






Si121177

# REMOVAL PROCEDURE



## S E R V I C E M A N U A L

### 80 kW Class 30000 Btu/h Class

-  Outdoor Unit
-  Inverter
-  Multi Type



# **Service Manual Removal Procedure**

## **Outdoor Unit**

### **Applicable Models**

#### **●Cooling Only**

**3MWKS30KV1S**

**3MWKS80KV1**

#### **●Water Heater**

**TUL-55KVM**

**TUL-75KVM**

**TUL-100KVM**

**TUR-55KVM**

**TUR-75KVM**

**TUR-100KVM**

# Table of Contents

1. Outdoor Unit.....	2
1.1 Removal of Outer Panels / Outdoor Fan .....	2
1.2 Removal of Fan Motor.....	15
1.3 Removal of Electrical Box .....	17
1.4 Removal of PCBs.....	23
1.5 Removal of Reactor.....	29
1.6 Removal of Coils / Thermistors .....	30
1.7 Removal of Sound Blankets .....	32
1.8 Removal of Compressor.....	34
2. Removal of Water Heater.....	36



**Note:** ♦ The illustrations may be slightly different depending on the model.

# 1. Outdoor Unit

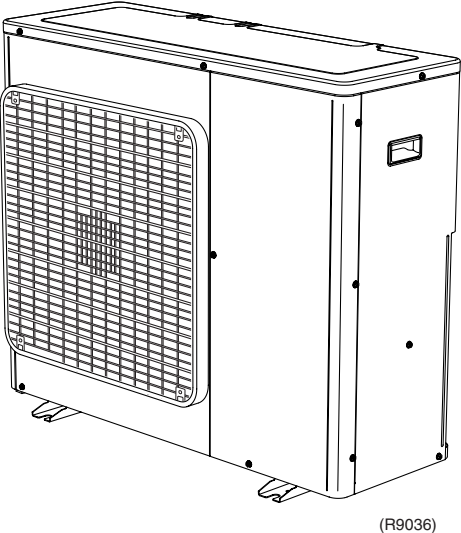
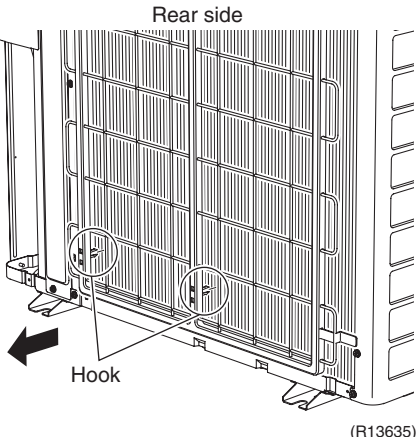
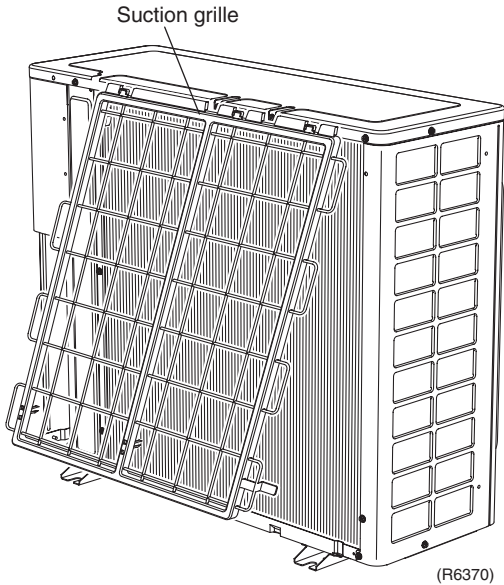
## 1.1 Removal of Outer Panels / Outdoor Fan

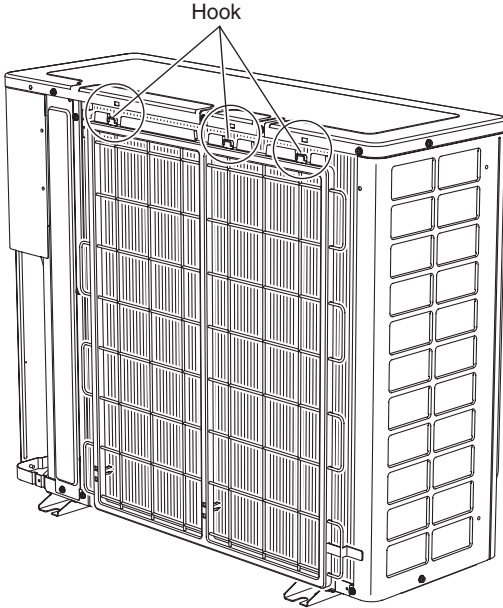
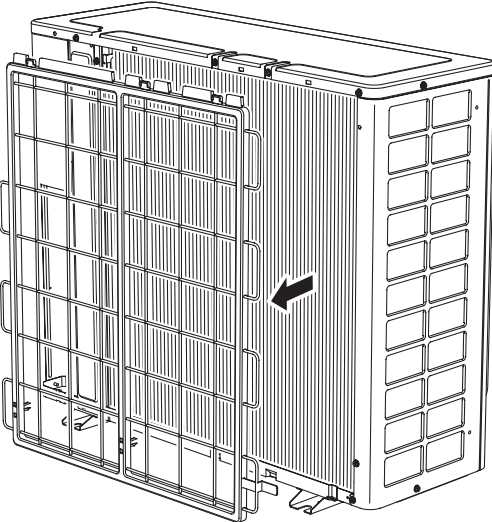
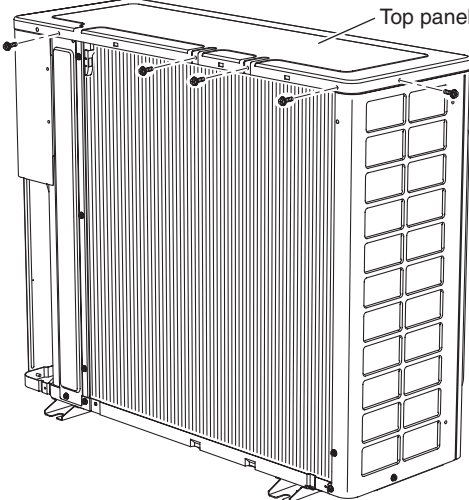
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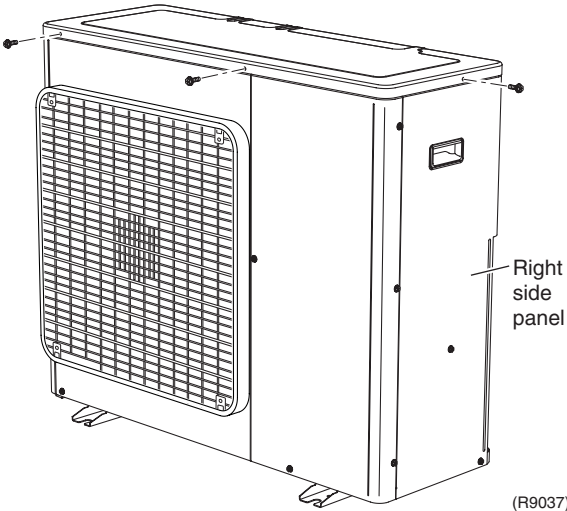
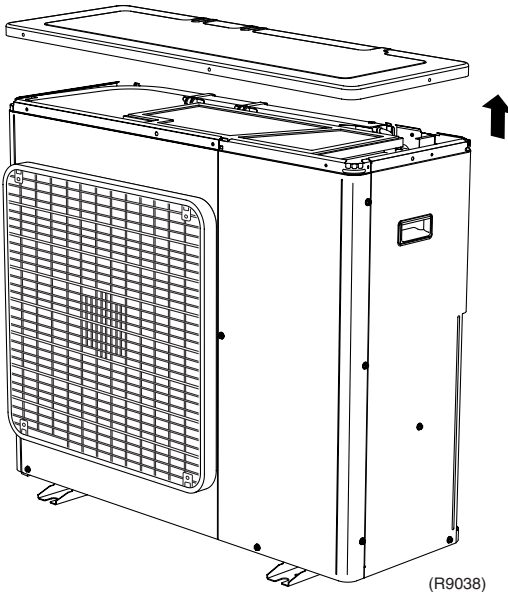


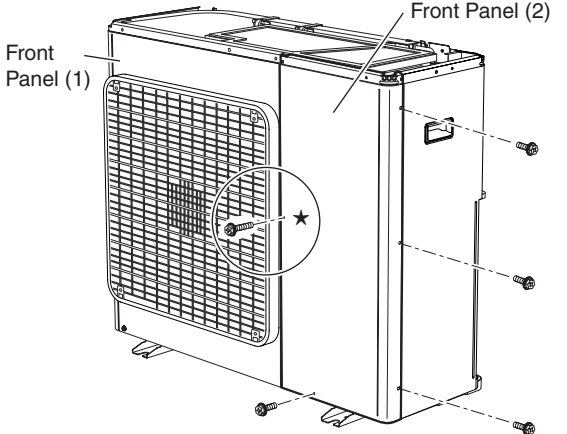
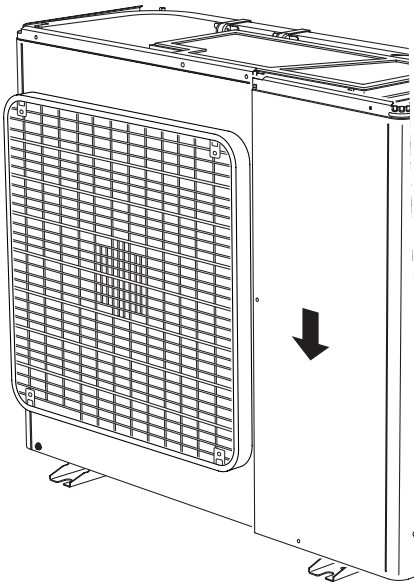
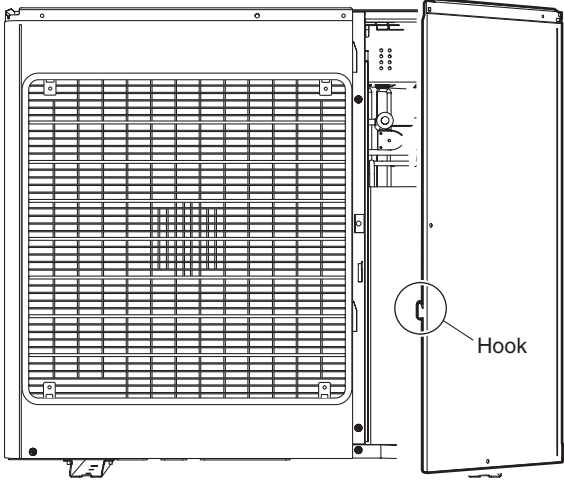
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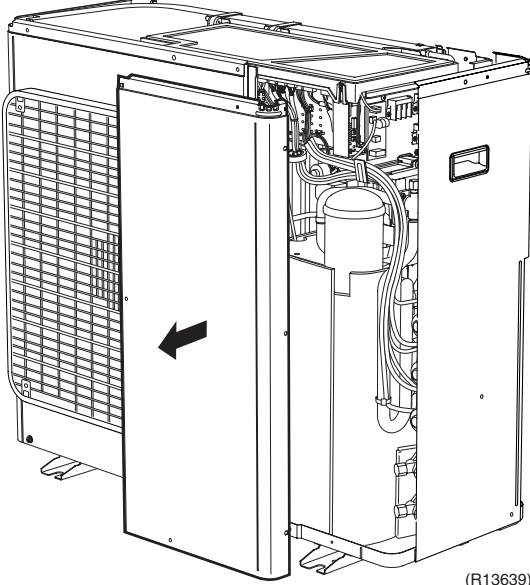
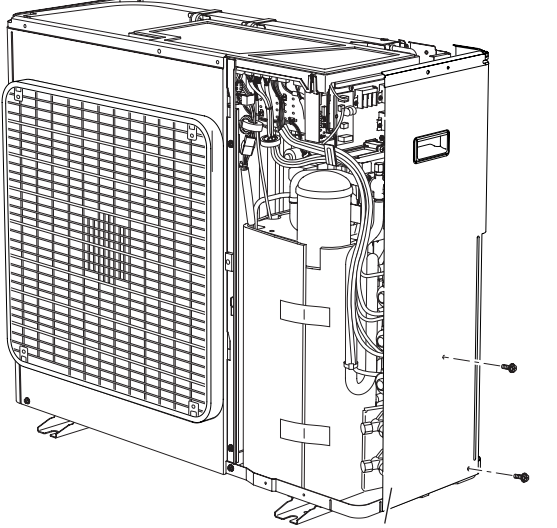
Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
1. Features	 <p>(R9036)</p>	
2. Remove the suction grille.	<p>1 Unfasten the 2 hooks at the bottom.</p>	<p>■ The hooks are secured in the clearances of the outdoor heat exchanger fins.</p>
	<p>Rear side</p>  <p>Hook</p> <p>(R13635)</p>	
	<p>Suction grille</p>  <p>(R6370)</p>	

