

PACKAGED UNITS KITS AND ACCESSORIES

507917-01
1/2020
Supersedes 6/2019

ZERO DEGREE LOW AMBIENT KIT

INSTALLATION INSTRUCTIONS FOR LOW AMBIENT KIT (18B98; 619589-06) USED ON KGB/KCB 240H & 300S PACKAGED ROOFTOP UNITS

Shipping and Packing List

Package 1 of 1 contains:

- 2- Head pressure controls (A190, A193)
- 1- Thermostat (A19)
- 1- Thermostat bracket
- 2- Wiring harnesses
- 1- Outdoor coil support
- 1- Bag assembly containing:
 - 4-Pressure transducers (A188, A189, A191, A192)
 - 2-Valve depressors tees
 - 10-Wire ties
 - 1-Wiring diagram
 - 4-Screws, 1-1/4" self tapping
 - 2-Screws, Phillips head
 - 2-Screws, thread forming
 - 20-Screws, 5/8" self tapping

Application

This kit allows low ambient operation to 0°F (-17.8°C) unless otherwise noted in product specifications.

Operation

When ambient temperature drops below 55°F (adjustable), A19 thermostat opens to de-energize K10 relay coil. Condenser fans 1, 2, 4, & 5 are de-energized. Liquid line pressure transducers A188, A189, A191, & A192 convert the pressure to an analog signal which is sent to the head pressure controls (A190 & A193). The head pressure control provides a variable output which slows Condenser Fan 3 & 6 operation at lower ambient temperatures (A190 terminal M to B21 & B24 terminal 3 & 6).

⚠ 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.

