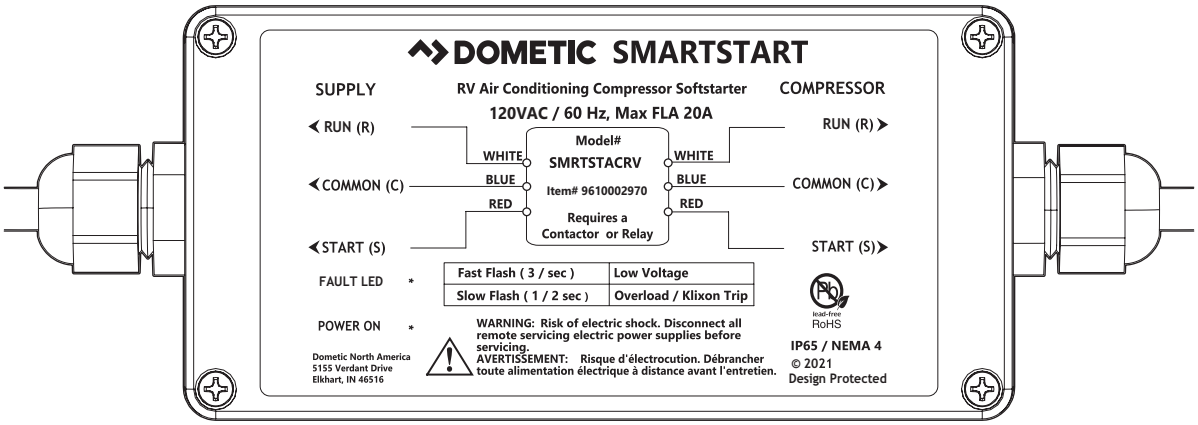
DOMETIC

CLIMATE CONTROL ACCESSORIES



SmartStart SMRTSTACRV

EN

RV Soft Start Accessory

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

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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.

Contents

1 Related documents

Find the installation and operation manual on-line in French at http://documents.dometic.com/?object_id=86747

Find the installation and operation manual on-line in Spanish at http://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.

⚠ **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

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 while installing the appliance.

Included parts	Brisk II	Penguin II	Blizzard NXT	FreshJet
Assembled mounting bracket and z-brackets (attached to the device)	1	0	0	1
Assembled mounting bracket (attached to the device)	0	1	1	0
Hose clamp with worm screw	0	1	1	0
6 in. wire tie	6	4	10	4
14.5 in. wire tie	0	0	0	2
Device	1			
Compressor wire harness	1			
Supply wire harness	1			
Instructions	1			

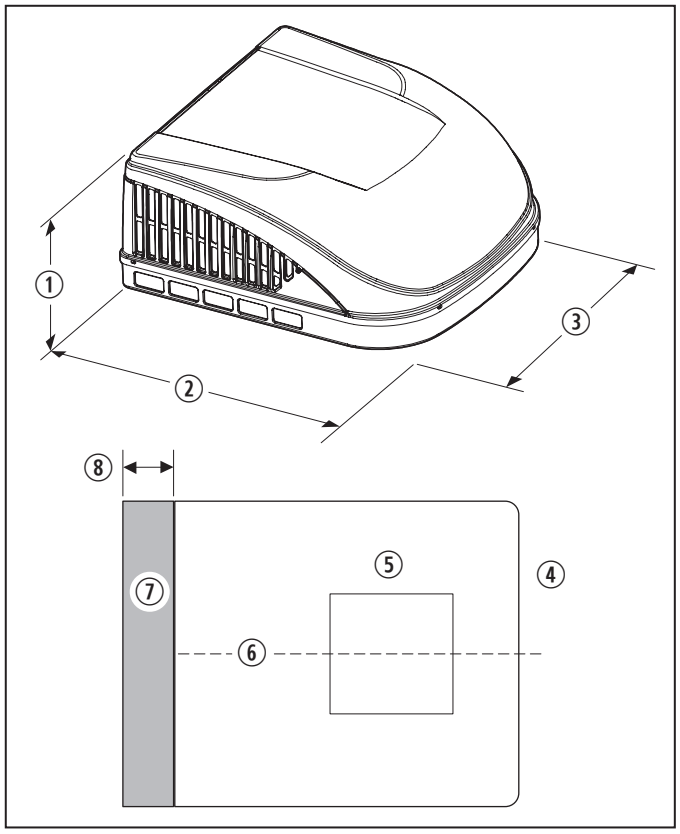
Recommended tools	
#2 Phillips screwdriver	Gloves
1/4-4 in. Flat-head screwdriver	Multimeter
5/16 in. Deep well nut driver	Needle nose pliers
1/4 in. long-shafted nut driver or 1/4 in. socket with 6 in. extension	Torque wrench
	Utility knife
Drill	Wire cutters
Electrical tape	

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, Blizzard NXT, and FreshJet 3 Series Mechanical units. Additional AC units may be added at future dates.

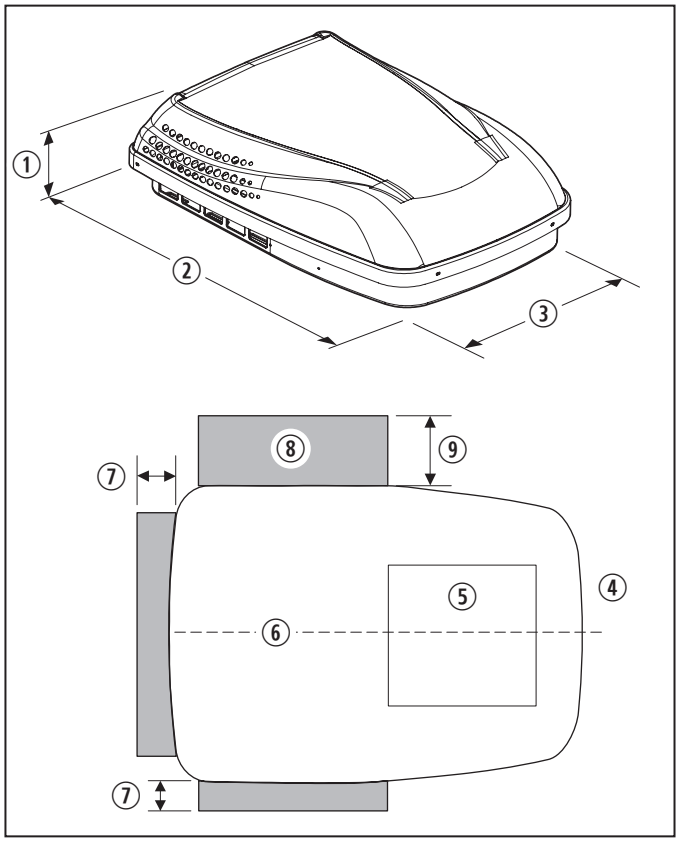
4.3 Component locations

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



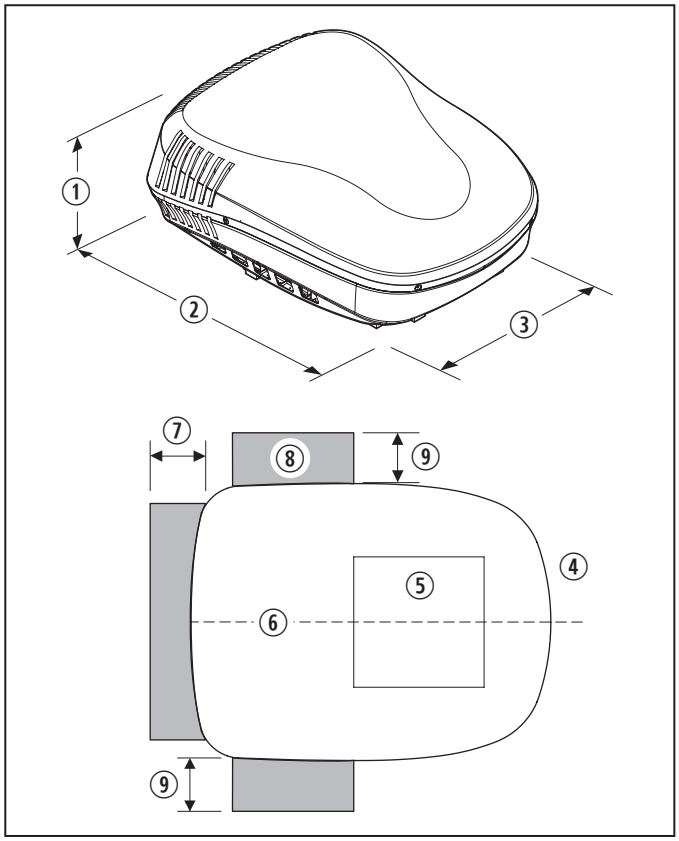
1 Brisk II AC unit shroud dimensions

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



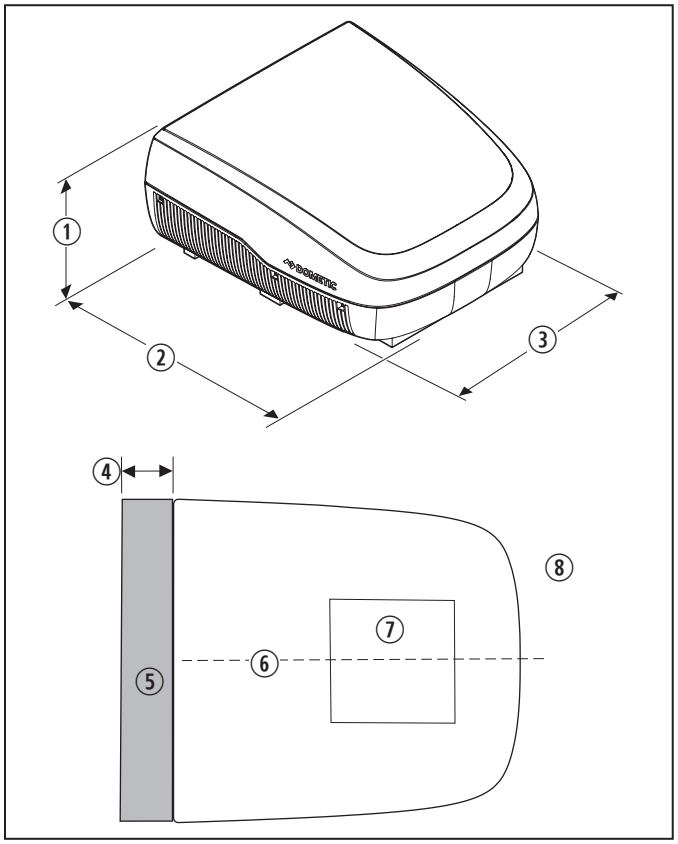
2 Penguin II AC unit shroud dimensions

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



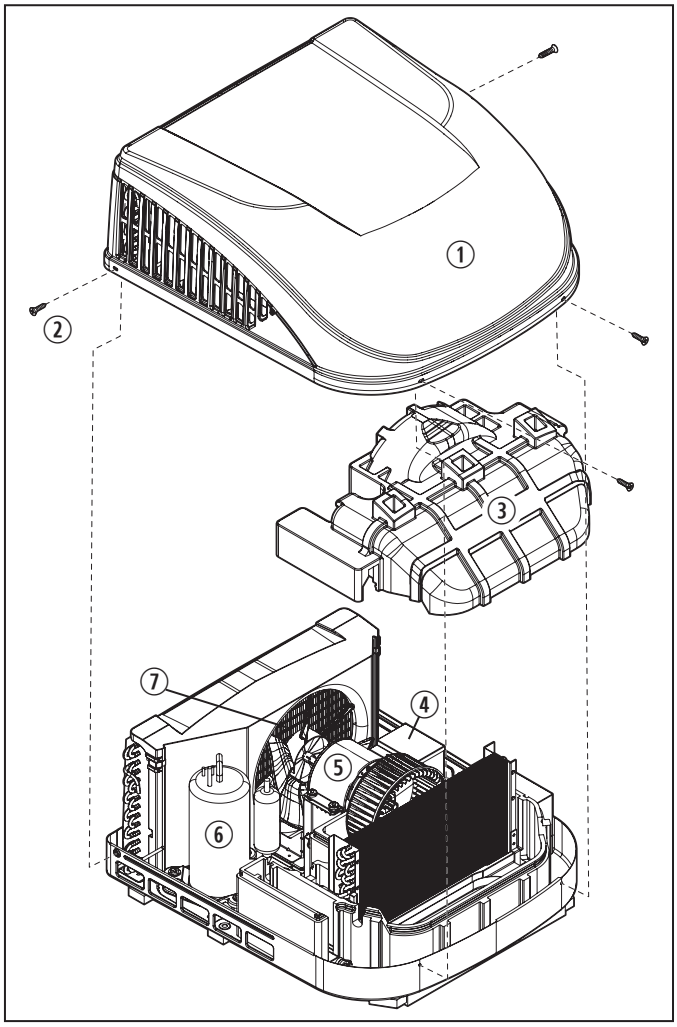
3 Blizzard NXT AC unit shroud dimensions

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



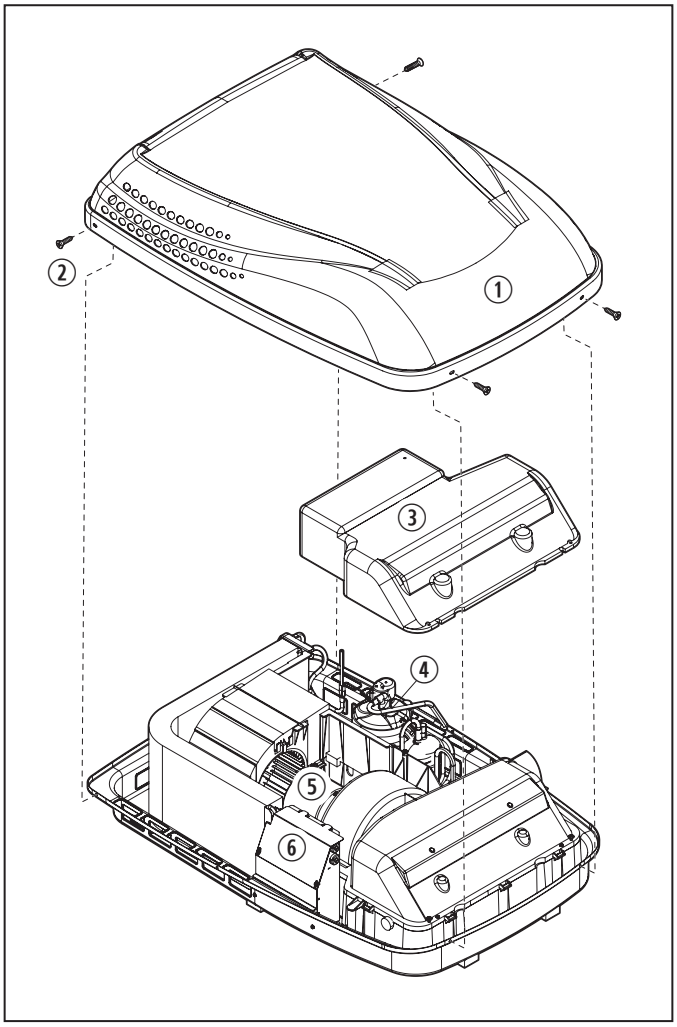
4 FreshJet FJX3000 and FJX4000 series

①13.8 in. (351 mm)
② 29.6 in. (752 mm)
③ 27.6 in. (701 mm)
④ 18.0 in. (457 mm) clearance
⑤ Air flow clearance area (shaded)
⑥ Center line of unit
⑦ Roof opening
⑧ Front of unit



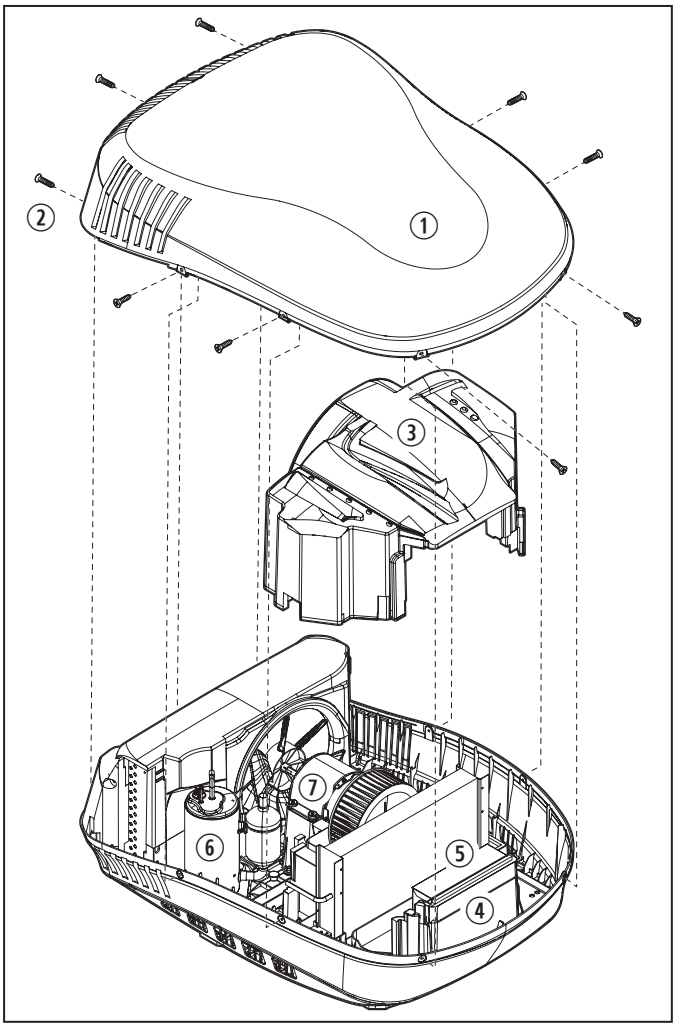
5 Brisk II AC unit components and screw locations

① AC shroud
② AC shroud screws
③ Foam shroud
④ Electrical box
⑤ Fan motor
⑤ Compressor
⑦ Condenser Fan



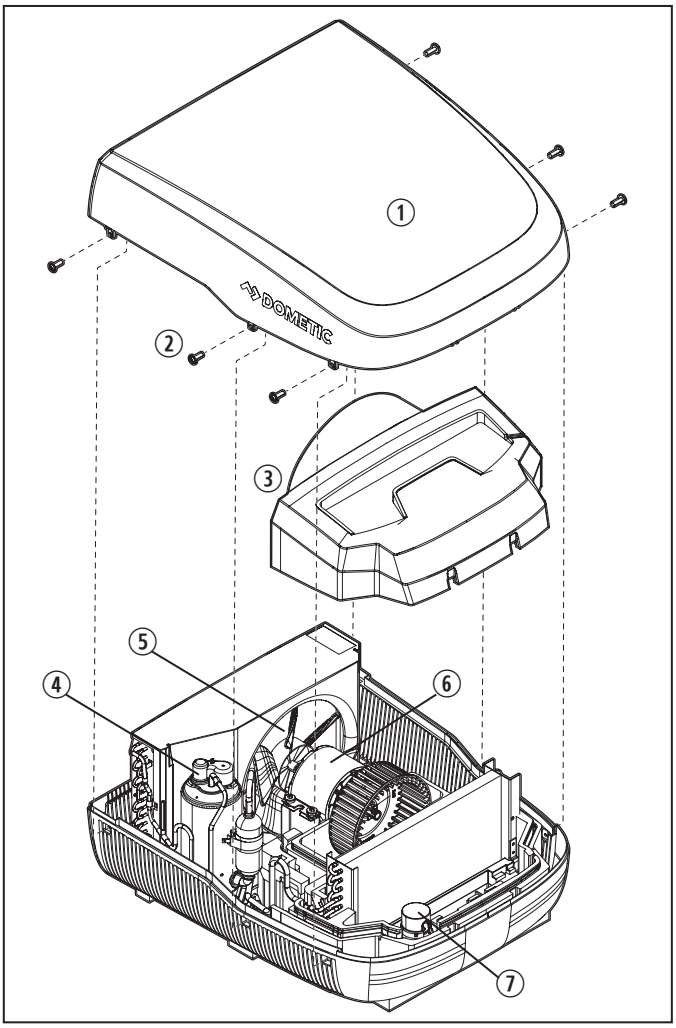
6 Penguin II AC unit components and screw locations

① AC shroud
② AC shroud screws
③ Foam shroud
④ Compressor
⑤ Fan motor
⑥ Electrical box



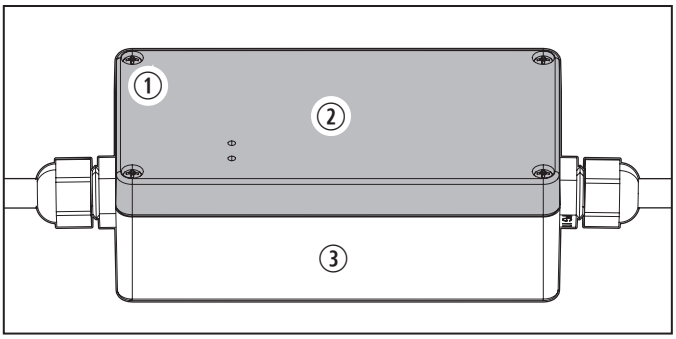
7 Blizzard NXT AC unit components and screw locations

① AC shroud
② AC shroud screws
③ Foam shroud
④ Electrical box foam
⑤ Electrical box
⑥ Compressor
⑦ Fan motor



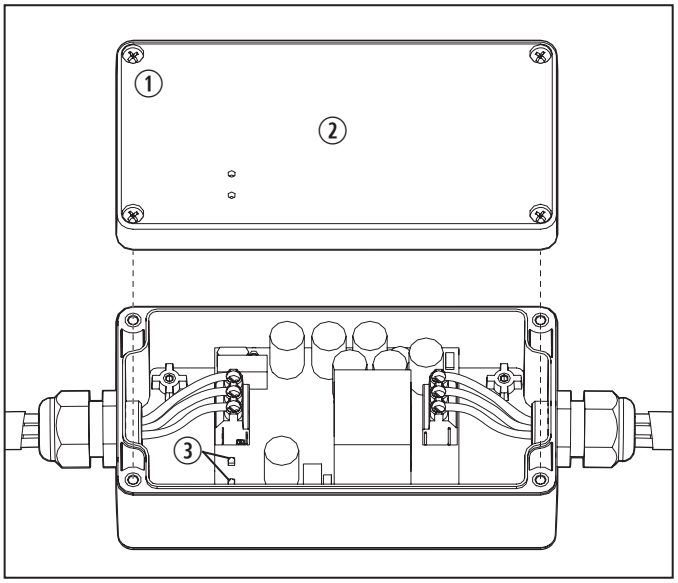
8 FreshJet AC unit components and screw locations

① AC shroud
② AC shroud screws
③ EPP foam
④ Compressor
⑤ Condenser Fan
⑥ Fan motor
⑦ Capacitor



9 Device exterior

① Device cover screws
② Device cover
③ Base



10 Device components

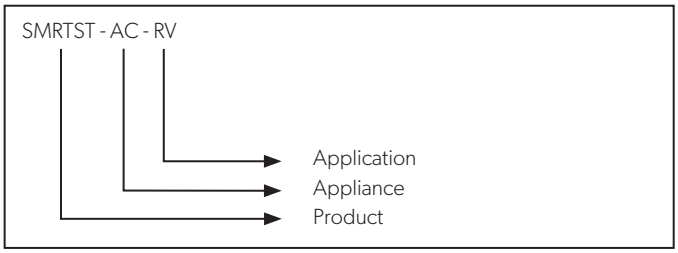
① Device cover screws

② Device cover

③ LEDs (indicate supply side of device)

4.4 Model identification

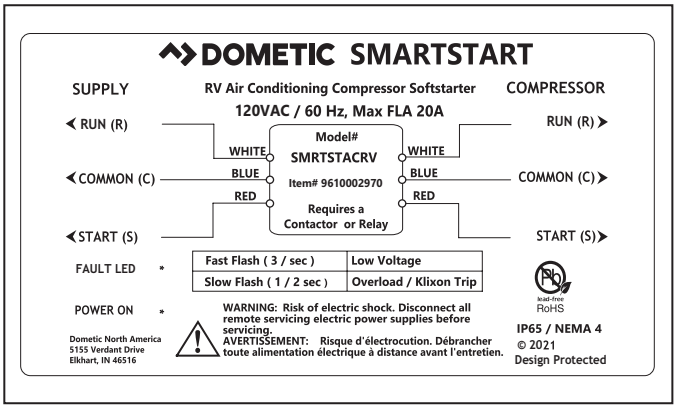
This section describes the breakdown of a model identification number.



