

INSTALLATION INSTRUCTIONS

OPTIONAL CONTROL MODULE KITS FOR USE WITH 1/2 - 5 TON WALL MOUNTED PACKAGED AIR CONDITIONERS AND HEAT PUMPS

- CMA-1 High Pressure Control A/C 1-1/2 - 3-1/2 Ton
- CMA-2 Low Pressure Control A/C 1-1/2 - 3-1/2 Ton
- CMH-3 Low Pressure Control H/P 1-1/2 - 3-1/2 Ton
- CMA-4 Dual Pressure Control A/C 1-1/2 - 3-1/2 Ton
- CMA-5 Compressor Time Delay Relay A/C
- CMA-6 Low Ambient Control A/C
- CMH-7 Low Ambient Control H/P
- CMA-8 High Pressure Control and Time Delay Relay A/C 1-1/2 - 3 Ton
- CMH-9 Low Pressure Control and Low Ambient Control H/P 1-1/2 - 3 Ton
- CMA-10 Dual Pressure Control + Time Delay Relay 1-1/2 - 3 Ton A/C
- CMA-11 Dual Pressure Control + Low Ambient Control 1-1/2 - 3 Ton A/C
- CMA-12 Low Ambient Control + Time Delay Relay 1-1/2 - 3-1/2 Ton A/C
- CMA-13 Dual Pressure Control, Low Ambient Control + Time Delay Relay 1-1/2 - 3-1/2 Ton A/C
- CMH-14 Outdoor Thermostat Kit H/P
- CMC-15 Start Kit (PTCR) 1-1/2 - 3-1/2 Ton
- CMA-16 Low Pressure Control 4 - 5 Ton A/C
- CMA-17 Low Pressure Control and Time Delay Relay 4 - 5 Ton A/C
- CMA-18 Low Pressure Control and Low Ambient Control 4 - 5 Ton A/C
- CMA-19 Low Ambient Control and Time Delay Relay 4 - 5 Ton A/C
- CMA-20 Low Pressure Control, Low Ambient Control, and Time Delay Relay 4 - 5 Ton A/C

SUITABLE FOR USE WITH

Models	WA181-A	WA181-B	WA181-C			WH181-A	WH181-B,-C	
	WA241-A	WA241-B	WA241-C	WA481-A,-B	WA481-C	WH241-A	WH241-B,-C	WH481-A,-B,-C
	WA301-A	WA301-B	WA301-C	WA601-A,-B	WA601-C	WH301-A	WH301-B,-C	
	WA361-A	WA361-B	WA361-C			WH361-A	WH361-B,-C	
	WA421-A	WA421-B	WA421-C			WH421-A	WH421-B,-C	
CMA-1	X	X	X					
CMA-2	X	X	X					
CMH-3						X	X	X
CMA-4	X	X	X					
CMA-5	X	X	X	X	X			
CMA-6	X	X		X				
CMH-7						X	X	X
CMA-8	X	X	X					
CMH-9						X	X	X
CMA-10	X	X	X					
CMA-11	X	X						
CMA-12	X	X						
CMA-13	X	X						
CMH-14						X	X	X
CMC-15	X	X				X		
CMA-16				X	X			
CMA-17				X	X			
CMA-18				X				
CMA-19				X				
CMA-20				X				

INSTALLATION INSTRUCTIONS CMA-1 HIGH PRESSURE CONTROL

DESCRIPTION

The CMA-1 is a field installable non-adjustable high pressure control set at 425 PSI. The CMA-1 consists of:

8201-034	Lockout Relay
7960-231	Installation Instructions
1804-0106	High Pressure Control
7961-312-0010	CMA-1 Label

For use with all WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Mount lockout relay in position shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #4 of the lockout relay. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #3 of the lockout relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Route High (red) pressure switch 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 High pressure switch wires between terminal #5 of the Lockout relay and the (Y) terminal of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Remove service port cap on the discharge line. Install the high pressure switch on the discharge line with the flare tee adapter that is brazed to the high pressure switch. 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 cap on the flare tee service port and tighten. See Figure 3.
- Step 6. Recheck wiring (see Figure 1). Check for proper operation of the unit by energizing in cooling mode for at least 5 minutes. The unit should not go into lockout.
- Step 7. Replace all panels and covers. This completes installation.

FIGURE 1

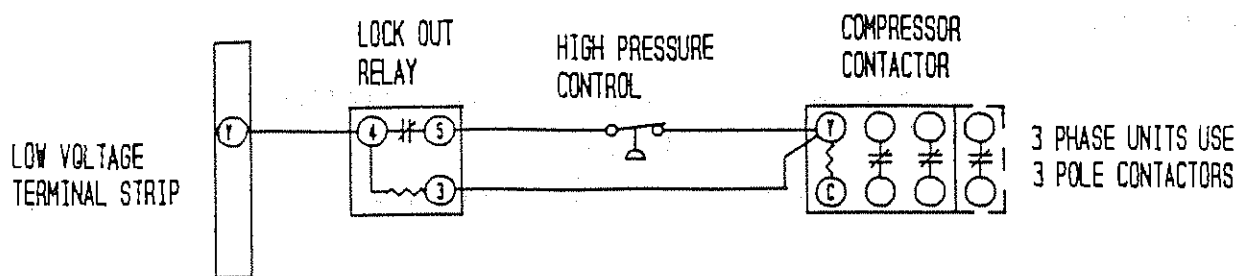


FIGURE 2

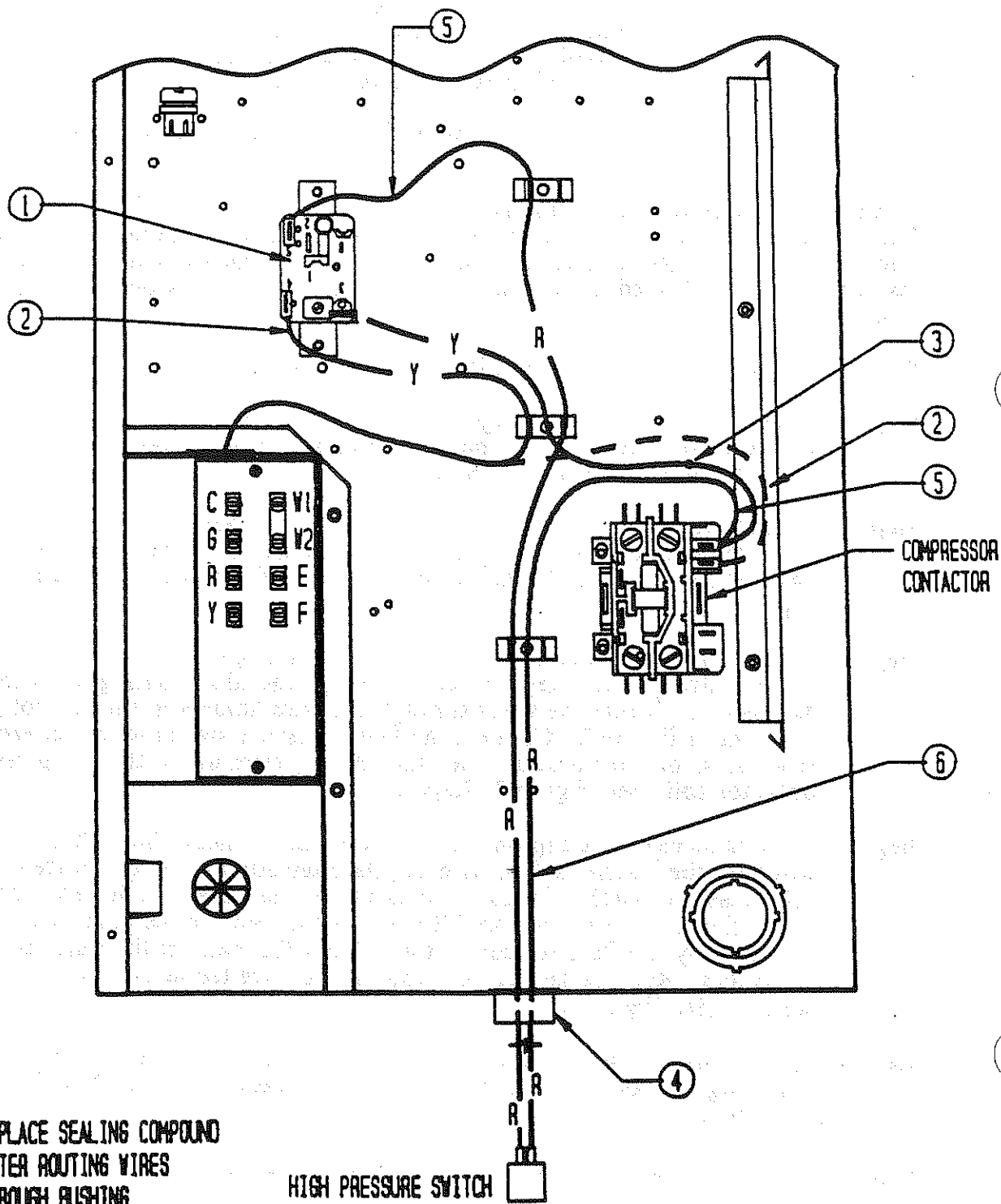
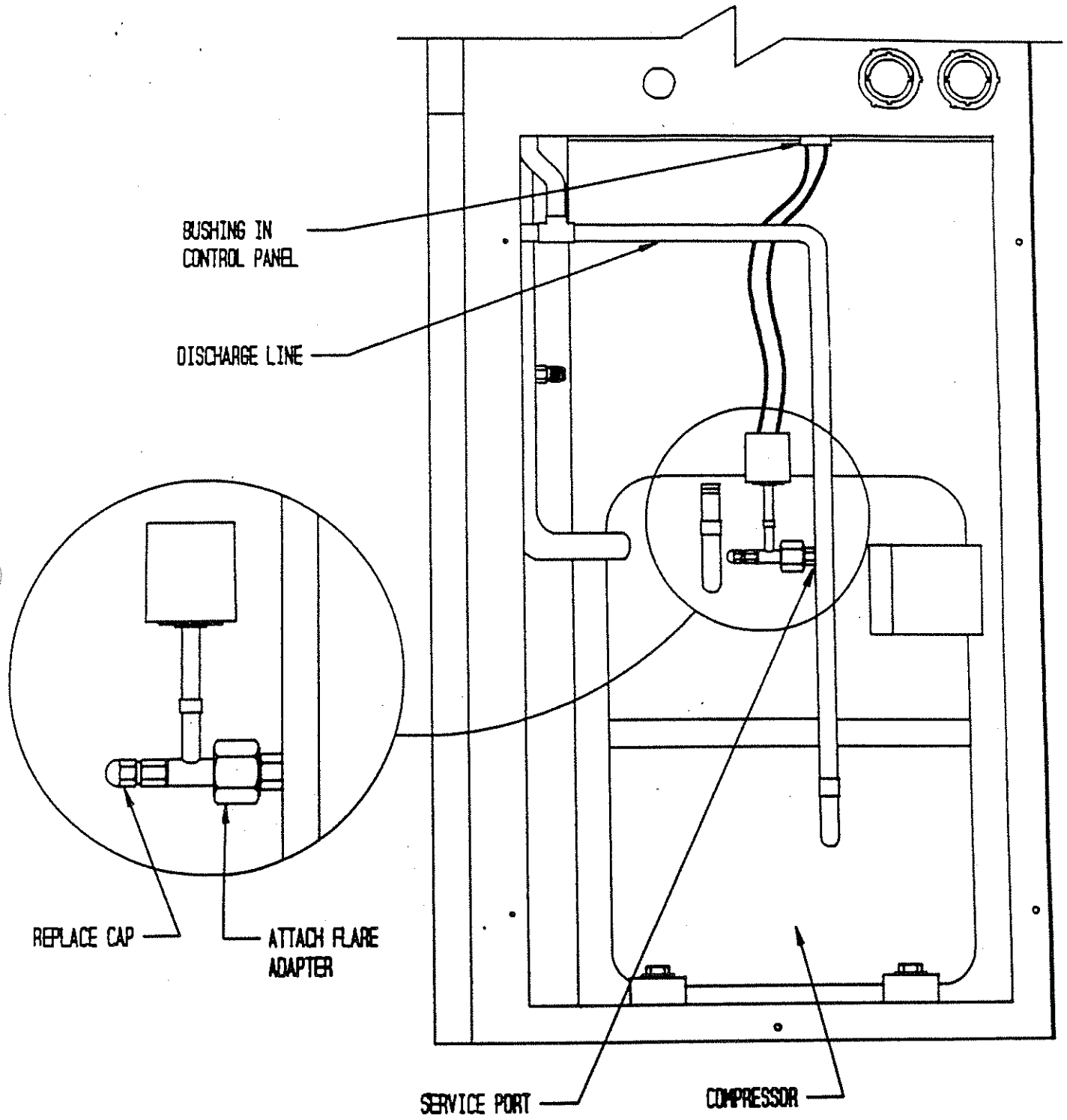


FIGURE 3





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INSTALLATION INSTRUCTIONS CMA-2 LOW PRESSURE CONTROL

For use with all WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS

DESCRIPTION

The CMA-2 is a field installable non-adjustable low pressure control with low pressure bypass relay. The bypass relay prevents nuisance tripping of the low pressure control during start up. The CMA-2 consists of:

1. Control Assembly 910-1080
2. Low Pressure Control 1804-0107
3. Installation Instruction 7960-232
4. CMA-2 Label 7961-312-0011

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #4 of the lockout relay. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #3 of the low pressure bypass TDR to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route low (blue) pressure switch 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 low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 5.

- Step 6. Remove service port caps on the suction line. Install the low pressure switch on the suction line with the flare tee adapter that is brazed to the low pressure switch. 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 3.
- Step 7. Recheck wiring. See figure 1. Check for proper operation of the unit by energizing in heating or cooling mode for at least 5 minutes. The unit should not go into lockout.
- Step 8. Replace all panels and covers. This completes installation.

FIGURE 1

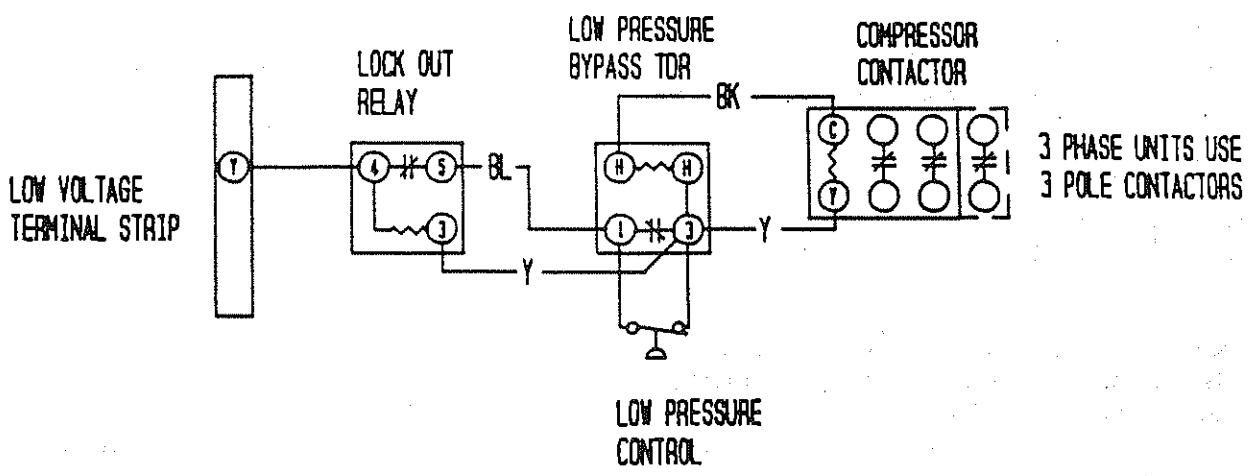
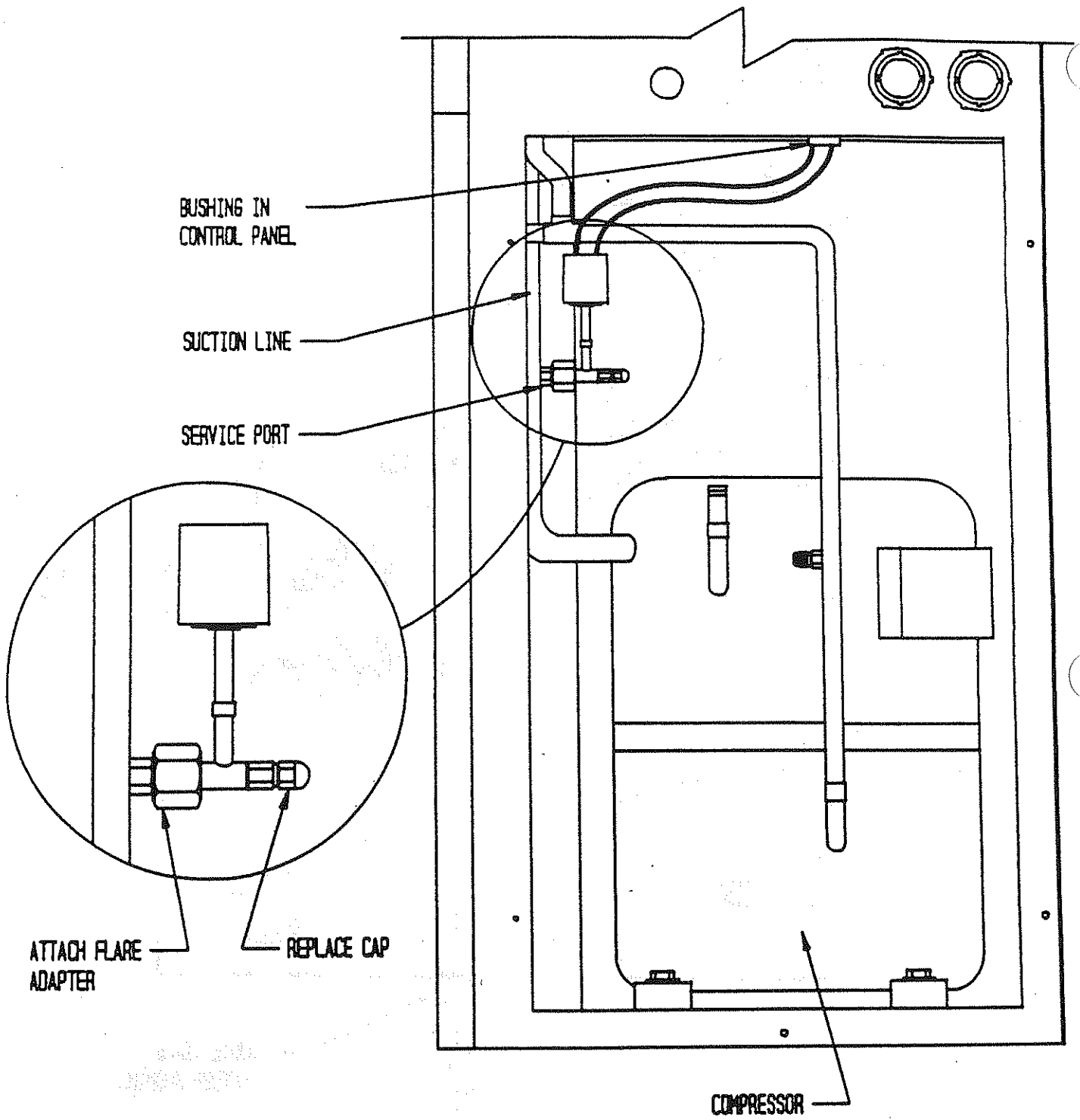


FIGURE 3



INSTALLATION INSTRUCTIONS CMH-3 LOW PRESSURE CONTROL

DESCRIPTION

The CMH-3 is a field installable low pressure control. The CMH-3 consists of:

1. Installation Instructions 7960-233
2. Control Assembly 910-1095
3. Low Pressure Control 1804-0107
4. Unit Label 7961-312-0012

For use with WH181 - WH601 HI-BOY 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 Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal and reconnected to another terminal.

- Step 1. Mount control assembly 910-1095 into control panel as shown with screws provided. Figure 2, Step 1.
- Step 2. Disconnect blue 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 2, Step 2.
- Step 3. Connect the blue wire from control assembly 910-1095 to LO terminal of the heat pump control. See Figure 2, Step 3.
- Step 4. 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 3. Connect the low pressure control wires between the terminals #1 and #3 of control assembly 910-1095. See Figure 2, Step 4.
- Step 5. 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 2, Step 5.
- Step 6. 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. See Figure 2, Step 6.

- Step 7. Remove service port cap on both the suction line. 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 cap on the flare tee service port and tighten. See Figure 3.
- Step 8. Recheck all wiring. See Figure 1. Check for proper operation of the unit by energizing in cooling mode. Run for five minutes. Unit should not go into lockout.
- Step 9. Apply "This unit equipped with CMH-3 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 10. Replace all panels and covers. This completes installation.

