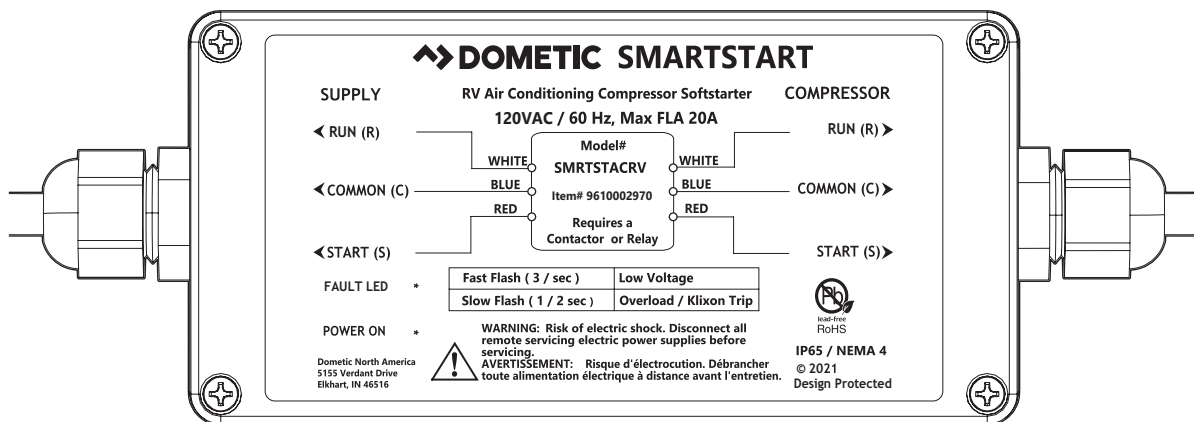


# **DOMETIC** **CLIMATE CONTROL** **ACCESSORIES**



**SMRTSTACRV**

**EN**

## **SmartStart RV Soft Start Accessory**

Installation and Operation Manual . . . . . 2

**WARNING**  
 This product can expose you to chemicals including lead and di(2-ethylhexyl)phthalate, which are known to the State of California to cause cancer, birth defects or other reproductive harm.  
 For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



## Service Center & Dealer Locations

Visit: [www.dometic.com](http://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](http://www.dometic.com).

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## 1 Related Documents



Find the installation and operation manual online in French at  
[https://documents.dometic.com/?object\\_id=86747](https://documents.dometic.com/?object_id=86747)



Find the installation and operation manual online in Spanish at  
[https://documents.dometic.com/?object\\_id=86748](https://documents.dometic.com/?object_id=86748)

## 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 or operate this appliance:

- Read and follow all safety information and instructions.
- Read and understand these instructions before installing or operating 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/NFPA1192, Recreational Vehicles Code
- UL Standard 60947

### **Canada**

- CSA C22.1, Parts I & II, Canadian Electrical Code
- CSA C22.2 No. 60947
- CSA Z240 RV Series, Recreational Vehicles

## 2.4 General Safety Messages

### **WARNING: ELECTRICAL SHOCK HAZARD.**

Before proceeding with the installation of the SmartStart RV Soft Start Accessory, all electrical energy sources supplying the air conditioning unit **must** be turned off at the nearest switch as well as at the electrical control panel. After turning off all electrical sources supplying the air conditioning unit, wait a full five minutes before proceeding to install the SmartStart RV Soft Start Accessory into the air conditioning unit to avoid potential latent electrical charge which may be remaining in the air conditioner's capacitor. Failure to obey this warning could result in death or serious injury.

### **WARNING: FIRE HAZARD.**

Ensure all the electrical connections are secure to maintain the appropriate near-zero resistance levels. A poor electrical connection in any electrical circuit can lead to high electrical resistance at the point of poor connection, resulting in high temperature and amperage. Not only can this potentially damage the equipment, it can also result in a risk of fire. Failure to obey this warning could result in death or serious injury.

### **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 appliance.
- Avoid improper installation, adjustment, alterations, service, or maintenance of the appliance. Service and maintenance **must** be done by a qualified service person only. Installation by a certified electrician is highly recommended.
- Do **not** modify this product in any way. Modification can be extremely hazardous.
- Use care when diagnosing and/or adjusting components on a powered unit. Disconnect all remote servicing electric power supplies before servicing.

### 3 Intended Use

The SmartStart RV Soft Start Accessory (hereinafter referred to as device) reduces the inrush current of your recreational vehicle's (RV) air conditioner (AC) associated with the initial compressor startup. This reduces and/or eliminates flickering lights, brown-outs, and nuisance-trip circuit breaker resets. This device 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 device. 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

- 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  $\pm 0.38$  in. (10 mm).

### 4.1 Tools and Materials

Dometic recommends that the following tools and materials be used while installing the appliance.

Included Parts	Brisk II	Penguin II	Blizzard NXT
Assembled Mounting Bracket and Z-Brackets (Attached to the Device)	1	0	0
Assembled Mounting Bracket (Attached to the Device)	0	1	1
Hose Clamp with Worm Screw	0	1	1
Wire Tie	6	4	10
Device	1		
Compressor Wire Harness	1		
Supply Wire Harness	1		
Instructions	1		

Recommended Tools	
#2 Phillips Screwdriver	Needle Nose Pliers
1/4-4 in. Flat Head Screwdriver	Torque Wrench
5/16 in. Deep Well Nut Driver	Utility Knife
Drill	Wire Cutters
Gloves	Electrical Tape

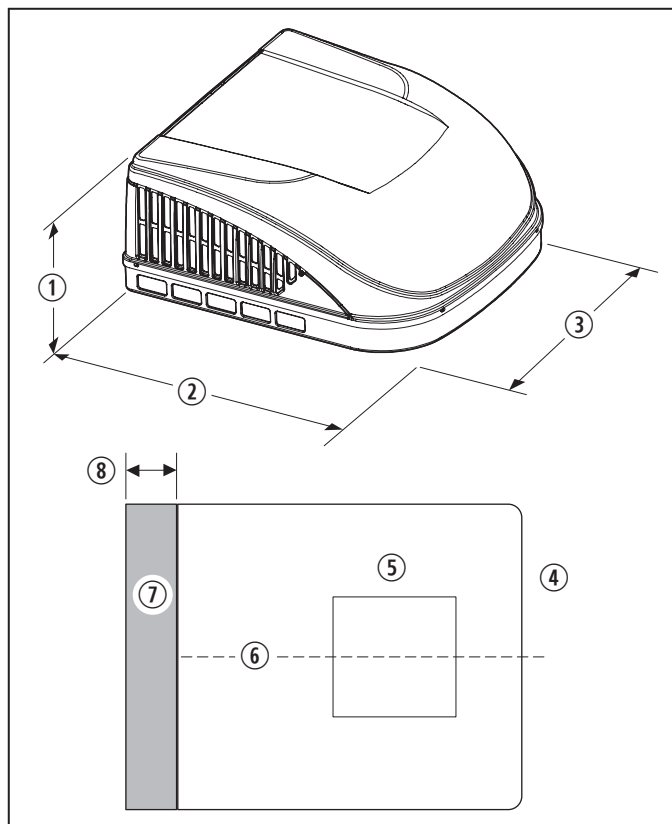
### 4.2 Compatibility

This product is compatible with most 120 VAC RV AC units. This manual specifically describes installation for the Dometic Brisk II, Penguin II, and Blizzard NXT AC units. Additional AC units may be added at future dates.



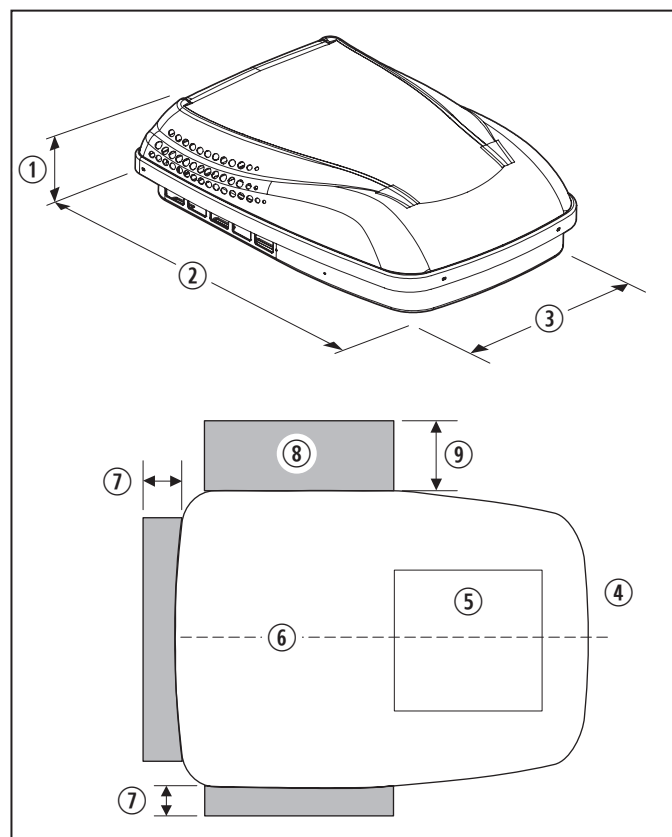
## 4.3 Component Locations

This section shows the Dometic Brisk II, Penguin II, and Blizzard NXT AC unit dimensions, the AC shroud screw locations, and the inside component views. It also shows the component views for the device.



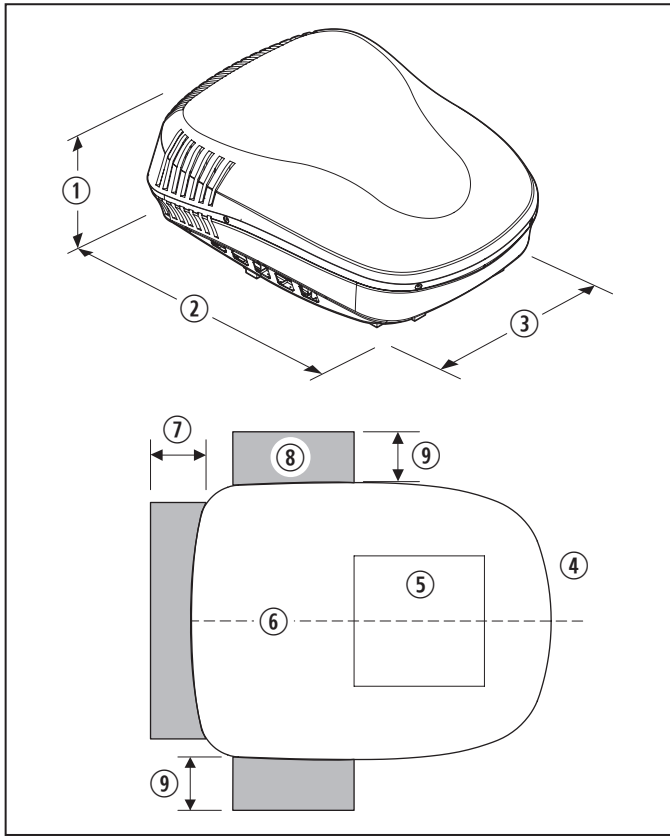
**1** Brisk II AC Unit Shroud Dimensions

- ① 13.7 in. (349 mm)
- ② 29.6 in. (751 mm)
- ③ 27.6 in. (701 mm)
- ④ Front of Unit
- ⑤ Roof Opening
- ⑥ Center Line of Unit
- ⑦ Air Flow Clearance Area (Shaded)
- ⑧ 18.0 in. (457 mm) Clearance



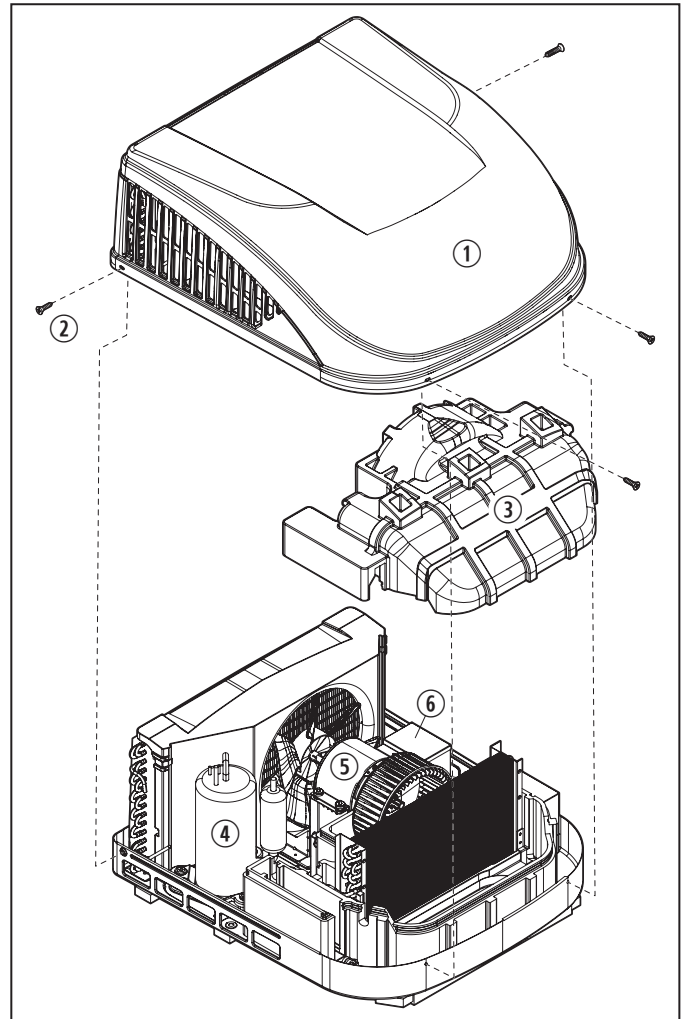
**2** Penguin II AC Unit Shroud Dimensions

