

↗ DOMETIC

AIR CONDITIONERS

BR342



BR342

EN

Air conditioning roof unit
Installation and Operating Manual

RECORD THIS INFORMATION FOR FUTURE REFERENCE:

Model Number _____
Serial Number _____
ADB Model Number _____
ADB Serial Number _____
Date Purchased _____

Supplied by Dometic
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Roof Top Unit		
Description	Model	Use With Air Distribution Box
		Model
Heat Pump	BR36H70CR	UC0CHR

INSTALLATION & OPERATING INSTRUCTIONS

Model
BR342(BR36H70CR)

P/N. 54-AA-MA38701

MOBICOOL Electronic(Zhuhai)Co., Ltd
18, Jinhu Lu, Sanzao, Jinwan Zhuhai, China



Read these instructions carefully. These instructions **MUST** stay with this product.

INTRODUCTION

This air conditioner (hereinafter referred to as “unit” or “product”) is design and intended for installation on the roof of a Recreational Vehicle (RV) during or after the time it is manufactured.

This unit can be installed by one person with brief help from additional personnel. Use these instructions to ensure a properly installed, and properly functioning product.

Dometic reserves the right to modify appearances and specifications without notice.

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DOCUMENT SYMBOLS



Indicates additional information that is **NOT** related to physical injury.



Indicates step-by-step instructions.

A. Safety Information Symbol



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

B. Other symbols used in this manual

The below symbols will identify safety messages and property damage messages, and will indicate the degree or level of hazard seriousness.

⚠ WARNING indicates a hazardous situation that, if **NOT** avoided, could result in death or serious injury.

⚠ CAUTION indicates a hazardous situation that, if **NOT** avoided, could result in minor or moderate injury.

NOTICE is used to address practices **NOT** related to physical injury.

IMPORTANT SAFETY INSTRUCTIONS

This manual has safety information and instructions to help users eliminate or reduce the risk of accidents and injuries.

A. General Safety Messages

⚠ WARNING Failure to obey the following warnings could result in death or serious injury:

- This product **MUST** be [installed / serviced] by a qualified service technician.
- Do **NOT** modify this product in any way. Modification can be extremely hazardous.
- Do **NOT** add any devices or accessories to this product except those specifically authorized in writing by Dometic Australia.

C. Safety Information



This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance. Cleaning and user maintenance shall not be made by children without supervision.

B. Supplemental Directives



Read and follow all safety information and instructions to avoid possible injury or death.

Read and understand these instructions before [installing / using / servicing / performing maintenance on] this product.

Incorrect [installation / operation / servicing / maintaining] of this product can lead to serious injury. Follow all instructions.

The installation **MUST** comply with all applicable local or national regulations & standards.

NOTICE SHOULD a fault occur with the refrigerant circuit. The air conditioner should be checked by properly qualified technician. Refrigerant should never be released to the atmosphere.

SPECIFICATIONS

A. Table - Unit Data

Model No.	Nominal Cooling Capacity (kw)	Nominal Heating Capacity (kw)	Electrical Rating 240 Vac 50 Hz 1 ph	ISO5151 Cooling Capacity (kw HR)	ISO5151 Heating Capacity (kw HR)	Compressor Rated Load Amps	Compressor Locked Rotor Amps	Fan Motor Rated Load Amps	Fan Motor Locked Rotor Amps	Refrigerant R-410A (g)	Minimum Wire Size* 1.5mm ² Copper Up to 2.0mm ²	AC Circuit Protection **Installer Supplied	Minimum Generator Size** 1 Unit / 2 Units	Operating Temperature *** Range (°C)
BR36H70CR	3.6	3.6		3.0	2.9	5.38	24.0	1.22	2.77	624		16 Amp	3.5 kW / 5.0 kW	-7 ~ 43

- * Dometic gives **GENERAL** guidelines for generator requirements. These guidelines come from experience people have had in actual applications. When sizing the generator, the total power usage of your RV must be considered. Keep in mind generators lose power at high altitudes and from lack of maintenance.
- ** CIRCUIT PROTECTION: Time Delay Fuse or Circuit Breaker Required.
- *** Performance will be reduced when operating below <7(heating) or >35(cooling) temperature.

B. Roof Requirements

- A 349.25mm X 349.25mm(± 3.17mm) square opening(hereinafter referred to as "roof opening") is required for installing this unit.
- Roof construction with rafters/joists support frames on a minimum of 406.4mm centers.
- Minimum of 38.1mm and maximum of 152.4mm distance between roof to ceiling of RV.

C. Scope of Delivery

- * Roof air conditioner.
- ** Air distribution box.

Items	Quantity
• Duct divider	1PCS
• Ceiling template	1PCS
• ADB cover	1PCS
• Sheet metal screws	8PCS
• Mounting bolts	4PCS
• Wood screws	2PCS
• Front / rear vent doors	2PCS
• Remote controller	1PCS
• Battery	1PCS
• Filter	1PCS
• Communication cable	1PCS
• Display PCB	1PCS
• Installation operating instructions	1PCS

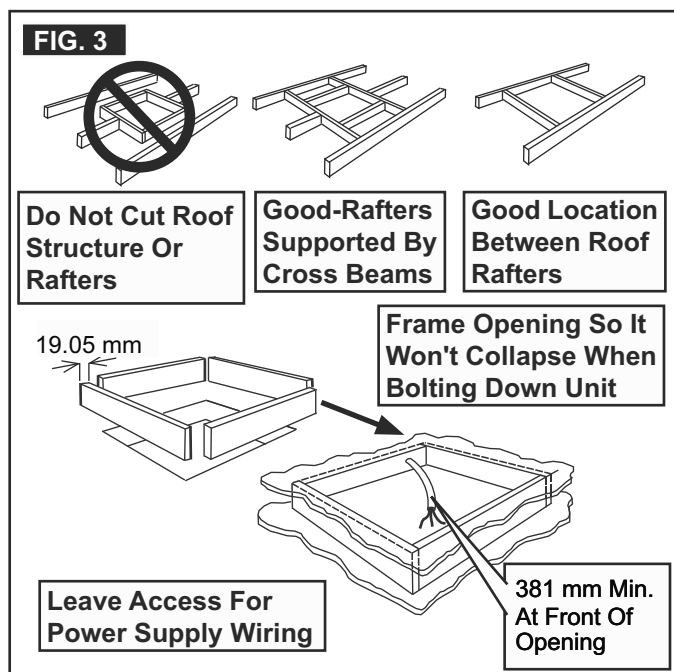
INSTALLATION INSTRUCTIONS

2. Roof vent removal

- Unscrew and remove the roof vent.
- Remove all caulking compound around opening.
- Seal all screw holes and seams where the roof gasket will be located. Use a good grade of all weather sealant.
- If the opening exceeds 346mm X 346mm , it will be necessary to re-size the opening. See "B. Roof Requirements" on page (4).
- If the opening is less than 352mm X 352mm it must be enlarged. See "B. Roof Requirements" on page (4) .