Product	SMRTST - Smart Start
Appliance	AC - Air Conditioner
Application	RV - Recreational Vehicle

4.5 Data plate

This section describes the device data plate.



11 Device data plate

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

5 Specifications

Full load current	<20 A
Frequency range	60 Hz ±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.

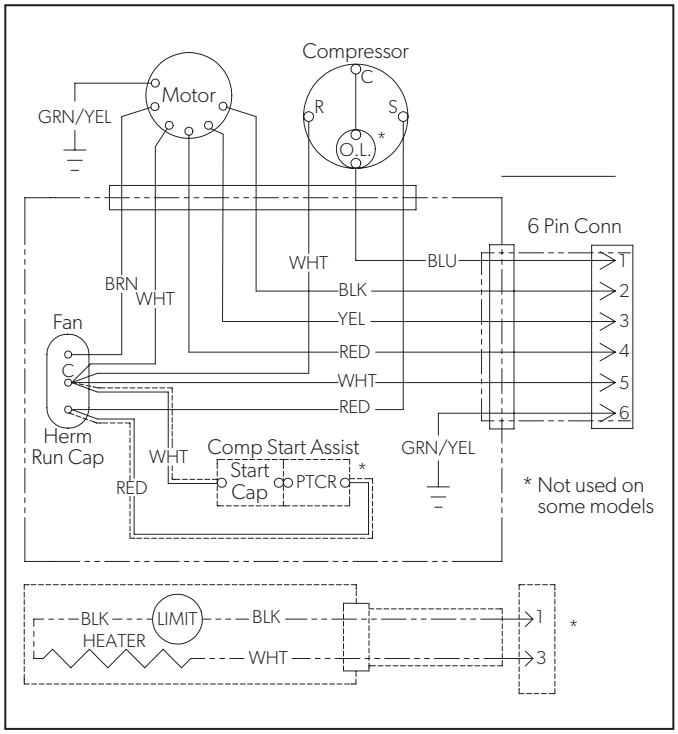
This section shows examples of the product wiring.

The AC and air distribution box (ADB) Wiring Diagram definitions:

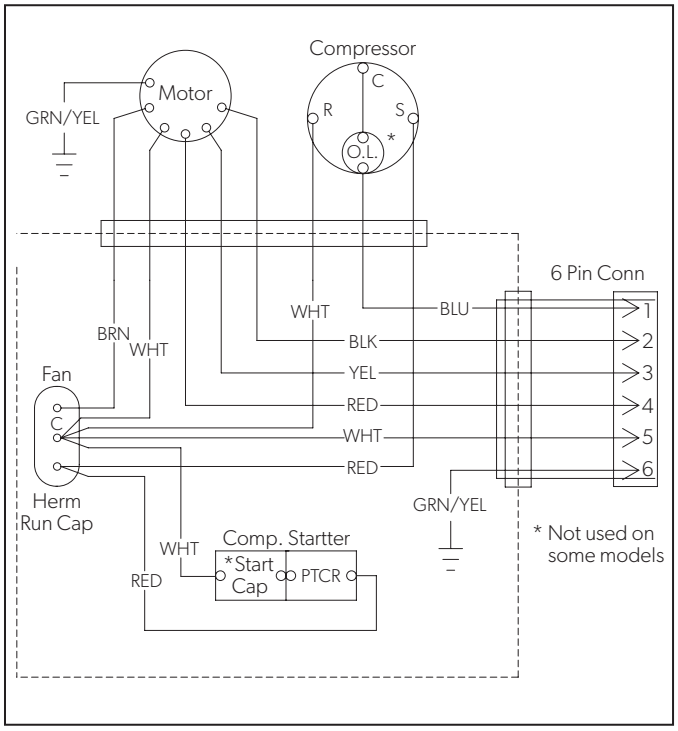
- 120 VAC; 60 Hz 1 PH
- Copper conductors only

------ Field Wiring

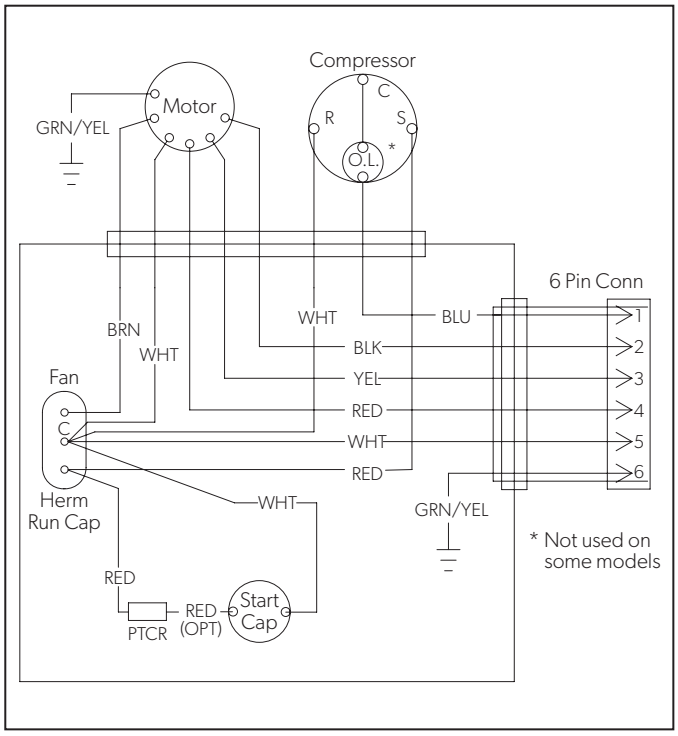
---------- Factory Wiring



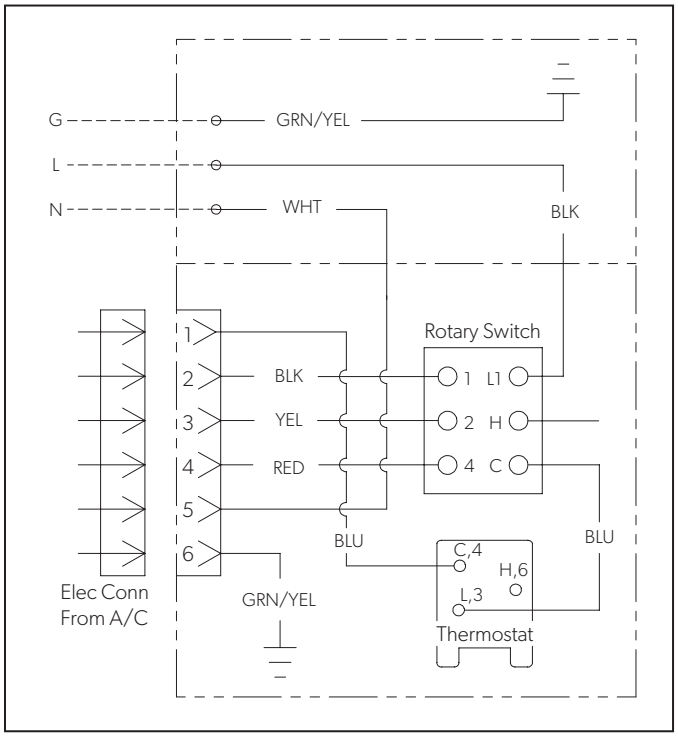
12 Brisk II AC unit wiring diagram



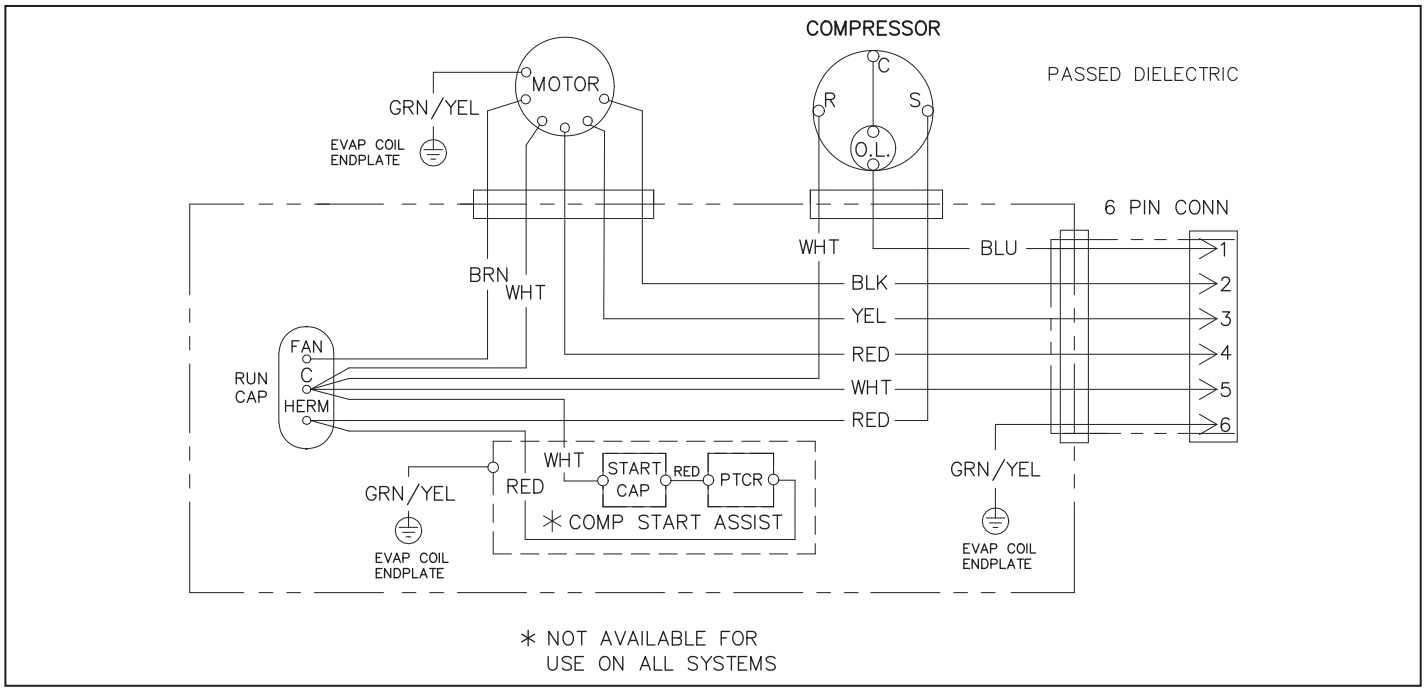
14 Blizzard NXT AC unit wiring diagram



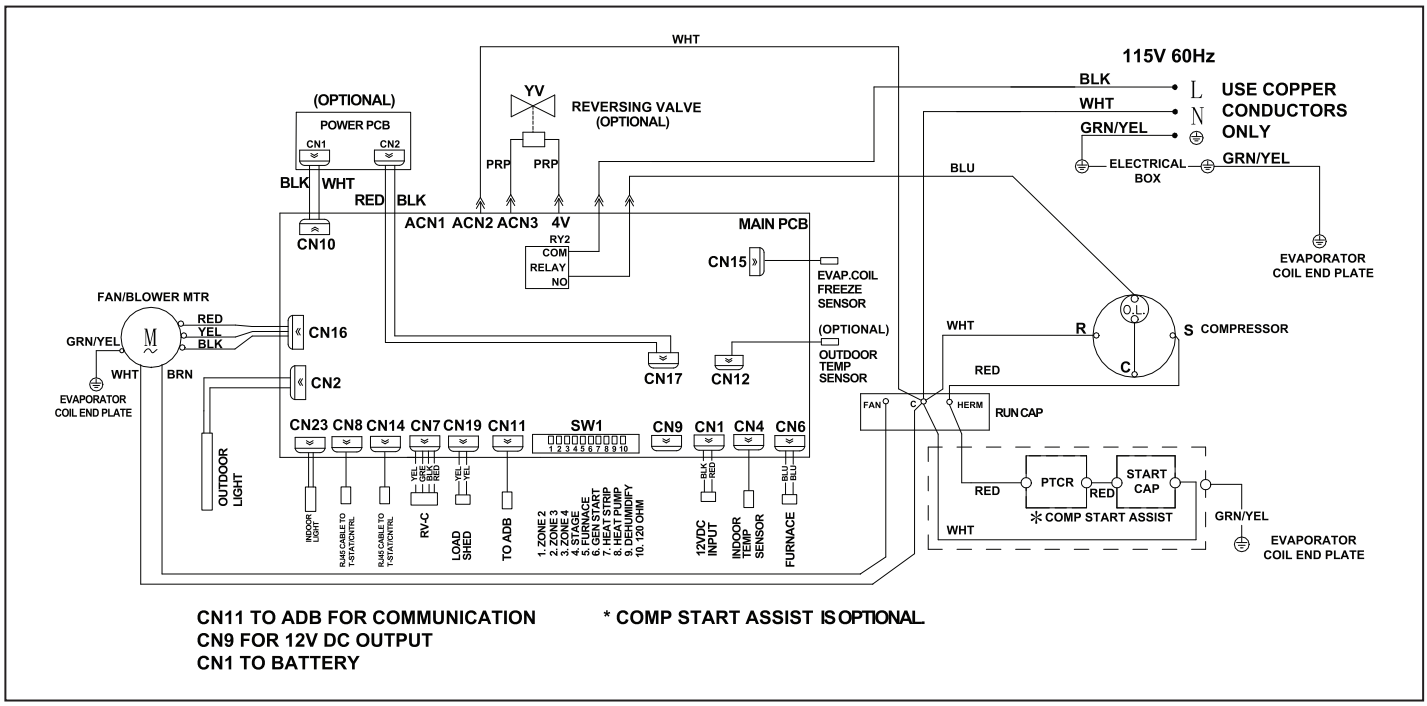
13 Penguin II AC unit wiring diagram



15 ADB wiring diagram - All AC unit models



16 FreshJet 3 series Mechanical AC unit wiring diagram



17 FreshJet 3 series Electronic AC unit wiring diagram

7 Preinstallation

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

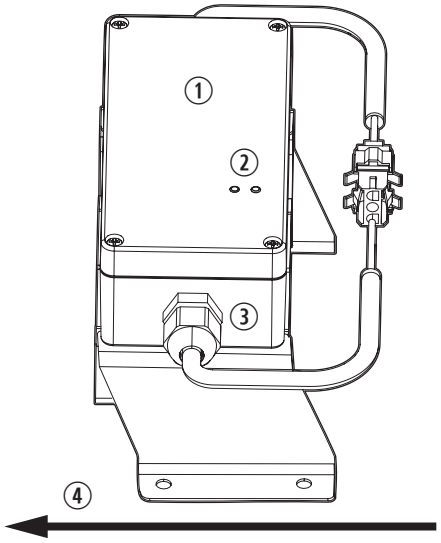
7.1 Bracket configuration

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

7.1.1 Brisk II and FreshJet bracket configuration

The mounting bracket and z-brackets should already be assembled and attached to the device.

If the bracket is not assembled and/or not attached to the device, go to "Bracket assembly" on page 13.



18 Z-bracket direction of slant - Brisk II

① Device
② LEDs
③ Supply side
④ Direction of slant

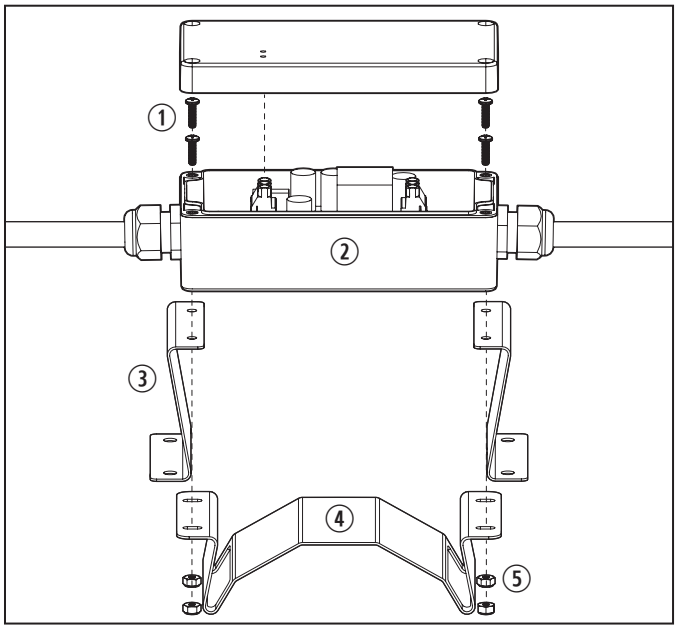
1. With the supply side of the device facing you, determine the z-bracket's direction of slant.

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

   – Brisk II - If the z-bracket slants left, go to "Installation" on page 16, otherwise go to step 2.

   – FreshJet - If the z-bracket slants right, go to "Installation" on page 16, otherwise go to step 2.

2. Complete steps 1–5 in "Preparing the device" on page 14.



19 Removing the z-brackets and mounting bracket

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

3. Using the torque wrench and the #2 Phillips screwdriver, remove the nuts on the bracket screws.
4. Remove the bracket screws from the mounting brackets and z-brackets.
5. Switch the brackets so that the slant is in the correct direction.
6. Confirm that the z-bracket's direction of slant is correct for the AC unit model.

   – Brisk - left slant

   – FreshJet - right slant

7. Complete the steps in "Assembling the brackets - Brisk II" on page 14. to reassemble the brackets to the device.

7.1.2 Penguin II and Blizzard NXT configuration

The mounting bracket should already be attached to the device. To attach the necessary hose clamp, go to "Attaching the hose clamp" on page 15.

If the bracket is not assembled and/or not attached to the device, go to "Bracket assembly" on page 14.

7.2 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.

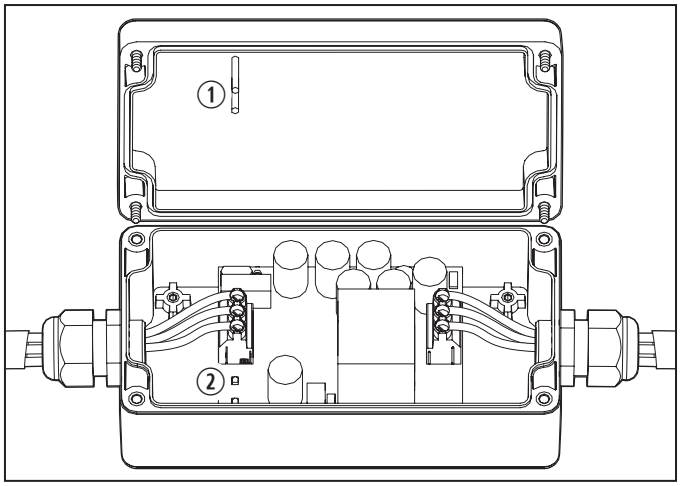
To determine the AC unit model, refer to "Model identification" on page 10.

7.2.1 Preparing the device

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

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.



