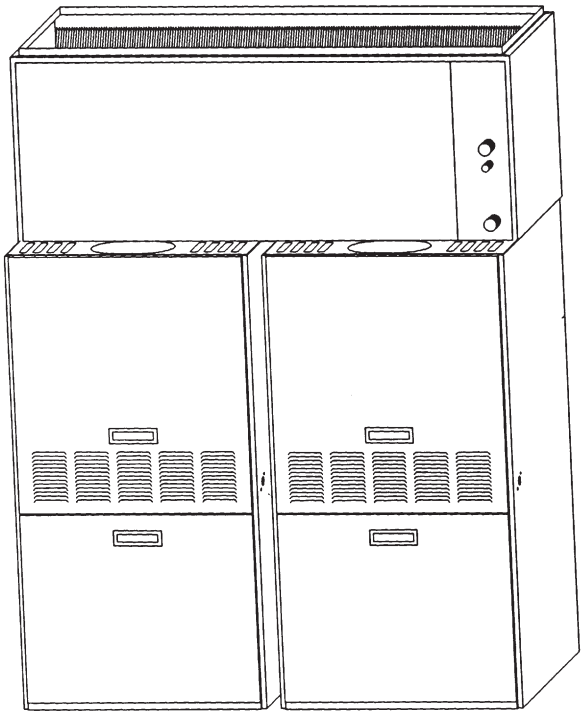
INSTRUCTIONS FOR COMBINING UPFLOW OIL FURNACES FOR PARALLEL OPERATIONS (HEATING AND AIR CONDITIONING)

OIL WIRING KIT – MODEL RXOP-D25

(FOR DRUM STYLE HEAT EXCHANGERS)

The following furnaces may be used for this application:

84,000 BTU HEATING CAPACITY WITH 3 TON COOLING
95,000 BTU HEATING CAPACITY WITH 3 TON COOLING
112,000 BTU HEATING CAPACITY WITH 4 TON COOLING
130,000 BTU HEATING CAPACITY WITH 5 TON COOLING
150,000 BTU HEATING CAPACITY WITH 5 TON COOLING



DO NOT DESTROY. PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

⚠ WARNING

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED, LICENSED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS UNIT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING INSTALLATION OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE POSSIBLY CAUSING A FIRE, ELECTRICAL SHOCK, EXPLOSION, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

92-41658-07-00

FURNACE PREPARATION AND COIL/PLENUM INSTALLATION

⚠ Recognize this symbol as an indication of Important Safety Information!

Cased Coil assemblies include upflow coil and insulated cabinet.

1. Unpack coil/plenum assembly, the blockoff channels, end panels, and transition. Inspect for damage.
2. 17½″, 21″, and 24″ wide furnaces
   a. Set furnaces 1½″ apart. Drill four 1/8″ diameter holes and attach wide blockoff channel between the two furnaces with screws provided as shown in Figure 1.
   b. On 17½″ wide furnaces use 7 x 20 end panels. Drill three 1/8″ diameter holes and mount with screws supplied as shown in Figure 1.
   c. On 21″ wide furnaces use 3½ x 20 end panels. Drill three 1/8″ diameter holes and mount with screws supplied as shown in Figure 1.
3. 28″ wide furnace (Oil)
   a. Drill four 1/8″ diameter holes and attach narrow blockoff channel between the two furnaces with screws provided as shown in Figure 1.
   b. Assemble transition and install as shown in Figure 2.

NOTE: No end panels or transition required for 24″ wide gas or oil furnaces.

1. Set coil/plenum assembly on furnace with access cover toward flue outlet end of furnace.
2. Connect ductwork to plenum. Seal all joints around furnace, plenum and transition with duct tape.
3. Connect suction and liquid lines between coil and compressor/condenser section. Provide oil trap for suction line, if the vertical rise exceeds 3 ft.
4. Strap expansion valve sensing bulb to top of suction line on outside of cabinet. Be careful not to over tighten the clamps. See Figure 3.
5. Insulate sensing bulb and suction line.
6. The condensate drain is ¾″ NPT. Provide a 3″ trap and pitch the drain to an open sump. See Figure 3.

To twin two furnaces, follow these instructions and the twinning wiring diagrams at the end of the service manual.

