




# REMOVAL PROCEDURE



SERVICE  
MANUAL

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

## 5.0 kW Class

-  Outdoor Unit
-  Non-inverter
-  Pair Type



# **Service Manual Removal Procedure**

## **Outdoor Unit**

●Heat Pump  
RYN50HV1A

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**Note:**

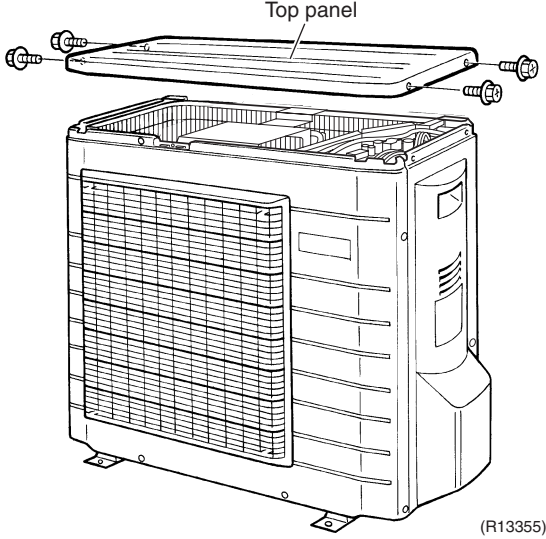
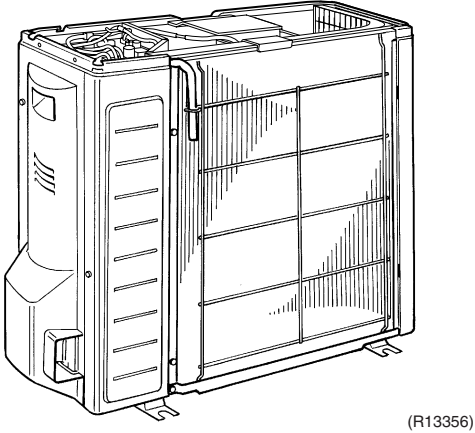
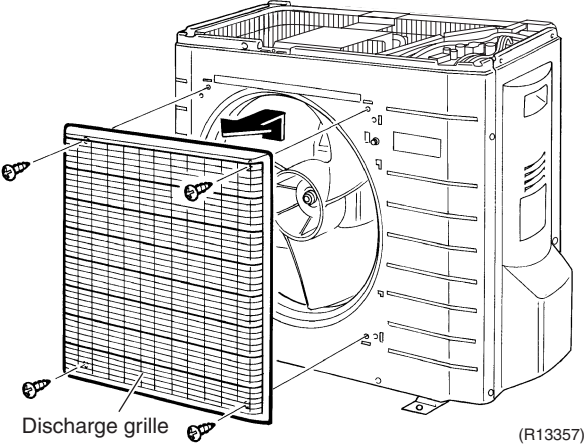
♦ The illustrations may be slightly different depending on the model.

# 1. Removal of Outer Panels

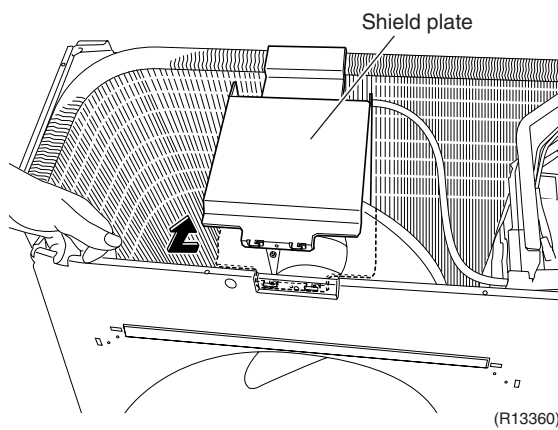
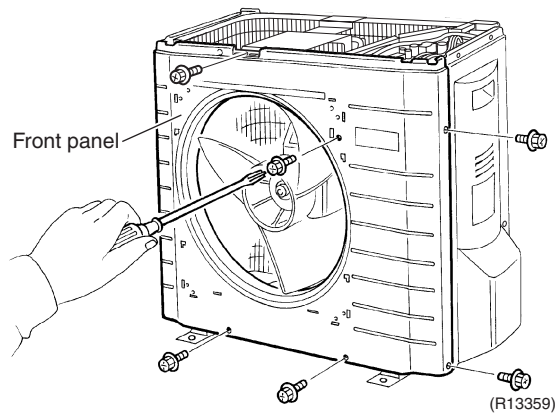
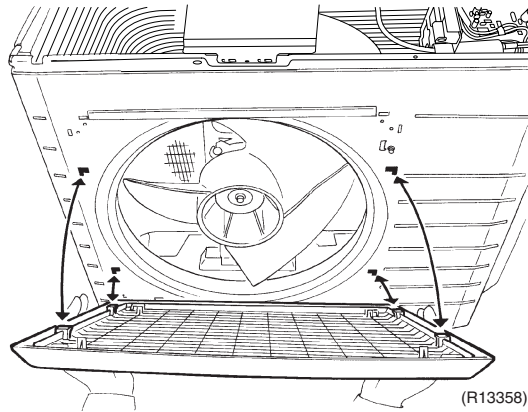
**Procedure**



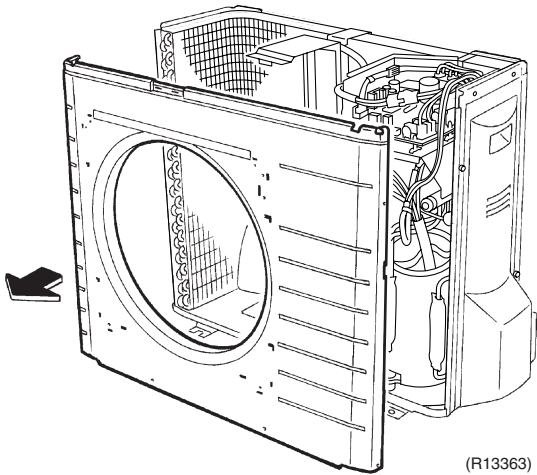
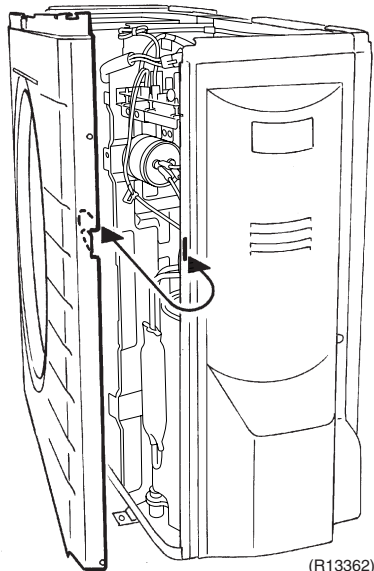
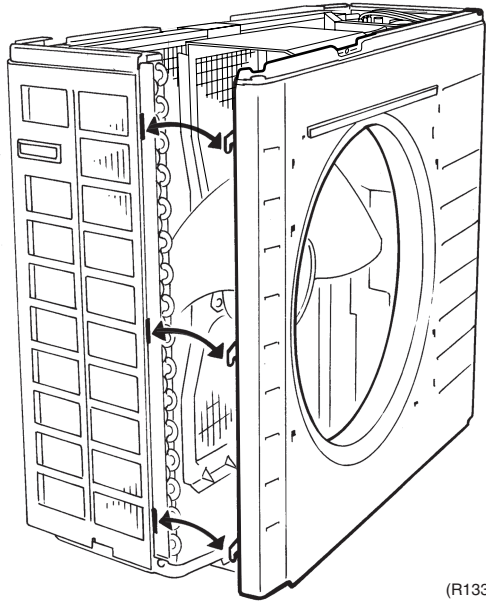
**Warning** Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