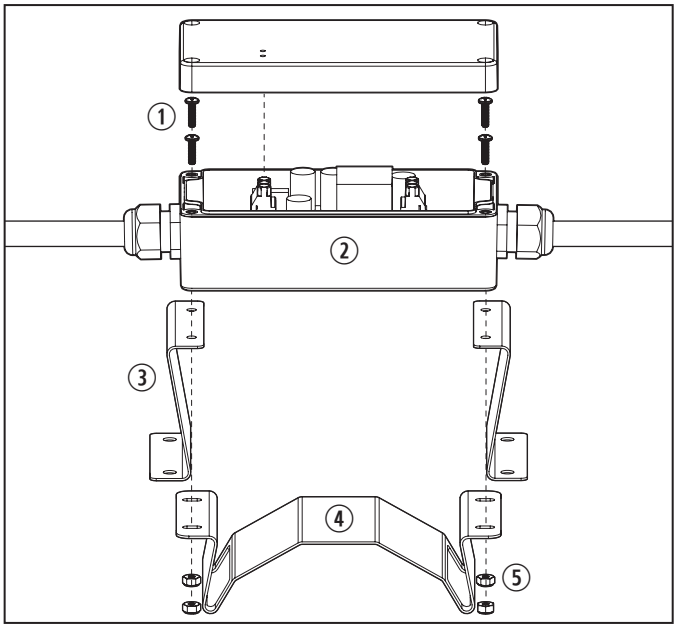
20 Identifying the LEDs in the device

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" on page 14.
   - For Penguin II and Blizzard NXT AC units, go to "Assembling the mounting bracket - Penguin II and Blizzard NXT" on page 15.

7.2.2 Assembling the brackets - Brisk II

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



21 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.

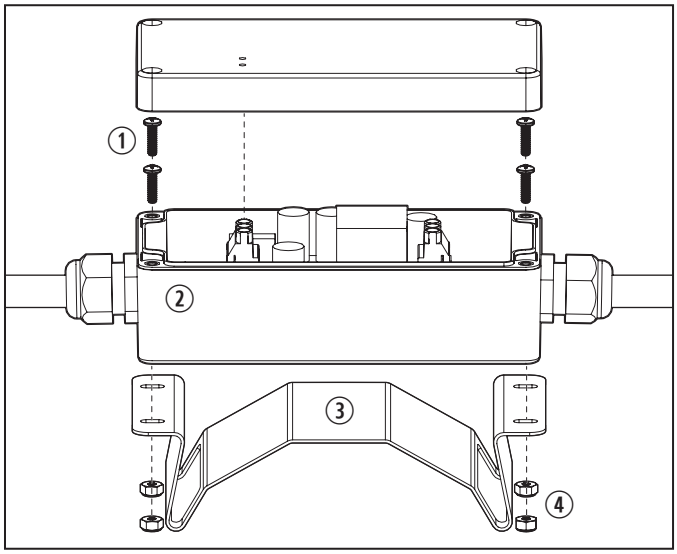
   When both z-brackets are installed correctly, they will mirror each other.

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 Nm).
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 Nm).
13. Aligning the fiber optic rods on the underside of device cover to the LEDs in the device, replace the device cover.
14. Tighten the device cover screws to 8.8 in. lbs (1 Nm).
15. Go to "Installation" on page 16.

7.2.3 Assembling the mounting bracket - Penguin II and Blizzard NXT

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



22 Securing the mounting bracket

① Bracket screws
② Device - supply side
③ Mounting bracket
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.

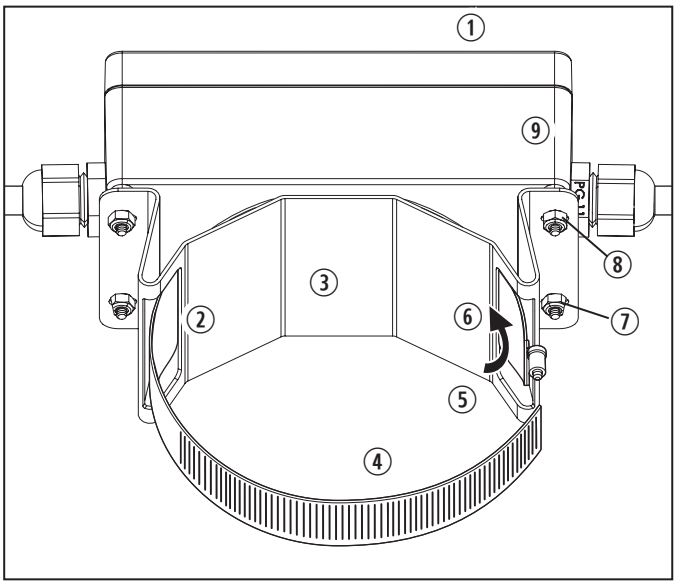
   Do not fully tighten the nuts yet.
6. Go to "Attaching the hose clamp" on page 15.

7.3 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.

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



23 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.

   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 Nm).
7. Aligning the fiber optic rods on the underside of device cover to the LEDs in the device, replace the device cover.
8. Tighten the device cover screws to 8.8 in. lbs (1 Nm).
9. Go to “Installation” on page 16.

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.
- Once installed, the device operates without need for user input. See the specific AC unit’s and/or specific controls Installation and Operation Manual for AC operating instructions.

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, 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.

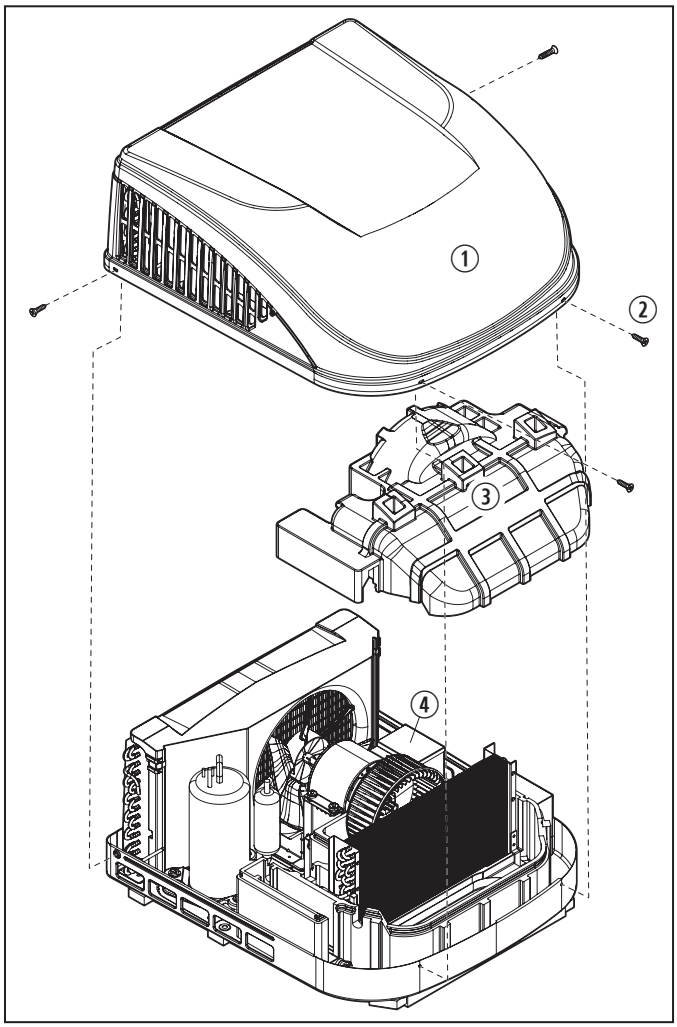
Brisk II	Go to "Installing the device - Brisk II" on page 17.
Penguin II	Go to "Installing the device - Penguin II" on page 22.
Blizzard NXT	Go to "Installing the device -Blizzard NXT" on page 35.
FreshJet	Go to "Installing the device - FreshJet 3 Series Mechanical" on page 41.

8.1 Installing the device - Brisk II

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



24 Brisk II AC unit components and screw locations

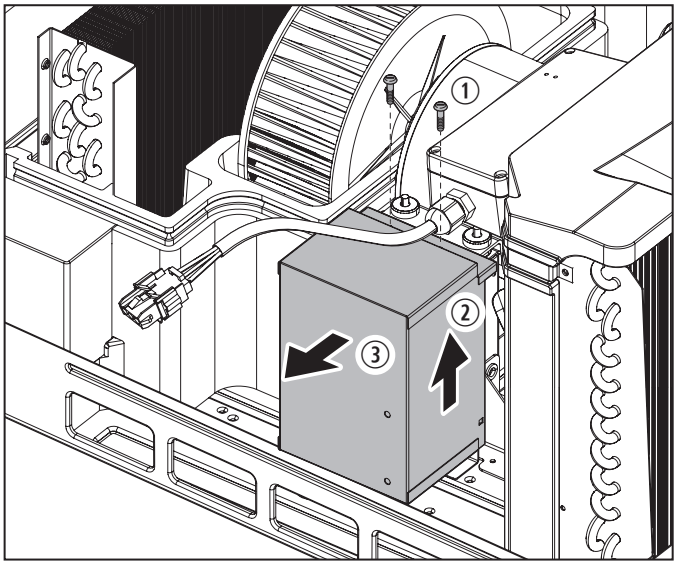
① AC shroud
② AC shroud screws
③ Foam shroud
④ Electrical box

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

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

   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.



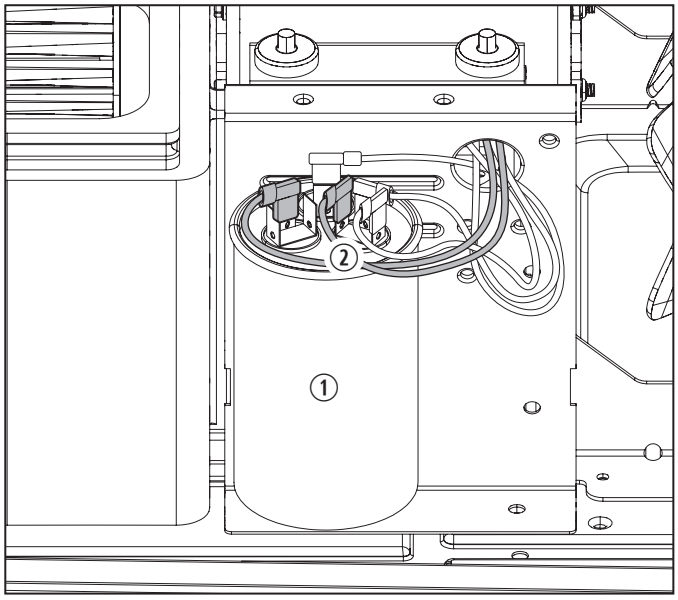
25 Removing the electrical box cover

① Electrical box cover screws
② Electrical box
③ Electrical box cover

3. Verify that the bracket is mounted on the device in the correct position.
4. Using the 5/16 in. deep well nut driver, remove the two screws on the top of the electrical box cover and set aside.
5. 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

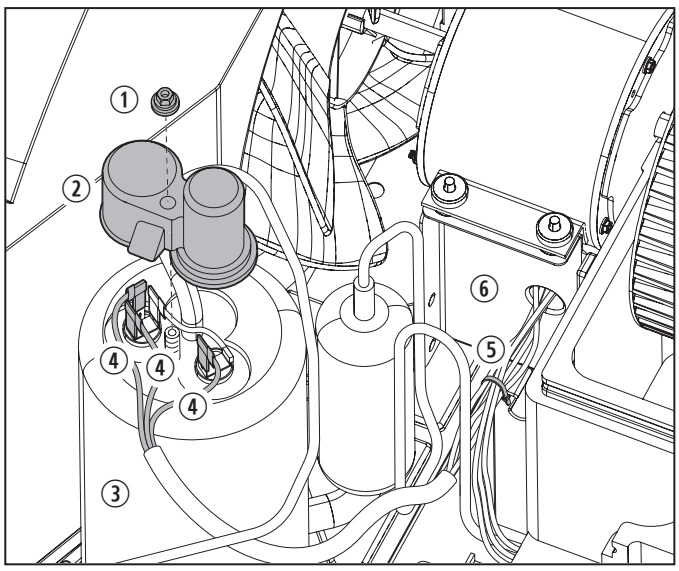
⚠ WARNING: Electric shock hazard.
There is a risk of electrical shock from the energy stored in the capacitors. Wait for five minutes after the shutdown of equipment before performing any installation activity. Failure to obey this warning could result in death or serious injury.



26 Disconnecting the compressor wires from the capacitor

① Capacitor
② Red and white compressor wires

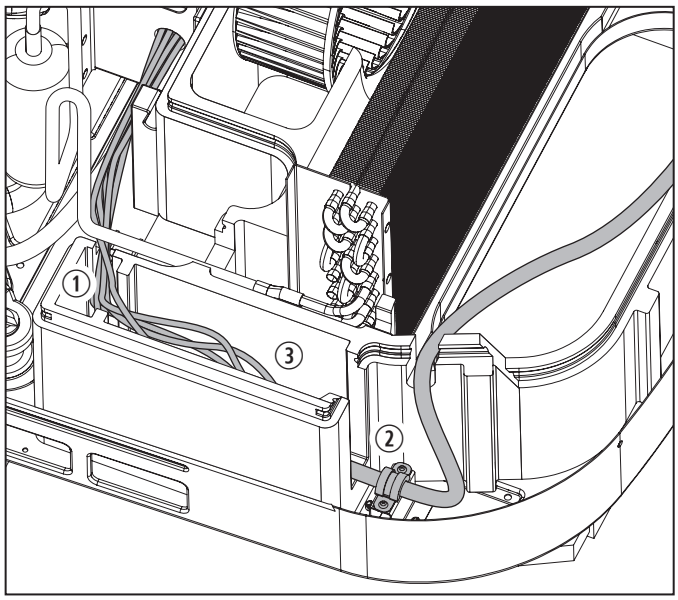
1. Using a multimeter, confirm that the capacitor is fully discharged.
2. Starting at the compressor, trace the white wire to the fan motor mount.
3. Using your fingers to pinch the white wire close to the fan motor mount, pull on the white wire to determine its connected position on the capacitor.
4. Disconnect the red and white compressor wires from the capacitor inside the electrical box.



27 Disconnecting the compressor wires from the compressor

① Compressor cap nut
② Compressor cap
③ Compressor
④ White, red, and blue factory compressor wires
⑤ Wire tie
⑥ Fan motor mount

5. 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.
6. Disconnect the white, red, and blue factory compressor wires from the compressor.
7. Using a 6 in. (15.2 cm) length of electrical tape, secure the compressor wire terminals together and cover the terminal ends with electrical tape. Use more electrical tape if needed to cover the terminal ends completely to ensure no metal is exposed.

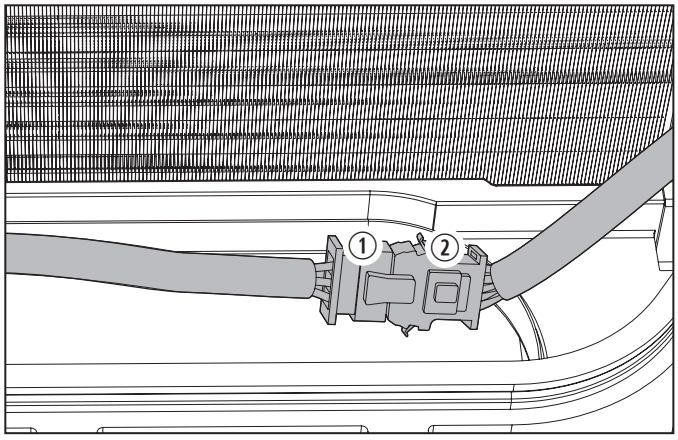


28 Disconnecting the compressor wire harness

① Compressor wire harness
② Strain relief
③ Factory compressor wires inside the foam electrical enclosure

8. Tuck the taped factory compressor wires into the foam electrical enclosure.

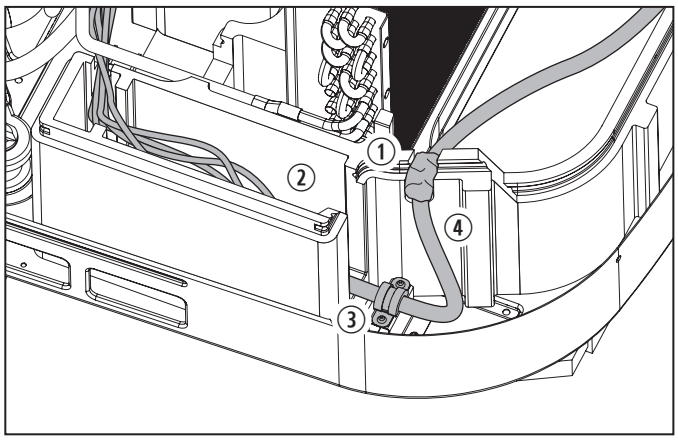
8.1.3 Installing the new supply wire harness



29 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.



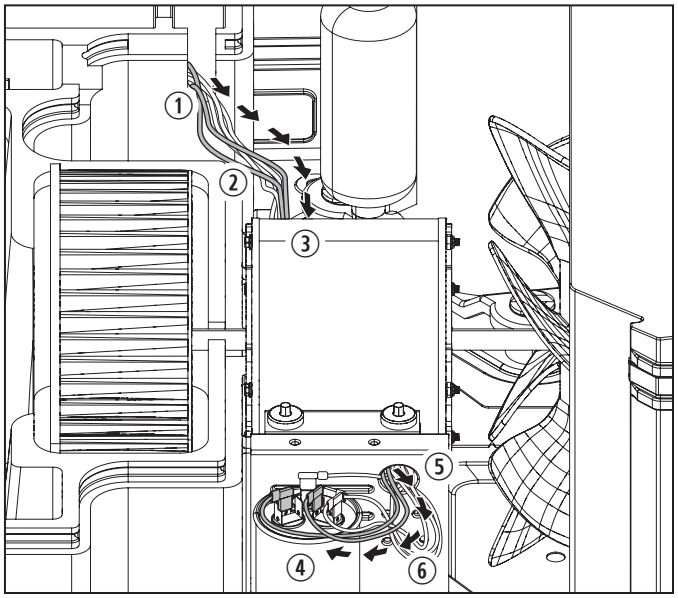
30 Securing the strain relief

① Gasket putty
② Foam electrical enclosure
③ Strain relief screw
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.

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.



31 Routing wires through the fan motor mount to the capacitor

① Control box cavity
② Red and white capacitor wires
③ Fan motor mount (first hole)
④ Capacitor
⑤ Fan motor mount (second 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.

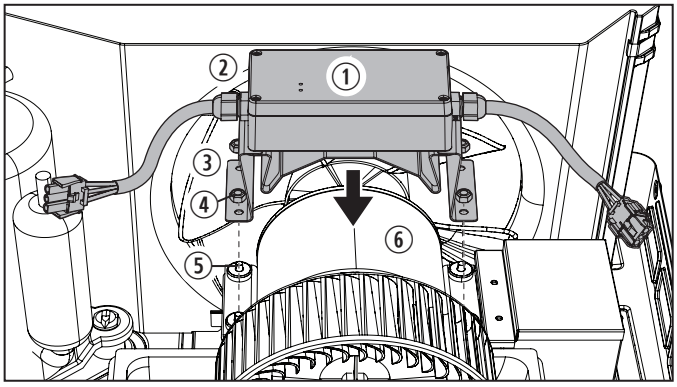
   Before passing the wires through the second fan motor mount hole, arrange them to curve toward the condenser to easily pass from the fan motor mount to the hole in the electrical box.

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, connect the red wire to the HERM terminal.
11. On the capacitor, connect the white wire to the COM terminal.
12. 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.
13. Ensure the secured factory compressor wires cannot come into contact with the top of the capacitor.

8.1.4 Mounting the device - Brisk II

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.



32 Mounting the device and mounting bracket for the Brisk II

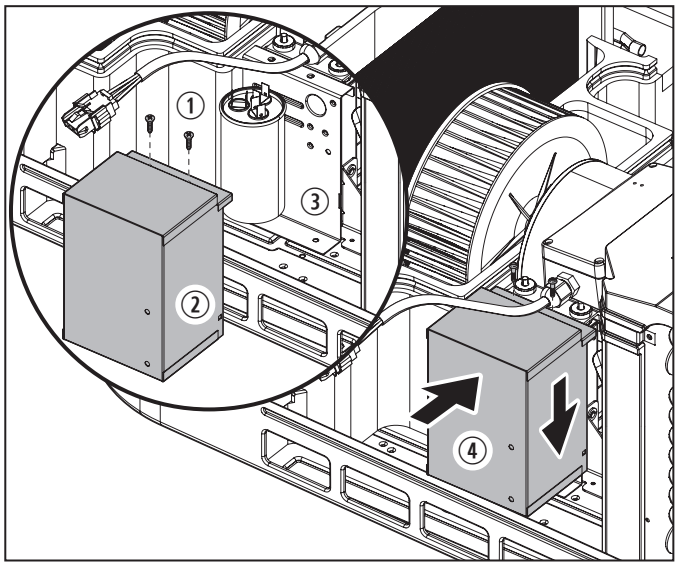
① Device
② Supply side
③ Z-brackets
④ Fan motor nuts
⑤ Fan motor studs
⑥ Fan motor

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.

Ensure the device shifts towards the condenser fan blade. See "Component locations" on page 6. If it does not, contact Dometic customer service.

