DAIKIN

Si-71A

Service Manual

Skyair R(Y)K Series

●Addition of FUY, FVY-L, FAY-FA, FHYC140KVE Models R71, 100KVAL, R125KTAL Models

[Applied Models]

●Skyair : Cooling Only

●Skyair : Heat Pump

Split-System Air Conditioners Skyair R(Y)K&F Series

Cooling Only

FHC35K	FHK35F	FHB35F	FH35F
50K	45F	45F	45F
60K	60F	60F	60F
FHYC71K	71F	FHYB71F	71F
100K		100F	100F
125K		125F	125F
140K	FUY71FJ	FVY71F	FVY71L
FAY71F(A)	100FJ	100F	100L
100F(A)	125FJ	125F	125L
R35G	R71K		
50G	100K		
60G	125K		
	140K		

Heat Pump

FHYC35K	FHYK35FJ	FHYB35F	FHY35F
50K	45FJ	45F	45F
60K	60FJ	60F	60F
71K	71FJ	71F	71F
100K		100F	100F
125K		125F	125F
140K	FUY71FJ	FVY71F	FVY71L
FAY71F	100FJ	100F	100L
100F	125FJ	125F	125L
RY35F	RY71K		
50G	100K		
60G	125K		
	140K		

Part 5 Troubleshooting 75

1. Introduction

1.1 Safety Cautions

Cautions and Warnings

- Be sure to read the following safety cautions before conducting repair work.
- The caution items are classified into " ⚠ **Warning**" and " ⚠ **Caution**". The " ⚠ **Warning**" items are especially important since they can lead to death or serious injury if they are not followed closely. The " ⚠ **Caution**" items can also lead to serious accidents under some conditions if they are not followed. Therefore, be sure to observe all the safety caution items described below.
- About the pictograms

△ This symbol indicates an item for which caution must be exercised.
The pictogram shows the item to which attention must be paid.

◯ This symbol indicates a prohibited action.
The prohibited item or action is shown inside or near the symbol.

● This symbol indicates an action that must be taken, or an instruction.
The instruction is shown inside or near the symbol.

- After the repair work is complete, be sure to conduct a test operation to ensure that the equipment operates normally, and explain the cautions for operating the product to the customer

1.1.1 Caution in Repair

⚠ Warning	
Be sure to disconnect the power cable plug from the plug socket before disassembling the equipment for a repair. Working on the equipment that is connected to a power supply can cause an electrical shook. If it is necessary to supply power to the equipment to conduct the repair or inspecting the circuits, do not touch any electrically charged sections of the equipment.	
If the refrigerant gas discharges during the repair work, do not touch the discharging refrigerant gas. The refrigerant gas can cause frostbite.	
When disconnecting the suction or discharge pipe of the compressor at the welded section, release the refrigerant gas completely at a well-ventilated place first. If there is a gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it can cause injury.	
If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas can generate toxic gases when it contacts flames.	
The step-up capacitor supplies high-voltage electricity to the electrical components of the outdoor unit. Be sure to discharge the capacitor completely before conducting repair work. A charged capacitor can cause an electrical shock.	
Do not start or stop the air conditioner operation by plugging or unplugging the power cable plug. Plugging or unplugging the power cable plug to operate the equipment can cause an electrical shock or fire.	

Caution	
Do not repair the electrical components with wet hands. Working on the equipment with wet hands can cause an electrical shock.	
Do not clean the air conditioner by splashing water. Washing the unit with water can cause an electrical shock.	
Be sure to provide the grounding when repairing the equipment in a humid or wet place, to avoid electrical shocks.	
Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and cause injury.	
Do not tilt the unit when removing it. The water inside the unit can spill and wet the furniture and floor.	
Be sure to check that the refrigerating cycle section has cooled down sufficiently before conducting repair work. Working on the unit when the refrigerating cycle section is hot can cause burns.	
Use the welder in a well-ventilated place. Using the welder in an enclosed room can cause oxygen deficiency.	

1.1.2 Cautions Regarding Products after Repair

Warning	
Be sure to use parts listed in the service parts list of the applicable model and appropriate tools to conduct repair work. Never attempt to modify the equipment. The use of inappropriate parts or tools can cause an electrical shock, excessive heat generation or fire.	
When relocating the equipment, make sure that the new installation site has sufficient strength to withstand the weight of the equipment. If the installation site does not have sufficient strength and if the installation work is not conducted securely, the equipment can fall and cause injury.	
Be sure to install the product correctly be using the provided standard installation frame. Incorrect use of the installation frame and improper installation can cause the equipment to fall, resulting in injury.	For integral units only
Be sure to install the product securely in the installation frame mounted on a window frame. If the unit is not securely mounted, it can fall and cause injury.	For integral units only
Be sure to use an exclusive power circuit for the equipment, and follow the technical standards related to the electrical equipment, the internal wiring regulations and the instruction manual for installation when conducting electrical work. Insufficient power circuit capacity and improper electrical work can cause an electrical shock on fire.	
Be sure to use the specified cable to connect between the indoor and outdoor units. Make the connections securely and route the cable properly so that there is no force pulling the cable at the connection terminals. Improper connections can cause excessive heat generation or fire.	

Warning	
When connecting the cable between the indoor and outdoor units, make sure that the terminal cover does not lift off or dismount because of the cable. If the cover is not mounted properly, the terminal connection section can cause an electrical shock, excessive heat generation or fire.	
Do not damage or modify the power cable. Damaged or modified power cable can cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable can damage the cable.	
Do not mix air or gas other than the specified refrigerant (R22) in the refrigerant system. If air enters the refrigerating system, an excessively high pressure results, causing equipment damage and injury.	
If the refrigerant gas leaks, be sure to locate the leak and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak. If the leak cannot be located and the repair work must be stopped, be sure to perform pump-down and close the service valve, to prevent the refrigerant gas from leaking into the room. The refrigerant gas itself is harmless, but it can generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges.	
When replacing the coin battery in the remote controller, be sure to disposed of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	
Do not install the equipment in a place where there is a possibility of combustible gas leaks. If a combustible gas leaks and remains around the unit, it can cause a fire.	
Be sure to install the packing and seal on the installation frame properly. If the packing and seal are not installed properly, water can enter the room and wet the furniture and floor.	For integral units only

1.1.3 Inspection after Repair

Warning	
Check to make sure that the power cable plug is not dirty or loose, then insert the plug into a power outlet all the way. If the plug has dust or loose connection, it can cause an electrical shock or fire.	
If the power cable and lead wires have scratches or deteriorated, be sure to replace them. Damaged cable and wires can cause an electrical shock, excessive heat generation or fire.	
Do not use a joined power cable or extension cable, or share the same power outlet with other electrical appliances, since it can cause an electrical shock, excessive heat generation or fire.	

Caution	
Check to see if the parts and wires are mounted and connected properly, and if the connections at the soldered or crimped terminals are secure. Improper installation and connections can cause excessive heat generation, fire or an electrical shock.	

Caution	
If the installation platform or frame has corroded, replace it. Corroded installation platform or frame can cause the unit to fall, resulting in injury.	
Check the grounding, and repair it if the equipment is not properly grounded. Improper grounding can cause an electrical shock.	
Be sure to measure the unsulation resistance after the repair, and make sure that the resistance is 1 Mohm or higher. Faulty insulation can cause an electrical shock.	
Be sure to check the drainage of the indoor unit after the repair. Faulty drainage can cause the water to enter the room and wet the furniture and floor.	

1.1.4 Using Icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

1.1.5 Using Icons List

Icon	Type of Information	Description
 **Note:**	Note	A “note” provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
 **Caution**	Caution	A “caution” is used when there is danger that the reader, through incorrect manipulation, may damage equipment, loose data, get an unexpected result or has to restart (part of) a procedure.
 **Warning**	Warning	A “warning” is used when there is danger of personal injury.
	Reference	A “reference” guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

Part 1
Improved Points and Functions

1. 1999 New Models Functions

1.1 Cooling Only and Heat Pump

Cooling Only

Items	Improved Points and Functions	Ceiling Suspended Cassette type	Floor Standing	Wall Mounted Note 1
		FUY71~125FJV1	FVY71~125LVE	FAY71, 100FAVE
Model Type	Indoor Units	New	New	New
	Outdoor Units	Present	Present	Present
Main Improvement (Indoor Unit)	Appearance Improved	●	●	●
	Reduction of Dimensions or Weight	●	●	●
	Reduction of Operation sound	●	●	●
For Comfortable Air Conditioning	Auto Restart	○	○	○
	Fan Operation Mode	○	○	○
	LCD Remote Controller (Option) (LCD = Liquid Crystal Display)	○	○	○
	Auto Swing Function	○	○	○
	Ceiling Soiling Prevention	—	—	—
	Program Dry	○	○	○
	High Fan Speed Mode	—	—	○
	High Ceiling Application	○	—	—
	Low Ambient Temperature Kit (Option)	○	○	○
	Timer Selector	○	○	○
For Easy Construction and Maintenance	Drain Pump Kit	○	—	—
	Urtra Long Life Filter	—	—	—
	Long Life Filter	○	●	—
	Mold Resistant Treatment for Filter	○	○	○
	Filter Sign	○	○	○
	Mold Resistant Drain Pan	○	—	○
	Emergency Operation	○	○	○
	Self Diagnoses Function	○	○	○
For flexible Control	Double Remote Control	○	○	○
	Group Control by 1 Remote Controller	○	○	○
	Control by External Command	○	○	○
	Remote/Centralized Control	○	○	○

●: Improved Points and Functions

○: Holding Functions

—: No Functions

Note: 1. FAY71, 100FAVE are able to connect to R71KVAL and R100KVAL only in K series.

Heat Pump

Items	Improved Points and Functions	Ceiling Suspended Cassette Type	Floor Standing
		FUY71~125FJV1	FVY71~125LVE
Model Type	Indoor Units	New	New
	Outdoor Units	Present	Present
Main Improvement (Indoor Unit)	Appearance Improved	●	●
	Reduction of Dimensions or Weight	●	●
	Reduction of Operation Sound	●	●
For Comfortable Air Conditioning	Automatic Cool / Heat Change-over	○	○
	Auto Restart	○	○
	Fan Operation Mode	○	○
	LCD Remote Controller (Option)	○	○
	Auto Swing Function	○	○
	Draft Preventive Function	○	—
	Ceiling Soiling Prevention	—	—
	Program Dry	○	○
	High Fan Speed Mode	—	—
	High Ceiling Application	○	—
	Hot Start	○	○
	Low Ambient Temperature Kit (Option)	○	○
	Timer Selector	○	○
For Easy Construction and Maintenance	Drain Pump Kit	○	—
	Urtra Long Life Filter	—	—
	Long Life Filter	○	●
	Mold Resistant Treatment for Filter	○	○
	Filter Sign	○	○
	Mold Resistant Drain Pan	○	—
	Emergency Operation	○	○
	Self Diagnoses Function	○	○
For Flexible Control	Double Remote Control	○	○
	Group Control by 1 Remote Controller	○	○
	Control by External Command	○	○
	Remote/Centralized Control	○	○

●: Improved Points and Functions

○: Holiding Functions

—: No Functions

2. Present Model's Functions

2.1 Cooling Only and Heat Pump

Cooling Only

Items	Improved Points and Functions	Ceiling Mounted Cassette				Ceiling Suspended	
		Wired type		Wireless type			
		35~60	71~140	35~60	71~140	35~60	71~125
Model Type	Indoor Units	New	New	New	New	Present	Present
	Outdoor Units	New	New	New	New	New	New
Main Improvement (Indoor Unit)	Appearance Improved	●	●	●	●	—	—
	Reduction of Dimensions or Weight	●	●	●	●	—	—
	Reduction of Operation Sound	● *60 only	● *71 only	● *60 only	● *71 only	—	—
For Comfortable Air Conditioning	Auto Restart	○	○	○	○	○	○
	Fan Operation Mode	○	○	○	○	○	○
	LCD Remote Controller (Option) (LCD = Liquid Crystal Display)	○	○	○	○	○	○
	Auto Swing Function	○	○	○	○	—	—
	Ceiling Soiling Prevention	○	○	○	○	—	—
	Program Dry	○	○	○	○	○	○
	High Fan Speed Mode	—	—	—	—	—	—
	High Ceiling Application	○	○	○	○	○	○
	Low Ambient Temperature Kit (Option)	—	○	—	○	—	○
	Timer Selector	○	○	○	○	○	○
For Easy Construction and Maintenance	Drain Pump Kit	○	○	○	○	—	—
	Urtra Long Life Filter	●	●	●	●	—	—
	Long Life Filter	○	○	○	○	○	○
	Mold Resistant Treatment for Filter	○	○	○	○	○	○
	Filter Sign	○	○	○	○	○	○
	Mold Resistant Drain Pan	○	○	○	○	○	○
	Emergency Operation	○	○	○	○	○	○
	Self Diagnoses Function	○	○	○	○	○	○
For flexible Control	Double Remote Control	○	○	○	○	○	○
	Group Control by 1 Remote Controller	○	○	○	○	○	○
	Cotnrol by External Command	○	○	—	—	○	○
	Remote/Centralized Control	○	○	—	—	○	○

●: Improved Points and Functions

○: Holding Functions

—: No Functions

Items	Improved Points and Functions	Ceiling Mounted Built-in		Ceiling Mounted Cassette Corner		Wall Mounted	Floor Standing
		35~60	71~125	35~60	71	71, 100	71~125
Model type	Indoor Units	Present	Present	Present	Present	Present	Present
	Outdoor Units	New	New	New	New	New	New
Main Improvement (Indoor Unit)	Appearance Improved	—	—	—	—	—	—
	Reduction of Dimensions or Weight	—	—	—	—	—	—
	Reduction of Operation Sound	—	—	—	—	—	—
For Comfortable Air Conditioning	Auto Restart	○	○	○	○	○	○
	Fan Operation Mode	○	○	○	○	○	○
	LCD Remote Controller (Option) (LCD = Liquid Crystal Display)	○	○	○	○	○	○
	Auto Swing Function	—	—	○	○	○	○
	Ceiling Soiling Prevention	—	—	○	○	—	—
	Program Dry	○	○	○	○	○	○
	High Fan Speed Mode	—	—	—	—	○	—
	High Ceiling Application	—	—	○	○	—	—
	Low Ambient Temperature Kit (Option)	—	○	—	○	○	○
	Timer Selector	○	○	○	○	○	○
For Easy Construction and Maintenance	Drain Pump Kit	○	○	○	○	—	—
	Urtra Long Life Filter	—	—	—	—	—	—
	Long Life Filter	○	○	○	○	—	—
	Mold Resistant Treatment for Filter	○	○	○	○	○	○
	Filter Sign	○	○	○	○	○	○
	Mold Resistant Drain Pan	○	○	○	○	○	—
	Emergency Operation	○	○	○	○	○	○
	Self Diagnoses Function	○	○	○	○	○	○
For Flexible Control	Double Remote Control	○	○	○	○	○	○
	Group Control by 1 Remote Controller	○	○	○	○	○	○
	Cotnrol by External Command	○	○	○	○	○	○
	Remote/Centralized Control	○	○	○	○	○	○

●: Improved Points and Functions

○: Holding Functions

—: No Functions

Heat Pump

Items	Improved Points and Functions	Ceiling Mounted Cassette				Ceiling Suspended	
		Wired Type		Wireless Type			
		35~60	71~140	35~60	71~140	35~60	71~125
Model Type	Indoor Units	New	New	New	New	Present	Present
	Outdoor Units	New	New	New	New	New	New
Main Improvement (Indoor Unit)	Appearance Improved	●	●	●	●	○	○
	Reduction of Dimensions or Weight	●	●	●	●	○	○
	Reduction of Operation Sound	● *60 only	● *71 only	● *60 only	● *71 only	—	—
For Comfortable Air Conditioning	Automatic Cool / Heat Change-over	○	○	○	○	○	○
	Auto Restart	○	○	○	○	○	○
	Fan Operation Mode	○	○	○	○	○	○
	LCD Remote Controller (Option)	○	○	○	○	○	○
	Auto Swing Function	○	○	○	○	○	○
	Draft Preventive Function	○	○	○	○	○	○
	Ceiling Soiling Prevention	○	○	○	○	—	—
	Program Dry	○	○	○	○	○	○
	High Fan Speed Mode	—	—	—	—	—	—
	High Ceiling Application	○	○	○	○	○	○
	Hot Start	○	○	○	○	○	○
	Low Ambient Temperature Kit	○	○	○	○	○	○
	Timer Selector	○	○	○	○	○	○
For Easy Construction and Maintenance	Drain Pump Kit	○	○	○	○	—	—
	Urtra Long Life Filter	●	●	●	●	—	—
	Long Life Filter	○	○	○	○	○	○
	Mold Resistant Treatment for Filter	○	○	○	○	○	○
	Filter Sign	○	○	○	○	○	○
	Mold Resistant Drain Pan	○	○	○	○	○	○
	Emergency Operation	○	○	○	○	○	○
	Self Diagnoses Function	○	○	○	○	○	○
For Flexible Control	Double Remote Control	○	○	○	○	○	○
	Group Control by 1 Remote Controller	○	○	○	○	○	○
	Cotnrol by External Command	○	○	—	—	○	○
	Remote/Centralized Control	○	○	—	—	○	○

●: Improved Points and Functions

○: Holiding Functions

—: No Functions

Items	Improved Points and Functions	Ceiling Mounted Built-in		Ceiling Mounted Cassette Corner		Wall Mounted	Floor Standing
		35~60	71~125	35~60	71	"71, 100"	71~125
Model Type	Indoor Units	Present	Present	Present	Present	Present	Present
	Outdoor Units	New	New	New	New	New	New
Main Improvement (Indoor Unit)	Appearance Improved	○	○	○	○	○	○
	Reduction of Dimensions or Weight	○	○	○	○	○	○
	Reduction of Operation Sound	○	○	○	○	○	○
For Comfortable Air Conditioning	Automatic Cool / Heat Change-over	○	○	○	○	○	○
	Auto Restart	○	○	○	○	○	○
	Fan Operation Mode	○	○	○	○	○	○
	LCD Remote Controller (Option)	○	○	○	○	○	○
	Auto Swing Function	—	—	○	○	○	○
	Draft Preventive Function	—	—	○	○	○	—
	Ceiling Soiling Prevention	—	—	○	○	—	—
	Program Dry	○	○	○	○	○	○
	High Fan Speed Mode	—	○	—	—	○	—
	High Ceiling Application	—	—	○	○	—	—
	Hot Start	○	○	○	○	○	○
	Low Ambient Temperature Kit	○	○	○	○	○	○
	Timer Selector	○	○	○	○	○	○
For Easy Construction and Maintenance	Drain Pump Kit	○	○	○	○	—	—
	Urtra Long Life Filter	—	—	—	—	—	—
	Long Life Filter	○	○	○	○	—	—
	Mold Resistant Treatment for Filter	○	○	○	○	○	○
	Filter Sign	○	○	○	○	○	○
	Mold Resistant Drain Pan	○	○	○	○	○	—
	Emergency Operation	○	○	○	○	○	○
	Self Diagnoses Function	○	○	○	○	○	○
For flexible Control	Double Remote Control	○	○	○	○	○	○
	Group Control by 1 Remote Controller	○	○	○	○	○	○
	Cotnrol by External Command	○	○	○	○	○	○
	Remote/Centralized Control	○	○	○	○	○	○

●: Improved Points and Functions

○: Holiding Functions

—: No Functions

Part 2
Remote Controller Operation

1. Wired Remote Controller

1.1 Wired Remote Controller

BRC1B61	FH(Y)C, FHK, FAY, FUY, FHY
BRC1B62	FH(Y)B, FH

Fig.3
BRC1B61
Remote Controller

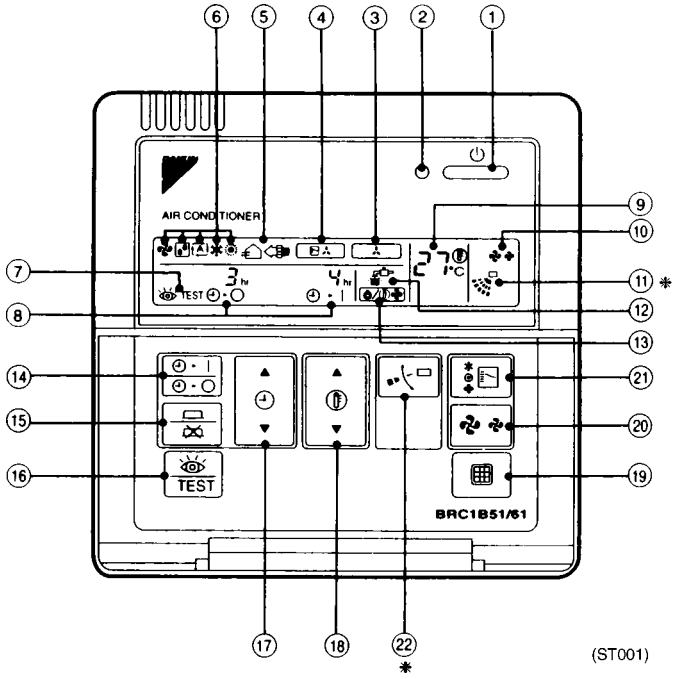
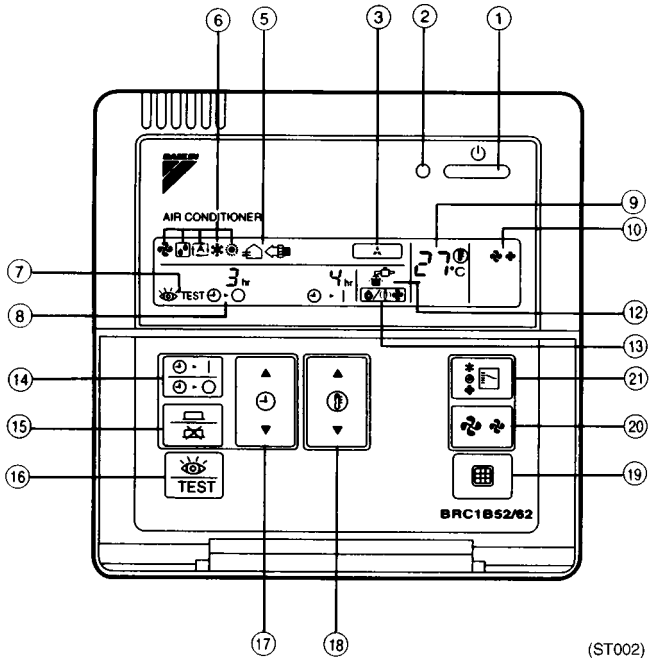


Fig.4
BRC1B62
Remote Comtroller



NAME AND FUNCTION OF EACH SWITCH AND DISPLAY ON THE REMOTE CONTROLLER

①	**ON/OFF BUTTON** Press the button and the system will start. Press the button again and the system will stop.
②	**OPERATION LAMP (RED)** The lamp lights up during operation.
③	**DISPLAY " " (UNDER CENTRALIZED CONTROL)** When this display shows, the system is UNDER CENTRALIZED CONTROL. (This is not a standard specification.)
④	**DISPLAY " " (CHANGEOVER UNDER CONTROL)** This display shows when the outdoor unit is individual operation system.
⑤	**DISPLAY " " (VENTILATION/AIR CLEANING)** This display shows that the total heat exchange and the air cleaning unit are in operation. (These are optional accessories).
⑥	**DISPLAY " " " " " " " " " " (OPERATION MODE)** This display shows the current OPERATION MODE. For straight cooling type, " A " (Auto) and " " (Heating) are not installed.
⑦	**DISPLAY " TEST " (INSPECTION/TEST OPERATION)** When the INSPECTION/TEST OPERATION BUTTON is pressed, the display shows the system mode is in.
⑧	**DISPLAY " 3hr 4hr " (PROGRAMMED TIME)** This display shows PROGRAMMED TIME of the system start or stop.
⑨	**DISPLAY " 27°C "(SET TEMPERATURE)** This display shows the set temperature.
⑩	**DISPLAY " " (FAN SPEED).** This display shows the set fan speed.
⑪	**DISPLAY " " (AIR FLOW FLAP)**
⑫	**DISPLAY " " (TIME TO CLEAN AIR FILTER)
⑬	**DISPLAY " " (DEFROST)**
⑭	**TIMER MODE START/STOP BUTTON**
⑮	**TIMER ON/OFF BUTTON**
⑯	**INSPECTION/TEST OPERATION BUTTON** This button is used only by qualified service persons for maintenance purposes.
⑰	**PROGRAMMING TIME BUTTON** Use this button for programming "START and/or STOP" time.
⑱	**TEMPERATURE SETTING BUTTON** Use this button for SETTING TEMPERATURE.
⑲	**FILTER SIGN RESET BUTTON**
⑳	**FAN SPEED CONTROL BUTTON** Press this button to select the fan speed, HIGH or LOW, of your choice.
㉑	**OPERATION MODE SELECTOR BUTTON** Press this button to select OPERATION MODE.
㉒	**AIR FLOW DIRECTION ADJUST BUTTON**

(NOTE)

- For the sake of explanation, all indications are shown on the display in Figure 3,4 contrary to actual running situations.

(ST003)

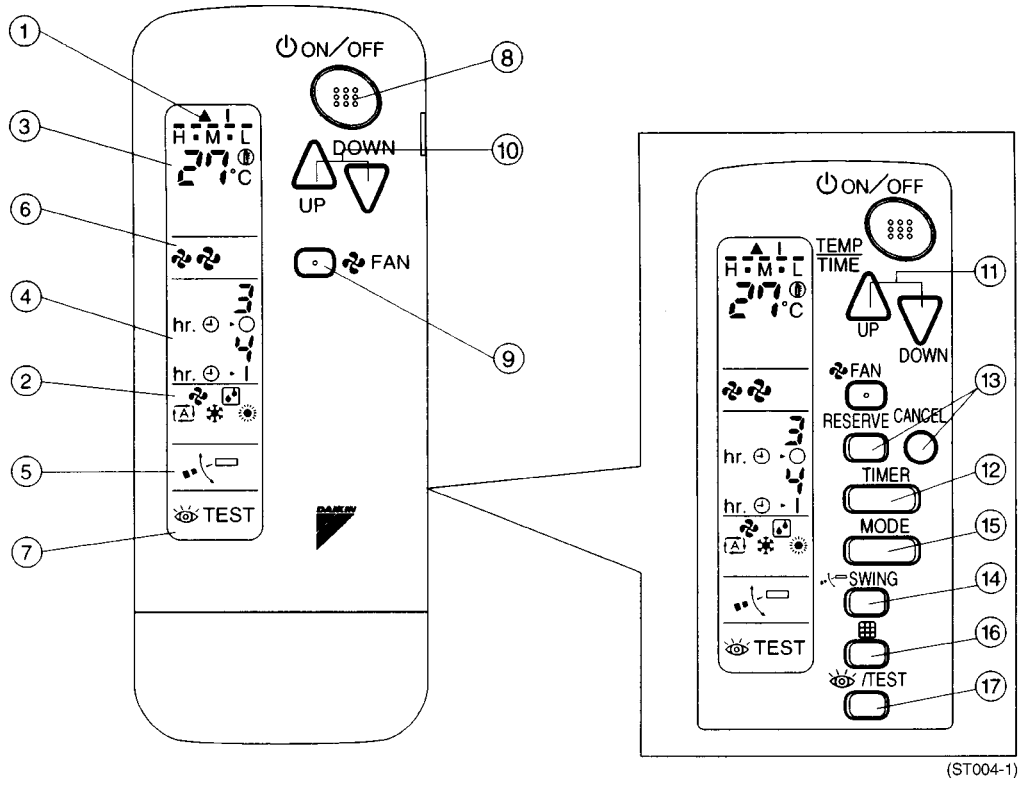
2. Wireless Remote Controller

2.1 Wireless Remote Controller

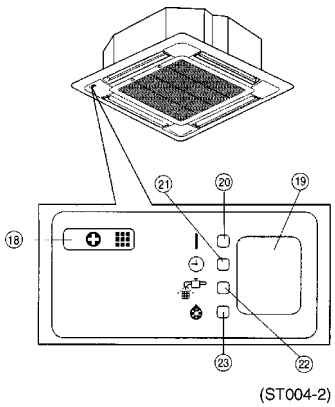
BRC7C613W	FH(Y)C-K
BRC7C69W	FAY-F

BRC7C611W	FAY-FA
BRC7C529W	FUY-FJ

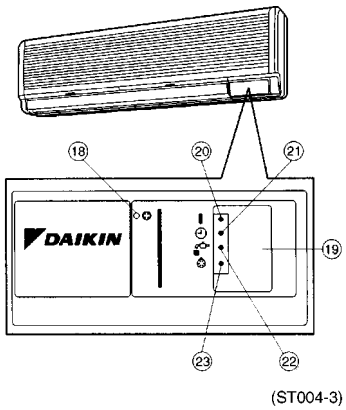
Fig1,2



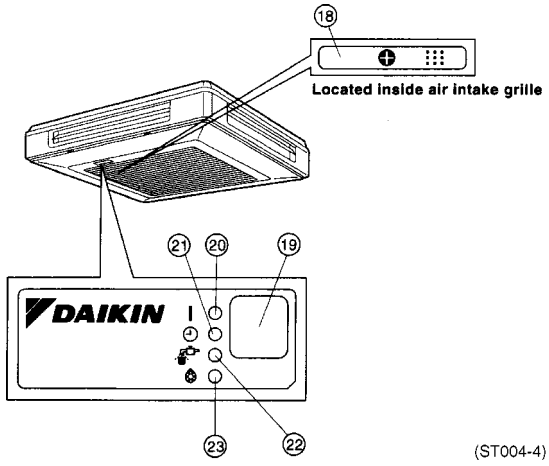
FH(Y)C-K



FAY-F(A)



FUY-FJ



NAMES AND FUNCTIONS OF THE OPERATING SECTION

①	**DISPLAY " ▲ " (SIGNAL TRANSMISSION)** This lights up when a signal is being transmitted.
②	**DISPLAY " " " " " " " " " " (OPERATION MODE)** This display shows the current OPERATION MODE. For straight cooling type, " " (Auto) and " " (Heating) are not installed.
③	**DISPLAY " " (SET TEMPERATURE)** This display shows the set temperature.
④	**DISPLAY " " (PROGRAMMED TIME)** This display shows PROGRAMMED TIME of the system start or stop.
⑤	**DISPLAY " " (AIR FLOW FLAP)**
⑥	**DISPLAY " " " " (FAN SPEED)** The display shows the set fan speed.
⑦	**DISPLAY " TEST" (INSPECTION/ TEST OPERATION)** When the INSPECTION/TEST OPERATION BUTTON is pressed, the display shows the system mode is in.
⑧	**ON/OFF BUTTON** Press the button and the system will start. Press the button again and the system will stop.
⑨	**FAN SPEED CONTROL BUTTON** Press this button to select the fan speed, HIGH or LOW, of your choice.
⑩	**TEMPERATURE SETTING BUTTON** Use this button for SETTING TEMPERATURE (Operates with the front cover of the remote controller closed.)
⑪	**PROGRAMMING TIMER BUTTON** Use this button for programming "START and/or STOP" time. (Operates with the front cover of the remote controller opened.)
⑫	**TIMER MODE START/STOP BUTTON**
⑬	**TIMER RESERVE/CANCEL BUTTON**
⑭	**AIR FLOW DIRECTION ADJUST BUTTON**
⑮	**OPERATION MODE SELECTOR BUTTON** Press this button to select OPERATION MODE.
⑯	**FILTER SIGN RESET BUTTON** Refer to the section of MAINTENANCE in the operation manual attached to the indoor unit.
⑰	**INSPECTION/TEST OPERATION BUTTON** This button is used only by qualified service persons for maintenance purposes.
⑱	**EMERGENCY OPERATION SWITCH** This switch is readily used if the remote controller does not work.
⑲	**RECEIVER** This receives the signals from the remote controller.
⑳	**OPERATING INDICATOR LAMP (Red)** This lamp stays lit while the air conditioner runs. It flashes when the unit is in trouble.
㉑	**TIMER INDICATOR LAMP (Green)** This lamp stays lit while the timer is set.
㉒	**AIR FILTER CLEANING TIME INDICATOR LAMP (Red)** Lights up when it is time to clean the air filter.
㉓	**DEFROST LAMP (Orange)** Lights up when the defrosting operation has started. (For straight cooling type this lamp does not turn on.)

(NOTE)
- For the sake of explanation, all indications are shown on the display in Figure 1 contrary to actual running situations.
- If the air filter cleaning time indicator lamp lights up, clean the air filter as explained in the operation manual provided with the indoor unit. After cleaning and reinstalling the air filter, press the filter sign reset button on the remote controller. The air filter cleaning time indicator lamp on the receiver will go out.

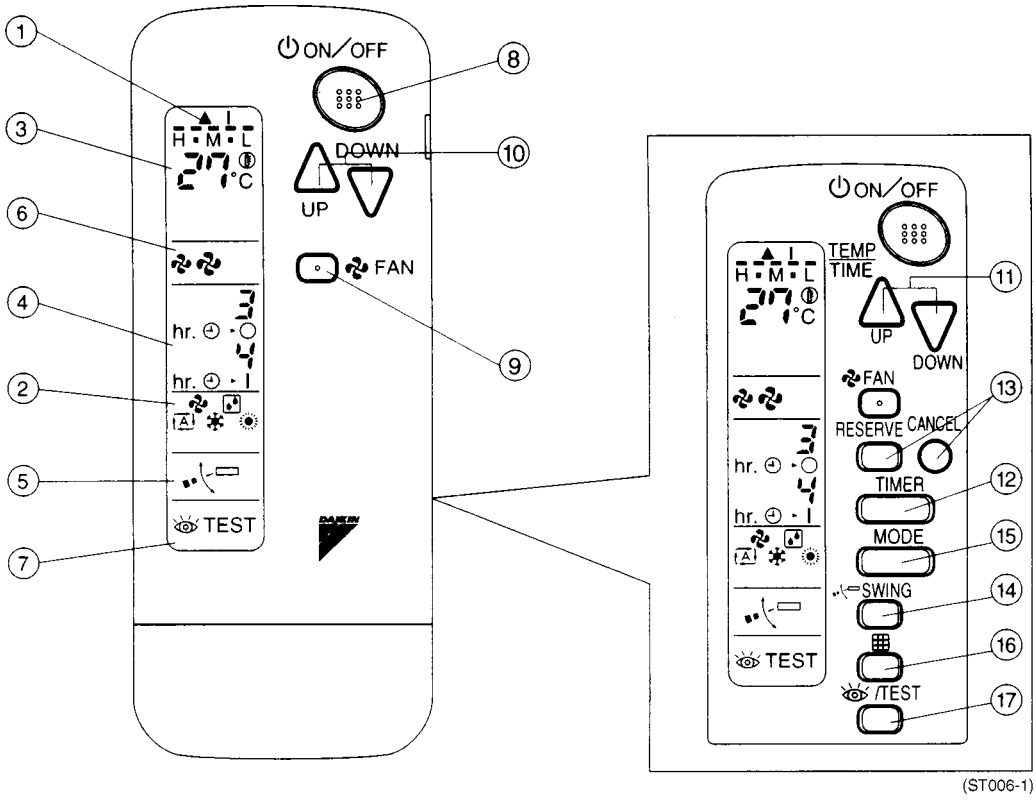
(ST005)

3. Wireless Remote Controller

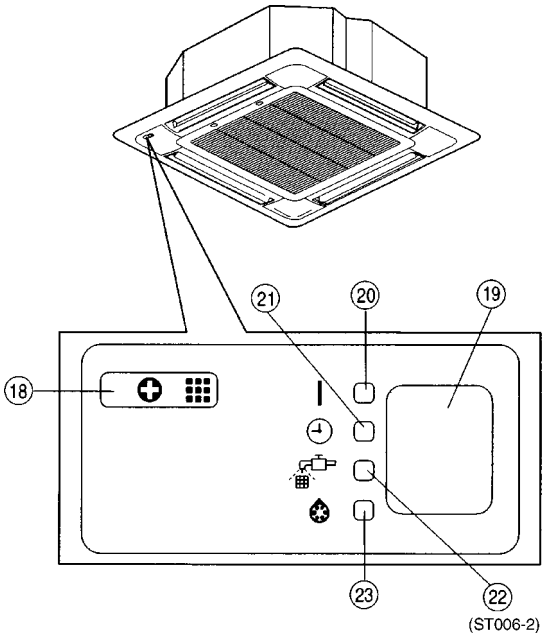
3.1 Wireless Remote Controller

BRC7C612W	FHYC-K
BRC7C64W	FAY-F

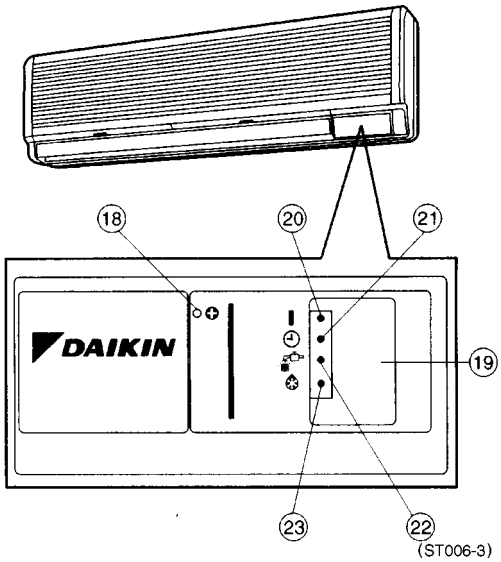
Fig1,2



FHYC-K



FAY-F



NAMES AND FUNCTIONS OF THE OPERATING SECTION

①	**DISPLAY " ▲ " (SIGNAL TRANSMISSION)** This lights up when a signal is being transmitted.
②	**DISPLAY "" "" "A" "" "" (OPERATION MODE)** This display shows the current OPERATION MODE. For straight cooling type, "A" (Auto) and " " (Heating) are not installed.
③	**DISPLAY " " (SET TEMPERATURE)** This display shows the set temperature.
④	**DISPLAY " " (PROGRAMMED TIME)** This display shows PROGRAMMED TIME of the system start or stop.
⑤	**DISPLAY " " (AIR FLOW FLAP)**
⑥	**DISPLAY " " " " (FAN SPEED)** The display shows the set fan speed.
⑦	**DISPLAY " TEST" (INSPECTION/ TEST OPERATION)** When the INSPECTION/TEST OPERATION BUTTON is pressed, the display shows the system mode is in.
⑧	**ON/OFF BUTTON** Press the button and the system will start. Press the button again and the system will stop.
⑨	**FAN SPEED CONTROL BUTTON** Press this button to select the fan speed, HIGH or LOW, of your choice.
⑩	**TEMPERATURE SETTING BUTTON** Use this button for SETTING TEMPERATURE (Operates with the front cover of the remote controller closed.)
⑪	**PROGRAMMING TIMER BUTTON** Use this button for programming "START and/or STOP" time. (Operates with the front cover of the remote controller opened.)
⑫	**TIMER MODE START/STOP BUTTON**
⑬	**TIMER RESERVE/CANCEL BUTTON**
⑭	**AIR FLOW DIRECTION ADJUST BUTTON**
⑮	**OPERATION MODE SELECTOR BUTTON** Press this button to select OPERATION MODE.
⑯	**FILTER SIGN RESET BUTTON** Refer to the section of MAINTENANCE in the operation manual attached to the indoor unit.
⑰	**INSPECTION/TEST OPERATION BUTTON** This button is used only by qualified service persons for maintenance purposes.
⑱	**EMERGENCY OPERATION SWITCH** This switch is readily used if the remote controller does not work.
⑲	**RECEIVER** This receives the signals from the remote controller.
⑳	**OPERATING INDICATOR LAMP (Red)** This lamp stays lit while the air conditioner runs. It flashes when the unit is in trouble.
㉑	**TIMER INDICATOR LAMP (Green)** This lamp stays lit while the timer is set.
㉒	**AIR FILTER CLEANING TIME INDICATOR LAMP (Red)** Lights up when it is time to clean the air filter.
㉓	**DEFROST LAMP (Orange)** Lights up when the defrosting operation has started. (For straight cooling type this lamp does not turn on.)

(NOTE)
- For the sake of explanation, all indications are shown on the display in Figure 1 contrary to actual running situations.
- If the air filter cleaning time indicator lamp lights up, clean the air filter as explained in the operation manual provided with the indoor unit. After cleaning and reinstalling the air filter, press the filter sign reset button on the remote controller. The air filter cleaning time indicator lamp on the receiver will go out.

(ST007)

Part 3
Explanation of Field Set

1. Method of Field Set (Reset after Maintenance Inspection/Repair)

1.1 Explanation

Field set is carried out from the remote controller. At time of installation, or after maintenance inspection/ repair, carry out field set according to the explanation below. Incorrect settings will cause a malfunction to occur. (The indoor unit settings are sometimes changed if optional accessories are mounted on the indoor unit. Refer to the optional accessory manual.)

1.2 Field Setting

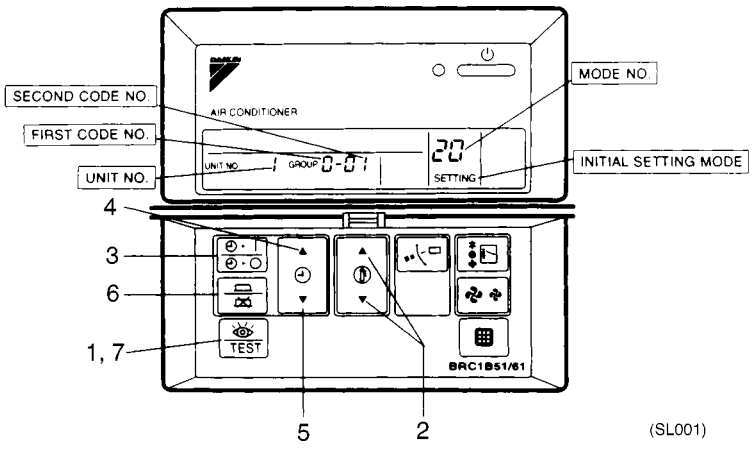
1.2.1 Wired Remote Controller

Notes: (Field setting must be made from the remote controller in accordance with the installation conditions.)

- Setting can be made by changing the “Mode number”, “FIRST CODE NO.”, and “SECOND CODE NO.”.
- Refer to the following procedures for Field setting.

Procedure

1. Press the “ TEST ” button for 4 seconds or more on nomal mode to change to “FIELD SETTING MODE”
2. Press the “ ” button and choose the desired “MODE NO.”.
3. If the unit is under group control, it is unified set (factory set).However, if setting on each indoor unit bases or confirming after the setting, use the MODE NO. in the ( ) for the setting.
   Under group control, press the “ ” button and select the indoor unit no. that you are setting to set on each indoor unit bases.
   (Unnecessary at unified setting of group control and the UNIT NO. is not displayed)
4. Press the “ ” upper part of the button and select the “FIRST CODE NO.”.
5. Press the “ ” lower part of the button and select the “SECOND CODE NO.”.
6. Press the “ ” button once to FIX the change of the setting.
7. Press the “ TEST ” button for about one second and return to the “NORMAL MODE”



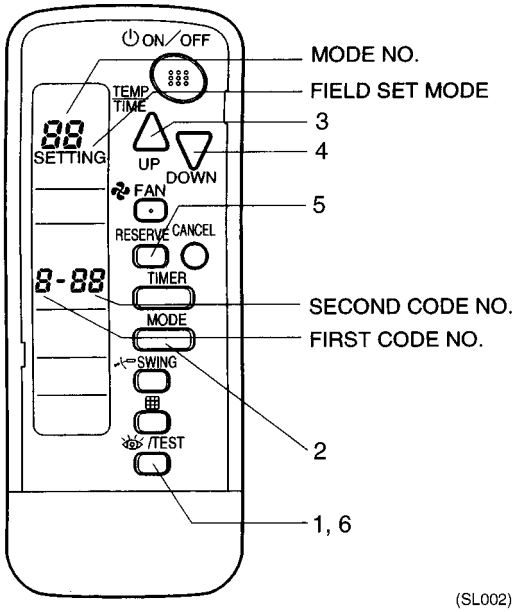
(SL001)

1.2.2 Wireless Remote Controller

Note: If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual (optional hand book) for each optional accessory.

Procedure

1. When in the normal mode, push the " /TEST " button for a minimum of four seconds, and the FIELD SET MODE is entered.
2. Select the desired MODE NO. with the " MODE " button.
3. Push the " UP " button and select the FIRST CODE NO.
4. Push the " DOWN " button and select the SECOND CODE NO.
5. Push the " RESERVE " button and the present settings are SET.
6. Push the " /TEST " button to return to the NORMAL MODE.



(SL002)

1.3 Initial Setting Contents

Setting Contents / Indoor Models		Filter Sign	Filter Sign Estimation of Accumulated Operating Hours	High Air Outlet Velocity (for Application to Ceiling Higher than 2.7m)	Selection of Air Flow Direction	Air Flow Direction Adjust	Air Flow Direction Adjust Range Setting	Twin System No. of Connected Indoor Units	Twin System Individual Set	External Static Pressure	Long Life Filter Type	Fan Speed Up
Ceiling Mounted Cassette Type	Cooling only FHC35 ~60	○	○	○	○		○	Note	Note		○	
	(H/P) FHYC 35~140	○	○	○	○		○	○	○		○	
Ceiling Suspended Type	Cooling only FH35 ~125	○	○	○				Note	Note		○	
	(H/P) FHY35 ~125	○	○	○				○	○		○	
Ceiling Suspended Cassette Type	FUY71 ~125FJ	○	○	○	○			○	○		○	
Ceiling Mounted Built-in Type	Cooling only FHB35 ~60	○	○							○	○	
	(H/P) FHYB 35~125	○	○							○	○	
Corner Type	Cooling only FHK35 ~71	○	○	○		○	○				○	
	(H/P) FHYK 35~71	○	○	○		○	○				○	
Floor Standing Type	FVY71 ~125	○	○								○	
Floor Standing Type	FVY71 ~125L	○	○								○	
Wall Mounted Type	FAY71 ~100	○	○									○

Note: A heat pump type indoor unit is used for cooling only twin system in case of using ceiling mounted cassette and ceiling suspended types.

1.4 Local Setting Mode No.

Example

To set the filter sign time to “filter contamination - heavy” for all units in a group:
Set mode No. to “10,” setting switch No. to “0,” and setting position No. to “02.”

Table

Mode No. Note 1	Setting Switch No.	Setting Description		Setting Position No. *Note 2				
				01		02		03
10(20)	0	Filter contamination - heavy / light (Setting of operating hours for filter sign indication) (Change setting when reducing filter sign indication time to half due to quick soiling of filter)	Urtra-Long-Life Type	Light	Approx. 10,000 hours	Heavy	Approx. 5,000 hours	—
			Long-Life Type		Approx. 2,500 hours		Approx. 1,250 hours	
			Standard Type		Approx. 200 hours		Approx. 100 hours	
	1	Long-life filter type (Setting of filter sign indication time) (Change setting when Urtra-long-life filter is installed)		Long-Life Filter		Urtra-Long-Life Filter (1)		Setting Description Urtra-Long-Life Filter (2)
	3	Estimation of filter operating hour (Change setting when filter sign indication is not used)		ON		OFF		—
11(21)	0	No. of Sky Air indoor units connected for simultaneous ON-OFF multi system (Change setting when simultaneous operation multi system is used) *Note 3		Pair		Twin		Triple
	1	Simultaneous operation multi-unit individual setting		Unified		Individual		—
	2	Indoor unit fan OFF when cooling/heating is OFF		—		Fan OFF		—
12(22)	3	Change to set fan speed when heater thermostat is OFF *Note 5		Fan Speed LL		Set Fan Speed		—
	5	Automatic restart after power outage reset *Note 6		OFF		ON		—
13(23)	0	High Ceiling	Ceiling-mounted built-in multi-flow cassette type, Ceiling suspended cassette type	N		H		S
			Ceiling-suspended type, wall-mounted typ	2.7 m or Lower		2.7~3.5 m		—
		Fan speed increase (wall-mounted type)		Standard		Slight Increase		Normal Increase
	1	Air flow direction selection (Change setting when blocking kit is installed) *Note 4		F		T		W
	3	Air flow direction adjustment (Change setting when decorative air outlet panel is installed)		Installed		Not Installed		—
	4	Setting of air flow direction adjustment range		Upward		Standard		Downward
	5	On-site fan speed change by air outlet (When using phase control)		Standard		Option 1		Option 2
	6	External static pressure setting (To be set according to connected duct resistance) (High ceiling setting in the case of FHYK)		Standard (Standard)		High Static Pressure (High Ceiling Setting)		Low Static Pressure

Notes:

1. Setting is made in all units in a group. To set for individual indoor units or to check the setting, use the mode Nos. (with “2” in upper digit) in parentheses ( ).
2. The setting position No. is set to “01” at the factory, except for the following cases in which “02” is set.
   - Setting of air flow direction adjustment range
   - Automatic restart after power outage.
   - Remote control thermostat
   - Filter sign indication (only for ceiling-mounted duct type)
3. When installing Sky Air simultaneous operation multi-unit, set to either “twin” or “triple.”
   Only when the factory setting is changed, it is necessary to make a setting using a remote controller.
4. For further details, see the installation instruction.
5. Since drafts may result, carefully select the installation location.
6. When power returns, units resume the settings made before the power outage.

Caution When “auto restart after power outage reset” is set, be sure to turn off air conditioners, then cut off the power supply before conducting maintenance, inspection and other work. If the power supply is cut off with the power switch left ON, air conditioners will automatically start operating when the power supply is turned on.

7. Do not set any items other than those listed in the above table.
8. Functions that indoor units are not equipped with will not be displayed.
9. When returning to normal mode, “88” may be displayed on the LCD section of the remote controller due to initialization operation.

1.5 Detailed Explanation of Setting Modes

1.5.1 No. of Connected Twin System Indoor Units

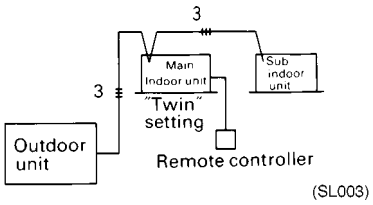
If using as twin system, switch the second code No. according to the number of units connected as given in the table below. The second code No. is factory set to “01” (No. of connected units = 1).

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
11(21)	0	01	Pair (1)
		02	Twin (2)
		03	Triple (3) Note

Note: Triple is only for R(Y)140K series.

Example



Note:
1. If set incorrectly, a connection mistake malfunction (remote controller display UA) will result. (3 minutes after turning the power ON is required for detection.)
2. If different models are used in combination, designate the unit that is equipped with the most functions as the main unit.

1.5.2 Ceiling Type Setting Switch for Air Flow Adjustment

Make the following setting according to the ceiling height. The setting position No. is set to “01” at the factory.

■ **In the Case of FHY and FAY**

Mode No.	Setting Switch No.	Setting Position No.	Setting
13(23)	0	01	Ceiling-suspended type: Lower than 2.7 m Wall-mounted type: Standard
		02	Ceiling-suspended type: Approx. 2.7 to 3.5 m Wall-mounted type: Slight increase
		03	Ceiling-suspended type: Not used Wall-mounted type: Normal increase

■ **In the Case of FUY**

		No. of Air Outlets Used		
		4-way Outlets	3-way Outlets	2-way Outlets
Ceiling Height	Standard (N)	Lower than 2.7 m	Lower than 3.0 m	Lower than 3.5 m
	High Ceiling ① (H)	Lower than 3.0 m	Lower than 3.5 m	Lower than 3.8 m
	Higher Ceiling ② (S)	Lower than 3.5 m	Lower than 3.8 m	—

■ **In the Case of FHYC (35 to 71 class)**

		No. of Air Outlets Used		
		4-way Outlets	3-way Outlets	2-way Outlets
Ceiling Height	Standard (N)	Lower than 2.7 m	Lower than 3.0 m	Lower than 3.5 m
	High Ceiling ① (H)	Lower than 3.0 m	Lower than 3.3 m	Lower than 3.8 m
	Higher Ceiling ② (S)	Lower than 3.5 m	Lower than 3.5 m	—

■ **In the Case of FHYC (100 to 140 class)**

		No. of Air Outlets Used		
		4-way Outlets	3-way Outlets	2-way Outlets
Ceiling Height	Standard (N)	Lower than 3.2 m	Lower than 3.6 m	Lower than 4.2 m
	High Ceiling ① (H)	Lower than 3.6 m	Lower than 4.0 m	Lower than 4.2 m
	Higher Ceiling ② (S)	Lower than 4.2 m	Lower than 4.2 m	—

1.5.3 Air Flow Direction Setting

Set the air flow direction of indoor units as given in the table below. (Set when optional air outlet blocking pad has been installed.) The second code No. is factory set to “01.”

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
13 (23)	1	01	F : 4-direction air flow
		02	T : 3-direction air flow
		03	W : 2-direction air flow

1.5.4 Filter Sign Setting

If switching the filter sign ON time, set as given in the table below.

Set Time

Filter Specs. / Setting	Long Life	Standard	Urtra Long Life Filter
Contamination Light	2,500 hrs.	200 hrs.	10,000 hrs.
Contamination Heavy	1,100 hrs. *	100 hrs.	5,000 hrs.

*FH(Y)C and FH(Y) only are 1,250 hrs.

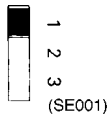
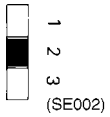
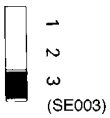
1.5.5 Wireless Setting (Address and MAIN/SUB Setting)

Explanation

If several wireless remote controller units are used together in the same room (including the case where both group control and individual remote controller control are used together), be sure to set the addresses for the receiver and wireless remote controller. (For group control, see the attached installation manual for the indoor unit.) If using together with a wired remote controller, you have to change the main/sub setting or the receiver.

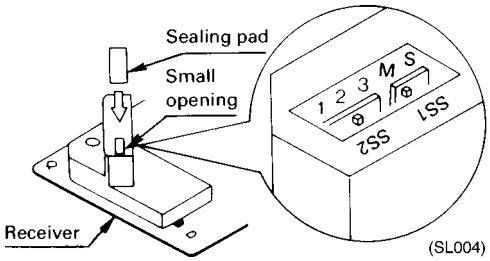
Setting The Receiver

Through the small opening on the back of the receiver, set the wireless address switch (SS2) on the printed circuit board according to the table below.

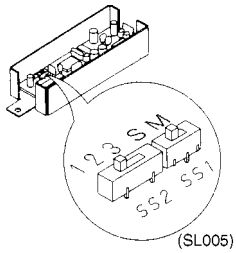
Unit No.	No.1	No.2	No.3
Wireless Address Switch (SS2)	 (SE001)	 (SE002)	 (SE003)

When using both a wired and a wireless remote controller for 1 indoor unit, the wired controller should be set to MAIN. Therefore, set the MAIN/SUB switch (SS1) of the receiver to SUB.

	MAIN	SUB
MAIN/SUB Switch (SS1)	 (SE004)	 (SE005)



<In Case of FUY Model>

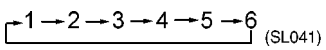


After completing setting, seal off the opening of the address switch and the MAIN/SUB switch with the attached sealing pad.

Setting The Address of Wireless Remote Controller (It is Factory Set to "1")

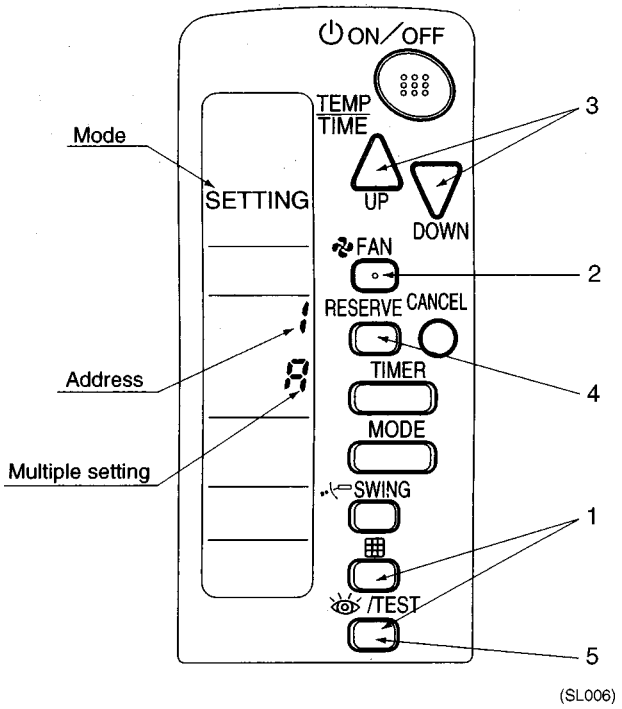
<Setting from the remote controller>

1. Hold down the " ▦ " button and the " /TEST " button for at least 4 seconds, to get the FIELD SET MODE. (Indicated in the display area in the figure at right).
2. Press the " FAN " button and select a multiple setting (A/b). Each time the button is pressed the display swicthes between "A" and "b".
3. Press the " ▲ " button and " ▼ " button to set the address.



Address can be set from 1 to 6, but set it to 1 ~ 3 and to same address as the receiver. (The receiver does not work with address 4 ~ 6.)

4. Press the " RESERVE " button to enter the setting.
5. Hold down the " /TEST " button for at least 1 second to quit the FIELD SET MODE and return to the normal display.



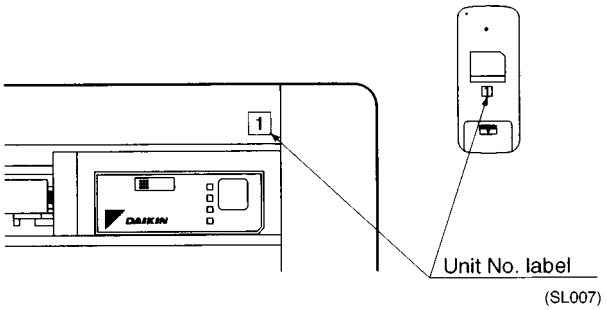
Multiple Settings A/b

When the indoor is being operating by outside control (central remote controller, etc.), it sometimes does not respond to ON/OFF and temperature setting commands from this remote controller. Check what setting the customer wants and make the multiple setting as shown below.

