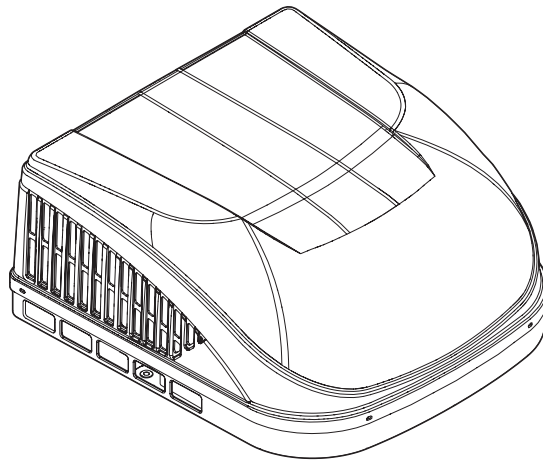




CLIMATE CONTROL AIR CONDITIONERS



Brisk Air (457915, 459516), Brisk II (B57915, B59516),
High Performance (540315, 540316), Blizzard NXT (H540315, H540316),
Penguin (640312, 640315, 640316), Penguin II (640312C, 640315C, 640316C),
FreshJet (FJX3473, FJX3573)

EN

Rooftop Air Conditioner (Universal Air Distribution Box, Mechanical Controls)

Installation and Operation Manual 3

WARNING

Cancer and Reproductive Harm
www.P65Warnings.ca.gov



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Service center & dealer locations

Visit: www.dometic.com

Please read these instructions carefully and follow all instructions, guidelines, and warnings included in this product manual in order to ensure that you install, use, and maintain the product properly at all times. These instructions **MUST** stay with this product.

By using the product, you hereby confirm that you have read all instructions, guidelines, and warnings carefully and that you understand and agree to abide by the terms and conditions as set forth herein. You agree to use this product only for the intended purpose and application and in accordance with the instructions, guidelines, and warnings as set forth in this product manual as well as in accordance with all applicable laws and regulations. A failure to read and follow the instructions and warnings set forth herein may result in an injury to yourself and others, damage to your product, or damage to other property in the vicinity. This product manual, including the instructions, guidelines, and warnings, and related documentation, may be subject to changes and updates. For up-to-date product information, please visit www.dometic.com.

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1 Related documents



Find the installation manual on-line in French at
<http://qr.dometic.com/beGoBi>



Find the installation manual on-line in Spanish at
<http://qr.dometic.com/beGoFB>

2 Explanation of symbols and safety instructions

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

2.1 Recognize safety information

 **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.

2.2 Understand signal words

A signal word will identify safety messages and property damage messages, and also will indicate the degree or level of hazard seriousness.

DANGER!

Indicates a hazardous situation that, if **not** avoided, will result in death or serious injury.

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: Used to address practices **not** related to physical injury.

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

2.3 Supplemental directives

To reduce the risk of accidents and injuries, please observe the following directives before proceeding to install, operate, or service this product:

- Read and follow all safety information and instructions.
- Read and understand these instructions before installing, operating, or servicing this product.
- The installation must comply with all applicable local or national codes, including the latest edition of the following standards:

U.S.A.

- ANSI/NFPA70, National Electrical Code (NEC)
- ANSI/NFPA 1192, Recreational Vehicles Code
- ANSI Z21.57, Recreational Vehicles Code

Canada

- CSA C22.1, Parts I & II, Canadian Electrical Code
- CSA Z240 RV Series, Recreational Vehicles

2.4 General safety messages

 **WARNING: ELECTRICAL SHOCK, FIRE, AND/OR EXPLOSION HAZARD. Failure to obey the following warnings could result in death or serious injury:**

- Use only Dometic replacement parts and components that are specifically approved for use with the product.
- Avoid improper installation, adjustment, alterations, service, or maintenance of the product. Installation, service, and maintenance **must** be done by a qualified service person only.
- Do **not** modify this product in any way. Modification can be extremely hazardous.
- Use care when diagnosing and/or adjusting components on a powered product.

3 Intended use

The Rooftop Air Conditioner (Universal Air Distribution Box (ADB), Mechanical Controls), also referred to as the “product” or “unit,” is designed and intended for installation on the roof of a Recreational Vehicle hereinafter referred to as “RV,” during or after the time it is manufactured. The product is comprised of two main components: the rooftop component and the internal ADB component.

This product can be installed by one person with brief help from additional personnel. This product is only suitable for the intended purpose and application in accordance with these instructions.

This manual provides information that is necessary for proper installation and/or operation of the Universal Air Distribution Box, Mechanical. Poor installation and/or improper operating or maintenance will result in unsatisfactory performance and a possible failure. The manufacturer accepts no liability for any injury or damage to the product resulting from:

- Incorrect assembly or connection, including excess voltage
- Incorrect maintenance or use of spare parts other than original spare parts provided by the manufacturer
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in this manual

Dometic reserves the right to change product appearance and product specifications.

4 General information

This section provides general information about the rooftop component and its components.

- i** The images used in this document are for reference purposes only. Components and component locations may vary according to specific product models. Measurements may vary ± 0.38 in. (10 mm).

4.1 Tools and materials

Dometic recommends that the following tools and materials be used.

Recommended tools and materials

Framing wood	All-weather caulk
Knife/box cutter	Screwdrivers
Electrical connectors	3/8 in. Torque wrench socket
Basic electrical connection tools	Torque wrench ¹ (40 in lbs)

¹ Models FJX3473 and FJX3573 require a torque wrench (22.2 in lbs)

4.2 Model identification

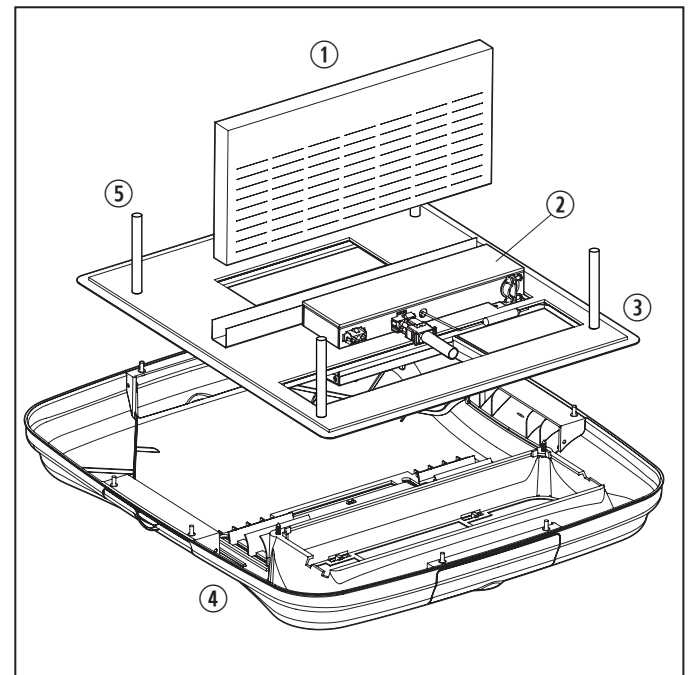
The model identification labels are located as follows:

- The rooftop component and serial numbers are found on the identification label located on the bottom of the base pan. To view the identification label, remove the return air vent grille from the air distribution box (ADB).
- The ADB model and serial numbers are found on the rating plate located on the ceiling template. To view the rating plate, look through the filter opening.

- i** Have this information ready before contacting Dometic for service.

4.3 ADB components

This section identifies the main ADB components.



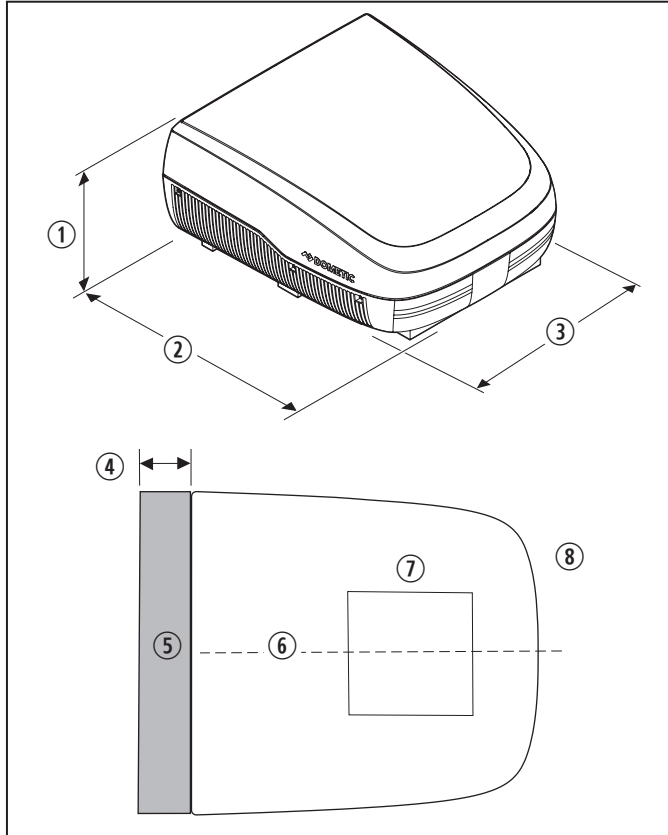
1 ADB components

- ① Duct divider
- ② Control box
- ③ Ceiling template
- ④ ADB cover
- ⑤ Long bolts

4.4 External dimensions by model

This section provides the external dimensions and clearance measurements of the rooftop component.