5. Replace and tighten the four fan motor nuts until snug.

8.1.5 Replacing the electrical box cover



33 Replacing the electrical box cover

① Electrical box cover screws
② Electrical box cover interior tabs
③ Electrical box base cutout
④ Electrical box

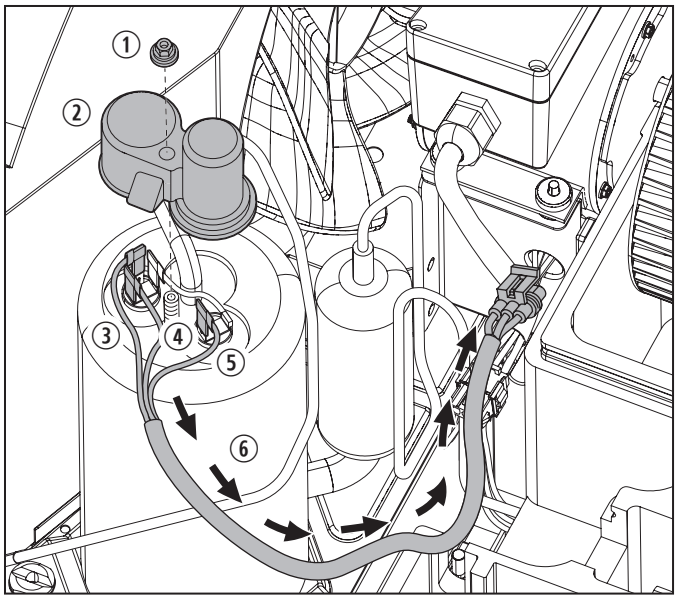
1. Place the electrical box cover on the electrical box, aligning the electrical box cover interior tabs with the electrical box base cutout features.
2. Once aligned, push the electrical box cover in and then down to set it in place.

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 wire harnesses

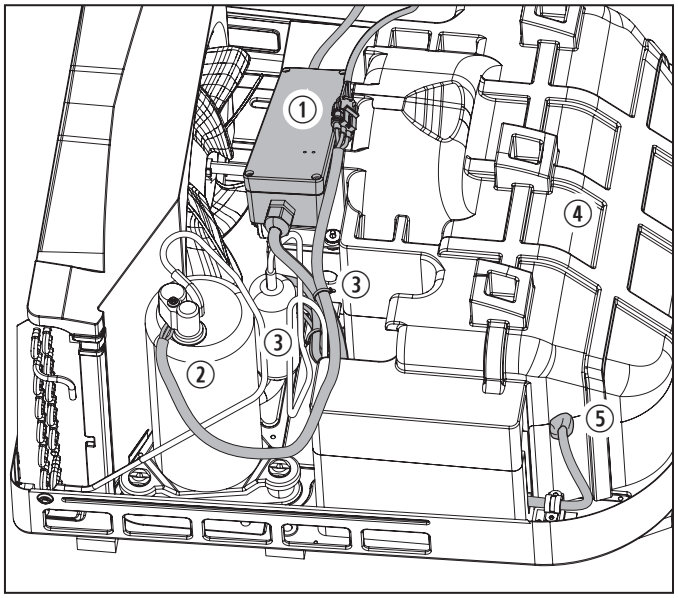
1. Connect the supply wire harness to the supply side of the device. If necessary, pull more of the blue wire through the strain relief.



34 Connecting the compressor wire harness to the compressor

① Compressor nut
② Compressor cap
③ White compressor wire terminal R(U)
④ Red compressor wire terminal S(V)
⑤ Blue compressor wire
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.



35 Connecting the compressor wire harness to the device

① Device
② Compressor wire harness
③ Wire ties
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. Thoroughly spread and press the reserved gasket putty around and into the entire wire harness to ensure a quality seal of the area where it enters the foam shroud.

   The gasket putty seal keeps outside air, dirt, bugs, and other contaminants from entering directly into the RV air ducts.

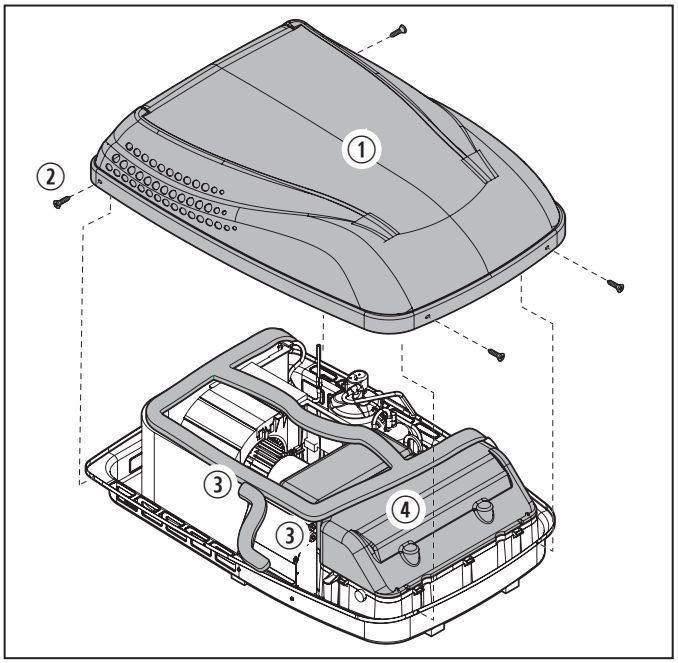
8.1.7 Replacing the AC shroud

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 - Penguin II (Electrical)

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



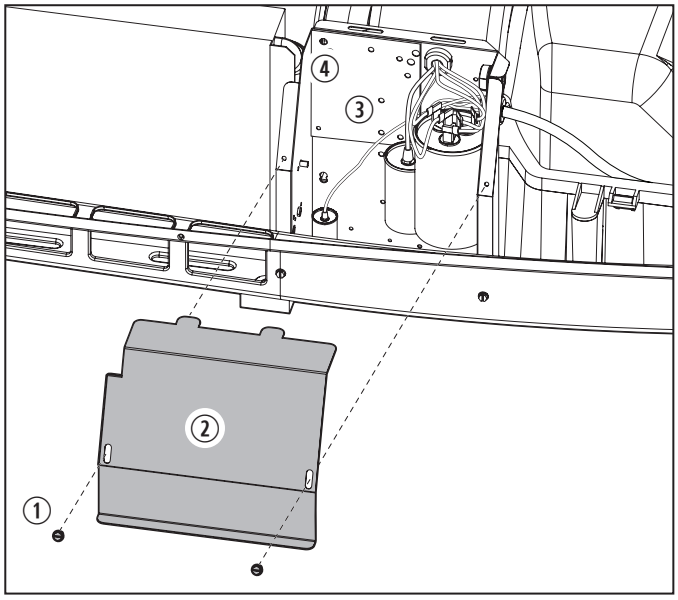
36 Removing the gasket foam

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.

   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.



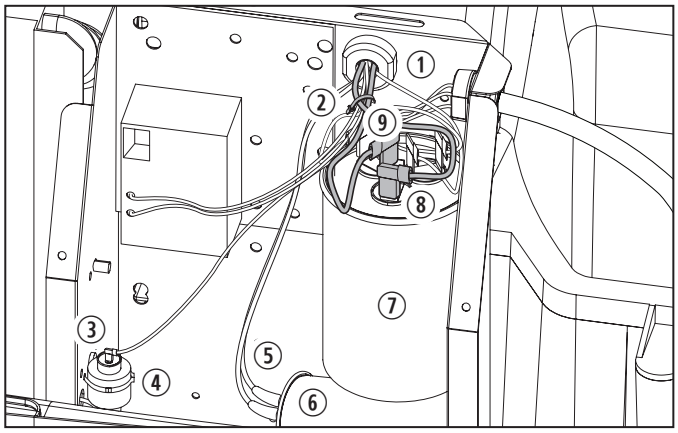
37 Disconnecting the blue wire from the relay block

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.

8.2.2 Disconnecting the compressor wiring harness

WARNING: Electric shock hazard.
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 installation activity. Failure to obey this warning could result in death or serious injury.



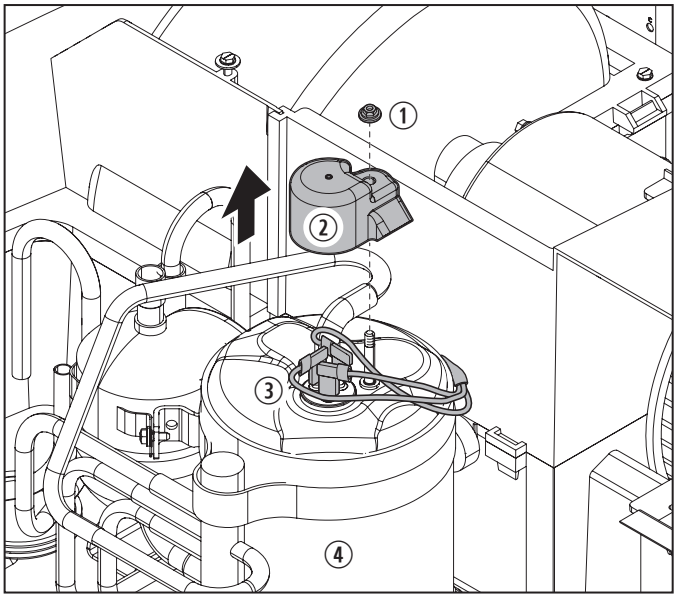
38 Disconnecting the compressor wires from the capacitor

① Strain relief
② Wire tie
③ Motor starter
④ Holding clamp
⑤ Motor starter capacitor wires
⑥ Motor starter capacitor
⑦ Capacitor
⑧ White booted compressor wire
⑨ Red compressor wire

1. Using a multimeter, confirm that the capacitor is fully discharged.
2. Using the needle nose pliers, remove the blue wire from the relay block inside the electrical box.
3. Using the needle nose pliers, disconnect the red compressor wire from the capacitor.
4. Using the needle nose pliers, disconnect the white compressor wire from the capacitor.
5. Using the needle nose pliers, squeeze the strain relief to pull it toward the capacitor.
6. Open the strain relief in the back of the enclosure and remove the blue, red, and white wires, pulling them out of the enclosure through the hole.
7. Trace the red motor starter wire to the capacitor and disconnect it from the capacitor.
8. Trace the white, disconnected motor starter capacitor wire to the capacitor and disconnect it from the capacitor.

   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.

9. If the motor starter comes out of its holding clamp, return it to the holding clamp.
10. Using a 6 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.

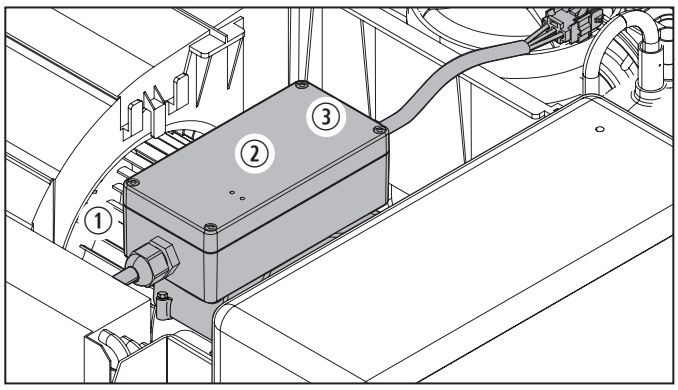


39 Disconnecting the compressor wires from the compressor

① Compressor cap nut and washer
② Compressor cap
③ White, red, and blue compressor wires
④ Compressor

11. 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.
12. Using the needle nose pliers, disconnect the white, red, and blue compressor wires from the top of the compressor.
13. Using a 6 in. (152 mm) 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



40 Mounting the device and mounting bracket assembled

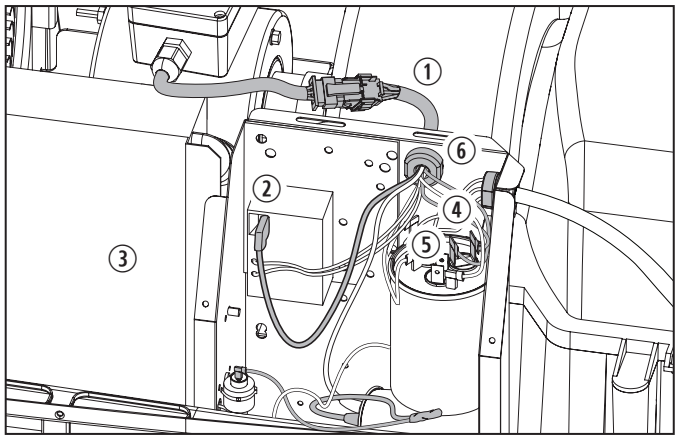
① Fan motor
② Device
③ Device - compressor side

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.

   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 Nm).

8.2.4 Connecting the supply wire harness

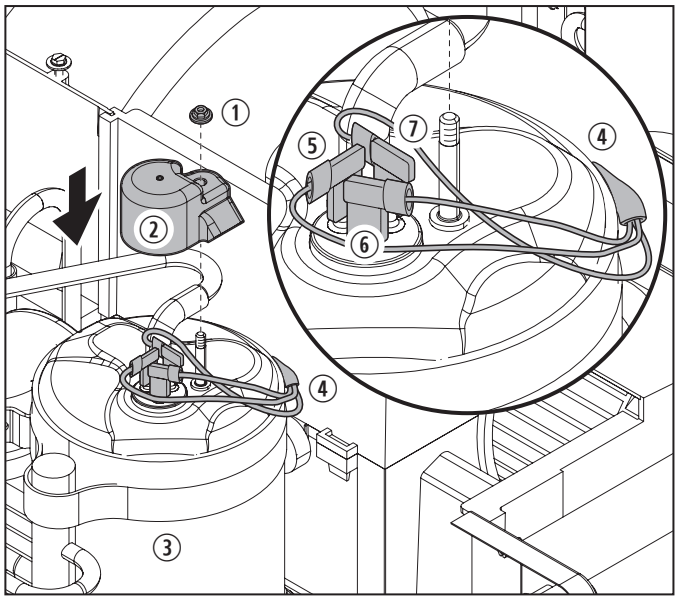


41 Connecting the supply wire harness

① Supply wire harness
② Blue supply wire
③ Condenser coil
④ Red supply wire to HERM terminal
⑤ White supply wire to COM terminal
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 ties. Ensure that the factory wires cannot move or damage the condenser coil.

8.2.5 Connecting the compressor wire harness



42 Connecting the compressor wire harness

① Compressor cap nut and washer
② Compressor cap
③ Compressor
④ Compressor wire harness
⑤ Blue compressor wire
⑥ White compressor wire
⑦ Red compressor wire

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

   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

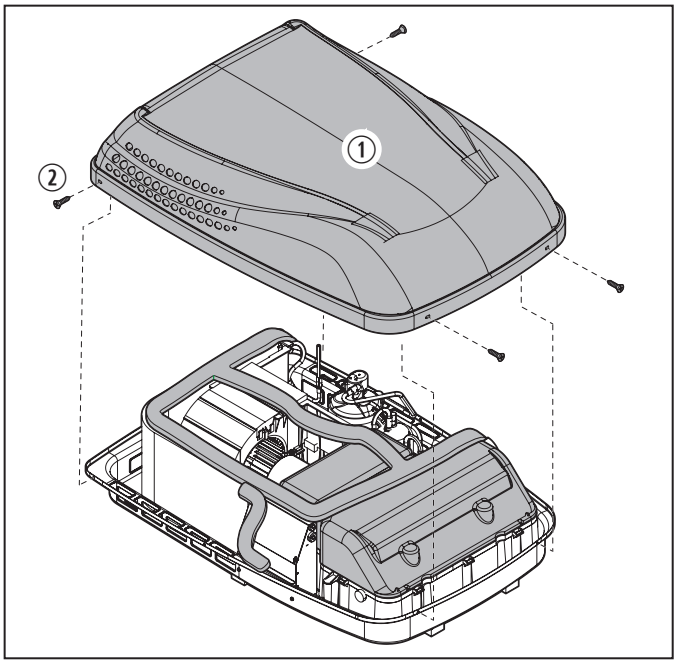
1. Replace the reserved gasket putty to seal the holes where the wire harness passes in and out of the housing wall:
   a. Split and roll the putty into two equal-size balls.
   b. Press one gasket putty ball into the hole where the wire harness passes through the housing wall.
   c. Press the other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

   The gasket putty seal keeps outside air, dirt, bugs, and other contaminants from entering directly into the RV air ducts.
2. Replace the electrical box cover on the electrical box.
3. Using the 5/16 in. deep well nut driver, insert and tighten the two electrical box cover screws until snug.
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 - Penguin II (Mechanical)

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.

8.3.1 Removing the covers

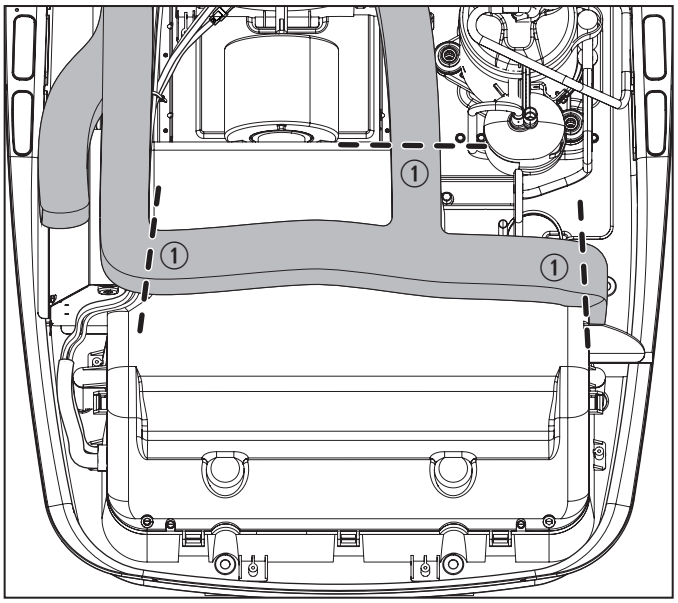


43 Removing the shroud cover

① AC shroud ② AC shroud screws

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

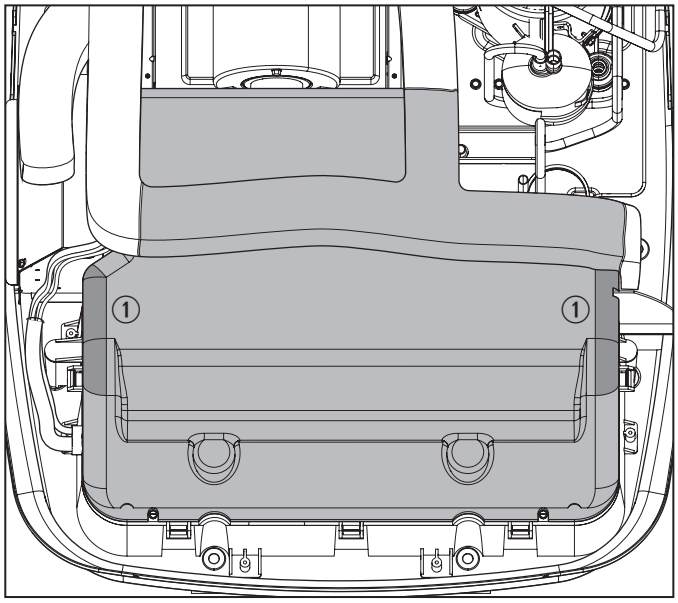
   Turn the AC shroud upside down to store the screws and other small parts removed during the installation process.



44 Removing the gasket foam

① Gray gasket foam cut points

2. Using the utility knife, cut through the gray gasket foam at the cut points. See Figure 44.

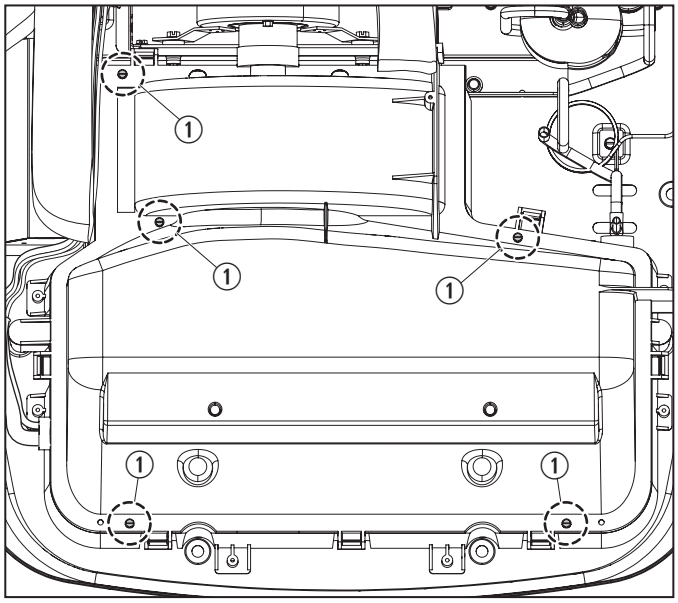


45 Removing the foam shroud

① Shroud grip points

3. Grip the foam shroud on both sides at the grip points and remove it upwards from the AC.

Failure to grip on both sides during removal may result in the foam shroud breaking which will compromise its insulating performance.