3. New opening

- Carefully mark and cut the required roof opening. See "B. Roof Requirements" on page (4).
- Using the roof opening as a guide, cut the matching hole in the ceiling.
- NOTICE** Maintain structural integrity. Otherwise damage to product and/or RV could occur.
- NOTICE NEVER** create a low spot on RV roof. Otherwise, water will pool and could cause a leak.
- The opening created must be framed to provide adequate support and prevent air from being drawn from the roof cavity. Framing stock 19.05 mm or more in thickness must be used. Remember to provide an entrance hole for power supplies at the front of the opening. See (FIG. 3).



C. Wiring Requirements

- Route a copper, with ground, 240 Vac supply wire from the time delay fuse or circuit breaker box to the roof opening. The proper size wire can be determined from chart on page 4.



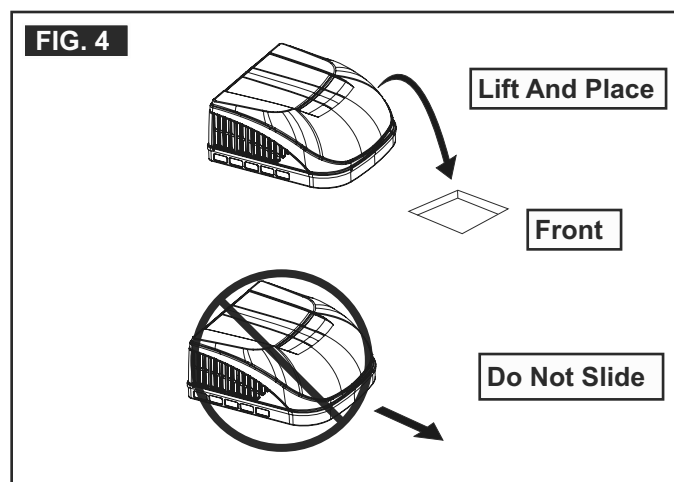
If vent fan was removed, the existing wire may be used provided it is of proper size, location, and correctly fused.

- This supply wire must be located in the front portion of the roof opening.
- The power **MUST** be on an appropriately sized separate time delay fuse or circuit breaker. The proper size protection can be determined from data table on page 4.
- Make sure that at least 381mm of supply wire extends into the roof opening. This insures an easy connection at the junction box.
- Protect the wire where it passed into the opening with approved method.

D. Placing Unit On Roof

- Remove the unit from the carton and discard carton.
- CAUTION LIFTING HAZARD.** Use proper lifting technique and control when lifting product. The rooftop unit weighs approximately 35 kg. Follow occupational health and safety guide when lifting or moving the unit. Failure to obey this caution could result in injury. Place unit on the roof.
- NOTICE** Do **NOT** slide unit. Otherwise, damage to gasket (on bottom of unit) may occur, and could cause a leak.

Lift and place the unit over the prepared opening using the gasket on the unit as a guide. See (FIG. 4).



INSTALLATION INSTRUCTIONS

- Place the air distribution box kit inside the RV. This box contains mounting hardware for the unit and will be used inside the RV.

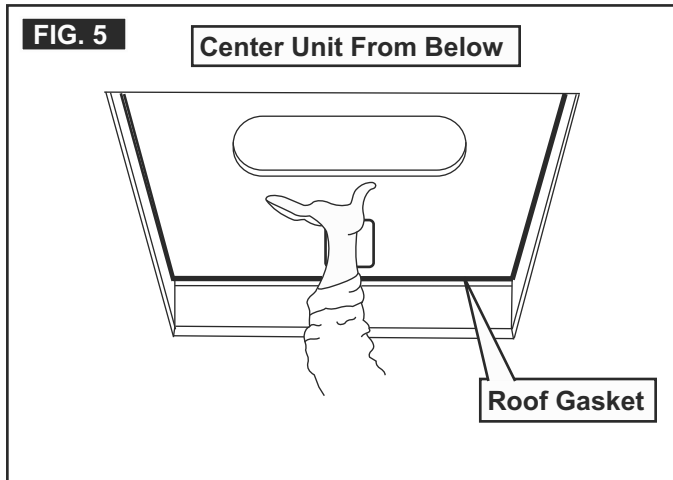


This completes the outside work. Minor adjustments can be done from inside the RV if required.