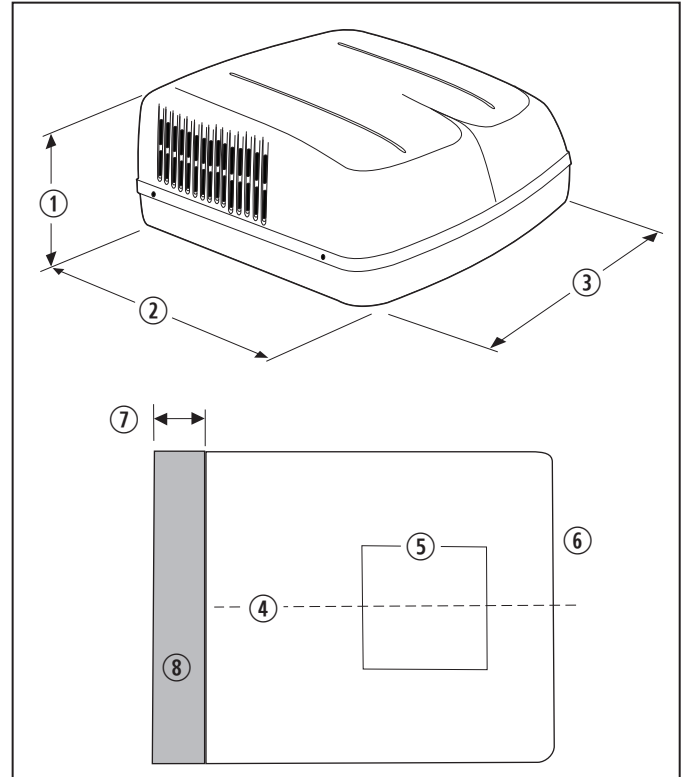
4.4.1 FreshJet



2 FreshJet (FJX3473, FJX3573)

- | | |
|-------------------------------|------------------------------------|
| ① 14.4 in. (366 mm) | ⑤ Air flow clearance area (shaded) |
| ② 29.6 in. (753 mm) | |
| ③ 27.6 in. (702 mm) | ⑥ Center line of unit |
| ④ 18.0 in. (457 mm) clearance | ⑦ Roof opening |
| | ⑧ Front of unit |

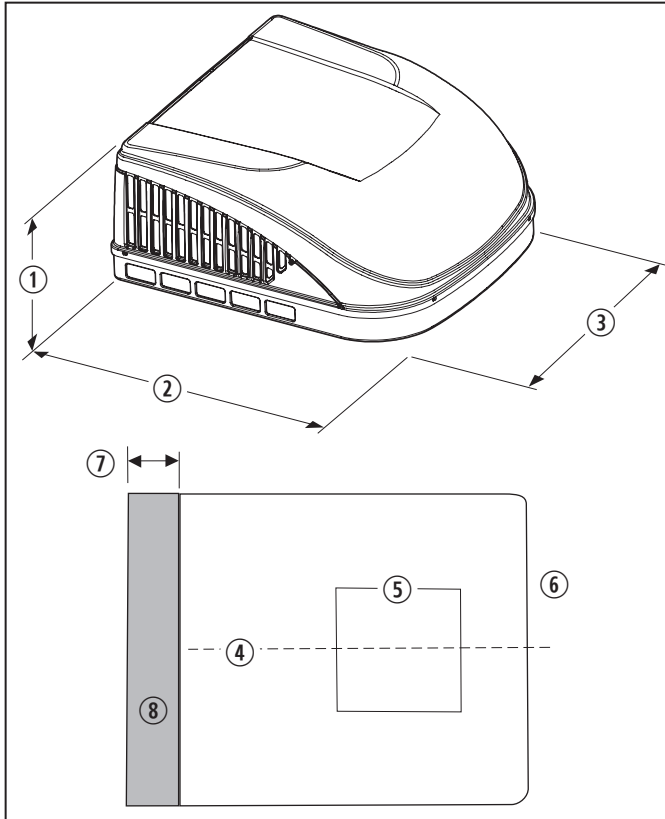
4.4.2 Brisk Air



3 Brisk Air (457915, 459516)

- | | |
|-----------------------|------------------------------------|
| ① 13.1 in. (333 mm) | ⑥ Front of unit |
| ② 34.9 in. (886 mm) | ⑦ 18.0 in. (457 mm) clearance |
| ③ 29.9 in. (760 mm) | |
| ④ Center line of unit | ⑧ Air flow clearance area (shaded) |
| ⑤ Roof opening | |

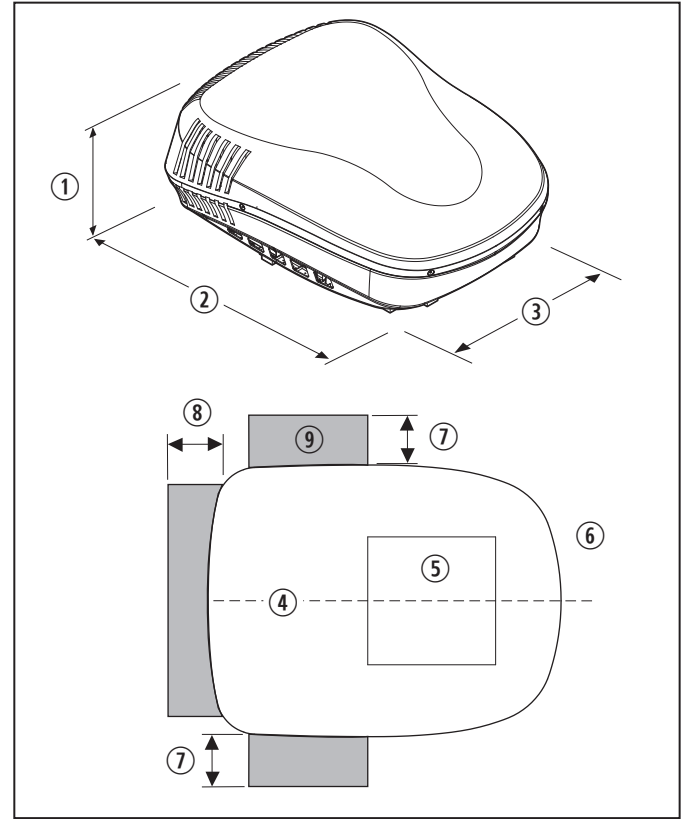
4.4.3 Brisk II



4 Brisk II (B57915, B59516)

- | | |
|-----------------------|------------------------------------|
| ① 13.7 in. (349 mm) | ⑥ Front of unit |
| ② 29.6 in. (751 mm) | ⑦ 18 in. (457 mm) clearance |
| ③ 27.6 in. (701 mm) | ⑧ Air flow clearance area (shaded) |
| ④ Center line of unit | |
| ⑤ Roof opening | |

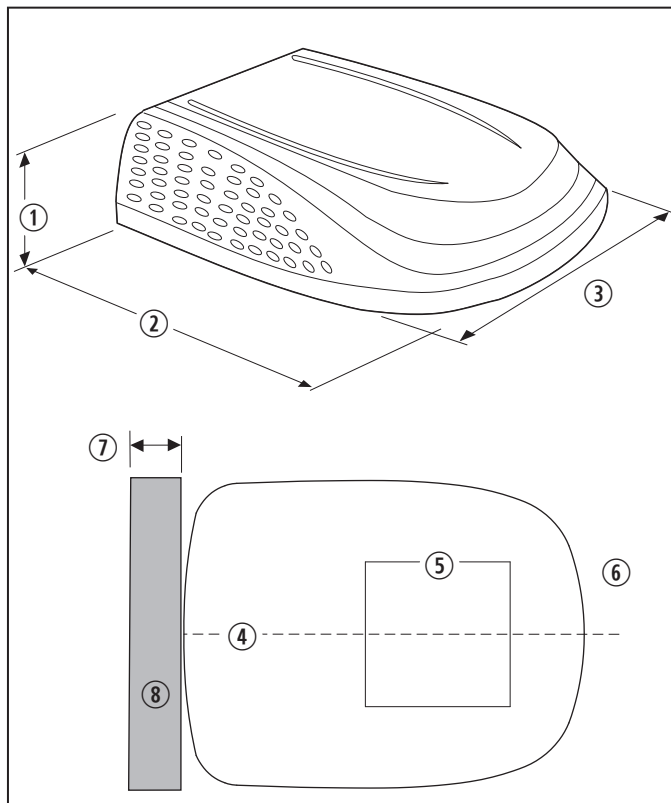
4.4.4 Blizzard NXT



5 Blizzard NXT (H540315, H540316)

- | | |
|-----------------------|------------------------------------|
| ① 13.9 in. (353 mm) | ⑦ 4.0 in. (102 mm) clearance |
| ② 40.0 in. (1016 mm) | ⑧ 18.0 in. (457 mm) clearance |
| ③ 30.0 in. (762 mm) | ⑨ Air flow clearance area (shaded) |
| ④ Center line of unit | |
| ⑤ Roof opening | |
| ⑥ Front of unit | |

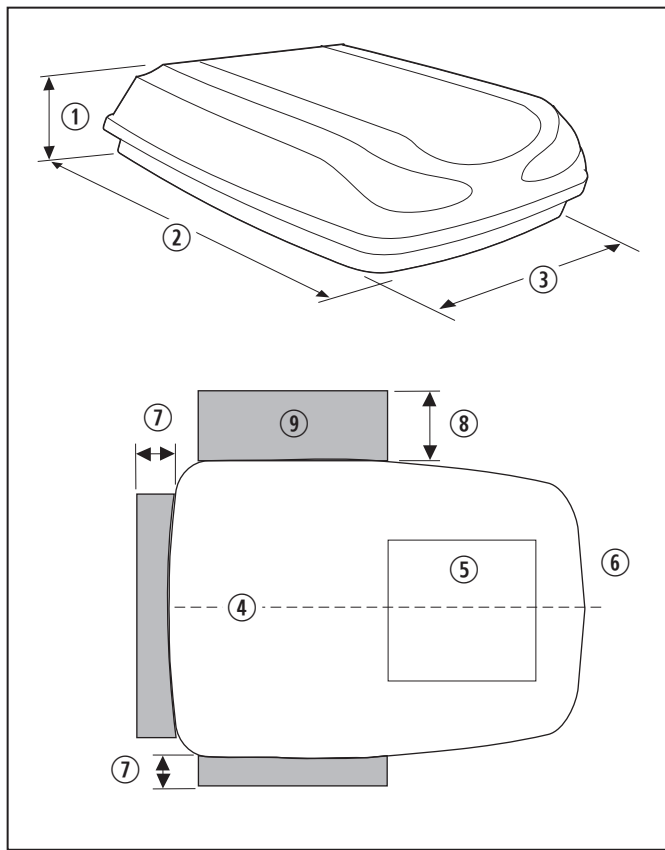
4.4.5 High Performance



6 High Performance (540315, 540316)

- | | |
|-----------------------|------------------------------------|
| ① 13.0 in. (330 mm) | ⑥ Front of unit |
| ② 39.6 in. (1006 mm) | ⑦ 18.0 in. (457 mm) clearance |
| ③ 29.9 in. (760 mm) | ⑧ Air flow clearance area (shaded) |
| ④ Center line of unit | |
| ⑤ Roof opening | |