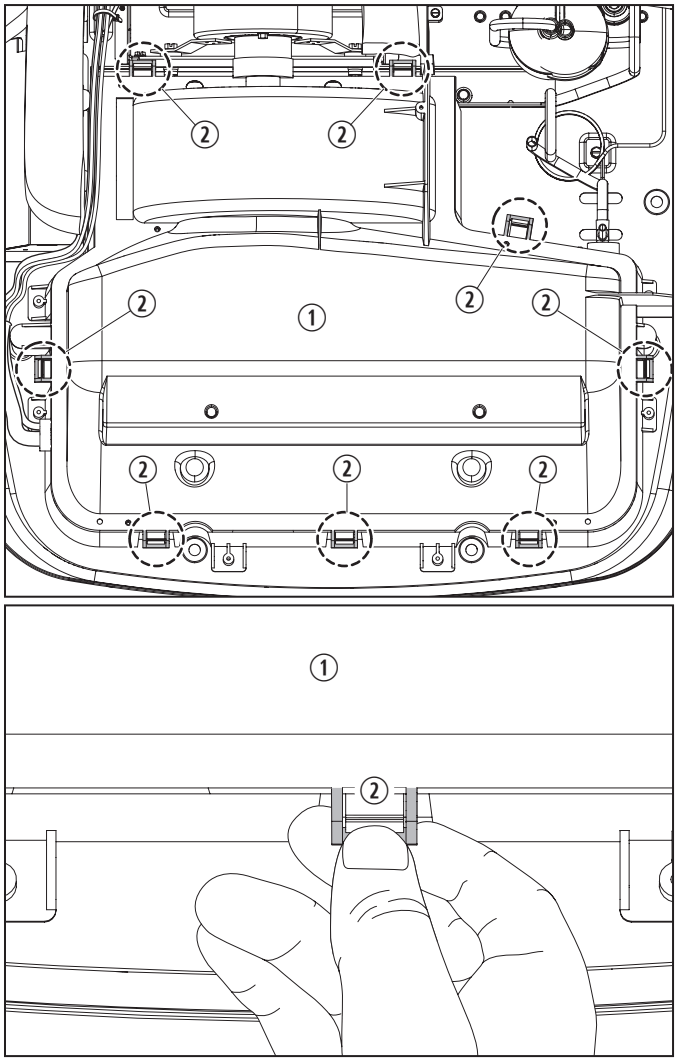


46 Removing the evaporator cover screws

① Evaporator cover screws

4. Using the 1/4 in. socket driver with a 6 in. extension, remove the evaporator shroud screws.

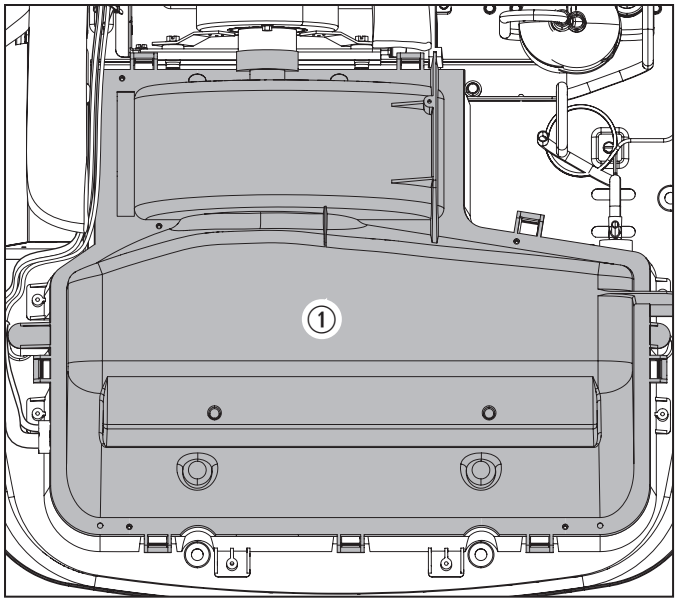
Retain the screws for reinstallation.



47 Releasing the evaporator cover tabs

① Evaporator cover ② Tabs

5. Release the tabs securing the top of the evaporator cover to the bottom.
   a. Position your finger under the tab.
   b. Push in on the tab with your thumb.
   c. Pull up on the evaporator cover with your finger while pushing with your thumb.

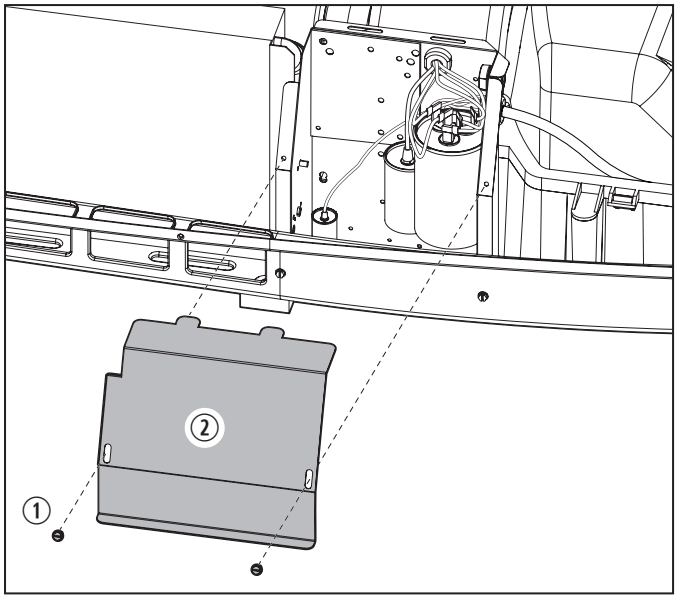


48 Removing the evaporator cover

① Evaporator shroud

6. Pull up on the evaporator cover to remove it.

Some force may be required to remove the evaporator cover as there is gasket putty in two places that will provide resistance. If the evaporator cover will not move at all, verify that all tabs have been released.



49 Removing the electrical box cover

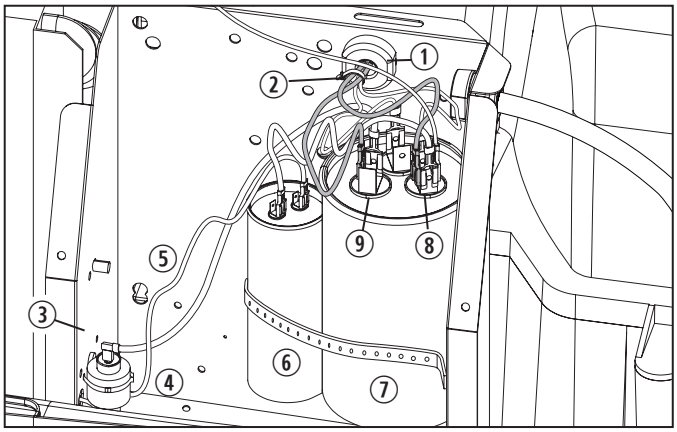
① Electrical box cover screws

② Electrical box cover

7. Using the 5/16 in. deep well nut driver, locate and remove the two screws from the front of the electrical box.

8.3.2 Disconnecting the compressor wiring harness

WARNING: Electric shock hazard.
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 installation activity. Failure to obey this warning could result in death or serious injury.



50 Disconnecting the compressor wires from the capacitor

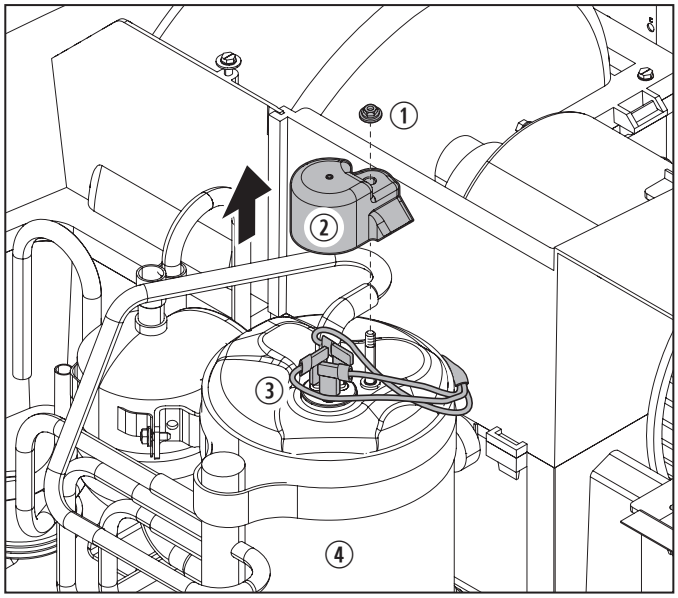
① Strain relief
② Wire tie
③ Motor starter
④ Holding clamp
⑤ Motor starter capacitor wires
⑥ Motor starter capacitor
⑦ Capacitor
⑧ White booted compressor wire
⑨ Red compressor wire

1. Using a multimeter, confirm that the capacitor is fully discharged.
2. Using the needle nose pliers, disconnect the red compressor wire from the capacitor.
3. Using the needle nose pliers, disconnect the white compressor wire from the capacitor.
4. Using the needle nose pliers, squeeze the strain relief to pull it toward the capacitor.
5. Open the strain relief in the back of the enclosure and remove the red and white wires, pulling them out of the enclosure through the hole.

6. Trace the red motor starter wire to the capacitor and disconnect it from the capacitor.
7. Trace the white, disconnected motor starter capacitor wire to the capacitor and disconnect it from the capacitor.

   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.

8. If the motor starter comes out of its holding clamp, return it to the holding clamp.
9. Using a 6 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.

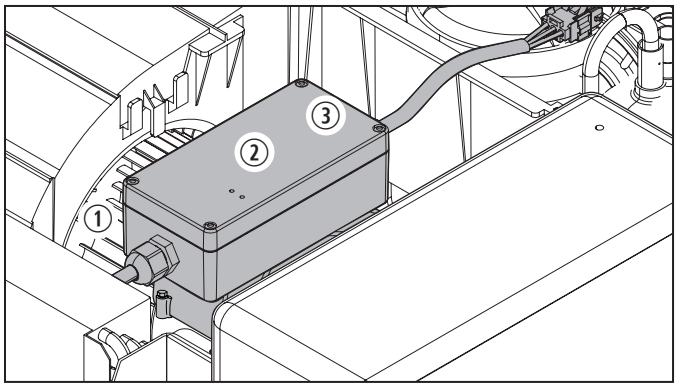


51 Disconnecting the compressor wires from the compressor

① Compressor cap nut and washer
② Compressor cap
③ White, red, and blue compressor wires
④ Compressor

10. 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.
11. Using the needle nose pliers, disconnect the white, red, and blue compressor wires from the top of the compressor.
12. Using a 6 in. (152 mm) 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.

8.3.3 Mounting the device



52 Mounting the device and mounting bracket assembled

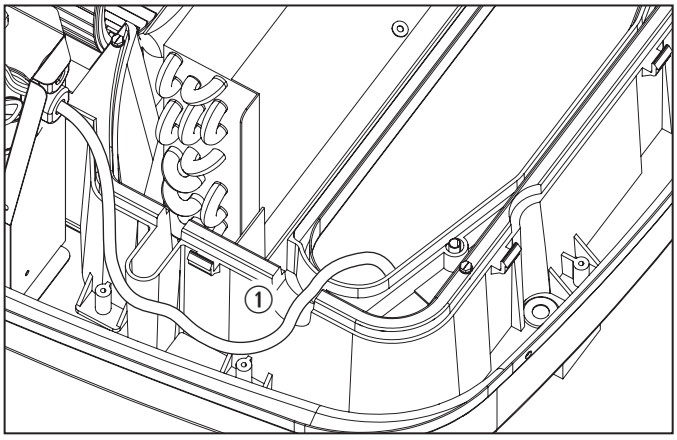
① Fan motor
② Device
③ Device - compressor side

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.

   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 Nm).

8.3.4 Connecting the supply wire harness

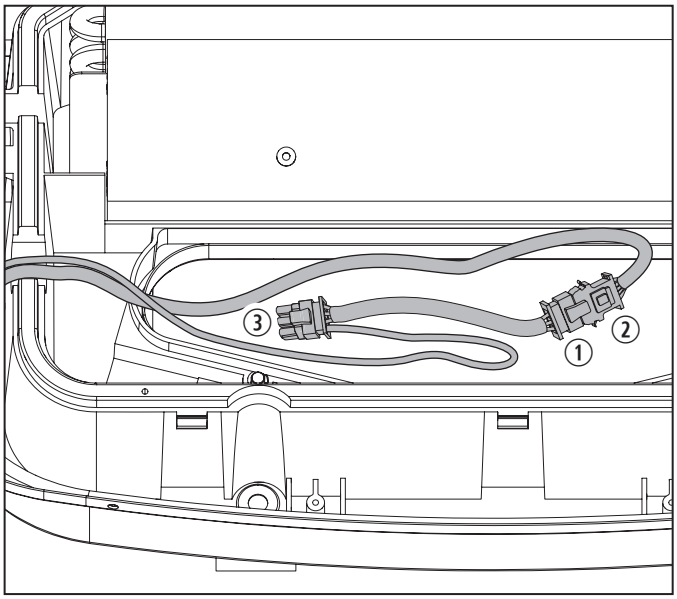


53 Removing the gasket putty

① Gasket putty location, removed

1. Remove the gasket putty and set it side.

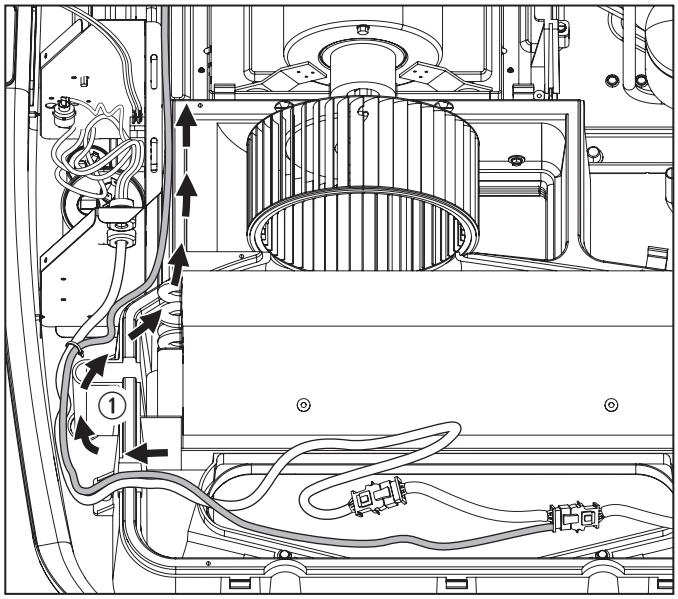
Take care to keep the gasket putty clean and free of debris so it can be reinstalled.



54 Connecting the supply harness to the AC pigtail

① Female connector
② Male connector
③ 6-pin connector

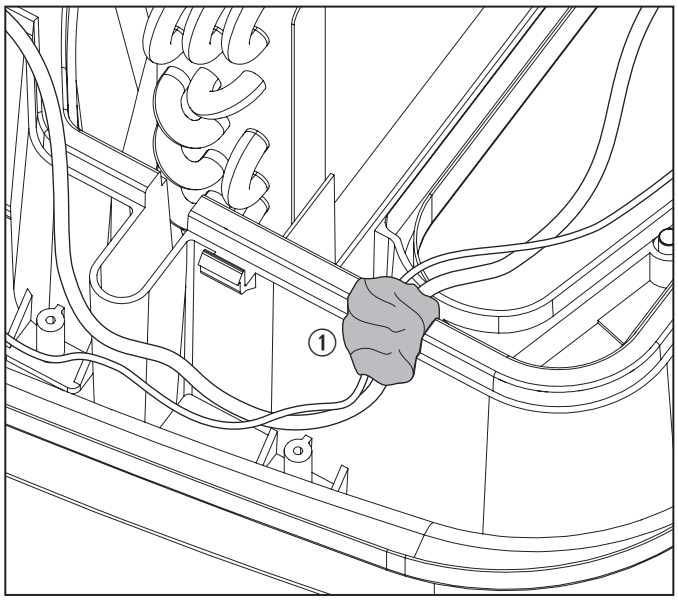
2. Unplug the 6-pin connector from the AC ADB.
3. Plug the 6-pin connector into the supply harness female connector.
4. Plug the supply harness male connector into the ADB.



55 Routing the blue wire

① Blue wire route

5. Route the supply harness blue wire along the identified route.

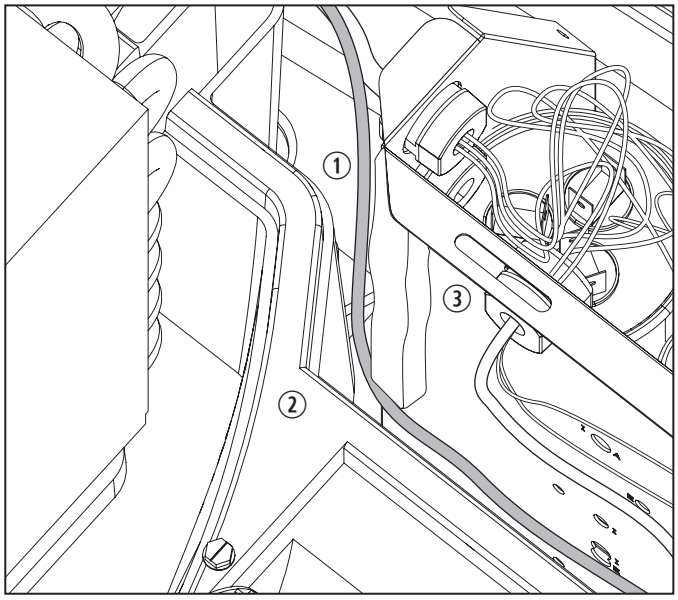


56 Reinstalling the gasket putty

① Gasket putty

6. Reinstall the gasket putty to secure the blue wire.

Take care to ensure the gasket putty adheres well and fills all gaps. Failure to ensure a good seal can result in poor AC performance and allow bugs, dirt, and other contaminants into the RV ductwork.



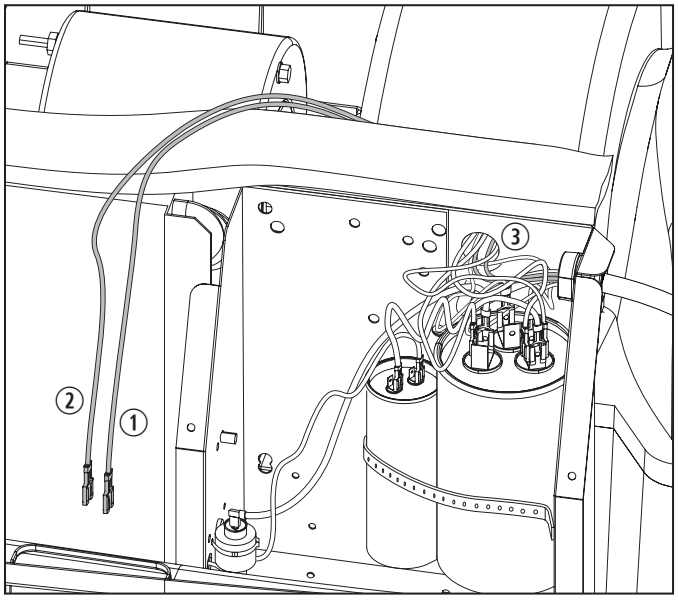
57 Routing the blue wire continued

① Blue wire ③ Electrical enclosure

② Evaporator housing

7. Tuck the blue wire down as far as you canbetween the electrical enclosure and the black plastic evaporator housing.

Take care not to scrape the wire against the edges of the electrical enclosure.



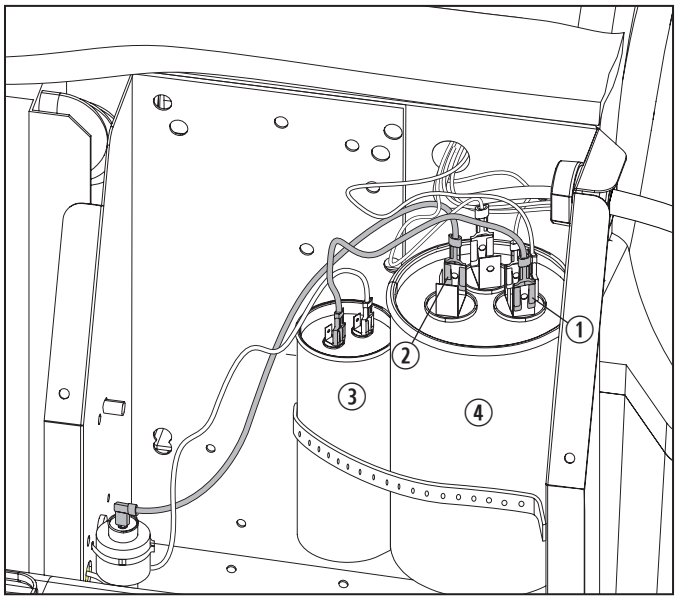
58 Pulling the compressor wires

① Red wire ③ Strain relief hole

② White wire

8. Pull the red and white compressor wires out of the electrical enclosure through the strain relief hole. Position them out of the way of continued work connecting the supply harness.

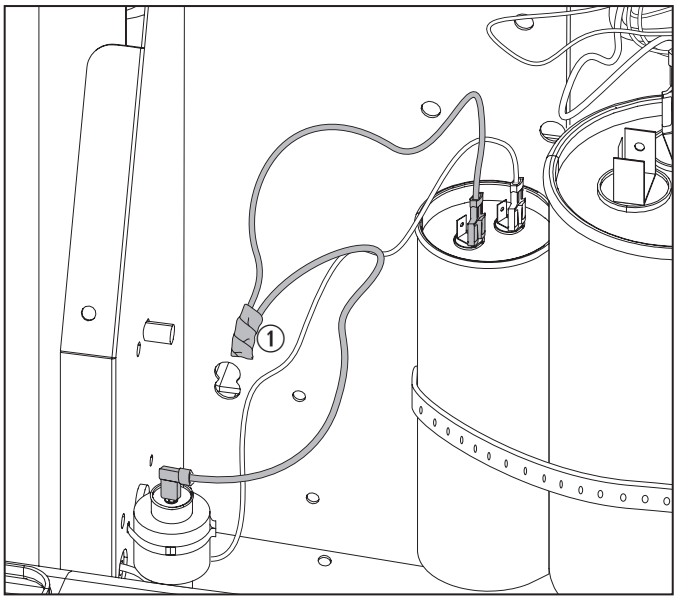
Take care while pulling the wires to not strip the wire insullation off on the sharp edges of the strain relief hole.



59 Disconnecting the start capacitor

① White wire
② Start capacitor
③ Red wire
④ Run capacitor

9. Trace the white wire from the start capacitor, then disconnect it.
10. Disconnect the red wire from the run capacitor.