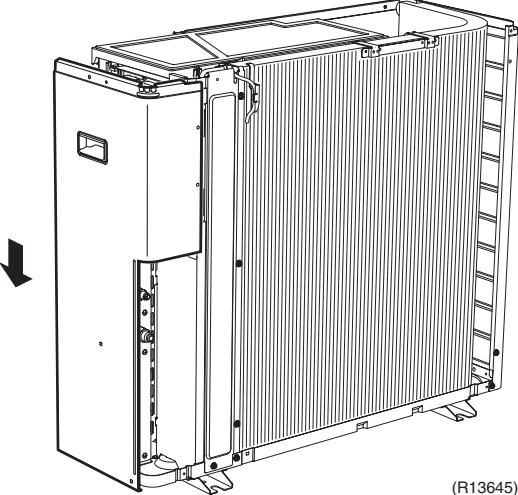
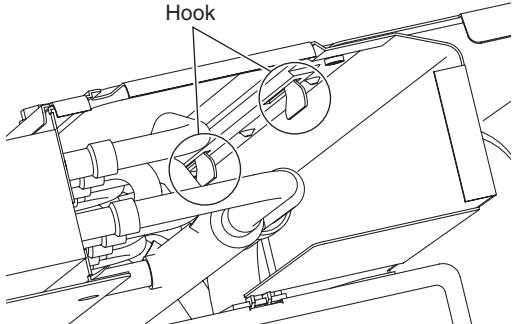
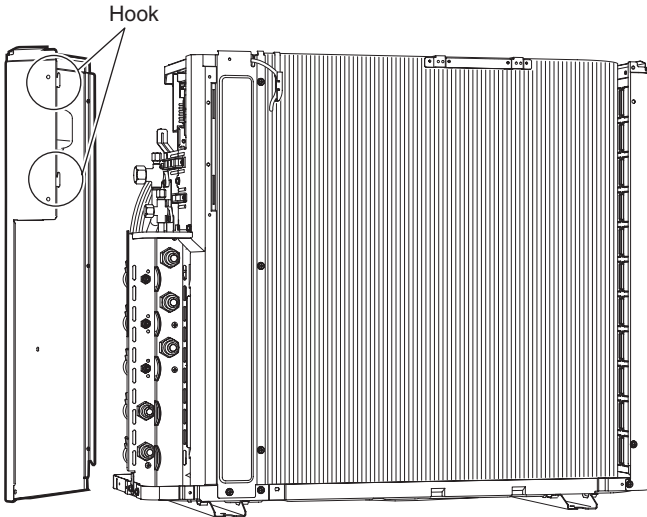
Step	Procedure	Points
2	<p>Slide the suction grille downwards to unfasten the 3 top hooks.</p>  <p>(R13636)</p>	
3	<p>Remove the suction grille.</p>  <p>(R6372)</p>	
3.	<p>Remove the top panel.</p> <p>1 Remove the 4 screws on the back and the screw on the left side.</p>  <p>(R13761)</p>	

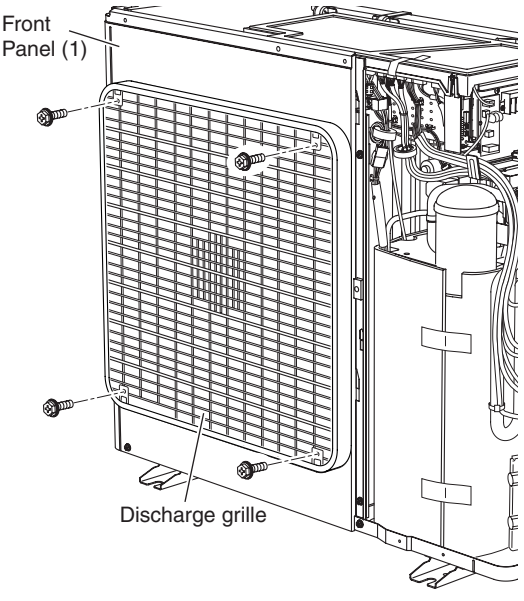
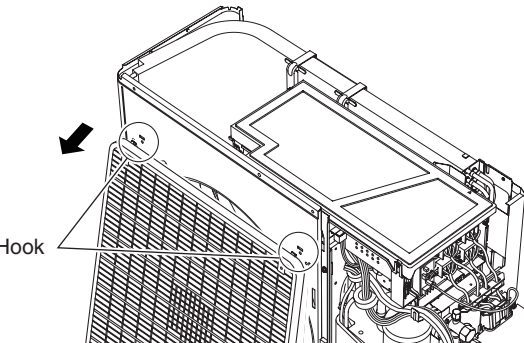
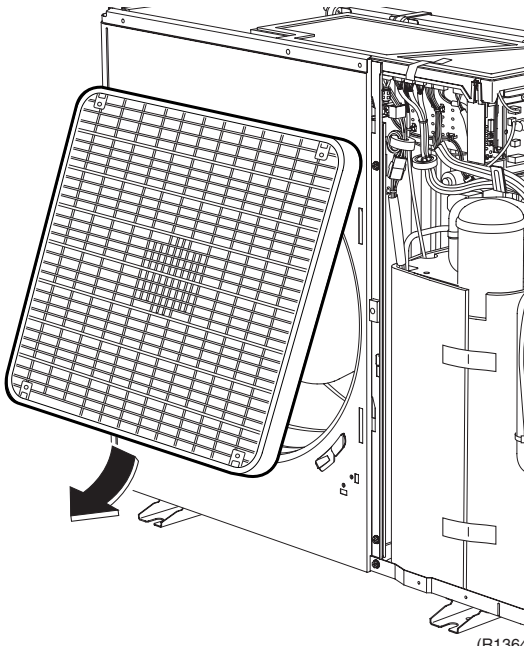
Step	Procedure	Points
2	<p>Remove the 2 screws on the front and the screw on the right side panel.</p>  <p style="text-align: right;">(R9037)</p>	
3	<p>Lift the top panel and remove it.</p>  <p style="text-align: right;">(R9038)</p>	

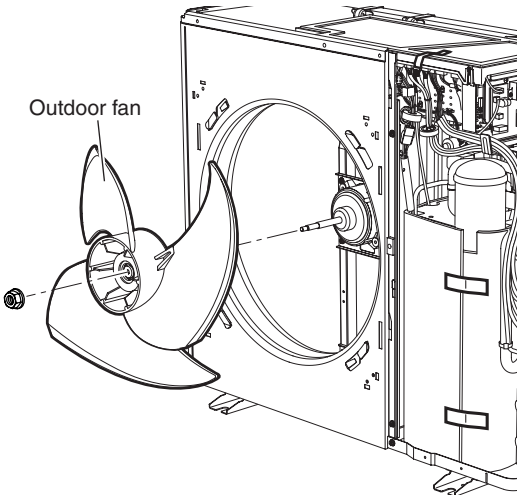
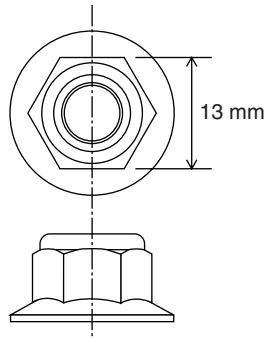
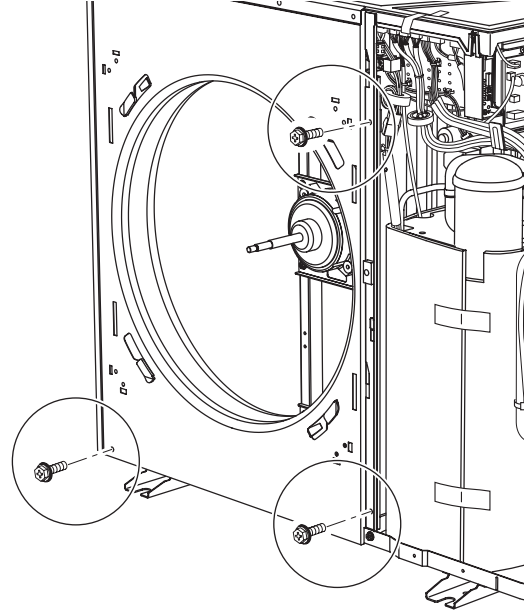
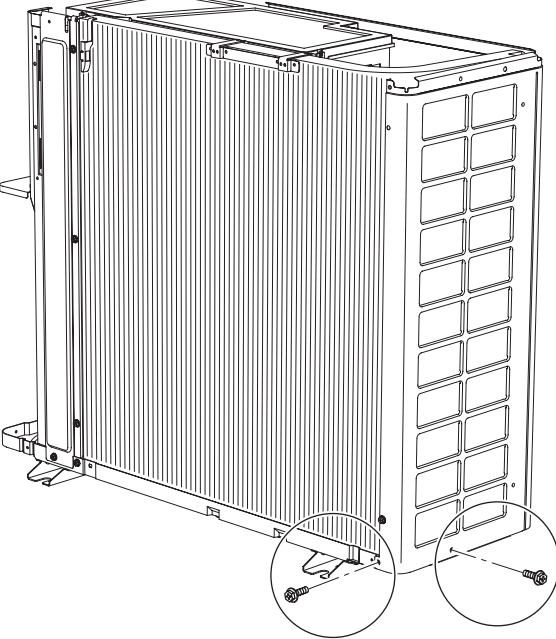
Step	Procedure	Points
4. Remove the front panel (2).		★ This screw is M5 × 16
1 Remove the 5 screws.	 <p>(R13637)</p>	
2 Slide the front panel (2) downwards to release the hook.	 <p>(R9043)</p>	
	 <p>(R13638)</p>	

Step	Procedure	Points
3	<p>Remove the front panel (2).</p>  <p>(R13639)</p>	
5.	<p>Remove the right side panel.</p> <p>1 Remove the 2 screws.</p>  <p>Right side panel (R13640)</p>	

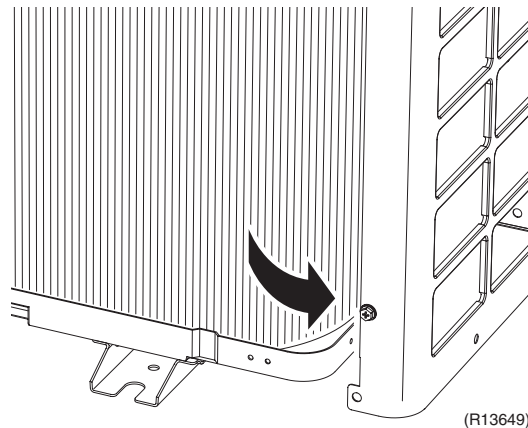
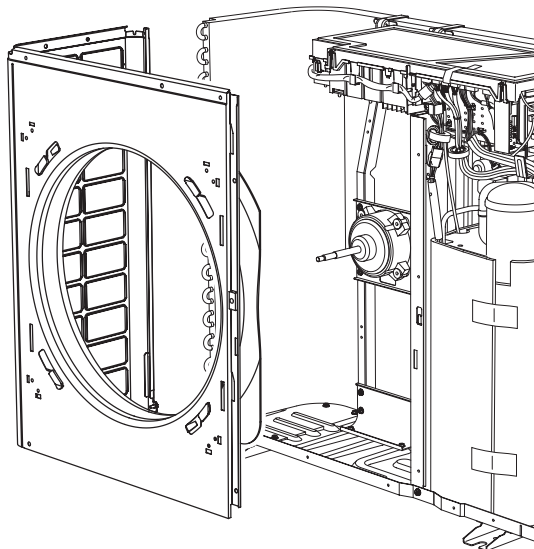


