



Climate Control Solutions

Bard Manufacturing Company, Inc.  
Bryan, Ohio 43506

# INSTALLATION INSTRUCTIONS

## CMH-19

### LOW AMBIENT CONTROL

#### DESCRIPTION

The CMH-19 is a field installable low ambient fan cycling control kit. The CMH-19 consists of:

1. Installation Instruction 7960-586
2. Low Ambient Fan Cycling Control 1804-0423
3. Control Assembly 910-1697
4. CMH-19 Unit Label 7961-312-0221

*For use with all W18H1 – W60H1 Wall Mount Heat Pumps.*

#### 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.

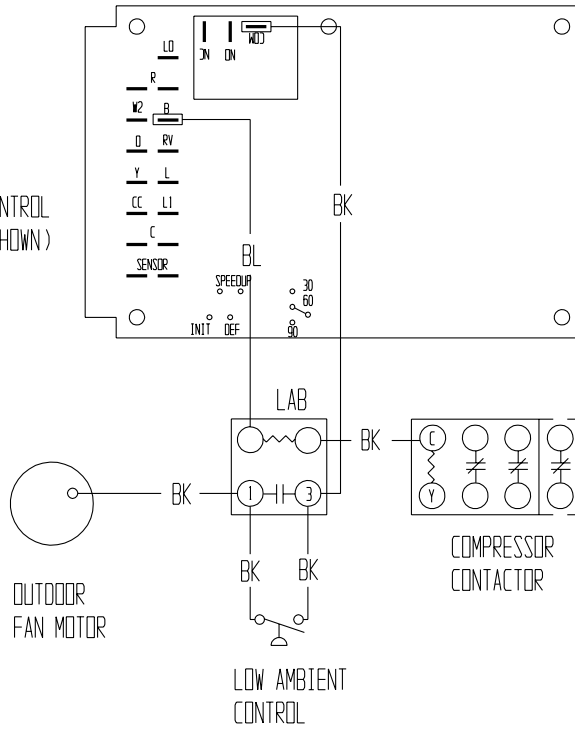
- Step 1. Mount control assembly 910-1697 into control panel as shown with screws provided. Step 1.
- Step 2A. **230V Units Only** - Disconnect black high voltage outdoor motor lead from heat pump control and reconnect to terminal #1 of control assembly 910-1697. Route wires through wire holder as shown 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 910-1697.
- Step 3A. **230V Units Only** - Connect black wire from terminal #3 of control assembly 910-1697 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 910-1697 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 910-1697.
- Step 5. Connect the blue wire from control assembly 910-1697 to B terminal of the heat pump control.
- Step 6. Connect the black/white wire from control assembly 910-1697 to C terminal of the compressor contactor coil. This is the side of the contactor coil that the black/white 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 910-1697.
- 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. 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 350 PSI. Should the liquid pressure fall below 225 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 350 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 10. Apply "This unit equipped with CMH-19 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 11. Replace all panels and covers. This completes installation.

FIGURE 1

MIS-303 A

230V

HEAT PUMP CONTROL  
(PARTIALLY SHOWN)



460V

HEAT PUMP CONTROL  
(PARTIALLY SHOWN)

