



Climate Control Solutions
Bard Manufacturing Company, Inc.
Bryan, Ohio 43506

INSTALLATION INSTRUCTIONS

CMH-9A

LOW PRESSURE AND LOW AMBIENT CONTROL

DESCRIPTION

The CMH-9A is a field installable low pressure control and low ambient fan cycling control kit. The CMH-9A consists of:

1. Installation Instructions 7960-239E
2. Low Ambient Fan Cycling Control 1804-0280
3. Control Assembly 910-1646
4. Low Pressure Control 1804-0107
5. Control Assembly 910-1095
6. Unit Label 7961-312-0007

For use with all WH184 – WH602 Wall Mount Heat Pumps (A & B Electrical Versions)

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers, and right side condenser inlet grille. Circled numbers on Figures 2 - 4 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal and reconnected to another terminal. Figure 2 depicts 2 and 3 ton cabinet (230V) installations. Figure 3 depicts 2 and 3 ton cabinet (460V) installations. Figure 4 depicts 5 and 6 ton cabinet (230V) installations. Figure 5 depicts 5 and 6 ton cabinet (460V) installations.

- Step 1. Mount control assembly 910-1646 into control panel as shown with screws provided. Step 1.
- Step 2A. **230V Units Only** - Disconnect black high voltage outdoor motor lead from heat pump control and reconnect to terminal #1 of control assembly 910-1646. Route wires through wire holder as shown in Figure 2 or 4.
- Step 2B. **460V Units Only** - Locate the yellow wire origination from the outdoor fan relay coil terminal & disconnect it. Reconnect this wire to terminal #1 of control assembly 910-1646.
- Step 3A. **230V Units Only** - Connect black wire from terminal #3 of control assembly 910-1646 to the Com. terminal on the heat pump control board. This is the terminal that the wire was removed from in Step 2. Route wires through wire holder as shown in Figure 2, 3 or 4.
- Step 3B. **460V Units Only** - Connect black wire from terminal #3 of control assembly 910-1646 to the coil terminal of the outdoor fan ready. This is the terminal that the wire was removed from in Step 2B.
- Step 4. Remove the blue wire from terminal B of the heat pump control and reconnect to the coil terminal of control assembly 910-1646.
- Step 5. Connect the blue wire from control assembly 910-1646 to B terminal of the heat pump control.
- Step 6. Connect the black wire from control assembly 910-1646 to C terminal of the compressor contactor coil. This is the side of the contactor coil that the black wire is attached to.
- Step 7. Route low ambient control wires up through the bushing in the bottom of the control panel. Replace sealing compound after routing wires through the bushing. Route the wires through the wire holders in the control panel as shown in Figure 2. Connect the low ambient control wires between the terminal #1 and #3 of the control assembly 910-1646.
- Step 8. Remove service port cap on discharge line. Install the low ambient control on the discharge line with the flare tee adapter that is brazed to the low ambient control. Check for pressure at the flare tee dill valve after installation to insure that the dill valve in the unit service port was depressed by the flare tee connector. Check for leaks at the flare tee connectors. Replace service port cap on the flare tee service port and tighten. See Figure 6.
- Step 9. Mount control assembly 910-1095 into control panel as shown with screws provided. Figure 7, Step 1.
- Step 10. Disconnect red high pressure control wire from heat pump control terminal LO and reconnect to terminal #1 of control assembly 910-1095. Route wires through wire holder as shown in Figure 7, Step 2.
- Step 11. Connect the blue wire from control assembly 910-1095 to LO terminal of the heat pump control. See Figure 3, Step 7.
- Step 12. Route low pressure control wires up through the bushing in the bottom of the control panel. Replace sealing compound after routing wires through the bushing. Route the wires through the wire holders in the control panel as shown in Figure 7. Connect the low pressure control wires between the terminals #1 and #3 of control assembly 910-1095. See Figure 7, Step 4.
- Step 13. Connect the yellow wire from control assembly 910-1095 to Y terminal of the compressor contactor coil. This is the side of the contactor coil that the yellow wire is attached to. See Figure 7, Step 5.
- Step 14. Connect the black wire from control assembly 910-1095 to C terminal of the compressor contactor coil. This is the side of the contactor coil that the black wire is attached to and piggybacks onto the black wire connected in Step 6. See Figure 7, Step 6.

