INSTALLATION INSTRUCTIONS ZERO DEGREE LOW AMBIENT CONTROL PACKAGE (RXAD-A07)

FOR OUTDOOR HEAT PUMPS & CONDENSING UNITS

R-410A 208/230 VOLT

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

⚠ WARNING

THIS ACCESSORY IS INTENDED FOR INSTALLATION BY A QUALIFIED, LICENSED SERVICE PERSON. TO AVOID UNSATISFACTORY OPERATION OR DAMAGE TO THE PRODUCT AND POSSIBLE UNSAFE CONDITIONS, INCLUDING ELECTRICAL SHOCK, REFRIGERANT LEAKAGE AND FIRE, THE INSTALLATION INSTRUCTIONS PROVIDED WITH THIS ACCESSORY MUST BE STRICTLY FOLLOWED AND THE PARTS SUPPLIED USED WITHOUT SUBSTITUTION. DAMAGE TO THE PRODUCT RESULTING FROM NOT FOLLOWING THE INSTRUCTIONS OR USING UNAUTHORIZED PARTS MAY BE EXCLUDED FROM THE MANUFACTURER'S PRODUCT WARRANTY COVERAGE.

PARTS LIST

DESCRIPTION	PART NUMBER	QTY.
Low Ambient Cooling Control (LAC)	47-100571-01	1
Low Ambient Relay (LAR)	42-19736-02	1
Adapter	83-21457-02	1
Wire BK 13″ (DR (1) To LAR (2)	AS-50201-20-BB	1
Wire OR 22″ (LAR (Coil) To Strain Relief)	AS-50206-28-AB	1
Wire BR 9″ (LAR (Coil) To DFC (Com. Wire Nut)	AS-50207-15-AB	1
Wire Ties	64-17606-01	6
Cover, Flag Terminal	45-19245-01	2
Instructions	92-21458-62	1
Switch Mounting Bracket	AE-90946-01	1
Blunt End Screw	63-22338-01	2

⚠ WARNING

BEFORE BEGINNING ANY MODIFICATION, BE SURE THE MAIN DISCONNECT SWITCH IS IN THE "OFF" POSITION. FAILURE TO DO SO CAN CAUSE ELECTRICAL SHOCK RESULTING IN PERSONAL INJURY OR DEATH.

INSTALLATION PROCEDURE

1. Remove covers required to gain access to the control box and the compressor area.
2. Connect flare nut to adapter fitting that does not have a valve core. See Figure 2.
3. Place LAC in bracket and attach switch mounting bracket to control box with blunt end screw.
4. Remove cap from service port and place on remaining adapter fitting with valve core.

HP NOTE: When installing with a heat pump monitor, the extra cap and core must be removed to accommodate the second control.

AC NOTE: When installing in a condensing unit the LAR is not used.

5. Securely connect flare nut on adapter to service port on liquid line service valve.
6. Check all refrigerant connections for leaks and repair as necessary.