IMPORTANT: *Only twin furnaces with identical controls from the same manufacturer of control board.*

IMPORTANT: *Only bottom returns can be used. No more than two furnaces can share the same supply and return. Furnaces must have same heating and blower capacity. Twinning furnaces must operate off the same phase of power.*

NOTE: The transformer of both furnaces must be in the same phase.

NOTE: Twinning kit cannot be used for heat pump fossil fuel kit application.

⚠ WARNING

TURN OFF ELECTRIC POWER AT THE FUSE BOX OR SERVICE PANEL BEFORE MAKING ANY ELECTRICAL CONNECTIONS; FAILURE TO DO SO COULD RESULT IN AN ELECTRICAL SHOCK HAZARD, PROPERTY DAMAGE AND/OR PERSONAL INJURY.

FIGURE 1
BLOCKOFF CHANNEL INSTALLATION

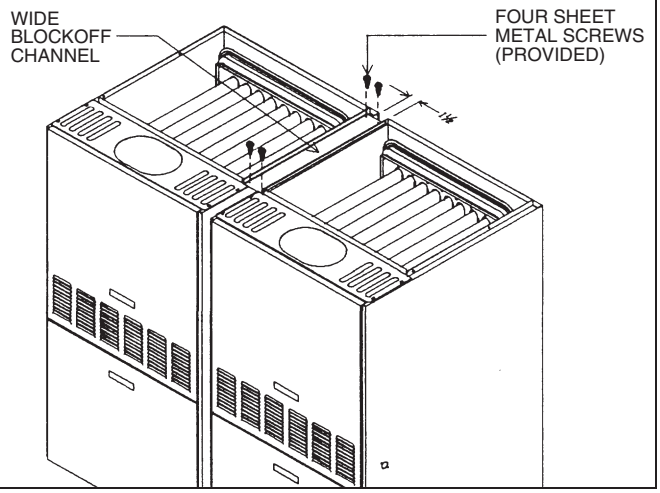


FIGURE 2
TRANSITION INSTALLATION

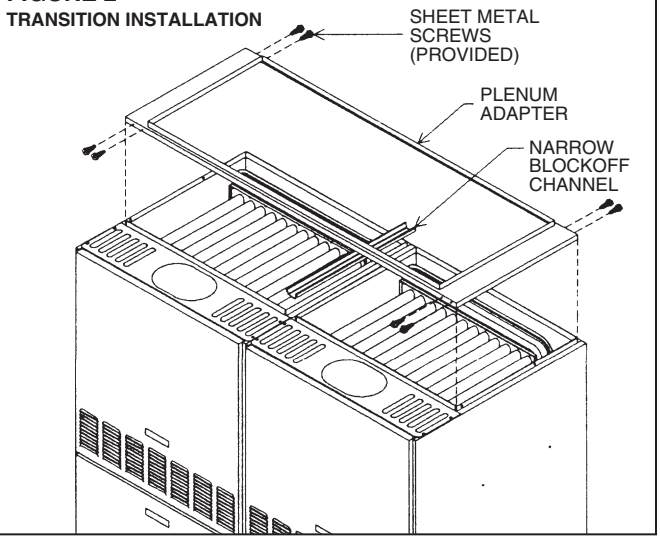
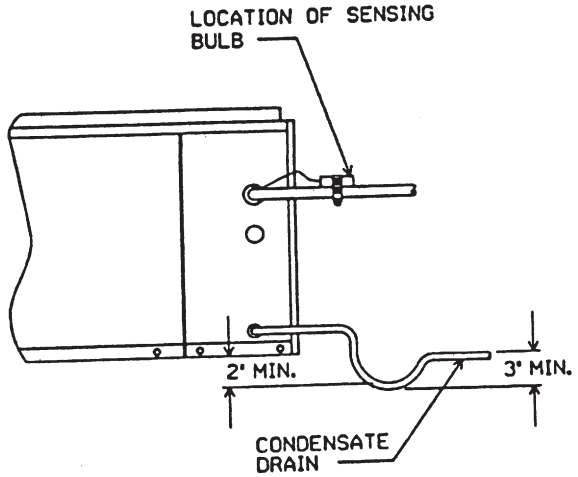


FIGURE 3
COIL INSTALLATION



⚠ WARNING

BOTH FURNACE CABINETS MUST BE PERMANENTLY GROUNDED. A GROUND SCREW IN THE JUNCTION BOX IS FOR THIS PURPOSE. GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS. FAILURE TO DO SO COULD RESULT IN AN ELECTRICAL SHOCK HAZARD, PROPERTY DAMAGE AND/OR PERSONAL INJURY. THE FURNACES MUST BE INSTALLED SO THE ELECTRICAL COMPONENTS ARE PROTECTED FROM WATER.

