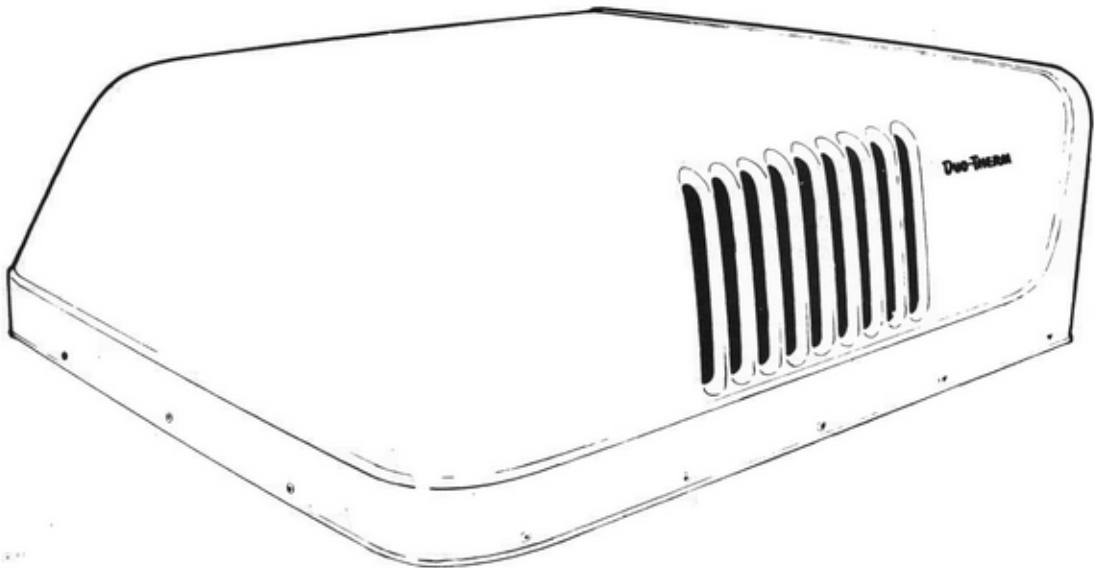


● **STANDARD LINE MODELS**

**QUICK-START
MODELS**
54608-435
54612-435
54612-535
54615-436

**SHUR-START
MODELS**
54612-436
54612-536
54615-436

DUO-THERM
ROOF MOUNT
AIR CONDITIONER
INSTALLATION
and OPERATING
INSTRUCTIONS



CAUTION

Modification of this Appliance can be extremely Hazardous. Always consult the manufacturer before making changes.

READ THESE INSTRUCTIONS CAREFULLY, KEEP FOR FUTURE REFERENCE.

SPECIFICATIONS

	MODELS 54608-435	MODELS 54612-435 54612-436	MODELS 54612-535 54612-536	MODELS 54615-435 54615-436
BTU (Compressor Capacity)	7000	11,000	11,000	13,500
Volts	115	115	115	115
Kilowatts	1.1	1.4	1.4	1.8
Run. Amps	10	12	12	15
Total Locked Rotor Amps	40.98	52.48	54.48	72.5
Wire Size	Up to 15' No. 14 AWG - Up to 24' No. 12 AWG			Up to 24' No. 12 AWG
Min. Generator*	2000 Watt	2500 Watt	2500 Watt	3500 Watt
Circuit Protection	15 AMP. TIME DELAY MAXIMUM			20 AMP. T.D. MAXIMUM
Refrigerant Charge (R22)	14.5 oz.	25.5 oz.	27.5 oz.	26.0 oz.
Max. Roof thickness	6"	6"	6"	6"
Min. Roof Thickness	1"	1"	1"	1"