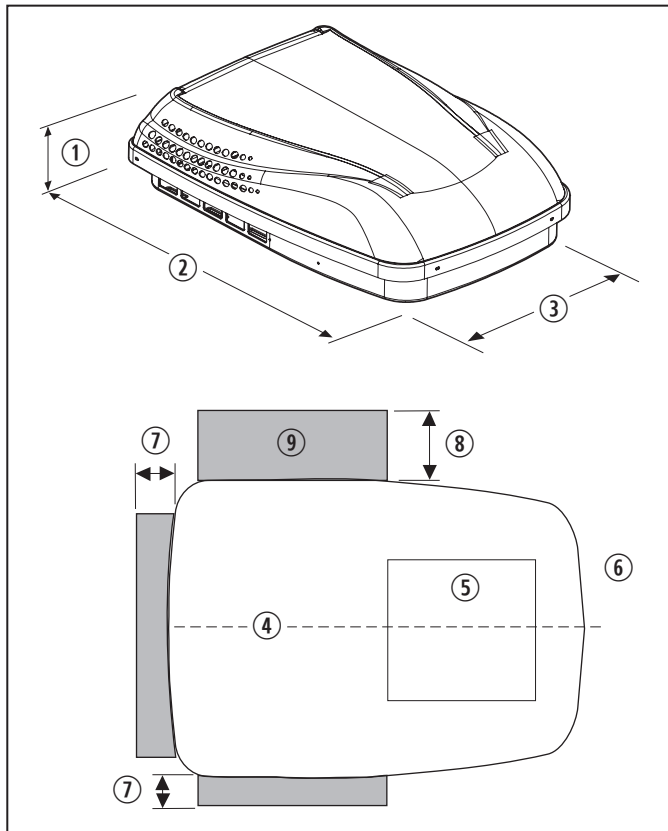
4.4.6 Penguin



7 Penguin (640312, 640315)

- | | |
|-----------------------|------------------------------------|
| ① 9.5 in. (241 mm) | ⑦ 4.0 in. (102 mm) clearance |
| ② 40.0 in. (1016 mm) | ⑧ 12.0 in. (305 mm) clearance |
| ③ 29.0 in. (737 mm) | ⑨ Air flow clearance area (shaded) |
| ④ Center line of unit | |
| ⑤ Roof opening | |
| ⑥ Front of unit | |

4.4.7 Penguin II

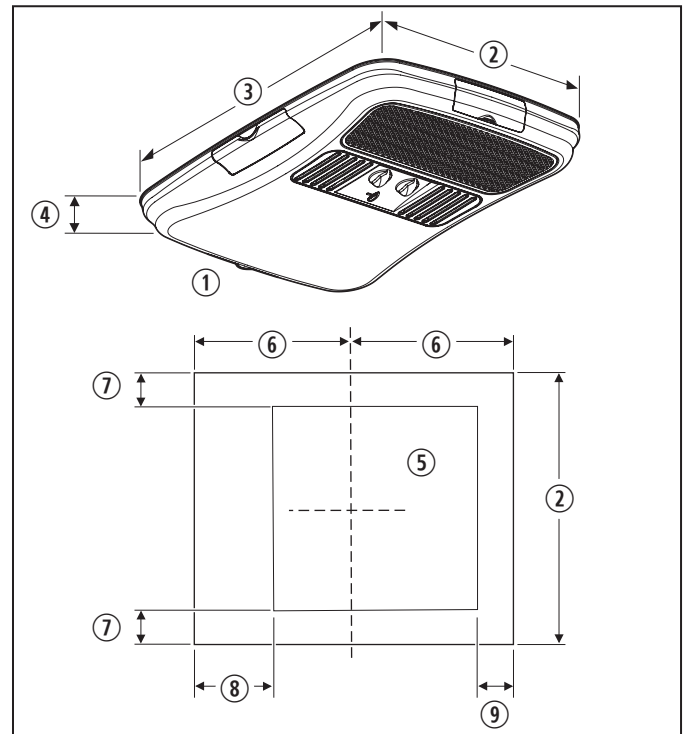


8 Penguin II (640312C, 640315C, 640316C)

- | | |
|-----------------------|------------------------------------|
| ① 10.4 in. (264 mm) | ⑦ 4.0 in. (102 mm) clearance |
| ② 40.5 in. (1029 mm) | |
| ③ 29.0 in. (737 mm) | ⑧ 12.0 in. (305 mm) clearance |
| ④ Center line of unit | |
| ⑤ Roof opening | ⑨ Air flow clearance area (shaded) |
| ⑥ Front of unit | |

4.5 Internal ADB dimensions

This section provides the ADB internal dimensions.



9 Internal Dimensions for All Models

- | | |
|---------------------|---------------------|
| ① Front of unit | ⑥ 11.6 in. (295 mm) |
| ② 21.1 in. (536 mm) | ⑦ 3.4 in. (86 mm) |
| ③ 23.1 in. (587 mm) | ⑧ 6.0 in. (152 mm) |
| ④ 2.6 in. (66 mm) | ⑨ 2.9 in. (74 mm) |
| ⑤ Roof opening | |

4.6 Placement Requirements

The rooftop component is specifically designed for installation on the roof of an RV. To determine where to place the rooftop component, consider the following items:

- A 14.3 in. x 14.3 in. (363 mm x 363 mm) [± 0.1 in. (3 mm)] square opening and hereinafter referred to as "roof opening" is required. The roof opening is part of the return air system of the rooftop component and must be finished in accordance with NFPA 1192.
- The rafter/joist support frames must be spaced no greater than 16.0 in. (406 mm) on center. The rooftop component is designed to fit over an existing roof vent opening.

- The distance between the roof and the RV ceiling must be between 1.5 in. (38 mm) and 6.0 in. (152 mm).
- When no roof vent is available or when another location is desired, an opening must be cut through the roof and ceiling of the RV. This opening must be located between the roof reinforcing members. Consider these recommendations along with your cooling needs:
 - For a single rooftop component: mount the rooftop component slightly forward of the RV's center (front to back) and centered from side to side.
 - For two rooftop components: measuring from the front of the RV and centering from side to side, mount the first rooftop component at 1/3 the length of the RV and the second rooftop component at 2/3 the length of the RV.

4.6.1 Tilt Requirements

When measuring for placement, consult the following tilt requirements:

1. Make all measurements while the RV is parked on a level surface.
2. Install the rooftop component on a flat and level roof section.
3. Use the tilt allowance table to determine the maximum acceptable roof tilt.

Tilt allowance	
Model number	Maximum tilt (all directions)
457915, 459516 B57915, B59516 540315, 540316 H540315, H540316, FJX3473, FJX3573	15°
640312, 640315, 640316, 640312C, 640315C, 640316C	8°

5 Specifications

This section provides the electrical specifications by model.

Model	Nominal capacity cooling (BTU HR)	Electrical rating	Compressor amps		Fan motor amps		Refrigerant R-410A (oz)	Minimum wire size ¹	AC circuit protection ² (installer supplied)	Minimum generator size ³ (1 unit/ 2 units)
			Rated load	Locked rotor	Rated Load	Locked rotor				
457915.70X	13,500	115 VAC, 60 HZ, 1 ph	12.4	63.0	2.5	5.8	18.0	12 AWG	20 Amp	3.5 kW/ 5.0 kW
457915.71X	13,500		12.4	68.0	2.5	5.8	18.0			
B57915.71X	13,500		12.4	68.0	2.5	5.8	18.0			
459516.70X	15,000		13.3	66.0	2.0	5.6	27.5			
459516.71X	15,000		13.3	70.0	2.0	5.6	27.5			
B59516.71X	15,000		13.3	70.0	2.0	5.6	18.3			
540315.70X	13,500		12.4	63.0	3.0	8.5	18.5			
540315.71X	13,500		12.4	68.0	3.0	8.5	18.5			
H540315.72X	13,500		12.7	68.0	2.8	8.0	19.5			
540316.70X	15,000		13.3	66.0	2.8	7.6	29.5			
540316.71X	15,000		13.3	70.0	2.8	7.6	29.5			
H540316.72X	15,000		13.2	70.0	2.8	8.0	20.1			
640312.80X	11,000		11.5	53.0	2.6	8.5	20.0			
640312.83X	11,000		12.5	63.0	2.6	8.5	18.0			
640312C.35X	11,000		10.5	53.0	3.5	10.0	19.0			
640312C.85X	11,000		11.5	53.0	2.6	8.5	20.0			
640315.80X	13,500		12.6	63.0	2.6	8.5	18.0			
640315.83X	13,500		12.5	63.0	2.6	8.5	19.0			
640315.84X	13,500		12.5	63.0	3.5	8.5	19.0			
640315C.75X	13,500		12.7	52.0	2.6	8.5	14.5			
640316C.75X	15,000		12.9	52.0	2.6	8.5	21.5			
FJX3473MWHAS	13,500		13.6	61.0	3.3	6.9	12.7			
FJX3473MBKAS	13,500		13.6	61.0	3.3	6.9	12.7			
FJX3573MWHAS	15,000		13.6	73.0	3.3	6.9	13.4			
FJX3573MBKAS	15,000		13.6	73.0	3.3	6.9	13.4			

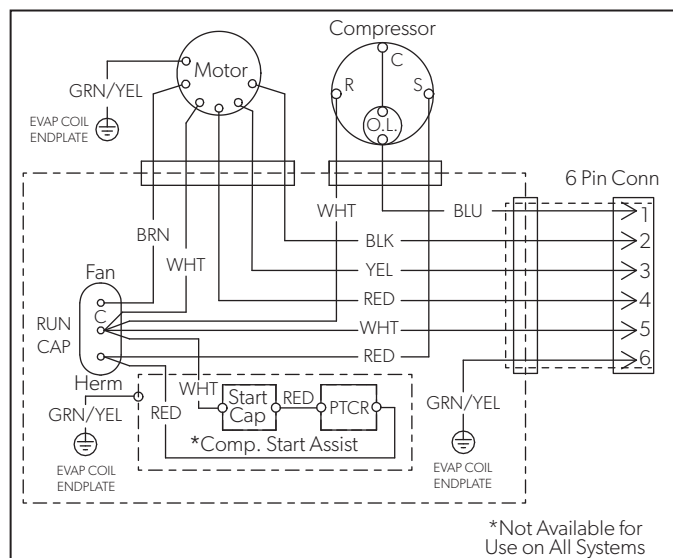
¹ The wiring size indicated is for copper wiring up to 24 ft (7.3 m) in length. For wire lengths over 24 ft (7.3 m), consult the National Electrical Code for proper sizing.