- ① 10.0 in. (264 mm)
- ② 40.5 in. (1029 mm)
- ③ 29.0 in. (737 mm)
- ④ Front of Unit
- ⑤ Roof Opening
- ⑥ Center Line of Unit
- ⑦ 4.0 in. (102 mm) Clearance
- ⑧ Air Flow Clearance Area (Shaded)
- ⑨ 12.0 in. (305 mm) Clearance



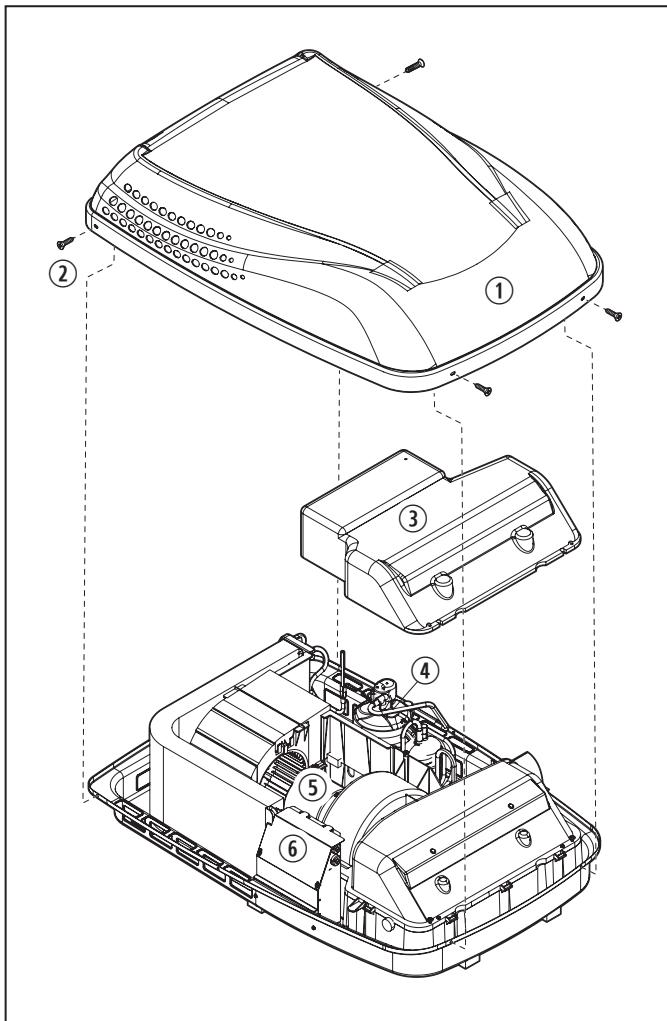
**3** Blizzard NXT AC Unit Shroud Dimensions

- |                       |                                    |
|-----------------------|------------------------------------|
| ① 13.9 in. (353 mm)   | ⑦ 18.0 in. (457 mm) Clearance      |
| ② 40.0 in. (1016 mm)  |                                    |
| ③ 30.0 in. (762 mm)   | ⑧ Air Flow Clearance Area (Shaded) |
| ④ Front of Unit       |                                    |
| ⑤ Roof Opening        | ⑨ 4.0 in. (102 mm) Clearance       |
| ⑥ Center Line of Unit |                                    |



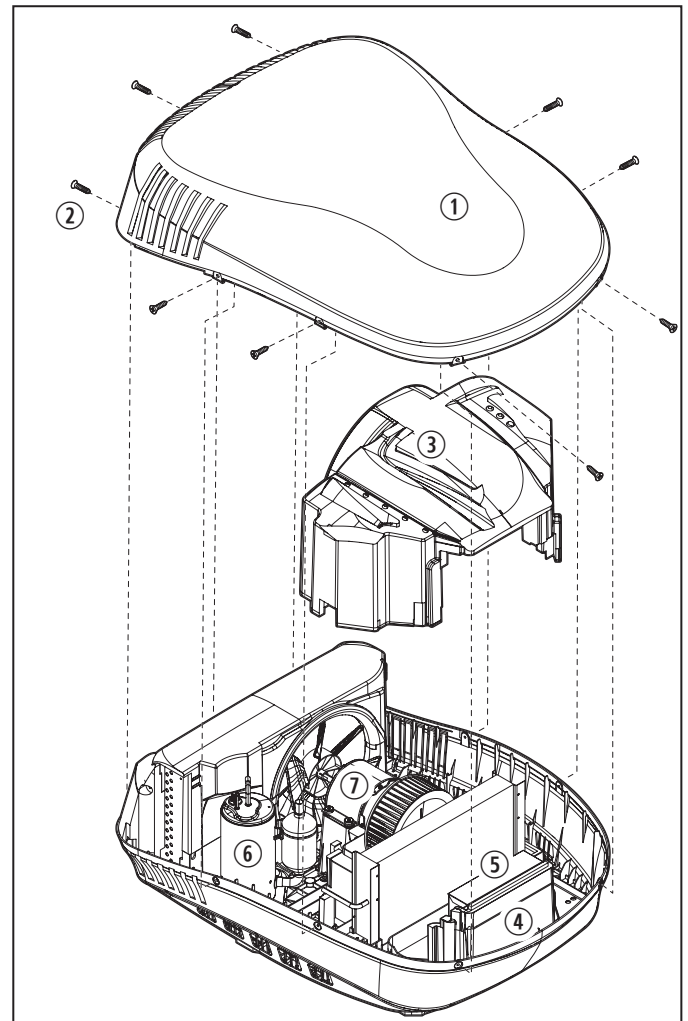
**4** Brisk II AC Unit Components and Screw Locations

- |                    |                  |
|--------------------|------------------|
| ① AC Shroud        | ④ Compressor     |
| ② AC Shroud Screws | ⑤ Fan Motor      |
| ③ Foam Shroud      | ⑥ Electrical Box |



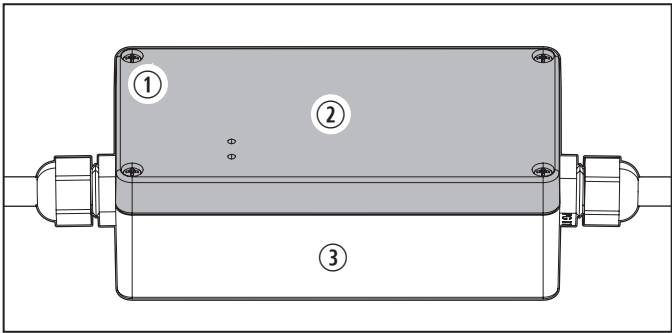
**5** Penguin II AC Unit Components and Screw Locations

- |                    |                  |
|--------------------|------------------|
| ① AC Shroud        | ④ Compressor     |
| ② AC Shroud Screws | ⑤ Fan Motor      |
| ③ Foam Shroud      | ⑥ Electrical Box |



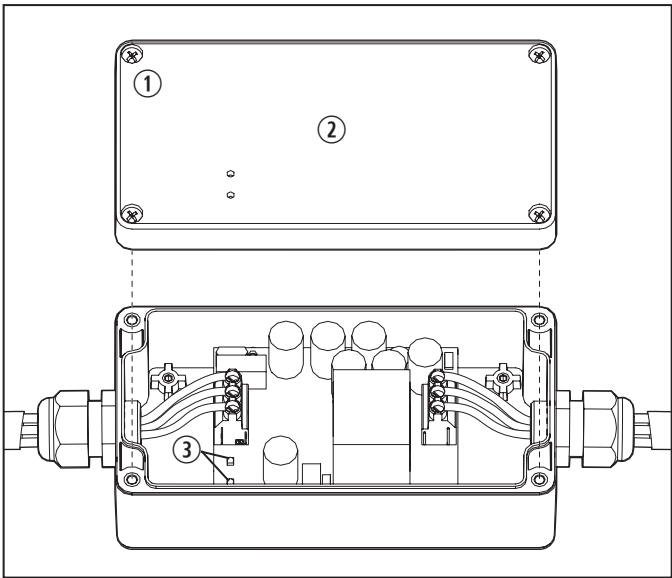
**6** Blizzard NXT AC Unit Components and Screw Locations

- |                       |                  |
|-----------------------|------------------|
| ① AC Shroud           | ⑤ Electrical Box |
| ② AC Shroud Screws    | ⑥ Compressor     |
| ③ Foam Shroud         | ⑦ Fan Motor      |
| ④ Electrical Box Foam |                  |



7 Device Exterior

- ① Device Cover Screws
- ② Device Cover
- ③ Base

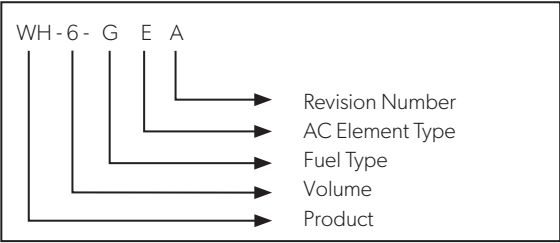


8 Device Components

- ① Device Cover Screws
- ② Device Cover
- ③ LEDs (Indicate Supply Side of Device)

4.4 Model Identification

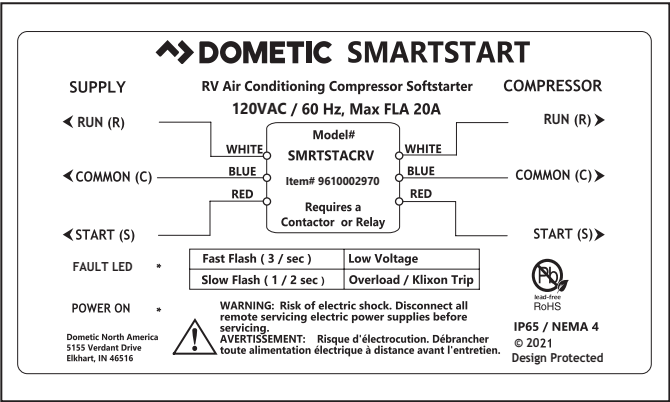
This section describes the breakdown of a model identification number.



Product	WH = Water Heater
Volume	6 = 6 gallons
Fuel Type	G = Gas (Propane)
AC Element Type	E = Electric
Revision	A

4.5 Data Plate

This section describes the device data plate.



9 Device Data Plate

The device data plate provides information specific to the device and is located on the device cover.

5 Device Specifications

Full Load Current	<20 A
Frequency Range	60 Hz $\pm$ 3 Hz
Maximum Duty Cycle at Rated Ambient Temperature	15 starts per hour
Maximum Operating Ambient Temperature	140 °F (60 °C)
Enclosure Rating	IP65/NEMA4

## 6 Wiring Diagrams

### **⚠ WARNING: ELECTRIC SHOCK HAZARD.**

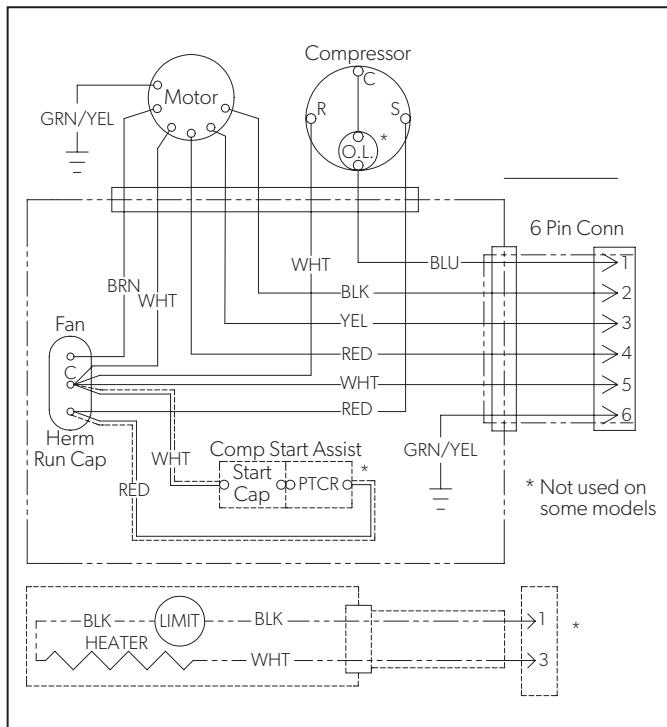
Turn the power off before performing any electrical installation or maintenance activities. Failure to obey this warning could result in death or serious injury.

This section shows examples of the product wiring.