- Step 15. Remove service port caps on both the suction and discharge lines. Install the low ambient control on the discharge line with the flare tee adapter that is brazed to the controls. Install the low pressure switch on the suction line. Check for pressure at the flare tee dill valves after installation to insure that the dill valve in the unit service port was depressed by the flare tee connector. Check for leaks at the flare tee connectors. Replace service port caps on the flare tee service ports and tighten. See Figure 6.
- Step 16. Recheck all wiring. See Figure 1. Check for proper operation of the unit by energizing in cooling mode. The condenser fan motor should not run until the discharge pressure has

exceeded 280 PSI. Should the discharge pressure fall below 180 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 280 PSI. Switch to heating mode. The condenser fan motor should run any time the compressor is running regardless of discharge pressure. Run unit through a defrost cycle. The condenser fan should de-energize during the defrost cycle.

- Step 17. Apply "This unit equipped with CMH-9A control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 18. Replace all panels and covers. This completes installation.

**FIGURE 1
WIRING DIAGRAM**

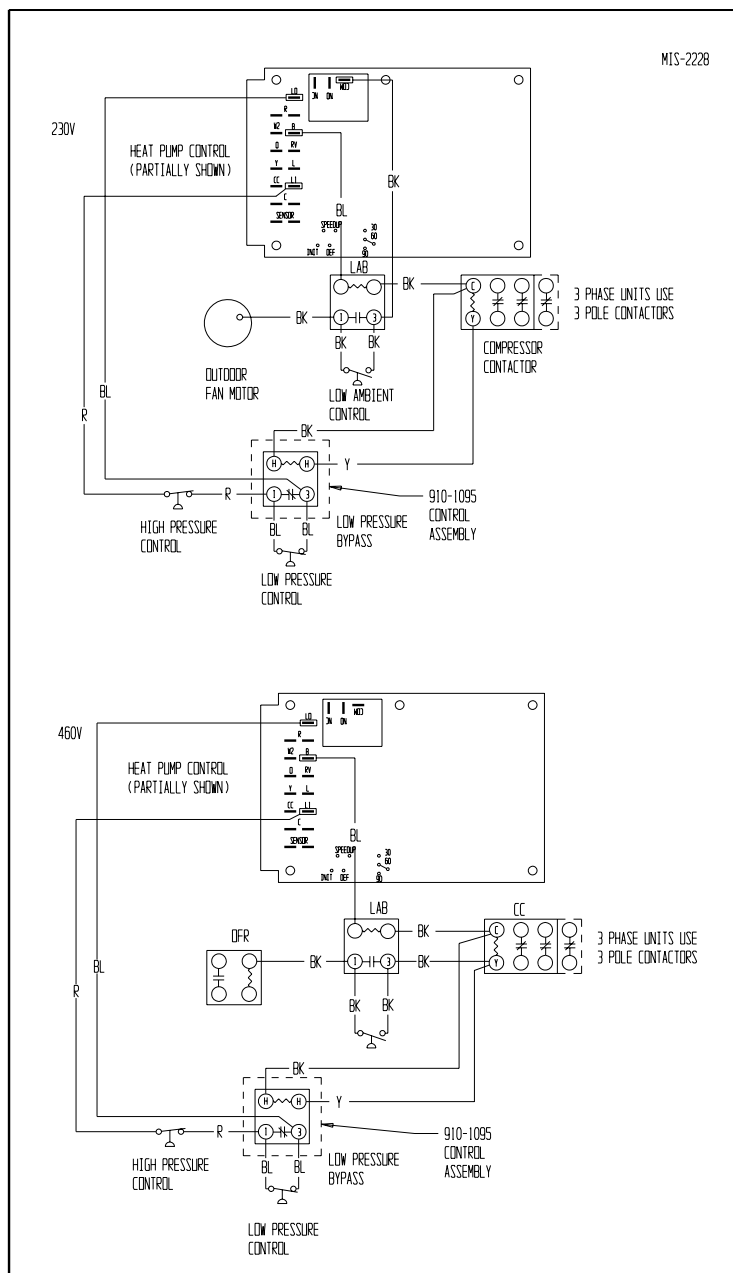
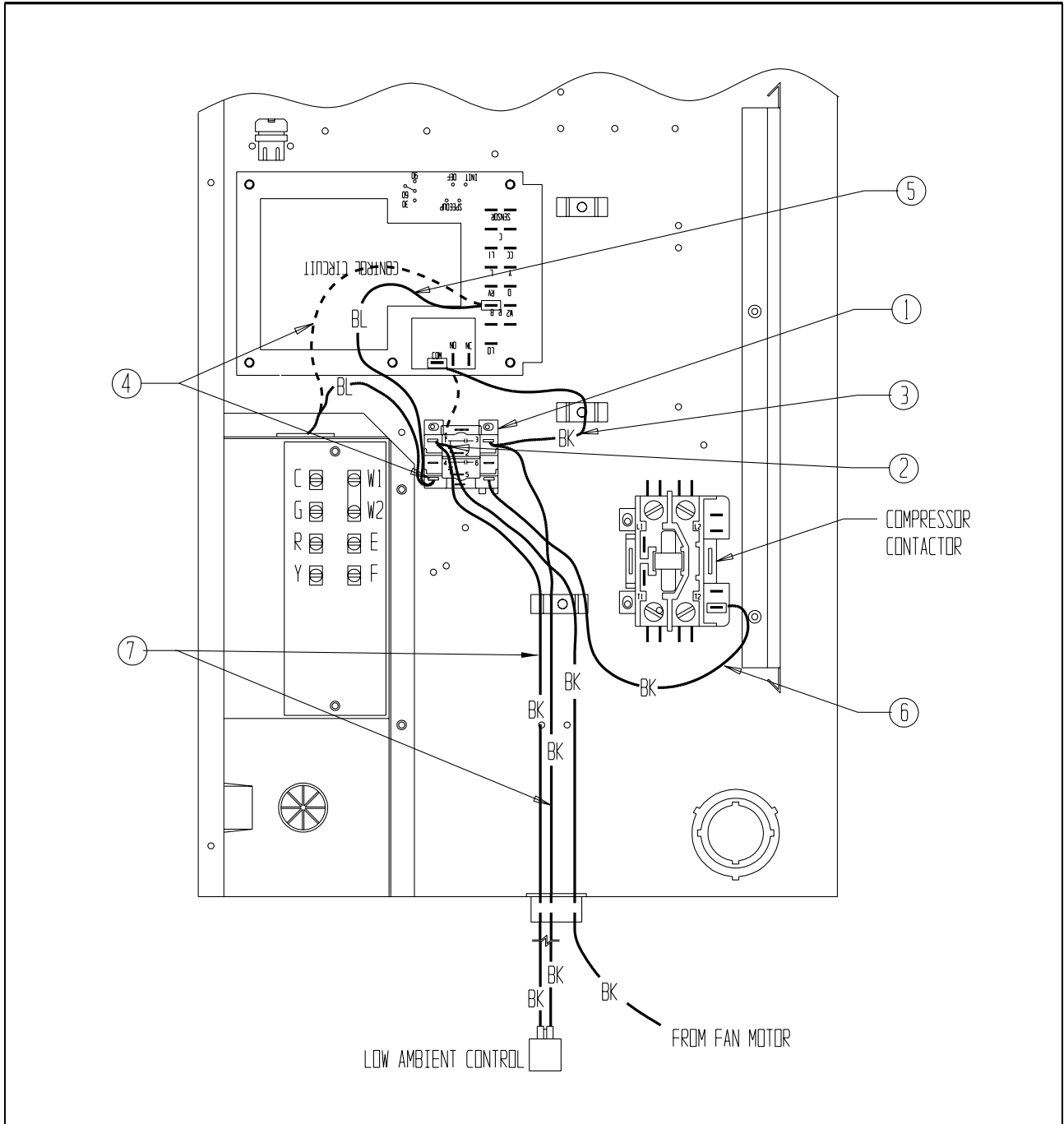


