

**INSTALLATION INSTRUCTIONS FOR INVERTER BYPASS KIT  
(609165-01, 02, 03; 90W51, 52, 53) USED WITH KGA/KCA/KHA092-300 UNITS**

**Shipping and Packing List**

90W51 & 52

Package 1 of 1 contains:

- 1- K3 contactor
- 3- Harnesses
- 2- Overloads (1 in 90W51)
- 1- Mounting bracket
- 1- Bag assembly containing:
  - 3-#8-32 X 1/2 Thread forming screws
  - 3-Wire ties

90W53

Package 1 of 1 contains:

- 1- K3 contactor
- 2- Harnesses
- 1- Bag assembly containing:
  - 1-#8-32 X 1/2 Thread forming screws
  - 3-Wire Ties

**Application**

The inverter bypass kit is used on units equipped with an inverter driven (VFD) blower motor. The inverter bypass kit can be used to operate the unit in single speed (CAV) blower mode if the inverter needs to be serviced or is not immediately available for replacement. See table 1 for usage.

**TABLE 1**

Kit Model No.	Catalog No.	KG/KC/KH Unit	Indoor Motor HP / Voltage
KVFDB10C-1	90W51 609165-01	180-300	7.5HP - 10HP / 208-230V
KVFDB11C-1	90W52 609165-02	180-300	3HP, 5HP / 208-230V 3HP-10HP / 460V 3HP-10HP / 575V
KVFDB12C-1	90W53 609165-03	092-150	2HP, 3HP, 5HP / All voltages

**⚠ CAUTION**

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

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**⚠ 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 - 180-300 Units**

Installation is shown in MSAV® mode; the inverter is not bypassed. See *Change to VFD Bypass* section to operate unit in CAV mode.

**10 HP Y, G, J Volt Blower Motor**

- 1- Disconnect all power to unit.
- 2- Install K3 blower contactor to the right of the TB13 terminal block using screws provided. See figure 1.
- 3- Locate wires marked K3-A and K3-B near K3. Connect wires marked K3-A and K3-B to the K3 contactor.
- 4- Install overload to the right of K3 blower contactor using mounting bracket and screws provided in kit. See figure 1. Kit 90W52 contains two overloads. Use table 2 to determine which overload to use; discard unused overload.

