




REMOVAL PROCEDURE



SERVICE
MANUAL

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

6.0 kW Class

-  Outdoor Unit
-  Non-inverter
-  Pair Type



Service Manual Removal Procedure

Outdoor Unit

●Heat Pump
RYN60HV1A

Table of Contents

1. Removal of Outer Panels	2
2. Removal of Outdoor Fan / Fan Motor	5
3. Removal of Thermistor ASSY	9
4. Removal of Electrical Components	12
5. Removal of Electronic Expansion Valve	16
6. Removal of Sound Blankets.....	20
7. Removal of Four Way Valve	21
8. Removal of Compressor	23

1. Removal of Outer Panels

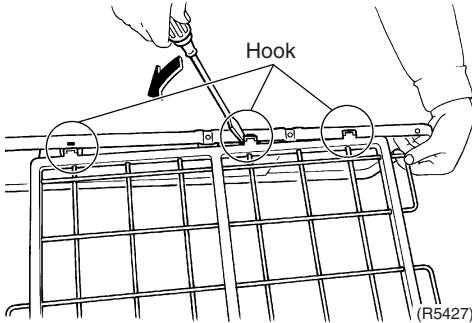
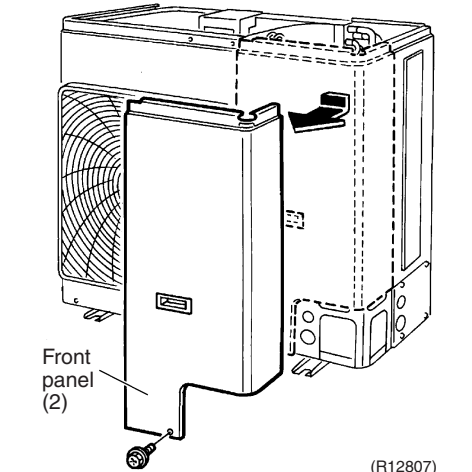
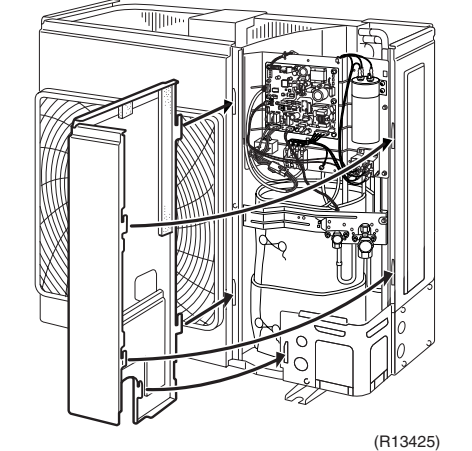
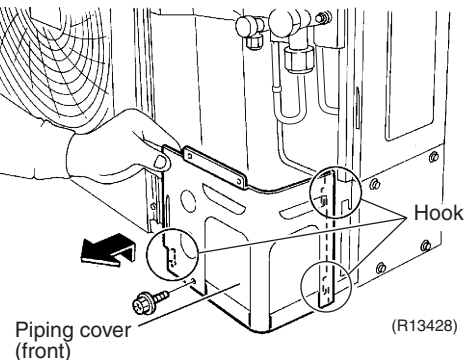
Procedure

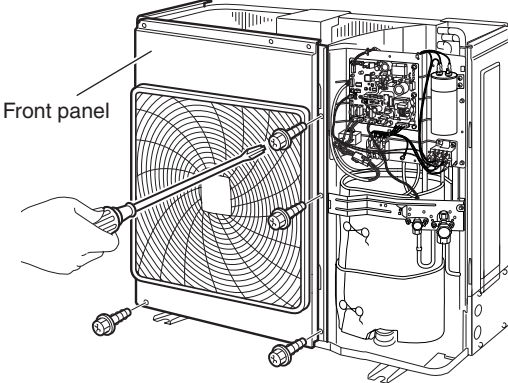
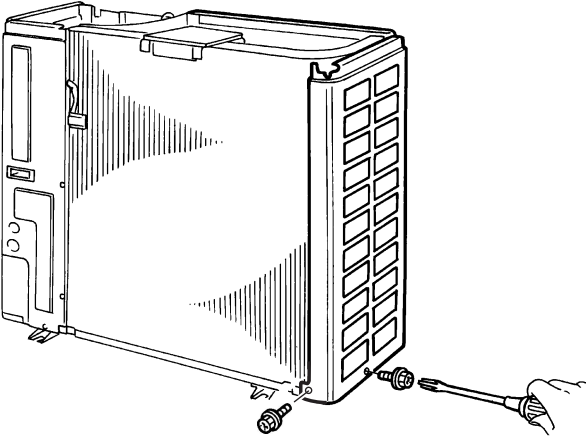
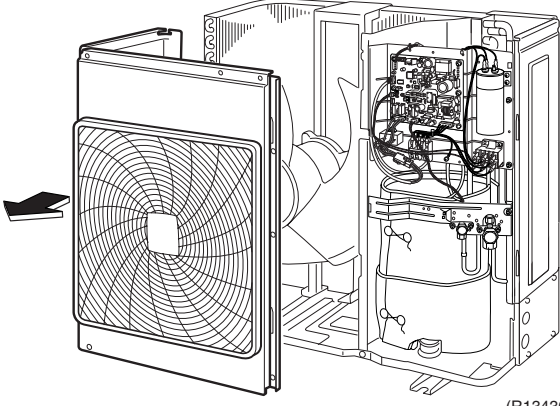


Warning

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

Step	Procedure	Points
1. Remove the top panel.	<p style="text-align: right;">Top panel</p> <p style="text-align: right;">(R5423)</p>	
1 Remove the 8 screws of the top panel.	<p style="text-align: right;">(R5424)</p>	
2 Pull the suction grille to unfasten the hook.	<p style="text-align: right;">Suction grille</p> <p style="text-align: right;">(R13426)</p>	<ul style="list-style-type: none"> ■ Take care not to cut your finger by the fins of the outdoor heat exchanger.
3 Lift up and remove the top panel.	<p style="text-align: right;">(R5426)</p>	

Step	Procedure	Points
4	Unfasten the hooks with a flat screwdriver and remove the suction grille.	
2. Remove the front panel (2).		<p data-bbox="1094 1137 1455 1198">■ When reassembling, fit the 5 hooks.</p>
1	Remove the screw and remove the front panel (2).	
3. Remove the piping cover (front).	 	
1	Remove the screw. Release the 3 hooks and remove the piping cover (front).	
		

Step	Procedure	Points
4. Remove the front panel (1).	 <p>Front panel</p> <p>(R13429)</p>  <p>(R13317)</p>  <p>(R13430)</p>	

