

INSTALLATION INSTRUCTIONS FOR POWER EXHAUST FANS USED WITH LGH/LCH/KG/KC/KH 092-360 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

54W70, 71, 72, 73

Package 1 of 1 contains:

- 1- Power exhaust assembly
- 1- Harness (2 in 54W70 & 54W73 kits)
- 1- K65 Relay
- 1- Bag assembly containing:
 - 10-#10 Self tapping screws
 - 6-#6 Thread forming screws
 - 1-Snap bushing
 - 1-Wire tie
 - 1-Foam insulating tape
- 54W70 Only:
 - 2-Fuse holders
 - 2-Fuses
 - 1-Fuse block bracket

74W21, 22, 23, 24

Package 1 of 1 contains:

- 1- Power exhaust assembly
- 2- Harnesses (3 in 74W24 kit)
- 1- K65, K231 Relay
- 1- Bag assembly containing:
 - 12-#10 Self tapping screws
 - 4-#8 Thread forming screws
 - 1-Foam insulating tape
- 74W21 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.

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 qualified installer, service agency or the gas supplier

⚠ CAUTION

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

TABLE 1

Unit	Voltage	Part #	CAT. #
092-150	Y (208/230)	603365-01	53W44
092-150	G (460)	603365-02	53W45
092-150	J (575)	603365-03	53W46
092-150	M (380/420)	603365-04	53W47
156-240 & 300S	Y (208/230)	LB-68923AE	54W70
156-240 & 300S	G (460)	LB-68923AF	54W71
156-240 & 300S	J (575)	LB-68923AG	54W72
156-240 & 300S	M (380/420)	LB-68923AH	54W73
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.

54W70 & 73 Kits

Discard harness labeled 603603-01 when installing the exhaust fan in 156, 180 and 210 Y-volt units.

Discard harness labeled 603609-01 when installing the exhaust fan in M-volt CE units.

74W21 Kit

Discard harness labeled 606666-01 and one relay when installing the exhaust fan in CAV units.

Discard harness labeled 607048-01 when installing the exhaust fan in MSAV® units.

74W22 & 23 Kits

Discard harness labeled 606665-01 and one relay when installing the exhaust fan in CAV units.

Discard harness labeled 607049-01 when installing the exhaust fan in MSAV® units.

74W24 Kit

Discard harness labeled 606665-01 and one relay when installing the exhaust fan in CAV units.

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

Discard harnesses labeled 607049-01 and 607050-01 when installed the exhaust fan in MSAV® units.

1- Install K65 (and K231 on MSAV® units) exhaust fan relay(s) in unit control box using screws provided. Refer to figure shown in table 2.

2- *240 - 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 092-150 units |
| Figure 9 | KG/KC/KH 092-150 units |
| Figure 10 | KG/KC/KH 156-300 units |
| Figure 11 | LGH/LCH156-360 G & J volt units
LGH/LCH156-180 Y volt units |
| Figure 12 | LGH/LCH240-360 Y volt units |
| Figure 13 | LGH/LCH156-300 M volt CE units |

TABLE 2

Unit	Voltage	Figure	
		K65/K231	Wire Routing
LGH/LCH 092-150	All	1	5
KG/KC/KH 092-150	All	1	7
156-360	G, J, M	2	2
156, 180 & 210	Y	2	2
240 & 360	Y	4	4
LGH/LCH/KH 092-150 CE	M-CE	1	6
LGH/LCH/KH 156-360 CE	M-CE	3	3