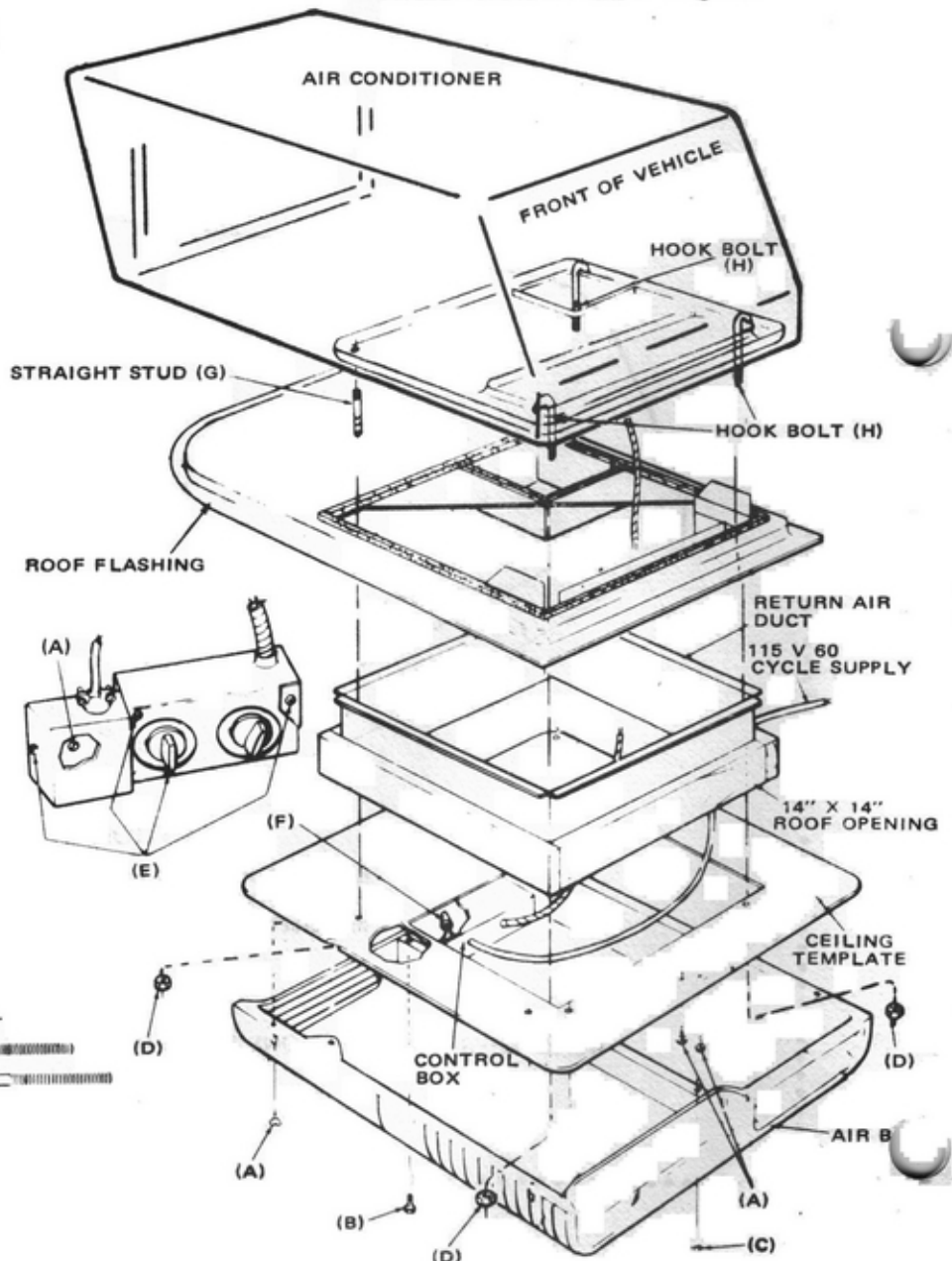
*For two 54612's use 4000 watt generator - For two 54615's use 5000 watt generator

DUO-THERM TESTED UNDER ARI STANDARD 250-74

NOTE: The anchor bolts, supplied as standard equipment, will cover a range of 2-3/8" to 4-1/8" roof thickness. For roof thicknesses, other than the standard, special Bolt Kits can be obtained by special order. For roof sections thinner than the standard, bolts can be cut off, however, care must be taken so that threads are not damaged. Bolt Kits are available as follows:

KIT PART NO.	ROOF THICKNESS RANGE
3-14870 (std.)	2-3/8" to 4-1/8"
3-14867 (opt.)	1" to 2-3/8"
3-14868 (opt.)	3-3/4" to 5-1/4"
3-14869 (opt.)	5-1/4" to 6-1/8"

INSTALLATION LAYOUT - Figure 1



MOUNTING PARTS

	TOTAL NO.
(A) Screw	9
(B) Screw	1
(C) Hex Nut	2
(D) Nut & Lockwasher	4
(E) Self Taping Screw (Blunt Point)	4
(F) Wire Connector	2
(G) Anchor Bolt (Straight)	1
(H) Anchor Bolt (Hook)	3

INSTALLATION

1. Remove the 14" x 14" roof 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.

Install the return air duct, which will be folded flat when received. Unfold, form it into a square, and bend over tabs as shown in Figure 2. Place duct down through opening, with tabs on top. Cut corners of duct with knife or scissors, for the particular roof thickness, and bend excess up against ceiling.

It is suggested in some applications, where the roof structure does not provide adequate support, that 1/4" plywood be placed around outer edges of vent opening, (under the metal roofing). See Figure 2.

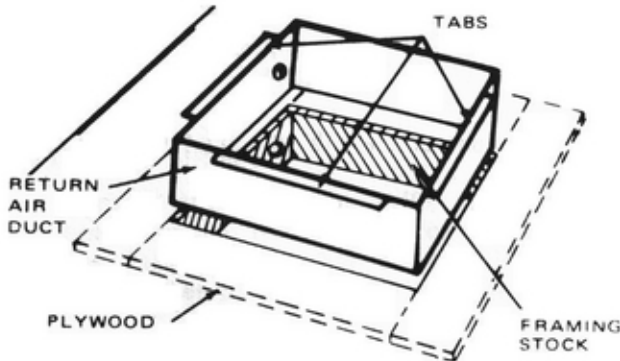


FIGURE 2

2. Run power line to vent or roof opening. If vent fan was removed, the existing wire may be used, providing it complies with all National, State, and Local wiring codes.

The power line should be a separate circuit using proper wire size and maximum circuit protection as shown in table on page 2.

3. Peel off the protective wax paper from the adhesive on bottom of roof flashing. See Figure 3.

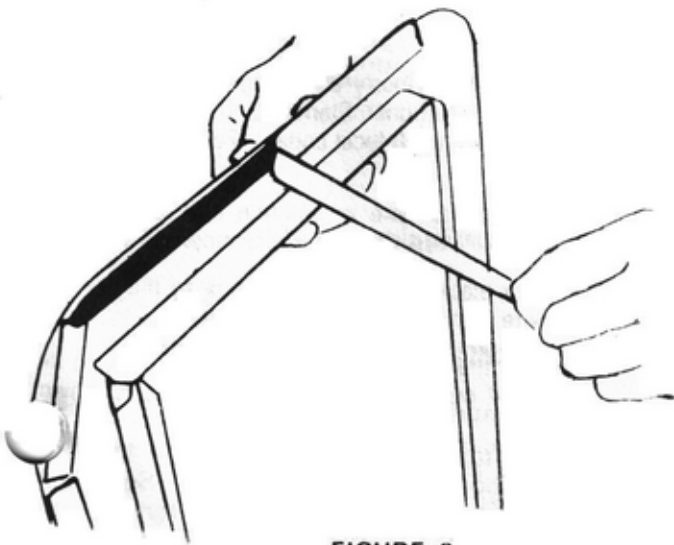


FIGURE 3

Place roof flashing, with the marking REAR (towards rear of vehicle). Be sure flashing is positioned properly. See Figure 4. Press down on outer edges of flashing to ensure proper seal on roof.

NOTE: on curved roof sections it may be desirable to screw or rivet the roof flashing perimeter to insure a water tight seal.