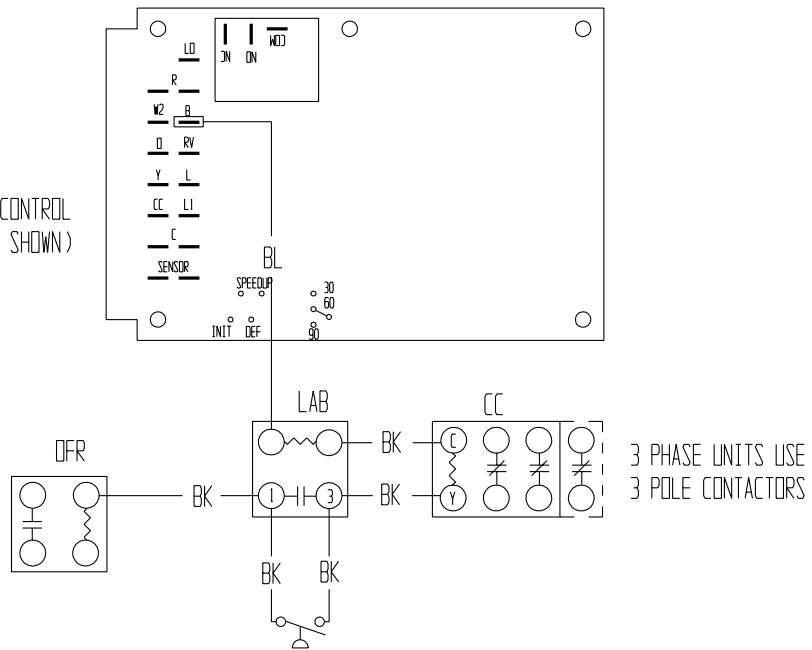
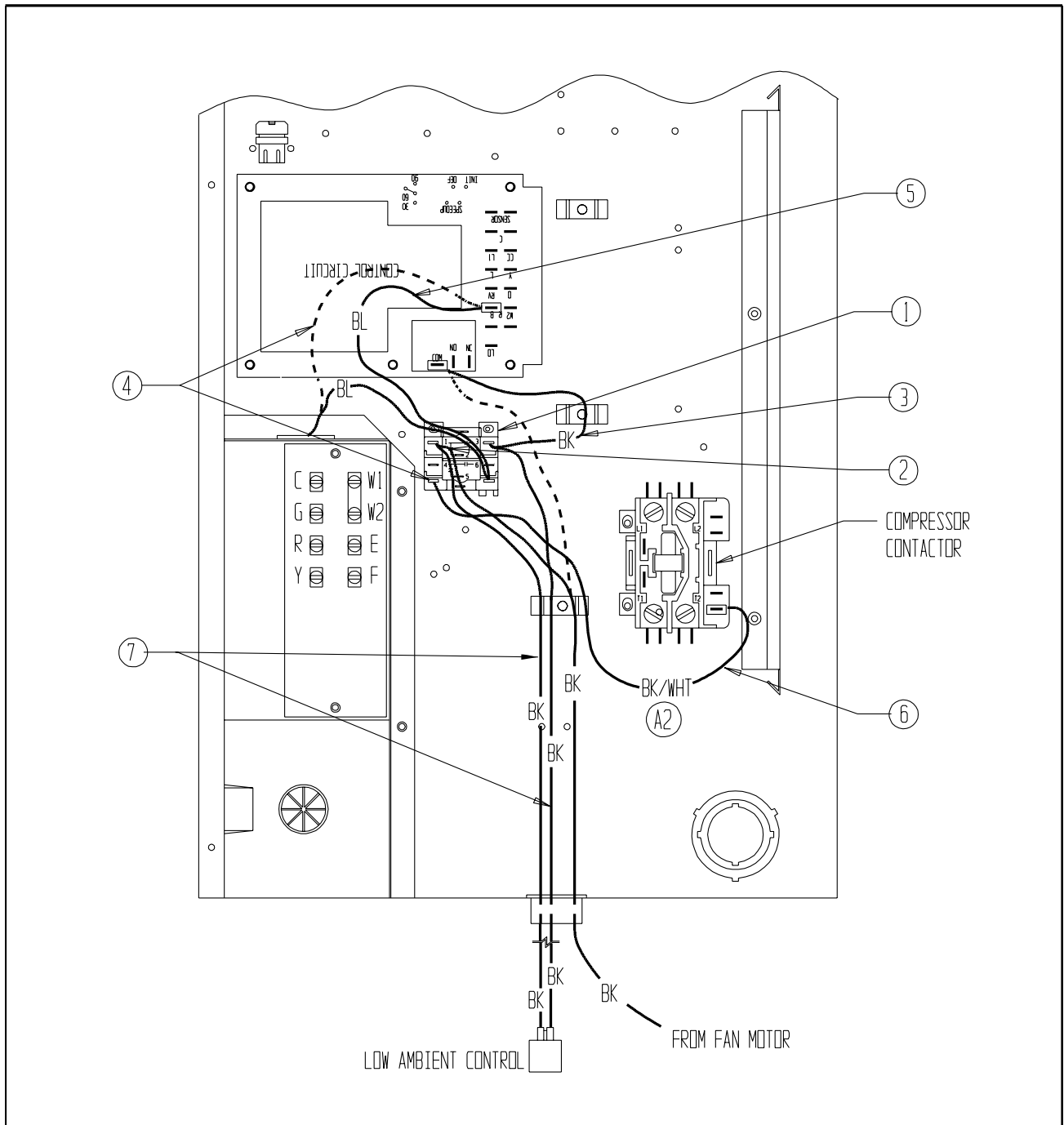


