




REMOVAL PROCEDURE



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

8.0/9.0 kW Class

-  Outdoor Unit
-  Inverter
-  Multi Type



Service Manual Removal Procedure

Outdoor Unit

●Cooling Only

4MKD90BVM

4MKD90BVMA

4MKD90BVMD

●Heat Pump

4MXD80BVMA

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Note:

- ♦ The illustrations may be slightly different depending on the model.
- ♦ The illustrations are for heat pump models as representative.

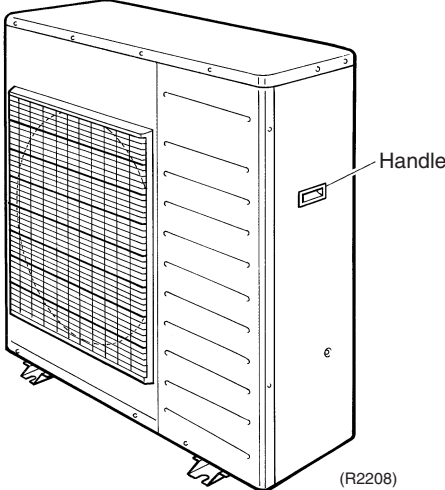
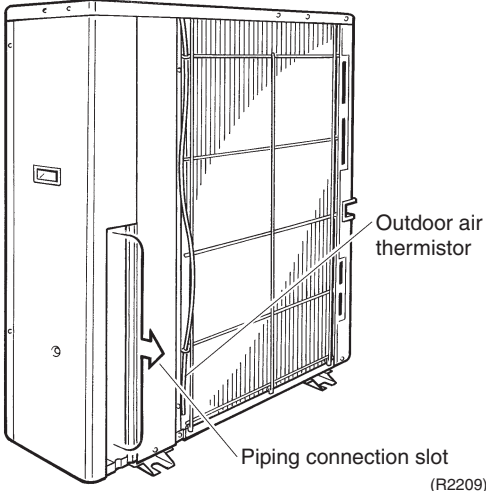
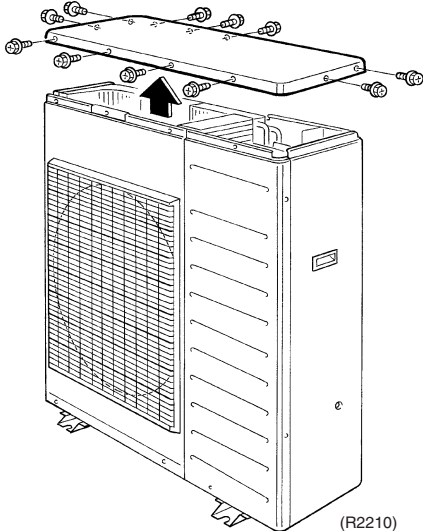
1. Removal of Outer Panels

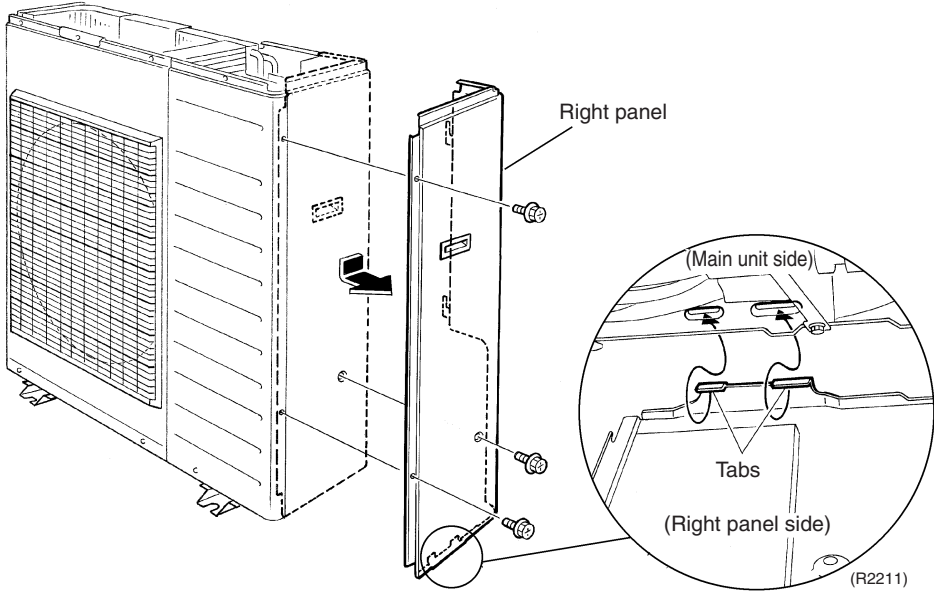
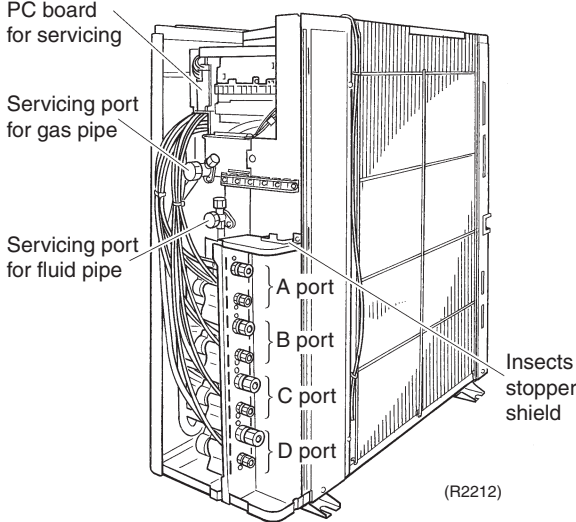
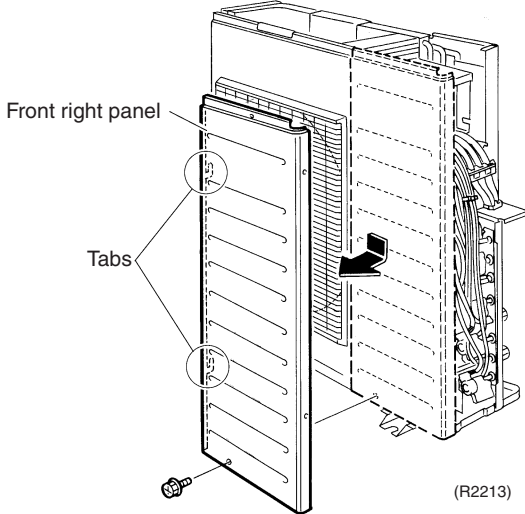
Procedure

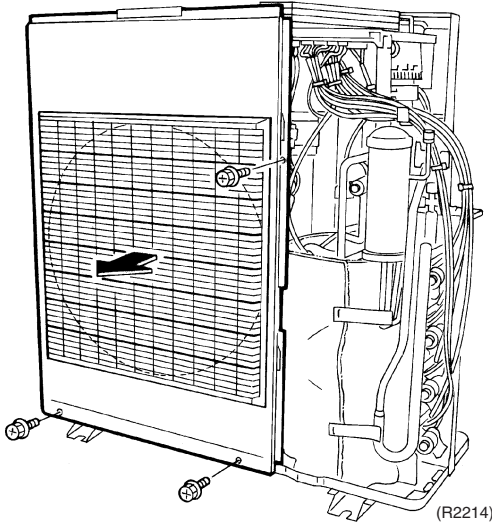
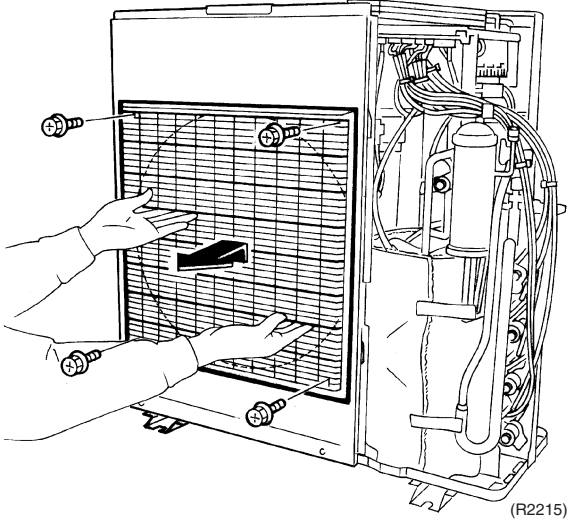
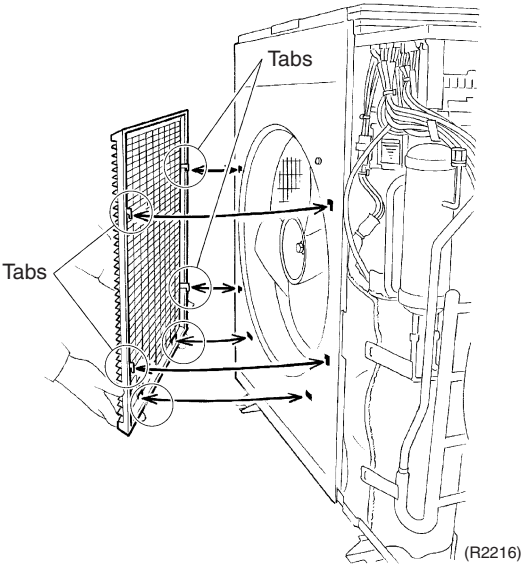


Warning

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

Step	Procedure	Procedure	Points
1	External appearance.	 <p>(R2208)</p>  <p>Outdoor air thermistor</p> <p>Piping connection slot</p> <p>(R2209)</p>	<ul style="list-style-type: none"> ■ Remove the piping in the backward direction.
2	Remove 11 screws of the top panel.	 <p>(R2210)</p>	