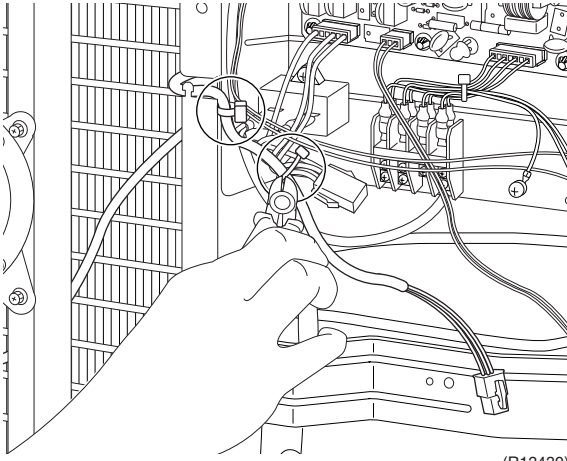
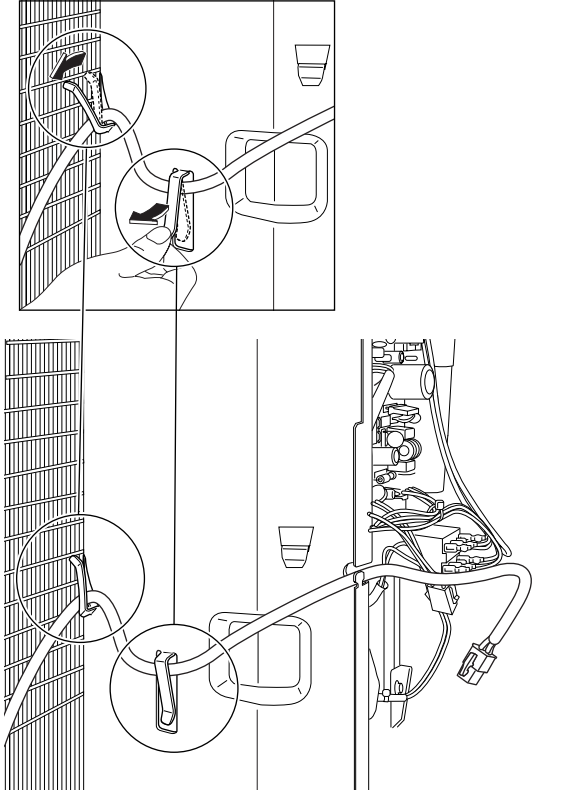
2. Removal of Outdoor Fan / Fan Motor

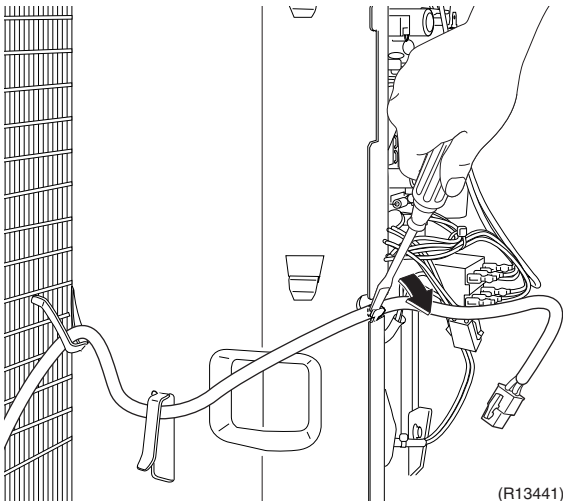
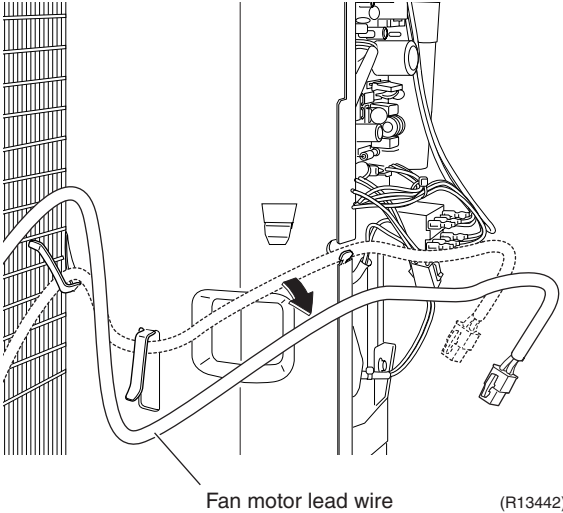
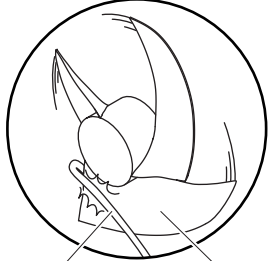
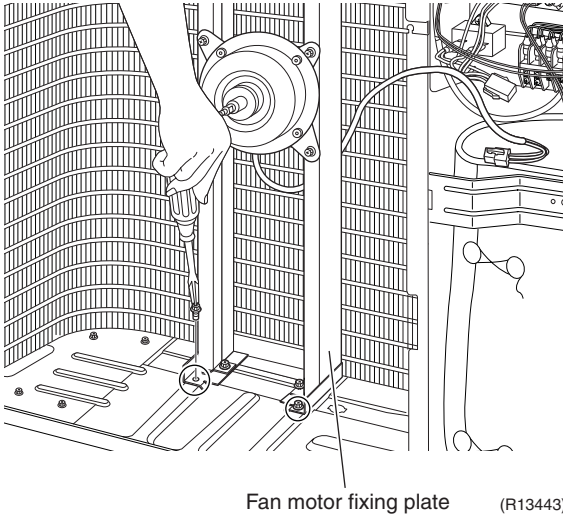
Procedure



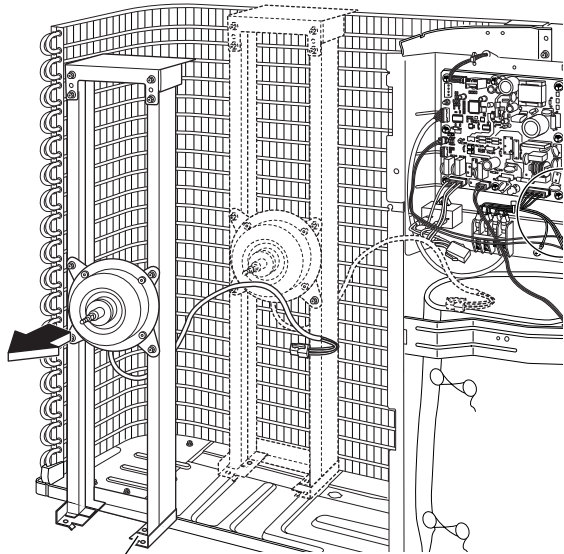
Warning Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
<p>1. Remove the outdoor fan.</p> <p>1 Remove the nut and remove the outdoor fan.</p>	<p>(R13435)</p> <p>(R13436)</p>	<p>Preparation</p> <ul style="list-style-type: none"> Remove the front panel according to the "Removal of the Outer Panels". Nut size : M8 <p>(R12301)</p> <ul style="list-style-type: none"> When reassembling, fit the D-cuts of the lock washer and the shaft of fan motor. <p>(R12834)</p> <p>(R12835)</p>
<p>2. Disconnect the each wire harness.</p> <p>1 Disconnect the relay connector for the fan motor.</p>	<p>(R13437)</p>	

Step	Procedure	Points
2	Cut the 2 clamps.	
	 <p>(R13439)</p>	
3	Unfasten the hooks.	
	 <p>(R13440)</p>	

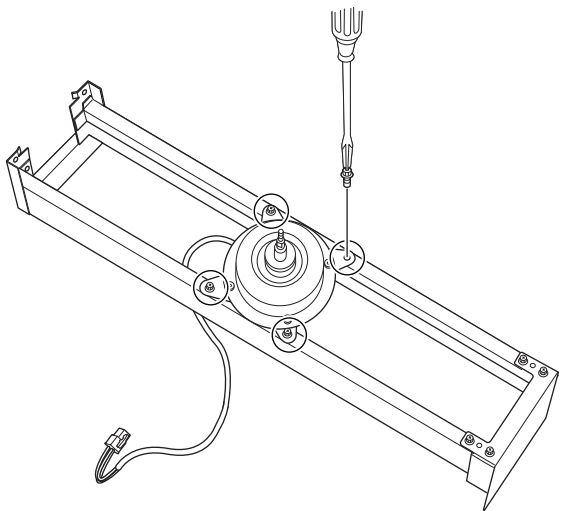
Step	Procedure	Points
4	Unfasten the hook with a flat screwdriver.	
5	Release the fan motor lead wire.	<ul style="list-style-type: none"> Put the fan motor lead wire through the back of the fan motor when reassembling so as not to be entangled with the outdoor fan.
3. Remove the fan motor.	1 Remove the 2 screws of the fan motor fixing plate.	
	 <p>(R13441)</p>	
	 <p>Fan motor lead wire (R13442)</p>	 <p>Lead wire Outdoor fan (R3249)</p>
	 <p>Fan motor fixing plate (R13443)</p>	

Step	Procedure	Points
2	Remove the fan motor fixing plate.	
3	Remove the 4 screws.	
4	Remove the fan motor.	