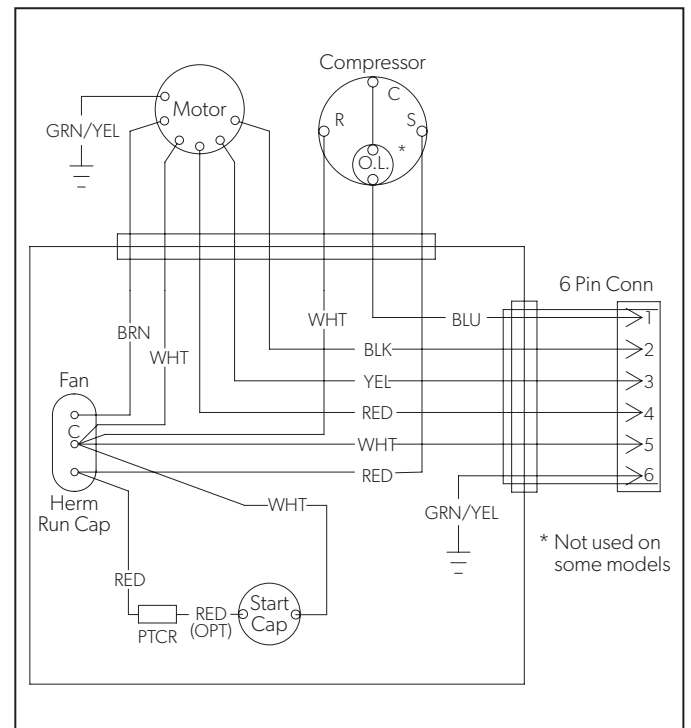
The AC and ADB Wiring Diagram definitions:

- 120 VAC; 60 Hz 1 PH
- Copper Conductors only

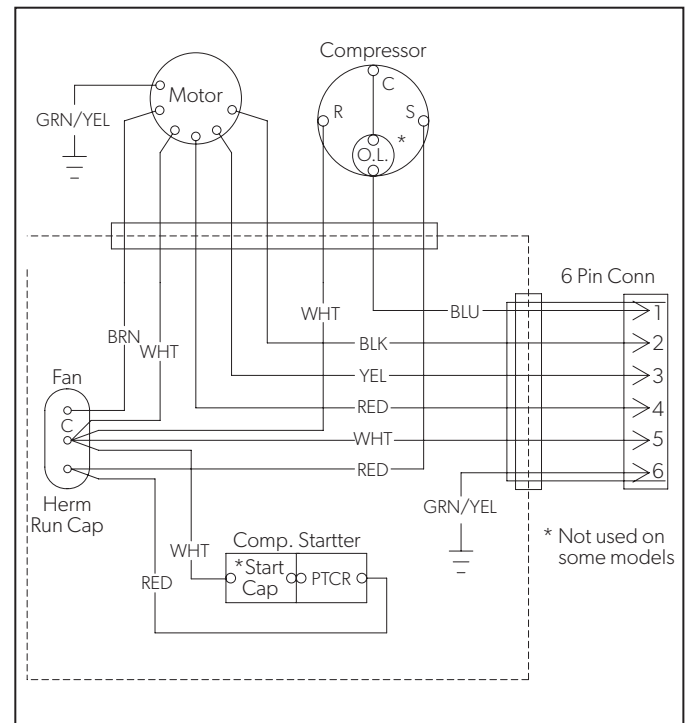
----- Field Wiring  
 ----- Factory Wiring



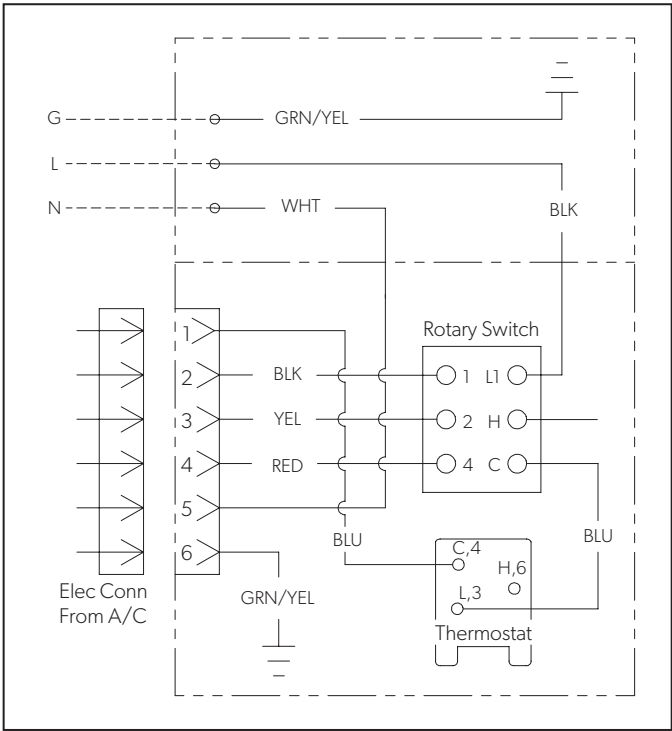
**10** Brisk II AC Unit Wiring Diagram



**11** Penguin II AC Unit Wiring Diagram



**12** Blizzard NXT AC Unit Wiring Diagram



13 ADB Wiring Diagram - All AC Unit Models

7 Preinstallation

This section describes the bracket preparation required before installing the device onto the AC unit.

7.1 Understanding the Bracket(s) for the AC Unit

This section describes the bracket configurations based on the AC unit.

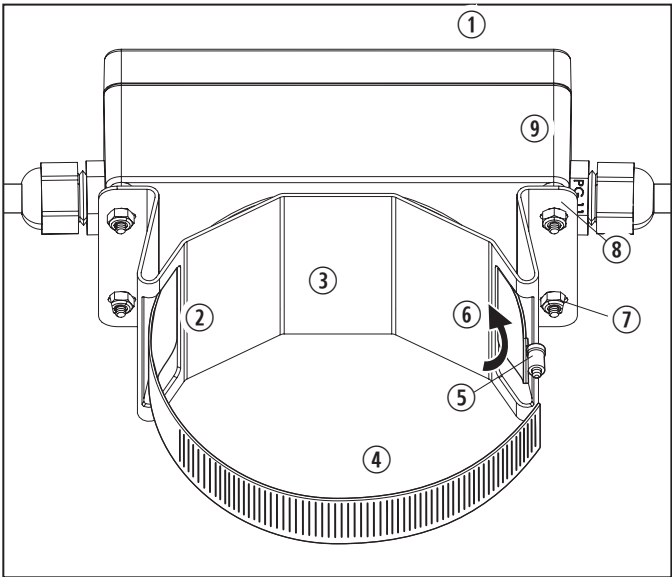
Brisk II	The mounting bracket and z-brackets should already be assembled and attached to the device. Go to "Installation" on page 11.
Penguin II	The mounting bracket should already be attached to the device. To attach the necessary hose clamp, go to "Attaching the Hose Clamp" on page 10.
Blizzard NXT	
Other	If the bracket is not assembled and/or not attached to the device, go to "Bracket Assembly" on page 26.

7.2 Attaching the Hose Clamp

This section describes how to attach the hose clamp to the mounting bracket for all AC units , if applicable.

1. Place the device on its side with the supply side to the right and the mounting bracket towards you.

**i** The two LEDs visible on the outside cover of the device are located on the supply side of the device.



14 Attaching the Hose Clamp (Supply Side on the Right)

- 1 LED Location on the Device Cover

2 Slot - Compressor Side

3 Mounting Bracket

4 Hose Clamp
- 5 Worm Screw

6 Slot - Supply Side

7 Bracket Screws


8 Nuts

9 Device - Supply Side

2. Insert the hose clamp end into the slot on the supply side of the mounting bracket.
3. Push the hose clamp through to the other side of the mounting bracket.


**i** If it is difficult to push the hose clamp through the mounting bracket, loosen the nuts on the bracket screws several turns.

4. Push the hose clamp end through the slot on the compressor side of the mounting bracket.

 If the hose clamp does not easily align with the compressor side slot, use the needle nose pliers to guide it into place.

5. Continue pushing the hose clamp through the mounting bracket until the worm screw is next to the slot on the supply side of the device.
6. If the nuts on the bracket screws were loosened in step 3, use the torque wrench and the #2 Phillips screwdriver to tighten the nuts to 30 in. lbs (3.4 N·m).

## 8 Installation

 **WARNING: FIRE OR ELECTRIC SHOCK HAZARD. Failure to obey the following warnings could result in death or serious injury.**

- Shut off the gas supply, turn off the AC circuit breaker, disconnect the 120 VAC power from the RV, and disconnect the positive (+) 12 VDC terminal from the supply battery before drilling or cutting into the RV or before performing any preinstallation, installation, or maintenance activities. Do **not** install the device unless power to the AC unit is off.
- There is a risk of electrical shock from the energy stored in the capacitors. Wait for five minutes after the shutdown of equipment before performing any preinstallation, installation, or maintenance activities.
- 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 AC unit. Failure to obey this caution could result in minor or moderate injury.

**NOTICE:** 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. Failure to follow this notice could result in damage to the rooftop component, device, and/or the RV.

 Never create a low spot on the RV roof.

This section describes how to install the device. The installation procedures and components vary by the AC unit model.

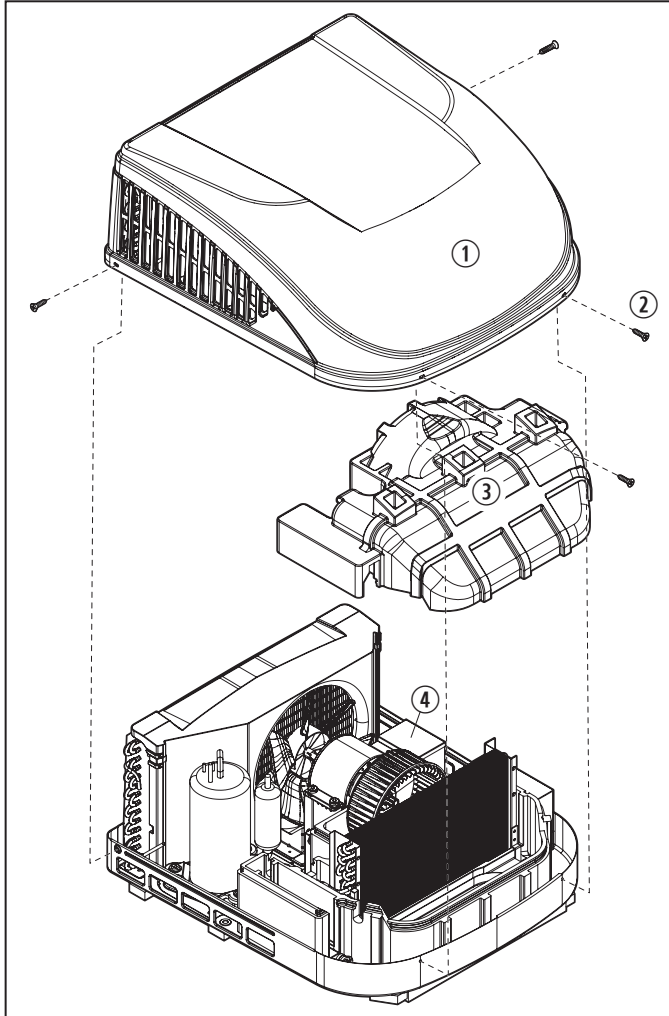
<b>Brisk II</b>	Go to "Installing the Device in a Brisk II AC Unit" on page 11.
<b>Penguin II</b>	Go to "Installing the Device in a Penguin II AC Unit" on page 17.
<b>Blizzard NXT</b>	Go to "Installing the Device in a Blizzard NXT AC Unit" on page 20.

### 8.1 Installing the Device in a Brisk II AC Unit

**NOTICE:** Do **not** force the AC shroud during removal. Failure to follow this notice can damage or break the screw holes and require an AC shroud replacement.

This section describes how to access the installation area, disconnect the existing wiring, mount the device, install and connect the new wiring, and close the unit after completing the installation in a Brisk II AC unit.

### 8.1.1 Removing the Shrouds



**15** Brisk II AC Unit Components and Screw Locations

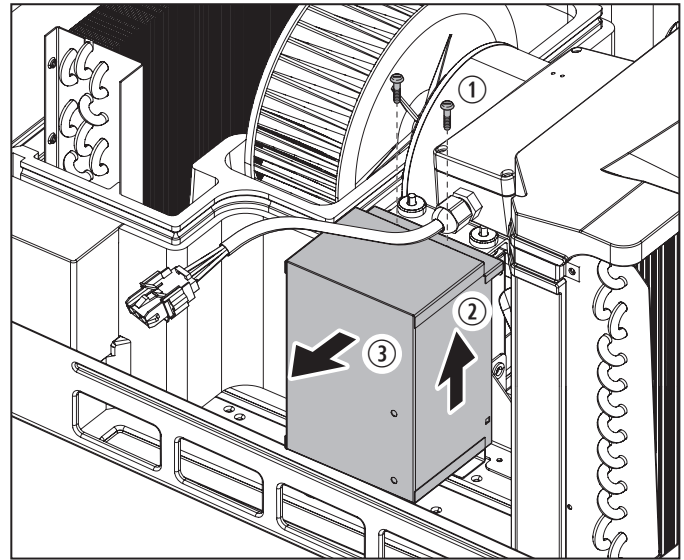
- ① AC Shroud
- ② AC Shroud Screws
- ③ Foam Shroud
- ④ Electrical Box

1. Using the #2 Phillips screwdriver, remove and set aside the four AC shroud screws and the AC shroud.

**i** The AC shroud should lift off easily. If it does not, verify all the AC shroud screws have been removed.

**i** Turn the AC shroud upside down to store the screws and other small parts removed during the installation process.

2. Remove the internal foam shroud by pulling up vertically on the sides and set it aside.



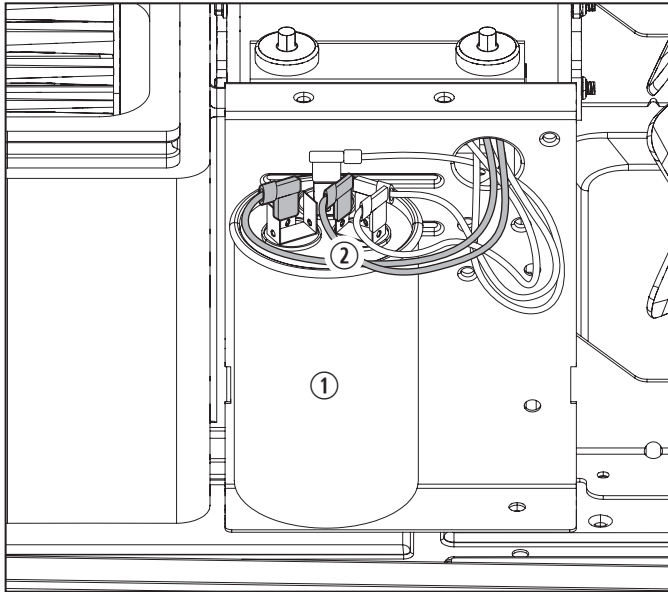
**16** Removing the Electrical Box Cover

- ① Electrical Box Cover Screws
- ② Electrical Box
- ③ Electrical Box Cover

3. Using the 5/16 in. deep well nut driver, remove the two screws on the top of the electrical box cover and set aside.
4. Remove the electrical box cover from the electrical box, sliding the electrical box cover up and away from the electrical box.