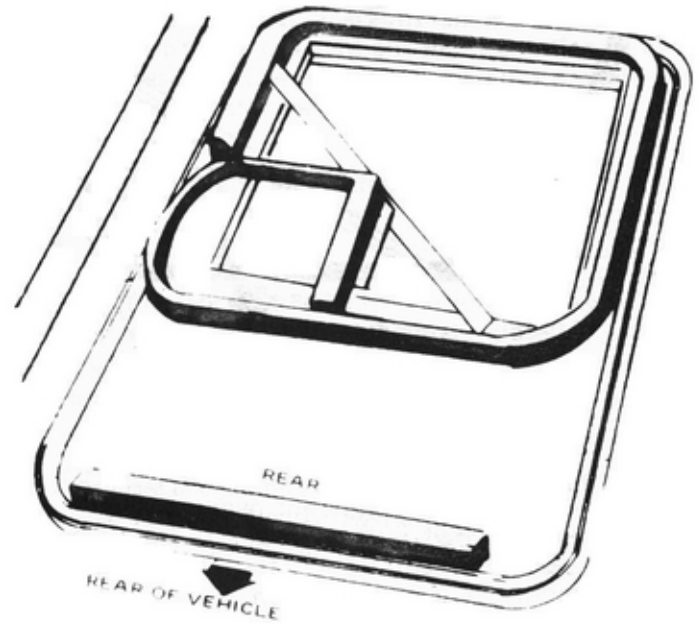


FIGURE 4

5. Set air conditioner on roof flashing, using the guide panels to align return air section on unit with the corresponding opening in roof flashing. **CAUTION:** Do not damage the foam tape sealer on top of roof flashing. Figure 5.

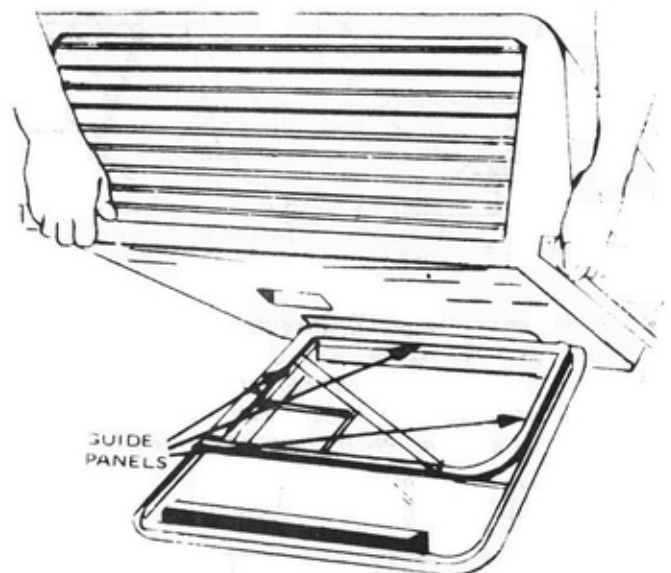
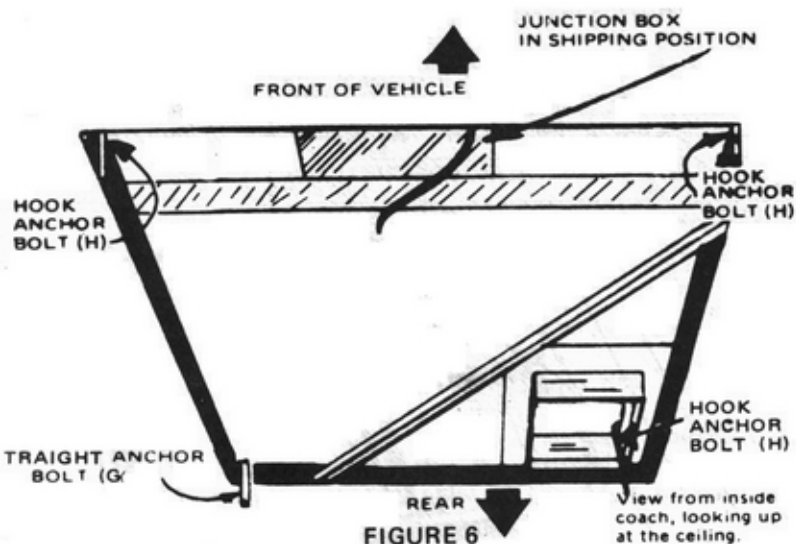