FIGURE 1

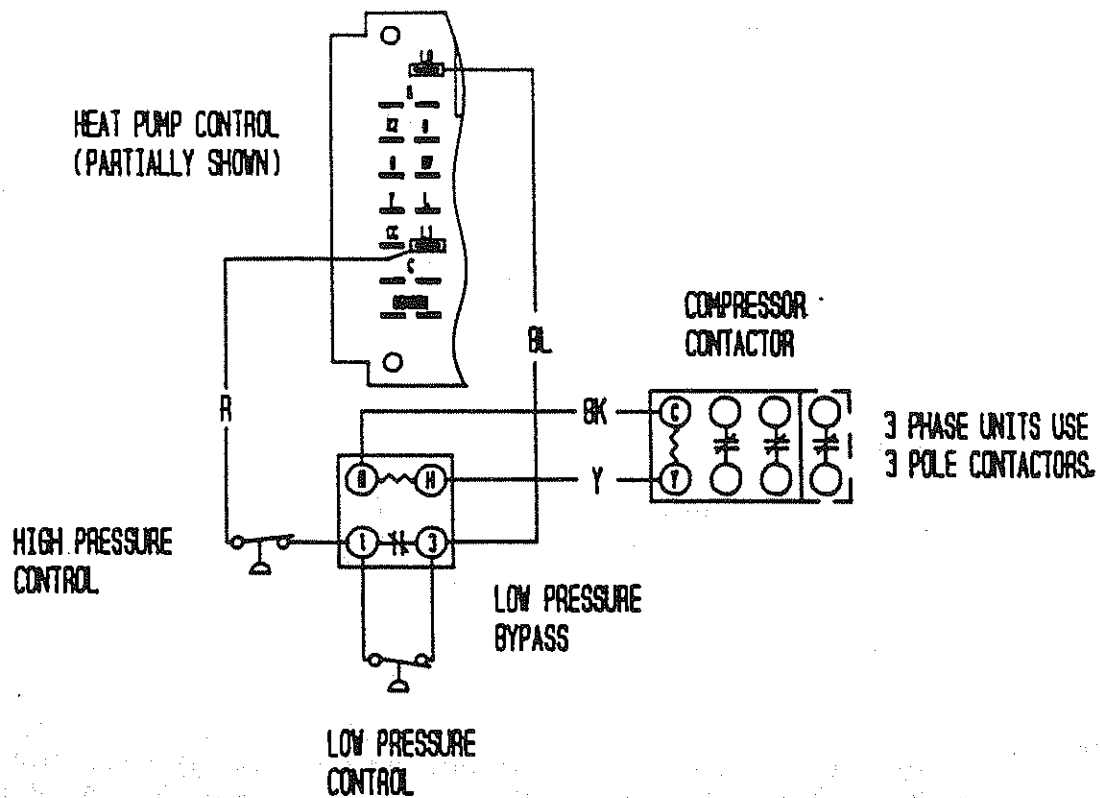


FIGURE 2

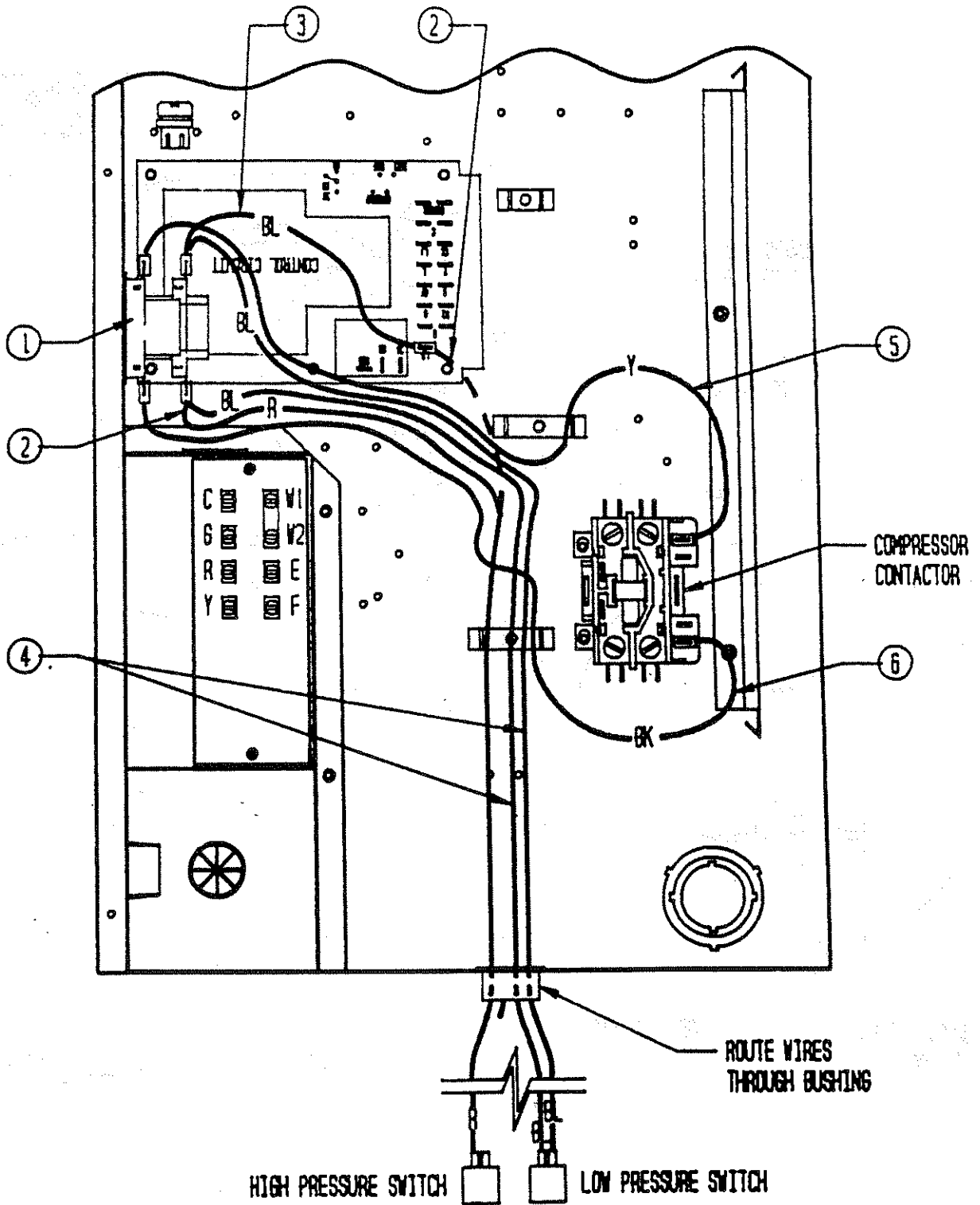
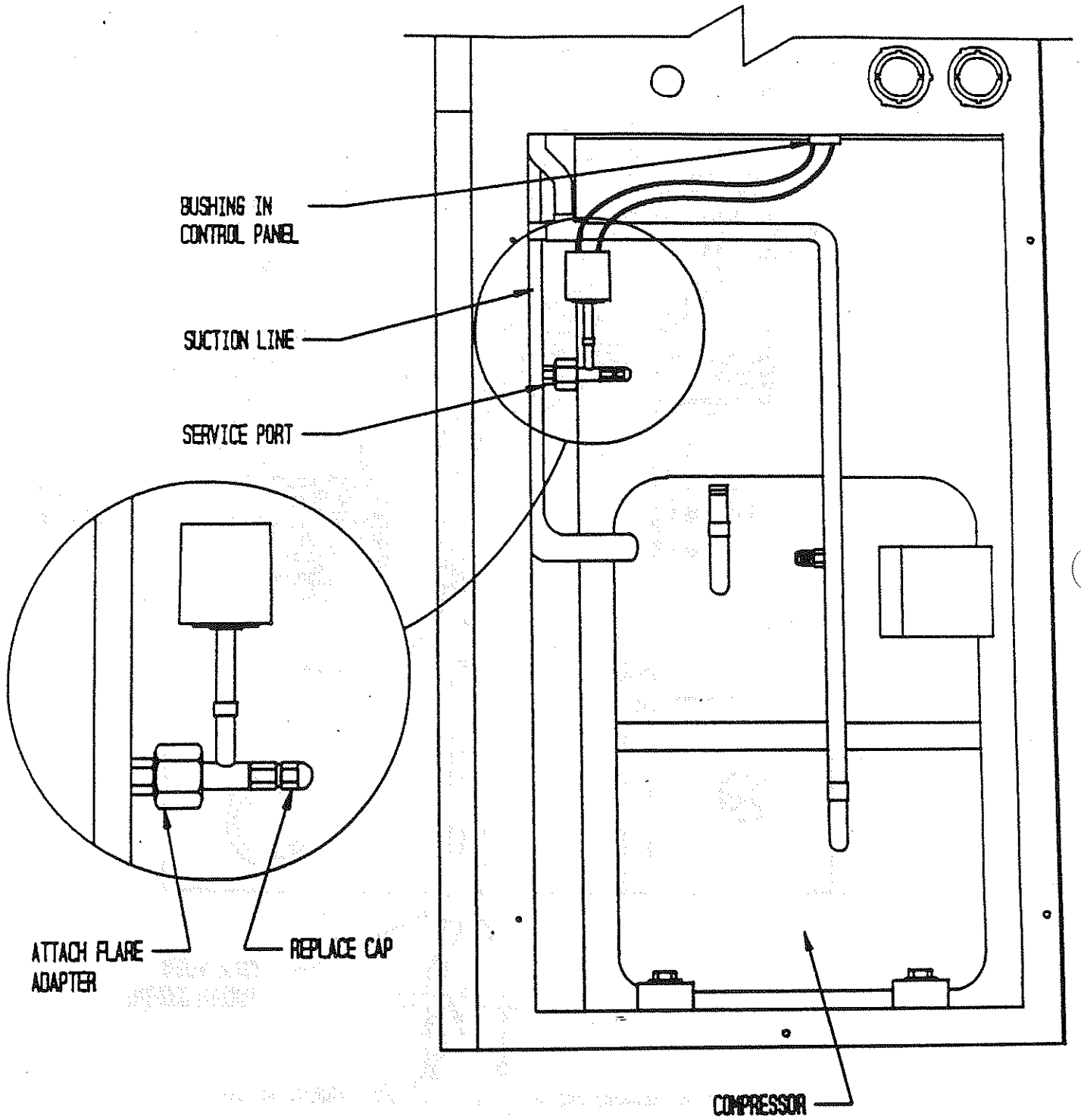


FIGURE 3



INSTALLATION INSTRUCTIONS FOR CMA-4 HIGH AND LOW PRESSURE CONTROL

DESCRIPTION

The CMA-4 is a field installable high and low pressure control kit. The CMA-4 kit consists of:

1. Installation Instructions 7960-234
2. High Pressure Control 1804-0106
3. Low Pressure Control 1804-0107
4. Control Assembly 910-1081
5. Unit Label 7961-312-0001

For use with all WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #4 of the lockout relay. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #3 of the low pressure bypass TDR to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route High (red) and Low (blue) 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 2. Connect Low pressure control wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 5.

- Step 6. Connect the High pressure control wires between terminal #5 of the Lockout relay and terminal #1 of the low pressure bypass TDR. See Figure 2, Step 6.
- Step 7. Remove service port caps on both the suction and discharge lines. Install the high pressure control on the discharge line with the flare tee adapter that is brazed to the high pressure switch. Install the low pressure control 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 3.
- Step 8. Recheck wiring. Refer to Figure 1. Check for proper operation of the unit by energizing in heating or cooling mode for at least 5 minutes. The unit should not go into lockout.
- Step 9. Apply "This unit equipped with CMA-4 control module" label to inside of inner control panel cover above wiring diagram. Leave these instructions in the unit.
- Step 10. Replace all panels and covers. This completes installation.

FIGURE 1

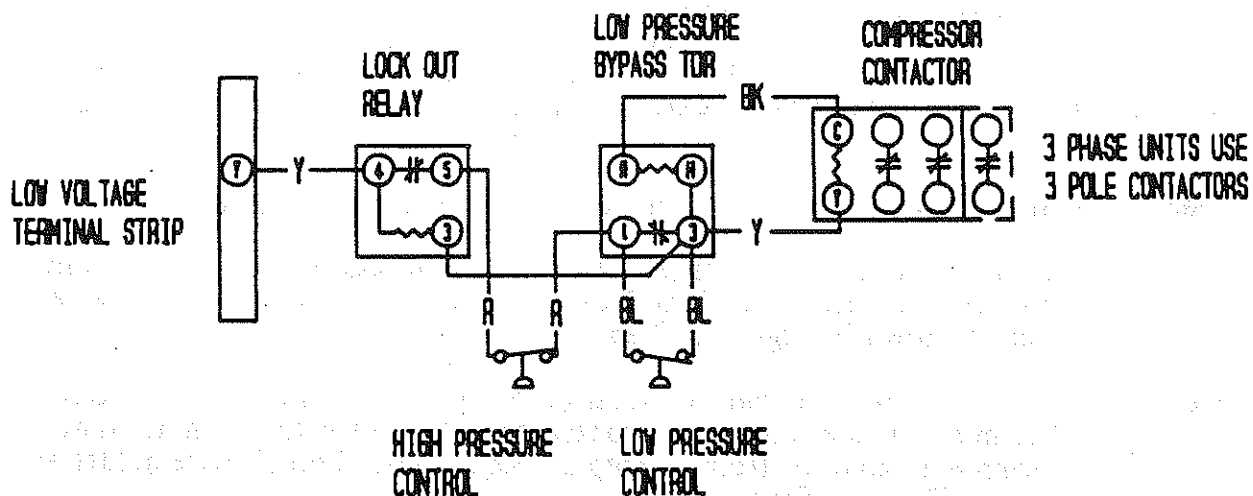
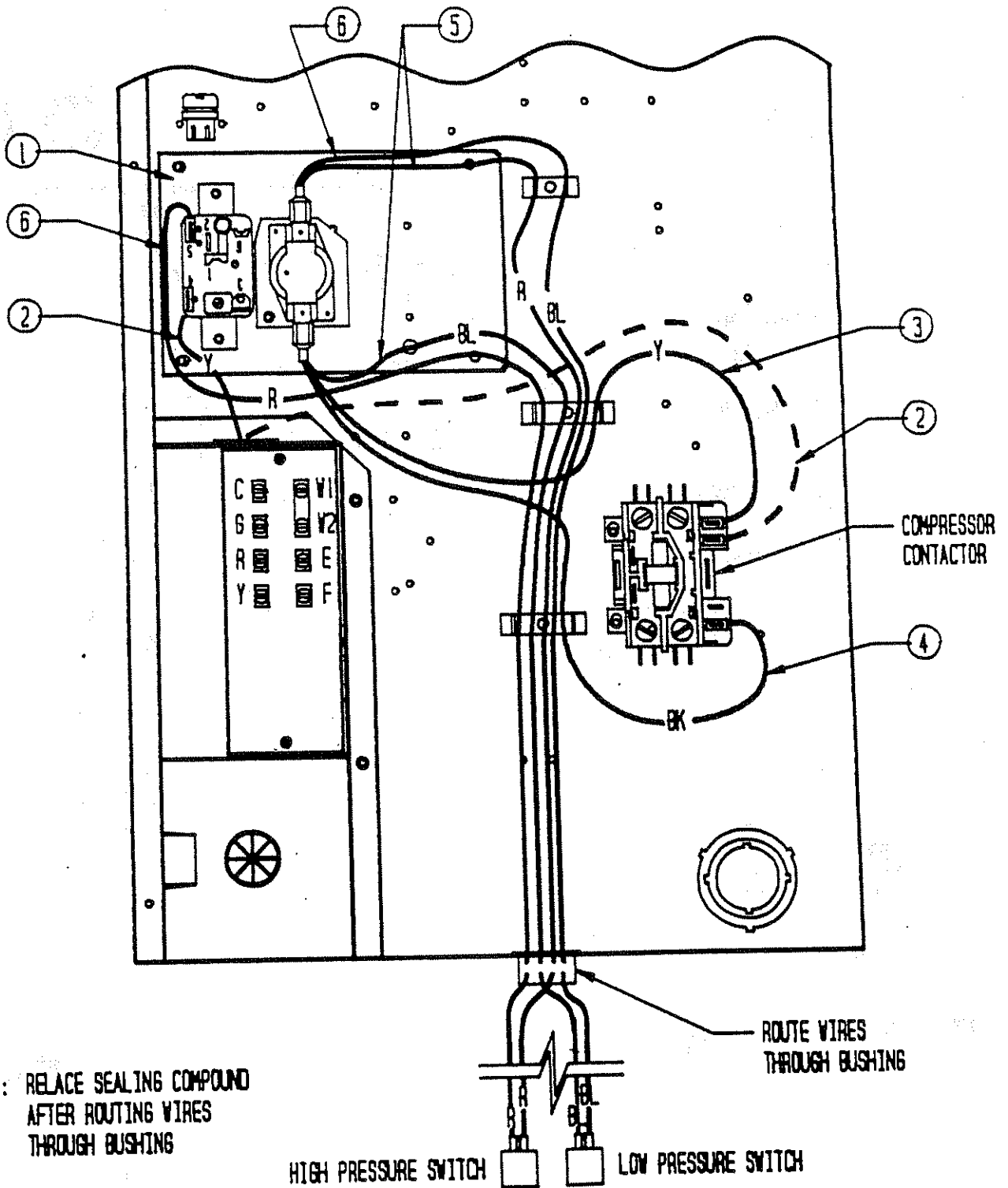


FIGURE 2

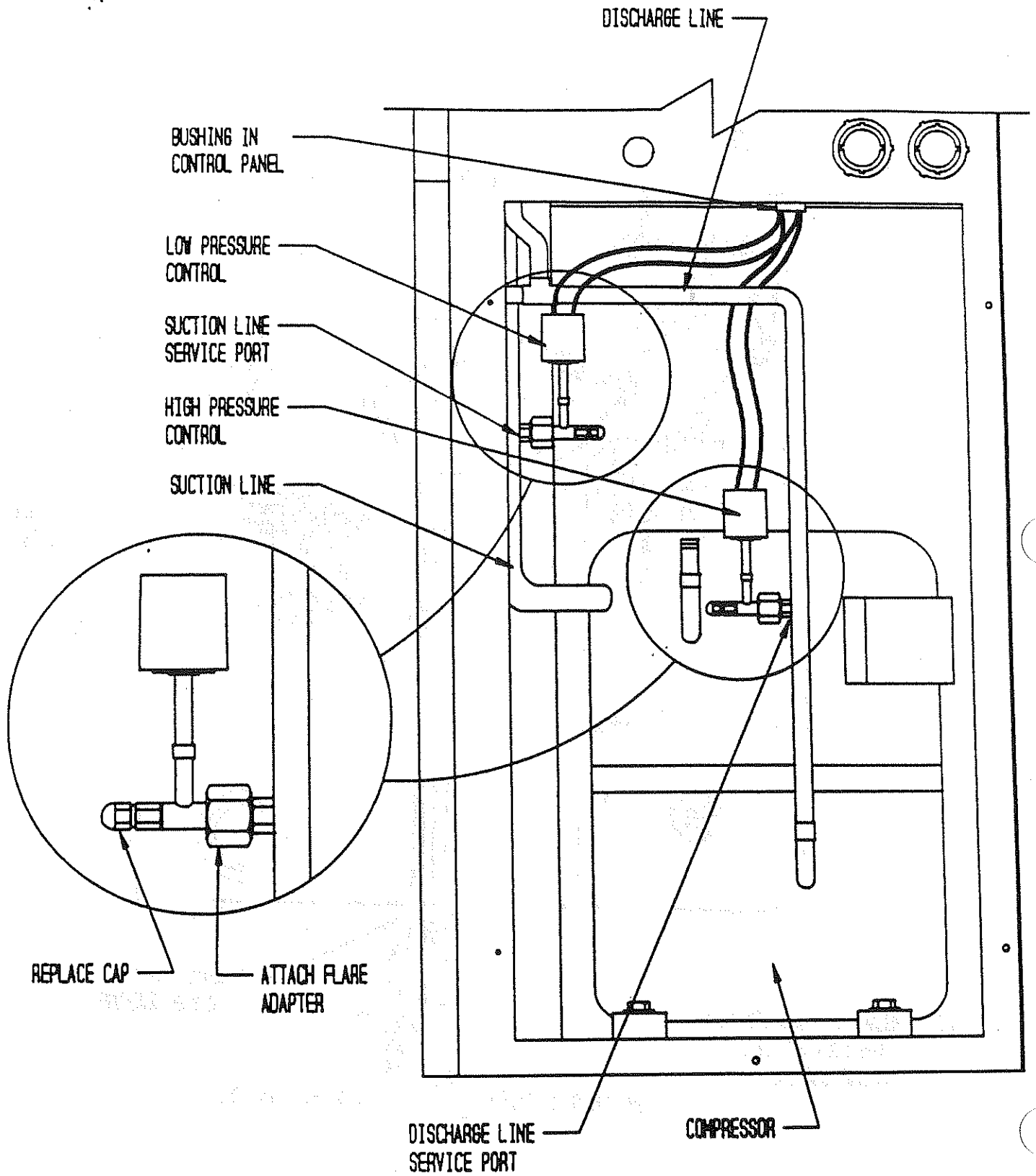


NOTE: RELACE SEALING COMPOUND
AFTER ROUTING WIRES
THROUGH BUSHING

ROUTE WIRES
THROUGH BUSHING

HIGH PRESSURE SWITCH LOW PRESSURE SWITCH

FIGURE 3



INSTALLATION INSTRUCTIONS FOR CMA-5 COMPRESSOR TIME DELAY RELAY

DESCRIPTION

The CMA-5 is a field installable 5 minute delay on break compressor time delay relay. The CMA-5 kit consists of:

1. Installation instructions 7960-235
2. Compressor time delay relay 8201-050
3. Mounting screw
4. Unit label 7961-312-0002

INSTALLATION INSTRUCTIONS

Disconnect all power to the unit. Remove control panel inner and outer covers. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from the terminal and reconnected to a different terminal.

- Step 1. Mount compressor TDR in position shown in Figure 2, Step 1 with screw provided.
- Step 2. Disconnect yellow low voltage (Y) wire at the compressor contactor coil and reconnect to the Y1 or #3 terminal of the TDR. See Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal (Y) of the TDR to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wires through wire holder as shown in Figure 2, Step 3.
- Step 4. Recheck wiring. Refer to Figure 1. Energize unit. Compressor should start. Remove power and reapply. Compressor should not start until the 5 minute time delay has expired.
- Step 5. Apply "This unit equipped with CMA-5 control module" label to inside of the inner control panel cover above wiring diagram.
- Step 6. Replace all panels and covers. This completes installation.

FIGURE 1

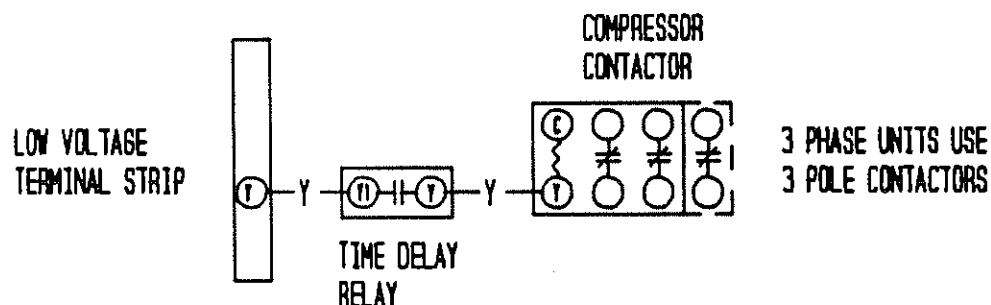
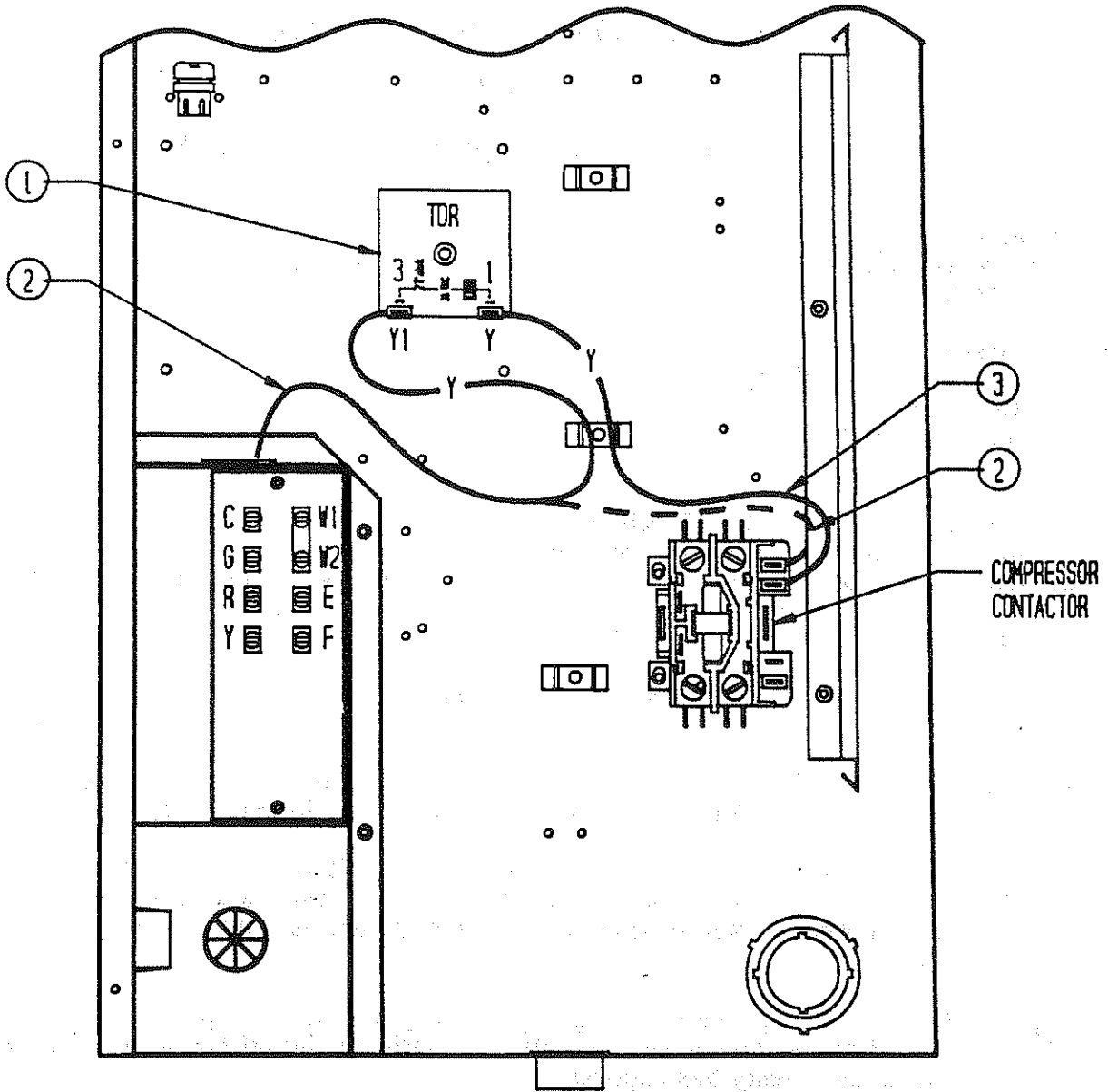


FIGURE 2



INSTALLATION INSTRUCTIONS CMA-6 LOW AMBIENT FAN CYCLING CONTROL

For use with WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS
(A & B Electrical Versions Only)

DESCRIPTION

The CMA-6 is a field installable low ambient fan cycling control. The CMA-6 consists of:

1. Installation Instructions 7960-236
2. Low Ambient Fan Cycling Control (LAC) 1804-0108
3. Terminal Block 8607-016
4. Label 7961-312-0003

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal and reconnected to another terminal.

- Step 1. Mount terminal block in position shown in Figure 2, Step 1.
- Step 2. Disconnect black high voltage outdoor motor lead from compressor contactor and reconnect to terminal block. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. 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 block and T2 of the compressor contactor. See Figure 2, Step 3.
- Step 4. 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 3.

- Step 5. Recheck 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 300 PSI. Should the discharge pressure fall below 200 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 300 PSI.
- Step 6. Apply "This unit equipped with CMA-6 control module" label to the inside of the control panel cover above the wiring diagrams.
- Step 7. Replace all panels and covers. This completes installation.