Step	Procedure	Points
<p>2</p>	<p>Slide the right side panel downwards to unfasten the 2 hooks on the back side.</p>  <p>(R13645)</p>  <p>Hook</p> <p>(R6378)</p>  <p>Hook</p> <p>(R13646)</p>	

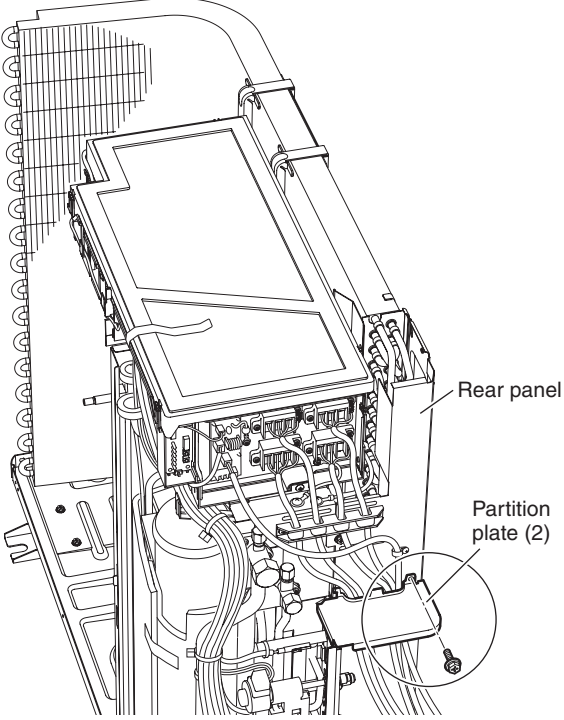
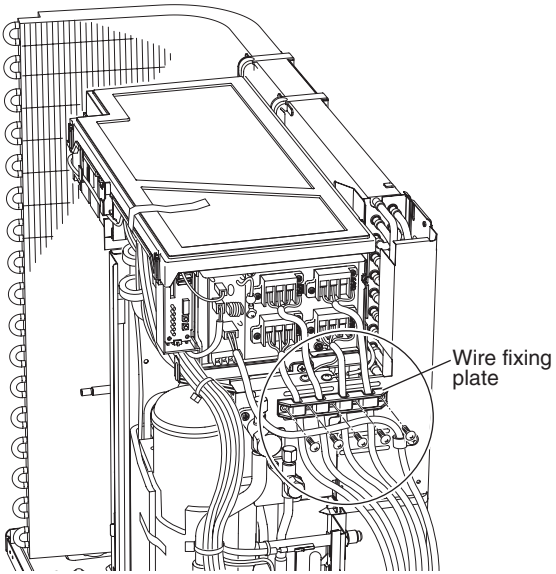
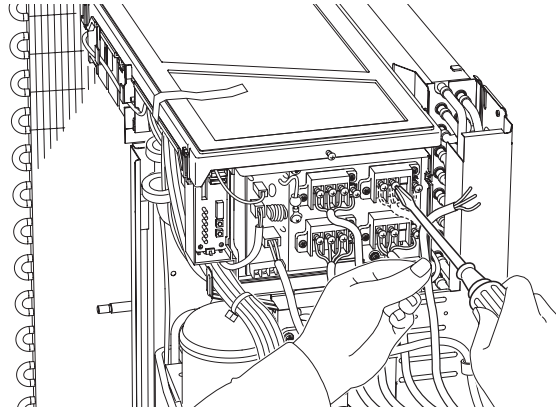
Step	Procedure	Points
6.	Remove the outdoor fan and the front panel (1).	<ul style="list-style-type: none"> <li>■ Remove the discharge grille and outdoor fan first to remove the front panel (1).</li> </ul>
1	<p>Remove the 4 screws on the discharge grille.</p>  <p style="text-align: right;">(R13641)</p>	
2	<p>Slide the discharge grille downwards to unfasten the 2 hooks at the top.</p>  <p style="text-align: right;">(R13643)</p>	
3	<p>Remove the discharge grille.</p>  <p style="text-align: right;">(R13642)</p>	

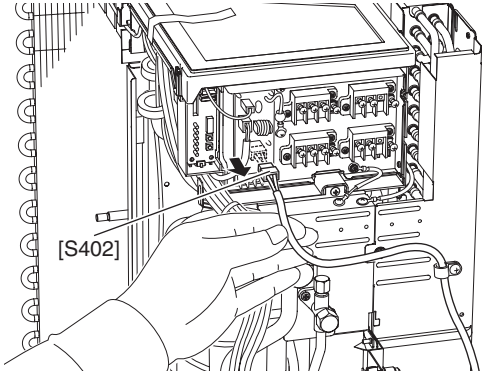
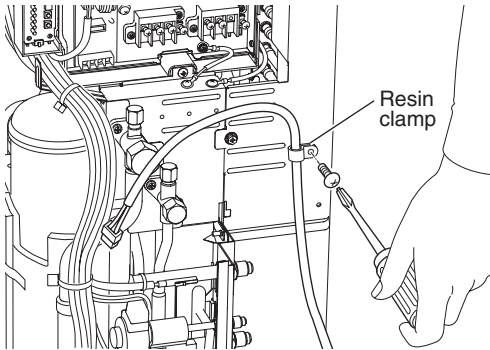
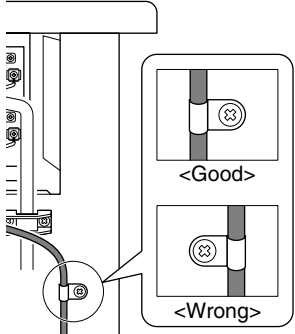
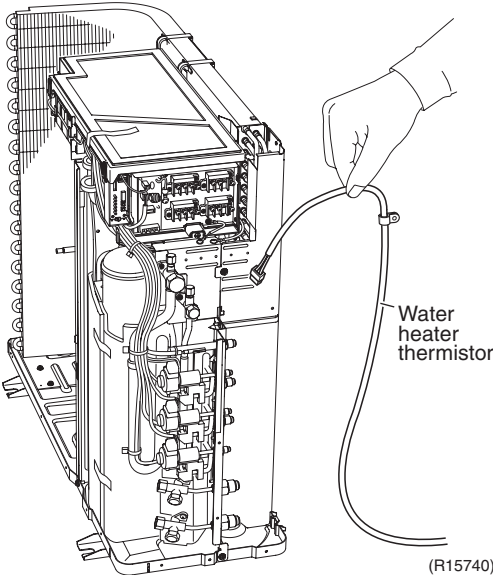
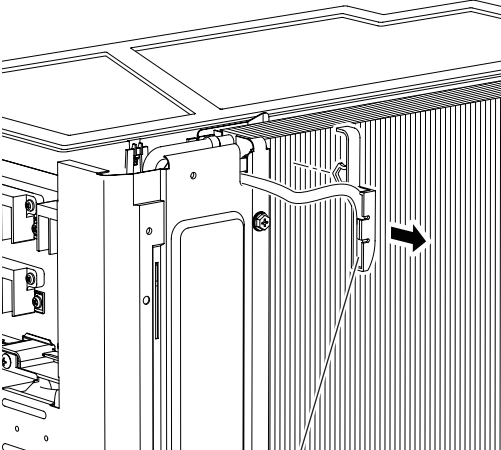
Step	Procedure	Procedure	Points
4	Remove the nut and remove the outdoor fan.	 <p>Outdoor fan</p> <p>(R13644)</p>	<p>■ Nut size : M8</p>  <p>13 mm</p> <p>(R12301)</p> <p>■ When reassembling, align the ▼ mark of the outdoor fan with the D-cut section of the motor shaft.</p>
5	Remove the 3 screws on the front panel (1).	 <p>(R13647)</p>	
6	Remove the 2 screws at the bottom of the back side.	 <p>(R13648)</p>	

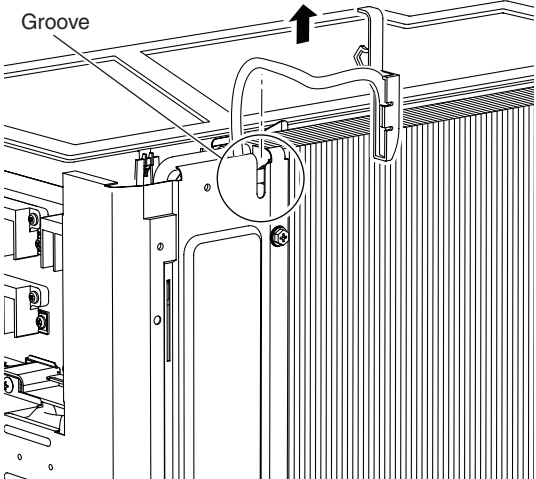
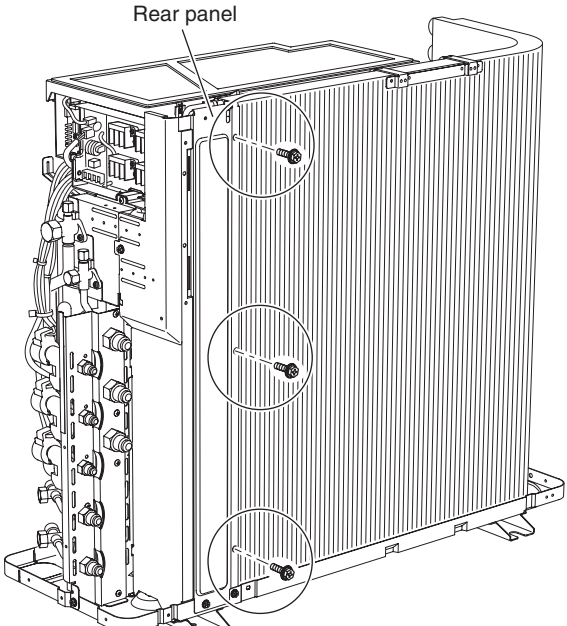
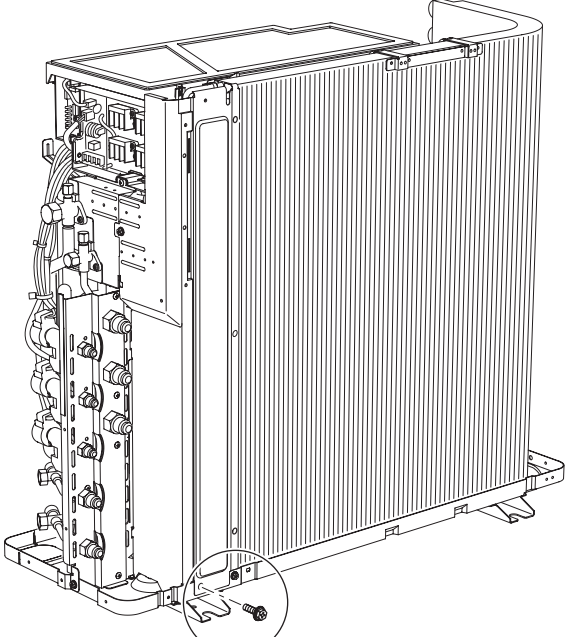
Step	Procedure	Points
7	Remove the front panel (1).	<ul style="list-style-type: none"> <li>Be sure to detach the front panel (1) carefully so as not to deform it.</li> </ul>