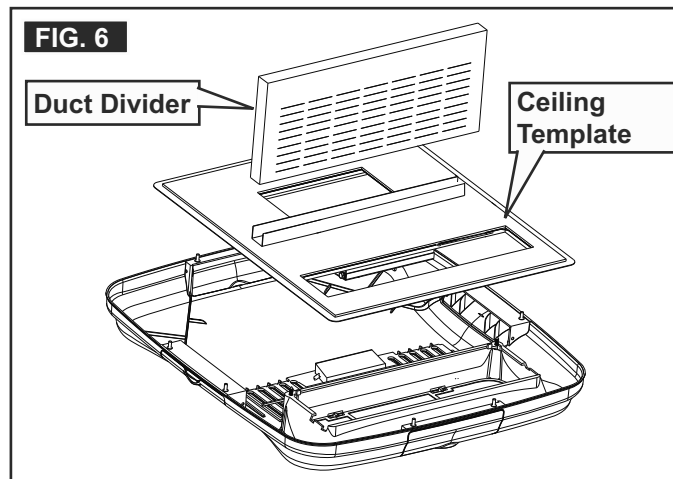
E. Installing Unit



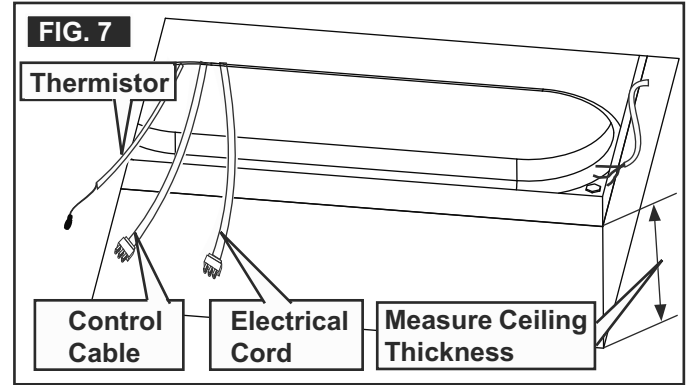
- Check gasket alignment of the unit over the roof opening and adjust if necessary. Unit may be moved from below by slightly lifting. See (FIG. 5).



- Remove air distribution box and mounting hardware from carton. See (FIG. 6).

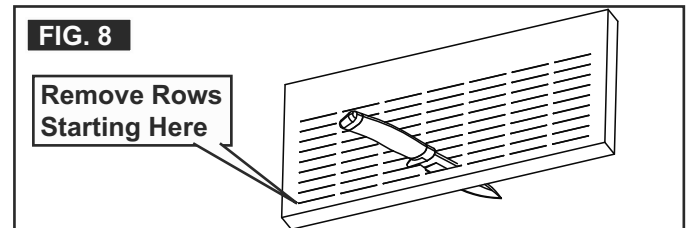


- All models in this manual will use a four (4) bolt pattern for installing the air distribution box kit.
- Reach up into the return air opening of the unit and pull the unit electrical cord down for later connection. See (FIG. 7).



- Duct Divider Installation
 - Measure the ceiling thickness. See (FIG. 7).
 - Cut away the number of rows as indicated in table below. See (FIG. 8)

Ceiling Thickness(mm)		# Of Rows To Cut (mm)	Ceiling Thickness (mm)		# Of Rows To Cut (mm)
Min.	Max.		Min	Max.	
152.4	165.1	0	88.9	101.6	127
139.7	152.4	25.4	76.2	88.9	152.4
127	139.7	50.8	63.5	76.2	177.8
114.3	127	76.2	50.8	63.5	203.2
101.6	114.3	101.6	38.1	50.8	228.6

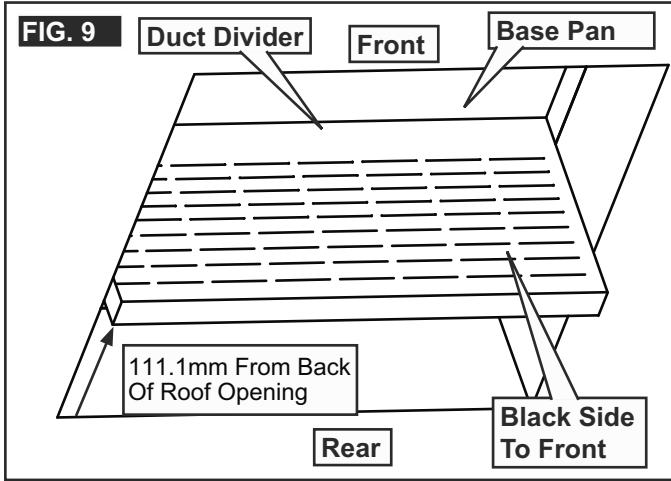


- Carefully install the duct divider in the roof opening 111.1mm from back of roof opening. See (FIG. 9) .



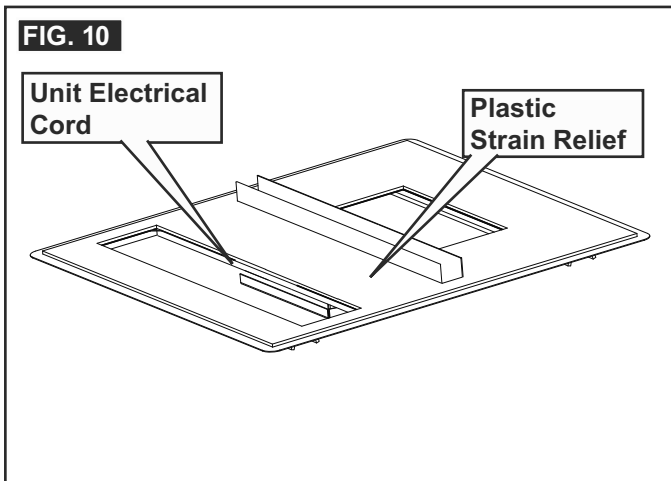
The foil side faces rear of unit.

