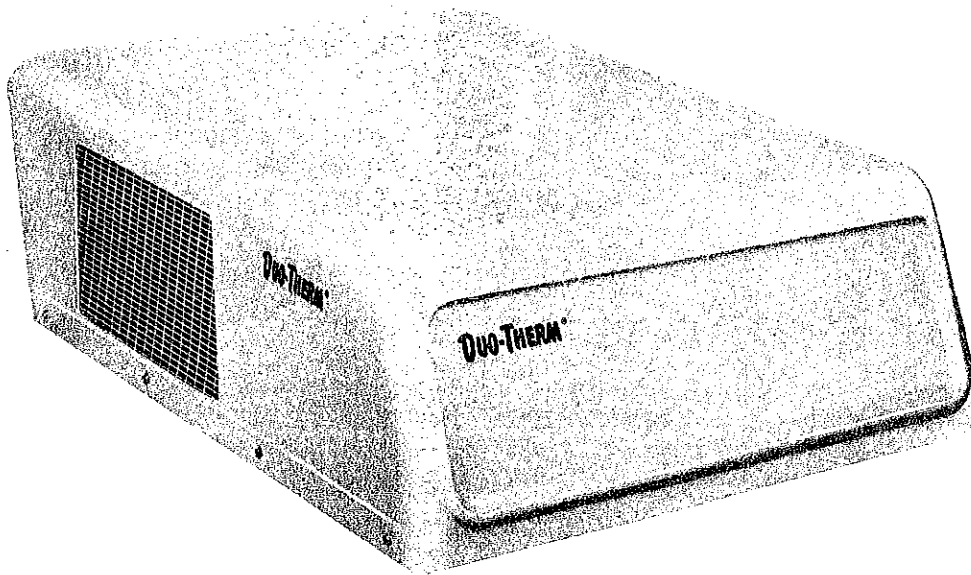


**DUO-THERM<sup>®</sup>**  
**ROOF MOUNT**  
**AIR CONDITIONER**  
**INSTALLATION**  
**and OPERATING**  
**INSTRUCTIONS**

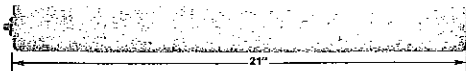
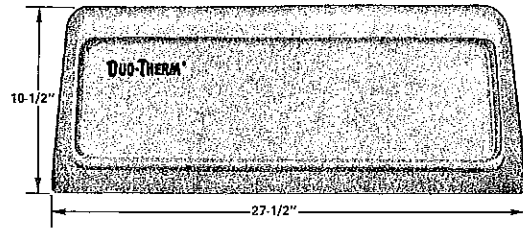
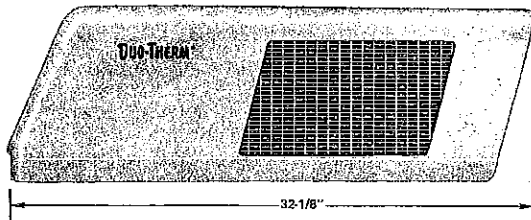


**MODEL 52712C**

# SPECIFICATIONS

BTU .....	10,000
EVAPORATOR AIR FLOW .....	270 CFM
VOLTS .....	115V, 60 Cycle, 1 Phase
KILOWATTS .....	1.4
RUN. AMPS. ....	12.0
START AMPS. ....	51.7
WIRE SIZE .....	Up to 15' – No. 14 AWG Up to 24' – No. 12 AWG
MIN. GENERATOR .....	2500 WATTS
FUSE SIZE .....	15 Amp. Max. Time Delay

## OVERALL SIZE OF UNIT



SIDE VIEW



END VIEW

ROOF OPENING .....	14" x 14"
MIN. ROOF THICKNESS .....	2"
MAX. ROOF THICKNESS .....	4"

# INSTALLATION

1. Remove the 14" x 14" vent and inside trim. If opening has to be cut, frame in to 14" x 14". Be sure framing stock is the same thickness as roof.