² Circuit protection: a time delay fuse or circuit breaker is required.

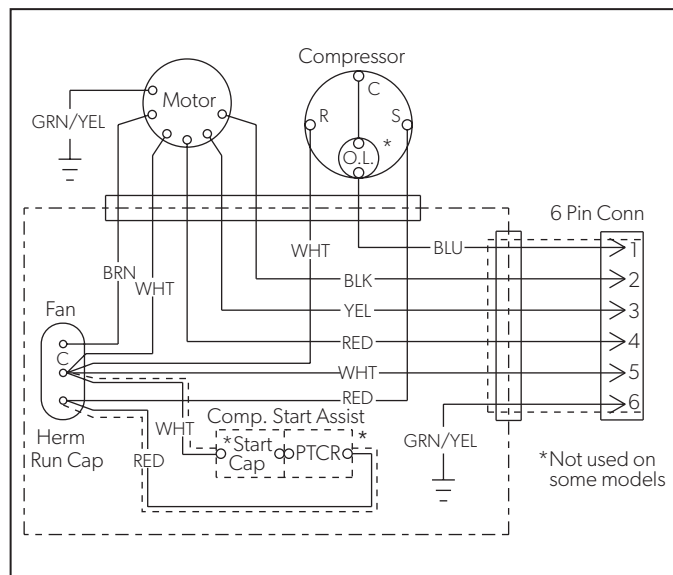
³ Dometic Corporation gives general guidelines for generator requirements. These guidelines come from experiences people have had in actual applications. When sizing the generator, the total power usage of your RV must be considered. Generators may lose power at high altitudes and from lack of maintenance.

6 Wiring diagrams

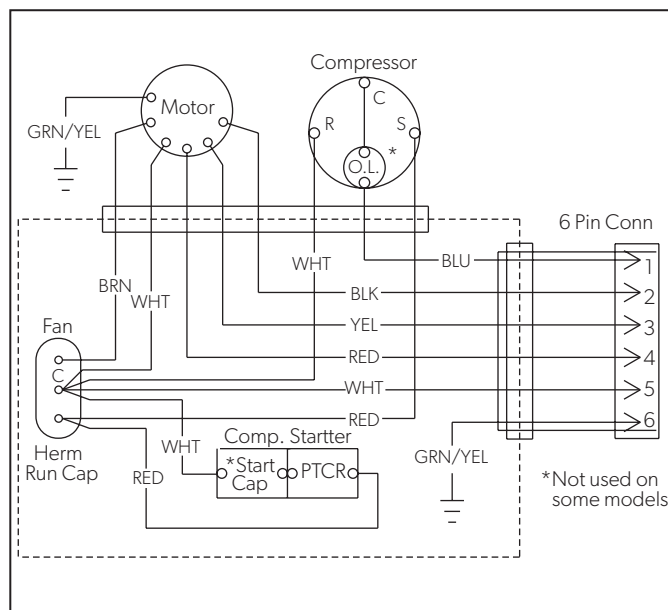
This section provides the wiring diagrams for the product.



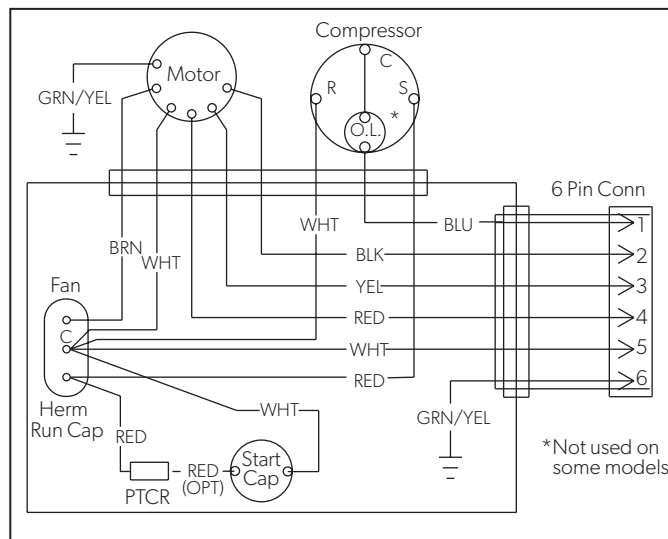
10 FreshJet (FJX3473, FJX3573)



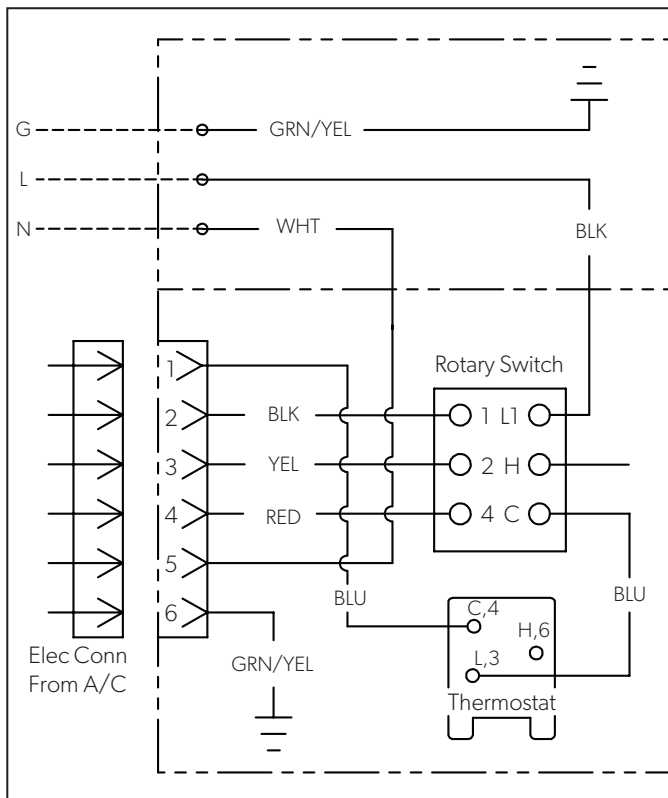
11 Brisk (457915, 459516, B57915, and B59516)



12 Blizzard and High Performance (540315, 540316, H540315, and H540316)



13 Penguin (640312, 640312C, 640315, 640315C, 640316, and 640316C)



14 Air distribution box for all models

- Field wiring
- Factory wiring
- Line splice

7 Pre-installation

⚠ WARNING: FIRE OR ELECTRICAL SHOCK HAZARD. Failure to obey these warnings could result in death or serious injury.

- Shut off the gas supply, disconnect the 115 VAC power from the RV, and disconnect the positive (+) 12 VDC terminal from the supply battery before drilling or cutting into the RV.
- Make sure there are no obstacles such as wires or pipes inside the RV's roof.
- Provide grounding in compliance with all applicable electrical codes.

⚠ CAUTION: LIFTING HAZARD.

Use proper lifting technique and control when lifting the rooftop component. Two people are required to lift the rooftop component to the roof. Failure to obey this caution could result in minor or moderate injury.

NOTICE: Failure to follow these notices could result in damage to the rooftop component and/or the RV.

- Never** create a low spot on the RV roof.
- Maintain the structural integrity of the RV roof. The roof **must** be designed to support 130 lbs (59 kg) when the RV is in motion. Normally, a 200 lb (91 kg) static load design will meet this requirement.
- Read this entire section before beginning the installation.

This section describes how to install and set up the unit.

7.1 Determining your cooling needs

When determining your cooling requirements, consider the following items:

- The size of the RV
- The RV window area (which could increase heat gain)
- The amount of insulation in the walls and the roof
- The geographical location where the RV will be used
- The personal comfort level required

7.2 Preparing the RV roof opening

NOTICE: The roof opening **must** be structurally framed to provide adequate support and to prevent air from being drawn from the roof cavity. Framing stock with 0.8 in. (19 mm) or more thickness **must** be used. Remember to provide an entrance hole for power supplies at the front of the opening. See Figure 16.

This section describes how to prepare the RV roof opening.

7.2.1 Using an existing roof vent opening

i If the roof does not have an existing roof vent, skip to "Making a new roof opening" on page 14.

This section describes how to prepare the RV roof when using an existing vent.

- Shut off the gas supply, disconnect the 115 VAC power from the RV, and disconnect the positive (+) 12 VDC terminal from the supply battery.