INSTALLATION INSTRUCTIONS

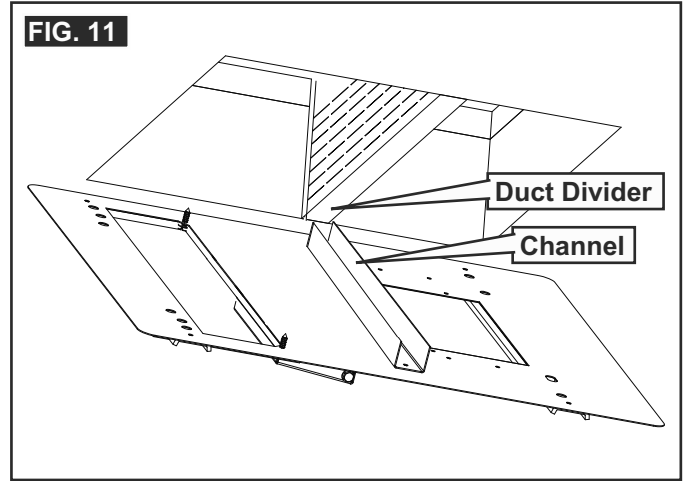


6. Ceiling Template Installation

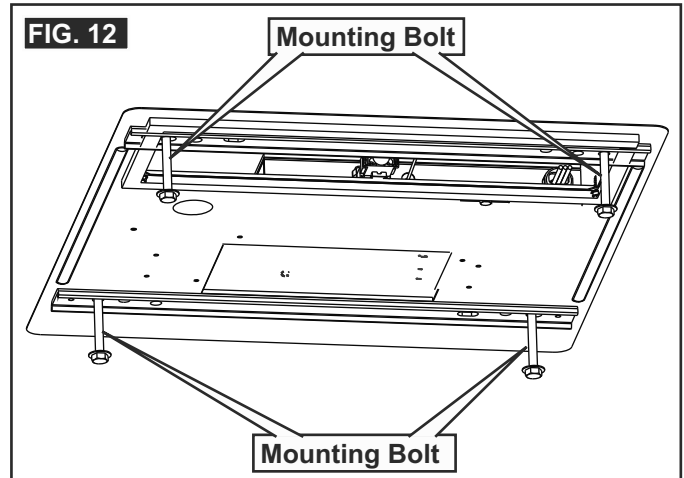
- Plug the 6 pin electrical cord from the top unit into the matching 6 pin connector in the electronic control box. The plug is polarized and will only fit in one direction. See (FIG. 10).



- Route the previously run 240 Vac power supply wire through the junction box hole cutout. See (FIG. 10).
- Secure 240 Vac power supply using the supplied strain relief. Install strain relief in junction box hole leaving enough wire inside junction box to connect unit wires to power supply wires. See (FIG. 10).
- Hold the ceiling template up to the roof opening and line up the channel in the ceiling template with the previously installed duct divider. See (FIG. 11).

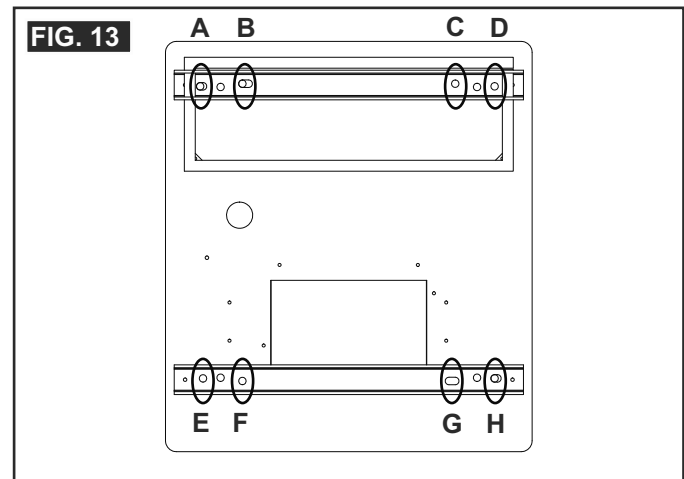


- Hold the ceiling template up to the roof opening and start each mounting bolt, by hand, through the ceiling template and up into the unit base pan. See (FIG. 12) & (FIG. 13).



Mounting Bolt Pattern Table (See Fig. 14)

Model	Bolt Location
BR36H70CR	A, D, E & H



INSTALLATION INSTRUCTIONS

- f. **NOTICE** Tighten mounting bolts to correct torque specifications. Overtightening could damage unit's base pan or ceiling template. Not enough torque will allow an inadequate roof seal, and could cause a leak.
- g. Tighten all four (4) mounting bolts **EVENLY** to 4.5 to 5.5 Nm.
See (FIG.12).

F. Wiring System

1. Mains Power Supply Connection
 - a. **⚠ WARNING ELECTRICAL SHOCK HAZARD.** Verify 240 Vac power is disconnected from RV. Failure to obey this warning could result in death or serious injury.
 - b. **⚠ WARNING ELECTRICAL SHOCK HAZARD.** Provide grounding in compliance with all applicable electrical codes. Failure to obey this warning could result in death or serious injury.
2. Mains Power Supply Connection

FIG. 14

Use one tie fix the air sensor on the adhesive sticker as below picture.

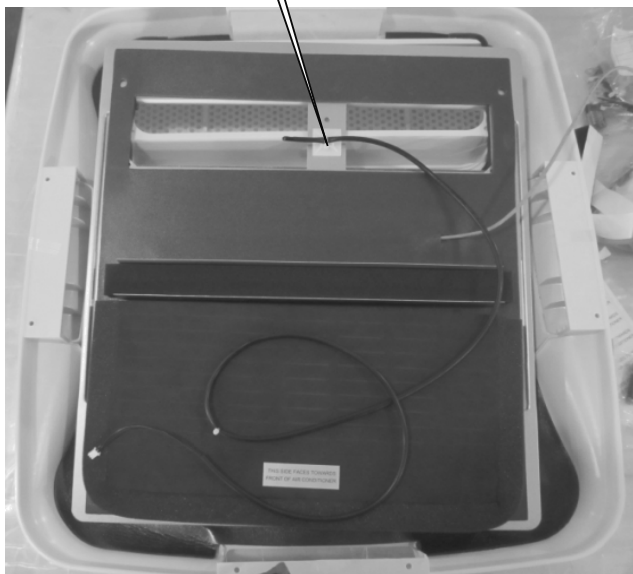
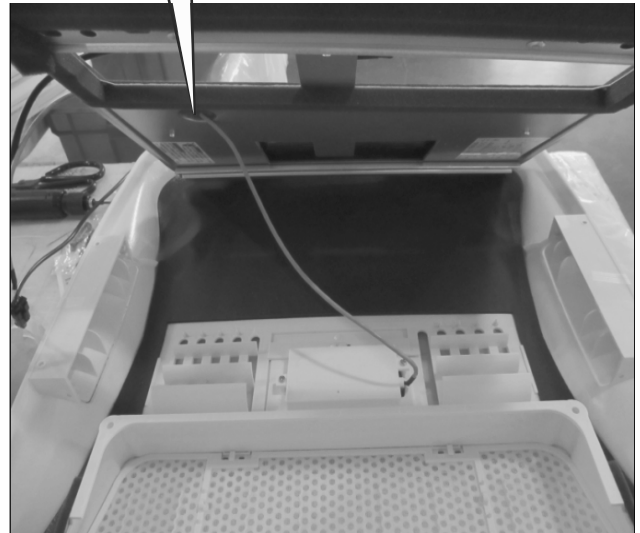