⚠ 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

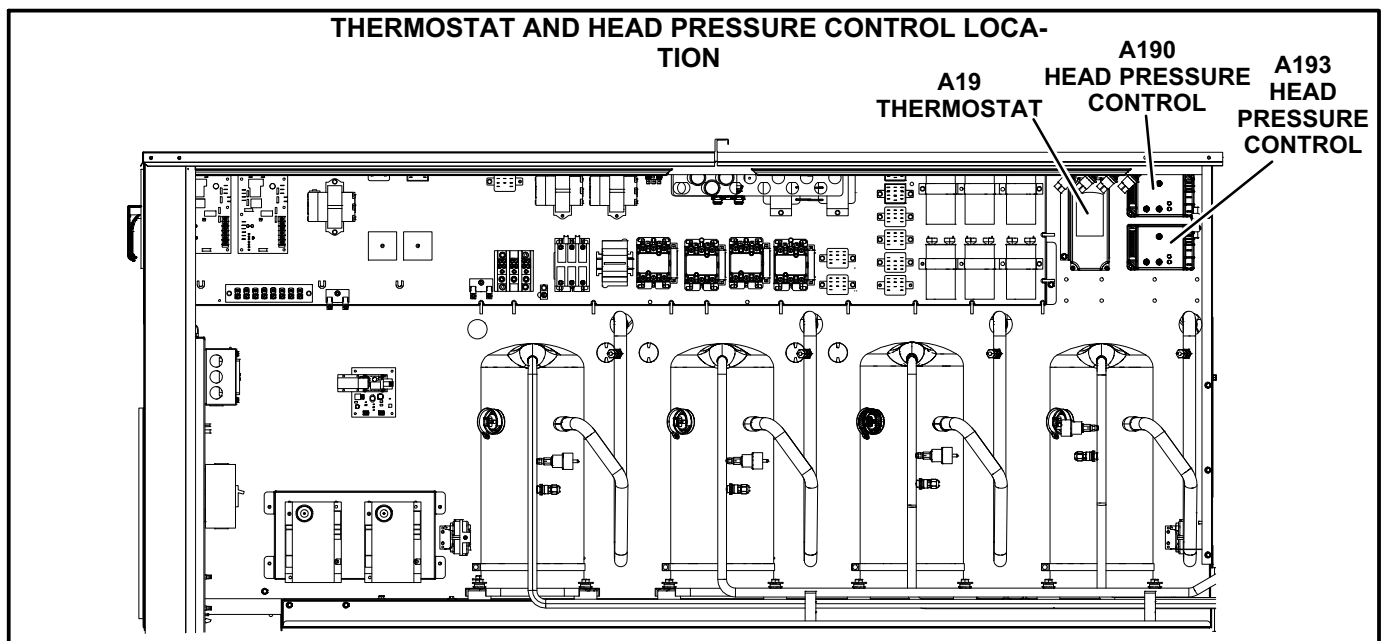


FIGURE 1

Installation

- 1- Disconnect power to unit and open access panels.
- 2- Install the head pressure controls in the control section as shown in figure 1. Secure with self-tapping screws (provided).
- 3- Install the thermostat mounting bracket next to the head pressure control. Install two screws in the bracket flange and hang the thermostat on the two screws using the slots on the back of the thermostat.
- 4- Set the head pressure control as follows:
 - Setpoint: 355 psig
 - Hard Start: Min.
 - Cut-out Speed: Set to 5th marker from minimum
 - Heat Pump Pin set to :N.O.
- 5- If present, disconnect and discard low pressure switches from liquid line. See figure 2.
- 6- Install the valve depressor tees on all four liquid line pressure taps.
- 7- Install a pressure transducer on each depressor tee.
- 8- *KGA/KCA Units Only* -
Disconnect and discard the existing high pressure switches. Install pressure switches provided in this kit. See figure 2.