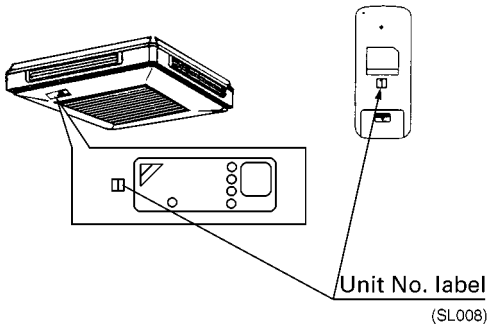
Remote Controller		Indoor Unit	
Multiple Setting	Remote Controller Display	Controlled by other Air Conditioners and Devices	For other than on Left
A: Standard	All items Displayed.	Commands other than ON/OFF and Temperature Setting Accepted. (1 LONG BEEP or 3 SHORT BEEPS Emitted)	
b: Multi System	Operations Remain Displayed Shortly after Execution.	All Commands Accepted (2 SHORT BEEPS)	

After Setting

Stick the Unit No. label at decoration panel air discharge outlet as well as on the back of the wireless remote controller.



<In case of FUY>



PRECAUTIONS

Set the Unit No. of the receiver and the wireless remote controller to be equal. If the setting differs, the signal from the remote controller cannot be transmitted.

1. Do not use any settings not listed in the table.
2. For group control with a wireless remote controller, initial settings for all the indoor units of the group are equal. (For group control, refer to the installation manual attached to the indoor unit for group control.)

1.5.6 Fan Speed OFF When Thermostat is OFF

When the cool/heat thermostat is OFF, you can stop the indoor unit fan by switching the setting to “Fan OFF.”

∗ Used as a countermeasure against odor for barber shops and restaurants.

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
11(21)	2	01	—
		02	Fan OFF

1.5.7 Urtra-Long-Life Filter Sign Setting

When a Urtra-long-life filter is installed, the filter sign timer setting must be changed.

Setting Table

Mode No.	Setting Switch No.	Setting Position No.	Setting
10 (20)	1	01	Long-Life Filter
		02	Urtra-Long-Life Filter (1)
		03	Urtra-Long-Life Filter (2)

1.5.8 Fan Speed Changeover When Thermostat is OFF

By setting to “Set Fan Speed,” you can switch the fan speed to the set fan speed when the heating thermostat is OFF.

∗ Since there is concern about draft if using “fan speed up when thermostat is OFF,” you should take the setup location into consideration.

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
12(22)	3	01	LL Fan Speed
		02	Set Fan Speed

1.5.9 Main/Sub Setting When Using 2 Remote Controllers

Set the switch on the remote controller’s PC board.

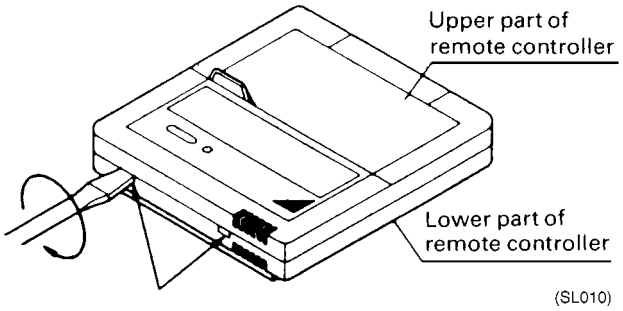
Control by 2 Remote Controllers (controlling 1 indoor unit with 2 remote controllers)

■ When using 2 remote controllers, one of either the control panel or the separate remote controller must be set to “MAIN” and the other to “SUB”.

(MAIN/SUB CHANGEOVER)

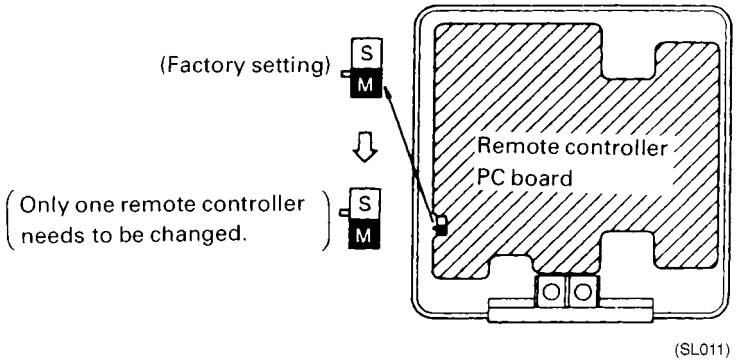
Procedure

1. Insert a “ - “ screwdriver into the recess between the upper and lower part of remote controller and, working from the 2 positions, pry off the upper part. (The remote controller PC board is attached to the upper part of remote controller.)



Insert the screwdriver here and gently work off the upper part of remote controller.

2. Tum the MAIN/SUB CHANGEOVER SWITCH on one of the two remote controller PC boards to “S”. (Leave the switch of the other remote controller set to “M”.)

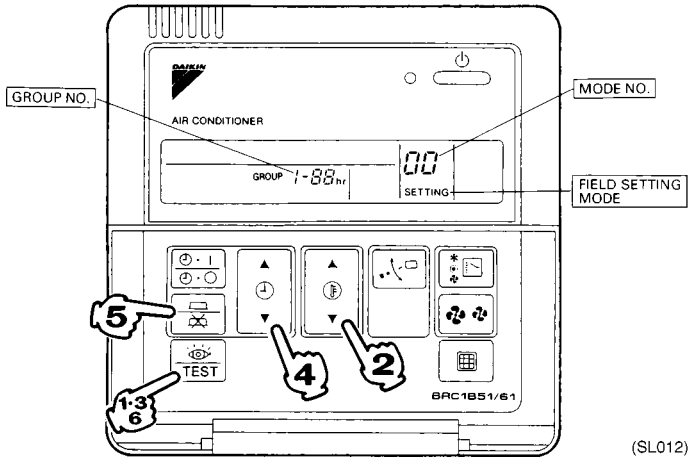


1.6 Centralized Group No. Setting

- If carrying out centralized control with a central remote controller and unified ON/OFF controller, you have to set the group No. for each group by remote controller.
- To set the group No., first turn on the power supply of the central remote controller, unified ON/OFF controller and indoor unit.

Centralized Group No. Setting by Remote Controller.

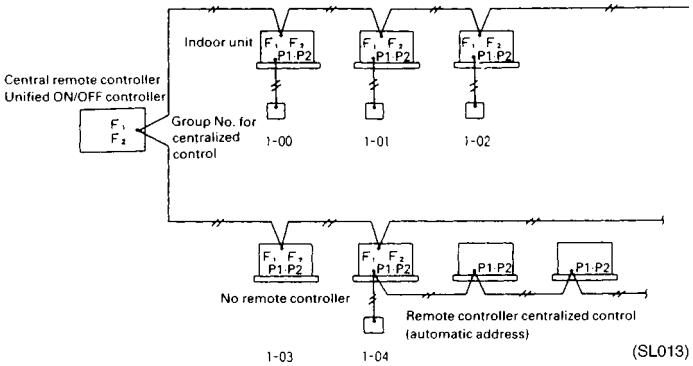
1. If the inspection/test button is pushed for 4 seconds or more when in the normal mode, operation enters the “field set mode.”
2. Using the temperature control buttons, set the mode No. to “00.”
3. Push the inspection/test button to inspect the group No. display.
4. Using the programming time button, set the group No. for each group. (Group No. rises in the order of 1-00, 1-01, ...1-15, 2-00 ...4-15, etc. The unified ON/OFF controller however displays only the range of group numbers selected by the switch for setting each address.)
5. Push the timer ON/OFF button and enter the selected group No.
6. Push the inspection/test button and return to the normal mode.



(SL012)

∗ If the address has to be set individually for each unit for power consumption counting, etc., set the mode No. to “30.”

Group No. Setting Example



(SL013)

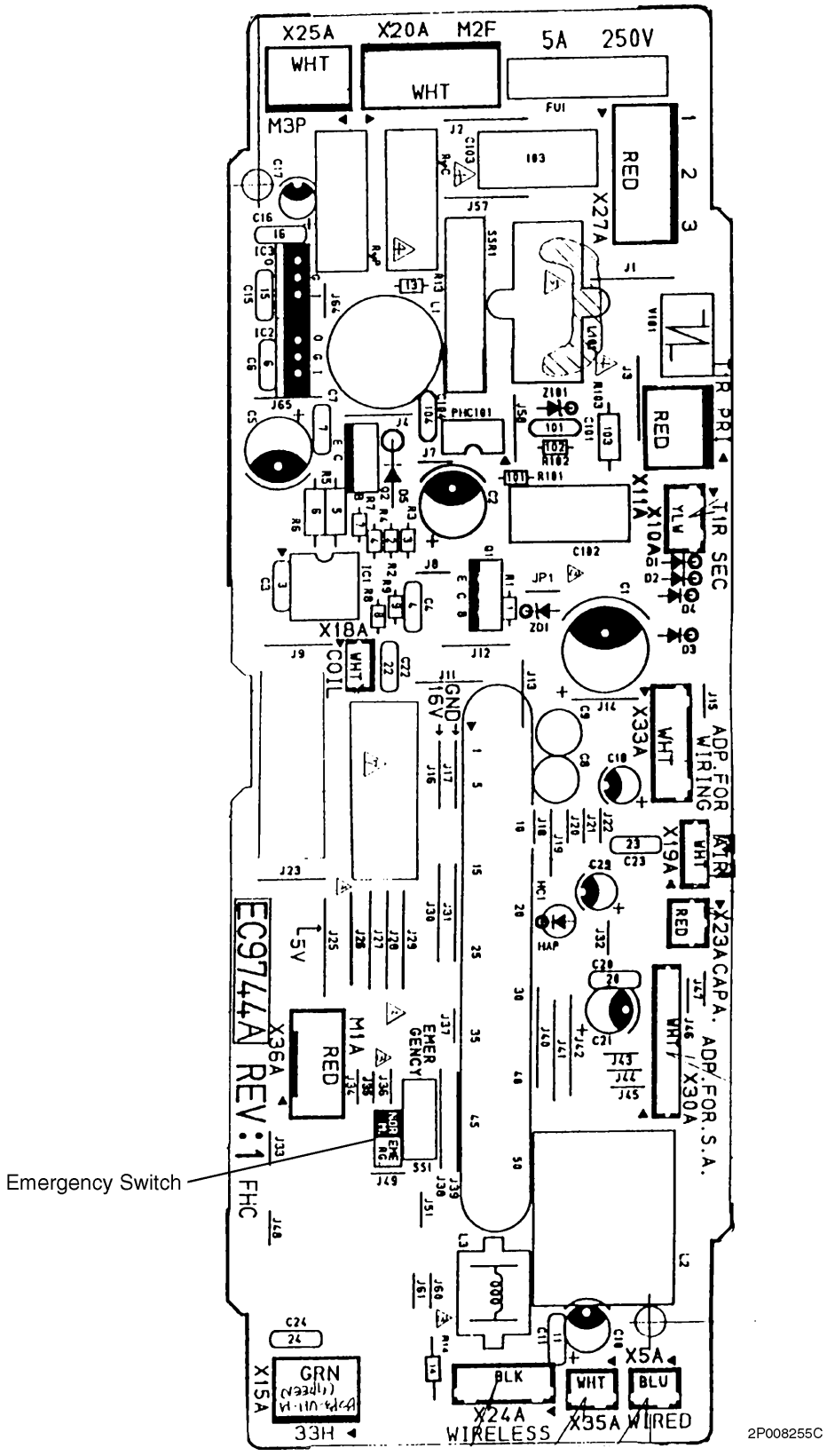
Note:

1. “F1,F2”indicates interface adaptor for SKY AIR series.
2. If not using remote controllers, temporarily connect a remote controller to set the group No., set the group No. for centralized control, and then disconnect the controller.

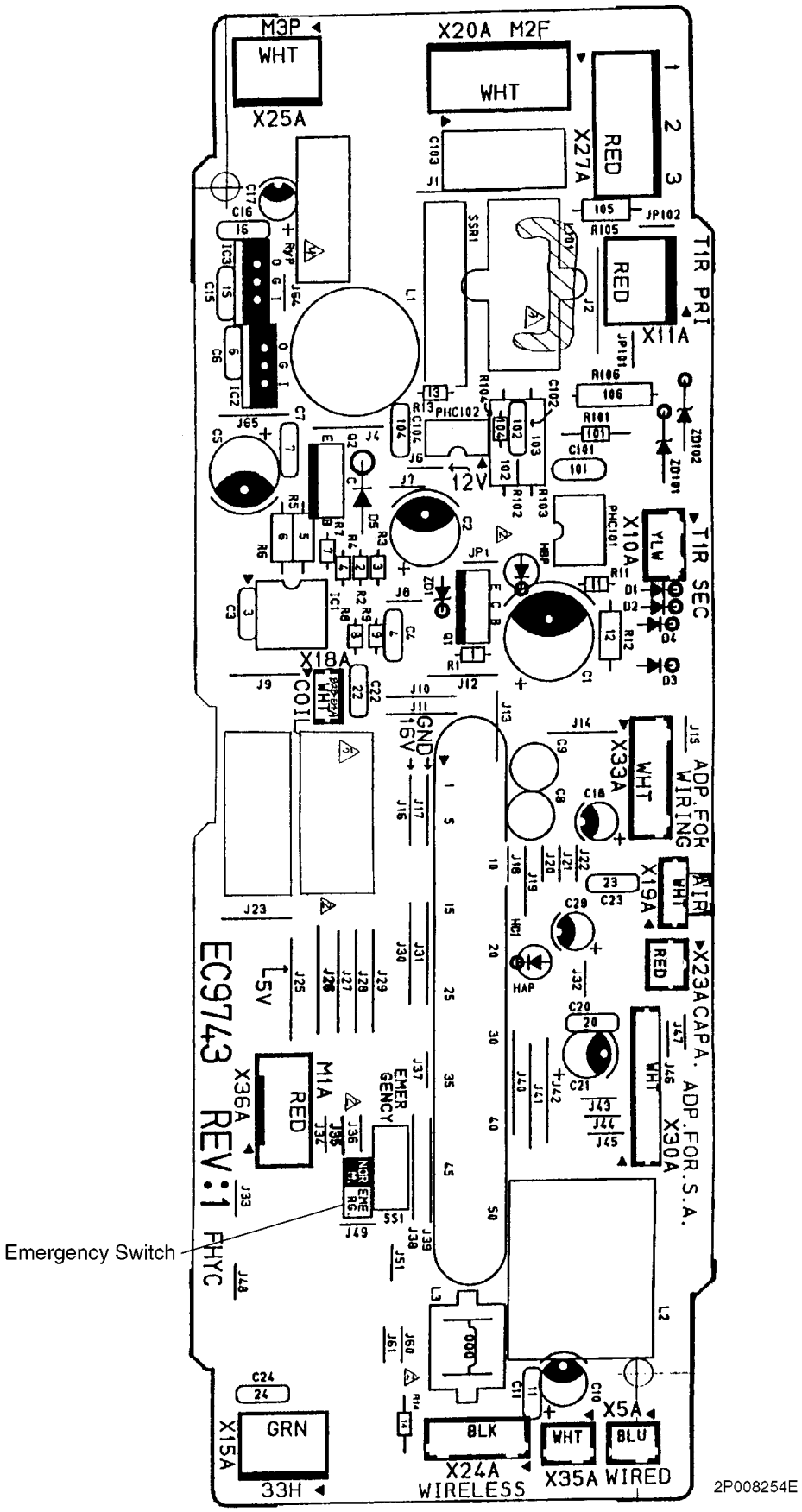
2. Settings Concerning Maintenance

2.1 Indoor Unit PCB

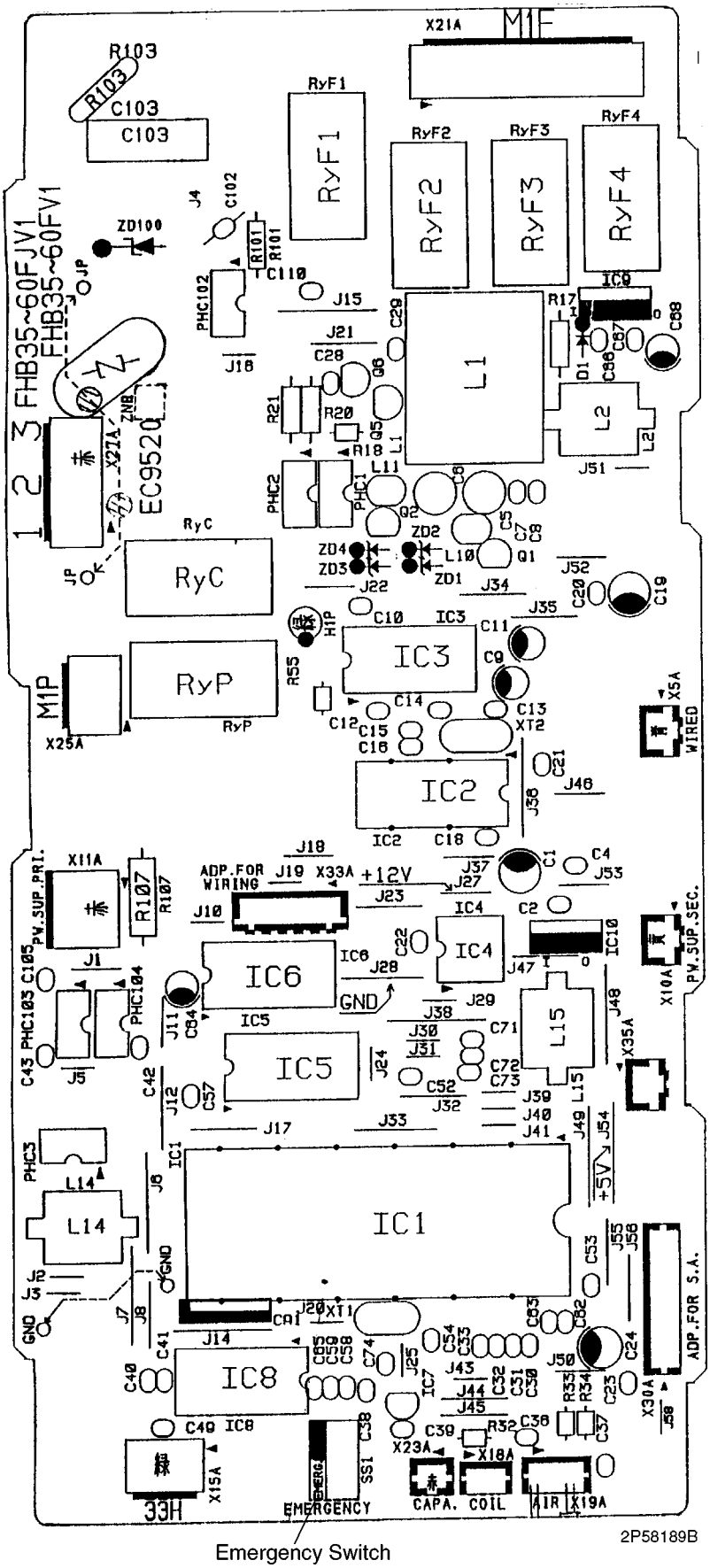
FHC35K~
FHC60KVE, KV1C



FHYC35~
FHYC125KVE, V1C

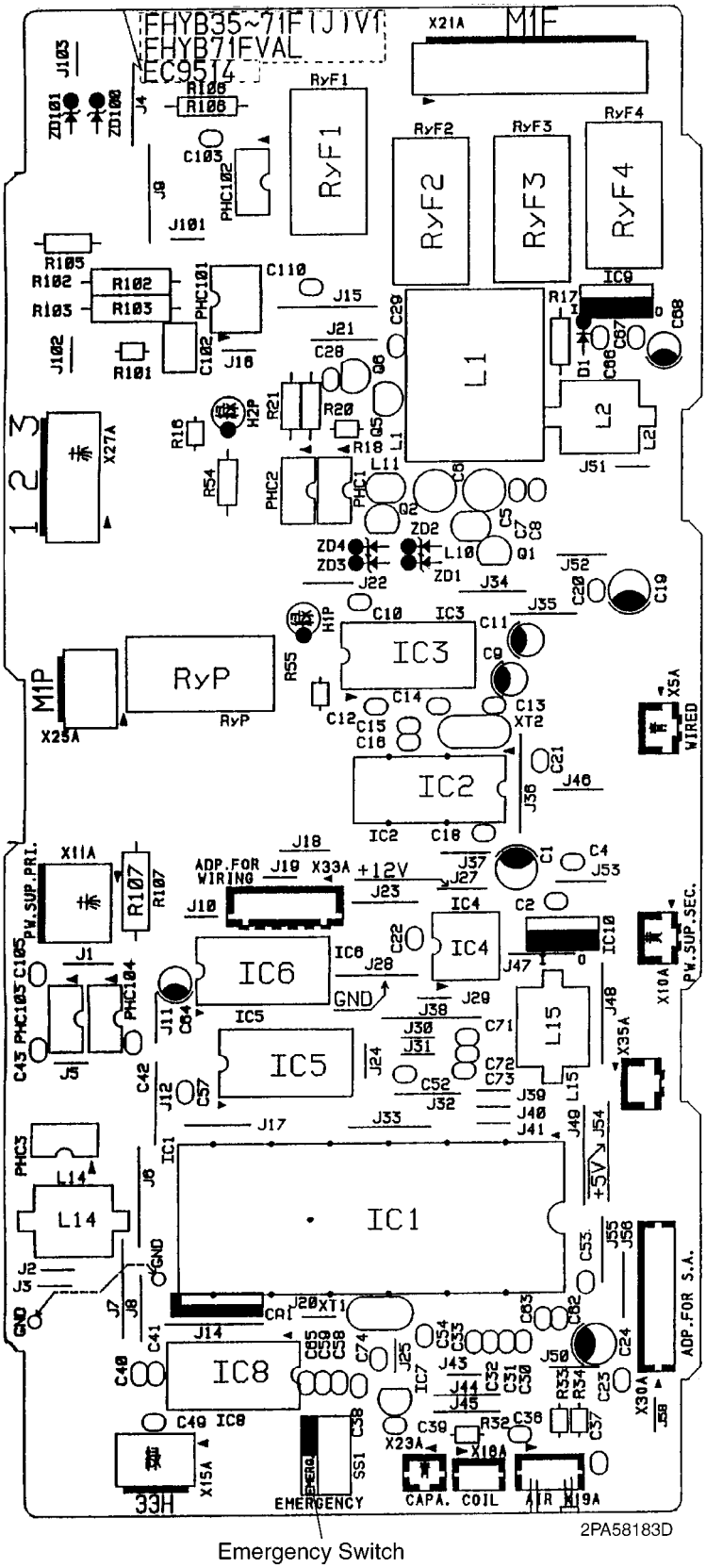


FHB35~
FHB60FJV1, FV1



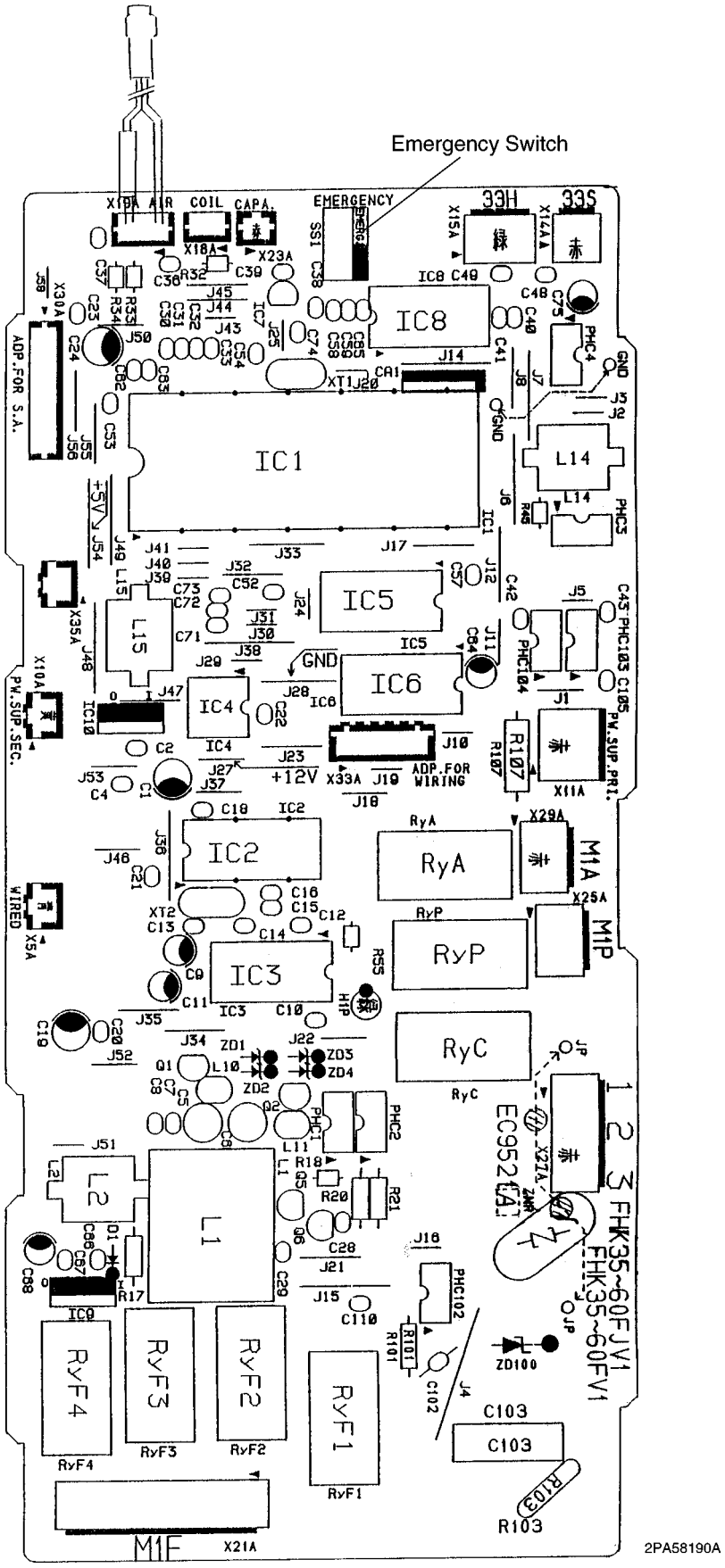
Emergency Switch

FHYB35~FHYB71F

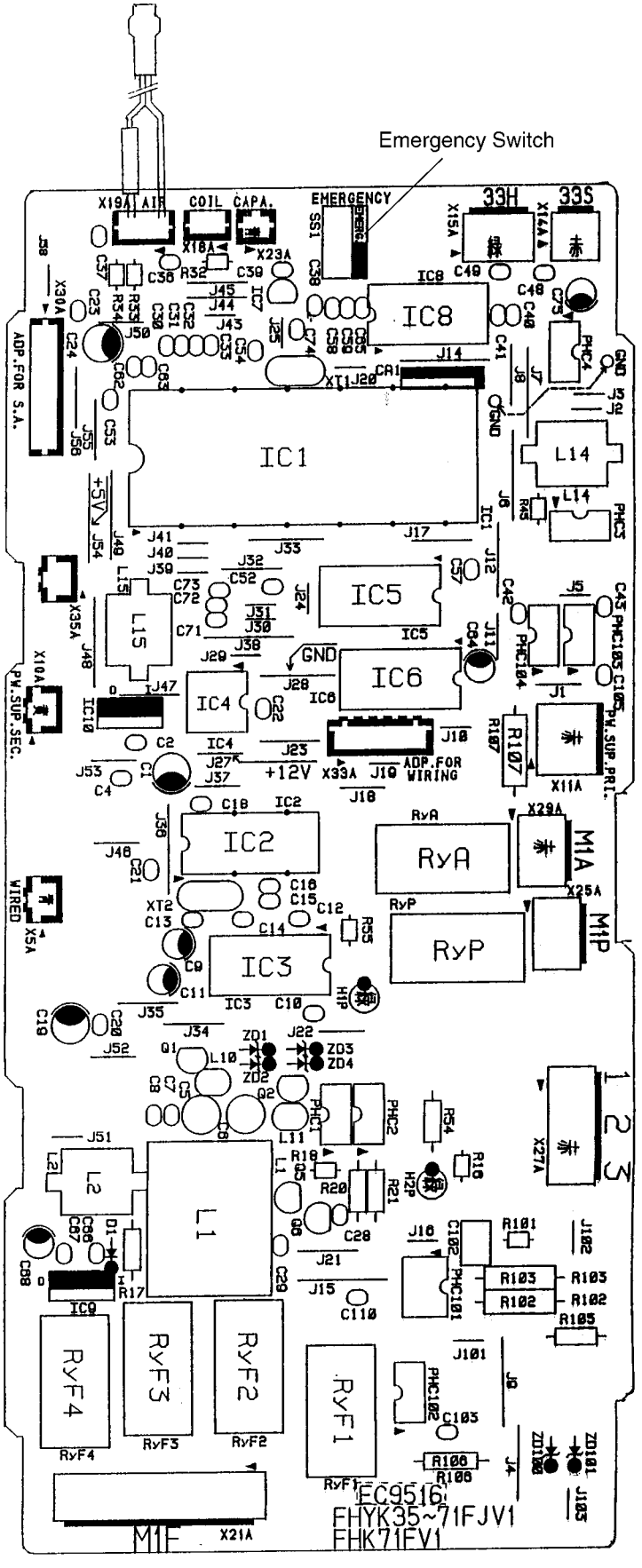


Emergency Switch

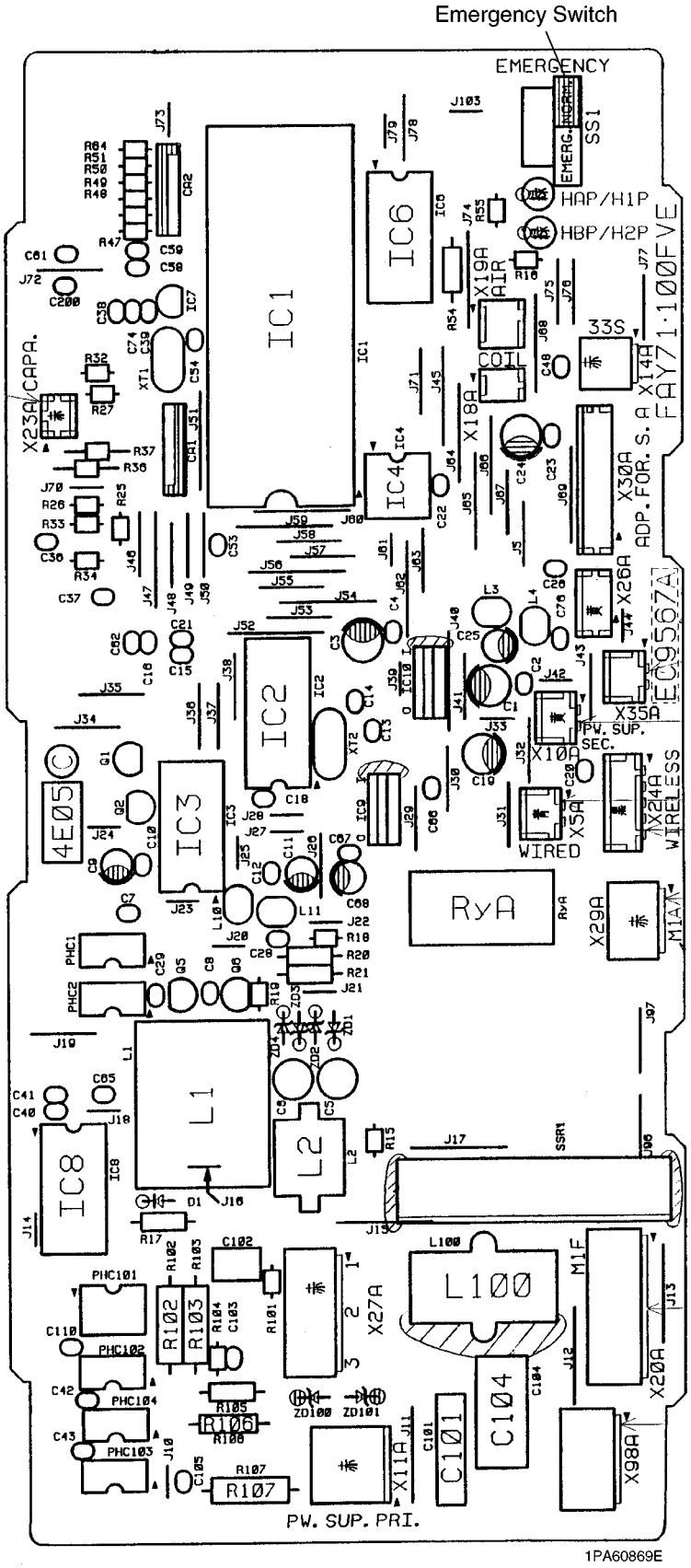
FHK35~
FHK60FJV1, FV1



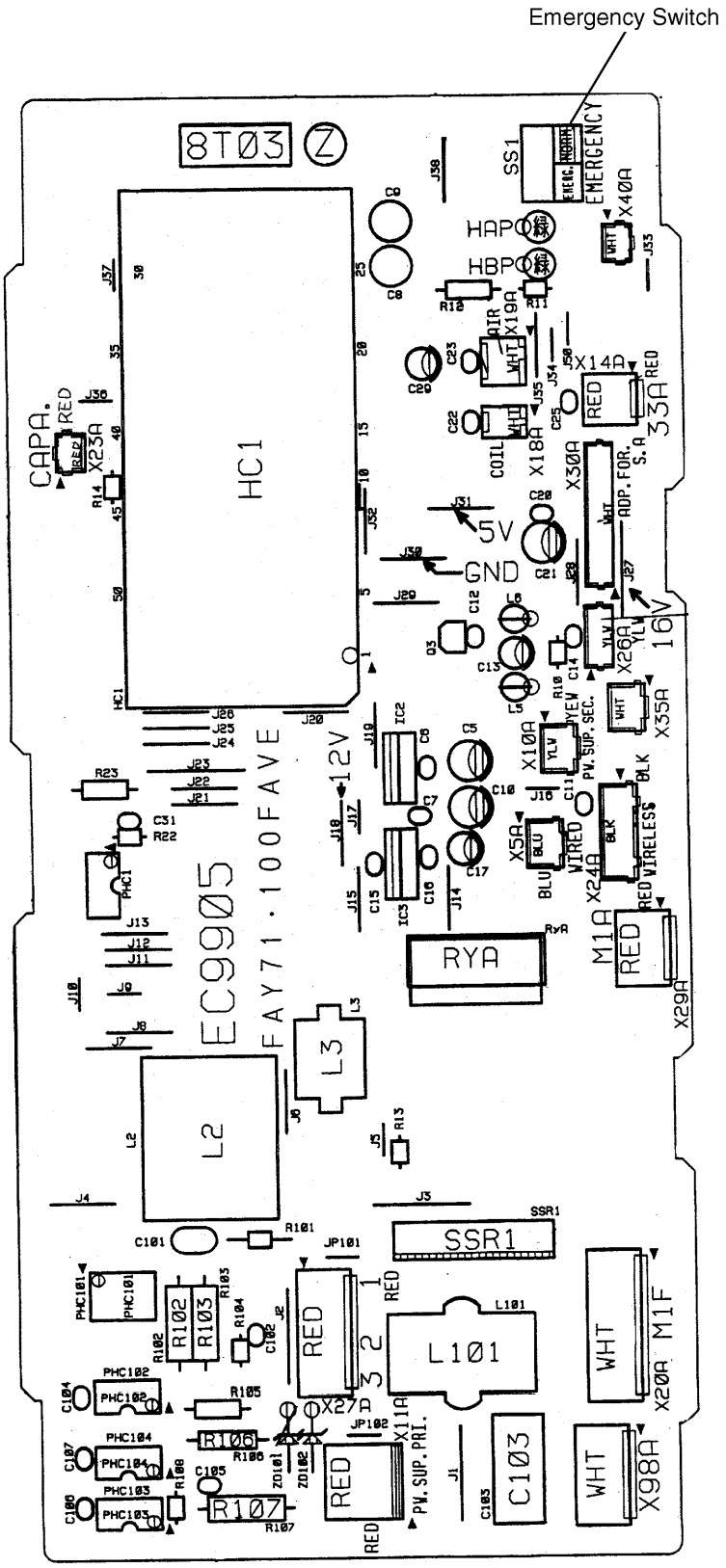
FHYK35~
FHYK71FJV1, FV1



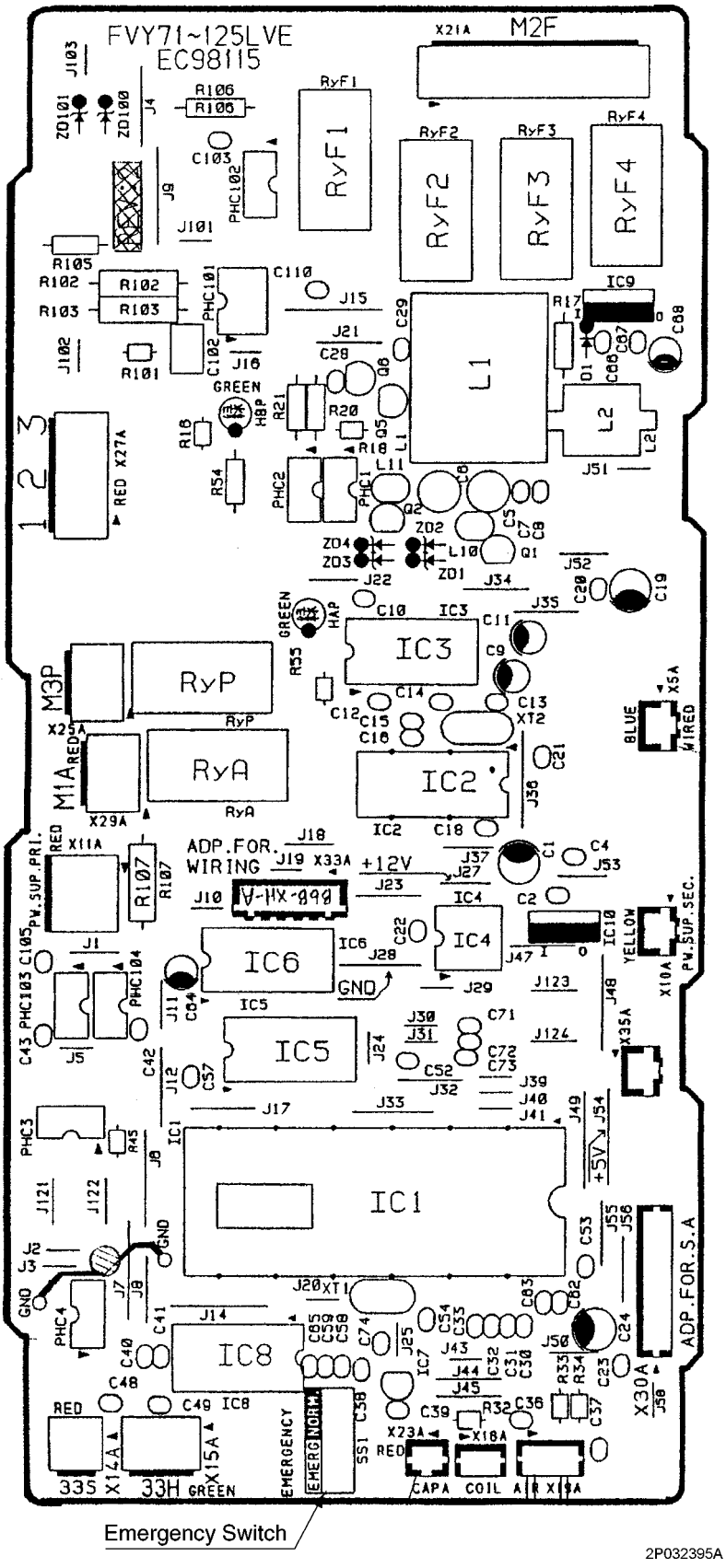
FAY71, FAY100FVE



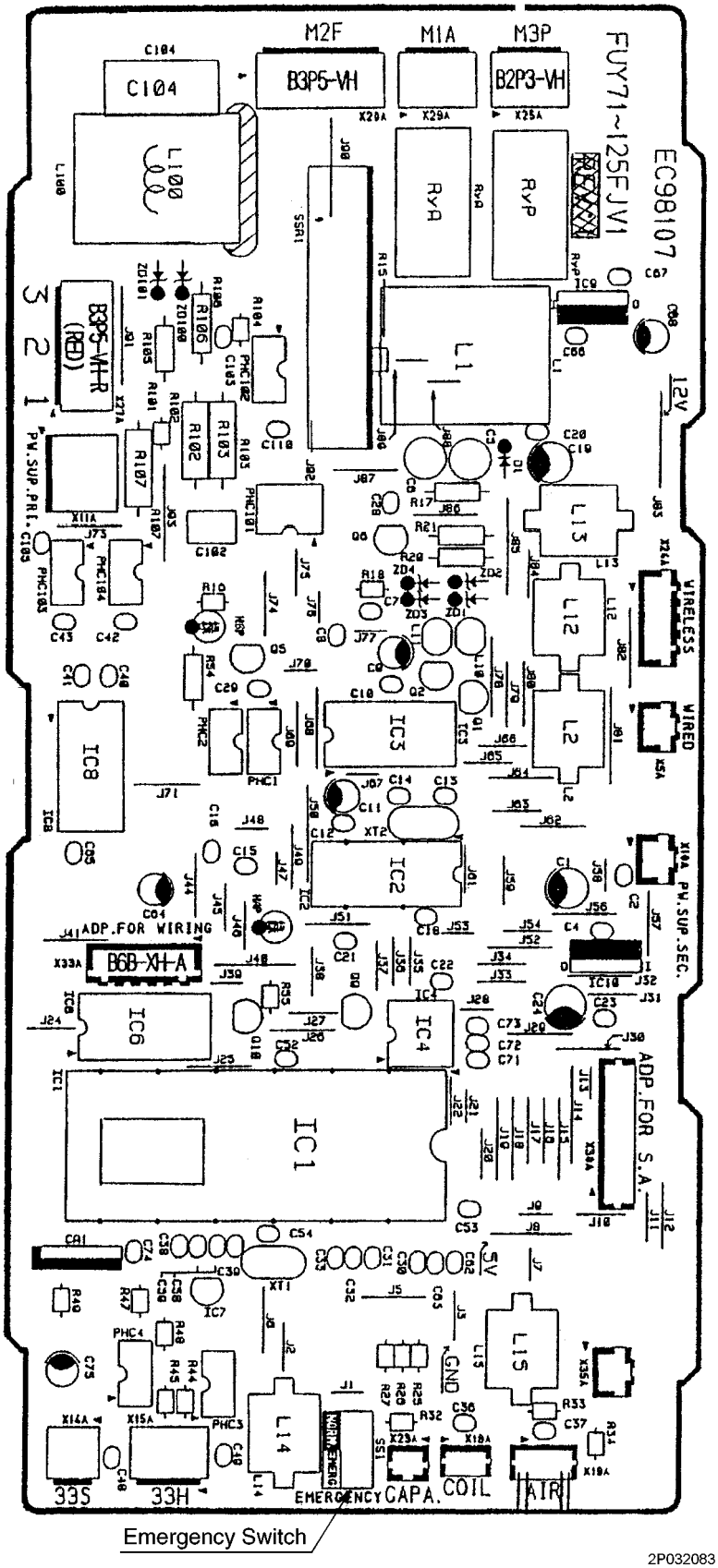
FAY71,
FAY100FAVE



FVY-L


FVY71~125LVE
EC98115
M2F
X21A
RyF1
RyF2
RyF3
RyF4
L1
L2
IC1
IC2
IC3
IC4
IC5
IC6
IC8
IC9
RyP
RyA
M3P
M1A
X25A
X29A
X27A
X11A
X33A
X5A
X10A
X35A
X30A
X12A
X15A
X18A
X19A
X23A
ADP.FOR.
WIRING
+12V
GND
+5V
EMERGENCY
EMERG.NORM.
RED
BLUE
WIRED
YELLOW
GREEN
CAPA
COIL
Emergency Switch
2P032395A

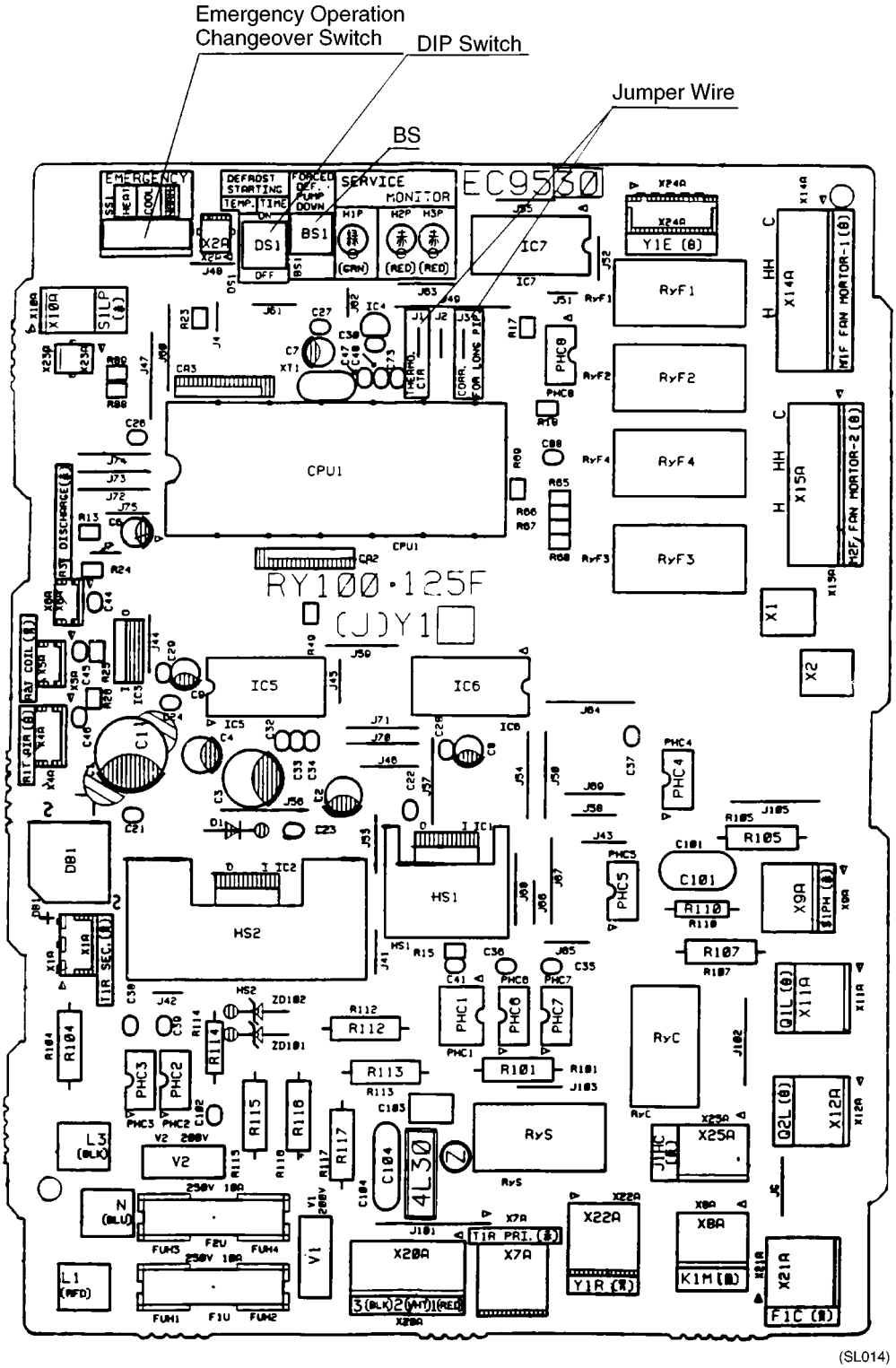
FUY71~FUY125FJ



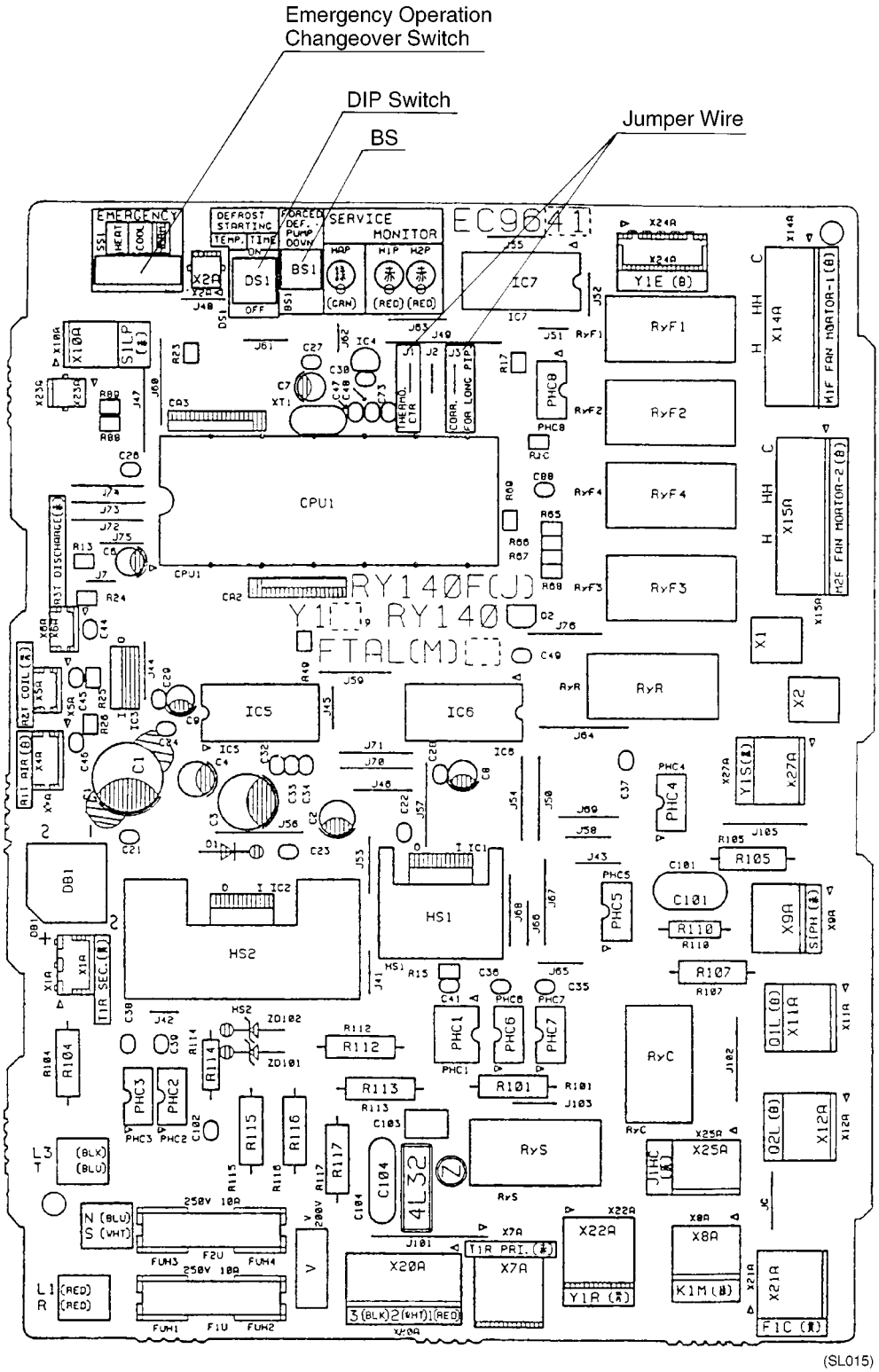
2P032083

2.2 Outdoor Unit Switches / Setting Jumper

RY100·RY125K



RY140K


Emergency Operation Changeover Switch
DIP Switch
BS
Jumper Wire
EMERGENCY
SERVICE MONITOR
EC9641
DS1
BS1
IC7
CPU1
RY140F(J)
RY140
FTAL(M)
IC5
IC6
HS1
HS2
RyF1
RyF2
RyF4
RyF3
RyR
RyC
RyS
X14A
X15A
X1
X2
X9A
X11A
X12A
X25A
X22A
X8A
X21A
X7A
X20A
R105
R110
R107
R112
R113
R101
R115
R116
R117
C104
4L32
C101
PHC1
PHC2
PHC3
PHC4
PHC5
PHC6
PHC7
PHC8
DB1
F1U
F2U
FUH1
FUH2
FUH3
FUH4
250V 10A
(SL015)

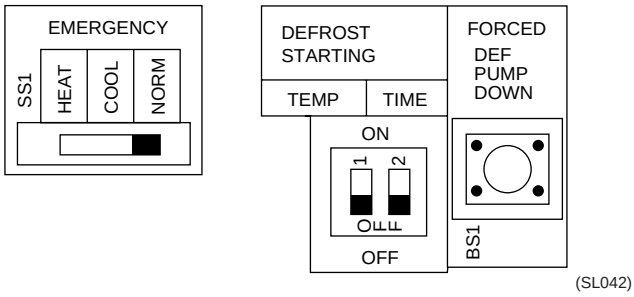
3. Existence of DIP Switch, Jumper and BS

3.1 Reference Table

Model	PC Board Type	DIP Switch		Jumper		BS
		1	2	1	3	
		Defrosting Start Time Changeover	Defrosting Start Temperature Changeover	Thermostat Control Changeover	Long Piping Correction Changeover	Pump Down Forced Defrosting
R71KV1/Y1	EC9523/EC9524			○		○
R71KVAL	EC9523			○		○
RY71KV1/Y1	EC9525/EC9526	○	○	○	○	○
R100~125KV1/Y1	EC9527/EC9528			○		○
R100KVAL	EC9527			○		○
R125KTAL	EC9528			○		○
RY100~125KY1	EC9530	○	○	○	○	○
R140KY1/TAL	EC9640			○		○
RY140KY1/TAL	EC9641	○	○	○	○	○

Note: Note 1

DIP Switch and BS Detail



(SL042)

Note: Note 2

BS button (Pump down / Forced defrosting)

Pressing the BS button forcibly operates the air conditioner in the cooling mode.

1. To conduct a pump-down operation (sending refrigerant to outdoor unit), press the BS button to forcibly operate the equipment in the cooling mode, then operate the unit for about 1 minute to stabilize the system. After stabilizing system, close the liquid pipe stop valve on the outdoor unit, and after the pressure decreases and the low pressure switch activates, close the gas pipe stop valve.
2. Forced defrost

   To activate the defrost operation during the heating operation, press the BS button. This will activate the forced defrost operation (cooling operation).

   When the defrost cancel conditions are met, the equipment automatically switches off the defrost operation.

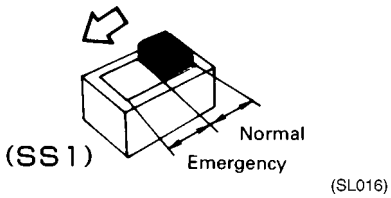
3.2 Emergency Operation

Emergency Operation of Indoor Units

You can operate the system manually by changing the setting of the emergency switch (SS1) on the indoor unit's PC board from "Normal" to "Emergency." When switched however the equipment cannot regulate temperature. The table below contains a list by model of actuators for manually operating indoor units in time of emergency.

Model	Fan	Drain Raising
FH(Y)C	○	○
FH(Y)	○	○
FUY	○	○
FVY~F, FVY~L	○	—
FH(Y)B	○	○
FH(Y)K	○	○
FAY	○	○

■ Method of switching in time of emergency



Note:
1. Do not operate from remote controller during emergency operation.
2. Operate the switch only when the power supply is turned OFF.

Emergency Operation of Outdoor Units

Turn off the power supply and set the emergency switch to "Heat" for heating or "Cool" for cooling. Operation will be started manually when you turn the power back on. ("Heat" cannot be set for a cooling only air-conditioner.)

Concerning Emergency Operation

If a safety device should be actuated during emergency operation, all actuators are turned OFF. If you reset after waiting for 3 minutes, operation will start again. Emergency operation cannot be carried out if the PC board itself is defective.

Note: For emergency operation, be sure to set emergency operation for both the indoor and outdoor units. Do not attempt to operate the equipment from the remote controller during emergency operation. Emergency operation is computer-controlled, and therefore cannot be carried out if the microcomputer is not operating properly.

The table below contains a list of actuators for manually operating the equipment in time of emergency.

Actuator	Cooling	Heating
Compressor	ON	ON
4-WAY VALVE	OFF	ON
Outdoor Unit Fan	H Fan Speed	H Fan Speed
Electronic Expansion Valve	200 Pulses	200 Pulses
Indoor Unit Fan	H Fan Speed	H Fan Speed
Drain Pump	ON	ON

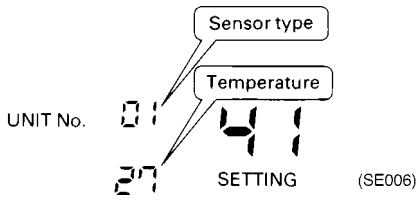
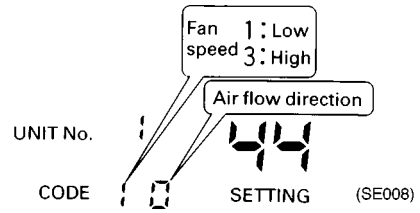
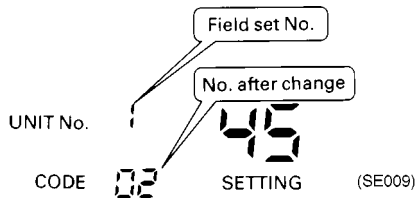
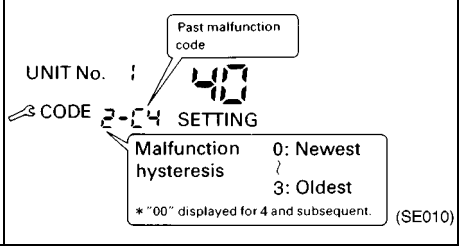
During emergency heating operation, defrosting is carried out for 3 minutes every hour. (4-way valve and outdoor unit fan are turned OFF.)