**TABLE 2  
OVERLOAD SELECTION**

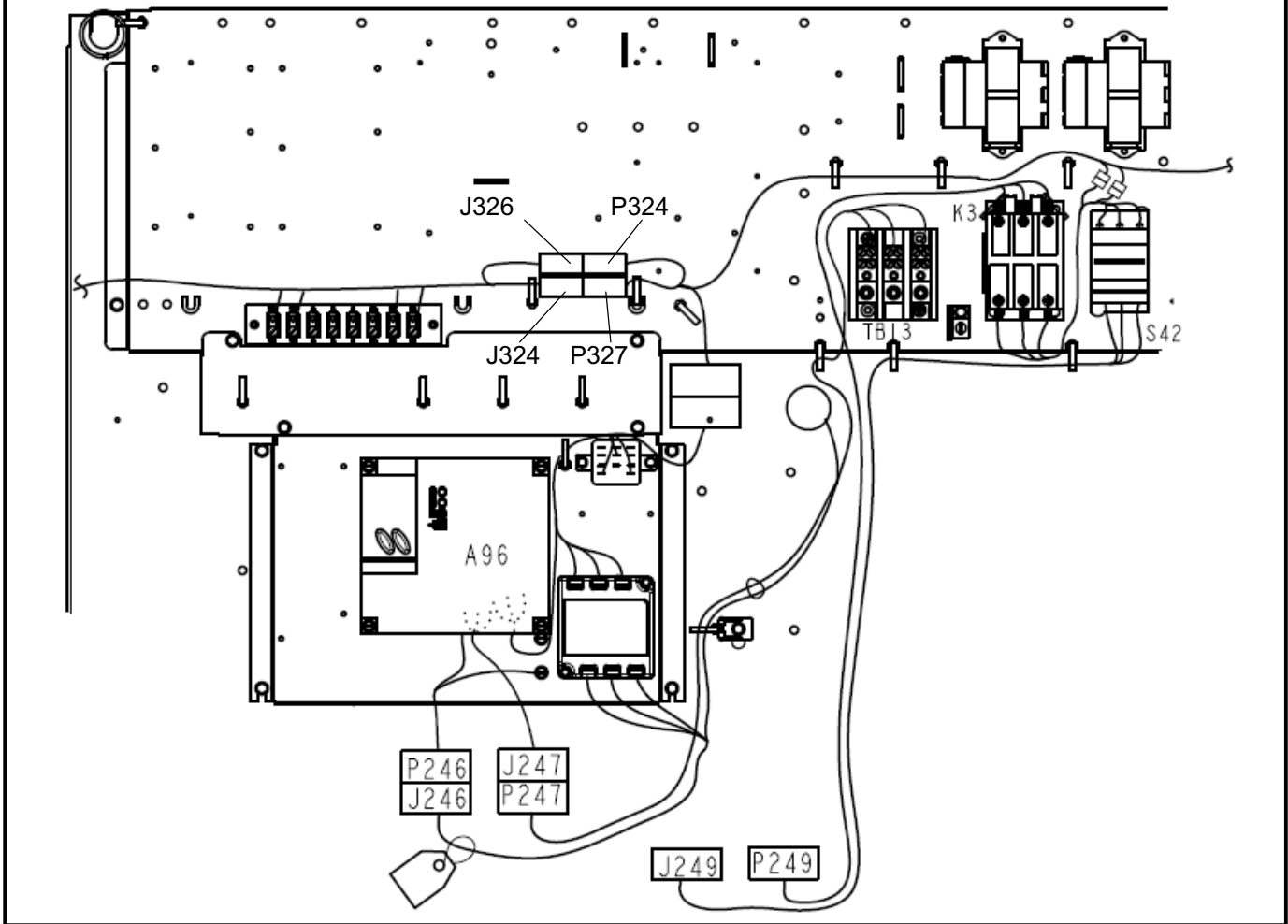
Kit No.	Overload Part No.	Motor HP / Voltage	Amps
90W51	Only one overload is required/provided in kit.		
90W52	99K2701	10HP G-volt	12.0 / 12.5-18-20
	99K3401	10HP J-volt	8.0 / 9.0-12.5 / 13.0

- 5- Connect the overload harness as follows (see figure 1). See table 3 to identify harnesses.
  - a-Locate and disconnect wires marked 95/96 in the main control harness.
  - b-Connect overload harness wire marked 95 to the main control harness wire marked 95.
  - c-Connect overload harness wire marked 96 to the main control harness wire marked 96.
  - d-Connect remaining overload harness wires to K3 and S42 per wire markings.

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**INSTALL K3 AND S42 - 240-300 UNITS WITH 10HP Y, G, J VOLT BLOWER MOTOR (MSAV MODE)**



**FIGURE 1**

6- Connect the high voltage harnesses as follows (see figure 1). See table 3 to identify harnesses.

a-Connect harness marked P249 to K3 contactor per wire markings.

b-Connect harness marked J249 to S42 motor overload per wire markings.

7- Route wires as shown and secure to high voltage wires with wire ties provided.

**3, 5, 7.5 HP Y, G, J Volt Blower Motor**

1- Disconnect all power to unit.

2- Install K3 blower contactor to the right of the TB13 terminal block using screws provided. See figure 2.

3- Locate wires marked K3-A and K3-B near K3. Connect wires marked K3-A and K3-B to the K3 as shown in figure 2.

4- Connect the high voltage harnesses as follows (see figure 2). See table 3 to identify harnesses.

a-Connect harness marked P249 and J249 to K3 contactor per wire markings.

5- Route wires as shown and secure to high voltage wires with wire ties provided.