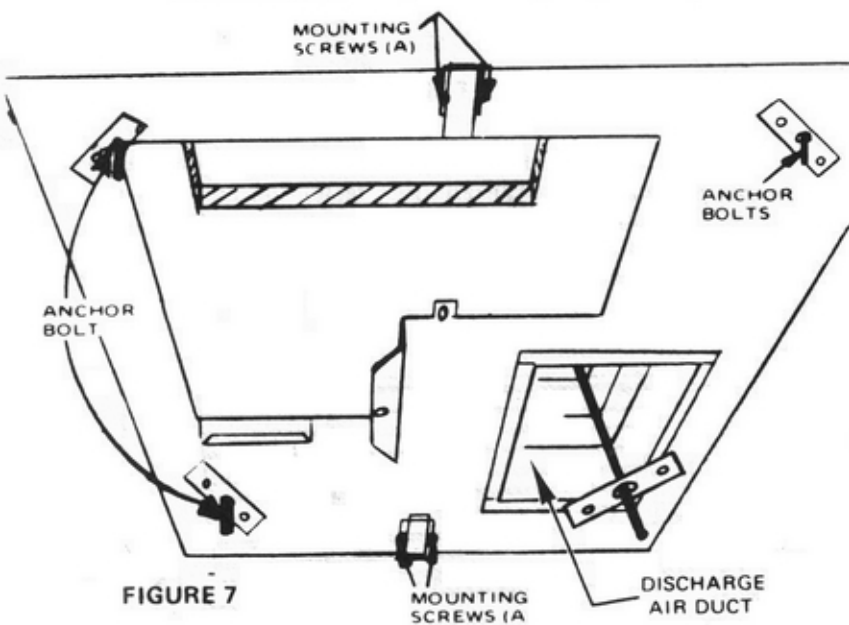
FIGURE 5

6. Install the straight anchor bolt (G) in front left corner as shown. The three hook bolts (H) are installed in the remaining corners. See Figure 6.



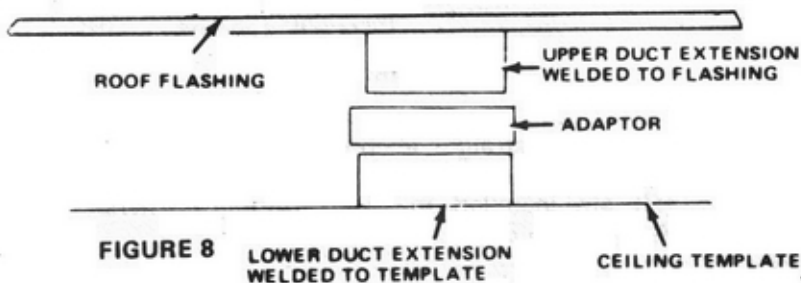
Remove the cardboard carton containing the junction box as shown. Leave the junction box hanging until ceiling template has been installed.

- Place ceiling template in position and secure to ceiling with the four screws (A) provided. Be sure anchor bolts protrude through the ceiling template. Figure 7.

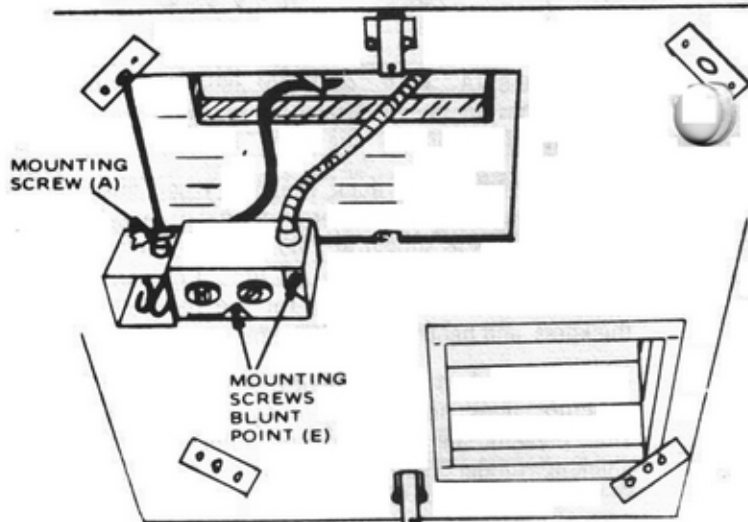


NOTE: When installing the ceiling template, make sure that the discharge air duct is aligned properly before securing the template to the ceiling. (For roof thickness under 4 1/2"). The upper duct fits inside the lower. After installation, seal the upper and lower ducts with tape.