⚠ WARNING

ELECTRICAL POWER MUST BE SUPPLIED TO BOTH FURNACES FROM THE SAME SEPARATE BRANCH CIRCUIT, FAILURE TO DO SO COULD RESULT IN EXPOSING THE FURNACE CONTROLS TO AN OVER VOLTAGE (230 VAC) CONDITION. THIS COULD RESULT IN DESTRUCTION OF THE CONTROL BOARDS, PROPERTY DAMAGE AND/OR PERSONAL INJURY.

⚠ WARNING

L1 (HOT) AND NEUTRAL POLARITY MUST BE OBSERVED WHEN MAKING FIELD CONNECTIONS TO THE FURNACES. FAILURE TO DO SO COULD RESULT IN A DIRECT SHORT VIA THE CONNECTION BETWEEN THE "EAC: TERMINAL WHEN THE INDOOR BLOWER RELAY CLOSES. THIS COULD RESULT IN DESTRUCTION OF THE CONTROL BOARDS, PROPERTY DAMAGE AND/OR PERSONAL INJURY.

THE FURNACE MUST BE ON THE SAME BRANCH CIRCUIT WITH ADEQUATE AMPACITY AND OVERCURRENT PROTECTIONS. DO NOT USE EXISTING LIGHTING OR OTHER CIRCUITS.

NOTE: See the furnace rating plates for motor HP ratings, electrical characteristics, and amp draw.

NOTE: Use time delay fuses or circuit breakers.

⚠ WARNING

ALL ELECTRICAL WORK MUST CONFORM WITH THE REQUIREMENTS OF LOCAL CODES AND ORDINANCES AND THE NATIONAL ELECTRIC CODE ANSI/NFPA – NO. 70 LATEST EDITION OR THE CANADIAN ELECTRICAL CODE PART 1 – CSA STANDARD C22.1 FOR CANADIAN INSTALLATIONS.

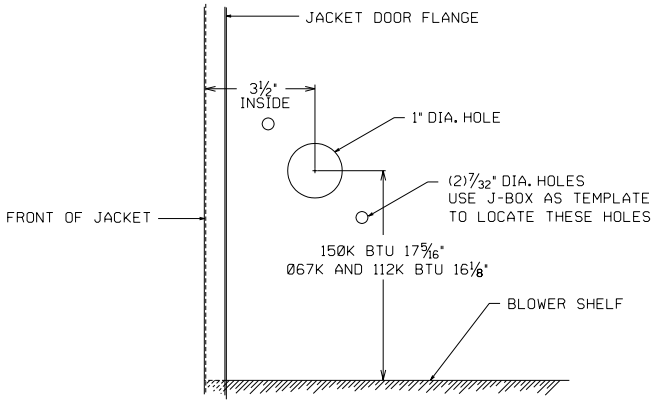
-OBF and -OBD SERIES

(REFER TO WIRING DIAGRAMS 90-22924-04 (-OBF) AND 90-22924-03 (-OBD) AND FIGURES 4 THRU 10)

1. Mount the kit control box to the left inside panel of the right hand furnace by using two blunt sheet metal screws provided. Insert the pop-in grommet provided into the large hole. Use Figure 4 to locate the large 1" diameter hole then use the junction box itself as a template to mark the two screw holes making sure to level the top of the box before marking the holes.

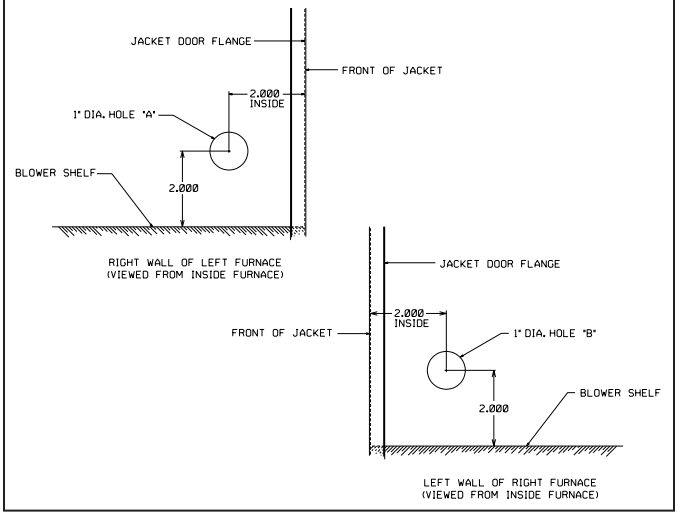
   Also, insert a pop-in grommet into the main junction box wire inlet (electrical) hole (existing) on the right panel of the left furnace.