**TABLE 3  
HARNESS IDENTIFICATION**

Kit No.	Harness Type	Harness Part No.	Wire Markings
90W51	High Voltage	103483-01	J249 K3/S42-T1, T2, T3
		103484-01	P249 K3-L1, L2, L3
	Overload	602238-01	K3-T1, T2, T3 S42-L1, L2, L3 95/96 S42-95, 96
90W52	High Voltage	609161-01	J249 K3/S42-T1, T2, T3
		609162-01	P249 K3-L1, L2, L3
	Overload	602238-01	K3-T1, T2, T3 S42-L1, L2, L3 95, 96 S42-95, 96

INSTALL K3 - 180-300 UNITS WITH 3, 5, 7.5 HP Y, G, J VOLT BLOWER MOTOR (MSAV MODE)

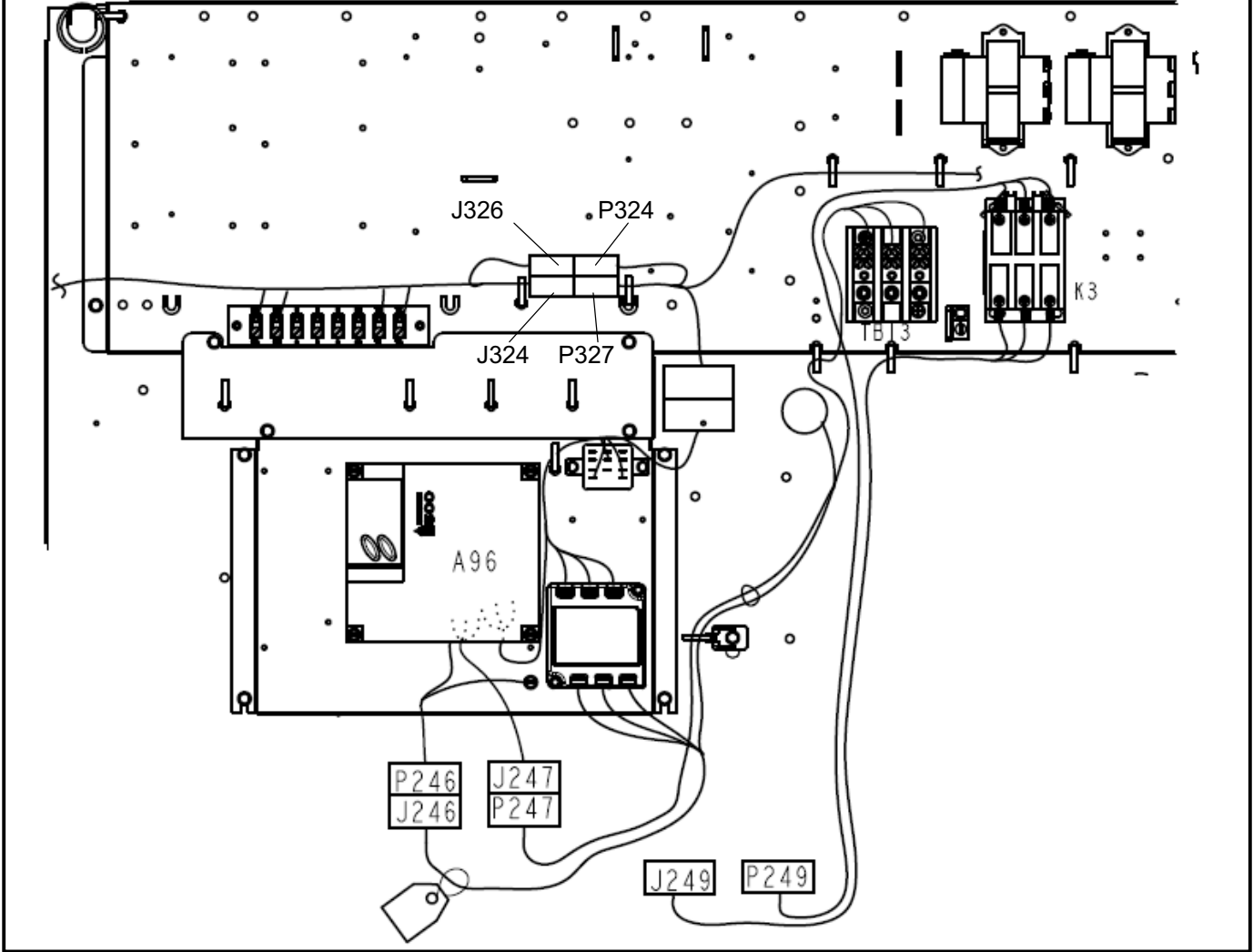


FIGURE 2

## Change To VFD Bypassed - 180-300 Units

Use this section to bypass the VFD and operate unit in CAV mode.

- 1- Disconnect all power to unit.

### Low Voltage Changeover

- 2- Disconnect J326 from P324.
- 3- Disconnect J324 from P327.
- 4- Connect P324 into J324 as shown in figure 3.

### High Voltage Changeover

- 5- Disconnect J246 from P246.
- 6- Disconnect J247 from P247.
- 7- Connect P249 into J246.
- 8- Connect J249 into P247 as shown in figure 3.
- 9- Verify connections are made according to previous steps.
- 10- Restore power to unit.