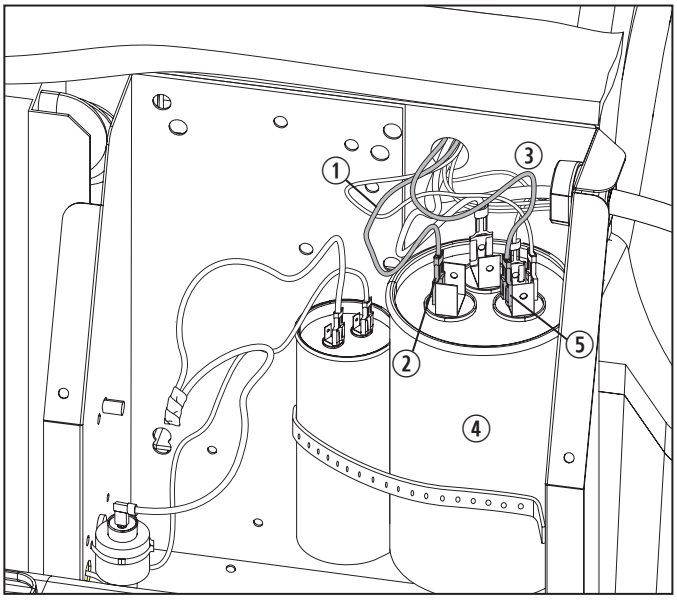


60 Taping the wires

① Taped wires

11. Use a 6 in. (152 mm) piece of electrical tape to secure the disconnected wires together, then tuck the taped wires into the corner of the electrical enclosure.

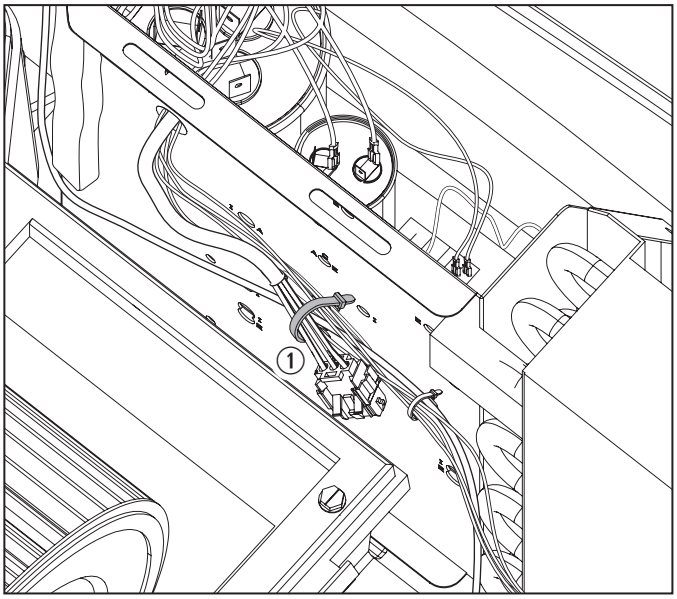
Be sure the metal connectors are completely covered by the electrical tape.



61 Connecting the wires to the run capacitor

① Red wire
② HERM terminal
③ White wire
④ Run capacitor
⑤ COM terminal

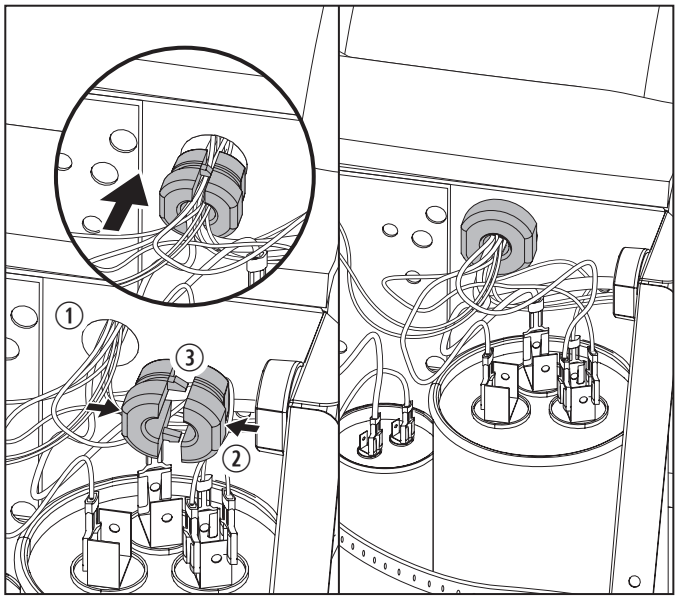
12. Pull the red and white supply harness wires through the hole in the back of the electrical enclosure.
13. Connect the red wire to the HERM terminal on the run capacitor.
14. Connect the white wire to the COM terminal on the run capacitor.



62 Securing the wires

① Zip tie

15. Pull all excess red and white supply harness wire into the electrical enclosure until the supply harness is 4-6 in. (101-152 mm) from the hole.
16. Use a zip tie to secure the supply harness to the factory compressor wires outside the electrical enclosure.



63 Reinstalling strain relief

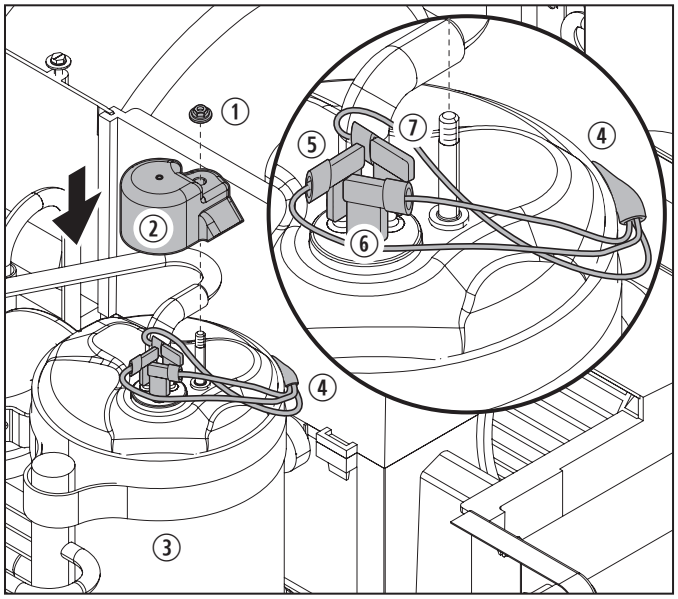
① Strain relief hole
② Strain relief
③ Tab

17. Gather the wires coming through the strain relief hole into the strain relief.

Be sure the tab tucks into the strain relief.

18. Reinstall the strain relief into the strain relief hole in the electrical enclosure.

8.3.5 Connecting the compressor wire harness



64 Connecting the compressor wire harness

① Compressor cap nut and washer
② Compressor cap
③ Compressor
④ Compressor wire harness
⑤ Blue compressor wire
⑥ White compressor wire
⑦ Red compressor wire

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

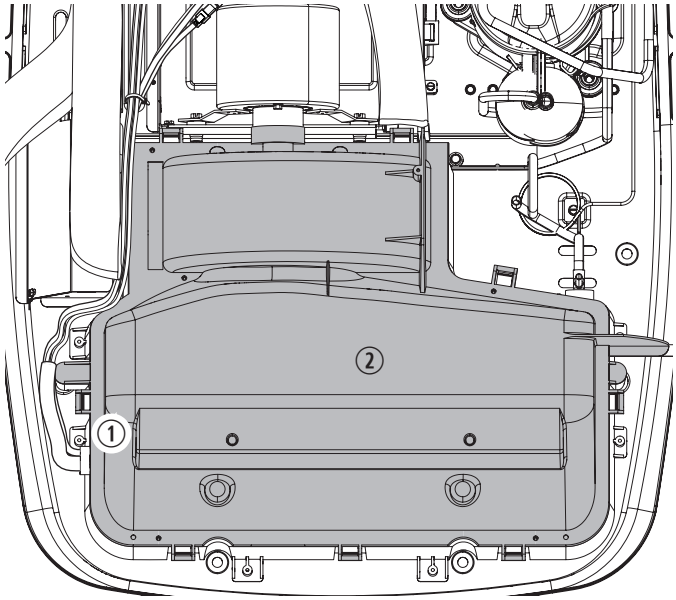
The red wire **must** fold back on itself to route properly.

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 the wire tie(s).

8.3.6 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.
   d. Thoroughly spread and press the putty into the opening to ensure a quality seal.

   Be sure the gasket putty is reinstalled in the locations it was removed from. The gasket putty seal prevents outside air, dirt, bugs, and other contaminants from entering directly into the RV air ducts.

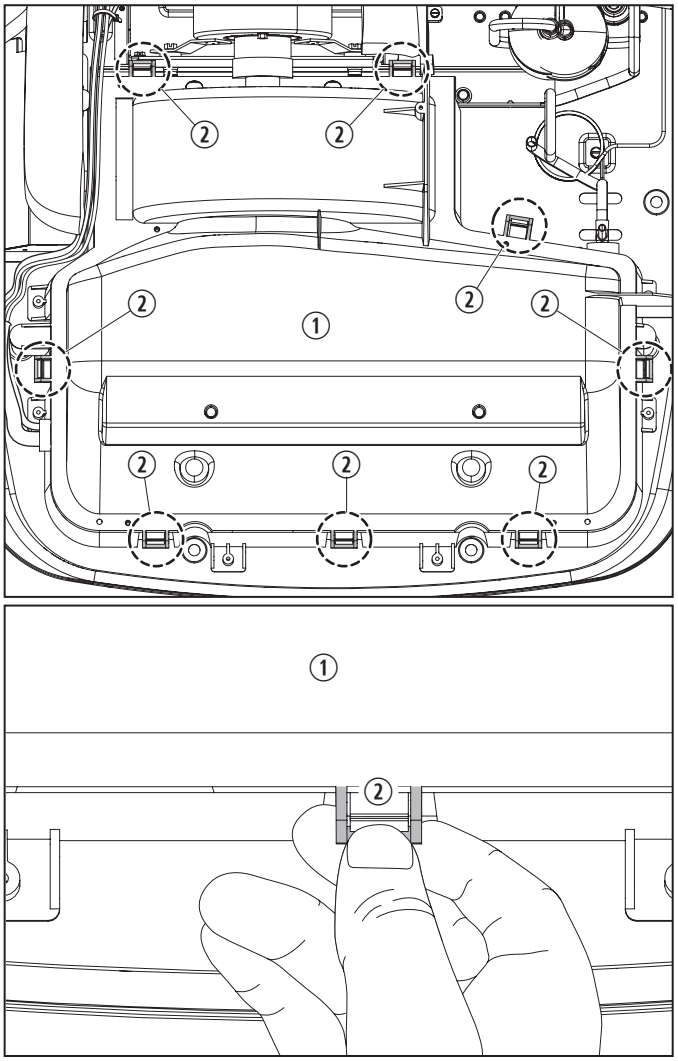


65 Reinstalling the evaporator shroud

① Potential pinch location ② Evaporator cover

2. Reinstall the evaporator shroud. Ensure the shroud lines up correctly with the bottom half of the evaporator cover base.

   Take care that the blue supply harness wire is **not** pinched under the evaporator shroud.

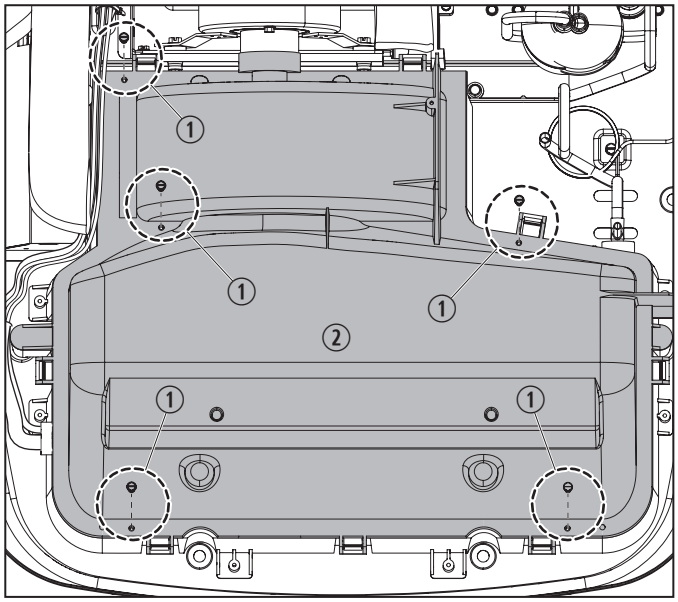


66 Reinstalling the evaporator shroud

① Evaporator shroud ② Tabs

3. Press down on the evaporator shroud at the tab locations until you hear a click indicating the tab is secure.

   Do **not** push down on the tab.

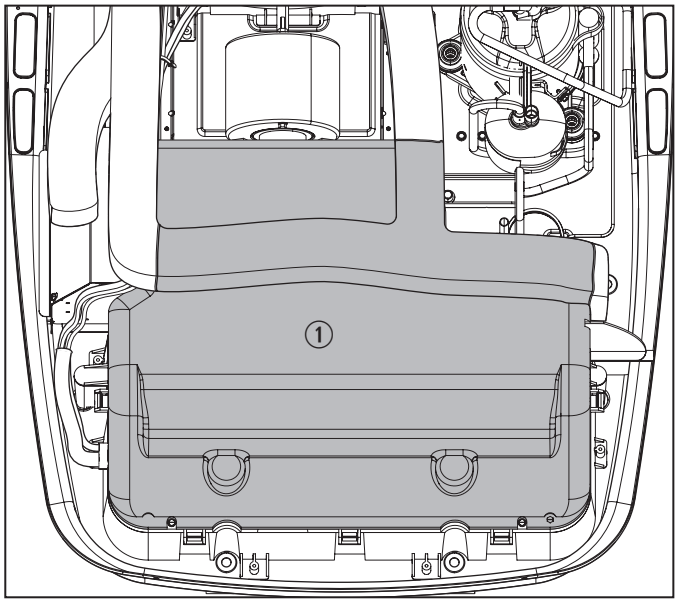


67 Reinstalling the evaporator shroud

① Potential pinch location ② Evaporator shroud

4. Using the 1/4 in. socket with a 6 in. extension, reinstall the screws.
5. Tighten the screws until snug.

Take care to not overtighten the screws and strip the screw bosses.



68 Reinstalling the foam shroud

① Foam shroud

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

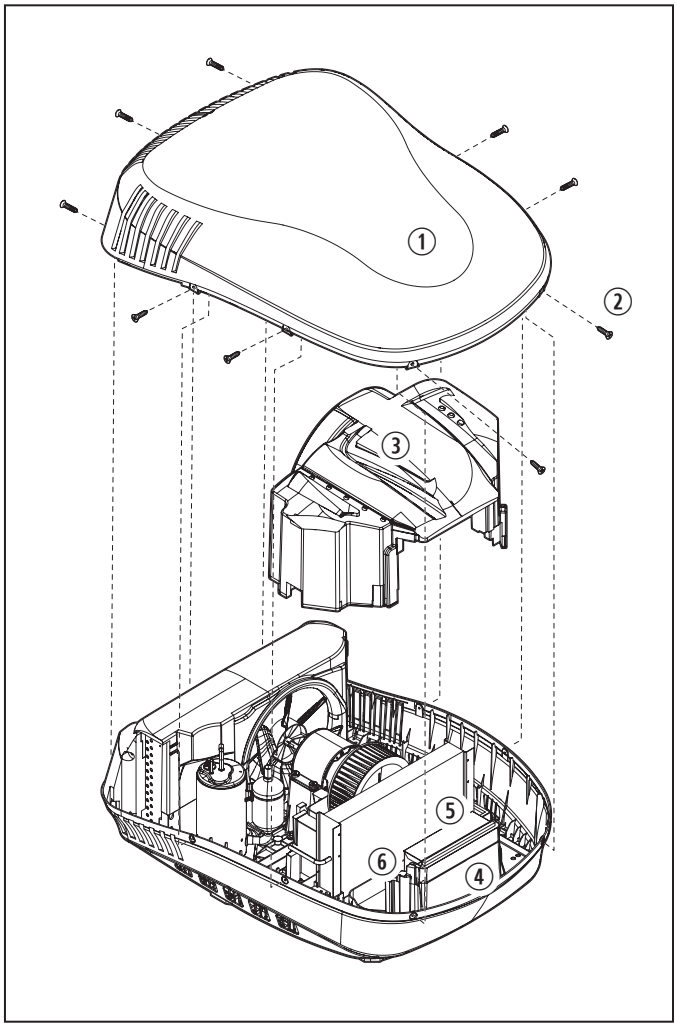
8.4 Installing the device -Blizzard NXT

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.

8.4.1 Removing the covers

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



69 Removing the covers and foam

① AC shroud
② AC shroud screws
③ Foam shroud
④ Electrical box foam
⑤ Electrical box cover
⑥ Electrical box cover screws

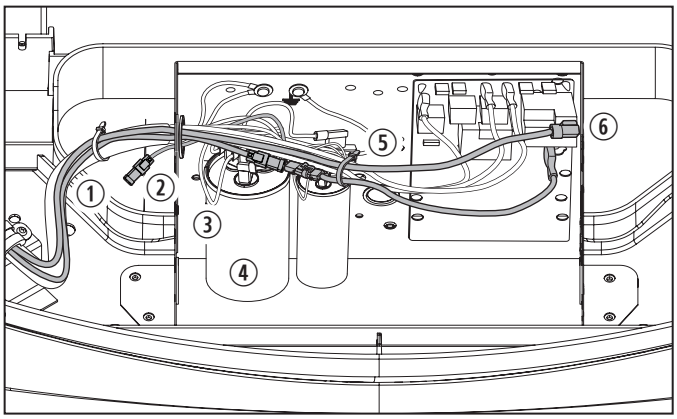
1. Using the #2 Phillips screwdriver, remove the nine AC shroud screws and the AC shroud.

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

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

8.4.2 Disconnecting the compressor wires

WARNING: Electric shock hazard.
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 installation activity. Failure to obey this warning could result in death or serious injury.

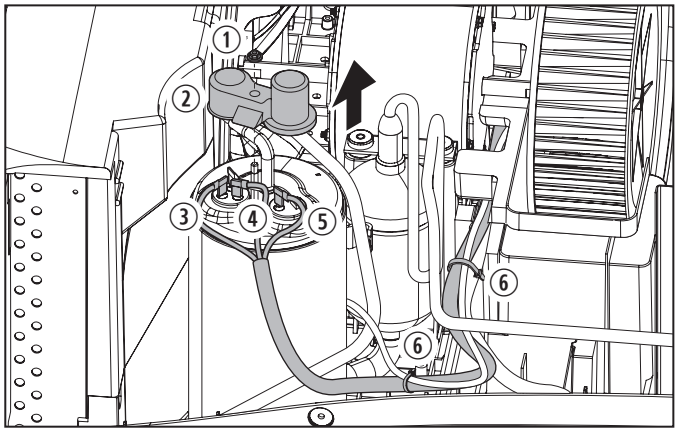


70 Disconnecting the compressor wires from the capacitor

① Compressor wire harness
② Red compressor wire
③ White compressor wire
④ Capacitor
⑤ Wire tie
⑥ Blue compressor wire

1. Using a multimeter, confirm that the capacitor is fully discharged.
2. Using the needle nose pliers, remove the blue wire from the relay block inside the electrical box.
3. 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.
4. Remove the white compressor wire from the piggy-back connector.

5. Reconnect the piggy-back connector to its original terminal location.



71 Disconnecting the compressor wires from the compressor

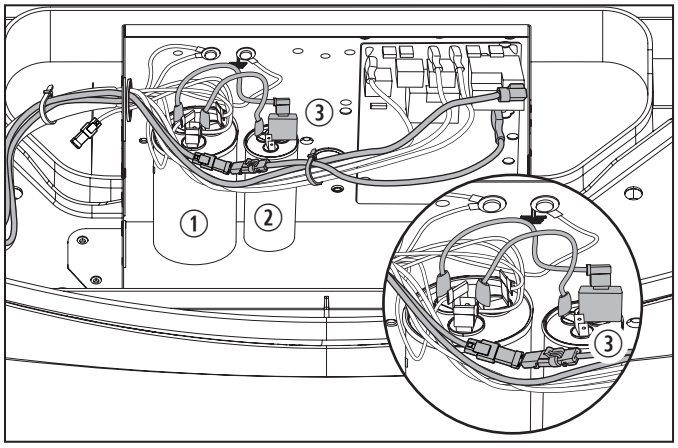
① Compressor cap nut and washer
② Compressor cap
③ White compressor wire
④ Red compressor wire
⑤ Blue compressor wire
⑥ Wire ties

6. Using the 5/16 in. deep well nut driver, locate and remove the compressor cap nut and washer.
7. Remove the compressor cap from the top of the compressor.

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

8. Using the needle nose pliers, disconnect the white, red, and blue compressor wires from the compressor.
9. 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.

8.4.3 Disconnecting the motor starter capacitor

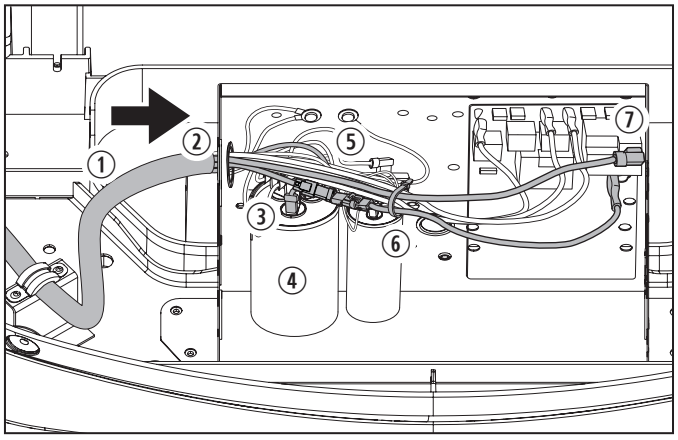


72 Disconnecting the motor starter

① Capacitor
② Motor starter capacitor
③ Motor starter

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.