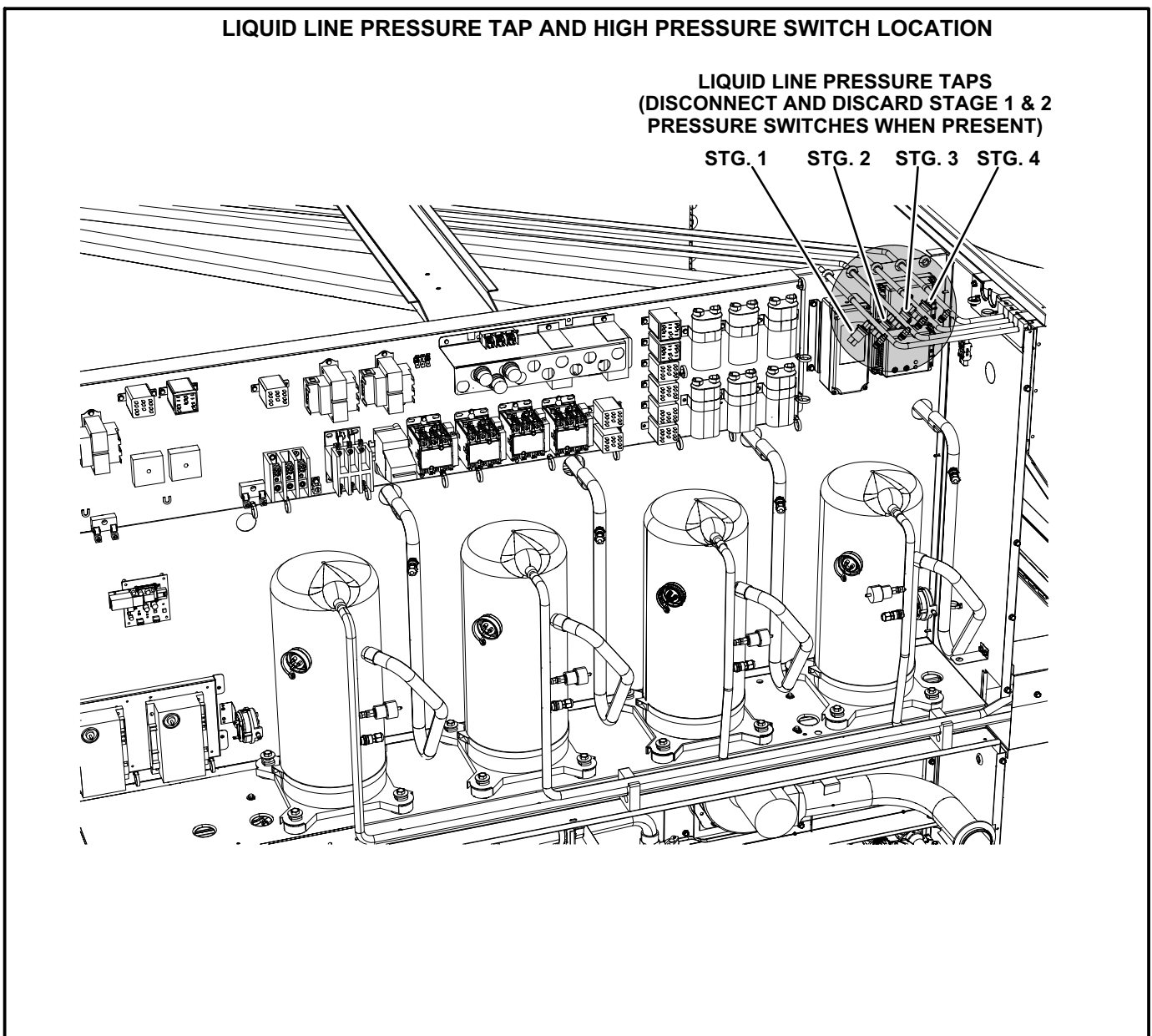


FIGURE 2

Replace Divider Panels

- 1- Remove and retain the screws securing the unit top panel on the condenser end; prop open. See figure 3.
- 2- Remove the shorter divider panels and replace with the taller divider panels provided in this kit.
- 3- Route the convoluted tubing back in place.
- 4- Replace the top panel and secure with retained screws.

Low Voltage Wire Connections

- 1- Make transducer wire connections as shown in figure 4.
- 2- Disconnect S11 and S94 connectors in upper right of the control box.
- 3- Make 24V wiring connections as shown in figure 5. Harness is provided in kit.

