



CENTER DUCT KIT NO. 3107802.005

FOR USE WITH DOMETIC DUCTED ROOF TOP AIR CONDITIONERS

MODEL 600 SERIES

This Kit is intended for use with Dometic Ducted Roof Top Air Conditioners. This Kit is for use on systems which use a **Center Duct** application.

NOTE

OBSERVE ALL WARNINGS AND CAUTIONS LISTED IN THE INSTALLATION INSTRUCTIONS SUPPLIED WITH THE AIR CONDITIONER.

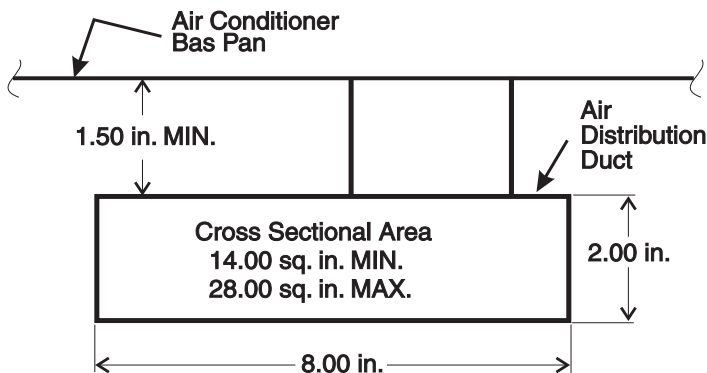
3. AIR DISTRIBUTION SYSTEM SIZING & DESIGN

The Installer of this air conditioner system must design the air distribution system for his particular application. Several requirements for this system **MUST** be met for the air conditioner to operate properly. These requirements are as follows:

- A. Roof cavity thickness must be 2.75" minimum. This distance is measured between roof and ceiling surfaces.
- B. The total cross-sectional discharge area of outlet duct from the air conditioner must be 14 sq. in. minimum.
- C. Duct sizing requirements as follows:

Duct Depth	2.00 in.
Duct Width	8.00 in.

DISCHARGE AIR DUCT SYSTEM THAT RUNS FROM FRONT TO BACK OF VEHICLE THROUGH 14" X 14" OPENING



- D. Register requirements as follows:

	min.	max.
Distance from duct end	5 in.	8 in.
Distance between registers	24 in.	- - -
Total number required	4	8
Number required per run	2	- - -
Free area per register	14 sq. in.	

- E. The duct material must meet or exceed any agency or RVIA Standard that may be in existence at the time the RV is produced.

NOTE

IT IS THE RESPONSIBILITY OF THE INSTALLER OF THIS SYSTEM TO INSURE THE DUCTWORK WILL NOT COLLAPSE OR BEND DURING OR AFTER THE INSTALLATION.

- F. All discharge air ducts must be properly insulated to prevent condensation from forming on their surfaces or adjacent surfaces during operation of the air conditioner. This insulation must be R-7 minimum.
- G. Ducts and their joints must be sealed to prevent condensation from forming on adjacent surfaces during operation of the air conditioner.

NOTE

THE DOMETIC CORPORATION WILL NOT BE HELD LIABLE FOR ROOF STRUCTURAL OR CEILING DAMAGE DUE TO IMPROPERLY INSULATED OR SEALED DUCTWORK.

- H. Return air opening must have 40 sq. in. minimum free area including the filter.
- I. Return air to the air conditioner must be filtered to prevent dirt accumulation on air conditioner cooling surface.
- J. Total system pressure must be between 0.12 to 0.65 in. W.C. This is to be determined with the air conditioner blower operating on High Speed and return air filter and grille in place.

NOTE

IT IS THE RESPONSIBILITY OF THE INSTALLER OF THIS AIR CONDITIONER SYSTEM TO INSURE THE STRUCTURAL INTEGRITY OF THE RV ROOF.

K. Location

1. Locate the **Thermostat** or **Comfort Control Center™** 54" above the floor.
2. Install the **Thermostat** or **Comfort Control Center™** on a partition, not on an outside wall.
3. **NEVER** expose it to direct heat from lamps, sun or other heat producing items.
4. Avoid locations close to doors that lead outside, windows or adjoining outside walls.
5. Avoid locations close to supply registers and the air from them.

4. AIR DISTRIBUTION SYSTEM INSTALLATION

The Dometic Corporation recommends the following configuration for installing this air conditioner system. We have found by testing that this configuration works best in most center duct applications of this air conditioner system.

It is the responsibility of the Installer of this system to review each RV floor plan and determine the following:

- A. Duct size
- B. Duct layout
- C. Register size
- D. Register locations
- E. Thermostat location

These items must be determined in conjunction with the air distribution system sizing and design requirements listed in Section 3 of these instructions.