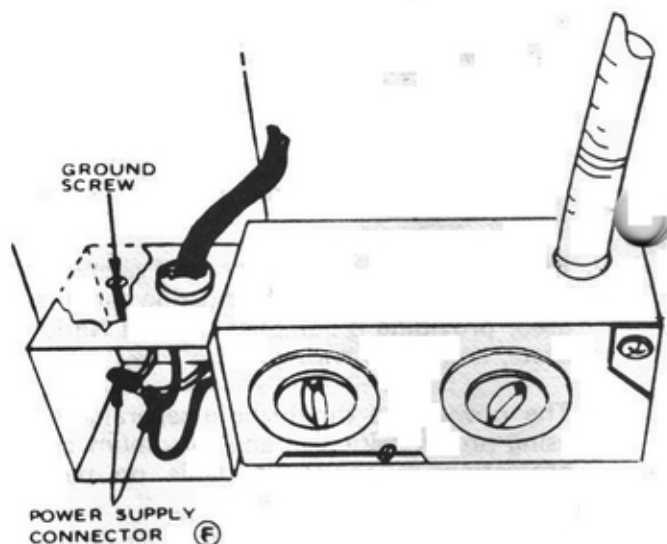
For roof thickness greater than 4 1/2" a duct adaptor (part no. 3-13606) is available.



- Fasten junction box to the ceiling template with the three screws provided as shown. *Note: Two of these must be the blunt point screws (E) and the third is (A).*



- Connect the 115 volt, 60 cycle supply. Figure 10.



As mentioned previously all wiring must comply with the American National Standards Institute; National Electric Codes and all local codes. For wiring diagram see page 6.

- Connect white wire in junction box to the white or neutral wire from power supply, as shown.
 - Connect black 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.
- Secure the air conditioner with the four anchor bolts, and nuts, provided. See Figure 11. Anchor bolts should be tightened evenly to insure the proper seal on roof. Install junction box cover with two blunt point screws. (E). See Figure 11. Place sensor tube in the bracket provided.