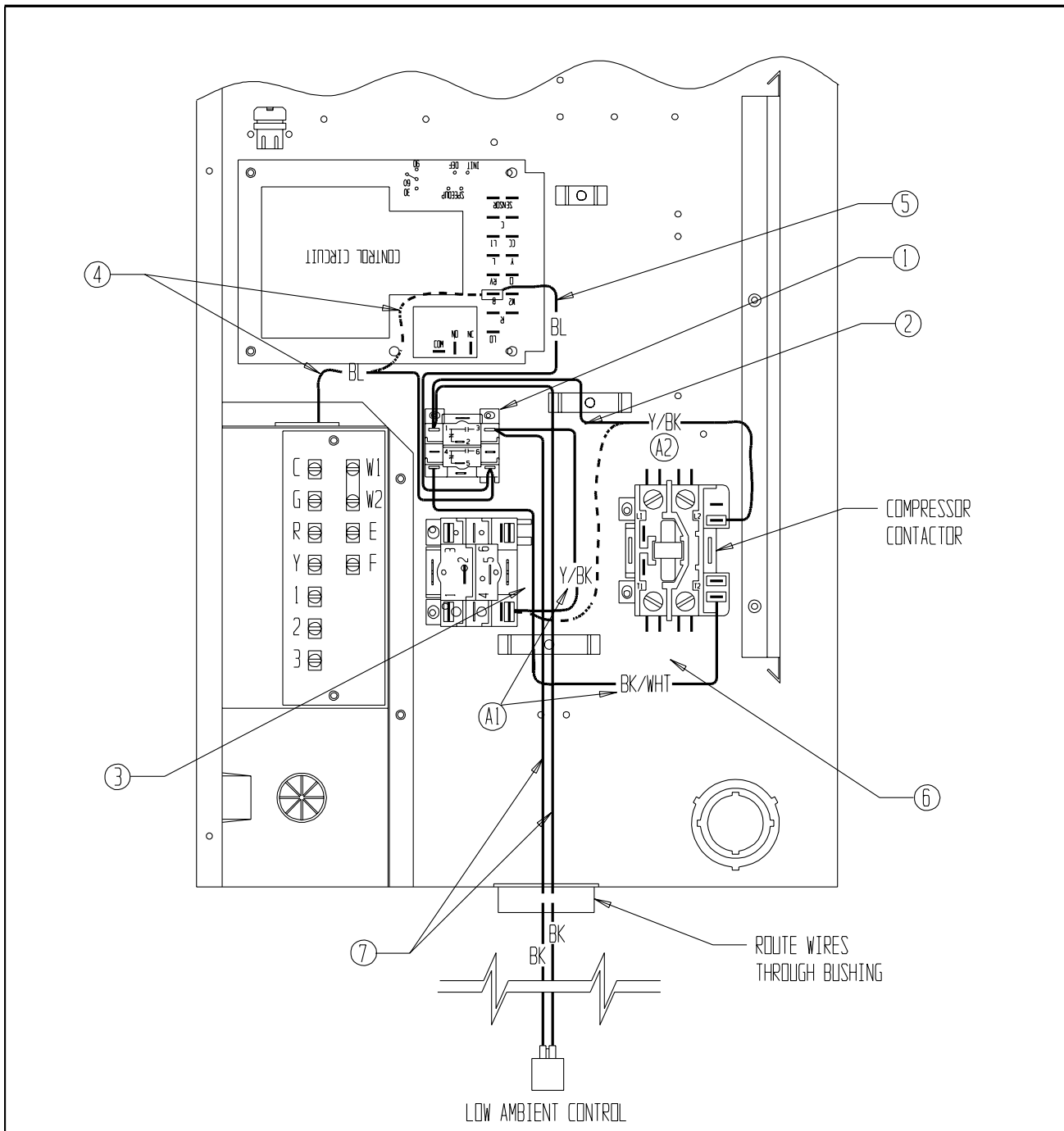
FIGURE 2



										MAT'L	
										PART NAME MODULE LOCATION	
										PART NO.	
										DWG. NO. MD-3547 B	
										DATE 7-14-06	
B	8-20-10	REVISED WIRING			10380	SS	SD	JN	3/8	SDS	
A	1-19-10	A1 UPDATED ALTERNATE WIRING, A2 WAS BLACK			10232	SS	SD	JN	SCALE	DRN	
REV	DATE	REVISION RECORD			ECN NO	DRN	CHK	APR	SD	JLA	
NOTE: ALL DIMENSIONS EXCEPT HOLE DIAMETERS ARE: 1/16 INCH UNLESS NOTED OTHERWISE					DISTRIBUTION: 1 2 3 4 5					CHK	APPR