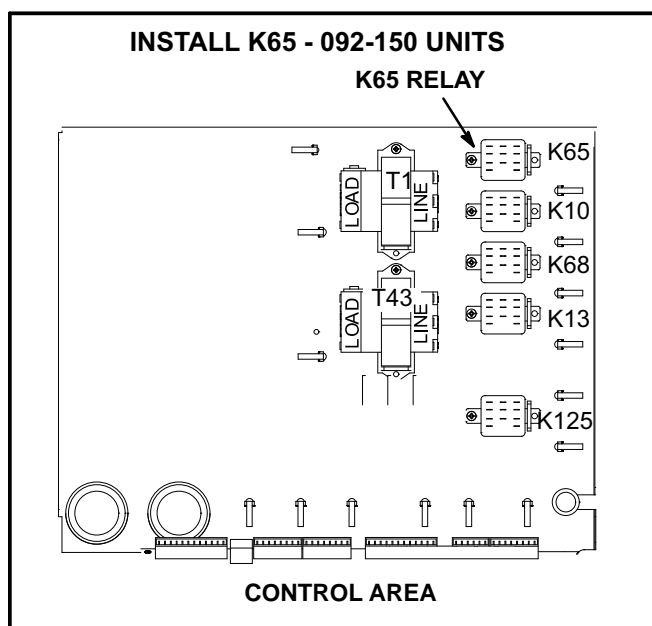


FIGURE 1

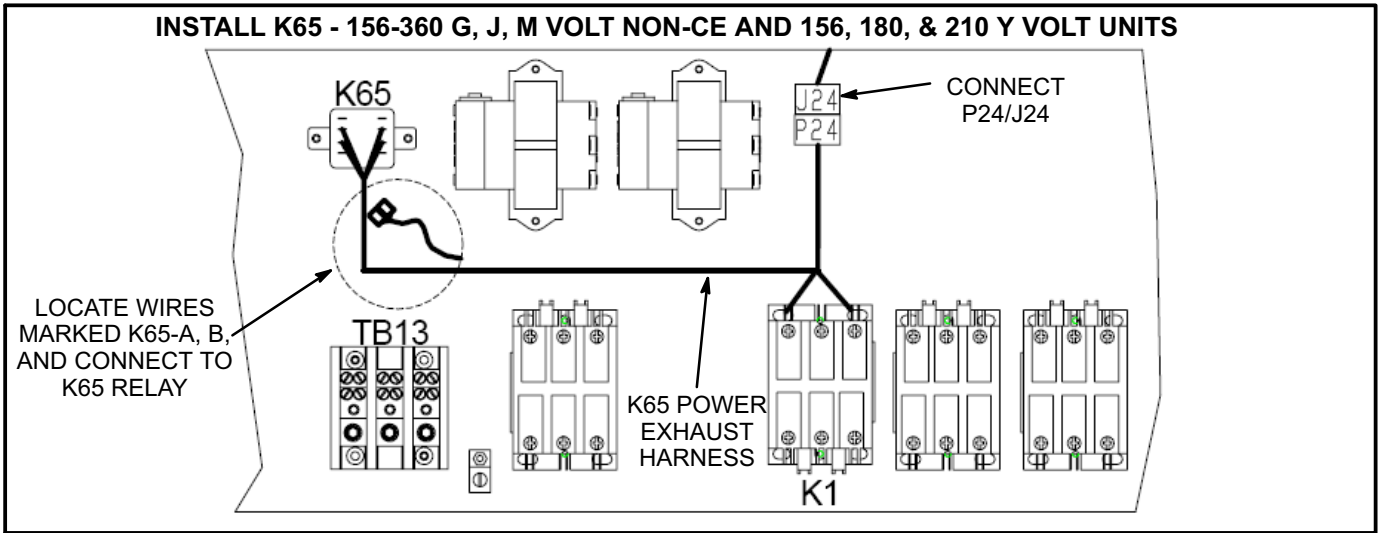


FIGURE 2

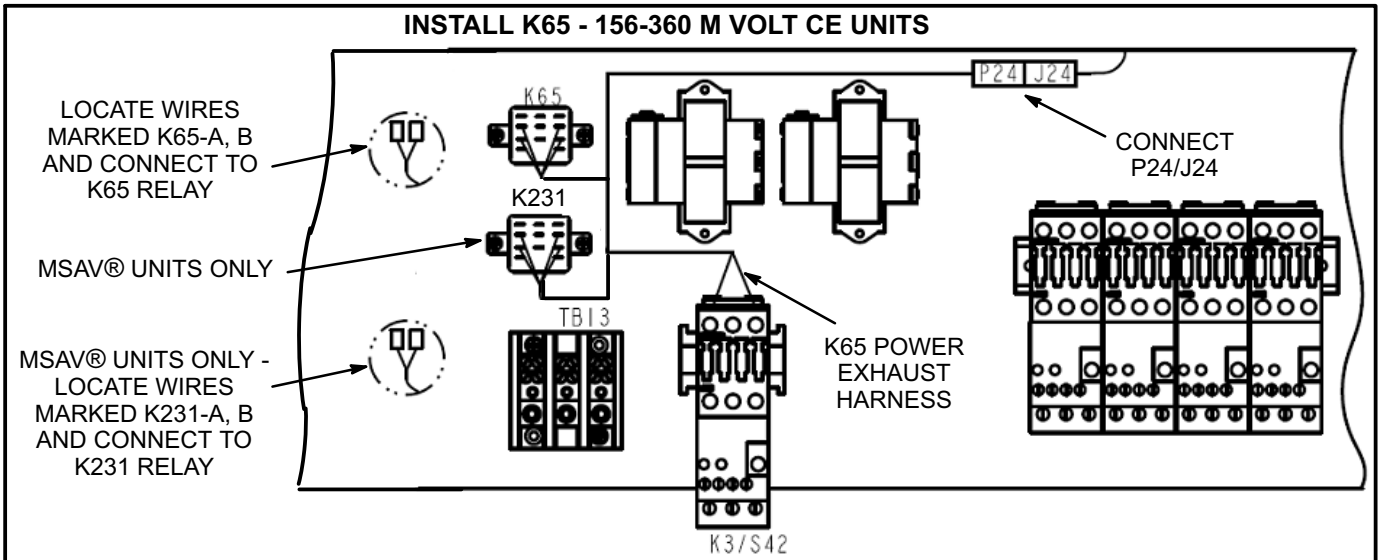


FIGURE 3

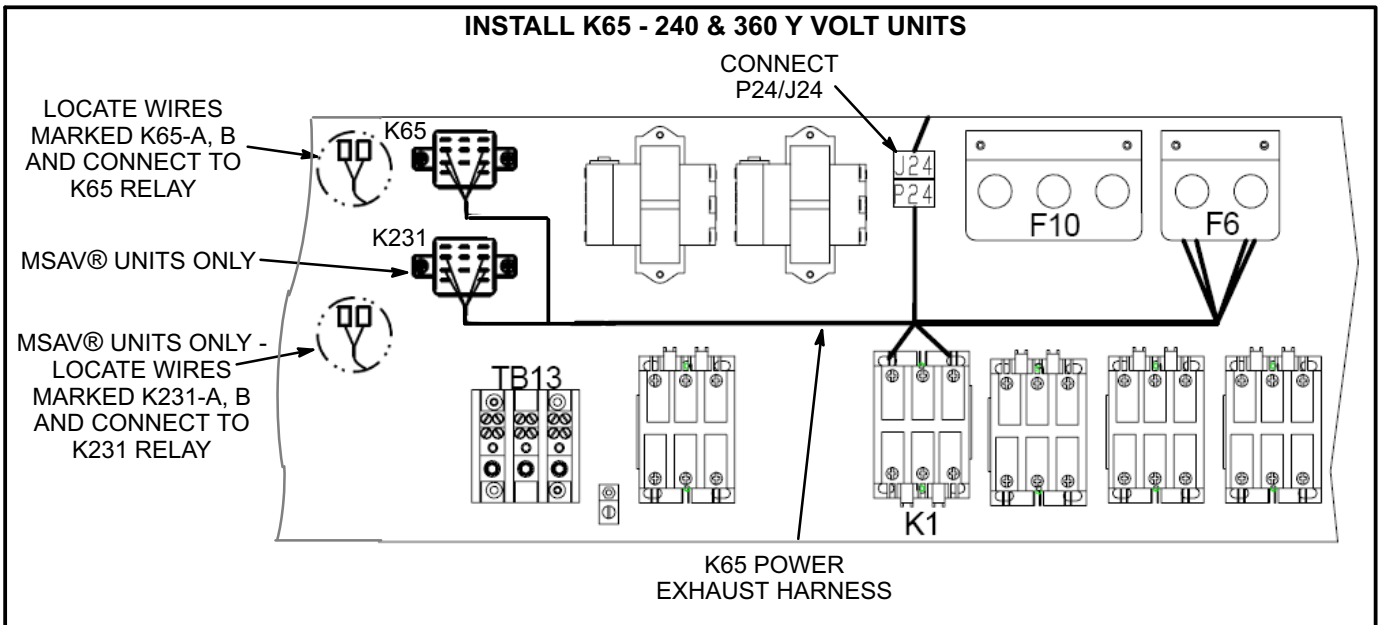


FIGURE 4