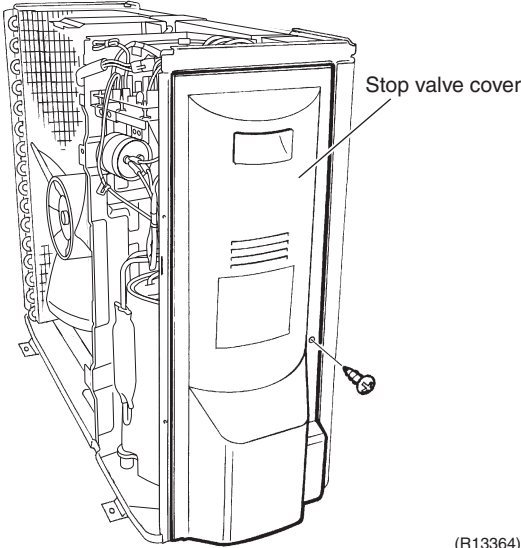
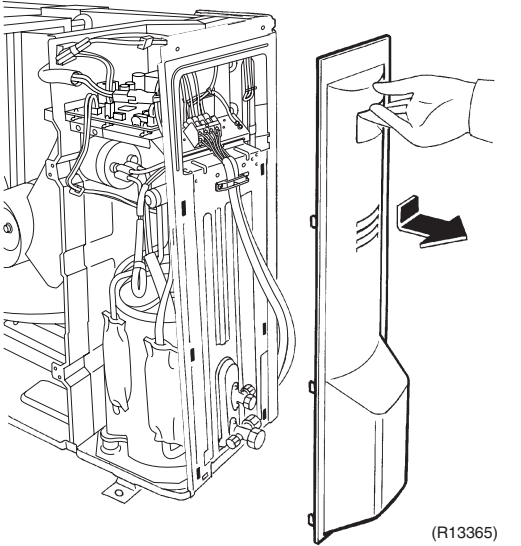
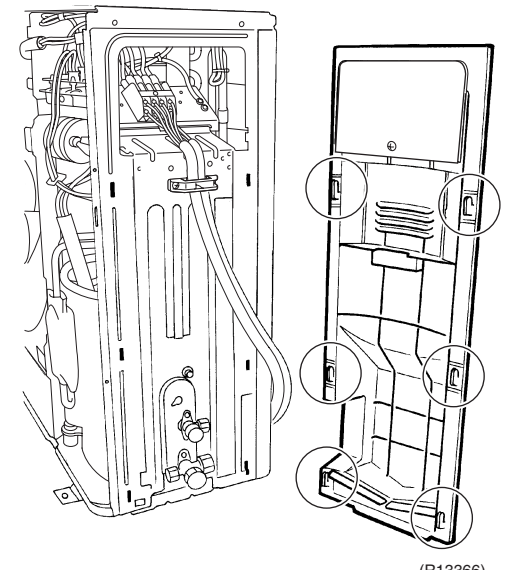
Step	Procedure	Points
1. Remove the panels.		<p>■ Take care not to cut your finger by the fins of the outdoor heat exchanger.</p>
1 Remove the 4 screws and remove the top panel.		
2 Remove the 4 screws and remove the discharge grille.		

Step	Procedure	Points
3	Remove the 6 screws of the front panel.	<ul style="list-style-type: none"> <li>■ The discharge grille has 4 hooks.</li> </ul>
4	Slide the shield plate to the left to unfasten the hooks and remove it.	



Step	Procedure	Points
5	Unfasten the left side hooks.	<ul style="list-style-type: none"> <li>■ Lift the front panel while pushing the left side panel inward.</li> </ul>
6	Unfasten the right side hook.	<ul style="list-style-type: none"> <li>■ Lift the front panel and unfasten the right side hook.</li> </ul>
7	Remove the front panel.	<ul style="list-style-type: none"> <li>■ When reassembling, fit the right side of the front panel first.</li> </ul>



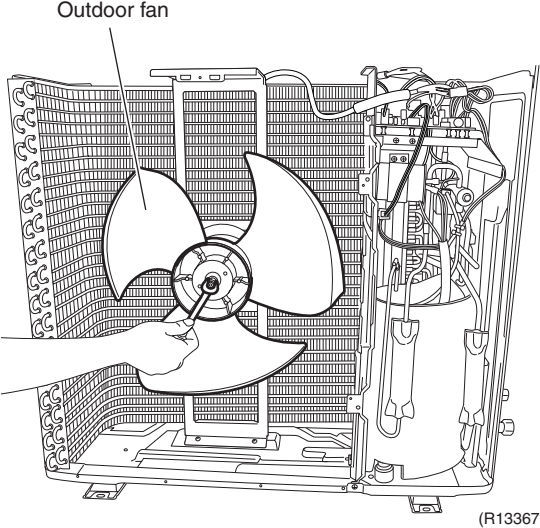
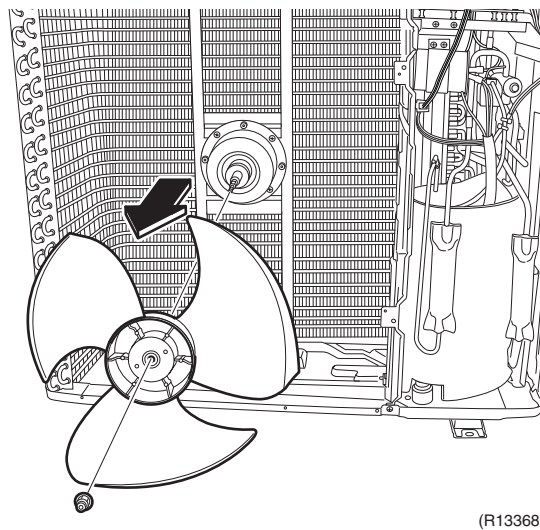
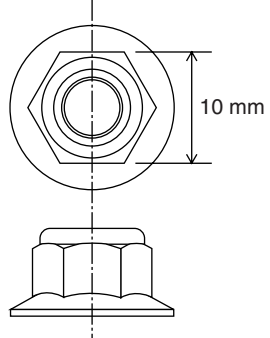
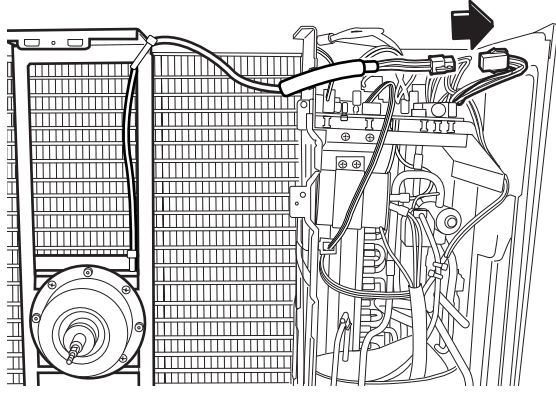
Step	Procedure	Points
2. Remove the stop valve cover.	 <p>Stop valve cover</p> <p>(R13364)</p>	
1. Remove the screw of the stop valve cover.	 <p>(R13365)</p>	
2. Pull down the stop valve cover to unfasten the hooks and remove it.	 <p>(R13366)</p>	<p>■ The stop valve cover has 6 hooks.</p>