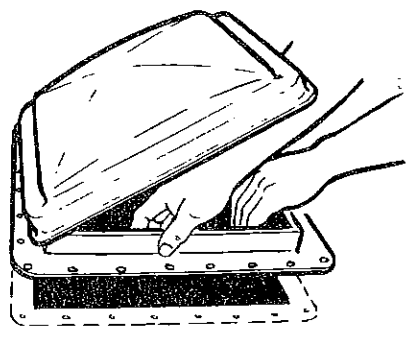


FIGURE 1

It is suggested in some applications, where the roof structure does not provide enough material for fastening the roof flashing, that 1/4" plywood be placed around outer edges of vent opening, (under the metal roofing). This provides more area for the roof flashing mounting screws.

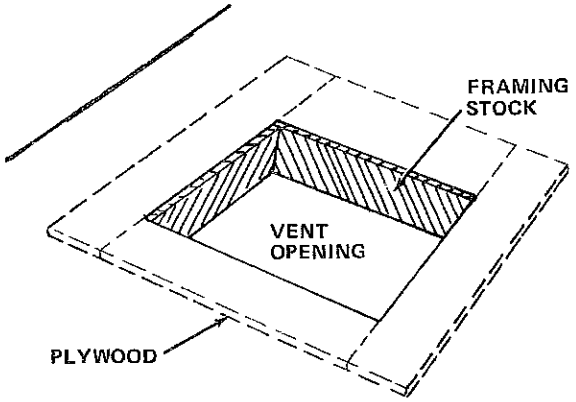
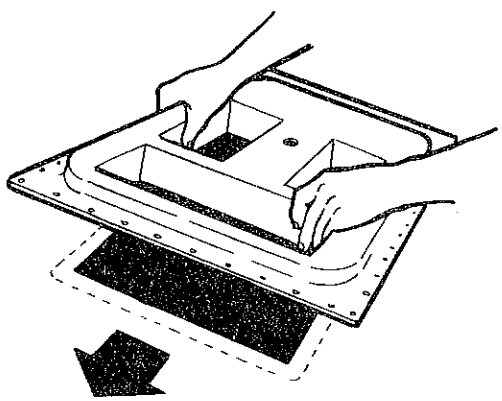


FIGURE 2

2. Run power line to vent or roof opening. If vent fan was removed, the existing wire may be used, providing it complies with the U.S.A. Standard Section A119.2 or any revision thereof, and the N.E.A. Codes.

The power line should be a separate circuit with a fuse box using 15 amp. maximum time delay fuses. The wire size for supply line should be No. 14 A.W.G. with ground for runs up to 15', and No. 12 A.W.G. with ground for runs up to 25'.

3. Apply caulking to under side of roof flashing and place over vent opening. Secure flashing to roof with screws of sufficient length. Be sure flashing is positioned properly, see Figure 3.



FRONT OF VEHICLE  
FIGURE 3

4. Apply foam tape sealer, provided, as shown in Figure 4.

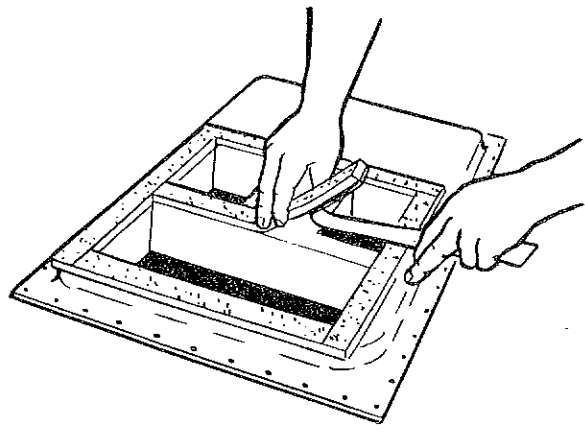


FIGURE 4

5. Set air conditioner on flashing, being careful not to damage the foam tape sealer. Guide the conduit through the small hole in center of flashing, see Figure 6.
6. Remove air box from ceiling template.

- Place ceiling template in position, and secure to ceiling with screws provided. Secure template and air conditioner with the 4 anchor bolts provided.

**NOTE:** The anchor bolts, screws, nuts, etc. are packed with the ceiling template.

After ceiling template is installed, tape the joints in the return air and discharge air ducts as shown in Figure 6.

## WIRING

As mentioned previously, all wiring must comply with the U.S.A. Standard, N.E.A. Codes and all local codes.

