

DUO-THERM[®]

INSTALLATION INSTRUCTIONS

For Models 54412-003 and 54412-004
Self-Contained Air Conditioners

SPECIFICATIONS

B.T.U.	11,000 PER UNIT
VOLTAGE	115V., 60 Hz., 1 PH. PER UNIT
KILOWATTS	2.0 PER UNIT
BRANCH CIRCUIT AMPACITY.	MIN. 24 AMP. PER UNIT
MIN. GENERATOR.	3500 WATT PER UNIT*
FUSE SIZE	20 AMP. MIN., 25 AMP. MAX. PER UNIT
RUN AMPS.	16.7 PER UNIT
REFRIG. CHARGE (R22)	19.5 PER UNIT

*NOTE: Use a 5000 watt generator for (2) units.

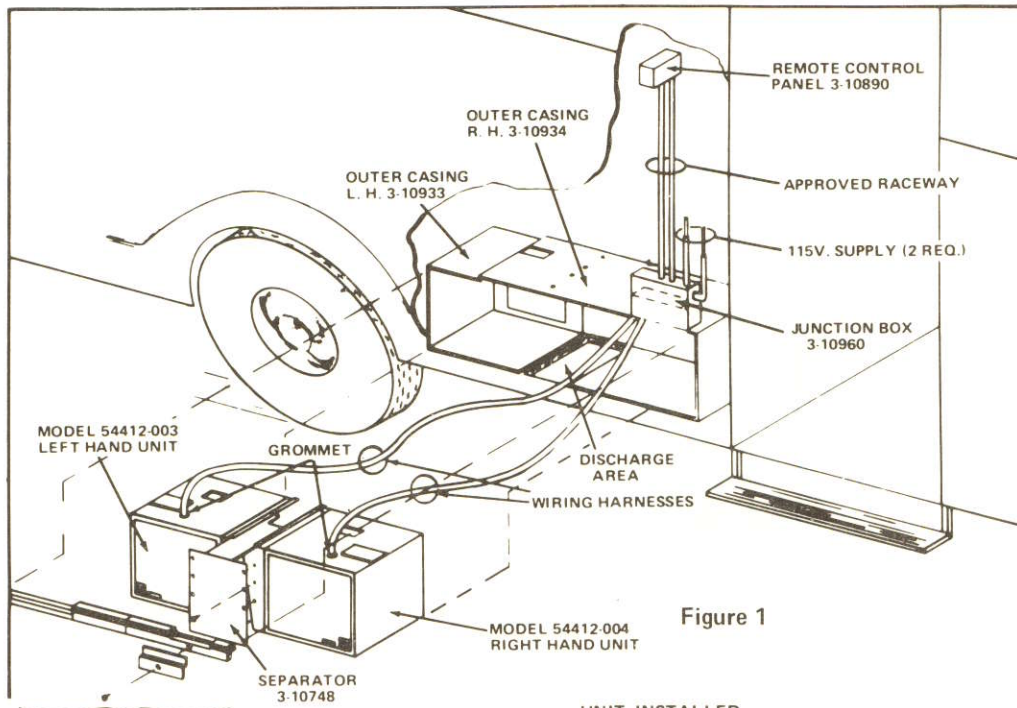


Figure 1

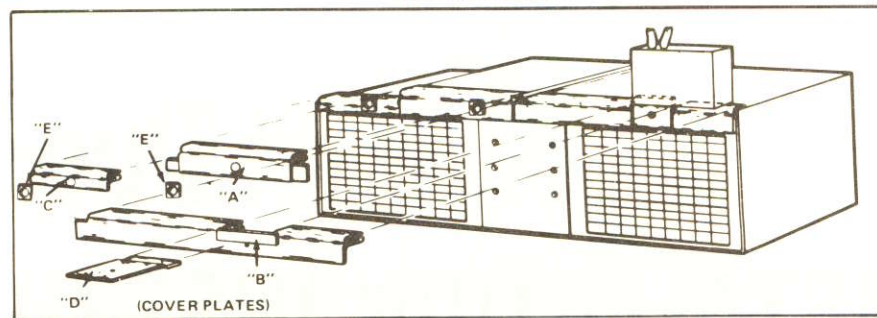


Figure 1A

THE OPENINGS IN WHICH THE AIR CONDITIONER IS TO BE INSTALLED MUST BE AT LEAST 56-1/2" WIDE BY 14-1/2" HIGH BY 24" DEEP.

