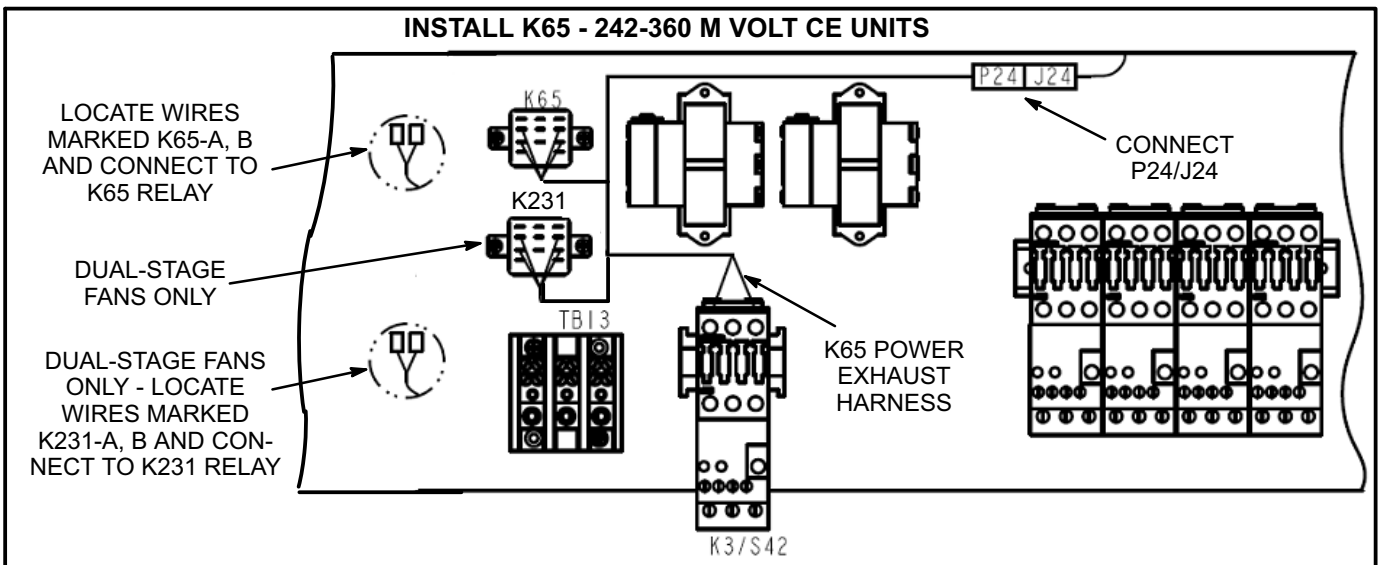
Unit	Volt-age	Figure	
		K65/K231	Wire Routing
LGH/LCH 092-152	All	1	5
KG/KC/KH 092-150	All	1	7
242-360	G, J, M	2	2
360	Y	4	4
LGH/LCH/KG/KC/KH 092-152 CE	M-CE	1	6
LGH/LCH 242-360 CE	M-CE	3	3