- Connect flexible conduit from roof unit to the junction box in ceiling template with conduit nut provided.
- Connect the red, black and blue wires in conduit, to the corresponding red, black and blue wires in junction box, as shown.
- Connect white wire in conduit to the white or neutral wire from power supply, as shown.
- Connect orange wire in junction box to the black or hot wire from power supply, as shown.
- Connect the ground wire from power supply, to the identified ground screw in junction box, as shown.
- Place air box in position and secure to ceiling with screws. Air box will protrude from ceiling 2".

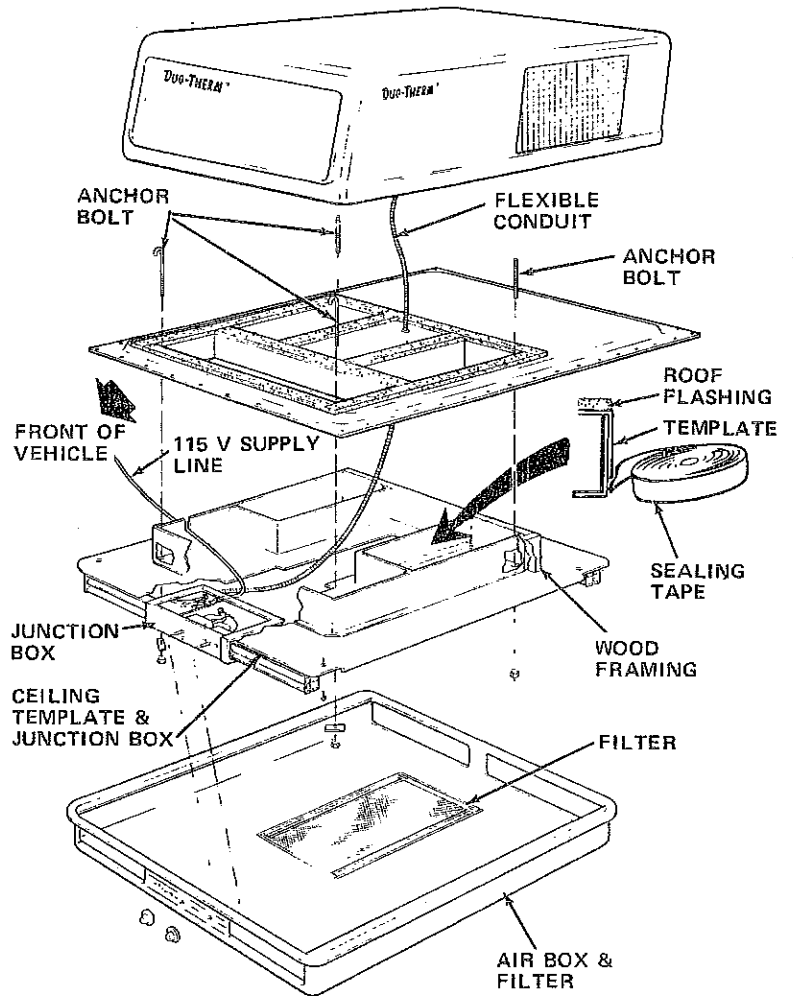


FIGURE 6

## WIRING JUNCTION BOX

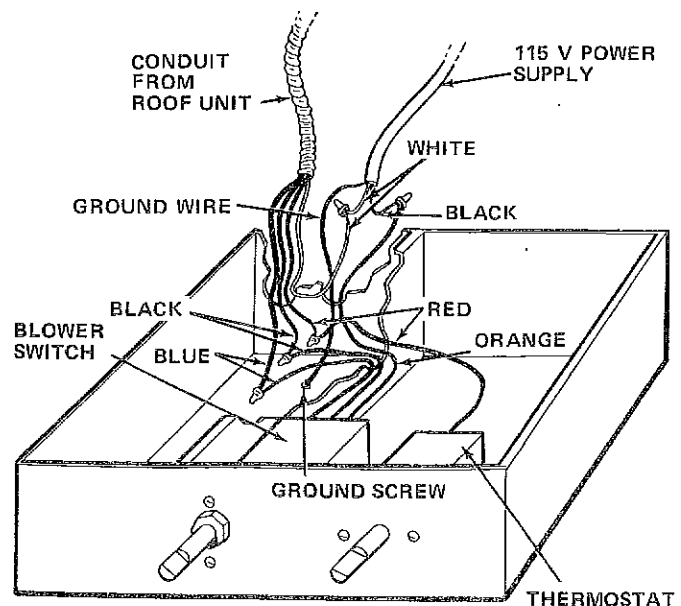


FIGURE 7

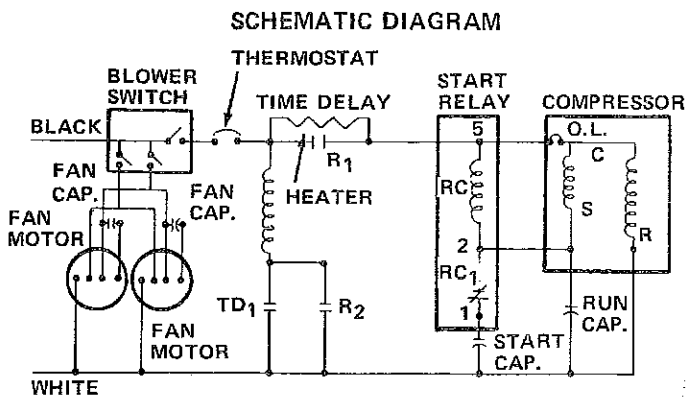


FIGURE 5

WIRING DIAGRAM No. 52712C

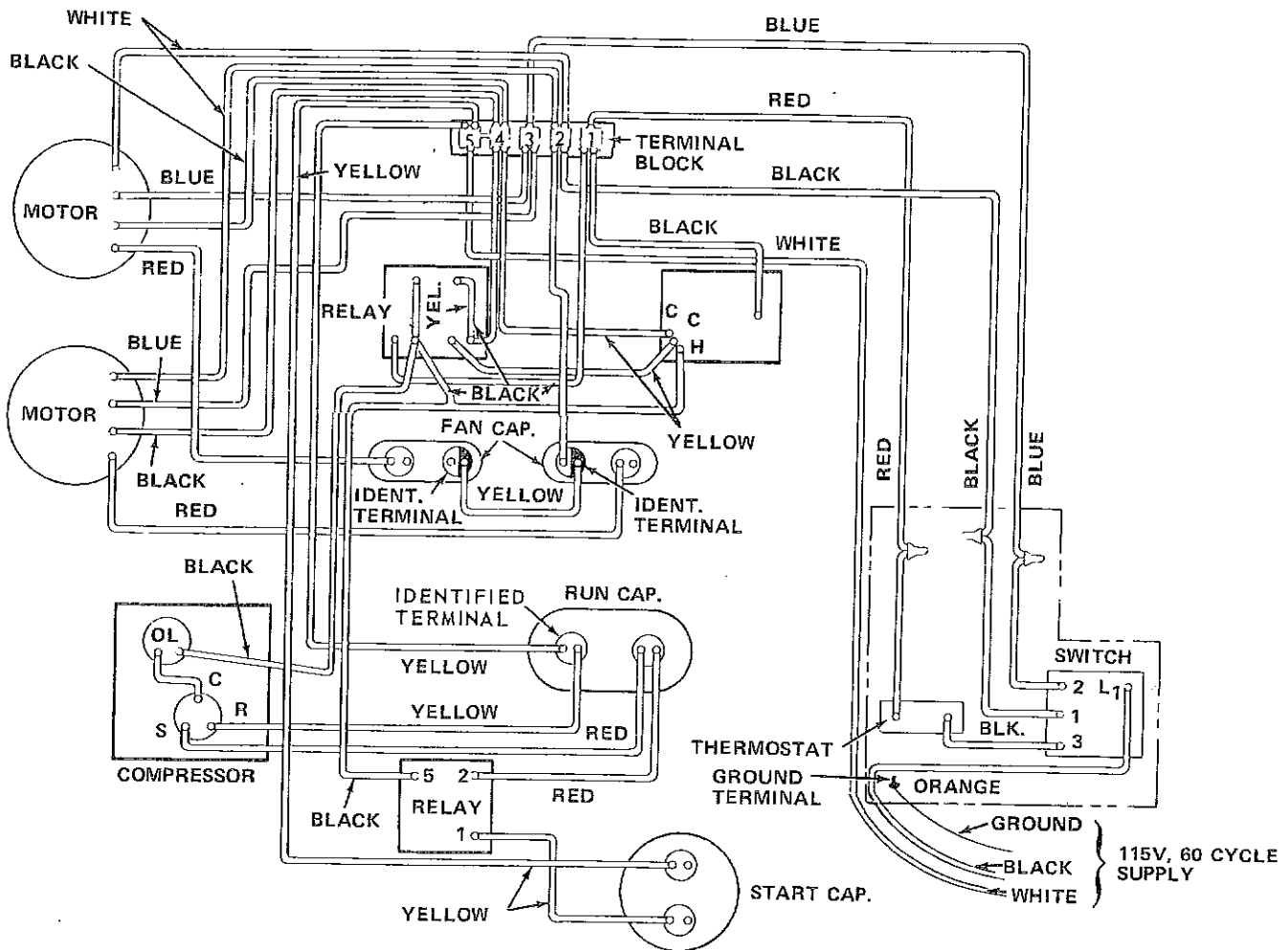


FIGURE 8

OPERATING INSTRUCTIONS

1. Place thermostat dial at desired temperature.

2. Place blower switch in desired position.

BLOWER SWITCH

THERMOSTAT