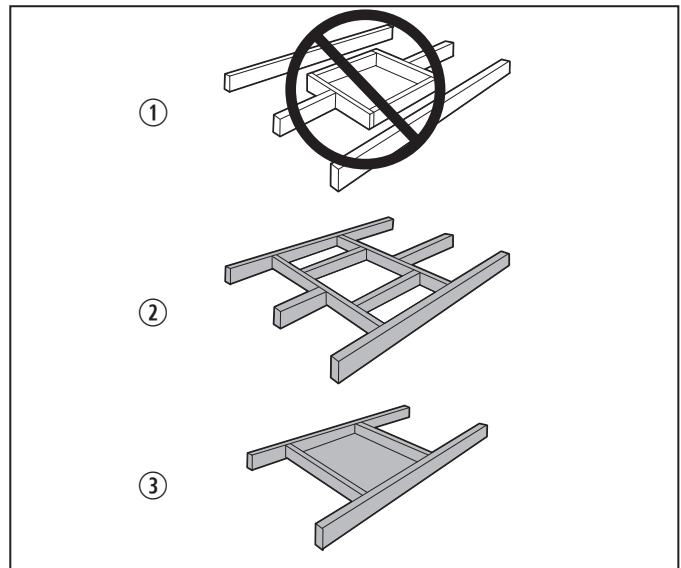
2. Unscrew and remove the roof vent.
3. Remove the caulking compound around the opening.
4. Seal the screw holes and seams where the roof gasket will be located. Use a good grade of all-weather sealant.
5. Measure the roof opening (review "Placement Requirements" on page 9). If the roof opening is within specifications, skip to "Routing the wiring" on page 15.
6. If the opening needs to be resized, proceed to "Making a new roof opening" on page 14:
 - If the opening exceeds 14.4 x 14.4 in. (366 x 366 mm), it will be necessary to reduce the size the opening.
 - If the opening is less than 14.1 x 14.1 in. (358 x 358 mm), it will be necessary to enlarge the opening.

7.2.2 Making a new roof opening

i If the roof has an existing roof vent, see "Using an existing roof vent opening" on page 13.

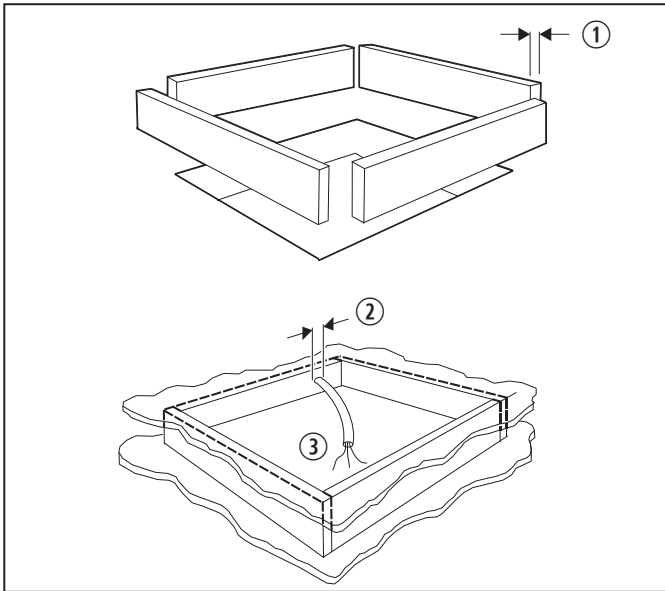
This section describes how to prepare the RV roof when making a new roof opening.

1. Shut off the gas supply, disconnect the 115 VAC power from the RV, and disconnect the positive (+) 12 VDC terminal from the supply battery.
2. Carefully mark the required roof opening. See "Placement Requirements" on page 9.



15 Structure for a new roof opening

- ① Incorrect
 - ② Correct
 - ③ Correct
3. Make sure the new opening does not compromise the roof's structural integrity.
 - Do not cut the roof structure or the rafters.
 - The rafters should remain supported by a cross beam.
 - The opening should be between the rafters.
 4. Carefully cut the required roof opening.



16 Structural framing for a new roof opening

- ① 0.8 in. (20 mm)
Minimum width for the framing stock
- ② 0.3 in. (8 mm)
Minimum access hole
- ③ 15.0 in. (381 mm)
Exposed length of 115 VAC power supply wiring

5. Frame the opening so it will not collapse when bolting the rooftop component down.
6. At the front of the frame opening, leave or create an access hole to allow for the length of exposed 115 VAC power supply wiring required to complete the installation.
7. Using the roof opening as a guide, cut the matching hole in the ceiling.

7.3 Routing the wiring

i The power must be on an appropriately-sized separate time delay fuse or circuit breaker. See "Specifications" on page 11.

This section describes how to route the wiring for the rooftop component:

1. Position a copper 115 VAC supply wire, with ground, in the front portion of the roof opening.
2. Route the supply wire from the time delay fuse or circuit breaker box to the roof opening. Use a listed/certified non-metallic sheathed single strand cable. See "Specifications" on page 11.

i If an AC or a vent fan were removed, the existing power supply wire may be used provided it is of the proper type, size, and location, and if it is correctly fused.

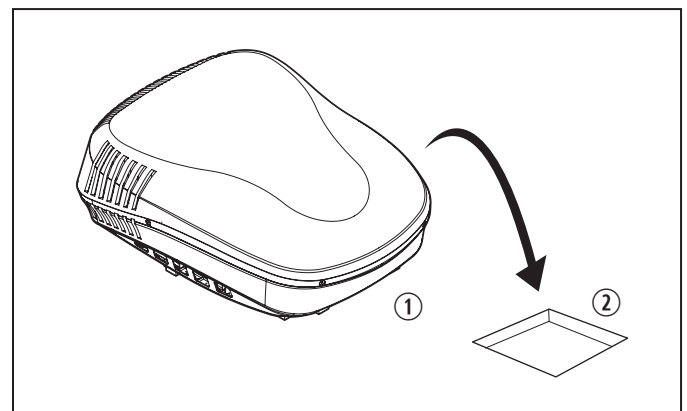
3. Make sure that at least 15.0 in. (381 mm) of supply wire extends into the roof opening to ensure an easy connection at the junction box.
4. Protect the 115 VAC power supply wire where it passes into the opening according to local and national standards.

7.4 Positioning the rooftop component

NOTICE: Do **not** slide the rooftop component along a surface. Otherwise, damage to the gasket on the bottom of the rooftop component could occur and cause a leak.

This section describes how to move and position the rooftop component for installation.

1. Remove all the contents from the carton and discard the carton.
2. Place all the ADB kit contents in the RV. The ADB kit contains mounting hardware for the ADB that will be installed inside the RV.
3. Move the rooftop component to the roof.



17 Placing the unit (models H540315 and H540316 shown)

- ① Front of the rooftop component
- ② Roof opening

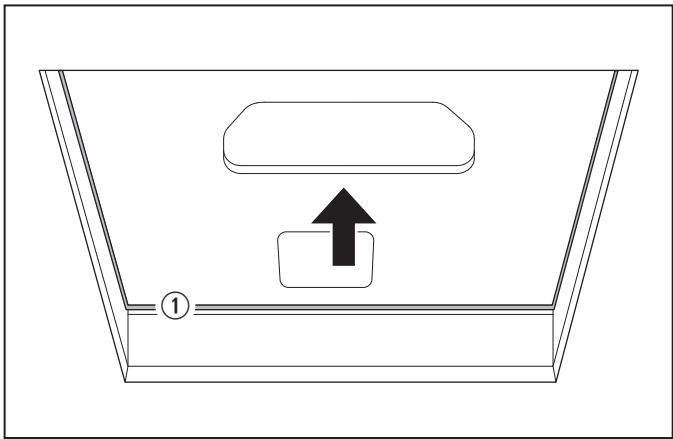
4. Lift and place the rooftop component over the prepared opening using the gasket on the rooftop component as a guide.

i The outside work is complete. Minor adjustments can be made from inside the RV if required.

7.5 Preparing to work inside the RV

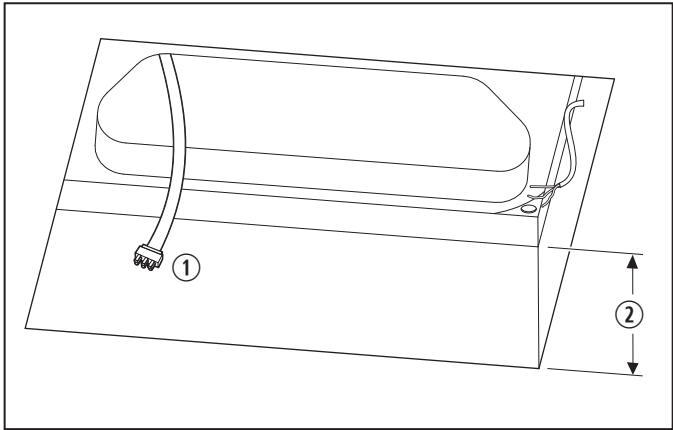
This section describes the interior preparation.

1. Bring the ADB kit inside the RV. The box contains the mounting hardware for the ADB that will be used inside the RV.



18 Centering the Unit from Inside the RV (models H540315 and H540316 shown)

- 1** Roof gasket
2. From inside the RV, check the gasket alignment of the rooftop component over the roof opening. If necessary, adjust the rooftop component from below by slightly pushing up.



19 Return Air Opening (models H540315 and H540316 shown)

- 1** Electrical cord **2** Ceiling thickness
3. Reach up into the return air opening of the rooftop component and pull the rooftop component electrical cord down for later connection.

4. Remove the ADB and the mounting hardware from the carton. See “ADB components” on page 5 for the parts list.

8 Installation

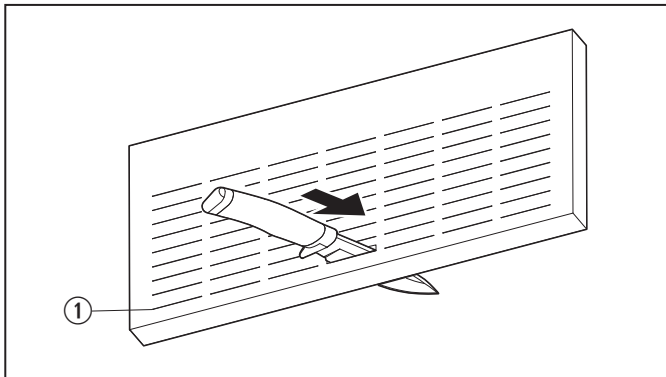
8.1 Installing the duct divider

This section describes the steps to modify and install the duct divider:

1. Measure the RV ceiling thickness. See Figure 19.
 2. Use the tables to determine the number of rows to remove from the duct divider based on the model and the RV ceiling thickness.
- i** If the ceiling thickness falls exactly on a height common to two different ranges, either recommendation is acceptable since the cell foam can be compressed.