Step	Procedure	Points
3	<p>Unscrew 3 screws of the right panel, slide it downwards and release the tabs to remove.</p> 	
4	<p>The figure shows the view of piping connections.</p> 	
5	<p>Unscrew 1 screw of the front right panel, slide it downwards and release the tabs to remove.</p> 	

Step	Procedure	Points
6	Unscrew 3 screws of the front panel to remove.	
	 <p>(R2214)</p>	
7	Remove 4 screws of the discharge outlet grille.	
	 <p>(R2215)</p>	
8	Slide the discharge outlet grille upwards and release 6 tabs to remove.	
	 <p>(R2216)</p>	

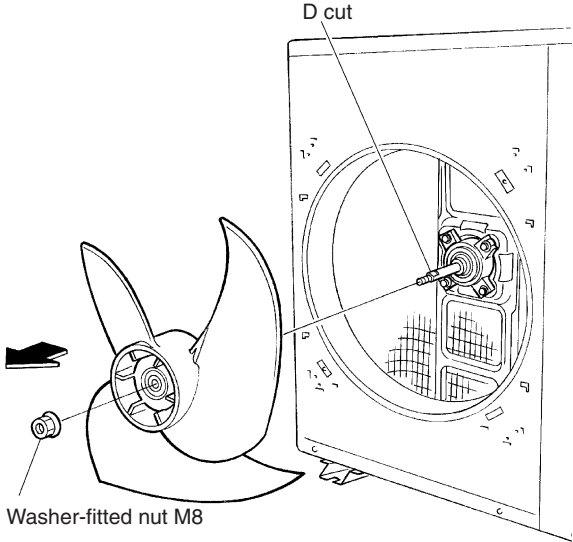
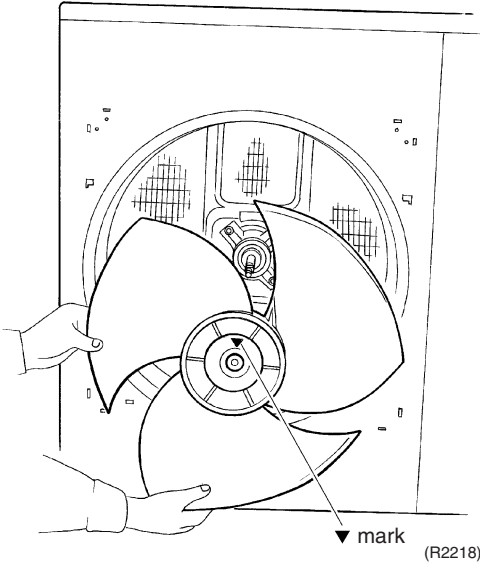
2. Removal of Propeller Fans

Procedure



Warning

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

Step	Procedure	Points
<p>■ Remove the discharge outlet grille.</p>		
<p>1 To take off propeller fan, remove the washer-fitted nut M8.</p>	 <p>Washer-fitted nut M8</p> <p>D cut</p> <p>(R2217)</p>	
<p>2 Remove the propeller fan.</p>	 <p>▼ mark</p> <p>(R2218)</p>	<ul style="list-style-type: none"> ■ For reassembling, align the ▼ mark of the propeller fan with the D-cut section of motor shaft. ■ Mount the propeller fan while positioning the ▼ mark to the top.

3. Removal of Electrical Box

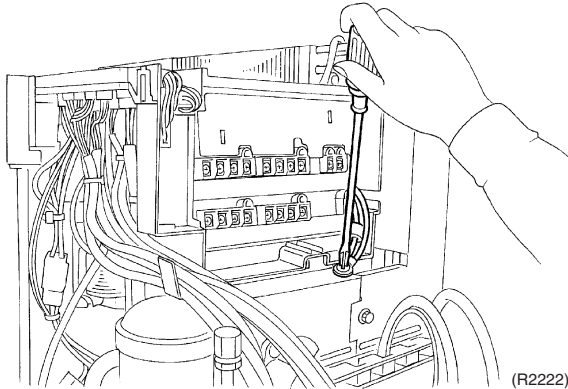
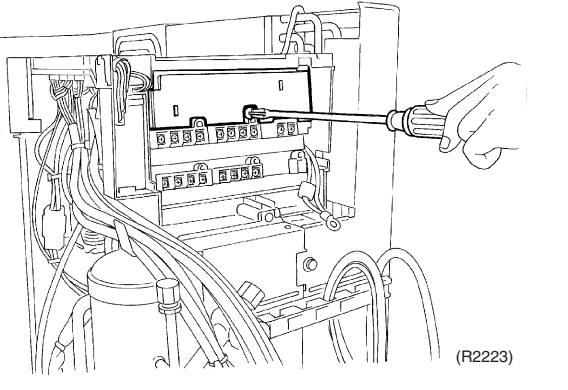
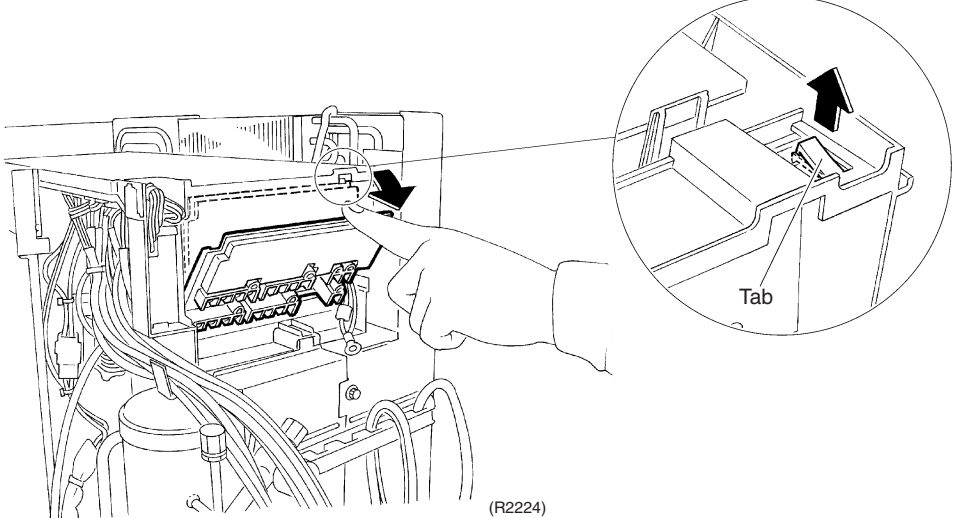
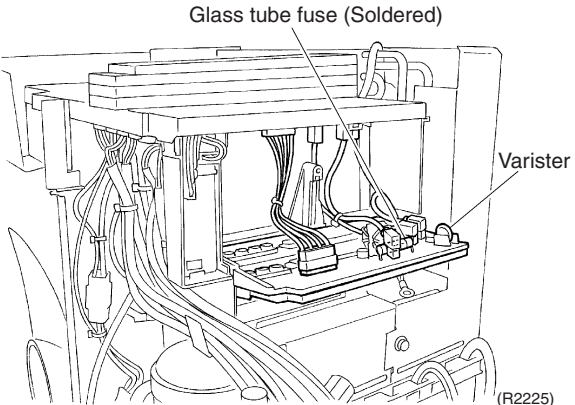
Procedure

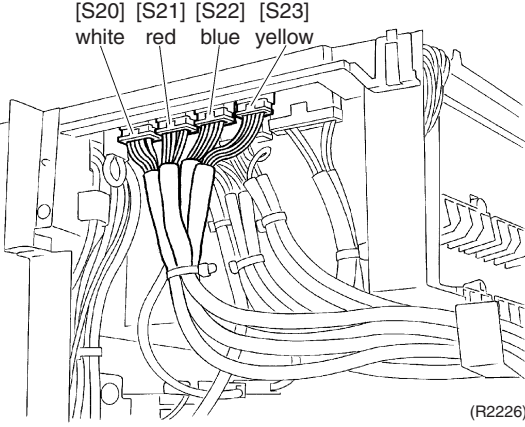
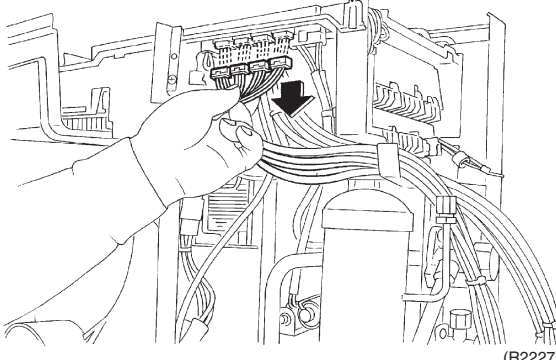
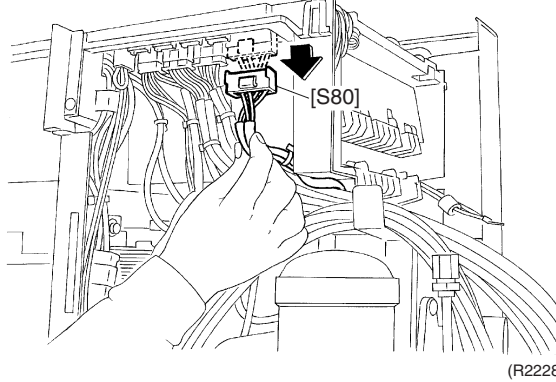
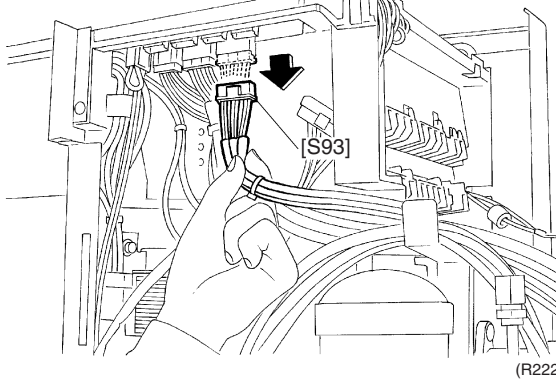