PROVIDE AN ADEQUATE DISCHARGE OPENING IN THE FLOOR OF COMPARTMENT. OPENING MUST BE AT LEAST 10" x 18" AS SHOWN IN FIGURE 1.

PROVIDE AN ADEQUATE RETURN AIR OPENING IN FRONT OF UNIT. OPENING MUST BE AT LEAST 11-1/2" HIGH BY 18" WIDE (PER UNIT).

INSTALLING OUTER CASING

1. Remove seal strips A, B and C from outer casing.
2. Pop rivet outer casing no. 3-10933 to outer casing no. 3-10934.
3. Slide outer casing assembly into compartment and position discharge area over cut-out in floor. Secure outer casing to vehicle floor, partition, etc. Fasteners must be flush on inside of casing. See Figure 1.
4. Fasten junction box part no. 3-10960, to outer casing part no. 3-10934, with the screws provided.

INSTALLING AIR CONDITIONER

1. Set the model 54412-003 to the left and model 54412-004 to the right of opening outside the vehicle.
2. Route control wires (sheathed harness containing 6 wires) from unit, thru set of holes (C) in junction box, and hold in position with rubber grommet. Connect a set of wires (6) to each terminal block, as shown in Figure 2. Connect green wire from each harness, to the ground lug provided.

The field wiring, of this unit, is color coded. All wires that are connected, must be connected to a wire of the same color, blue to blue, black to black, etc. The terminal blocks in control panel have short jumper wires which indicate the color of wire to be connected to that particular terminal.

NOTE: ALL WIRING MUST COMPLY WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE STATE AND LOCAL CODES.

3. Install the remote control panel part no. 3-10890.
4. Run N.E.C. class 1 wiring from terminal blocks in control panel, down thru holes (A) in junction box and connect as shown in Figure 2. Holes (A) will accommodate two pieces of 1/2" conduit.

If wiring between control panel and junction box is not purchased with unit, be sure wires connect in control panel and junction box as shown in Figure 2.

5. Run approved 115V., 60 Hz., 1 Ph. power supply lines thru holes (B) in junction box and connect to the power lines from air conditioner. See Figure 2.

For complete wiring diagram, see page 4.

6. Place model 54412-004 into compartment, push back and to the right as far as possible. Slide excess wire harness into space between outer casing and top of units.
7. Place model 54412-003 into compartment, push back and to the left as far as possible. Be sure excess harness is pushed in on top of units.
8. Install separator no. 3-10748 between the units and secure in position with screws provided.
9. Connect discharge ducts to the air conditioner. The duct system must be sized so that the static pressure is no less than .40" w.c. or no more than .60" w.c.
10. Install cover plates ("A" thru "D") across opening at top of unit, as follows:

Install cover plate "A" first. Install "B" and "C" and press firmly to insure a good seal with the gasket material on "A". Install plate "D" by sliding top edge of plate under edge of junction box, then push lower edge of plate down and fasten to plate "C" with a self-tapping machine screw. Fasten "A" and "B" with pieces "E" and self-tapping machine screws, see Figure 1A.