8.4.4 Connecting the new supply wire harness



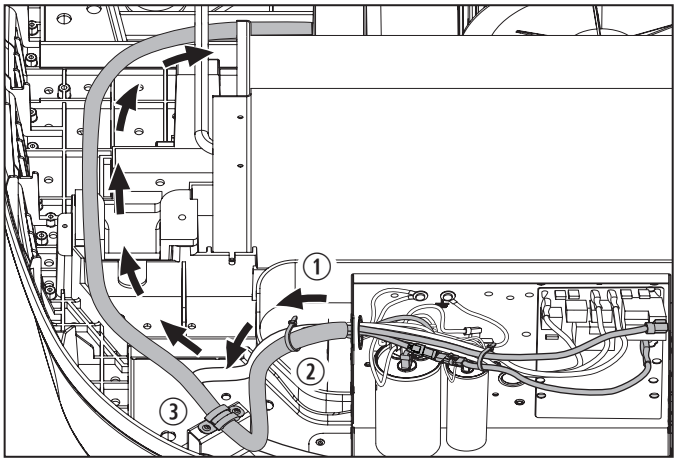
73 Connecting the wires

① Supply wire harness
② Cable jacket
③ Red supply wire
④ Capacitor
⑤ White supply wire
⑥ Wire tie
⑦ Blue supply wire

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.

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

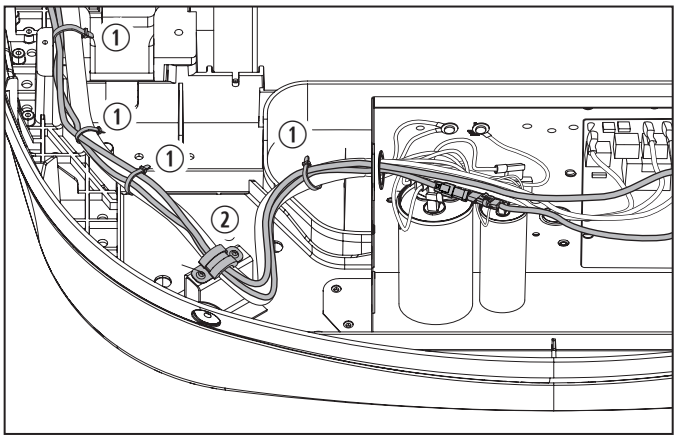
5. Connect the white supply wire to the open COM terminal on the capacitor.
6. Gather and secure all the wires inside the electrical box with a wire tie.



74 Routing the supply wire harness

① Supply wire harness path
② New wire tie
③ Strain relief

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.



75 Securing the supply wire harness with new wire ties

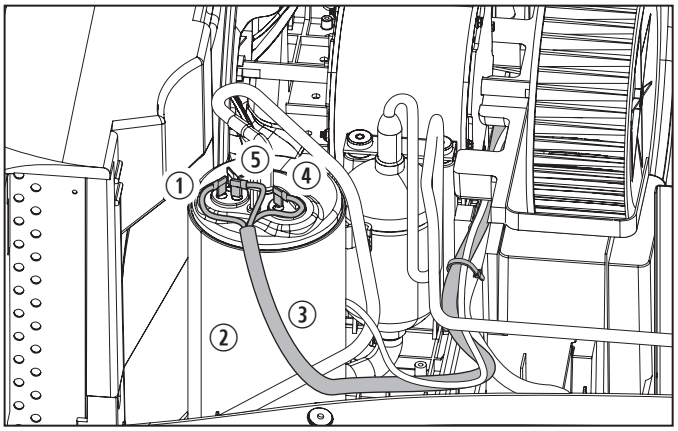
① New wire tie locations
② Strain relief

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.

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

8.4.5 Connecting the new compressor wire harness

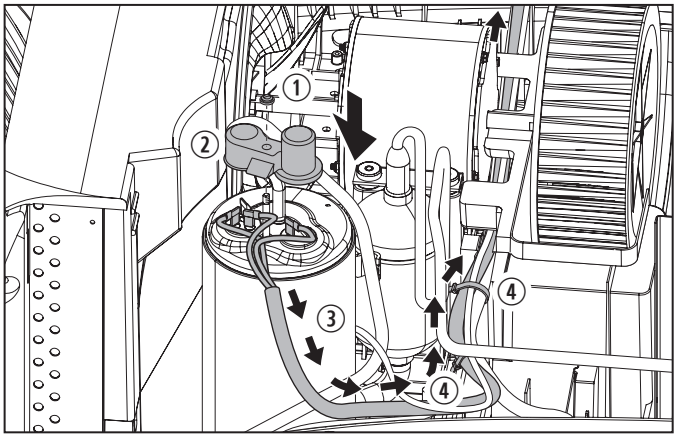
NOTICE: When routing the compressor wire harness, the compressor wire harness should route under the foam. Failure to follow this notice could cause the fan motor shaft to damage the compressor wire harness.



76 Connecting the compressor wire harness

① White compressor wire terminal R(U)
② Compressor
③ Compressor wire harness
④ Blue compressor wire
⑤ Red compressor wire terminal S(V)

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

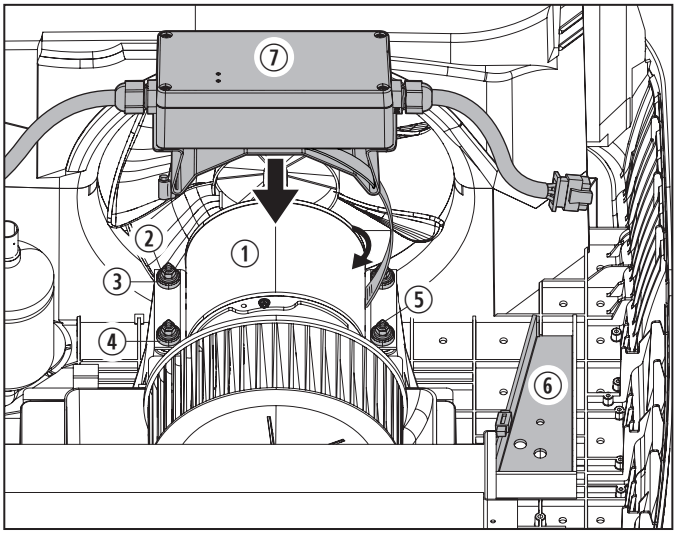


77 Routing the compressor wire harness

① Compressor cap nut and washer
② Compressor cap
③ Compressor wire harness path
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.

8.4.6 Mounting the device



78 Placing the device on the fan motor

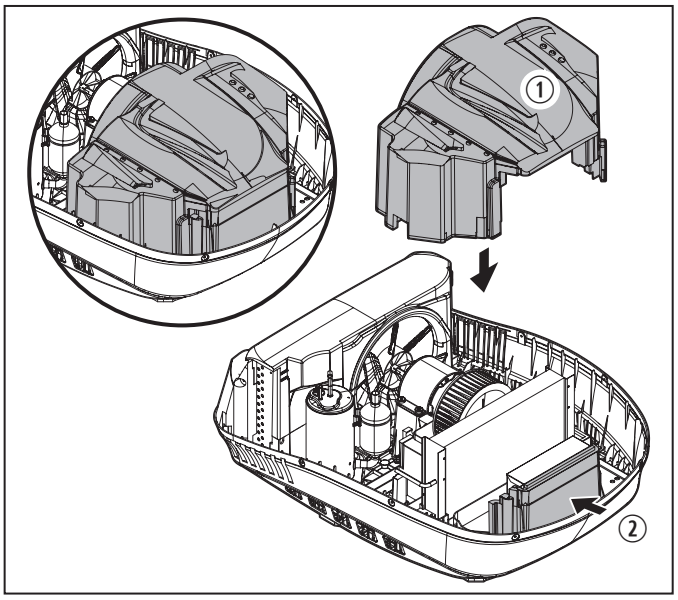
① Fan motor
② Fan motor nuts
③ Fan motor washers
④ Fan motor grommets
⑤ Fan motor studs
⑥ Base pan frame
⑦ Device

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.

   If the mounting bracket moved during the previous step, reposition the mounting bracket in the gap.

7. Using the 1/4-4 in. flat-head 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.

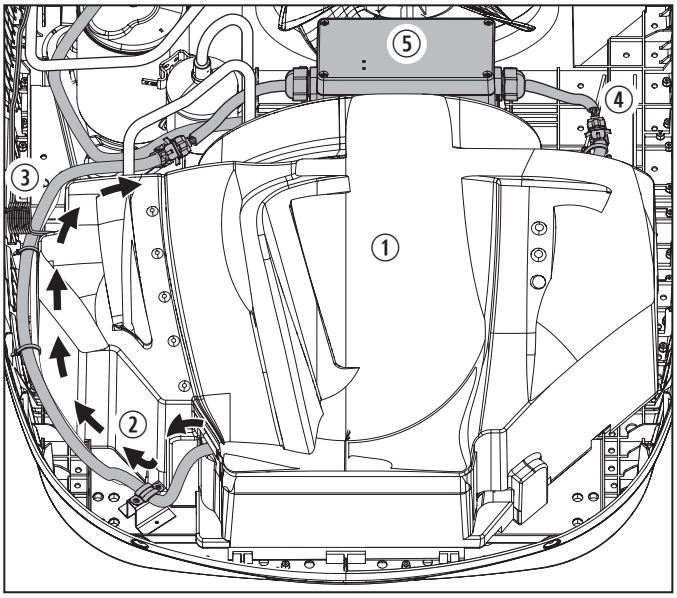


79 Replacing the foam shroud

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.

8.4.7 Connecting the harnesses to the device



80 Connecting the harnesses to the device

① Foam shroud
② Supply wire harness path
③ Capillary tube coil
④ Compressor harness connector
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.

8.4.8 Replacing the AC shroud

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

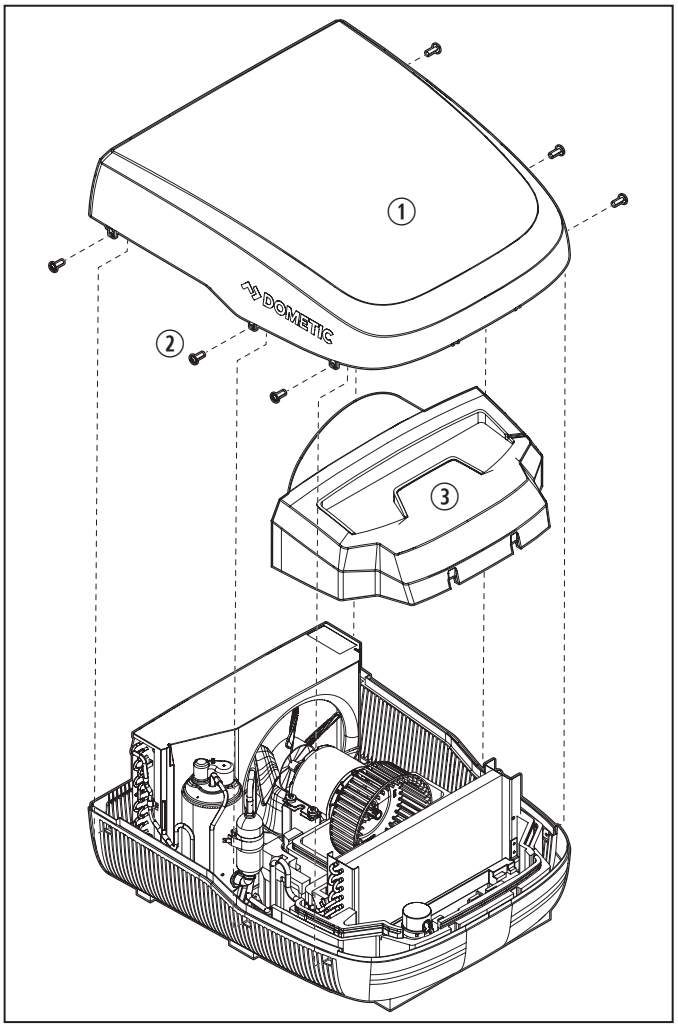
8.5 Installing the device - FreshJet 3 Series Mechanical

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.

8.5.1 Removing the covers

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



81 Removing the shroud

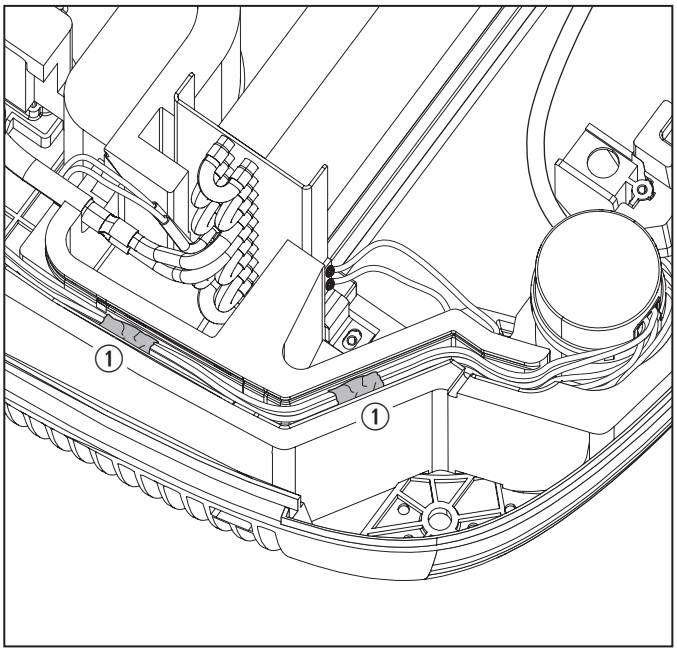
① AC shroud
② AC shroud screws
③ EPP foam

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

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

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

8.5.2 Removing the putty



82 Putty location and placement

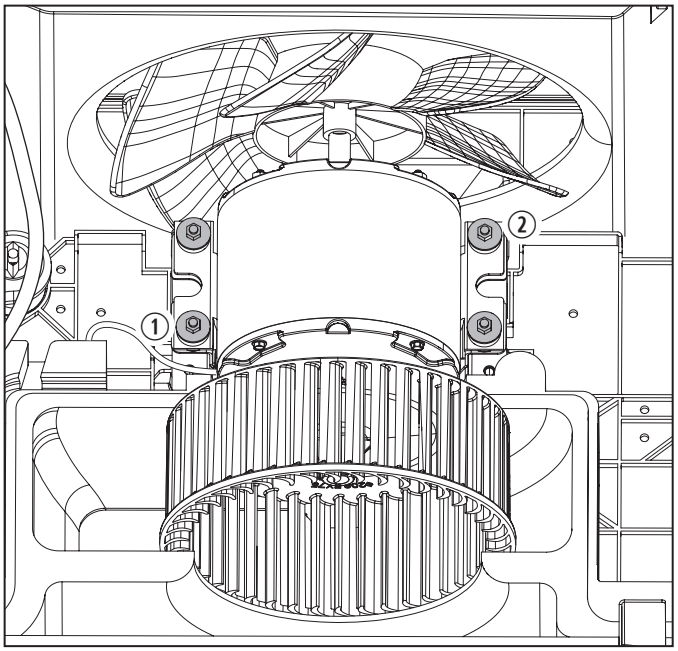
① Putty

1. Remove the putty securing the wiring in the EPP foam wire channel.

   Retain the putty as it will be used to re-secure the wiring later in the installation process.

2. Place the putty on the unit to keep it free of debris.

8.5.3 Removing the nuts and washers



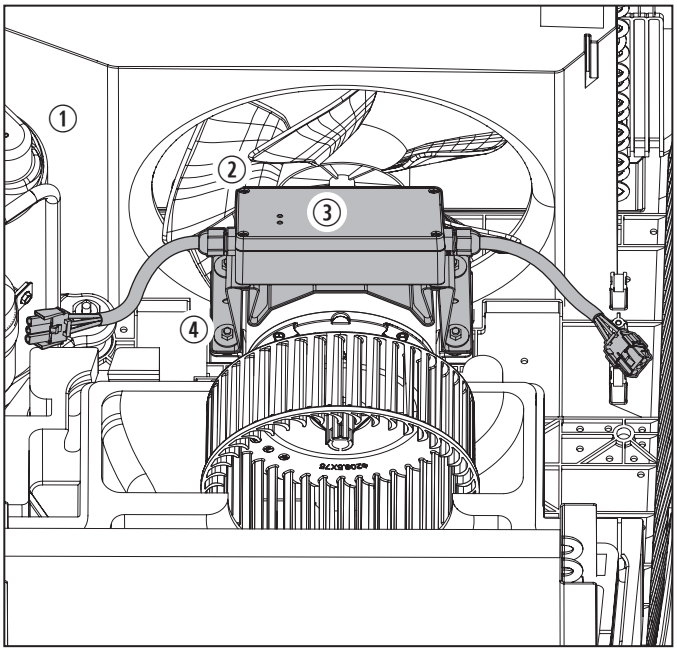
83 Mounting nuts

① Mounting nut ② Washer

1. Remove the mounting nuts mounting the fan motor to the motor mount.
2. Remove the washers from the mounting studs and discard or recycle.

Do **not** use sharp objects to remove as it can damage the bushing/grommet.

8.5.4 Placing the device



84 Device placed on mounting studs

① Compressor ③ LEDs on device
② Condenser fan ④ Mounting nut

1. Place the supply side of the device towards the compressor.

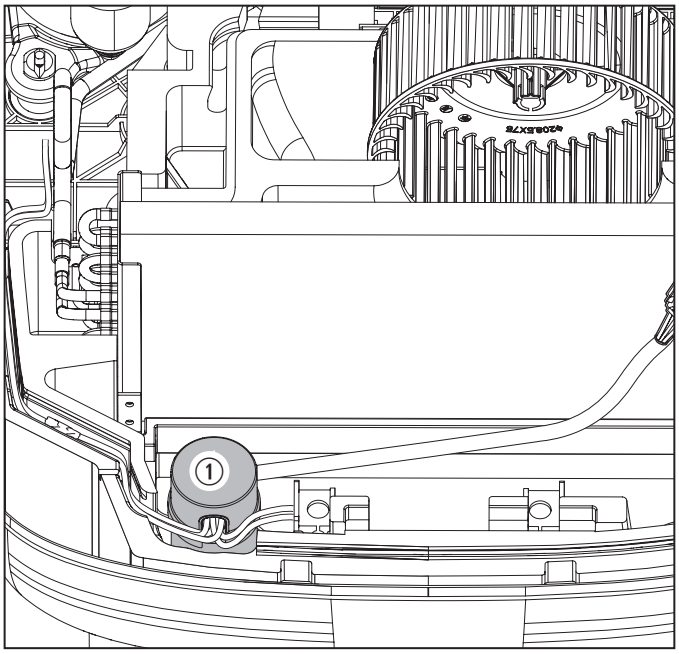
The two LEDs visible on the outside cover of the device are located on the supply side of the device.

2. Place the device onto the motor mounting studs.

Ensure that the device shifts away from the condenser fan blade.

3. Reinstall the mounting nuts and tighten until snug.

8.5.5 Locate the capacitor

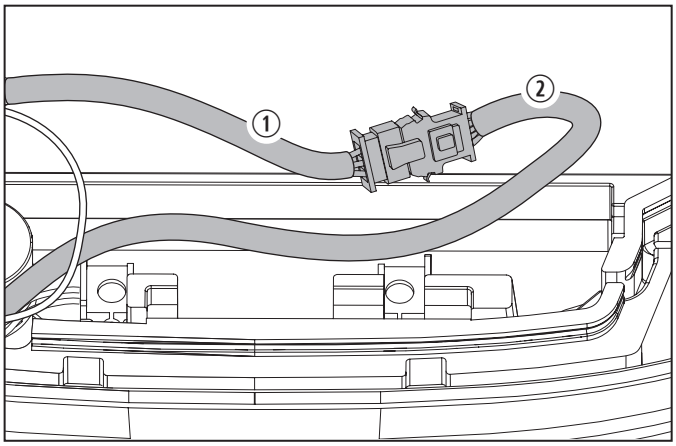


85 Capacitor location

① Capacitor

1. Locate the capacitor.
2. Remove the lid.

8.5.6 Attaching the AC pigtail



86 Supply harness and AC pigtail

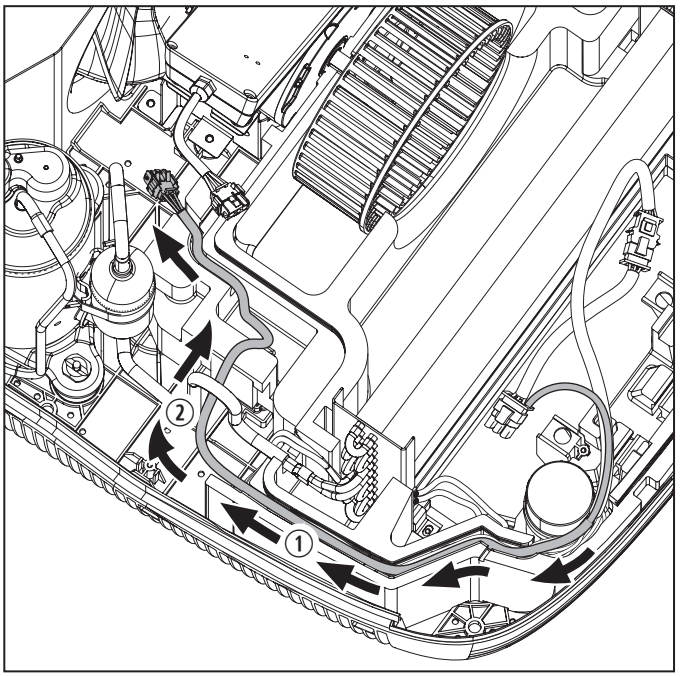
① Supply harness ② AC pigtail

1. Retrieve the supply harness from the installation kit.

   The supply harness can be identified by the two 6-pin connectors.