FIGURE 1

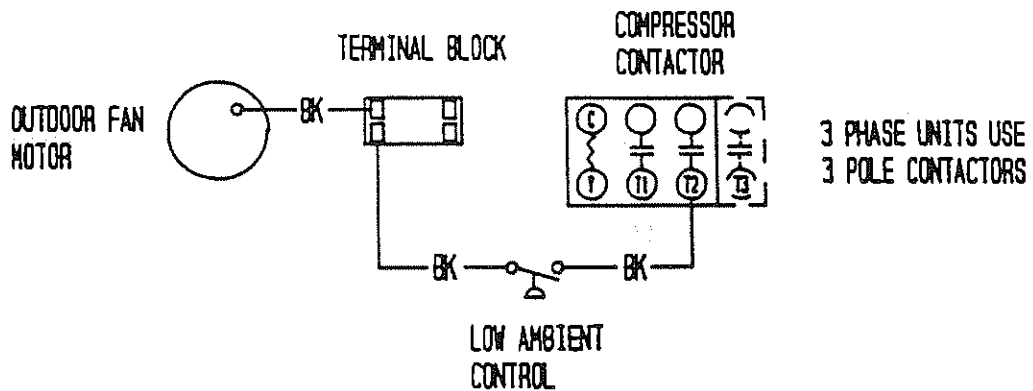


FIGURE 2

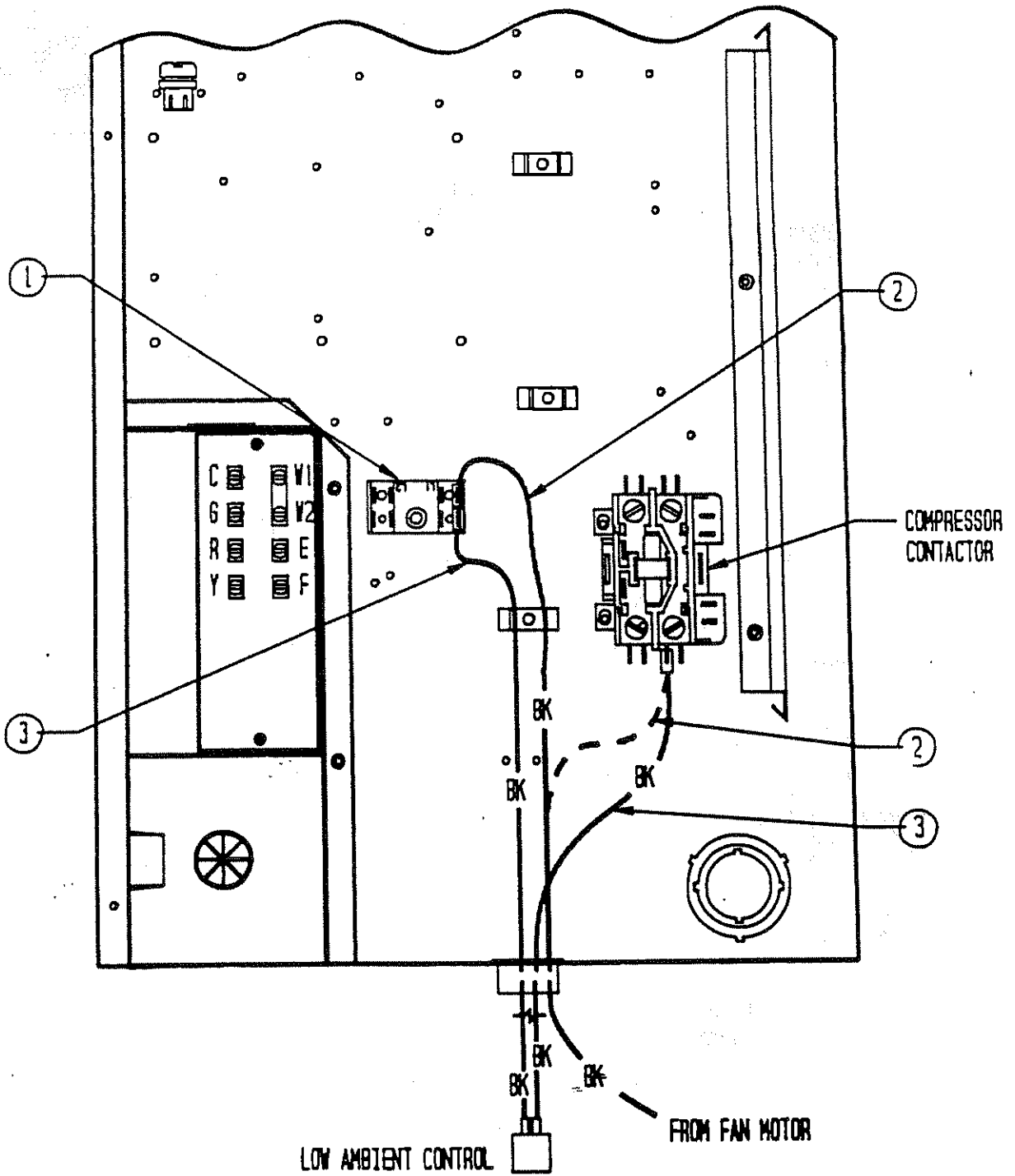
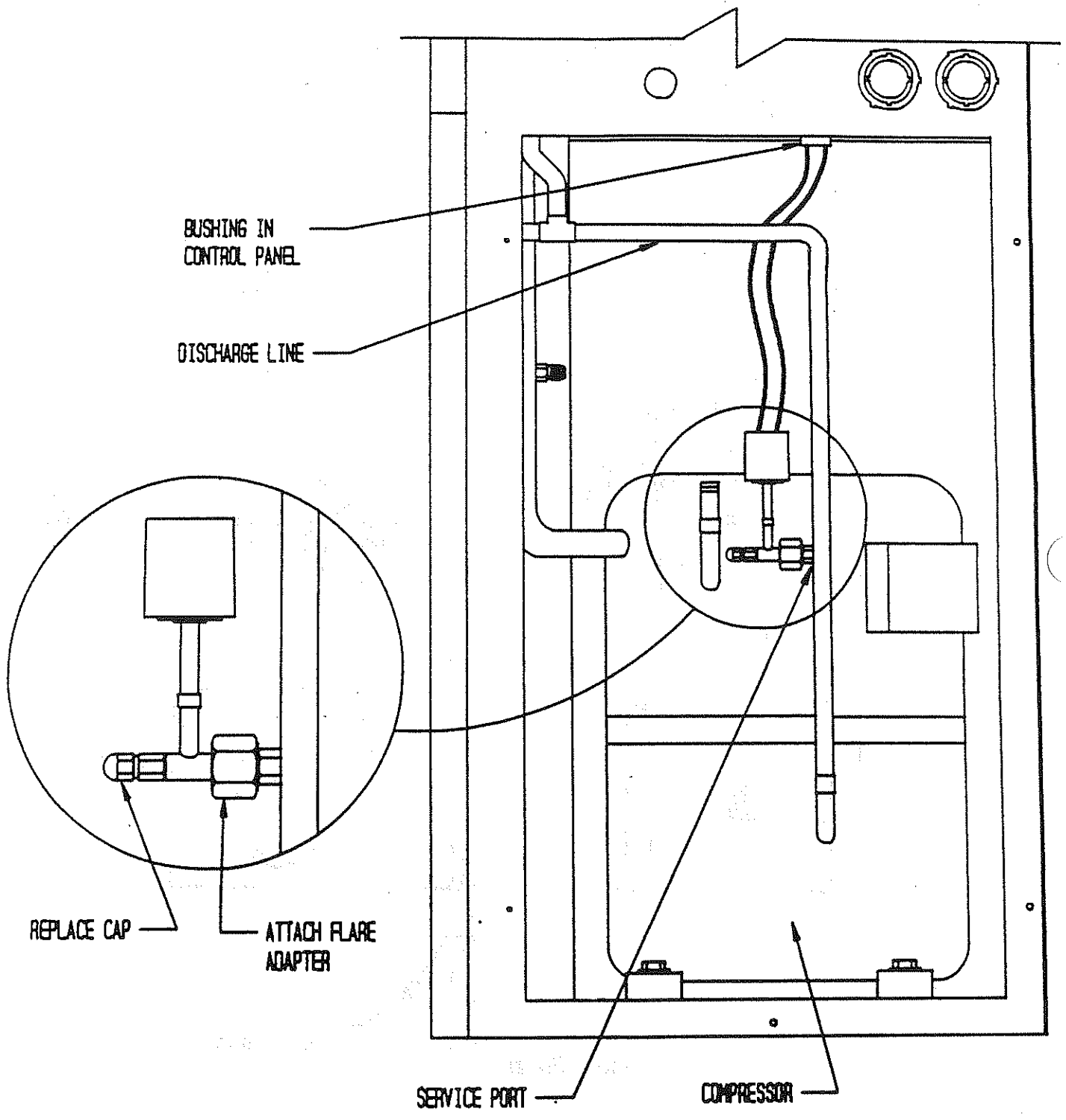


FIGURE 3



INSTALLATION INSTRUCTIONS CMH-7 LOW AMBIENT CONTROL

DESCRIPTION

The CMH-7 is a field installable low ambient fan cycling control kit. The CMH-7 consists of:

1. Installation Instructions 7960-237
2. Low Ambient Fan Cycling Control 1804-0108
3. Control Assembly 910-1096
4. Unit Label 7961-312-0004

For use with WH181 - WH601 HI-BOY 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 Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal and reconnected to another terminal.

- Step 1. Mount control assembly 910-1096 into control panel as shown with screws provided. Figure 2, Step 1.
- Step 2. Disconnect black high voltage outdoor motor lead from heat pump control and reconnect to terminal #2 of control assembly 910-1096. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect black wire from terminal #4 of the control assembly 910-1096 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, Step 3.
- Step 4. Remove the blue wire from terminal B of the heat pump control and reconnect to the #1 terminal of control assembly 910-1096. See Figure 2, Step 4.
- Step 5. Connect the blue wire from control assembly 910-1096 to B terminal of the heat pump control. See Figure 2, Step 5.
- Step 6. Connect the brown wire from control assembly 910-1096 to C terminal of the compressor contactor coil. This is the side of the contactor coil that the black wire is attached to. See Figure 2, Step 6.

- 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 terminals #2 and #4 of the control assembly 910-1096. See Figure 2, Step 7.
- 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 3.
- 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 300 PSI. Should the discharge pressure fall below 200 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 300 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-7 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

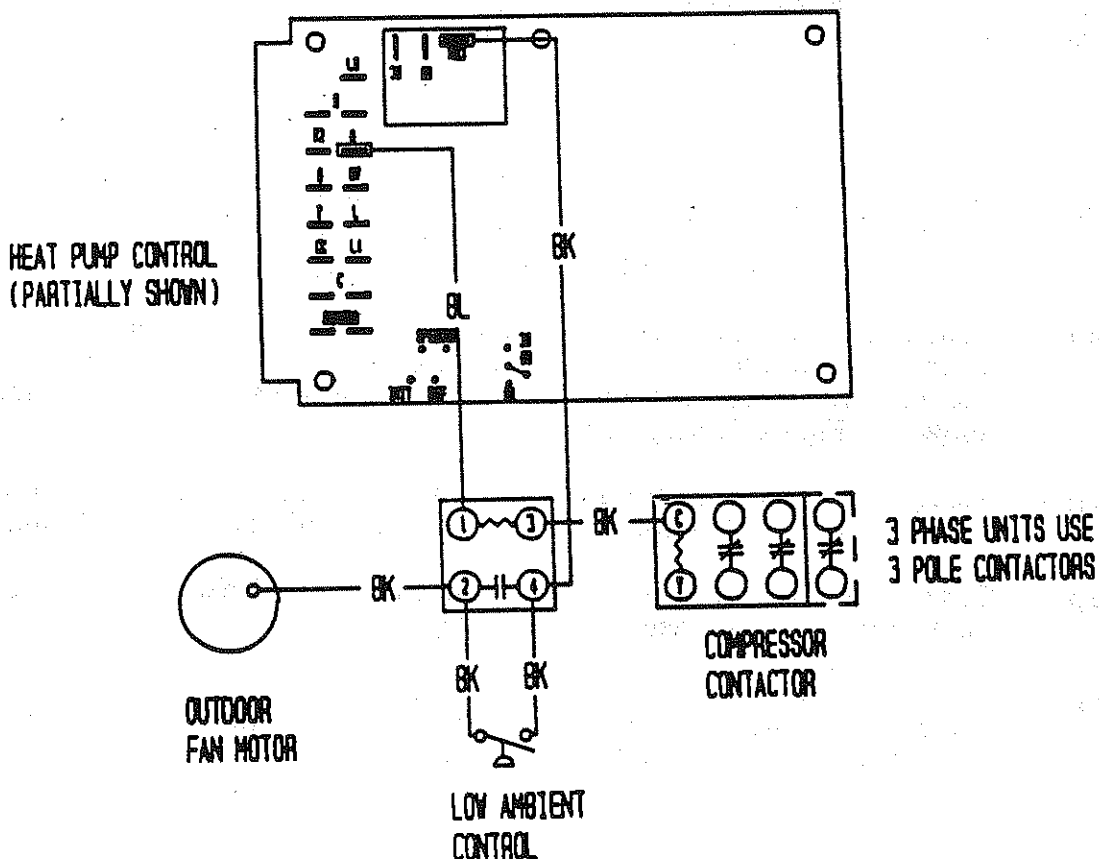


FIGURE 2

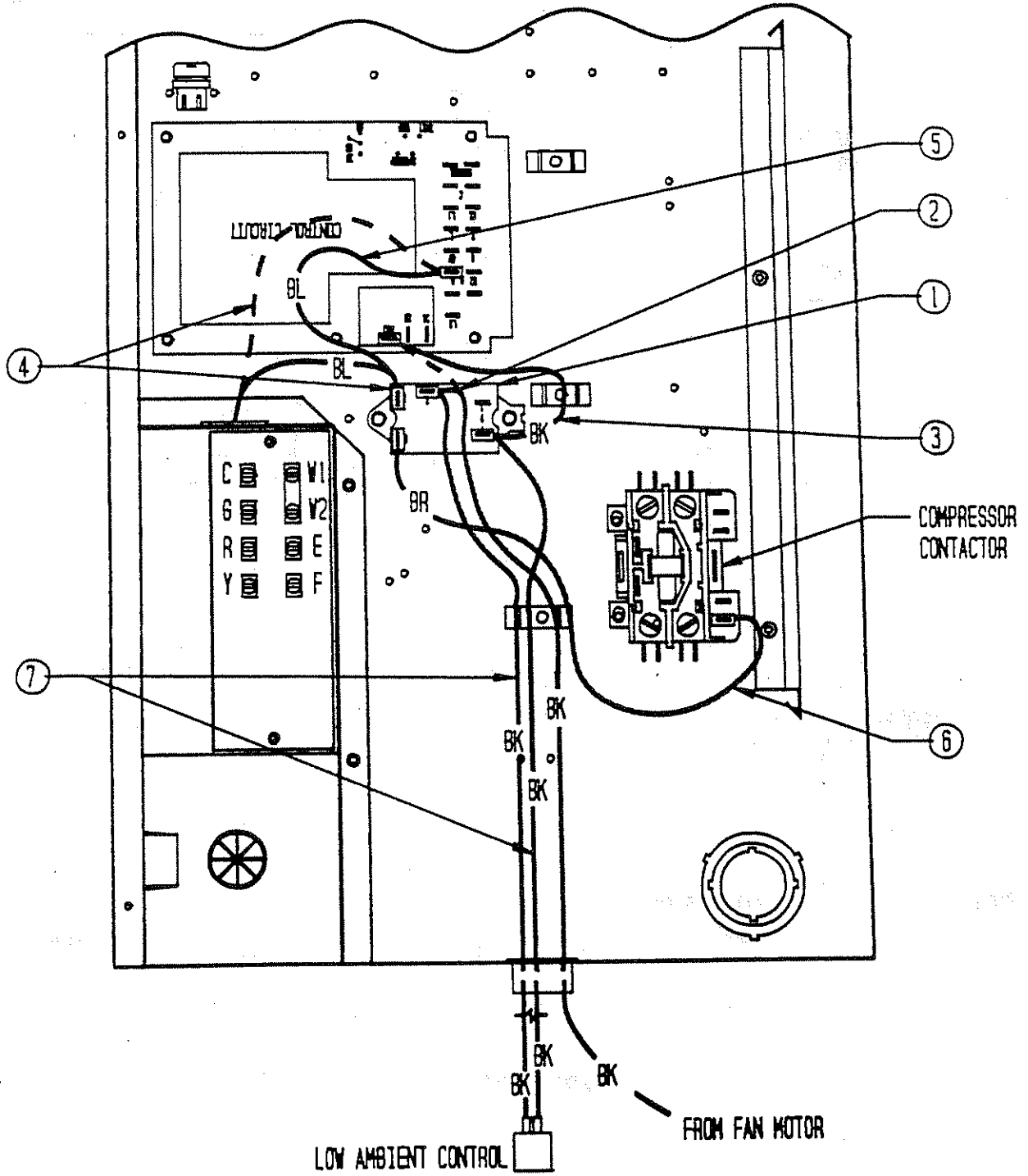
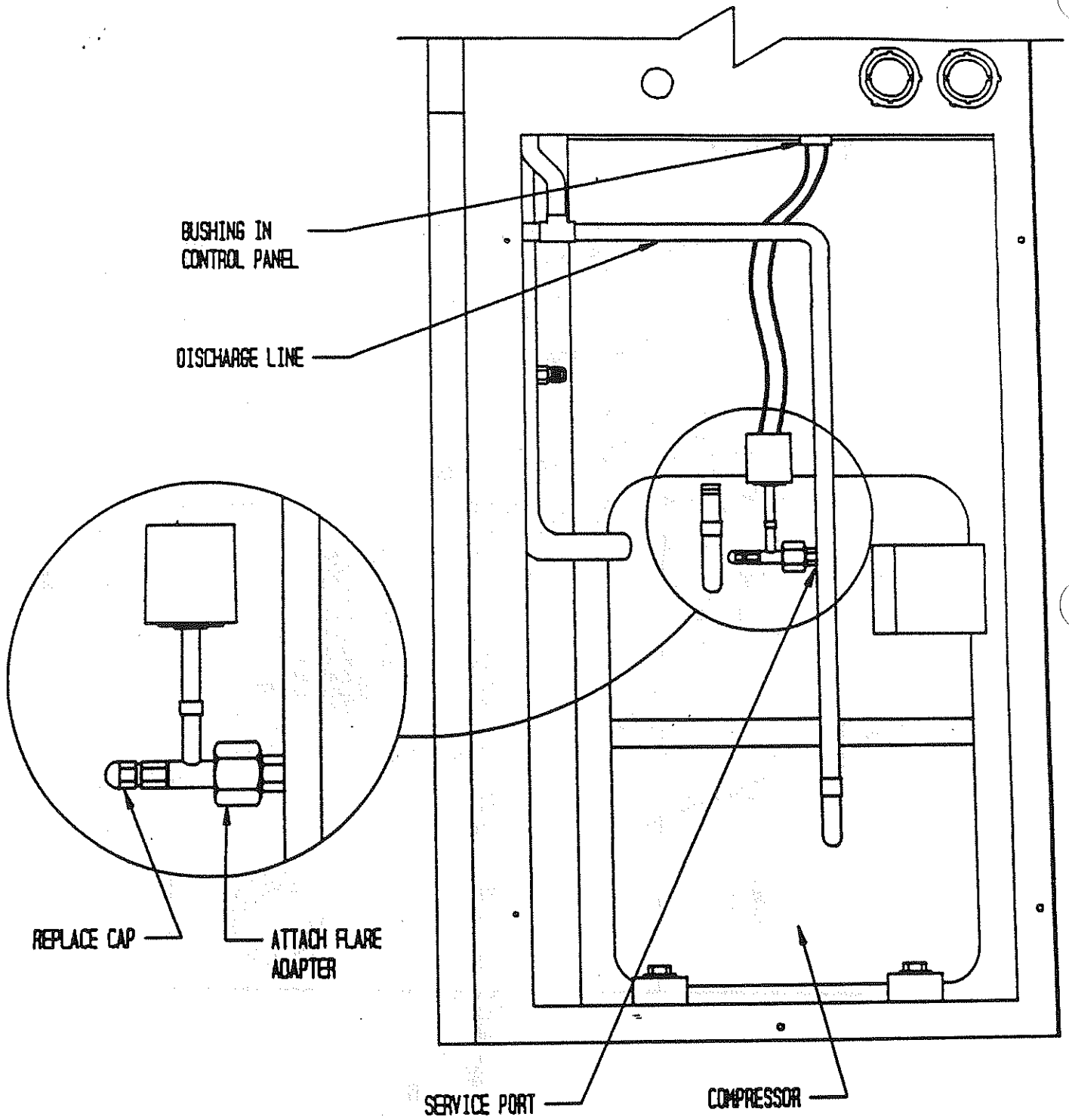


FIGURE 3



INSTALLATION INSTRUCTIONS CMA-8 HIGH PRESSURE CONTROL AND COMPRESSOR TIME DELAY RELAY

DESCRIPTION

The CMA-8 is a field insatllable high pressure switch and compressor time delay relay kit. The CMA-8 consists of:

1. Control Assembly 910-1092
2. High Pressure Switch 1804-0106
3. Installation Instruction 7960-238
4. Label 7961-312-0013

For use with all WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #4 of the lockout relay. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #1 or (Y) of the compressor time delay relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Route high (red) pressure switch 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 high pressure switch wires between terminal #5 of the lockout relay and terminal #3 or (Y1) of the compressor time delay relay. See Figure 2, Step 4.
- Step 5. Remove service port caps on both the suction and discharge lines. Install the high pressure switch on the discharge line with the flare tee adapter that is brazed to the high pressure switch. 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 3.

Step 6. Recheck wiring. Refer to Figure 1. Energize unit in first stage cooling. Compressor should start. Remove power and reapply. Compressor should not start until the 5 minute time delay has expired. Run The unit for at least 5 minutes. The unit should not go into lockout.

Step 7. Replace all panels and covers. This completes installation.

FIGURE 1

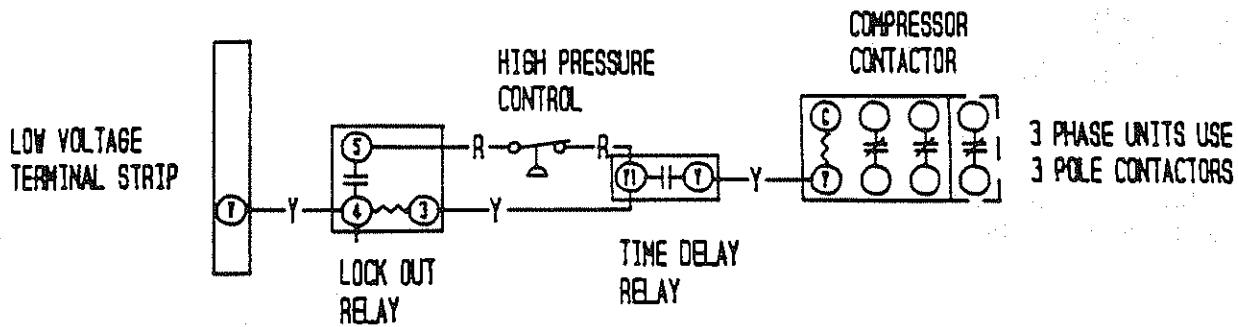


FIGURE 2

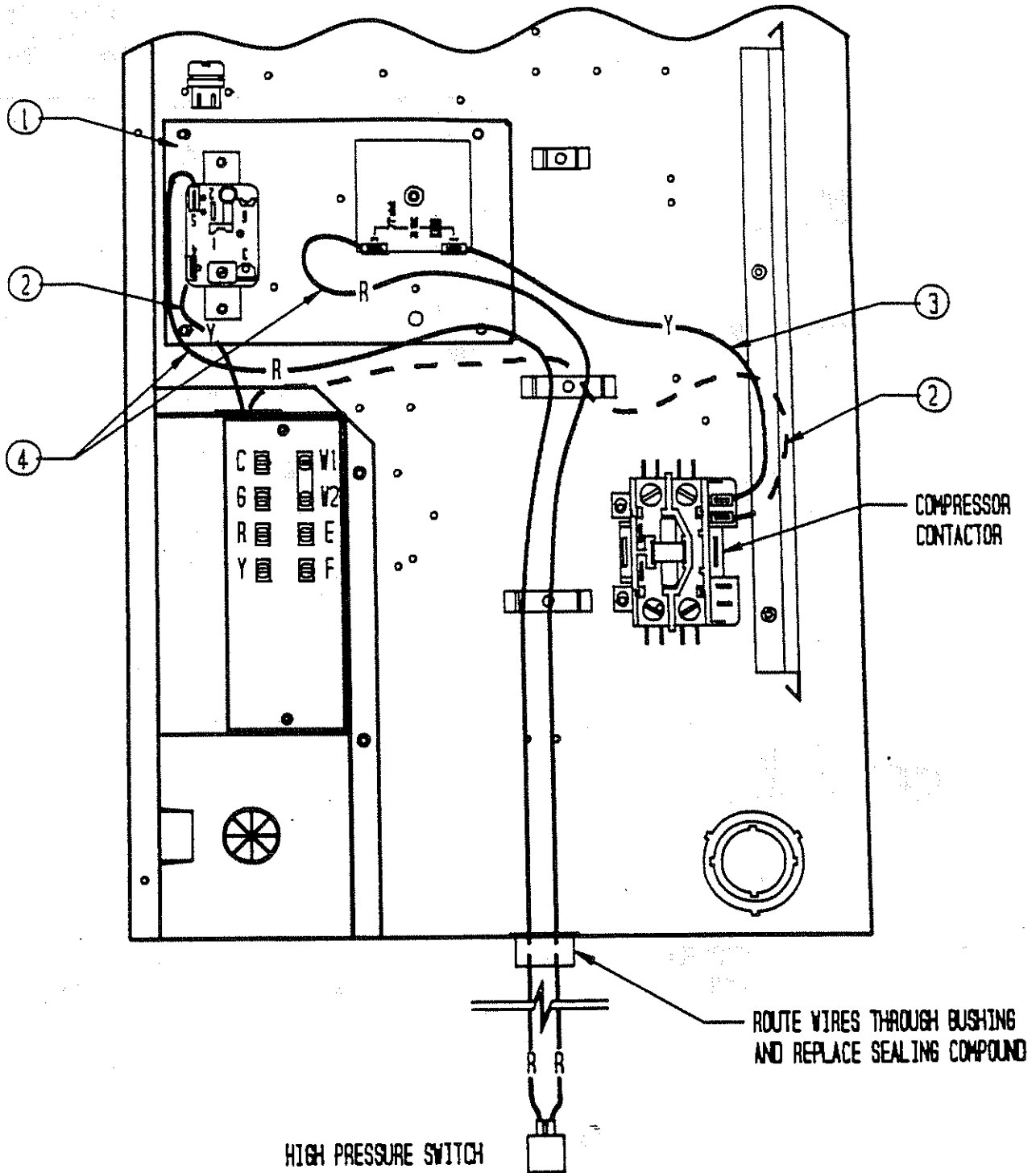
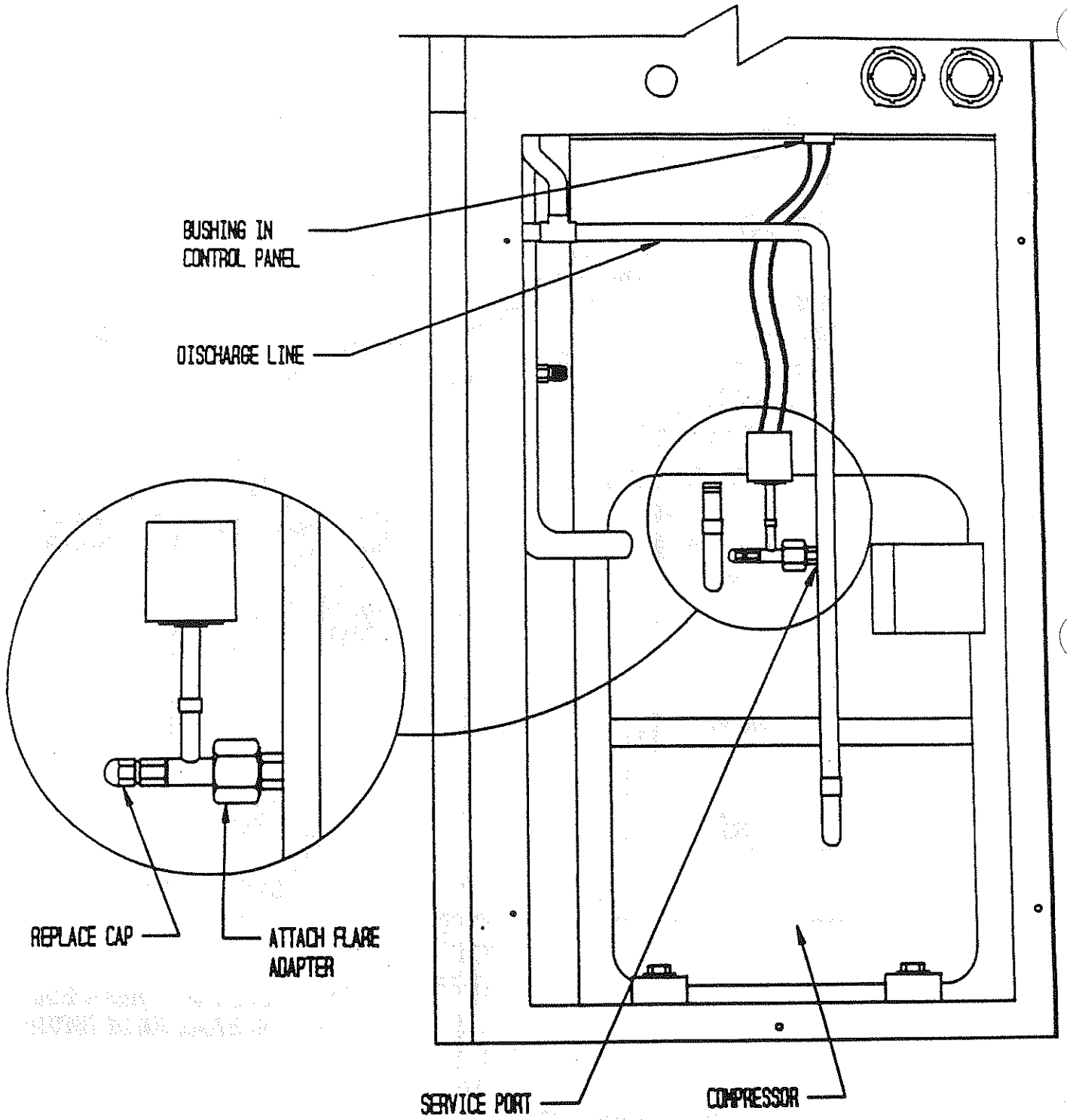


FIGURE 3



INSTALLATION INSTRUCTIONS CMH-9 LOW PRESSURE AND LOW AMBIENT CONTROL

DESCRIPTION

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

1. Installation Instructions 7960-239
2. Low Ambient Fan Cycling Control 1804-0108
3. Control Assembly 910-1096
4. Low Pressure Control 1804-01075
5. Control Assembly 910-1095
6. Unit Label 7961-312-0004

For use with WH181 - WH601 HI-BOY WALL MOUNT HEAT PUMP
(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 Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal and reconnected to another terminal.