FIGURE 3



						MAT'L		
						PART NAME MODULE LOCATION		
						PART NO.	DWG. NO. MD-3548 B	
						DATE 7-14-06		
B	8-20-10	REVISED WIRING	10380	SS	SD	JN		3/8 SDS
A	1-19-10	A1 WAS BLACK, A2 WAS YELLOW	10232	SS	SD	JN		SCALE DRN
REV	DATE	REVISION RECORD	ECN NO.	DRN	CHK	APR	SD JLA	BARD MFG. CO. BRYAN, OHIO
NOTE: ALL DIMENSIONS EXCEPT HOLE DIAMETERS ARE 1/16 INCH UNLESS NOTED OTHERWISE			DISTRIBUTION: 1 2 3 4 5			CHK	APPR	

FIGURE 4

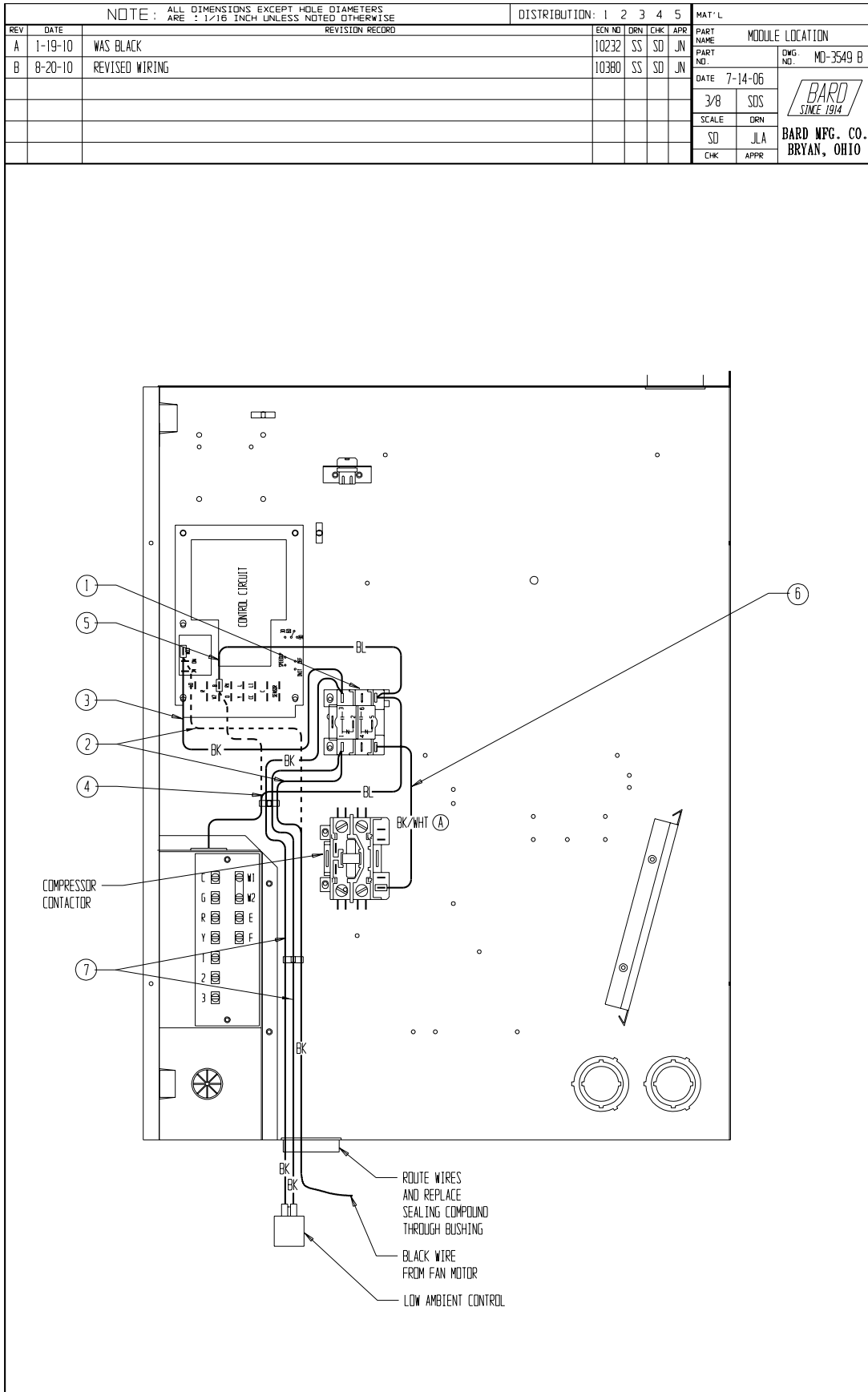



FIGURE 5

NOTE: ALL DIMENSIONS EXCEPT HOLE DIAMETERS ARE : 1/16 INCH UNLESS NOTED OTHERWISE				DISTRIBUTION: 1 2 3 4 5					MAT'L	
REV	DATE	REVISION RECORD	ECN NO	DRN	CHK	APPR	PART NAME			
A	8-20-10	REVISED WIRING	10380	SS	SD	JN	MODULE LOCATION			
							PART NO.	DWG NO.	MD-3550 A	
							DATE	7-14-06		
							3/8	SDS	 <b>BARD MFG. CO.</b> BRYAN, OHIO	
							SCALE	DRN		
							SD	JLA		
							CHK	APPR		