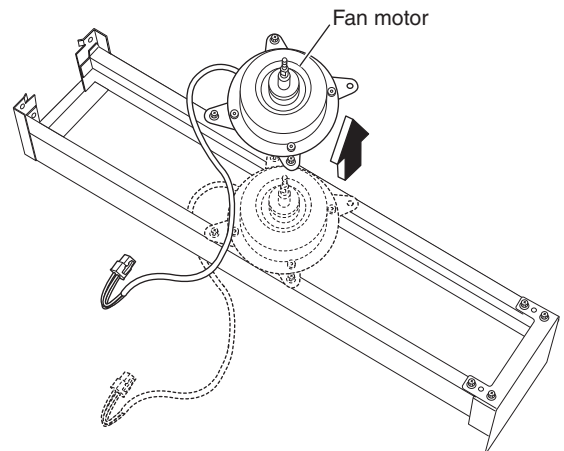


Fan motor fixing plate

(R13444)



(R13445)



Fan motor

(R13438)

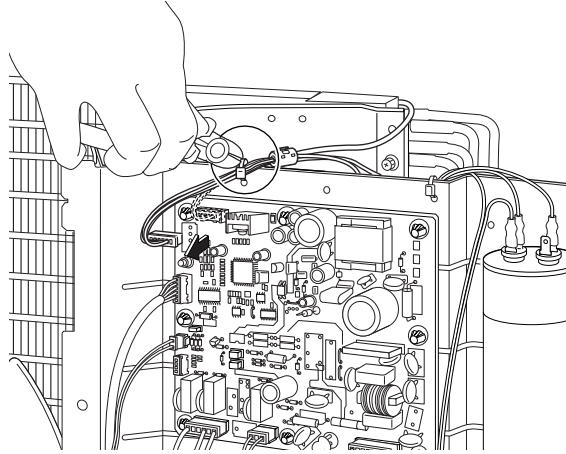
3. Removal of Thermistor ASSY

Procedure

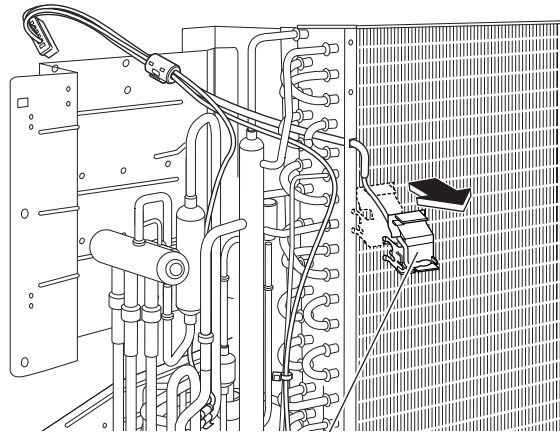


Warning Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
1	Cut the clamp.	
2	Release the outdoor temperature thermistor ASSY.	
3	Remove the cover.	

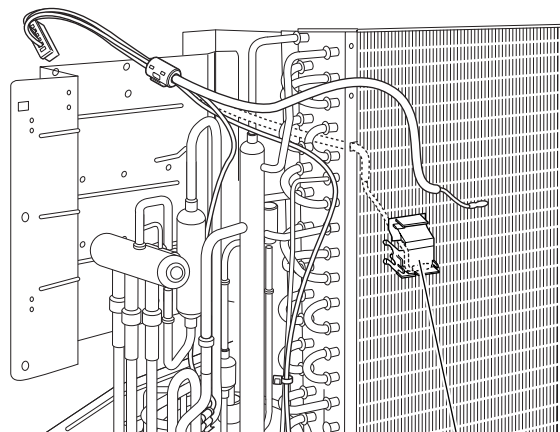


(R13454)



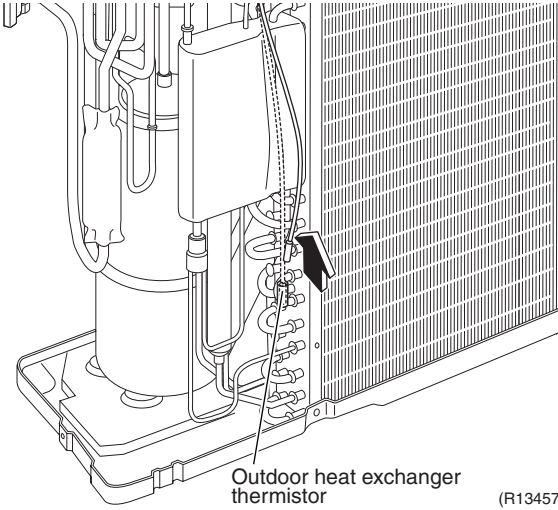
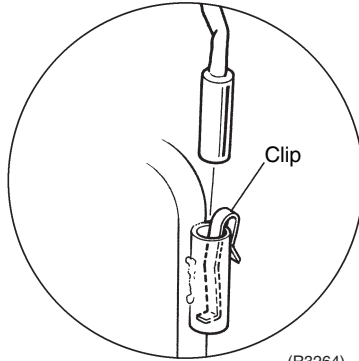
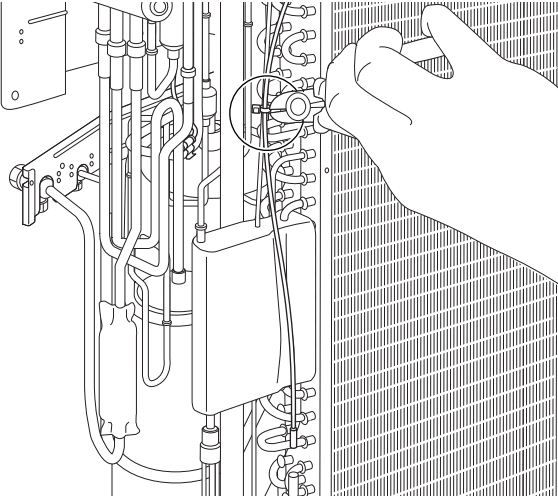
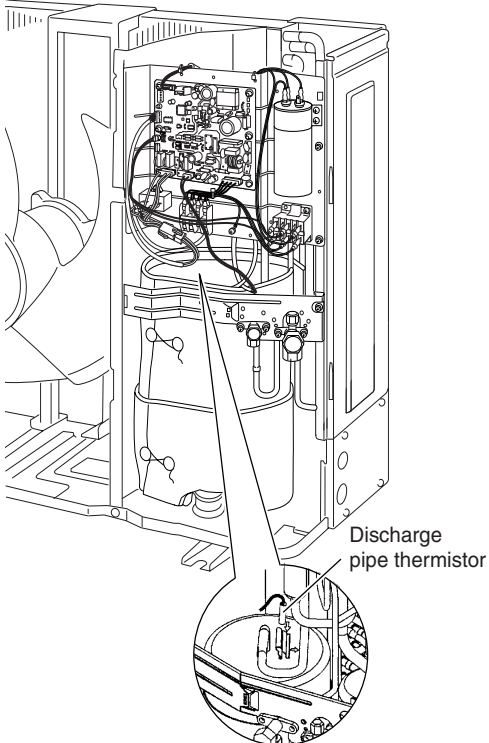
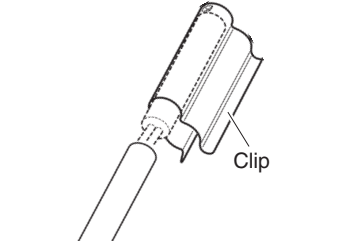
Outdoor temperature
thermistor ASSY

