



Installation Instructions

Part No: 30RA-900---061

SAFETY CONSIDERATIONS

Installing, starting up, and servicing air-conditioning equipment can be hazardous due to system pressures, electrical components and equipment location.

Only trained, qualified installers and service technicians should install, start up, and service this equipment.

When working on air-conditioning equipment, observe precautions in the literature, on tags, stickers, and labels attached to the equipment.

Follow all safety codes. Wear safety glasses and work gloves. Use care in handling equipment.

⚠ WARNING

Be sure power to equipment is shut off before performing maintenance or service to avoid electrocution. Lock out and safety-tag all disconnects. There may be more than one disconnect.

⚠ WARNING

DO NOT USE TORCH to remove any component. System contains oil and refrigerant under pressure.

To remove a component, wear protective gloves and goggles and proceed as follows:

- Shut off electrical power to unit.
- Recover refrigerant to relieve all pressure from system using both high-pressure and low pressure ports.
- Traces of vapor should be displaced with nitrogen and the work area should be well ventilated. Refrigerant in contact with an open flame produces toxic gases.
- Cut component connection tubing with tubing cutter and remove component from unit. Use a pan to catch any oil that may come out of the lines and as a gage for how much oil to add to the system.
- Carefully unsweat remaining tubing stubs when necessary. Oil can ignite when exposed to torch flame.

Failure to follow these procedures may result in personal injury or death.

⚠ CAUTION

DO NOT re-use compressor oil or any oil that has been exposed to the atmosphere. Dispose of oil per local codes and regulations. DO NOT leave refrigerant system open to air any longer than the actual time required to service the equipment. Seal circuits being serviced and charge with dry nitrogen to prevent oil contamination when timely repairs cannot be completed. Failure to follow these procedures may result in damage to equipment.

GENERAL

This control accessory reduces 30RAP chiller capacities below the standard lowest capacity step. This capacity reduction provides more precise control of leaving fluid temperature during light load conditions.

The solenoid valve limits the amount of hot gas that can be bypassed from the condenser without impacting oil return.

IMPORTANT: The hot gas bypass accessory cannot be used on units with the digital scroll compressor option.

INSTALLATION

Examine the package contents for correct part numbers. If any of the components are damaged, file a claim with the shipping company and notify your Carrier representative.

See Table 1 for package contents.

Table 1 — Contents of Accessory Kit

PART NUMBER	QTY	DESCRIPTION
00PPN50001000A	2	Solenoid valve with 1/2 in. ODF connections
EP71BA181	2	1/2 in. ball valve, to isolate circuit
SF703318	2	Cable

The following material is field supplied:

- 1/2 in. OD copper tubing
- standard 1/2 in. OD copper tube elbows and couplings as required

Install the Solenoid Valve

⚠ WARNING

Shut off all power to the unit. Lock out and safety-tag all disconnects. Remove refrigerant charge from the circuits using an approved refrigerant recovery device before proceeding with this installation. Follow good piping practices. Severe personal injury could result.

- Shut off power to the unit.
- Recover refrigerant charge from the unit.
- Locate the factory-supplied stubs on the discharge and liquid line for each circuit. See Fig. 1 and 2.
- Cut all stubs. Install 1/2 in. OD copper tubing (field supplied) as shown in Fig. 1 and 2. Connect 1/2 in. OD copper from discharge stub end to ball valve, then to solenoid valve, and lastly into the liquid line stub end.

IMPORTANT: The valve is direction specific and must have the arrow pointing toward the cooler. The solenoid valve will not properly seat if installed backwards.

IMPORTANT: Circuit A solenoid must be connected to the liquid line stub on the right side of the cooler. Circuit B solenoid must be connected to the liquid line stub on the left side of the cooler.

5. Install the tube support as needed.

6. Leak check, evacuate, dehydrate and recharge each circuit.

7. Restore power to the unit.

NOTE: When piping is completed, leak test the assembly. Then evacuate, dehydrate, and recharge the circuit using approved refrigeration practices. Be sure to use the correct type and amount of refrigerant listed in the nameplate data and base unit documentation.