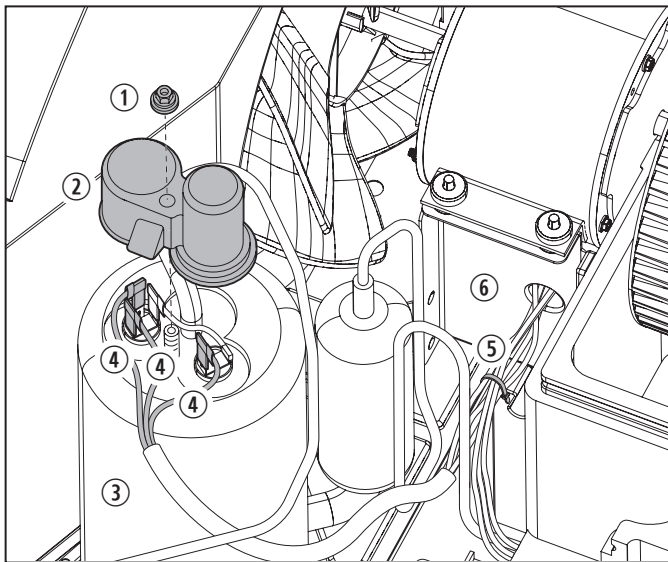
### 8.1.2 Disconnecting the Compressor Wires



**17** Disconnecting the Compressor Wires from the Capacitor

- ① Capacitor      ② Red and White Compressor Wires

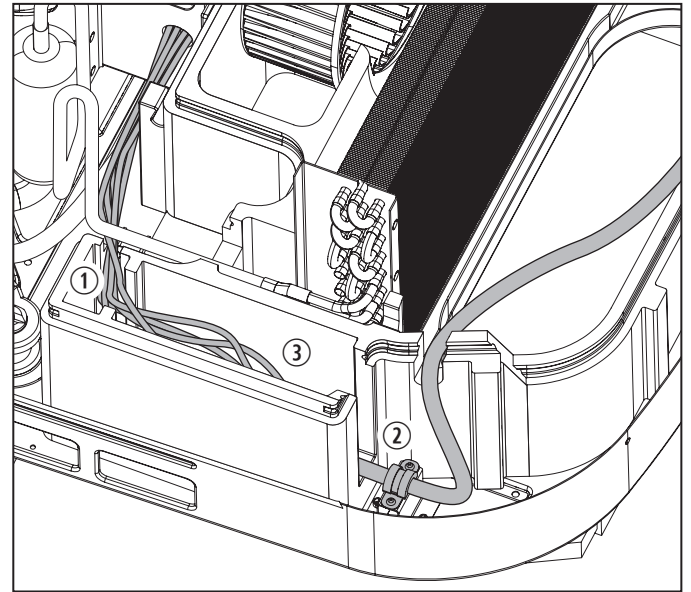
1. Disconnect the red and white compressor wires from the capacitor inside the electrical box.



**18** Disconnecting the Compressor Wires from the Compressor

- ① Compressor Cap Nut      ④ White, Red, and Blue Factory Compressor Wires  
 ② Compressor Cap      ⑤ Wire Tie  
 ③ Compressor      ⑥ Fan Motor Mount

2. Using the 5/16 in. deep well nut driver, locate and remove the compressor cap nut and compressor cap from the top of the compressor.
3. Disconnect the white, red, and blue factory compressor wires from the compressor.
4. Using a 6 in. (15.2 cm) length of electrical tape, secure the compressor wire terminals together and cover the terminal ends with tape. Use more electrical tape if needed to cover the terminal ends completely to ensure no metal is exposed.

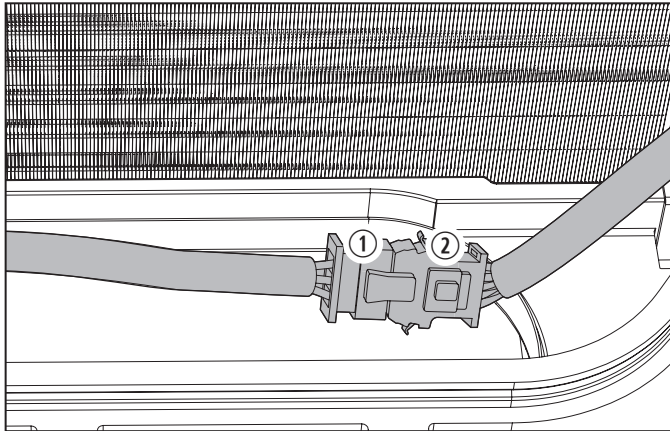


**19** Disconnecting the Compressor Wire Harness

- ① Compressor Wire Harness      ③ Factory Compressor Wires inside the Foam Electrical Enclosure  
 ② Strain Relief

5. Tuck the taped factory compressor wires into the foam electrical enclosure.
6. Starting at the compressor, trace the white wire to the fan motor mount.
7. Using your fingers to pinch the white wire close to the fan motor mount, pull on the white wire to verify it is loose and not attached to the capacitor.

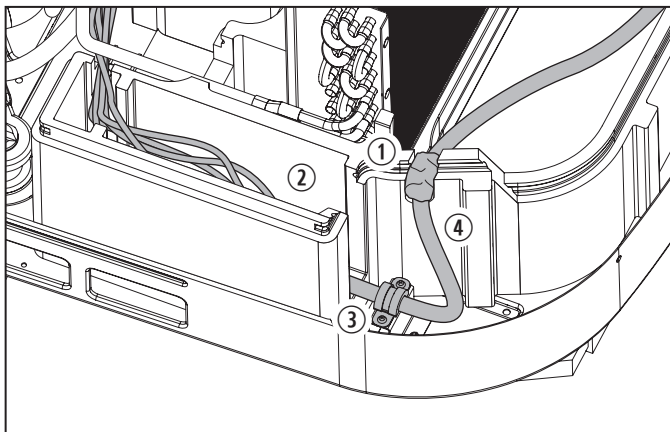
### 8.1.3 Installing the New Supply Wire Harness



**20** Connecting the Harnesses

- ① Supply Wire Harness      ② AC Wire Harness Plug

1. Insert the AC wire harness plug into the supply wire harness included with the device.



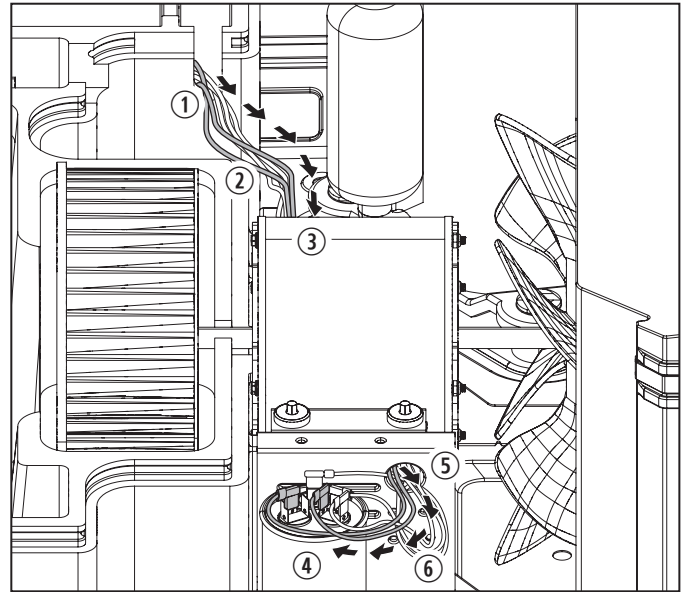
**21** Securing the Strain Relief

- ① Gasket Putty      ③ Strain Relief Screw  
② Foam Electrical Enclosure      ④ Existing Cable Route

2. Remove the gasket putty, reserving it for later reuse.
3. Using the 5/16 in. deep well nut driver, locate and remove the outer strain relief screw from the strain relief.
4. Route the blue wire from the supply wire harness through the foam electrical enclosure and strain relief.

- i** Use the existing cable as a guide for routing the blue wire.

5. Using the 5/16 in. deep well nut driver, insert the outer strain relief screw into the strain relief and tighten until snug.



**22** Routing Wires through the Fan Motor Mount to the Capacitor

- ① Control Box Cavity      ④ Capacitor  
② Red and White Capacitor Wires      ⑤ Fan Motor Mount (second hole)  
③ Fan Motor Mount (first hole)      ⑥ Wire Bundle

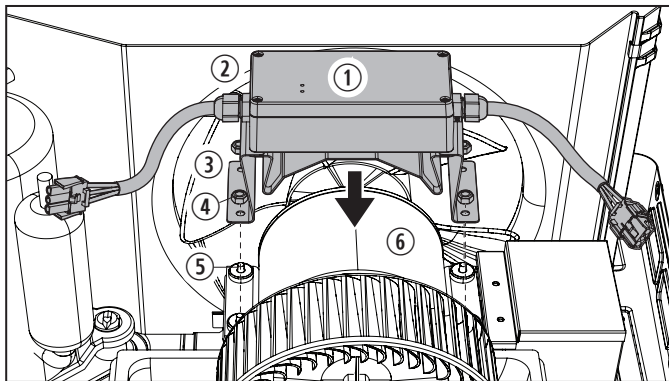
6. Route the supply wire harness through the control box cavity.
7. Insert the red and white supply harness wires into the first hole of the fan motor mount and push the wires in toward the second fan motor mount hole.
8. From the condenser side of the fan motor mount, reach into the fan motor mount and pull the red and white capacitor wires through the second hole in the fan motor mount.
- i** Before passing the wires through the second fan motor mount hole, arrange them to curve toward the condenser to easily pass from the fan motor mount to the hole in the electrical box.
9. Pull the red and white wires through the second fan motor mount hole and into the electrical box, pulling them through to the electrical box area.

10. On the capacitor:
  - a. Connect the red wire to the HERM terminal.
  - b. Connect the white wire to the COM terminal.
11. Use a wire tie to secure the new supply harness wires, and the factory compressor wires terminals disconnected from the capacitor, to the existing wire bundle.
12. Ensure the secured factory compressor wires cannot come into contact with the top of the capacitor.

### 8.1.4 Mounting the Device - Brisk II AC Unit

**NOTICE:** If the fan motor washers stick to the fan motor grommets, use the needle nose pliers to carefully pry them off. Do **not** use a screwdriver or sharp object. Failure to follow this notice can damage the fan motor grommets.

This section describes how to mount the device onto a Brisk II AC unit.



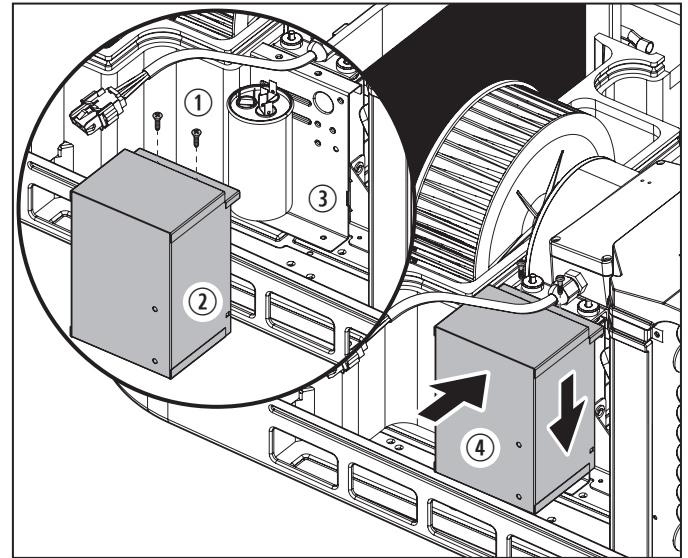
**23** Mounting the Device and Mounting Bracket for the Brisk II

- |               |                   |
|---------------|-------------------|
| ① Device      | ④ Fan Motor Nuts  |
| ② Supply Side | ⑤ Fan Motor Studs |
| ③ Z-Brackets  | ⑥ Fan Motor       |

1. Locate the fan motor in the AC unit.
2. Using the 5/16 in. deep well nut driver, remove the four fan motor nuts from the fan motor studs and set aside.
3. Remove and discard the four fan motor washers without damaging the fan motor grommets underneath.

4. Holding the device with the supply side of the device towards the compressor, place the device onto the fan motor so the mounting studs pass through the holes in the z-brackets.
5. Replace and tighten the four fan motor nuts until snug.