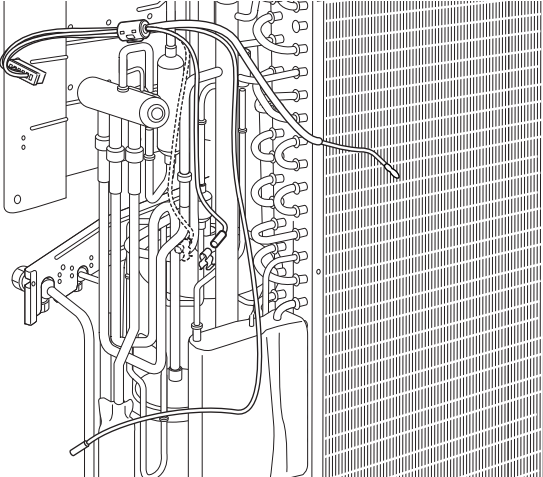
(R13455)



Cover

(R13456)

Step	Procedure	Points
4	Pull out the outdoor heat exchanger thermistor.	<ul style="list-style-type: none"> Be careful not to lose the clip for the thermistor.
	 <p>Outdoor heat exchanger thermistor (R13457)</p>	 <p>(R3264)</p>
5	Cut the clamp.	
	 <p>(R13458)</p>	
6	Release the discharge pipe thermistor.	<ul style="list-style-type: none"> Be careful not to lose the clip for the thermistor.
	 <p>Discharge pipe thermistor</p> <p>Under the sound blanket (top upper)</p> <p>(R13462)</p>	 <p>(R12287)</p>

Step	Procedure	Points
7	Remove the thermistor ASSY.	
	 <p>The diagram shows a thermistor assembly mounted on a manifold. The assembly includes a cylindrical thermistor probe connected to a wiring harness. The manifold has several ports and a grid-like structure on the right side. A thin line points from the thermistor probe to the grid area.</p>	

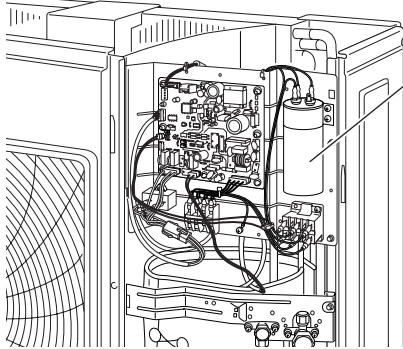
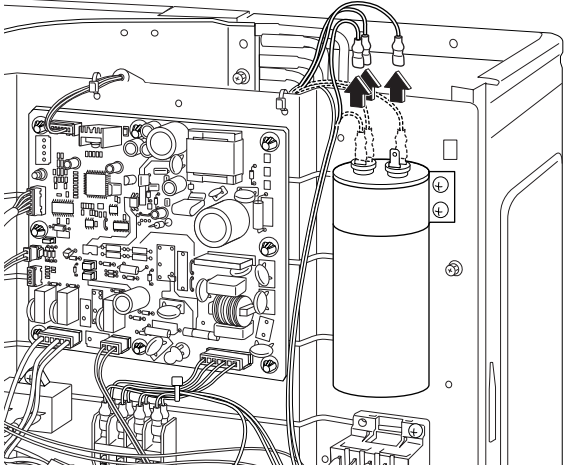
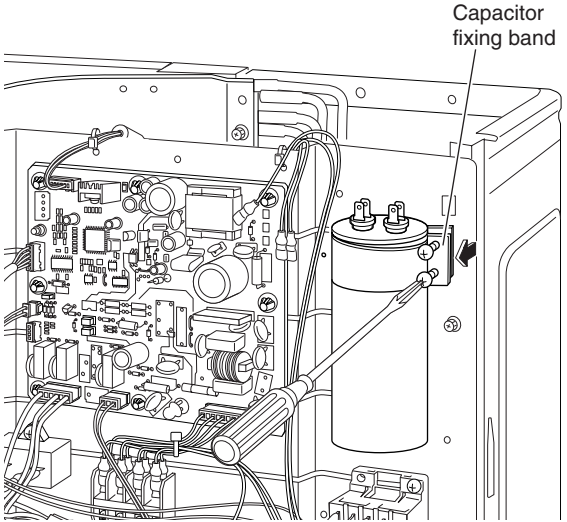
(R13459)

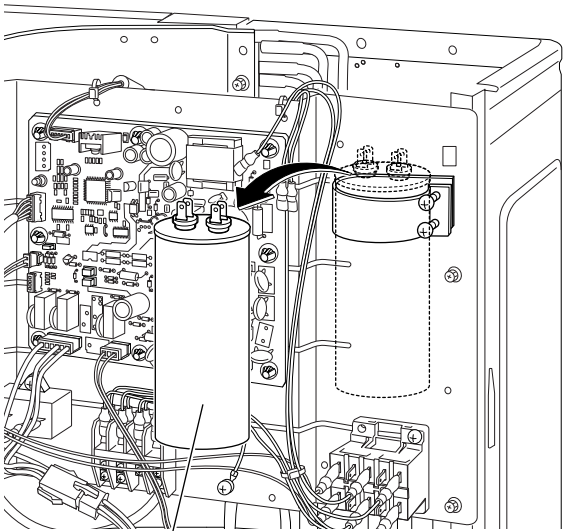
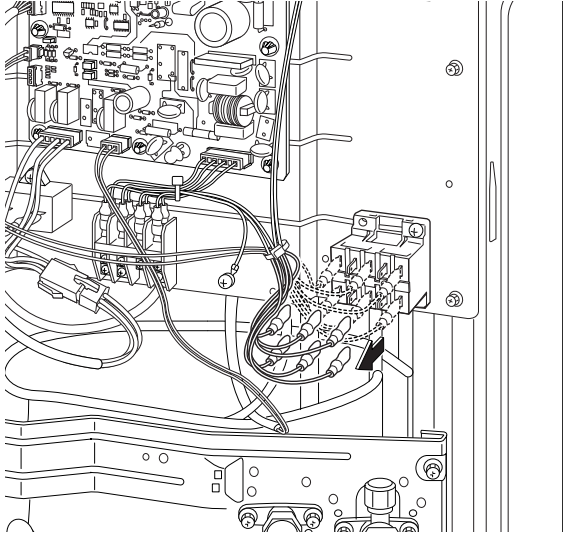
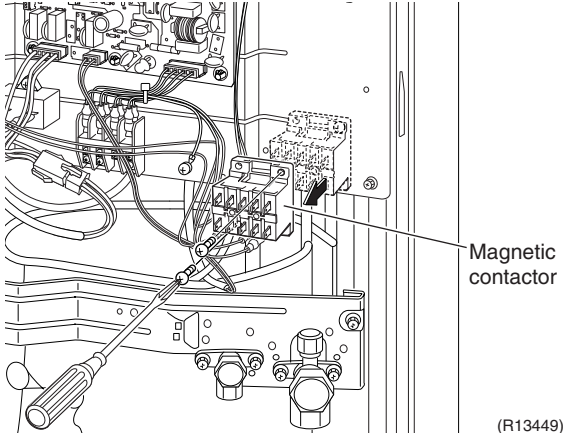
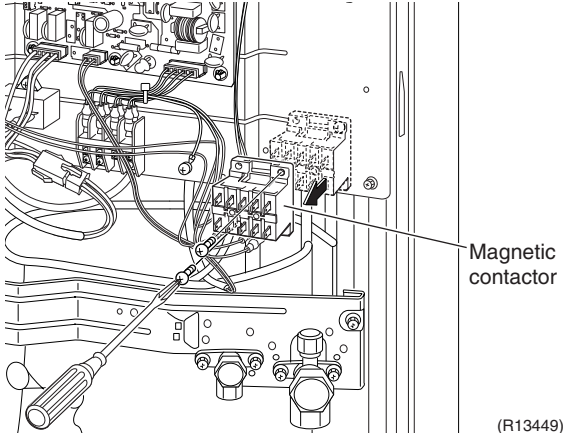
4. Removal of Electrical Components