- Step 1. Mount control assembly 910-1096 into control panel as shown with screws provided. Figure 2, Step 1.
- Step 2. Disconnect black high voltage outdoor motor lead from heat pump control and reconnect to terminal #2 of control assembly 910-1096. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect black wire from terminal #4 of the control assembly 910-1096 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, Step 3.
- Step 4. Remove the blue wire from terminal B of the heat pump control and reconnect to the #1 terminal of control assembly 910-1096. See Figure 2, Step 4.
- Step 5. Connect the blue wire from control assembly 910-1096 to B terminal of the heat pump control. This is the side of the contactor coil that the black wire is attached to. See Figure 2, Step 5.

- Step 6. Connect the brown wire from control assembly 910-1096 to C terminal of the compressor contactor coil. This is the side of the contactor coil that the black wire is attached to. See Figure 2, Step 6.
- 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 terminals #2 and #4 of the control assembly 910-1096. See Figure 2, Step 7.
- Step 8. Mount control assembly 910-1095 into control panel as shown with screws provided. Figure 3, Step 1.
- Step 9. 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 3, Step 2.
- Step 10. Connect the blue wire from control assembly 910-1095 to LO terminal of the heat pump control. See Figure 3, Step 3.
- Step 11. 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 3. Connect the low pressure control wires between the terminals #1 and #3 of control assembly 910-1095. See Figure 3, Step 4.
- Step 12. 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 2, Step 5.
- Step 13. 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. See Figure 3, Step 6.
- Step 14. 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 3.
- Step 15. 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 300 PSI. Should the discharge pressure fall below 200 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 300 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 16. Apply "This unit equipped with CMH-9 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 17. Replace all panels and covers. This completes installation.

FIGURE 1

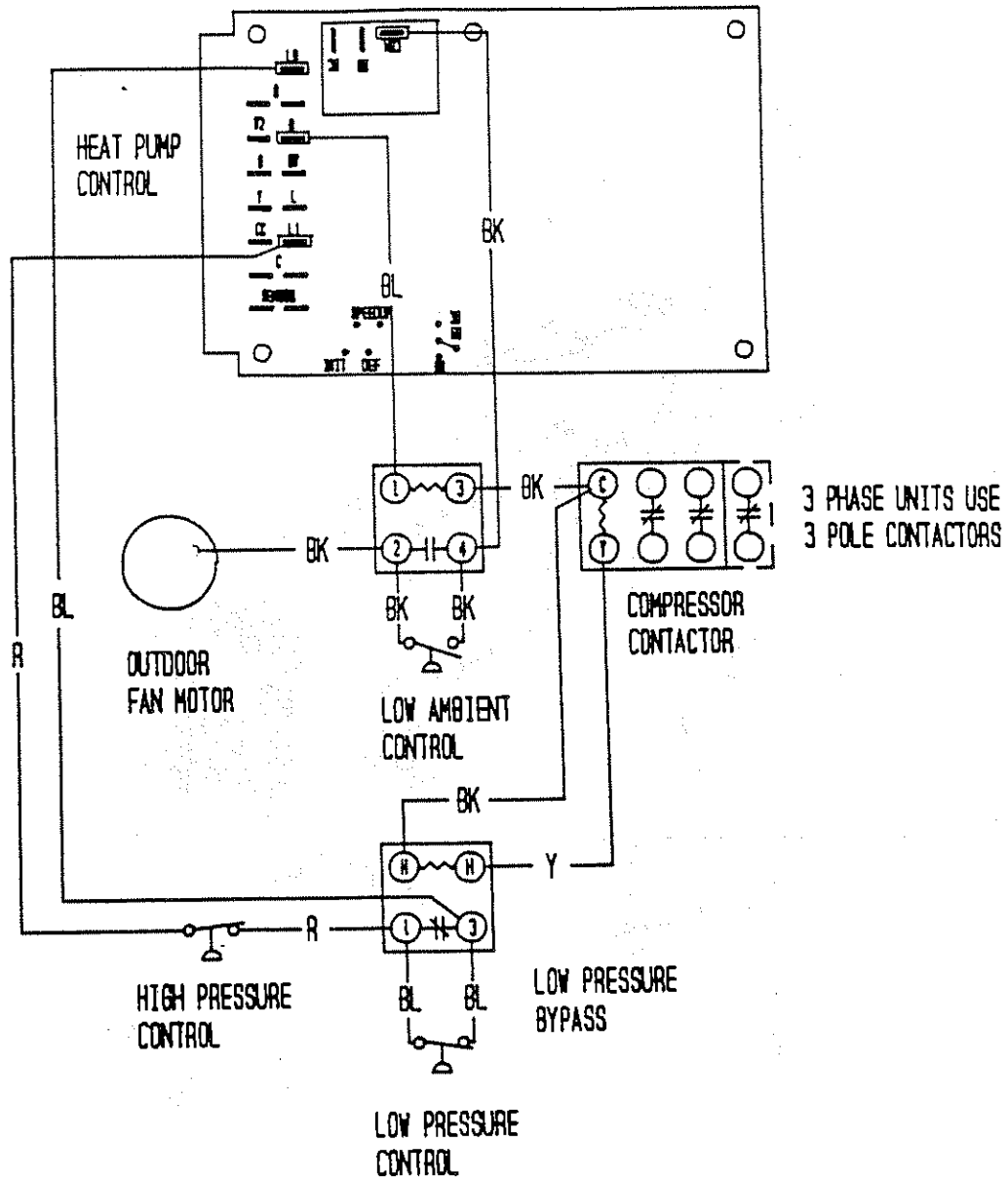


FIGURE 2

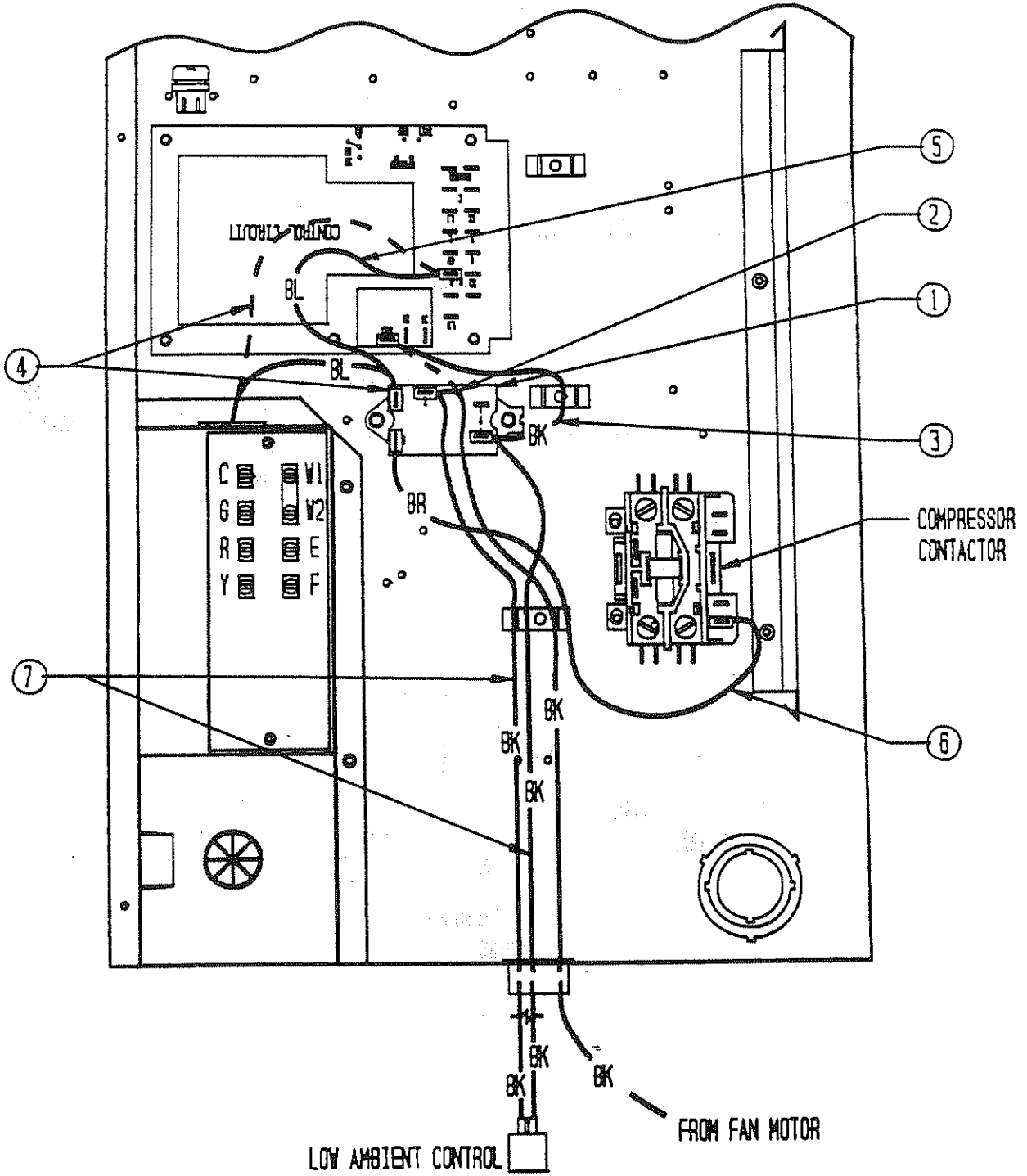


FIGURE 3

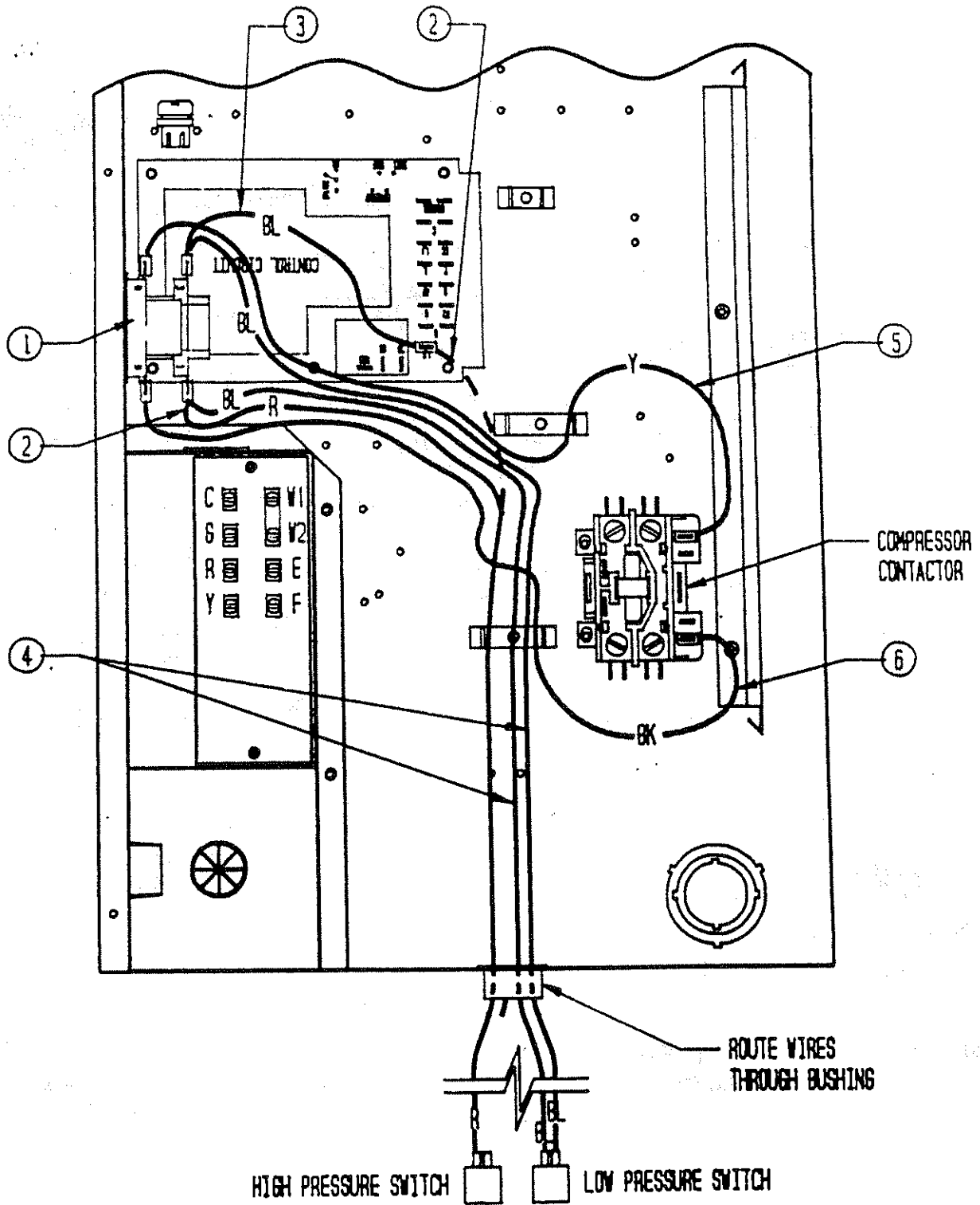
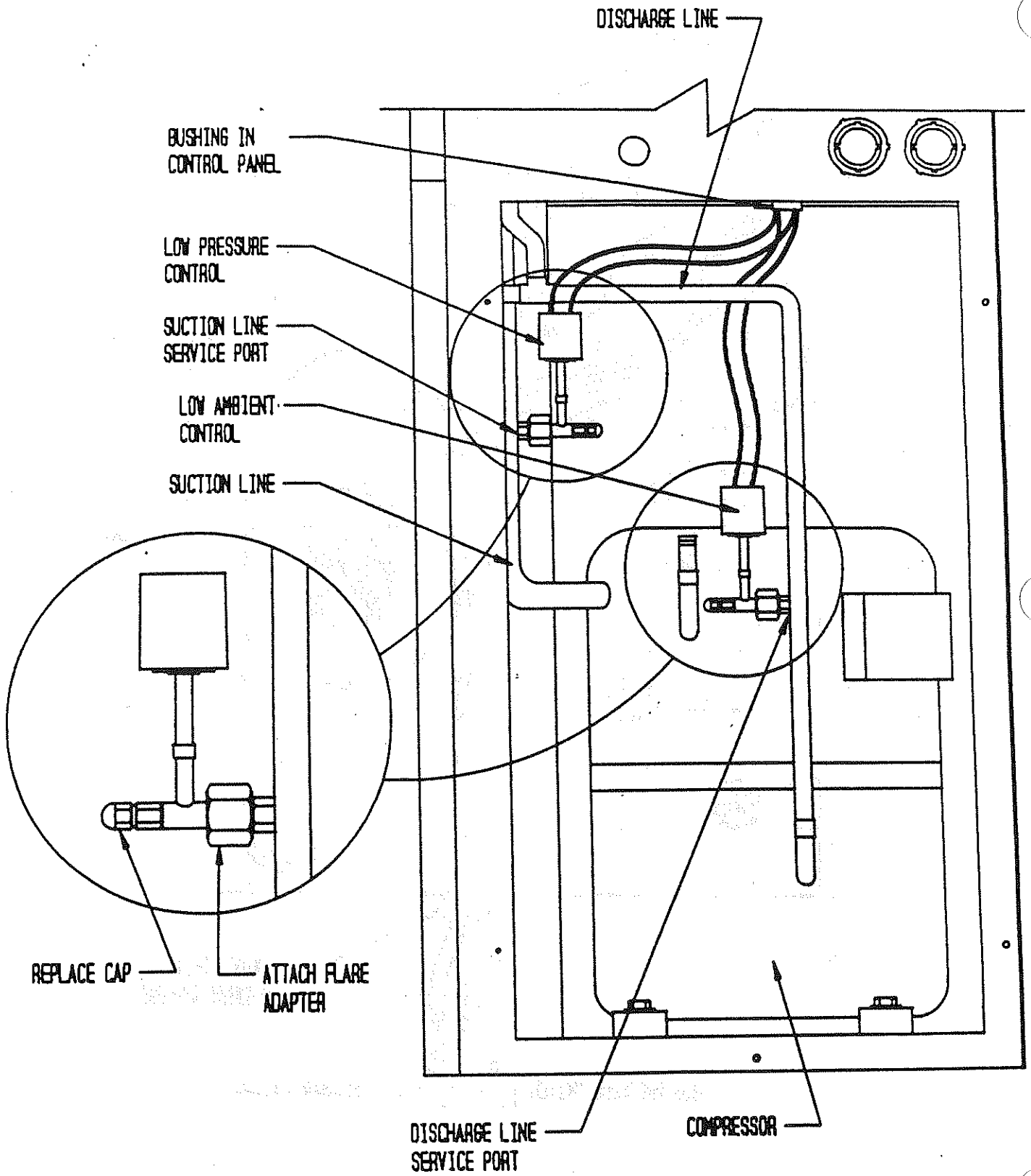


FIGURE 4



INSTALLATION INSTRUCTIONS CMA-10 HIGH AND LOW PRESSURE CONTROL AND COMPRESSOR TIME DELAY RELAY

DESCRIPTION

The CMA-10 is a field installable high and low pressure control and compressor time delay relay. The CMA-10 consists of:

1. Control Assembly 910-1093
2. High Pressure Control 1804-0106
3. Low Pressure Control 1804-0107
4. Installation Instruction 7960-240
5. Label 7961-312-0015

For use with all WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #4 of the lockout relay. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #1 or (Y) of the compressor time delay relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route high (red) and low (blue) pressure switch 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 high pressure switch wires between terminal #2 of the lockout relay and terminal #1 of the low pressure bypass TDR. See Figure 2, Step 5.

- Step 6. Connect low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 6.
- Step 7. Remove service port caps on both the suction and discharge lines. Install the high pressure switch on the discharge line with the flare tee adapter that is brazed to the high pressure switch. 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 3.
- Step 8. Recheck wiring. Refer to Figure 1. Energize unit in first stage cooling. Compressor should start. Remove power and reapply. Compressor should not start until the 5 minute time delay has expired. Run The unit for at least 5 minutes. The unit should not go into lockout.
- Step 9. Replace all panels and covers. This completes installation.

FIGURE 1

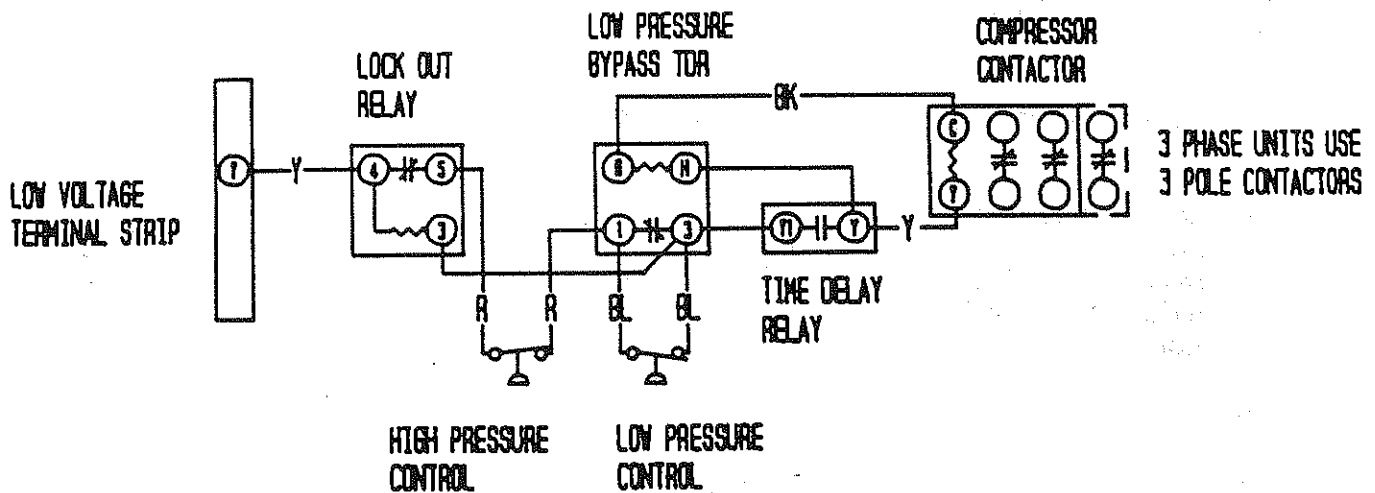


FIGURE 2

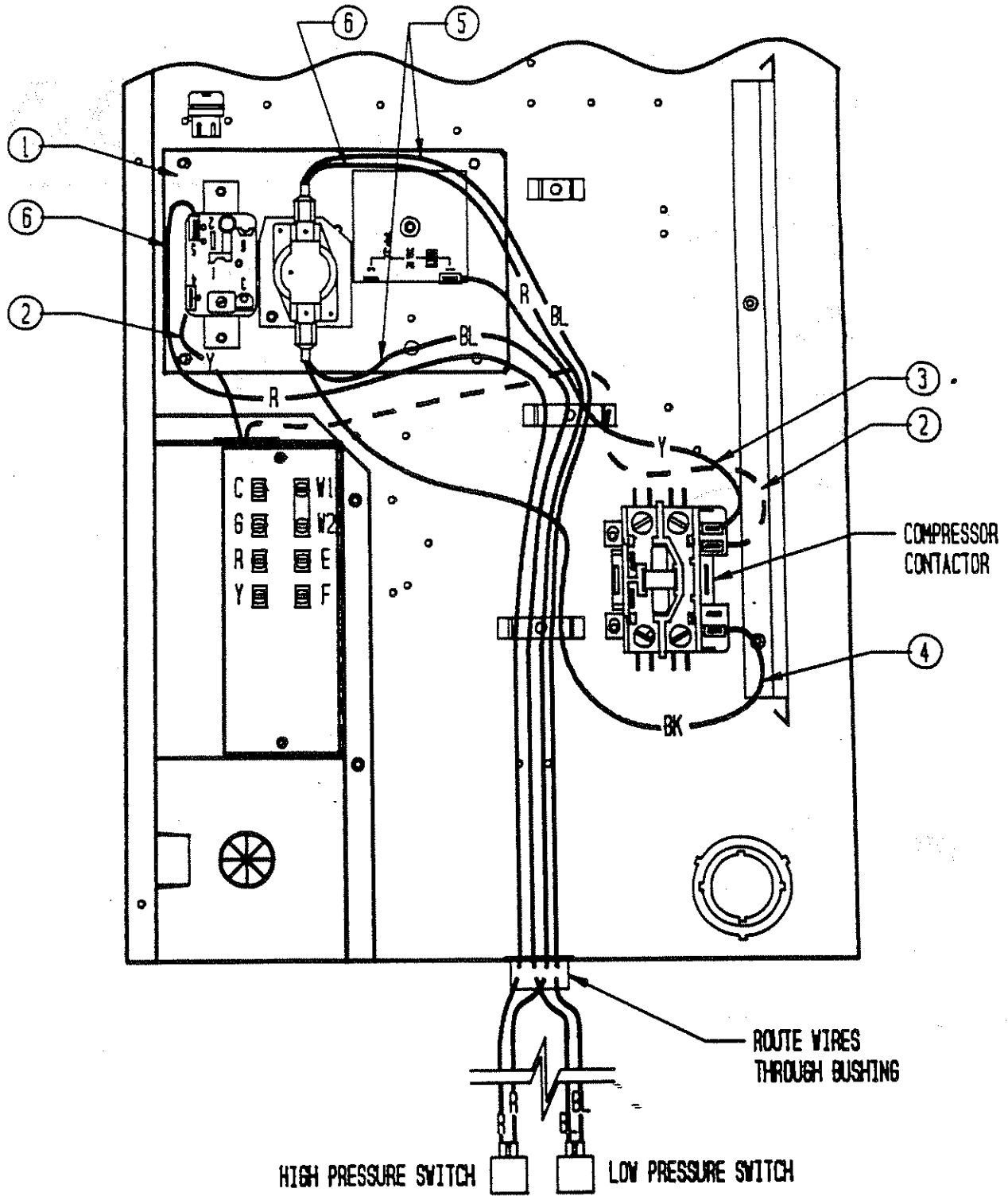
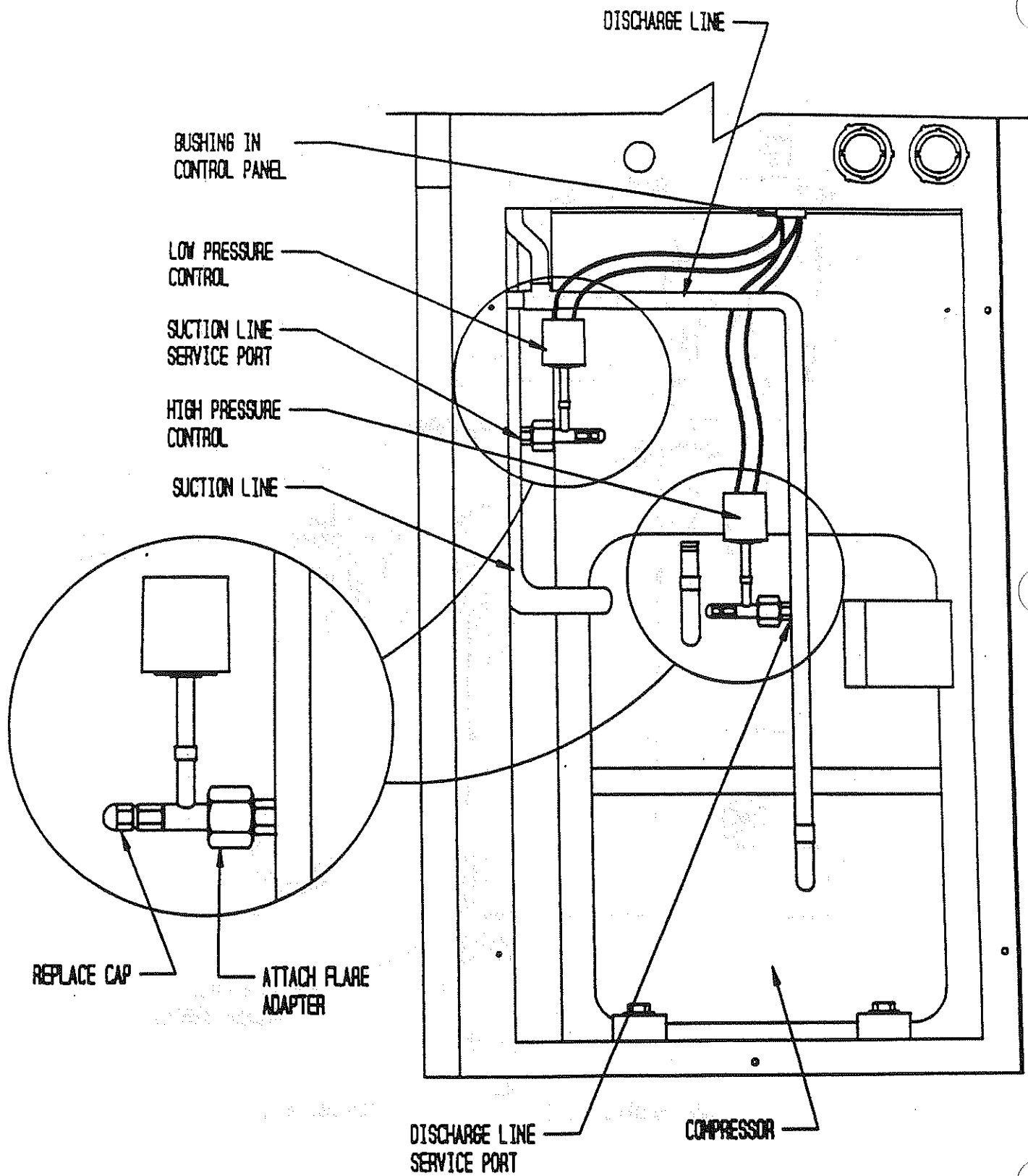


FIGURE 3



INSTALLATION INSTRUCTIONS CMA-11 DUAL PRESSURE AND LOW AMBIENT FAN CYCLING CONTROL

DESCRIPTION

The CMA-11 is a field installable low and high pressure control and low ambient fan cycling control kit. The CMA-11 consists of:

1. Installation Instructions 7960-241
2. High Pressure Control 1804-0106
3. Low Pressure Control 1804-0107
4. Low Ambient Fan Cycling Control 1804-0108
5. Control Assembly 910-1094
6. Unit Label 7961-312-0015

For use with WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS
(A & B ELECTRICAL VERSIONS ONLY)

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #4 of the lockout relay. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 3.
- Step 4. Connect yellow wire from terminal #1 or (Y) of the low pressure bypass relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 5. Route high (red) and low (blue) pressure switch 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 high pressure switch wires between terminal #5 of the lockout relay and terminal #1 of the low pressure bypass TDR. See Figure 2, Step 5.