3.3 Maintenance Mode Setting

Procedure

1. Enter the field set mode.
   Continue to push the inspection / test operation button for a minimum of 4 seconds.
2. Enter the maintenance mode.
   After having entered the field set mode, continue to push the inspection / test operation button for a minimum of 4 seconds.
3. Select the mode No.
   Set the desired mode No. with the up/down temperature setting button.
4. Select the unit No.
   Select the indoor unit No. set with the time mode START/STOP button.
5. Carry out the necessary settings for each mode. (Modes 41, 44 and 45)
   See the table below for details.
6. Enter the setting contents. (Modes 44 and 45)
   Enter by pushing the timer ON/OFF button.
7. Return to the normal operation mode.
   Tap the inspection / test operation button one time.

Table

Mode No.	Function	Content and Operation Method	Example of Remote Controller Display
41	Sensor Date Display	Select the display sensor with the programming time up-down button Display sensor 01 Suction 02 Heat exchange	
43	Forced Fan ON	Turns the fan ON for each unit individually.	
44	Individual Setting	Sets fan speed and air flow direction for each unit individually when using group control. Settings are made using the “air flow direction adjust” and “fan speed adjust” buttons.	
45	Unit No. Change	Changes unit No. Set the unit No. after changing with the programming time up-down button.	
40	Malfunction Hysteresis	You can change the hysteresis with the programming time up-down button.	

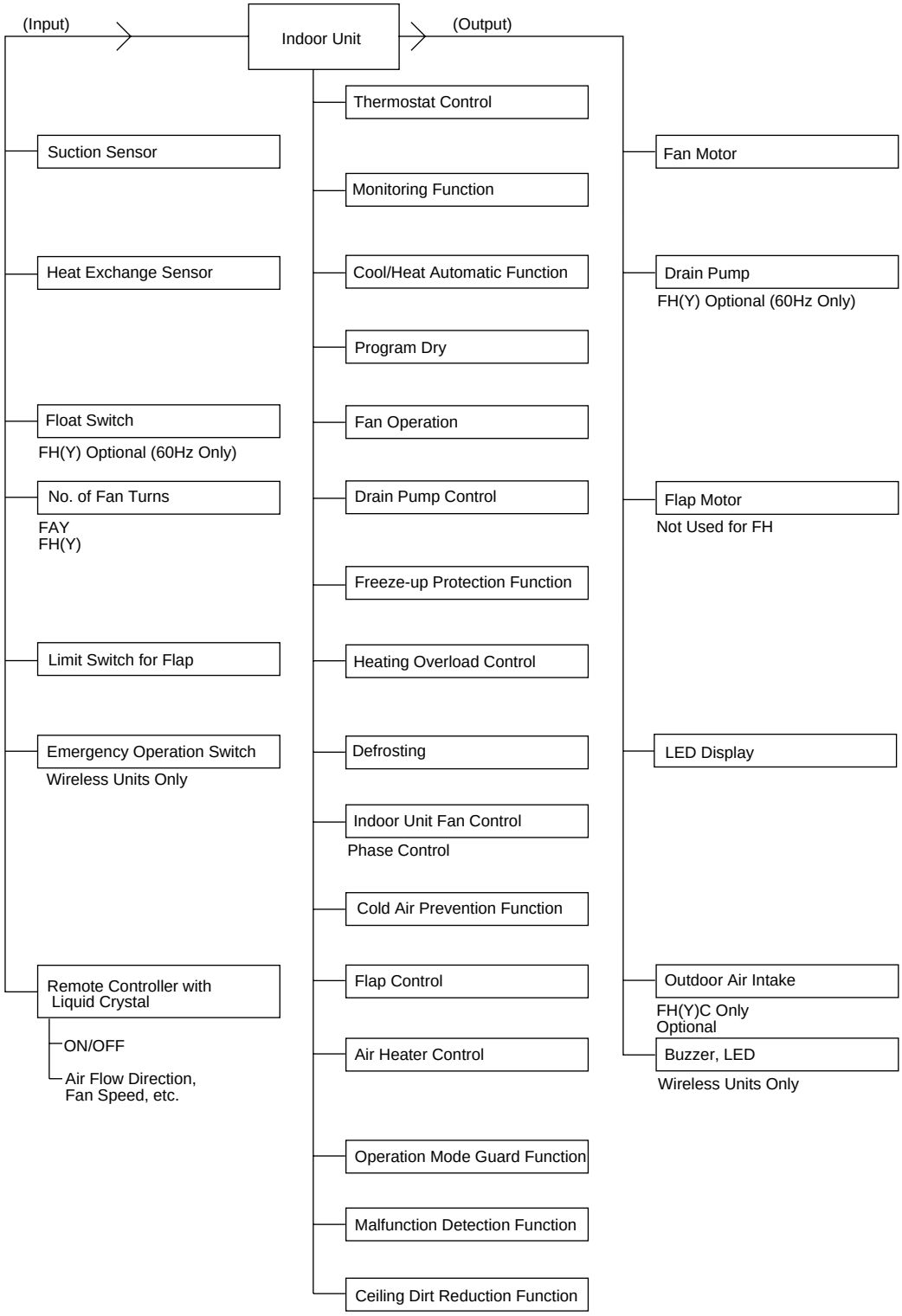
Operation is not reset by malfunction code reset for inspection.
(Cannot be reset because the count is updated each time a malfunction occurs.)

Part 4
Explanation of Function Operation

1. Function Outline

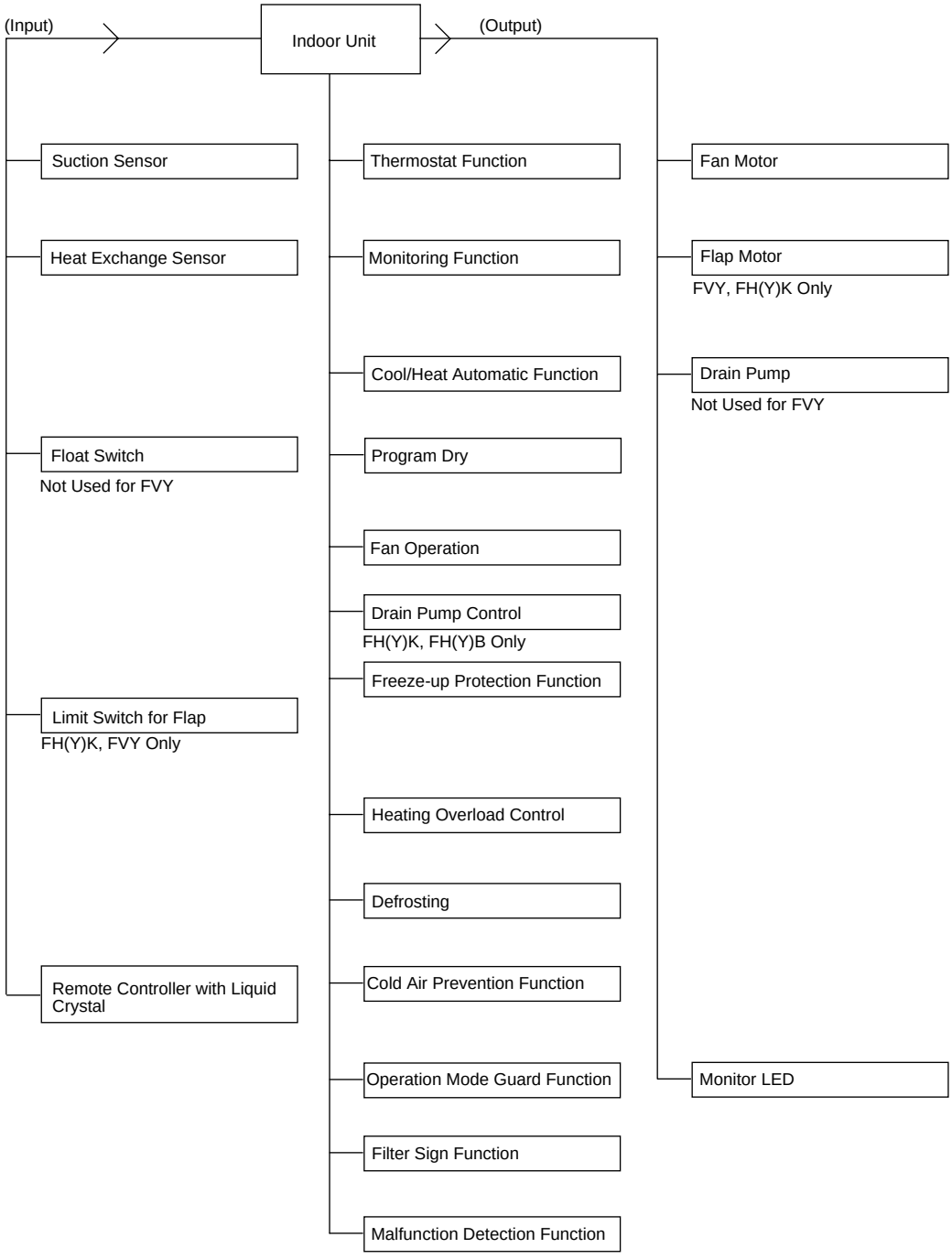
1.1 Indoor Unit

FH(Y)C, FH(Y), FAY, FUY



(SF001)

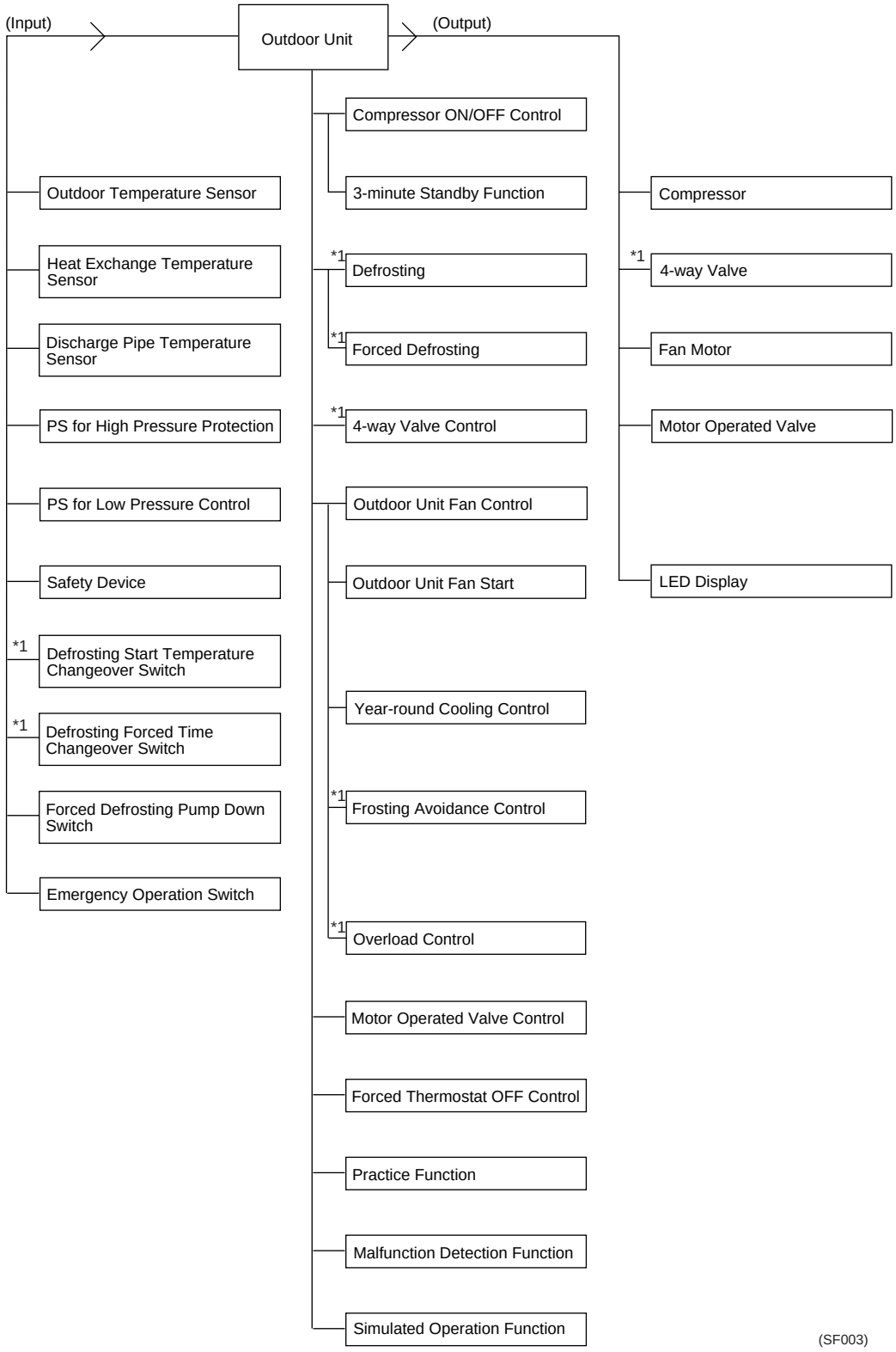
FH(Y)K, FH(Y)B, FHY~F, FVY~L



(SF002)

1.2 Outdoor Unit

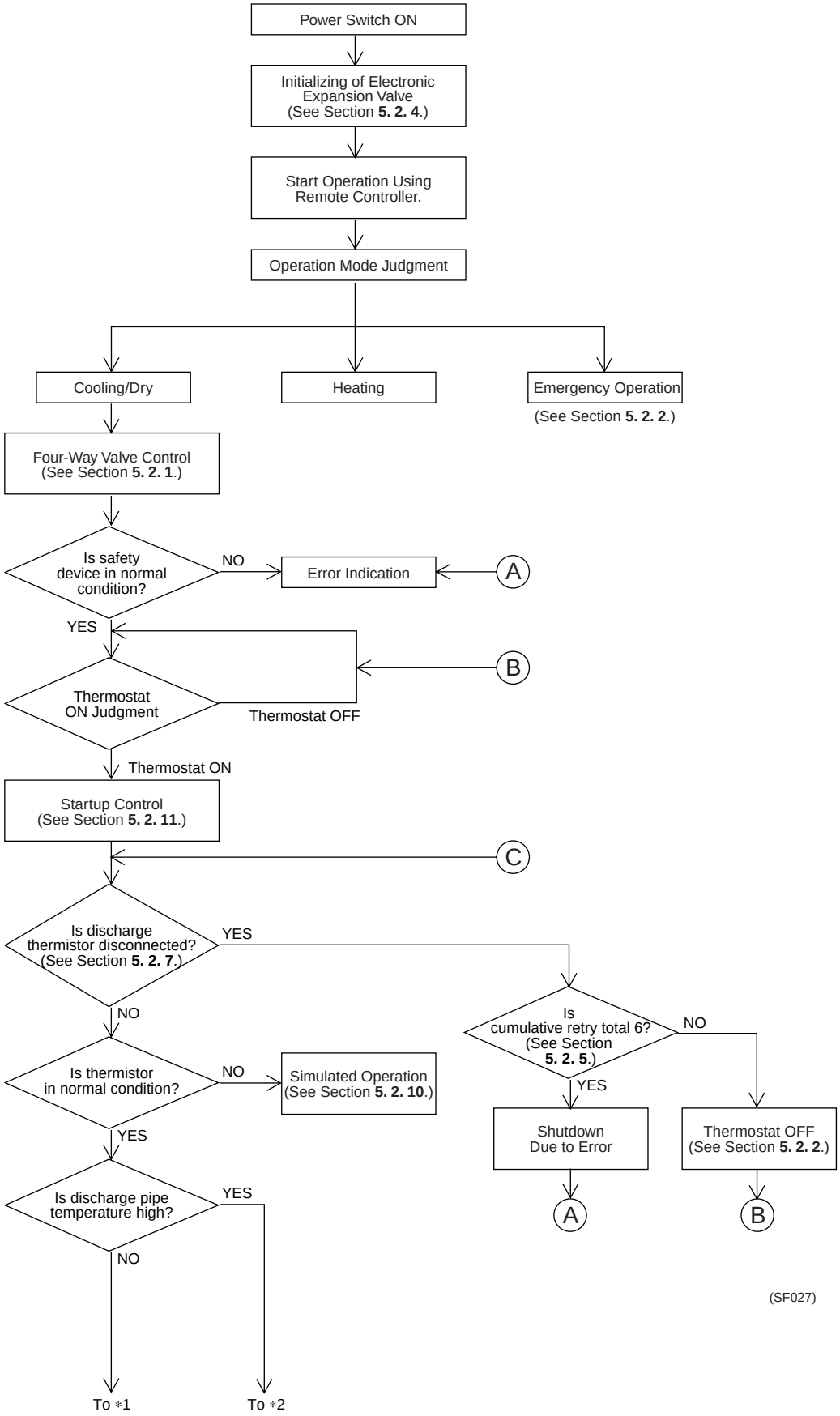
All models

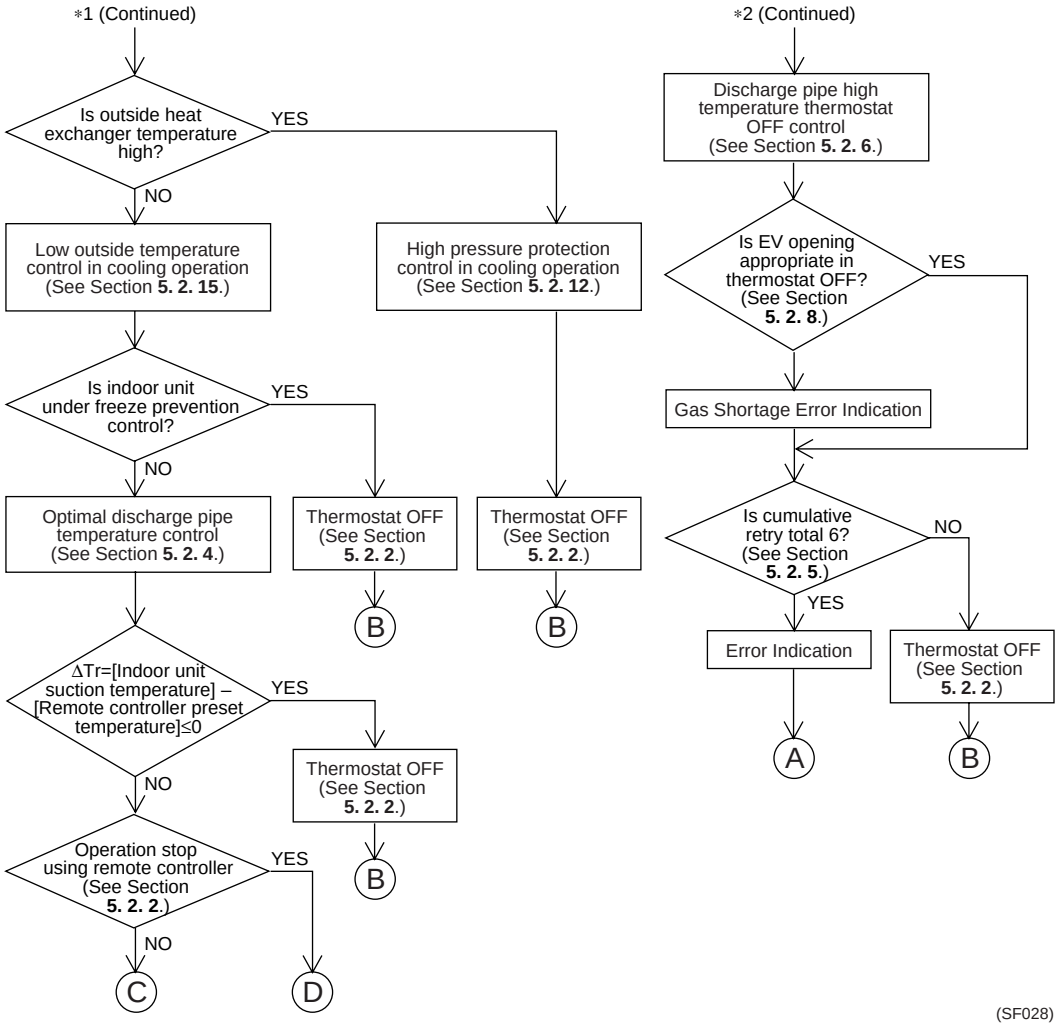


Note: Items indicated by "*1" are not available for cooling only air-conditioners.

2. Operation Flowchart (RY71 - 140K)

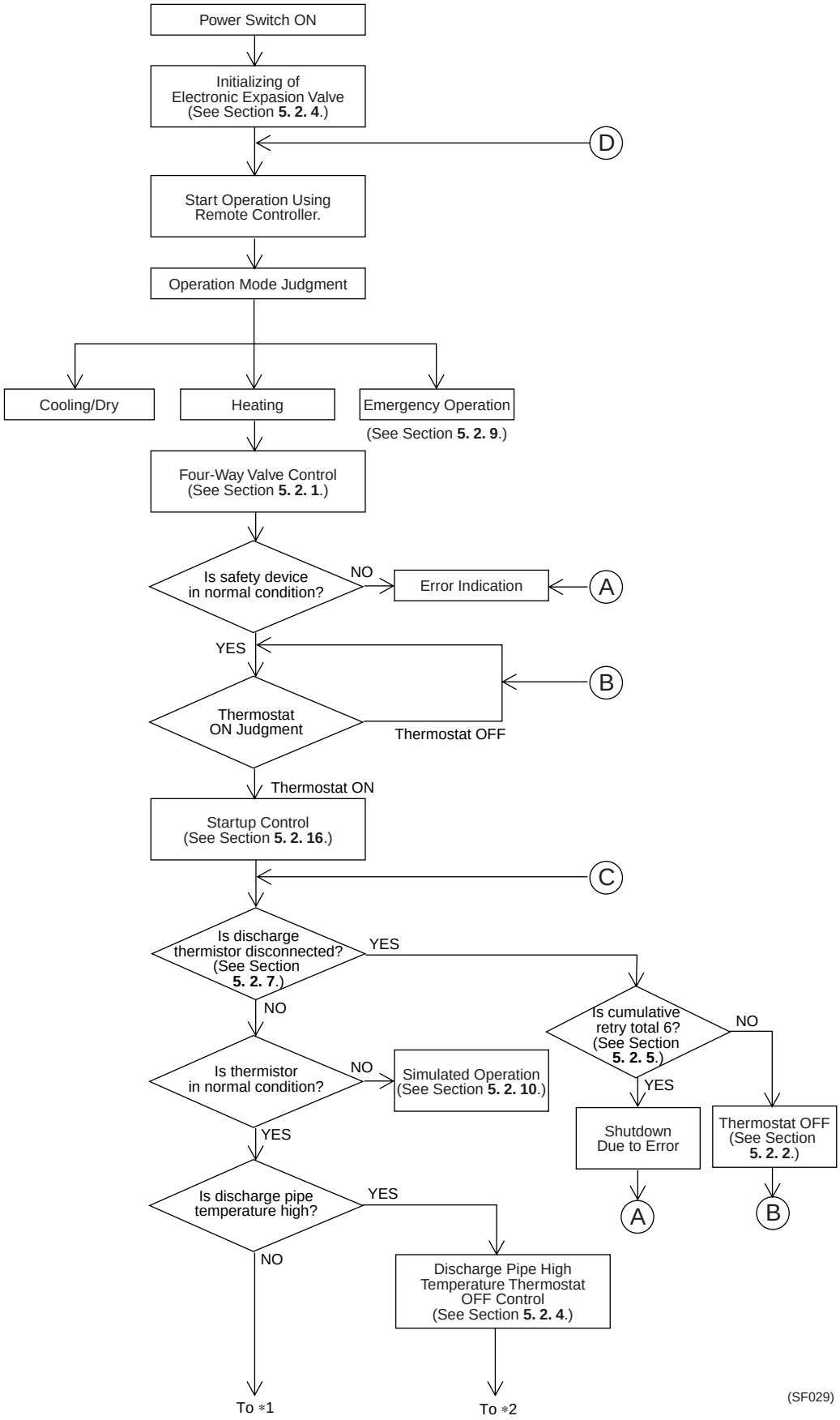
2.1 Cooling/Program Dry Operation

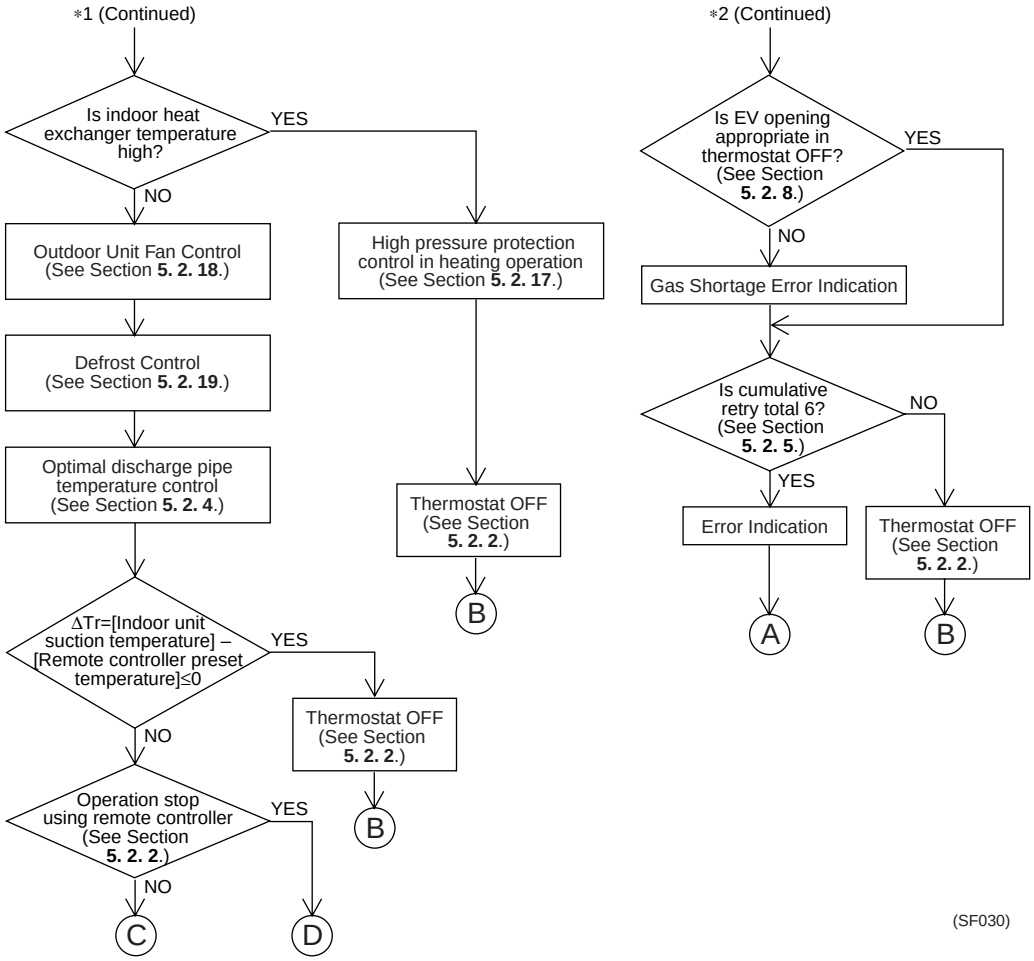




Note: For items indicated with reference section numbers 5.2.1 through 5.2.19, see the explanation of **outdoor unit** functions detail on pages 65 through 72.

2.2 Heating


Power Switch ON
Initializing of Electronic Expasion Valve (See Section 5. 2. 4.)
D
Start Operation Using Remote Controller.
Operation Mode Judgment
Cooling/Dry
Heating
Emergency Operation
(See Section 5. 2. 9.)
Four-Way Valve Control (See Section 5. 2. 1.)
Is safety device in normal condition?
NO
Error Indication
A
YES
B
Thermostat ON Judgment
Thermostat OFF
Thermostat ON
Startup Control (See Section 5. 2. 16.)
C
Is discharge thermistor disconnected? (See Section 5. 2. 7.)
YES
NO
Is cumulative retry total 6? (See Section 5. 2. 5.)
NO
Is thermistor in normal condition?
NO
Simulated Operation (See Section 5. 2. 10.)
YES
Shutdown Due to Error
Thermostat OFF (See Section 5. 2. 2.)
YES
Is discharge pipe temperature high?
YES
A
B
NO
Discharge Pipe High Temperature Thermostat OFF Control (See Section 5. 2. 4.)
To ∗1
To ∗2
(SF029)



Note: For items indicated with reference section numbers 5.2.1 through 5.2.19, see the explanation of outdoor unit functions and operations on pages 65 through 72.

3. Electric Function Parts

3.1 Indoor Unit

FH(Y)C~KVE, KV1C

Capacity	35	50	60	71	100	125	140	Remarks
Wired Remote Controller	BRC1B51·61 (C) (EC9505)							Optional Accessory
Wireless Remote Controller	HEAT PUMP USE : BRC7C612W (C) COOLING ONLY USE : BRC7C613W (C)							Optional Accessory
Electronic Control Unit	FHYC : EC9743 FHC : EC9744							
Fan Motor (Temperature Protector 130°C)	KFP-220-45B 6P 45W				D17P90H23 6P 90W			
Fan Motor Capacitor	3.5μF				5μF			
Swing Flap Motor (with Limit Switch)	MP35HCA (3P007482-1)							
Float Switch	FS-0211B							
Drain Pump	PLD-12230DM-1							

FH(Y)K~F(J)

Capacity	35	45	60	71	Remarks
Wired Remote Controller	BRC1B51·61 (EC9505)				Optional Accessory
Electronic Control Unit	FHYK, FHK71:EC9516 FHK35~60:EC9521				
Fan Motor (Temperature Protector 120°C)	BP-NRTW 4P 20W	BP-NRTW 4P 25W	BP-NRTW 4P 45W		
Fan Motor Capacitor	2μF		2.5μF		
Swing Flap Motor (with Limit Switch)	MT8-L [3PA07312-1]				
Float Switch	FS-0406C				
Drain Pump	CJV-0927				

FH(Y)B~F

Capacity	35	45	60	71	100	125	Remarks
Wired Remote Controller	BRC1B52·62 (EC9505)						Optional Accessory
Electronic Control Unit	FHYB:EC9514 FHB:EC9520				EC9515		
Fan Motor (Temperature Protector 152°C)	CA- 0513D 4P 65W	CA- 0514D 4P 85W	CA- 0516D 4P 110W	V1:CA- 0515D 4P 125W VAL:CA- 4526D 4P 125W	A37P135 G20 4P 135W	A37P225 C20 4P 225W	
Fan Motor Capacitor	4μF		5μF	5μF	V1:3μF VAL:5μF	V1:5μF VAL:10μF	
Float Switch	FS-0406D						
Drain Pump	CJV-0929						

FH(Y)~F

Capacity	35	45	60	71	100	125	Remarks
Wired Remote Controller	BRC1B51·52·61·62 (EC9505)						Optional Accessory
Electronic Control Unit	FHY~FJV1:EC9513 FHY~FVE:EC9543						
	FH~FJV1/FVE:EC9519			FH~FJV1/FVE:EC9522			
Fan Motor (Temperature Protector 130°C)	D09P57A23A 4P 57W				D10P/30E23A 4P 130W		
Fan Motor Capacitor	2μF		3μF		6μF		
Swing Flap Motor	FHY~F(J):MTL8-L [3PA07121-1]						

Drawing No. given inside brackets[ ].

FAY~F

Capacity	71	100	Remarks
Wired Remote Controller	BRC1B51·61 (EC9505)		Optional Accessory
Electronic Control Unit	EC9654		
Fan Motor	4P 46W	4P 49W	
Fan Motor Capacitor	2μF		
Swing Flap Motor (with Limit Switch)	MT8 [3SB40350-1]		

FAY~FA

Capacity	71	100	Remarks
Wired Remote Controller	BRC1B51·61 (EC9505)		Optional Accessory
Electronic Control Unit	EC9905		
Fan Motor	4P 37W	4P 46W	
Fan Motor Capacitor	1.5μF		
Swing Flap Motor (with Limit Switch)	MT8 [3SB40350-1]		

FVY~F

Capacity		71	100	125	Remarks
Control Panel		BRC1B61(EC9505)			
Electronic Control Unit		EC9517			
Fan Motor (Temperature Protector 120°C)	Upper	V1:AP-NOT 6P 13W VAL:AP-NOT 6P 13W	V1:AP-NOT 6P 27W VAL:AP-NOT 6P 27W	V1:AP-NOT 6P 27W VAL:AP-NOT 6P 27W	
	Lower	V1:AP-NOT 6P 20W VAL:AP-NOT 6P 20W	V1:AP-NOT 6P 27W VAL:AP-NOT 6P 27W	V1:AP-NOT 6P 56W VAL:AP-NOT 6P 56W	
Fan Motor Capacitor	Upper	2.5μF	4μF	4μF	
	Lower	3μF	4μF	6μF	
Swing Motor		MT8-L [3PA07279-1]			

Drawing No. given inside brackets[ ].

FVY~L

Capacity	71	100	125	Remarks
Control Panel	BRC1B61(EC9505)			
Electronic Control Unit	FVY:EC98115 FV:EC98114			
Fan Motor (Temperature Protector 130°C)	AP-NOT 6P 30W	AP-NOT 6P 60W	AP-NOT 6P 90W	
Fan Motor Capacitor	7μF		8μF	
Swing Motor	MT8-L [3P027592-1]			

Drawing No. given inside brackets[ ].

FUY~FJ

Capacity	71	100	125	Remarks
Wired Remote Controller	BRC1B51·61(EC9505)			Optional Accessory
Wireless Remote Controller	HEAT PUMP USE : BRC7C528W COOLING ONLY USE : BRC7C529W			Optional Accessory
Electronic Control Unit	EC98107			
Fan Motor (Temperature Protector 130°C)	D16P45R23 6P 45W		D17P90J23 6P 90W	
Fan Motor Capacitor	3.5μF		6μF	
Swing Flap Motor (with Limit Switch)	MT8-L(Drg. No. 3PA07572-1)			
Float Switch	FS-0211B			
Drain Pump	PJV-0744			

3.2 Outdoor Unit

RY

		RY71KY1	RY71KV1	RY100KY1	RY125KY1
M1C	Compressor	JT95BC-YE	JT95BC-V1	JT125BC-YE	JT160BC-YE
J1HC	Crank Case Heater	33W			
S1PH	Pressure Switch for Maintaining High Pressure	ACB-DB82 OFF : 30^{+0}_{-1} (kg/cm²G) ON : 22±1.5 (kg/cm²G)			
S2PH	Pressure Switch for Maintaining High Pressure	ACB-CB57 OFF : 24±1 (kg/cm²G) ON : 19±1 (kg/cm²G)		—	
S1LP	Pressure Switch for Low Pressure Control	20PS-1164-1 OFF : –23±15 (cmHg) ON : 0.5±0.3 (kg/cm²G)			
K1M	Magnetic Switch	HOE-20F-TRA1	HOE-26F-TRA1	HOE-20F-TRA1	
F1C	Overcurrent Relay	7.5A	22A	10A	13A
M1F	Outdoor Unit Fan (Upper)	70W		90W	95W
M2F	Outdoor Unit Fan (Lower)	—		65W	
Q1L Q2L	Outdoor Unit Fan Motor Safety Thermostat	OFF : 135±5°C ON : Below 120°C			
C1R	Capacitor for MF1	6μF			
C2R	Capacitor for MF2	—		6μF	
A1P	Outdoor Unit Control PC Board*	EC9526	EC9525	EC9530	
A2P	Outdoor Control PC Board (Models for the FJ Type Only)	—			
R1T	Thermistor (for Outdoor Air)	ST9303			
R2T	Thermistor (for Heat Exchanger)	ST8604A			
R3T	Thermistor (for Discharge Pipe)	ST8606			
T1R	Transformer	TR21H16R2			
Y1R	4-way Changeover Valve	V26-110B		V38-110B	VH40100
Y1E	Electronic Expansion Valve	DKV18D93 (Main Unit)		EKV24D34 (Main Unit)	EKV26D35
		DKV-MOZS130BO (Coil)		EKV-MOZS107BO (Coil)	
K1S	Starting Relay	—	CLK-15J02-P15	—	
C3R, C4R	M1C Capacitor	—	46μF+23μF	—	
C5R	Starting Capacitor	—	50μF	—	

* Figures inside parentheses are for E unit (anti-corrosion specifications).

		RY140KY1	RY140KTAL
M1C	Compressor	JT170BC-YE	JT170BC
J1HC	Crank Case Heater	33W	
S1PH	Pressure Switch for Maintaining High Pressure	ACB-DB82 OFF : 30^{+0}_{-1} (kg/cm²G) ON : 22±1.5 (kg/cm²G)	
S1LP	Pressure Switch for Low Pressure Control	20PS-1164-1 OFF : –23±15 (cmHg) ON : 0.5±0.3 (kg/cm²G)	
K1M	Magnetic Switch	HOE-20F-TRA1	HOE-35F-TRA1
F1C	Overcurrent Relay	15A	28A
M1F	Outdoor Unit Fan (Upper)	100W	
M2F	Outdoor Unit Fan (Lower)	65W	
Q1L Q2L	Outdoor Unit Fan Motor Safety Thermostat	OFF : 135±5°C ON : Below 120°C	
C1R	Capacitor for M1F	6μF	
C2R	Capacitor for M2F	6μF	
A1P	Outdoor Unit Control PC Board	EC9641	
A2P	Outdoor Control PC Board (Models for the FJ Type Only)	—	
R1T	Thermistor (for Outdoor Air)	ST9303	
R2T	Thermistor (for Heat Exchanger)	ST8604A	
R3T	Thermistor (for Discharge Pipe)	ST8606	
T1R	Transformer	TR21H16R2	TR21M16R2
Y1R	4-way Changeover Valve	VH40100	
Y1E	Electronic Expansion Valve	EKV30D36	
		EKV-MOZS107BO (Coil)	
K1S	Starting Relay	—	
C3R, C4R	M1C Capacitor	—	
C5R	Starting Capacitor	—	

R

		R71KY1(E)	R71KV1(E)	R100KY1(E)	R100KV1(E)
M1C	Compressor	JT90BC-YE	JT90BC-V1	JT118BC-YE	JT118BC-V1
J1HC	Crank Case Heater	33W			
S1PH	Pressure Switch for Maintaining High Pressure	ACB-DB82 OFF : 30^{+0}_{-1}(kg/cm²G) ON : 22±1.5 (kg/cm²G)			
S1LP	Pressure Switch for Low Pressure Control	20PS-1164-1 OFF : –23±15 (cmHg) ON : 0.5±0.3 (kg/cm²G)			
K1M	Magnetic Switch	HOE-20F-TRA1	HOE-26F-TRA1	HOE-20F-TRA1	HOE-26F-TRA1
F1C	Overcurrent Relay	7.5A	22A	10A	33A
M1F	Outdoor Unit Fan (Upper)	70W		90W	
M2F	Outdoor Unit Fan (Lower)	—		65W	
Q1L Q2L	Outdoor Unit Fan Motor Safety Thermostat	OFF : 135±5°C ON : Below 120°C			
C1R	Capacitor for M1F	6μF			
C2R	Capacitor for M2F	—		6μF	
A1P	Outdoor Unit Control PC Board*	EC9524 (EC9534)	EC9523 (EC9533)	EC9528 (EC9538)	EC9527 (EC9537)
A2P	Outdoor Control PC Board (Models for the FJ Type Only)	—			
R1T	Thermistor (for Outdoor Air)	ST9303			
R2T	Thermistor (for Heat Exchanger)	ST8604A			
R3T	Thermistor (for Discharge Pipe)	ST8606			
T1R	Transformer	TR21H16R2			
Y1E	Electronic Expansion Valve	DKV18D93 (Main unit)		EKV24D34 (Main unit)	EKV24D34
		DKV-MOZS130BO (Coil)		EKV-MOZS107B0 (Coil)	
K1S	Starting Relay	—	CLK-15J02-P15	—	CLK-15J02-P14
C3R, C4R	M1C Capacitor	—	46μF+23μF	—	46μF+23μF
C5R	Starting Capacitor	—	50μF	—	75μF

* Figures inside parentheses are for E unit (anti-corrosion specifications).

		R125KY1(E)	R140KY1	R140KTAL
M1C	Compressor	JT150BC-YE	JT150BC-YE	JT150BC-YE
J1HC	Crank Case Heater	33W	—	
S1PH	Pressure Switch for Maintaining High Pressure	ACB-DB82 OFF : 30^{+0}_{-1}(kg/cm²G) ON : 22±1.5 (kg/cm²G)		
S1LP	Pressure Switch for Low Pressure Control	20PS-1164-1 OFF : –23±15 (cmHg) ON : 0.5±0.3 (kg/cm²G)		
K1M	Magnetic Switch	HOE-20F-TRA1		HOE-35F-TRA1
F1C	Overcurrent Relay	13A	15A	28A
M1F	Outdoor Unit Fan (Upper)	95W	100W	
M2F	Outdoor Unit Fan (Lower)	65W		
Q1L Q2L	Outdoor Unit Fan Motor Safety Thermostat	OFF : 135±5°C ON : Below 120°C		
C1R	Capacitor for M1F	6μF		
C2R	Capacitor for M2F	6μF		
A1P	Outdoor Unit Control PC Board*	EC9528 (EC9538)	EC9640	
A2P	Outdoor Control PC Board (Models for the FJ Type Only)	—		
R1T	Thermistor (for Outdoor Air)	ST9303		
R2T	Thermistor (for Heat Exchanger)	ST8604A		
R3T	Thermistor (for Discharge Pipe)	ST8606		
T1R	Transformer	TR21H16R2		TR21M16R2
Y1E	Electronic Expansion Valve	EKV26D35	EKV30D36	
		EKV-MOZS107B0 (Coil)		
K1S	Starting Relay	—		
C3R, C4R	M1C Capacitor	—		
C5R	Starting Capacitor	—		

* Figures inside parentheses are for E unit (anti-corrosion specifications).

R

		R71KVAL	R100KVAL	R125KTAL
M1C	Compressor	JT85BC-VH	JT118-VH	JT150BC
J1HC	Crank Case Heater	33W		
S1PH	Pressure Switch for Maintaining High Pressure	ACB-DB82 OFF : 30^{+0}_{-1}(kg/cm²G) ON : 22±1.5 (kg/cm²G)		
S1LP	Pressure Switch for Low Pressure Control	20PS-1164-1 OFF : –23±15 (cmHg) ON : 0.5±0.3 (kg/cm²G)		
K1M	Magnetic Switch	HOE-26F-TRA1		
F1C	Overcurrent Relay	22A	26A	22A
M1F	Outdoor Unit Fan (Upper)	75W	85W	
M2F	Outdoor Unit Fan (Lower)	—	80W	
Q1L Q2L	Outdoor Unit Fan Motor Safety Thermostat	OFF : 135±5°C ON : Below 120°C		
C1R	Capacitor for M1F	6μF		
C2R	Capacitor for M2F	—	6μF	
A1P	Outdoor Unit Control PC Board∗	EC9523	EC9527	EC9528
A2P	Outdoor Control PC Board (Models for the FJ Type Only)	—		
R1T	Thermistor (for Outdoor Air)	ST9303		
R2T	Thermistor (for Heat Exchanger)	ST8604A	ST9604A	ST8604A
R3T	Thermistor (for Discharge Pipe)	ST8606		
T1R	Transformer	TR21H16R2		
Y1E	Electronic Expansion Valve	DKV18D93 (Main Unit)	EKV24D34 (Main Unit)	EKV26D35
		DKV-MOZS130B0 (Coil)	EKV-MOZS107B0 (Coil)	
K1S	Starting Relay	CLK-15J02-P15	CLK-15J02-P14	—
C3R, C4R	M1C Capacitor	46μF+23μF		—
C5R	Starting Capacitor	50μF+50μF	75μF+75μF	—

∗ Figures inside parentheses are for E unit (anti-corrosion specifications).

4. Thermistor Temperature and Resistance Conversion Table

4.1 Table

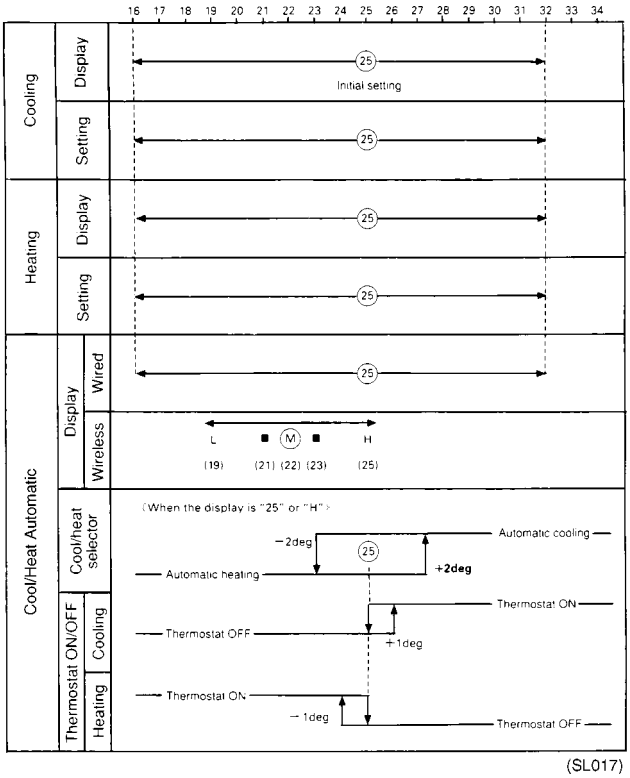
Temperature (°C)	Suction, Heat Exchange (Indoor Unit), Outdoor Air, Outdoor Suction Pipe, Sensor (kΩ)	Discharge Pipe Sensor (kΩ)
-6.0	90.8	866.8
-4.0	81.7	782.7
-2.0	73.5	707.6
0.0	66.3	640.4
2.0	59.8	579.9
4.0	54.1	525.6
6.0	48.9	477.0
8.0	44.3	433.4
10.0	40.2	394.2
12.0	36.5	358.9
14.0	33.2	327.1
16.0	30.2	298.5
18.0	27.5	272.6
20.0	25.1	249.2
22.0	23.0	228.1
24.0	21.0	208.9
26.0	19.2	191.5
28.0	17.6	175.8
30.0	16.2	161.5
32.0	14.8	148.4
34.0	13.6	136.6
36.0	12.5	125.8
38.0	11.5	115.5
40.0	10.6	106.5
42.0	9.8	98.8
44.0	9.1	91.3
46.0	8.4	84.4
48.0	7.8	78.1
50.0	7.2	72.3
52.0	6.9	67.1
54.0	6.2	62.2
56.0	5.7	57.8
58.0	5.3	53.7

5. Function Details

5.1 Indoor Unit

Thermostat Control

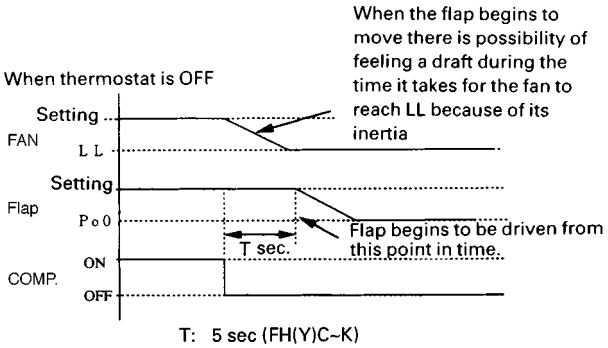
Existing cooling/heating preset temperature range has been changed.



(SL017)

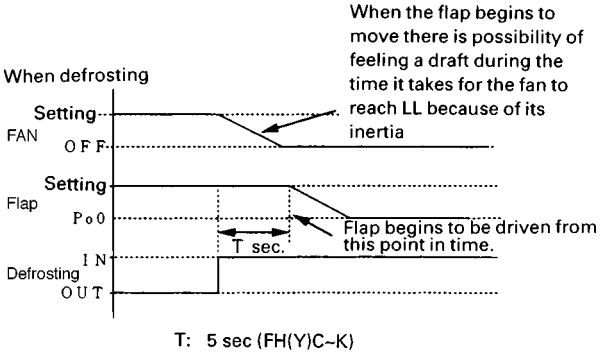
Draft Avoidance Control 1

Draft is circumvented by delaying transfer of the flap to the Po0 (horizontal) position for a certain amount of time when defrosting and in the heating mode with the thermostat OFF.



T: 5 sec (FH(Y)C~K)
T: 20 sec (Other models)

(SL018)

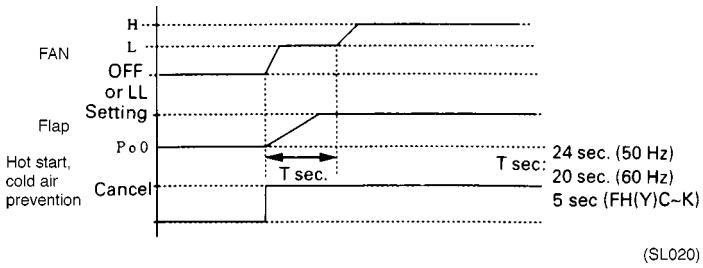


T: 5 sec (FH(Y)C~K)
T: 20 sec (Other models)

(SL019)

Draft Avoidance Control 2

When hot start is canceled or when cold air prevention control is finished, if the fan speed is set to “H,” the fan turns at L speed for a certain amount of time, thus avoiding draft while the flap is moving.



Air Flow Volume Shift Control

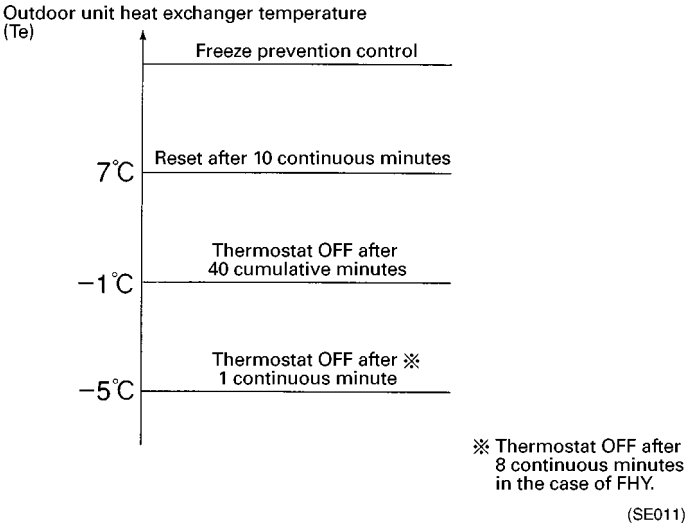
The air flow volume of an indoor unit is varied to prevent shutdown due to a rise in the high pressure level. (Air volume up at heating operation)

1. When indoor unit suction air temperature is 25°C or higher
   ON condition Tc≥60°C
   Reset condition Tc<50°C
   Note that the air flow volume is varied for a preset time when the thermostat is ON.
2. When indoor unit suction air temperature is lower than 25°C
   ON conditionTc≥60°C
   Reset conditionTc<59°C

Freeze Prevention Control

The thermostat turns OFF under the following temperature conditions to prevent freezing of the indoor unit heat exchanger.

- The motorized valve is controlled to maintain the indoor unit heat exchanger temperature (Te) above 0°C.
- The outdoor unit fan speed is reduced to prevent freeze prevention control from activating during cooling operation under low outside air temperature. (For details, see the section on cooling operation under low outside air temperature.)



Outdoor Unit Identification Function

If the indoor unit is for both a heat pump and cooling only type, this function differentiates whether the outdoor unit is functioning as a heat pump or cooling only unit, and automatically decides the which operation modes can be set.

- Operation modes which can be set

Heat pump : Fan / cool / dry / auto / heat
Cooling only : Fan / cool / dry

Auto-restart Function

If there is a power cut when the unit is operating, it will automatically resume the same operating mode when the power is restored.

Caution

When performing maintenance and the power supply is to be shut off, be sure to turn the remote controller's ON/OFF switch OFF first.

Shutting the power supply switch off while the ON/OFF switch is still ON is dangerous because the "power failure automatic reset function" will cause the indoor fan to start turning immediately, or the outdoor unit fan to automatically start turning three minutes after the power supply is turned back on.

Fan and flap operations

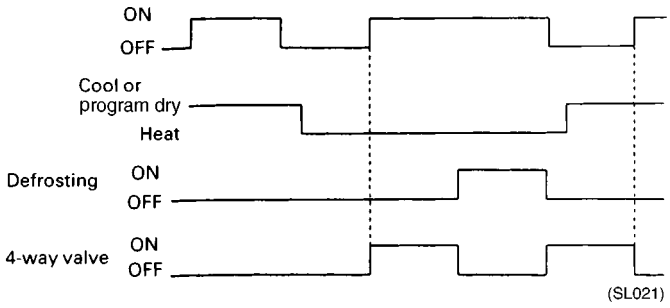
			Fan	Flap			Remote Controller Indication
				FHYC FHYK FHY	FAY	FVY	
Heating Operation	Hot Start from Defrost	In Swing Operation	OFF	Horizontal	Horizontal	Forward	Swing
		In Airflow Direction Setting	OFF	Horizontal	Horizontal	Setting	Set Position
	Defrost	In Swing Operation	OFF	Horizontal	Horizontal	Forward	Swing
		In Airflow Direction Setting	OFF	Horizontal	Horizontal	Setting	Set Position
	Thermostat OFF	In Swing Operation	LL	Horizontal	Horizontal	Swing	Swing
		In Airflow Direction Setting	LL	Horizontal	Horizontal	Setting	Set Position
	Hot Start from Thermostat OFF (Cold Air Prevention)	In Swing Operation	LL	Horizontal	Horizontal	Swing	Swing
		In Airflow Direction Setting	LL	Horizontal	Horizontal	Setting	Set Position
	Stop (Error)	In Swing Operation	OFF	Horizontal	Fully closed (Horizontal)	Forward	—
		In Airflow Direction Setting	OFF	Horizontal	Fully closed	Setting	—
	Overload Thermostat OFF	In Swing Operation	LL	Horizontal	Horizontal	Swing	Swing
		In Airflow Direction Setting	LL	Horizontal	Horizontal	Setting	Set Position
Cooling Operation	Thermostat ON in Microcomputer-Controlled Dry Mode	In Swing Operation	L	Swing	Swing	Swing	Swing
		In Airflow Direction Setting	L	Setting	Setting	Setting	Set Position
	Thermostat OFF in Microcomputer-Controlled Dry Mode	In Swing Operation	OFF	Horizontal	Horizontal	Forward	Swing
		In Airflow Direction Setting	OFF	Setting	Setting	Setting	Set Position
	Cooling Thermostat OFF	In Swing Operation	Setting	Horizontal	Horizontal	Swing	Swing
		In Airflow Direction Setting	Setting	Setting	Setting	Setting	Set Position
	Stop (Error)	In Swing Operation	OFF	Horizontal	Downward (Horizontal)	Forward	—
		In Airflow Direction Setting	OFF	Setting	Downward	Setting	—
	Freeze Prevention in Microcomputer-Controlled Dry Mode (Including Cooling Operation)	In Swing Operation	L	Horizontal	Horizontal	Swing	Swing
		In Airflow Direction Setting	L	Setting	Setting	Setting	Set Position

5.2 Outdoor Unit

Note: Following functions are for R(Y)71~140K only. Please refer “Split G series” manual for smaller size outdoor units.

5.2.1 4-way Valve Control

4-way valves conduct power when heating. Changeover switching is carried out only during operation.
4-way valve ON : During heating except when defrosting
4-way valve OFF : During cooling, program dry and defrosting

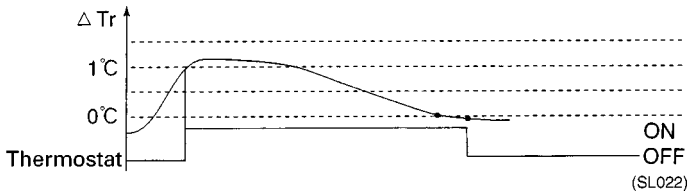


5.2.2 Operation, Stop and Thermostat Control

Thermostat Control

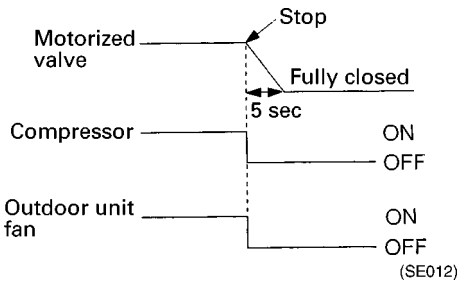
Basic thermostat ON/OFF operations.....
Thermostat turns ON when ΔTr is 1°C.
Thermostat turns OFF when ΔTr is 0°C.

Initial operation 2.5 min Defrosting Forced operation
→ Room temperature control prevents thermostat from turning OFF.



∗ Regarding ΔTr
In cooling operation
ΔTr = Indoor unit suction air temperature (Tr) - Temperature set by remote controller
In heating operation
ΔTr = Temperature set by remote controller - Tr

Compressor Shutdown Operation



- In heating operation, the 4-way valve is energized.
- In heating operation of heat-pump units and when the thermostat is OFF in cooling-only units due to the room temperature level, the compressor stops 5 seconds after the motorized valve closes.

5.2.3 HPS/LPS Detection Function

If either HPS or LPS are actuated while the compressor is running, the compressor stops and begins standing by for 3 minutes. (Depending on operation conditions, even if LPS is actuated the compressor may not go OFF in some cases)
If this movement is detected an additional 5 times from the time it is first detected to until turned off by remote controller, operation is stopped due to malfunction.

5.2.4 Electronic Expansion Valve Control

Electronic Expansion Valve Initialize

About 10 seconds after turning on the power supply, the electronic expansion valve's opening is tightened 520 pulses to close it all the way.

Discharge Pipe Temperature

The optimal discharge pipe temperature for present operation is calculated according to indoor unit heat exchange temperature, outdoor unit heat exchange temperature, and outdoor air temperature, with the electronic expansion valve being controlled so that the discharge pipe temperature approaches the optimal discharge pipe temperature.