FIGURE 4
TWINNING J-BOX HOLE LOCATION (VIEW FROM INSIDE OF RIGHT FURNACE LOOKING AT LEFT WALL OF FURNACE).



2. Drill or punch hole "A" (Figure 5) in the right side wall of the left furnace and hole "B" (Figure 5) in the left side wall of the right furnace (Figure 5) to route low voltage. Insert the pop-in grommet provided.

FIGURE 5
LOCATION OF LOW-VOLTAGE WIRE ROUTING HOLES. EACH HOLE TO HAVE GROMMETT INSERTED TO PROTECT THE WIRES.

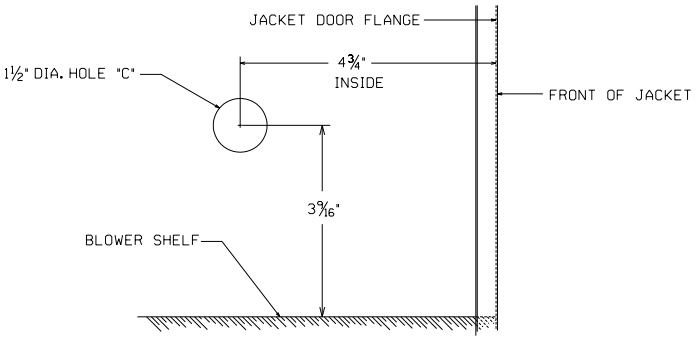


3. If it is necessary to bring a fuel line from the left furnace to the right furnace, hole "C" (Figure 6) will need to be punched or drilled on the right wall of the left furnace. This hole will line up with the existing fuel inlet hole on the left wall of the right furnace. Once the hole has been made, oil line can be plumbed from the furnace on the left to the furnace on the right. This will require a Tee and some elbows.

   If it is preferred to run a separate fuel line to each furnace, hole "C" (Figure 6) will need to be punched or drilled in the right hand wall of the right furnace. Note that the location of this hole is not critical and may be moved as necessary to facilitate plumbing of the fuel line. The hole must stay above the level of the blower shelf for obvious reasons. Once the hole has been made, oil line can be plumbed to the furnace on the right.

If it is preferred to run oil from the right to the left furnace, hole “C” (Figure 6) will need to be punched or drilled in the right wall of both furnaces. The fuel line can then be plumbed to both furnaces using Tees, elbows and other necessary fittings and by running fuel line between the furnaces through the existing oil inlet hole on the left wall of the right furnace and the new hole “C” on the right wall of the left furnace.

FIGURE 6
LOCATION OF OIL INLET HOLE TO BE PUNCHED INTO LEFT WALL OF EITHER RIGHT OR LEFT FURNACE AS NECESSARY SEE INSTALLATION INSTRUCTIONS. (VIEWED FROM INSIDE UNIT.)



4. Remove the junction box cover from the existing junction boxes on both furnaces.
5. Wire the thermostat into either one of the burners as shown in the wiring diagram.
6. Measure all the wires provided and match them with the wiring diagram provided. Wire lengths are included on the wire diagram provided. More specifically, the wires provided are listed below along with a description of where each wire goes. Use the information below along with the wire diagram provided to install the necessary wiring between furnaces. Route 18 gage low voltage wire between furnaces through holes “A” (Figure 4) and “B” (Figure 5) as discussed in step 2.

   Note that there are two wires connected to the coil terminal “0” of the kit relay. This is accomplished by using a so-called “piggy-back” connector on one of the wires that permits an additional wire to be installed to the terminal.
7. Route additional wiring neatly using the adhesive-backed clips provided with this kit as necessary for clean installation. Also, tie back additional wire lengths (using wire ties) where necessary to give a neat appearance.
8. Once all wires are routed as shown in the diagram and the installation is cleaned up, replace or install the junction box covers to all three junction boxes.
9. Replace the doors and wire unit per the instructions of the installation manual.