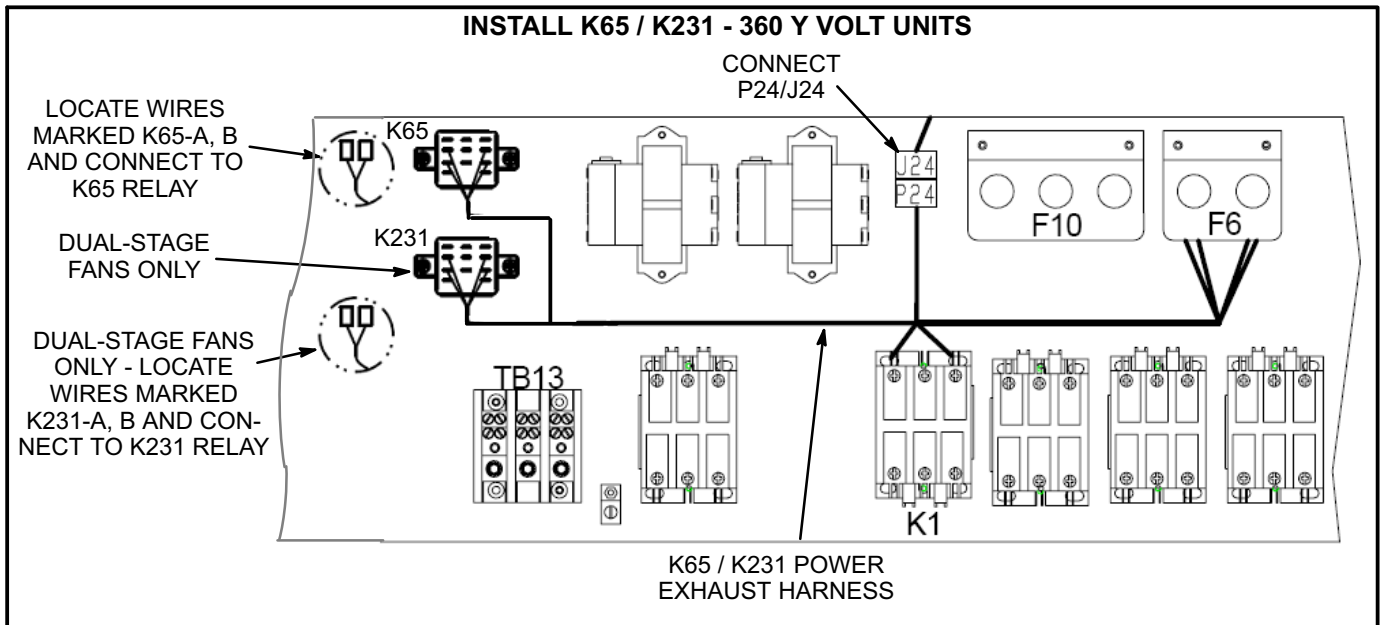
**FIGURE 1**



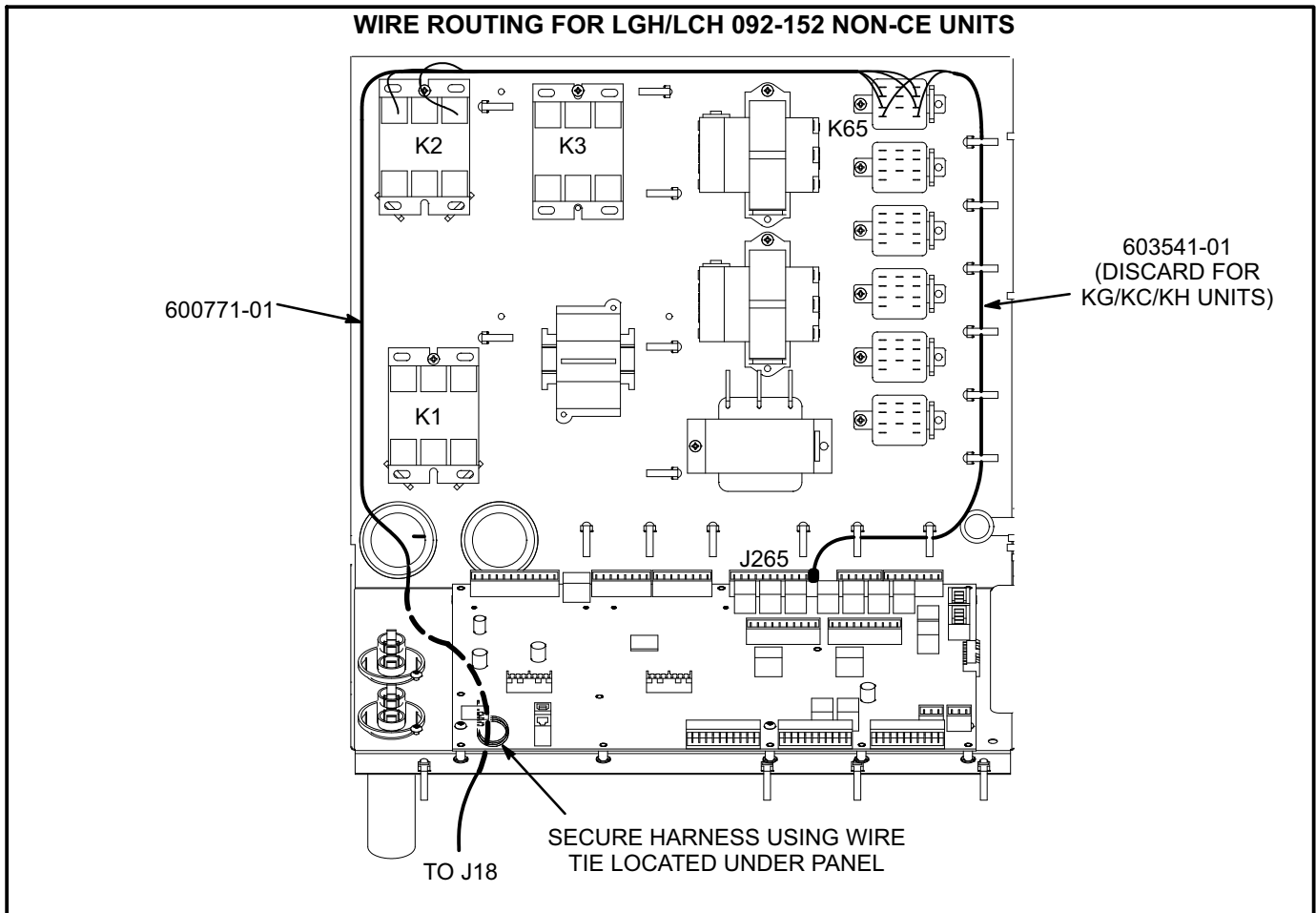
**FIGURE 2**



**FIGURE 3**