Optimal discharge pipe temperature - discharge pipe temperature <0°C (superheat operation)
→ Motor operated valve is opened

Optimal discharge pipe temperature - discharge pipe temperature >0°C (wet operation)
→ Motor operated valve is closed.

5.2.5 Abnormally High Discharge Pipe Temperature

If discharge pipe high temperature thermostat OFF or T2 (discharge pipe thermistor) disconnection is determined 6 times or wet operation protection control is determined, operation stops due to abnormal discharge pipe temperature.

Wet Operation Protection Control

Cooling : Discharge pipe temperature < outdoor unit heat exchanger temperature +10°C
15 minutes in succession
Heating : Discharge pipe temperature < indoor unit heat exchanger temperature +10°C
15 minutes in succession
and the electronic expansion valve openning is 50 pulses or less.

5.2.6 Discharge Pipe High Temperature Thermostat OFF Control

If discharge pipe temperature T2 remains above 123.5°C for 100 seconds in succession, or above 140°C for 20 seconds in succession, the thermostat is turned OFF.

5.2.7 T2 Disconnection Thermostat OFF Control

If the discharge pipe thermistor is determined to be disconnected from the piping 5 minutes after the compressor starts, the thermostat is turned OFF.

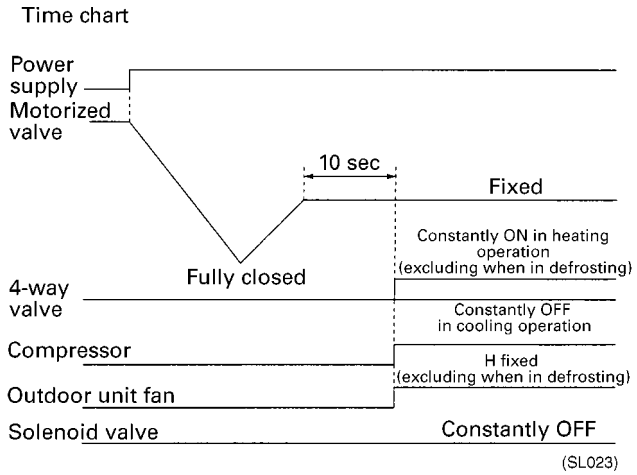
5.2.8 Lack of Gas Malfunction

When the thermostat is turned OFF due to abnormally high discharge pipe temperature, lack of gas malfunction occurs if the opening of the solenoid valve is 450 pulses or more. Operation however does not stop due to lack of gas. Lack of gas malfunction can be checked by remote controller inspection.

5.2.9 Emergency Operation

- No signal is transmitted between the indoor and outdoor units.
- Emergency operation is not possible if the motorized valve has a malfunction.
- Switches on the control printed circuit boards of both indoor and outdoor units are used for an emergency operation.
  The outdoor unit's control printed circuit board is used for the changeover of the cooling/heating mode.
- In heating operation, defrosting operation is activated once every hour.

Time Chart



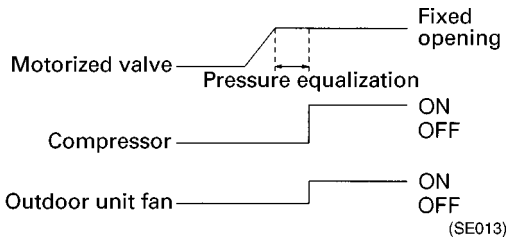
5.2.10 Simulated Operation Function

If the outdoor air thermistor and outdoor unit heat exchange thermistor are malfunctioning, simulated operation is carried out while malfunction is displayed on the remote controller. (Stops due to malfunction if the discharge pipe thermistor is defective.)

5.2.11 Cooling Start Control

The starting air flow volume is varied at a startup according to the outside air temperature (Ta) condition to prevent a rise in the high pressure and a drop in the low pressure.

Outside Air Temperature (Ta)	Air Flow Volume at Startup
Ta≤3°C	OFF at Startup
3°C<Ta≤23°C	H Air Flow Volume
Ta>23°C	HH Air Flow Volume



∗Units operate with the starting air flow volume for up to 3 minutes.

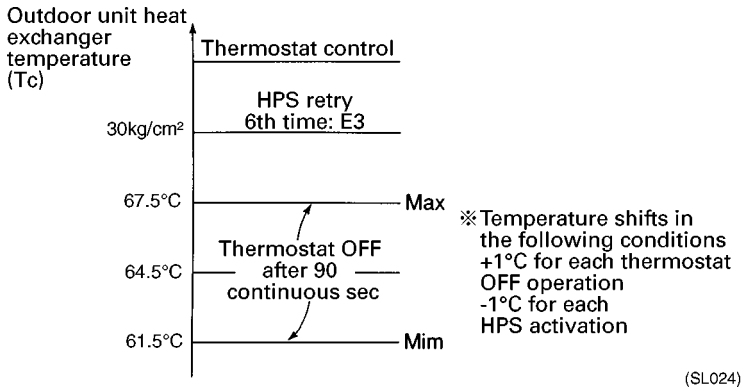
Outdoor Unit Fan Tap

Fan Tap	40~71	100~140	
	(1 Fan)	Upper Fan (MF1)	Lower Fan (MF2)
OFF	OFF	OFF	OFF
L	L	OFF	H
H	H	H	H
HH	HH	HH	HH

5.2.12 High Pressure Protection Control in Cooling Operation

- The thermostat turns OFF immediately before HPS activation according to the outdoor unit heat exchanger temperature (Tc) to prevent shutdown due to an error.
- In cooling-only units, the motorized valve is controlled to maintain Tc at 53°C or lower. (Optimum discharge pipe temperature control)

In the Case of R(Y)J

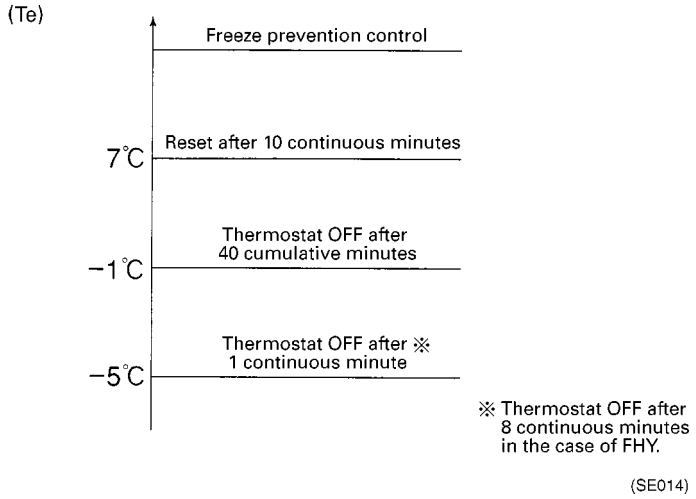


5.2.13 Freeze Prevention Control

The thermostat turns OFF under the following temperature conditions to prevent freezing of the indoor unit heat exchanger.

- The motorized valve is controlled to maintain the indoor heat exchanger temperature (Te) above 0°C.
- The outdoor unit fan speed is reduced to prevent freeze prevention control from activating during cooling operation under low outside air temperature. (For details, see the section on cooling operation under low outside air temperature.)

Indoor Unit Heat Exchanger Temperature

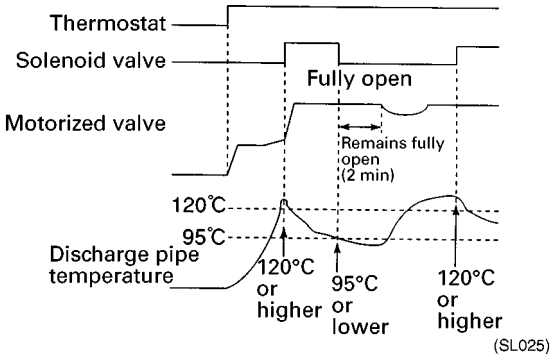


5.2.14 Solenoid Valve Control in Cooling Operation

When the discharge pipe temperature (T2) is high, liquid is released from the modulator to reduce the discharge pipe temperature.

In the Case of R(Y)140K

ON condition T2 ≥120°C
OFF condition T2 ≤ 95°C



∗ The motorized valve is fully open while the solenoid valve is ON.

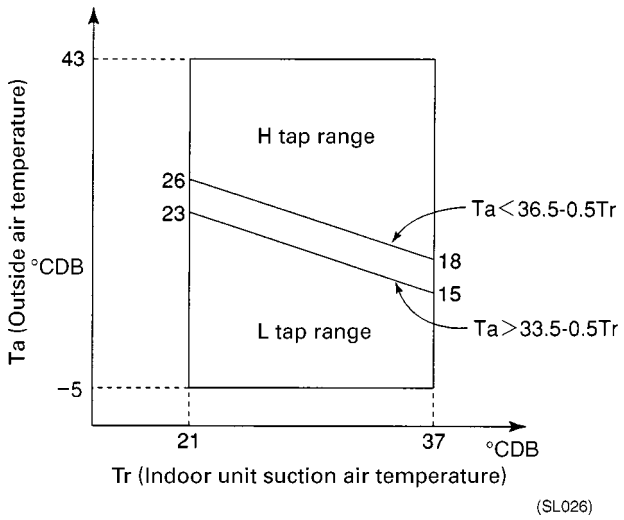
■ When the solenoid valve turns OFF at T2 ≤ 95°C, the motorized valve remains fully open for 2 minutes.

5.2.15 Low Outside Temperature Control in Cooling Operation (Year-round Cooling)

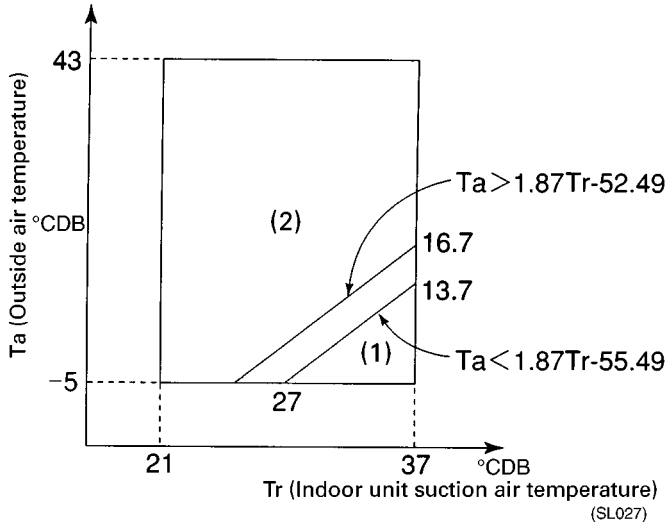
The air flow volume of an outdoor unit fan is reduced to prevent freezing of the indoor unit heat exchangers due to a drop in the low pressure (LP) and indoor unit heat exchanger temperature (Te).

After starting control ends, if the outdoor air temperature falls below (33.5 - 0.5 × room suction temperature), the indoor unit fan speed is switched to “L.” The differential is 3°C.

Fan Control



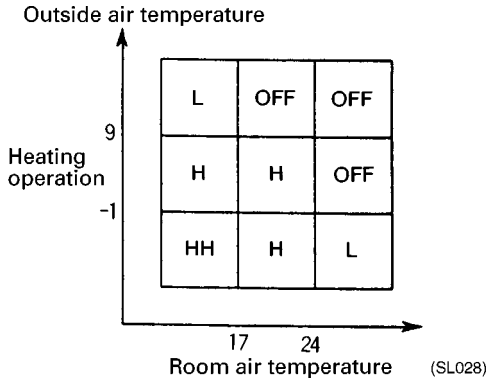
Solenoid Valve Control (In the Case of R(Y)140 K)



Solenoid valve :
ON condition
In range (1) or Discharge pipe temperature (T2) > Outdoor unit heat exchanger temperature (Tc) +30°C
OFF condition
In range (2) or T2 < Tc R 18°C

5.2.16 Fan Start Control in Heating Operation

The starting air flow volume is varied as shown below according to the outside air temperature condition.



Fan Tap	40~71	100~140	
	(1 Fan)	Upper Fan (MF1)	Lower Fan (MF2)
OFF	OFF	OFF	OFF
L	L	OFF	H
H	H	H	H
HH	HH	HH	HH

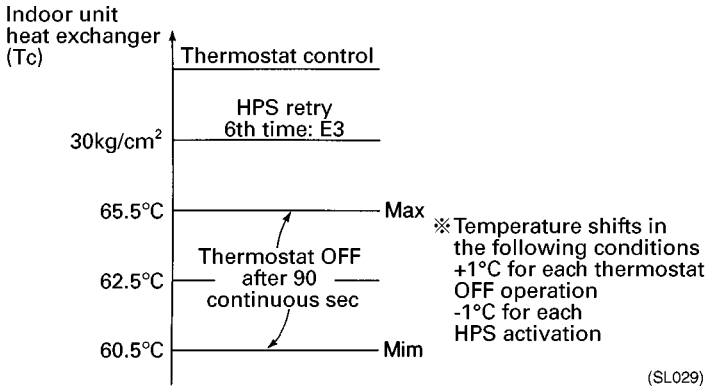
- Units operate with the starting air flow volume for up to 5 minutes.
- When the outside air temperature is 10°C or lower, the air flow volume stays at H for the first 5 seconds if it is switched from OFF to L.
  (Outdoor unit fan startup compensation control)

*LPS is not detected for 3 minutes after startup.

5.2.17 High Pressure Protection Control in Heating Operation

- The thermostat turns OFF immediately before HPS activation according to the indoor unit heat exchanger temperature (Tc) to prevent shutdown due to an abnormality.
- Control is provided to maintain Tc at 53°C.

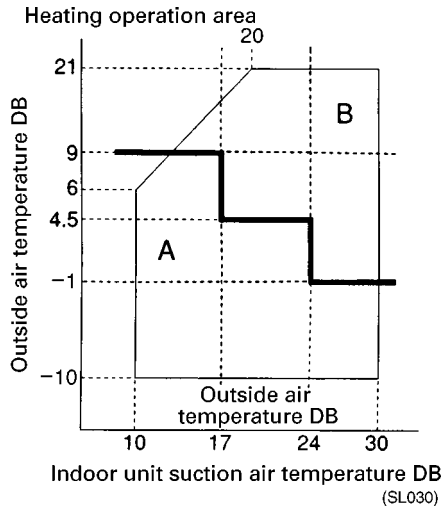
In the Case of R(Y)

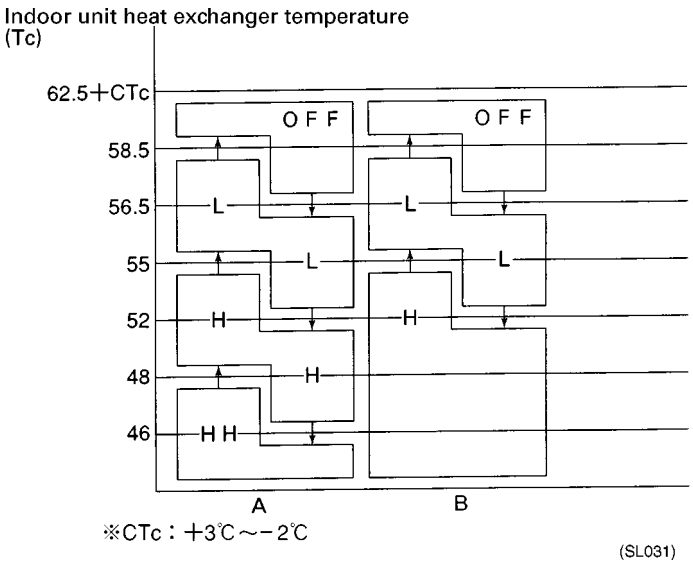


5.2.18 Outdoor Unit Fan Control (Heating Overload Frosting Prevention Control)

The air flow volume of an outdoor unit fan is varied in either one of the following two patterns according to the indoor unit heat exchanger temperature (Tc).

In the Case of RY





5.2.19 Defrosting

Defrost Starting Conditions

■ **Intelligent type**

Defrosting starts when either condition 1 or 2 has been realized.

◆ **Condition 1**

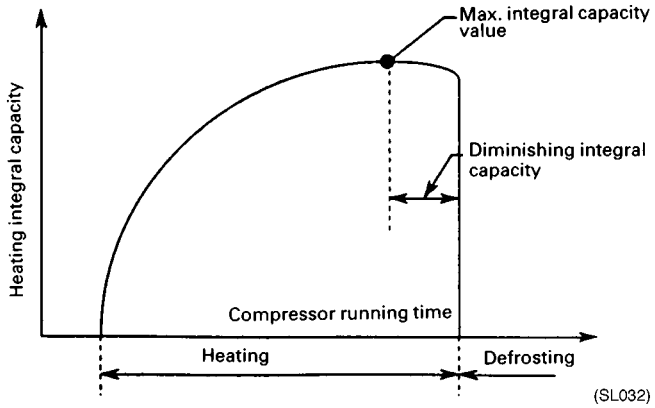
■ The compressor has been running for a total of 25 minutes or more since the start of heating or since completion of previous defrosting.
■ The compressor has been running continuously for 5 minutes or more.
■ There is an overload but the outdoor unit fan is not OFF.
■ Heating integral capacity is constant or diminishes.(Notes 1 and 2)
■ When outdoor air temperature ≥5°C: Outdoor unit heat exchange temperature < -3°C

◆ **Condition 2**

■ The compressor has been running for a total of 3 hours or more since the start of heating or since completion of previous defrosting. (Note 3)
■ The compressor has been running continuously for 20 seconds or more.
■ There is an overload but the outdoor unit fan is not OFF.
■ Heating integral capacity is constant or diminishes.
■ When outdoor air temperature ≥5°C: Outdoor unit heat exchange temperature <-3°C

Note:

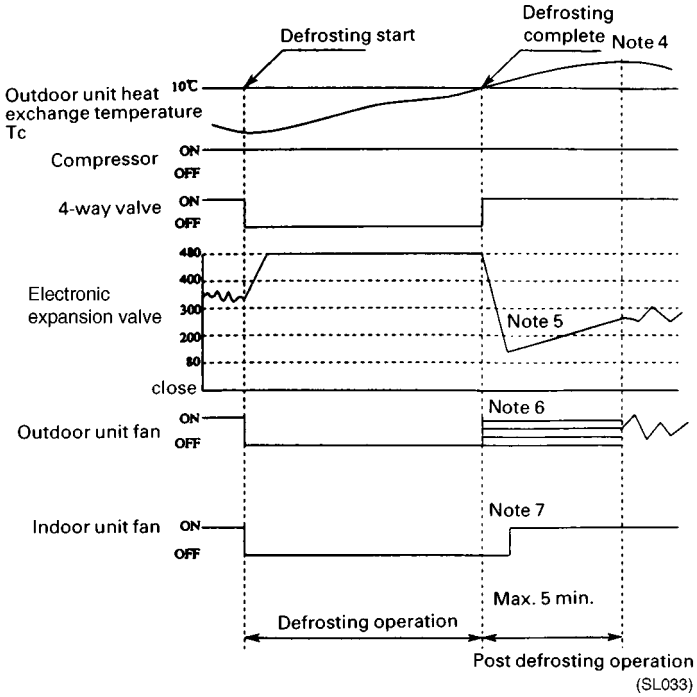
1. Heating total capacity
   Integral capacity is calculated by first totaled according to indoor unit data when heating, and then dividing it by the compressor running time.



2. At the time of changeover switching, defrosting start becomes 4°C higher.
3. Changeover switching time is 1 hour.

Control

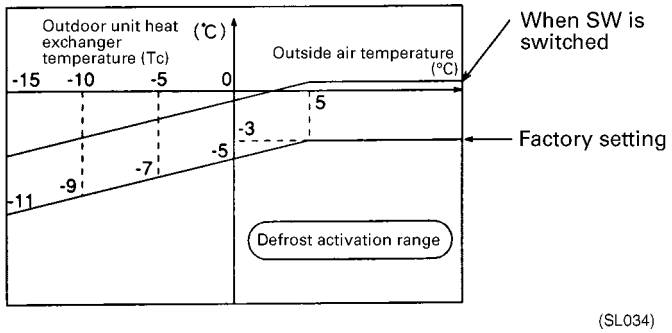
During heating, a defrosting request is made by the indoor unit when defrosting conditions have been realized. The control method are as following.



Note:

4. Defrosting completion
   Defrosting ends when outdoor unit heat exchange temperature rises above 10°C and a minimum of 10 minutes elapses from the time defrosting begins, or when discharge pipe temperature rises above 120°C.
5. Defrosting completion for motor operated valve.
   Operated at best initial opening and opening speed according to operating conditions at the start of defrosting.
6. Defrosting completion for outdoor unit fan
   Operated at best fan tap according to operating conditions at the start of defrosting.
7. Indoor unit fan
   Hot start standby is carried out until 40 seconds elapses from the time defrosting ends, or until the indoor unit heat exchange temperature rises.

■ **Temperature conditions**



■ **Defrost complete condition**

If one of the following conditions is met after defrosting function has been operating for one minute or longer, the defrosting operation stops.

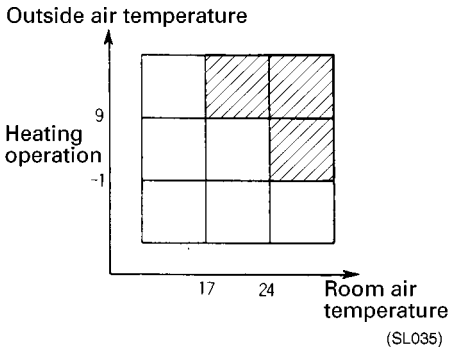
Outdoor unit heat exchanger temperature ≥ 10°C
Discharge pipe temperature > 120°C

■ **Hot start after defrosting operation**

Fan Stop

<After defrost completion>

OR	**&**	40 sec after defrost completion
		20 sec after defrost completion in case ambient temp. > 9°C and indoor suction air temp. > 24°C
	&	Before heat exchanger temp. > 36°C
		Heat exchanger temp. > 18°C in case of shaded area.



Part 5
Troubleshooting

1. Maintenance Inspections

1.1 Optimal Operation Condition

Guide Lines for Optimal Operation Condition

The operation value guide lines when operating under standard conditions by pushing the test run button on the remote controller are as given in the table below. RY71~125K are used as example outdoor units in the table.

Indoor Unit Fan: "H" Operation

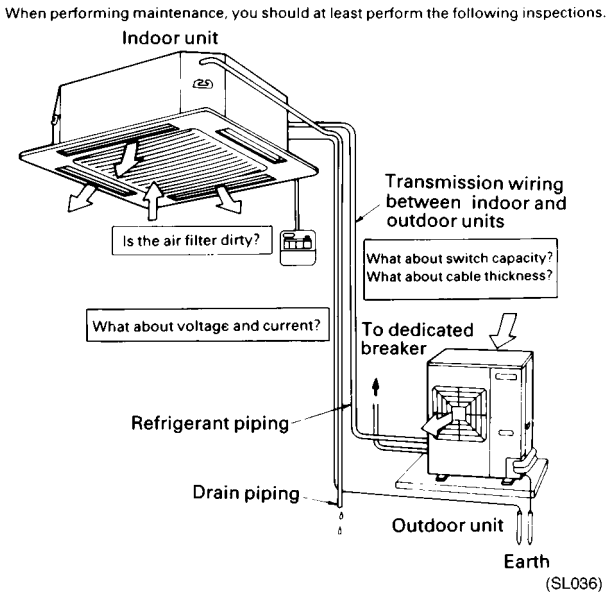
		High Pressure (Mpa)	Low Pressure (Mpa)	Discharge Pipe Temperature (°C)	Suction Temperature (°C)	Indoor Unit Side: Differential Between Suction Temperature and Discharge Temperature (°C)	Outdoor Unit Side: Differential Between Suction Temperature and Discharge Temperature (°C)
Cooling	50Hz	1.62~1.91 (16.5~19.5)	0.39~0.59 (4.0~6.0)	60~95	0~14	8~18	7~12
	60Hz	1.72~2.1 (17.5~20.5)	0.34~0.54 (3.5~5.5)	70~115	-2~10		
Heating	50Hz	1.42~1.86 (14.5~19.0)	0.29~0.44 (3.0~4.5)	55~95	-4~4	14~30	2~6
	60Hz	1.62~2.01 (16.5~20.5)	0.29~0.44 (3.0~4.5)	60~115	-6~2		

Note: Figures given inside parentheses are in unit of kg/cm²

Standard Conditions

	Indoor Unit Conditions	Outdoor Unit Conditions
Cooling Operation	27°C DB/19°C WB	35°C DB
Heating Operation	20°C DB	7°C DB/6°C WB

■ During or after maintenance, when the power supply is turned back on, operation restarts automatically by the "auto restart function." Please exercise the proper caution.



Correlation of Air-Conditioner's Operation Status and Pressure / Running Current

What happens in comparison to normal values is summarized in the table below.
(Measured from 15 ~ 20 minutes or more after operation starts.)

When Cooling

Air-Conditioner Status	Low Pressure	High Pressure	Running Current
Air Filter Fouling	Lower	Lower	Lower
Short Circuit of Indoor Unit Inlet/Outlet Air	Lower	Lower	Lower
Outdoor Unit Fin Fouling	Higher	Higher	Higher
Short Circuit of Outdoor Unit Inlet/Outlet Air	Higher	Higher	Higher
Air Mixed in Refrigerant	Higher	Higher	Higher
Water Mixed in Refrigerant	∗1 Lower	Lower	Lower
Dirt Mixed in Refrigerant	∗2 Lower	Lower	Lower
Lack of Refrigerant (Gas)	Lower	Lower	Lower
Unsatisfactory Compression	∗1 Higher	Lower	Lower

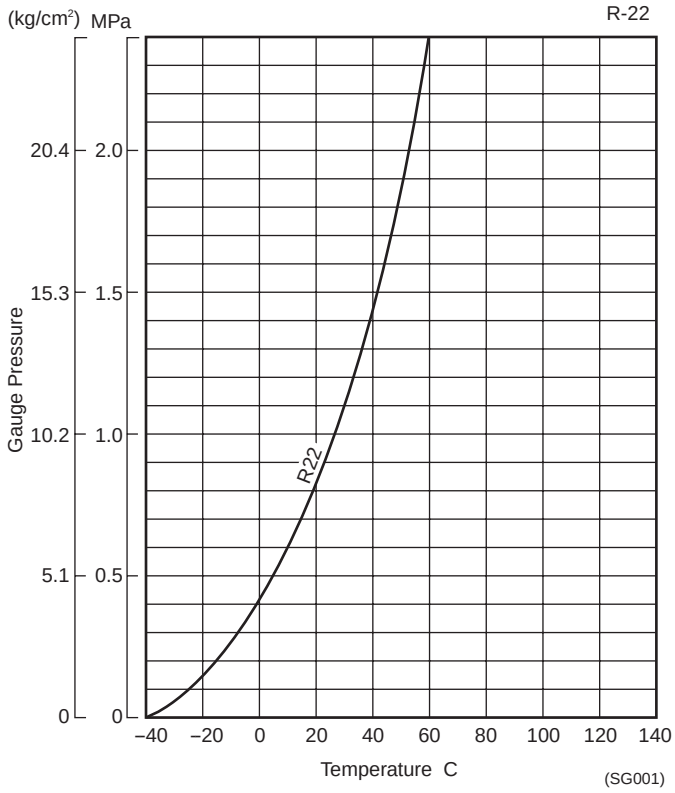
When Heating

Air-Conditioner Status	Low Pressure	High Pressure	Running Current
Air Filter Fouling	Higher	Higher	Higher
Short Circuit of Indoor Unit Inlet/Outlet Air	Higher	Higher	Higher
Outdoor Unit Fin Fouling	Lower	Lower	Lower
Short Circuit of Outdoor Unit Inlet/Outlet Air	Lower	Lower	Lower
Air Mixed in Refrigerant	Higher	Higher	Higher
Water Mixed in Refrigerant	∗1 Lower	Lower	Lower
Dirt Mixed in Refrigerant	∗2 Lower	Lower	Lower
Lack of Refrigerant (Gas)	Lower	Lower	Lower
Unsatisfactory Compression	∗3 Higher	Lower	Lower

Note:

1. ∗1. Water in the refrigerant freezes inside the capillary tube or expansion valve, and is basically the same phenomenon as pump down.
2. ∗2. Dirt in the refrigerant clogs filters inside the piping, and is basically the same phenomenon as pump down.
3. ∗3.Pressure differential between high and low pressure becomes slight.

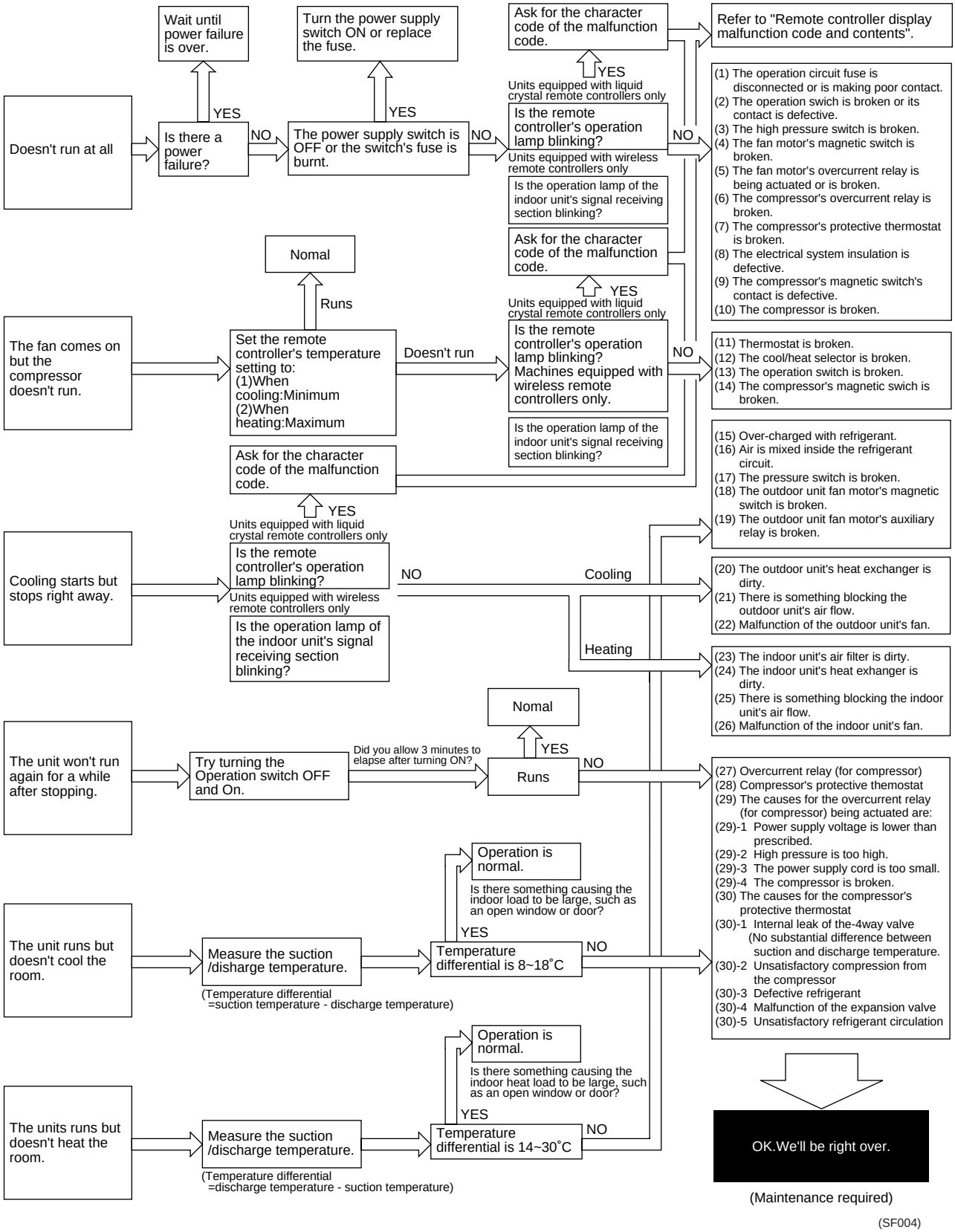
Refrigerant Saturation Curve



2. How to Handle Request for Maintenance

2.1 Flow Chart

Find out the situation according to the following procedure when there is a request for service from the customer.



3. Troubleshooting Based on Equipment Condition

3.1 Troubleshooting Based on Equipment Condition

	Equipment Condition	Remedy
1	Equipment does not operate.	See page 82
2	Fan operates, but compressor does not.	See page 83
3	Cooling/heating operation starts but stops immediately.	See page 84
4	After equipment shuts down, it cannot be restarted for a while.	See page 85
5	Equipment operates but does not provide cooling.	See page 86
6	Equipment operates but does not provide heating.	See page 87
7	Equipment discharges white mist.	See page 88
8	Equipment produces loud noise or shakes.	See page 89
9	Equipment discharges dust.	See page 90
10	Remote controller LCD displays “88.”	See page 91
11	Equipment emits odor.	Room smell and cigarette odors accumulated inside the indoor unit are discharged with air. Inside of the indoor unit must be cleaned.
12	Flap operates when power is turned on.	It is normal. The flap initializes for accurate positioning.
13	Change of operation mode causes flap to move.	It is normal. There is a control function that moves the flap when operation mode is changed.
14	Fan operates in “M” mode during heating even if remote controller is set to “Low.”	It is normal. It is caused by the activation of the overload control (airflow shift control).
15	Flap automatically moves during cooling.	It is normal. It is caused by the activation of the dew prevention function or ceiling dirtiness reducing function.
16	Indoor unit fan operates in “L” mode for 1 minute in microcomputer-controlled dry mode even if compressor is not operating.	It is normal. The monitoring function forcibly operates the fan for one minute.
17	In simultaneous ON/OFF multi-system setup, indoor unit (slave) does not operate in sync with the other indoor unit (master). (Flat, fan, etc.)	It is normal. It is caused by a signal transmission lag.
18	Indoor unit fan operates after heating operation stops.	It is normal. The fan operates in the “LL” mode for 60 to 100 seconds to dissipate the residual heat in the heater.
19	Drain pump operates when equipment is not operating.	It is normal. The drain pump continues to operate for several minutes after equipment is turned off.
20	Horizontal wing sends air to different directions in cooling and heating even if it is set to the same position.	It is normal. The airflow direction in cooling/dry operation is different from that in heating/ ventilation operation.
21	Flap remains horizontal even if it is set to Swing.	It is normal. The flap does not swing in the thermostat OFF mode.

3.2 Equipment does not Operate

Applicable Model

All models of Skyair series

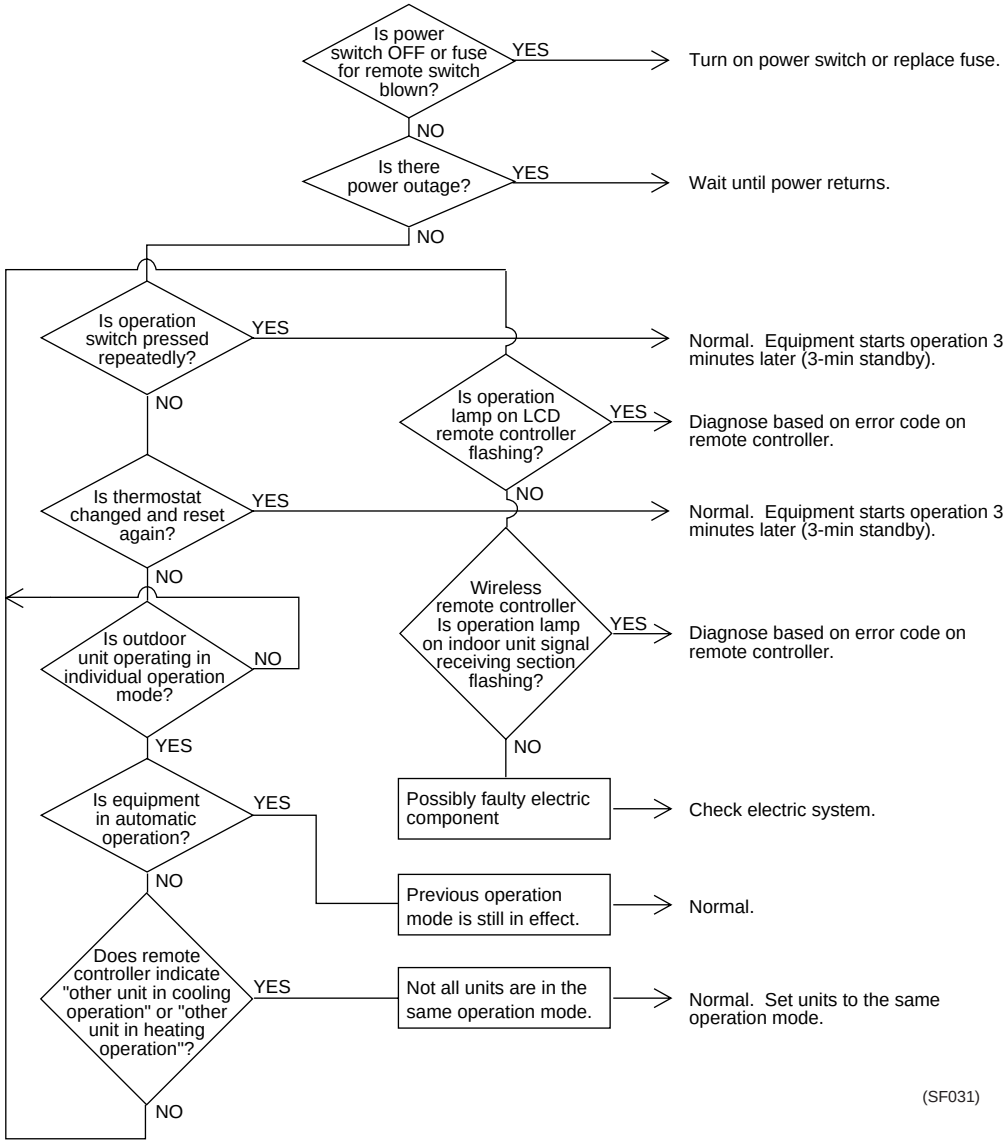
Error Detection Method

Error Generating Condition

Possible Causes

- Fuse blown or disorder of contact in operation circuit
- Faulty operation switch or contact point
- Faulty high pressure switch
- Faulty magnetic switch for fan motor
- Activation or fault of overcurrent relay for fan motor
- Faulty overcurrent relay for compressor
- Faulty compressor protection thermostat
- Insufficient insulation in electric system
- Faulty contact point of magnetic switch for compressor
- Malfunction of compressor

Troubleshooting



3.3 Fan Operates, but Compressor does not.

Applicable Model

All models of Skyair series

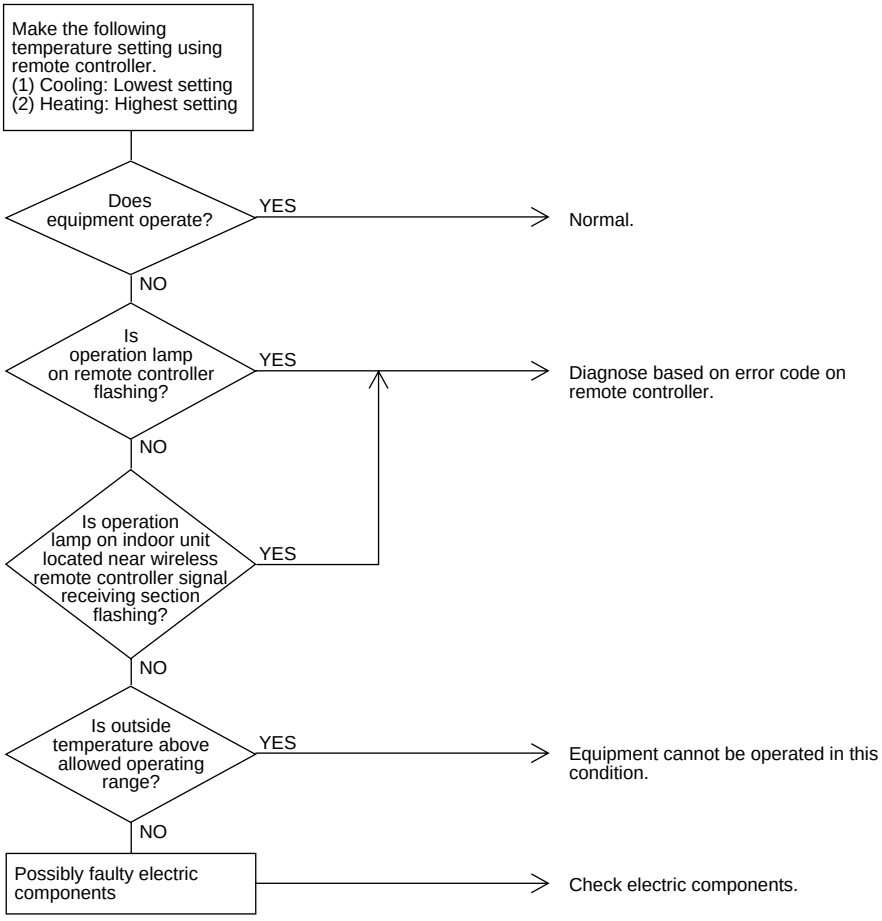
Error Detection Method

Error Generating Condition

Possible Causes

- Faulty remote controller
- Faulty magnetic switch for compressor

Troubleshooting



(SF032)

3.4 Cooling/Heating Operation Starts but Stops Immediately.

Applicable Model

All models of Skyair series

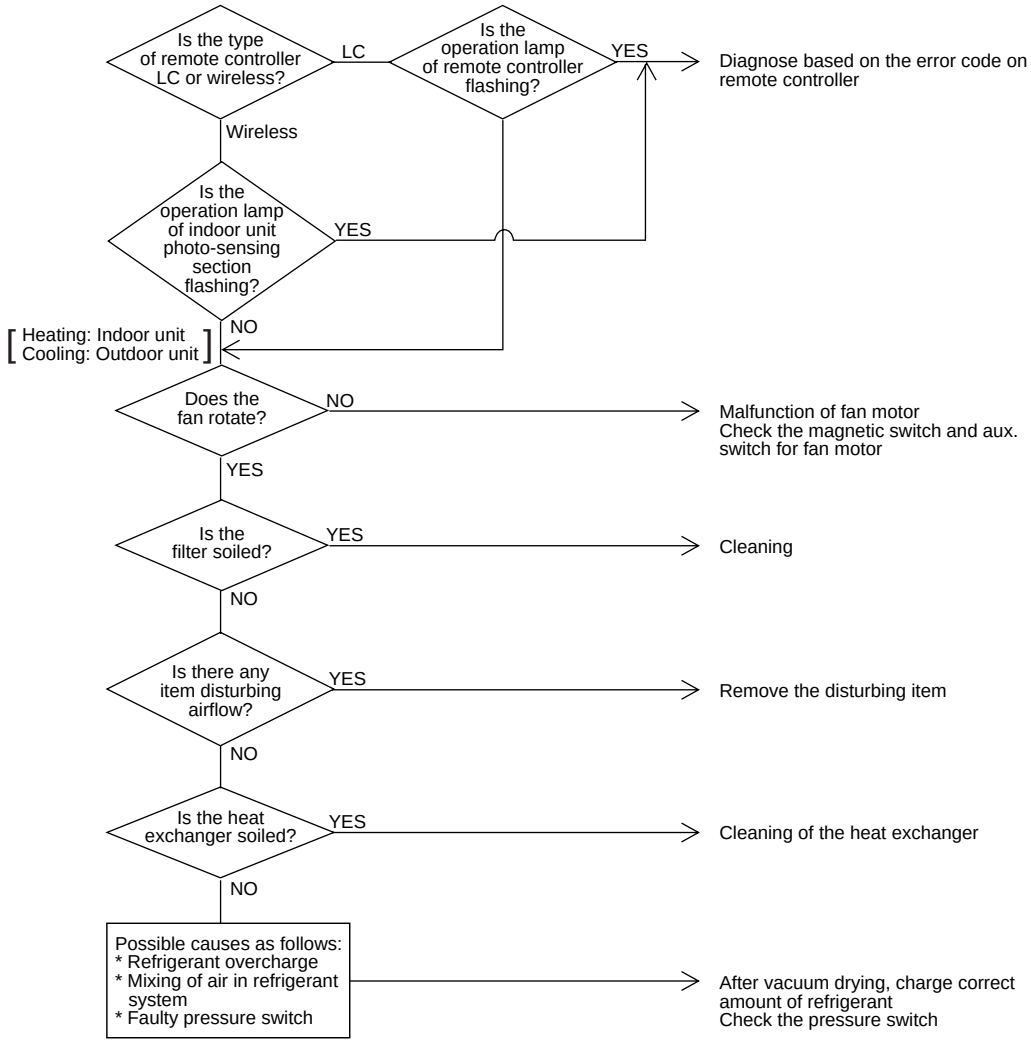
Error Detection Method

Error Generating Condition

Possible Cause

- Excess charge of refrigerant
- Air intrudes into refrigerant system
- Faulty pressure switch
- Faulty magnetic switch for outdoor unit fan motor
- Faulty aux. relay for outdoor unit fan motor
- Soiled heat exchanger of outdoor unit
- There is an interfering item in air flow of outdoor unit
- Malfunction of outdoor unit fan
- Soiled air filter of indoor unit
- Soiled heat exchanger of indoor unit
- There is some interfering item in airflow of indoor unit
- Malfunction of indoor unit fan

Troubleshooting



(SF033)

3.5 After Equipment Shuts Down, It cannot be Restarted for a While.

Applicable Model

All models of Skyair series

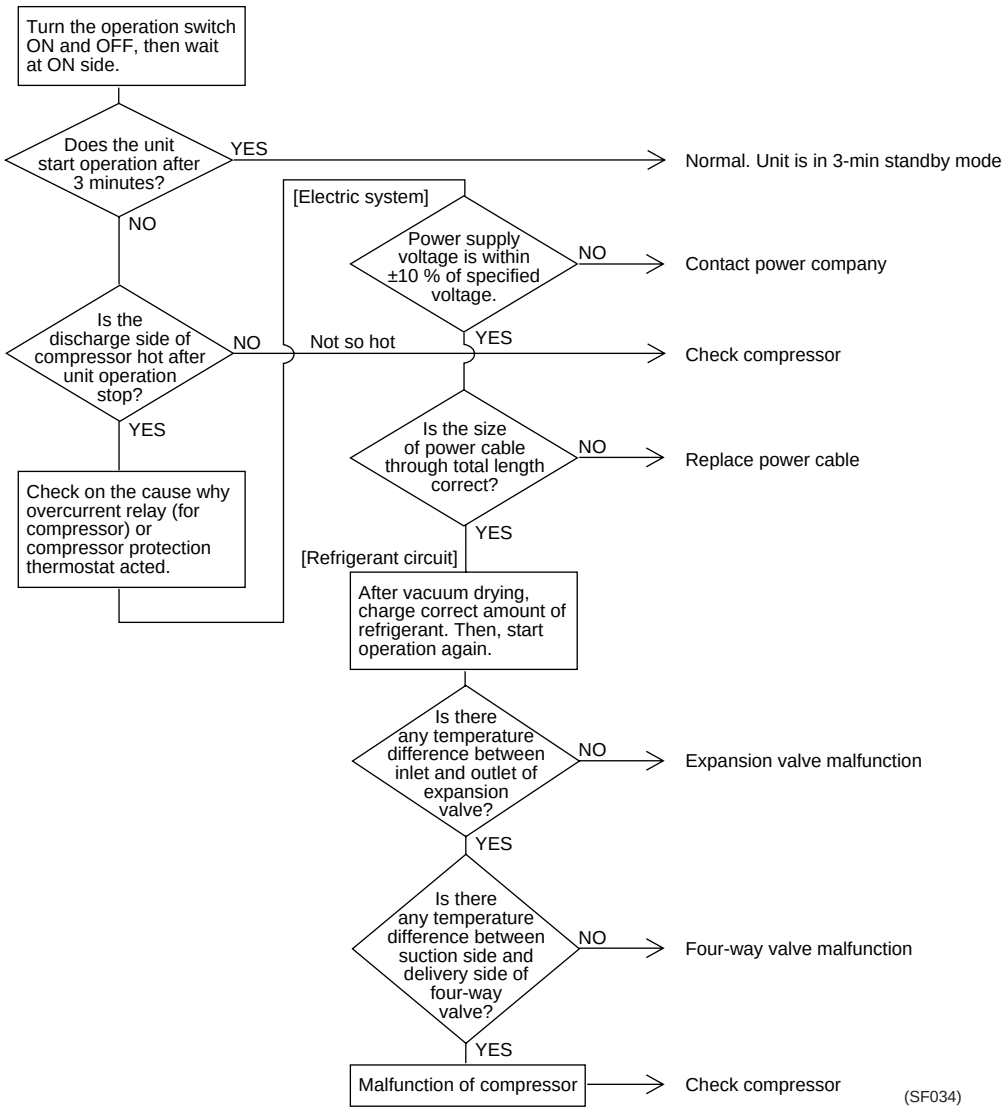
Error Detection Method

Error Generating Condition

Possible Cause

- Overcurrent relay (for compressor)
- Compressor protection thermostat
- Overcurrent relay may act due to the following reasons
  Lower voltage of power supply
  Excess level of high pressure
  Insufficient capacity of power cable
  Malfunction of compressor
- Compressor protection thermostat may act due to the following reasons
  Internal leakage of four-way valve (There is no difference between inlet and outlet temperature)
  Insufficient compression of compressor
  Incorrect refrigerant
  Faulty expansion valve
  Insufficient circulation of refrigerant

Troubleshooting



3.6 Equipment Operates but does not Provide Cooling.

Applicable Model

All models of Skyair series

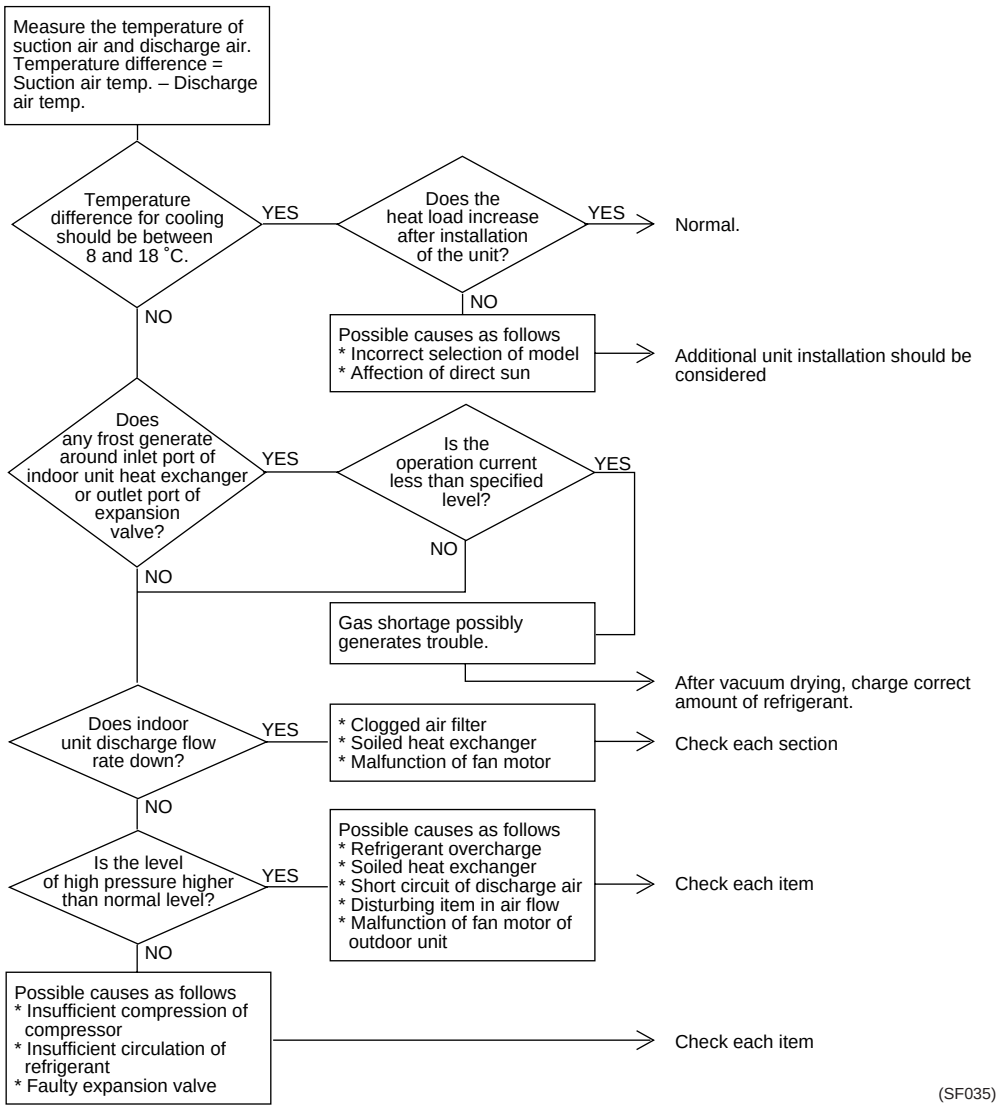
Error Detection Method

Error Generating Condition

Possible Cause

- Overcurrent relay (for compressor)
- Compressor protection thermostat
- Overcurrent relay may act due to the following reasons
  Lower voltage of power supply
  Excess level of high pressure
  Insufficient capacity of power cable
  Malfunction of compressor
- Compressor protection thermostat may act due to the following reasons
  Internal leakage of four-way valve (There is no difference between inlet and outlet temperature)
  Insufficient compression of compressor
  Incorrect refrigerant
  Faulty expansion valve
  Insufficient circulation of refrigerant

Troubleshooting



3.7 Equipment Operates but does not Provide Heating.

Applicable Model

All models of Skyair series

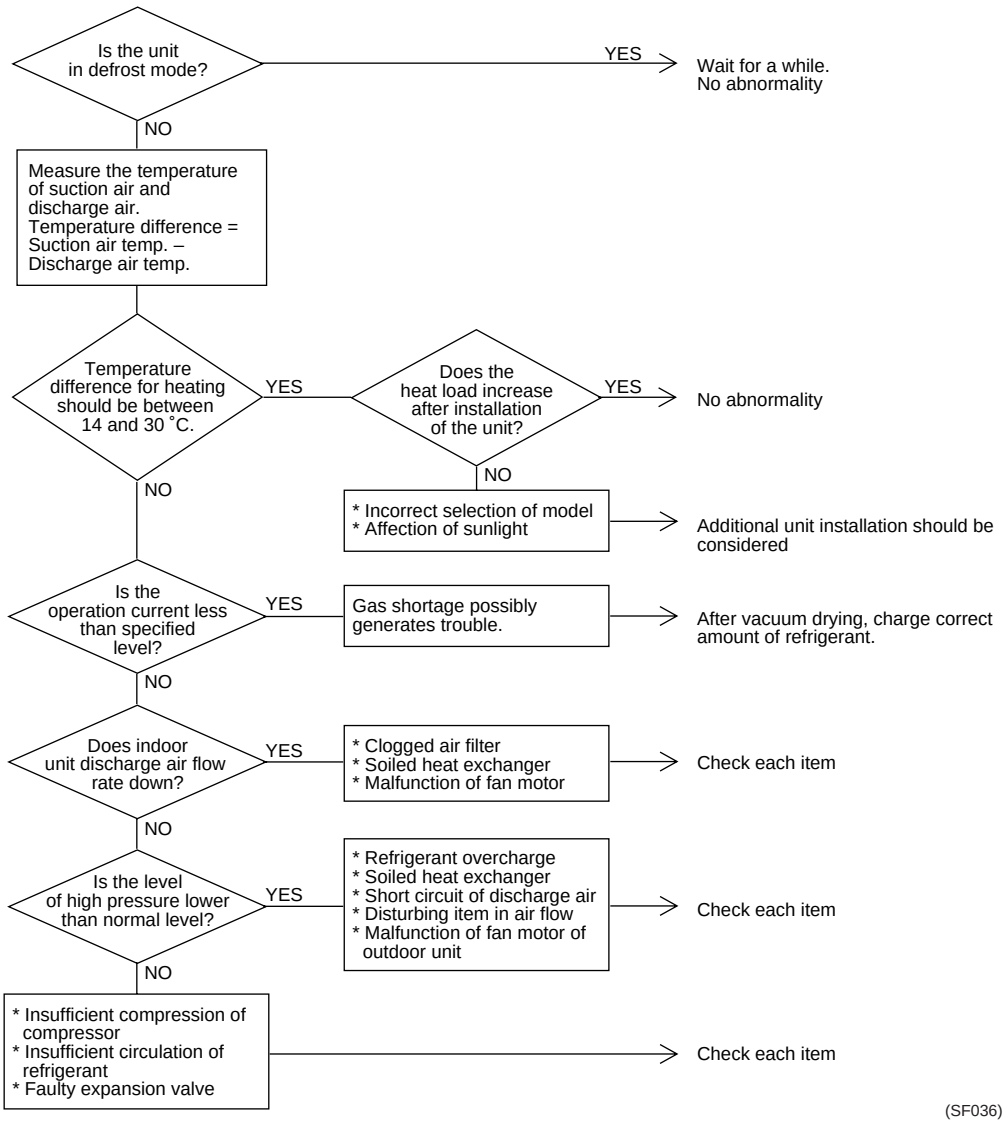
Error Detection Method

Error Generating Condition

Possible Cause

- Excess charge of refrigerant
- Air intrudes into refrigerant system
- Faulty pressure switch
- Faulty magnetic switch for outdoor unit fan motor
- Faulty aux. relay for outdoor unit fan motor
- Soiled heat exchanger of outdoor unit
- There is an interfering item in air flow of outdoor unit
- Malfunction of outdoor unit fan
- Soiled air filter of indoor unit
- Soiled heat exchanger of indoor unit
- There is some interfering item in airflow of indoor unit
- Malfunction of indoor unit fan

Troubleshooting



(SF036)