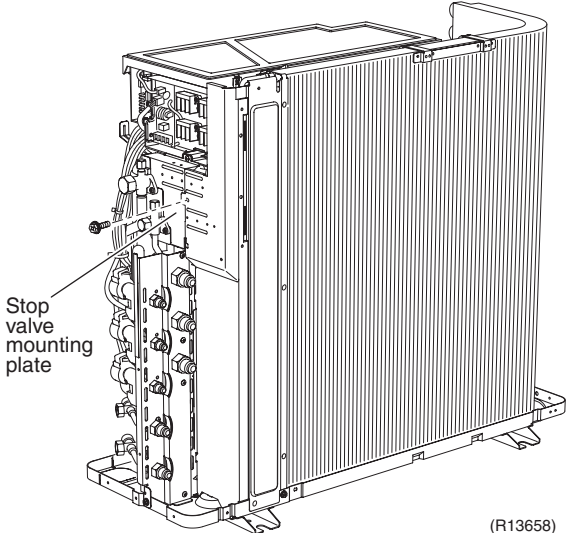
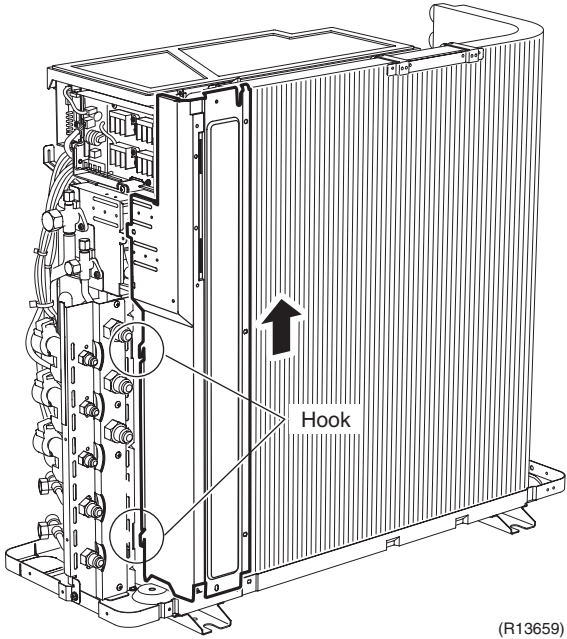
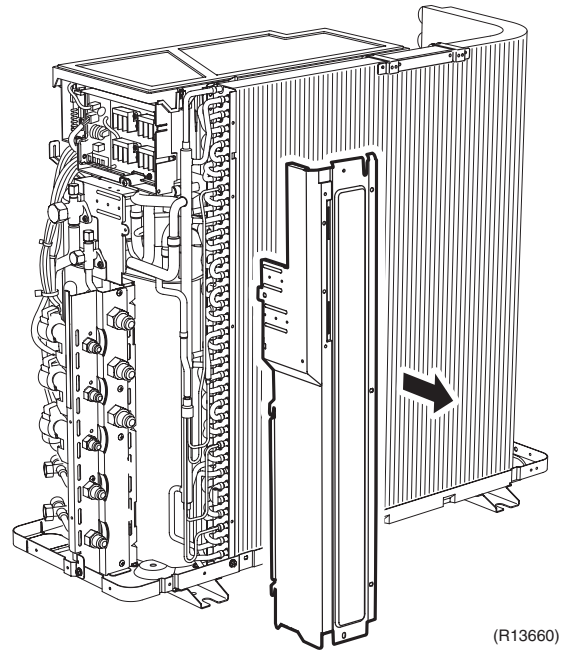


(R13649)

Step	Procedure	Points
7.	Remove the rear panel.	
1	<p>Remove the screw on the partition plate (2) and remove the partition plate (2).</p>  <p>(R13650)</p>	
2	<p>Remove the 5 screws and remove the wire fixing plate.</p>  <p>(R13651)</p>	
3	<p>Disconnect the connecting wires.</p>  <p>(R13652)</p>	

Step	Procedure	Points	
4	Disconnect the connector [S402].	 <p>[S402]</p> <p>(R13653)</p>	<p>[S402]: water heater thermistor</p>
5	Remove the screw of the resin clamp.	 <p>Resin clamp</p> <p>(R13654)</p>	<p>■ When reassembling, attach the resin clamp as below.</p>  <p>&lt;Good&gt;</p> <p>&lt;Wrong&gt;</p> <p>(R15739)</p>
6	Remove the water heater thermistor.	 <p>Water heater thermistor</p> <p>(R15740)</p>	
7	Pull out the holder of the outdoor temperature thermistor.	 <p>Outdoor temperature thermistor</p> <p>(R10388)</p>	<p>■ The holder is secured in the clearances of the outdoor heat exchanger fins.</p>

Step	Procedure	Points
8	Release the thermistor wire from the groove.	
	 <p style="text-align: right;">(R10389)</p>	
9	Remove the 3 screws on the rear panel.	
	 <p style="text-align: right;">(R13656)</p>	
10	Remove the screw on the bottom frame.	
	 <p style="text-align: right;">(R13657)</p>	

Step	Procedure	Points
11	<p>Remove the screw on the stop valve mounting plate.</p>  <p>Stop valve mounting plate</p> <p>(R13658)</p>	
12	<p>Lift the rear panel upwards to unfasten the 2 hooks.</p>  <p>Hook</p> <p>(R13659)</p>	
13	<p>Remove the rear panel.</p>  <p>(R13660)</p>	



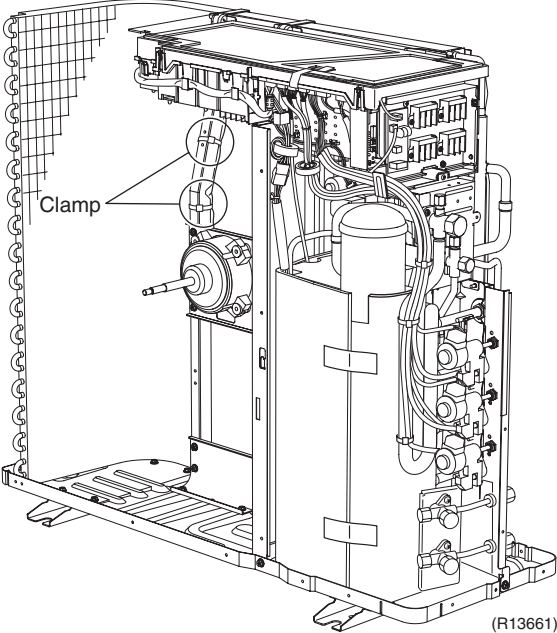
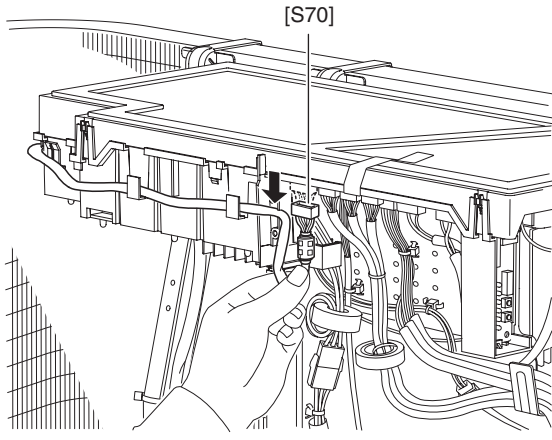
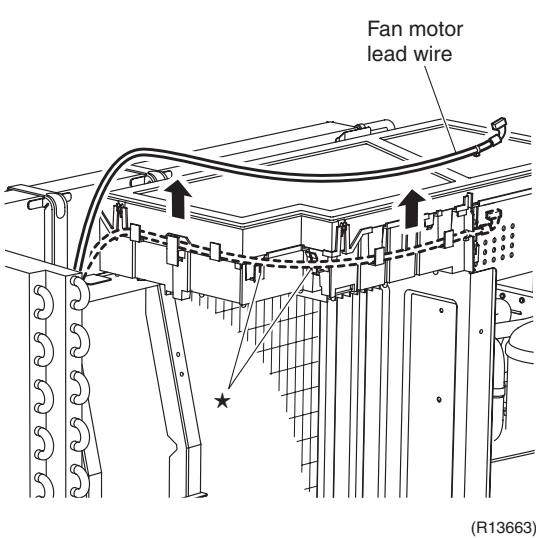
# 1.2 Removal of Fan Motor

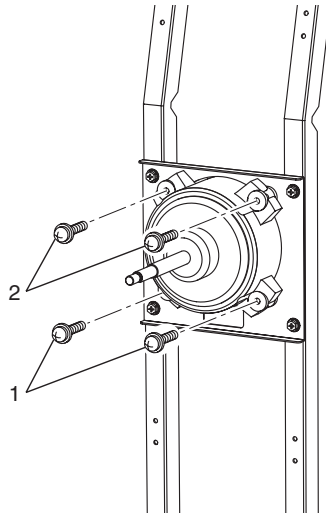
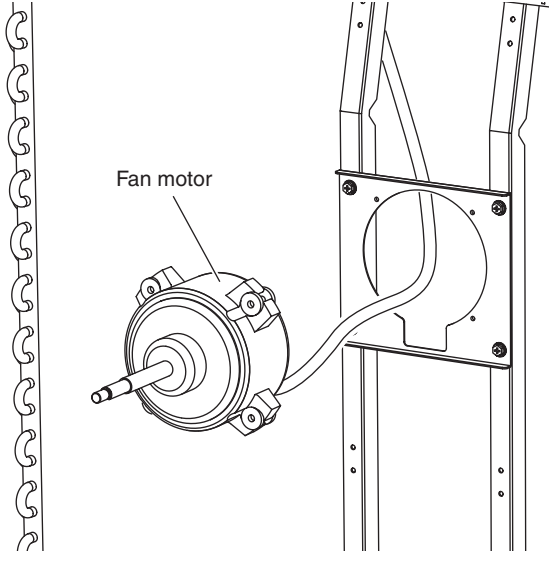
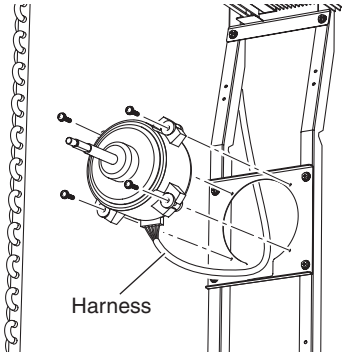
**Procedure**



**Warning**

Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Cut the 2 clamps.		
2	Disconnect the connector [S70].		[S70]: fan motor
3	Release the fan motor lead wire from the 5 hooks.		★: When reassembling, do not use these 2 hooks.

Step		Procedure	Points
4	Remove the 2 lower screws of the fan motor.	 <p>(R13664)</p>	<ul style="list-style-type: none"> <li>Be sure to remove the lower screws first. If the upper screws are removed first, the fan motor may tilt or fall because its centre of gravity shifts to the front. It may cause injuries.</li> </ul>
5	Remove the 2 upper screws.		
6	Remove the fan motor.	 <p>(R13665)</p>	<ul style="list-style-type: none"> <li>When reassembling, make sure that the wire harness is facing downwards.</li> </ul>  <p>(R6444)</p>

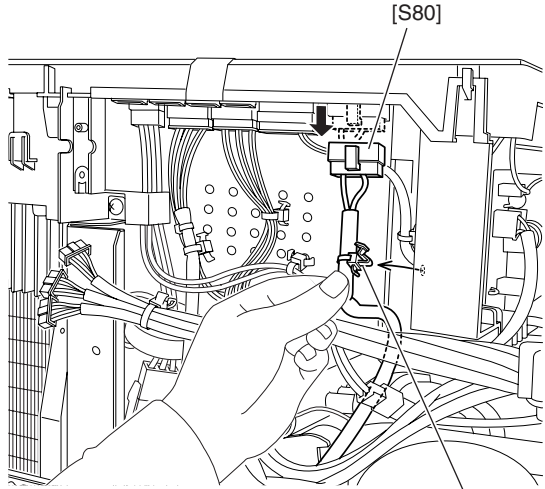
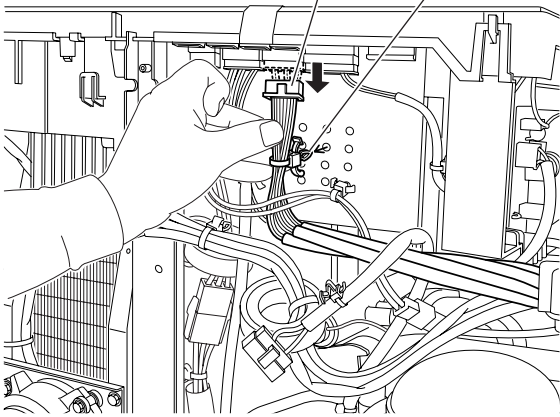
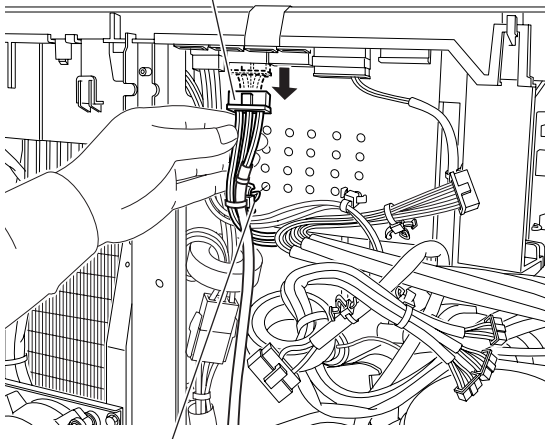
# 1.3 Removal of Electrical Box