Procedure

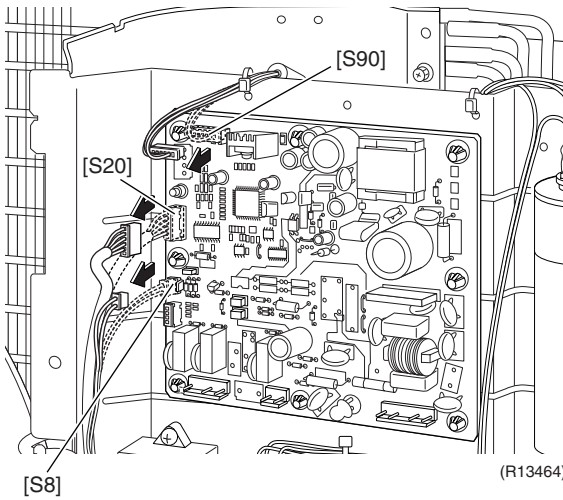
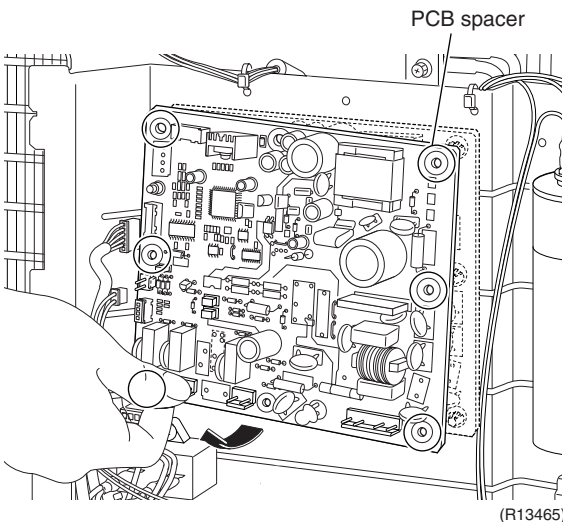
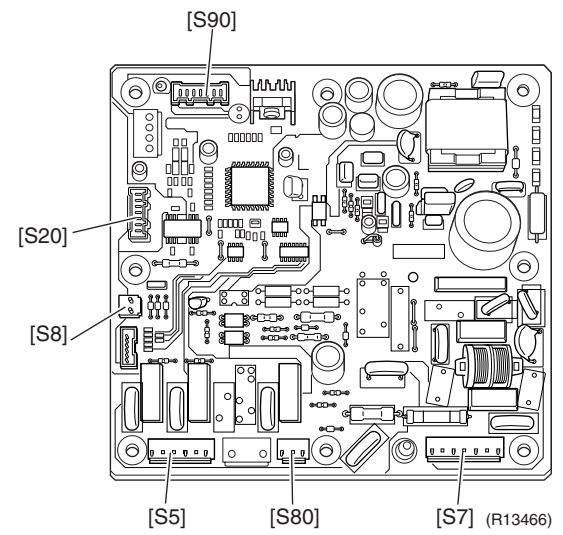


Warning Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
1. Remove the compressor motor capacitor.	 <p style="text-align: right;">Compressor motor capacitor</p> <p style="text-align: right;">(R13461)</p>	
1 Pull out all the 3 terminals.	 <p style="text-align: right;">(R13432)</p>	
2 Loosen the 2 screws of the capacitor fixing band.	 <p style="text-align: right;">Capacitor fixing band</p> <p style="text-align: right;">(R13433)</p>	

Step	Procedure	Points
3	Remove the compressor motor capacitor.	
2. Remove the magnetic contactor.		
1	Pull out all the 6 terminals.	 <p data-bbox="963 1704 1054 1749">Magnetic contactor</p>
2	Remove the 2 screws. Remove the magnetic contactor.	 <p data-bbox="991 1877 1062 1899">(R13449)</p>

Step	Procedure	Points
<p>3. Remove the fan motor capacitor.</p>	<div data-bbox="481 237 1082 707"> <p>(R13446)</p> </div> <div data-bbox="481 757 1082 1256"> <p>Fan motor capacitor (R13447)</p> </div>	
<p>4. Remove the PCB.</p>	<div data-bbox="481 1290 1082 1794"> <p>[S5] [S80] [S7] (R13463)</p> </div>	
<p>1. Disconnect the connectors [S5], [S7], [S80].</p>		

Step	Procedure	Points
2	Disconnect the connectors [S8], [S20], [S90].	 <p>(R13464)</p>
3	Pinch the PCB spacers and pull out the PCB. Remove the PCB.	 <p>(R13465)</p>
		 <p>(R13466)</p>

- [S5] : AC fan motor
- [S7] : terminal board
- [S8] : compressor
- [S20]: electronic expansion valve
- [S80]: four way valve coil
- [S90]: thermistor ASSY

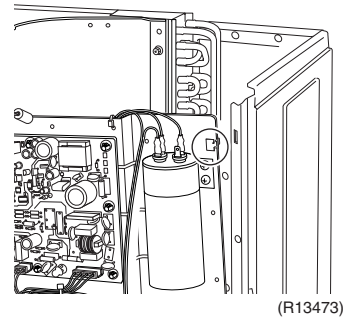
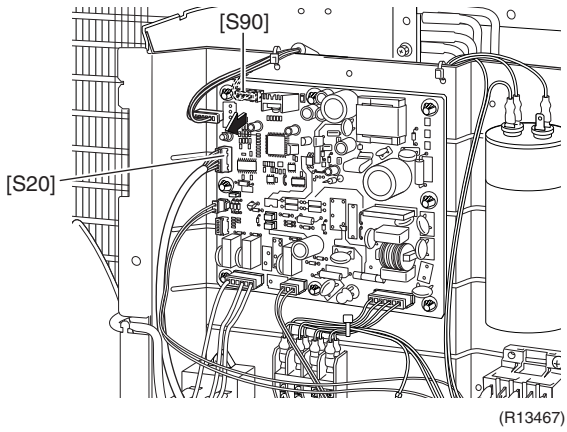
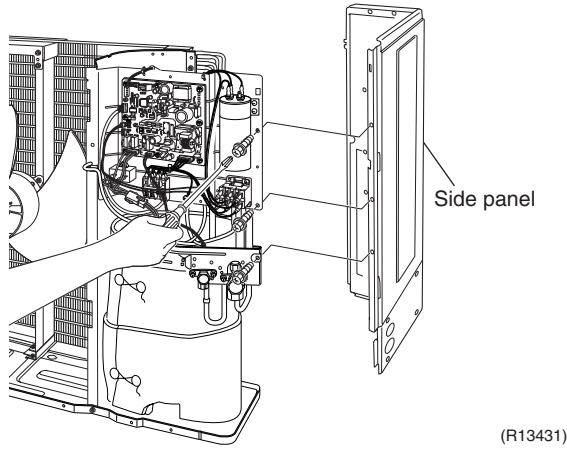
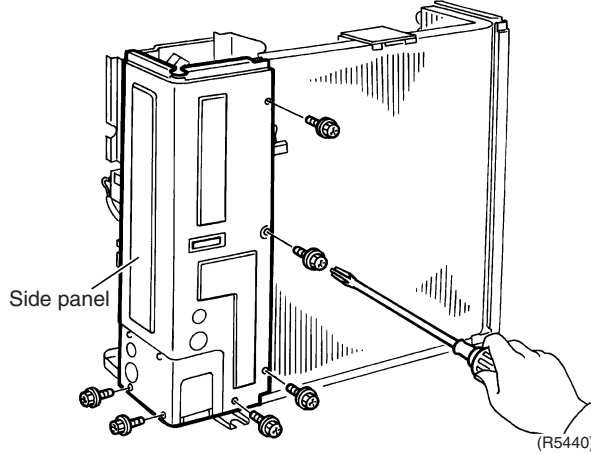
5. Removal of Electronic Expansion Valve