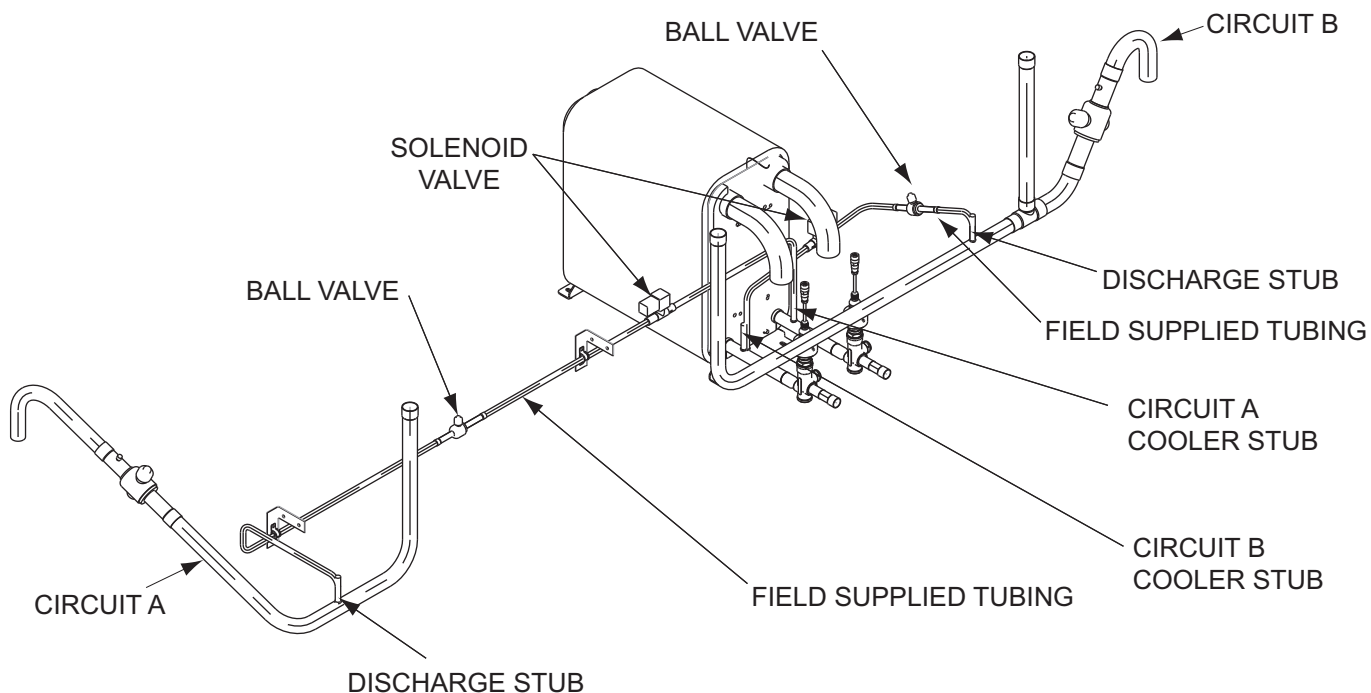


Fig. 1 — Typical Piping 30RAP070

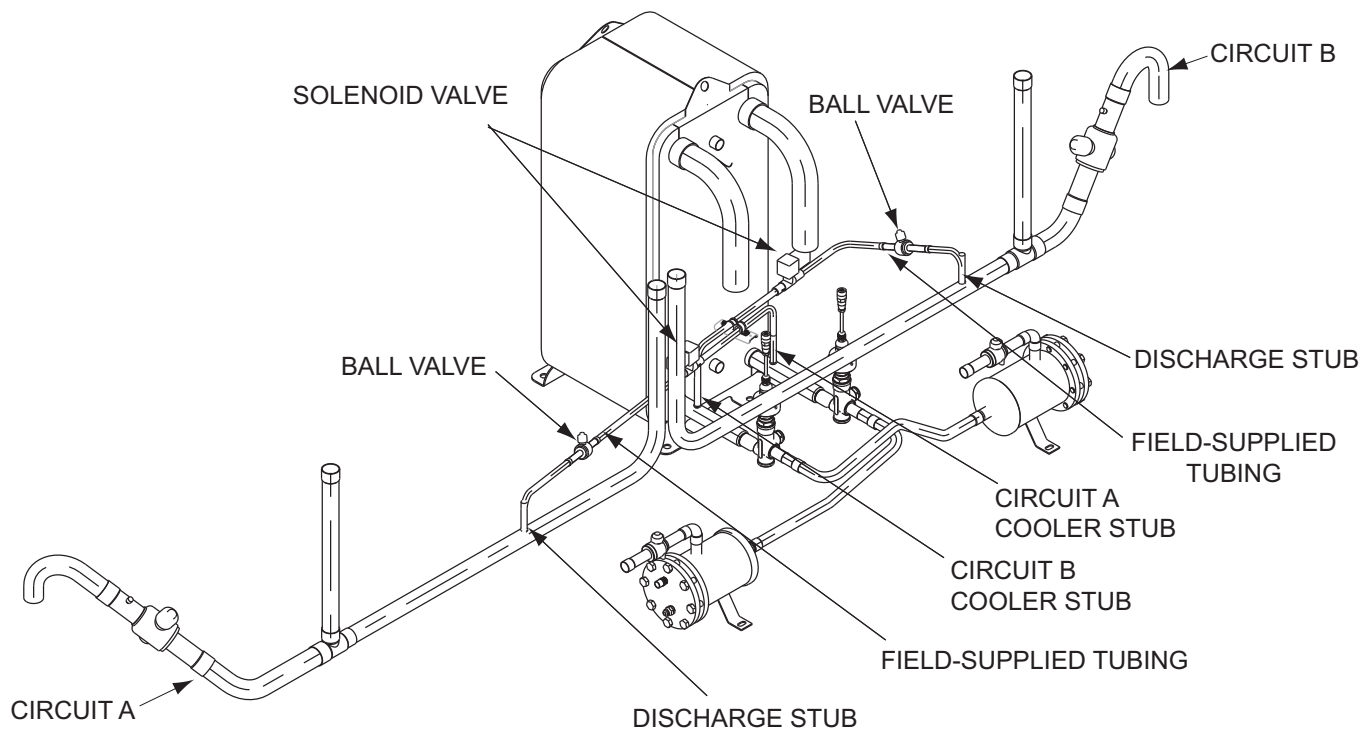


Fig. 2 — Typical Piping 30RAP080-090

Install Control Wiring (See Fig. 3 and 4)

1. One control wire harness is supplied per circuit. Secure the DIN connector end on the solenoid valve coil with the screw in the connector. Verify the square rubber gasket is in place to ensure connection remains watertight.
2. Route the other end of the cable to the main control panel (where the display is located). For the circuit A solenoid, connect leads to plug MLV1 and 2, violet and brown wires. For the B circuit solenoid, connect lead to plug MLV3 and 4, gray and brown wires. For actual connection, remove the plug, use the cap screws to join the wire together. Label the brown wires for A and B circuits before removing the plug.

NOTE: If the AUX board is not present in the control panel, a replacement AUX board (Part No. 32GB500442E) needs to be purchased and installed. Connect the other end of MLV into AUX J2 and communication plug into AUX J9. Locate AUX J1 connector in harness and connect it to J1 on AUX board.

Configure Unit for Hot Gas Bypass — The control must be configured for the hot gas bypass operation. Use the scrolling marquee display to configure the system.

1. Set the Enable/Off/Remote switch to OFF position.
2. Press **[ESCAPE]** until the screen is blank and use the arrow key to select the Configuration mode LED.

3. Press **[ENTER]**, then use arrow key to select the sub-mode 'OPT1', then press Enter key.
4. Press the down arrow key until 'MLV.S' is displayed.
5. Press **[ENTER]** key twice. The word 'PASS' and 'WORD' will flash.
6. Press 1 1 1 then **[ENTER]** key so that 'NO' flashes.
7. Use arrow keys to change value to 'YES' then press **[ENTER]**.
8. Return the Enable/Off/Remote switch to the proper position.

The chiller is now configured for minimum load valve control.

Test Minimum Load Relay Output — Use the scrolling marquee display, the instructions given in the Controls, Start-Up, Operation Service and Troubleshooting manual, and the Service Test mode to verify proper operation of the solenoid(s). Illuminate the Service Test LED, enable the Test mode using the 'TEST' sub-mode and enter the 'CMPA' sub-mode to test the output 'MLV'.