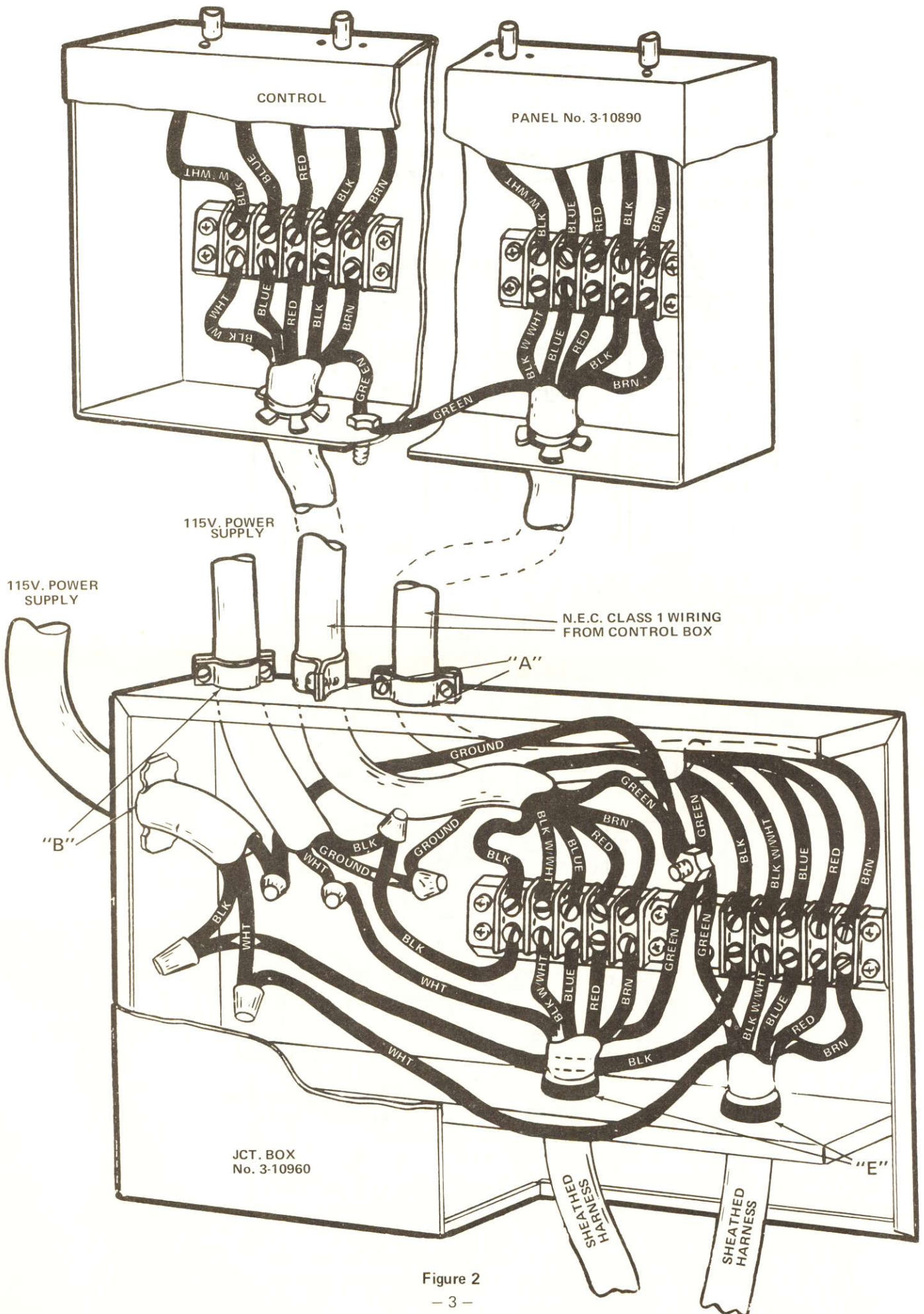
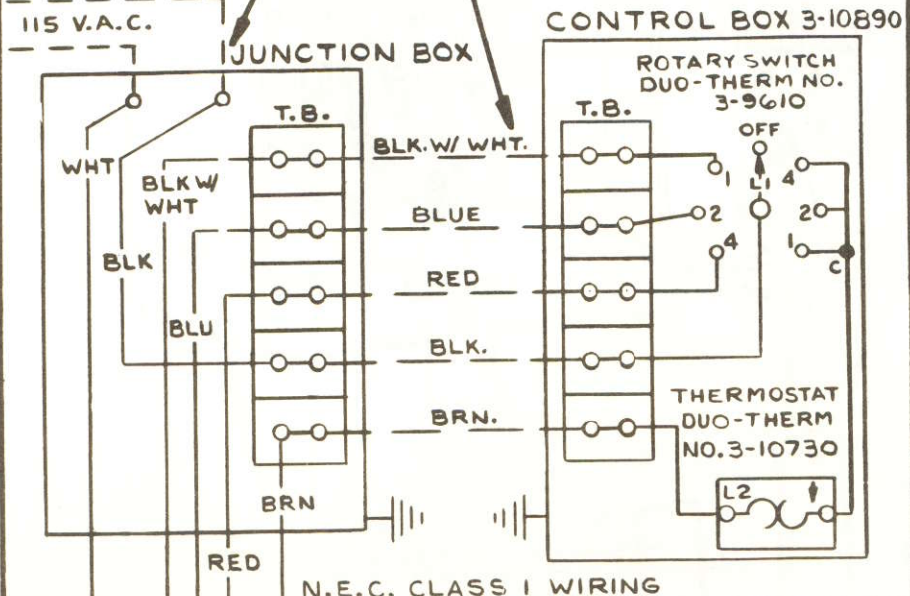