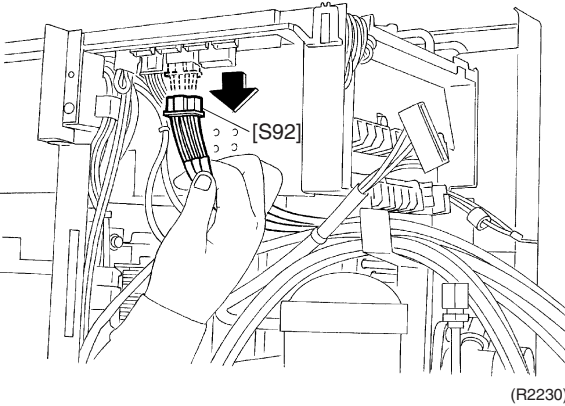
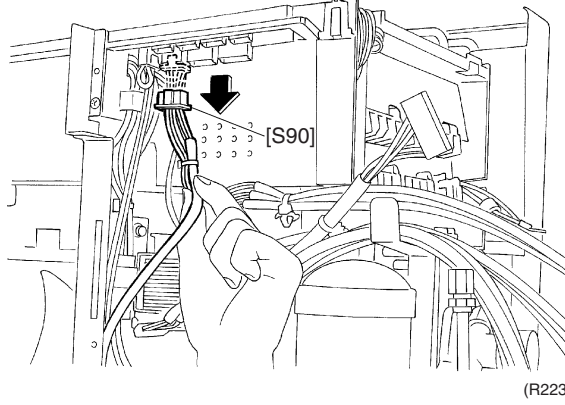
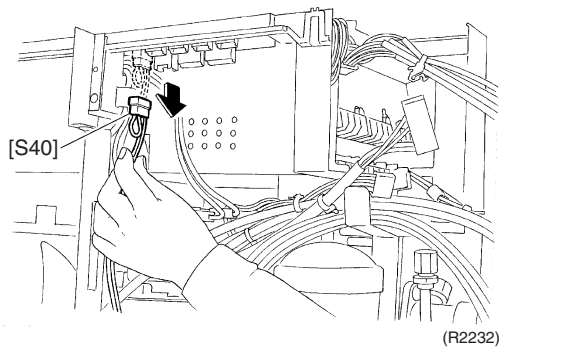
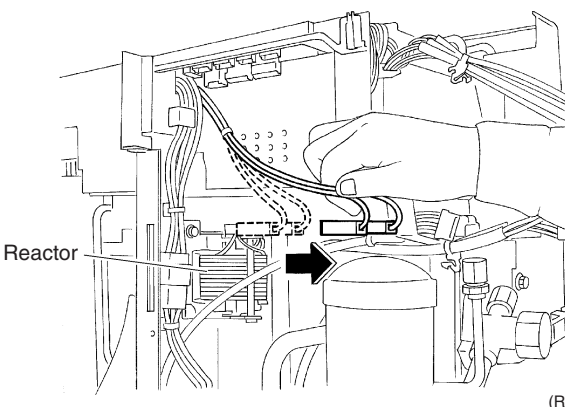
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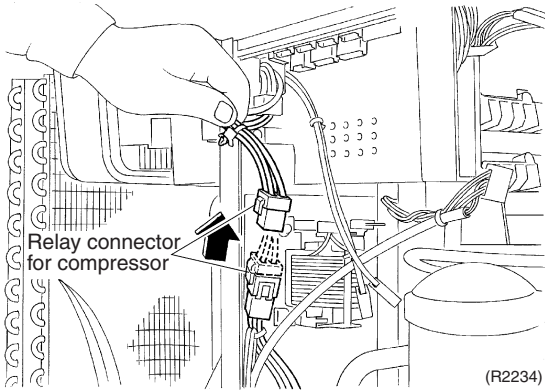
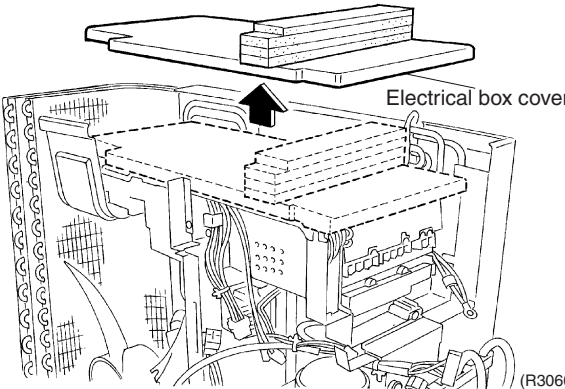
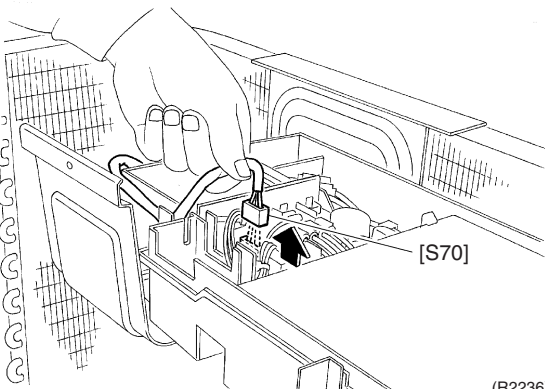
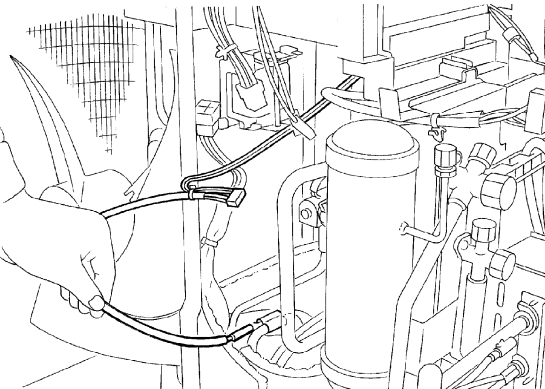
Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

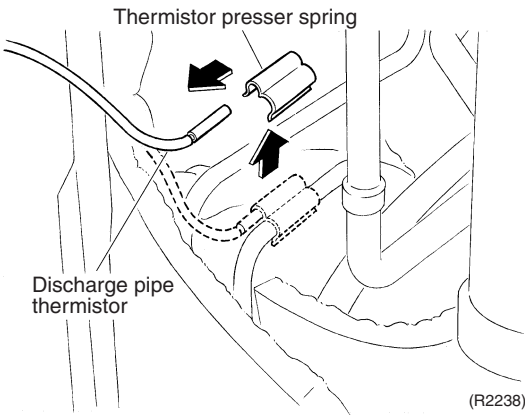
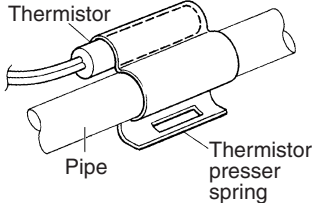
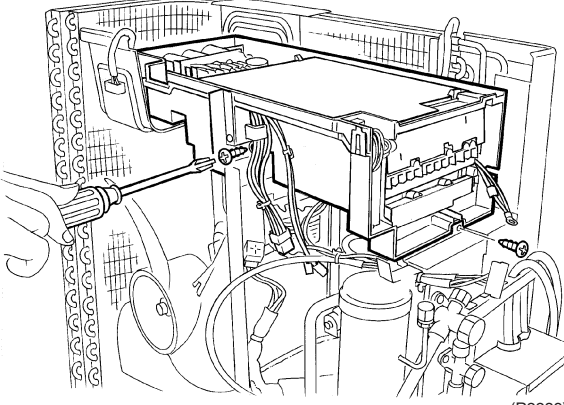
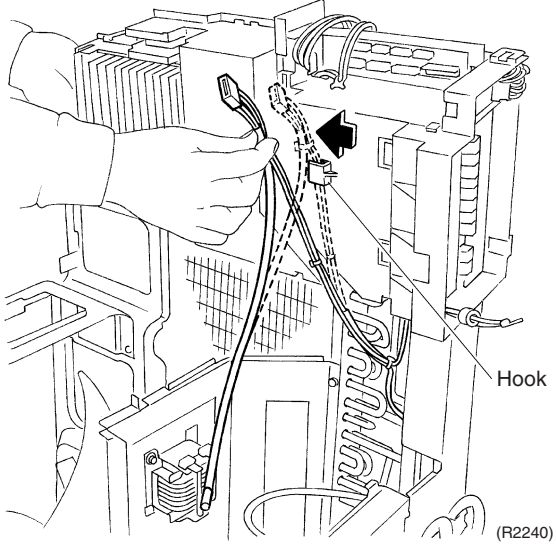
Step	Procedure	Points
<p>■ Remove the outer panels such as top and front panels.</p> <p>1 The figure shows the right side view.</p>	<p>Power terminal board (L) - White PC board for servicing (N) - Black A port B port C port D port Earth terminal screw Wiring fixture (R2219)</p>	<p>■ Match the colors of the tie wires to A, B, C and D ports as follows.</p> <p>(1) - Black Power (2) - White Power (3) - Red Transmission</p> <p>■ Wires are fixed to the terminal board with screws.</p>
<p>1. Remove the tie wire.</p> <p>1 Loosen the terminal board screws, and remove the wires at A and B ports.</p> <p>2 Open the terminal board cover, and remove the wires at C and D ports.</p>	<p>(R2220)</p> <p>(R2221)</p> <p>Terminal board cover</p>	<p>■ When reassembling, reconnect the wires to C and D ports.</p>