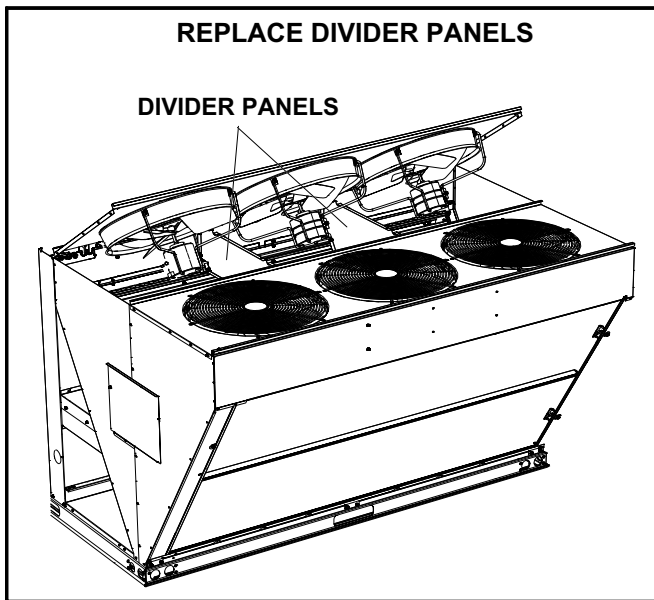


FIGURE 3

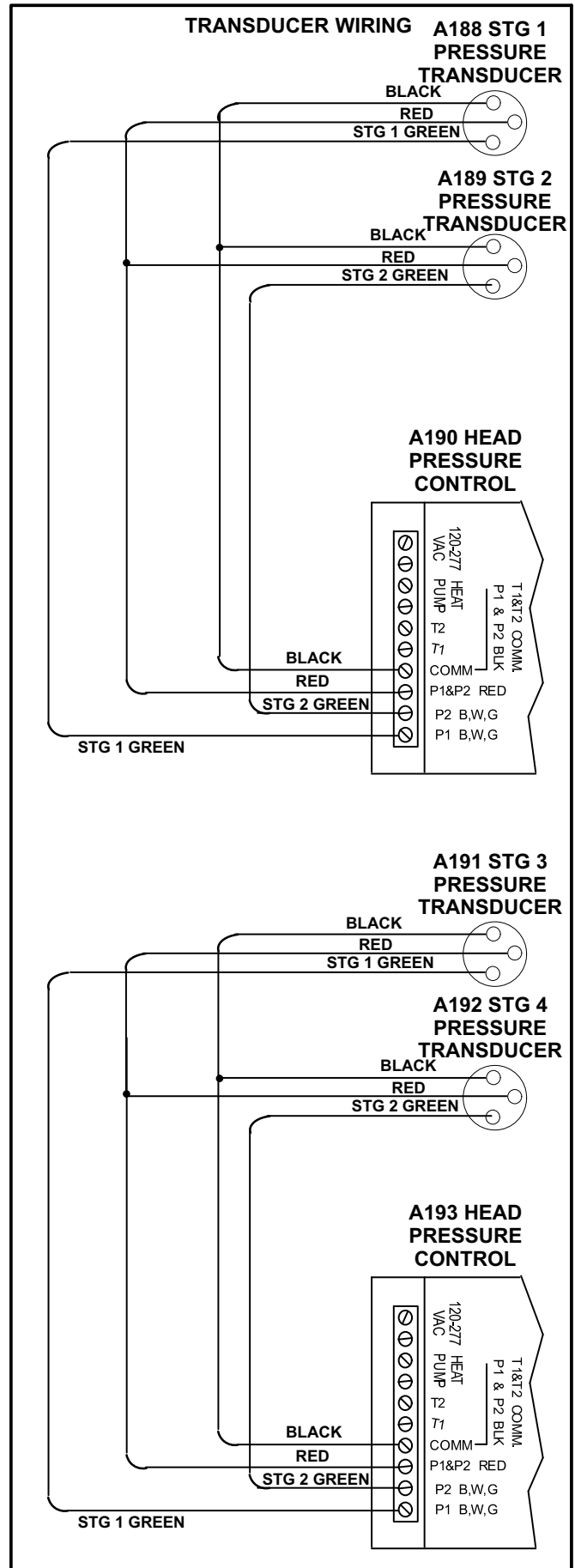


FIGURE 4

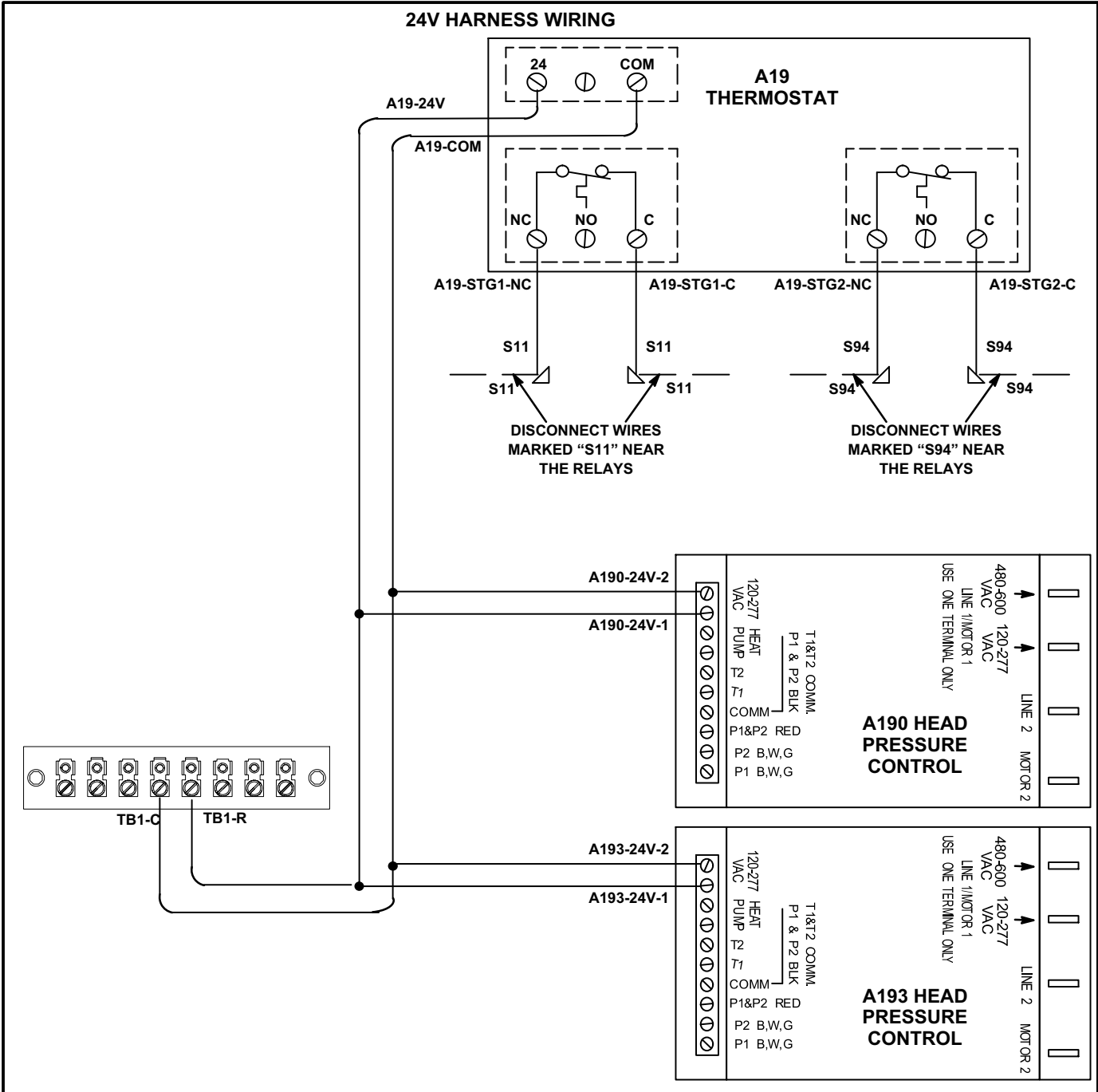


FIGURE 5

High Voltage Wire Connections

- 1- Remove K10 and K150 power terminal connectors; do not remove wiring routed to K10-A & B coil. Trace wires back to K14 or F10 fuse/contactors and disconnect.
- 2- Disconnect P36 from J36. Remove and discard P36 and associated wiring from previous step.
- 3- Disconnect wiring to C18-1 and C21-1 capacitors. Trace wires back to the K14 or F10 fuse/contactors, disconnect, and discard.
- 4- Disconnect unit jack J86 from plug P86. Pinch both sides to open jack J86. Remove and discard the wire marked J86-9 from J86 jack. See figure 6.
- 5- Insert the wire marked "J86-9" from the power harness into the now open terminal on J86. Close J86 and reconnect unit jack J86 to P86 plug.
- 6- Disconnect unit plug P87 from J87 jack. Pinch both sides to open plug P87. Remove and discard the wire marked P87-9 from P87 plug. See figure 7.
- 7- Insert the wire marked "P87-9" from the power harness into the now open terminal on P87. Close P87 and reconnect unit jack J87 to P87 plug.
- 8- Disconnect wires to HR1, HR2, HR5, and HR11 crankcase heaters.
- 9- Install the kit power wiring harness as shown in figure 8.

Note - The third pole on K10 is no longer used. The A190 & A193 head pressure controls are used to vary condenser fans 3 & 6 speed instead.

- 10- Bundle wiring and use wire ties to route wiring away from sharp edges.
- 11- Place the wiring diagram provided in this kit on the inside of the control door.
- 12- Close unit panels and restore power.