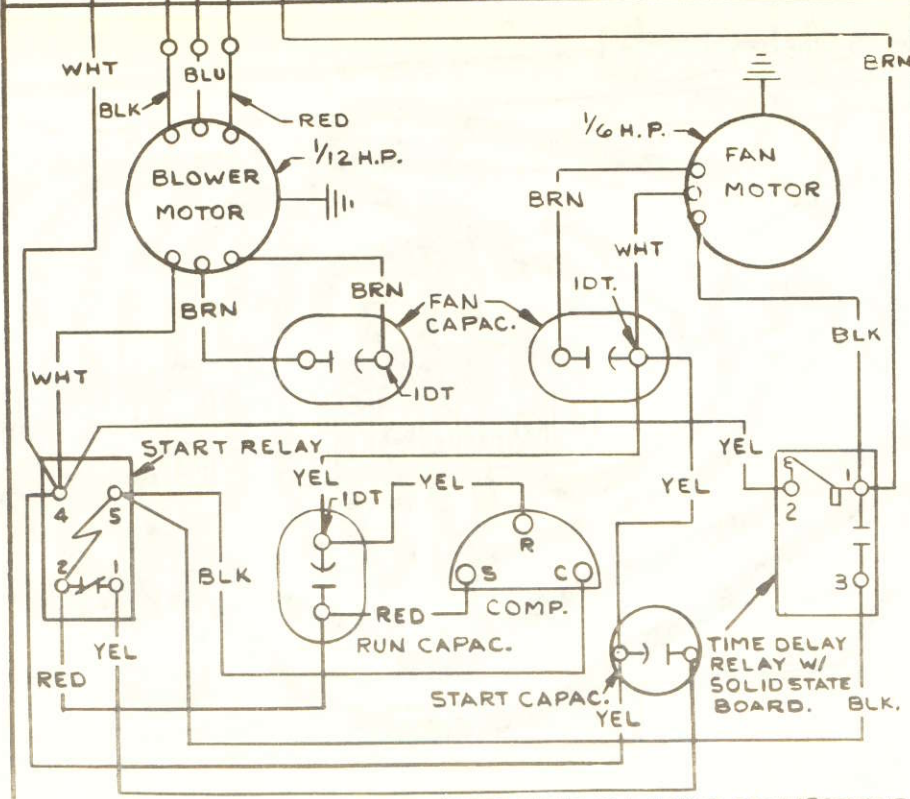
Figure 2
- 3 -

THE DISCONNECTING MEANS SHALL BE WITHIN SIGHT OF THE CONTROLLER AND WITHIN SIGHT OF THE BLOWER MOTOR OR BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION.

THE CONDUCTORS TO THE CONTROL BOX MUST BE 12 AWG FOR RUNS UP TO 25 FEET AND 10 AWG FOR RUNS OVER 25 FEET.