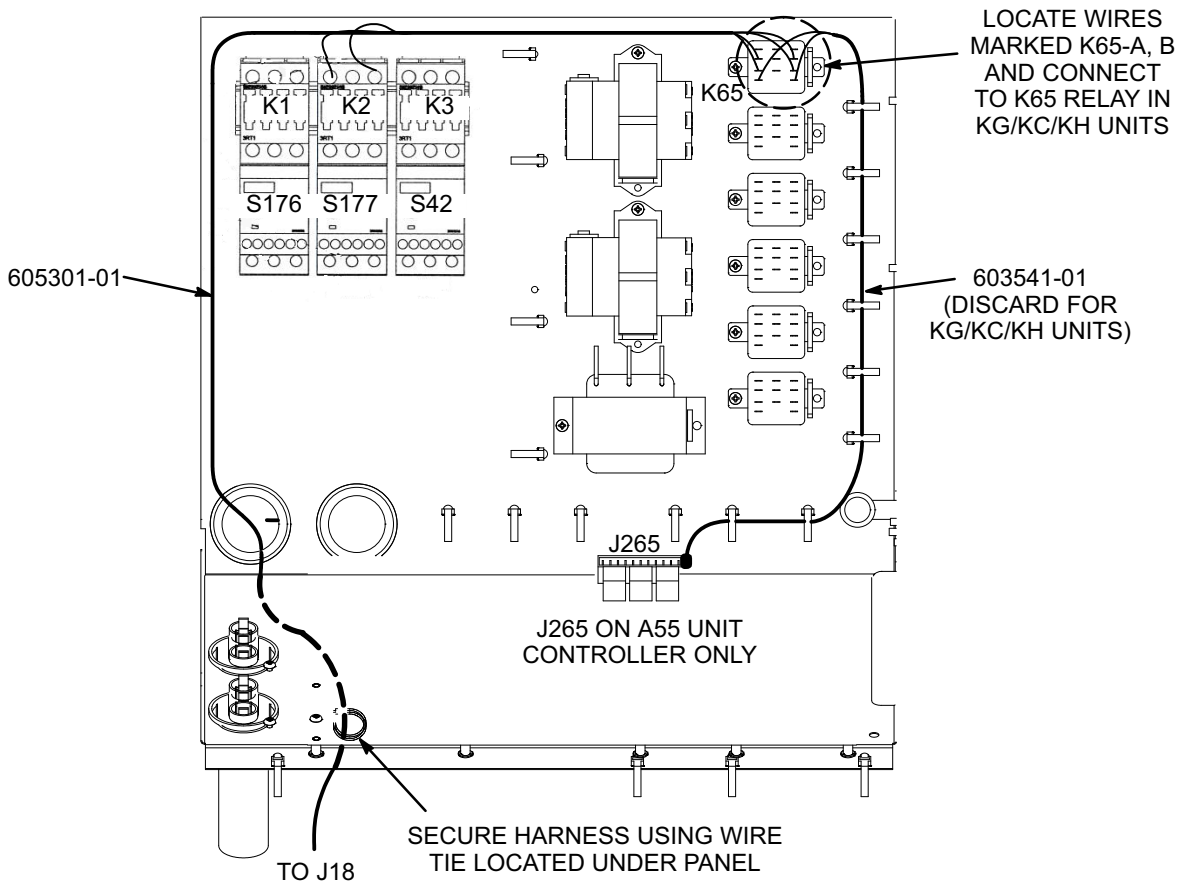


**FIGURE 4**



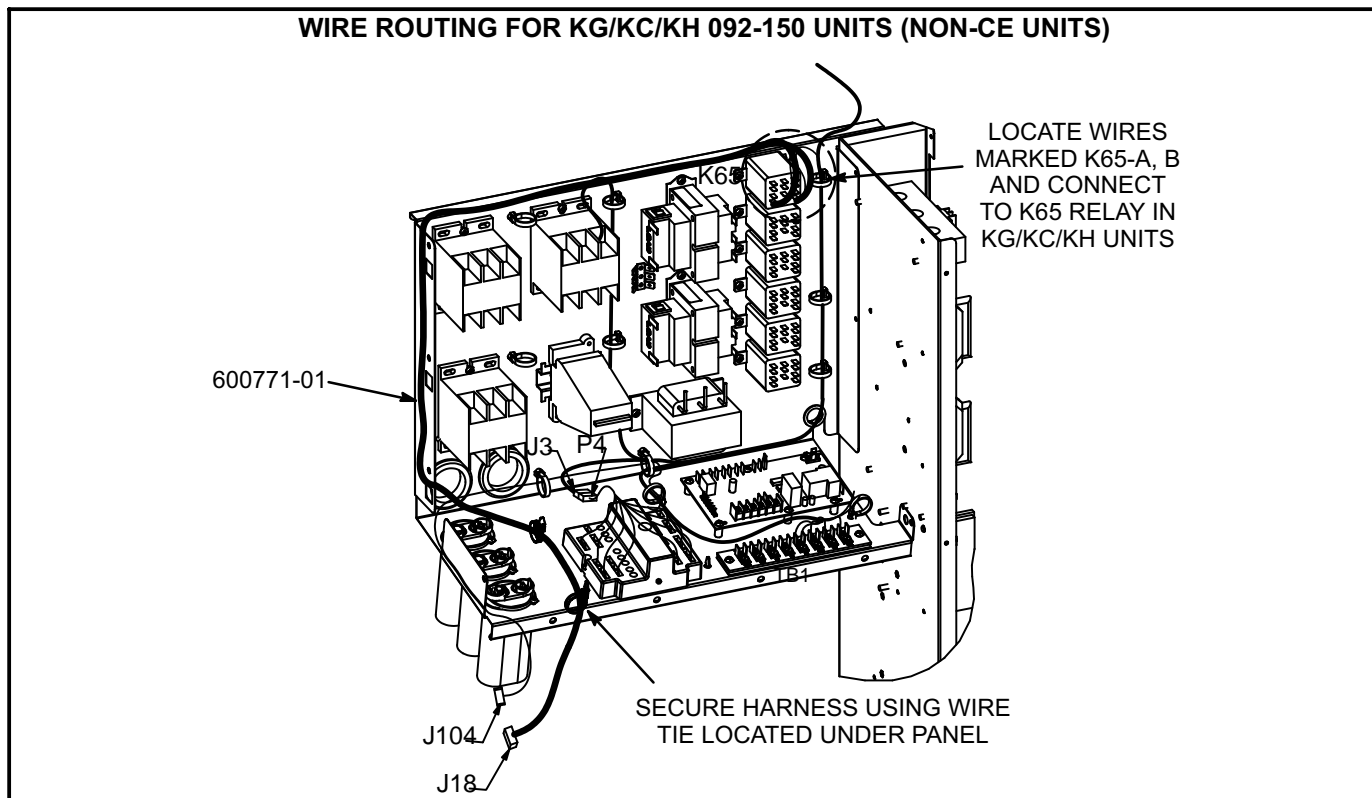
**FIGURE 5**

**WIRE ROUTING FOR LGH/LCH/KG/KC/KH 