NOTE: Under normal operation, the 'MLV' will be energized only when the lead compressor is on.

Once the outputs have been tested, the installation is complete.

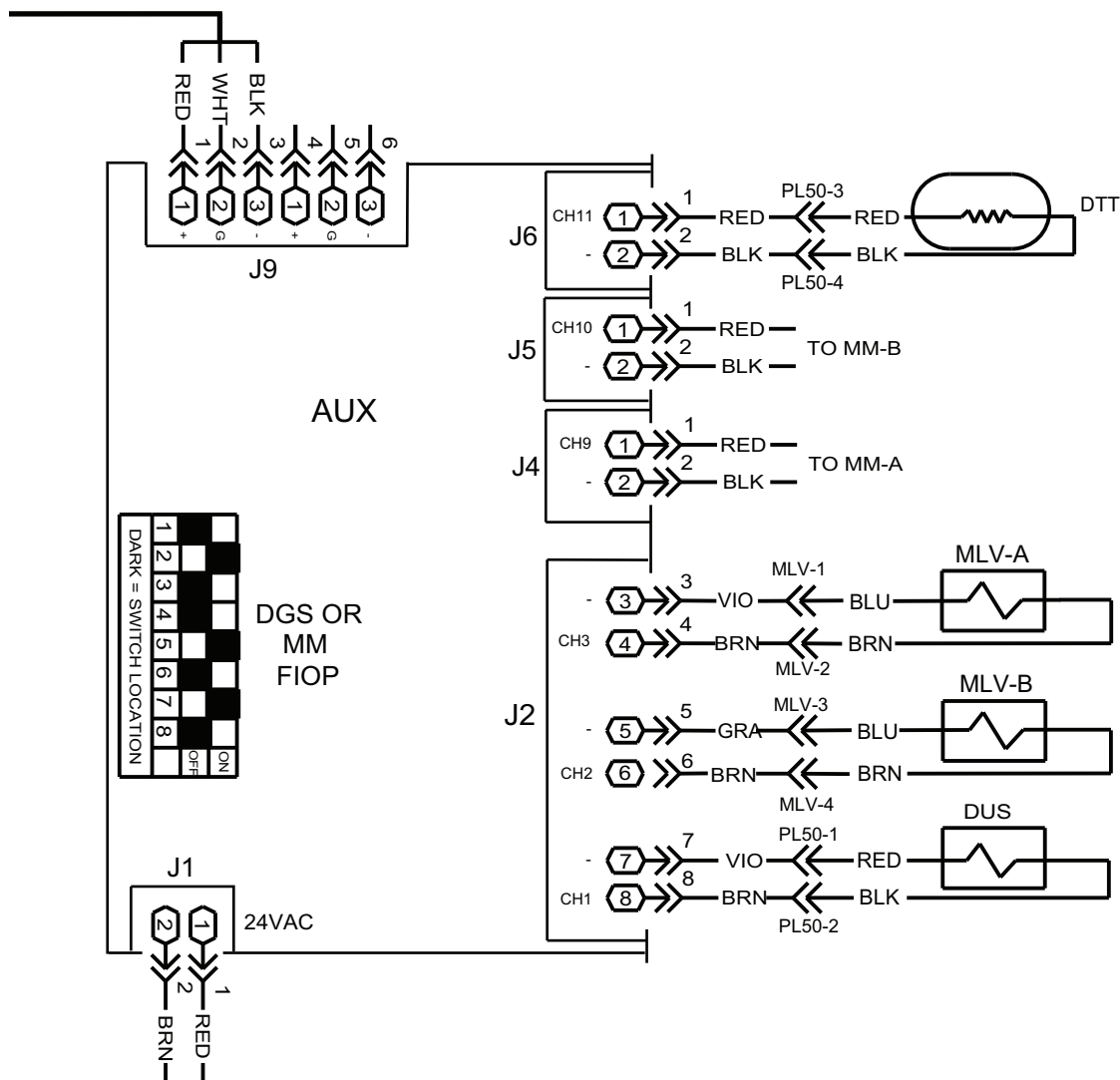


Fig. 3 — Auxiliary Board Wiring for Circuits A and B

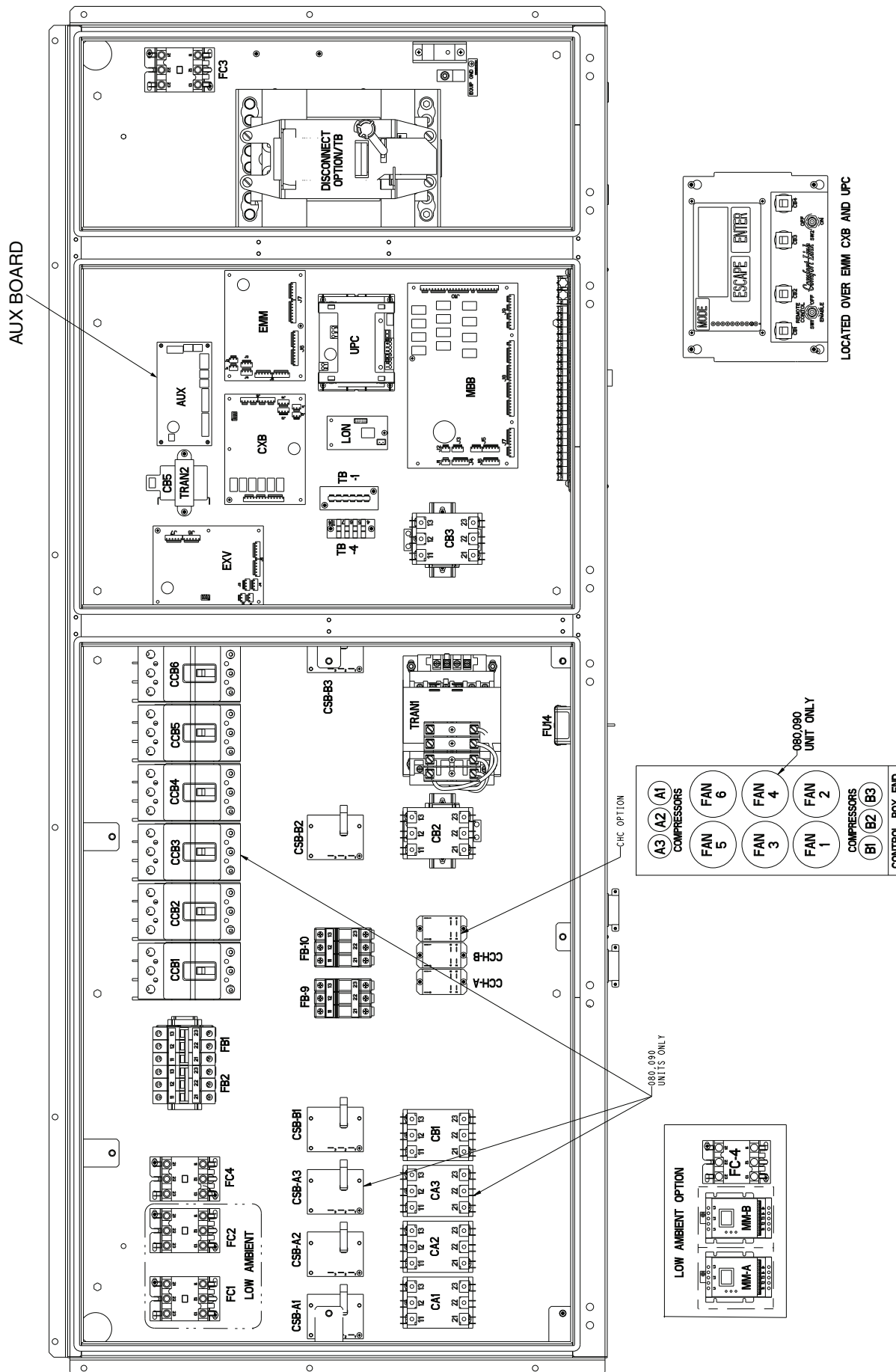


Fig. 4 — Component Arrangement, Showing the AUX Location