Models: 457915, 459516, B57915, B59516, 540315, 540316, 640312, 640315, 640316, 640312C, 640315C, 640316C FJX3473, FJX3573		Number of rows to cut
Ceiling thickness		
Min	Max	
6.0 in. (152 mm)	6.5 in. (165 mm)	0
5.5 in. (140 mm)	6.0 in. (152 mm)	1
5.0 in. (127 mm)	5.5 in. (140 mm)	2
4.5 in. (114 mm)	5.0 in. (127 mm)	3
4.0 in. (102 mm)	4.5 in. (114 mm)	4
3.5 in. (89 mm)	4.0 in. (102 mm)	5
3.0 in. (76 mm)	3.5 in. (89 mm)	6
2.5 in. (64 mm)	3.0 in. (76 mm)	7
2.0 in. (51 mm)	2.5 in. (64 mm)	8
1.5 in. (38 mm)	2.0 in. (51 mm)	9

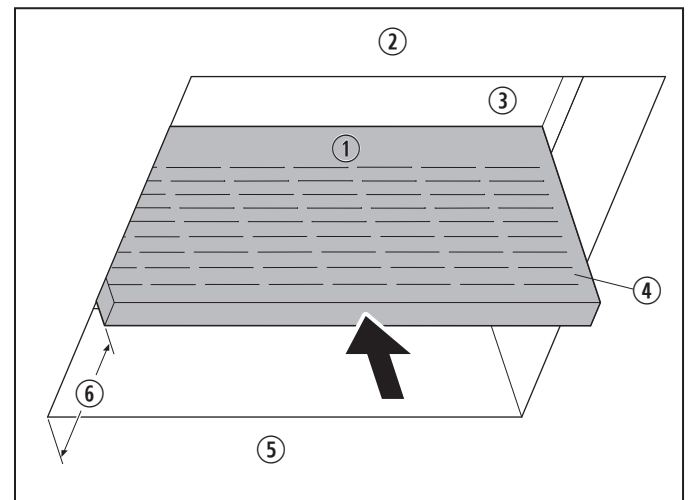
Models: H540315, H540316		Number of rows to cut
Ceiling thickness		
Min	Max	
5.8 in. (147 mm)	6.3 in. (160 mm)	0
5.3 in. (135 mm)	5.8 in. (147 mm)	1
4.8 in. (122 mm)	5.3 in. (135 mm)	2
4.3 in. (109 mm)	4.8 in. (122 mm)	3
3.8 in. (97 mm)	4.3 in. (109 mm)	4
3.3 in. (84 mm)	3.8 in. (97 mm)	5
2.8 in. (71 mm)	3.3 in. (84 mm)	6
2.3 in. (58 mm)	2.8 in. (71 mm)	7
1.8 in. (46 mm)	2.3 in. (58 mm)	8
1.3 in. (33 mm)	1.8 in. (46 mm)	9



20 Sizing the duct divider (models H540315 and H540316 shown)

① Row removal starting point

3. If it is necessary to remove one or more duct divider rows:
 - a. Starting from the bottom of the divider, count the rows to remove to determine the cut location.
 - b. Insert a utility knife into the row.
 - c. Carefully cut along the row.



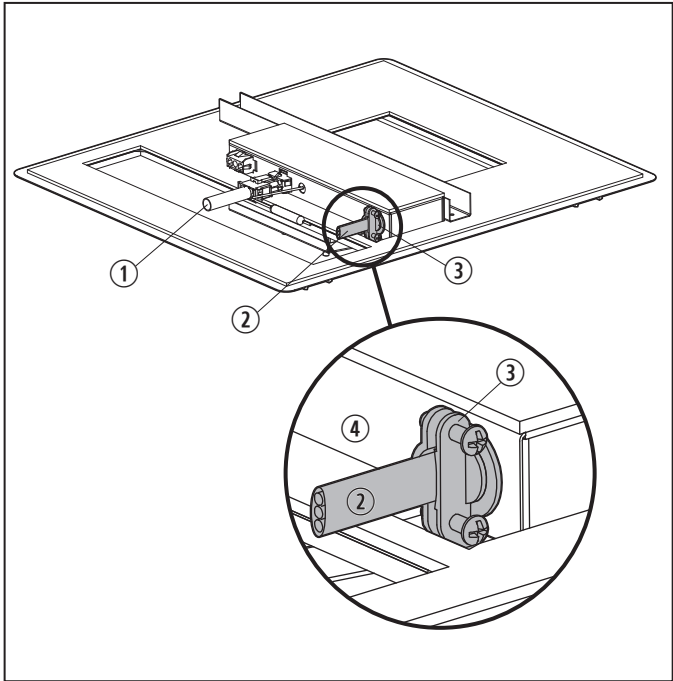
21 Installing the duct divider (models H540315 and H540316 shown)

- ① Duct divider
- ② Front of unit
- ③ Base pan
- ④ Black side to front
- ⑤ Rear of unit
- ⑥ 6.0 in. (143 mm) from the back of the roof opening

4. Carefully insert the duct divider into the roof opening, measuring 6.0 in. (143 mm) from the back of the roof opening.

i The foil backing faces the rear of the rooftop component.

8.2 Wiring the unit to the power supply



22 Completing the wiring

- ① 6-pin Unit electrical cord

② 115 VAC power supply wire
- ③ Cable connector

④ Proper orientation of the cable connector

Complete these steps to connect the rooftop component to the power supply:

1. Plug the 6-pin electrical cord from the rooftop component on the roof into the matching 6-pin connector in the electronic control box. The plug is polarized and will only fit in one direction.
2. Insert the supplied non-metallic cable connector into the junction box hole cutout.
3. Route the previously-run 115 VAC power supply wire through the cable connector and into the junction box.
4. Secure the 115 VAC power supply by tightening the cable connector clamp. Make sure not to damage the wires.

8.3 Securing the unit

NOTICE: Overtightening could damage the rooftop component’s base pan or ceiling template. Not enough torque will cause an inadequate roof seal, and could cause a leak.

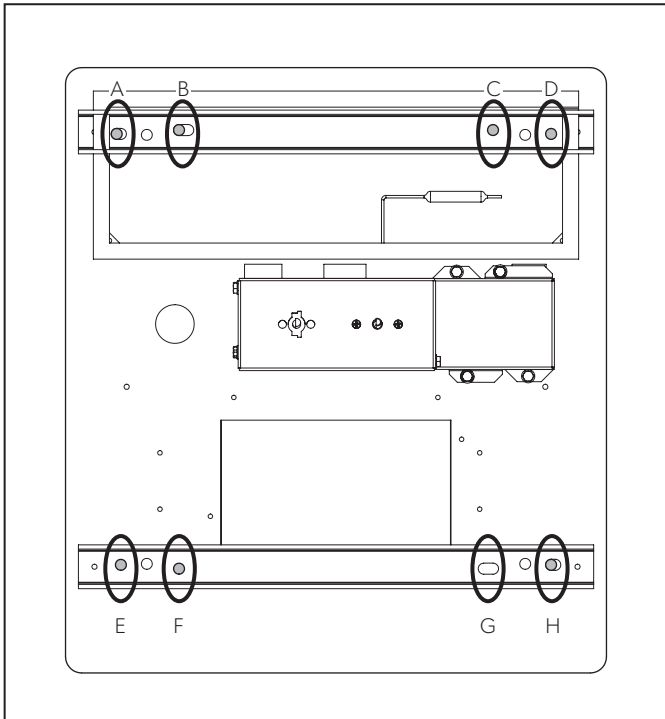
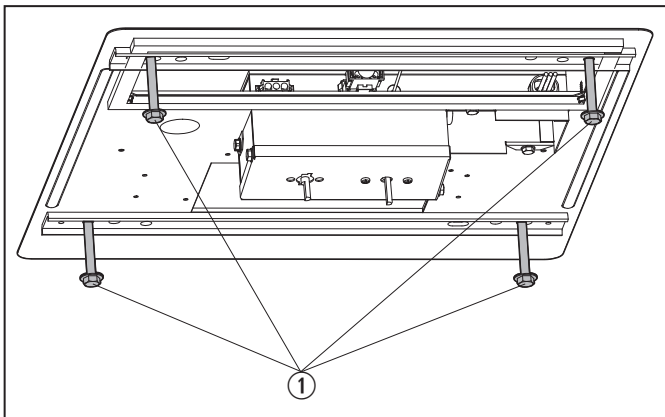
i All models in this manual use a four-bolt pattern to secure the ADB kit.

Complete these steps to secure the rooftop component to the roof:

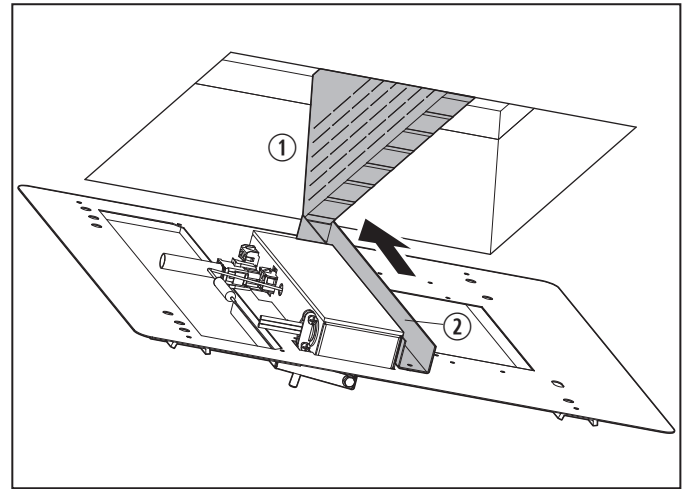
1. Use the following tables and figures to determine the proper mounting pattern and bolt location.