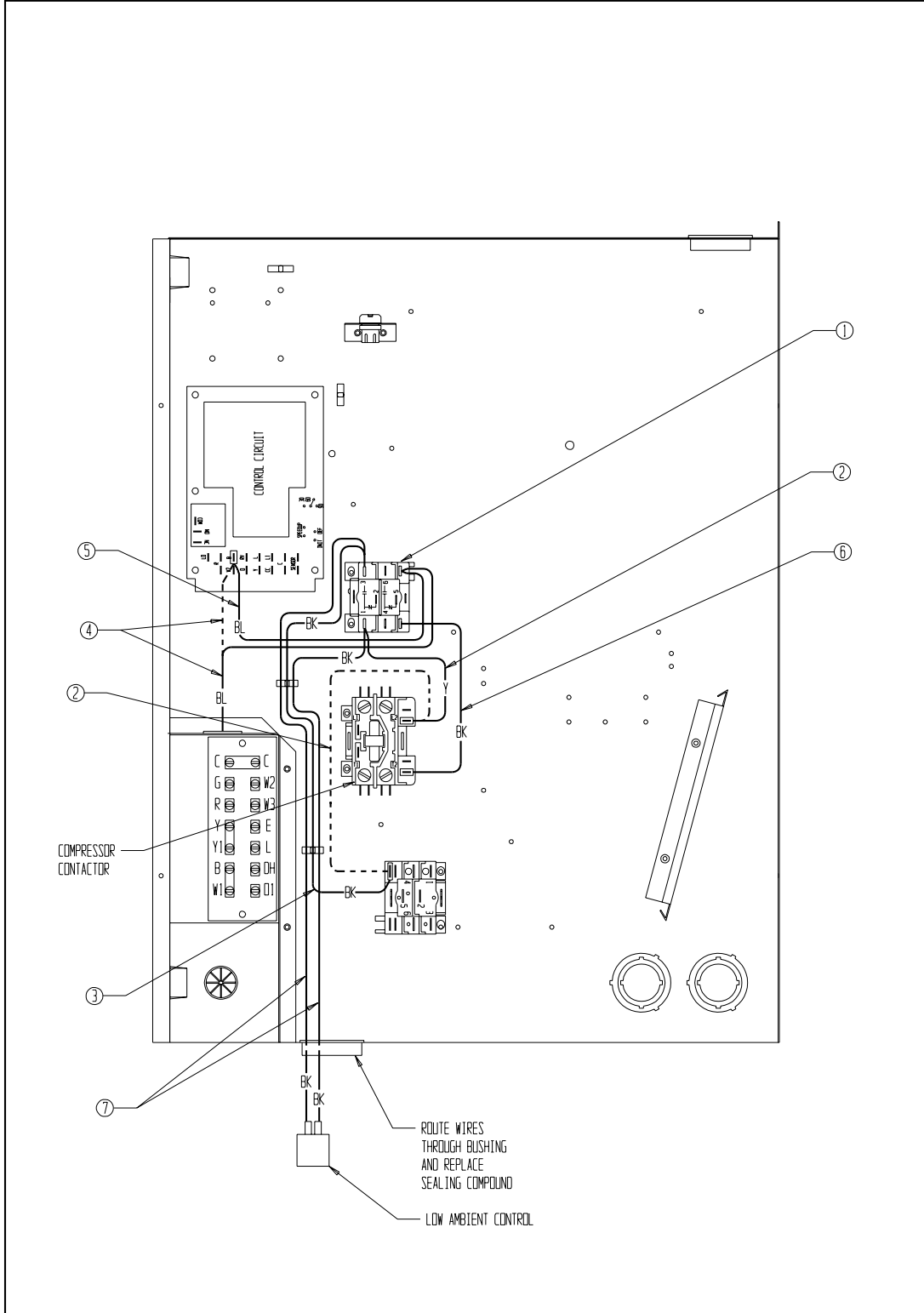