FIGURE 9

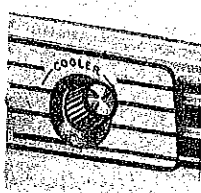


FIGURE 10

- Hi-Fan – High Speed Fan only
- Low-Fan – Low Speed Fan only
- Hi-Cool -- High Speed Fan with Cooling
- Low-Cool – Low speed fan with Cooling

MAINTENANCE

*NOTE: This unit has a delayed start kit installed. When unit is turned on, the fans will start, and in approximately 2 minutes the compressor will start. After shut down, unit will not restart for approximately 2 minutes.*

There is a protective cover available as optional equipment, Part No. H-9140. Order direct from nearest dealer, distributor or direct from factory.

For service work, refer to the service directory supplied with the unit Form No. DS-447.

The air filter should be cleaned or replaced periodically. Filter may be washed in warm suds water, let dry and reinstall. Replacement filters are available from nearest dealer, distributor or direct from factory.

The recommended refrigerant charge is 28.5 oz. of Freon 22.

# SERVICE INFORMATION

## THE IMPORTANCE OF CORRECT CONNECTIONS FOR RUN CAPACITORS

The terminal connected to the outer foil (nearest the can) is the one most likely to short to the can and be grounded in the event of a capacitor breakdown. This terminal is identified by some sort of marking.

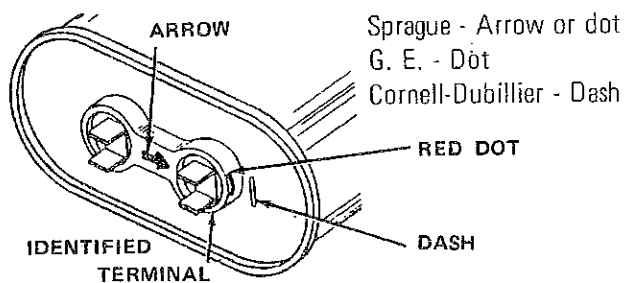


FIGURE 11

The identified terminal should always be connected to the supply line or "R" terminal **NEVER** to the "S" terminal.

When connected in this manner a shorted and grounded running capacitor will result in a direct short to ground from the "R" terminal and will blow line fuse No. 1. The motor protector will protect the main wiring from excessive temperature.

If, however, the shorted and grounded terminal is connected to the start winding terminal "S", current will flow from the supply line through the main winding and through the start winding to ground. Even though the protector may trip, current will continue to flow through the start winding to ground, resulting in a continuing temperature rise and failure of the start winding.