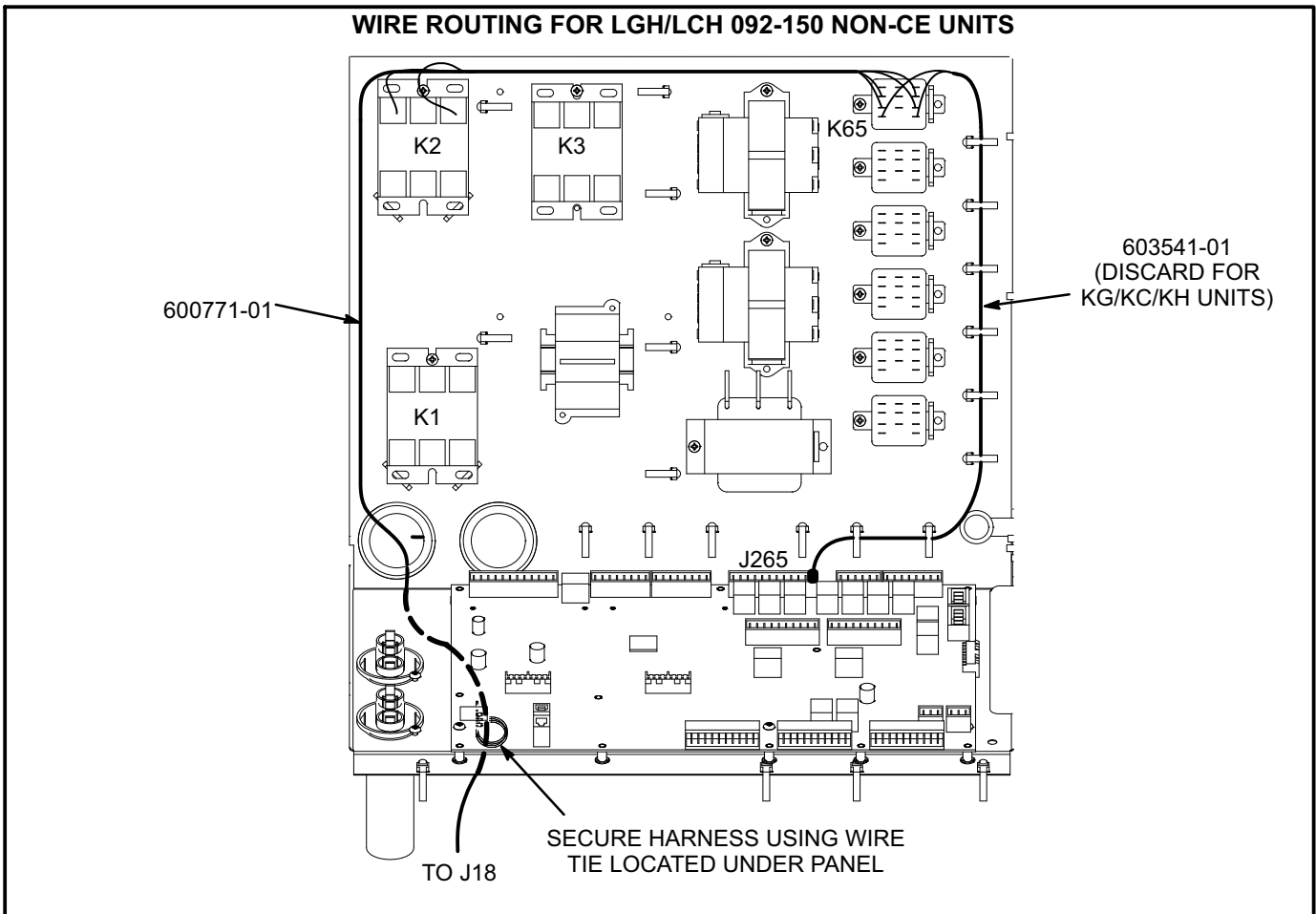


FIGURE 5

WIRE ROUTING FOR LGH/LCH/KG/KC/KH 092-150 M VOLT CE UNITS

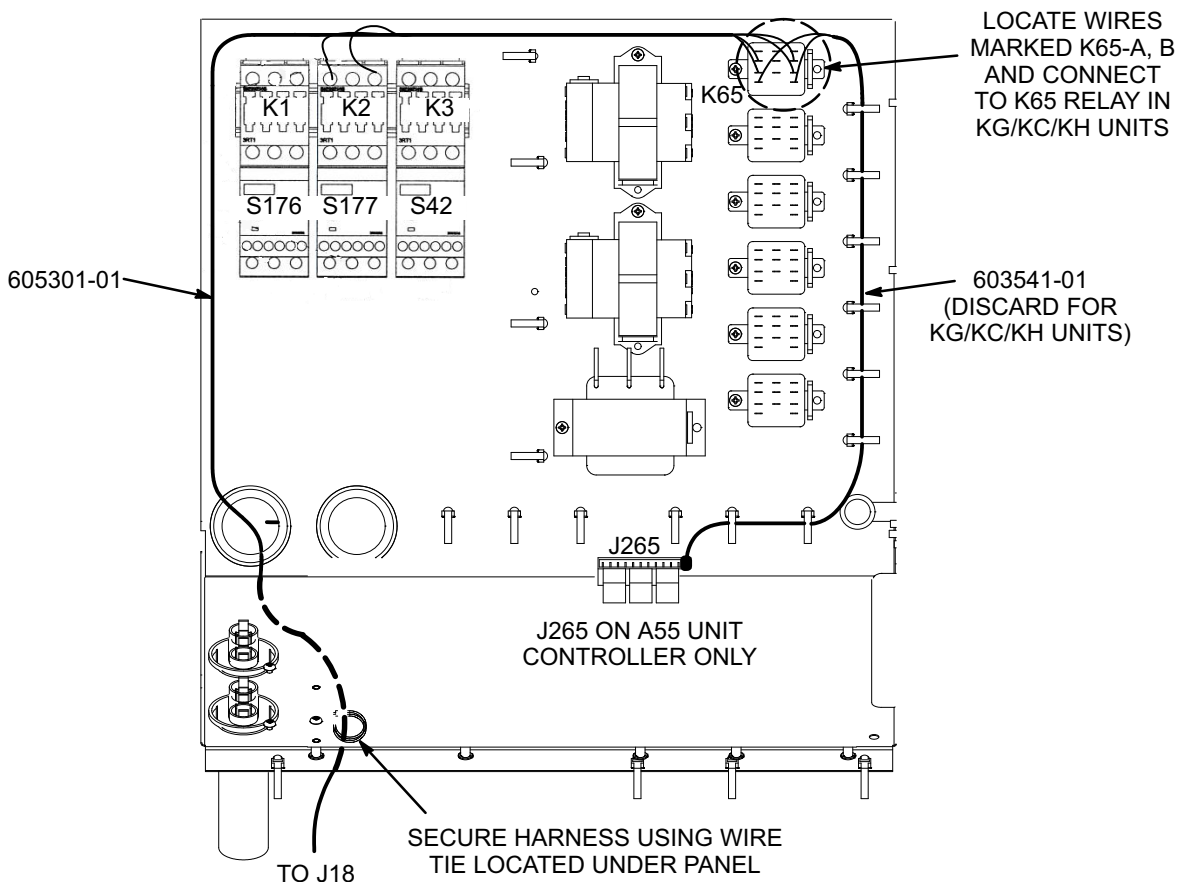


FIGURE 6

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