N.E.C. CLASS I WIRING



WIRING:
 FACTORY ———
 FIELD - - -

NOTE: FIELD WIRING CONNECTIONS ON TERMINAL BLOCK ARE IDENTIFIED BY WIRE COLOR.

NOTE: THIS DIAGRAM SHOWS THE WIRING FOR (1) UNIT. (ONE HALF OF A 54424 SYSTEM) THE SAME WIRING APPLIES TO BOTH UNITS.

DUO-THERM Division of Motor Wheel Corporation, LaGrange, Indiana 46761

DUO-THERM[®]

OPERATING INSTRUCTIONS

For Models 54412-003 and 54412-004
Self-Contained Air Conditioners

OWNER'S INSTRUCTIONS

SPECIFICATIONS

B.T.U.	11,000 PER UNIT
VOLTS	115V
KILOWATTS	2.0 PER UNIT
BRANCH CIRCUIT AMPACITY	MIN. 24 AMP. PER UNIT
RUN AMPS.	16.7 PER UNIT
MIN. GENERATOR	3500 WATT PER UNIT*
FUSE SIZE	20 AMP. MINIMUM, 25 AMPS. MAXIMUM PER UNIT
REFRIGERANT CHARGE	19.5 (R22) PER UNIT

**NOTE: Use a 5000 watt generator for (2) units.*

This system consists of two units. Either or both units can be operated, depending on the amount of cooling required.

OPERATING INSTRUCTIONS

1. Set thermostats at desired temperature.
2. Set fan switches in desired position.

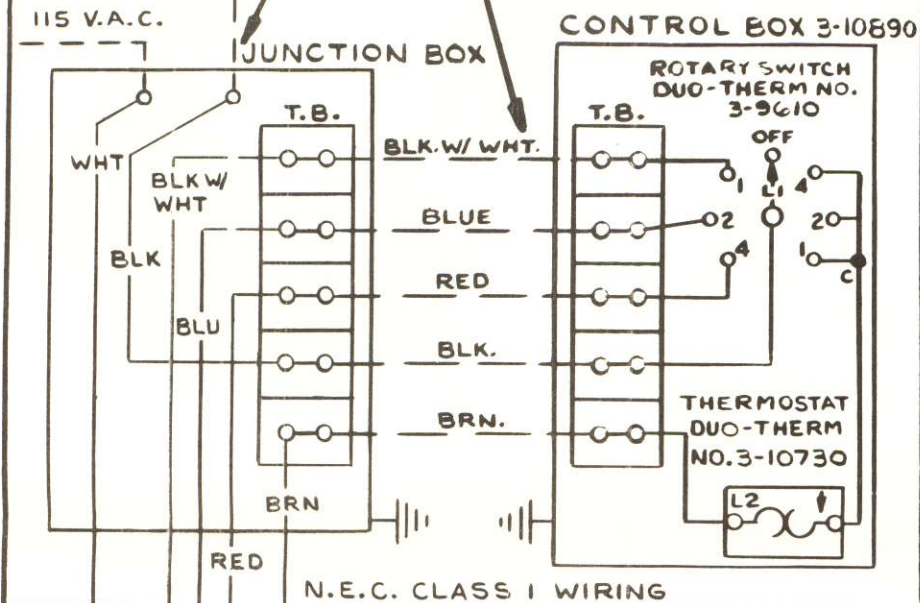
HI-FAN	HIGH SPEED FAN ONLY
MED.-FAN	MED. SPEED FAN ONLY
LOW-FAN	LOW SPEED FAN ONLY
HI-COOL	HIGH SPEED FAN WITH COOLING
MED.-COOL	MED. SPEED FAN WITH COOLING
LOW-COOL	MED. SPEED FAN WITH COOLING