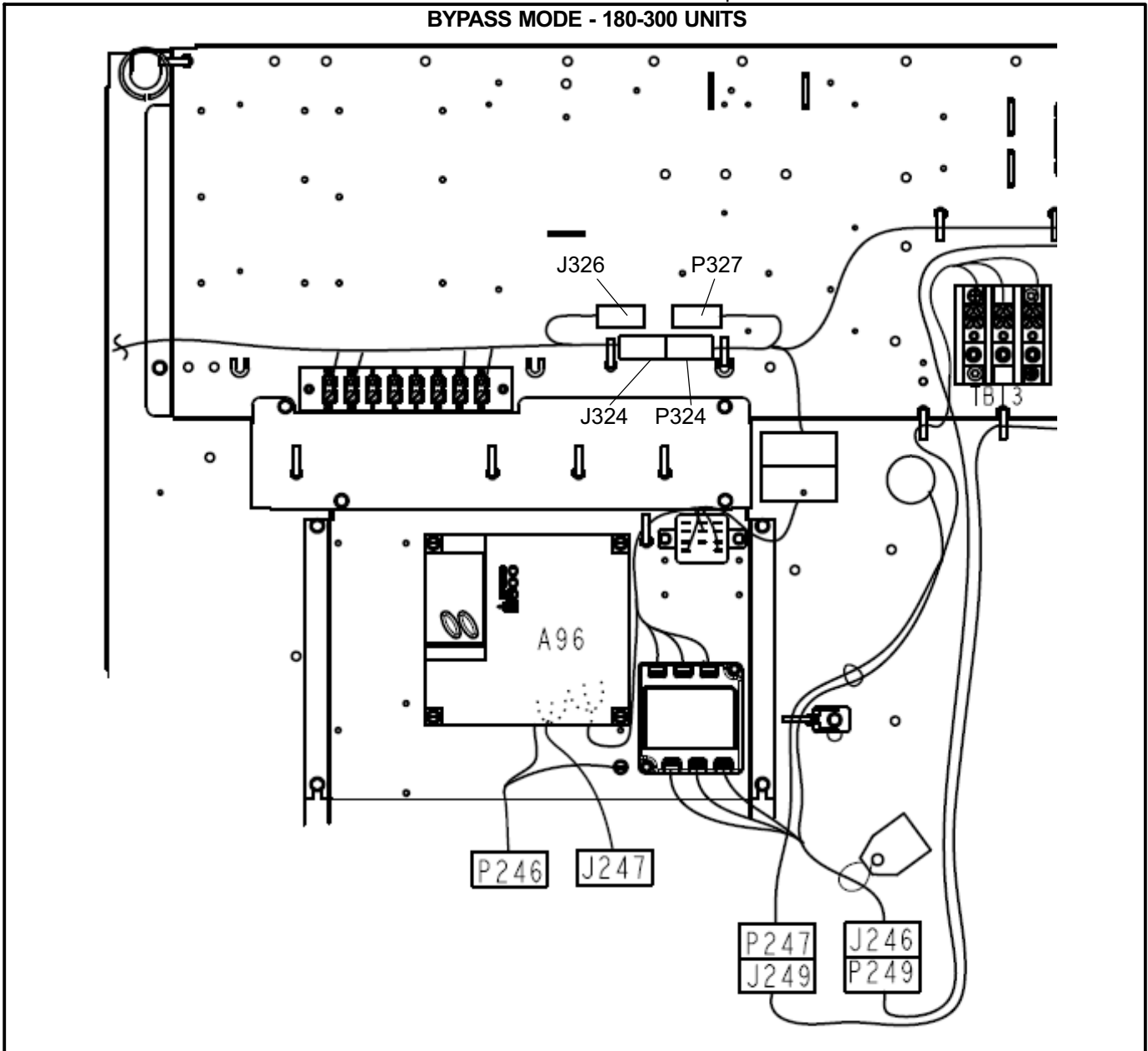


FIGURE 3

## **Change to MSAV Mode - 180-300 Units**

Use this section to return blower to inverter driven mode.

Refer to figure 1 for units with S42 blower overload and figure 2 for units without S42 blower overload.

1- Disconnect all power to unit.

### **Low Voltage Changeover**

2- Disconnect J324 from P324.