FIG. 15

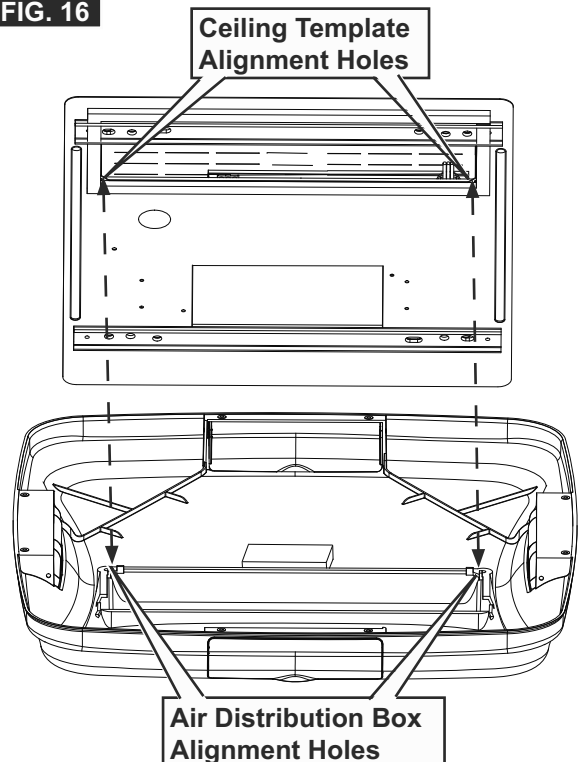
Communication wire through the hole.



G. Installing Air Distribution Box

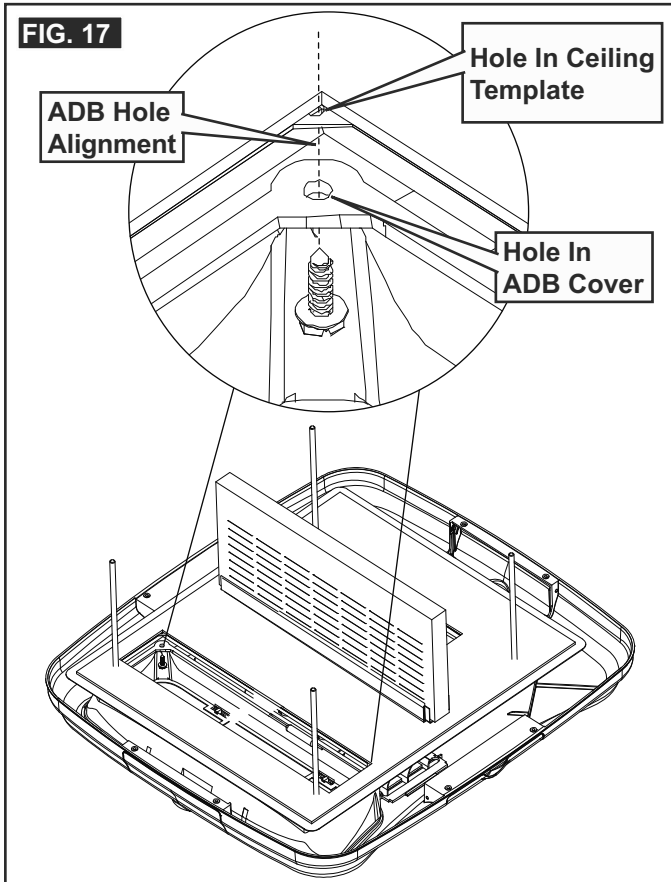
1. Align air distribution box with ceiling template. See (FIG. 17) & (FIG. 18).
- i** Front and rear vent doors are supplied loose. Do **NOT** install them until all screws are installed in step 2 & 3.

FIG. 16



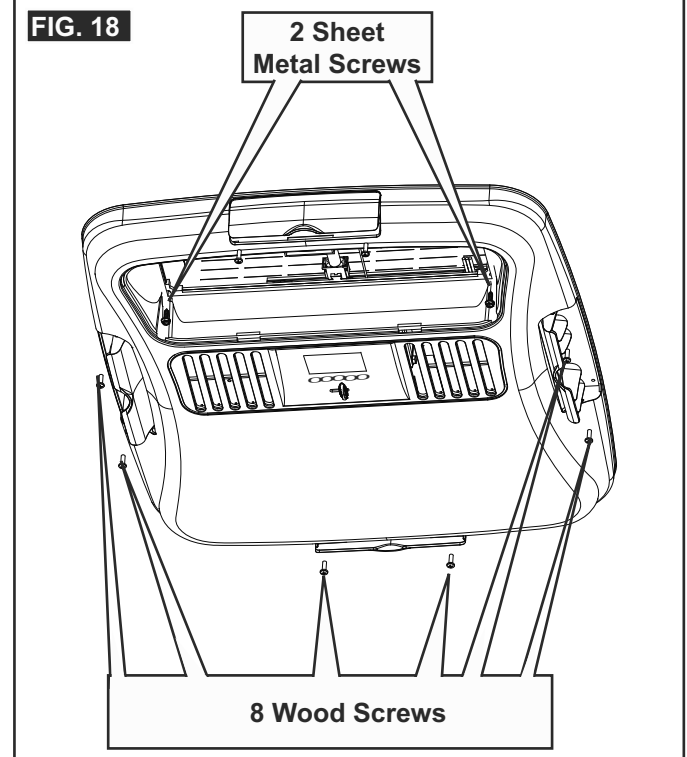
INSTALLATION INSTRUCTIONS

FIG. 17



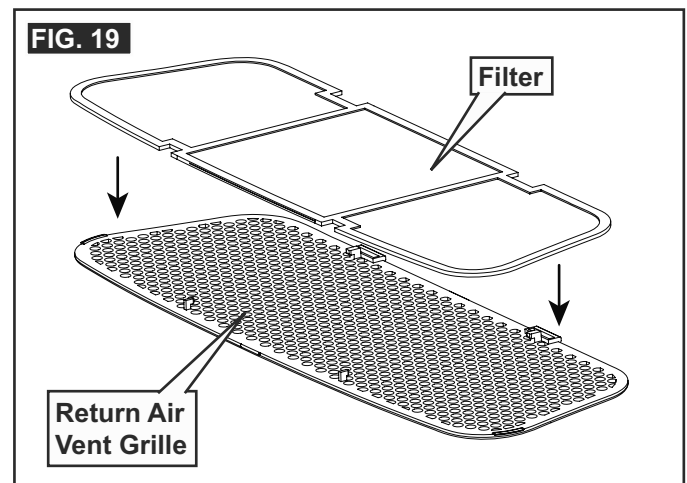
2. Install two (2) (supplied) sheet metal screws inside return air opening to secure air distribution box to ceiling template. See (FIG. 18).
3. Install eight (8) (supplied) wood screws inside the front, rear and side doors to secure air distribution box to ceiling. See (FIG. 18).