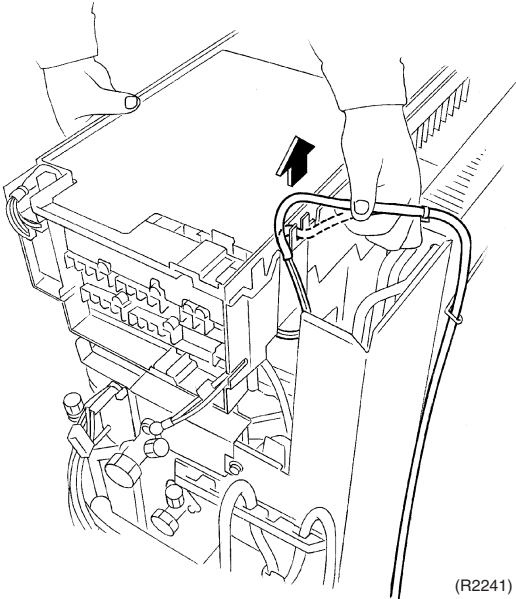
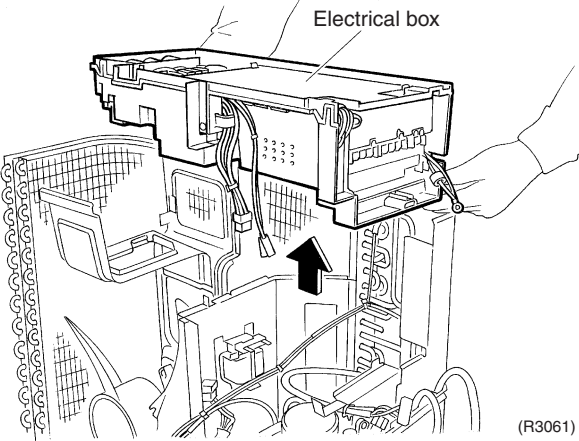
Step	Procedure	Points
3	<p>Remove the earth wire.</p>  <p>(R2222)</p>	
4	<p>Remove 1 screw of the terminal board.</p>  <p>(R2223)</p>	
5	<p>Release the tab on the top right of the terminal board.</p>  <p>(R2224)</p>	
6	<p>Pull out the terminal board and open it.</p>  <p>(R2225)</p>	<ul style="list-style-type: none"> ■ Glass tube fuse and varistor cannot be replaced individually because lead-free soldering is provided.

Step	Procedure	Points															
2. Remove each wire harness.																	
1	<p>Disconnect 4 connectors of the electronic expansion valve lead wires.</p>  	<table border="1" data-bbox="1093 324 1452 548"> <thead> <tr> <th>Connector</th> <th>Electronic expansion valve No.</th> <th>Harness length</th> </tr> </thead> <tbody> <tr> <td>[S20] (White)</td> <td>EVA</td> <td>630</td> </tr> <tr> <td>[S21] (Red)</td> <td>EVB</td> <td>730</td> </tr> <tr> <td>[S22] (Blue)</td> <td>EVC</td> <td>825</td> </tr> <tr> <td>[S23] (Yellow)</td> <td>EVD</td> <td>940</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ■ When reconnecting, make sure to match the wire to the correct connector. 	Connector	Electronic expansion valve No.	Harness length	[S20] (White)	EVA	630	[S21] (Red)	EVB	730	[S22] (Blue)	EVC	825	[S23] (Yellow)	EVD	940
Connector	Electronic expansion valve No.	Harness length															
[S20] (White)	EVA	630															
[S21] (Red)	EVB	730															
[S22] (Blue)	EVC	825															
[S23] (Yellow)	EVD	940															
2	<p>Remove the four way valve connector [S80].</p> 	<ul style="list-style-type: none"> ■ The cooling only models do not have harness for [S80]. 															
3	<p>Remove the connector [S93] for liquid pipe thermistor.</p> 																

Step	Procedure	Procedure	Points
4	Remove the connector [S92] for gas pipe thermistor.	 <p style="text-align: right;">(R2230)</p>	
5	Remove the connector [S90] for thermistor. <ul style="list-style-type: none"> ■ Outdoor air thermistor (Blue) ■ Discharge pipe thermistor (Black) ■ Heat exchanger thermistor (Gray) 	 <p style="text-align: right;">(R2231)</p>	
6	Remove the overload relay connector [S40].	 <p style="text-align: right;">(R2232)</p>	
7	Remove the reactor lead wire.	 <p style="text-align: right;">(R2233)</p>	

Step	Procedure	Points
8	Remove the relay connector for compressor.	
		
9	Remove the electrical box cover.	
		
10	Disconnect the fan motor connector.	
		
11	Remove the discharge pipe thermistor.	
		

Step	Procedure	Procedure	Points
12	Take off the thermistor presser spring, and remove the thermistor.		<ul style="list-style-type: none"> ■ Place the thermistor so that its end comes up to the end of the presser spring. ■ Be careful not to lose the presser spring for the discharge pipe thermistor. 
3.	Remove the electrical box.		
1	Remove 2 screws of the electrical box.		
2	Turn the electrical box up side down halfway, and disconnect the thermistor lead wire from the hook.		

Step	Procedure	Points
3	Remove the outdoor air thermistor lead wire from the groove.	
	 <p>(R2241)</p>	
4	Remove each wire harness, and dismount the electrical box by lifting it.	
	 <p>Electrical box</p> <p>(R3061)</p>	

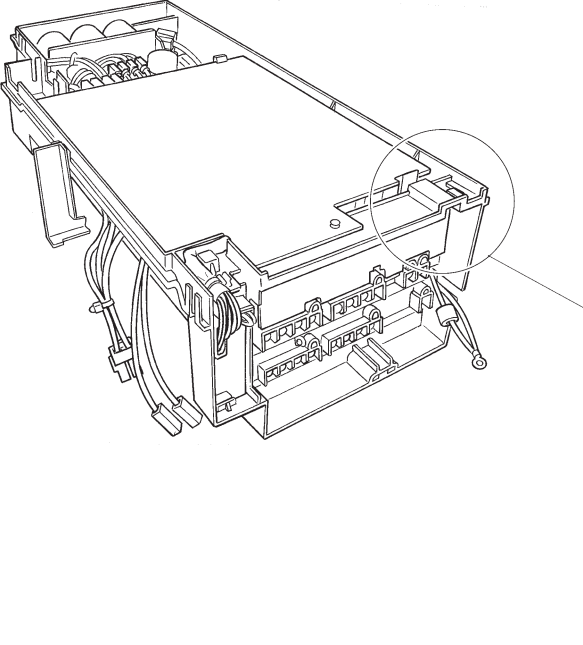
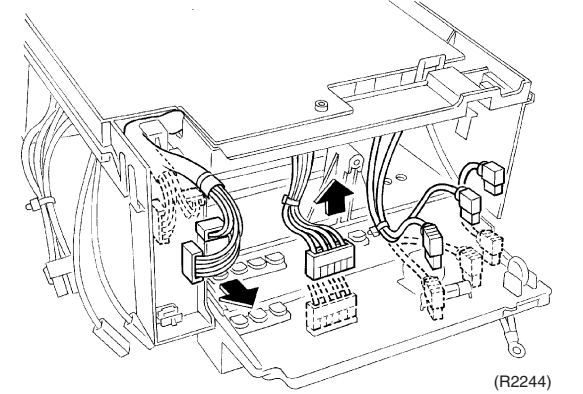
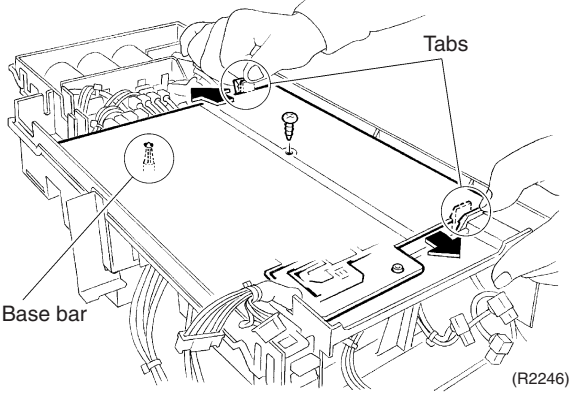
4. Removal of PCB