3. To completely shut down units, place fan switches in the "OFF" position.

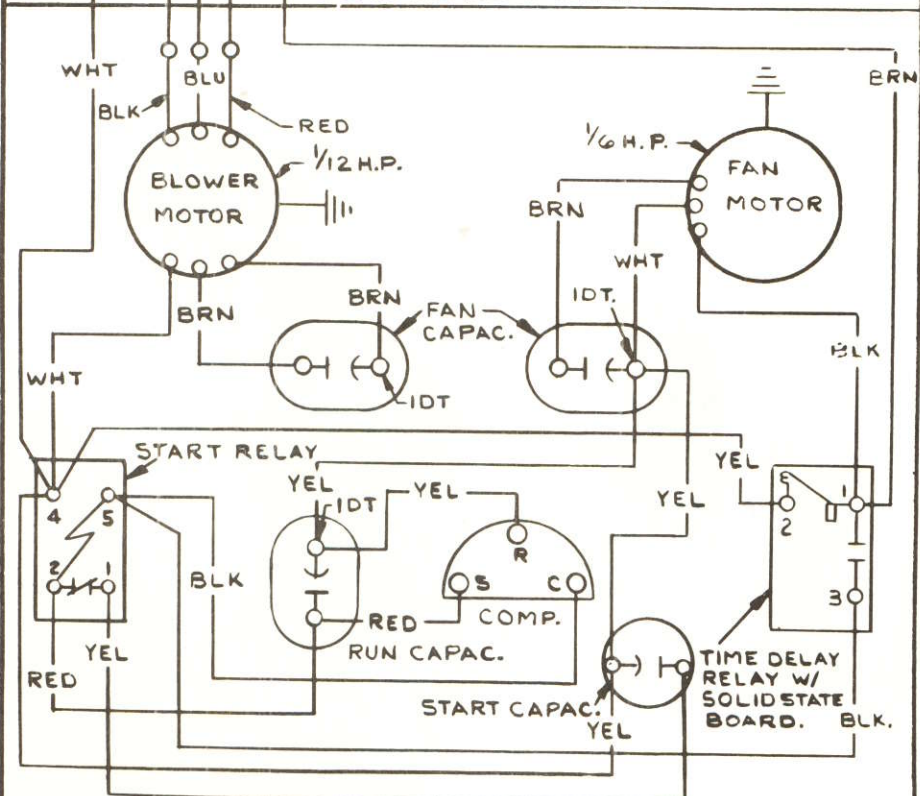
CLEANING COIL: Periodically remove panel from front of air conditioner (inside vehicle) and vacuum the coil to remove dust and lint. If unit is removed from vehicle, a hose can be used to wash off the coil.

THE DISCONNECTING MEANS SHALL BE WITHIN SIGHT OF THE CONTROLLER AND WITHIN SIGHT OF THE BLOWER MOTOR OR BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION.

THE CONDUCTORS TO THE CONTROL BOX MUST BE 12 AWG FOR RUNS UP TO 25 FEET AND 10 AWG FOR RUNS OVER 25 FEET.