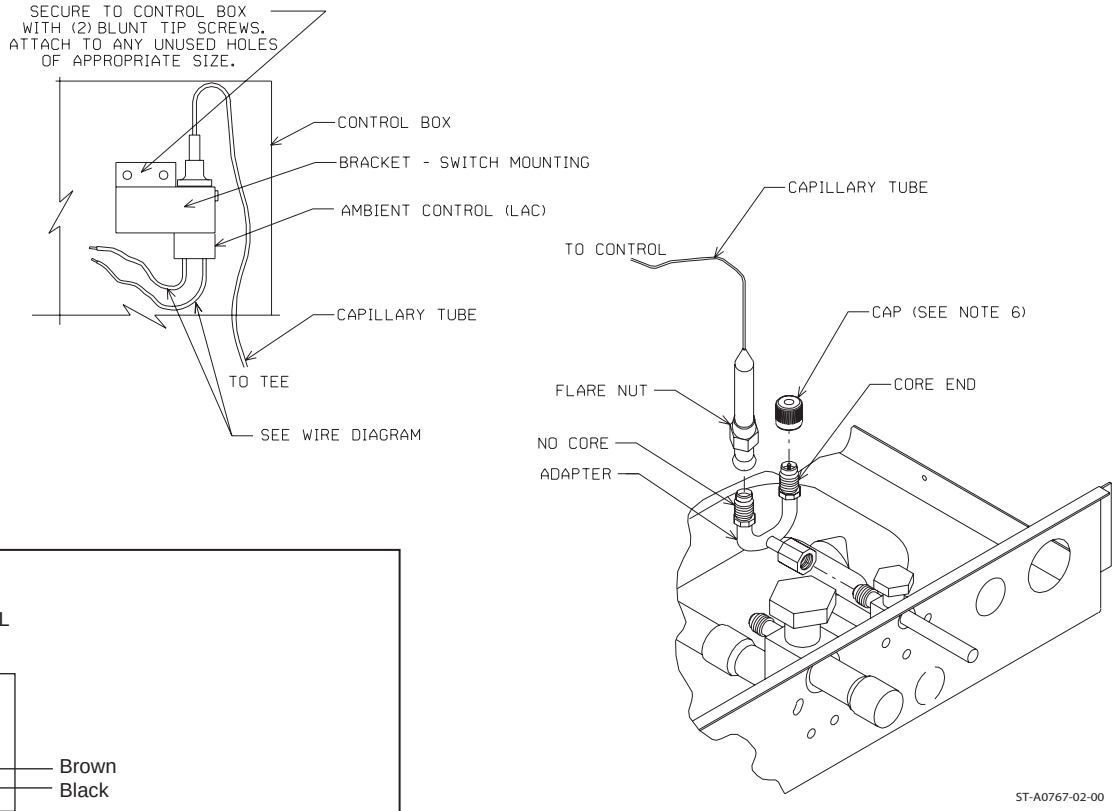
ELECTRICAL CONNECTION: HEAT PUMP

1. The low ambient relay needs to be located just below the defrost relay in the control box. Remove the existing screws in the panel and install the relay. (See unit wiring diagram.)
2. Route low ambient cooling control leads through back of control box. Connect one lead with piggyback terminal to terminal #1 on LAR Remove black fan motor wire from terminal #1 on the defrost relay and connect it to piggyback on terminal #1 of LAR. Connect other lead from low ambient control to terminal #2 on LAR. Connect 13″ black wire to piggyback on terminal #2 of LAR and to terminal #1 on defrost relay.
3. Connect 22″ orange lead to coil terminal on LAR and run lead to bottom of box through strain relief bushing in low voltage cover. Remove bushing and include orange lead with other low voltage pigtails and replace bushing leaving 6″ of lead below cover. Orange lead must be connected to "O" terminal on thermostat subbase. Connect 9″ brown lead to remaining coil terminal on LAR and connect stripped end to wire nut containing other brown leads in control box.

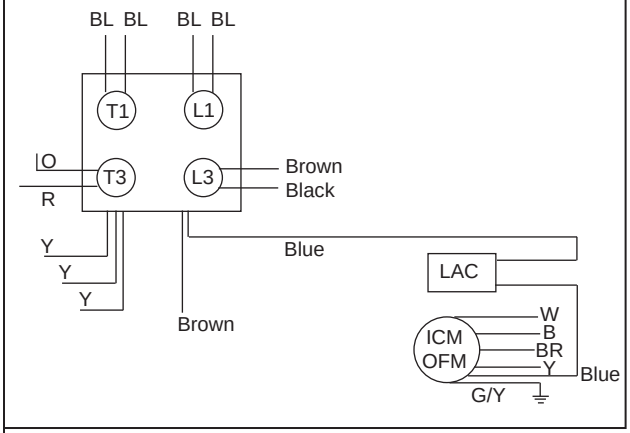
4. Use wire ties to tie low ambient control leads to compressor leads in unit to keep them off the base and away from hot tubing and the fan blade. Wire tie orange lead going to bottom of box, to the tied wire bundle running to lower part of box. Tie wires going to LAR in wire bundle going to the top of the box and tie brown low voltage lead to bundle in top of box. Make sure low voltage wires do not touch high voltage live terminals or high voltage wires do not touch low voltage live terminals.
5. Reinstall access panels.
6. Restore power to the unit and check unit operation.