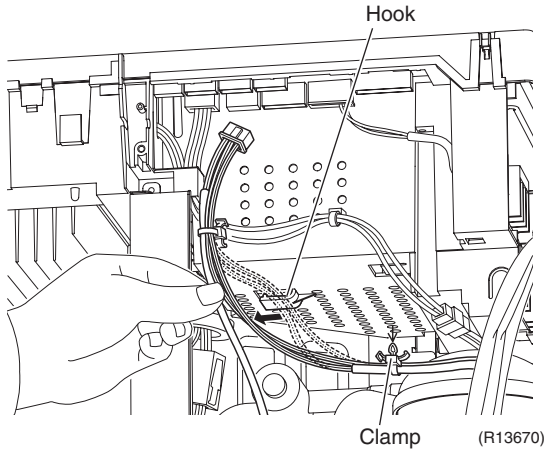
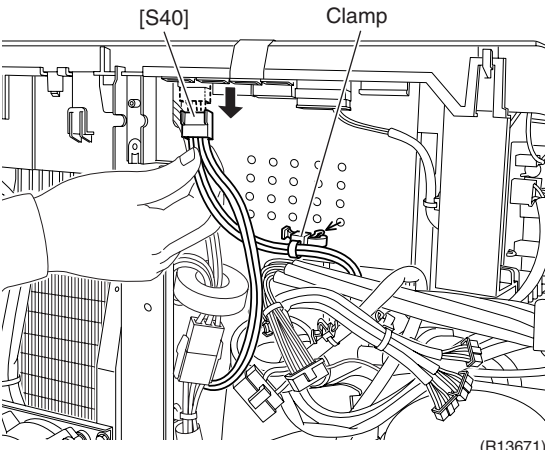
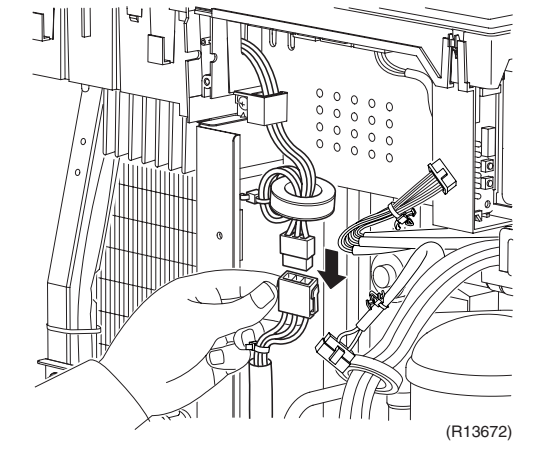
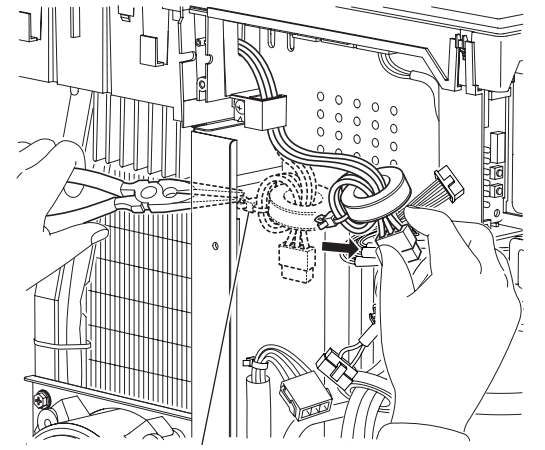
**Procedure**

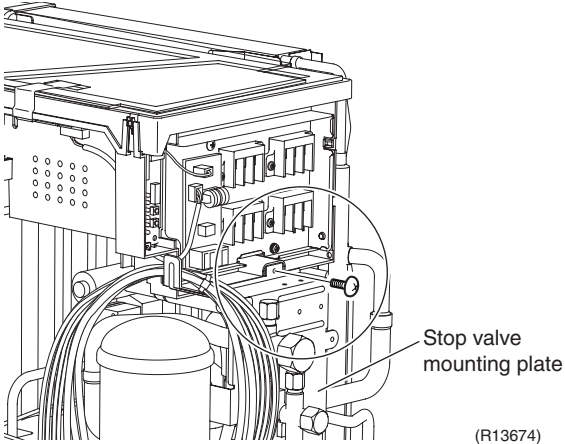
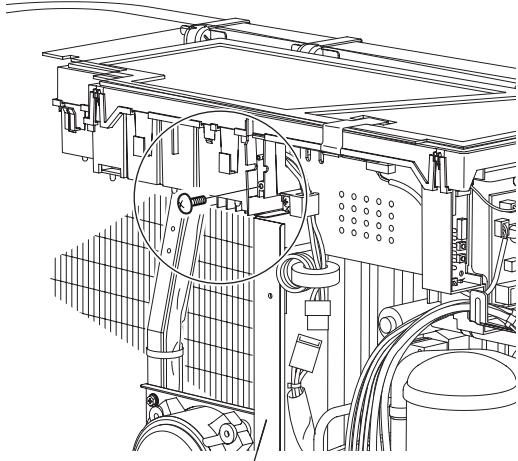
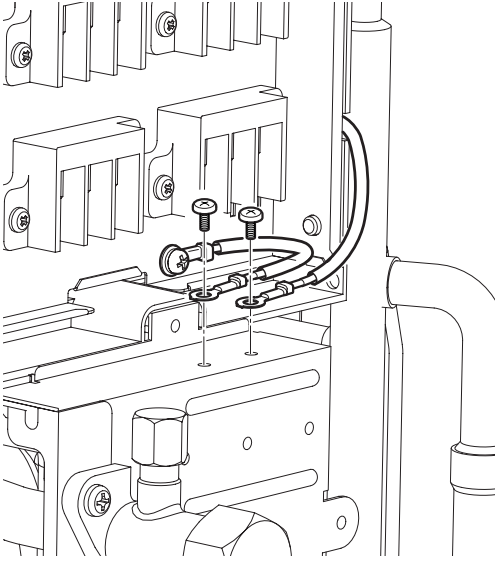


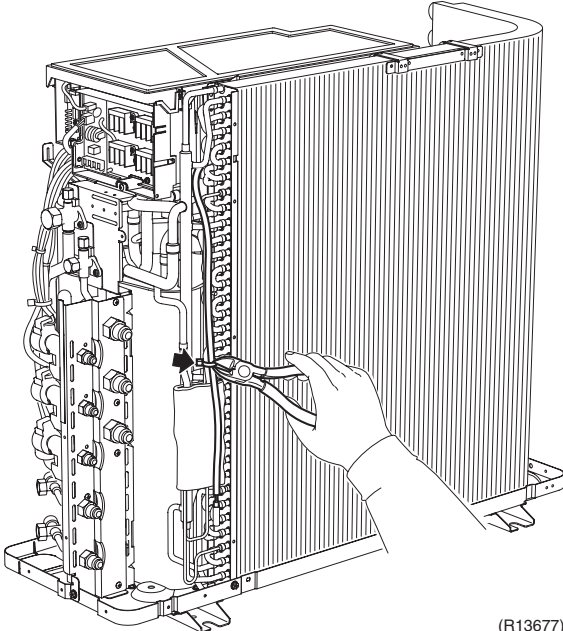
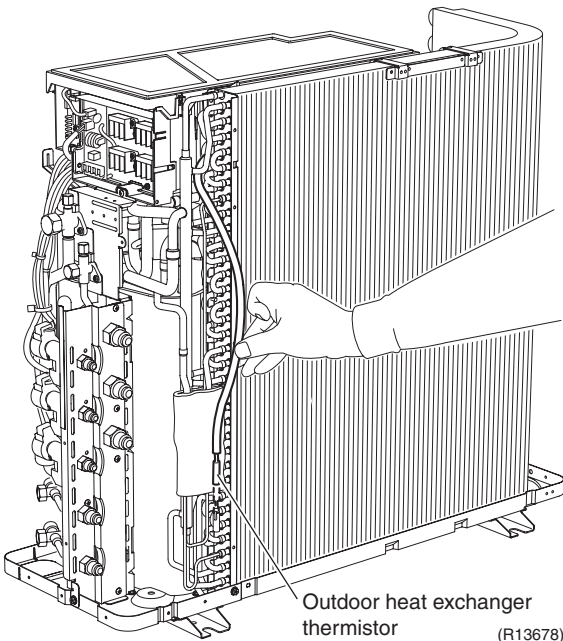
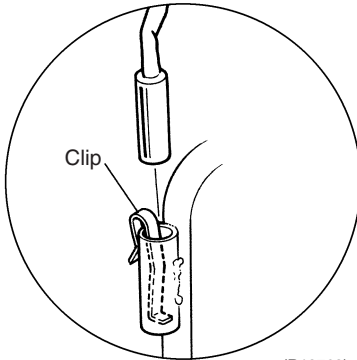
**Warning** Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

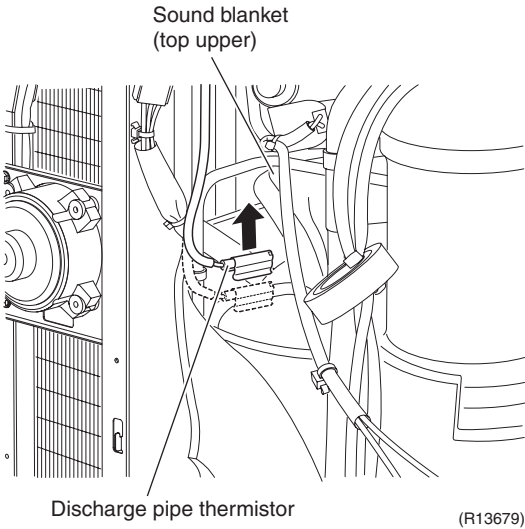
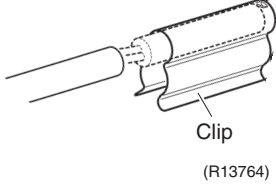
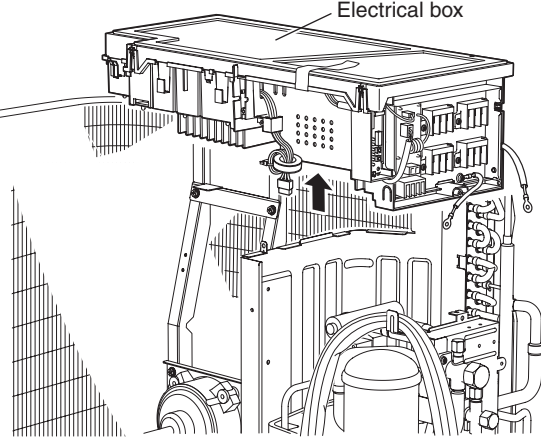
Step	Procedure	Procedure	Points
1	Disconnect the connector [S70].	<p style="text-align: center;">[S70]</p> <p style="text-align: right;">(R13662)</p>	[S70]: fan motor
2	Release the fan motor lead wire from the 5 hooks.	<p style="text-align: center;">Fan motor lead wire</p> <p style="text-align: right;">(R13663)</p>	★: When reassembling, do not use these 2 hooks.
3	Disconnect the connectors for the electronic expansion valve coils [S20], [S21], [S22]. Pull out the clamp.	<p style="text-align: center;">[S20] [S21] [S22]</p> <p style="text-align: right;">(R15741)</p>	<p>[S20] (white): room A                  [S21] (red) : room B                  [S22] (blue) : room C</p> <p>■ When reassembling, insert the clamps into the small holes as below.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Electronic expansion valve coils</p> <p>Thermistor ASSY</p> </div> <div style="text-align: center;"> <p>Gas pipe thermistors</p> <p>Overload protector and high pressure switch</p> </div> </div> <p style="text-align: right;">(R13762)</p>

Step	Procedure	Points
4	<p>Disconnect the connector [S80]. Pull out the clamp.</p>  <p style="text-align: center;">Clamp (R13667)</p>	<p>[S80]: four way valve coil</p>
5	<p>Disconnect the connector [S92]. Pull out the clamp.</p>  <p style="text-align: center;">Clamp (R13668)</p>	<p>[S92]: gas pipe thermistors (each room, water heater)</p>
6	<p>Disconnect the connector [S90]. Pull out the clamp.</p>  <p style="text-align: center;">Clamp (R13669)</p>	<p>[S90]: thermistor ASSY</p>

Step	Procedure	Points	
7	Release the harnesses of the thermistor ASSY from the hook on the bottom of the electrical box. Pull out the clamp.		[S40]: overload protector / high pressure switch
8	Disconnect the connector [S40]. Pull out the clamp.		
9	Disconnect the relay connector for the compressor.		
10	Pinch the clamp with pliers.		