3- Connect J324 into P327.

4- Connect P324 into J326.

### **High Voltage Changeover**

5- Disconnect P247 from J249.

6- Disconnect J246 from P249.

7- Connect P247 into J247.

8- Connect J246 into P246.

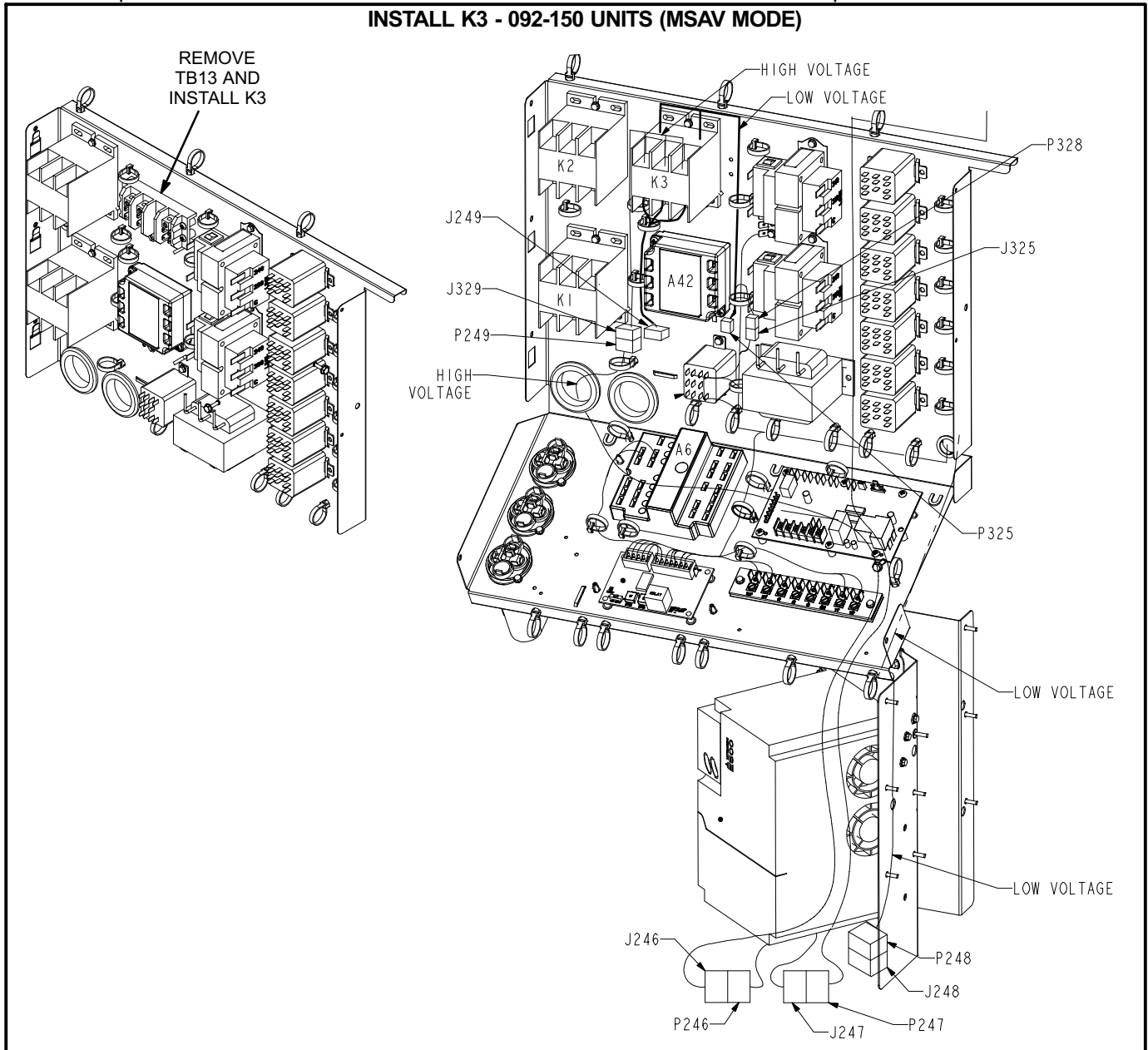
9- Verify connections are made according to previous steps.