3.8 Equipment Discharges White Mist

Applicable Model

All models of Skyair series

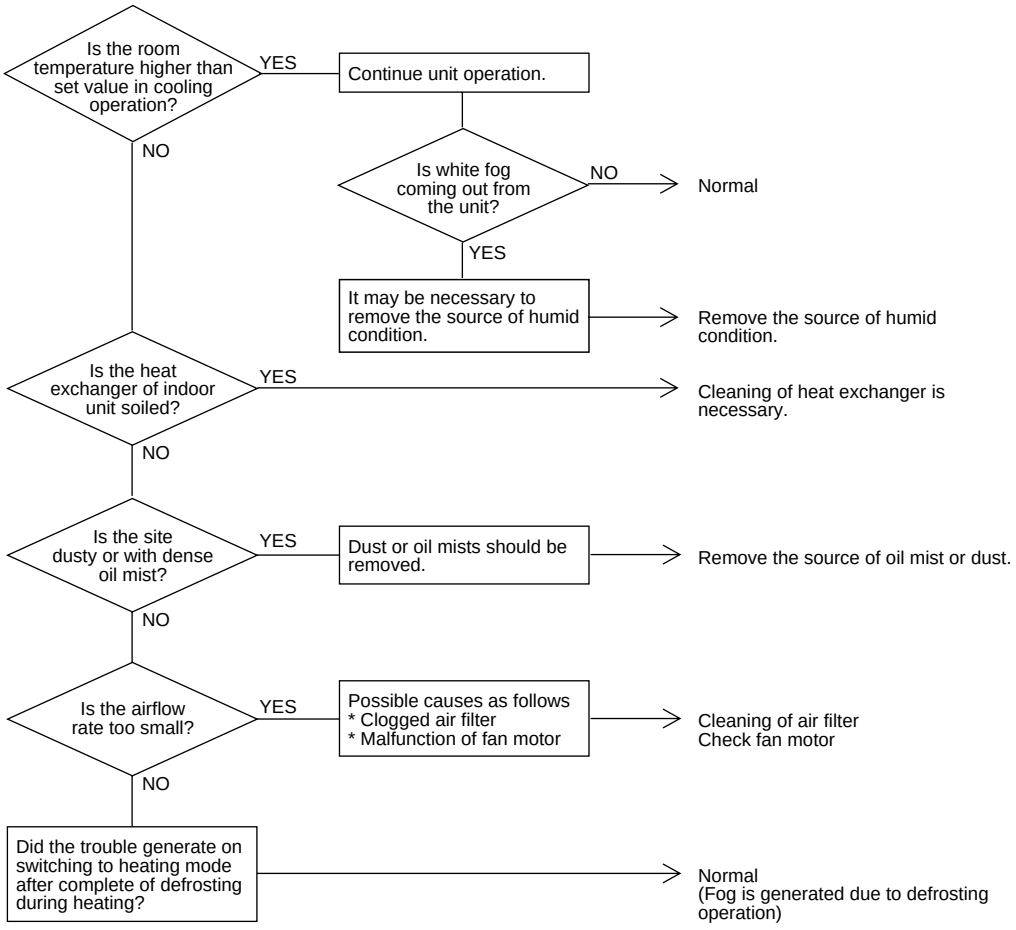
Error Detection Method

Error Generating Condition

Possible Cause

- Humid installation site
- Installation site is dirty and with dense oil mists.
- Soiled heat exchanger
- Clogged air filter
- Malfunction of fan motor

Troubleshooting



(SF037)

3.9 Equipment Produces Loud Noise or Shakes

Applicable Model

All models of Skyair series

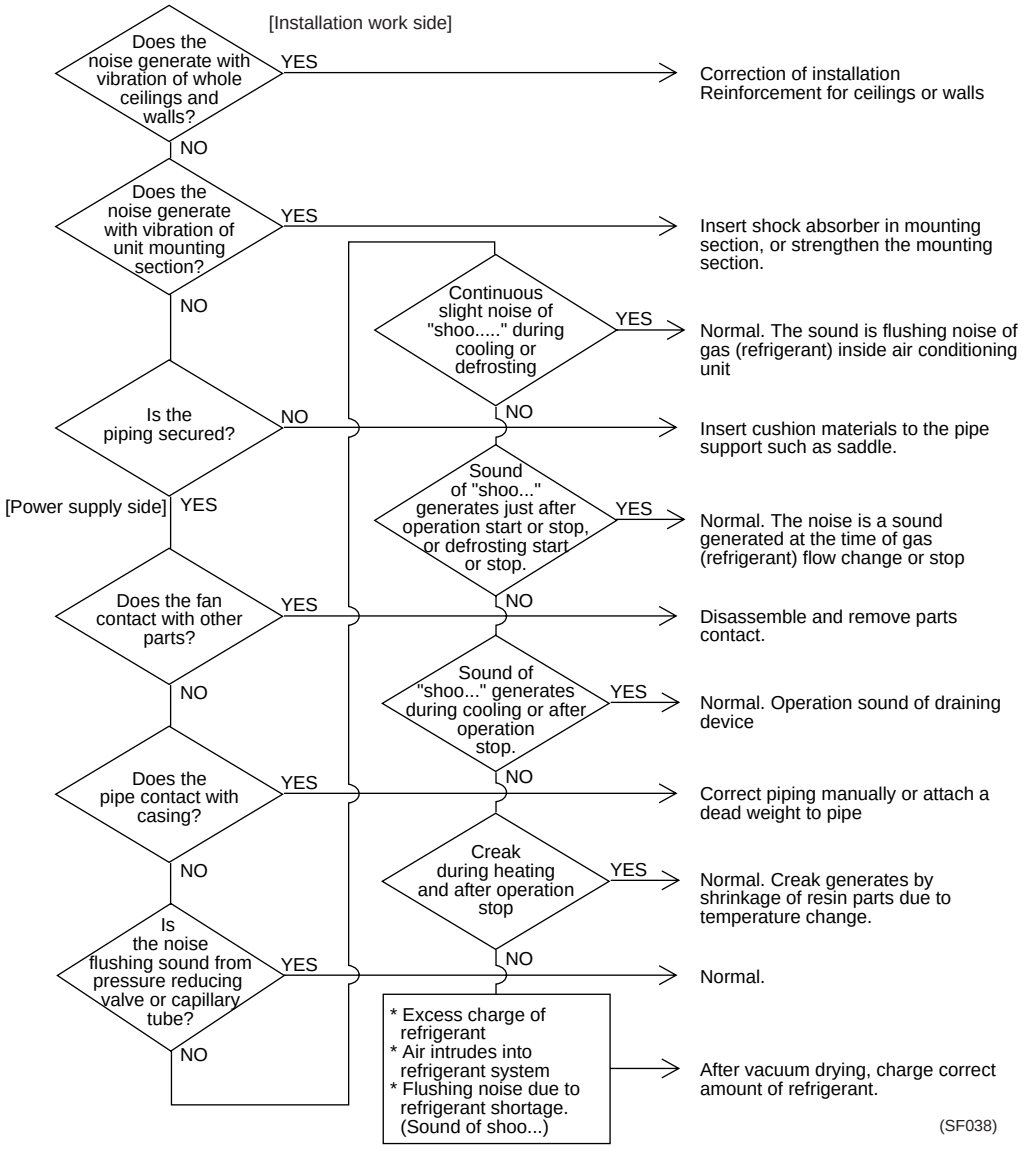
Error Detection Method

Error Generating Condition

Possible Cause

- Excess charge of refrigerant
- Air intrudes into refrigerant system
- Flushing noise due to refrigerant shortage. (Sound of shooEE)

Troubleshooting



3.10 Equipment Discharges Dust.

Applicable Model

All models of Skyair series

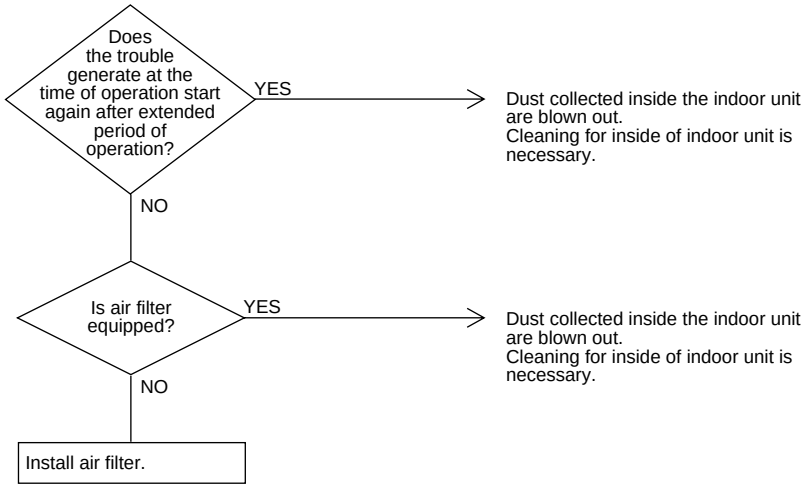
Error Detection Method

Error Generating Condition

Possible Cause

- Carpet spread room
- Animal's hair

Troubleshooting



(SF039)

3.11 Remote Controller LCD Displays "88".

Applicable Model

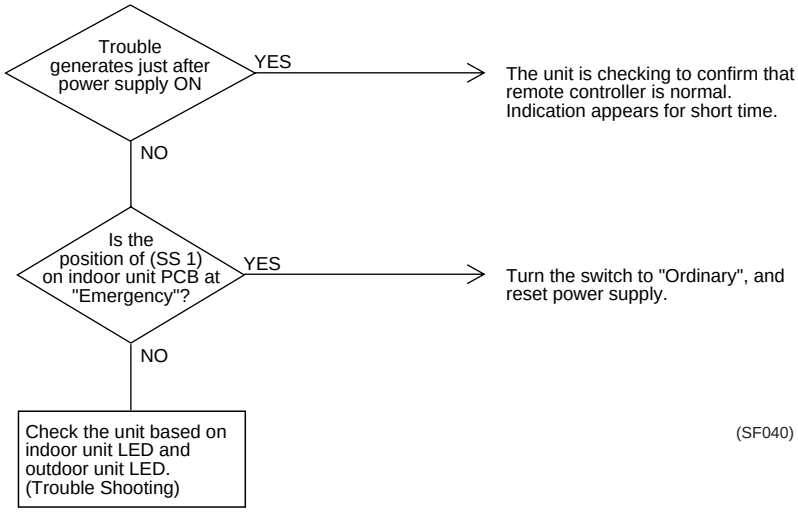
All models of Skyair series

Error Detection Method

Error Generating Condition

Possible Cause

Troubleshooting



4. Procedure of Self-Diagnosis by Remote Controller

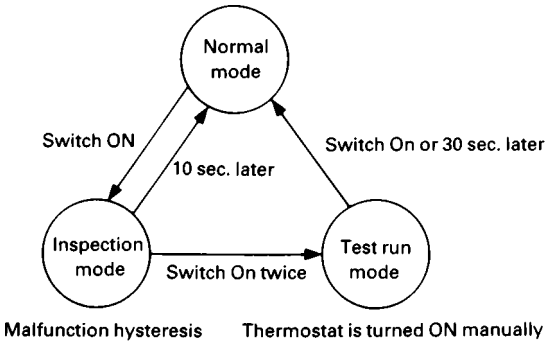
4.1 The INSPECTION/TEST Button

Explanation

By turning the remote controller's inspection /test button ON, you can change the mode as shown in the figure on the right.

- When in the inspection mode, malfunction contents can be cleared by continuing to press the ON/OFF button for 5 seconds.
  (Let you know completion timing by blinking.)
- To carry out a test run, follow the procedure below.

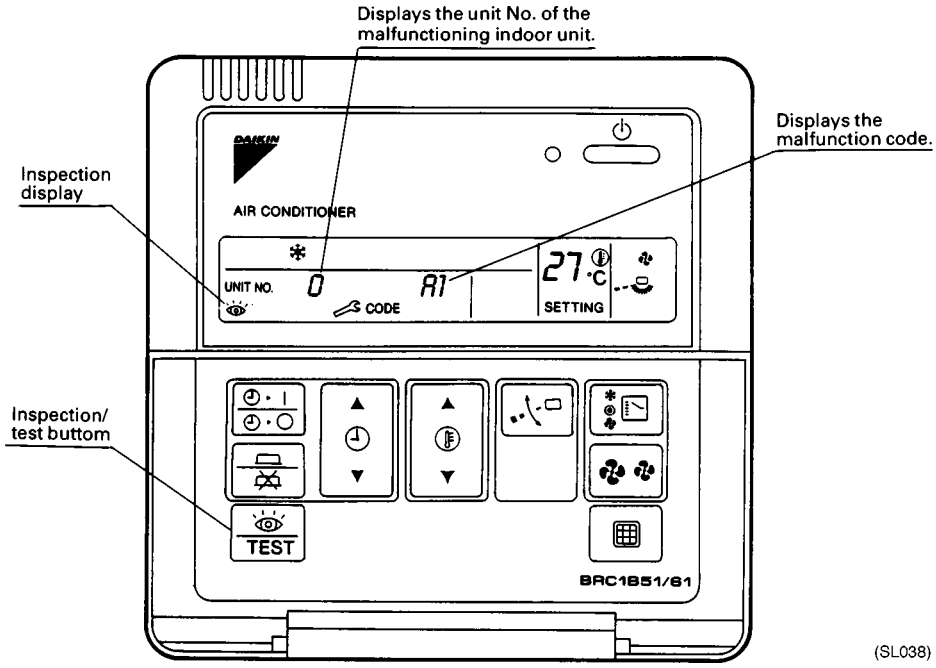
1. Open the gas side stop valve all the way
2. Open the liquid side stop valve all the way.
3. Energize the crank case heater for 6 hours.
4. Enter the test run mode.
5. Continue to operate by the operation switch for 3 minutes.
6. Enter the normal mode.
7. Check the functions according to the operation manual.



4.2 Self-Diagnosis by Wired Remote Controller

Explanation

If operation stops due to malfunction, the remote controller's operation LED blinks, and malfunction code is displayed. (Even if stop operation is carried out, malfunction contents are displayed when the inspection mode is entered.) The malfunction code enables you to tell what kind of malfunction caused operation to stop. See page 96 for malfunction code and malfunction contents.



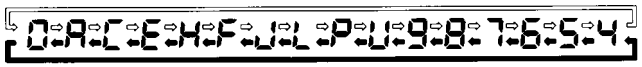
4.3 Fault Diagnosis by Wireless Remote Controller

If equipment stops due to a malfunction, the operation indicating LED on the light reception section flashes. The malfunction code can be determined by following the procedure described below. (The malfunction code is displayed when an operation error has occurred. In normal condition, the malfunction code of the last problem is displayed.)

Procedure

1. Press the INSPECTION/TEST button to select “Inspection.”
   The equipment enters the inspection mode. The “Unit” indication lights and the Unit No. display shows flashing “0” indication.
2. Set the Unit No.
   Press the UP or DOWN button and change the Unit No. display until the buzzer (*1) is generated from the indoor unit.
   ∗1 Number of beeps
   3 short beeps : Conduct all of the following operations.
   1 short beep : Conduct steps 3 and 4.
   Continue the operation in step 4 until a buzzer remains ON. The continuous buzzer indicates that the malfunction code is confirmed.
   Continuous beep : No abnormality.
3. Press the MODE selector button.
   The left “0” (upper digit) indication of the malfunction code flashes.
4. Malfunction code upper digit diagnosis
   Press the UP or DOWN button and change the malfunction code upper digit until the malfunction code matching buzzer (*2) is generated.

■ The upper digit of the code changes as shown below when the UP and DOWN buttons are pressed.

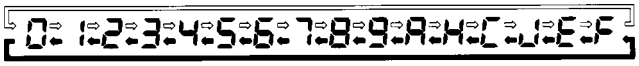


(SE015)

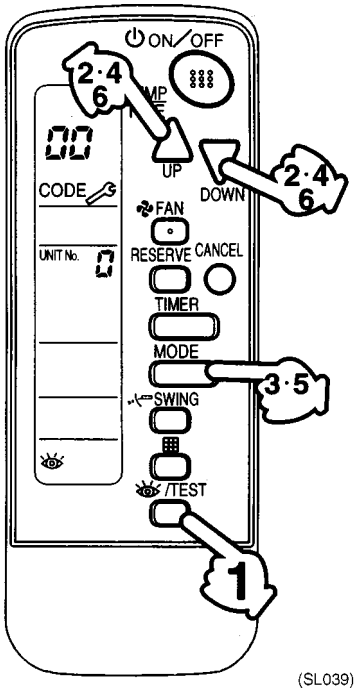
∗2 Number of beeps
Continuous beep : Both upper and lower digits matched.(Malfunction code confirmed)
2 short beeps: Upper digit matched.
1 short beep : Lower digit matched.

5. Press the MODE selector button.
   The right “0” (lower digit) indication of the malfunction code flashes.
6. Malfunction code lower digit diagnosis
   Press the UP or DOWN button and change the malfunction code lower digit until the continuous malfunction code matching buzzer (*2) is generated.

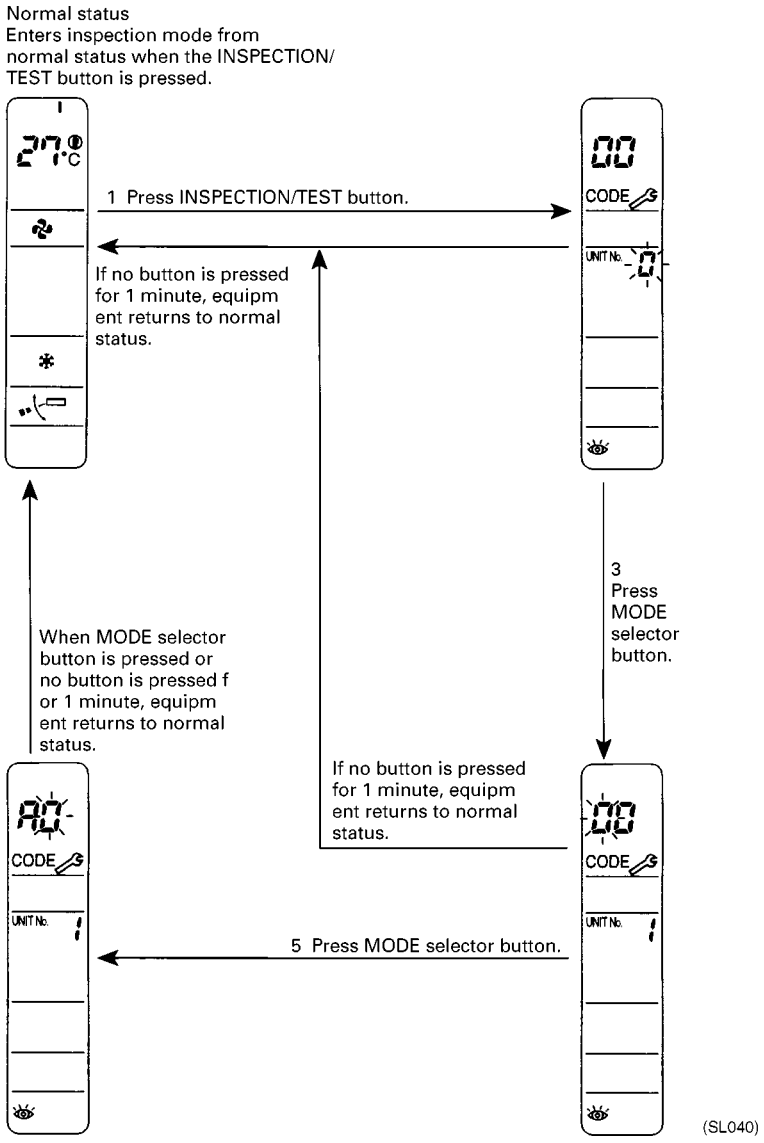
■ The lower digit of the code changes as shown below when the UP and DOWN buttons are pressed.



(SE016)


ON/OFF
2·4
6
UP
DOWN
2·4
6
CODE
FAN
UNIT No.
RESERVE
CANCEL
TIMER
MODE
3·5
SWING
/TEST
1

(SL039)


Normal status
Enters inspection mode from normal status when the INSPECTION/ TEST button is pressed.
1 Press INSPECTION/TEST button.
If no button is pressed for 1 minute, equipm ent returns to normal status.
CODE
UNIT No.
3 Press MODE selector button.
When MODE selector button is pressed or no button is pressed f or 1 minute, equipm ent returns to normal status.
If no button is pressed for 1 minute, equipm ent returns to normal status.
5 Press MODE selector button.

(SL040)

4.4 Remote Controller Display Malfunction Code and Contents

Malfunction Code	Contents/Processing	Remarks
A1	Failure of PC board ass'y for indoor unit	
A3	Malfunction of water level system	
A6	Indoor unit fan motor overload / overcurrent / lock	
A7	Swing flap motor lock	Only Air flow dilection adjustment cannot be set.
AJ	Failure of capacity setting	Either capacity data is set incorrectly, or capacity has not been set for the data IC
C4	Malfunction of heat exchanger temperature sensor system	
C9	Malfunction of suction air temperature sensor system	
E0	Actuation of safety device (outdoor unit)	
E1	Failure of outdoor unit PC board ass'y	
E3	High pressure malfunction (outdoor unit)	
E4	Low pressure malfunction (outdoor unit)	
E9	Malfunction of electronic expansion valve (outdoor unit)	
F3	Discharge pipe temperature malfunction (outdoor unit)	
H3	Failure of high pressure switch (outdoor unit)	
H4	Failure of low pressure switch (outdoor unit)	
H9	Malfunction of outdoor air temperature sensor system (outdoor unit)	(Note 1)
H9	Malfunction of outdoor air temperature sensor system (outdoor unit)	(Note 1)
J3	Malfunction of discharge pipe temperature sensor system (outdoor unit)	
J5	Malfunction of suction pipe temperature sensor system (outdoor unit)	
J6	Malfunction of heat exchanger temperature sensor system (outdoor unit)	(Note 1)
J6	Malfunction of heat exchanger temperature sensor system (outdoor unit)	(Note 1)
PJ	Failure of capacity setting (outdoor unit)	Either capacity data is set incorrectly, or capacity has not been set for the data IC
U0	Malfunction of suction pipe temperature	
U1	Reverse phase	Switch R.S.T. of the 3-phase power supply.
U4	Failure of transmission (between indoor and outdoor unit)	Transmission between indoor and outdoor unit is not being correctly carried out.
U5	Failure of transmission (between indoor unit and remote controller)	Transmission between indoor and remote controller is not being correctly carried out.
U8	Failure of transmission (between “main” and “sub” remote controller	Transmission between “main” and “sub” remote controller is not being correctly carried out.
UA	Failure of field setting	System setting mistake for Twin system.
UC	Address duplication of central remote controller	

■ In the case of the shaded error codes, “inspection” is not displayed. The system operates, but be sure to inspect and repair it.

Note 1: Operation when a malfunction occurs may differ according to the model.

5. Procedure of Self-Diagnosis by LED

5.1 Troubleshooting by LED on The Indoor Unit's

Foreword

Troubleshooting can be carried out by service monitor LED (green). (Blinks when normal)

☼ : LED on ● : LED off ◑ : LED blinks — : No connection with troubleshooting

Microcomputer Normal Monitor H1P (LED-A)	Transmission Normal Monitor H2P (LED-B)	Contents/Processing
◑	◑	Normal → Outdoor unit
◑	☼	Failure of indoor unit PC board ass'y
	●	If outdoor unit's LED-A blinks, failure of indoor unit PC board ass'y (Note 1)
☼	—	Failure of indoor unit PC board ass'y (Note 2)
●		Malfunction of power supply or failure of PC board ass'y (Note 2)

Note:

1. If LED-B is off, the transmission wiring between indoor and outdoor unit may be incorrect or disconnected. Before performing the previously described troubleshooting, check the transmission wiring.
2. Troubleshoot by turning off the power supply for a minimum of 5 seconds, turning it back on, and then rechecking the LED display.

5.2 Troubleshooting by LED on The Outdoor Unit's PC Board

With the power supply turned "ON," the troubleshooting listed below by the outdoor unit's maintenance monitor LED.

☼ : LED on ● : LED off ◑ : LED blinks — : No connection with troubleshooting

Microcomputer Normal Monitor LED-A (Green)	Malfunction Detection Monitor (Note 3)		Contents/Processing
	LED1 (red)	LED2 (red)	
◑	●	●	Normal → to outdoor unit
◑	☼	●	Actuation of safety device
	●	☼	Main power supply reverse phase connection of lack of phase (Notes 4)
	☼	☼	Malfunction of sensor system
☼	—	—	Failure of outdoor unit PC board (Notes 1)
●	—	—	Malfunction of power supply or failure of outdoor unit PC board (Note 1, 2)

Green LED : Normal when ON, No LED: Normal when OFF

Note:

1. Check troubleshoot by turning off the power supply for a minimum of 5 seconds, turning it back on, and then rechecking the LED display.
2. Turn off the power supply for a minimum of 5 seconds, and when turning it back on after disconnecting transmission wiring No. 2, if the outdoor unit's LED-A blinks, the indoor unit's PC board is defective.
3. Previous malfunction data is displayed on the malfunction detection monitor. After inspecting, turn off the power supply once.
4. Switch 2 of the 3 power supply cables and recheck.

General Precautions When Performing Maintenance

1. When disconnecting the fasten terminal from the PC board, hold down the PC board with your finger and do not apply excessive force. Also, do not hold the neck of the fasten terminal and pull the lead wire.
2. Do not use a mega tester on the secondary side (transformer secondary side) of the electronic circuitry.
3. Even when not energized, beware of static electricity when touching parts or pattern. (If handling PC board when dry [winter], be sure to discharge the electrostatic charge by grounding. Do not touch any other grounded metal parts with your fingers.)

6. Troubleshooting by Remote Controller Display / LED Display

6.1 Explanation for Symbols

◑ : Blinks ☼ : On ● : Off — : No connection with troubleshooting

◎ : High probability of malfunction
○ : Possibility of malfunction
□ : Low probability of malfunction
— : No possibility of malfunction (do not replace)

6.2 Malfunction Code and LED Display Table

Indoor Unit

Indoor Unit Malfunctions	Indoor Unit LED Display Note 2		Remote Controller Display	Location of Malfunction				Contents of Malfunction	Details of Malfunction (Reference Page)
	H1P	H2P		Other than PC Board	PC Board				
					Outdoor Unit	Indoor Unit	Remote Controller		
	◑	◑	*Note 1	—	—	—	—	Normal → to outdoor unit	—
	◑	☼	A1	—	—	○	—	Failure of indoor unit PC board (For troubleshooting by LED, refer to p.97.)	101
	◑	●							
	☼	—							
	●	—							
	◑	◑	A3	◎	—	—	—	Malfunction of drain water level system	102
	◑	◑	A6	◎	—	□	—	Indoor unit fan motor overload/ overcurrent/lock	103
	◑	◑	A7	◎	—	□	—	Swing flap motor malfunction / lock	104
	◑	◑	AJ	◎	—	○	—	Failure of dapacity setting	105
	◑	◑	C4	◎	—	□	—	Malfunction of heat exchanger temperature sensor system	106
	◑	◑	C9	◎	—	□	—	Malfunction of suction air temperature sensor system	107

Outdoor Unit

Outdoor Unit Malfunctions	Outdoor Unit LED Display			Remote Controller Display	Location of Malfunction				Contents of Malfunction	Details of Malfunction (Reference Page)
	A (H1P)	1 (H2P)	2 (H3P)		Other than PC Board	PC Board				
						Outdoor Unit	Indoor Unit	Remote Controller		
	◑	●	●	Note 1*	—	—	—	—	Normal → to indoor unit	—
	◑	☼	●	E0	◎	□	—	—	Actuation of safety device	108
	☼	—	—	Note 1*	—	○	—	—	Failure of outdoor unit PC board	—
	●	—	—	Note 1*	—	○	—	—	Malfunction of power supply or failure of outdoor unit PC board	—
	◑	☼	●	E3	◎	—	—	—	High pressure system (HPS) malfunction	109
	◑	☼	●	E4	◎	—	—	—	Low pressure system (LPS) malfunction	110
	—			E9	◎	□	—	—	Malfunction of electronic expansion valve	111
	◑	●	●	F3	◎	□	—	—	Discharge pipe temperature malfunction	112
	◑	☼	☼	H3	◎	□	—	—	Failure of high pressure switch	113
	◑	☼	☼	H9	◎	□	—	—	Malfunction of outdoor air temperature sensor system	114
	◑	☼	☼	J3	◎	□	—	—	Malfunction of discharge pipe temperature sensor system	115
	◑	☼	☼	J6	◎	□	—	—	Malfunction of heat exchanger temperature sensor system	116

Note:
1. The asterisk (*) indicates variety of circumstances.
2. No H2P for dedicated cooling only model 35 ~ 60 class.

System

System Malfunctions	Outdoor Unit LED Display			Remote Controller Display	Location of Malfunction				Contents of Malfunction	Details of Malfunction (Reference Page)
	A (H1P)	1 (H2P)	2 (H3P)		Other than PC Board	PC Board				
						Outdoor Unit	Indoor Unit	Remote Controller		
	—			U0	◎	—	—	—	Short of gas malfunction	117
	◑	●	☼	U1	◎	□	—	—	Reverse phase	118
	—			U4	◎	○	○	—	Malfunction of transmission (between indoor and outdoor unit)	119
	—			U5	◎	—	○	○	Malfunction of transmission (between indoor unit and remote controller)	121
	—			U8	◎	—	○	○	Transmission error between “main” remote controller and “sub” remote controller	122
	—			UR	◎	—	—	—	Failure of field setting switch	123

6.3 Failure of Indoor Unit PC Board

Remote Controller Display

A1

Indoor Unit LED Display

Refer to p.99

Applicable Models

All indoor unit models

Method of Malfunction Detection

Check data from E²PROM.

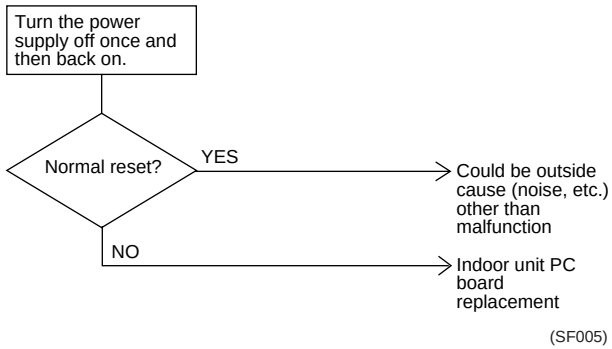
Malfunction Decision Conditions

When data could not be correctly received from the E²PROM
E²PROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed Causes

- Failure of PC board

Troubleshooting



(SF005)

6.4 Malfunction of Drain Water Level System (Float Type)

Remote Controller Display

A3

Applicable Models

FH(Y)C, FH(Y)K, FH(Y)B, FH(Y), FAY, FVY, FUY

Method of Malfunction Detection

By float switch OFF detection

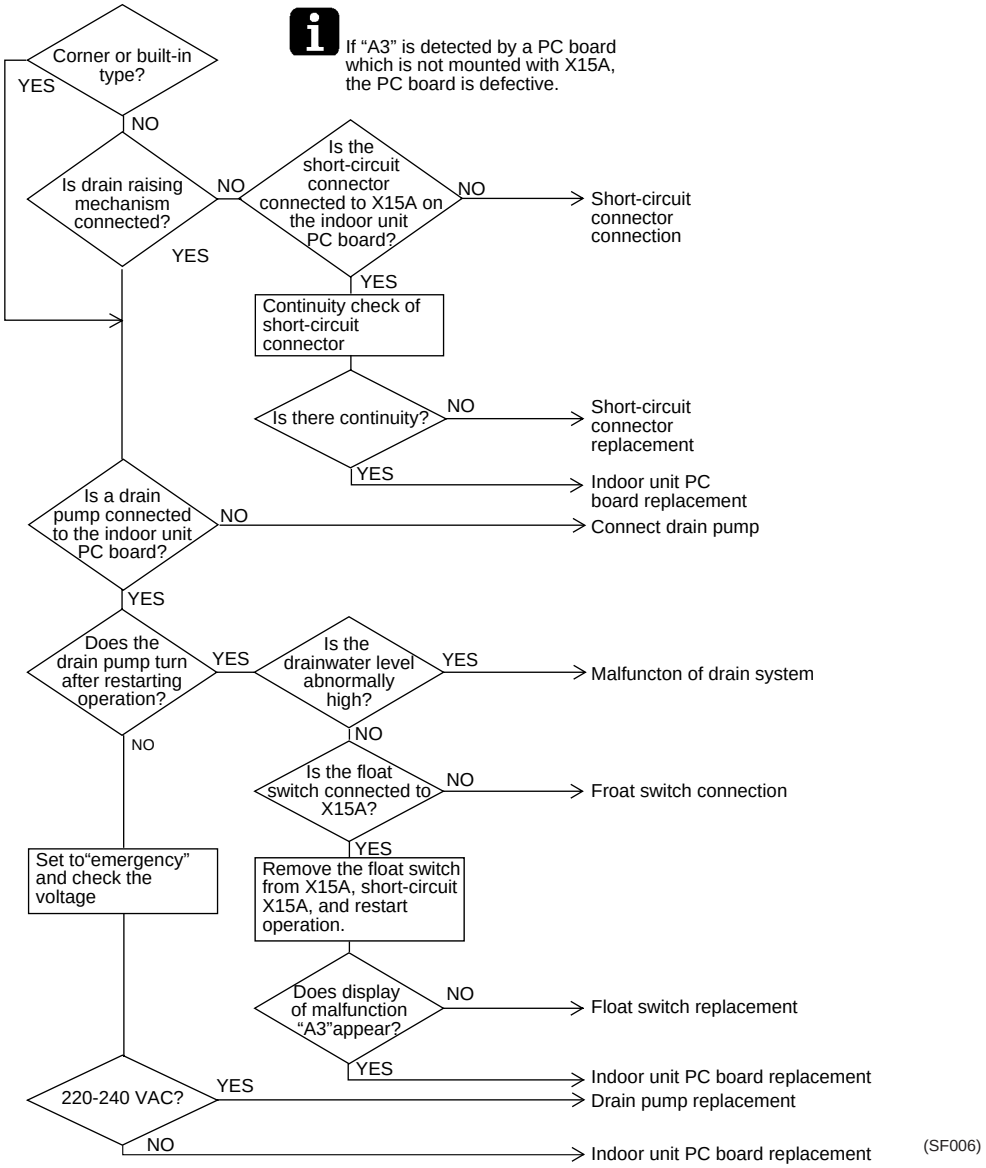
Malfunction Decision Conditions

When rise of water level is not a condition and the float switch goes OFF.

Supposed Causes

- Failure of drain pump
- Improper drain piping work
- Drain piping clogging
- Failure of float switch
- Failure of indoor unit PC board
- Failure of short-circuit connector

Troubleshooting



6.5 Indoor Unit Fan Motor Lock

Remote Controller Display

A6

Applicable Models

FH(Y), FAY, FUY

Method of Malfunction Detection

Detection by failure of signal for detecting number of turns to come from the fan motor

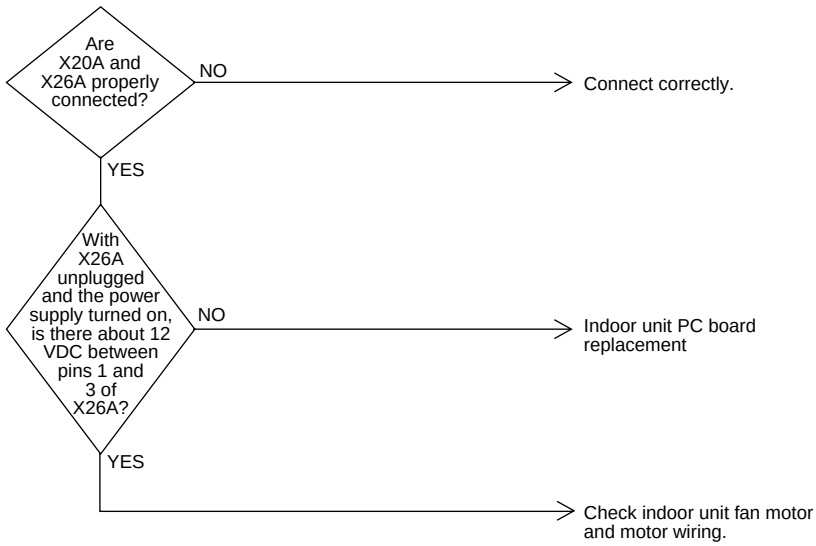
Malfunction Decision Conditions

When number of turns can't be detected even when output voltage to the fan is maximum

Supposed Causes

- Failure of indoor unit fan motor
- Broken or disconnected wire
- Failure of contact
- Failure of indoor unit PC board

Troubleshooting



(SF007)

6.6 Swing Flap Motor Malfunction / Lock

Remote Controller Display

A7

Applicable Models

FH(Y)C, FH(Y)K, FH(Y), FAY, FVY, FUY

Method of Malfunction Detection

Utilizes ON/OFF of the limit switch when the motor turns.

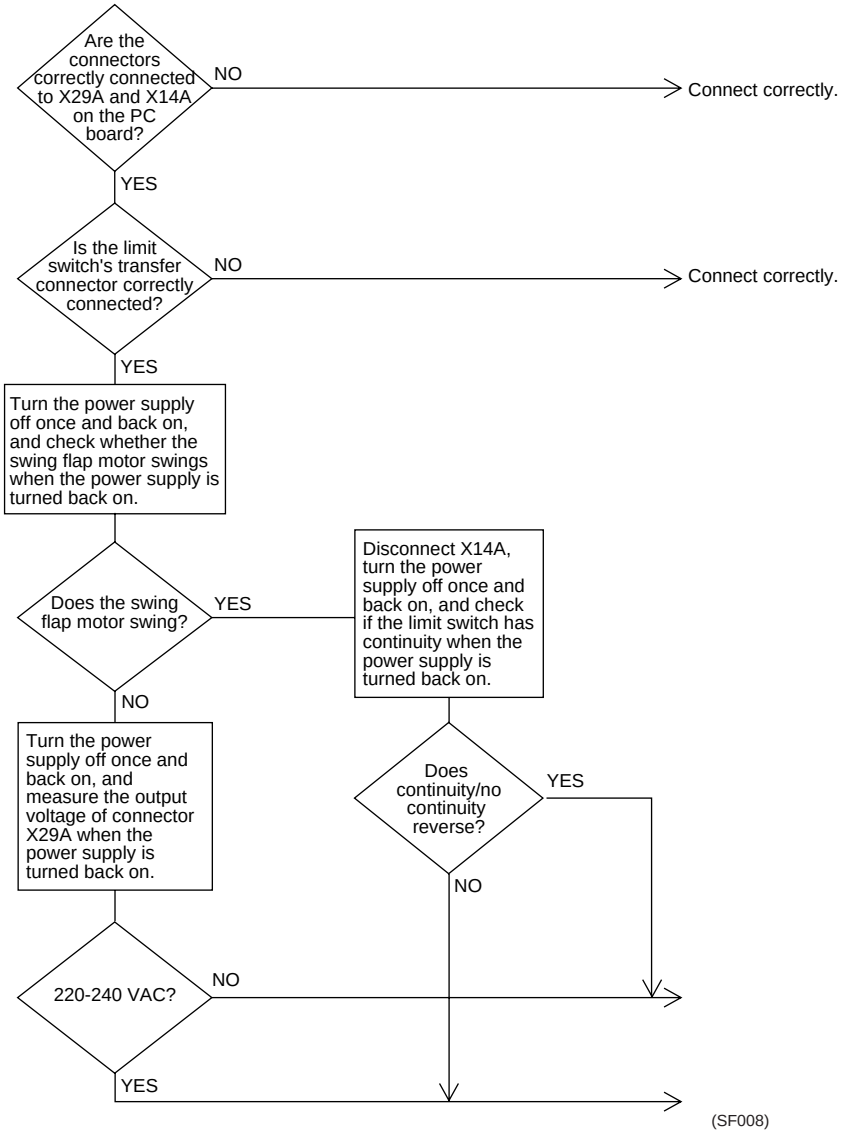
Malfunction Decision Conditions

When ON/OFF of the microswitch for positioning cannot be reversed even though the swing flap motor is energized for a specified amount of time (about 30 seconds).

Supposed Causes

- Failure of motor
- Failure of microswitch
- Failure of connector connection
- Failure of indoor unit PC board

Troubleshooting



6.7 Failure of Capacity Setting

Remote Controller Display

AJ

Applicable Models

FH(Y)C, FH(Y), FUY, FAY

Method of Malfunction Detection

Capacity is determined according to resistance of the capacity setting adaptor and the memory inside the IC memory on the indoor unit PC board, and whether the value is normal or abnormal is determined.

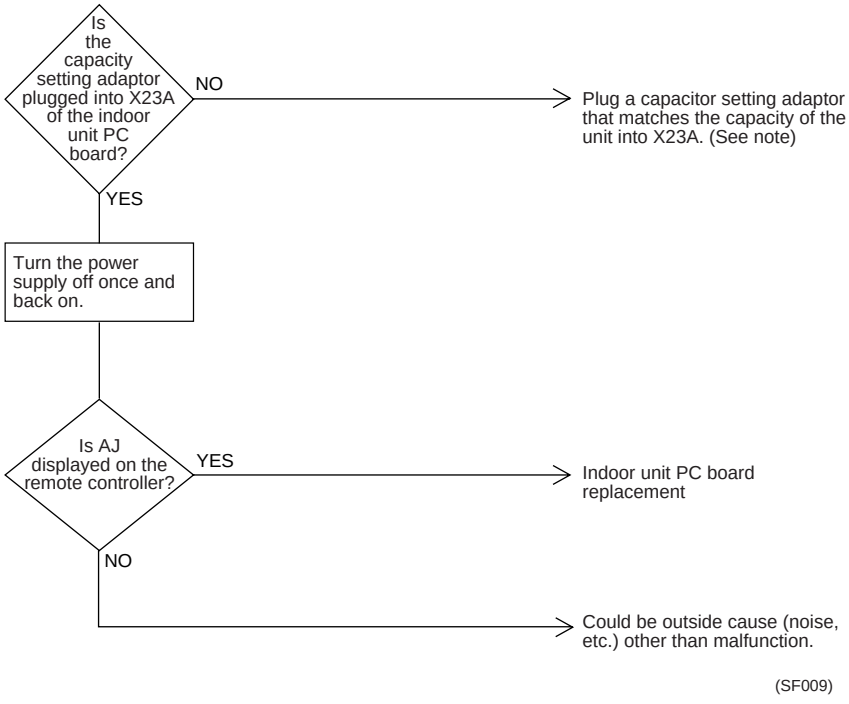
Malfunction Decision Conditions

Operation and:
(1)When the capacity code is not contained in the PC board's memory, and the capacity setting adaptor is not connected.
(2)When a capacity that doesn't exist for that unit is set.

Supposed Causes

- Failure of capacity setting adaptor connection
- Failure of indoor unit PC board

Troubleshooting



Note: Capacity is factory set in the data IC on the PC board. A capacity setting adaptor that matches the capacity of the unit is required in the following case.
If the indoor PC board installed at the factory is for some reason changed at the installation site, the capacity will not be contained in the replacement PC board.
If you connect a capacity setting adaptor to a PC board in which the capacity is memorized, the capacity setting for the PC board will become the capacity setting of the adaptor. (Priority of capacity setting adaptor)

6.8 Malfunction of Heat Exchange Temperature Sensor System

Remote Controller Display

C4

Applicable Models

All indoor unit models

Method of Malfunction Detection

Malfunction detection is carried out by temperature detected by heat exchanger sensor.

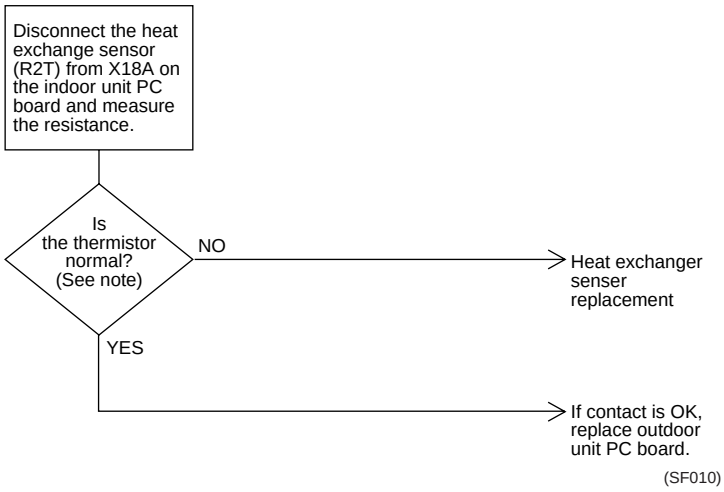
Malfunction Decision Conditions

When the heat exchanger thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Failure of the sensor itself
- Broken or disconnected wire
- Failure of electronic circuitry (indoor unit PC board)
- Failure of connector contact

Troubleshooting



Note: Measure the resistance while referring to the thermistor temperature and resistance conversion table.

Thermistor temperature and resistance conversion table.

Temperature	Suction, heat exchanger(indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)	Temperature	Suction, heat exchanger(indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)
-6.0	90.8	28.0	17.6
-4.0	81.7	30.0	16.2
-2.0	73.5	32.0	14.8
0.0	66.3	34.0	13.6
2.0	59.8	36.0	12.5
4.0	54.1	38.0	11.5
6.0	48.9	40.0	10.6
8.0	44.3	42.0	9.8
10.0	40.2	44.0	9.1
12.0	36.5	46.0	8.4
14.0	33.2	48.0	7.8
16.0	30.2	50.0	7.2
18.0	27.5	52.0	6.9
20.0	25.1	54.0	6.2
22.0	23.0	56.0	5.7
24.0	21.0	58.0	5.3
26.0	19.2		

6.9 Malfunction of Suction Air Temperature Sensor System

Remote Controller Display

C9

Applicable Models

All indoor unit models

Method of Malfunction Detection

Malfunction detection is carried out by temperature detected by suction air temperature sensor.

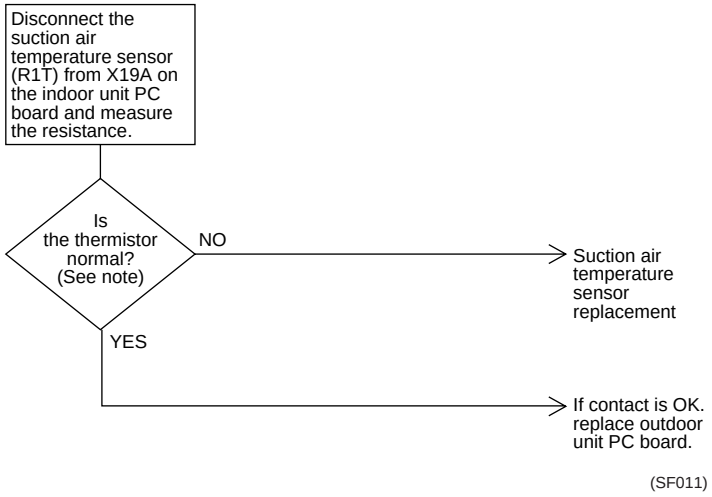
Malfunction Decision Conditions

When the suction air temperature sensor's thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Failure of the sensor itself
- Broken or disconnected wire
- Failure of indoor unit PC board
- Failure of connector contact

Troubleshooting



Note: Measure the resistance while referring to the thermistor temperature and resistance conversion table.

Thermistor temperature and resistance conversion table.

Temperature	Suction, heat exchanger(indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)	Temperature	Suction, heat exchanger(indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)
-6.0	90.8	28.0	17.6
-4.0	81.7	30.0	16.2
-2.0	73.5	32.0	14.8
0.0	66.3	34.0	13.6
2.0	59.8	36.0	12.5
4.0	54.1	38.0	11.5
6.0	48.9	40.0	10.6
8.0	44.3	42.0	9.8
10.0	40.2	44.0	9.1
12.0	36.5	46.0	8.4
14.0	33.2	48.0	7.8
16.0	30.2	50.0	7.2
18.0	27.5	52.0	6.9
20.0	25.1	54.0	6.2
22.0	23.0	56.0	5.7
24.0	21.0	58.0	5.3
26.0	19.2		

6.10 Actuation of Safety Device

Remote Controller Display

E0

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ☼ 2(H3P) ●

Applicable Models

R(Y)

Method of Malfunction Detection

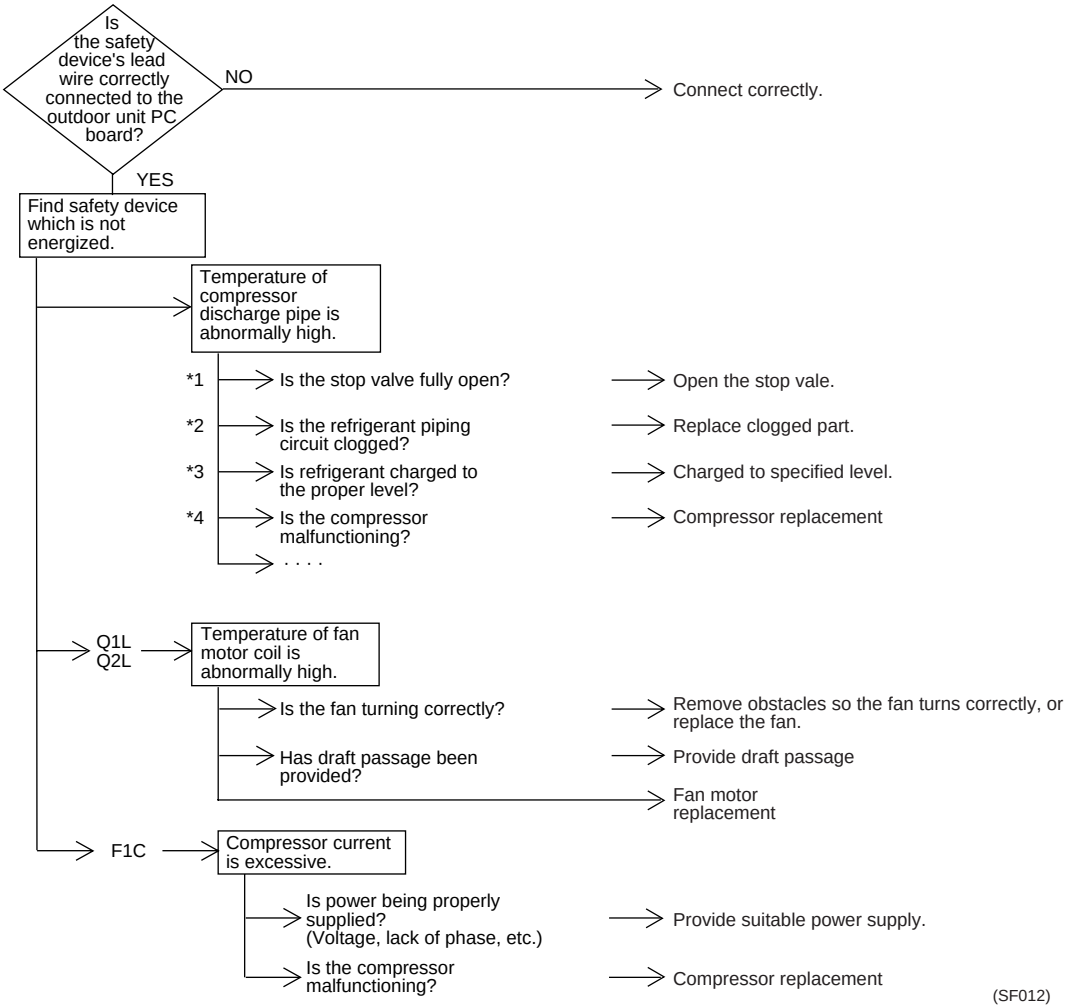
Actuation of each safety device is detected by safety device input circuit.
(Safety device unified detection)

Supposed Causes

<Causes related to PC board>
- Failure of outdoor unit PC board
- Failure of safety device input connection
- Safety device's harness is broken or disconnected

<Causes related to product as a whole>
- Stop valve is set to "close"
- Refrigerant piping circuit clogging

Troubleshooting



6.11 High Pressure System (HPS) Malfunction

Romote Controller Display

E3

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ☼ 2(H3P) ●

Applicable Models

R(Y)

Method of Malfunction Detection

Continuity of the high pressure switch is detected by the safety device circuitry.

Malfunction Decision Conditions

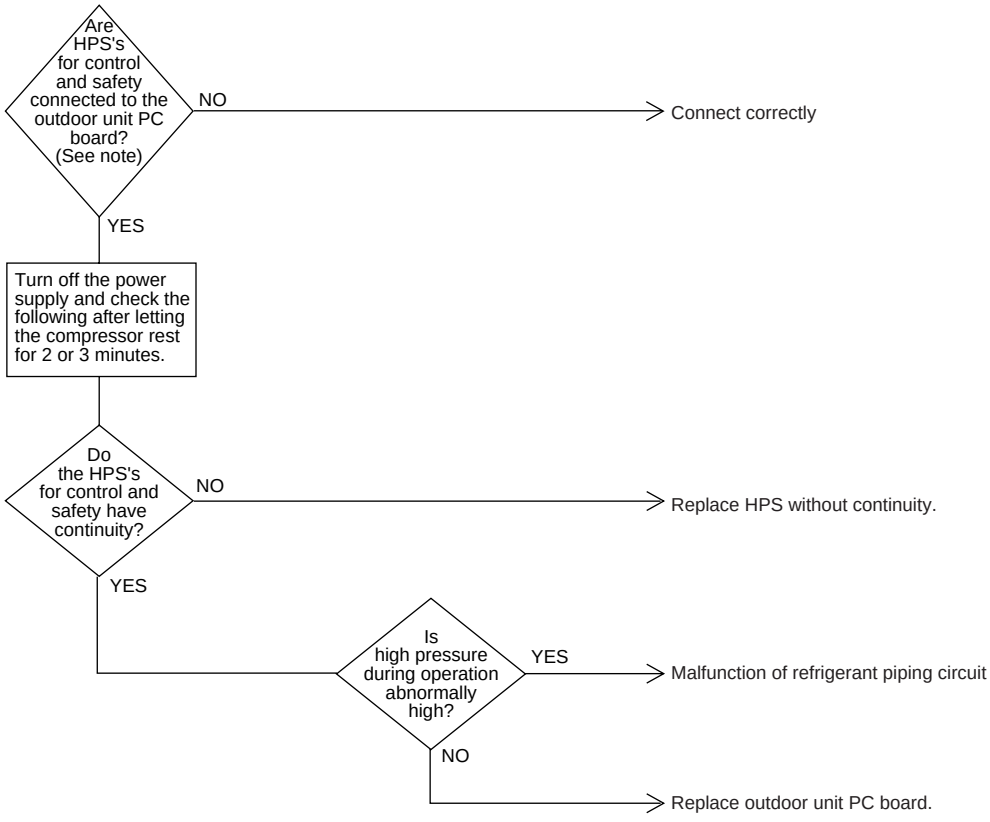
Case where high pressure switch is actuated when the compressor is operating

Supposed Causes

<Causes related to PC board>
- Failure of high pressure switch
- High pressure switch's harness is broken or disconnected
- Failure of high pressure switch's connector connection
- Failure of outdoor unit PC board

<Causes related to product as a whole>
- Malfunction of refrigerant piping circuit

Troubleshooting



(SF013)

Note: Some models are not equipped with an HPS for control or safety.

6.12 Low Pressure System (LPS) Malfunction

Remote Controller Display

E4

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ☼ 2(H3P) ●

Applicable Models

R(Y)

Method of Malfunction Detection

Continuity of the low pressure switch is detected by the safety device circuitry.

Malfunction Decision Conditions

Case where low pressure switch is actuated when the compressor is operating

Supposed Causes

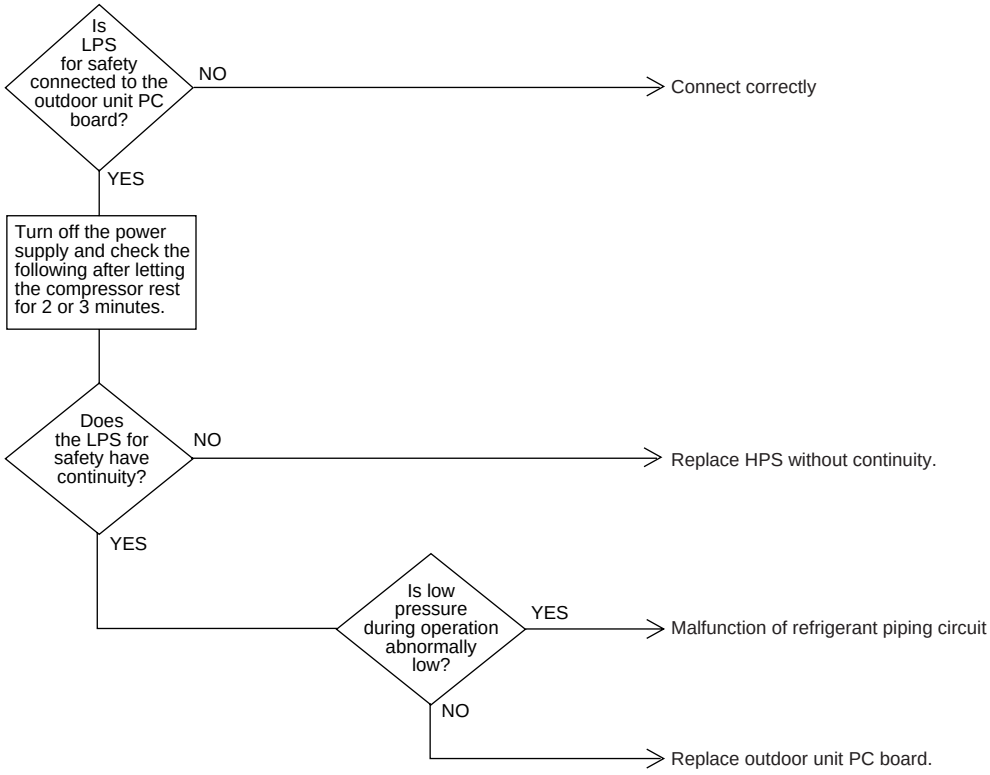
<Causes related to PC boaed>

- Failure of low pressure switch
- Low pressure switch's harness is broken or disconnected
- Failure of low pressure switch's connector connection
- Failure of outdoor unit PC board

<Causes related to product as a whole>

- Malfunction of refrigerant piping circuit

Troubleshooting



(SF014)

6.13 Malfunction of Electronic Expansion Valve

Remote Controller Display

E9

Outdoor Unit LED Display

A(H1P) — 1(H2P) — 2(H3P) —

Applicable Models

R(Y)

Method of Malfunction Detection

With electronic expansion valve malfunction detection, coil current is detected and open and short circuits are detected.