Model	Bolt location
457915, 459516	A, D, E, H
B57915, B59516	
H540315, H540316	
FJX3473, FJX3573	

Model	Bolt location
540315, 540316	B, C, F, G
640312, 640315, 640316	
640312C, 640315C, 640316C	

**23** Mounting bolt pattern**24** Mounting bolt location

① Mounting bolt

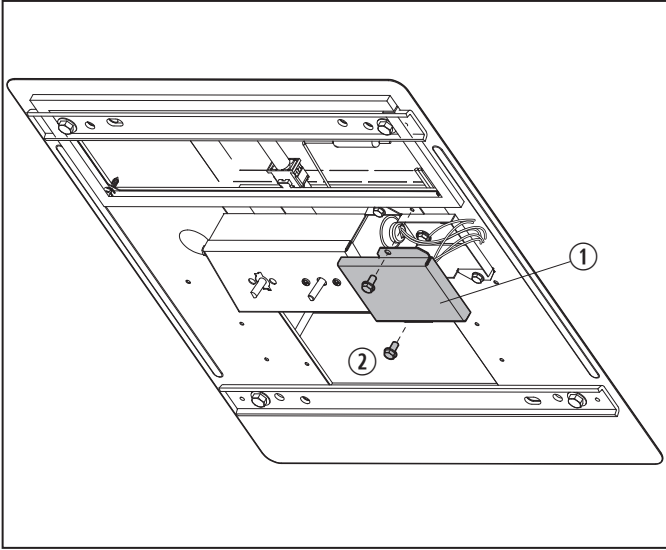
**25** Positioning the ceiling template

① Duct divider

② Channel

2. Hold the ceiling template up to the roof opening and line up the channel on the template with the duct divider.
3. With the ceiling template in position, start each mounting bolt, by hand, through the ceiling template and up into the rooftop component base pan.
4. Tighten the mounting bolts to the correct torque specifications.
 - For the FreshJet, tighten all four mounting bolts evenly at 22.2 in. lbs (2.5 N·m).
 - For all other models, tighten all four mounting bolts evenly within 40 to 50 in. lbs (4.7 to 5.6 N·m).

8.4 Connecting the power supply



26 Junction box

- ① Junction box cover ② Junction box cover screw

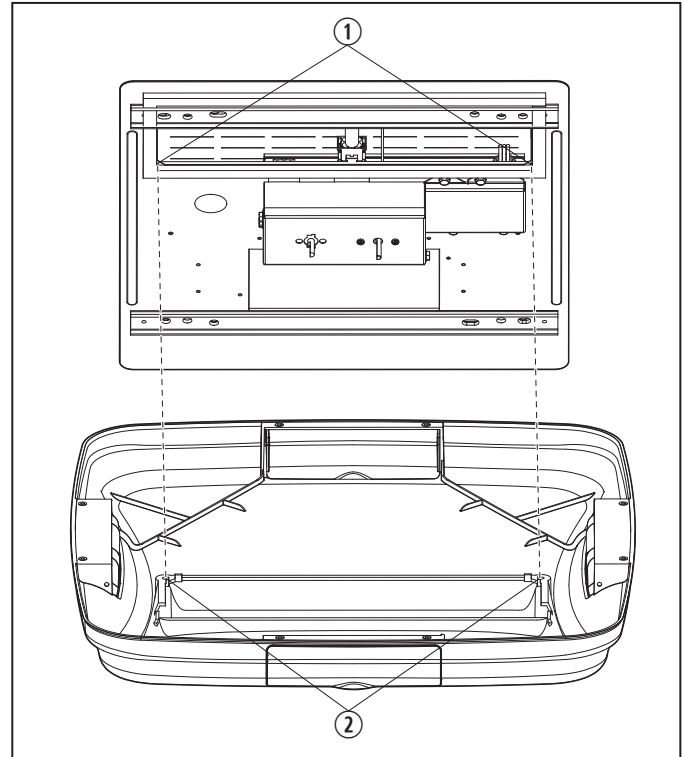
Complete these steps to connect the rooftop component wiring to the 115 VAC power supply:

1. Remove the junction box cover.
2. Connect the white wires together, using the appropriately-sized connectors.
3. Connect the black wires to each other, using the appropriately-sized connectors.
4. Secure the bare copper wire under the grounding screw in the junction box.
5. Tape the connectors to the supply wire to ensure they do not vibrate loose.
6. Push the wires into the junction box.
7. Secure the junction box cover using the junction box screw.

8.5 Installing the ADB

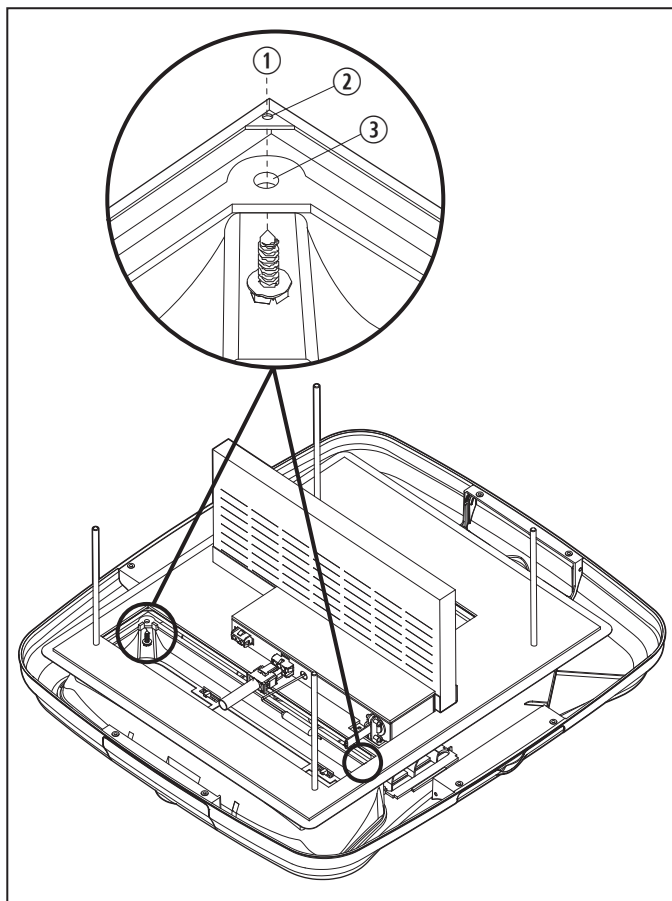
Complete these steps to install the air distribution box:

- i** Do not install the front and rear vent doors until all the screws are installed in steps 2 & 3.



27 Aligning the ADB and the ceiling template

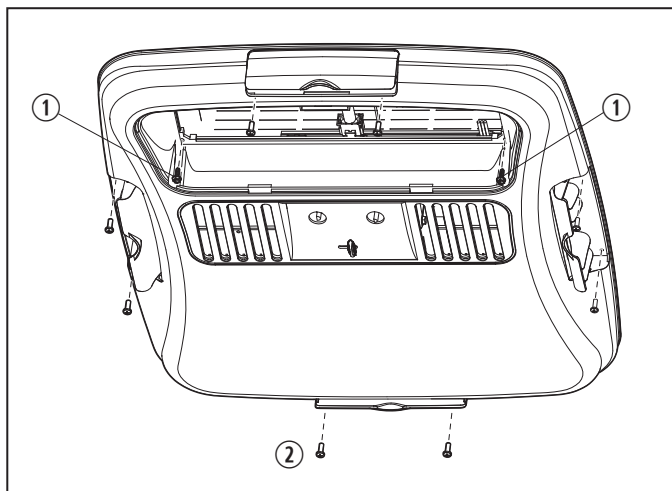
- ① Ceiling template alignment holes ② ADB alignment holes



28 Aligning the ADB and the ADB cover with the ceiling template

- ① ADB hole alignment ③ Hole in ADB cover
- ② Hole in ceiling template

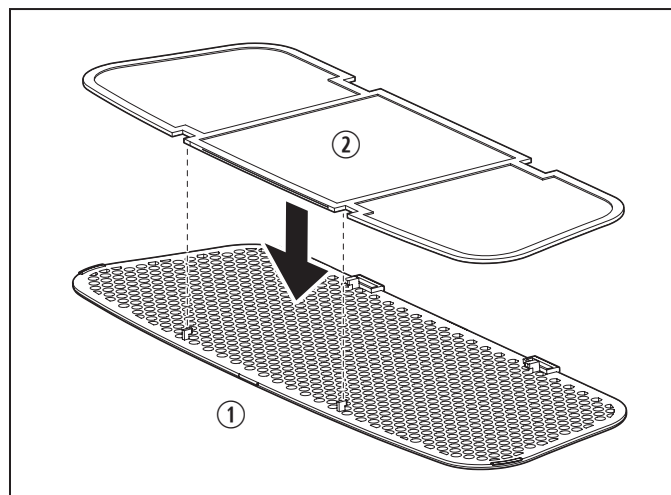
1. Align the ADB with the ceiling template.



29 Securing the ADB to the ceiling

- ① Sheet metal screws (2)
- ② Wood screws (8)

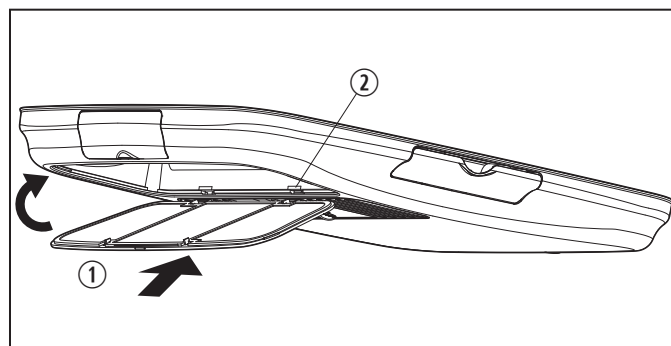
2. Screw in the two supplied sheet metal screws inside the return air opening to secure the ADB to the ceiling.
3. Screw in the eight supplied wood screws inside the front, rear, and side doors to secure the ADB to the ceiling.
4. Affix the front and rear vent doors and snap into place.