092-152 M VOLT CE UNITS**



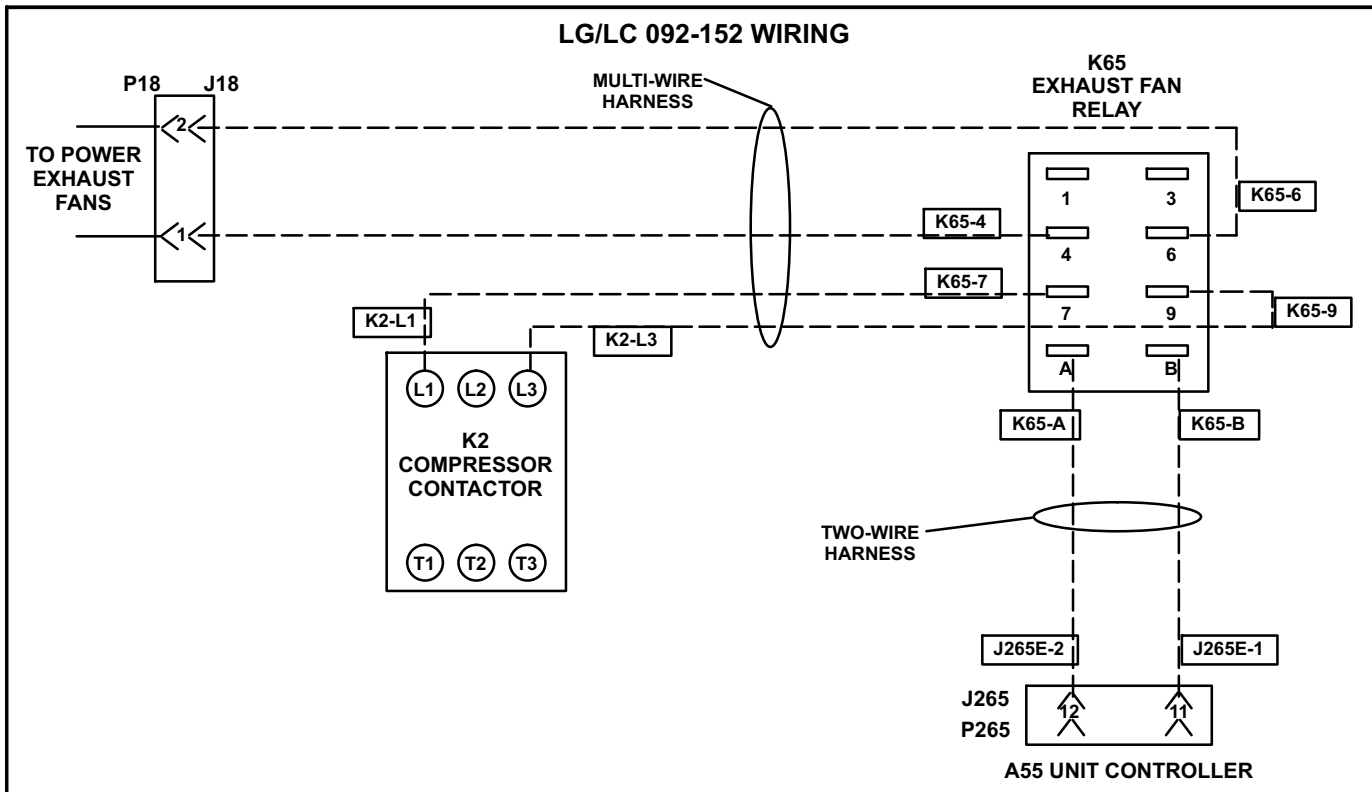
**FIGURE 6**

**WIRE ROUTING FOR KG/KC/KH 092-150 UNITS (NON-CE UNITS)**