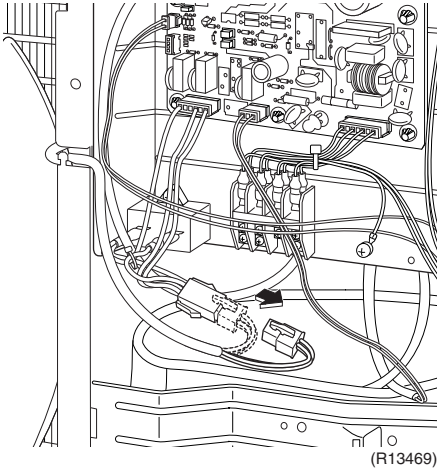
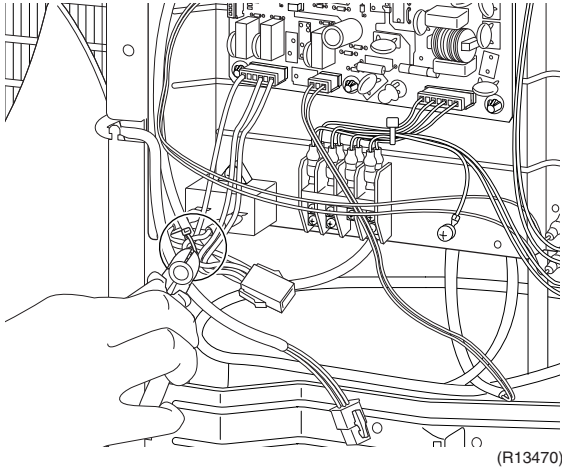
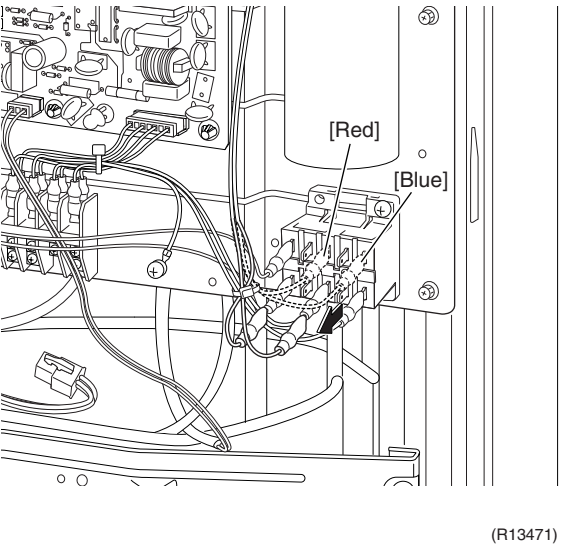
Procedure



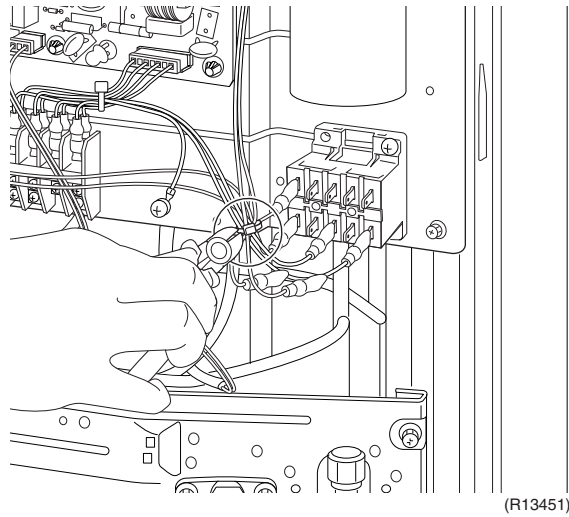
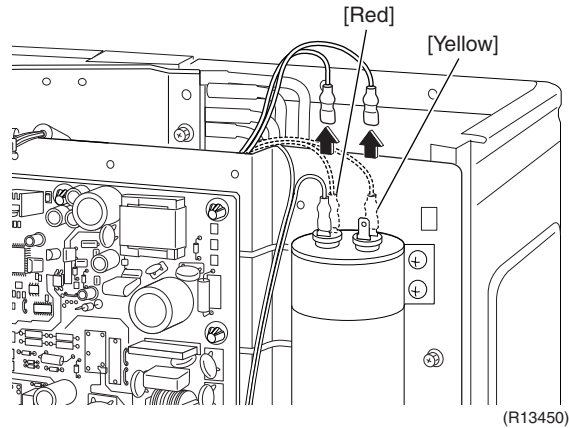
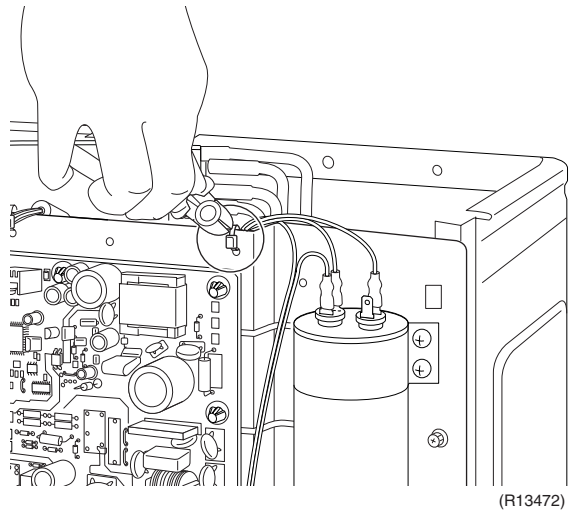
Warning Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