18 Gage Wire for 24 Volt Circuits

From	To	Length	Color
Left “W” (input on burner)	Right “W” (input on burner)	62”	White
Left “G” (input on burner)	Right “G” (input on burner)	62”	Green
Left “C” (input on burner)	Right “C” (input on burner)	62”	Brown

14 & 16 Gage Wire for Line Voltage Circuits

From	To	Length	Color
*Twin Relay Coil Term “0” (16 GA)	Left Fan Cycle Control “NO”	58”	Purple
Twin Relay Coil Term “1” (16 GA)	Left J-Box “Neutral”	12”	White
Twin Relay Contact Term “4” (16 GA)	Left J-Box “Hot”	12”	Black
Twin Relay Contact Term “2” (16 GA)	Left Blower “Heat” Speed	58”	Red
Twin Relay Contact Term “8” (16 GA)	Left J-Box “Hot”	12”	Black
Twin Relay Contact Term “6” (16 GA)	Right Blower “Heat” Speed	70”	Red
Right J-Box Neutral (16 GA)	Left J-Box Neutral	72”	White
Right J-Box “Hot” (16 GA)	Left J-Box “Hot”	72”	Black
Twin Relay J-Box Ground “G” (14 GA)	Left J-Box Ground “G”	12”	Green
Twin Relay Coil Term “0” (16 GA)	Right Fan Cycle Control “NO”	70”	Purple
*Piggyback Terminal End (Put piggyback connector of this wire on this end)			

CONDENSER UNIT WIRING

1. Connect control wires of the condenser unit to the terminal "C" and "Y" of the control transformer of the left hand furnace. Refer to the condensing unit's instruction manual for the proper polarity of connection.
2. Refer to manufacturer's installation instructions for proper wiring of power to unit.
3. Test for functionality by cycling the thermostat.

FIGURE 7
VIEW OF TWINNING J-BOX MOUNTED TO CABINET

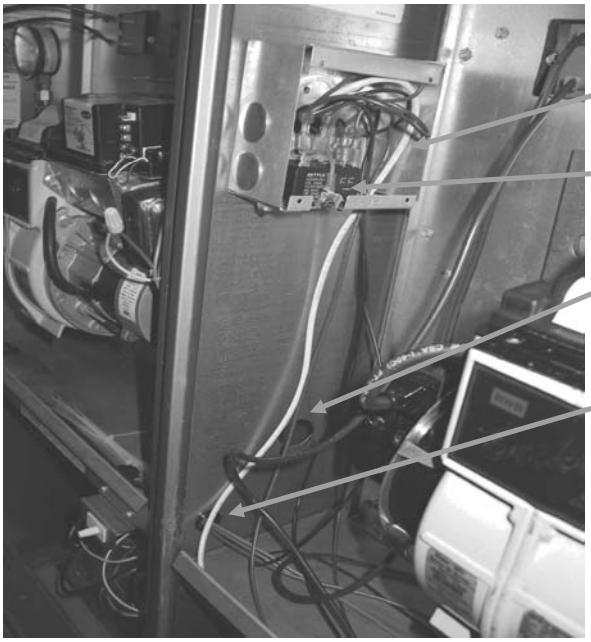


FIGURE 8
CLOSE-UP OF TWINNING J-BOX.