## 2. Removal of Outdoor Fan / Fan Motor

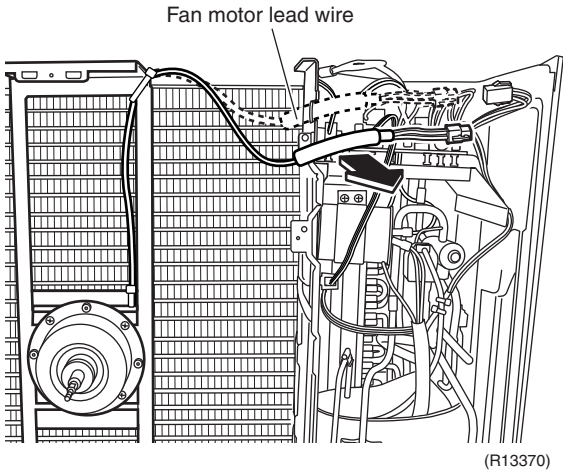
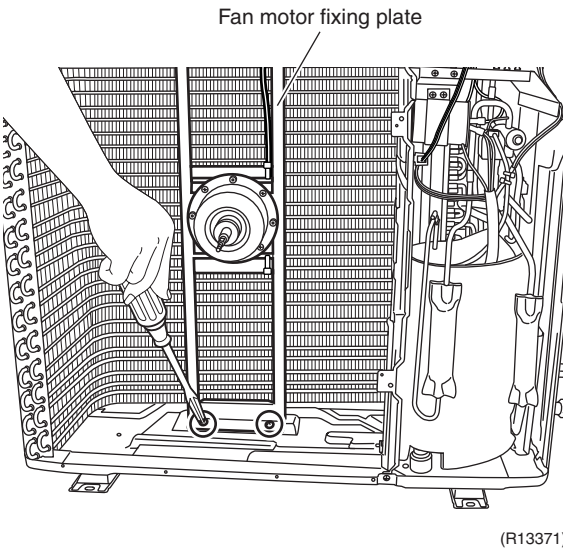
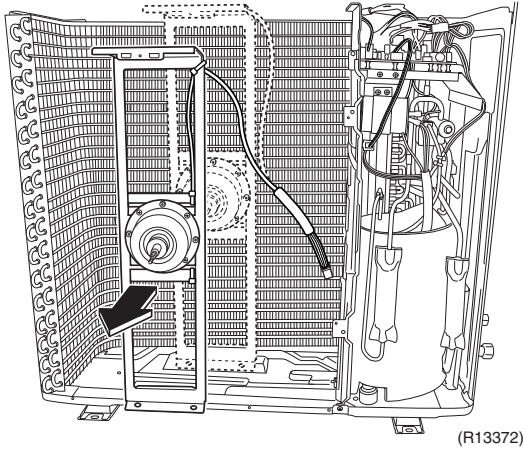
**Procedure**

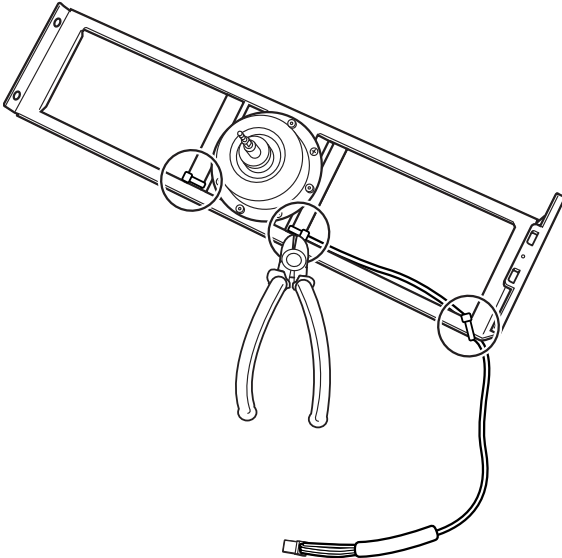
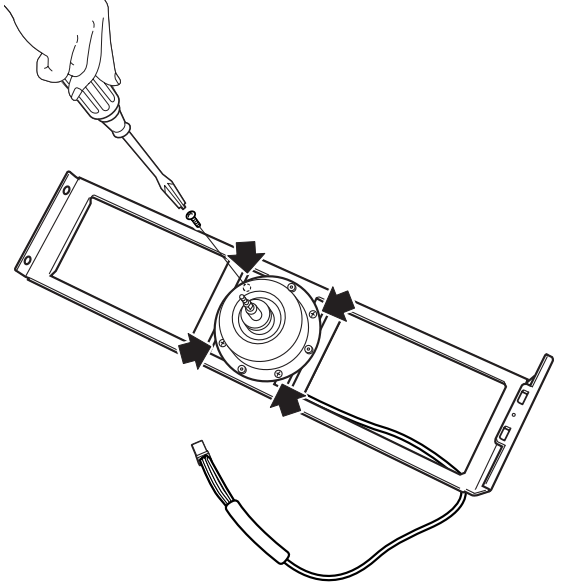
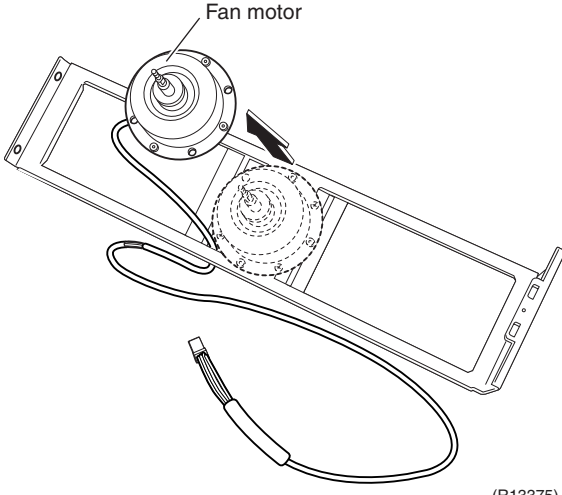


**Warning** Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Remove the nut and remove the outdoor fan.	 <p>(R13367)</p>  <p>(R13368)</p>	<p>■ Nut size: M6</p>  <p>(R12236)</p> <p>■ When reassembling, align the ▼ mark of the outdoor fan with the D-cut section of the motor shaft.</p>
2	Disconnect the relay connector.	 <p>(R13369)</p>	



Step	Procedure	Points
3	Release the fan motor lead wire from the hook.	
	 <p style="text-align: center;">Fan motor lead wire</p> <p style="text-align: right;">(R13370)</p>	
4	Remove the 2 screws of the fan motor fixing plate.	
	 <p style="text-align: center;">Fan motor fixing plate</p> <p style="text-align: right;">(R13371)</p>	
5	Remove the fan motor fixing plate.	
	 <p style="text-align: right;">(R13372)</p>	

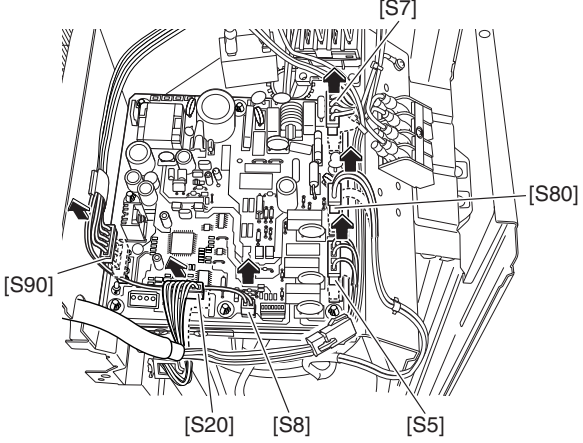
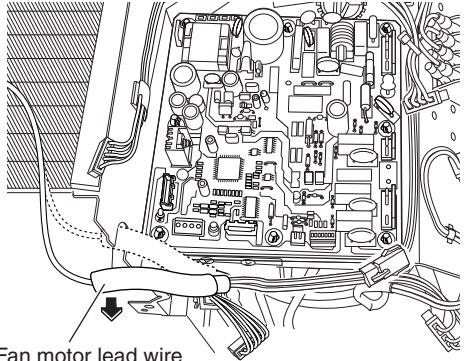
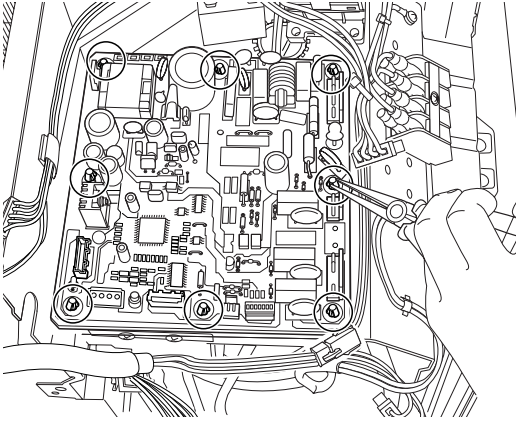
Step	Procedure	Points
6	Cut the clamp at 3 locations.	
		