   Control cycles outdoor fan off when liquid pressure drops below 180 psig ± 10, and fan cycles on when liquid pressure rises above 320 psig ± 10.

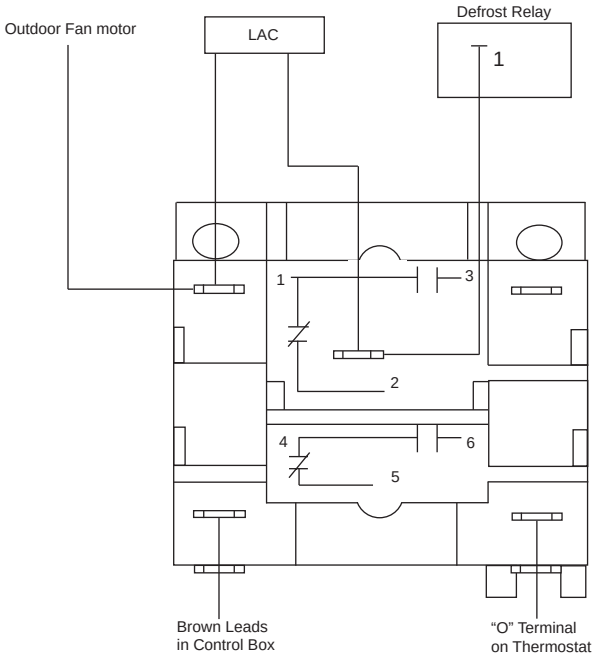
FIGURE 1
LOW AMBIENT CONTROL MOUNTING

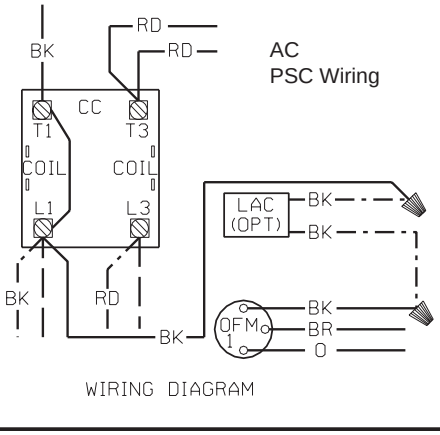


ECM Wiring for ARL



HEAT PUMP WIRING





ELECTRICAL CONNECTION: CONDENSING UNIT

1. Route both black leads from the low ambient control through a wire opening in the back or bottom of control box.
2. The low ambient control is to be connected in series with the outdoor fan motor circuit except with ECM outdoor motors such as used on the (-) ARL. See Figure 1 ECM Wiring and Figure 2. The point at which this is done will vary with the type of unit being modified. Refer to the wiring diagram in the unit. Trace the black lead from the outdoor fan motor to the point where it is connected in the control box.

   Refer to wiring diagram and remove the fan motor black lead terminal connection. Remove the terminal from the black lead and strip the wire insulation back 1/2". Using a wire nut (supplied in package), secure the black lead to the black control lead with the stripped end. Attach the other black lead form the low abient control to the terminal on the contactor vacated by the motor lead. Secure the two black leads to a convenient wire bundle by using the wire tie supplied in the package.
3. Reinstall access panels.
4. Restore power to the unit and check unit operation.

   Control cycles outdoor fan off when liquid pressure drops below 180 psig ± 10, and fan cycles on when liquid pressure rises above 320 psig ± 10.

FIGURE 2
LOW AMBIENT WIRING DIAGRAM FOR ARL-O60