Step	Procedure	Points
11	<p>Remove the screw on the stop valve mounting plate.</p> 	
12	<p>Remove the screw on the partition plate (1).</p> 	
13	<p>Remove the 2 screws to detach the earth wires.</p> 	

Step	Procedure	Points
14	<p data-bbox="197 212 363 241">Cut the clamp.</p>  <p data-bbox="995 853 1062 875">(R13677)</p>	
15	<p data-bbox="197 896 424 987">Pull out the outdoor heat exchanger thermistor.</p>  <p data-bbox="799 1507 1031 1559">Outdoor heat exchanger thermistor</p> <p data-bbox="995 1541 1062 1563">(R13678)</p>	<p data-bbox="1094 896 1452 958">■ Be careful not to lose the clip for the thermistor.</p>  <p data-bbox="1158 1126 1198 1149">Clip</p> <p data-bbox="1374 1335 1441 1357">(R13763)</p>

Step	Procedure	Points
16	<p>Release the discharge pipe thermistor under the sound blanket (top upper).</p> 	<p>■ Be careful not to lose the clip for the thermistor.</p> 
17	<p>Lift up the electrical box and remove it.</p> 	



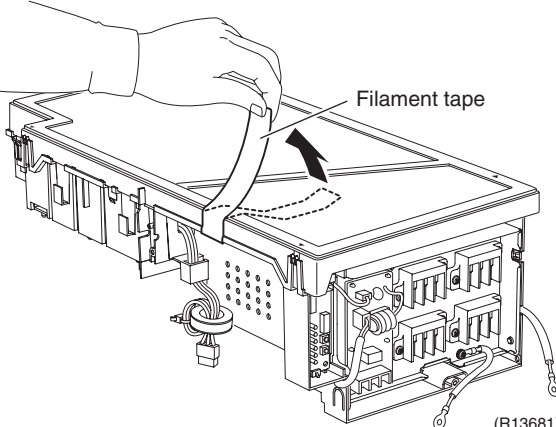
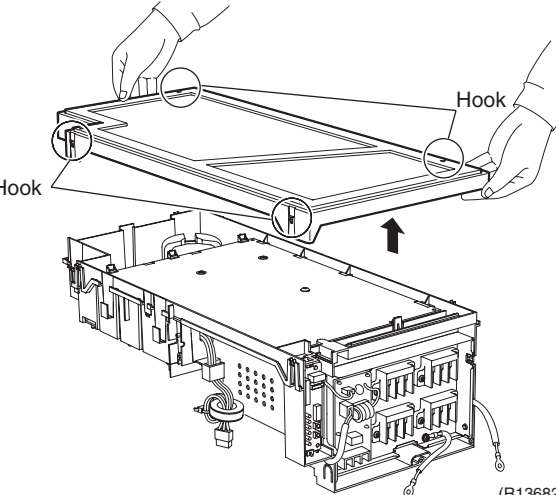
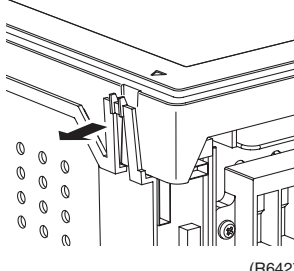
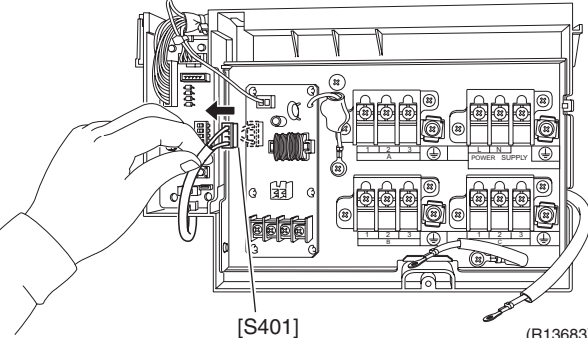
# 1.4 Removal of PCBs

**Procedure**

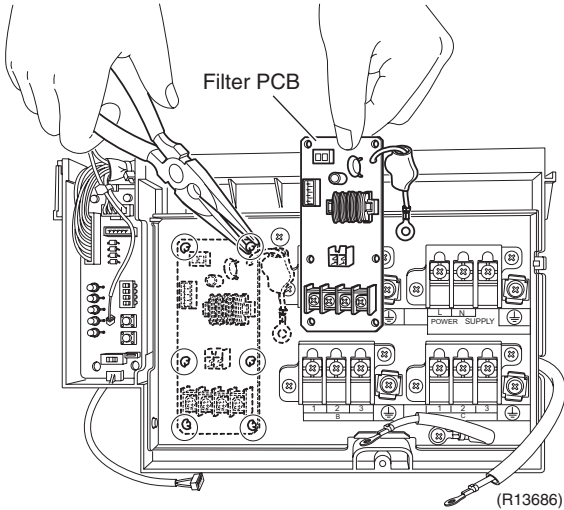
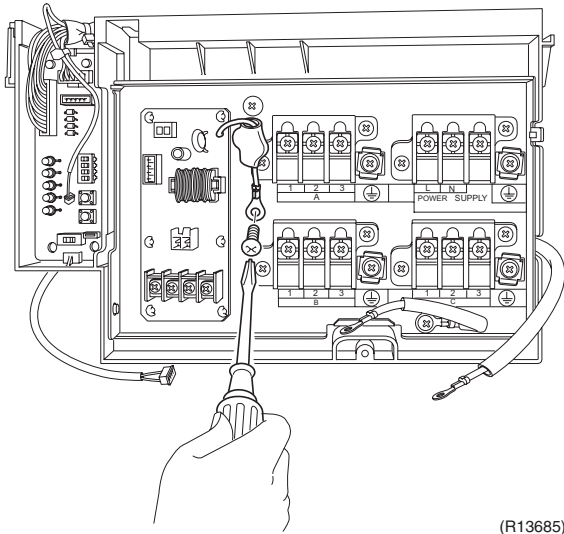
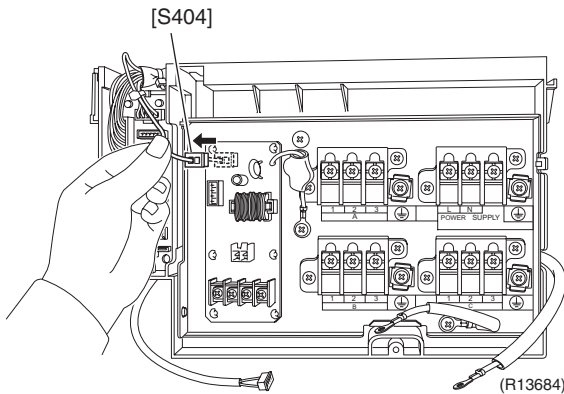


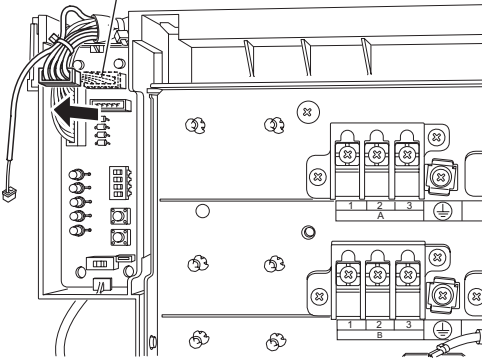
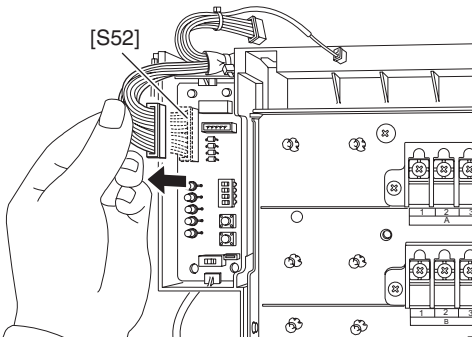
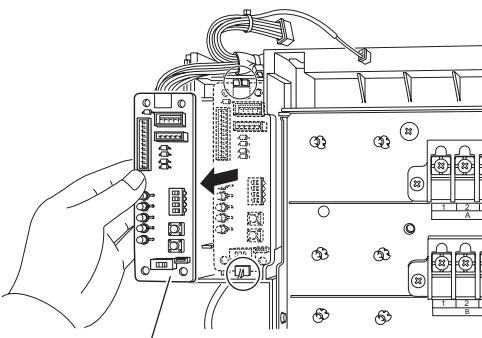
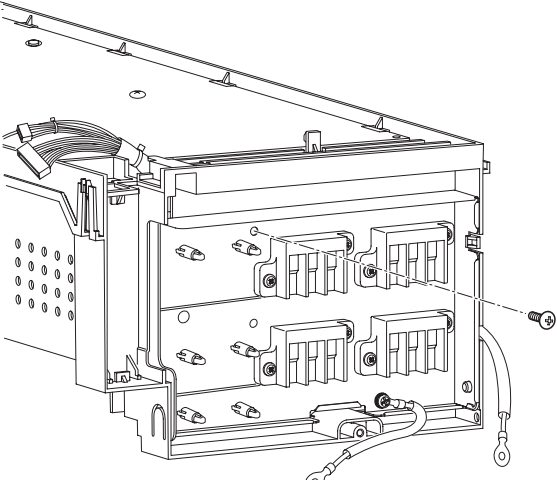
**Warning**

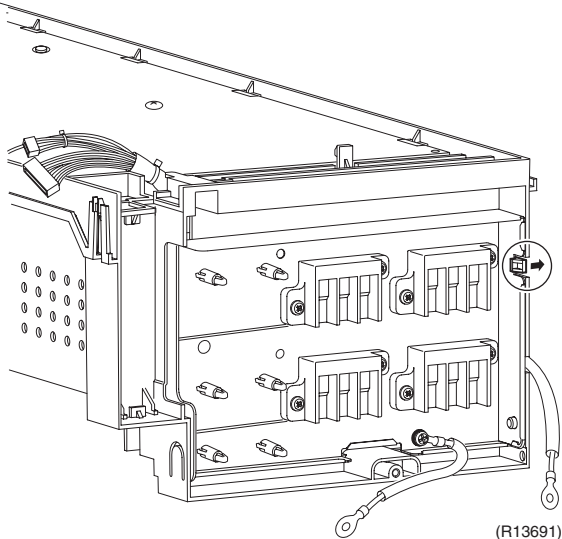
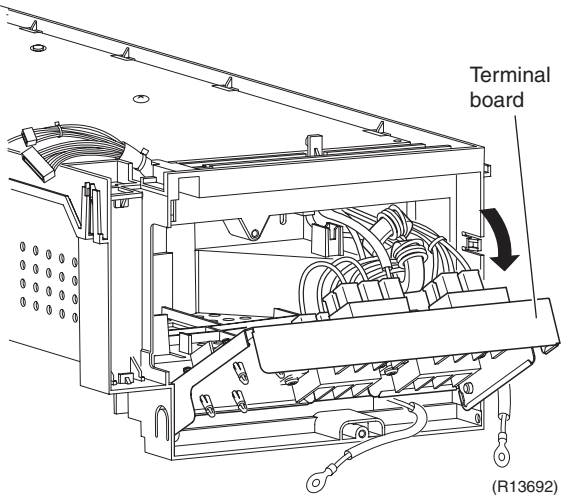
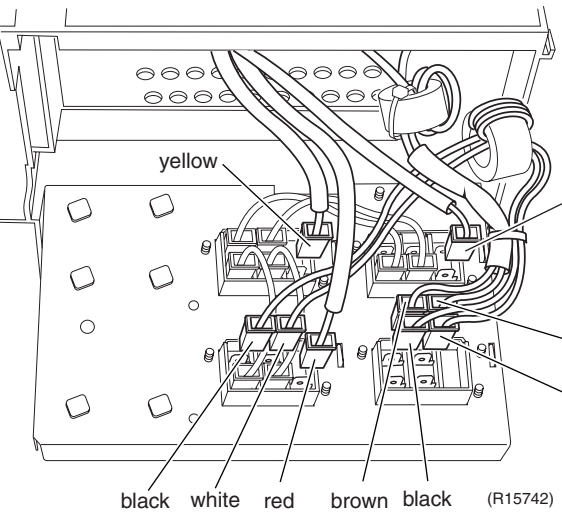
Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