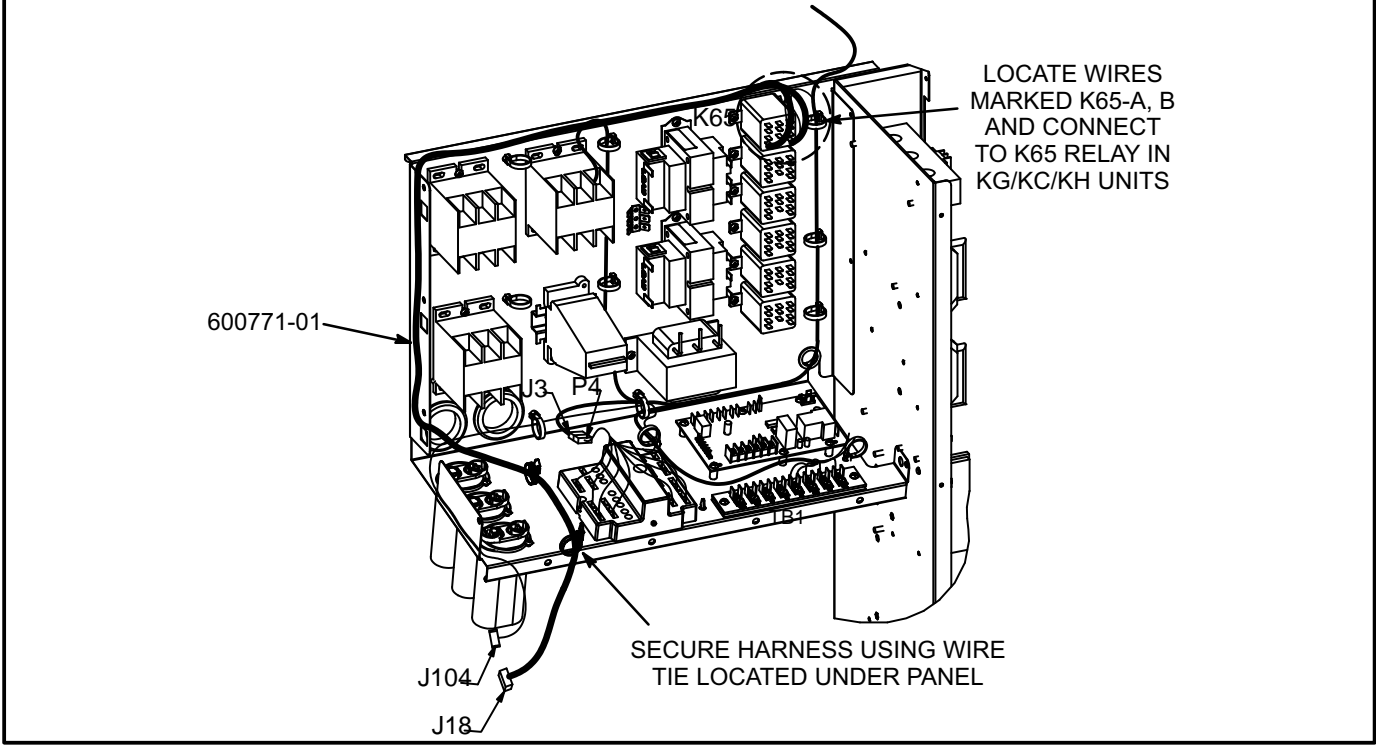


FIGURE 7

LG/LC 092-150 WIRING

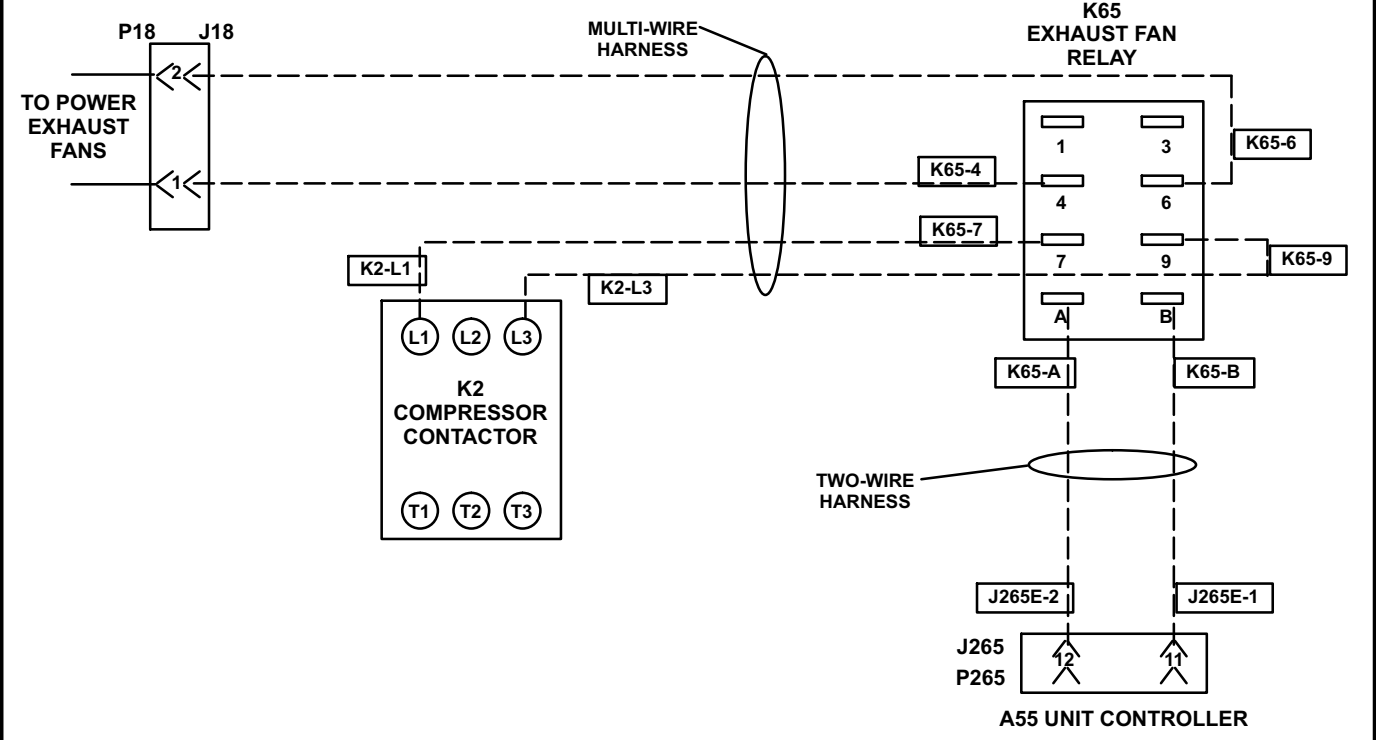


FIGURE 8

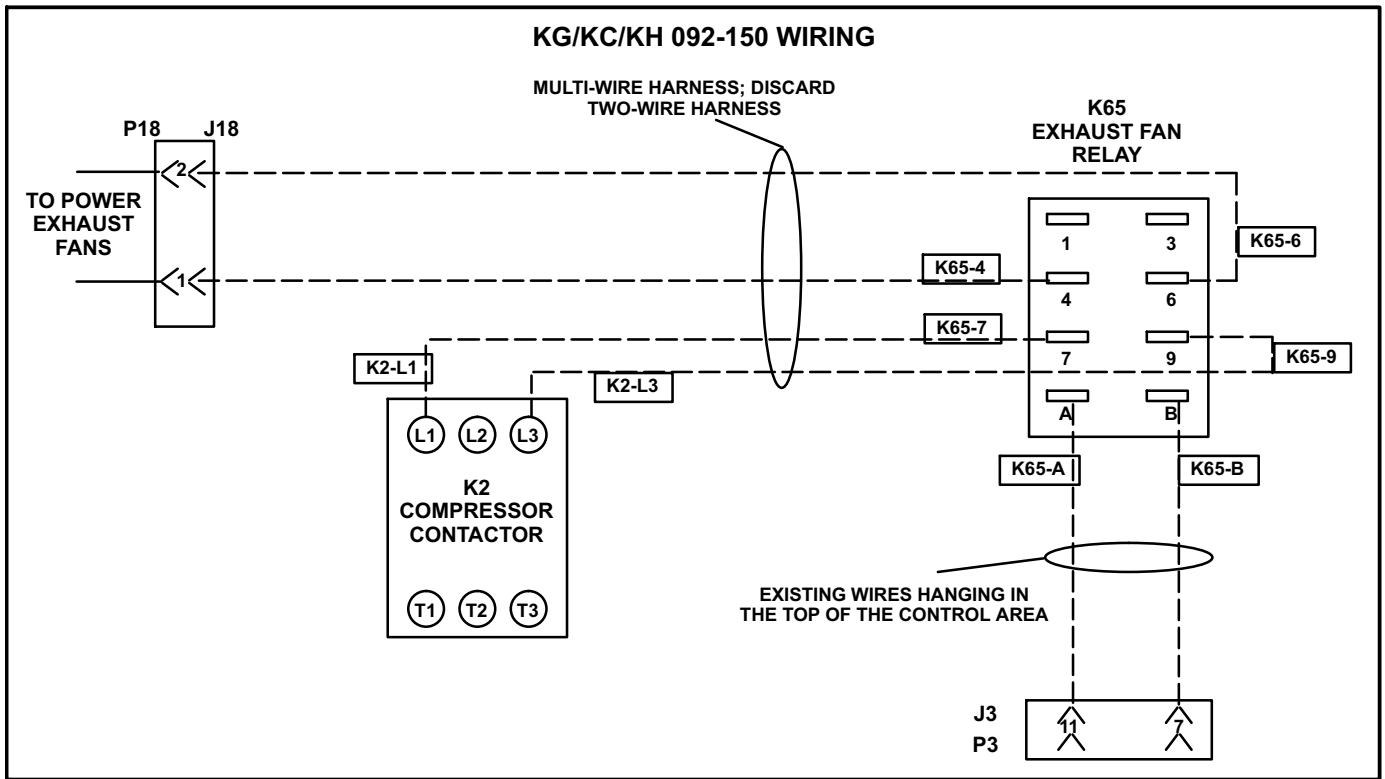


FIGURE 9

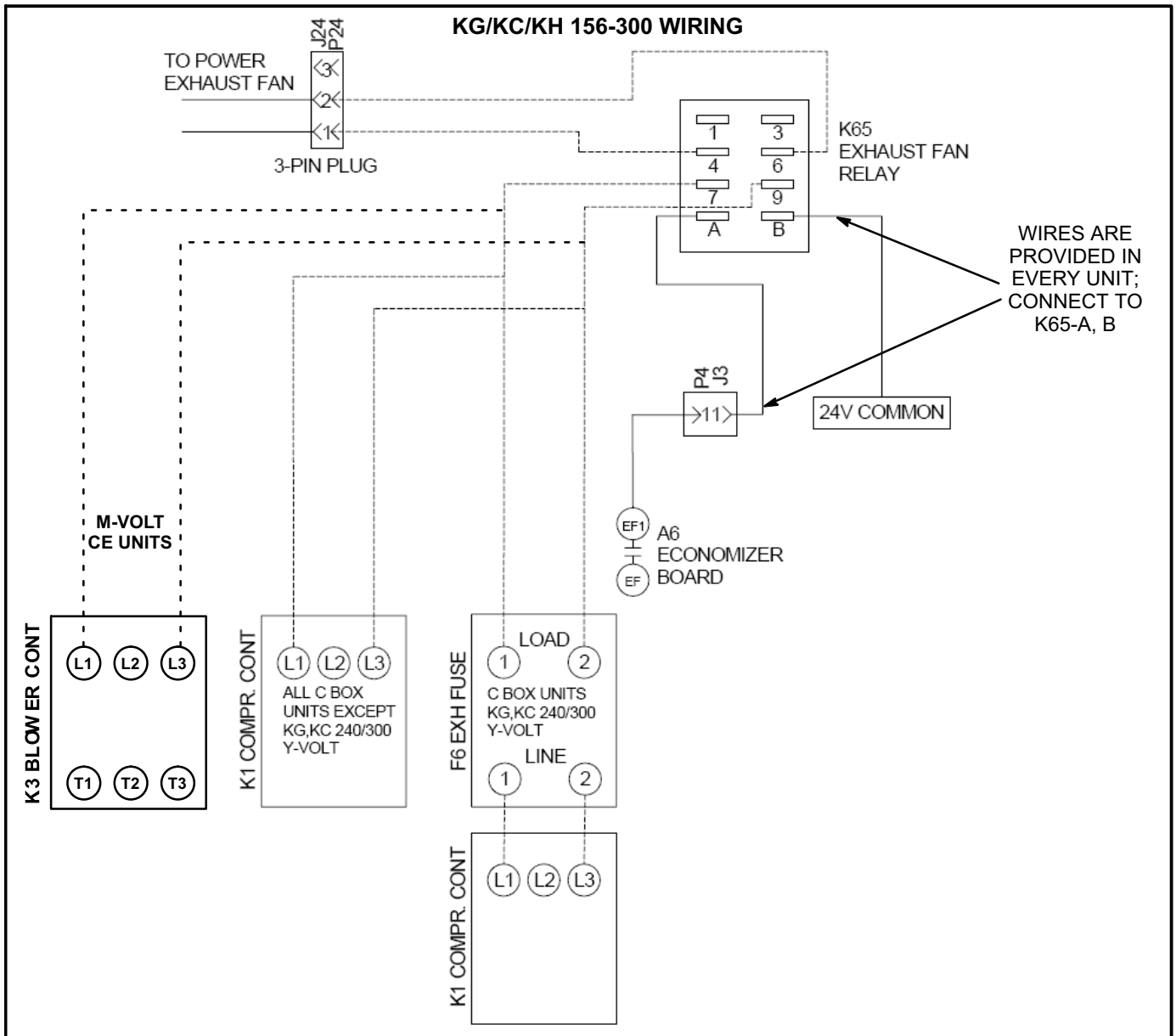