	(R13373)	
7	Remove the 4 screws.	
		
	(R13374)	
8	Remove the fan motor.	
		
	(R13375)	

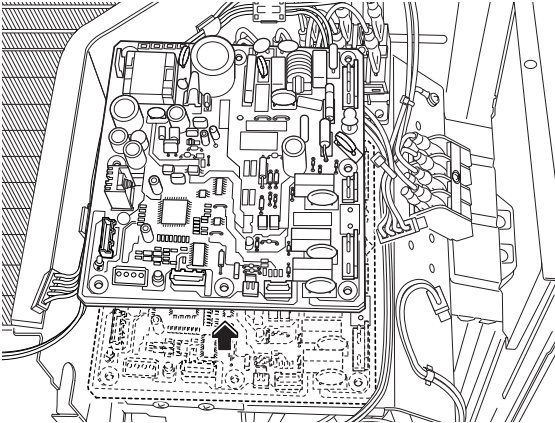
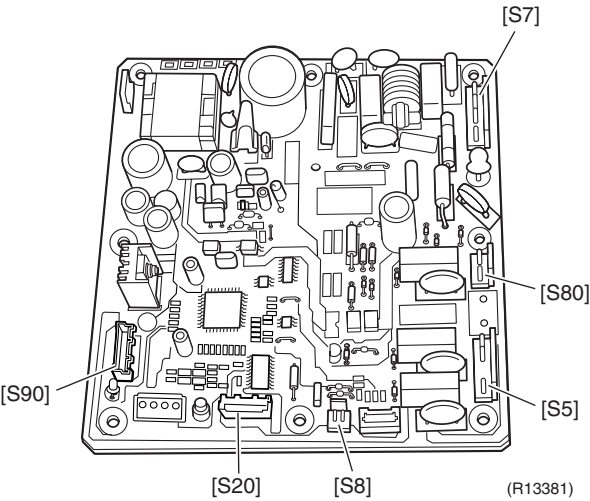
### 3. Removal of Electrical Components

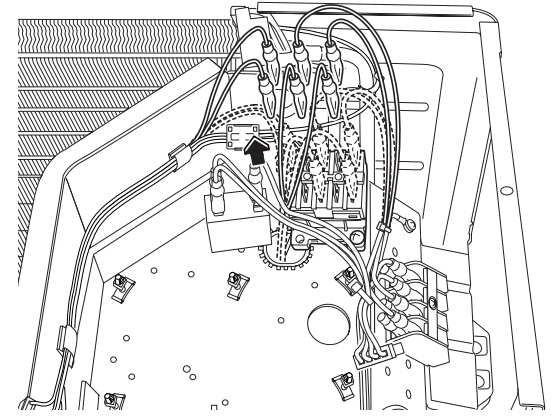
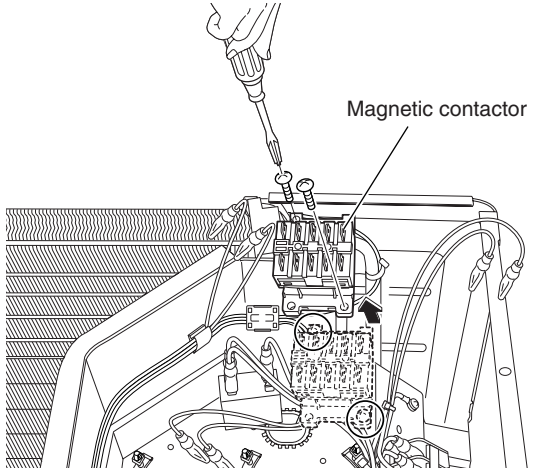
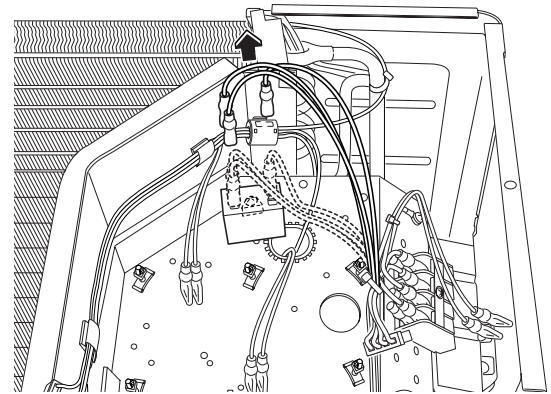
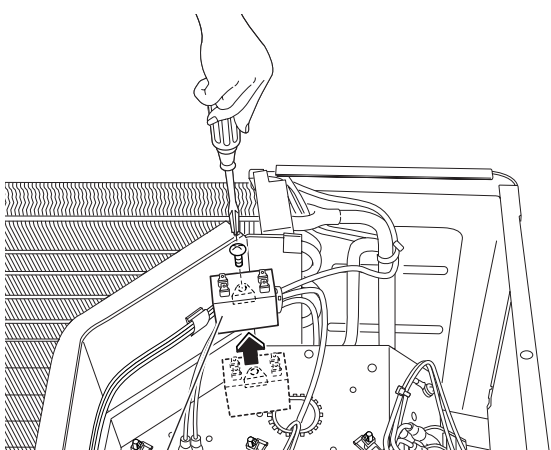
#### Procedure

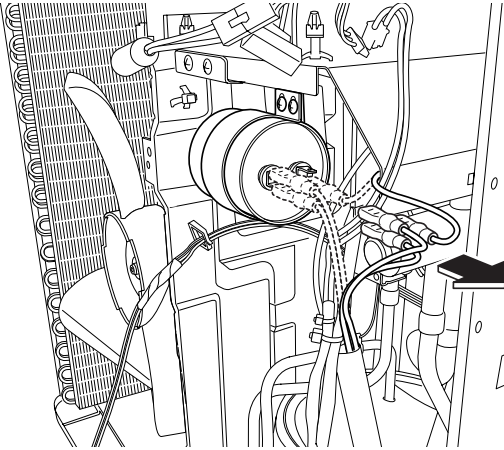
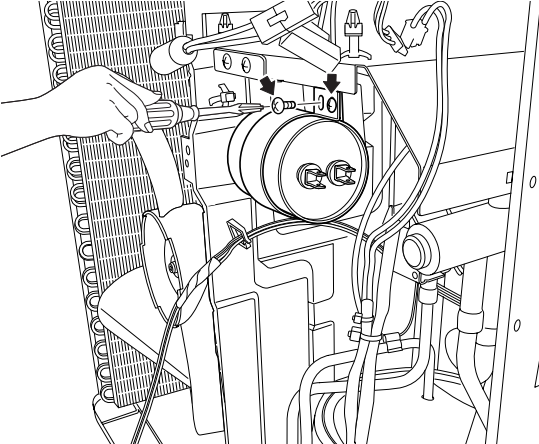
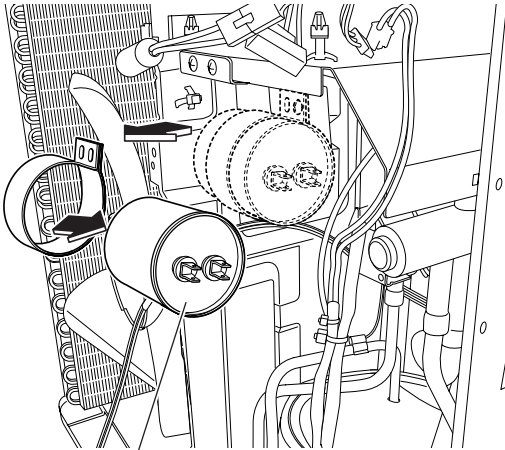