### 8.1.5 Replacing the Electrical Box Cover



**24** Replacing the Electrical Box Cover

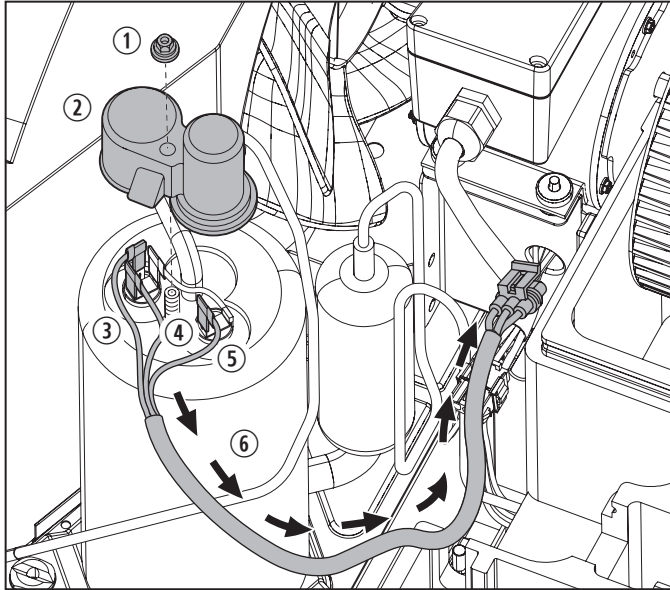
- |                                      |                              |
|--------------------------------------|------------------------------|
| ① Electrical Box Cover Screws        | ③ Electrical Box Base Cutout |
| ② Electrical Box Cover Interior Tabs | ④ Electrical Box             |

1. Place the electrical box cover on the electrical box, aligning the electrical box cover interior tabs with the electrical box base cutout features.
2. Once aligned, push the electrical box cover in and then down to seat it in place.
 

**i** When the electrical box cover is installed correctly, the upper edge of the electrical box should not move or pivot if pulling on the bottom of the electrical box.
3. Insert the two electrical box cover screws on the top of the electrical box cover.
4. Using the 5/16 in. deep well nut driver, tighten the electrical box cover screws until snug.

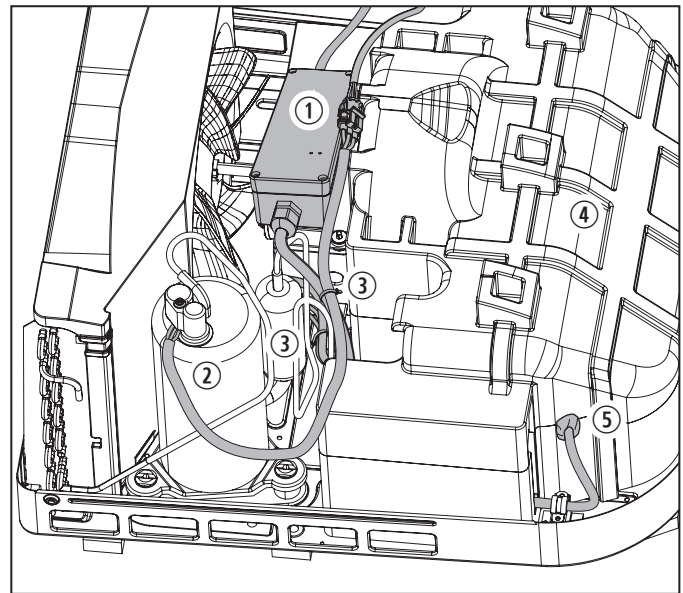
### 8.1.6 Connecting the Supply and Compressor Wire Harnesses

1. Connect the supply wire harness to the supply side of the device. If necessary, pull more of the blue wire through the strain relief.



**25** Connecting the Compressor Wire Harness to the Compressor

- |   |                                       |
|---|---------------------------------------|
| ① Compressor Nut                        | ④ Red Compressor Wire Terminal 'S(V)' |
| ② Compressor Cap                        | ⑤ Blue Compressor Wire                |
| ③ White Compressor Wire Terminal 'R(U)' | ⑥ Compressor Wire Harness Path        |
2. Using the compressor wire harness, connect the white, red, and blue compressor wires to the compressor.
  3. Replace the compressor cap and compressor cap nut onto the top of the compressor.
  4. Use the 5/16 in. deep well nut driver to tighten the compressor cap nut.
  5. Route the compressor wire harness along the same path as the supply wire harness toward the device.



**26** Connecting the Compressor Wire Harness to the Device

- |                           |                |
|---------------------------|----------------|
| ① Device                  | ③ Wire Ties    |
| ② Compressor Wire Harness | ④ Foam Shroud  |
|                           | ⑤ Gasket Putty |
6. Replace the foam shroud.
  7. Connect the compressor wire harness to the compressor side of the device.
  8. Secure the compressor wire harness in place using the wire ties.
    - a. Tie the compressor wire harness and blue wire to the existing wire bundle.
    - b. Tie the compressor wire harness to the supply side harness of the control.
  9. Spread the reserved gasket putty around the entire wire harness to seal the area where it enters the foam shroud.
 

**i** The gasket putty seal keeps outside air, dirt, bugs, and other contaminants from entering directly into the RV air ducts. Thoroughly spread and press the putty into the opening to ensure a quality seal.

### 8.1.7 Replacing the AC Shroud

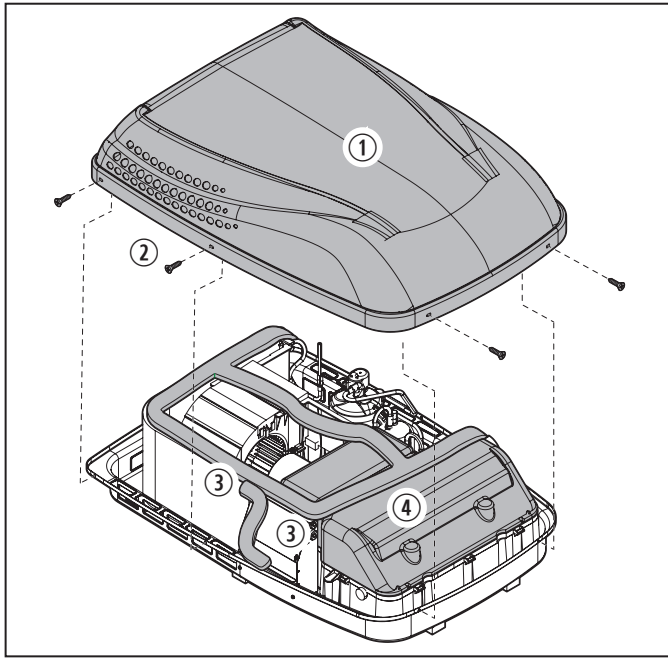
1. Place the AC shroud onto the base of the AC unit.
2. Using the #2 Phillips screwdriver, replace the four AC shroud screws and secure the AC shroud in place.



## 8.2 Installing the Device in a Penguin II AC Unit

This section describes how to access the installation area, disconnect the existing wiring, mount the device, install and connect the new wiring, and close the unit after completing the installation in a Penguin II AC unit.

### 8.2.1 Removing the Covers



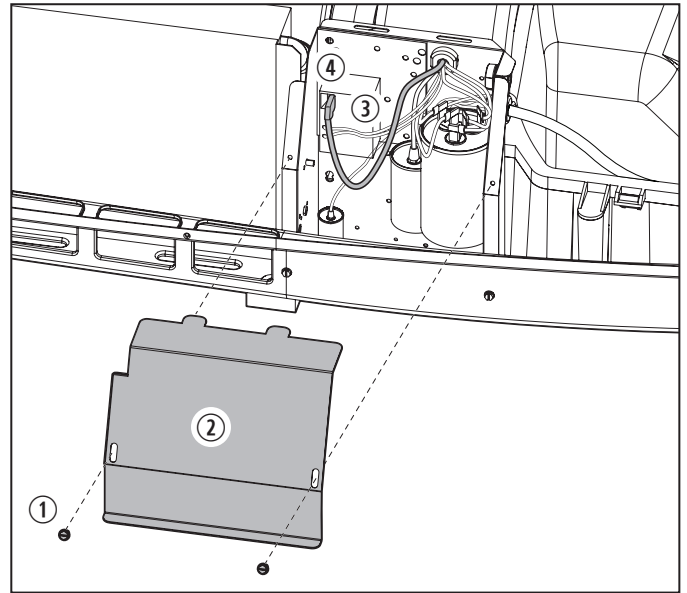
**27** Removing the Gasket Foam

- ① AC Shroud
- ② AC Shroud Screws
- ③ Gasket Foam Cut Points
- ④ White Insulating Foam

1. Using the #2 Phillips screwdriver, remove the four AC shroud screws and the AC shroud.

**i** Turn the AC shroud upside down to store the screws and other small parts removed during the installation process.

2. Using the utility knife, cut through the gasket foam on either side of the control box, to avoid tearing later.

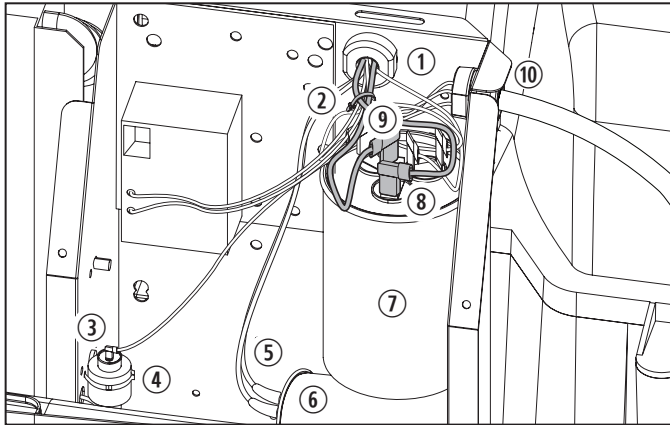


**28** Disconnecting the Blue Wire from the Relay Block

- ① Electrical Box Cover Screws
- ② Electrical Box Cover
- ③ Relay Block
- ④ Blue Compressor Wire

3. Using the 5/16 in. deep well nut driver, locate and remove the two screws from the front of the electrical box.
4. Using the needle nose pliers, remove the blue wire from the relay block inside the electrical box.

## 8.2.2 Disconnecting the Compressor Wiring Harness



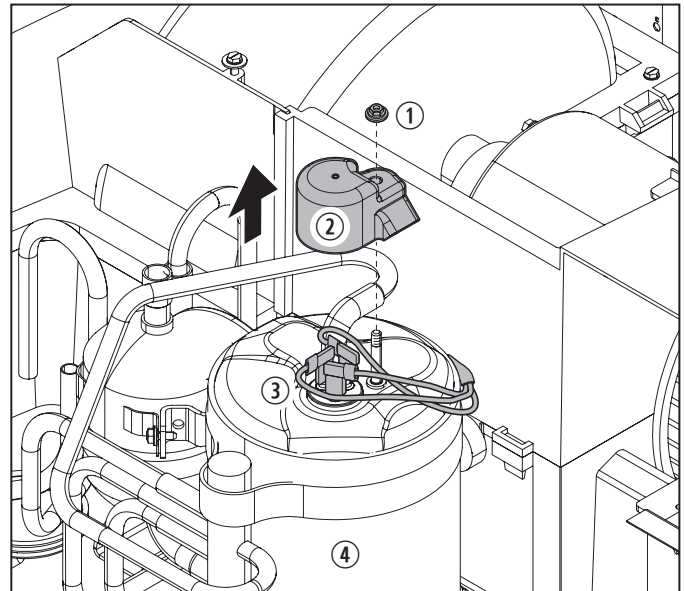
**29** Disconnecting the Compressor Wires from the Capacitor

- |                                 |                                |
|---------------------------------|--------------------------------|
| ① Strain Relief                 | ⑥ Motor Starter Capacitor      |
| ② Wire Tie                      | ⑦ Capacitor                    |
| ③ Motor Starter                 | ⑧ White Booted Compressor Wire |
| ④ Holding Clamp                 | ⑨ Red Compressor Wire          |
| ⑤ Motor Starter Capacitor Wires | ⑩ Gasket Putty                 |

- Using the needle nose pliers, disconnect the red compressor wire from the capacitor.
- Using the needle nose pliers, disconnect the white compressor wire from the capacitor.
- Using the needle nose pliers, squeeze the strain relief to pull it toward the capacitor.
- Open the strain relief and remove the blue, red, and white wires, pulling them out of the enclosure through the hole.
- Remove the gasket putty, reserving it for later reuse. If necessary, use the pliers to aid in the removal.
- Trace the red motor starter wire to the capacitor and disconnect it from the capacitor.
- Trace the white, disconnected motor starter capacitor wire to the capacitor and disconnect it from the capacitor.

**i** The motor starter capacitor may be vertical or horizontal, depending on the AC unit.

- Do not remove the motor starter capacitor or the motor starter from the AC unit. If the motor starter comes out of its holding clamp, return it to the holding clamp.
- Using a 6 in. (15.2 cm) length of electrical tape, secure the motor starter capacitor wires together and cover the terminal ends. Use more electrical tape if needed to cover the terminal ends completely to ensure no metal is exposed.

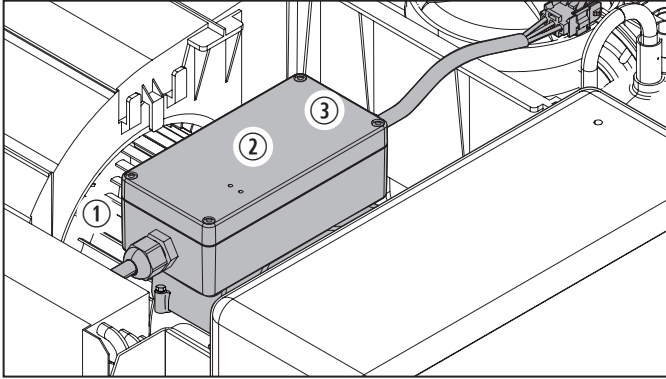


**30** Disconnecting the Compressor Wires from the Compressor

- |                                 |   |
|---------------------------------|---|
| ① Compressor Cap Nut and Washer | ③ White, Red, and Blue Compressor Wires |
| ② Compressor Cap                | ④ Compressor                            |

- Using the 5/16 in. deep well nut driver, locate and remove the compressor cap nut and washer and the compressor cap from the top of the compressor wires.
- Using the needle nose pliers, disconnect the white, red, and blue compressor wires from the top of the compressor.
- Using a 6 in. (15.2 cm) length of electrical tape, secure the disconnected white, red, and blue compressor wires together and cover the terminal ends. Use more electrical tape if needed to cover the terminal ends completely to ensure no metal is exposed.