**FIGURE 7**

**LG/LC 092-152 WIRING**



**FIGURE 8**

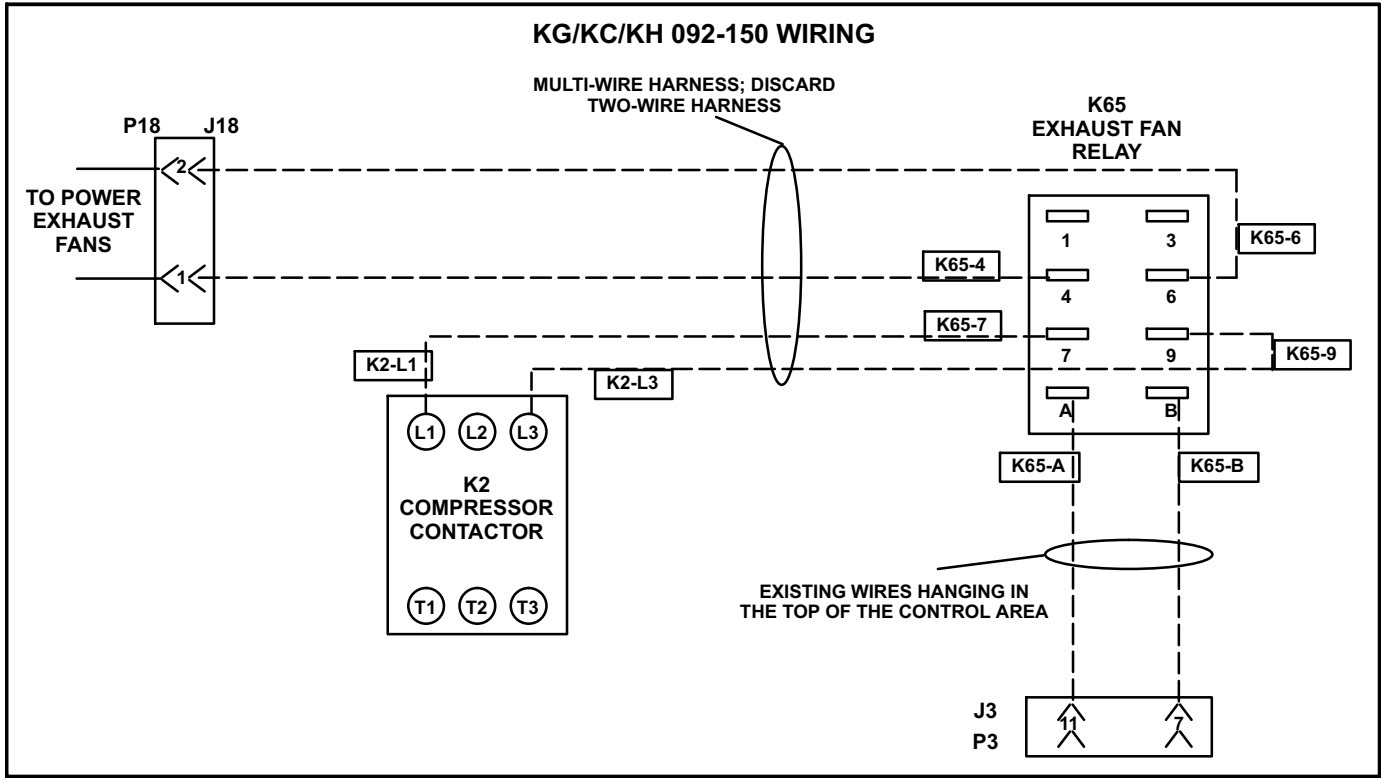
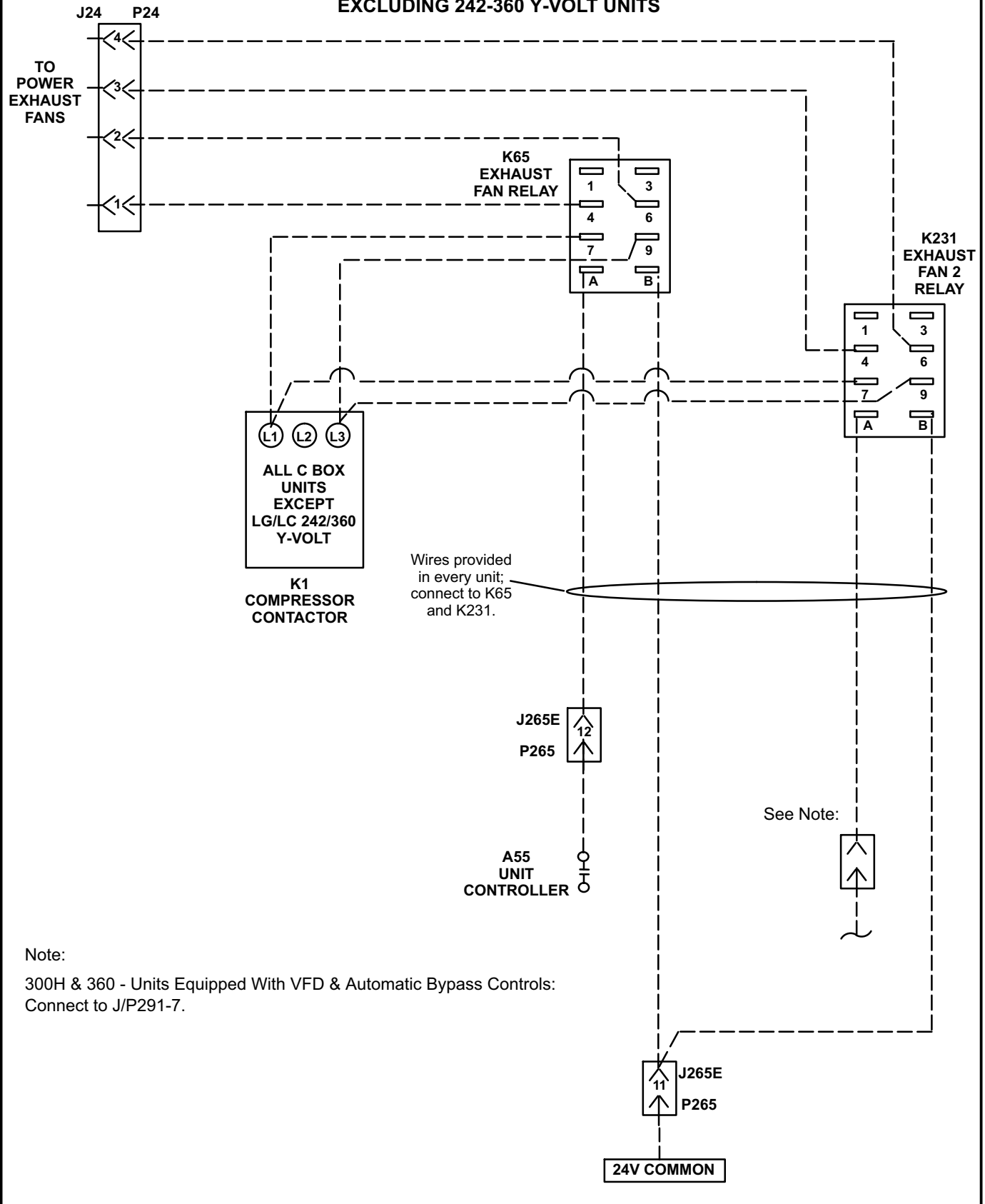