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Step	Procedure	Points
1. Remove the PCB.	 <p>(R13376)</p>	
2. Release the fan motor lead wire.	 <p>Fan motor lead wire</p> <p>(R13378)</p>	
3. Pinch the PCB spacers and pull out the PCB.	 <p>(R13379)</p>	

Step	Procedure	Points
4	Remove the PCB.	
	 <p style="text-align: right;">(R13380)</p>  <p style="text-align: right;">(R13381)</p>	<p>[S5] : AC fan motor                  [S7] : terminal board                  [S8] : compressor                  [S20]: electronic expansion valve                  [S80]: four way valve coil                  [S90]: thermistor ASSY</p>

Step	Procedure	Points
2. Remove the magnetic contactor.	 <p data-bbox="975 645 1050 667">(R13382)</p>  <p data-bbox="842 786 1023 808">Magnetic contactor</p> <p data-bbox="975 1160 1050 1182">(R13383)</p>	
3. Remove the fan motor capacitor.	 <p data-bbox="975 1597 1050 1619">(R13384)</p>  <p data-bbox="568 2089 762 2112">Fan motor capacitor</p> <p data-bbox="975 2094 1050 2116">(R13385)</p>	

Step	Procedure	Points
<p>4. Remove the compressor motor capacitor.</p>		
<p>1 Pull out all the terminals.</p>	<p>(R13389)</p>	
<p>2 Remove the 2 screws.</p>		
<p>3 Remove the compressor motor capacitor.</p>		
	<p>Compressor capacitor motor</p>	<p>(R13391)</p>



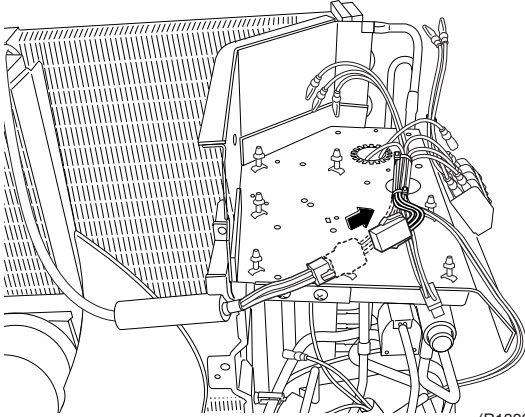
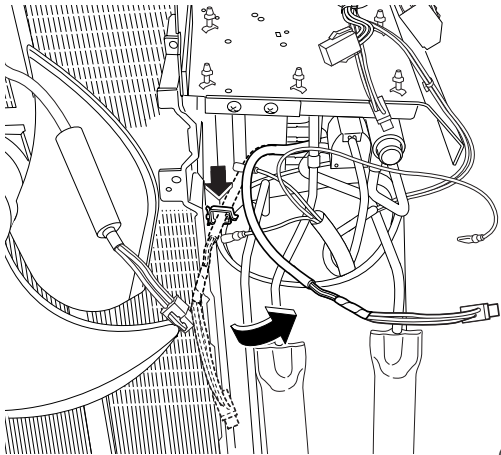
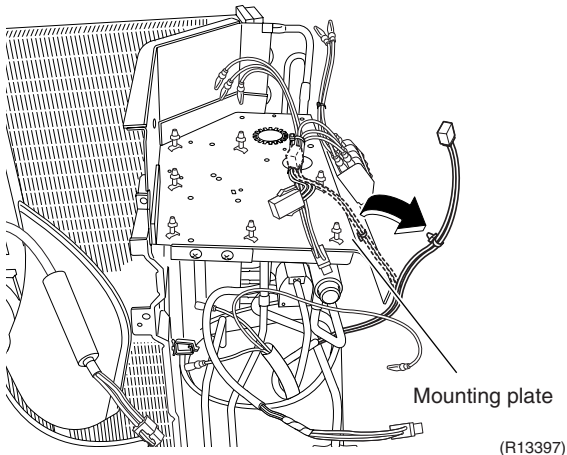
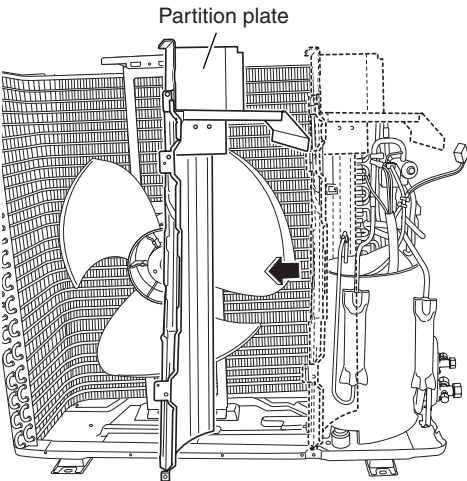
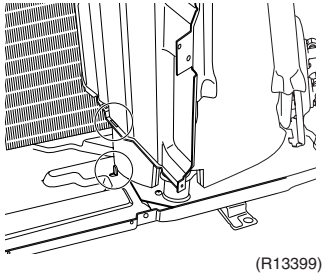
# 4. Removal of Partition Plate

**Procedure**



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

Step	Procedure	Points
1	Peel the sealing material off.	
	<p style="text-align: right;">(R13392)</p>	
2	Remove the screw.	
	<p style="text-align: right;">(R13393)</p>	
3	Remove the 2 screws.	
	<p style="text-align: right;">(R13394)</p>	

Step	Procedure	Points
4	Disconnect the relay connector.	
	 <p>(R13395)</p>	
5	Release the harness of the electronic expansion valve from the clamp.	
	 <p>(R13396)</p>	
6	Release the harness of the four way valve from the mounting plate.	
	 <p>Mounting plate (R13397)</p>	
7	Lift and remove the partition plate.	
	 <p>Partition plate (R13398)</p>	<p>■ When reassembling, make sure to fit the hook.</p>
		 <p>(R13399)</p>



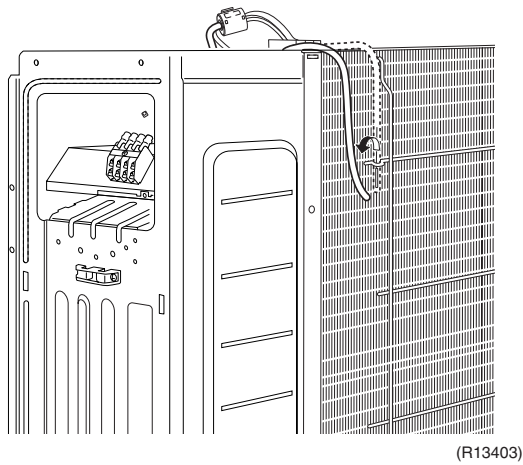
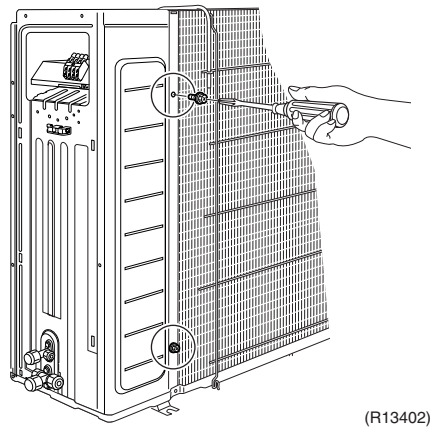
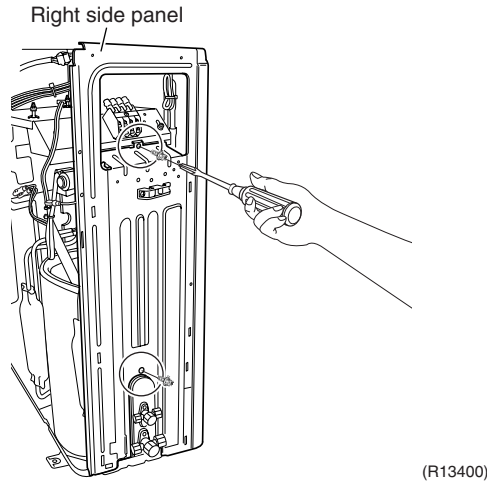
## 5. Removal of Thermistor ASSY