FIG. 18



4. Install front and rear doors.
5. Place filter in return air grille. It may already be installed on some units. See (FIG. 19).

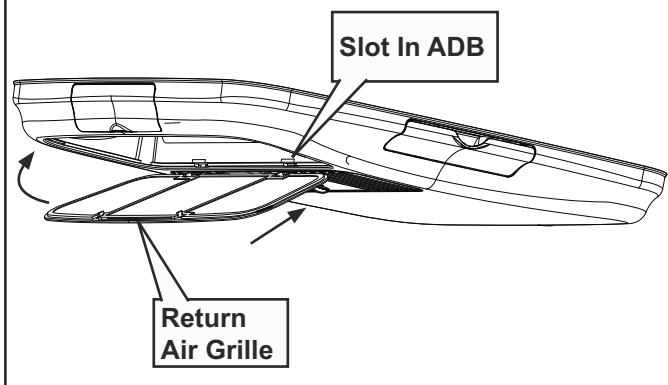
FIG. 19



6. Install return air vent grille into the air distribution box. Slide return air grille tab into slot in air distribution box and rotate up and snap in place. See (FIG. 20).

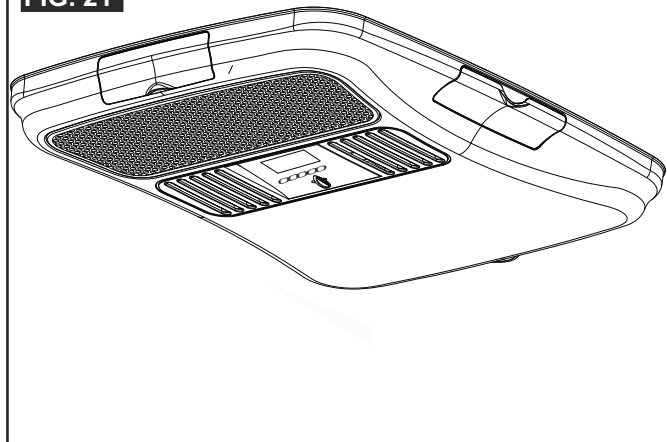
INSTALLATION INSTRUCTIONS

FIG. 20



7. Install the control knobs into the air distribution box. See (FIG. 21).

FIG. 21



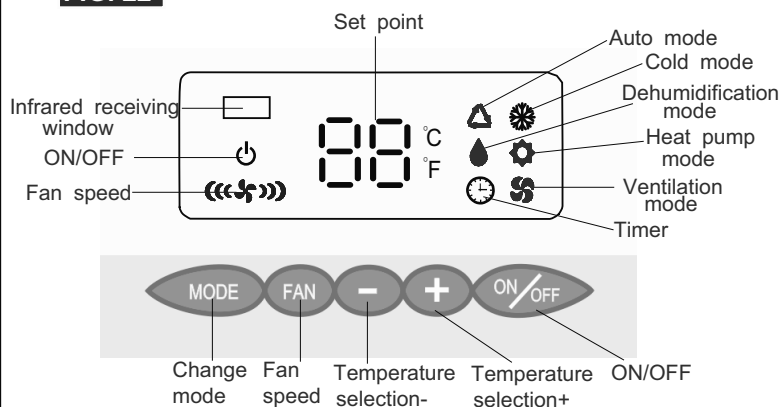
8. The unit installation is now complete and is ready for operation. The power supply to the unit may now be turned on.
9. Verify that all features of the installed system work. Please read the following operating instructions before attempting to run the unit.

OPERATING INSTRUCTIONS

A. ADB DISPLAY AND CONTROLS

Selecting functional status
See (FIG. 22).