FIGURE 10

**LGH/LCH 156-360 WIRING
EXCLUDING 240-360 Y-VOLT UNITS**

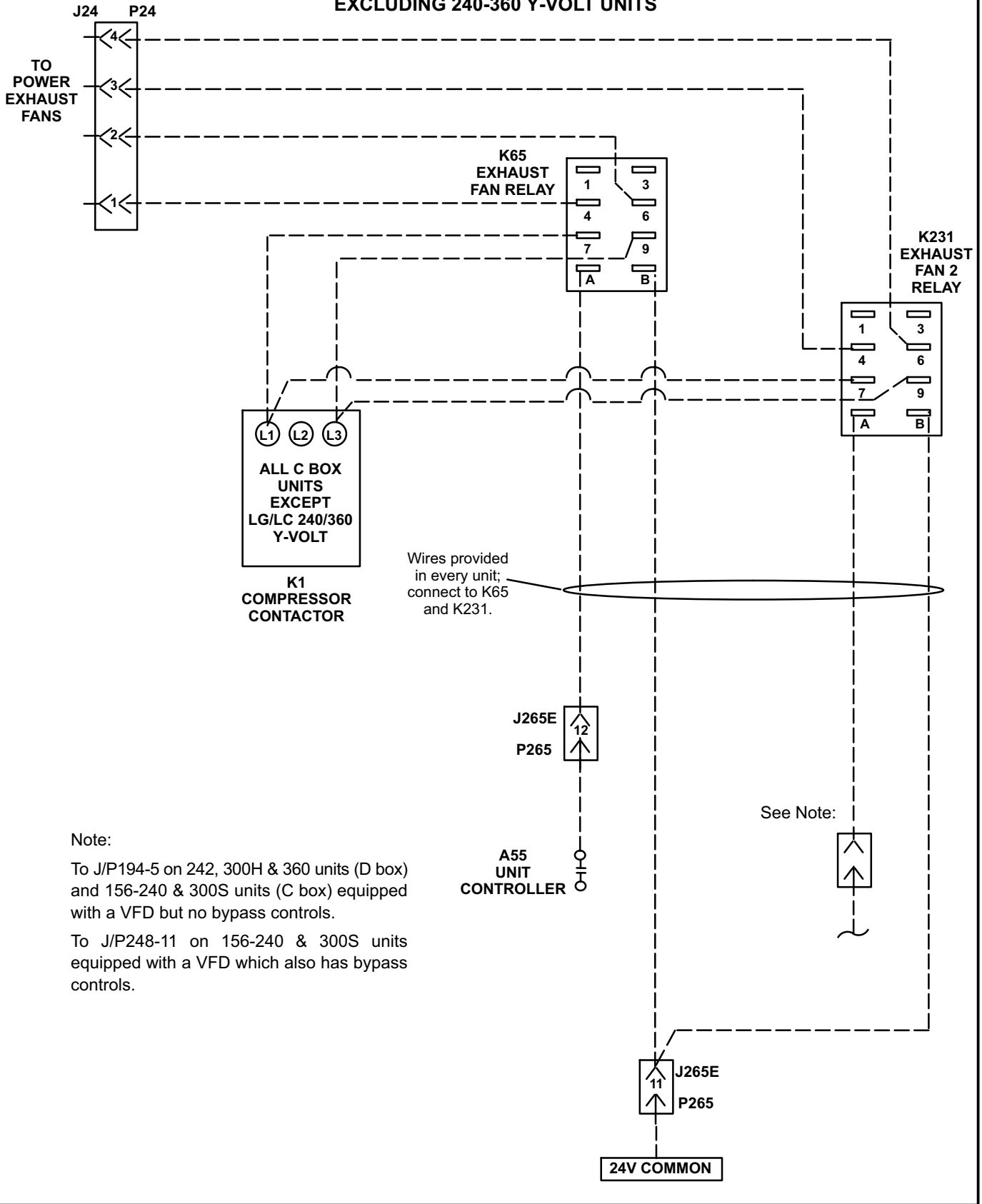
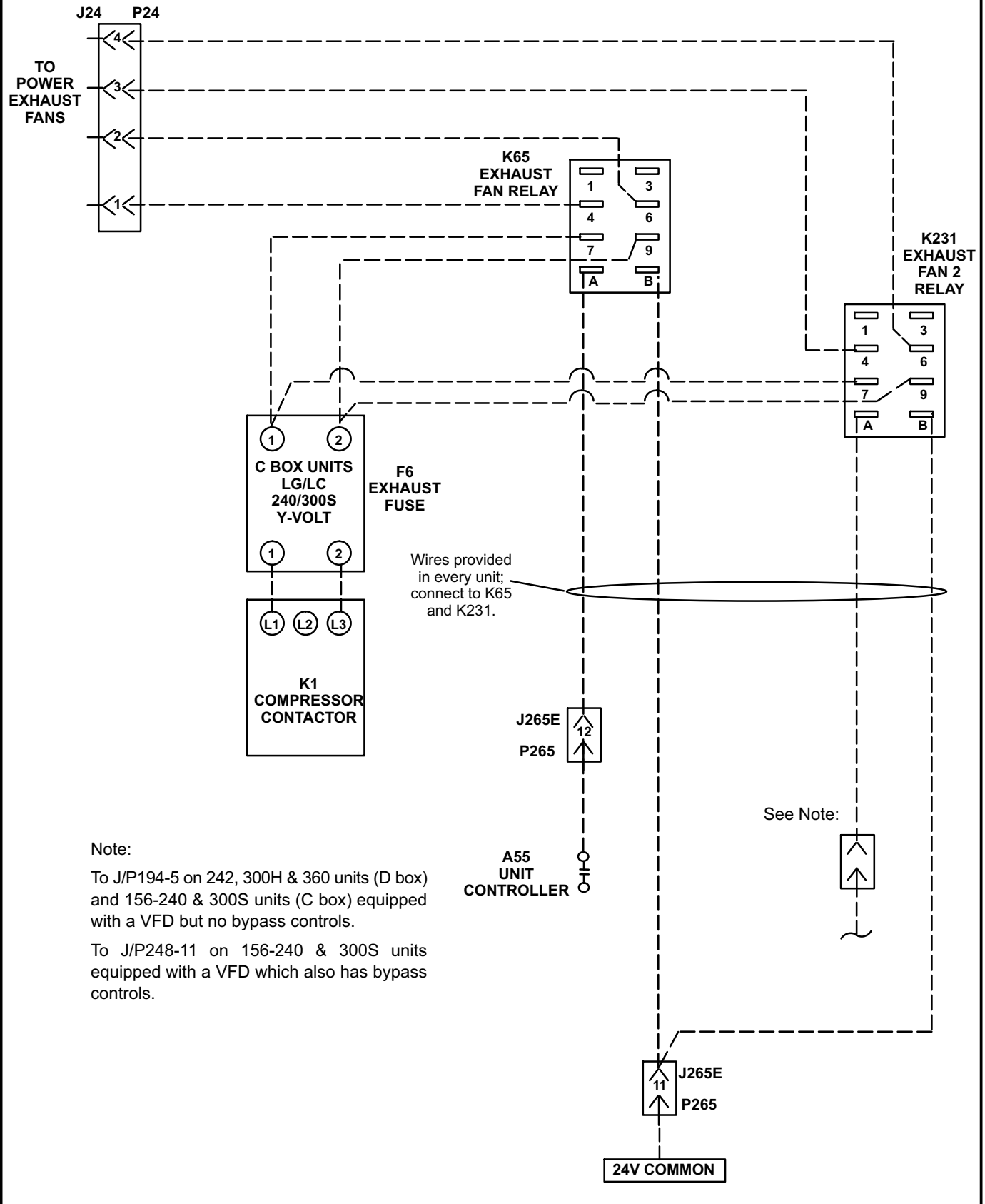


FIGURE 11

LGH/LCH240 - 360 Y-VOLT WIRING



Note:
 To J/P194-5 on 242, 300H & 360 units (D box) and 156-240 & 300S units (C box) equipped with a VFD but no bypass controls.
 To J/P248-11 on 156-240 & 300S units equipped with a VFD which also has bypass controls.