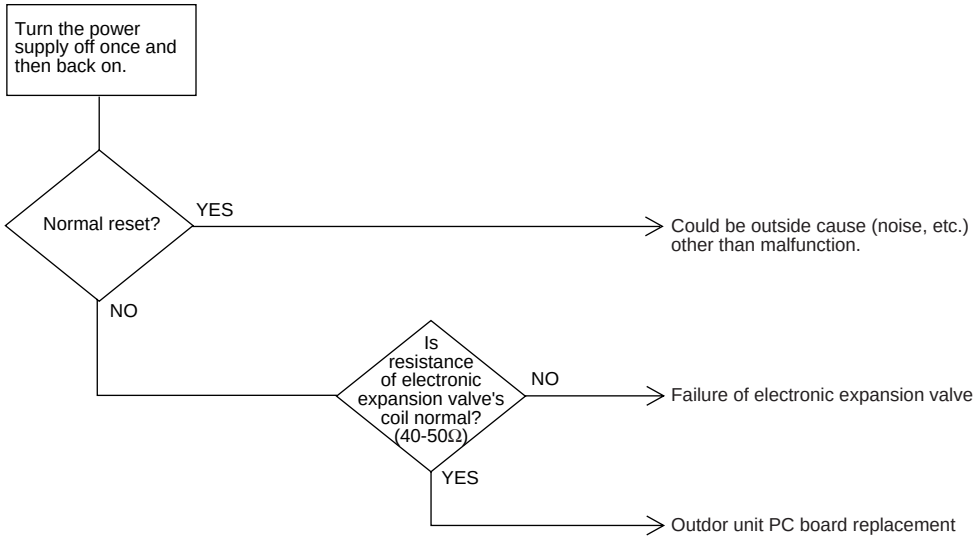
Malfunction Decision Conditions

Malfunction is determined by the following condition.
Coil current: open circuit < normal < short circuit

Supposed Causes

- Failure of electronic expansion valve
- Electronic expansion valve's harness is broken or disconnected.
- Failure of electronic expansion valve's connector connection
- Failure of outdoor unit PC board
- Outside cause (noise, etc.)

Troubleshooting



(SF015)

6.14 Discharge Pipe Temperature Malfunction

Remote Controller Display

F3

Outdoor Unit LED Display

A(H1P) ☼ 1(H2P) ● 2(H3P) ●

Applicable Models

R(Y)

Method of Malfunction Detection

Malfunction is detected according to temperature detected by discharge pipe temperature sensor.

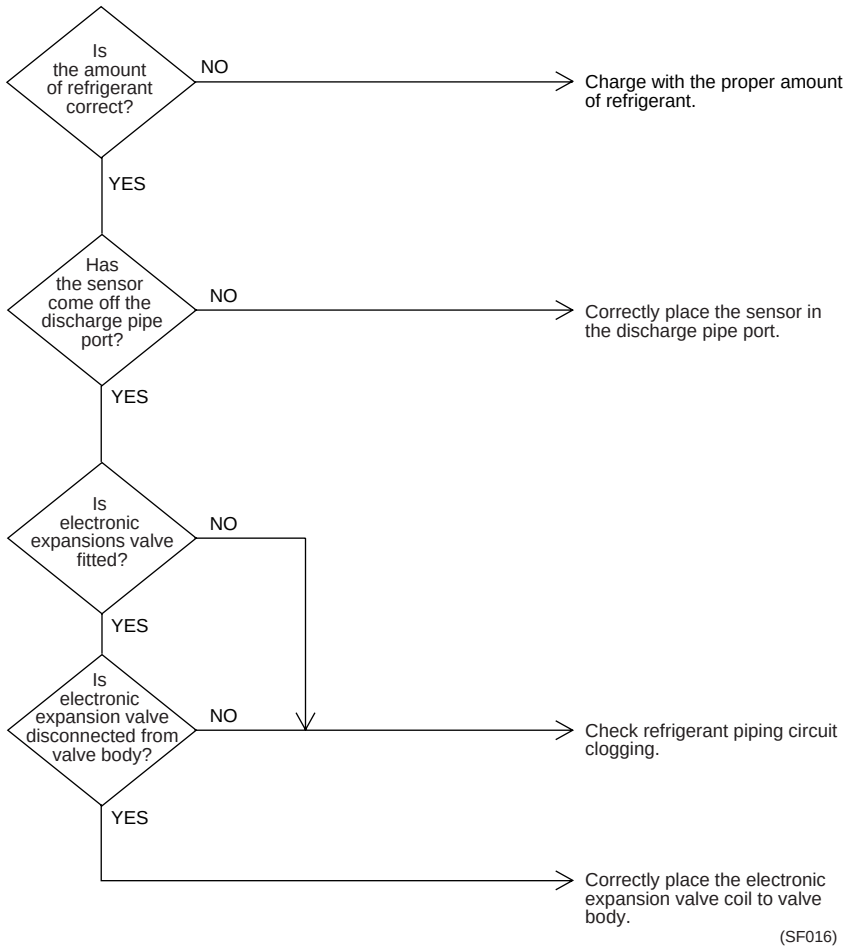
Malfunction Decision Conditions

- When discharge pipe temperature becomes abnormally high
- When discharge pipe temperature rises suddenly
- When the discharge pipe sensor comes out of its installed position

Supposed Causes

- Improper amount of refrigerant
- Refrigerant piping circuit clogging

Troubleshooting



6.15 Malfunction of High Pressure Switch

Remote Controller Display

H3

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ☼ 2(H3P) ☼

Applicable Models

R(Y)

Method of Malfunction Detection

Continuity of the high pressure switch is detected by the safety device circuitry.

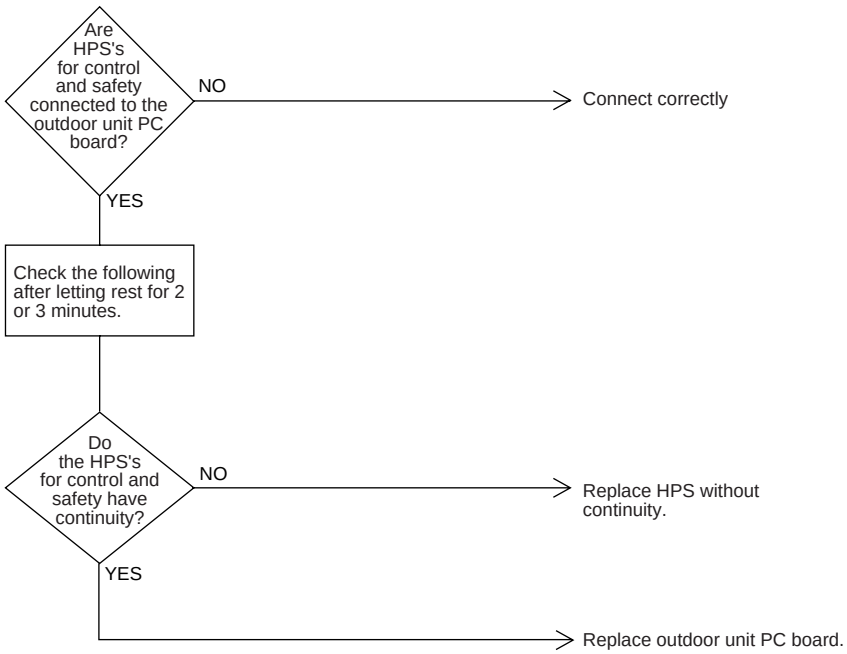
Malfunction Decision Conditions

When the compressor is off and the high pressure switch doesn't have continuity

Supposed Causes

- Failure of high pressure switch
- High pressure switch's harness is broken or disconnected
- Failure of high pressure switch's connector connection
- Failure of outdoor unit PC board

Troubleshooting



(SF017)

6.16 Malfunction of Outdoor Temperature Sensor System

Remote Controller Display

H9

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ☼ 2(H3P) ☼

Applicable Models

R(Y)

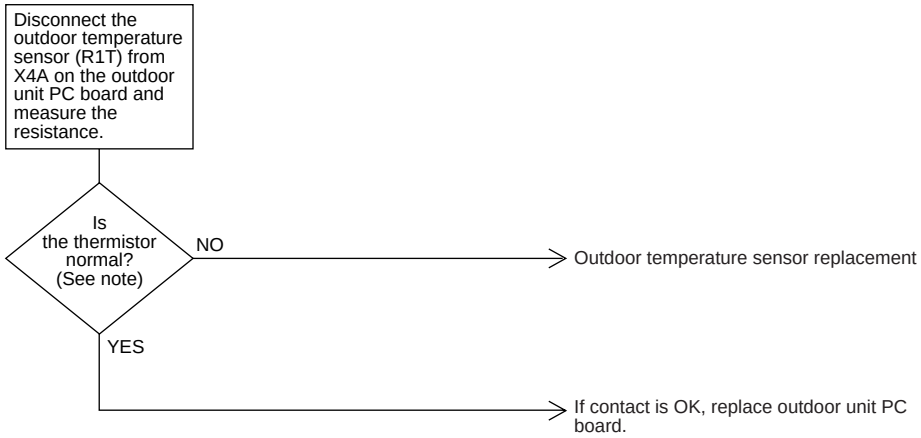
Malfunction Decision Conditions

Case where the outdoor temperature sensor has a short or open circuit

Supposed Causes

- Failure of outdoor temperature sensor
- Failure of outdoor temperature sensor's connector connection
- Failure of outdoor unit PC board

Troublshooting



(SF018)

Note: Measure the resistance while referring to the thermistor temperature and resistance conversion table.

Thermistor temperature and resistance conversion table.

Temperature	Suction, heat exchanger(indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)	Temperature	Suction, heat exchanger(indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)
-6.0	90.8	28.0	17.6
-4.0	81.7	30.0	16.2
-2.0	73.5	32.0	14.8
0.0	66.3	34.0	13.6
2.0	59.8	36.0	12.5
4.0	54.1	38.0	11.5
6.0	48.9	40.0	10.6
8.0	44.3	42.0	9.8
10.0	40.2	44.0	9.1
12.0	36.5	46.0	8.4
14.0	33.2	48.0	7.8
16.0	30.2	50.0	7.2
18.0	27.5	52.0	6.9
20.0	25.1	54.0	6.2
22.0	23.0	56.0	5.7
24.0	21.0	58.0	5.3
26.0	19.2		

6.17 Malfunction of Discharge Pipe Temperature Sensor System

Remote Controller Display

J3

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ☼ 2(H3P) ☼

Applicable Models

R(Y)

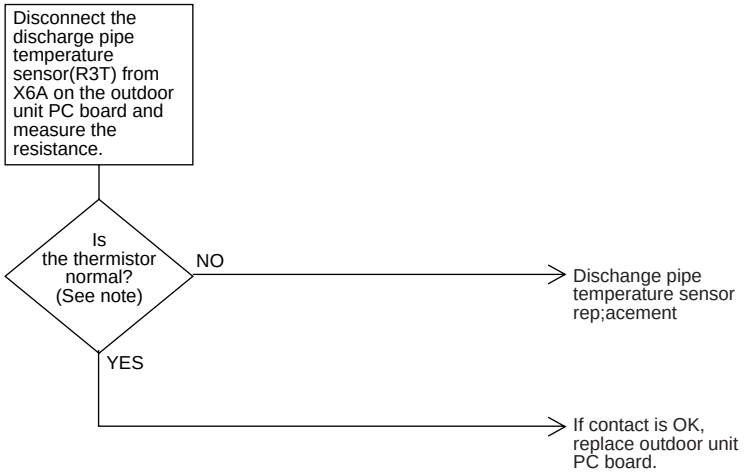
Malfunction Decision Conditions

Case where the discharge pipe temperature sensor has a short or open circuit

Supposed Causes

- Failure of discharge pipe temperature sensor
- Failure of discharge pipe temperature sensor's connector connection
- Failure of outdoor unit PC board

Troubleshooting



Note: Measure the resistance while referring to the thermistor temperature and resistance conversion table.

Thermistor temperature and resistance conversion table.

Temperature	Discharge pipe sensor(kΩ)	Temperature	Discharge pipe sensor(kΩ)
-6.0	866.8	28.0	175.8
-4.0	782.7	30.0	161.5
-2.0	707.6	32.0	148.4
0.0	640.4	34.0	136.6
2.0	579.9	36.0	125.8
4.0	525.6	38.0	115.3
6.0	477.0	40.0	106.5
8.0	433.4	42.0	98.8
10.0	394.2	44.0	91.3
12.0	358.9	46.0	84.4
14.0	327.1	48.0	78.1
16.0	298.5	50.0	72.3
18.0	272.6	52.0	67.1
20.0	249.2	54.0	62.2
22.0	228.1	56.0	57.8
24.0	208.9	58.0	53.7
26.0	191.5		

6.18 Malfunction of Heat Exchanger Temperature Sensor System

Remote Controller Display

J6

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ☼ 2(H3P) ☼

Applicable Models

R(Y)

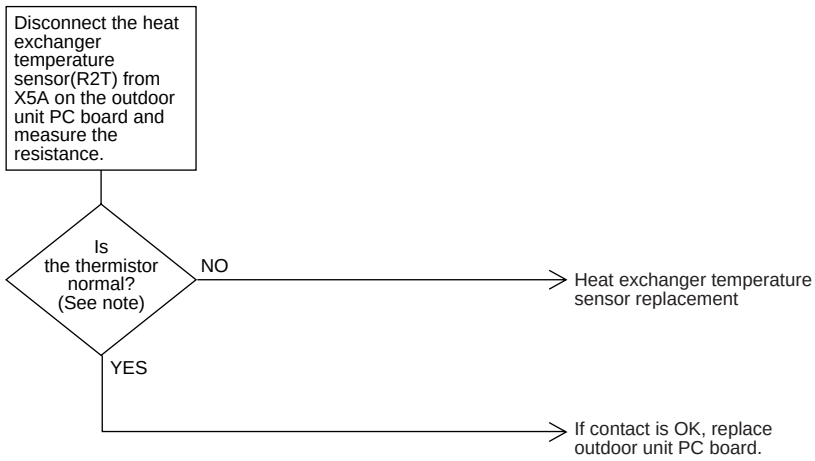
Malfunction Decision Conditions

Case where the heat exchanger temperature sensor has a short or open circuit

Supposed Causes

- Failure of heat exchanger sensor
- Failure of heat exchanger sensor's connector connection
- Failure of outdoor unit PC board

Troubleshooting



(SF020)

Note: Measure the resistance while referring to the thermistor temperature and resistance conversion table.
Thermistor temperature and resistance conversion table.

Temperature	Suction, heat exchanger (indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)	Temperature	Suction, heat exchanger (indoor) outdoor air, outdoor unit suction pipe sensor (kΩ)
-6.0	90.8	30.0	16.2
-4.0	81.7	32.0	14.8
-2.0	73.5	34.0	13.6
0.0	66.3	36.0	12.5
2.0	59.8	38.0	11.5
4.0	54.1	40.0	10.6
6.0	48.9	42.0	9.8
8.0	44.3	44.0	9.1
10.0	40.2	46.0	8.4
12.0	36.5	48.0	7.8
14.0	33.2	50.0	7.2
16.0	30.2	52.0	6.9
18.0	27.5	54.0	6.2
20.0	25.1	56.0	5.7
22.0	23.0	58.0	5.3
24.0	21.0		
26.0	19.2		
28.0	17.6		

6.19 Lack of Gas Malfunction

Remote Controller Display

U0

LED Display

A(H1P) — 1(H2P) — 2(H3P) —

Applicable Models

R(Y)

Method of Malfunction Detection

Lack of gas is detected according to discharge pipe temperature.

Malfunction Decision Conditions

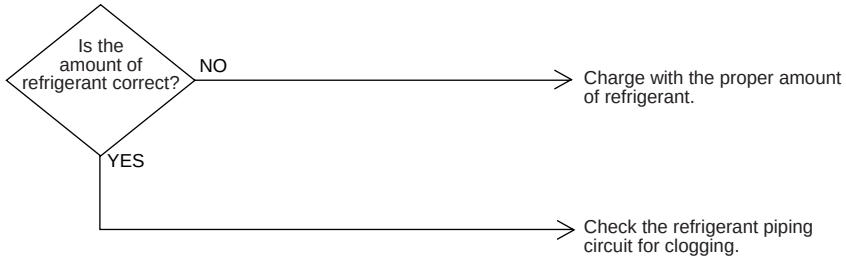
Microcomputer decides whether there is a lack of gas and detects malfunction.

- Stop due to malfunction does not occur even though a malfunction is determined to have occurred.

Supposed Causes

- Lack of refrigerant
- Refrigerant piping circuit clogging

Troubleshooting



(SF021)

6.20 Reverse Phase

Remote Controller Display

U1

Outdoor Unit LED Display

A(H1P) ◑ 1(H2P) ● 2(H3P) ☼

Applicable Models

R(Y)

- 3-phase equipment only

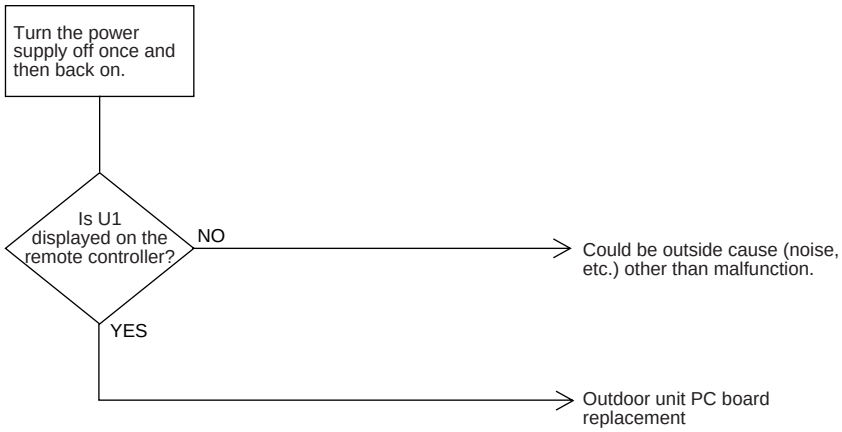
Method of Malfunction Detection

Reverse phase detection circuit detects the phase of each phase and determines whether it is normal or reverse phase.

Supposed Causes

- Failure of power supply wiring connection
- Power supply wiring is broken or disconnected.
- Failure of outdoor unit PC board

Troubleshooting



(SF022)

6.21 Malfunction of Transmission (Between Indoor and Outdoor Unit)

Remote Controller Display

U4

LED Display

A(H1P) — 1(H2P) — 2(H3P) —

Applicable Models

R(Y)

Method of Malfunction Detection

Microcomputer checks if transmission between indoor and outdoor units is normal.

Malfunction Decision Conditions

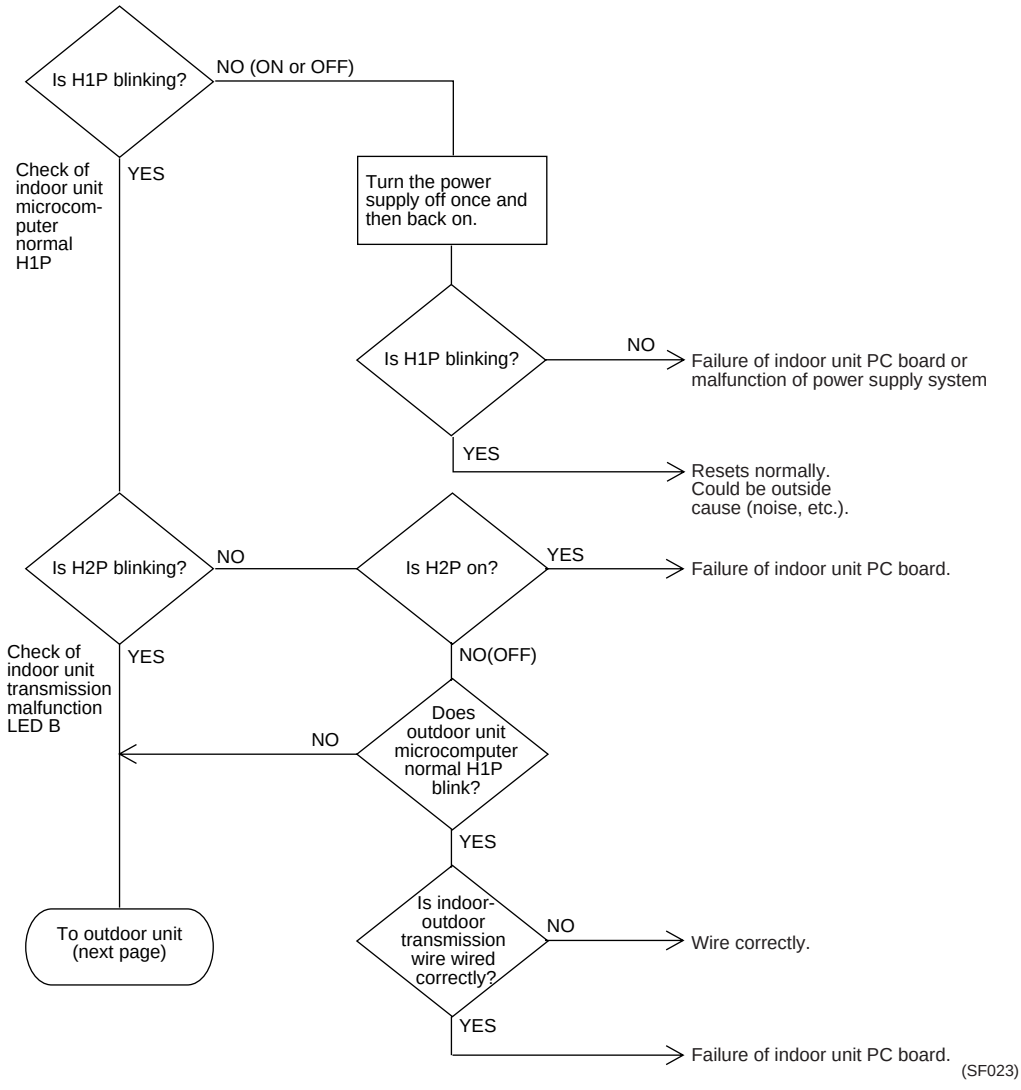
When transmission is not carried out normally for a certain amount of time

Supposed Causes

- Wiring indoor-outdoor transmission wire is incorrect.
- Failure of indoor unit PC board
- Failure of outdoor unit PC board
- Outside cause (noise, etc.)

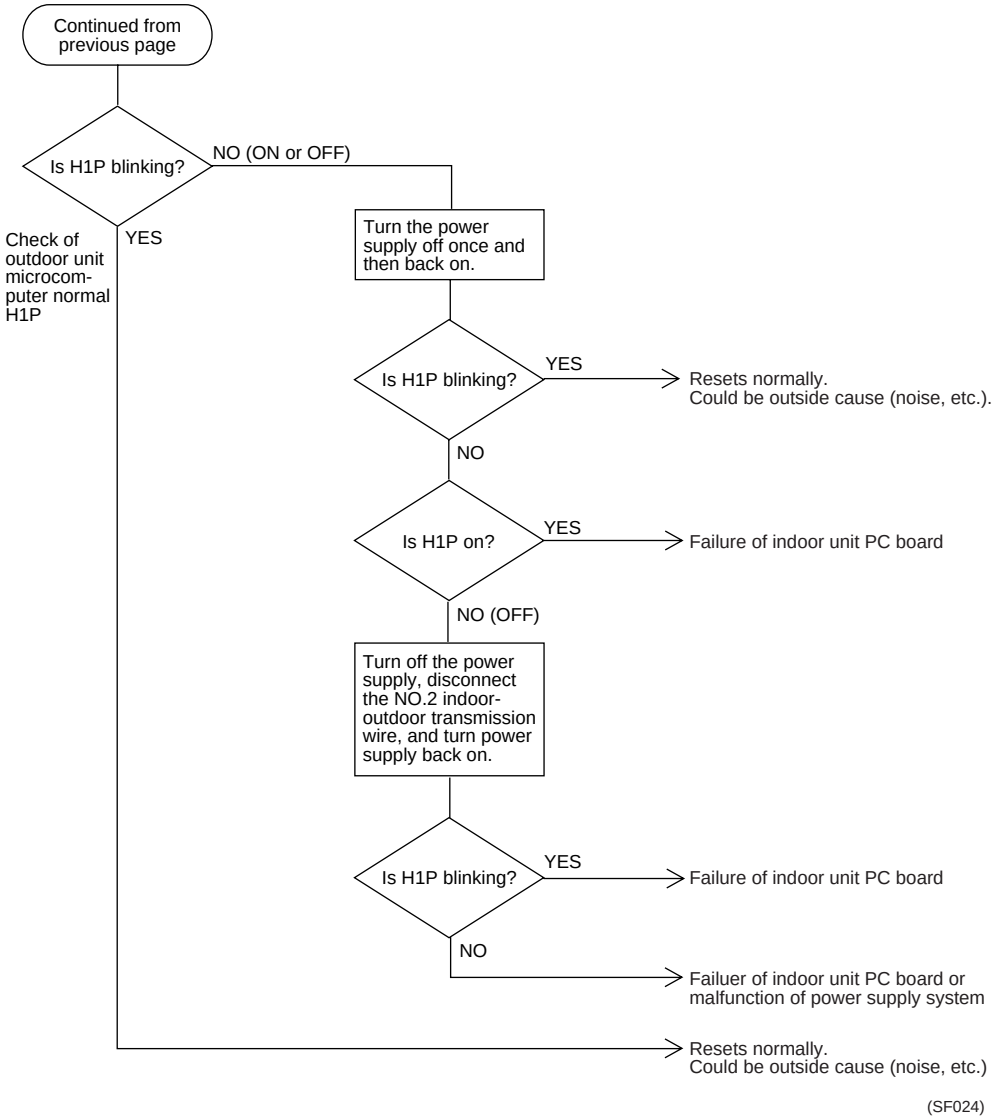
Troubleshooting 1

Diagnosis of incorrect or broken/disconnected wiring
If the LEDs on the indoor unit PC board are off, it indicates that the transmission wiring between indoor and outdoor units may be incorrect or broken/disconnected.



(SF023)

Troubleshooting 2



6.22 Malfunction of Transmission (Between Indoor Unit and Remote Controller)

Remote Controller Display

U5

LED Display

A(H1P) — 1(H2P) — 2(H3P) —

Applicable Models

R(Y)

Method of Malfunction Detection

Microcomputer checks if transmission between indoor unit and remote controller is normal.

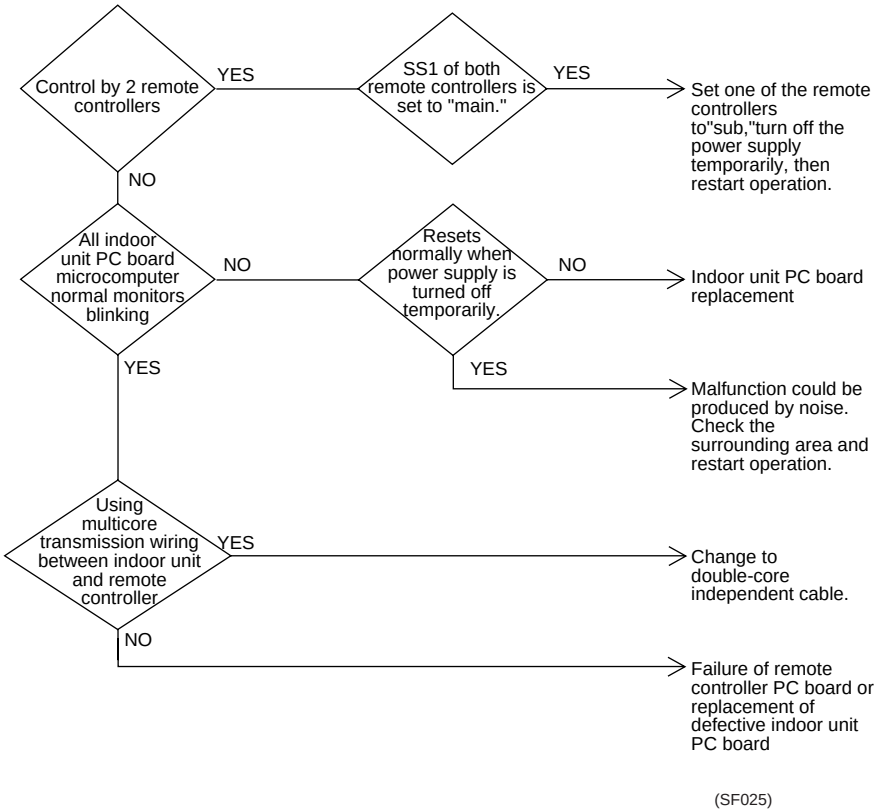
Malfunction Decision Conditions

When transmission is not carried out normally for a certain amount of time

Supposed Causes

- Failure of remote controller
- Failure of indoor PC board
- Outside cause (noise, etc.)
- Connection of 2 master remote controllers (When using 2 remote controllers)

Troubleshooting



(SF025)

6.23 Transmission Error Between Main Remote Controller and Sub Remote Controller

Remote Controller Display

U8

LED Display

Refer to page

Applicable Models

All models of indoor unit

Method of Malfunction Detection

In case of controlling with 2- remote controller, check the system using microcomputer if signal transmission between indoor unit and remote controller (main and sub) is normal.

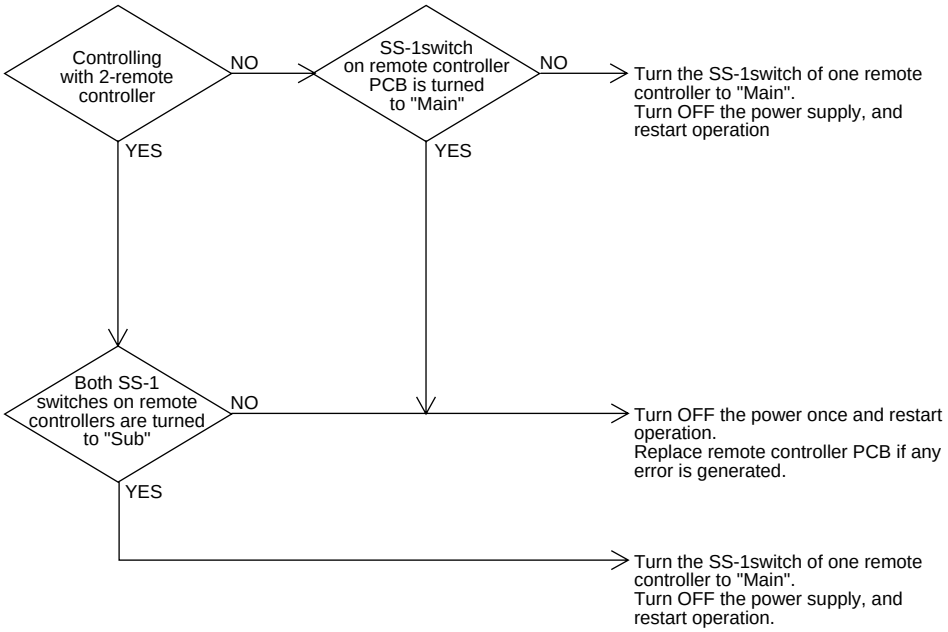
Malfunction Decision Conditions

Normal transmission does not continue for specified period.

Supposed Causes

- Transmission error between Main remote controller and Sub remote controller
- Connection among “Sub” remote controllers
- Faulty remote controller PCB

Troubleshooting



(SF041)

6.24 Failure of Field Setting Switch

Remote Controller Display UA

LED Display A(H1P) — 1(H2P) — 2(H3P) —

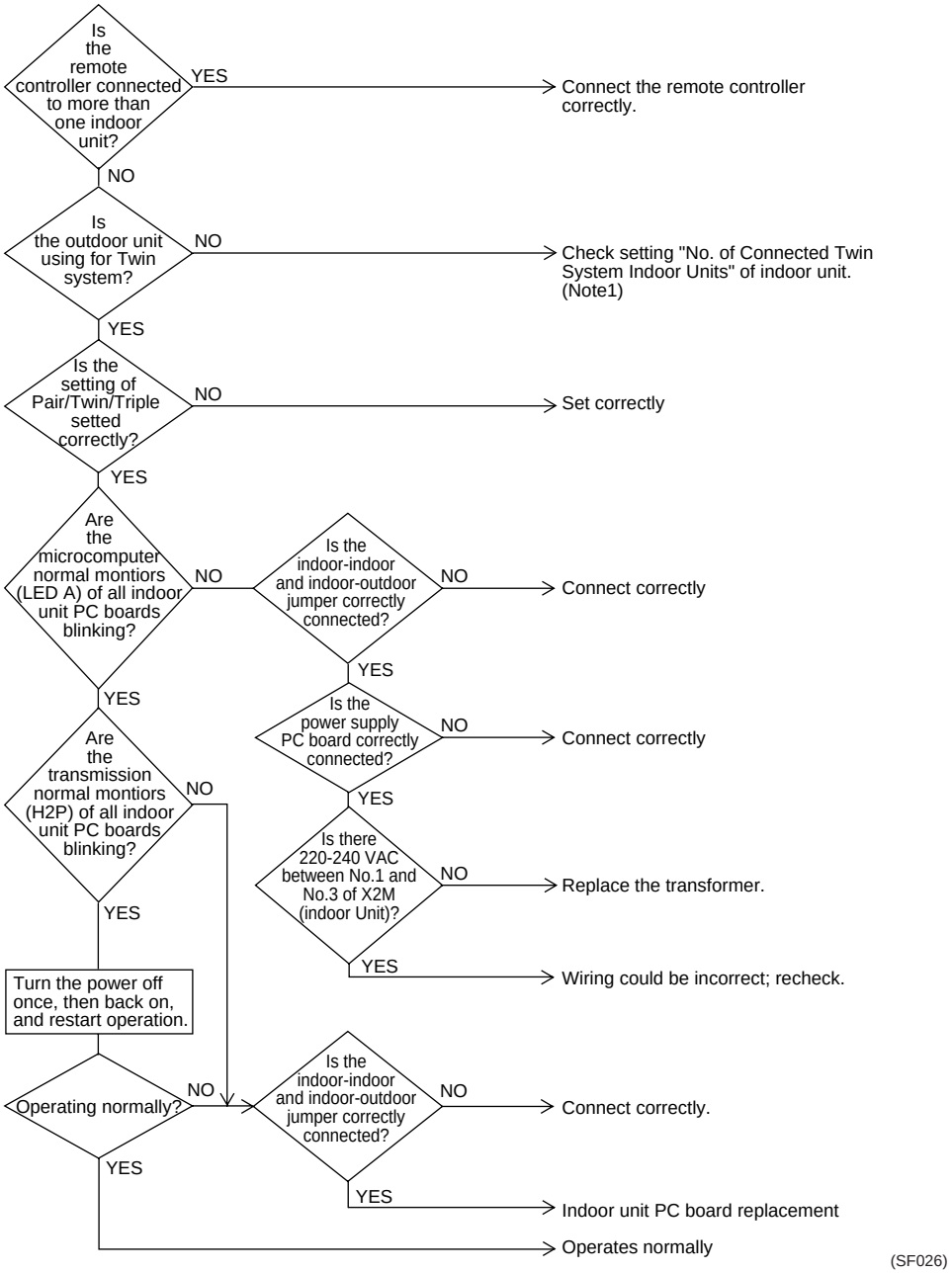
Applicable Models Standard models

Supposed Causes

<common>

- Failure of indoor or outdoor unit PC board
- Failure of power supply PC board
- Indoor-outdoor, indoor-indoor unit transmission wiring
- Failure of remote controller wiring

Troubleshooting



Note: 1. Refer “No. of Connected Twin System Indoor Units” on page 24

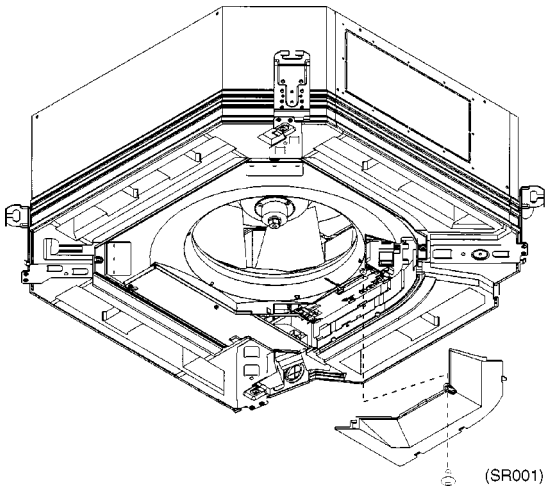
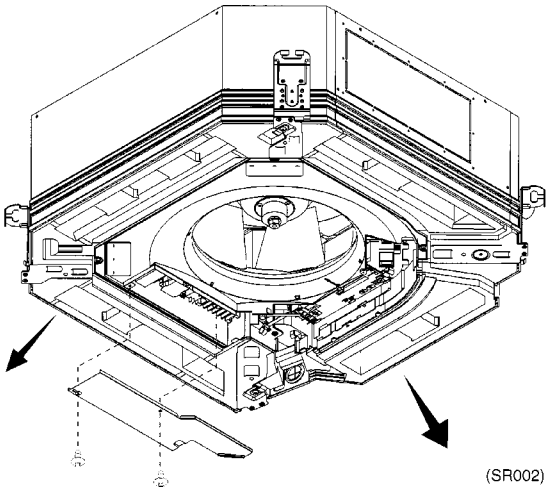
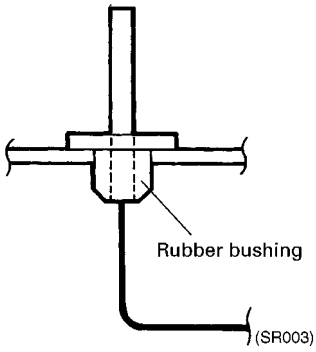
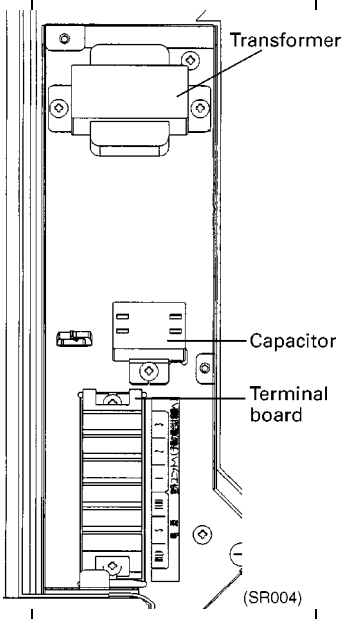
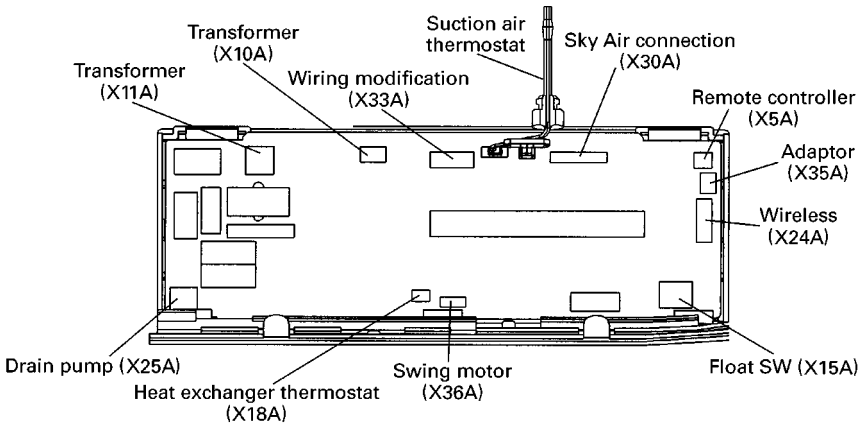
Part 6
Removal Procedure

1. For FHYC71K

1.1 Removal of Switch Box Cover

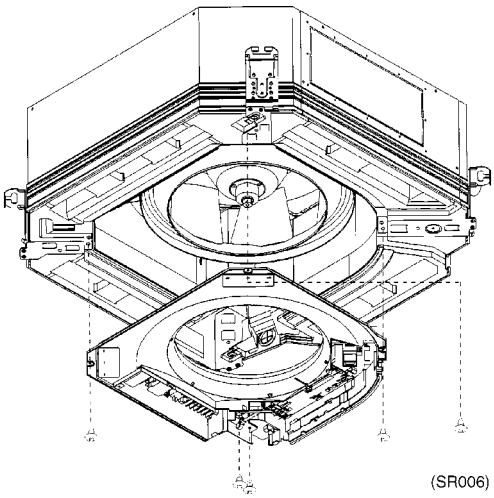
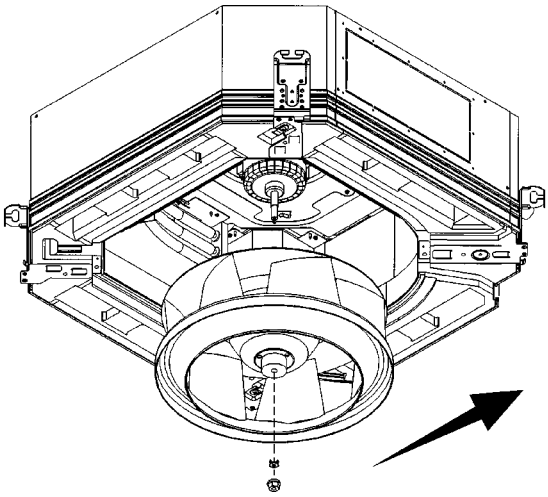
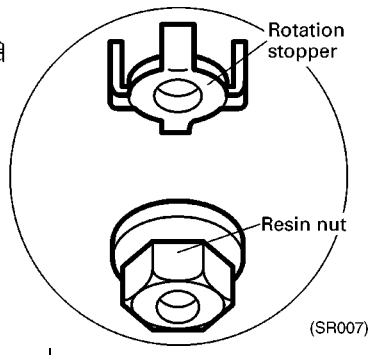
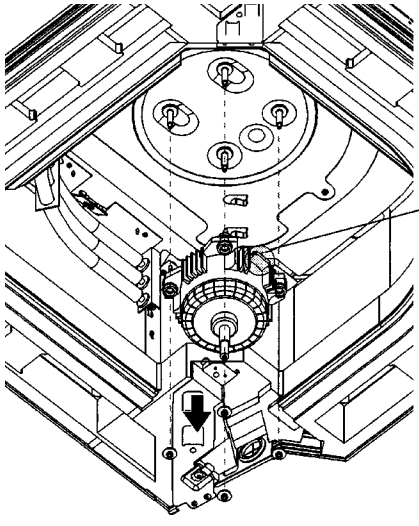
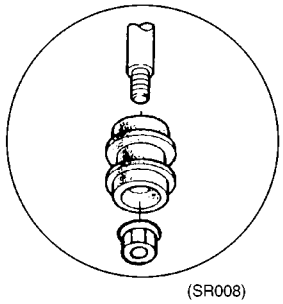
Procedure

Warning **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
1. Removing the cover from the control PCB side	 (SR001)	
1 Loosen the 1 screw, and pull the cover toward the inside and pull it down.		
2. Removing the cover from the connection wire side	 (SR002)	∗Caution during installation  (SR003) Set the thermistor base securely on the rubber bushing.
1 Remove 1 screw and loosen the other screw. Pull the cover toward the pipe, then pull it down.	 (SR004)  (SR005)	

1.2 Removal of Fan Motor

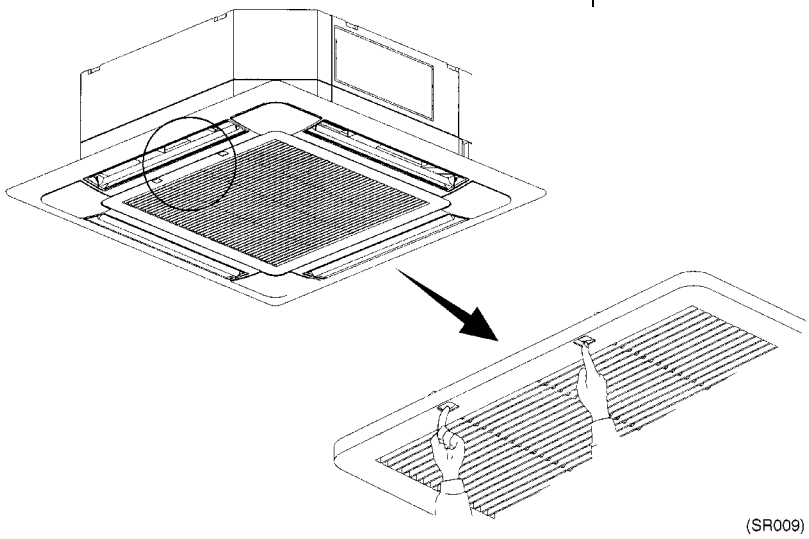
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

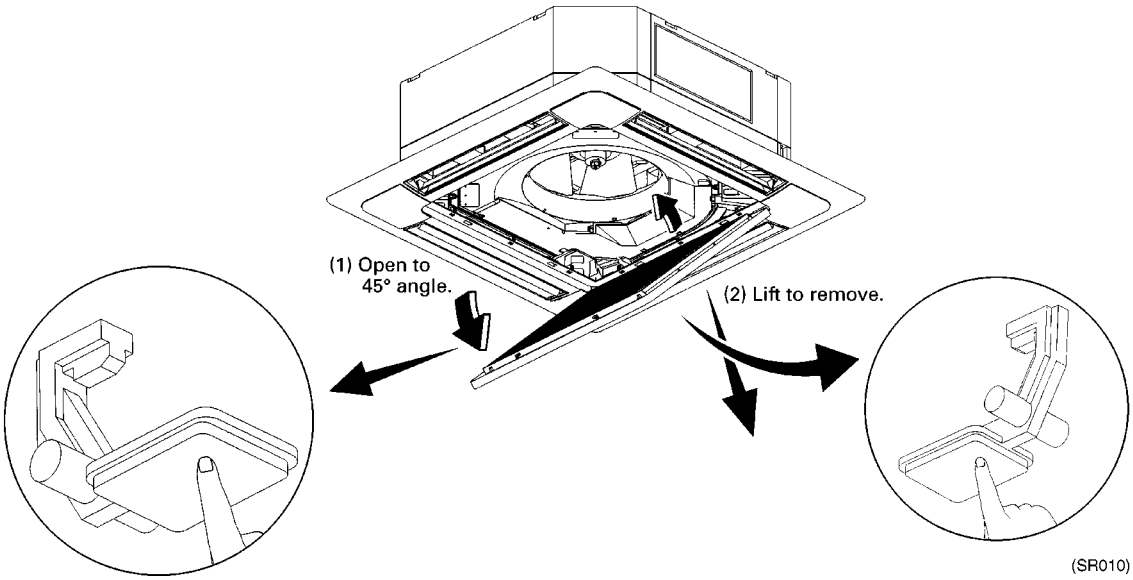
Step	Procedure	Points
1. Removing the switch box	 (SR006)	
1 Remove the 5 screws, and pull the switch box down.		
2. Removing the fan	  (SR007)	
1 Remove the resin nut and rotation stopper from the fan.		
3. Removing the fan motor	  (SR008)	
1 Remove the washer-based nuts. ∗3 nuts in FHYC35 - 71K ∗4 nuts in FHYC100 - 125K		

1.3 Removal of Suction Grille

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

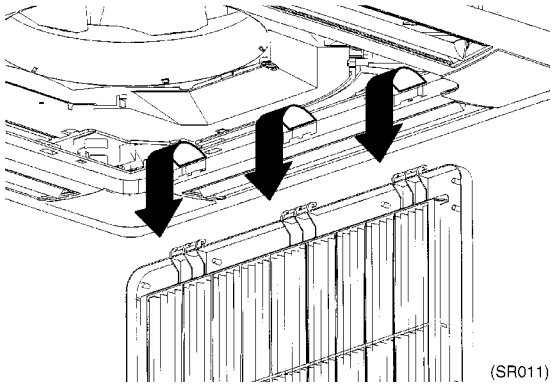
Step	Procedure	Points
1	Push the two buttons simultaneously and pull the suction grille down slowly.	∗When closing, push up the grille slowly.
2	With the suction grille open at an angle of 45º, lift it up to remove it.	


(SR009)



(SR010)

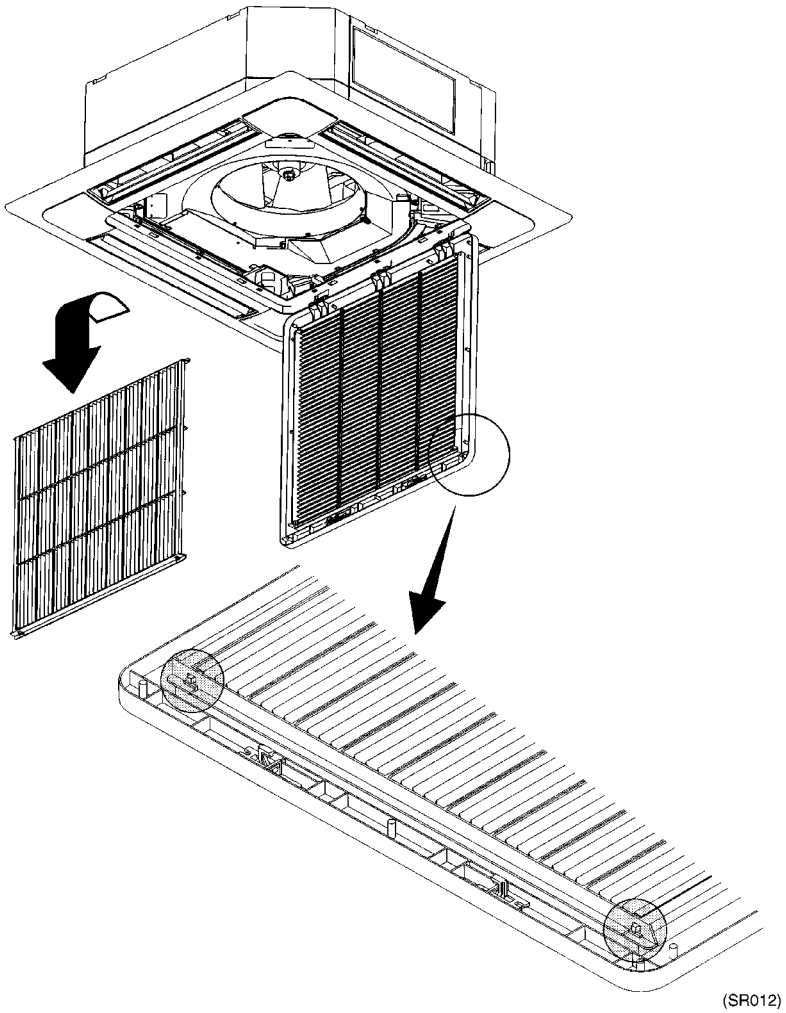
Grille is attached with 3 hooks.


(SR011)

1.4 Removal of Air Filter

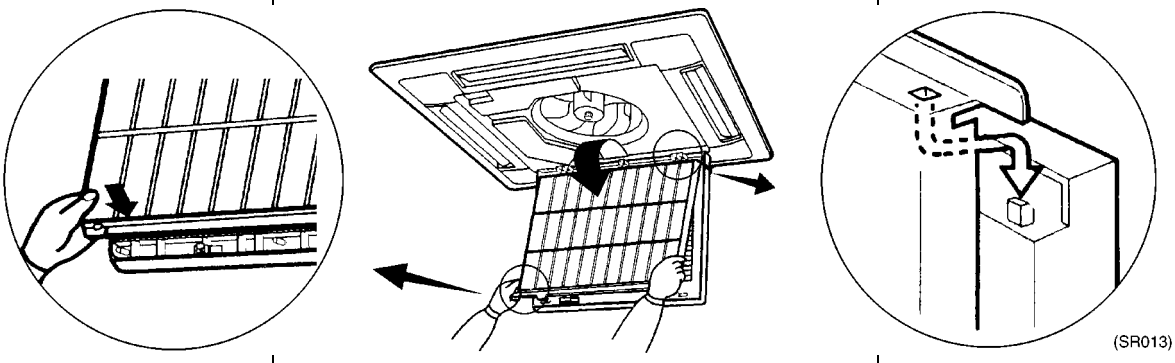
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
1	Open the suction grille. (See the removal procedure of suction grille.)	
2	Disengage the hooks of the air filter by pulling the filter downward at an angle, and remove the filter.	



(SR012)

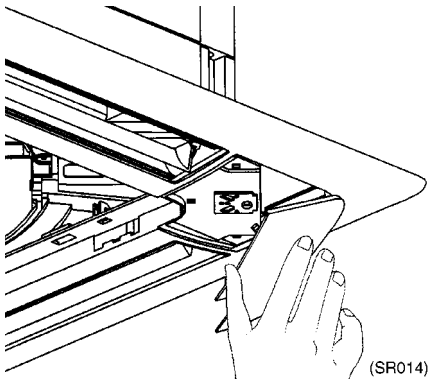
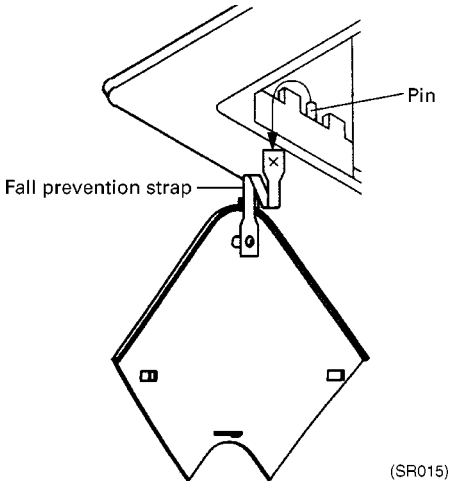
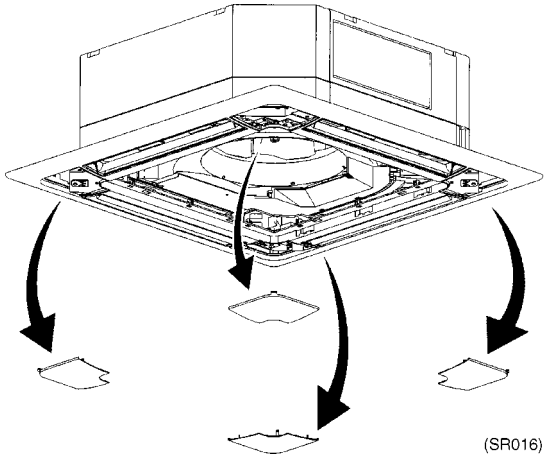
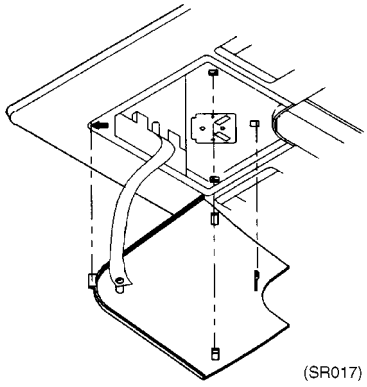
∗Installation of the air filter (2)		
1	Hook the air filter to the protrusions located at the top section of the suction grille.	
2	Push the lower section of the air filter into the protrusions located at the bottom section of the suction grille to secure the air filter in place.	