### Procedure

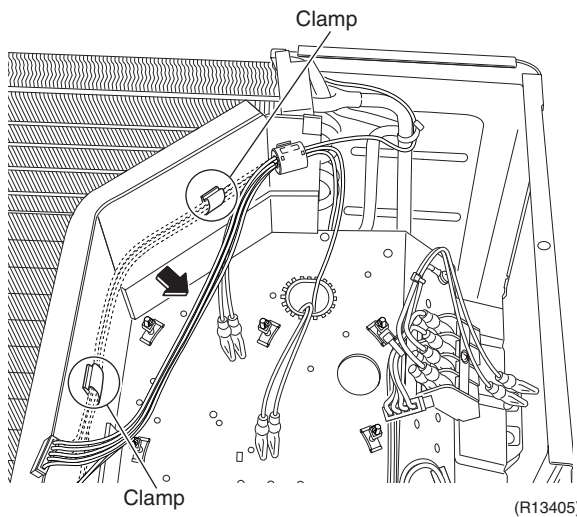
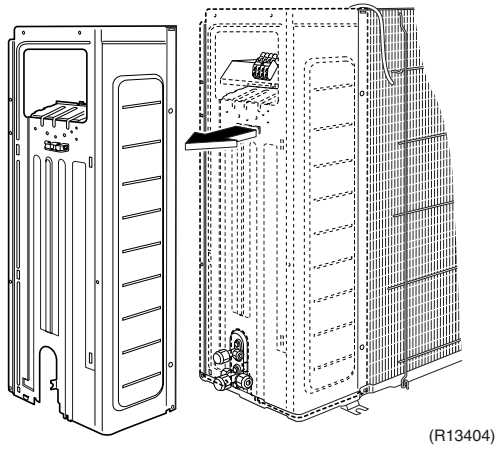
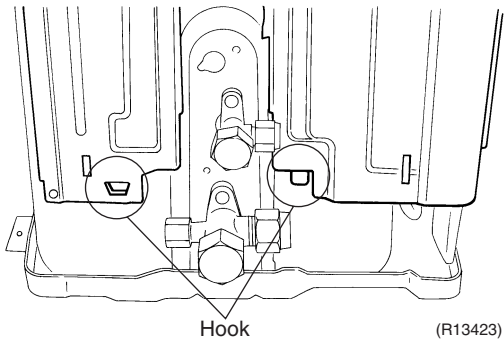
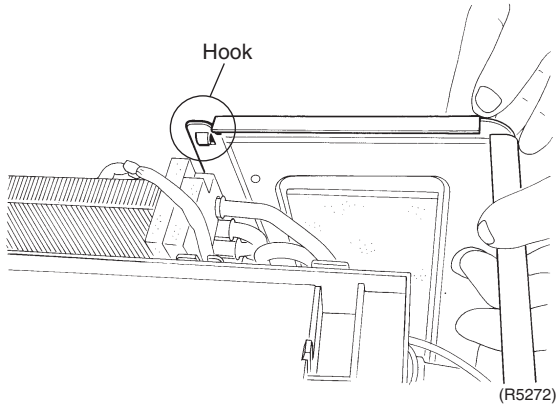


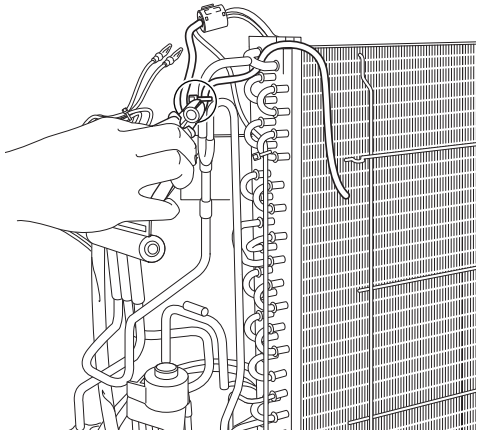
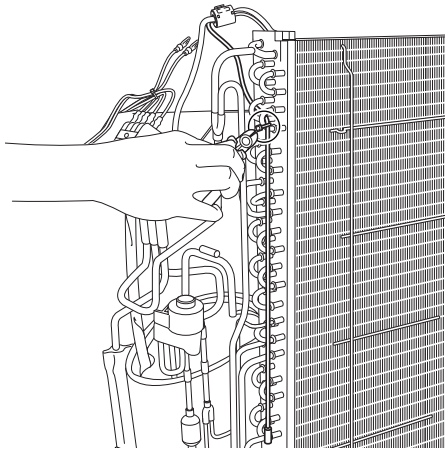
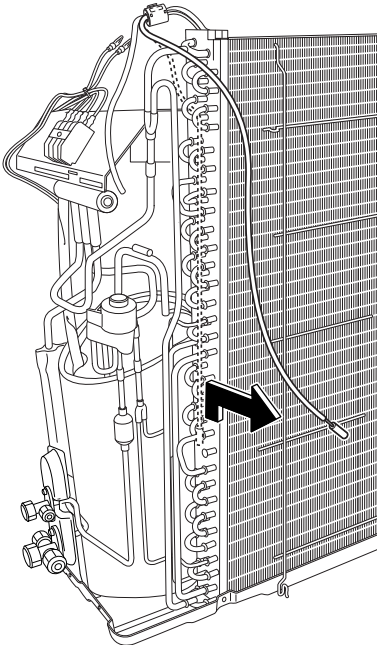
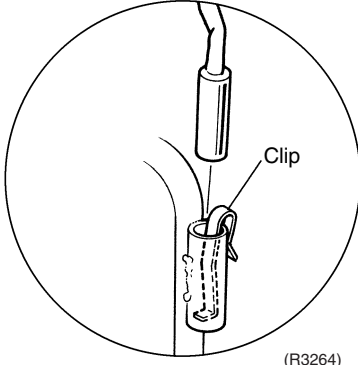
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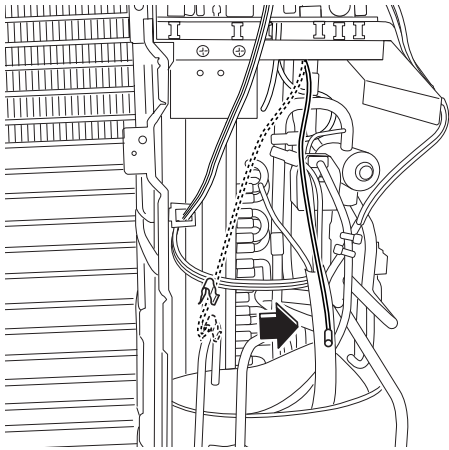
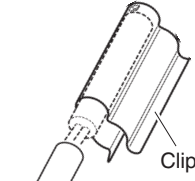
Step	Procedure	Points
1	Remove the 2 screws (right).	
2	Remove the 2 screws (back).	
3	Release the outdoor temperature thermistor.	



Step	Procedure	Points
4	<p>Unfasten the hooks and remove the right side panel.</p>	<p>■ When reassembling, insert the 2 hooks of the lower part and the 1 hook of the upper back.</p>
5	<p>Release the harness from the clamps.</p>	



Step	Procedure	Points
6	Cut the clamp of the outdoor temperature thermistor.	
		
	(R13406)	
7	Cut the clamp of the outdoor heat exchanger thermistor.	
		
	(R13407)	
8	Pull out the outdoor heat exchanger thermistor.	
		