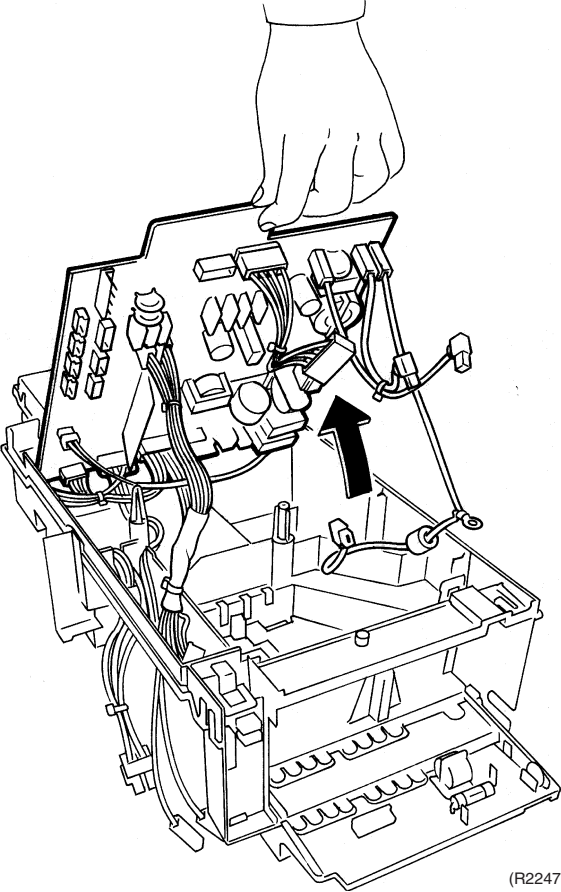
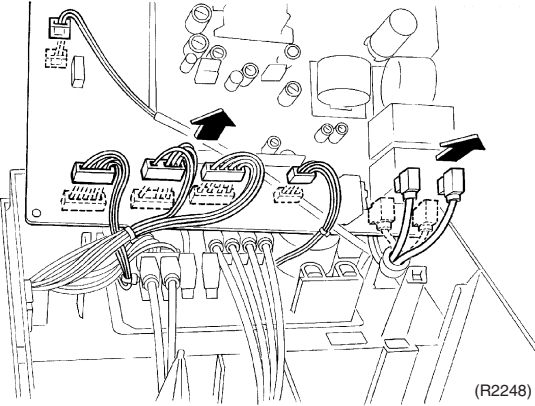
Procedure

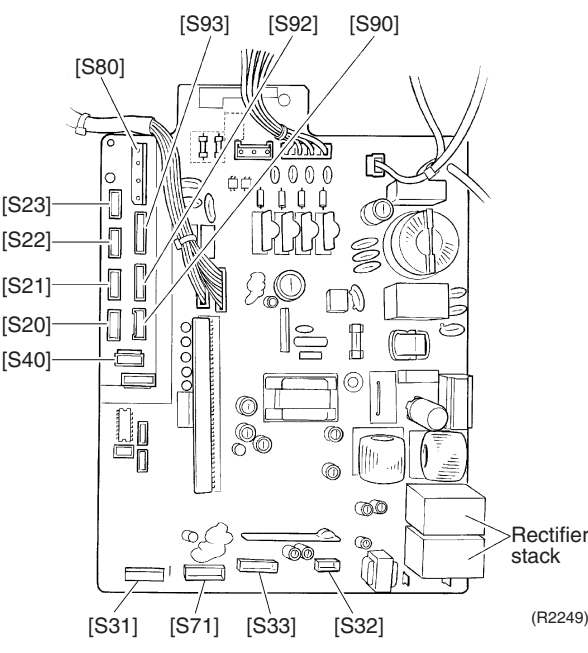
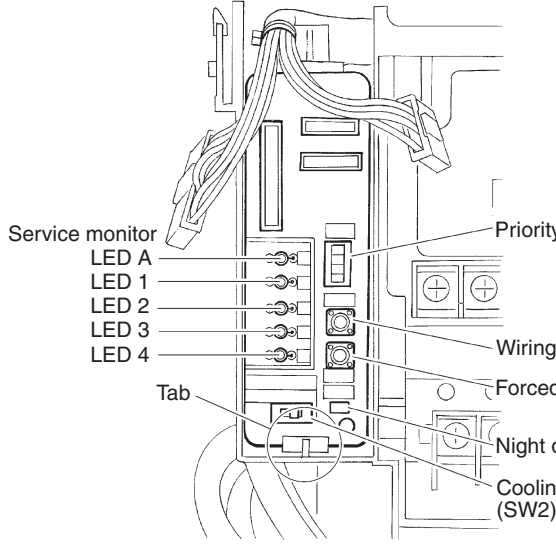
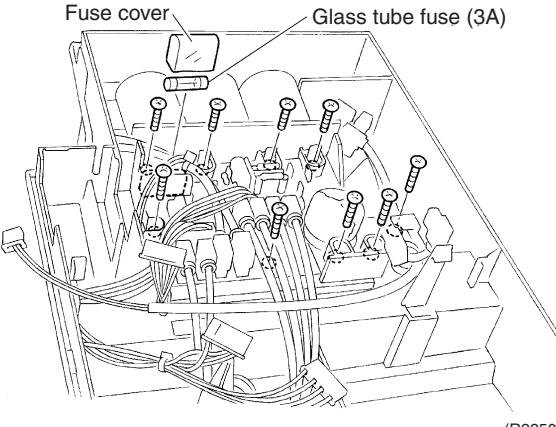


Warning

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Step	Procedure	Points
1. Remove the controller PCB.		
2. Disconnect each connector of the terminal board.		
3. Unscrew 1 screw and release two tabs to remove the PCB.		

Step	Procedure	Points
4	Lift the PCB at the terminal board side.	
	 <p>(R2247)</p>	
5	Disconnect each wire harness connector linked to the inverter PCB.	
	 <p>(R2248)</p>	

Step	Procedure	Points
6	<p>The figure shows the controller PCB.</p>	 <p>[S20]: Electronic expansion valve coil A port [S21]: Electronic expansion valve coil B port [S22]: Electronic expansion valve coil C port [S23]: Electronic expansion valve coil D port [S31]: To CN14 (Pin 9) [S32]: To CN11 (Pin 5) [S33]: To S34 (Pin 10) [S40]: Overload relay [S71]: To S72 (Pin 8) [S80]: Four way valve coil [S90]: Thermistor (Outdoor air, heat exchanger, and discharge pipe) [S92]: Gas pipe thermistor [S93]: Liquid pipe thermistor</p> <p>Rectifier stack</p> <p>(R2249)</p>
2.	<p>Remove the service monitor PCB.</p>	
1	<p>Remove the service monitor PCB by releasing its tab.</p>	 <p>Service monitor LED A LED 1 LED 2 LED 3 LED 4 Tab</p> <p>Priority-room setting (SW4) Wiring error check (SW3) Forced operation (SW1) Night quiet mode (SW5) Cooling / heating mode lock (SW2)</p> <p>(R3062)</p>
3.	<p>Remove the inverter PCB.</p>	
1	<p>Remove the 9 screws of the inverter PCB.</p>	 <p>Fuse cover Glass tube fuse (3A)</p> <p>(R2250)</p>

5. Removal of Fan Motor

Procedure

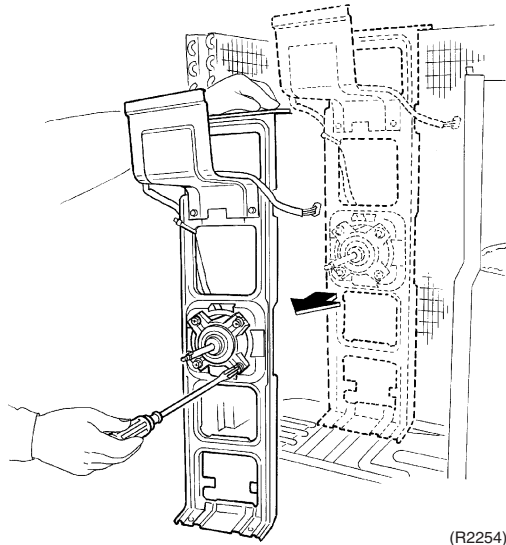


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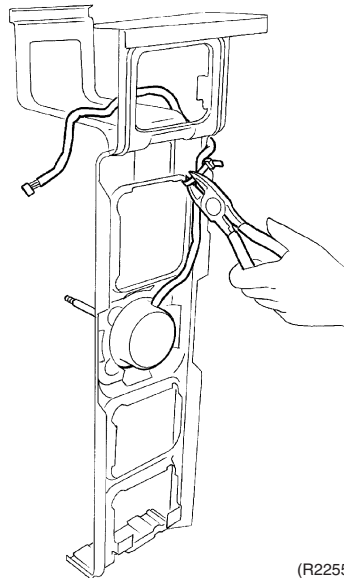
Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
<p>■ Remove the outer panels.</p>		
<p>1 Remove the fan motor lead wire connector [S70].</p>	<p>(R2251)</p>	
<p>2 Remove the propeller fans.</p>	<p>Washer-fitted nut M8</p> <p>(R2252)</p>	<p>■ For reassembling, align the ▼ mark of the propeller fan with the D-cut section of motor shaft.</p>
<p>3 Remove 2 screws of the fan motor mount.</p>	<p>(R2253)</p>	

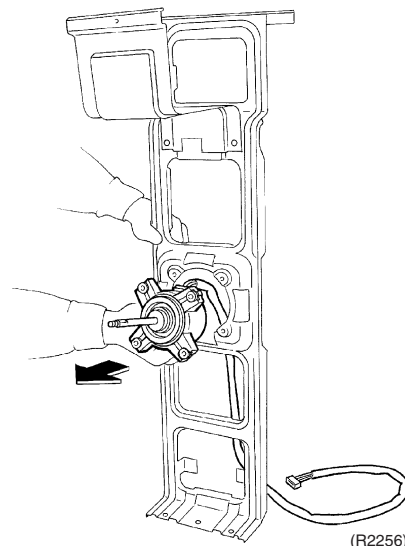
Step	Procedure	Points
4	Remove 4 screws of the fan motor.	
5	Cut the wrapper fixing the lead wire.	
6	Remove the fan motor.	



(R2254)



(R2255)



(R2256)

■ When reassembling, fix the lead wire to avoid contact with the propeller fan.

■ Mount the fan motor so as to position the ● mark on the top.