FIGURE 9

**LGH/LCH 242-360 WIRING  
EXCLUDING 242-360 Y-VOLT UNITS**



**FIGURE 10**



# LGH/LCH 242-360 Y-VOLT WIRING

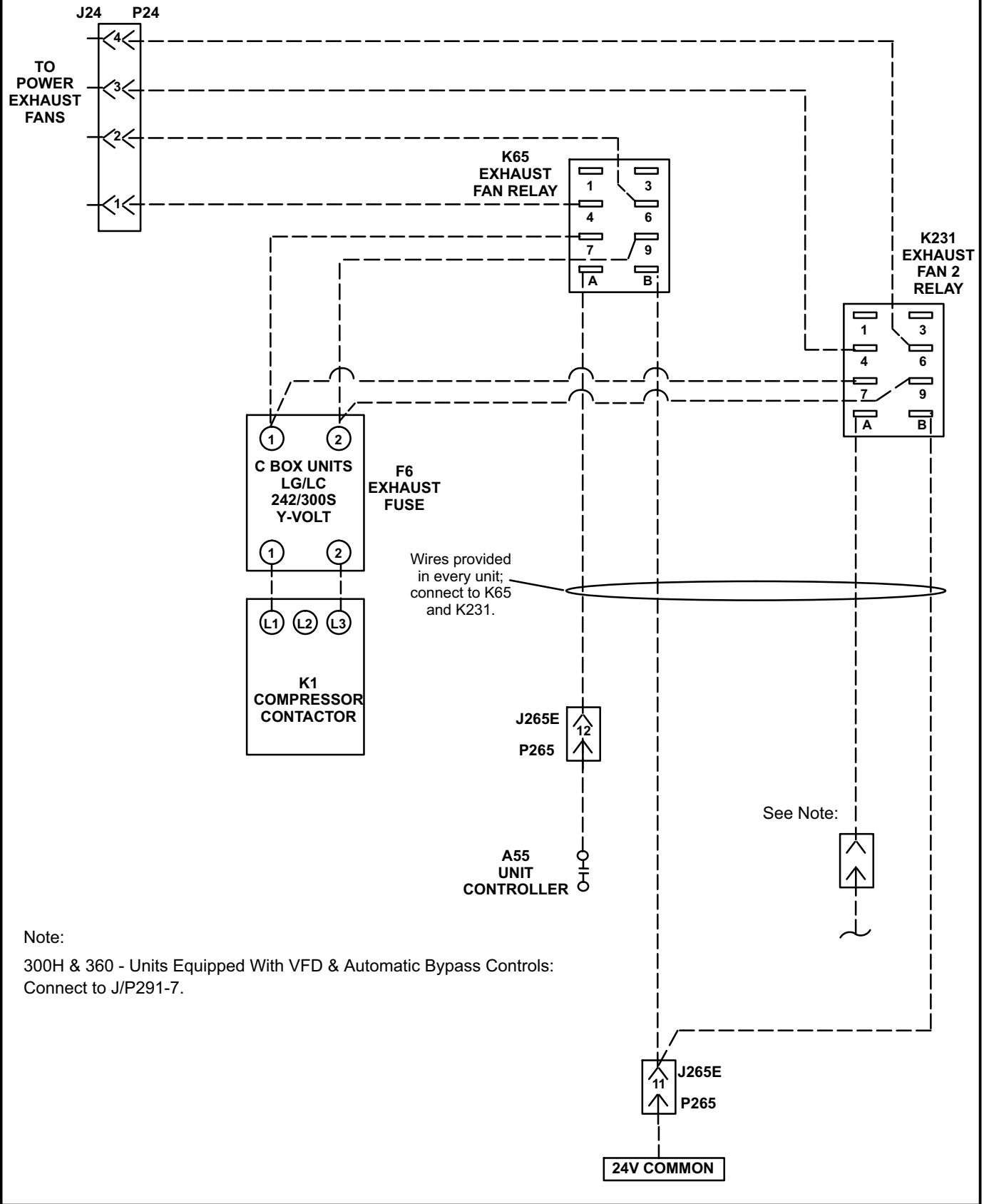


FIGURE 11

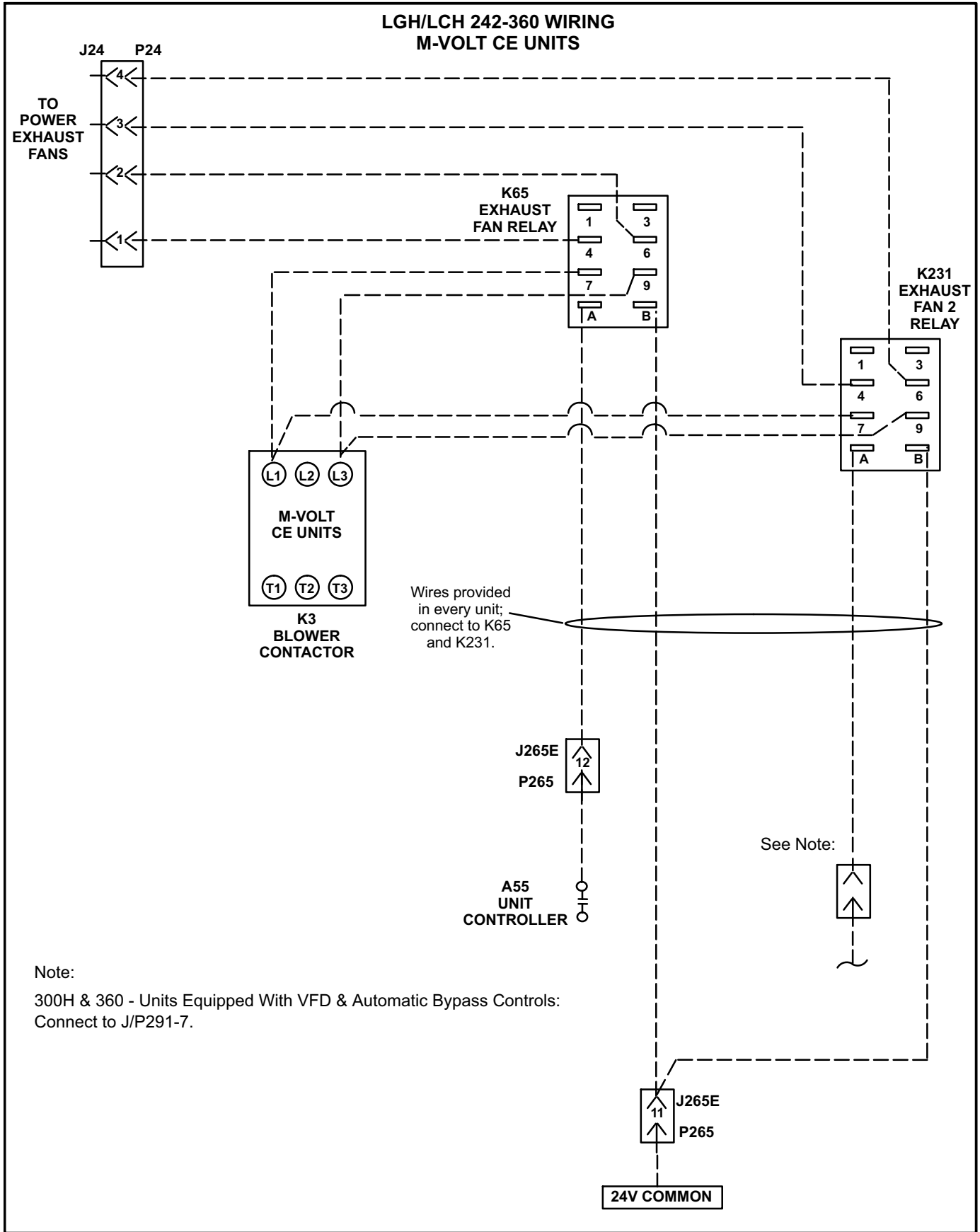
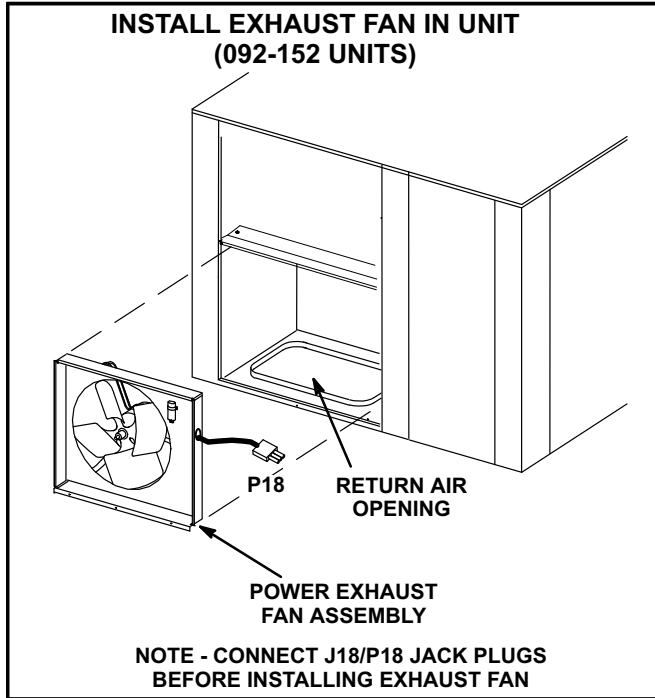


FIGURE 12