### 8.2.3 Mounting the Device

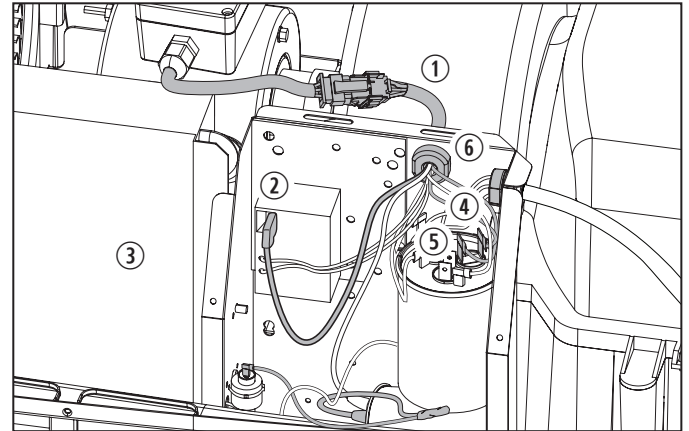


**31** Mounting the Device and Mounting Bracket Assembled

- |             |                            |
|-------------|----------------------------|
| ① Fan Motor | ③ Device - Compressor Side |
| ② Device    |                            |

1. Holding the device with the compressor side towards the compressor, center the device on top of the fan motor.
  2. Avoiding any wires, route the mounting bracket hose clamp ends around the fan motor so the ends meet.
  3. Use the connected worm screw to hold the mounting bracket hose clamp ends loosely around the fan motor.
- i** If the mounting bracket moved during the previous step, shift the mounting bracket back to realign at the center of the fan motor.
4. Using the worm screw, finish tightening the aligned mounting bracket around the fan motor to 40 in. lbs (4.5 N·m).

### 8.2.4 Connecting the Supply Wire Harness

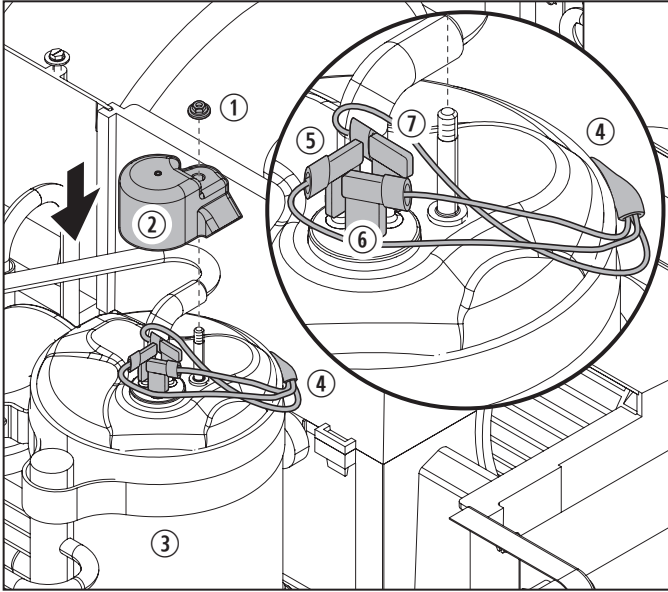


**32** Connecting the Supply Wire Harness

- |                       |                                     |
|-----------------------|-------------------------------------|
| ① Supply Wire Harness | ④ Red Supply Wire to HERM Terminal  |
| ② Blue Supply Wire    | ⑤ White Supply Wire to COM Terminal |
| ③ Condenser Coil      | ⑥ Strain Relief                     |

1. Connect the supply wire harness to the supply side of the control module.
2. Route the supply wire harness from the device into the electrical box.
3. On the capacitor, connect the red supply wire to the HERM terminal.
4. On the capacitor, connect the white supply wire to the COM terminal.
5. Connect the blue supply wire to the relay block.
6. Place the wires inside the strain relief and reinsert the strain relief into the housing wall hole.
7. Ensure the strain relief is secure in the hole.
8. Secure the factory compressor wires and the device wire harness together using wire tie(s). Ensure that the factory wires cannot move or damage the condenser coil.

### 8.2.5 Connecting the Compressor Wire Harness



**33** Connecting the Compressor Wire Harness

- |                                 |                         |
|---------------------------------|-------------------------|
| ① Compressor Cap Nut and Washer | ⑤ Blue Compressor Wire  |
| ② Compressor Cap                | ⑥ White Compressor Wire |
| ③ Compressor                    | ⑦ Red Compressor Wire   |
| ④ Compressor Wire Harness       |                         |

1. Route the compressor wire harness through the housing wall.
2. Connect the white, red, and blue compressor wires to the compressor.

**i** The red wire must fold back on itself to route properly.

3. Using the 5/16 in. deep well nut driver, replace and secure the compressor cap with the compressor cap washer and nut.
4. Secure the factory compressor wires to the new compressor wire harness using wire tie(s).

### 8.2.6 Replacing the Covers

1. Replace the reserved gasket putty to seal the holes where the wire harness passes in and out of the housing wall:
  - a. Split and roll the putty into two equal-size balls.
  - b. Press one gasket putty ball into the hole where the wire harness passes through the housing wall.
  - c. Press the other gasket putty ball into the hole on the other side of the housing wall where the wire harness passes through.

**i** The gasket putty seal keeps outside air, dirt, bugs, and other contaminants from entering directly into the RV air ducts. Thoroughly spread and press the putty into the opening to ensure a quality seal.

2. Replace the electrical box cover on the electrical box.
3. Using the 5/16 in. deep well nut driver, insert and tighten until snug the two electrical box cover screws.
4. Replace the wire tie in the same approximate location where it was removed and trim the wire tie end after tightening.
5. Replace the foam gasket into its original position without compressing on itself.
6. Replace the AC shroud onto the base of the AC unit.
7. Using the #2 Phillips screwdriver, replace the four AC shroud screws and tighten to secure the AC shroud in place.

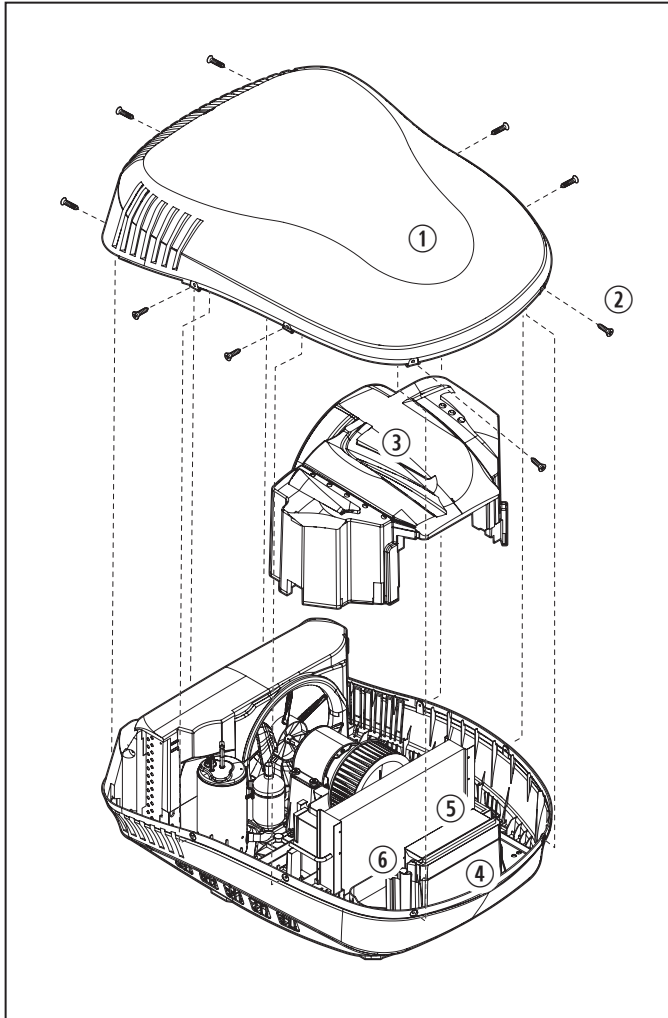
## 8.3 Installing the Device in a Blizzard NXT AC Unit

**NOTICE:** Do **not** force the AC shroud during removal. Failure to follow this notice can damage or break the screw holes and require an AC shroud replacement.

This section describes how to access the installation area, disconnect the existing wiring, mount the device, install and connect the new wiring, and close the unit after completing the installation in a Blizzard NXT AC unit.



### 8.3.1 Removing the Covers



**34** Removing the Covers and Foam

- |                    |                               |
|--------------------|-------------------------------|
| ① AC Shroud        | ④ Electrical Box Foam         |
| ② AC Shroud Screws | ⑤ Electrical Box Cover        |
| ③ Foam Shroud      | ⑥ Electrical Box Cover Screws |

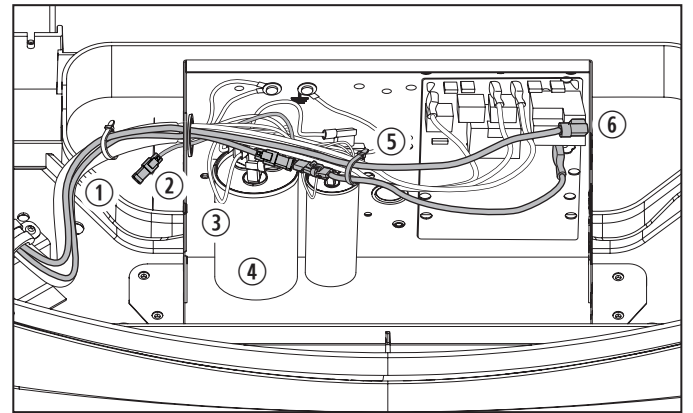
- Using the #2 Phillips screwdriver, remove the nine AC shroud screws and the AC shroud.

**i** The AC shroud should lift off easily. If it does not, verify all the AC shroud screws have been removed.

**i** Turn the AC shroud upside down to store the screws and other small parts removed during the installation process.

- Remove the internal foam shroud by pulling up vertically on the sides and set aside.
- Expose the electrical box cover screws by pulling forward on the electrical box foam.
- Using the 5/16 in. deep well nut driver, locate and remove the two screws from the sides of the electrical box.

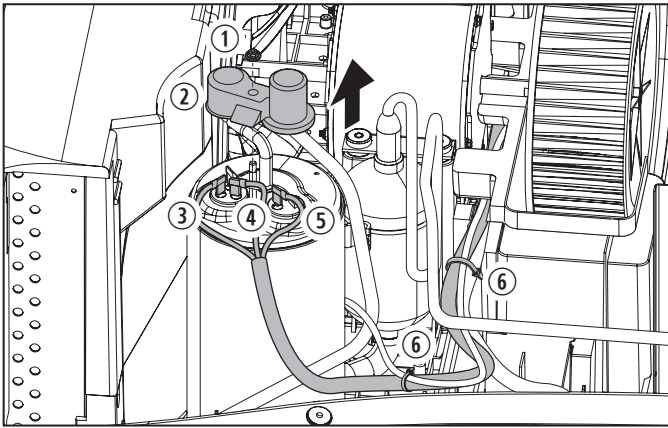
### 8.3.2 Disconnecting the Compressor Wires



**35** Disconnecting the Compressor Wires from the Capacitor

- |                           |                        |
|---------------------------|------------------------|
| ① Compressor Wire Harness | ④ Capacitor            |
| ② Red Compressor Wire     | ⑤ Wire Tie             |
| ③ White Compressor Wire   | ⑥ Blue Compressor Wire |

- Using the needle nose pliers, remove the blue wire from the relay block inside the electrical box.
- Remove the compressor wires from the capacitor. The wires can be traced from outside the electrical box as part of the red, white, and blue wire harness.
- Remove the white compressor wire from the piggy-back connector.
- Reconnect the piggy-back connector to its original terminal location.



**36** Disconnecting the Compressor Wires from the Compressor

- |                                 |                        |
|---------------------------------|------------------------|
| ① Compressor Cap Nut and Washer | ④ Red Compressor Wire  |
| ② Compressor Cap                | ⑤ Blue Compressor Wire |
| ③ White Compressor Wire         | ⑥ Wire Ties            |

5. Using the 5/16 in. deep well nut driver, locate and remove the compressor cap nut and washer.

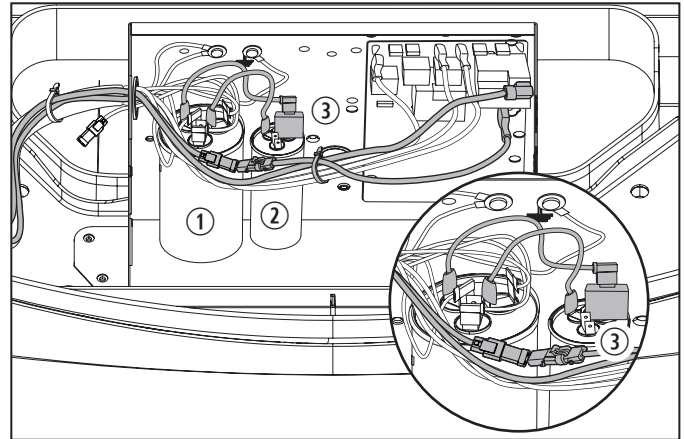
6. Remove the compressor cap from the top of the compressor.

**i** Turn the compressor cap upside down to store the compressor cap nut and washer during the installation process.

7. Using the needle nose pliers, disconnect the white, red, and blue compressor wires from the compressor.

8. Using a 6.0 in. (152 mm) length of electrical tape, secure the compressor wires together and cover the terminal ends. Use more electrical tape if needed to cover the terminals completely to ensure no metal wire ends are exposed.