10- Restore power to unit.

## Installation - 092-150 Units

Installation is shown in MSAV mode; the inverter is not bypassed. See *Changed To VFD Bypass* section to operate unit in CAV mode. See figure 4.

- 1- Disconnect all power to unit.
- 2- Remove TB13 terminal block. Install K3 blower contactor in place of the TB13 terminal block using screws provided.
- 3- Disconnect six wires from TB13 and connect to K3-L1, L2, L3.
- 4- Locate low voltage harness marked K3-A, B and P325-1, 2. Connect leads marked K3-A, B to the appropriate terminals on K3.
- 5- Connect the high voltage harness leads marked TB13/K3-T1, T2, T3 to K3-T1, T2, T3.
- 6- Route wires as shown and secure to high voltage wires with wire ties provided.



**FIGURE 4**

## Change To VFD Bypassed - 092-150 Units

## High Voltage Changeover

Use this section to bypass the VFD and operate unit in CAV mode.

See figure 5.

1- Disconnect all power to unit.

### Low Voltage Changeover

2- Disconnect P328 from J325.

3- Connect P325 into J325.

4- Disconnect P326 from J35.

5- Disconnect P35 from J326.

6- Connect P35 into J35.

7- Disconnect P249 from J329.

8- Connect P249 into J249.