(SR013)

1.5 Removal of Decoration Cover

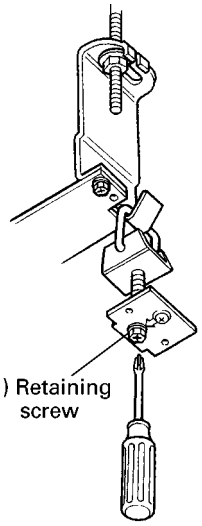
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	To remove the decoration cover, pull the inside part (suction grille side) down.	 (SR014)	
2	Disengage the strap (fall prevention strap) of the corner decoration cover from the pin.	 (SR015)	
3	There are four corner decoration covers. They can be removed by following the same procedure.	 (SR016)	∗Installation of the corner decoration cover Install the corner decoration cover so that the four protrusions on the cover are securely inserted into the holes on the decoration panel section.  (SR017)

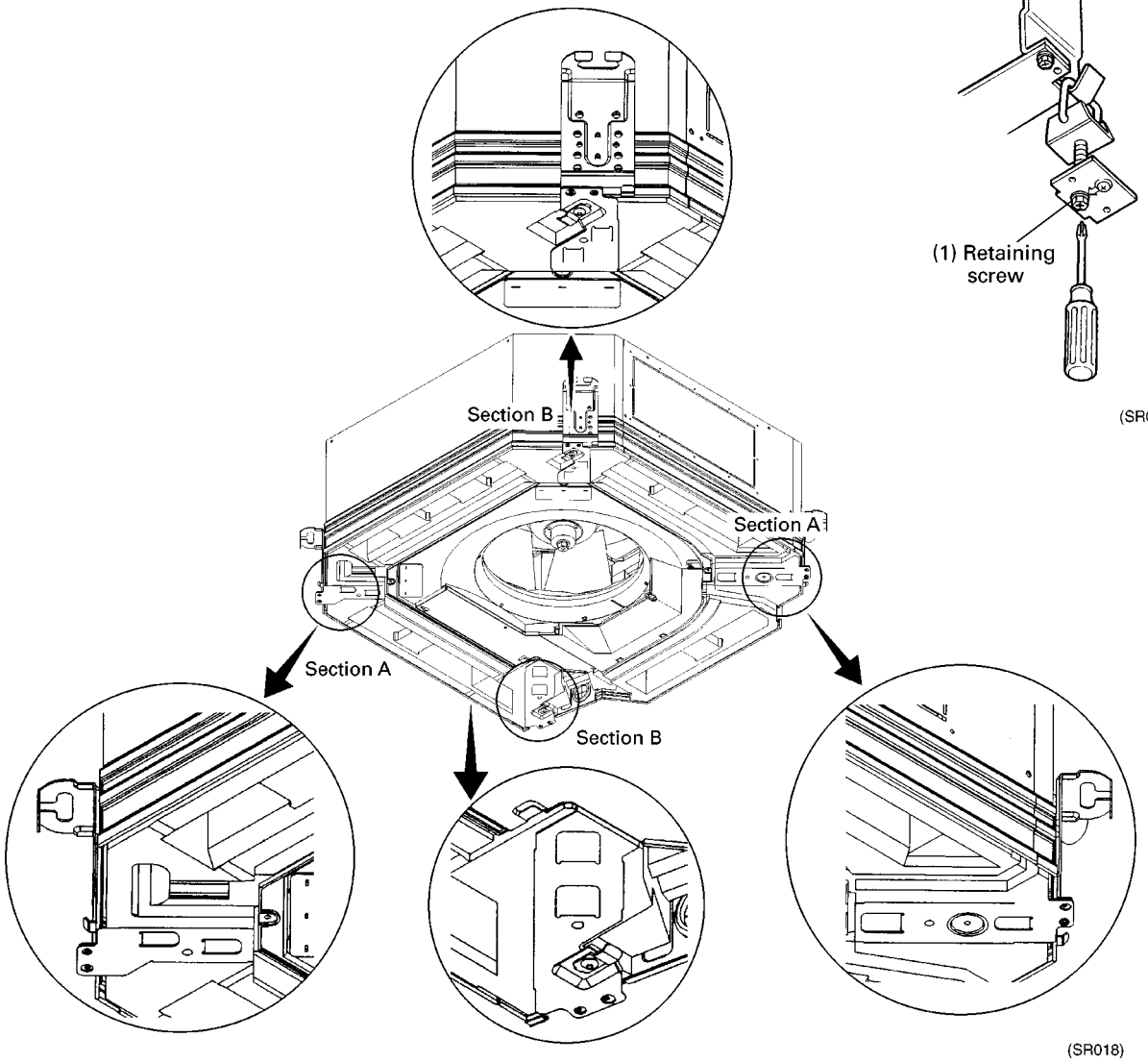
1.6 Removal of Decoration Panel

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	Loosen the 4 retaining screws from the decoration panel.		Structure of mounting fixture
2	The decoration panel is attached with 4 mounting fixtures.		

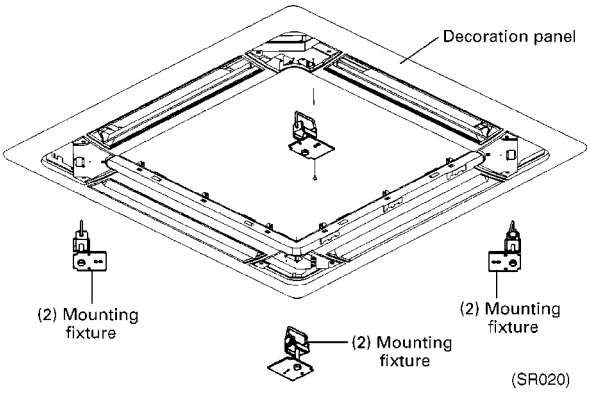


(SR019)



(SR018)

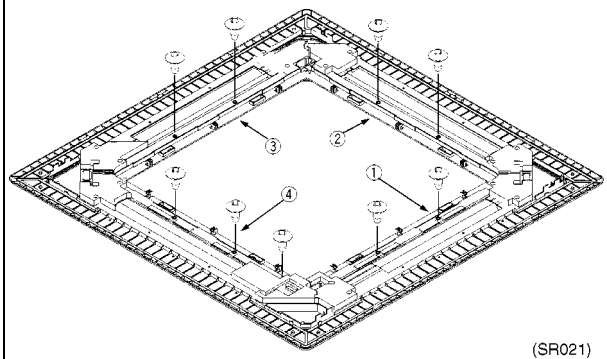
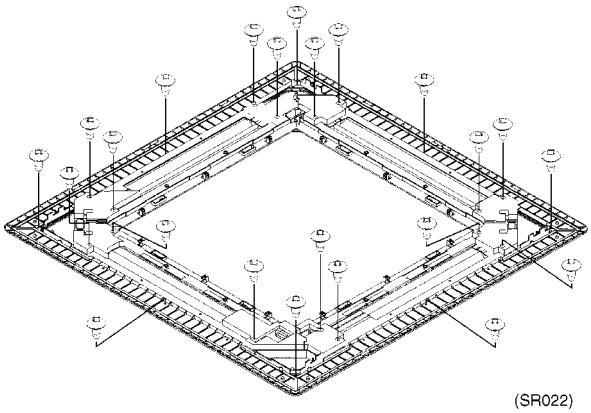
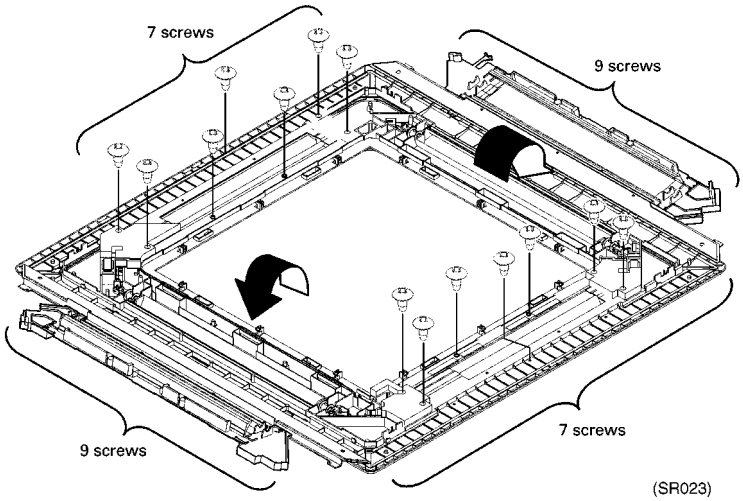
3	Remove the 2 fixtures on the outside (sections A), then remove the 2 fixtures on the inside (sections B).		
4	Remove the decoration panel.		



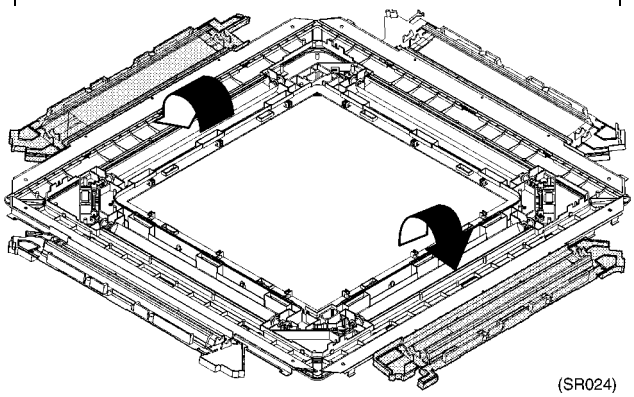
(SR020)

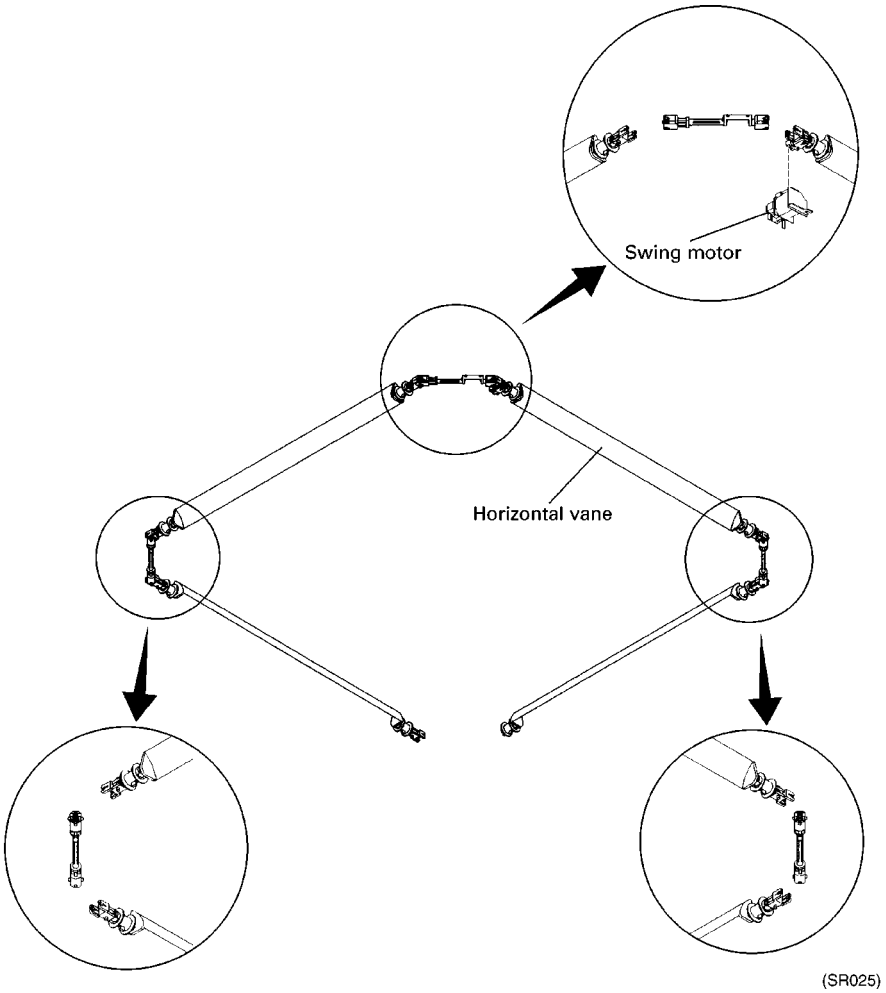
1.7 Removal of Horizontal Vane

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

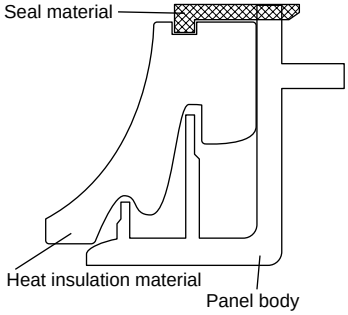
Step	Procedure		Points
1	Locate 9 screws on the decoration panel under the seal materials.	 (SR021)	∗Remove seal materials in the following sequence. ②→④,①→③ ∗Number of screws No. of screws Seal material ① : 7 pcs Seal material ② : 9 pcs Seal material ③ : 7 pcs Seal material ④ : 9 pcs Total : 32 pcs
2	There are 23 other screws.	 (SR022)	
3	Remove the 18 screws on the swing motor side and on the opposite side to open the covers.	 (SR023)	

Step	Procedure	Points
4	Remove the 14 screws on the two remaining sides and open the covers.	**Reassembly** ∗Check to make sure the heat insulation is installed in the air outlet section as shown below. (Improper heat insulation installation results in condensation of water.)


(SR024)



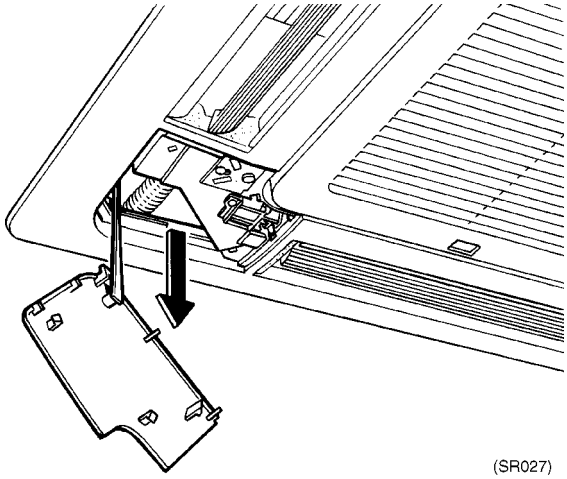
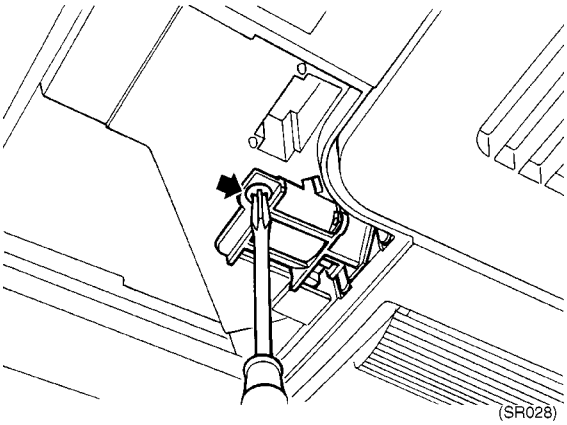
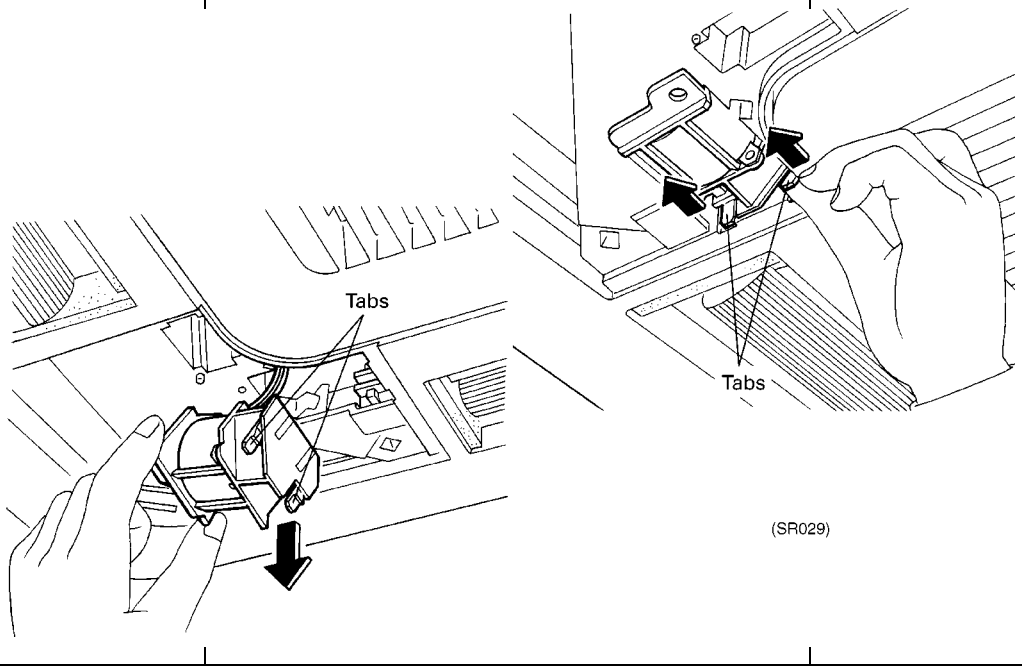
(SR025)

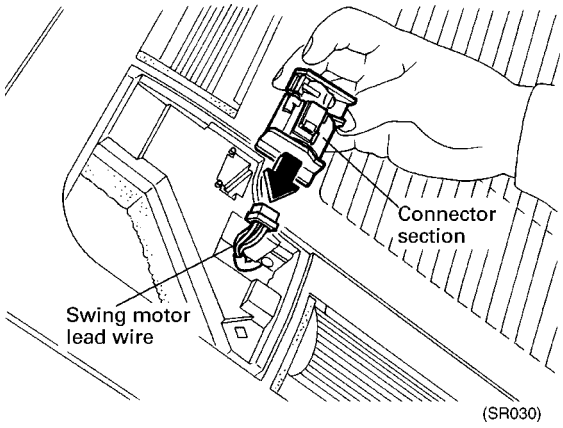
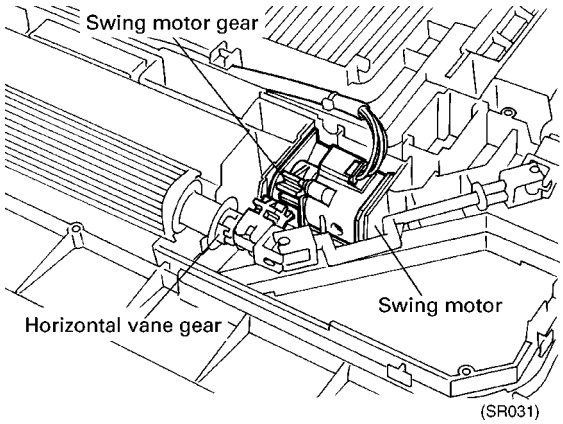
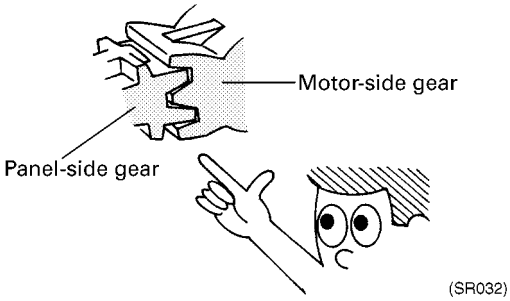


(SR026)

1.8 Removal of Swing Motor

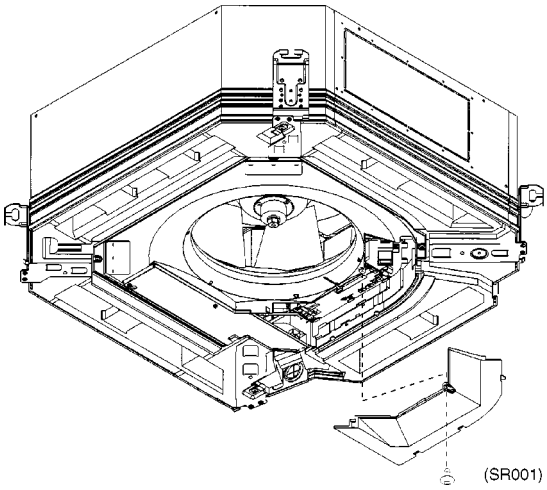
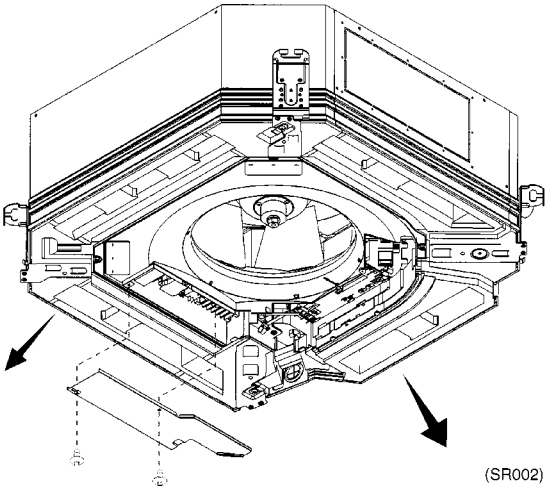
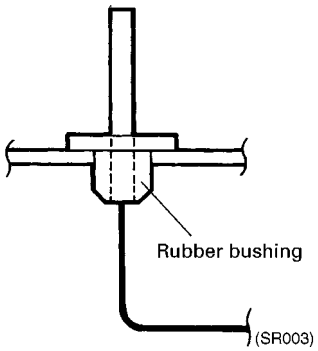
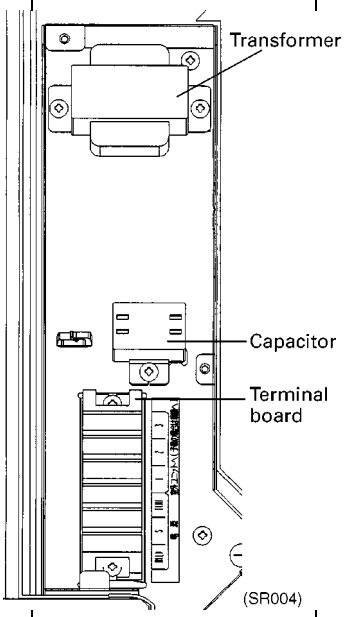
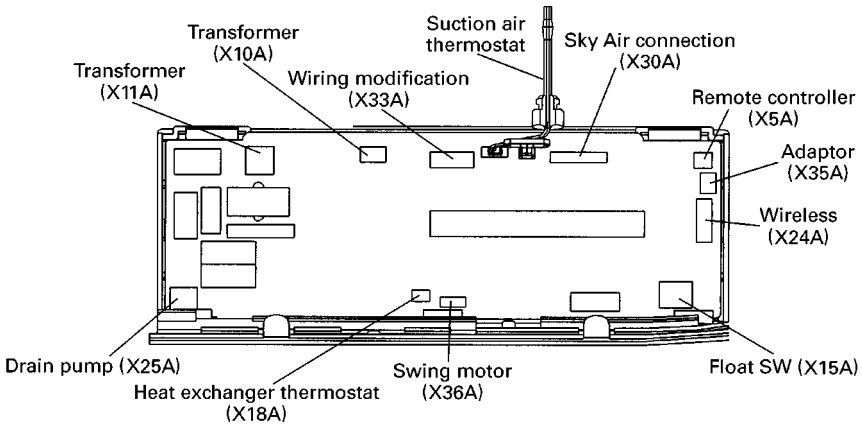
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	Remove the decoration cover located immediately below the cooling pipe.	 (SR027)	∗Only the decoration cover needs to be removed to take out the swing motor.
2	Remove the 1 swing motor mounting screw.	 (SR028)	
3	Hold the tabs pushed toward the direction of the arrow and pull the motor down.	 (SR029)	

Step	Procedure		Points
4	Disconnect the connector of the swing motor.		
	Caution **∗Caution during swing motor installation**		
1	After installing the swing motor, be sure to turn on the power switch for reset (for initializing the vane positions).		
2	Be sure to engage the gears on the motor side and panel sides. (Improper gear engagement results in faulty swing operation and abnormal noise.)		

1.9 Removal of Switch Box Cover

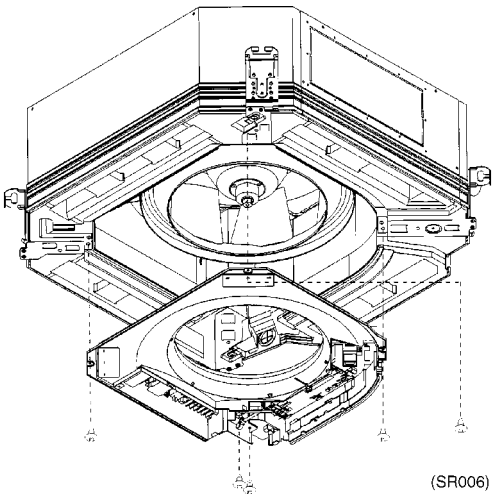
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

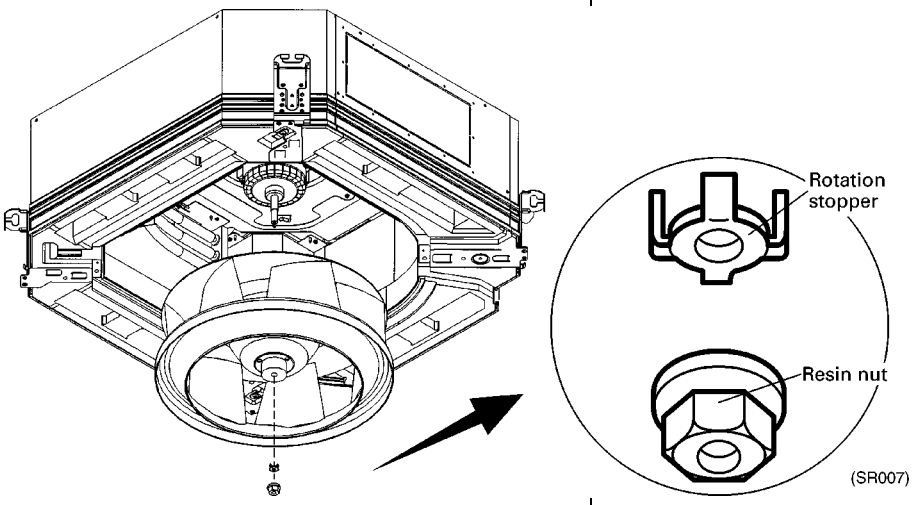
Step	Procedure	Points
1. Removing the cover from the control PCB side	 (SR001)	
1 Loosen the 1 screw, and pull the cover toward the inside and pull it down.		
2. Removing the cover from the connection wire side	 (SR002)	**Caution** ∗Caution during installation  Rubber bushing (SR003) Set the thermistor base securely on the rubber bushing.
1 Remove 1 screw and loosen the other screw. Pull the cover toward the pipe, then pull it down	 Transformer Capacitor Terminal board (SR004)  Transformer (X10A) Transformer (X11A) Wiring modification (X33A) Suction air thermostat Sky Air connection (X30A) Remote controller (X5A) Adaptor (X35A) Wireless (X24A) Drain pump (X25A) Heat exchanger thermostat (X18A) Swing motor (X36A) Float SW (X15A) (SR005)	

1.10 Removal of Fan Motor

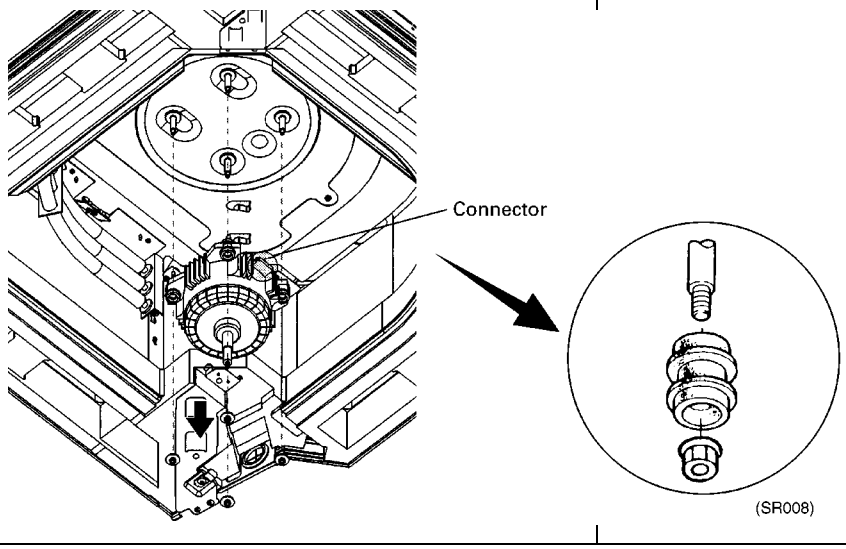
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
1. Removing the switch box		
1	Remove the 5 screws, and pull the switch box down.	
2. Removing the fan		
1	Remove the resin nut and rotation stopper from the fan.	
3. Removing the fan motor		
1	Remove the washer-based nuts. ∗3 nuts in FHYC35 - 71K ∗4 nuts in FHYC100 - 125K	


(SR006)



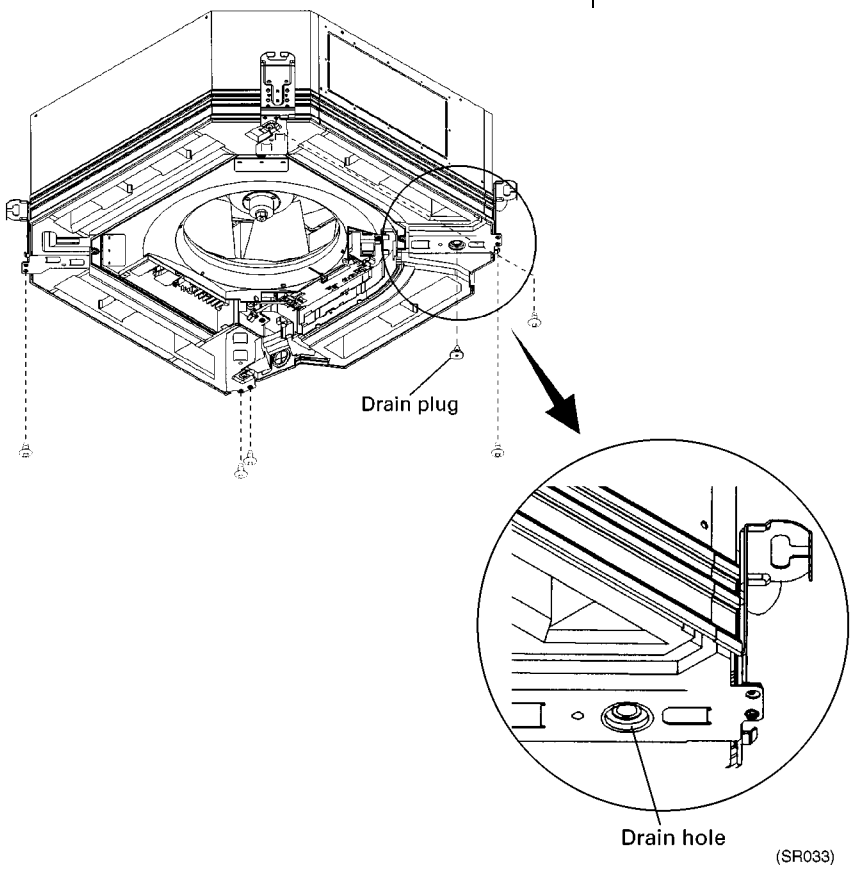
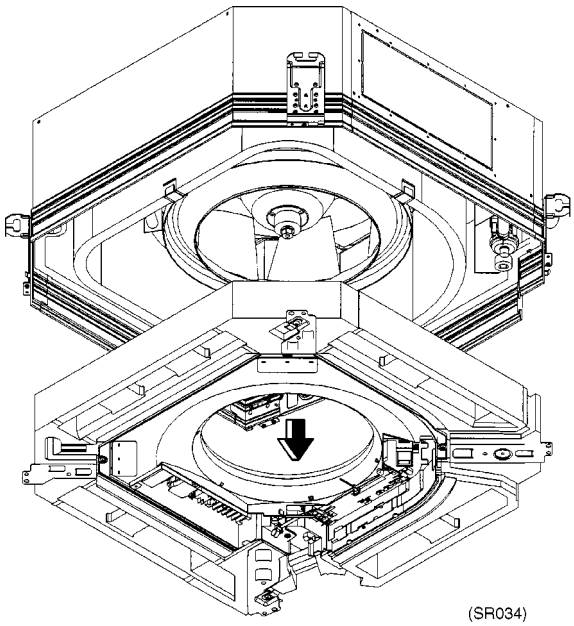
(SR007)



(SR008)

1.11 Removal of Drain Pan

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

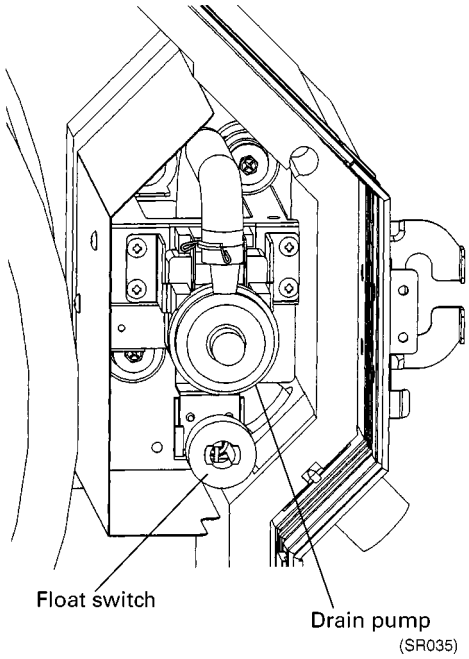
Step	Procedure		Points
1	Drain water from the drain hole.		
2	Remove the 5 drain pan mounting screws.		
3	Pull down the drain pan straight down.		**Caution** ∗If water is in the drain pan, it can spill and wet the floor. Drain water completely or cover the floor with a vinyl sheet.

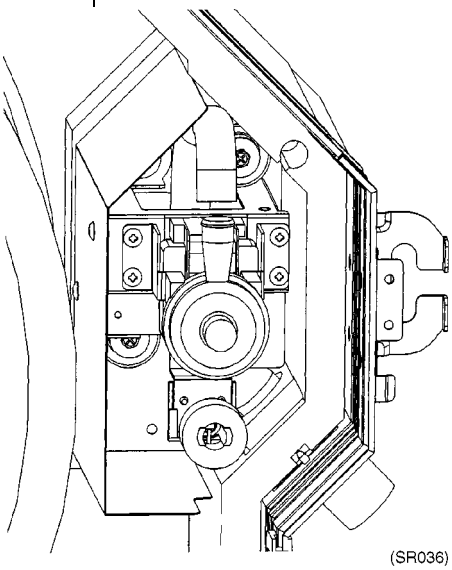
1.12 Removal of Drain Pump and Drain Hose

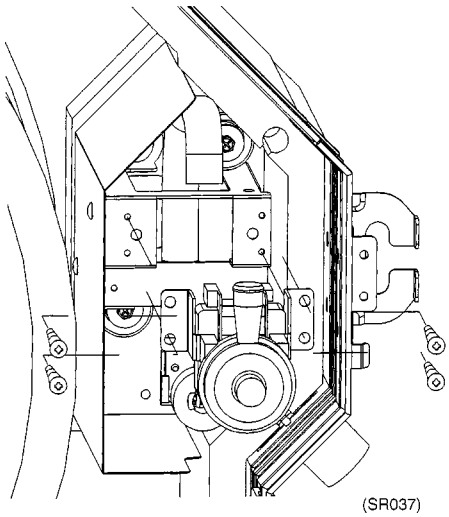
Procedure

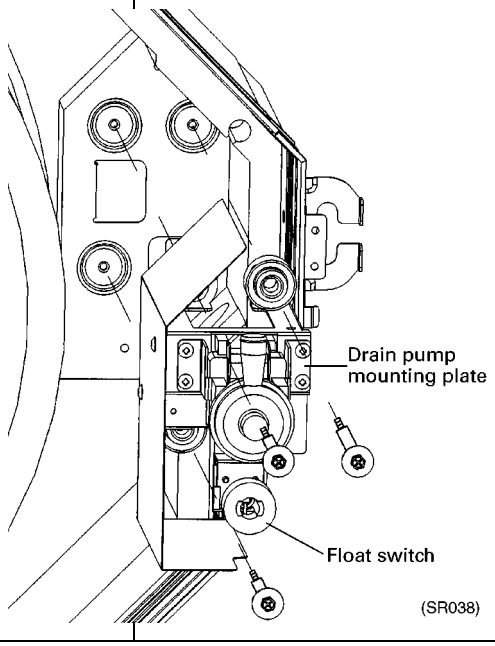
Warning **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
1 Removing the drain pump		
1	Remove the drain pan.	**Caution** ∗Be sure to install the pipe clip during installation to prevent water leaks.
2	Remove the hose band.	
3	Pull out the drain hose.	
4	Remove the 4 drain pump mounting screws.	
5	Remove the 3 drain pump mounting plate retaining screws.	
6	Remove the drain pump mounting plate together with the float switch.	

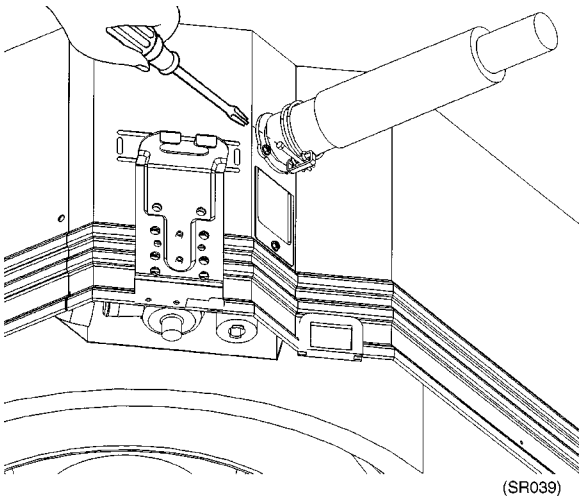


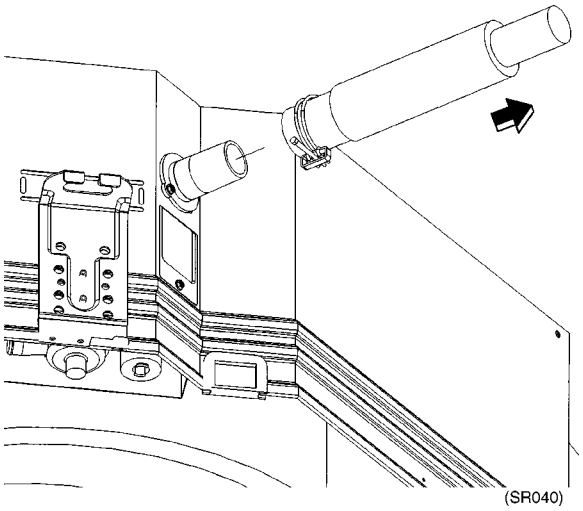


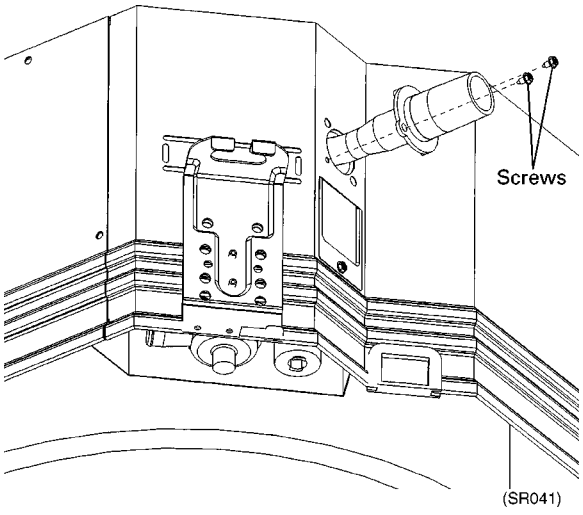




Step	Procedure	Points
2.Removing the drain hose		
1	Loosen the hose band using a screwdriver.	**Caution** ∗The drain hose may contain water. Make sure there is no water in the drain hose, or use a container to receive water from the hose.
2	Pull out the drain hose.	
3	To remove the drain hose connecting section from the unit, remove the 2 screws and pull it out.	


(SR039)


(SR040)



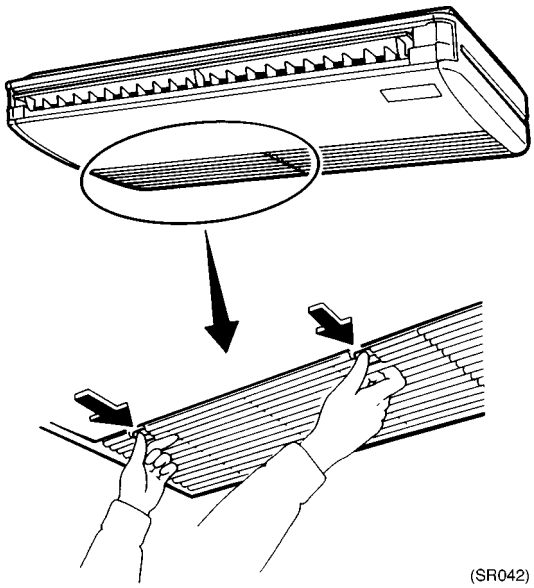
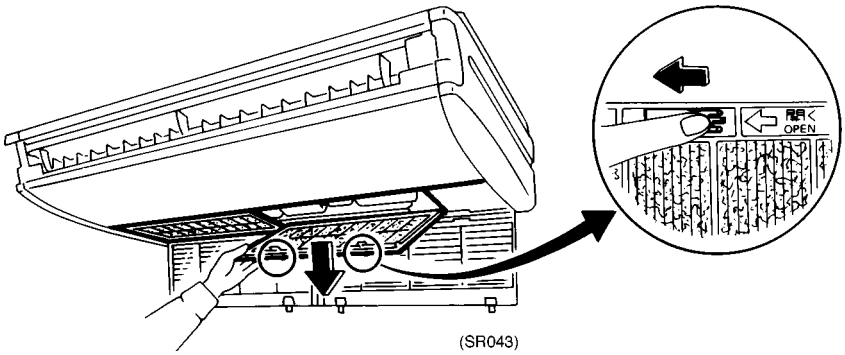
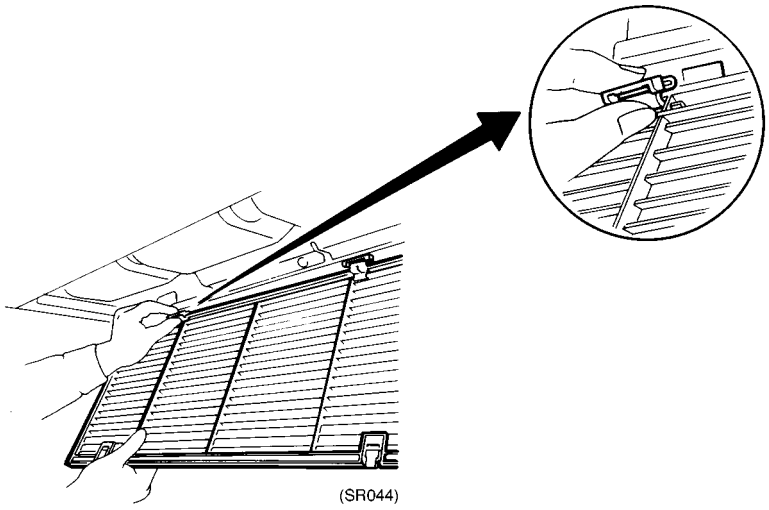
(SR041)

2. For FHY71F

2.1 Removal of Air Filter and Suction Grille

Procedure

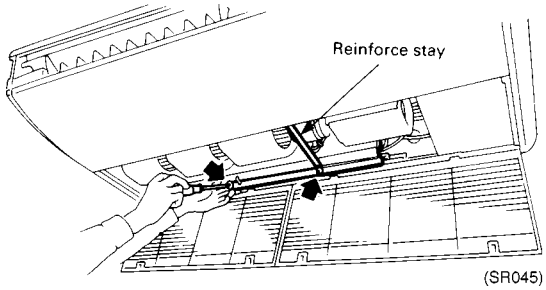
Warning **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1 2 3	The air filter is mounted behind the suction grille. Push the 2 tabs and open the suction grilles. Push the air filter installation panel from 2 places in the direction of the arrow, and pull the air filter out toward yourself.		
4	Grip the air filter installation filter installation tabs and remove the air filter.		
5	Remove the suction grille.		

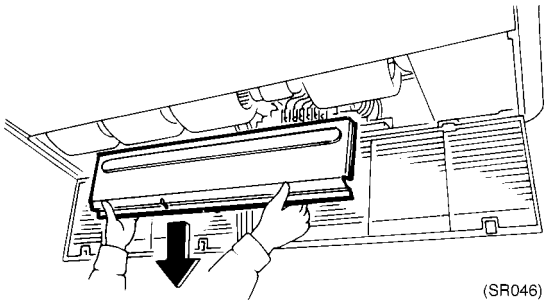
2.2 Removal of Electrical Parts and PC Boards

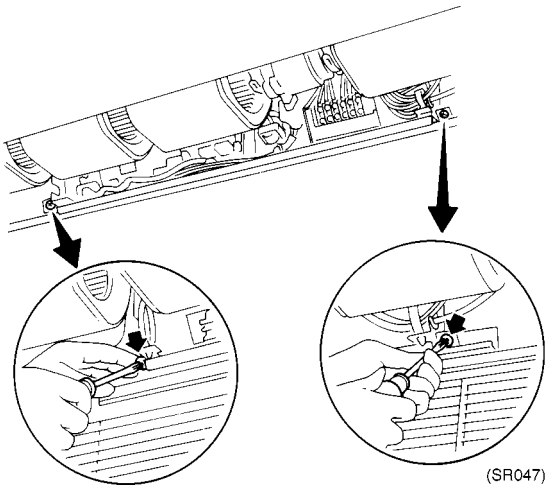
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

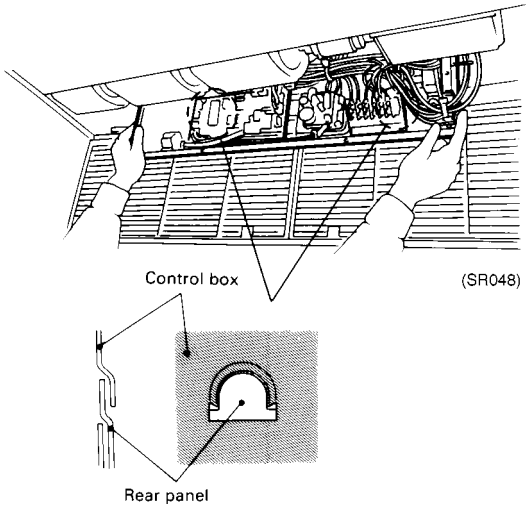
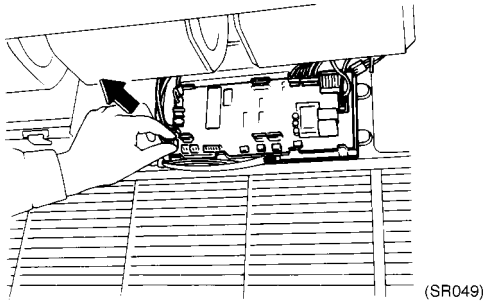
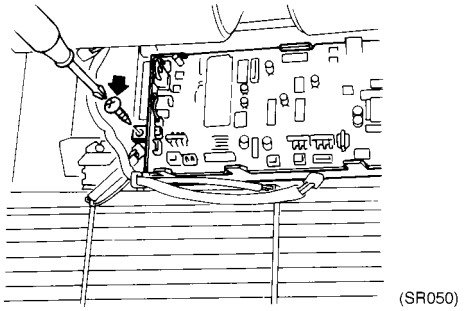
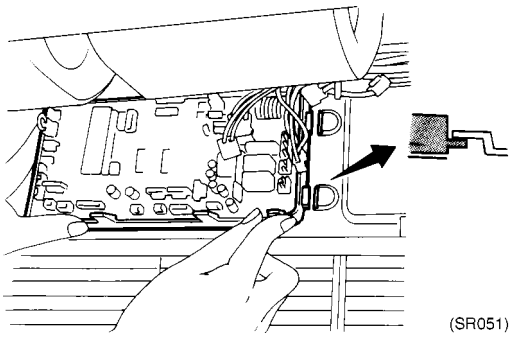
Step	Procedure	Points
∗Remove the air filter according to the procedures for removing the air filter and suction grille.		
1	After removing the reinforce stay (1 installation screw), loosen the 2 screws of the control box cover and remove the control box cover.	
2	Remove the 2 screws of the control box.	



(SR045)

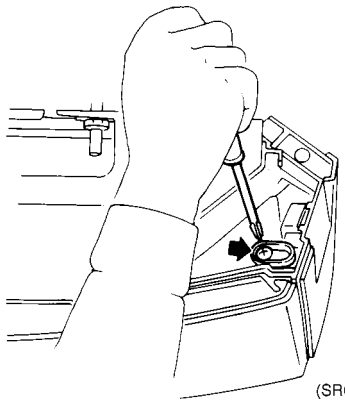
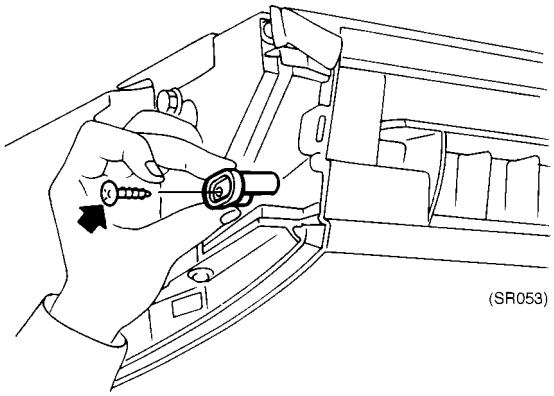
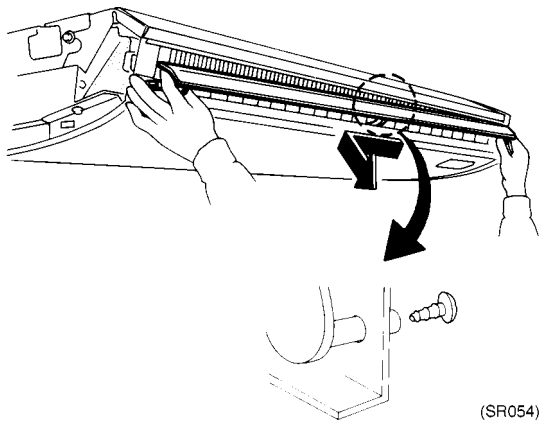

(SR046)


(SR047)

Step	Procedure		Points
3	Pull open the control box and let it hang by the 2 locations in the rear. Electrical parts can now be removed.		
4	Disconnect the connector mounted on the PC board.		
5	Remove the PC board installation screw.		
6	Slide the PC board to the left away from the tabs on the right, and remove the PC board.		

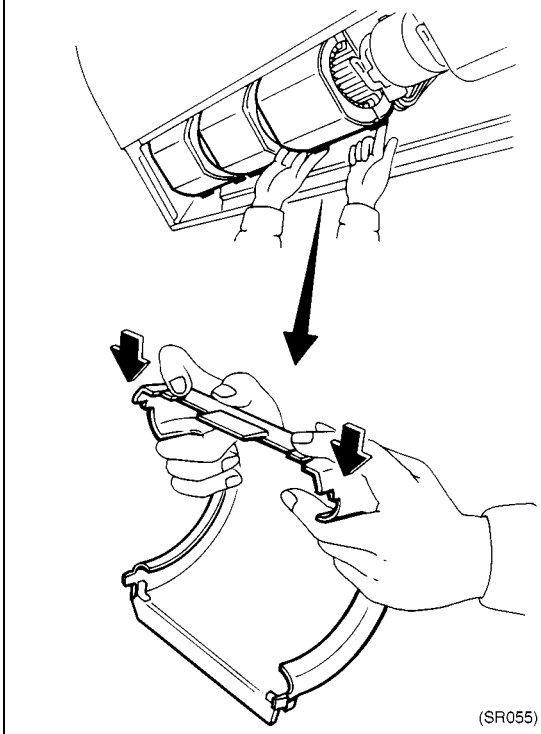
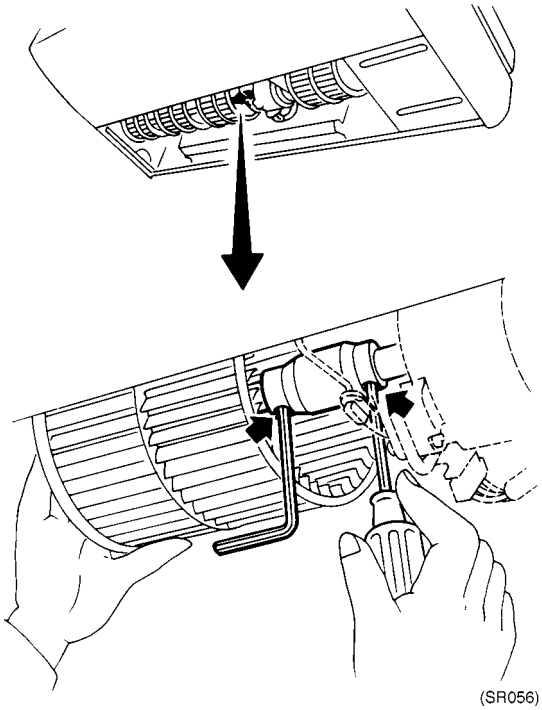
2.3 Removal of Horizontal Blade

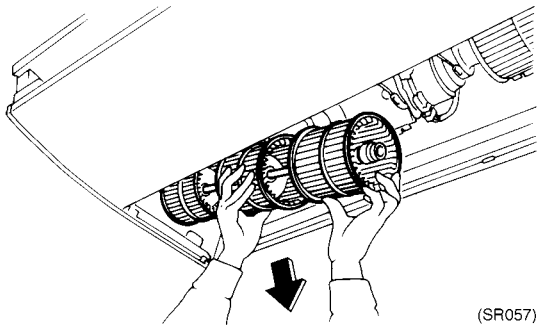
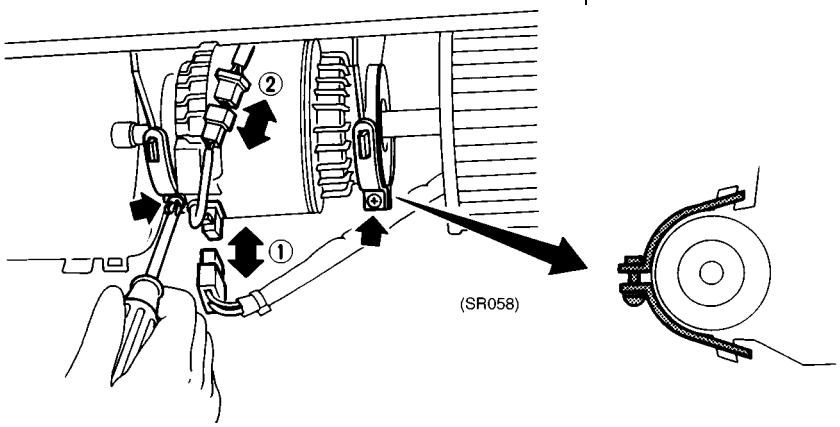
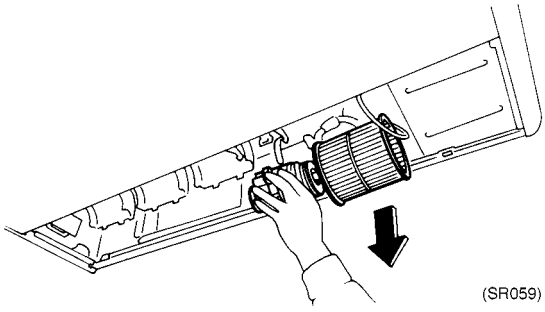
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	Remove the left side panel according to the procedure for removing the fan bearing.	 (SR052)	
2	Remove the screw of the horizontal blade fastener.	 (SR053)	
3	Slide the horizontal blade to the left with both hands, pull it out forward, and remove. (For unit with set screws on the central shaft, perform this operation after removing the screws.)	 (SR054)	

2.4 Removal of Fan Rotor an Motor

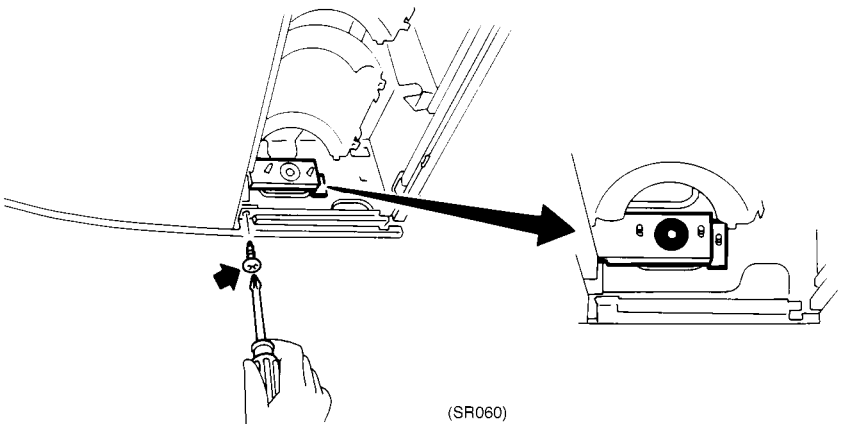
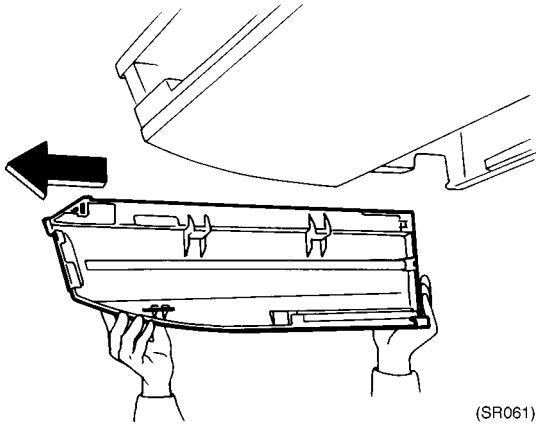
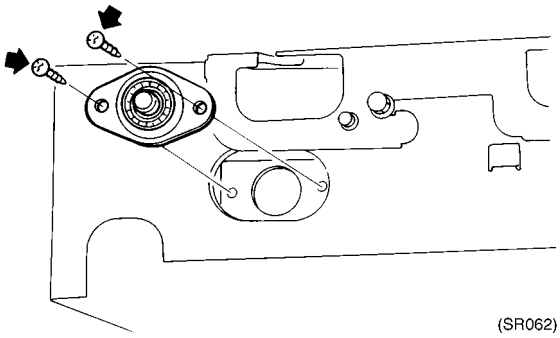
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	Push the 2 tabs of the fan housing toward the inside with your fingers, and pull out the fan housing.	 (SR055)	
2	Loosen the 2 hexagon set screws of the intermediate bearing.	 (SR056)	

Step	Procedure		Points
3	Slide the intermediate bearing to the right and remove the fan rotor ass'y.	 (SR057)	
4 5	Disconnect the 2 fan motor connecting connectors. Remove the 2 fan motor fasteners.	 (SR058)	2 connectors Connector (1) handles high voltage (220-240 V), so be sure to turn of the power supply before disconnecting.
6	Remove the fan motor.	 (SR059)	