30 Placing the return air vent filter

- ① Return air vent grille ② Filter

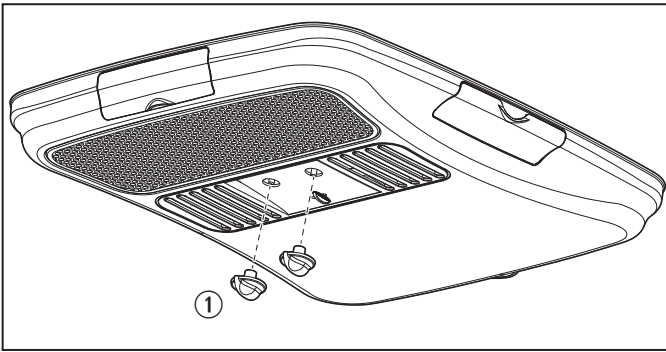
5. Place the filter in the return air vent grille. The filter may already be in place on some models.



31 Securing the return air vent grille

- ① Return air vent grille ② Slot in the ADB

6. To connect the return air vent grille to the ADB, slide the grille's tab into the slot in the ADB.
7. Rotate the return air vent grille up until it snaps into place.



32 Attaching the control knobs

① Control knobs (2)

8. Align the control knobs to the control knob stems on the ADB.
9. Gently push the control knobs into place.
10. Turn on the power supply.
11. Verify that all the rooftop component features work.

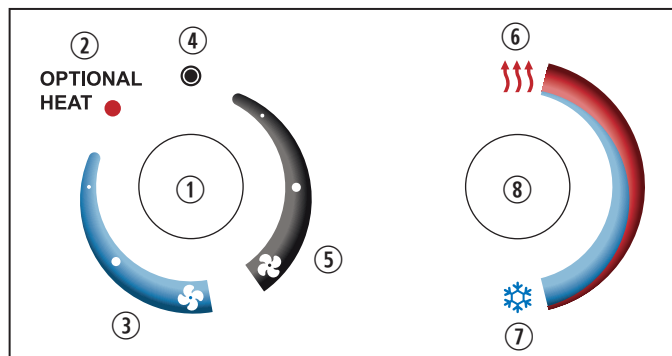
i Read the following operating instructions before attempting to run the rooftop component.

9 Operation

This section describes the rooftop component's operating controls and settings.

9.1 Understanding the controls

This section describes the operating controls.



33 Operating controls

- | | |
|---------------------------------------|---------------------------|
| ① Selector control knob (8 positions) | ⑤ Fan only |
| ② (Optional) Heat | ⑥ Warmer temperature |
| ③ Cool | ⑦ Cooler temperature |
| ④ OFF position | ⑧ Thermostat control knob |

The selector switch has eight positions, including OFF, to control the fan speeds, the cooling modes, and the optional heating modes of operation.

The thermostat control knob manages the compressor's ON/OFF operation within a temperature range of approximately 65–90 °F (18–32 °C), measured at the ADB inlet.

9.2 Understanding the settings

This section describes the settings for the unit.

9.2.1 Cooling operation

NOTICE: Wait at least two minutes before restarting the compressor if it has been manually cycled off using the selector switch or the temperature set lever. Otherwise, the compressor will quick-cycle and could overload the compressor or supply circuit.

This section describes how to use the cooling setting to reduce heat on warm days or evenings.

1. Turn the selector control knob to one of the three positions in the blue area on the control panel.
2. Select the speed that best satisfies your needs:
 - High Cool (fan symbol) provides maximum cooling and dehumidification.
 - Medium Cool (middle position) provides normal or average cooling.
 - Low Cool (next to the optional Heat position) maintains the room at the current comfort level. Normally this speed is used for nighttime operation.
3. Set the thermostat at the desired temperature level.

i The compressor will cycle on and off as cooling is required to maintain the selected temperature level. The fan runs when the compressor is off to help keep the temperature uniform throughout the RV.

9.2.2 Heating operation (if heat strip equipped)

i For the FreshJet, where the electric heat is not an option, or for other models where electric heat is not installed, skip to “Fan-only operation” on page 23.

Complete these steps to use the heat setting to remove the chill on cool days or mornings:

i For heat strip equipped models only. The heating mode will not replace a furnace for heating your RV in cold weather.

1. Turn the selector control knob to the optional Heat position. The heat strip will turn on and begin heating.
2. When the desired temperature level in the RV is reached, move the selector control knob to the OFF position or to one of the fan positions.

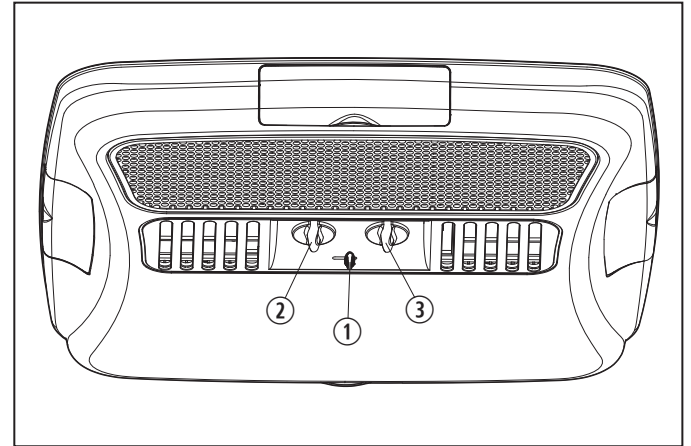
i The thermostat does not control the fan or heater ON/OFF cycle.

9.2.3 Fan-only operation

This section describes how to use the fan setting to circulate the RV air without cooling or heating:

1. Turn the selector control knob to one of the three positions in the gray area on the control panel.
2. Select the fan speed that best satisfies your needs.
 - High Fan (fan symbol) provides maximum air circulation.
 - Medium Fan (middle position) provides normal or average air circulation.
 - Low Fan (next to the OFF position) provides low air circulation.

9.2.4 Controlling the air flow



34 Controlling the air flow

- ① Lever
- ② Selector switch
- ③ Thermostat control

Slide the lever to increase or decrease the volume of air flow entering the RV.

10 Maintenance

This section describes routine activities to maintain properly working system components.

i The blower motor is factory-lubricated and requires no service.

10.1 Cleaning the Air filter

NOTICE: **Never** run the unit without the return air filter in place. Otherwise, dirt will restrict the rooftop component’s evaporator coil and may substantially degrade the performance of the unit over time.

This section describes how to maintain a clean air filter.

1. Periodically (or a minimum of every two weeks of operation) remove the return air filter located behind the return air vent grille and wash it with soap and warm water.
2. Let the filter dry completely before placing the filter back into position.

10.2 Cleaning the ADB housing

NOTICE: **Never** use furniture polish or scouring powders.

Clean the ADB housing and the control panel with a soft cloth dampened with a mild detergent.

11 Troubleshooting

The following table describes common occurrences that are not a result of defective workmanship or materials.

Problem	Possible cause	Suggested Remedy
The product does not operate.	The circuit breaker has activated.	Set or reset the circuit breaker.
	A fuse has blown.	Replace the fuse.
The product does not operate (or operates poorly) and the RV is connected to the motor generator.	The RV is not receiving power from the motor generator.	Confirm the motor generator is running.
		Confirm the motor generator is producing power.
		Contact the local service center.
The product does not operate (or operates poorly) and the RV is connected to a power supply by a land line.	The RV is not receiving power from the power supply.	Confirm the land line is plugged into the power supply.
		Confirm the land line is properly-sized for the product's power load.
		Contact the local service center.
Frost forms on the evaporator coil, as visible through the air inlet hole with the filter removed.	The product is producing very cold output at a very low air speed.	Inspect and clean the filter.
		Open the air vents and remove any obstructions.
		Confirm a minimum of two distribution vents, or the quick cool vent (located in the middle of the plastic cover) and one vent, are open.
	The outside temperature is relatively low.	Adjust the thermostat control knob to a warmer setting (counterclockwise).
		Operate the product on any Fan Only setting until the coil is free of frost.
		Contact the local service center.
The product does not maintain the desired temperature.	The product is affected by the RV's heat gain from high outdoor temperatures or humidity.	Park the RV in a shaded area.
		Use window shades, blinds, or curtains. ¹
		Keep the windows and doors closed or minimize their use.
		Avoid using heat-producing appliances inside the RV.
		Operate the product in the High Fan/Cooling mode.
Condensation forms on ceilings, windows, or other surfaces. ²	The air contains water vapor that is below the dew point of the surface.	Start the product before the outside temperature increases.
		Keep doors and windows closed when the unit is in operation to reduce the formation of condensation.

¹ For a more permanent solution to high heat gain, accessories like the Dometic outdoor patio or window awnings will reduce heat gain by removing the effects of direct sunlight.

² During normal operation, this product is designed to remove a certain amount of moisture from the air, depending on the size of the space being conditioned. The manufacturer of this unit will not be responsible for damage caused by condensation forming on ceilings, windows, or other surfaces.

12 Disposal



Place the packaging material in the appropriate recycling waste bins, whenever possible. Consult a local recycling center or specialist dealer for details about how to dispose of the product in accordance with all applicable national and local regulations.

LIMITED ONE-YEAR WARRANTY

LIMITED ONE-YEAR WARRANTY AVAILABLE AT DOMETIC.COM/EN-US/TERMS-AND-CONDITIONS-CONSUMER/WARRANTY.

IF YOU HAVE QUESTIONS, OR TO OBTAIN A COPY OF THE LIMITED WARRANTY FREE OF CHARGE, CONTACT:

DOMETIC CORPORATION
CUSTOMER SUPPORT CENTER
5155 VERDANT DRIVE
ELKHART, INDIANA, USA 46516
1-800-544-4881 OPT 1



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