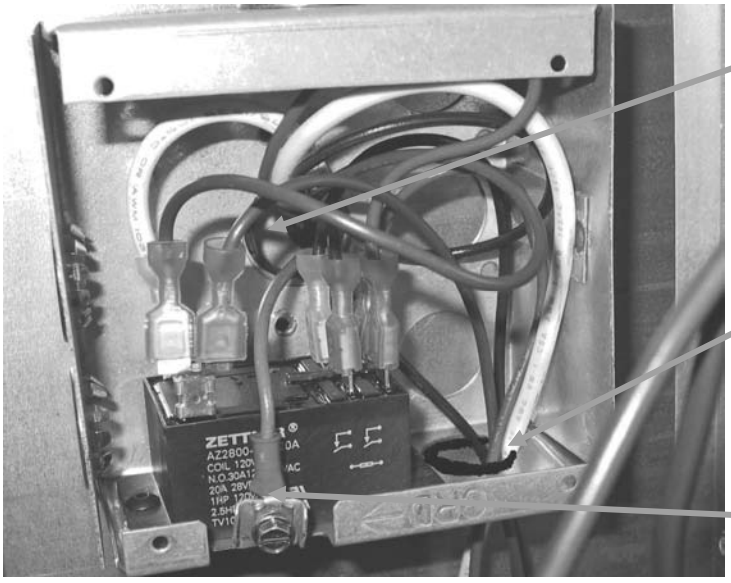


FIGURE 9
PARALLEL OPERATION OF OIL FURNACES

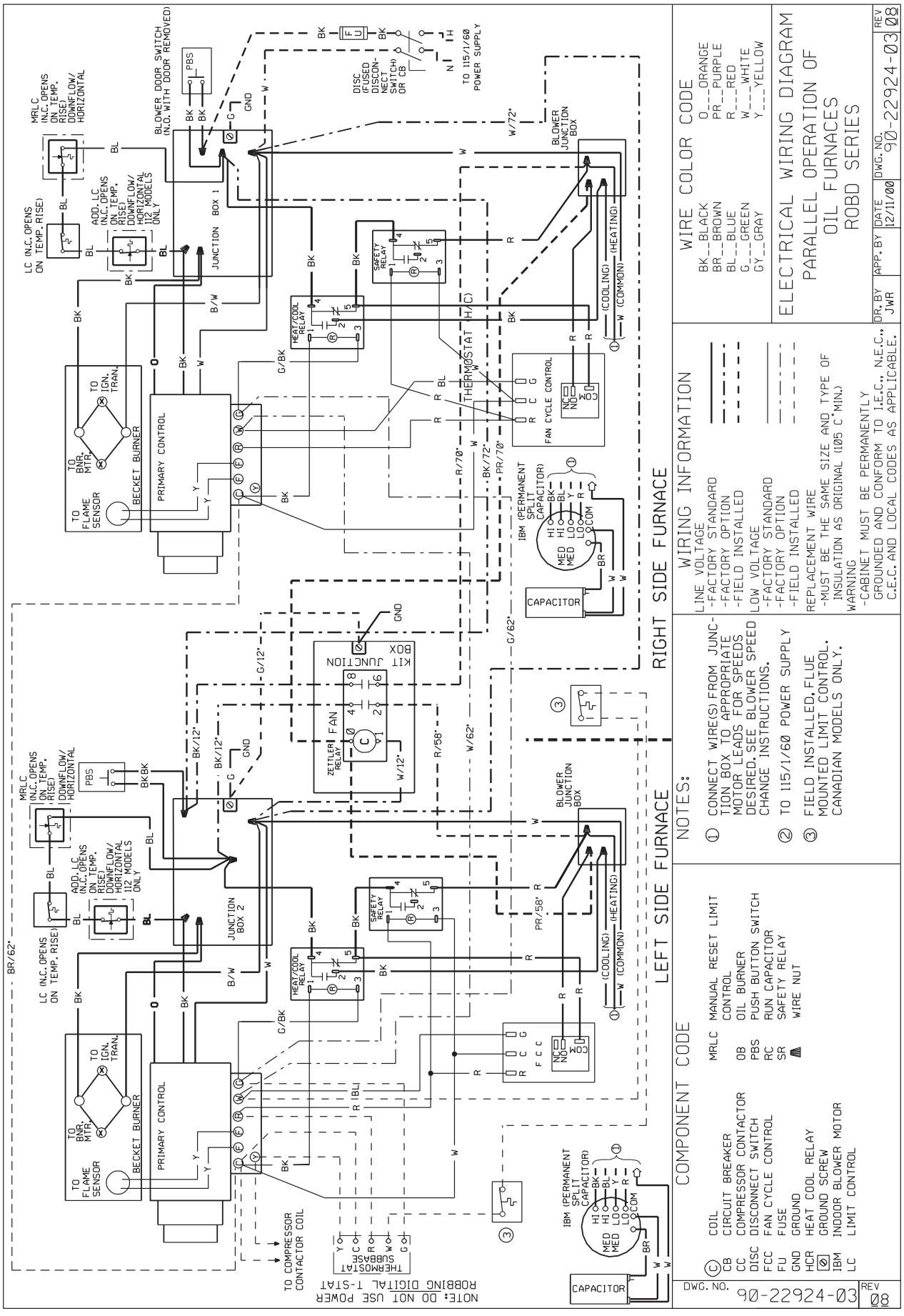


FIGURE 9
PARALLEL OPERATION OF OIL FURNACES