## Installation

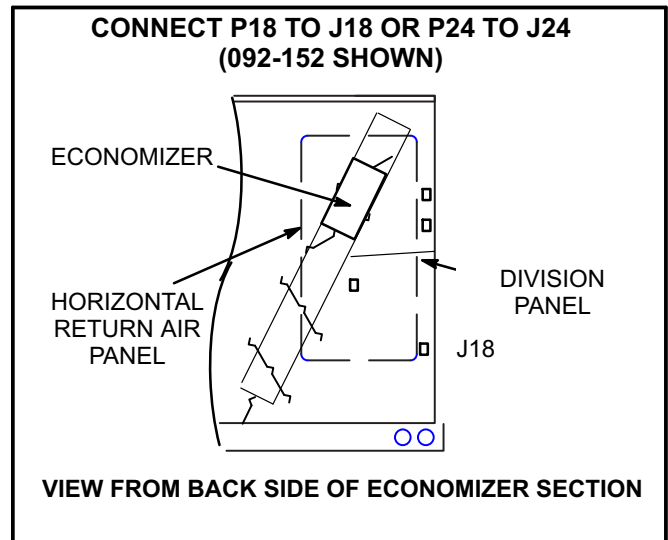
092/152 Units (refer to figure 13)

- 1- Disconnect electrical power to unit.
- 2- Remove both upper and lower accessory panels from unit. Retain screws for future use. Also remove optional gravity exhaust damper if unit contains one.