FIGURE 2



						MAT'L			
						PART NAME MODULE LOCATION			
						PART NO.	DWG. NO. MD-3547		
						DATE 7-14-06			
						3/8	SOS		
						SCALE	DRN		
						SD	JLA		
						CHK	APPR		
REV		DATE		REVISION RECORD		ECN NO	DRN	CHK	APR
NOTE: ALL DIMENSIONS EXCEPT HOLE DIAMETERS ARE : 1/16 INCH UNLESS NOTED OTHERWISE				DISTRIBUTION: 1 2 3 4 5					



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FIGURE 4

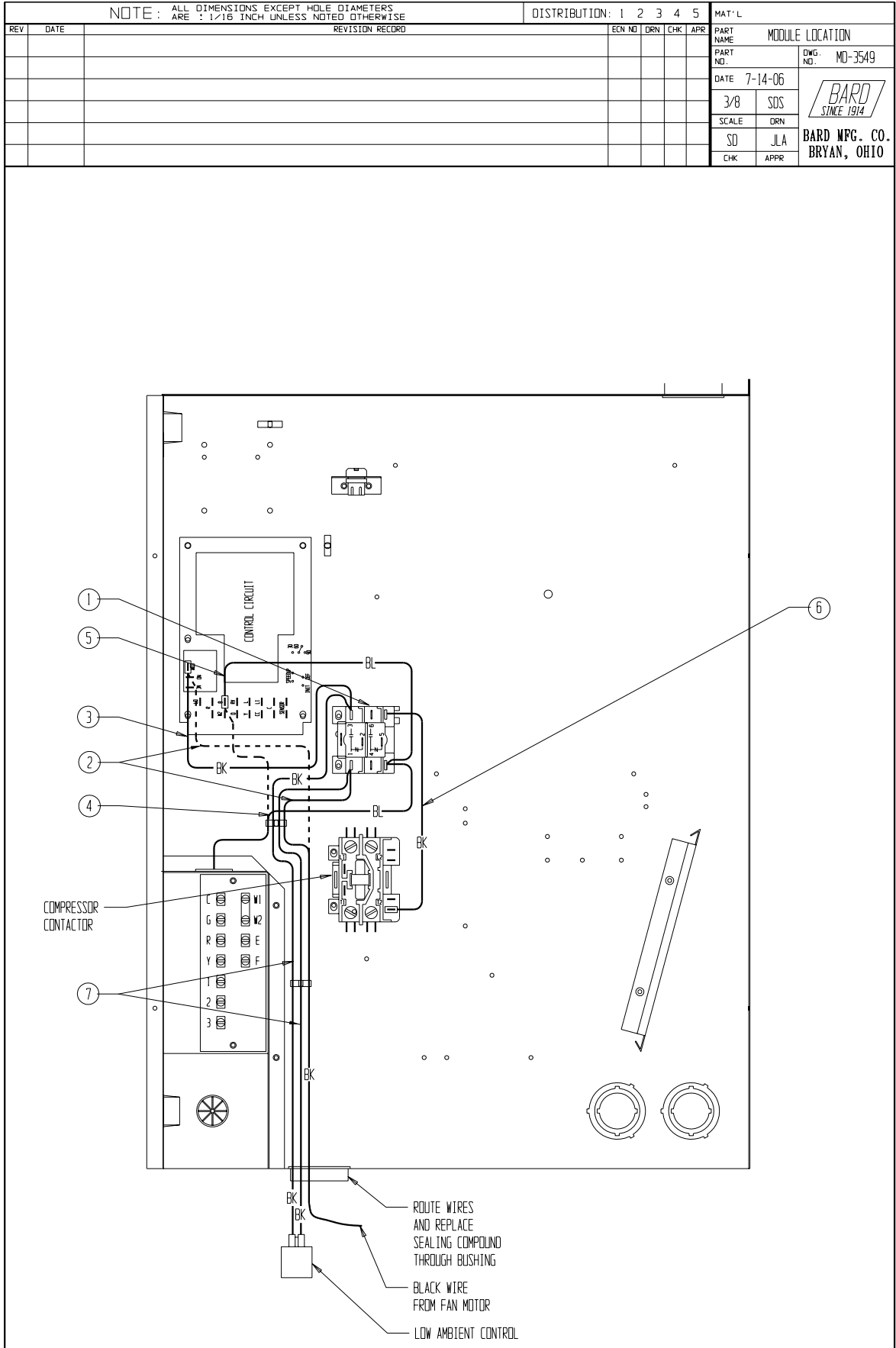


FIGURE 5