## INSTRUCTIONS FOR CHANGING BLOWER MOTOR/S

1. Disconnect power supply.
2. Remove outer and inner shrouds
3. Remove vaporator shroud by removing the screws which holds it in place. *NOTE: Most of the screws are under the fibre glass insulation, on top and sides of shroud, see Figure 12.*

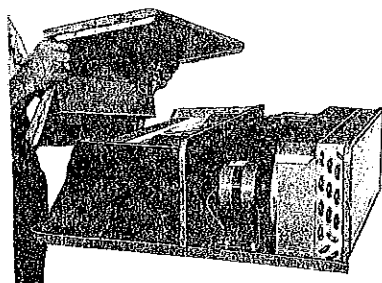


FIGURE 12

4. Remove screws holding condenser coil in place and pull back out of the way, see Figure 13.

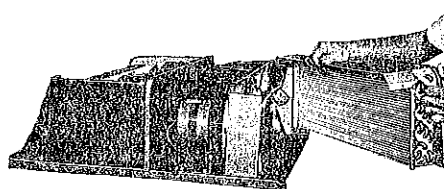


FIGURE 13

5. Remove screws holding evaporator coil in place and pull back out of the way, see Figure 14. *NOTE: When pulling these coils out, be careful not to damage tubing connected to coil.*

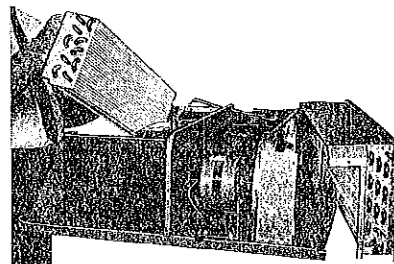


FIGURE 14

6. Remove condenser fan/s by loosening allen screw/s, using 1/8" allen wrench.
7. Remove blower inlet ring/s to allow removal of blower wheel/s.
8. Remove blower wheel/s by placing a long 5/32" allen wrench thru the small hole on top of blower housing, and loosen set screw.
9. Remove screws, holding electrical box, to gain access to motor wires.
10. Remove the 4 nuts, holding motor/s to the base pan and remove motor/s.
11. Install new motor/s and reassemble unit. **IMPORTANT: Motor/s must be installed so that motor leads face the compressor.**

This must be done to insure proper rotation. Also wheel and fan blade for left side of unit (left side facing front of vehicle), have a spot of black paint on hub, for identification, see Figure 15.