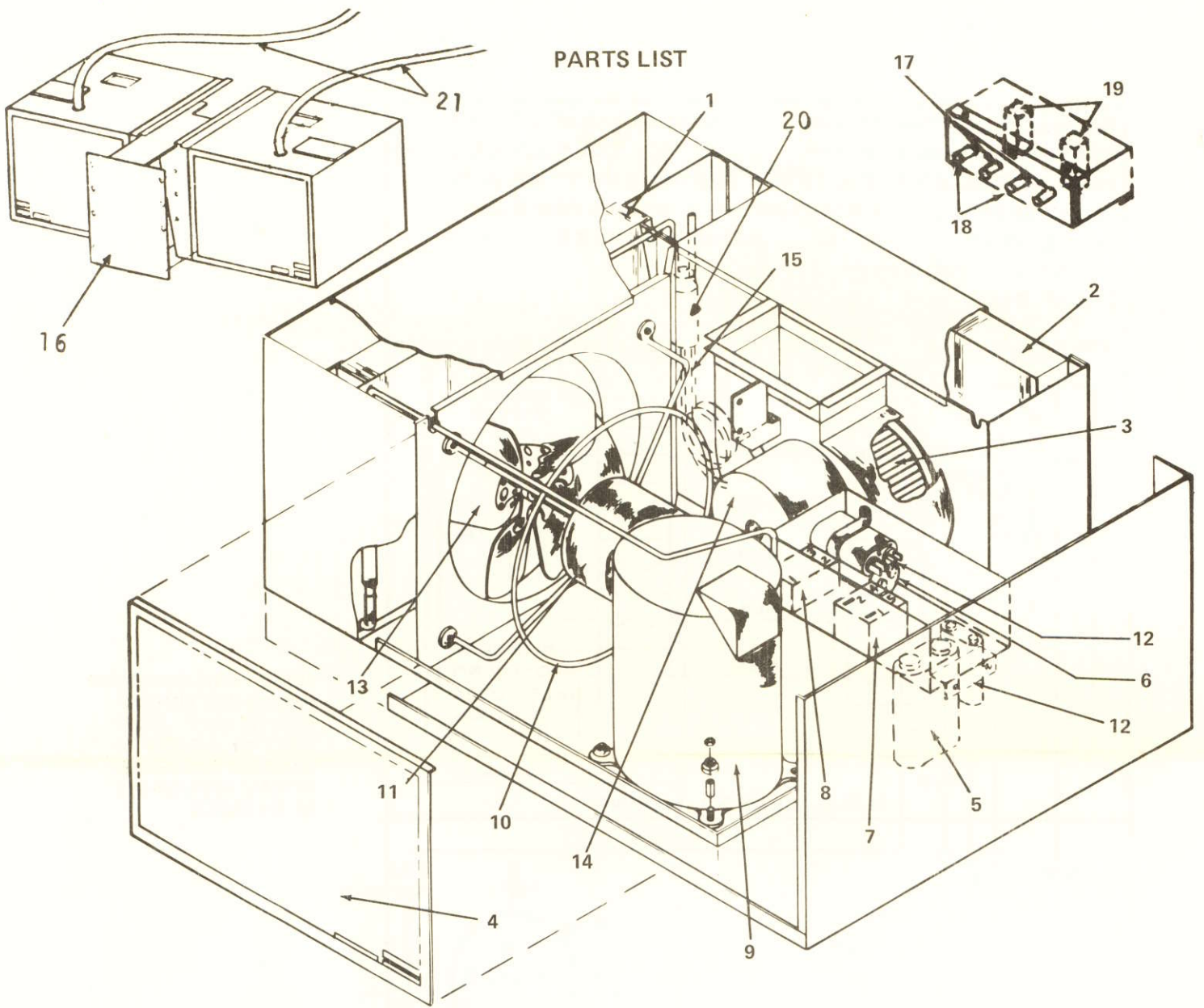


NOTE: THIS DIAGRAM SHOWS THE WIRING FOR (1) UNIT. (ONE HALF OF A 54424 SYSTEM) THE SAME WIRING APPLIES TO BOTH UNITS.



WIRING:
 FACTORY ———
 FIELD - - -

NOTE: FIELD WIRING CONNECTIONS ON TERMINAL BLOCK ARE IDENTIFIED BY WIRE COLOR.



PARTS LIST

INDEX NO.	DESCRIPTION	MODEL	MODEL
		54412-003	54412-004
		PART NO.	PART NO.
1	Condenser Coil	3-10714	3-10639
2	Evaporator Coil	3-10713	3-10640
3	Blower Wheel	3-10763	3-10660
4	Grille	3-10699	3-10699
5	Run Capacitor	3-8087-12	3-8087-12
6	Start Capacitor	H5046-11	H5046-11
7	Start Relay	H5040-16	H5040-16
8	Time Delay	3-10456	3-10456
9	Compressor	3-10629	3-10629
10	Motor Mount	3-10613	3-10613
11	Fan Motor	3-10734	3-10700
12	Fan Capacitor	3-8087-3	3-8087-3
13	Fan Blade	3-10764	3-10637
14	Blower Motor	3-10735	3-10736
15	Capillary Tubes	3-10829	3-10829
16	Separator	3-10748	3-10748
17-19	Control Panel		3-10890
17	Fan Switch		3-9610
18	Thermostat		3-10730
19	Terminal Block		3-9208
20	Filter Dist.		3-10680
21	Wire Harness		3-10771

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