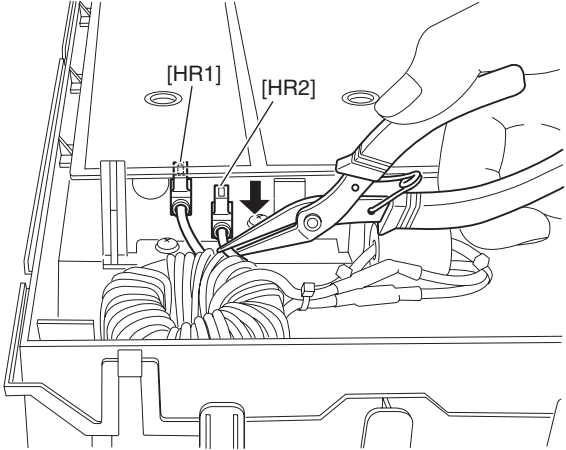
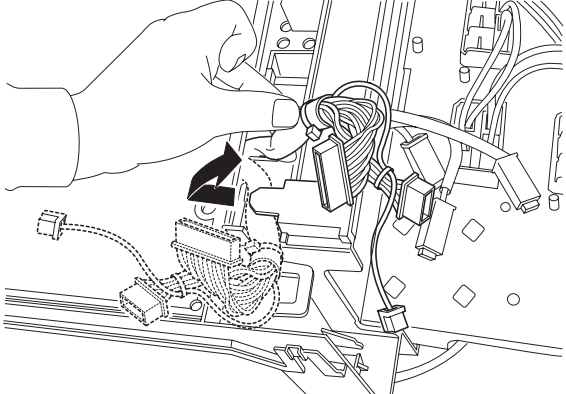
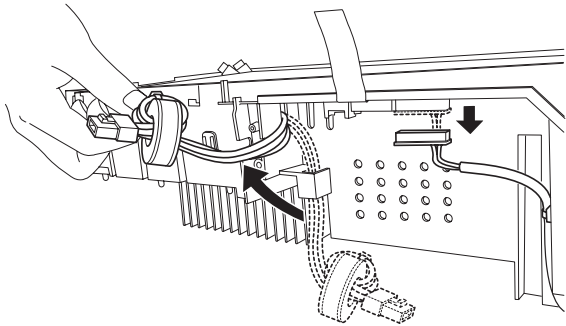
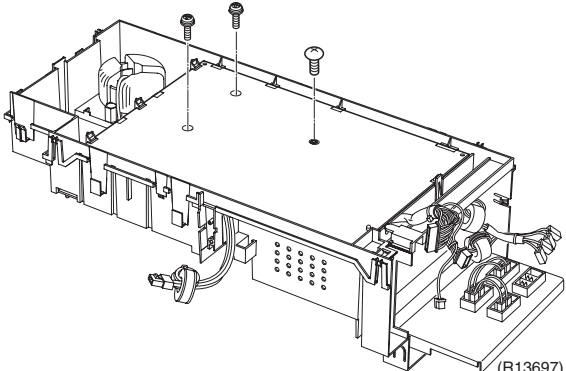
Step	Procedure	Points
<p>1. Remove the electrical box cover.</p> <p>1 Peel off the filament tape.</p> <p>2 Unfasten the 4 hooks and remove the electrical box cover.</p>	 	<p>■ The hooks are marked with ▼.</p> 
<p>2. Remove the filter PCB.</p> <p>1 Disconnect the connector [S401].</p>		<p>[S401]: to main PCB</p>

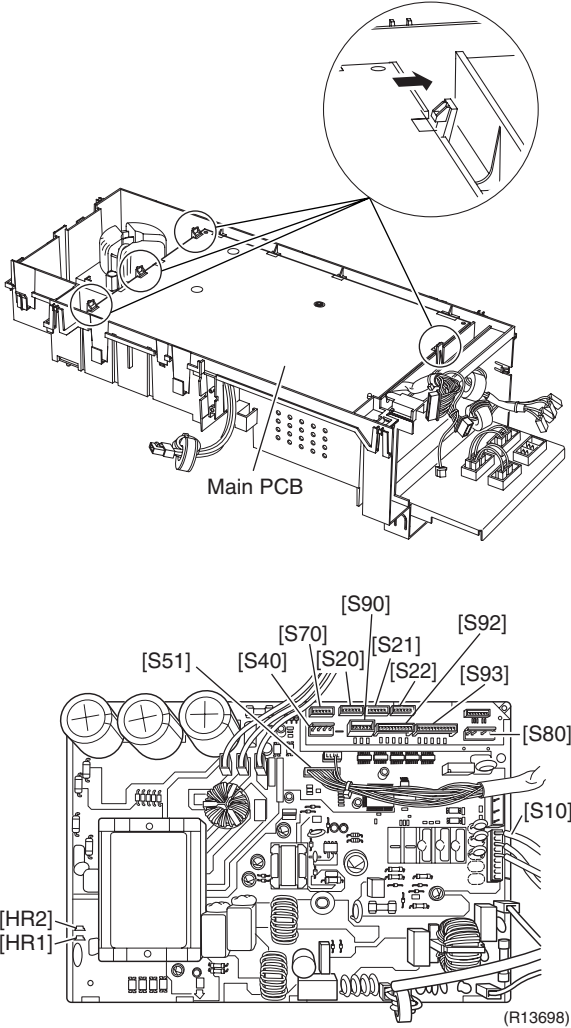
Step	Procedure	Points
2	Disconnect the connector [S404].	[S404]: to main PCB
3	Remove the screw and release the earth.	
4	Pull out the 6 spacers with pliers and remove the filter PCB.	



Step	Procedure	Points
<p>3. Remove the service monitor PCB.</p> <p>1 Disconnect the connector [S102].</p> <p>2 Disconnect the connector [S52].</p> <p>3 Unfasten the 2 hooks and remove the service monitor PCB.</p>	<p>[S102]</p>  <p>(R13687)</p> <p>[S52]</p>  <p>(R13688)</p>  <p>Service monitor PCB</p> <p>(R13689)</p>	<p>[S102]: to main PCB</p> <p>[S52]: to main PCB</p>
<p>4. Remove the main PCB.</p> <p>1 Remove the screw.</p>	 <p>(R13690)</p>	

Step	Procedure	Points
2	<p>Unfasten the hook.</p> 	
3	<p>Open the terminal board.</p> 	
4	<p>Disconnect the connectors.</p> 	

Step	Procedure	Procedure	Points
5	Disconnect the 2 connectors for the reactor [HR1], [HR2].	 <p>(R13694)</p>	[HR1]: white [HR2]: blue
6	Release the harnesses from the hook.	 <p>(R13695)</p>	
7	Release the harnesses from the hook.	 <p>(R13696)</p>	
8	Remove the 3 screws.	 <p>(R13697)</p>	

Step	Procedure	Points
<p>9</p>	<p>Unfasten the 4 hooks and remove the main PCB.</p> 	

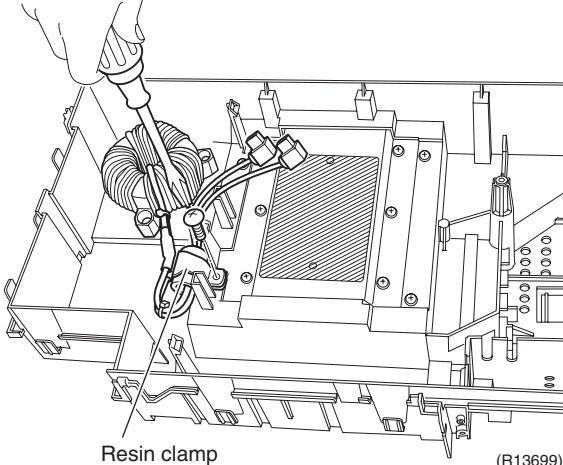
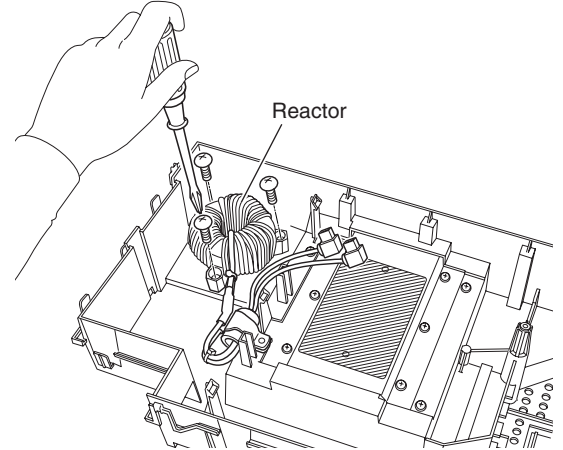
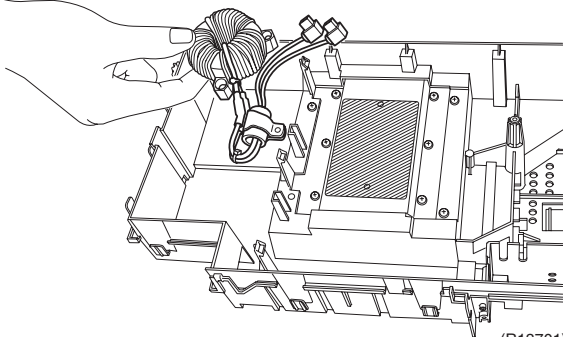
## 1.5 Removal of Reactor

### Procedure



### Warning

Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Remove the screw of the resin clamp.	 <p>Resin clamp (R13699)</p>	
2	Remove the 3 screws of the reactor.	 <p>Reactor (R13700)</p>	
3	Remove the reactor.	 <p>(R13701)</p>	

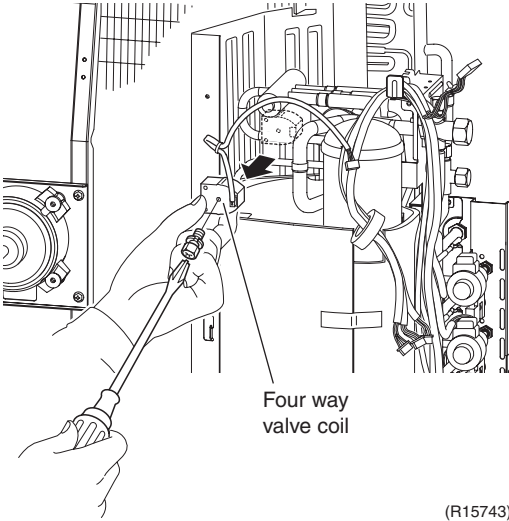
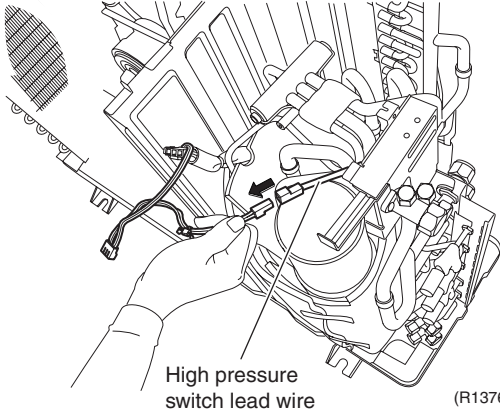
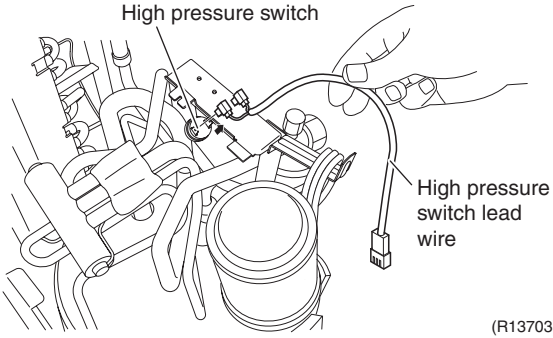
# 1.6 Removal of Coils / Thermistors