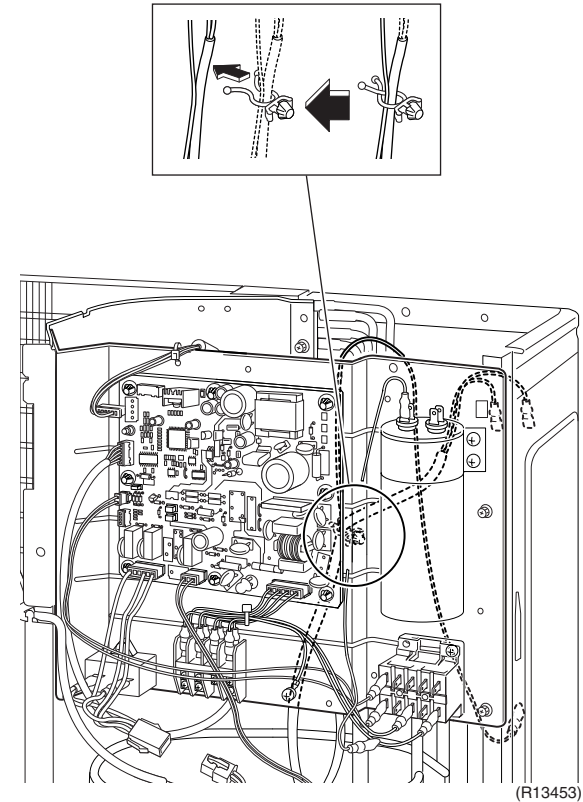
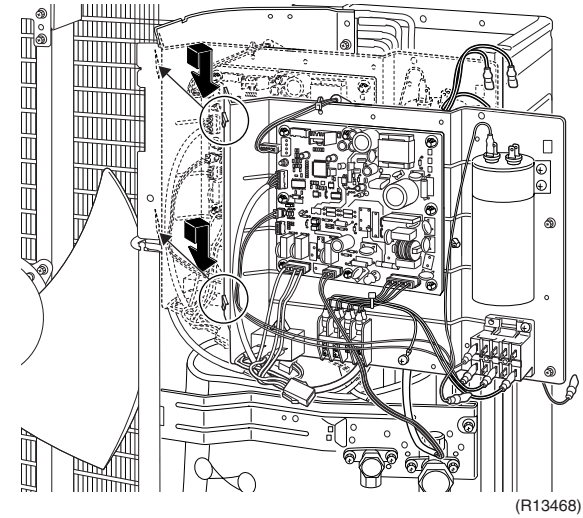
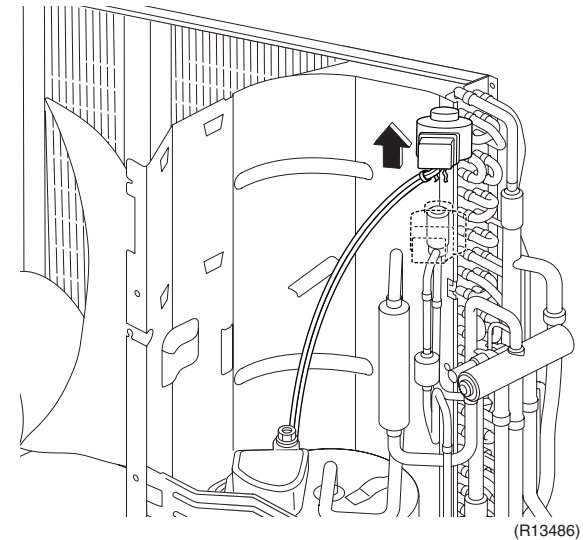
Step	Procedure	Points
1	Remove the 6 screws of the side panel.	<p>Preparation</p> <ul style="list-style-type: none"> Remove the top panel, front panel (1) (2), and piping cover (front) according to the "Removal of Outer Panels".
2	Remove the 3 screws. Remove the side panel.	<ul style="list-style-type: none"> When reassembling, make sure to fasten the hook.
3	Disconnect the connectors [S20], [S90].	



Step	Procedure	Points
4	Disconnect the relay connector for the fan motor.	
	 <p>(R13469)</p>	
5	Cut the clamp.	
	 <p>(R13470)</p>	
6	Pull out the 2 upper terminals (red and blue) of the magnetic contactor.	
	 <p>(R13471)</p>	

Step	Procedure	Points
7	Cut the clamp.	
8	Pull out the 2 rear terminals (yellow and red) of the compressor motor capacitor.	
9	Cut the clamp.	



Step	Procedure	Points
10	<p>Release the harnesses from the clamp (at the back of the electrical components ASSY).</p>	
	 <p>(R13453)</p>	
11	<p>Unfasten the 2 hooks. Lift and remove the electrical components ASSY.</p>	
	 <p>(R13468)</p>	
12	<p>Remove the electronic expansion valve.</p>	
	 <p>(R13486)</p>	

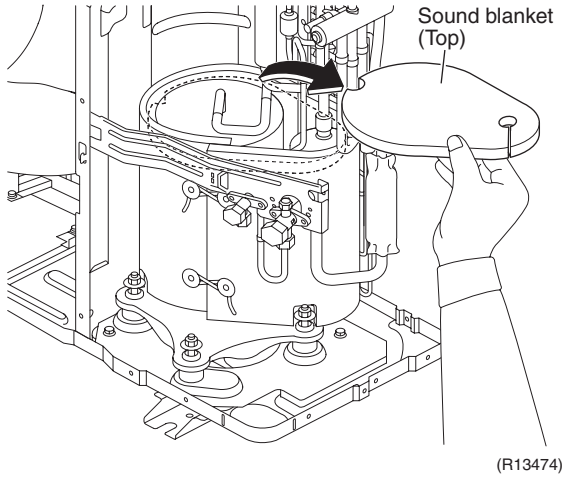
6. Removal of Sound Blankets

Procedure

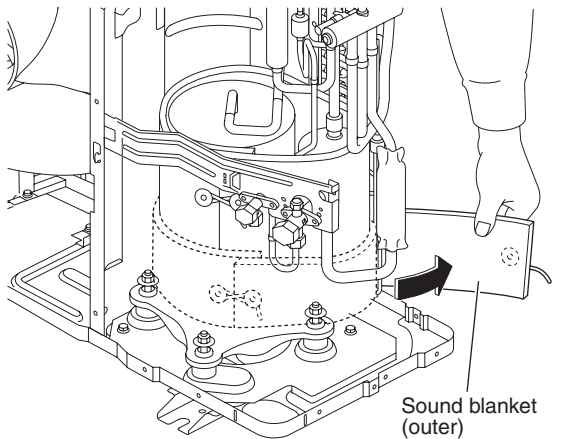


Warning Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

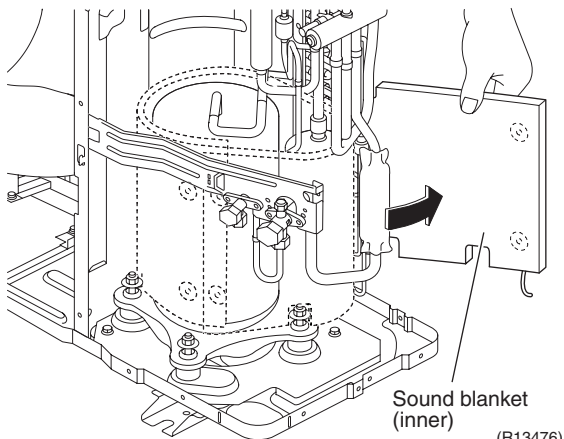
Step	Procedure	Points
1	Remove the sound blanket (top).	<p>Preparation</p> <ul style="list-style-type: none"> ■ Remove the electrical box according to the "Removal of Electrical Components ASSY". ■ Since the piping ports on the sound blanket are torn easily, remove the blanket carefully.
2	Remove the sound blanket (outer).	
3	Remove the sound blanket (inner).	



(R13474)



(R13475)





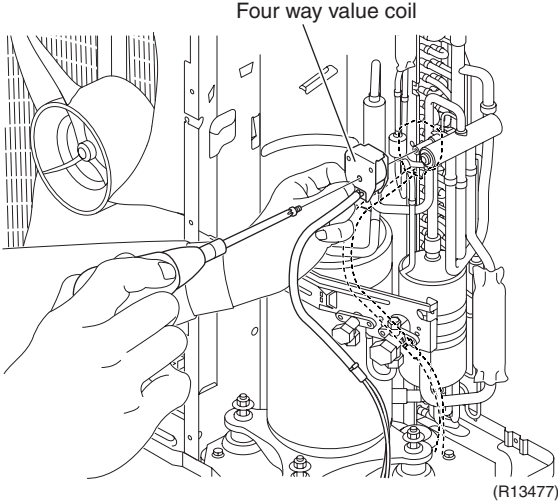
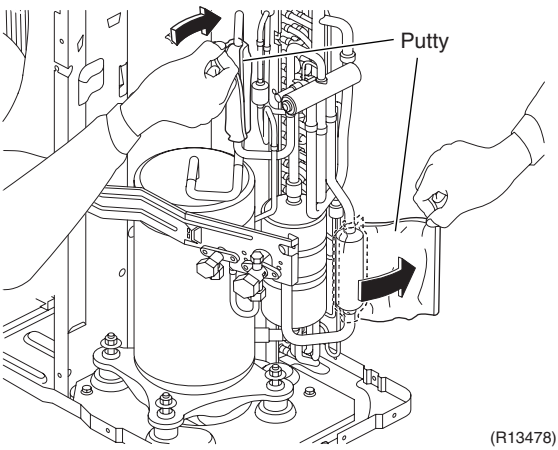
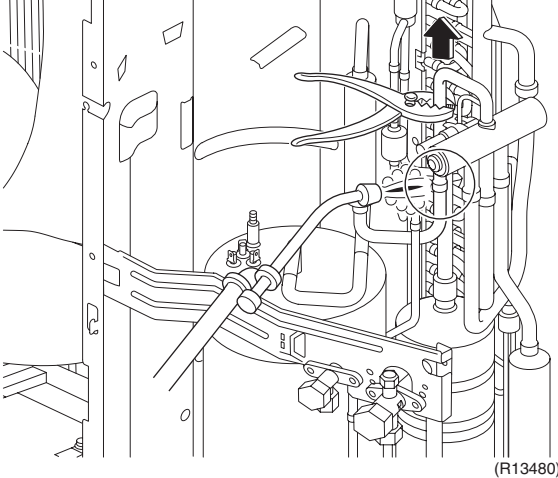