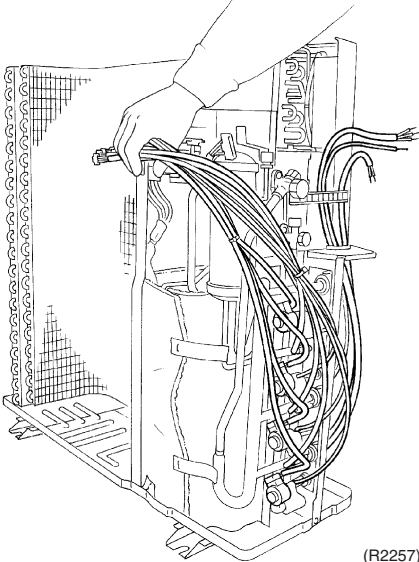
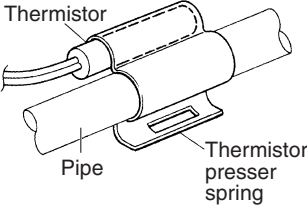
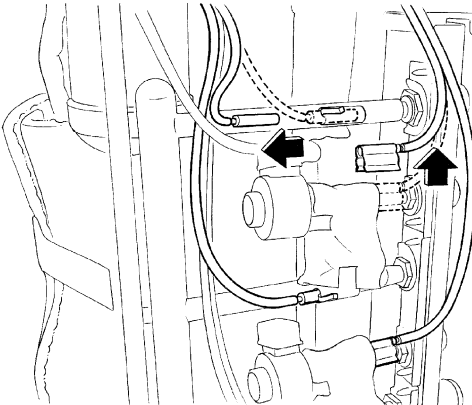
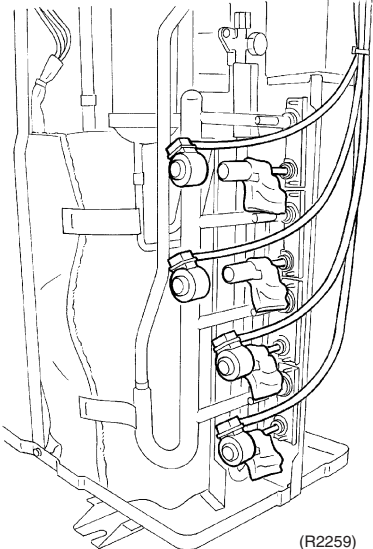
6. Removal of Electronic Expansion Valve and Thermistor

Procedure



Warning

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

Step	Procedure	Procedure	Points
1	Remove each wire harness.	 <p style="text-align: right;">(R2257)</p>	<ul style="list-style-type: none"> ■ Place the thermistor so that its end comes up to the end of the presser spring. ■ Be careful not to lose the presser spring for the discharge pipe thermistor.  <p style="text-align: center;">Thermistor Pipe Thermistor presser spring</p>
2	Take off the putty, and remove each thermistor.	 <p style="text-align: right;">(R2258)</p>	<p>S90:</p> <ul style="list-style-type: none"> ■ Outdoor air thermistor (Blue) ■ Heat exchanger thermistor (Gray) ■ Discharge pipe thermistor (Black) <p>S92: Gas pipe thermistor</p> <ul style="list-style-type: none"> ■ Room A (Black) ■ Room B (Gray) ■ Room C (Brown) ■ Room D (Red)
3	Remove the electronic expansion valve coil.	 <p style="text-align: right;">(R2259)</p>	<p>S93: Liquid pipe thermistor</p> <ul style="list-style-type: none"> ■ Room A (Black) ■ Room B (Gray) ■ Room C (Yellow) ■ Room D (Blue)

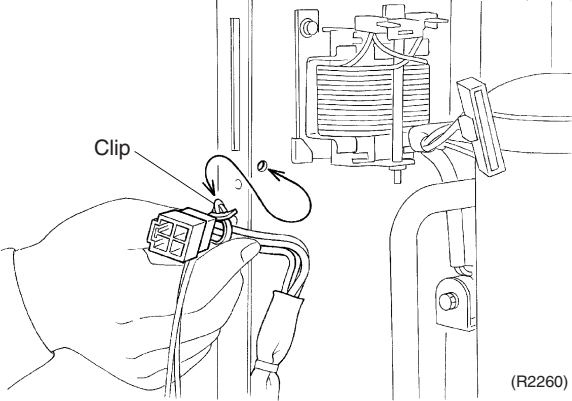
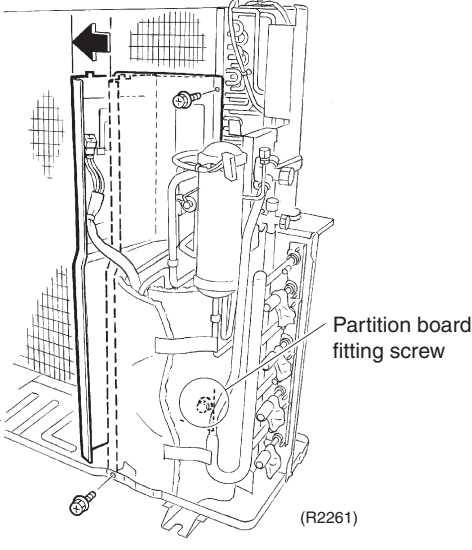
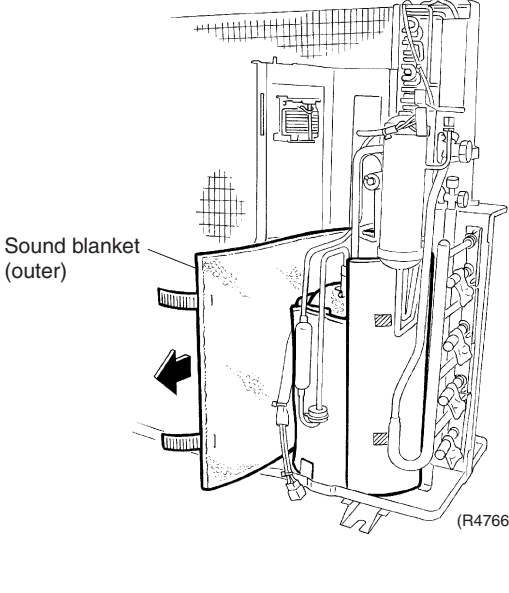
7. Removal of Sound Blanket and Reactor

Procedure

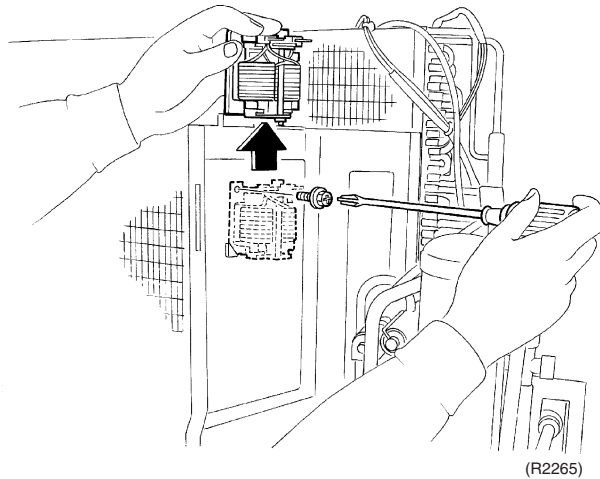
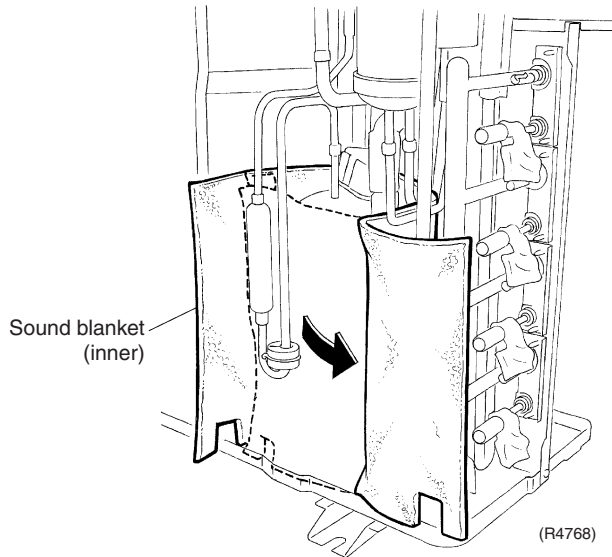
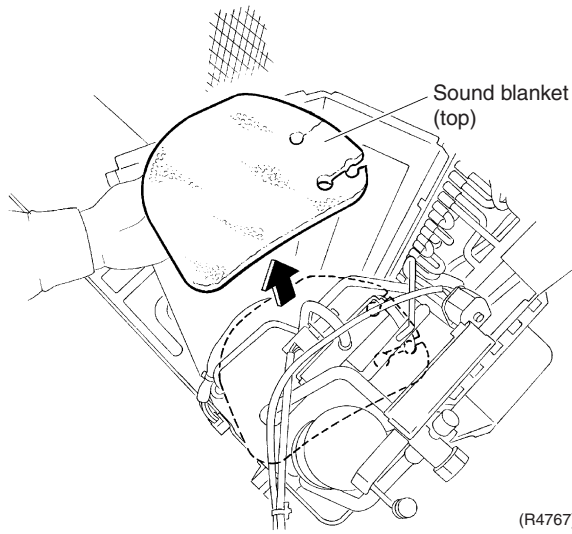


Warning

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

Step	Procedure	Points
1	<p>Release the clip fixing the compressor lead wire.</p>  <p>(R2260)</p>	
2	<p>Remove 2 screws of the partition board, and move the board leftward.</p>  <p>(R2261)</p>	<ul style="list-style-type: none"> ■ The partition board is not removable as it is fixed with the fitting screw in the rear bottom.
3	<p>Remove the sound blanket (outer).</p>  <p>(R4766)</p>	<ul style="list-style-type: none"> ■ Carefully remove the sound blanket, which is easily torn in the piping section.