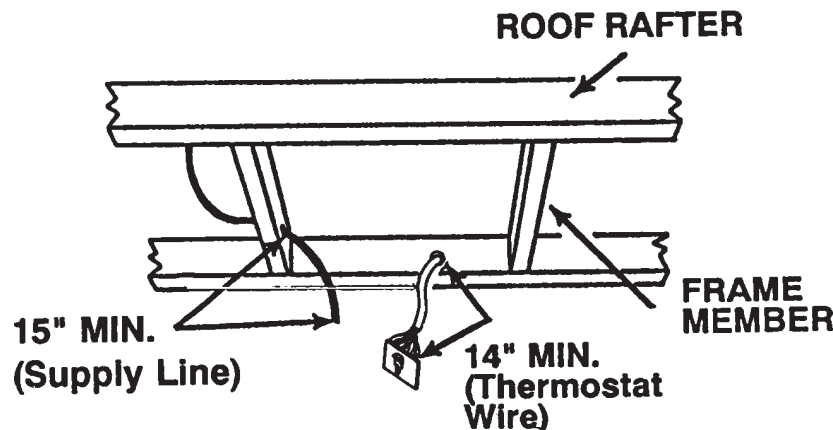
A. ROOF AND CEILING PREPARATION

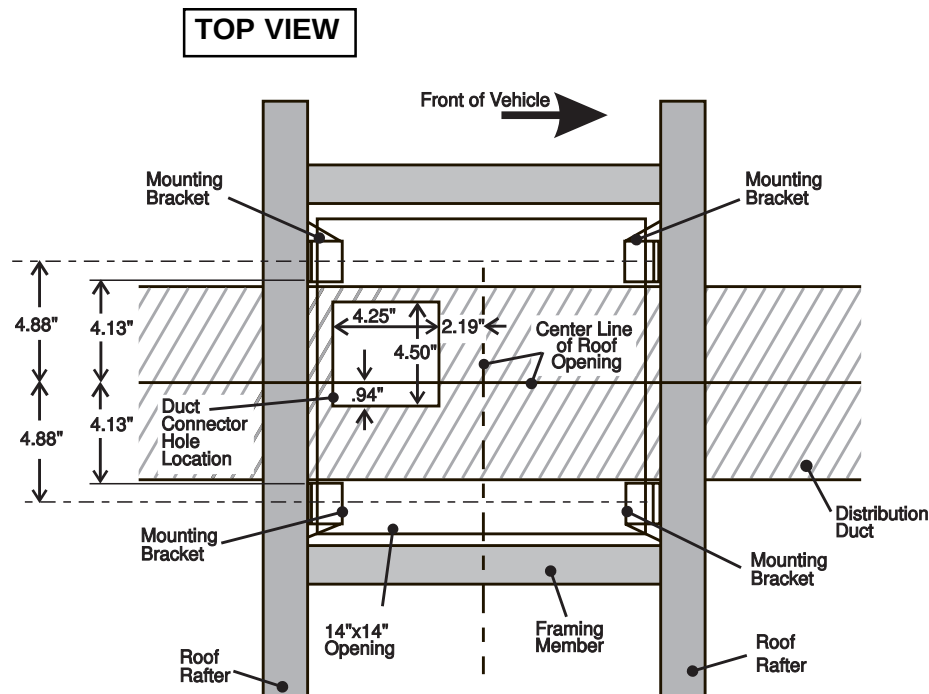
1. A 14-1/4" x 14-1/4" opening must be cut through the roof and ceiling of the RV. This opening must be located between the roof reinforcing members.

WARNING

THERE MAY BE ELECTRICAL WIRING BETWEEN THE ROOF AND THE CEILING. DISCONNECT ALL POWER SUPPLIES AND THE POSITIVE (+) TERMINAL FROM THE SUPPLY BATTERY. FAILURE TO FOLLOW THIS INSTRUCTION MAY CREATE A SHOCK HAZARD.

2. Mark a 14-1/4" x 14-1/4" square on the roof and carefully cut the opening.
3. Using the roof opening as a guide, cut the matching hole in the ceiling.
4. The opening created must be framed to provide adequate support and prevent air from being drawn from the roof cavity. Lumber 3/4" or more in thickness must be used. Remember to provide an entrance hole for power supply wiring and thermostat cable.
5. The 14-1/4" opening is part of the return air system of the Air Conditioner and must be finished in accordance with NFPA Standard 501C Section 2.7.