FIGURE 12

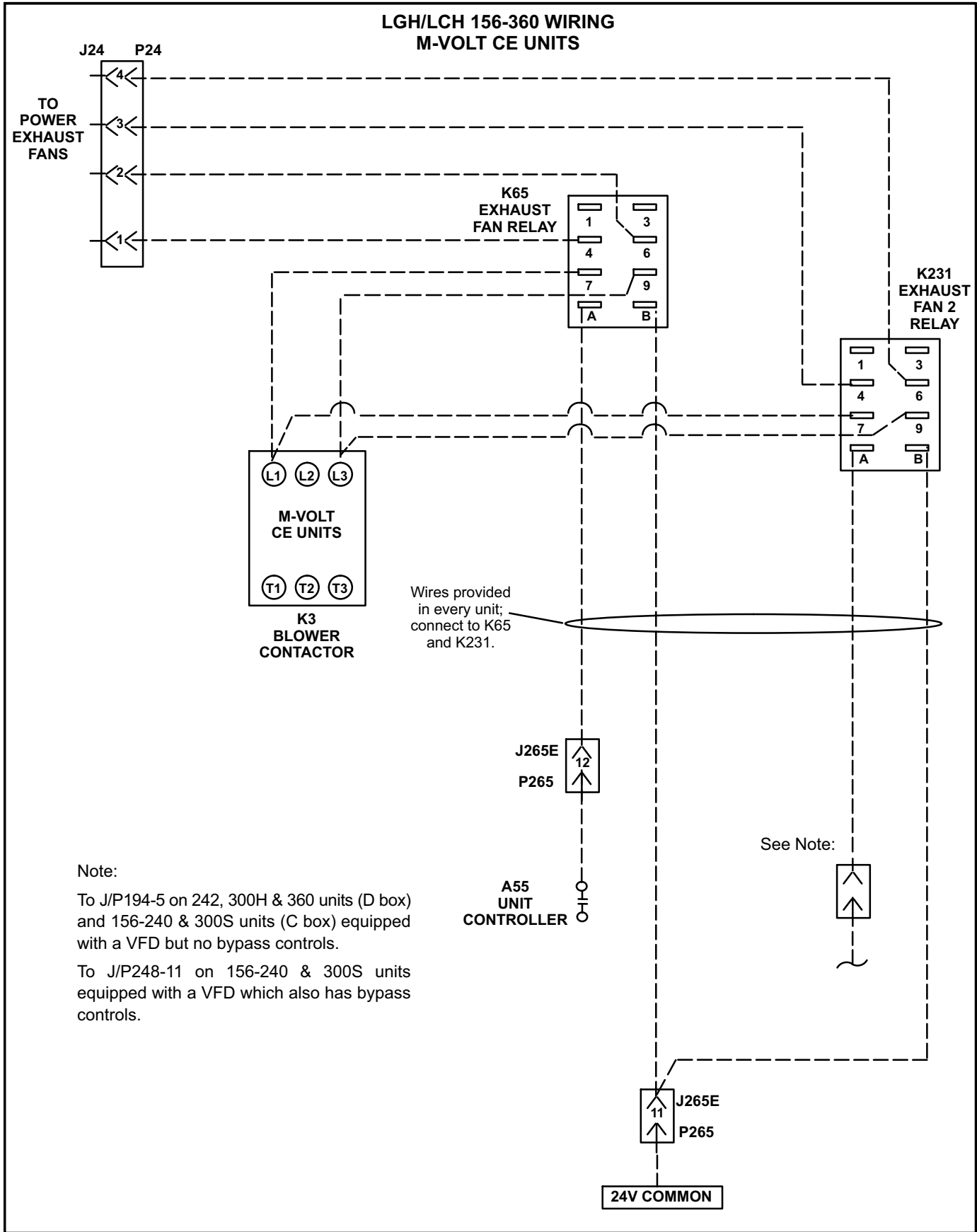


FIGURE 13

Installation

092/150 Units (refer to figure 14)

- 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.

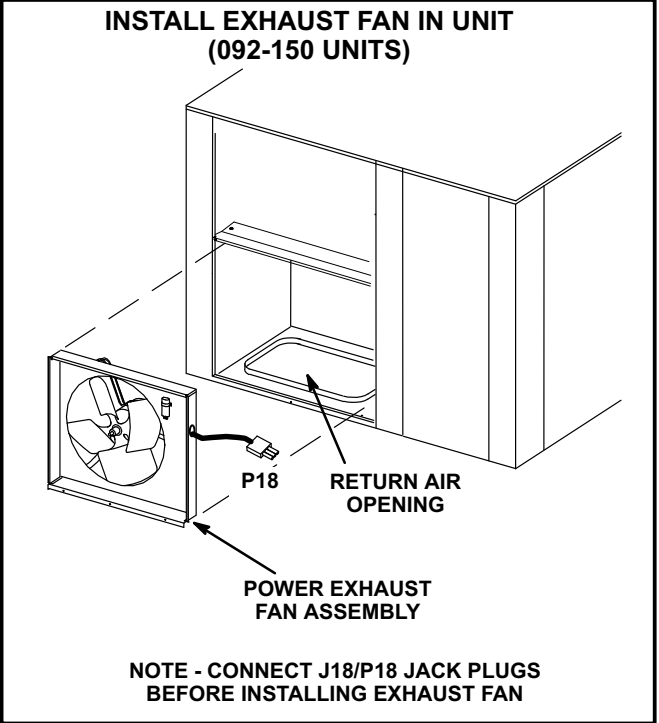


FIGURE 14

- 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 16.