Step	Procedure	Points
4	Remove the sound blanket (top).	<ul style="list-style-type: none"> ■ Carefully remove the sound blanket, which is easily torn in the piping section.
5	Remove the sound blanket (inner).	
6	Remove the screw of the reactor.	



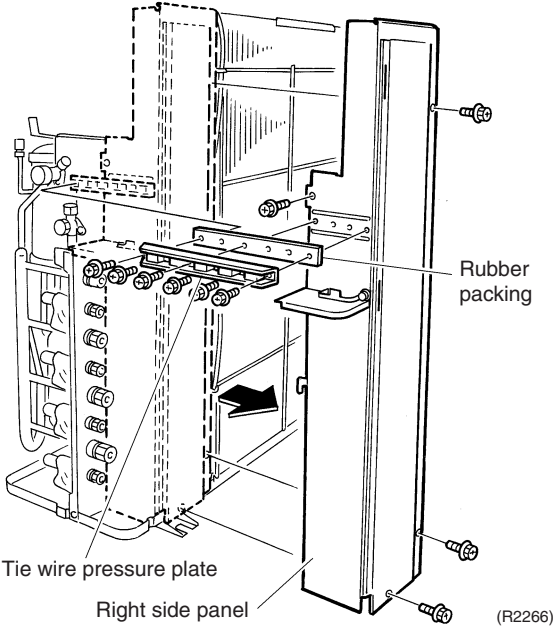
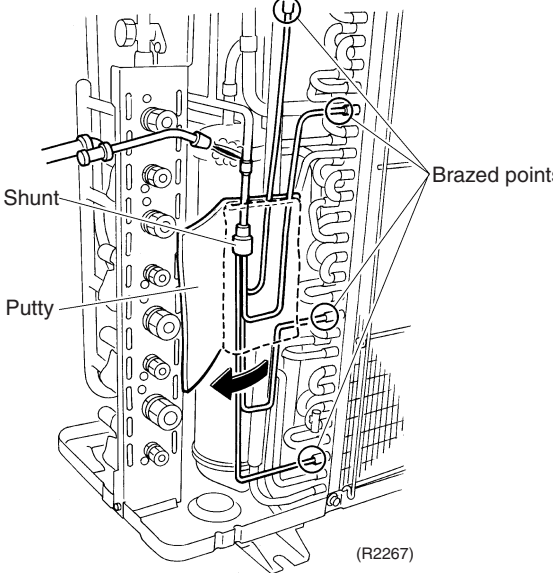
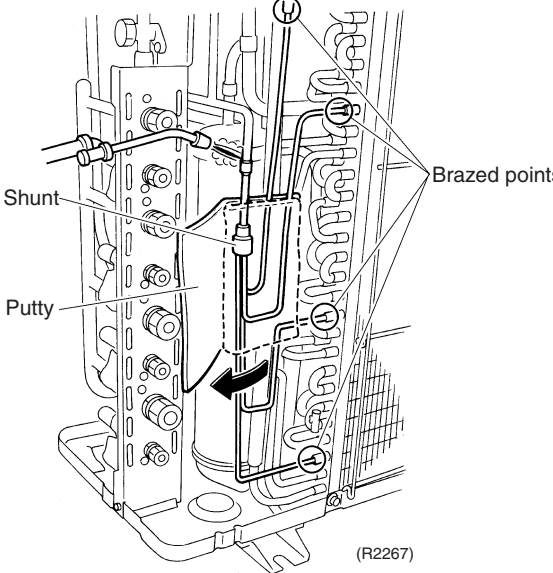
8. Removal of Shunt

Procedure



Warning

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

Step	Procedure	Points
1 Remove 6 screws of the tie wire presser plate. 2 Remove 4 screws of the right side panel. 3 Remove the putty.	 <p>(R2266)</p>	<ul style="list-style-type: none"> ■ Fasten the rubber packing with double-faced adhesive tape when mounting.
<ul style="list-style-type: none"> ■ Before taking this procedure, make sure there is no refrigerant gas left in the refrigerant pipes. 	 <p>(R2267)</p>	<p>Caution</p> <p>Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas welding rod.</p>
4 Disconnect the 5 brazed points of the shunt.	 <p>(R2267)</p>	<p>Warning</p> <p>If refrigerant gas leaks during the job, ventilate the room. (Bear in mind that if the refrigerant gas is exposed to open flames, noxious gas may be generated.)</p>

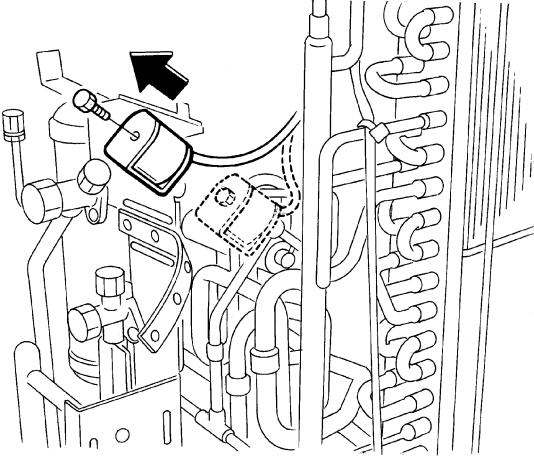
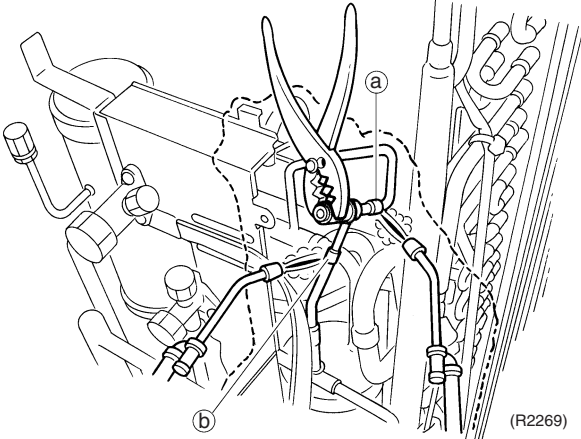
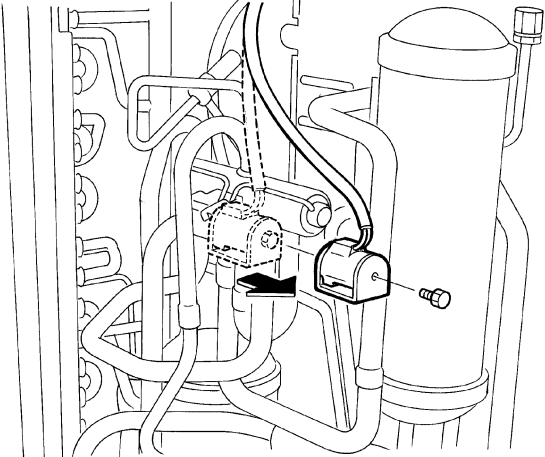
9. Removal of Solenoid Valve and Four Way Valve

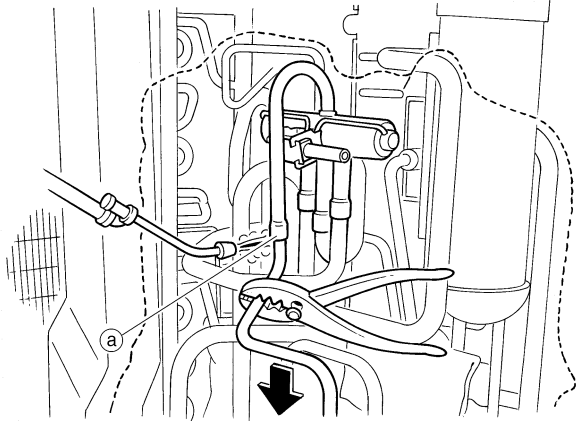
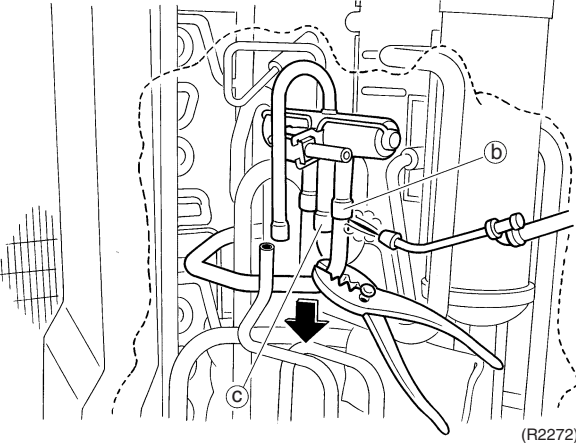
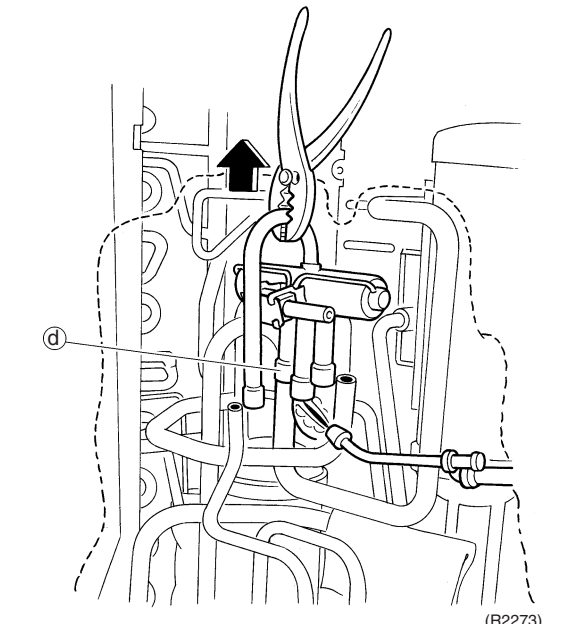
Procedure