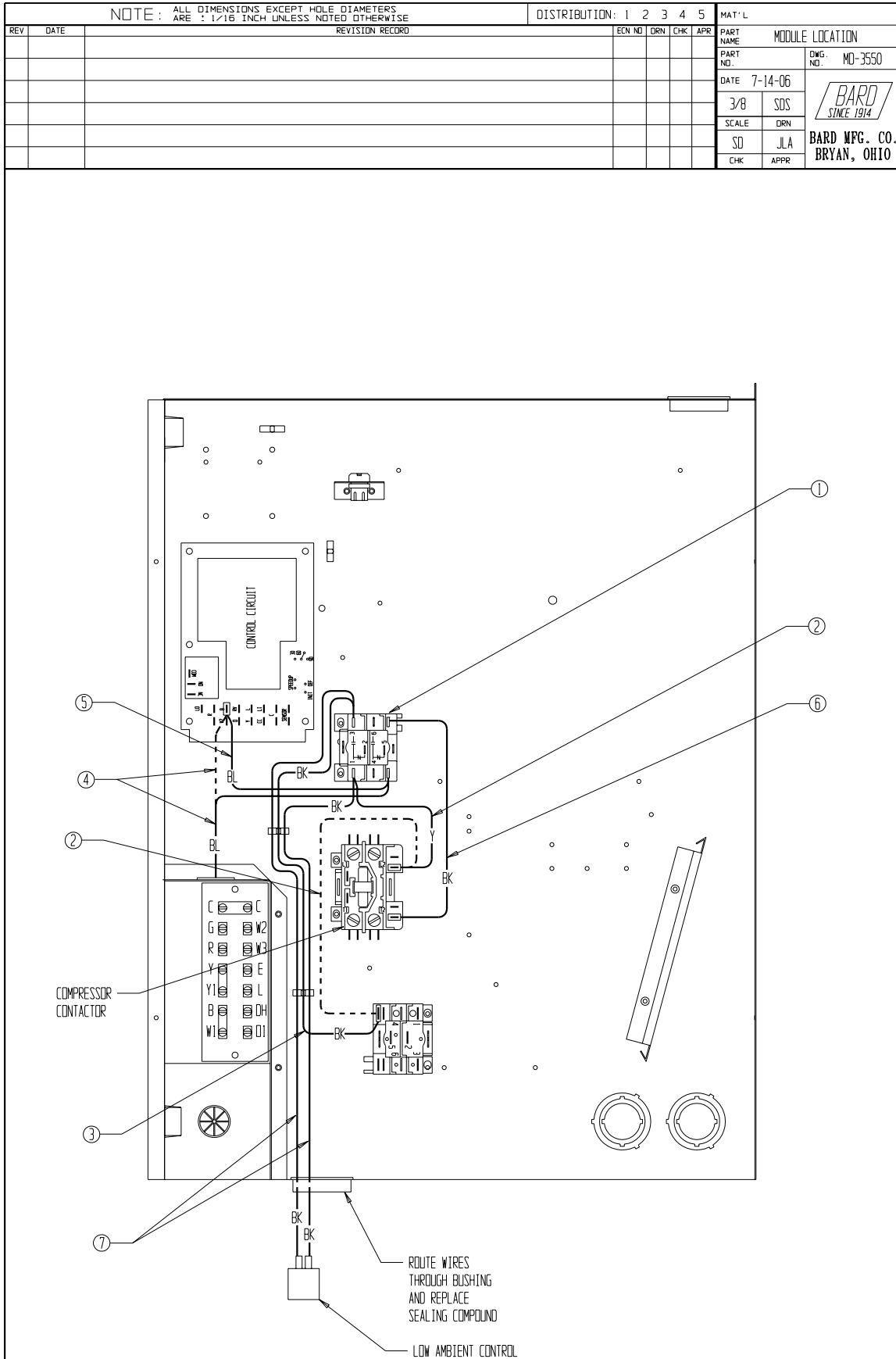
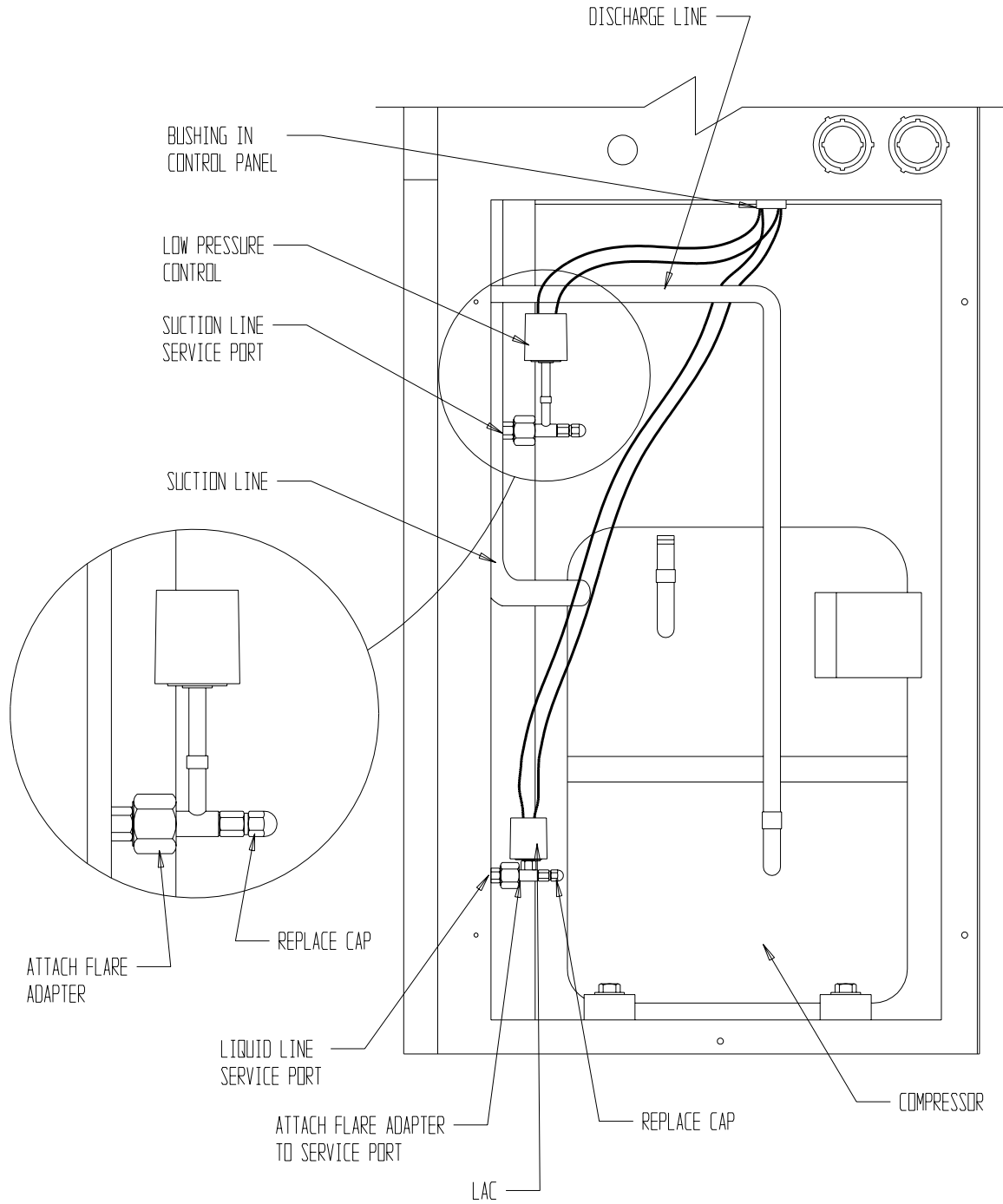
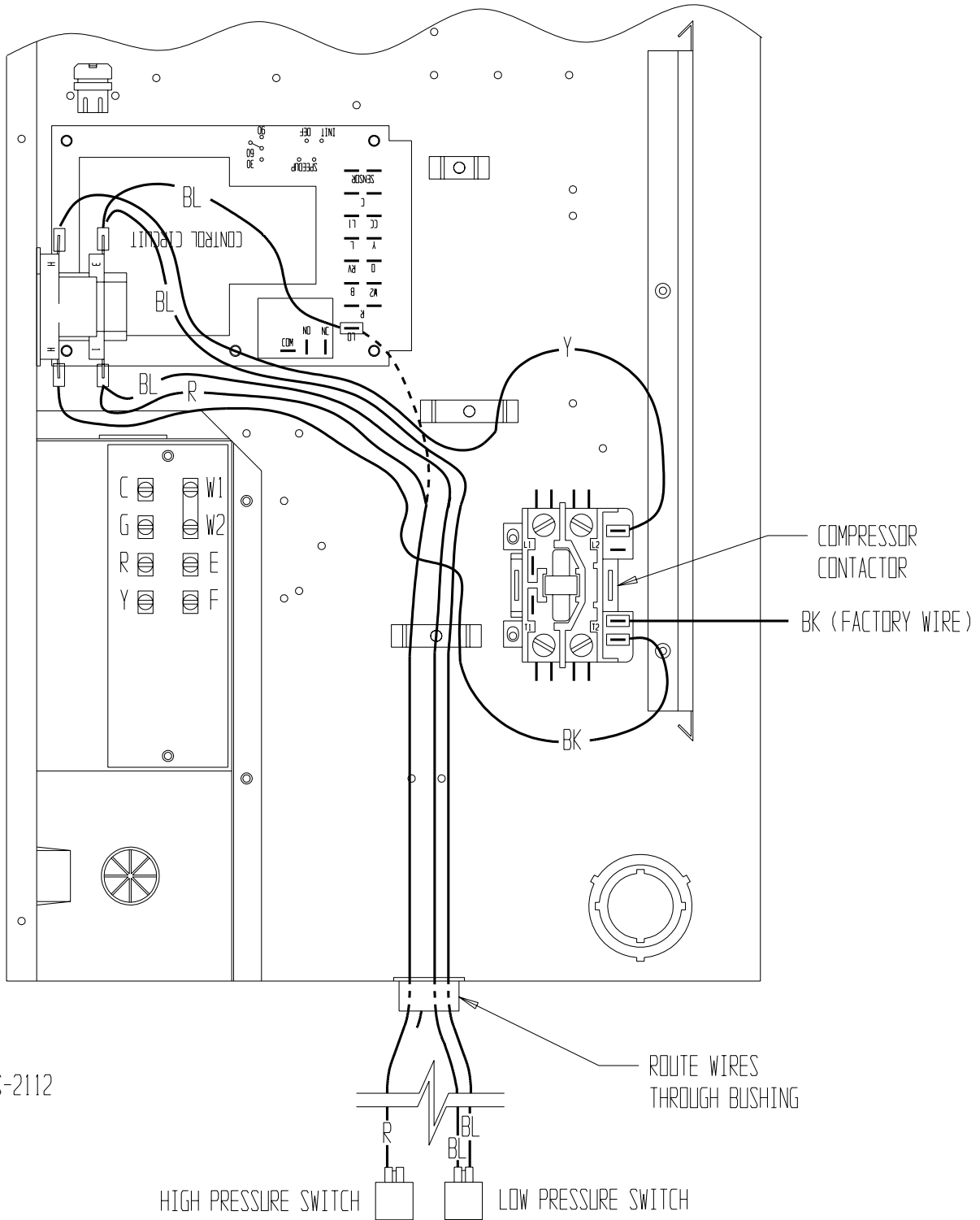


FIGURE 6



MIS-406 A

FIGURE 7



MIS-2112