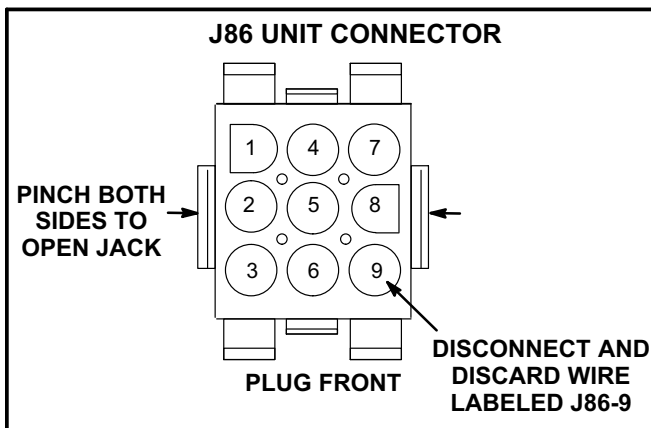


FIGURE 6

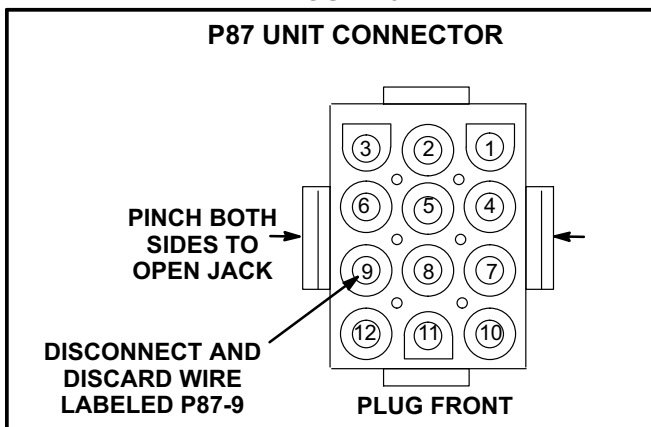


FIGURE 7

POWER HARNESS WIRING

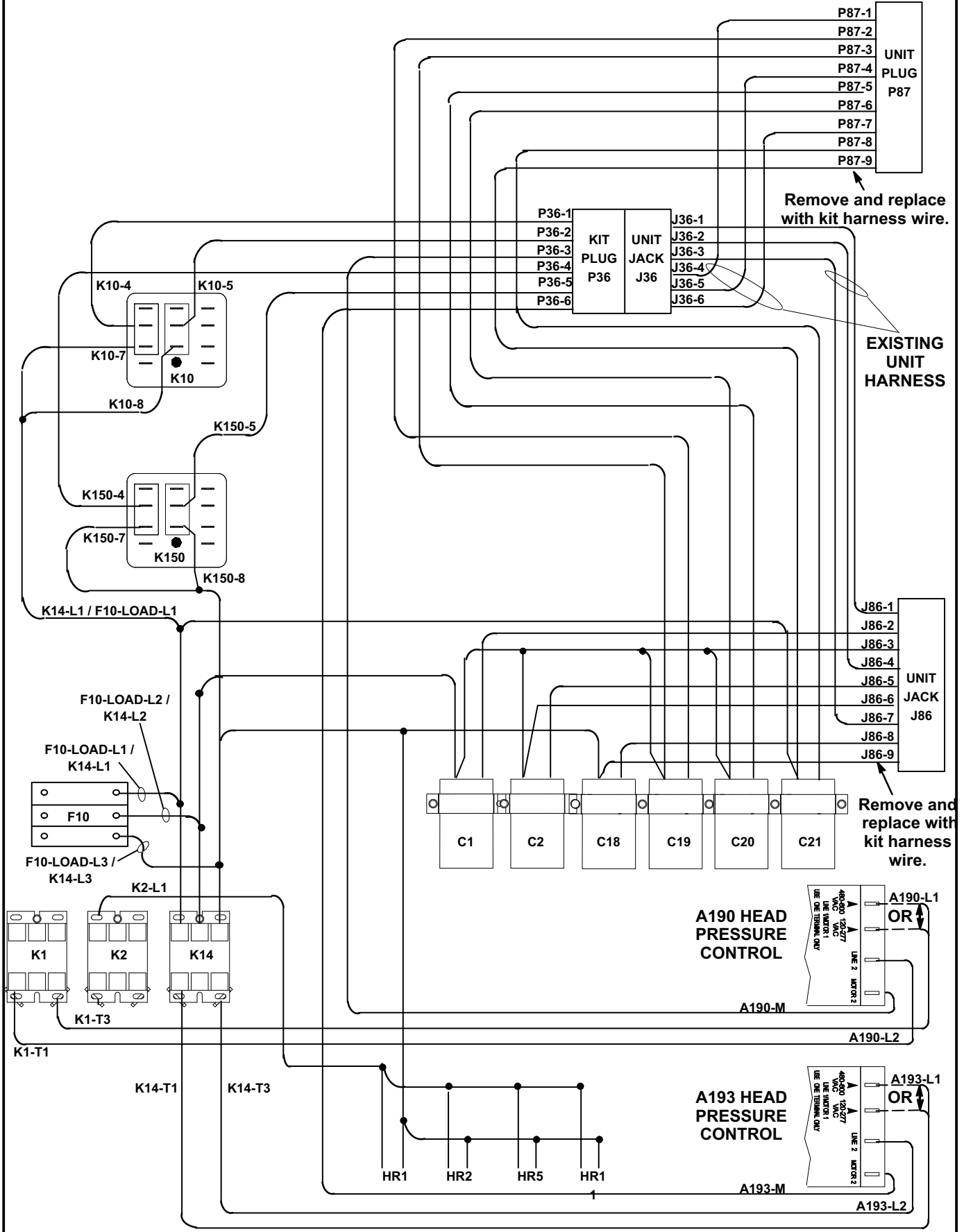


FIGURE 8

Set-Up A19 Thermostat

Apply power to unit

- 1- Apply power to unit.
- 2- Press the 'SET' button on the A19 Thermostat.
- 3- Choose 'F' for Fahrenheit, and press 'SET' to continue.
- 4- Set S1 to 55, and press 'SET' to continue.
- 5- Set DIF1 to 0, and press 'SET' to continue.
- 6- Select 'C1' and press 'SET' to continue.
- 7- Set S2 to 55, and press 'SET' to continue.
- 8- Set DIF2 to 0, and press 'SET' to continue.
- 9- Select 'C2' and press 'SET' to finish programming the controller.

Note: For Celsius readings, set S1 and S2 to 12.