- Step 6. Connect low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 6.
- Step 7. Disconnect black high voltage outdoor motor lead from compressor contactor and reconnect to terminal block. Route wires through wire holder as shown in Figure 2, Step 7.
- Step 8. 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 block and T2 of the compressor contactor. See Figure 2, Step 8.
- Step 9. Remove service port caps on both the suction and discharge lines. Install the high pressure switch and 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 3.
- Step 10. Recheck wiring. Refer to Figure 1. Energize unit in first stage cooling. Compressor should start. Run the unit for at least 5 minutes. The unit should not go into lockout. The condenser fan motor should not run until the discharge pressure has exceeded 300 PSI. Should the discharge pressure fall below 200 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 300 PSI.
- Step 11. Apply "This unit equipped with CMA-11 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 12. Replace all panels and covers. This completes installation.

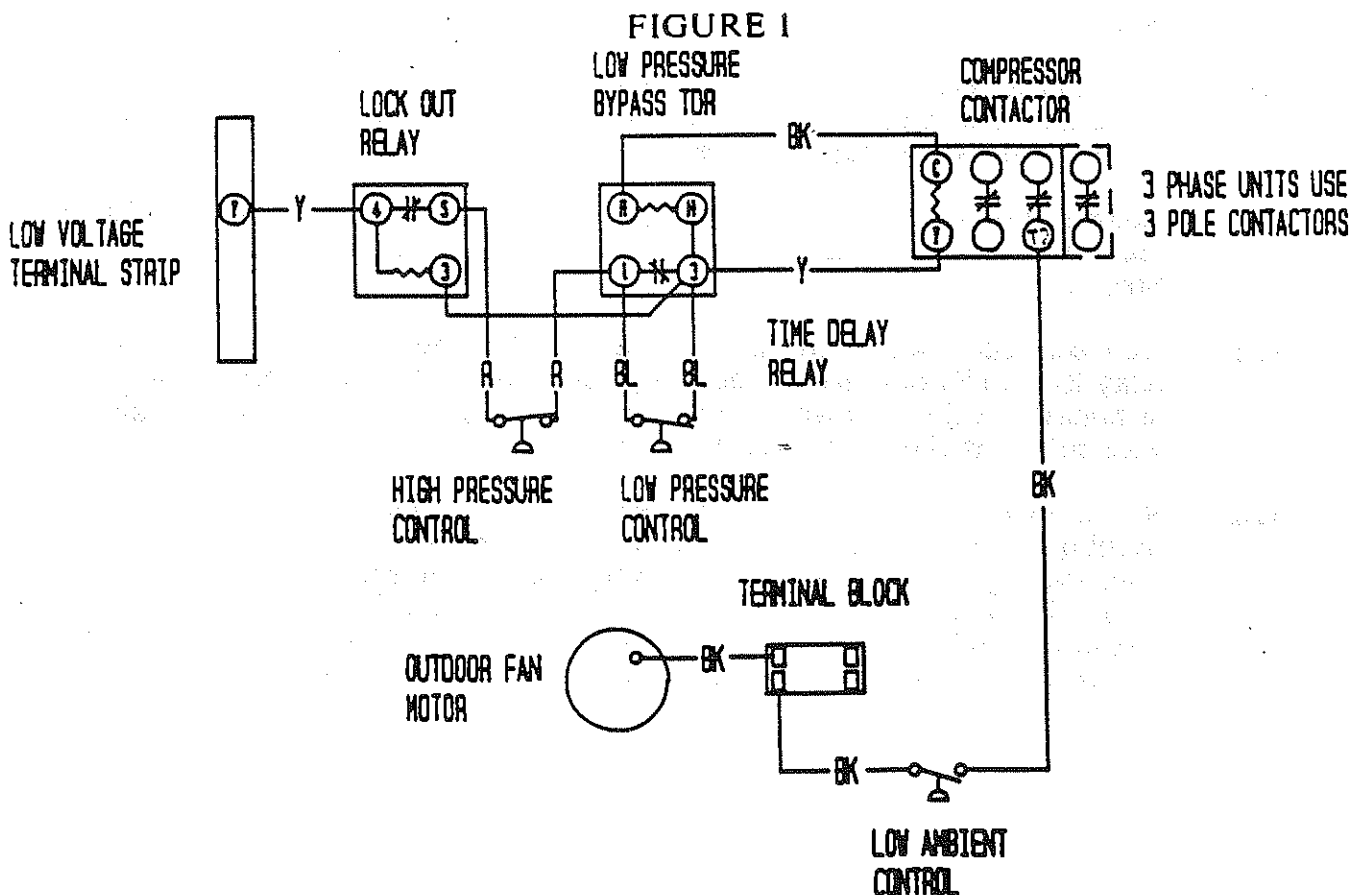


FIGURE 2

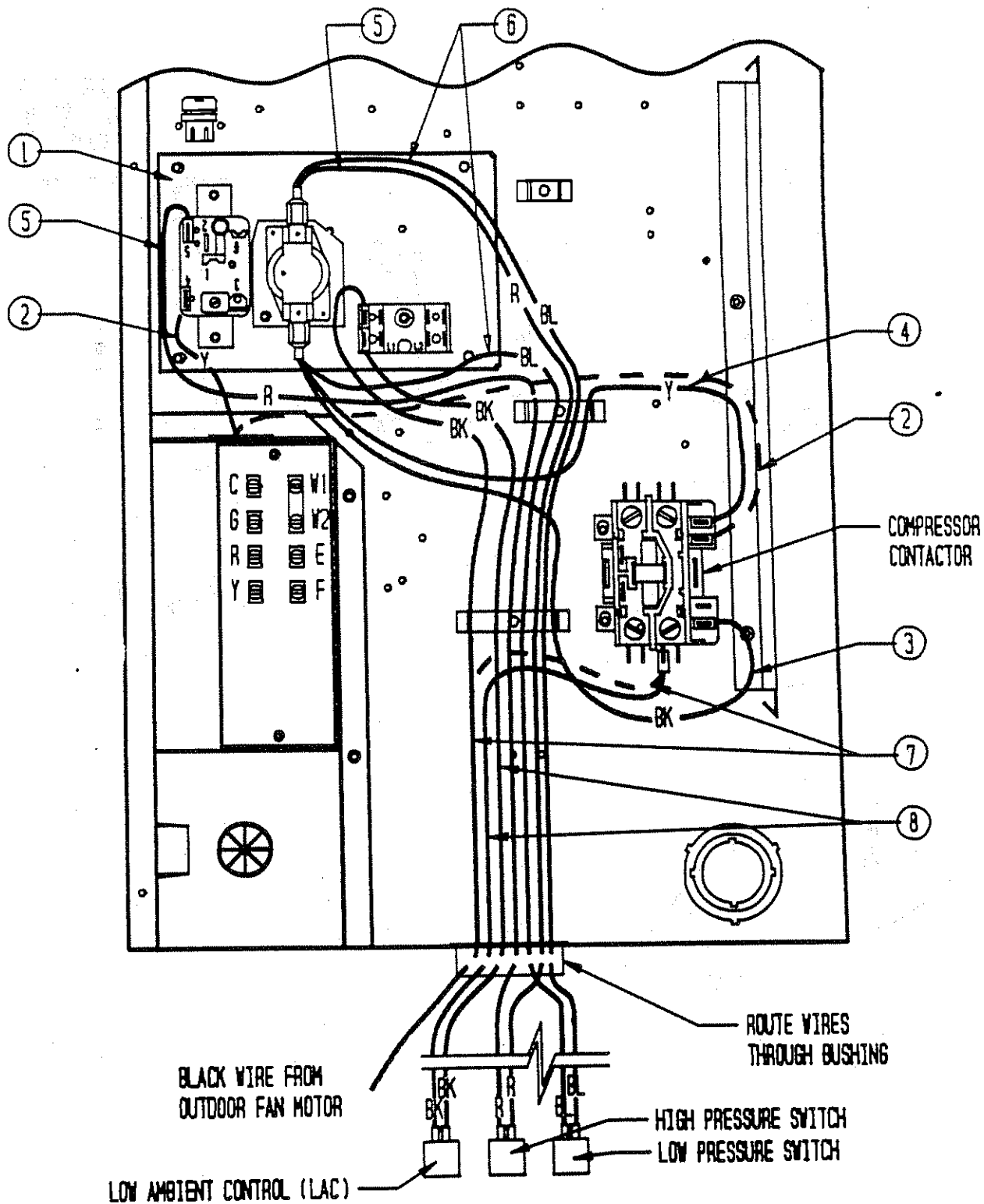
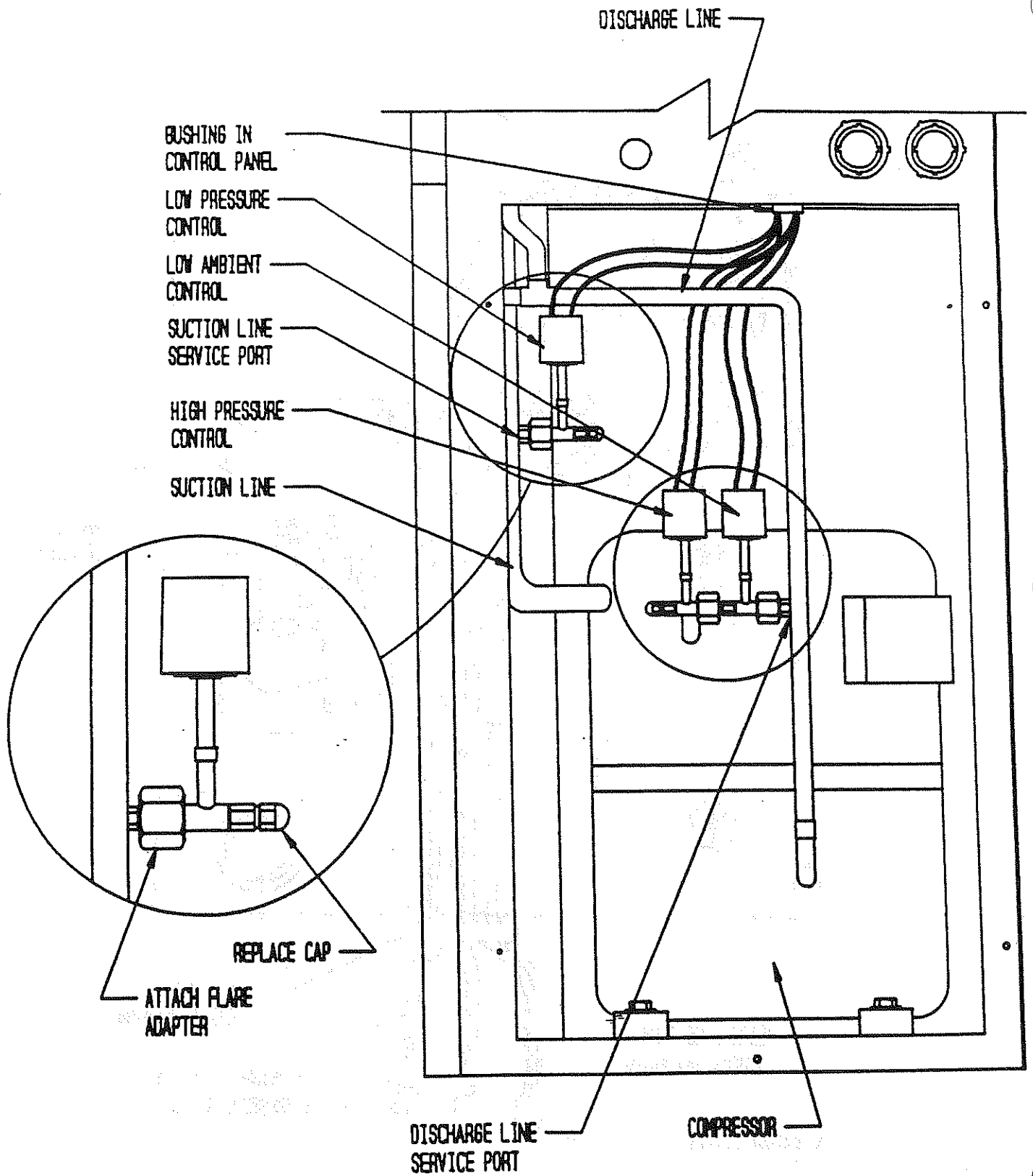


FIGURE 3



INSTALLATION INSTRUCTIONS FOR CMA-12 LOW AMBIENT CONTROL AND COMPRESSOR TIME DELAY RELAY

The CMA-12 is a field installable compressor time delay relay and low ambient fan cycling control kit. The CMA-12 consists of:

1. Installation instructions 7960-242
2. Low ambient fan cycling control 1804-0108
3. Control assembly 910-1099
4. Unit label 7961-312-0004

For use with WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS
(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 Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal and reconnected to another terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at the compressor contactor coil and reconnect to the Y1 or #3 terminal of the TDR. See Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal (Y) of the TDR to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wires through wire holder as shown in Figure 2, Step 3.
- Step 4. Disconnect black high voltage outdoor motor lead from compressor contactor and reconnect to terminal block. Route wires through wire holder as shown in Figure 2, Step 4.
- Step 5. 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 block and L2 of the compressor contactor. See Figure 2, Step 5.
- Step 6. 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 3.

- Step 7. 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 300 PSI. Should the discharge pressure fall below 200 PSI while running, the condenser fan motor will deenergize until the head pressure builds to 300 PSI. Remove power and reapply. Compressor should not start until the 5 minute time delay has expired.
- Step 8. Apply "This unit equipped with CMA-12 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 9. Replace all panels and covers. This completes installation.

FIGURE 1

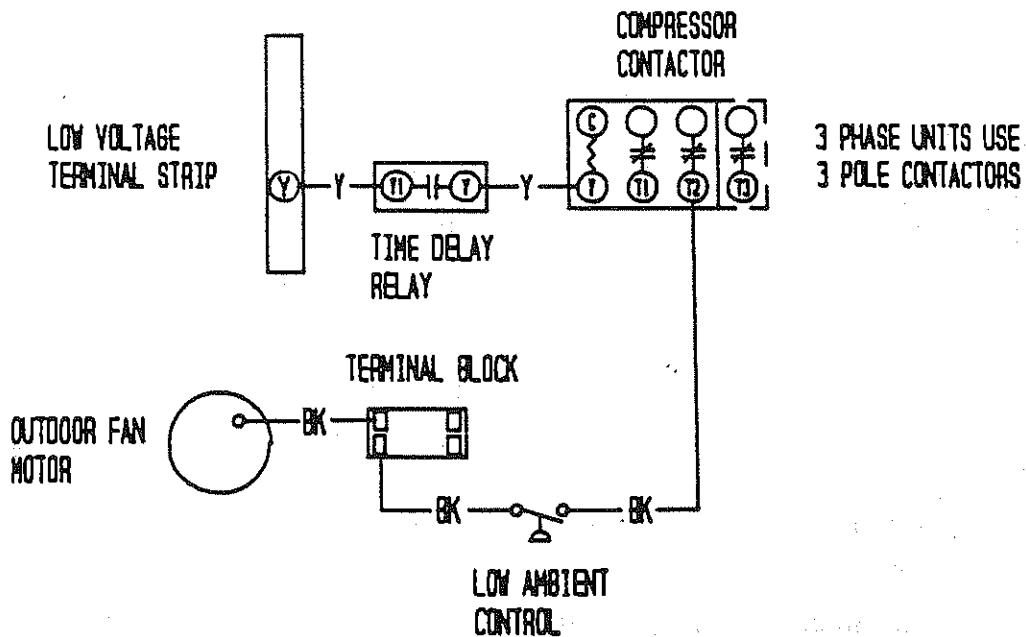
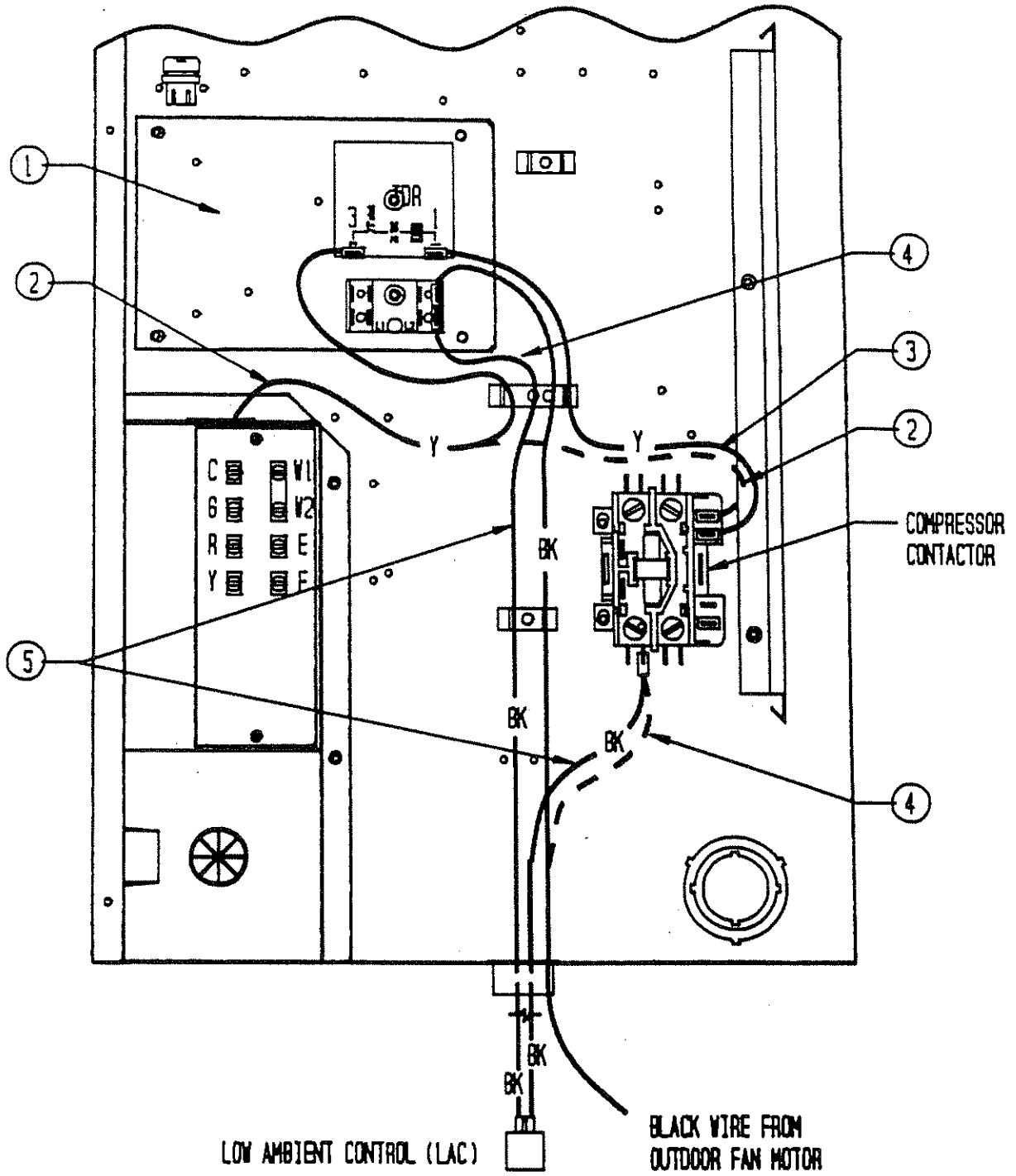


FIGURE 2



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INSTALLATION INSTRUCTIONS CMA-13 LOW AMBIENT FAN CYCLING, HIGH AND LOW PRESSURE CONTROL AND COMPRESSOR TIME DELAY RELAY

DESCRIPTION

The CMA-13 is a field installable high and low pressure control, compressor time delay relay and low ambient fan cycling control kit. The CMA-13 consists of:

1. Installation Instructions 7960-243
2. High Pressure Control 1804-0106
3. Low Pressure Control 1804-0107
4. Low Ambient Fan Cycling Control 1804-0108
5. Control Assembly 910-1121
6. Unit Label 7961-312-0005

For use with all WA181 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS
(A & B Electrical Versions ONLY)

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #4 of the lockout relay. See Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #1 or (Y) of the compressor time delay relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route high (red) and low (blue) pressure switch 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 high pressure switch wires between terminal #5 of the lockout relay and terminal #1 of the low pressure bypass TDR. See Figure 2, Step 5.
- Step 6. Connect low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 6.
- Step 7. Disconnect black high voltage outdoor motor lead from compressor contactor and reconnect to terminal block. Route wires through wire holder as shown in Figure 2, Step 7.

- Step 8. 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 block and T2 of the compressor contactor. See Figure 2, Step 8.
- Step 9. Remove service port caps on both the suction and discharge lines. Install the high pressure switch and 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 3.
- Step 10. Adjust the compressor time delay relay to the desired delay on start up. Five minutes are recommended. This TDR is variable from 0 to 10 minutes.
- Step 11. Recheck wiring. Refer to Figure 1. Energize unit in first stage cooling. Compressor should not start until the 5 minute time delay has expired. Run the unit for at least 5 minutes. The unit should not go into lockout. The condenser fan motor should not run until the discharge pressure has exceeded 300 PSI. Should the discharge pressure fall below 200 PSI while running the condenser fan motor will de-energize until the head pressure builds to 300 PSI.
- Step 12. Apply "This unit equipped with CMA-13 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 13. Replace all panels and covers. This completes installation.