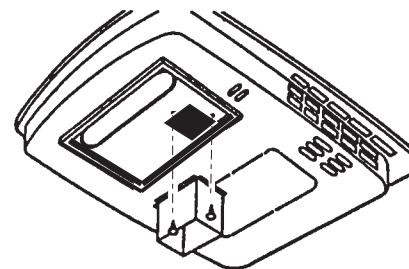


B. INSTALLATION OF DUCT CONNECTORS

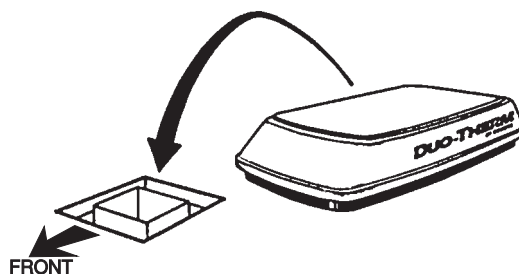
1. **Location of Distribution Duct:** After the distribution duct length, width and height are determined, install in ceiling as required per your application.

This duct should run through the 14-1/4" x 14-1/4" opening already prepared. This duct must be located, side-to-side, between unit tie-down brackets. (See Top View, Page 3).

2. **Installation of Lower Duct Connector:**
 - a. Cut a 4-1/4" x 4-1/2" hole in the top of distribution duct in location shown in Top View.
 - b. Measure from the roof surface down to the top of distribution duct.
 - c. Take the lower duct connector (sheet metal duct 4-1/2"W x 4-1/4"D) provided with this Kit; measure and mark at distance just found.
3. **Installation of Upper Duct Connector:**
 - a. Locate upper duct connector (sheet metal duct 4-3/8"W x 4-1/8"D x 2-1/2"H) and two (2) Number 10 sheet metal screws.
 - b. Tilt air conditioner on its side and place upper duct to base of air conditioner over the discharge air opening.
 - c. With two (2) No. 10 x 1/2" screws provided, attach the upper duct to the unit base pan. There are prepunched holes located in the base pan for the screws to go into.



- d. Carefully lift and place air conditioner over opening. Mate upper and lower duct connectors as you set air conditioner down.



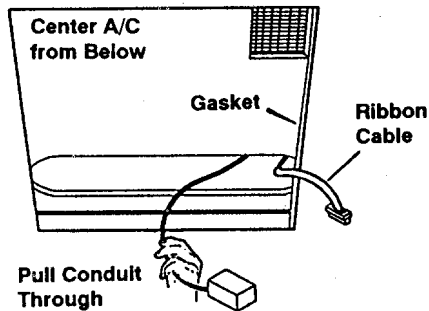
NOTE: Upper duct connector fits inside the lower duct connector.

This completes the work outside of the RV.

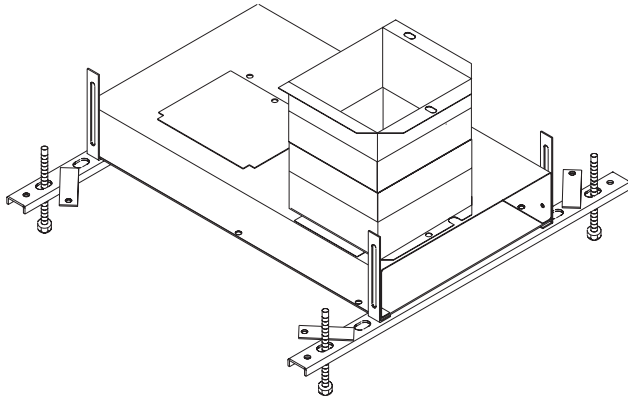
7. INSTALLATION OF AIR CONDITIONER

A. SECURING AIR CONDITIONER TO THE ROOF

1. Reach up into the return air opening of the air conditioner and pull the conduit with unit junction box and flat ribbon cable down for later connection.



2. Install the four mounting bolts into the slots that mate with the mounting holes on the air conditioner.



3. **EVENLY** tighten the bolts to a torque of 40 to 50 inch pounds. This will compress the roof gasket on the air conditioner approximately 1/2".

CAUTION

IF THE BOLTS ARE LEFT LOOSE, THERE MAY NOT BE AN ADEQUATE ROOF SEAL. IF BOLTS ARE OVER-TIGHTENED, DAMAGE MAY OCCUR TO THE AIR CONDITIONER BASE OR CEILING TEMPLATE.

C. RETURN AIR REQUIREMENTS

The return air system of the air conditioner is located within the 14 inch opening. When the Return Air Kit from Dometic is not used, the installer will be responsible for providing for the return air and choosing the method of finishing the 14 inch opening. This can be done in a manner which best fits the decor of the RV.

We do require that the return air openings to the air conditioner be a minimum of 40 sq. inches of free area and be filtered. This assembly must overlap the ceiling structure so that attachment to the ceiling is possible. On the supply side of the arrangement, insulation must be provided to prevent condensation of the return grille surface.