	(R13408)	
		<p>■ Be careful not to lose the clip for the thermistor.</p>
		
		(R3264)

Step	Procedure	Points
9	<p>Release the discharge pipe thermistor. Remove the thermistor ASSY.</p>	<p>■ Be careful not to lose the clip for the thermistor.</p>
	 <p>(R13409)</p>	 <p>(R12287)</p>

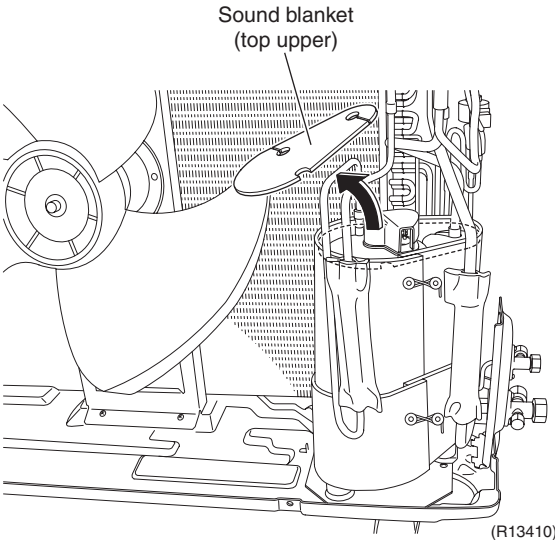
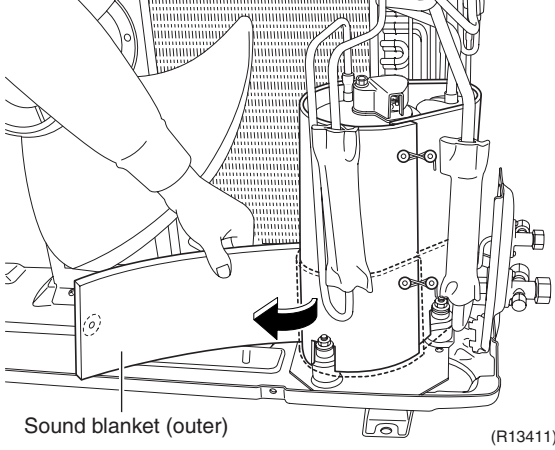
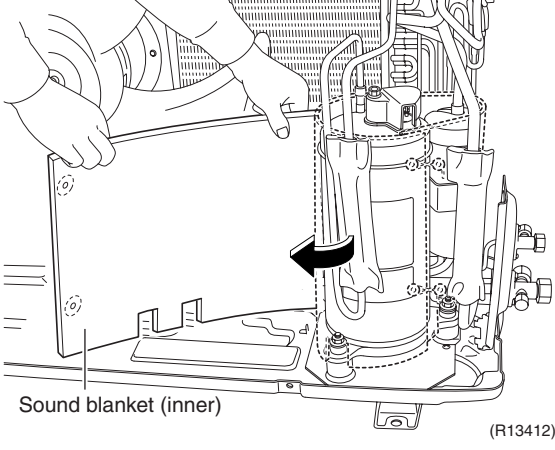
## 6. Removal of Sound Blankets

### Procedure



### Warning

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

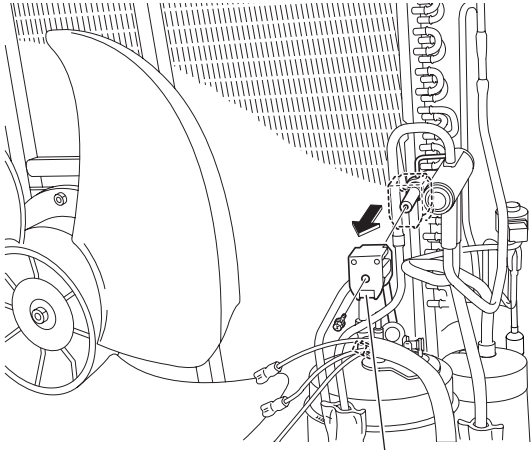
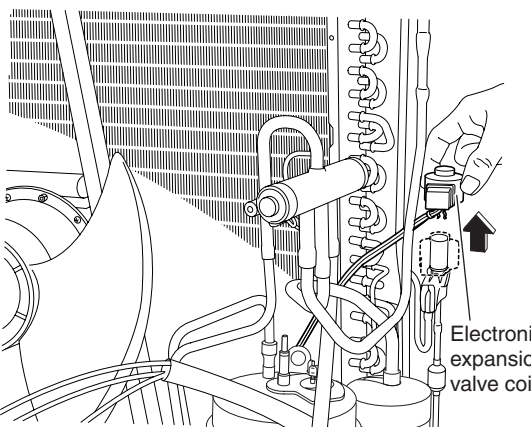
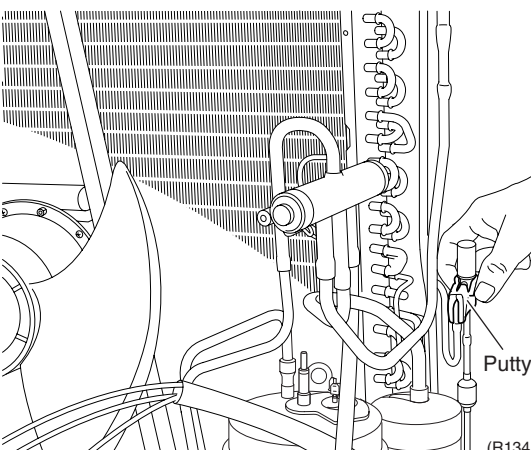
Step	Procedure	Points	
1	Remove the sound blanket (top upper).	 <p style="text-align: right;">(R13410)</p>	
2	Remove the sound blanket (outer).	 <p style="text-align: right;">(R13411)</p>	<ul style="list-style-type: none"> <li>■ Since the piping ports are torn easily, remove the sound blanket carefully.</li> </ul>
3	Remove the sound blanket (inner).	 <p style="text-align: right;">(R13412)</p>	

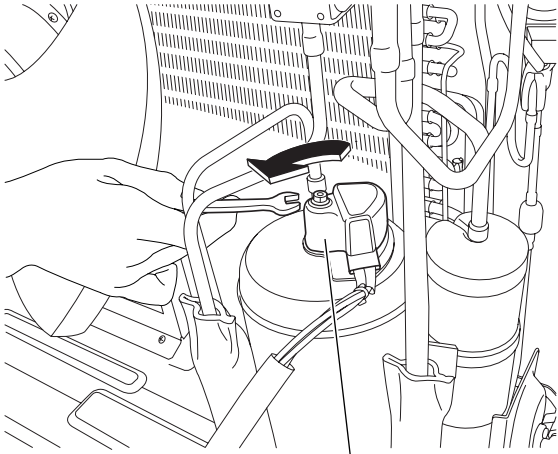
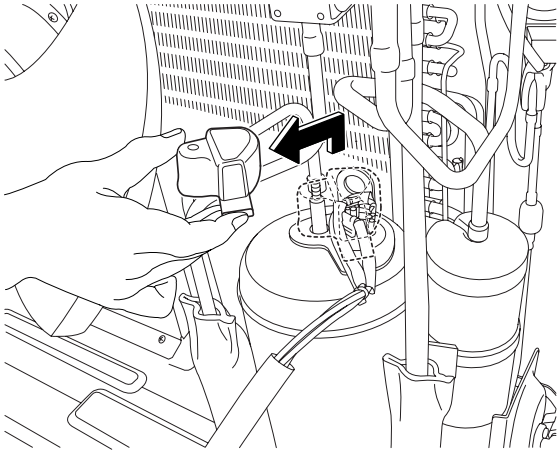
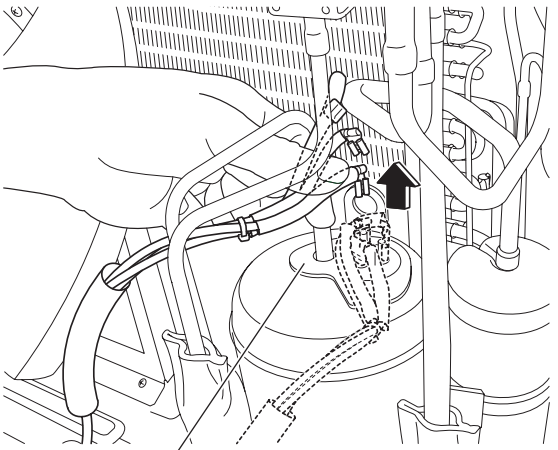
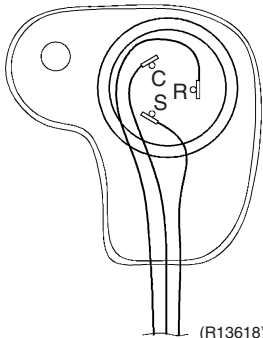
# 7. Removal of Four Way Valve