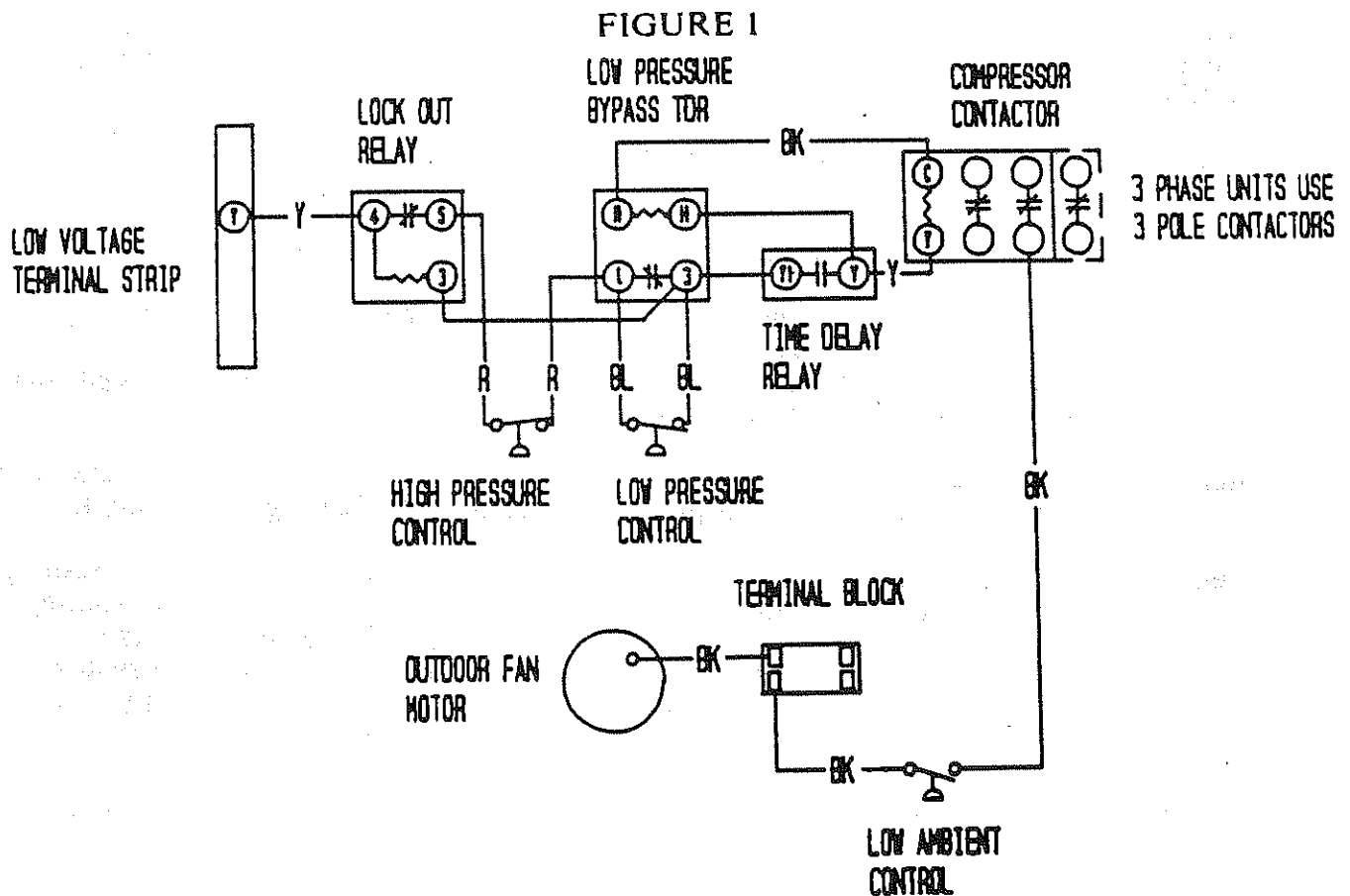


FIGURE 2

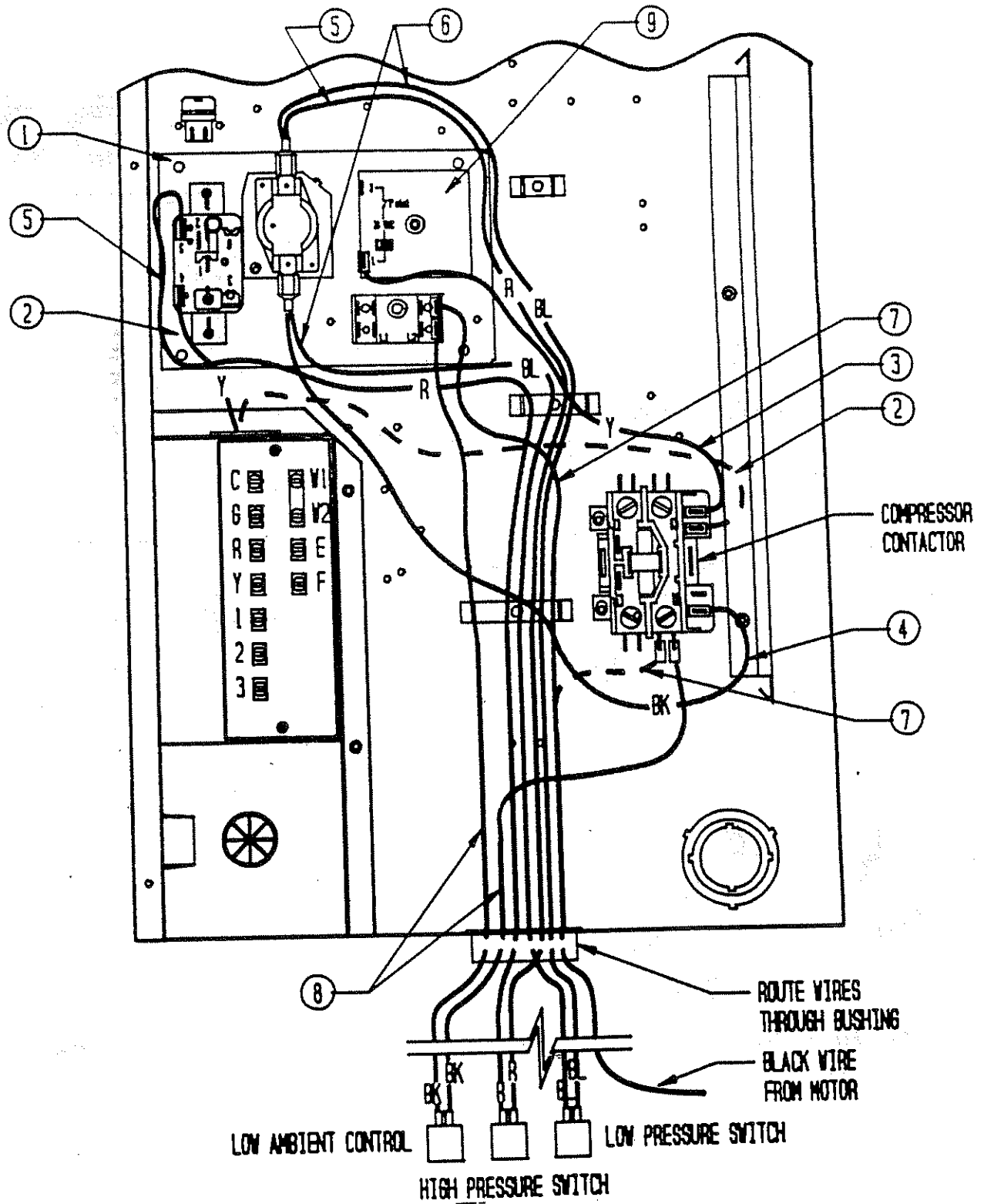
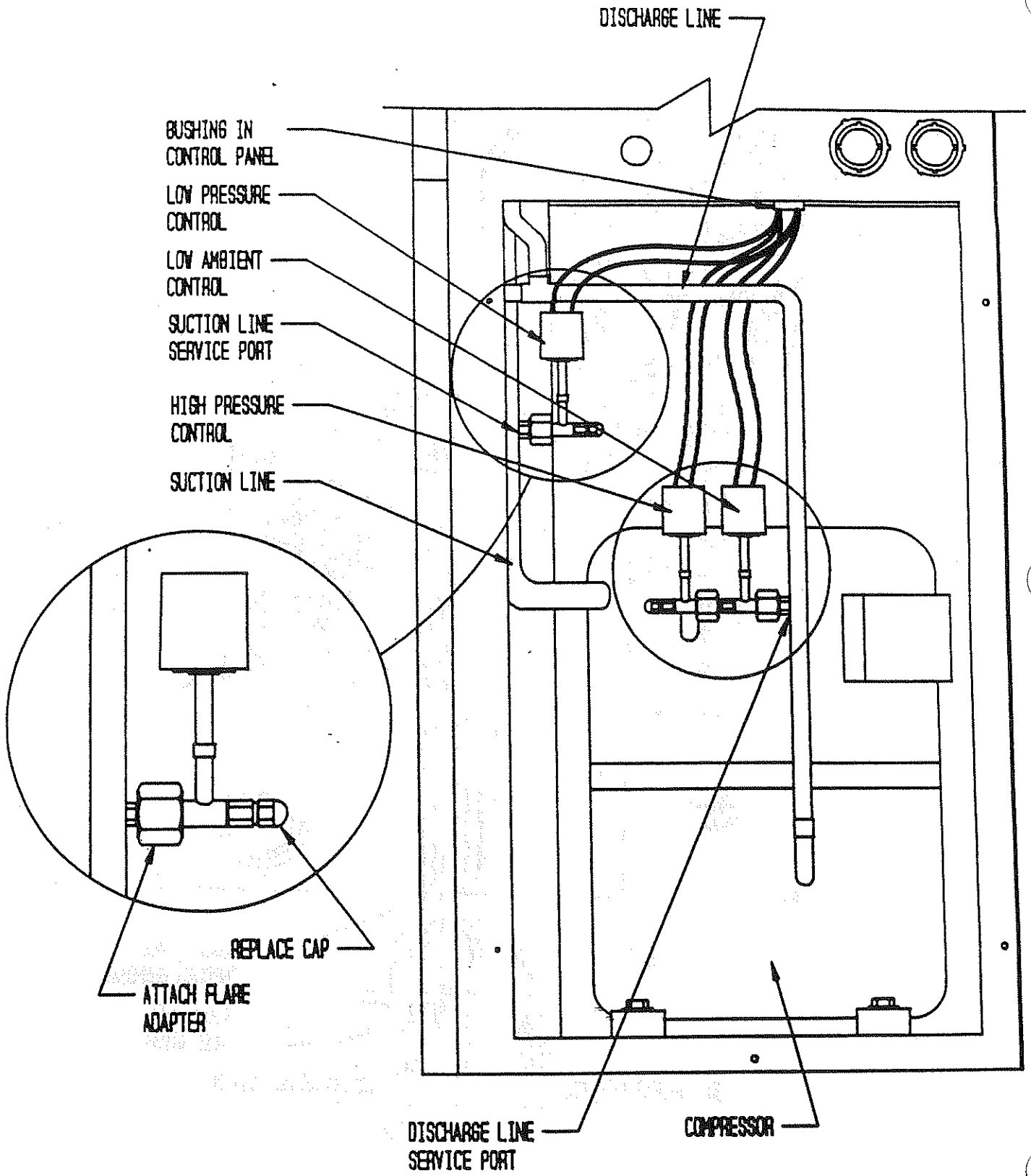


FIGURE 3



INSTALLATION INSTRUCTIONS CMH-14 OUTDOOR THERMOSTAT KIT

DESCRIPTION

The CMH-14 is a field installable outdoor thermostat suitable for use as a compressor cutoff thermostat. This thermostat stops the compressor operation at the set temperature and brings on strip heat instead. The CMH-14 consists of:

1. 910-1122 Outdoor Thermostat
2. 7960-246 Installation Instructions
3. 7961-312-0008 CMH-14 Label

For use with all WH181 - WH361 HI-BOY WALL MOUNT HEAT PUMPS

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers, right side condenser inlet grill, and front service access panel. Circled numbers on Figure 2 correspond to installation instruction steps.

- Step 1. Mount outdoor thermostat 910-1122 in position shown in Figure 2, Step 1 to side of control panel with screws provided.
- Step 2. Route wires through bushing in side of control panel into the low voltage terminal strip area. See Figure 2, Step 2.
- Step 3. Route thermostat bulb through bushing in condenser partition and mount to the fan shroud with the clamps and screws provided. See Figure 2, Step 3.
- Step 4. Connect wires to the low voltage terminal strip as shown in Figure 1.
- Step 5. Recheck wiring. Refer to Figure 1. Set thermostat to the desired cutout temperature for the compressor.
- Step 6. Replace all panels and covers. This completes installation.

FIGURE 1

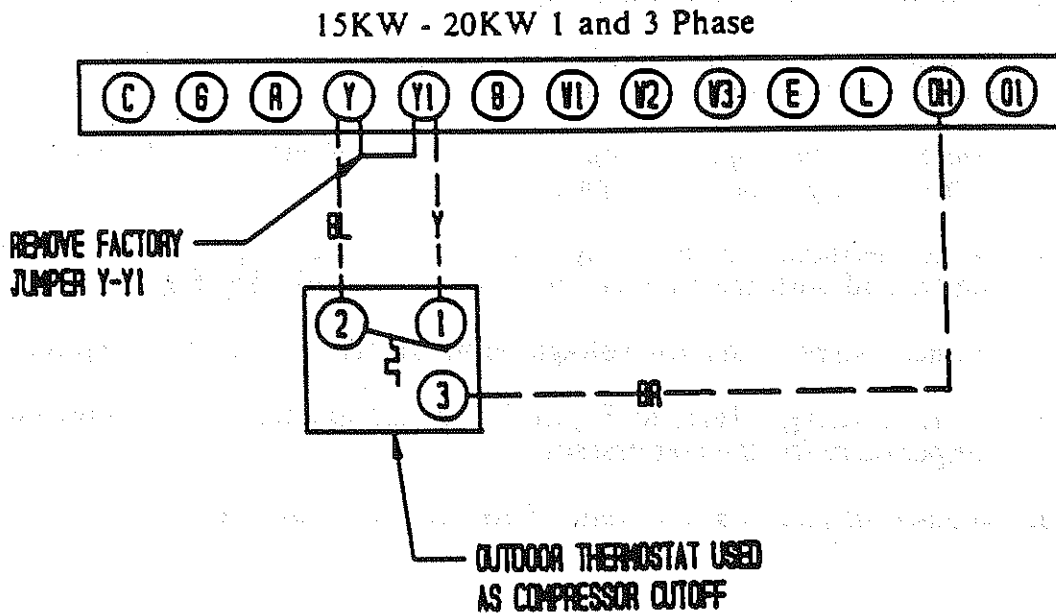
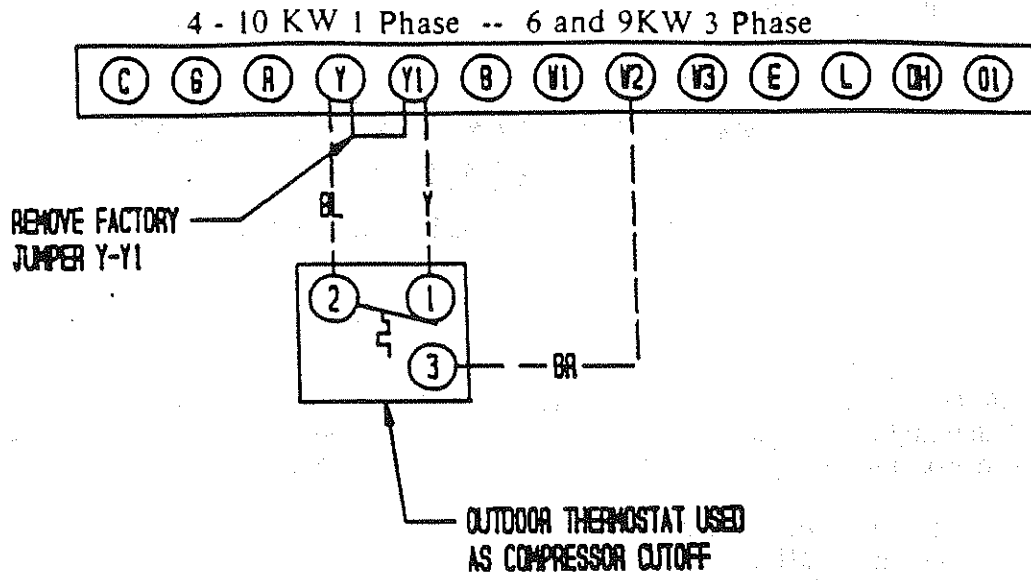
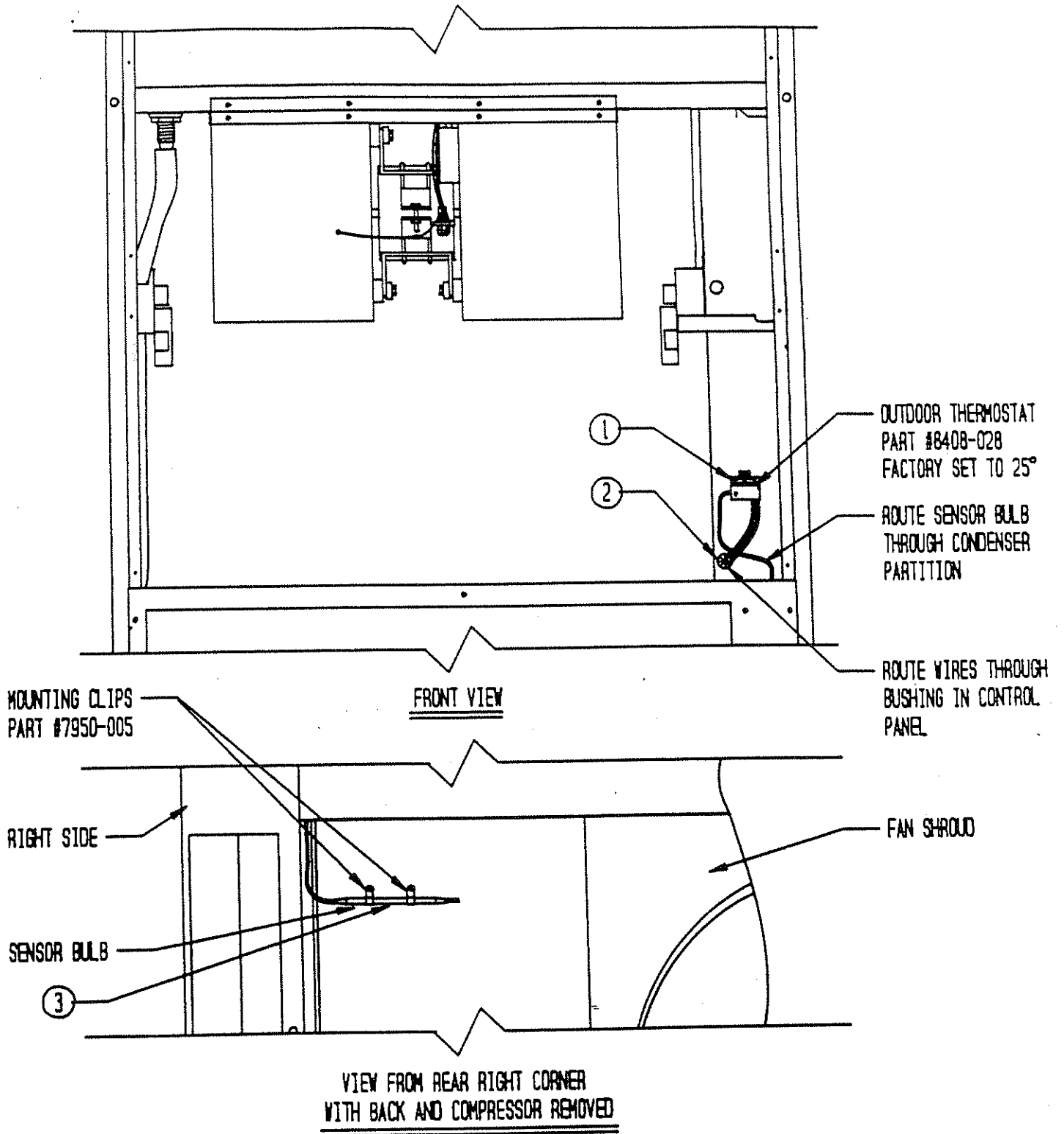


FIGURE 2



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INSTALLATION INSTRUCTIONS CMC-15 START KIT

DESCRIPTION

The CMC-15 is a field installable start kit. It is a positive temperature coefficient resistor (PTCR) that increases starting torque by momentarily increasing the current to the start winding of the compressor. The CMC-15 consists of:

1. 910-1097 PTCR
2. 7960-245 Installation Instructions
3. 7961-312-0009 CMC-15 Label

For use with all WA and WH181 - 361 HI-BOY WALL MOUNT HEAT PUMPS AND AIR CONDITIONERS ("A" Electrical Versions ONLY)

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

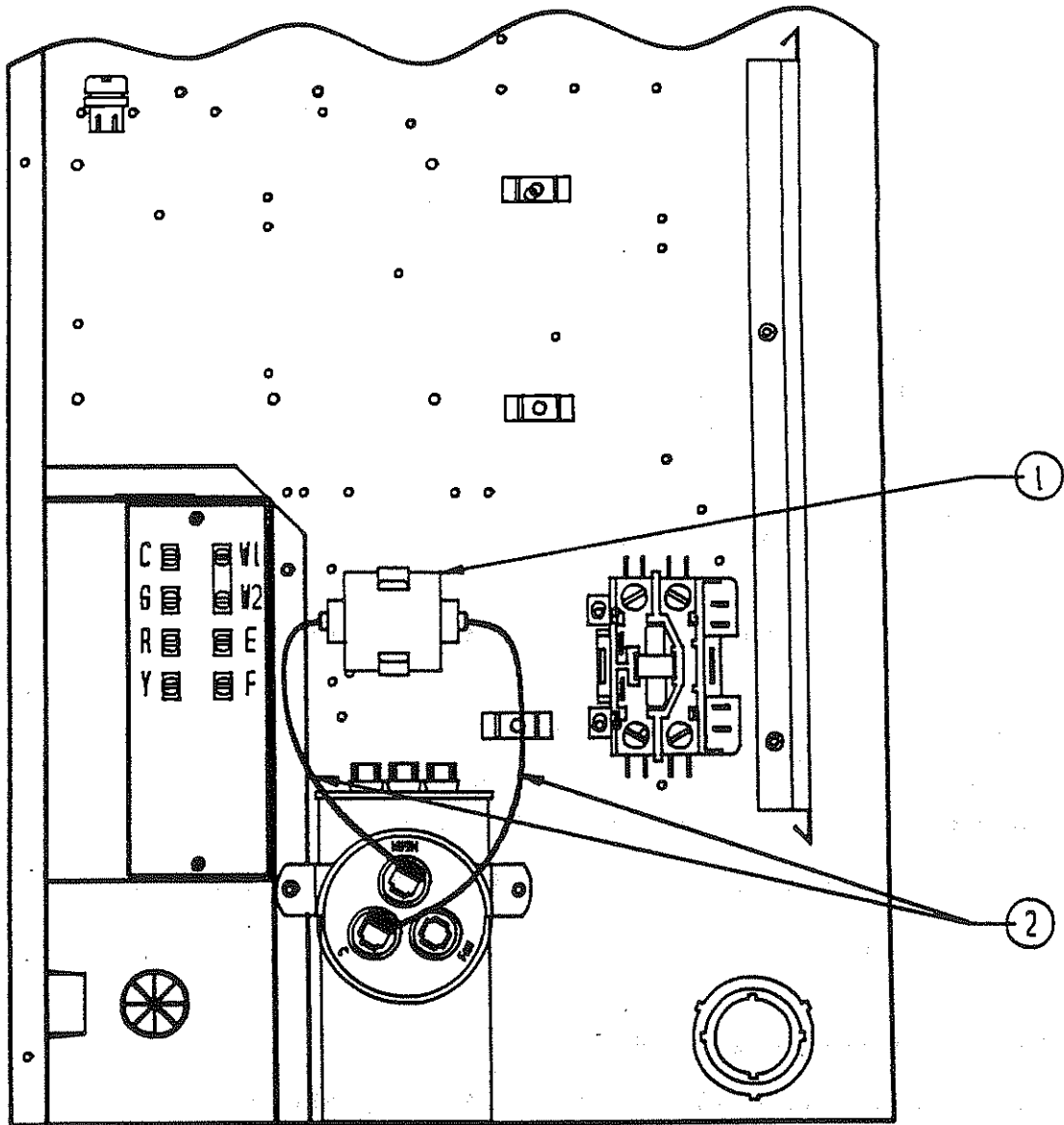
Step 1. Mount start kit (PTCR) in position shown in Figure 1, Step 1.

Step 2. Connect wires between terminals (Herm) and (C) of dual can capacitor as shown in Figure 1, Step 2.

Step 3. Recheck wiring. Refer to Figure 1.

Step 4. Replace all panels and covers. This completes installation.

FIGURE 1



NOTE: TOP VIEW OF
CAPACITOR SHOWN

INSTALLATION INSTRUCTIONS CMA-16 LOW PRESSURE CONTROL

DESCRIPTION

The CMA-16 is a field installable non-adjustable low pressure control with low pressure bypass relay. The bypass relay prevents nuisance tripping of the low pressure control during start up. The CMA-16 consists of:

1. Control Assembly 910-1149
2. Low Pressure Control 1804-0107
3. Installation Instruction 7960-270
4. CMA-16 Label 7961-312-0062

For use with all WA481 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Screw control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #3 of the low pressure bypass TDR.
- Step 3. Connect yellow wire from terminal #3 of the low pressure bypass TDR to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route low (blue) pressure switch 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 low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 5.
- Step 6. Disconnect high (red) pressure switch lead from compressor contactor and reconnect to the low pressure bypass TDR terminal #1. See Figure 2, Step 6.

- Step 7. Remove service port cap on the suction line. Install the low pressure switch on the suction line with the flare tee adapter that is brazed to the low pressure switch. 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 connector. Replace service port cap on the flare tee service port and tighten. See Figure 3.
- Step 8. Recheck wiring. See figure 1. Check for proper operation of the unit by energizing in heating or cooling mode for at least 5 minutes. The unit should not go into lockout.
- Step 9. Apply "This unit equipped with CMA-16 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 10. Replace all panels and covers. This completes installation.