**Procedure**

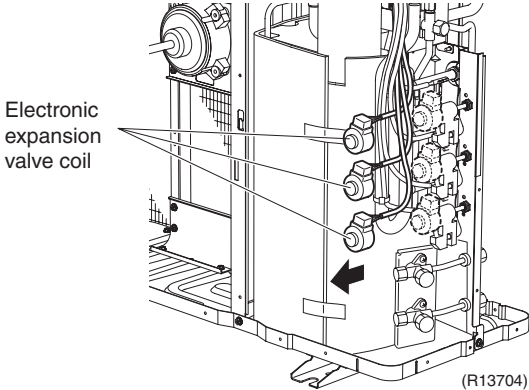
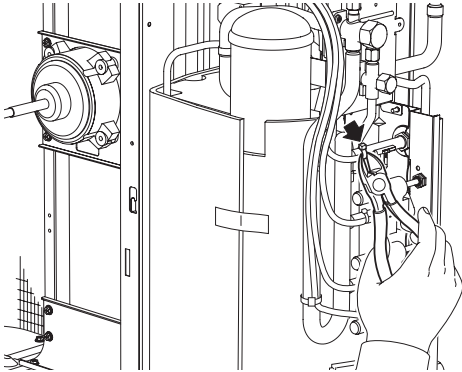
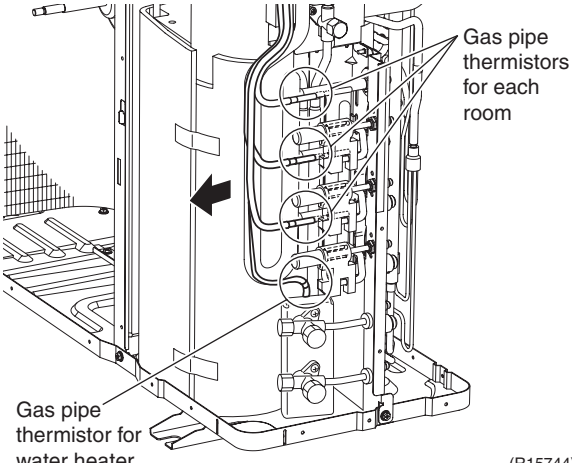


**Warning**

Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Remove the screw and remove the four way valve coil.	 <p style="text-align: center;">Four way valve coil</p> <p style="text-align: right;">(R15743)</p>	
2	Disconnect the relay connector for the high pressure switch lead wire.	 <p style="text-align: center;">High pressure switch lead wire</p> <p style="text-align: right;">(R13768)</p>	
3	Remove the high pressure switch lead wire.	 <p style="text-align: center;">High pressure switch</p> <p style="text-align: right;">High pressure switch lead wire</p> <p style="text-align: right;">(R13703)</p>	



Step	Procedure	Points
4	<p>Pull out the electronic expansion valve coils.</p>  <p>Electronic expansion valve coil</p> <p>(R13704)</p>	
5	<p>Cut the clamps of the gas pipe thermistor.</p>  <p>(R13705)</p>	
6	<p>Pull out the gas pipe thermistors.</p>  <p>Gas pipe thermistors for each room</p> <p>Gas pipe thermistor for water heater</p> <p>(R15744)</p>	

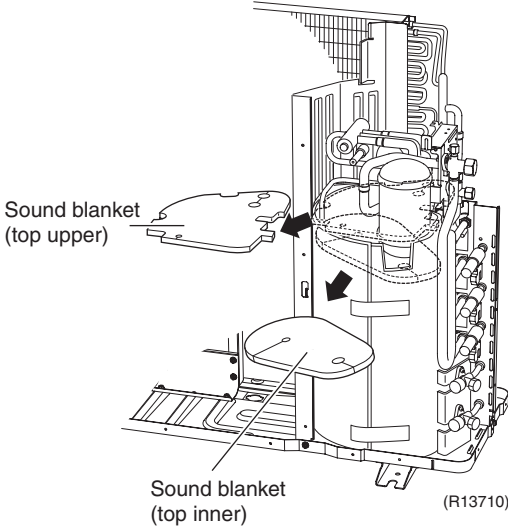
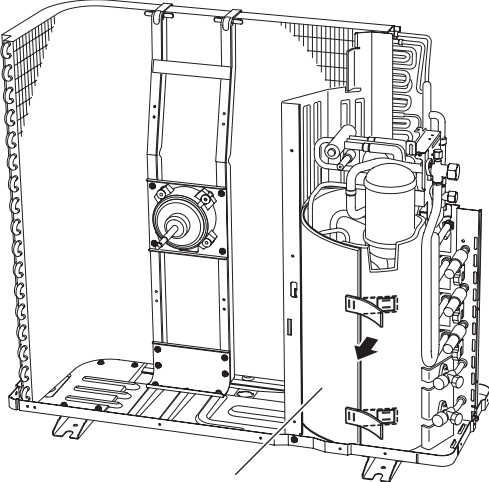
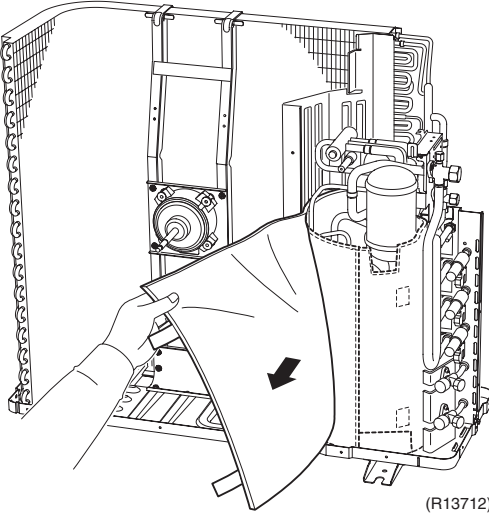
# 1.7 Removal of Sound Blankets

**Procedure**

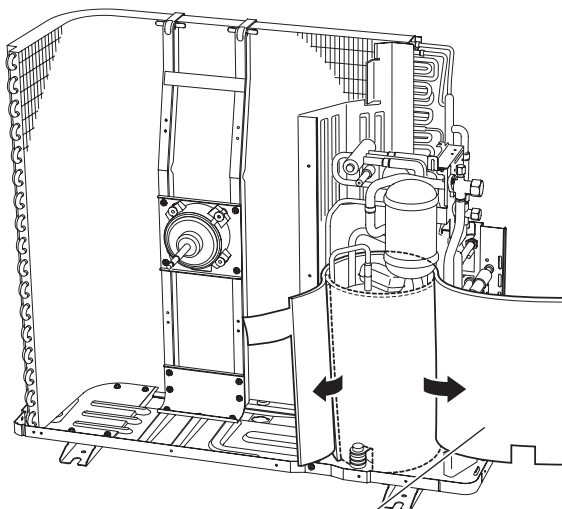


**Warning**

Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Remove the 2 sound blankets (top upper) (top inner).	 <p>Sound blanket (top upper)</p> <p>Sound blanket (top inner) (R13710)</p>	<ul style="list-style-type: none"> <li>■ The sound blanket is fragile. Carefully pass the blanket through the discharge pipe.</li> </ul>
2	Open the sound blanket (outer).	 <p>Sound blanket (outer) (R13711)</p>	
3	Remove the sound blanket (outer).	 <p>(R13712)</p>	

Step	Procedure	Points
4	Remove the sound blanket (inner) through the mufflers.	<ul style="list-style-type: none"><li>■ The sound blanket is fragile. Be careful of the notches of the compressor mount (3 locations).</li></ul>



Sound blanket  
(inner)

(R13713)

# 1.8 Removal of Compressor

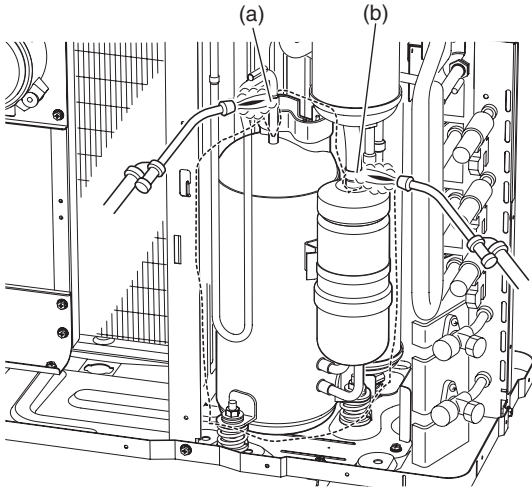




**Procedure**



**Warning**

Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Remove the terminal cover.	<p>Terminal cover</p> <p>(R13714)</p>	
2	Disconnect the 3 lead wires of the compressor.	<p>Overload protector</p> <p>Lead wires</p> <p>(R15746)</p>	<p>Red (U)</p> <p>Yellow (V)</p> <p>Blue (W)</p> <p>(R12436)</p>
3	Remove the overload protector.	<p>(R15746)</p>	
4	Remove the bushing.	<p>Bushing</p> <p>(R13716)</p>	
5	Remove the 3 nuts.	<p>(R13718)</p>	

Step	Procedure	Points
<ul style="list-style-type: none"> <li>■ Before working, make sure that the refrigerant gas is empty in the circuit.</li> <li>■ Be sure to apply nitrogen replacement when heating up the brazed part.</li> </ul>	 <p style="text-align: right; margin-right: 50px;">(R13717)</p>	<p><b>Warning</b>   Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.</p> <p><b>Warning</b>   If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)</p> <p><b>Warning</b>   Since it may happen that the refrigerant oil in the compressor catches fire, prepare wet cloth so as to extinguish fire immediately.</p>
<p>6 Heat up the brazed part of the discharge side and disconnect the part (a).</p> <p>7 Heat up the brazed part of the suction side and disconnect the part (b).</p> <p>8 Lift the compressor up to remove.</p>		<p><b>Caution</b>   From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.</p> <p><b>Cautions for restoration</b></p> <ol style="list-style-type: none"> <li>1. Restore the piping by non-oxidation brazing.</li> <li>2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C.) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry.</li> </ol> <p><b>In case of difficulty with gas brazing machine</b></p> <ol style="list-style-type: none"> <li>1. Disconnect the brazed part where is easy to disconnect and restore.</li> <li>2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.</li> </ol>
<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>■ Do not use a metal saw for cutting pipes by all means because the sawdust may enter the circuit.</li> <li>■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed.</li> <li>■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.</li> <li>■ Be careful so as not to burn the compressor terminals, the name plate, the heat exchanger fins.</li> </ul>		

## 2. Removal of Water Heater

**Procedure**



**Warning**

Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
1	Remove the 2 screws and remove the heater cover.	
	<p>Heater cover</p> <p>(R13719)</p>	
2	Pull out the water heater thermistor.	
	<p>Water heater thermistor</p> <p>(R13720)</p>	
3	Disconnect the connector of the water heater cable.	
	<p>(R13721)</p> <p>(R13722)</p>	

# Revision History

Month / Year	Version	Revised contents
08/2012	Si121177	First edition

Warning



- Daikin products are manufactured for export to numerous countries throughout the world. Prior to purchase, please confirm with your local authorised importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

### Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

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