### 8.3.3 Disconnecting the Motor Starter Capacitor



**37** Disconnecting the Motor Starter

- |                           |                 |
|---------------------------|-----------------|
| ① Capacitor               | ③ Motor Starter |
| ② Motor Starter Capacitor |                 |

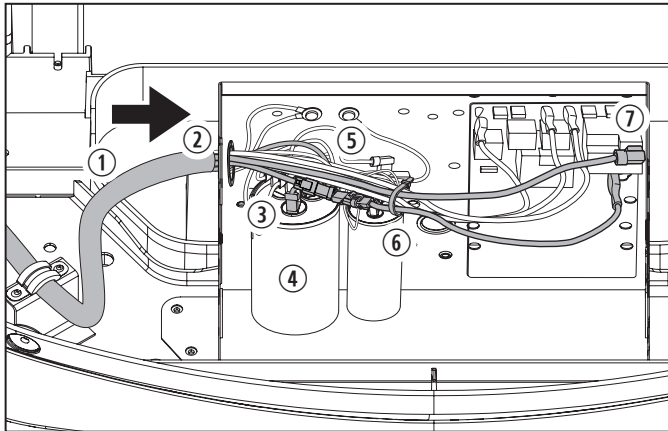
1. Locate the motor starter capacitor.

2. Trace the motor starter capacitor wires from the motor starter capacitor to the capacitor.

3. Disconnect the motor starter capacitor wires from the capacitor.

4. Using a 6.0 in. (152 mm) length of electrical tape, secure the motor starter capacitor wires together and cover the terminal ends. Use more electrical tape if needed to cover the terminal ends completely to ensure no metal is exposed.

### 8.3.4 Connecting the New Supply Wire Harness



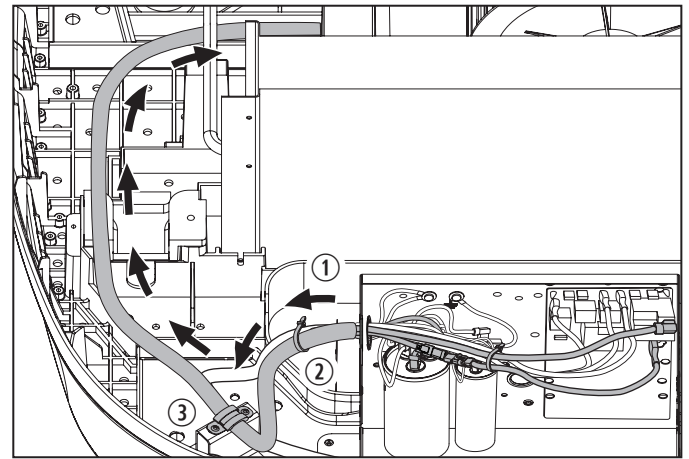
**38** Connecting the Wires

- |                       |                     |
|-----------------------|---------------------|
| ① Supply Wire Harness | ⑤ White Supply Wire |
| ② Cable Jacket        | ⑥ Wire Tie          |
| ③ Red Supply Wire     | ⑦ Blue Supply Wire  |
| ④ Capacitor           |                     |

1. Using the supply wire harness included in the device installation kit, insert the connection terminals into the electrical box side opening.
2. Pull the wires into the electrical box until the cable jacket is at the entrance of the electrical box.
3. Connect the blue supply wire into the relay block in the electrical box, pressing the connector until it is fully seated on the relay terminal stud.
4. Connect the red supply wire to the capacitor.

**i** The red fan wire can help identify the correct relay terminal stud location for the red supply wire.

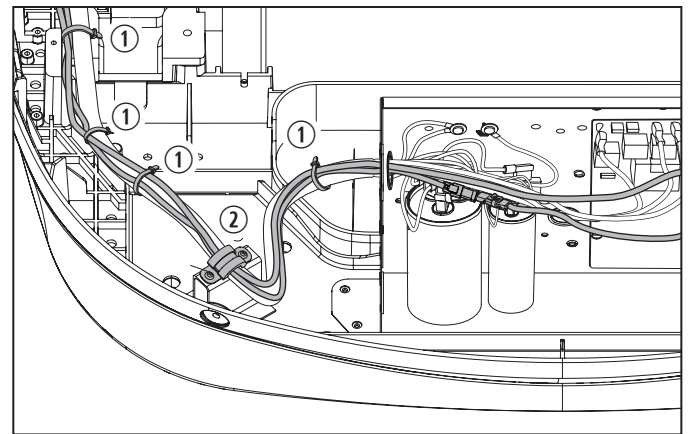
5. Connect the white supply wire to the open COM terminal on the capacitor.
6. Gather and secure all the wires inside the electrical box with a wire tie.



**39** Routing the Supply Wire Harness

- |                            |                 |
|----------------------------|-----------------|
| ① Supply Wire Harness Path | ③ Strain Relief |
| ② New Wire Tie             |                 |

7. Route the supply wire harness along the same path as the existing factory wire harness.
8. Install one new wire tie between the electrical box and the strain relief to secure the new supply wire harness to the existing factory wire harness.



**40** Securing the Supply Wire Harness with New Wire Ties

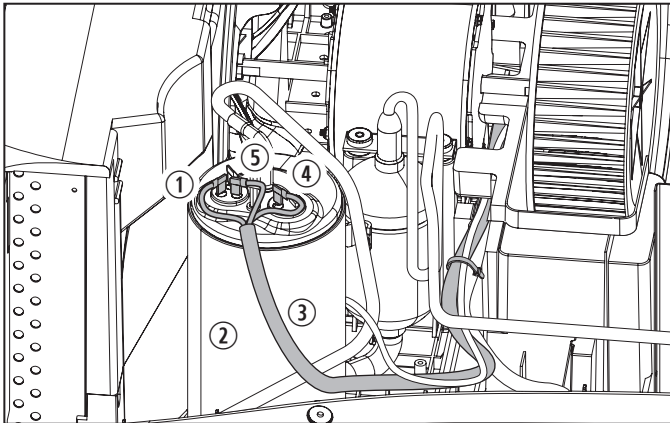
- |                          |                 |
|--------------------------|-----------------|
| ① New Wire Tie Locations | ② Strain Relief |
|--------------------------|-----------------|

9. Use the remaining three new wire ties to secure the rest of the new supply wire harness.
10. Replace the electrical box cover and secure it in place with the two electrical box cover screws.
11. Push the electrical box foam back to its original position.

**i** The wires on the left side can sit on top of the electrical box foam if necessary.

### 8.3.5 Connecting the New Compressor Wire Harness

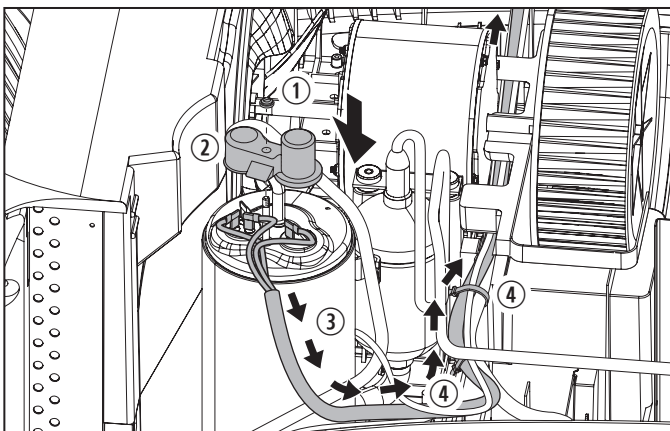
**NOTICE:** When routing the compressor wire harness, the compressor wire harness should route under the foam. Failure to follow this notice could cause the fan motor shaft to damage the compressor wire harness.



**41** Connecting the Compressor Wire Harness

- |   |                                       |
|---|---------------------------------------|
| ① White Compressor Wire Terminal 'R(U)' | ④ Blue Compressor Wire                |
| ② Compressor                            | ⑤ Red Compressor Wire Terminal 'S(V)' |
| ③ Compressor Wire Harness               |                                       |

1. Using the compressor wire harness from the installation kit, connect the white, red, and blue wires to the compressor.

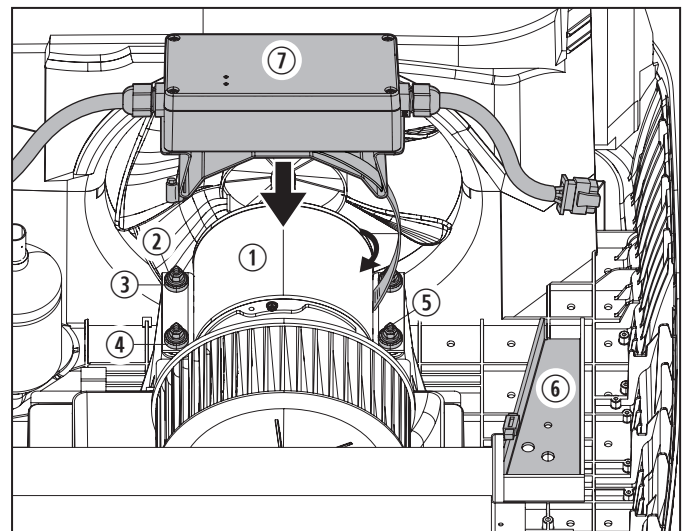


**42** Routing the Compressor Wire Harness

- |                                 |                                |
|---------------------------------|--------------------------------|
| ① Compressor Cap Nut and Washer | ③ Compressor Wire Harness Path |
| ② Compressor Cap                | ④ Wire Ties                    |

2. Route the compressor wire harness, ensuring it passes over the existing wire ties.
3. Finish routing the compressor wire harness under the foam, between the foam and the fan motor, by pulling the compressor wire harness through to the opposite side of the fan motor.
4. Using wire ties, gather and secure all the wires and cables between the fan motor and the compressor.
5. Using the 5/16 in. deep well nut driver, replace the compressor cap and compressor cap nut onto the top of the compressor and tighten.

### 8.3.6 Mounting the Device

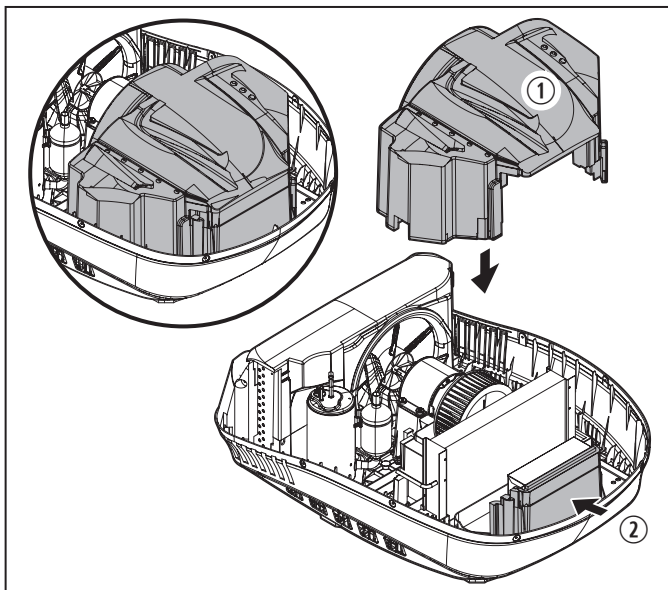


**43** Placing the Device on the Fan Motor

- |                      |                   |
|----------------------|-------------------|
| ① Fan Motor          | ⑤ Fan Motor Studs |
| ② Fan Motor Nuts     |                   |
| ③ Fan Motor Washers  | ⑥ Base Pan Frame  |
| ④ Fan Motor Grommets | ⑦ Device          |

1. Viewing the fan motor from directly above, identify the gap between the fan motor and the mounting flange on the condenser side of the coil.
2. Holding the device with the supply side of the device towards the compressor, center the starter over the fan motor.
3. Lower the hose clamp into the gap between the fan motor and the mounting flange.

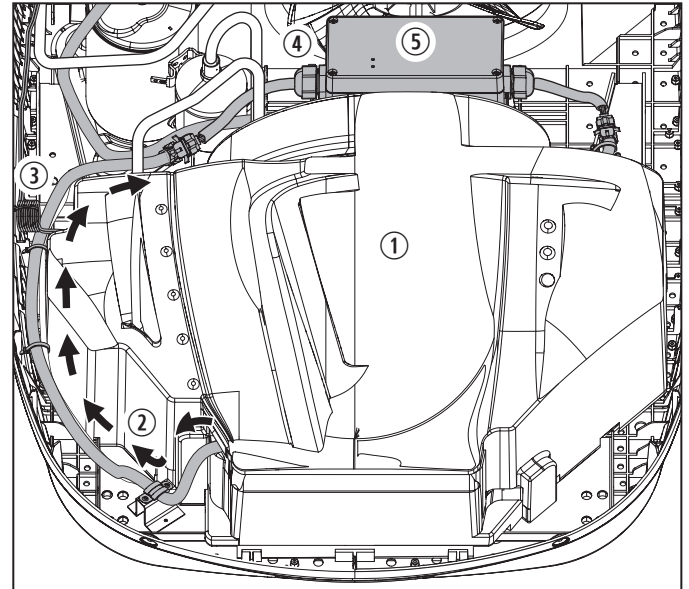
4. Place the device on the fan motor, ensuring the hose clamp remains in the gap between the fan motor and the mounting flange.
  5. Avoiding any wires, route the hose clamp ends around the fan motor so the ends meet.
  6. Use the connected worm screw to hold the hose clamp ends around the fan motor.
- i** If the mounting bracket moved during the previous step, reposition the mounting bracket in the gap.
7. Using the 1/4-4 in. flathead screwdriver, tighten the worm screw on the hose clamp until snug and secure the device to the fan motor.
  8. Turn the worm screw an additional one-half turn.