**Procedure**

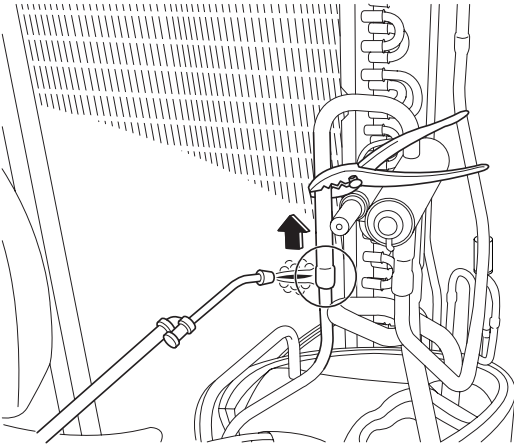
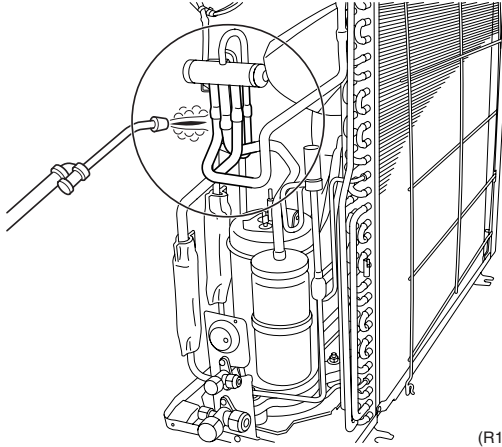


**Warning** Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
1	<p>Remove the screw and remove the four way valve coil.</p>  <p>Four way valve coil</p> <p>(R13413)</p>	
2	<p>Remove the electronic expansion valve coil.</p>  <p>Electronic expansion valve coil</p> <p>(R13414)</p>	
3	<p>Remove the putty.</p>  <p>Putty</p> <p>(R13415)</p>	

Step	Procedure	Points
4	Remove the nut of the terminal cover.	
	 <p style="text-align: center;">Terminal cover (R13416)</p>	
5	Remove the terminal cover.	
	 <p style="text-align: center;">(R13417)</p>	
6	Disconnect the lead wires of the compressor.	
7	Remove the gasket.	
	 <p style="text-align: center;">Gasket (R13418)</p>	 <p style="text-align: center;">(R13618)</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;">(R13419)</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>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>8 Heat up the brazed part of the four way valve and disconnect.</p>	 <p style="text-align: right;">(R13420)</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>9 Heat up every brazed part in turn and disconnect.</p>		<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 comes into 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> </ul>



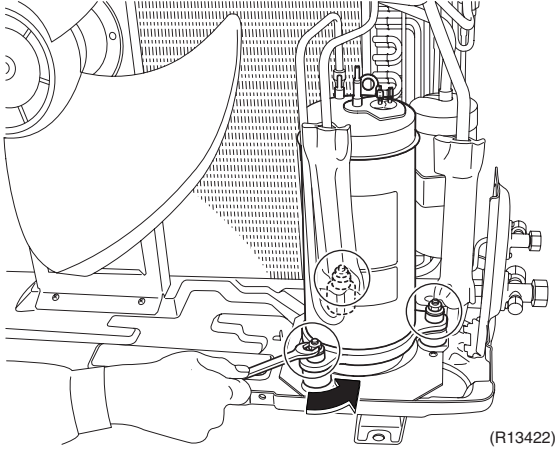

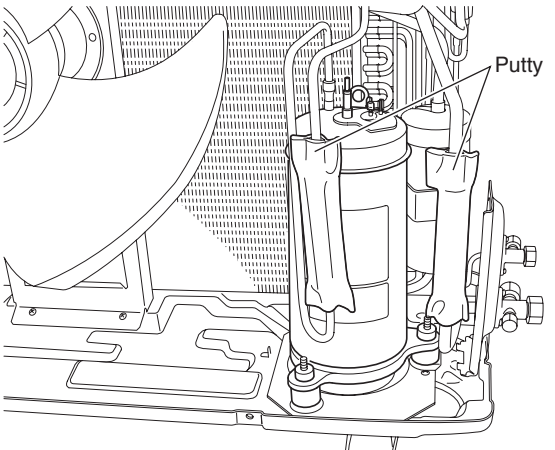

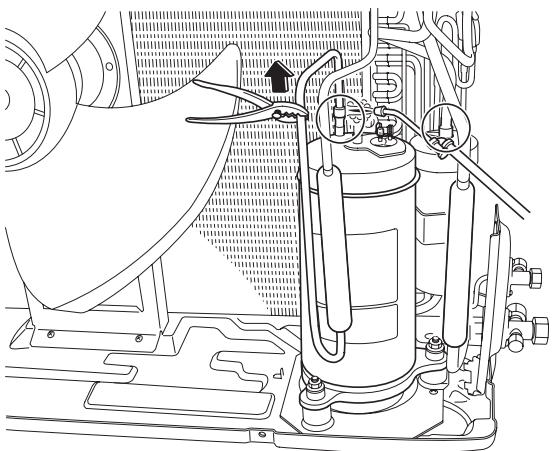


## 8. Removal of Compressor

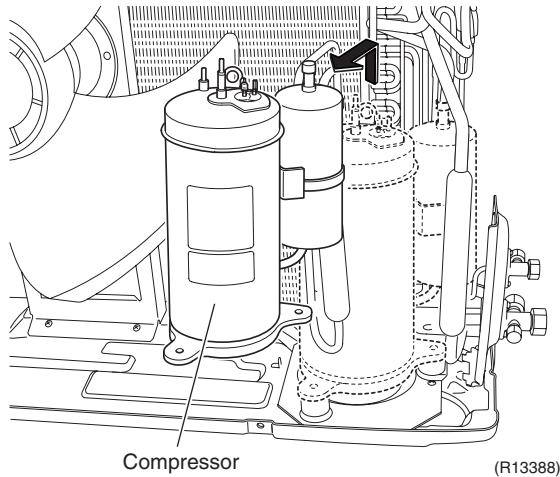
### Procedure



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

Step	Procedure	Points
1	Remove the 3 nuts of the compressor.	<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>
2	Remove the putty.	<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>
<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;">(R13422)</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>3 Heat up the brazed part of the discharge side and disconnect.</p> <p>4 Heat up the brazed part of the suction side and disconnect.</p>	 <p style="text-align: right;">(R13386)</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 style="text-align: right;">(R13387)</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>

Step	Procedure	Points
5	Lift the compressor up and remove it.	<p data-bbox="1093 210 1161 239"><b>Note:</b></p> <ul data-bbox="1093 244 1458 869" style="list-style-type: none"><li data-bbox="1093 244 1458 371">■ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit.</li><li data-bbox="1093 409 1458 537">■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed.</li><li data-bbox="1093 575 1458 703">■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.</li><li data-bbox="1093 741 1458 869">■ Be careful so as not to burn the compressor terminals, the name plate, the heat exchanger fins.</li></ul>



# Revision History

Month / Year	Version	Revised contents
01 / 2013	Si011086	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.

### Dealer

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