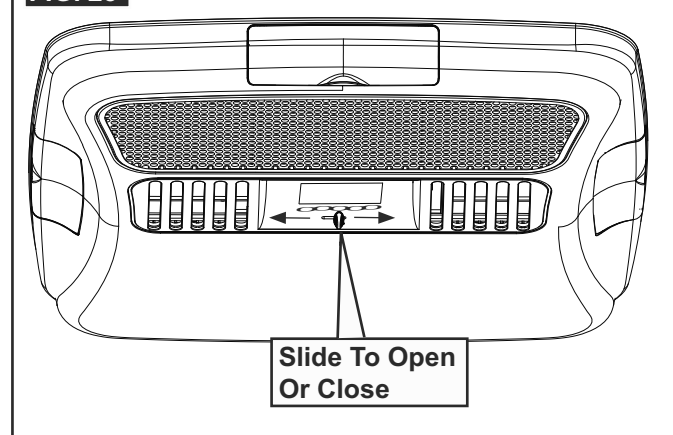
FIG. 22



B. Center Air Discharge

1. Slide lever to open and close. See (FIG. 23).

FIG. 23



Operation

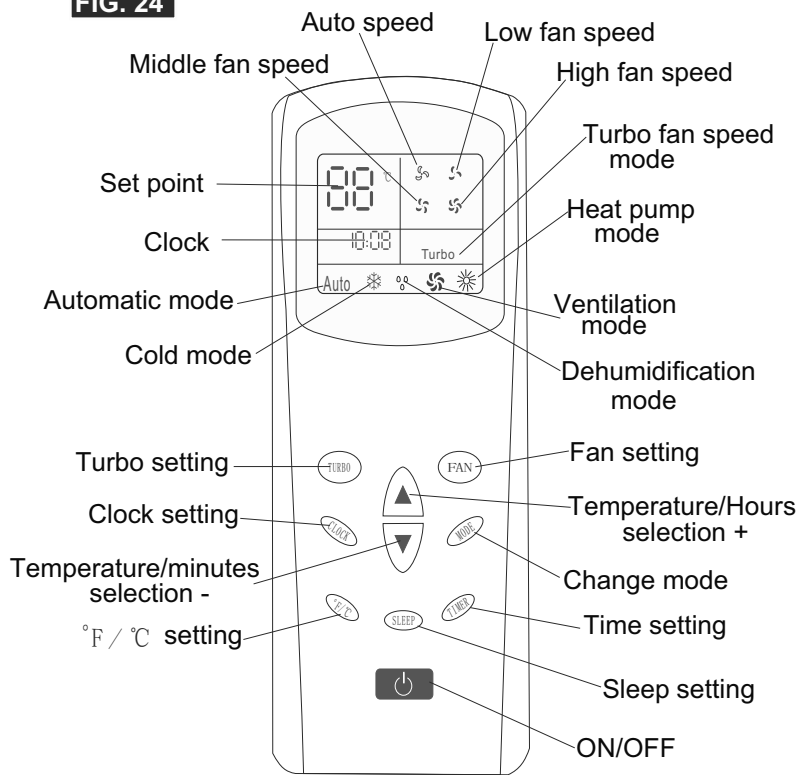
- a. Press "ON/OFF" to switch on the machine.
- b. Press "MODE" to select mode.
- c. Press "FAN" button adjust the speed of fan.
- d. Press "+" button increase set temperature point.
- e. Press "-" button decrease set temperature point.

OPERATING INSTRUCTIONS

C.Remote control

Selecting functional status

FIG. 24



D. Operation

- Press to switch on the machine. The previous operating mode that was selected by the remote control is automatically used.
- Press MODE to select mode.

Automatic mode

In this mode the A/C will run automatically and the running mode will be selected automatically by comparing the set temperature with the internal temperature according to table A. For the automatic speed it will be set according to the difference temperature between the set point and the ambient temperature.

TABLE A

Internal temperature	$T \leq 20^{\circ}\text{C}$	$20^{\circ}\text{C} < T < 25^{\circ}\text{C}$	$T \geq 25^{\circ}\text{C}$
Operating mode	Heat pump (HP model) or ventilation (A/C model)	Dehumidification (A/C model) or ventilation (HP model)	Cold
Set point	20°C	22°C	25°C

Cold mode

Press MODE button to select cold mode then set the expected temperature between 18°C and 30°C . Press the fan speed button to select low, medium or high fan speed or automatic speed.

Dehumidification mode

Press MODE button to select this function and set the expected temperature between 18°C and 30°C . The fan speed will keep the low level.

Ventilation mode

Press MODE button to select ventilation mode then the low, medium or high speed or automatic speed.

Heat pump mode

(Reverse cycle where applicable)

Press MODE button to select heat pump mode then set the expected temperature between 18°C and 30°C . Press the fan speed button to select low, medium or high fan speed or automatic speed.

Timer off function

The machine must be on.
Press TIMER button to set the time when the machine need to be switched off.
Press the selection button to change the time when the machine need to be switched off.
Press the TIMER button to confirm the data entered.

Timer on mode

The machine must be off.
Press TIMER button to set the time when the machine need to be switched on.
Press the selection button to change the time when the machine need to be switched on.
Press the TIMER button to confirm the data entered.

Note: The timer ON and OFF function can only operate when the hand held remote is in range and able to communicate with the air conditioner at the set time. Remote range may vary depending on the installation environment.

Fan speed

- The icon indicate low speed of fan.
- The icon indicate medium speed of fan.
- The static icon indicate high speed of fan and the icon is flash indicate automatic speed.

FAULT CODE & FUNCTION DESCRIPTIONS

Fault condition	Digital display code	Note
Room temperature sensor fault	E1	Call for service
Evaporator sensor fault	E2	Call for service
Communication fault	E3	Call for service
Condenser sensor fault	E4	Call for service
Defrosting instructions	H1	Indicates defrosting in progress

A. Preventing cold air function:

- When heat mode is selected, the internal fan will not start until the air within the air conditioner is heated. This is to prevent cold air blowing into the living space during start up.

C. Defrosting function:

- At low ambient temperatures approximately -5°C the heating mode will periodically enter a defrosting mode.

Note

- IPT:evaporator sensor temperature.
- OPT:condenser sensor temperature.

B. Blowing surplus heat function:

- In heating mode, the fan will continue to run for approximately 60 seconds after the OFF button is pressed.

D. Overheat protection

- In heating mode, detection of the evaporator temperature IPT,
when $\text{IPT} \geq 60^{\circ}\text{C}$, compressor is not working.
when $\text{IPT} \leq 48^{\circ}\text{C}$, compressor will be contiunted working.
when $48^{\circ}\text{C} < \text{IPT} \leq 55^{\circ}\text{C}$. The compressor will keep the original state.

MAINTENANCE

A. Air Filter

1. Periodically (a minimum of every 2 weeks of operation) remove the return air filter located behind the return air grille and wash it with soap and warm water, let dry and then reinstall.

i **NEVER** run unit without return air filter in place. This will result in the evaporator becoming blocked with dirt and dust and may substantially degrade performance over time.