Warning

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

Step	Procedure	Points
<p>■ Remove the outer panels.</p> <p>1. Removing the solenoid valve</p> <p>1 Remove the screw of the solenoid valve coil.</p> <p>■ Before taking this procedure, make sure there is no refrigerant gas left in the refrigerant pipes.</p>	 <p style="text-align: right;">(R2268)</p>	<p>Caution</p> <p>Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas welding rod.</p>
<p>2 Disconnect the 2 brazed points (a) and (b) in this order.</p>	 <p style="text-align: right;">(R2269)</p>	<p>Warning</p> <p>If refrigerant gas leaks during the job, ventilate the room. (Bear in mind that if the refrigerant gas is exposed to open flames, noxious gas may be generated.)</p>
<p>2. Remove the four way valve.</p> <p>1 Remove the screw of the four way valve coil.</p>	 <p style="text-align: right;">(R2270)</p>	<p>■ The cooling only models do not have a four way valve coil.</p> <p>Reassembling precautions</p> <p>Wrap the solenoid valve body with wet cloth. Splash water over the cloth before it is dried to prevent the valve from being overheated.</p>

Step	Procedure	Points
<p>■ Before taking this procedure, make sure there is no refrigerant gas left in the refrigerant pipes.</p>	 <p>(R2271)</p>	<p>Reassembling precautions</p> <ol style="list-style-type: none"> 1. Use non-oxidizing brazing method. If nitrogen gas is not available, braze the parts speedily. 2. Avoid deterioration of the gaskets due to carbonization of oil inside the four way valve or thermal influence. For this purpose, wrap the four way valve with wet cloth. Splash water over the cloth against becoming too hot (keep it below 120°C).
<p>2 Place welding protective sheet or iron plate around the four way valve to prevent the flames of a gas welding rod from affecting the valve.</p> <p>3 Heat the 4 brazed points of the four way valve. Disconnect the point (a) first.</p>	 <p>(R2272)</p>	<p>■ In pulling the pipes, be careful not to over-tighten them with pliers. The pipes may get deformed.</p> <p>If the gas welding machine fails to remove the four way valve, take the steps below.</p> <ol style="list-style-type: none"> 1. Disconnect the brazed pipe sections that are readily easy to separate and join together later. 2. With a small copper tube cutter, cut off the internal pipes to easily take out the four way valve.
<p>4 Disconnect the points (b) and (c).</p>	 <p>(R2273)</p>	<p>Note:</p> <p>Never use a hack saw. The sawdust may come into the circuit.</p>
<p>5 Disconnect the point (d).</p>		

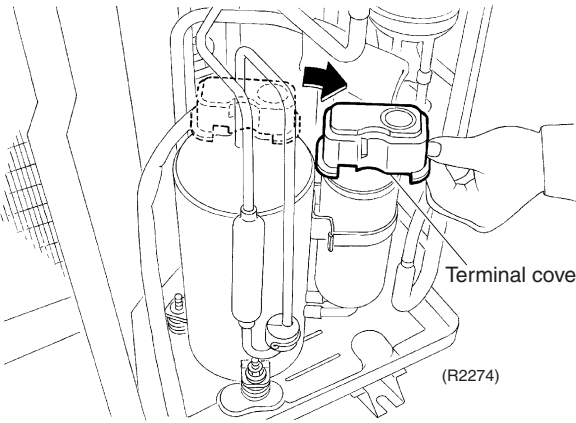
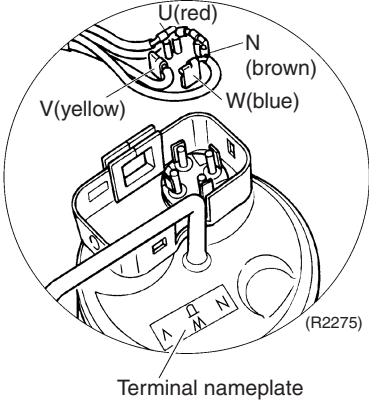
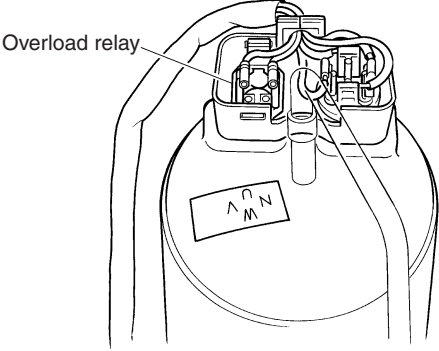
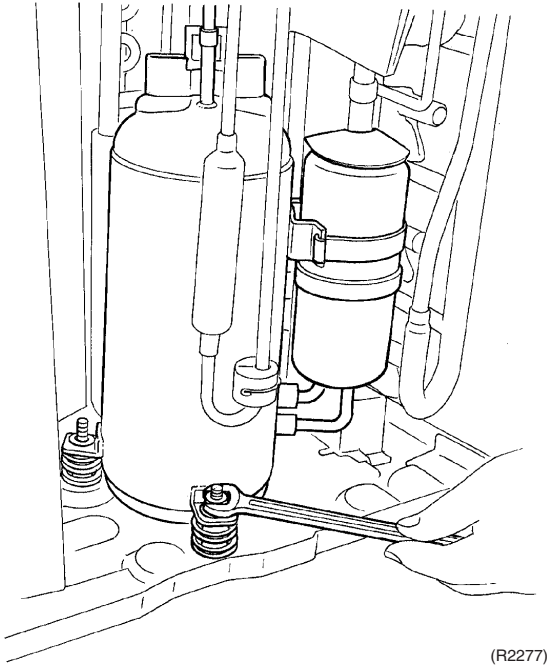
10. Removal of Compressor

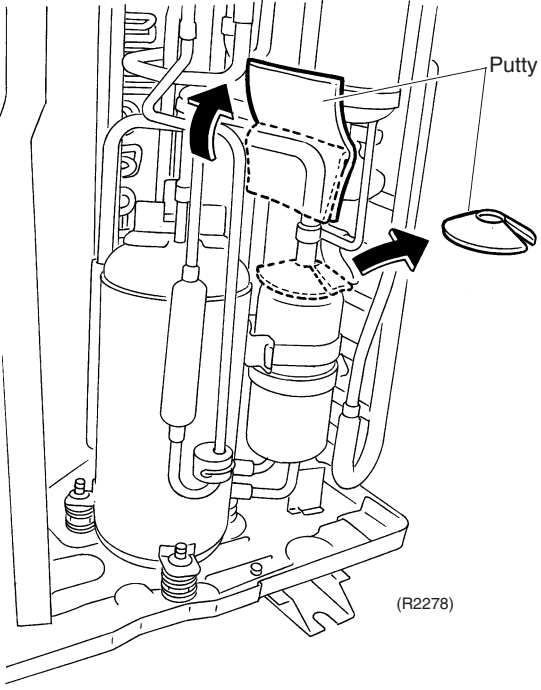
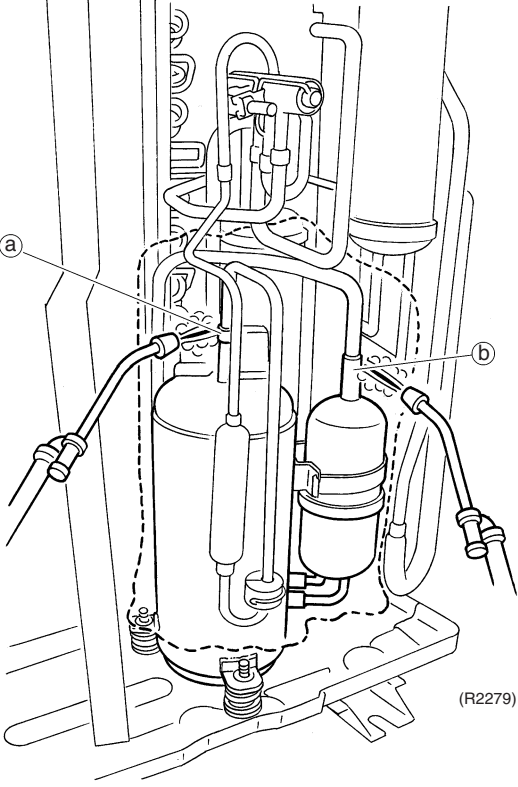
Procedure



Warning

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

Step	Procedure	Points
1	Remove the terminal cover.	 
2	Disconnect the terminals of the compressor.	<ul style="list-style-type: none"> Be careful to avoid burning the compressor terminals or the nameplate.
3	Remove the overload protector.	
4	There is the nut fixing the compressor. Remove the nut with a spanner.	

Step	Procedure	Points
<ul style="list-style-type: none"> ■ Make sure there is no refrigerant gas left inside the refrigerant pipes before starting the job. ■ When heating up the brazed parts, make sure to carry out the N2 replacement. 	 <p style="text-align: right;">(R2278)</p>	<p>Warning The compressor's refrigerating machine oil may catch fire. Have wet cloth at hand for quickly putting out the fire.</p> <p>Warning If refrigerant gas leaks during the job, ventilate the room. (Bear in mind that if the refrigerant gas is exposed to open flames, noxious gas may be generated.)</p> <p>Caution Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas welding rod.</p>
5	Remove the 2 sheets of putty.	
6	Disconnect the brazed part (a) at discharge side of the compressor.	
7	Disconnect the brazed part (b) at suction side of the compressor.	
 <p style="text-align: right;">(R2279)</p>		

Revision History

Month / Year	Version	Revised contents
07 / 2013	Si12-796	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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