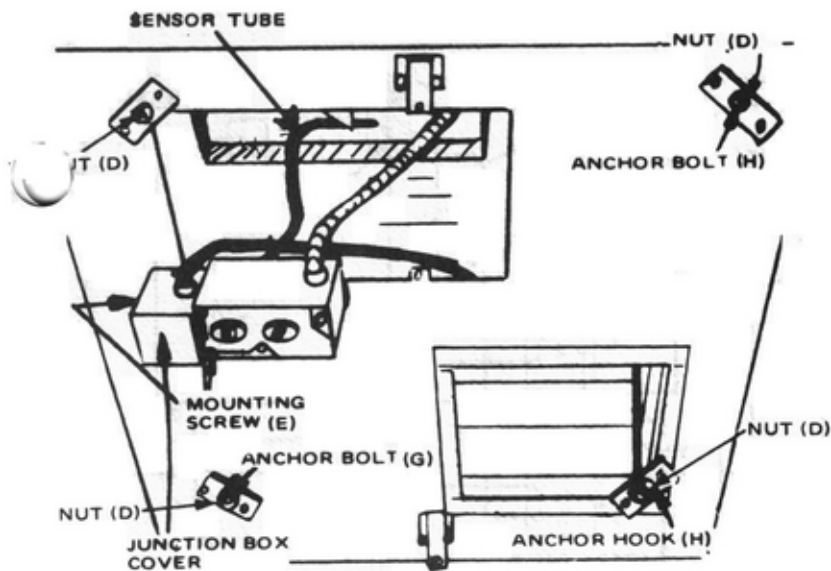
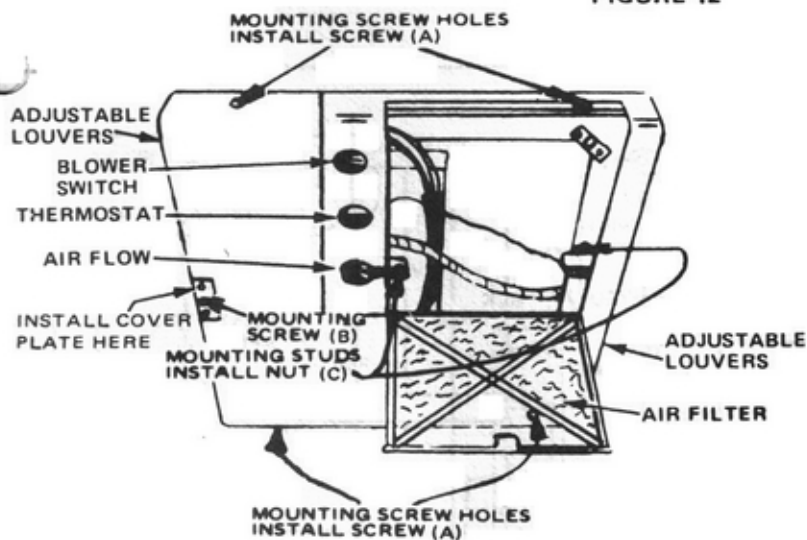


FIGURE 11

INSTALLING AIR BOX

11. Remove the return air grille and fasten air box to ceiling template and ceiling as shown. See Figure 12. When air box is installed, place cover plate over the exterior mounting hole.

FIGURE 12



12. Reinstall the return air grille and turn on power supply.

OPERATING INSTRUCTIONS

1. For cooled and dehumidified air set the thermostat dial to the desired temperature. The warmest setting (1) on the dial is approximately 95 degrees; the coolest setting (7) is approximately 70 degrees.

2. Place blower selector switch in desired position. High-cool, medium-cool, or low-cool positions are used when air conditioning is desired. In these positions, the blower will operate continuously and the compressor will come on when the thermostat calls for cooling and off when the desired temperature has been reached.

The high-fan, medium-fan and low-fan positions are used when air circulation only is desired. The compressor will not operate with the selector switch in these positions.

3. Adjust the air-discharge knob to force the air to the front or rear of the coach as desired.
4. Adjust the louvers at the air discharge openings for best air distribution. (These louvers should never be completely closed.)
5. To completely shut down the unit, place blower switch in the off-position.

NOTE: Shur-Start models have a delayed start kit installed. When the unit is turned on, the fan will start and in approximately two minutes the compressor will start. After the compressor has shut down, it will not restart for approximately two minutes. This allows pressures to equalize in the refrigerant system and eases the starting load for the compressor.

Quick-Start models do not have the delayed start feature. When the unit is turned on, the fan and compressor start at the same time. After shutdown wait three to four minutes before restarting unit to allow pressure equalization.