**FIGURE 13**

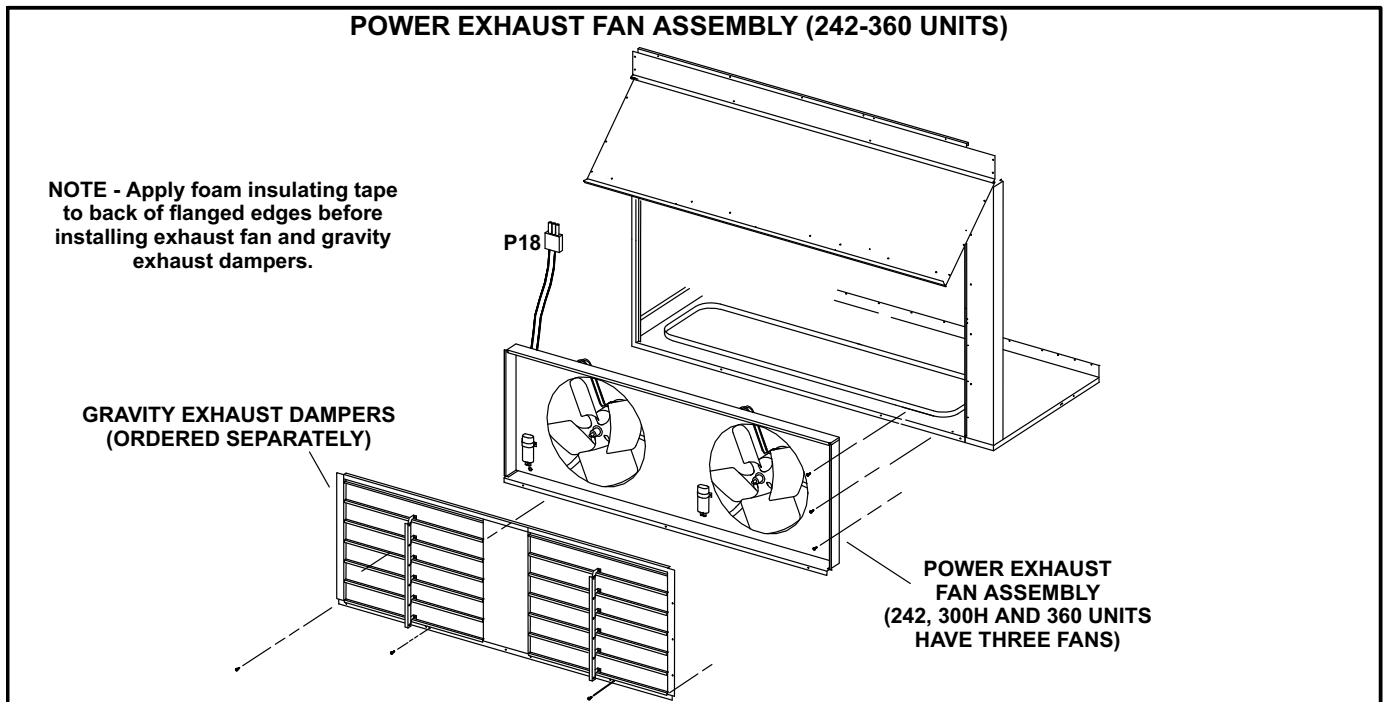
- 3- Reach through fan orifice and connect power exhaust fan P18 plug to unit J18 jack. J18 is located on the wall between the economizer and compressor section. See figure 14.



**FIGURE 14**

242-360 Units

- 1- Disconnect electrical power to unit.
- 2- Remove both upper and lower accessory panels from unit. Retain screws for future use. Also remove optional gravity exhaust damper if unit contains one.



**FIGURE 15**

- 4- Apply foam insulating tape on the back of the flanged edges of the fan assembly.
- 5- Reach through fan orifice and connect power exhaust fan P18 plug to unit J18 jack. J18 is located on the left side underneath the fresh/exhaust air divider panel. See figure 15.

**All Units**

- 1- Lift the fan assembly into the opening and insert the top side first. Align the top of the assembly inside the flange on the division panel. Secure the bottom of the assembly to the unit with screws provided. See figure 13 for 092/152 units and figure 15 for 242/360 units.
- 2- Install gravity exhaust damper according to instructions provided with damper.

**Prodigy 2.0 M3 Unit Controller Setup**

The M3 Unit Controller has power exhaust fan control options that include support for both single-stage and two-stage equipment. The power exhaust is controlled based on the damper position.

Go to **SETUP / INSTALL** and set **Configuration ID 1**, position 3 to (**S = Single Stage** or **D = Dual Stage**).

Go to **SETUP / INSTALL** and set **Configuration ID 1**, position 4 to **A = Damper Position**

**Operation**

Power exhaust fans are energized when economizer dampers reach 50% (default).

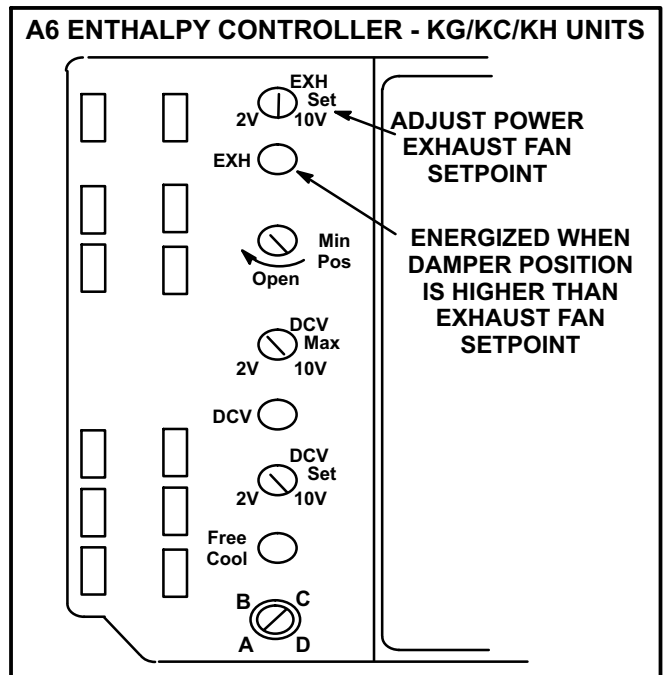
**Power Exhaust Setpoint Adjustment**

*LG/LC Units -*

Refer to the Unit Controller manual provided with each rooftop unit.

*KG/KC/KH Units -*

Locate the A6 enthalpy control in the control area for 092-150 units and the economizer side panel for 242-300 units. The EXH SET potentiometer is factory-set at approximately 50% of the dial range. See figure 16. Power exhaust fans will be energized 30 seconds after dampers are 50% open. Adjust the EXH SET potentiometer higher (clockwise toward 10V) to energize fans when dampers are further open. Adjust the EXH SET potentiometer lower (counterclockwise toward 2V) to energize fans when dampers are further closed. (Thirty-second delay allows dampers to partially open before exhaust fan starts.)



**FIGURE 16**