FIGURE 1

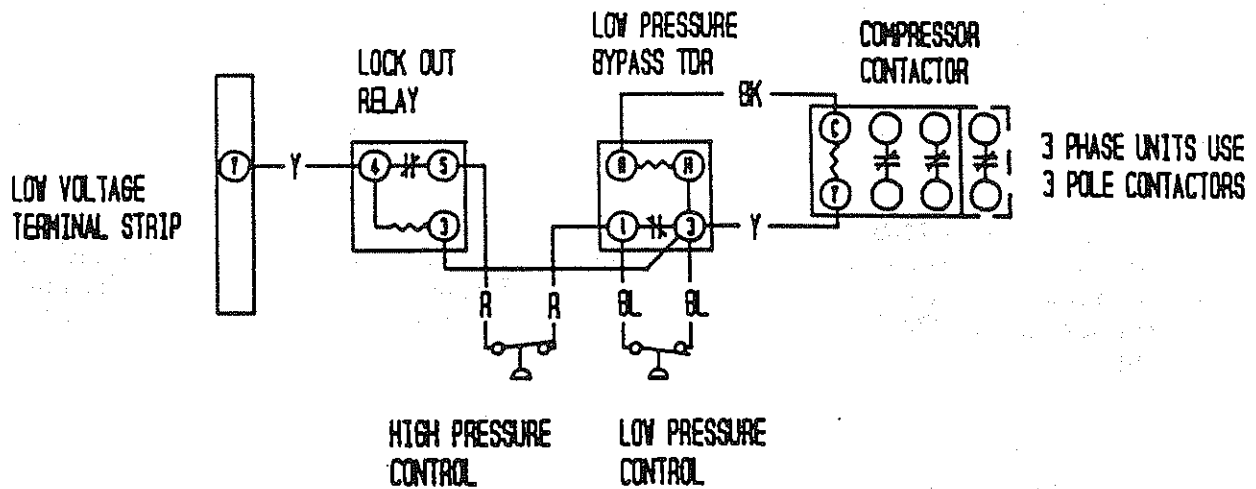


FIGURE 2

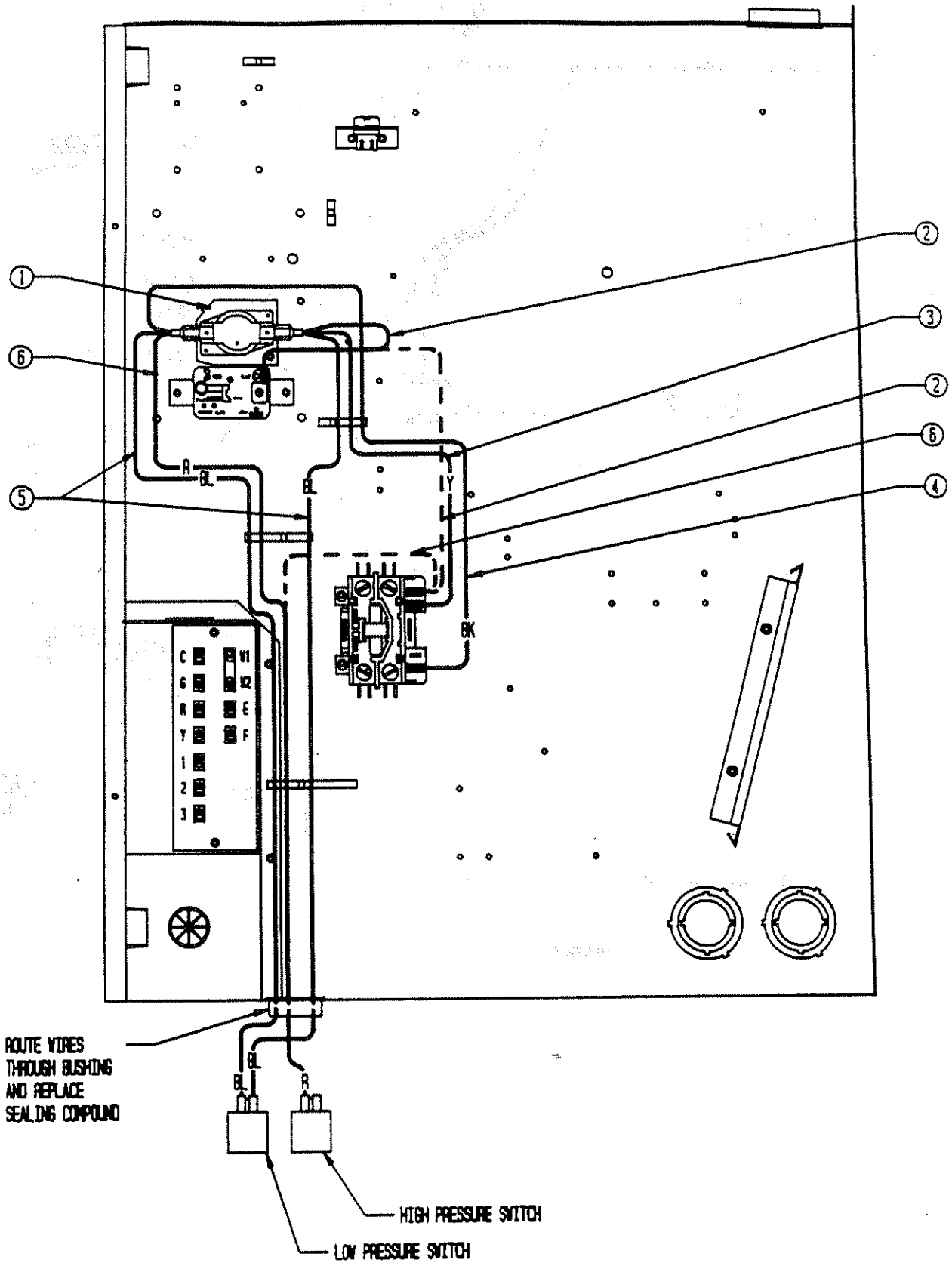
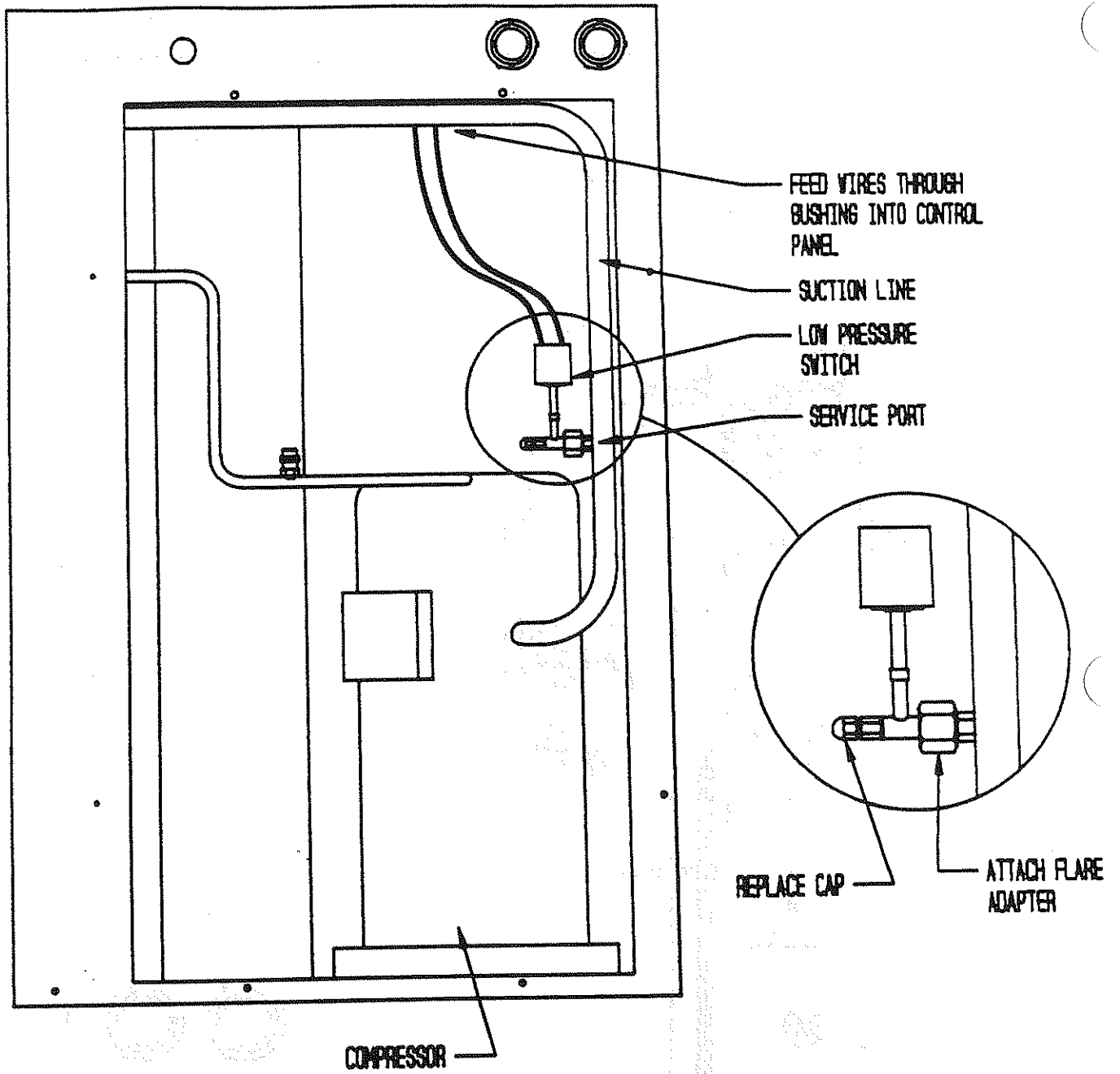


FIGURE 3



1964-65
MAY 1964
MAY 1964
MAY 1964

INSTALLATION INSTRUCTIONS CMA-17 LOW PRESSURE CONTROL AND COMPRESSOR TIME DELAY RELAY

DESCRIPTION

The CMA-17 is a field installable low pressure control and compressor time delay relay. The CMA-17 consists of:

1. Control Assembly 910-1168
2. Low Pressure Control 1804-0107
3. Installation Instruction 7960-271
4. Label 7961-312-0063

For use with all WA481 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #3 of the low pressure bypass TDR. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #1 or (Y) of the compressor time delay relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route low (blue) pressure switch 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 low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 5.

- Step 6. Disconnect red high pressure control lead from compressor contactor and reconnect to the low pressure bypass TDR terminal #1. See Figure 2, Step 6.
- Step 7. Remove service port cap on the suction line. 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 connector. Replace service port cap on the flare tee service port and tighten. See Figure 3.
- Step 8. Recheck wiring. Refer to Figure 1. Energize unit in first stage cooling. Compressor should start. Remove power and reapply. Compressor should not start until the 5 minute time delay has expired. Run The unit for at least 5 minutes. The unit should not go into lockout.
- Step 9. Apply "This unit equipped with CMA-17 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 10. Replace all panels and covers. This completes installation.

FIGURE 1

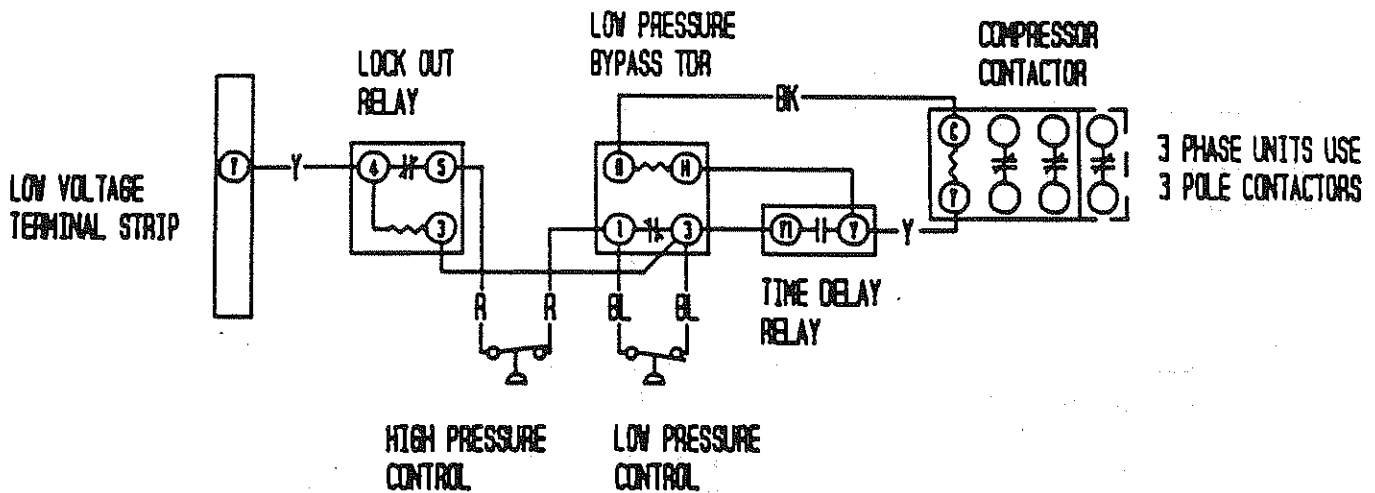


FIGURE 2

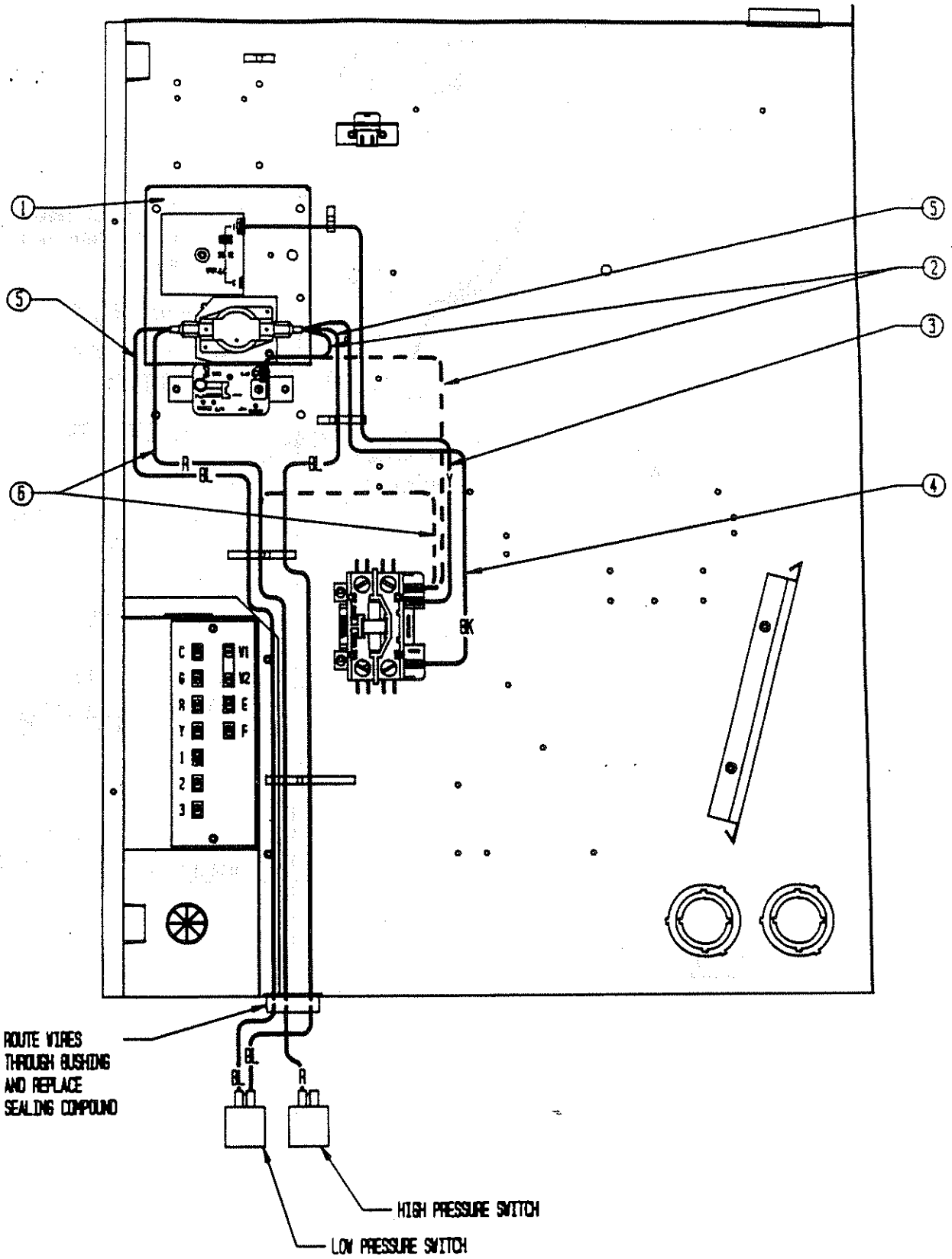
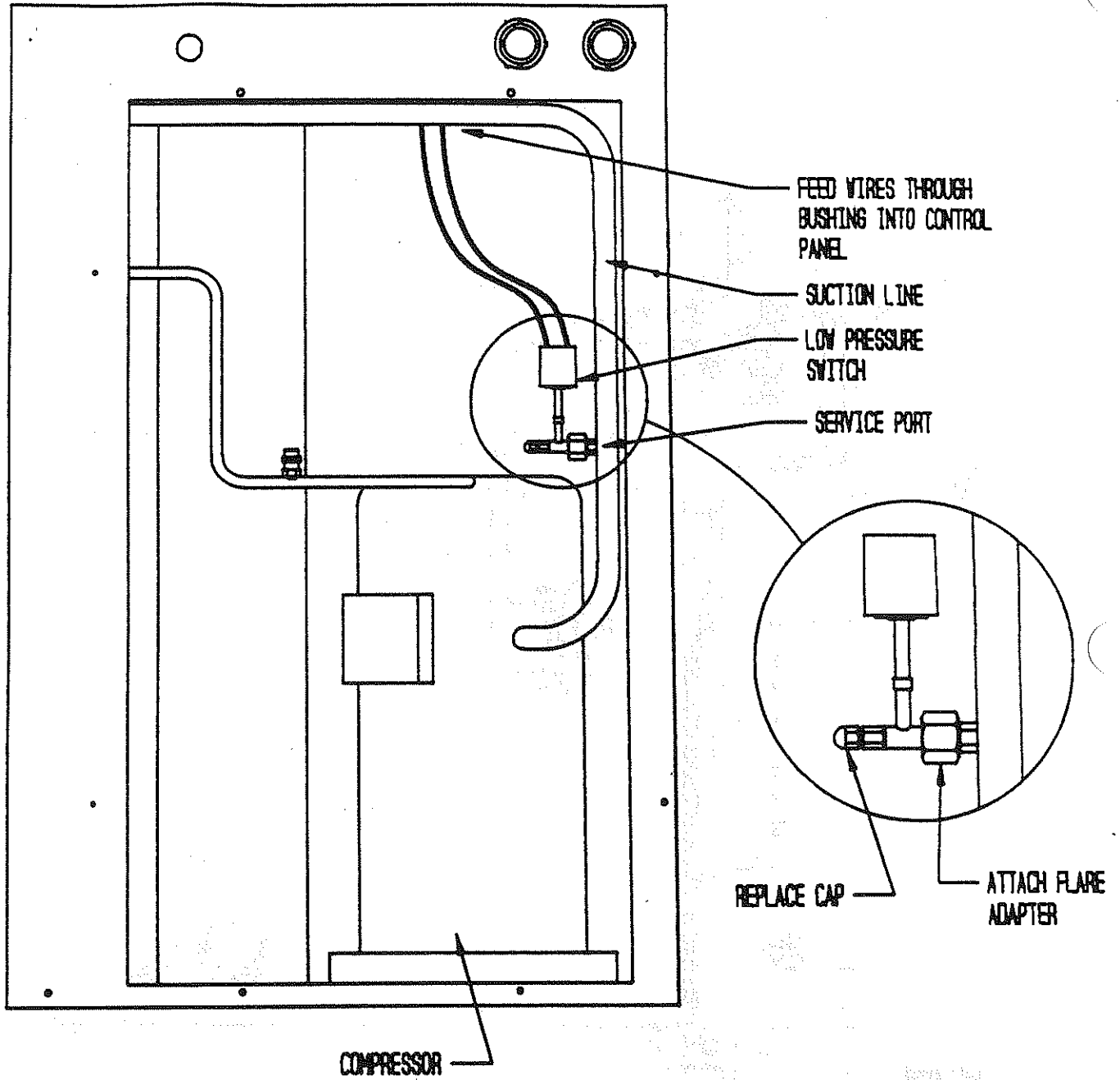


FIGURE 3



Form No. 100-100
GPO: 1964 O-500-000

U.S. GOVERNMENT PRINTING OFFICE: 1964

INSTALLATION INSTRUCTIONS CMA-18 LOW PRESSURE AND LOW AMBIENT FAN CYCLING CONTROL

DESCRIPTION

The CMA-18 is a field installable low pressure control and low ambient fan cycling control kit. The CMA-18 consists of:

1. Installation Instructions 7960-272
2. Terminal Block 8607-017
3. Low Pressure Control 1804-0107
4. Low Ambient Fan Cycling Control 1804-0108
5. Control Assembly 910-1149
6. Unit Label 7961-312-0064

For use with WA481 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS
(A & B ELECTRICAL VERSIONS ONLY)

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Screw control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #3 of the low pressure bypass TDR. Route wires through wire holder as shown in Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #1 or (Y) of the low pressure bypass relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route low (blue) pressure switch 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 low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 5.

- Step 6. Disconnect red high pressure switch lead from compressor contactor and reconnect to low pressure bypass TDR, terminal #1. See Figure 2, Step 6.

- Step 7. Mount terminal block into control with screw as shown in Figure 2, Step 7.
- Step 8. Disconnect black high voltage outdoor motor lead from compressor contactor and reconnect to terminal block. Route wires through wire holder as shown in Figure 2, Step 8.
- Step 9. 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 block and T2 of the compressor contactor. See Figure 2, Step 9.
- Step 10. Remove service port caps on both the suction and discharge line. Install low ambient control on the discharge line with the flare tee adapter that is brazed to the control. 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 3.
- Step 11. Recheck wiring. Refer to Figure 1. Energize unit in first stage cooling. Compressor should start. Run the unit for at least 5 minutes. The unit should not go into lockout. The condenser fan motor should not run until the discharge pressure has exceeded 300 PSI. Should the discharge pressure fall below 200 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 300 PSI.
- Step 12. Apply "This unit equipped with CMA-18 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 13. Replace all panels and covers. This completes installation.

FIGURE 1

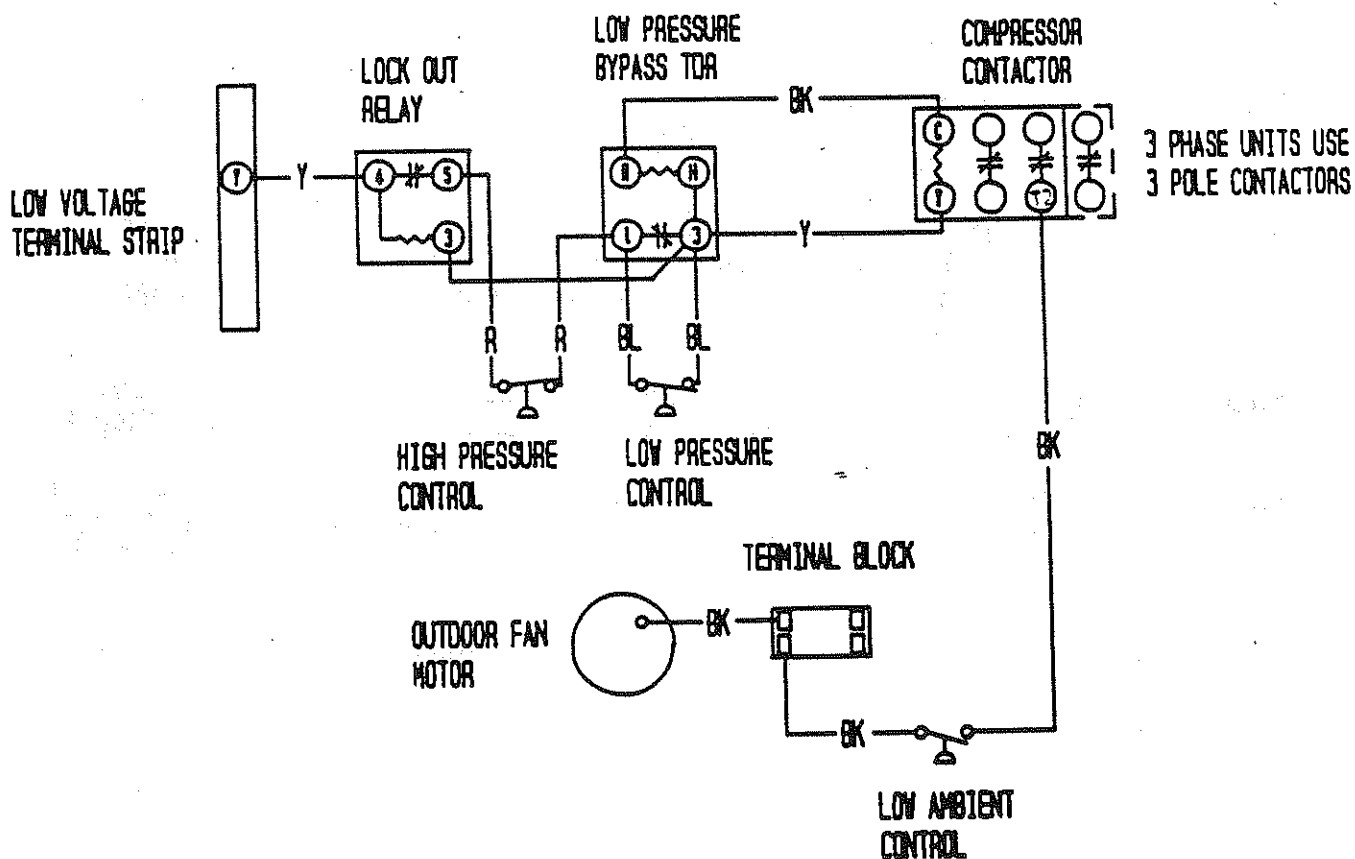


FIGURE 2

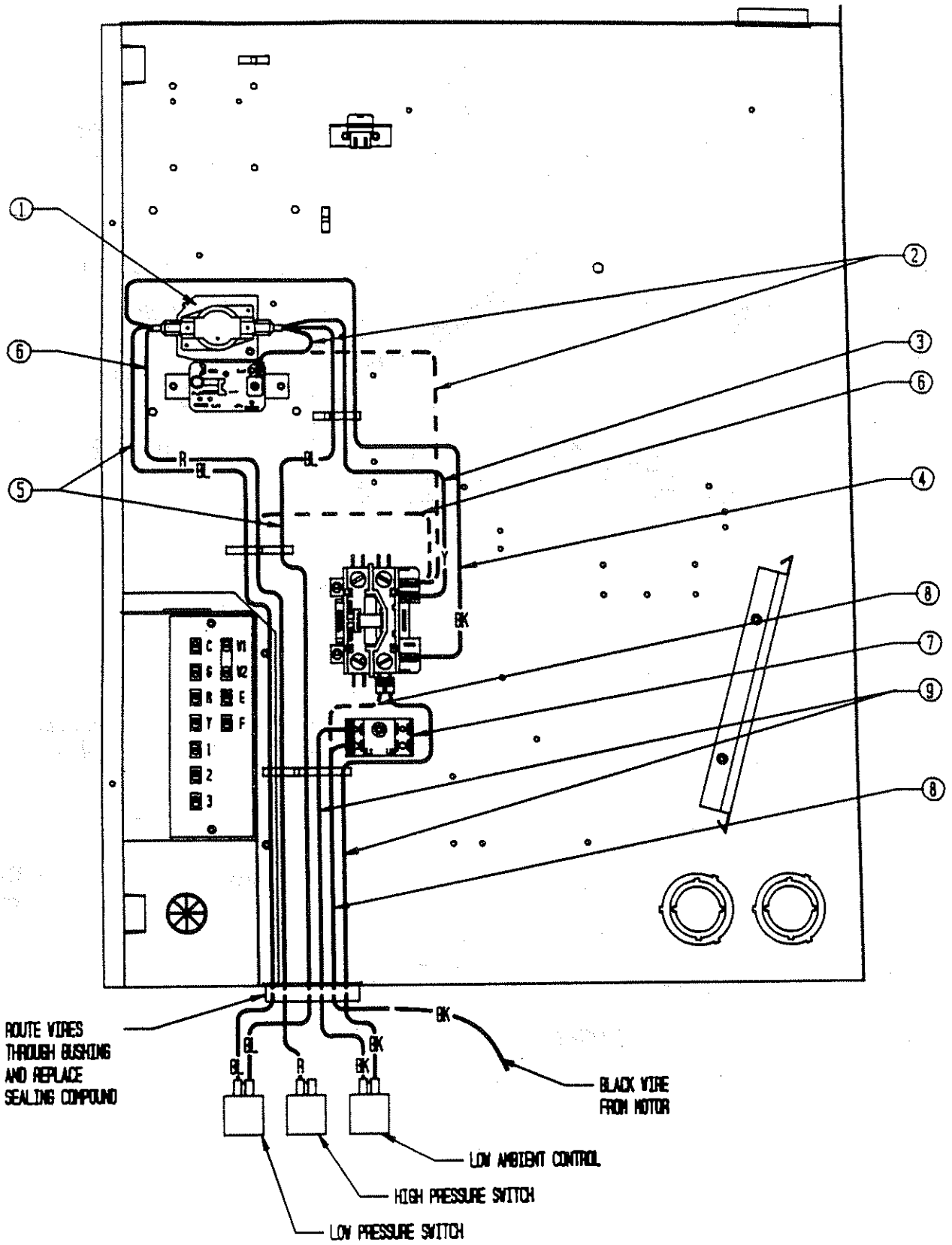
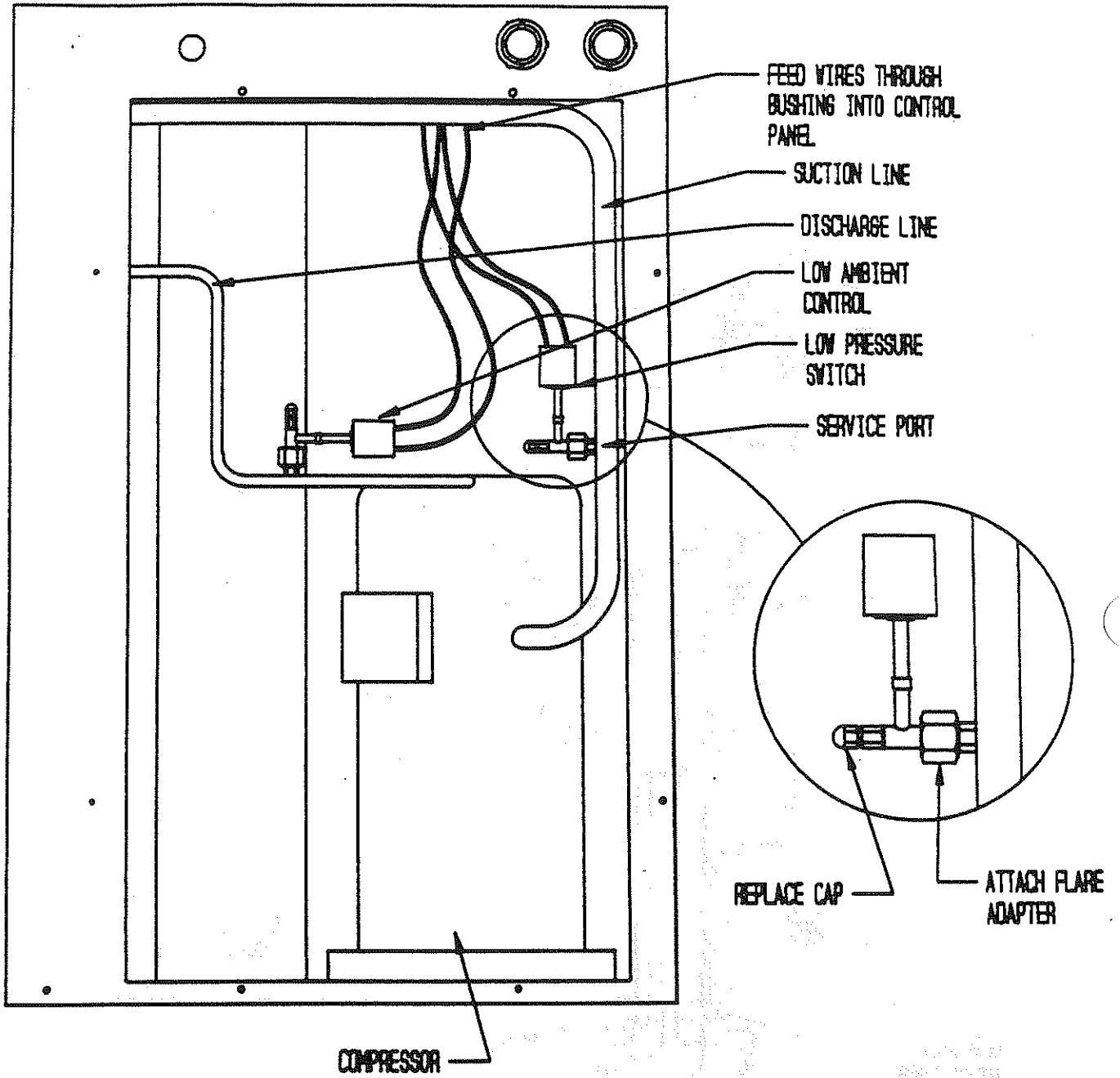