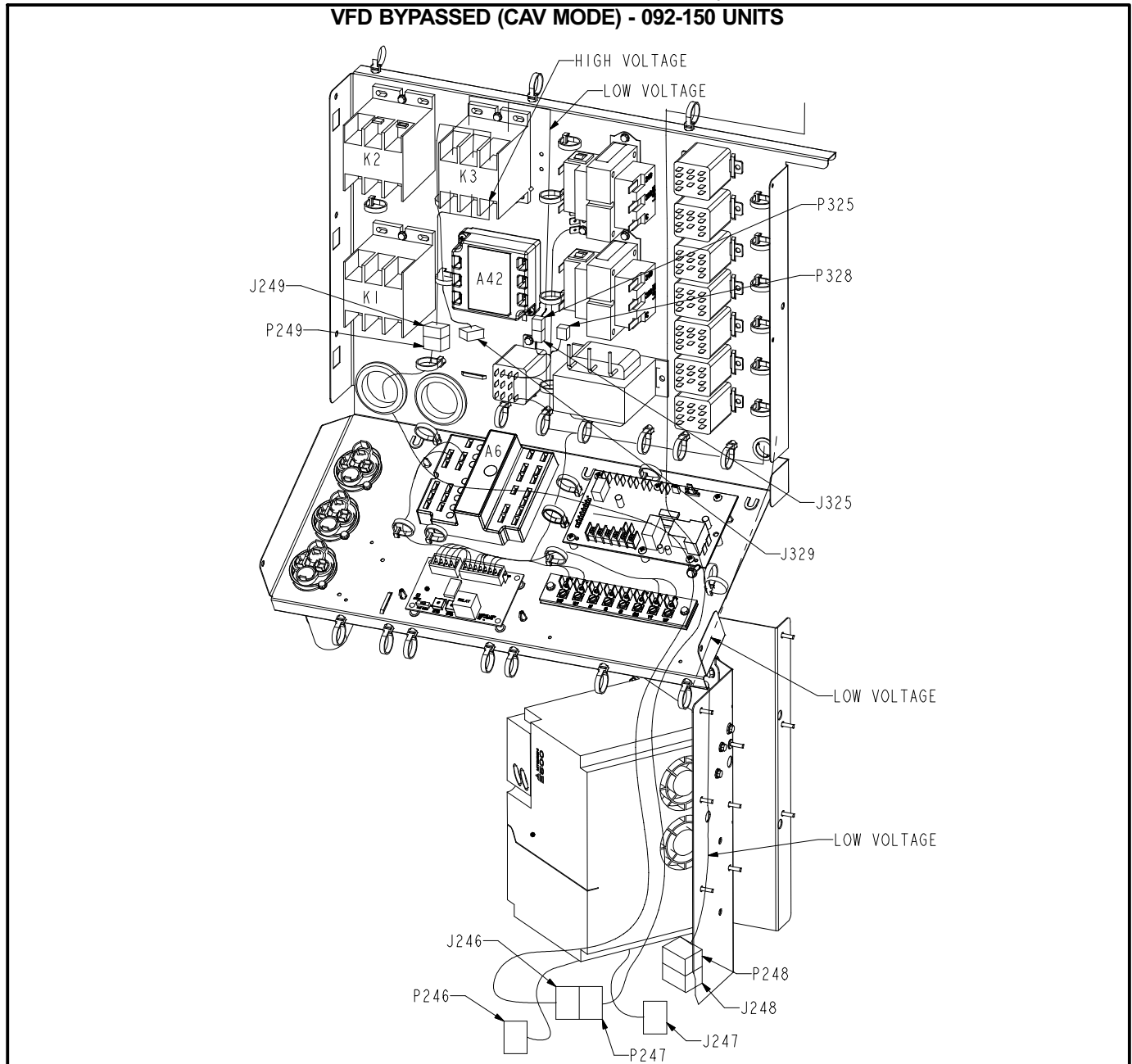
9- Disconnect P246 from J246.

10- Disconnect P247 from J247.

11- Connect P247 into J246.

12- Verify connections are made according to previous steps.

13- Restore power to unit.



**FIGURE 5**

## **Change To MSAV Mode - 092-150 Units**

Use this section to return blower to inverter driven mode.

See figure 4.

- 1- Disconnect all power to unit.

### **Low Voltage Changeover**

- 2- Disconnect P35 from J35.
- 3- Connect P35 into J326.
- 4- Connect P326 into J35.
- 5- Disconnect P325 from J325.
- 6- Connect P328 into J325.

### **High Voltage Changeover**

- 7- Disconnect P247 from J246.
- 8- Disconnect P249 from J249.
- 9- Connect P247 into J247.
- 10- Connect J246 into P246.
- 11- Plug P249 into J329.
- 12- Verify connections are made according to previous steps.
- 13- Restore power to unit.