(R13476)

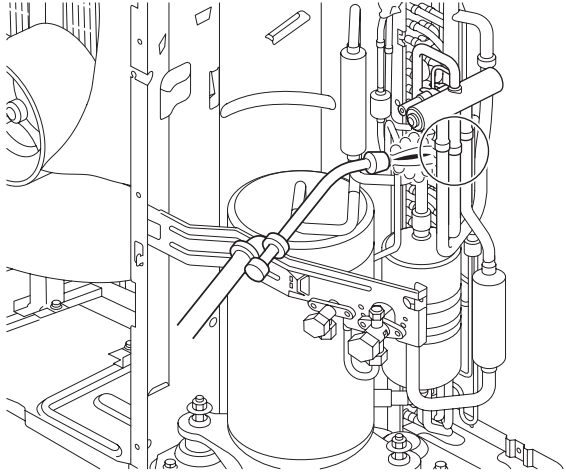
7. Removal of Four Way Valve

Procedure



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

Step	Procedure	Points
1	Remove the screw and remove the four way valve coil.	<p> Warning 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> Warning 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"> ■ Before working, make sure that the refrigerant gas is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part. 	<div style="text-align: center;">  <p>(R13477)</p> </div> <div style="text-align: center;">  <p>(R13478)</p> </div> <div style="text-align: center;">  <p>(R13480)</p> </div>	<p> Warning 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> Caution 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>
3	Heat up the brazed part of the four way valve and disconnect.	<p>Cautions for restoration</p> <ol style="list-style-type: none"> 1. Restore the piping by non-oxidation brazing. 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. <p>Note:</p> <ul style="list-style-type: none"> ■ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit. ■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed. ■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.

Step	Procedure	Points
4	<p data-bbox="199 219 448 309">Heat up every brazed part in turn and disconnect.</p>  <p data-bbox="997 719 1066 741">(R13479)</p>	

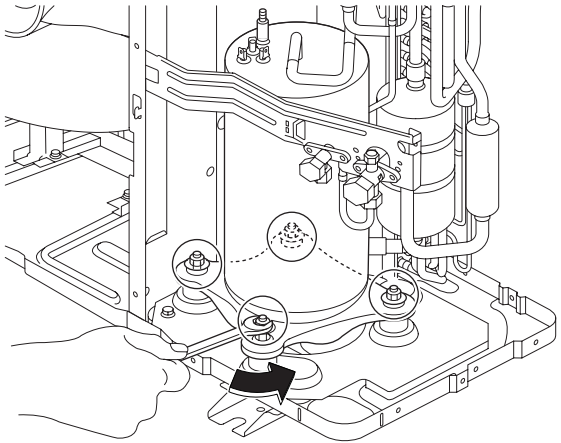
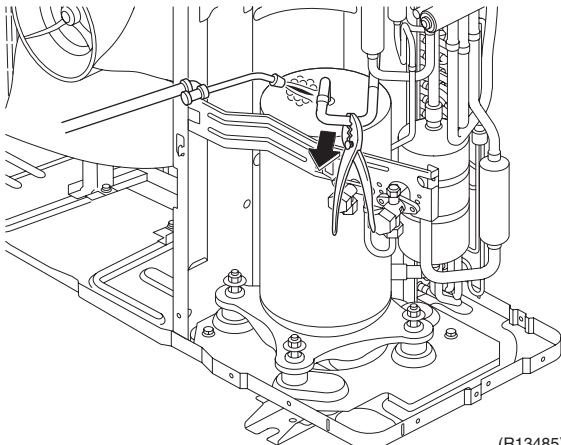
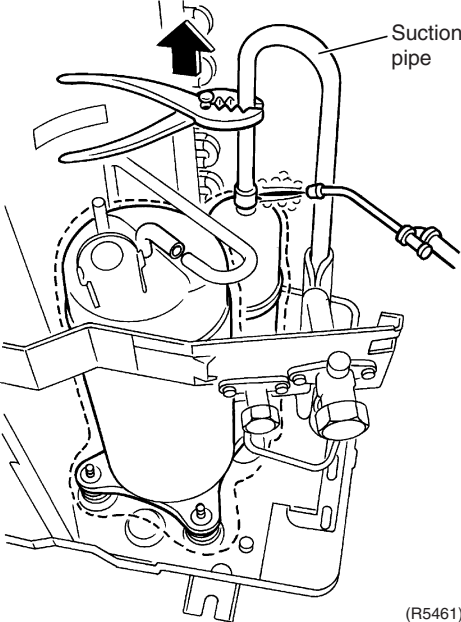
8. Removal of Compressor

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 nut and remove the terminal cover.	<p>(R13481)</p>
2	Disconnect the compressor lead wires.	<p>(R13482)</p> <p>(R13618)</p> <p>S : Yellow C : Blue R : Red</p>
3	Remove the gasket.	<p>(R13483)</p>

Step	Procedure	Points	
4	Remove the 4 nuts of the compressor.	 <p>(R13484)</p>	<p>Warning Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.</p>
<ul style="list-style-type: none"> ■ Before working, make sure that the refrigerant is empty in the circuit. ■ Be sure to apply nitrogen replacement when heating up the brazed part. 			<p>Warning If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)</p>
5	Heat up the brazed part of the discharge side and disconnect.	 <p>(R13485)</p>	<p>Warning Since it may happen that the refrigerant oil in the compressor catches fire, prepare wet cloth so as to extinguish fire immediately.</p>
6	Heat up the brazed part of the suction side and disconnect.		
<p>Note:</p> <ul style="list-style-type: none"> ■ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit. ■ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed. ■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries. ■ Be careful so as not to burn the compressor terminals, the name plate, the heat exchanger fins. 		 <p>(R5461)</p>	<p>Caution 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>Cautions for restoration</p> <ol style="list-style-type: none"> 1. Restore the piping by non-oxidation brazing. 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. <p>In case of difficulty with gas brazing machine</p> <ol style="list-style-type: none"> 1. Disconnect the brazed part where is easy to disconnect and restore. 2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.

Revision History

Month / Year	Version	Revised contents
01 / 2013	Si011088	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

DAIKIN INDUSTRIES, LTD.

Head Office:
Umeda Center Bldg., 2-4-12, Nakazaki-Nishi,
Kita-ku, Osaka, 530-8323 Japan

Tokyo Office:
JR Shinagawa East Bldg., 2-18-1, Konan,
Minato-ku, Tokyo, 108-0075 Japan

http://www.daikin.com/global_ac/

©All rights reserved