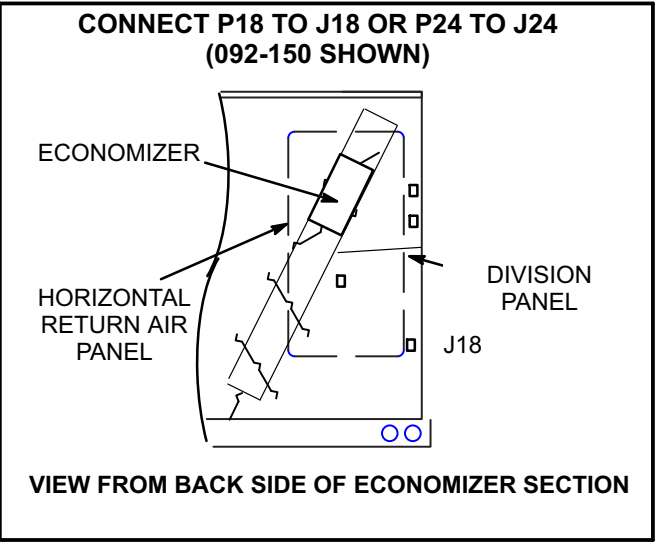
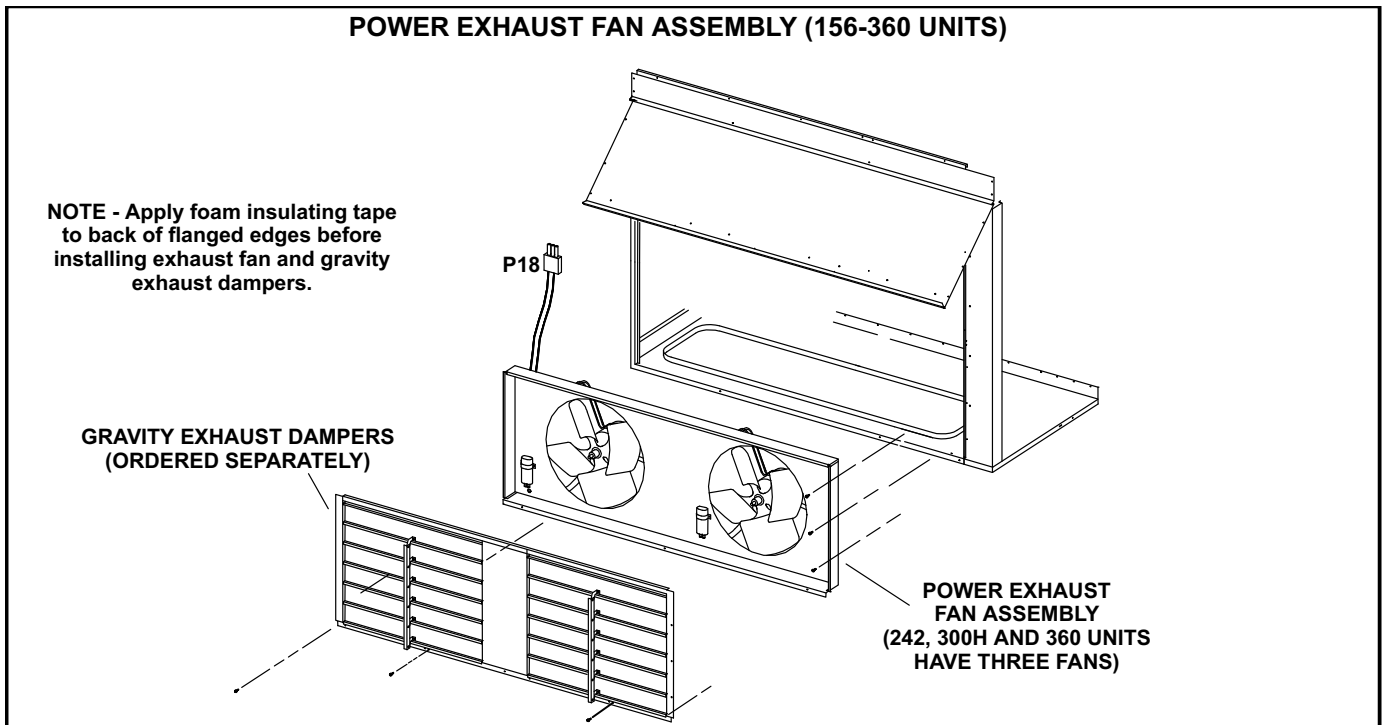
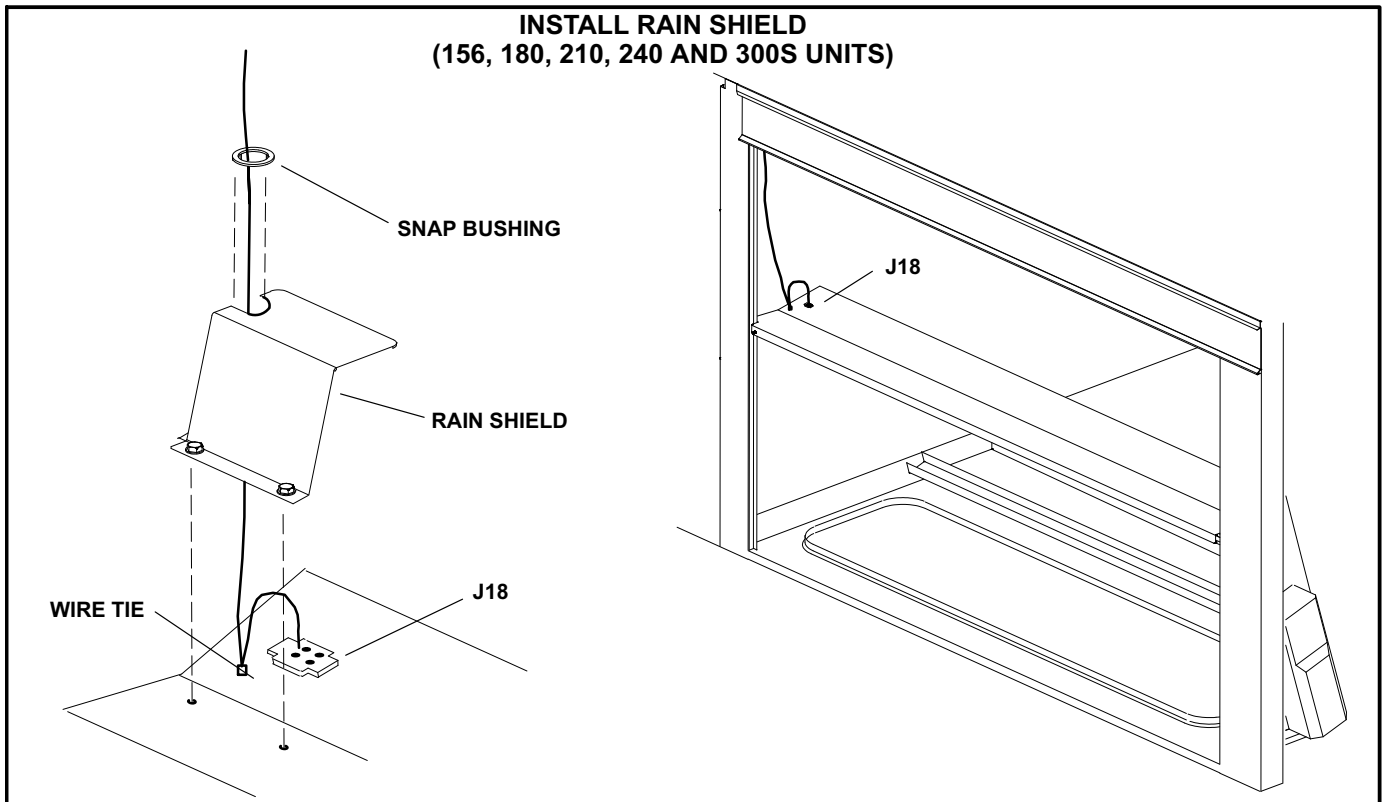


FIGURE 16

156-360 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.
- 3- *156, 180, 210, 240, 300S Units Only* - Install the strain relief, bushing, and rain shield as shown in figure 15.



- 4- Apply foam insulating tape on the back of the flanged edges of the fan assembly. side underneath the fresh/exhaust air divider panel. See figure 16.
- 5- Reach through fan orifice and connect power exhaust fan P18 plug to unit J18 jack. J18 is located on the left 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 14 for 092/150 units and figure 17 for 156/360 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 156-300 units. The EXH SET potentiometer is factory-set at

approximately 50% of the dial range. See figure 18. 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.)

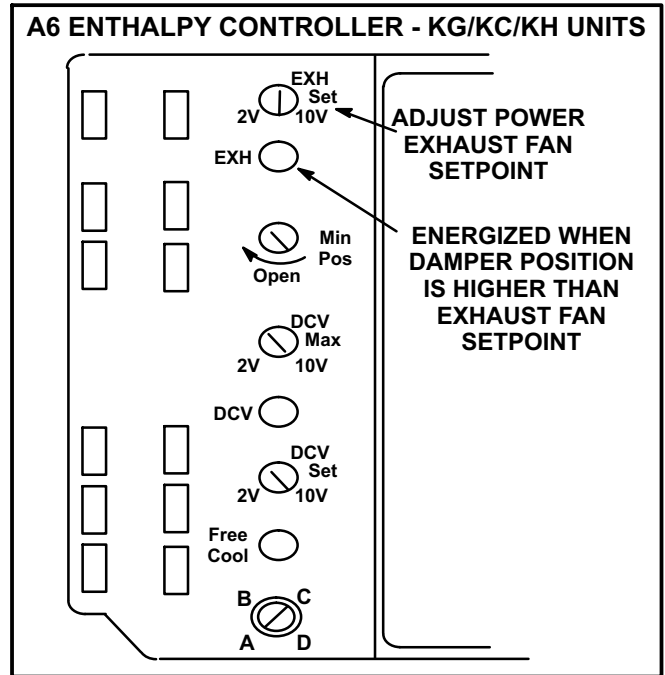


FIGURE 16