FIGURE 3



INSTALLATION INSTRUCTIONS FOR CMA-19 LOW AMBIENT CONTROL AND COMPRESSOR TIME DELAY RELAY

The CMA-19 is a field installable compressor time delay relay and low ambient fan cycling control kit. The CMA-19 consists of:

1. Installation instructions 7960-273
2. Low ambient fan cycling control 1804-0108
3. Control assembly 910-1099
4. Unit label 7961-312-0065

For use with WA481 - WA601 HI-BOY WALL MOUNT AIR CONDITIONERS
(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 Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal and reconnected to another terminal.

- Step 1. Screw control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at the compressor contactor coil and reconnect to the Y1 or #3 terminal of the TDR. See Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal (Y) of the TDR to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wires through wire holder as shown in Figure 2, Step 3.
- Step 4. Disconnect red high pressure control lead from compressor contactor and reconnect to compressor time delay, terminal (Y1). See Figure 2, Step 4.
- Step 5. Mount terminal block into control panel with screw as shown in Figure 2, Step 5.
- Step 6. Disconnect black high voltage outdoor motor lead from compressor contactor and reconnect to terminal block. Route wires through wire holder as shown in Figure 2, Step 6.
- 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 block and L2 of the compressor contactor. See Figure 2, Step 7.

- 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 connector. Replace service port cap on the flare tee service port and tighten. See Figure 3.
- 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 300 PSI. Should the discharge pressure fall below 200 PSI while running, the condenser fan motor will de-energize until the head pressure builds to 300 PSI. Remove power and reapply. Compressor should not start until the 5 minute time delay has expired.
- Step 10. Apply "This unit equipped with CMA-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

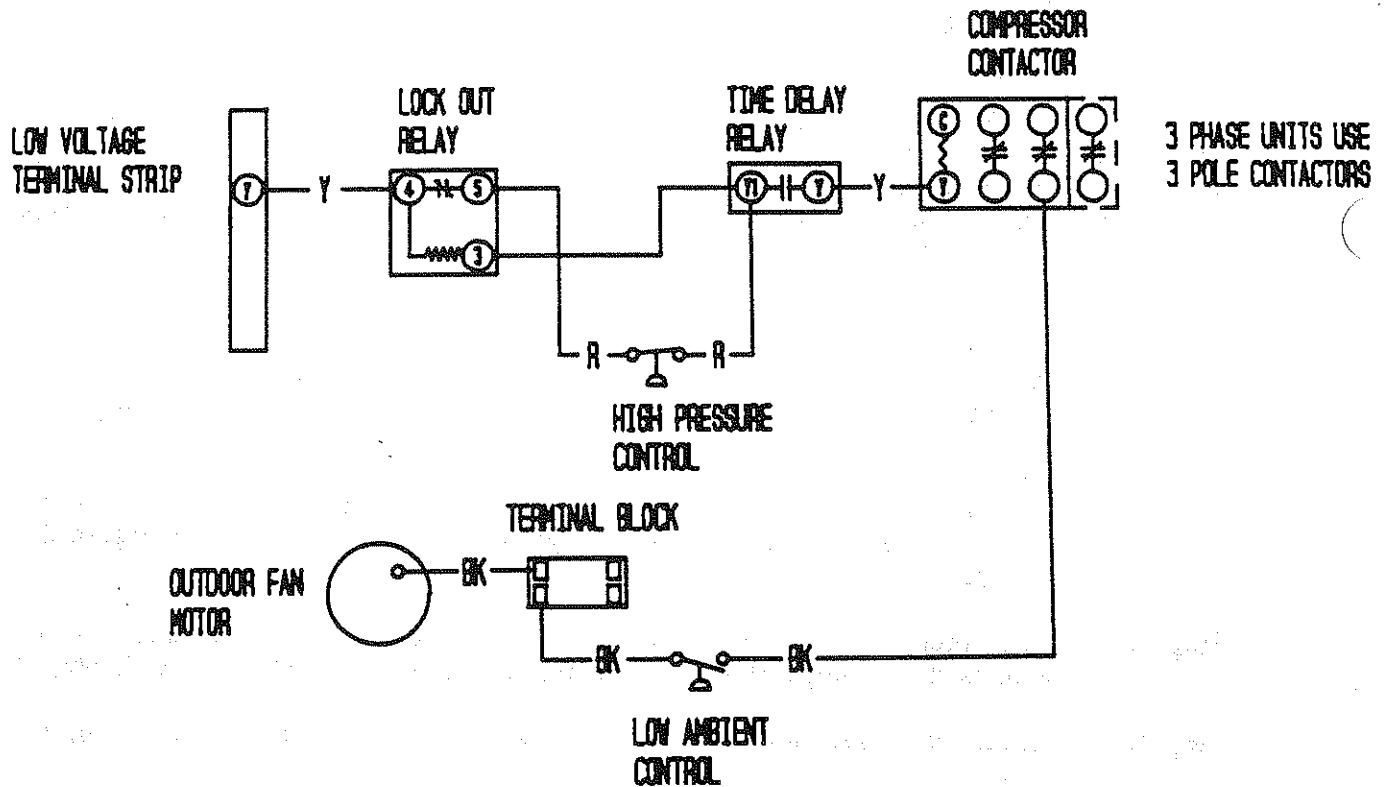


FIGURE 2

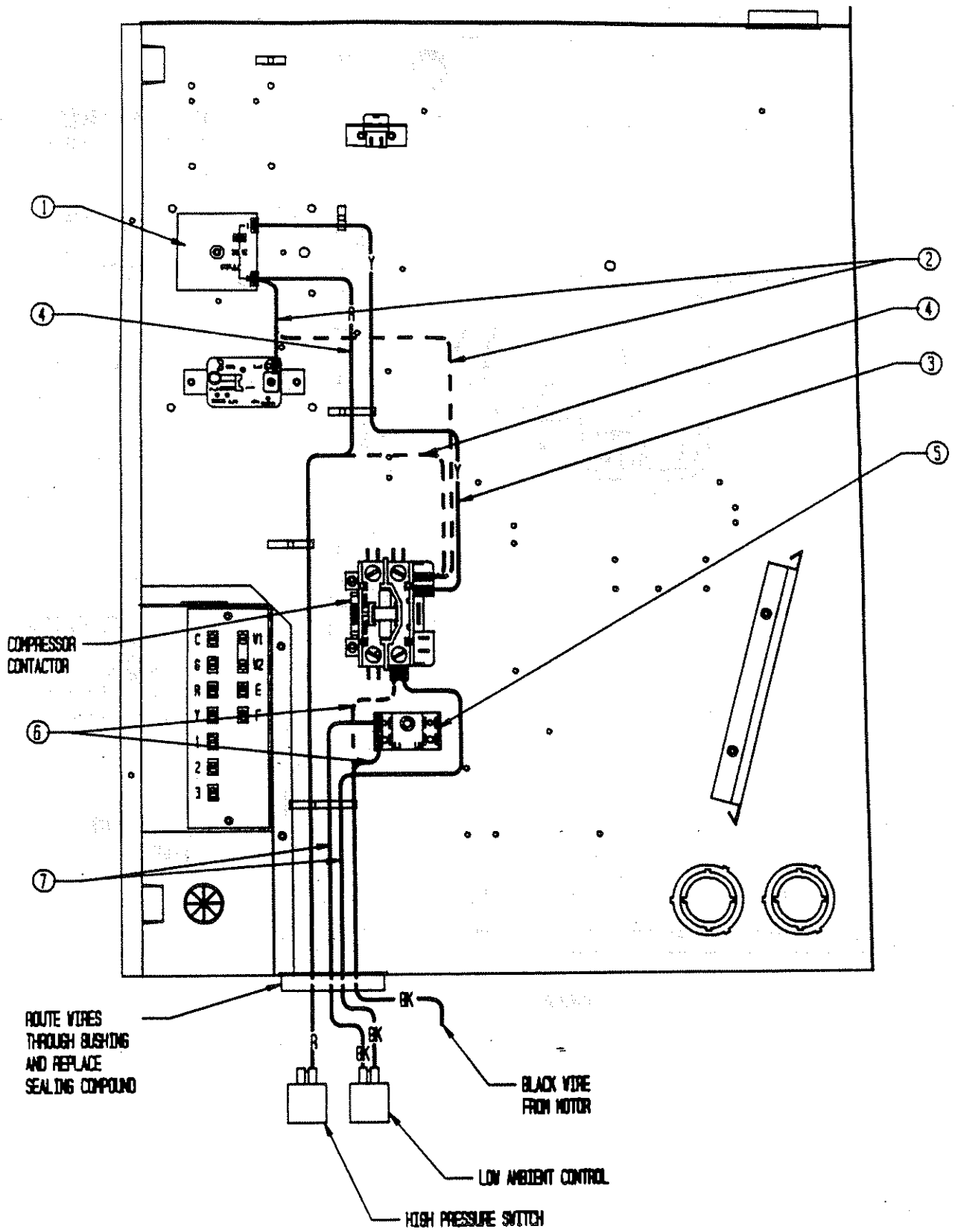
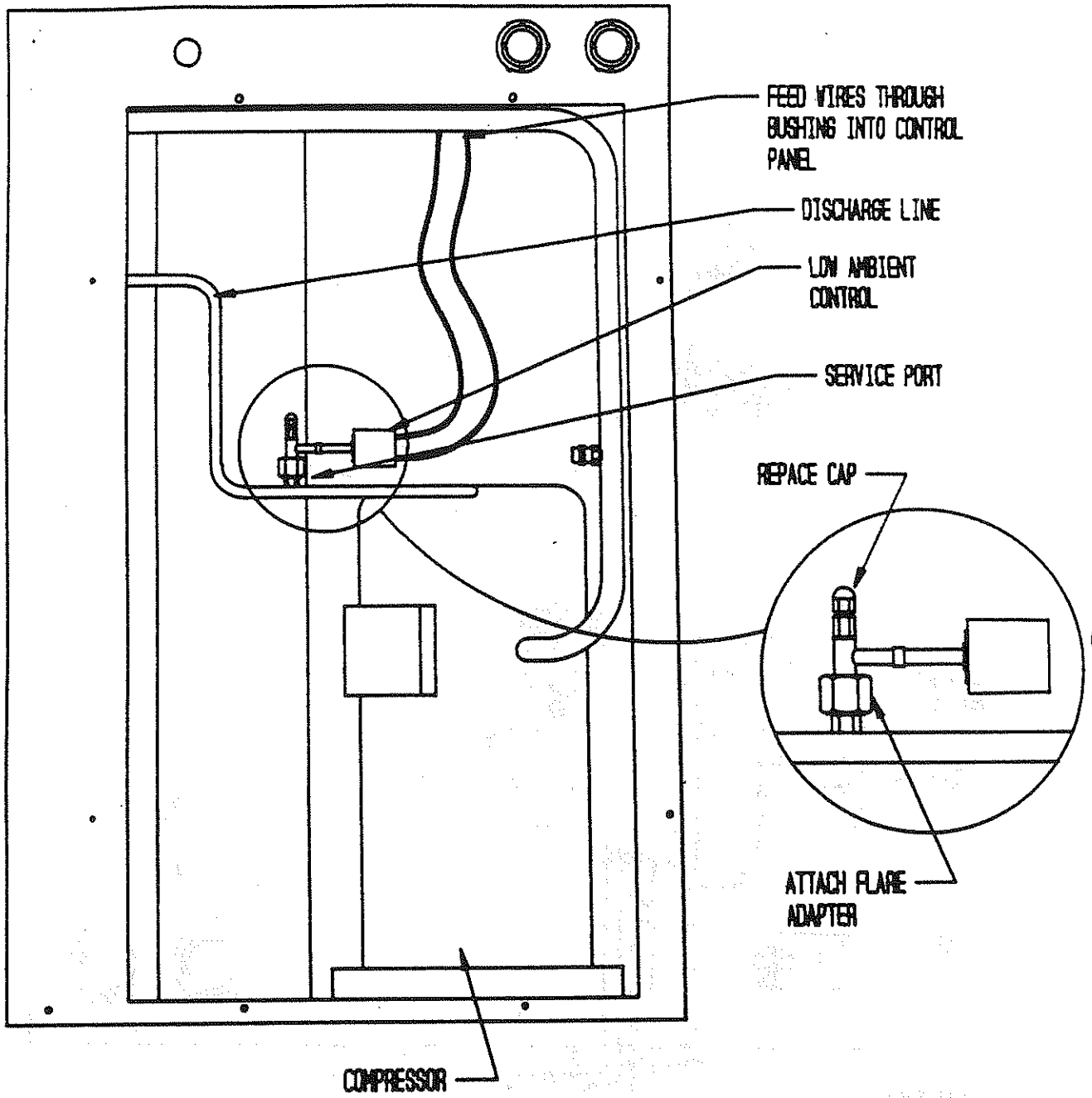


FIGURE 3



INSTALLATION INSTRUCTIONS CMA-20 LOW AMBIENT FAN CYCLING, LOW PRESSURE CONTROL AND COMPRESSOR TIME DELAY RELAY

DESCRIPTION

The CMA-20 is a field installable low pressure control, compressor time delay relay and low ambient fan cycling control kit. The CMA-20 consists of:

1. Installation Instructions 7960-274
2. Low Pressure Control 1804-0107
3. Low Ambient Fan Cycling Control 1804-0108
4. Control Assembly 910-1168
5. Unit Label 7961-312-0066

For use with all WA48I - WA60I HI-BOY WALL MOUNT AIR CONDITIONERS
(A & B Electrical Versions ONLY)

INSTALLATION INSTRUCTIONS

Disconnect all power to unit. Remove control panel inner and outer covers and right side condenser inlet grille. Circled numbers on Figure 2 correspond to installation instruction steps. Dashed lines indicate that a wire has been disconnected from this terminal.

- Step 1. Snap control assembly into control panel as shown in Figure 2, Step 1.
- Step 2. Disconnect yellow low voltage (Y) wire at compressor contactor coil and reconnect to terminal #3 of the low pressure bypass TDR. See Figure 2, Step 2.
- Step 3. Connect yellow wire from terminal #1 or (Y) of the compressor time delay relay to the (Y) terminal of the compressor contactor coil. This is the terminal that the wire was removed from in Step 2. Route wire through wire holder as shown in Figure 2, Step 3.
- Step 4. Connect the black wire from terminal H of the low pressure bypass TDR to the common (C) side of the compressor contactor coil. See Figure 2, Step 4.
- Step 5. Route low (blue) pressure switch 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 low pressure switch wires between terminals #1 and #3 of the low pressure bypass TDR. See Figure 2, Step 5.
- Step 6. Disconnect red high pressure switch lead from compressor contactor and reconnect to low pressure bypass TDR, terminal #1 or (Y1). See Figure 2, Step 6.
- Step 7. Mount terminal block into control with screw as shown in Figure 2, Step 7.

- Step 8. Disconnect black high voltage outdoor motor lead from compressor contactor and reconnect to terminal block. Route wires through wire holder as shown in Figure 2, Step 8.
- Step 9. 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 block and T2 of the compressor contactor. See Figure 2, Step 9.
- Step 10. 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 control. 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 3.
- Step 11. Adjust the compressor time delay relay to the desired delay on start up. Five minutes is recommended. This TDR is variable from 0 to 10 minutes.
- Step 12. Recheck wiring. Refer to Figure 1. Energize unit in first stage cooling. Compressor should not start until the set time delay has expired. Run the unit for at least 5 minutes. The unit should not go into lockout. The condenser fan motor should not run until the discharge pressure has exceeded 300 PSI. Should the discharge pressure fall below 200 PSI while running the condenser fan motor will de-energize until the head pressure builds to 300 PSI.
- Step 13. Apply "This unit equipped with CMA-20 control module" label to the inside of the inner control panel cover above the wiring diagram.
- Step 14. Replace all panels and covers. This completes installation.

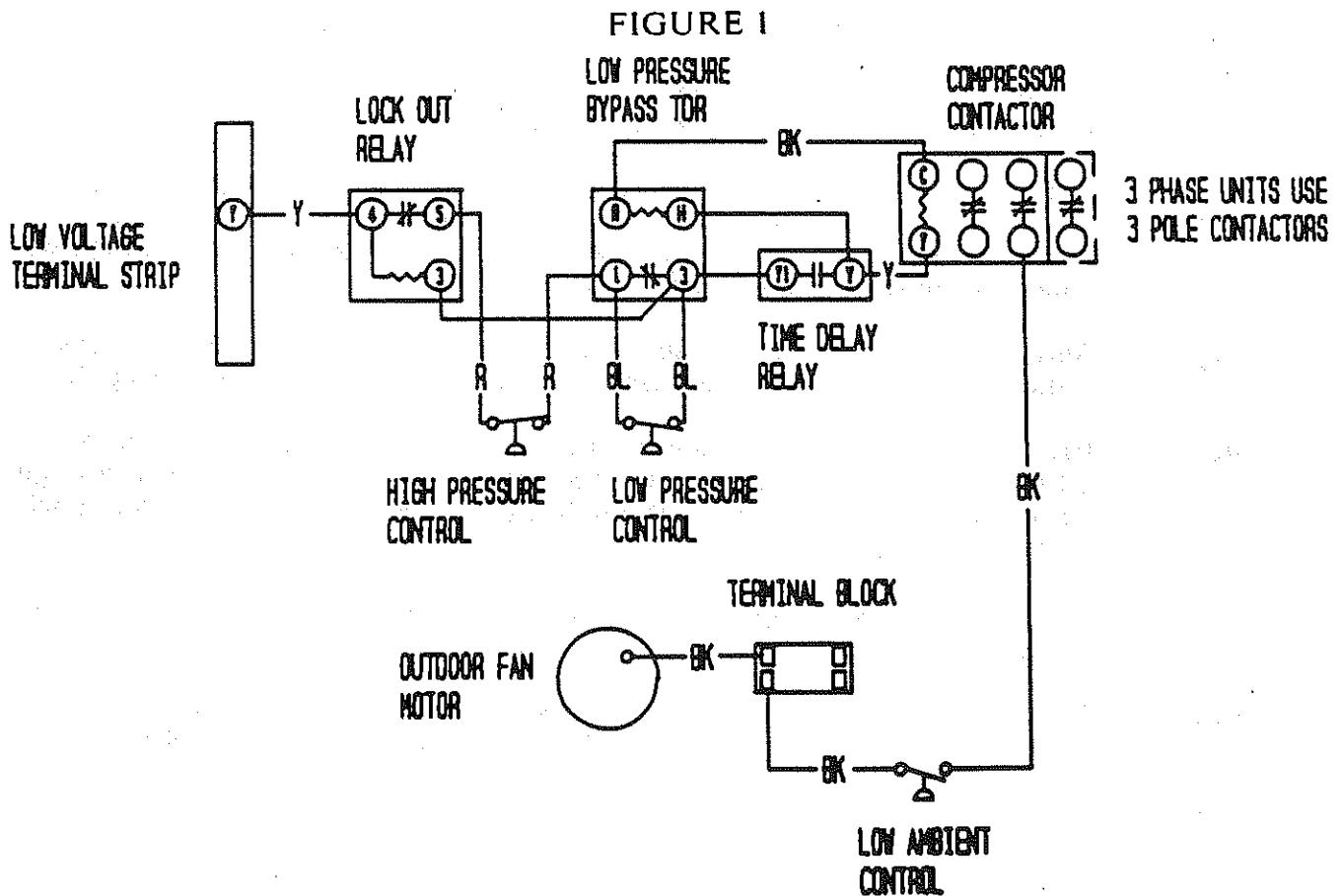


FIGURE 2

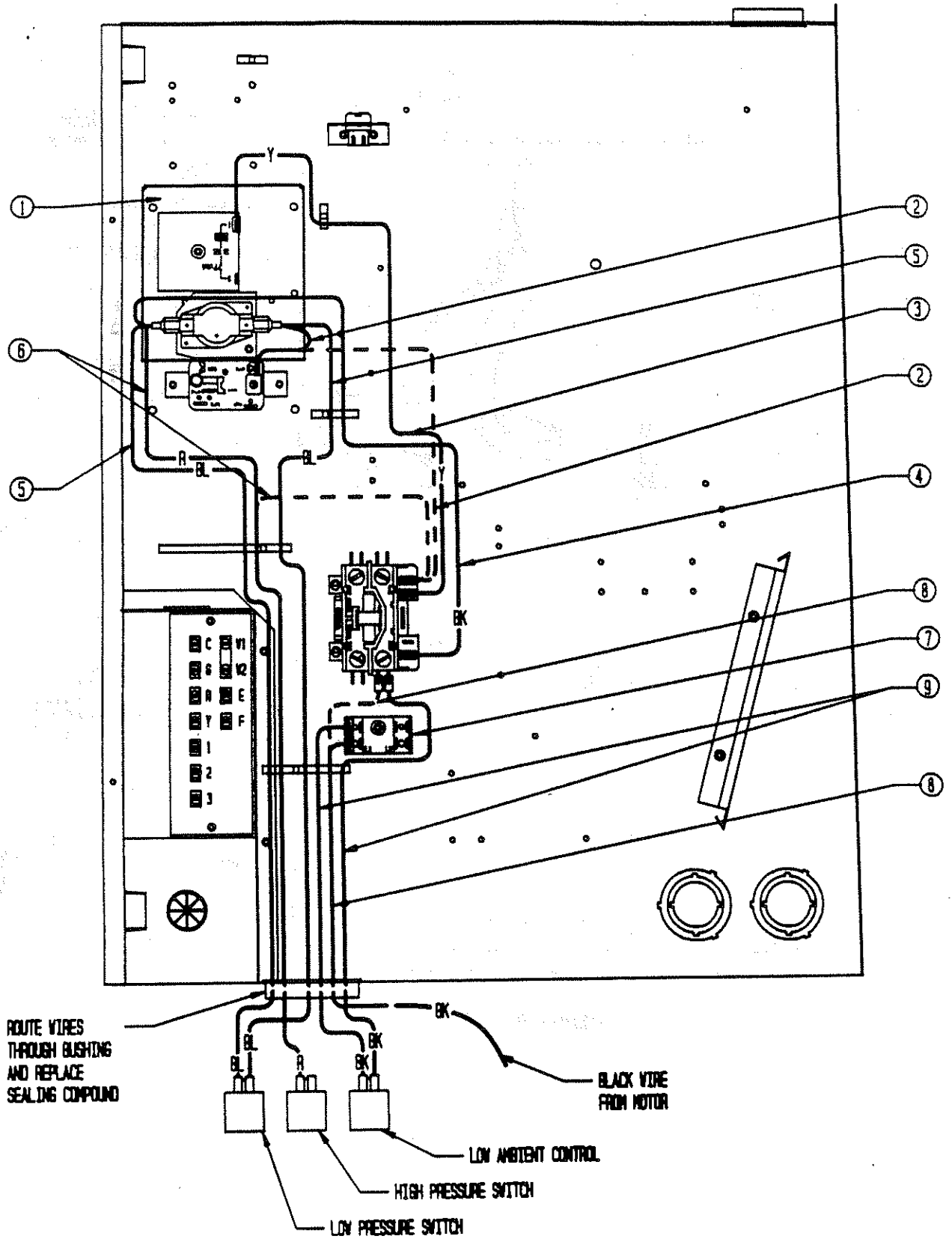


FIGURE 3