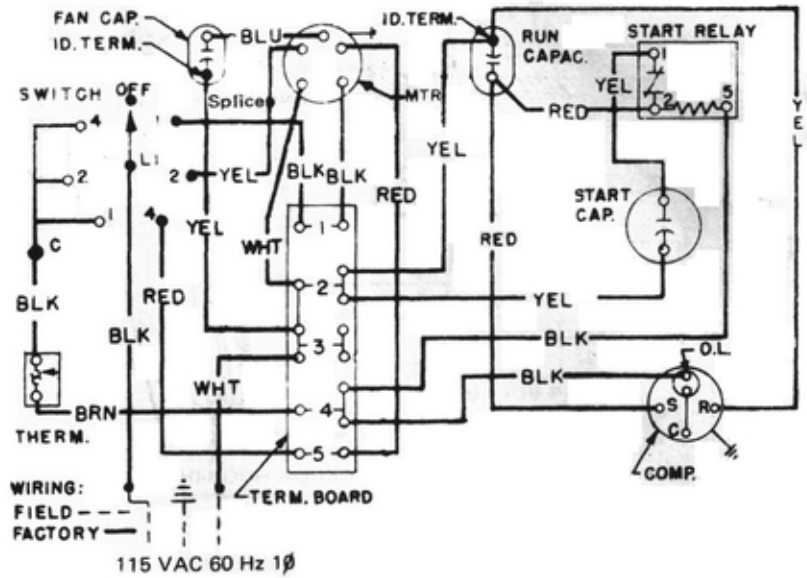
OWNERS MAINTENANCE

1. **Air Filter**—Your air conditioner will operate more efficiently with a clean filter. Periodically remove and wash the filter with soap and warm water, let dry and reinstall. Replacement filters are available from your service distributor or direct from the factory. Order part number 3-8166.
2. **Motor Lubrication**—The motor has sealed bearings and with normal usage will not require oiling. On some motors, oilers may be included and can be lubricated with non-detergent SAE 20 motor oil if you desire.
3. **Protective Cover**—To keep the outdoor portion of your air conditioner free from foreign material during the off-season, a protective vinyl cover is available as an optional item. Order part number 3-8762 for the 54608 and 54612 series, and 3-9937 for the 54615 series.
4. If service work is needed refer to the DS447 service directory supplied with the unit. When requesting service always give complete model and serial numbers located on the plate at the rear of the outdoor portion of the air conditioner.

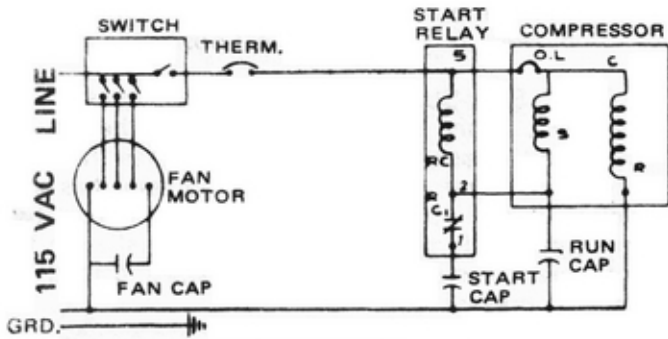
WIRING DIAGRAMS

QUICK-START MODELS

54608-435
54612-435
54612-535
54615-435

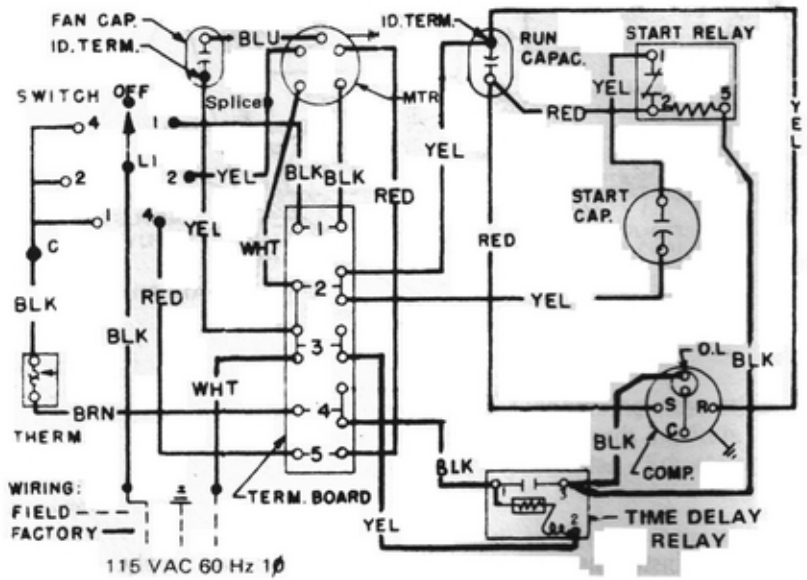


CIRCUIT DIAGRAM



SHUR-START MODELS

54612-436
54612-536
54615-436



CIRCUIT DIAGRAM