**44** Replacing the Foam Shroud

- ① Foam Shroud      ② Electrical Box Foam

9. Verify the replaced electrical box foam is in the proper location.
10. Ensure the electrical box foam fits flush with the front edge of the foam shroud or adjust into place.
11. Replace the internal foam shroud onto the AC unit.

### 8.3.7 Connecting the Harnesses to the Device

**45** Connecting the Harnesses to the Device

- ① Foam Shroud      ④ Compressor Harness Connector  
 ② Supply Wire Harness Path      ⑤ Device

1. Route the supply wire harness along the outer edge of the existing factory supply wire harness.
2. Verify the supply wire harness routes under the capillary tube coil.
3. Connect the compressor harness connector to the compressor side of the device.
4. Connect the supply wire harness connector to the supply side of the device.

### 8.3.8 Replacing the AC Shroud

Using the #2 Phillips screwdriver, replace the nine AC shroud screws and secure the AC shroud in place.

## 9 Operation

Once installed, the device operates without need for user input. See the specific AC unit's Installation and Operation Manual for AC operating instructions.



## 10 Bracket Assembly

This section describes how to assemble and attach the bracket assembly to the device if delivered unassembled. The steps vary based on the AC unit.

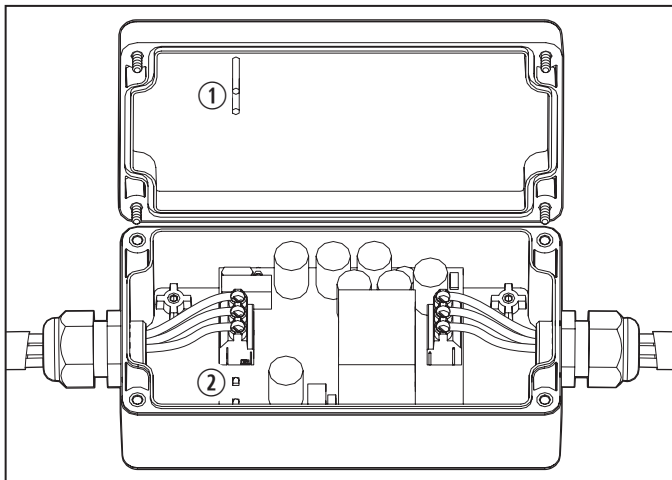
To determine the AC unit model, go to “Model Identification” on page 8.

### 10.3.1 Preparing the Device

This section describes how to remove the device cover and position the device.

**i** Perform the following actions on a flat, clean surface.

1. Place the device on the flat surface with the device cover facing up.
2. Loosen the four device cover screws and remove the cover.



**46** Identifying the LEDs in the Device

- ① Fiber Optic Rods                      ② LEDs

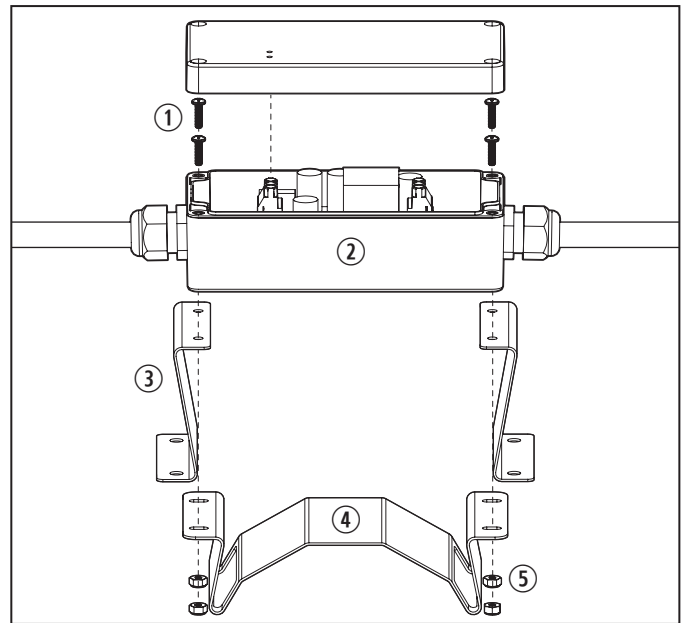
3. Inspect the underside of the device cover and note the fiber optic rods that align with the LEDs in the device.
4. Set the device cover aside.
5. Carefully turn the device on its side.

6. Continue with the assembly:

- For Brisk II AC units, go to “Assembling the Brackets - Brisk II AC Unit” on page 26.
- For Penguin II and Blizzard NXT AC units, go to “Assembling the Mounting Bracket - Penguin II and Blizzard NXT AC Units” on page 27.

### 10.3.2 Assembling the Brackets - Brisk II AC Unit

This section describes the device’s z-bracket and mounting bracket assembly for all Brisk II AC units.



**47** Securing the Z-Brackets and the Mounting Bracket

- ① Bracket Screws                      ④ Mounting Bracket  
② Device                                  ⑤ Nuts  
③ Z-Brackets

1. Inspect the z-brackets to locate the flange end with the smaller screw holes.

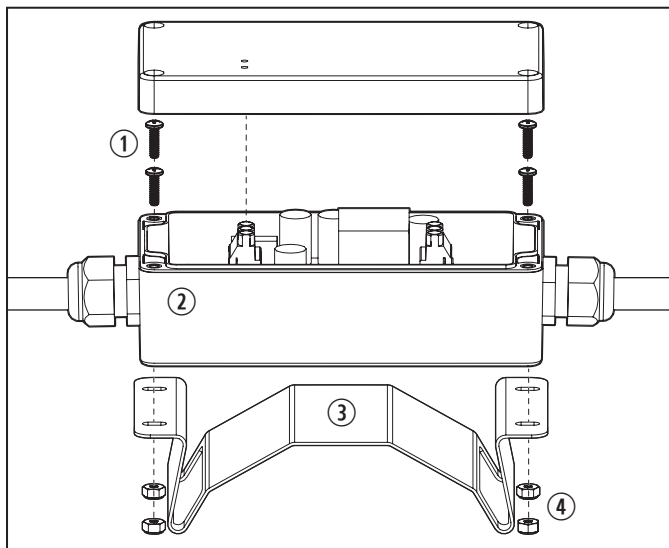
**i** When both z-brackets are installed correctly, they will mirror each other.

2. Align the smaller screw holes on the flange of one z-bracket to the screw holes on the bottom of the device.
3. Position the bend in the z-bracket flange against the device so that the bend points away from the center of the device.

4. Using the #2 Phillips screwdriver, push two bracket screws through the holes in the device and then through the small holes in the z-bracket flange.
5. With the mounting bracket on its side, fit the mounting bracket slots onto the exposed bracket screws.
6. Using the #2 Phillips screwdriver as a backer to hold the screw in the mounting bracket slot, place a nut at the end of each bracket screw.
7. Secure each nut at the end of each bracket screw by two threads so the nuts do not fall off.
8. Repeat steps 2-7 for the remaining z-bracket, ensuring the z-bracket is positioned directly against the device.
9. Using the torque wrench and the #2 Phillips screwdriver, tighten the nuts on the bracket screws to 30 in. lbs (3.4 N·m).
10. While holding the device cover, align the fiber optic rods on the device cover with the LEDs in the device.
11. Replace the device cover.
12. Tighten the device cover screws to 8.8 in. lbs (1 N·m).

### 10.3.3 Assembling the Mounting Bracket - Penguin II and Blizzard NXT AC Units

This section describes the device's mounting bracket assembly for all Penguin II and Blizzard NXT AC units.



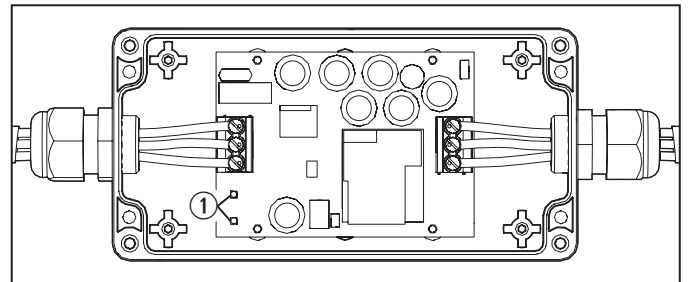
**48** Securing the Mounting Bracket

- ① Bracket Screws      ③ Mounting Bracket

- ② Device - Supply Side      ④ Nuts

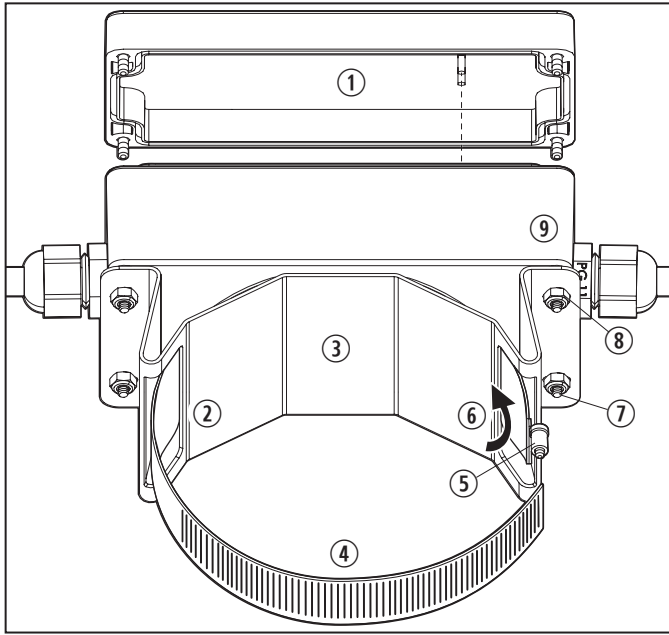
1. Place one bracket screw into each of the mounting hole locations.
2. Turn the mounting bracket on its side and align the holes with the mounting bracket holes on the back side of the device.
3. Using the #2 Phillips screwdriver, push the bracket screws through the mounting bracket holes.
4. Place a nut at the end of each bracket screw.
5. Using the 5/16 in. deep well nut driver and the #2 Phillips screwdriver, tighten the nuts on the bracket screws, then loosen by one-half turn.

- i** Do not fully tighten the nuts yet.



**49** Identifying the Supply Side of the Device

- ① LEDs (Supply Side)
6. Lift the device and look inside.
  7. Locate the LEDs on the control board that indicate the supply side of the device.
  8. Place the device on its side with the supply side to the right and the mounting bracket towards you.



**50** Attaching the Hose Clamp (Supply Side on the Right)

- |                          |                        |
|--------------------------|------------------------|
| ① Device Cover           | ⑥ Slot - Supply Side   |
| ② Slot - Compressor Side | ⑦ Bracket Screws       |
| ③ Mounting Bracket       | ⑧ Nuts                 |
| ④ Hose Clamp             | ⑨ Device - Supply Side |
| ⑤ Worm Screw             |                        |

9. Insert the hose clamp end into the slot on the supply side of the mounting bracket.
10. Push the hose clamp through to the other side of the mounting bracket.
  - i** If it is difficult to push the hose clamp through the mounting bracket, loosen the nuts on the bracket screws several turns.
11. Push the hose clamp end through the slot on the compressor side of the mounting bracket.
  - i** If the hose clamp does not easily align with the compressor side slot, use the needle nose pliers to guide it into place.
12. Continue pushing the hose clamp through the mounting bracket until the worm screw is next to the top slot on the supply side of the device.
13. Using the torque wrench and the #2 Phillips screwdriver, tighten the nuts on the bracket screws to 30 in. lbs (3.4 N·m).

14. Aligning the fiber optic rods on the underside of device cover to the LEDs in the device, replace the device cover.
15. Tighten the device cover screws to 8.8 in. lbs (1 N·m).



## 11 Troubleshooting

This section describes issue characteristics and the corrective actions.

Problem	Possible Cause	Recommended Solution
The AC fan does not run after the power is turned on.	The connections are installed incorrectly.	Verify the connections are installed correctly.
	The connections are loose.	Verify the connections are tight and secure.
The LED on the device does not turn green when the AC is on.	No voltage is detected between the supply side and the device.	<ul style="list-style-type: none"> <li>• Verify the connections are installed correctly.</li> <li>• Verify the circuit breaker is functioning properly and reset if it is tripped.</li> </ul>
The LED on the device indicates a fault and fast-flashes red (three flashes/second).	A low voltage is detected between the supply side and the device.	<ul style="list-style-type: none"> <li>• Verify the thermostat is functioning properly; contact the Customer Support Center.</li> <li>• Contact the Customer Support Center.</li> </ul>
	If the AC is running on a power inverter, the AC has exceeded the inverter's power rating.	Check the power rating of the power inverter.
The LED on the device indicates a fault and flashes slowly (one flash/second).	The compressor has overheated.	Verify the compressor connections are installed correctly.
	The compressor is faulty.	Contact the Customer Support Center.
	The air flow over the condenser is insufficient.	Clean the condenser coil with an appropriate coil cleaning product.
An ammeter/multimeter test reading indicates an inrush current that is too low or too high.	The ammeter or multimeter used does not have the adequate time resolution to capture a proper reading.	Use a meter equipped with an inrush current measurement.
The AC compressor runs correctly, but an inrush current reading does not detect a reduction in the current.		
A meter equipped with an inrush current measurement indicates the inrush current that is too low or too high.	The connections are loose.	Verify the connections are tight and secure.
	The LED on the device indicates a fault and flashes red.	Contact the Customer Support Center.

## 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 1-Year Warranty

LIMITED 1-YEAR WARRANTY AVAILABLE AT [DOMETIC.COM/EN-US/TERMS-AND-CONDITIONS-CONSUMER/WARRANTY](http://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 46516  
1-800-544-4881







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