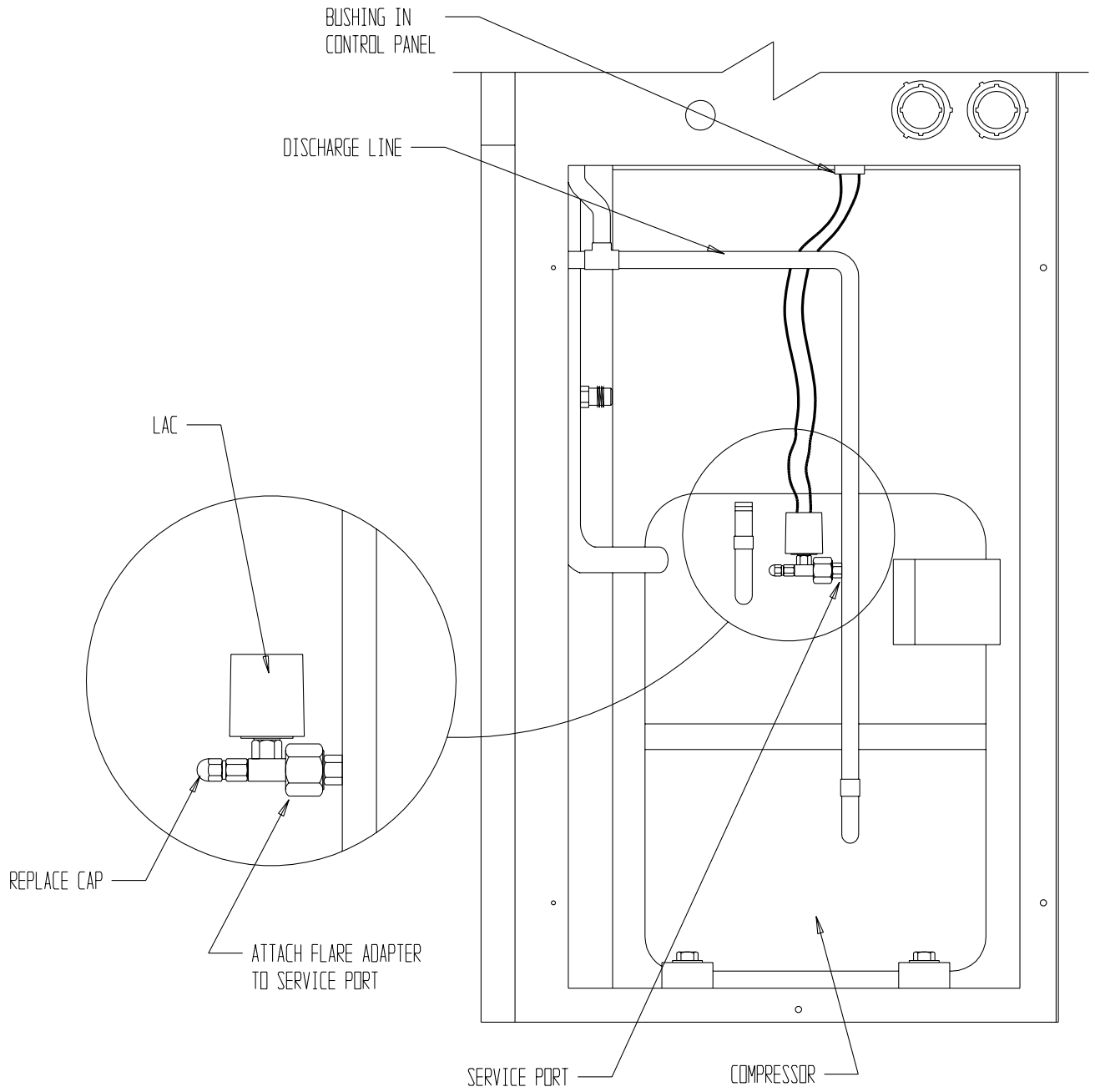


FIGURE 6



MIS-1385 A