B. Air Distribution Box Housing

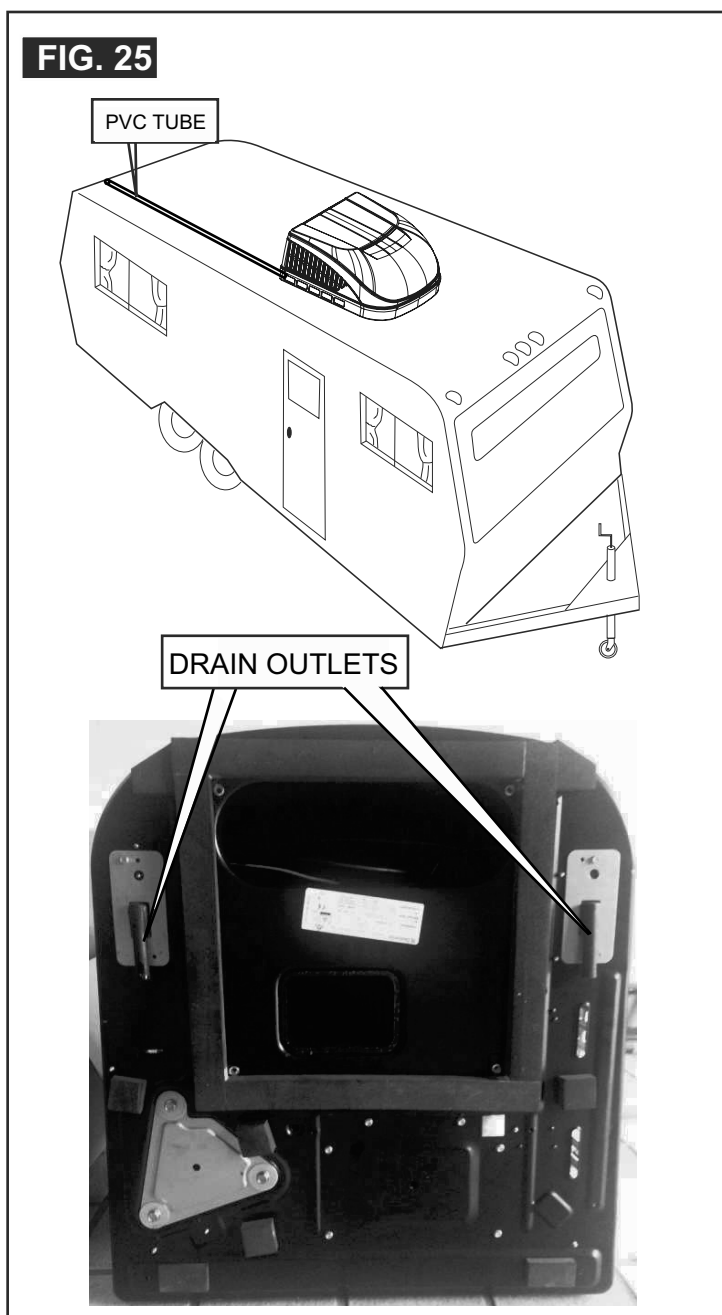
1. Clean air distribution box housing and control panel with a soft cloth dampened with a mild detergent. Never use furniture polish or scouring powders.

C. Fan Motor

1. The blower motor is factory lubricated and requires no service.

FITMENT OF CONDENSATION DRAIN EXTENSION(OPTIONAL)

A. Installing PVC Tube



The unit features condensation drain outlets which allow the fitment of a PVC tube in order to channel the condensation water to a specific area. For example it can be used to channel the condensation water to the rear of the caravan or RV and prevent runoff to the sides where doorways or windows are. FIG. 25 shows one example setup.

Commonly available PVC tubing should be used of 12.7mm inner diameter and pushed onto the drain pipe fitting on the bottom of the rooftop unit around 15mm to help prevent detachment over time (refer to FIG. 25)

The PVC tube should be routed around the foam support blocks on the underside of the rooftop unit to ensure the tube does not get compressed.

The condition of the PVC tube should be regularly checked to ensure it is free of any defects that may prevent good drainage (such as being blocked, compressed or kinked).

NOTICE It is important to minimise sharp bends, kinks or high/low points in the tube as it may prevent proper draining of the condensation, and in severe cases this could result in water dripping inside the caravan.

i The PVC tube should **NEVER** raise higher than the level of the drain pipe fitting.

SERVICE - UNIT DOES NOT OPERATE

If your unit fails to operate or operates improperly, check the following before calling your service center.

- If RV connected to motor generator, check to be sure motor generator is running and producing power.
- If RV connected to power supply by a land line, check to be sure line is sized properly to run unit load and it is plugged into power supply.
- Check your fuse or circuit breaker to see if it is open. Ensure fuse is not burnt, or circuit breaker is "ON" and not activated.
- After the above checks, call your local service center for further help. This unit must be serviced by qualified service personnel only.

When calling for service, always give the following:

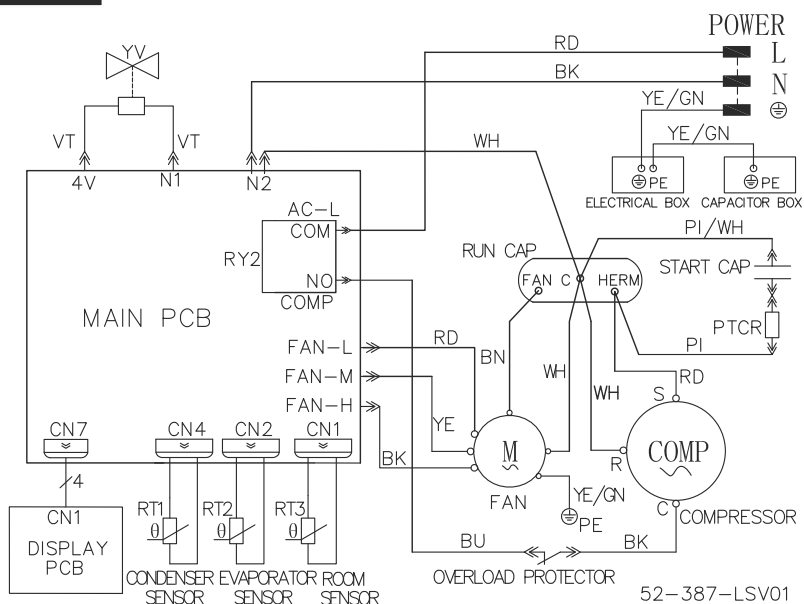
- Unit model and serial number found on the identification label located on base pan of unit bottom. Return air grille must be removed from air distribution box to view.
- Air distribution box model and serial number found on rating plate located on ceiling template. Observe this rating plate through the filter opening.

WIRING DIAGRAMS

A. Heat pump

BR36H70CR

FIG. 26



Mobile living made easy.



dometic.com

**YOUR LOCAL
DEALER**

dometic.com/dealer

**YOUR LOCAL
SUPPORT**

dometic.com/contact

**YOUR LOCAL
SALES OFFICE**

dometic.com/sales-offices

A complete list of Dometic companies, which comprise the Dometic Group, can be found in the public filings of:
DOMETIC GROUP AB • Hemvärnsgatan 15 • SE-17154 Solna • Sweden