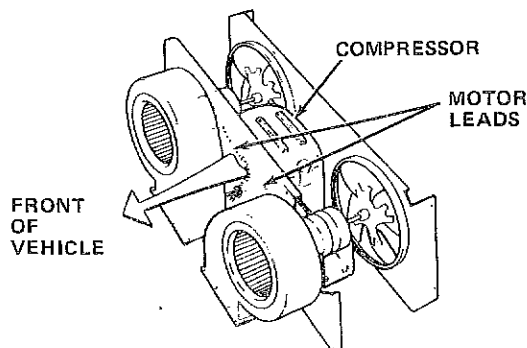
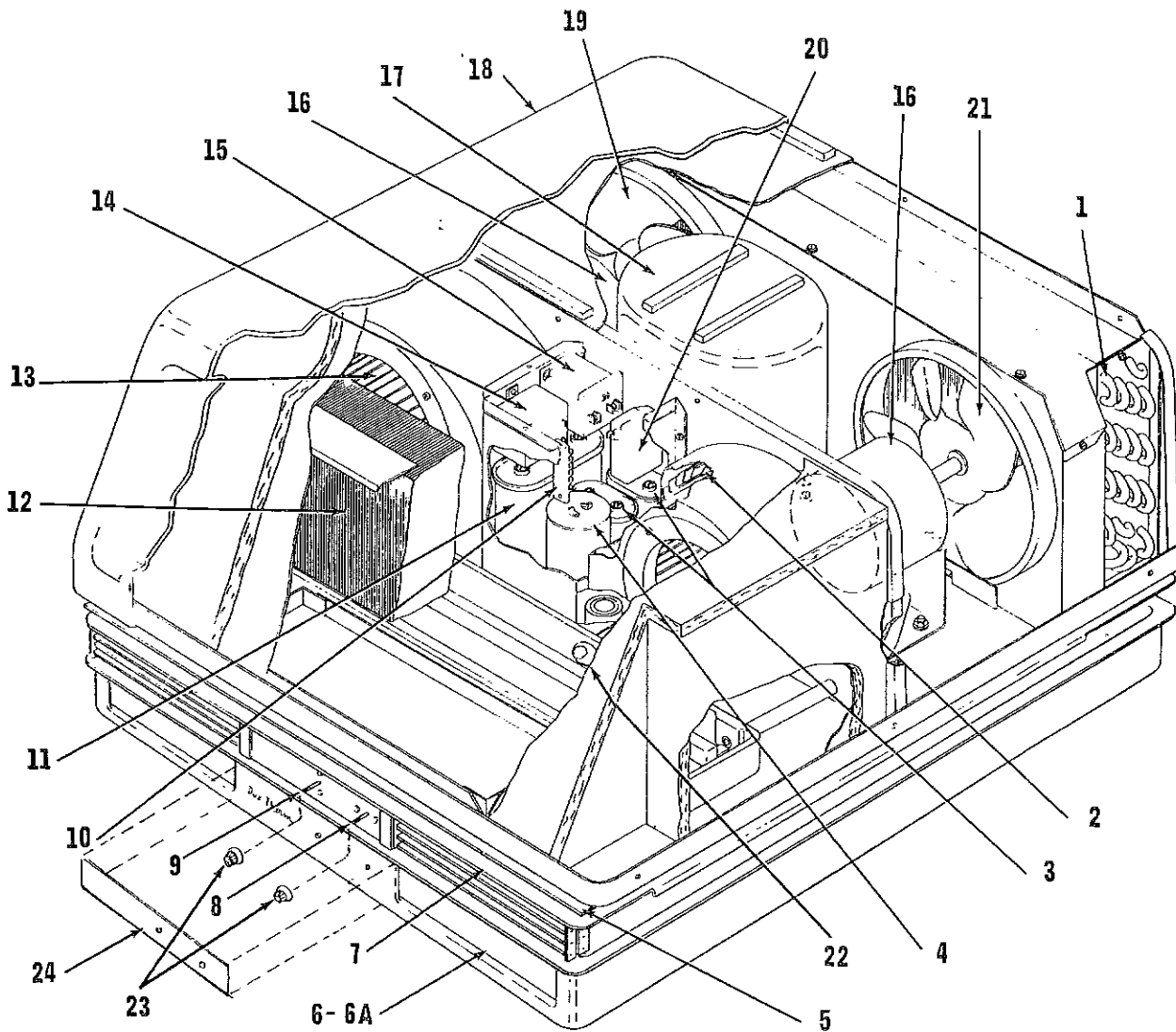


FIGURE 15

# PARTS LIST



INDEX NO.	PART NO.	DESCRIPTION	INDEX NO.	PART NO.	DESCRIPTION
1	H-6578	Condenser Coil	17	H-6610*	Compressor (JRG1-0100 PAA-224)
2	H-2774	Blower Wheel	18	H-6681	Shroud
3	H-5190	Capacitor (Fan)	19	H-6658	Fan Blade
4	H-5046-2	Capacitor (Start.)	20	H-6675	Thermal Time Delay
5	H-6793	Flashing	21	H-6743	Fan Blade
6	H-6794	Air Box	22	H-6607	Capillary Tube
6A	H-6770	Air Filter	23	H-4779	Knob
7	H-6752	Ceiling Template	24	H-6754	Decal
8	H-4825	Thermostat		H-6688	Anchor Bolt Hook
9	H-6763	Switch		H-9141	Anchor Bolt Hook
10	H-6660	Terminal Block		H-6689	Anchor Bolt Stud
11	H-6655	Capacitor (Run.)		H-9142	Anchor Bolt Stud
12	H-6597	Evaporator Coil		H-9140	Anchor Bolt Stud
13	H-6646	Blower Wheel			Vinyl Cover, Opt.
14	H-5040-1	Start Relay			
15	H-6677	Delay Relay			
16	H-6659	Motor			

Not Shown

\*Order Compressor from nearest Copeland Wholesaler.

ORDER PARTS BY PART NUMBER ONLY -- NOT BY INDEX NUMBER  
ORDER PARTS FROM YOUR DUO-THERM SERVICE DISTRIBUTOR