2. Attach the AC pigtail to the female 6-pin connector of the supply harness. If the AC pigtail is already connected to the ADB switch box follow step 3.
3. Carefully unplug the AC pigtail by squeezing the tabs on the top and bottom of the connector housing.

8.5.7 Routing the supply harness



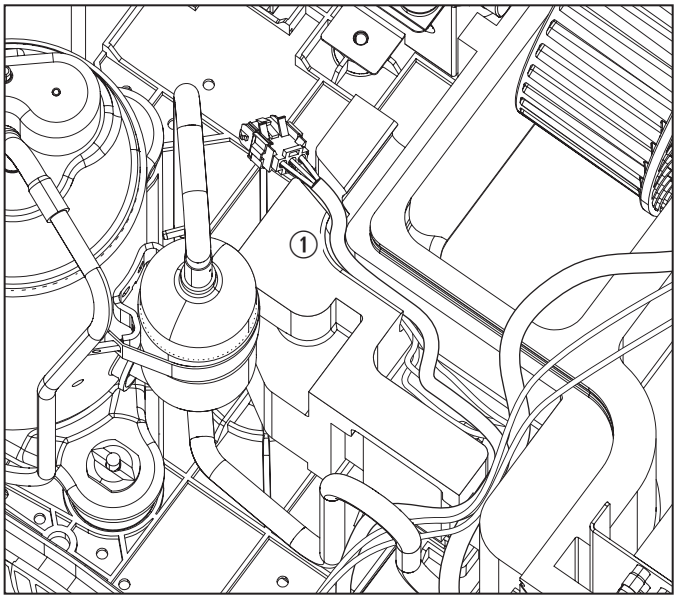
87 Supply harness path

① Pathway ② Copper tubing

Route the supply harness following the path making sure the harness goes under/through the large copper tubing.

Do **not** route the harness around the tubing.

8.5.8 Placing the connector and routing the harness

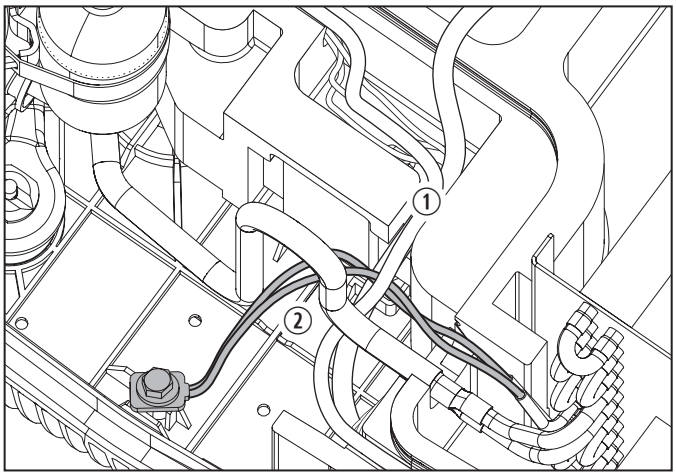


88 3-pin connector with routing harness

① Wire channel

1. Place the 3-pin connector of the supply harness at the mouth of the wire channel.
2. Route the wiring into the wire channel ensuring that it is fully seated in the channel.

Wire that is not fully seated can interfere with the EPP foam shroud resulting in an improper seal.



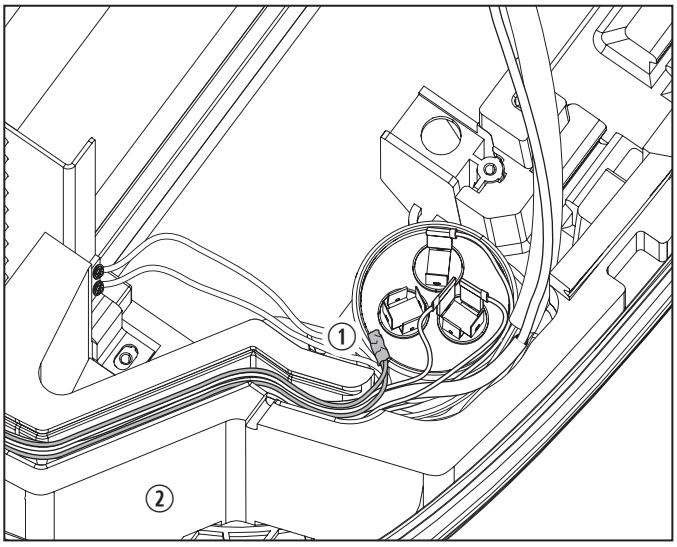
89 Routing the path

① Red and white wire ② Capillary tube

3. If necessary, route the red and white wire through the capillary tube taking care not to damage the tubing.

8.5.9 Attaching the harness wires

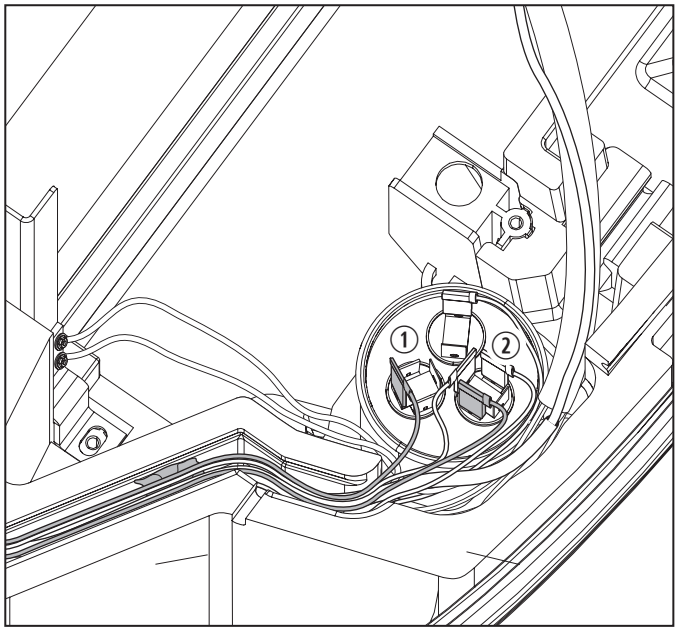
WARNING: Electric shock hazard.
There is a risk of electrical shock from the energy stored in the capacitors. Wait for five minutes after the shutdown of equipment before performing any installation activity. Failure to obey this warning could result in death or serious injury.



90 Removing the factory compressor wires

① Wrapped wires ② Foam shroud

1. Using a multimeter, confirm that the capacitor is fully discharged.
2. Remove the red and white factory compressor wires from the capacitor. If necessary, trace the white wire from the compressor to the capacitor to confirm which is the correct white wire.
3. Using approximately 6 in. of electrical tape, secure the wires together.
4. Tuck the wires below the EPP foam shroud next to the capacitor.

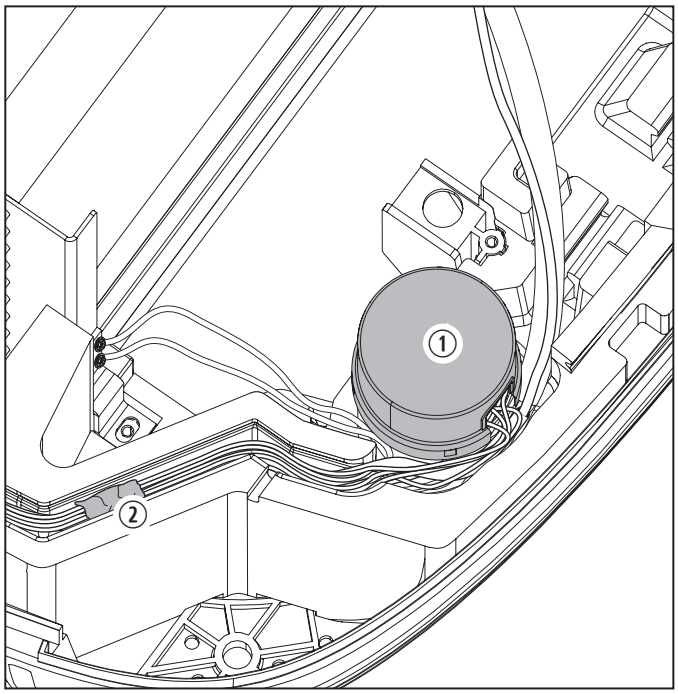


91 Attaching the device supply harness wires

① HERM terminal ② COM terminal

5. Attach the red wire to the HERM terminal.
6. Attach the white wire to the COM terminal.

8.5.10 Reattaching the capacitor lid and securing the wires



92 Lid and putty

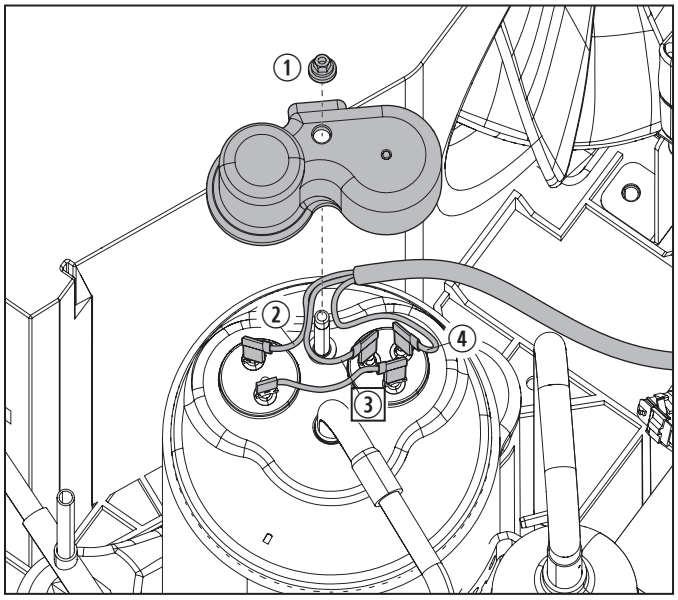
① Capacitor lid ② Putty

1. Replace the lid onto the capacitor. Ensure that all wires are routed through the opening in the lid.

   Do **not** pinch wires under lid.

2. Use the saved putty to secure all the wires into the wire channel. Putty should sit either flush or slightly below the top of the wire channel.

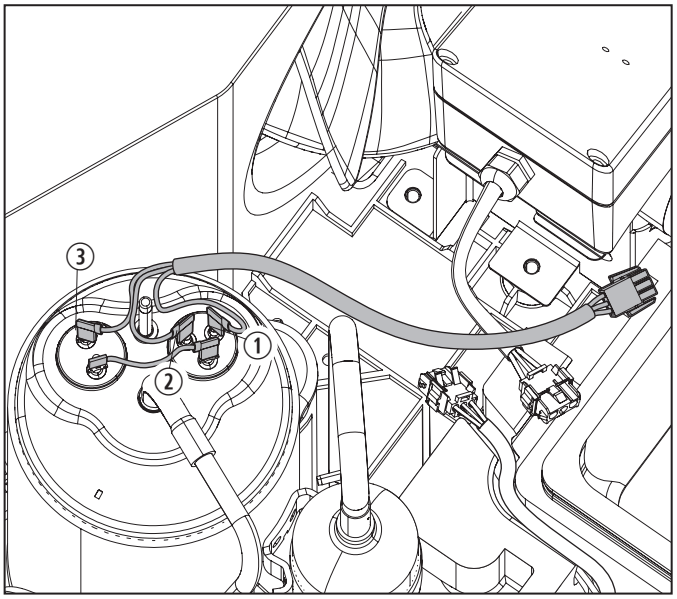
8.5.11 Removing the compressor wire cap and wires



93 Compressor cap and factory wires

① 5/16 in. nut ③ Red wire to S(V) terminal
② Blue wire ④ White wire to R(U) terminal

1. Remove the cap on the top of the compressor by removing the 5/16 in. nut from the mounting stud.
2. Remove the blue, red, and white wires from the terminals on top of the compressor.

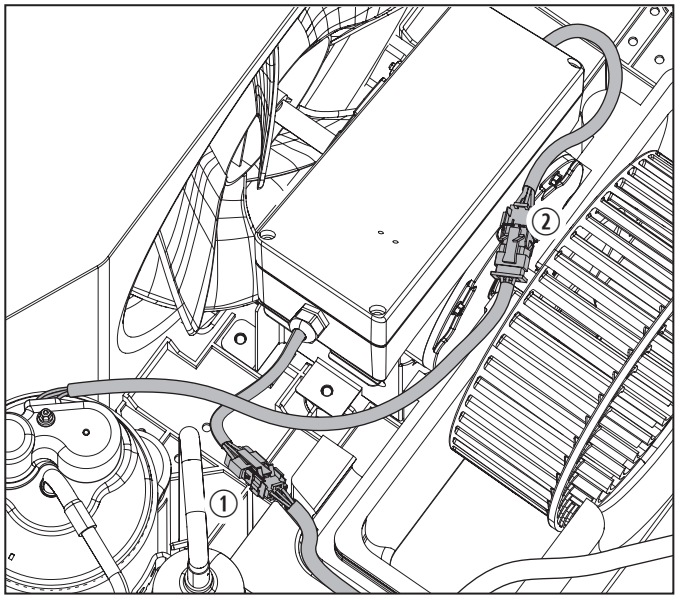


94 Compressor harness

① White wire to R (U) terminal
② Red wire to S (V) terminal
③ Blue connection

3. Retrieve the compressor wire harness from the installation kit.
4. Attach the connectors from the blue, red, and white connectors to the terminals on top of the compressor.
5. Attach the red connector to the S (V) terminal.
6. Attach the white connector to the R (U) terminal.
7. Attach the blue connector as shown.

Ensure the red wire routes around the mounting stud.



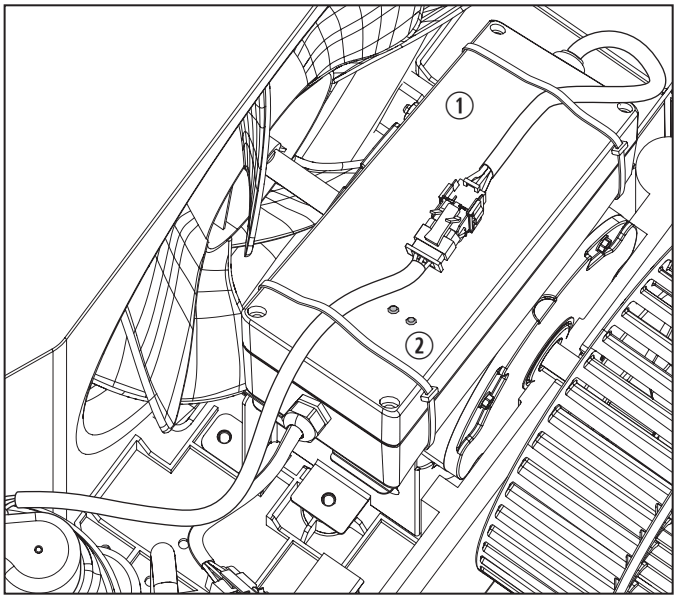
95 Supply and compressor harness connected to the device

① Supply harness connected to device
② Compressor harness connected to device

8. Connect the supply and compressor harness connectors to the device.
9. Reinstall the cap onto the compressor.
10. Place the plastic washer on the mounting stud between the cap and the nut.
11. Tighten the 5/16 in. nut until it is snug.

8.5.12 Securing the harness to device

NOTICE: Failure to route the wires correctly can result in damage to the AC condenser fan blade.



96 Compressor harness routed over the device

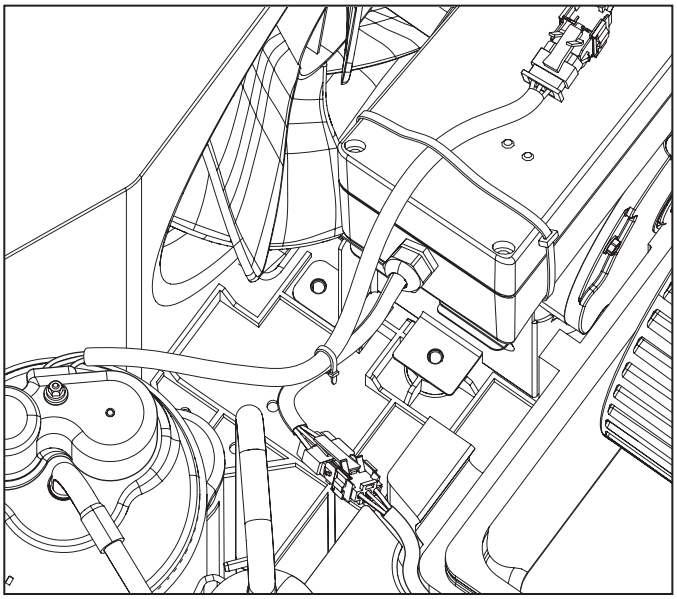
① Device ② Indicator LED's

1. Retrieve the two 14.5 in. wire ties from the installation kit.
2. Route the compressor wire harness over the device.
3. Secure harness in place using the two 14.5 in. wire ties.

   Route the wire ties around the device only and not the mounting bracket.

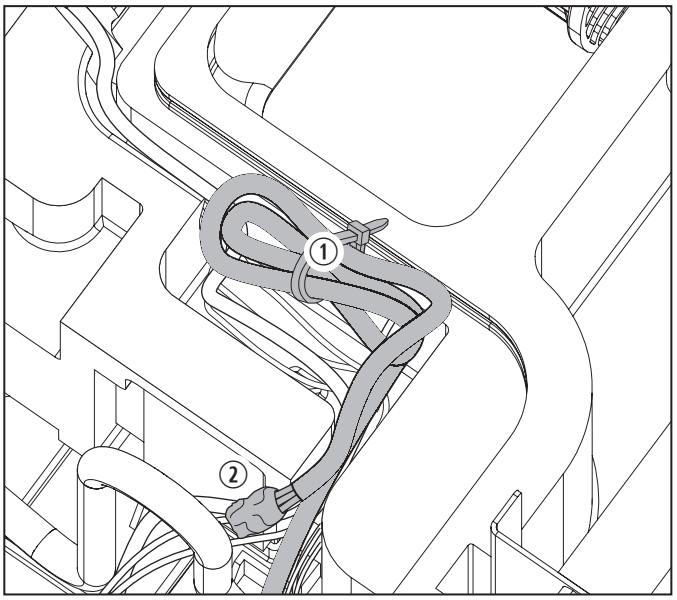
4. Ensure that the Power On and the Fault LED indicator LED's are still visible before securing wire ties.
5. Trim off the excess wire tie off after tightening.

8.5.13 Securing the harnesses



97 Compressor harness to supply harness

1. Using a 6 in. wire tie, secure the compressor harness to the supply harness.
2. Trim excess wire tie length after tightening.



98 Factory Compressor Harness Wires Tapped and Bundled

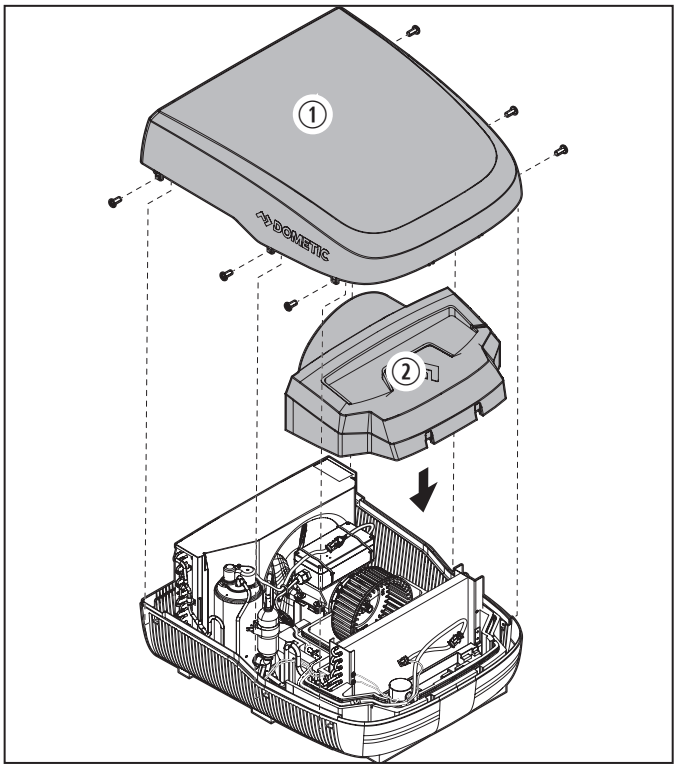
① Bundled compressor wires ② Taped compressor wires

3. Using approximately 6 in. (152 mm) of electrical tape, secure the factory wire connectors together.

4. Gather the factory compressor wires together and bundle. Leave approximately 4–6 in. (101–152 mm)of lead outside of the bundle so they will fit in the EPP foam housing.
5. Secure the bundled wires together using a 6 in. wire tie.
6. Place factory compressor wire bundle into the EPP foam wire housing.
7. Route the 4–6 in. (101–152 mm) lead out of the housing and under the large copper tubing.

8.5.14 Replacing the EPP foam and the AC shroud

NOTICE: Failure to place EPP foam correctly will result in air or water infiltration into the RV interior.



99 Replacement of foam and shroud

① AC shroud ② EPP foam

1. Replace the EPP foam shroud.

   Ensure the EPP foam is fully secured and pressed firmly against the lower portion of EPP foam.

2. Replace the AC shroud.

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 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.

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.	• Verify the connections are installed correctly. • Verify the circuit breaker is functioning properly and reset if it is tripped. • Verify the thermostat is functioning properly; contact Dometic Customer Support. • Contact Dometic Customer Support.
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.	
	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 Dometic Customer Support.
	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 Dometic Customer Support.

12 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 46516
1-800-544-4881

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