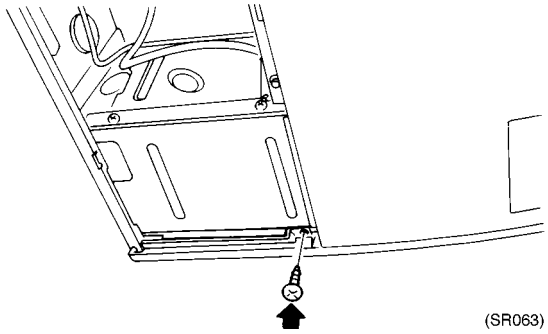
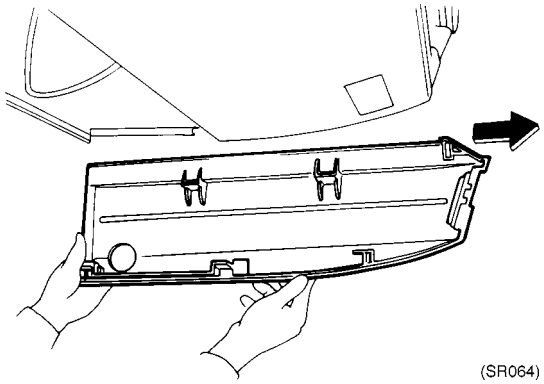
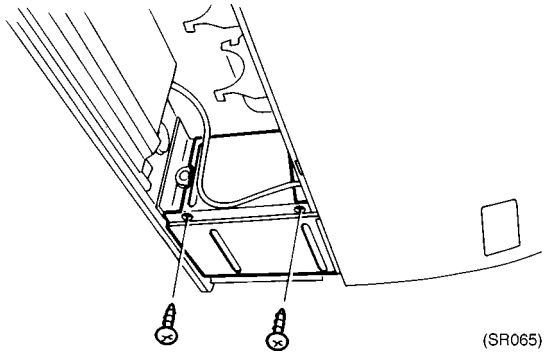
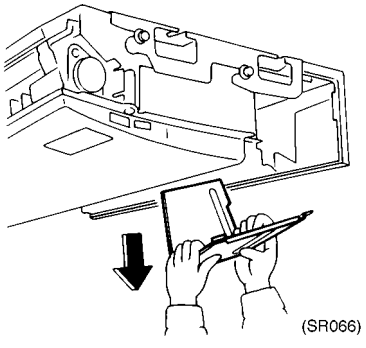
2.5 Removal of Fan Bearing

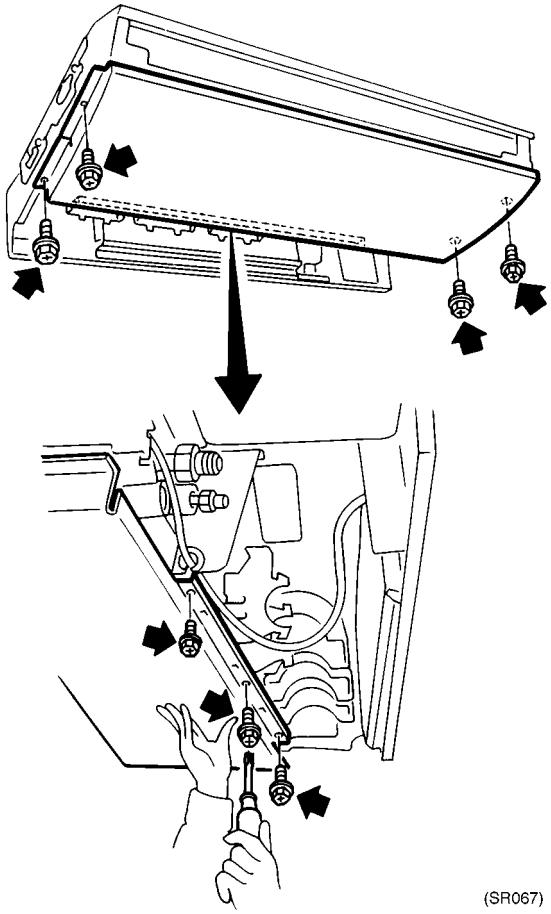
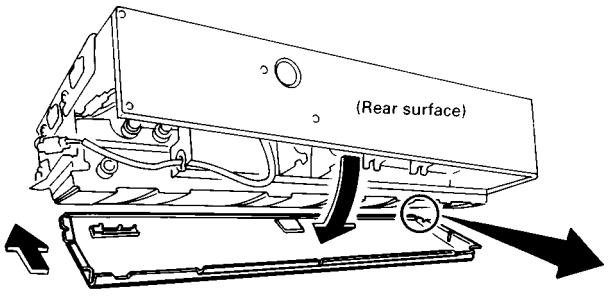
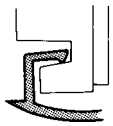
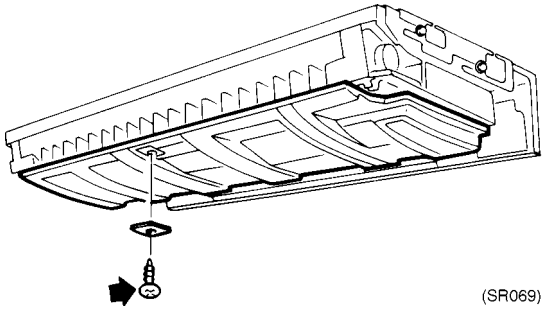
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

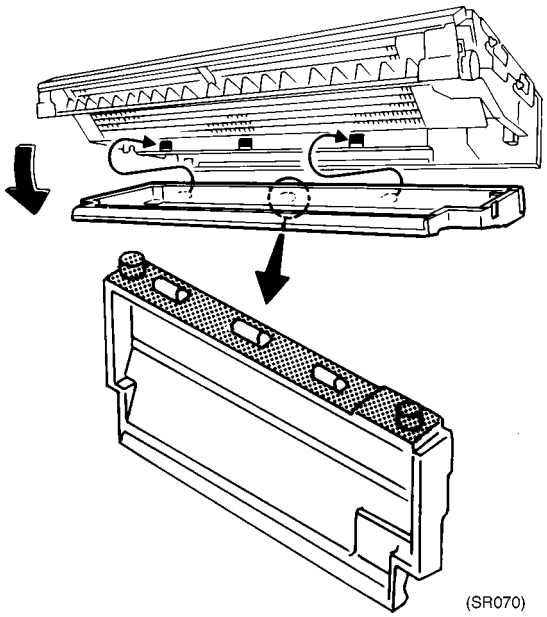
Step	Procedure	Points
∗Remove the fan rotor according to the procedures for removing the fan rotor and fan motor.	 (SR060)	
1	Remove the left side panel installation screw.	
2	Slide the left side panel toward the front of the unit and remove.	 (SR061)
3	Remove the 2 bearing installation screws and remove the bearing.	 (SR062)

2.6 Removal of Bottom Panel and Drain Pan

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

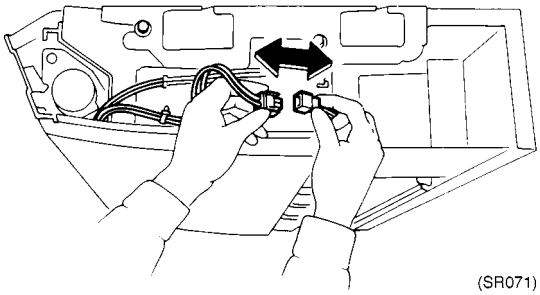
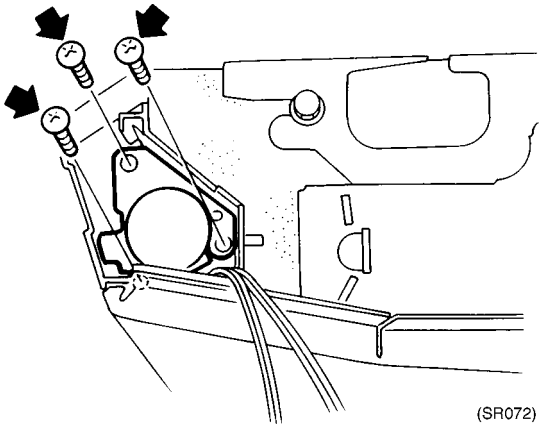
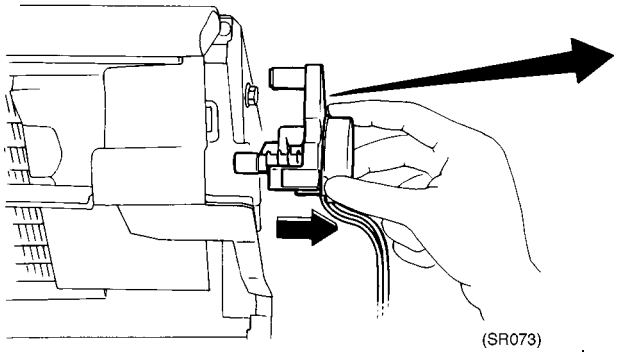
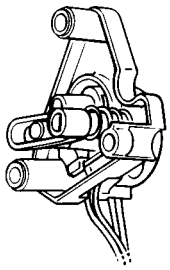
Step	Procedure		Points
∗Remove the air filter according to its removal procedure.			
1	Remove the right side panel installation screw.	 (SR063)	
2	Slide the right side panel toward the front of the unit and remove.	 (SR064)	
3	Remove the 2 wiring cover installation screws.	 (SR065)	
4	Remove the wiring cover.	 (SR066)	

Step	Procedure		Points
5	Remove the 5 bottom panel installation screws (2 each on the left and right, 3 in the rear), and remove the bottom panel.	 (SR067)	Remove the rear surface screws (2 each on the left and right), and remove the center screw while supporting the bottom panel from underneath.
6	Let down the rear of the bottom panel, push out toward the front (removed from the hooking part) and remove.	 (SR068)	
7	Remove the drain pan retainer (1 screw).	 (SR069)	

Step	Procedure		Points
8	Lower the front surface of the drain pan, remove the hooking part of the rear surface, and remove the drain pan.	 (SR070)	(1) Lower the front surface of the drain pan. (2) Remove the hooking part of the rear surface.

2.7 Removal of Swing Motor

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

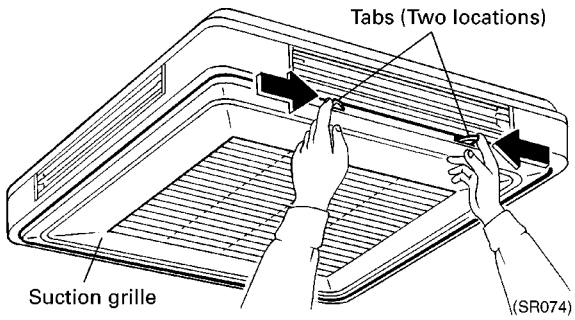
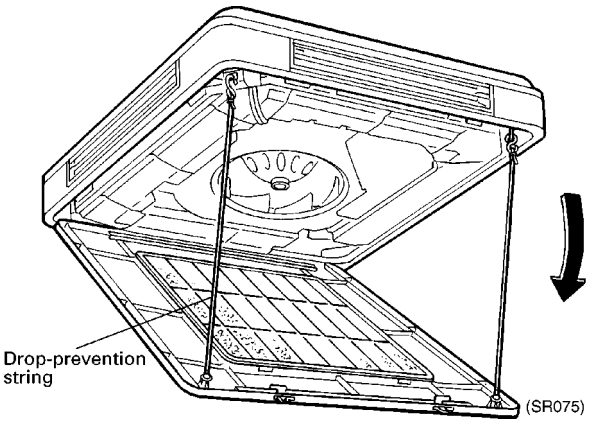
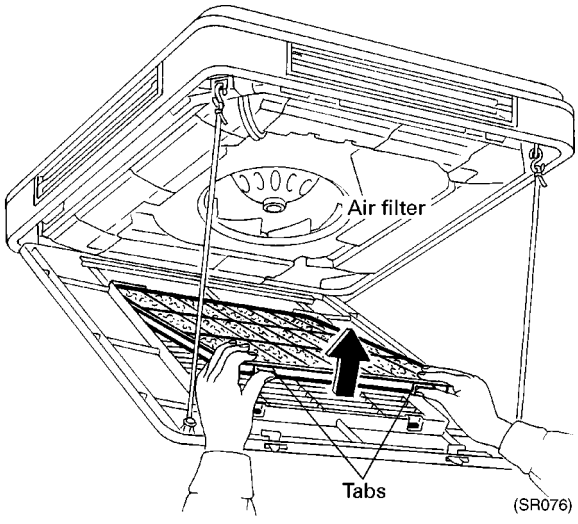
Step	Procedure		Points
	∗Remove the right side panel according to the procedures for removing the bottom panel and drain pan.	 (SR071)	
1	Disconnect the connector connected to the swing motor.		
2	Remove the 3 swing motor installation screws.	 (SR072)	
3	Remove the swing motor.	 (SR073)	When installing match the position with the horizontal blade shaft. 

3. For FUY71/100/125FJ

3.1 Removal of Air Filter

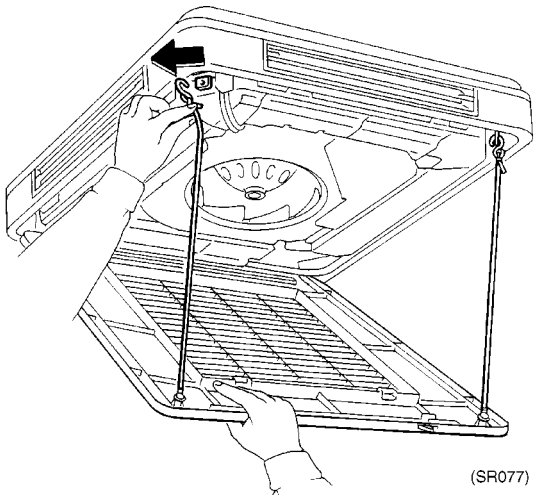
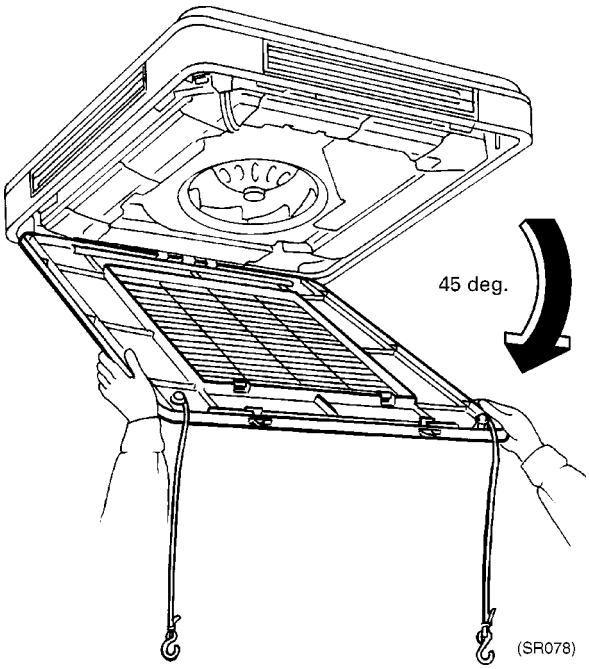
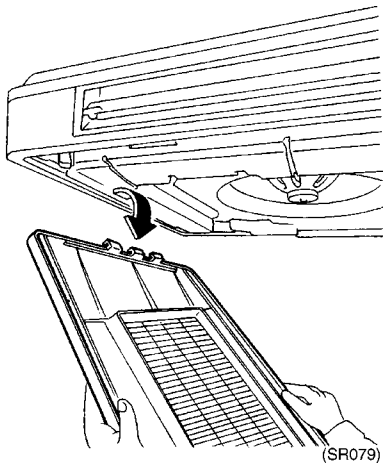
Procedure

Warning **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	Opening suction grille Push two tabs on suction grille toward the center of grille at the same time.		
2	Pull down suction grille. (Two strings are equipped to prevent the grille from dropping.)		
3	To remove air filter, lift the tabs up at the same time and pull it forward.		

3.2 Removal of Suction Grille

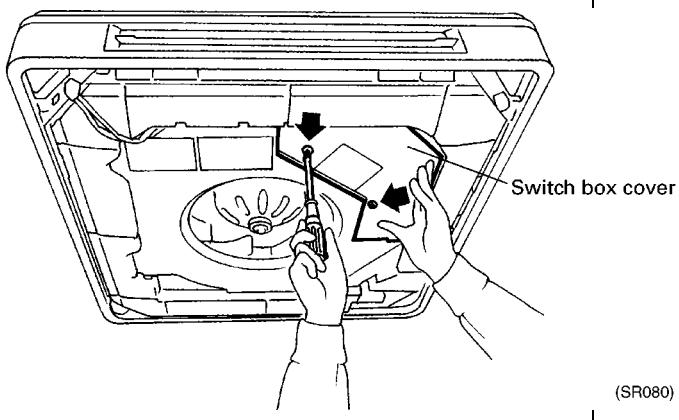
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

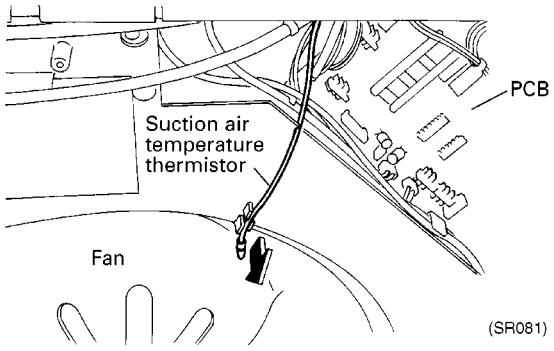
Step	Procedure		Points
1.	Unhook two drop-prevention strings while supporting suction grille with hand.	 (SR077)	
2.	Open suction grille forward for approx. 45 degree.	 45 deg. (SR078)	
3.	Disengage three hooks located at rear side of the grille to remove suction grille.	 (SR079)	

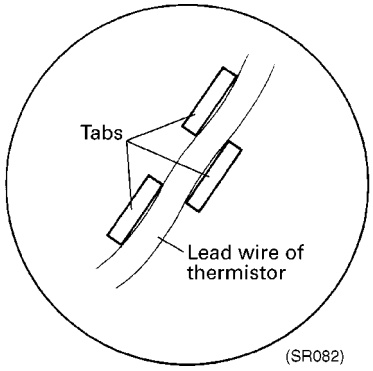
3.3 Removal of Fan

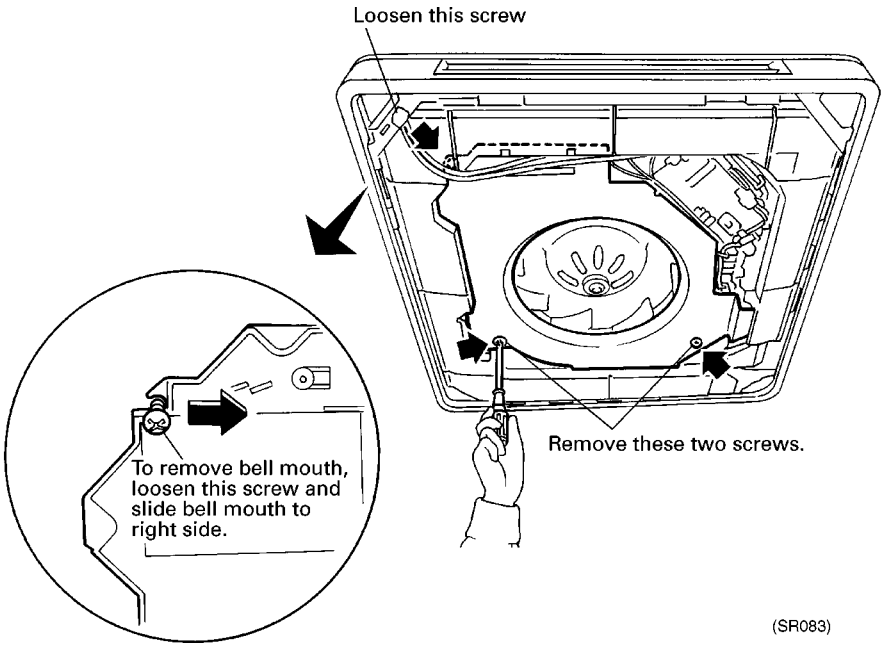
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

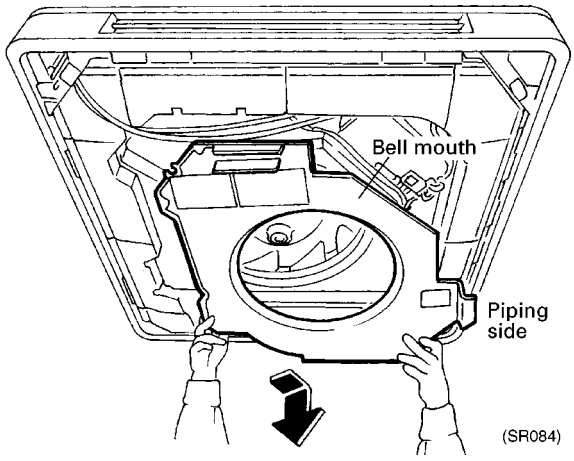
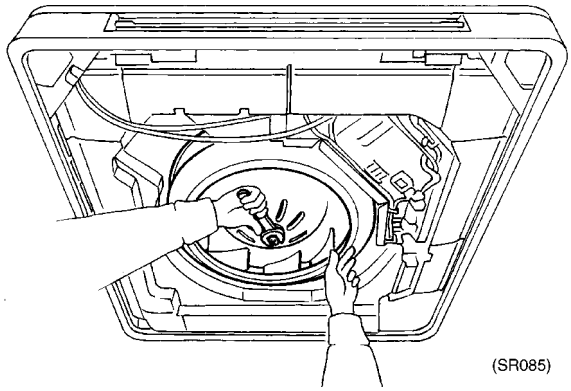
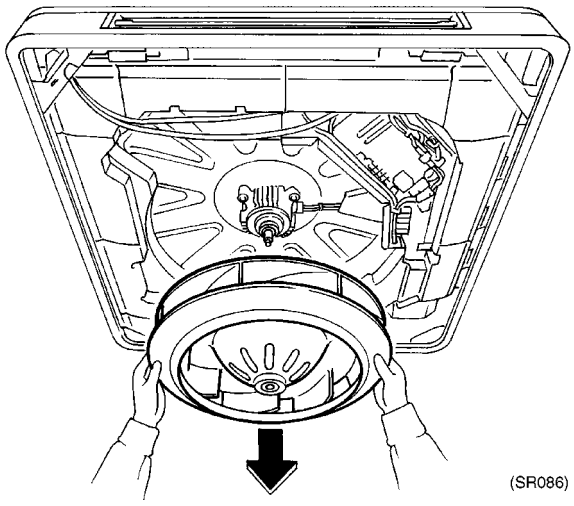
Step	Procedure	Points
1.	Remove two mounting screws to dismount switch box cover.	
2.	Remove suction air temperature thermistor attached to bell mouth.	
3.	Bell mouth is mounted with tree screws. Loosen a screw located at diagonal position to the pipings and remove other two screws.	





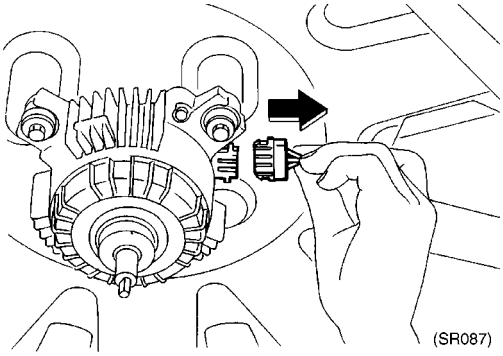
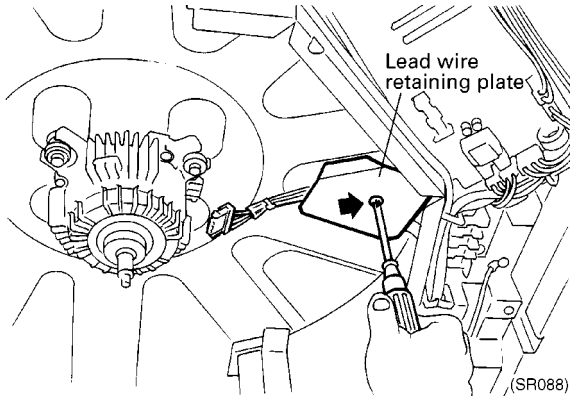
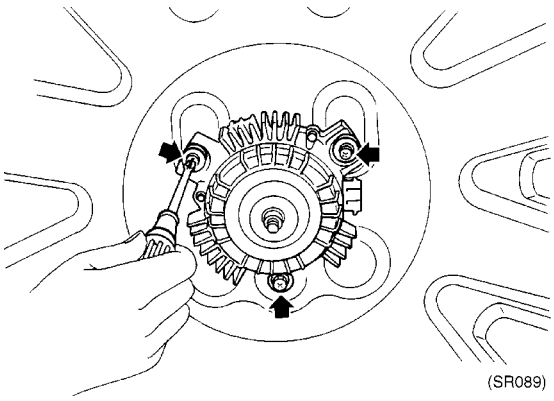
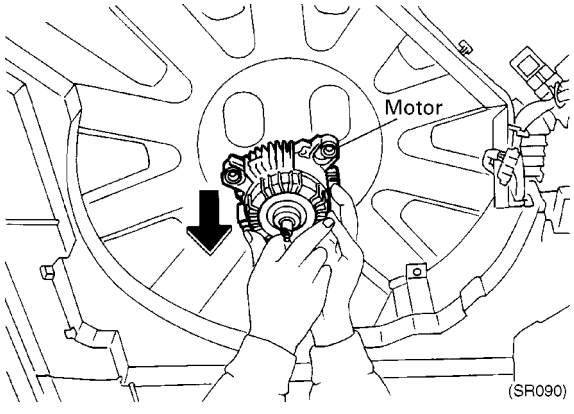




Step	Procedure		Points
4.	Remove bell mouth by sliding to piping direction.		
5.	To dismount fan, remove washer based nut using double-ended wrench		
6.	Remove fan by pulling down.		

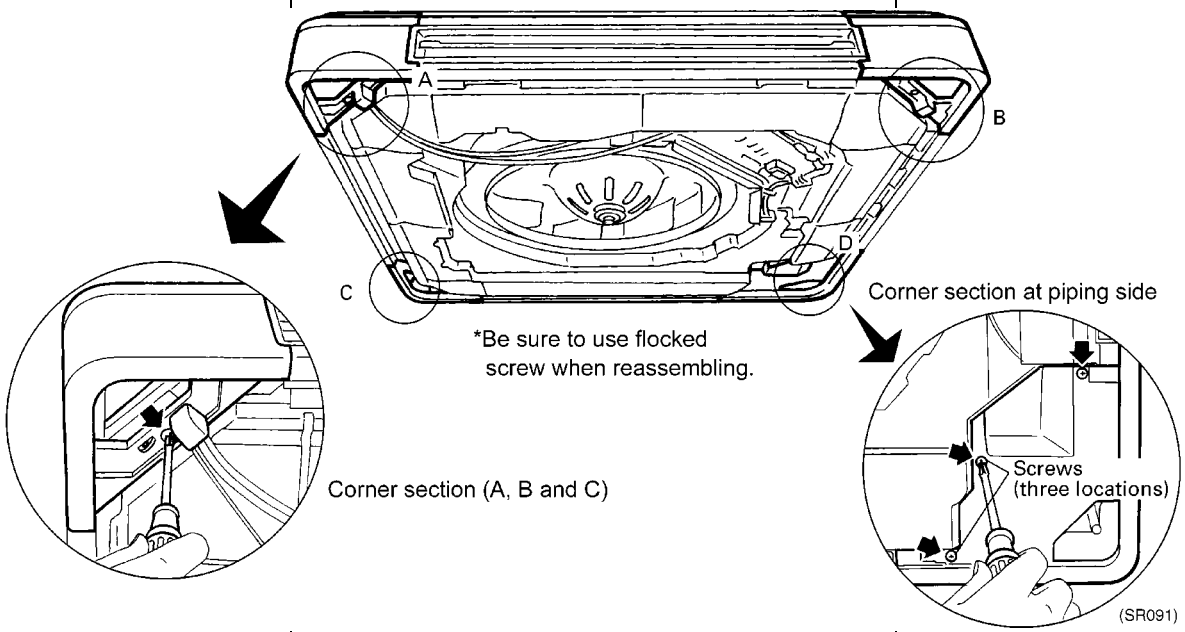
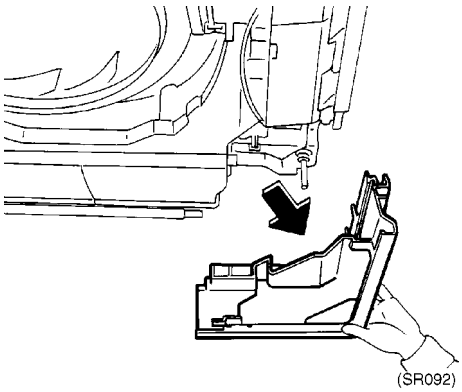
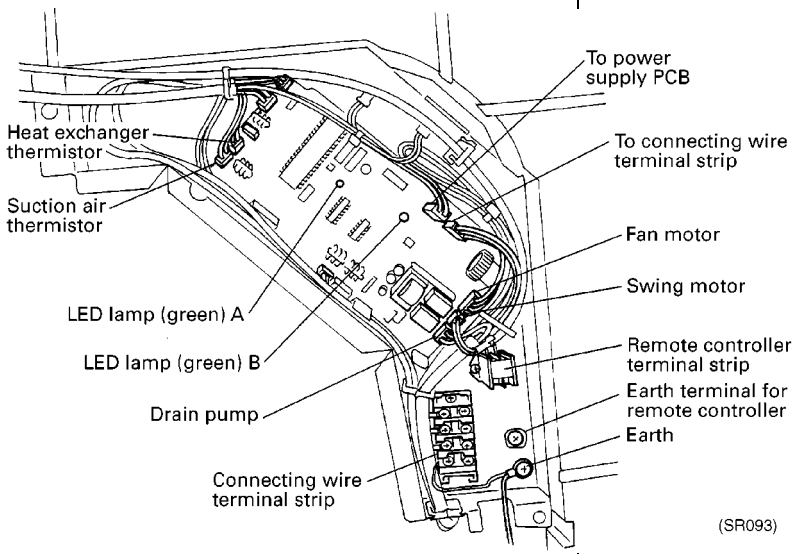
3.4 Removal of Fan Motor

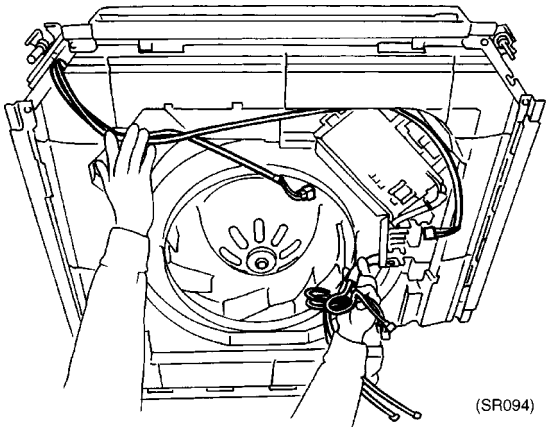
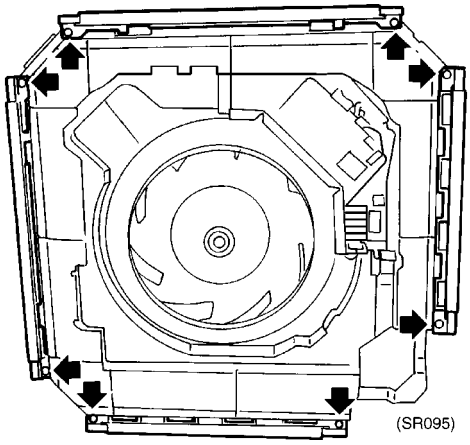
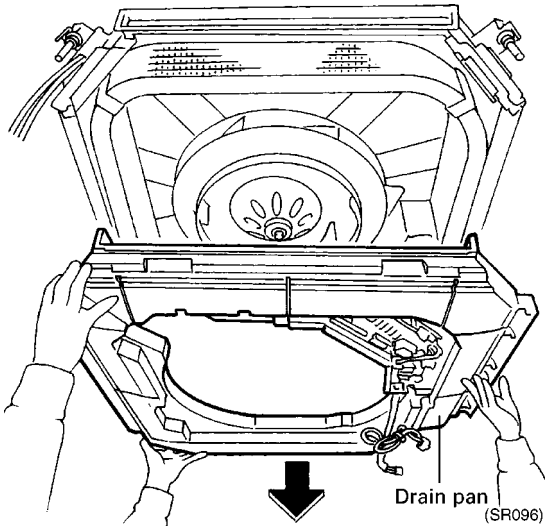
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Poins
1.	Removing fan motor a. Disconnect connector b. Remove lead wire retaining plate	 	**Caution** ∗Fan motor can be removed without removing the lead wire retaining plate. However, when washing the heat exchanger, this plate should be removed and protect the lead wires.
2.	Remove screws for mounting fan motor. ∗FUY71FJV1 : Three screws ∗FUY100/125FJV1 : Four screws		
3.	Remove motor by pulling down.		

3.5 Removal of Drain Pan

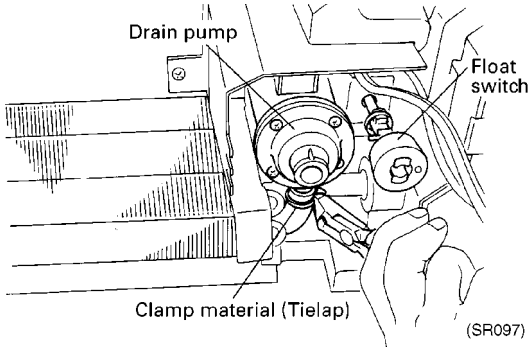
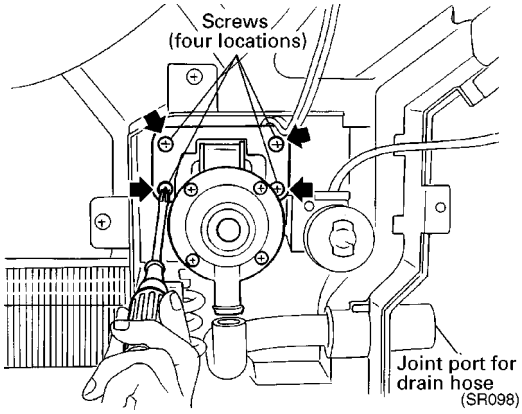
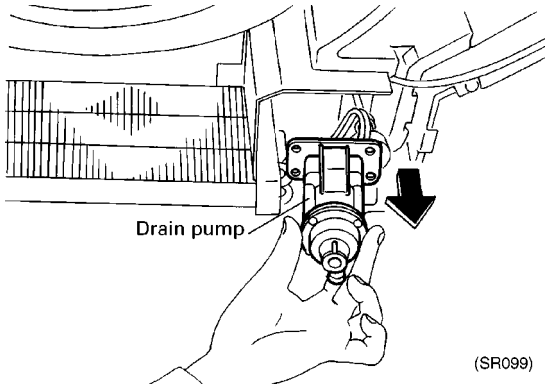
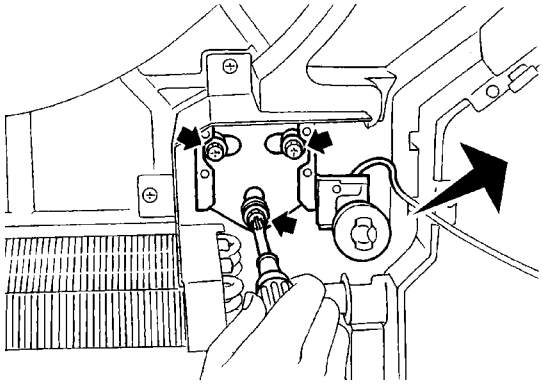
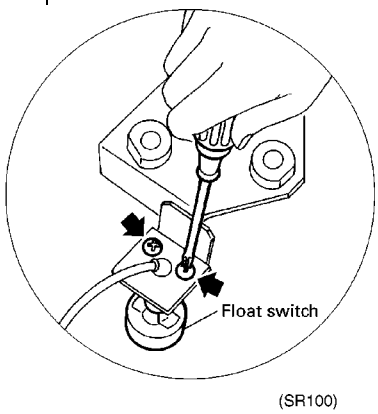
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
∗Remove suction grille according to the Removal of air filter and that of suction grille.		
1. To dismount three corner sections A, B and C, remove a flocked screw. 2. Remove three flocked screws to dismount corner section D.		
3. Disconnect wires and connectors from PCB.		

Step	Procedure		Points
4.	Arrange wire harness to avoid interference with next process.	 (SR094)	**Caution** ∗This work should be done by two personnel. ∗If drain water remain in the pan, it may drop and stain on the floor. Make sure to check if no drain water remain in the pan, or cover the floor with vinyl sheet before disassembling work.
5.	To dismount drain pan blocking plate, remove each two mounting screws located at four corners.	 (SR095)	
6.	Remove drain pan by pulling it down.	 (SR096)	

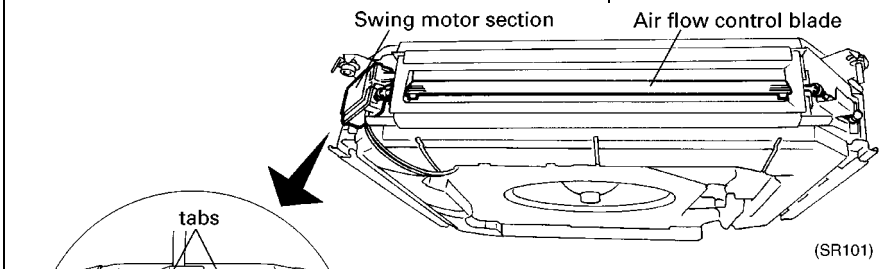
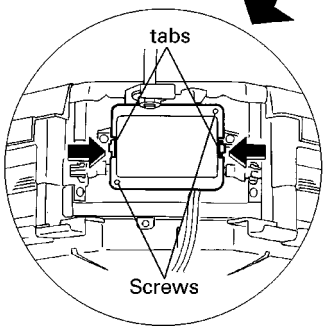
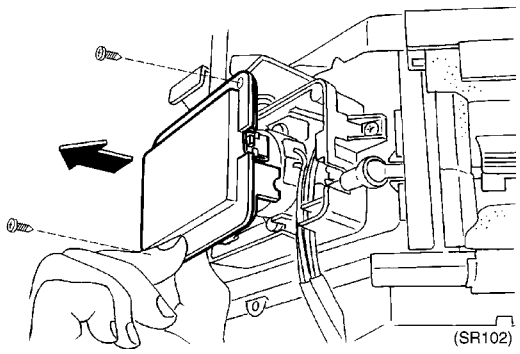
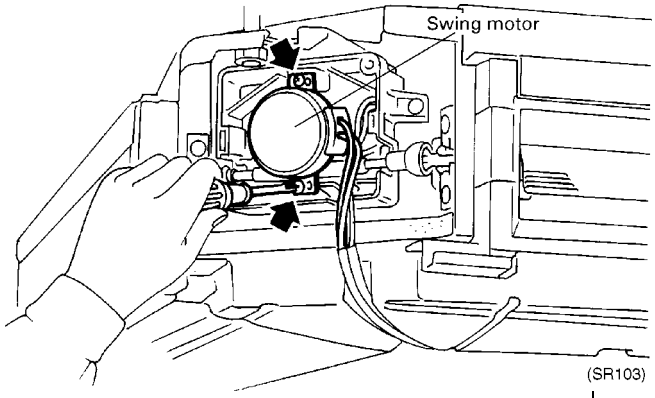
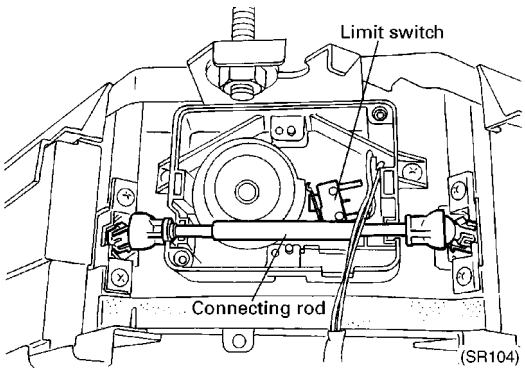
3.6 Removal of Drain Pump

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1.	Drain pump is located at piping side. Cut clamp material of hose, and disconnect hose from pump.		**Caution** ∗When reconnect drain hose with the pump, secure hose at joint using clamping material such as Tielap. (Clamping material should be normally included in the stock items.)
2.	Remove four screws to dismount drain pump.		
3.	Dismount drain pump by pulling it down.		
4.	Removing float switch a.Loosen three mounting screws to remove drain pump mounting base. b.Remove two screws located at opposite side of drain pump mounting base to dismount float switch.	 	

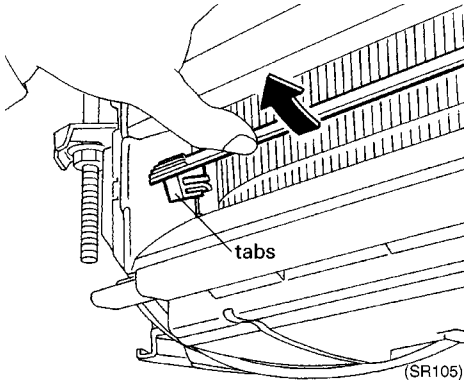
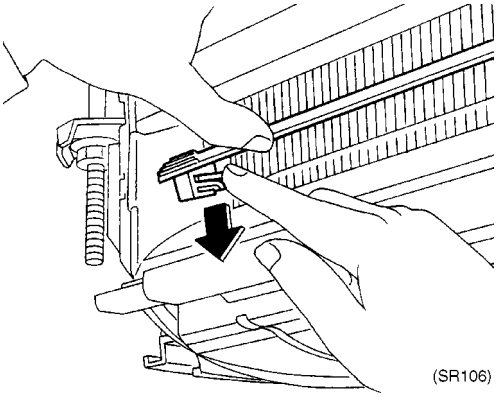
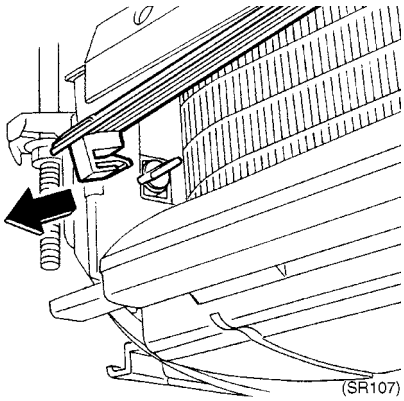
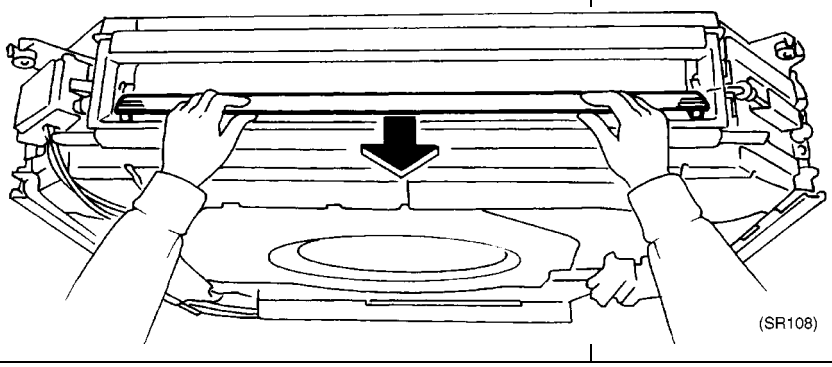
3.7 Removal of Swing Motor

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
∗Remove suction grille according to the Removal of suction grille 1. Swing motor is located at the diagonal position of piping. 2. Remove two mounting screws for swing motor cover. 3. Remove swing motor cover by holding two tabs on the cover.	  	
4. Remove two screws to dismount swing motor.	 	

3.8 Removal of Air Flow Control Blade

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

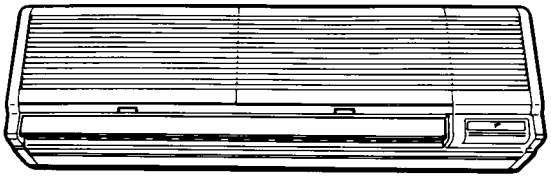
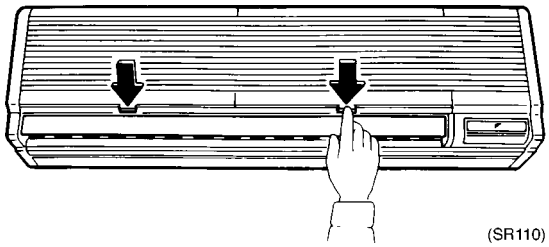
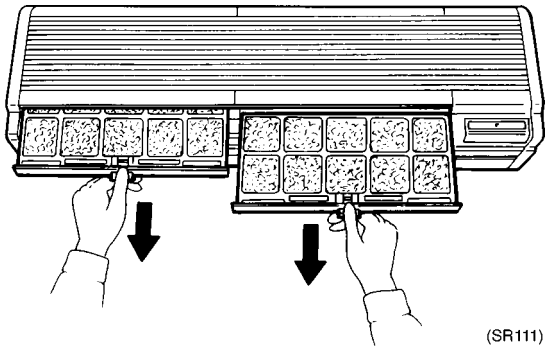
Step	Procedure	Points
1.	To remove horizontal blade, press down tabs located at both end of blade and pull them forward.  (SR105)  (SR106)  (SR107)	
2.	Remove horizontal blade.  (SR108)	

4. For FAY71F (A)

4.1 Removal of Air Filter

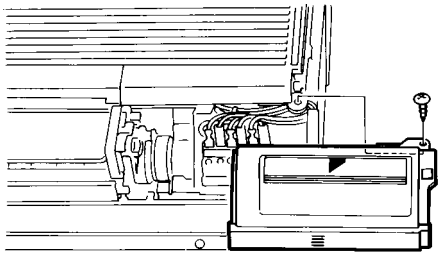
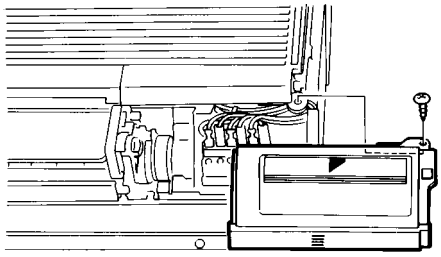
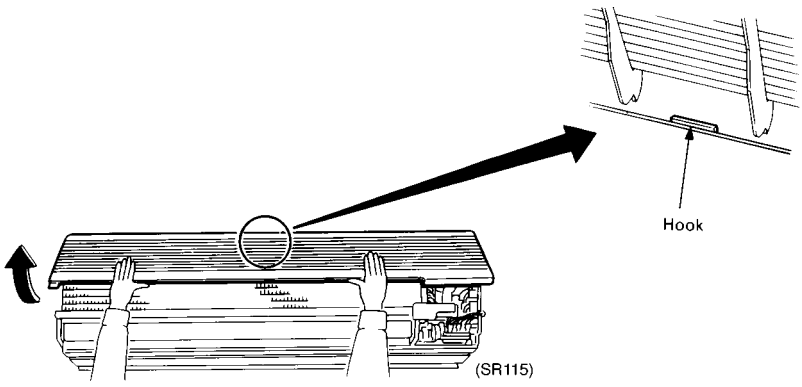
Procedure

Warning **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
		 (SR109)	
1	Hold the air filter tabs with your hands and pull out.	 (SR110)	
2	Pull the air filter out.	 (SR111)	

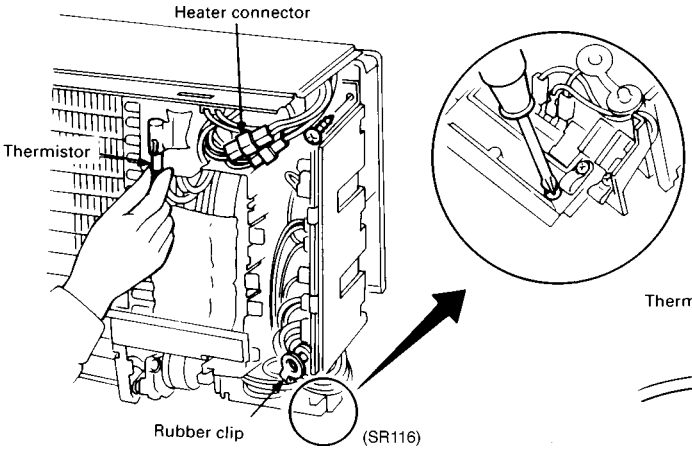
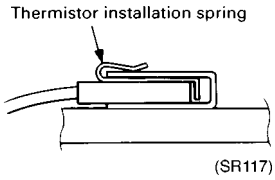
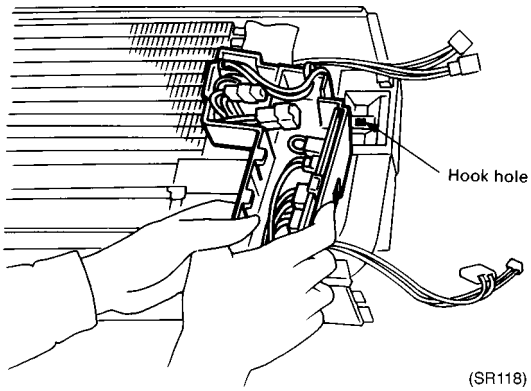
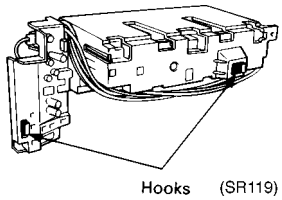
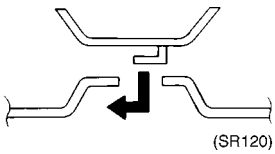
4.2 Removal of Slide Panel, Operation Display Cover, and Front Grille

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	Remove the left and right side panels. (1 white screw each on left and right)	 (SR112)	The wiring diagram is applied to the right side panel, and troubleshooting list is applied to the left side panel.
2	Remove the operation display cover installation screw and remove the cover by sliding to the right.	 (SR113)	
3	Remove the front grille installation screws (3 M4X l12 screws with spacers)	 (SR114)	
4	Disconnect the upper hook of the front grille and remove.	 (SR115)	

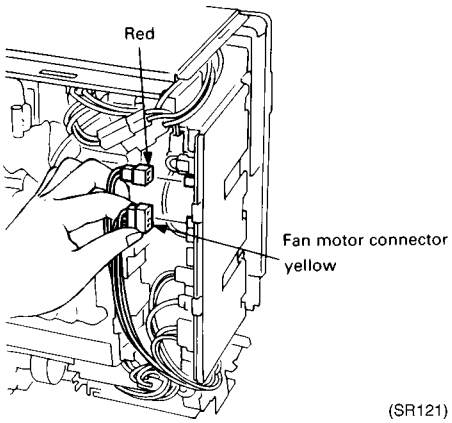
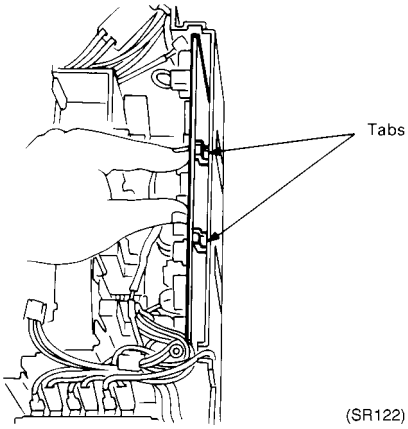
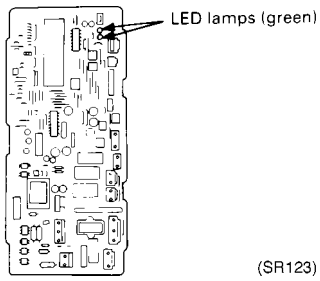
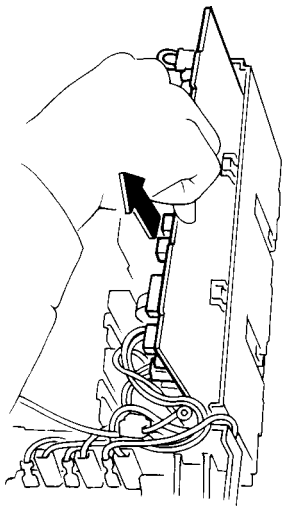
4.3 Removal of Electrical Parts Box

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
∗Remove the left and right side panels, operation display cover and front grille according to the procedures for their removal.		The left and right side panels have to be taken off in order to remove the front grille.
1	Remove the (1) thermistor, (2) heater connector and (3) rubber clip connected to the PC board.	
2	Remove the 2 screws fastening the electrical parts box to the units.	
3	Lift the electrical parts box and remove by moving toward the right.	
		
		

4.4 Removal of PC Board

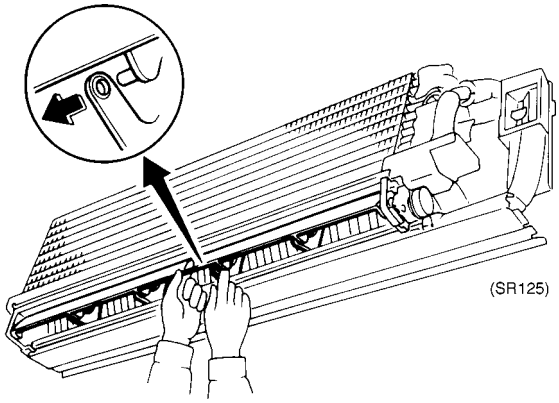
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

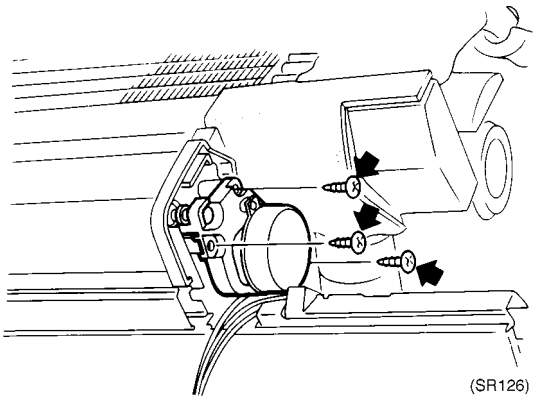
Step	Procedure	Points
∗Remove the outer panels according to the procedure for removing the electrical parts box.		
1 Disconnect the front side wiring connector connected to the PC board.		
2 Disconnect the PC board from the tabs by pushing it inward. Draw the PC board out partly and disconnect the remaining connectors.		 The tape holding the electrical parts box and PC board is for transport, and is unnecessary when reinstalling.
3 Completely remove the PC board.		

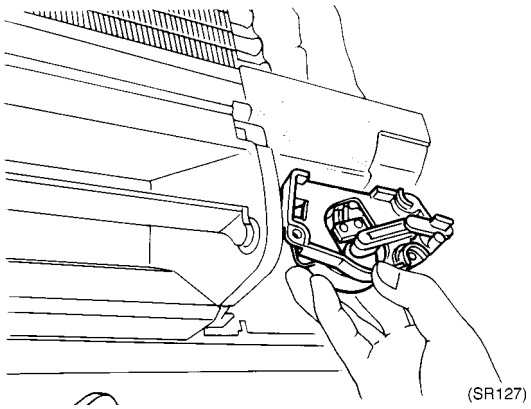
4.5 Removal of Swing Louvre Unit

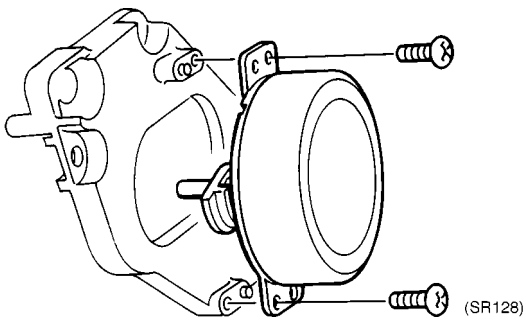
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
∗Remove the electrical parts box according to its removal procedure.		
1	Remove the horizontal blade.	
2	Remove the swing Louvre unit. (3 screws)	
3	Remove the swing motor from the swing Louvre unit.	You can replace the swing motor without removing the swing Louvre unit.



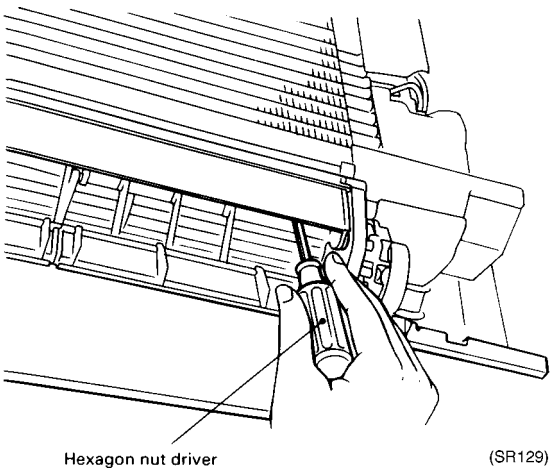
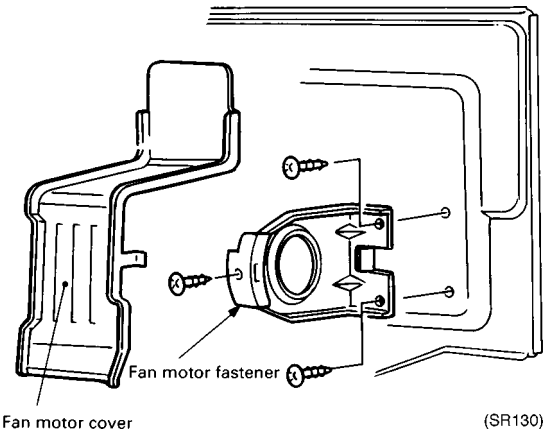
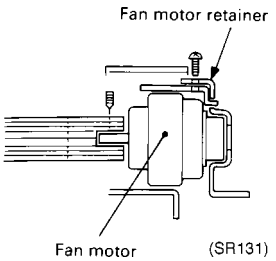
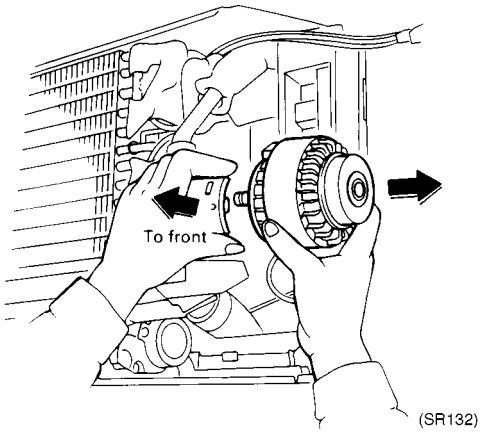






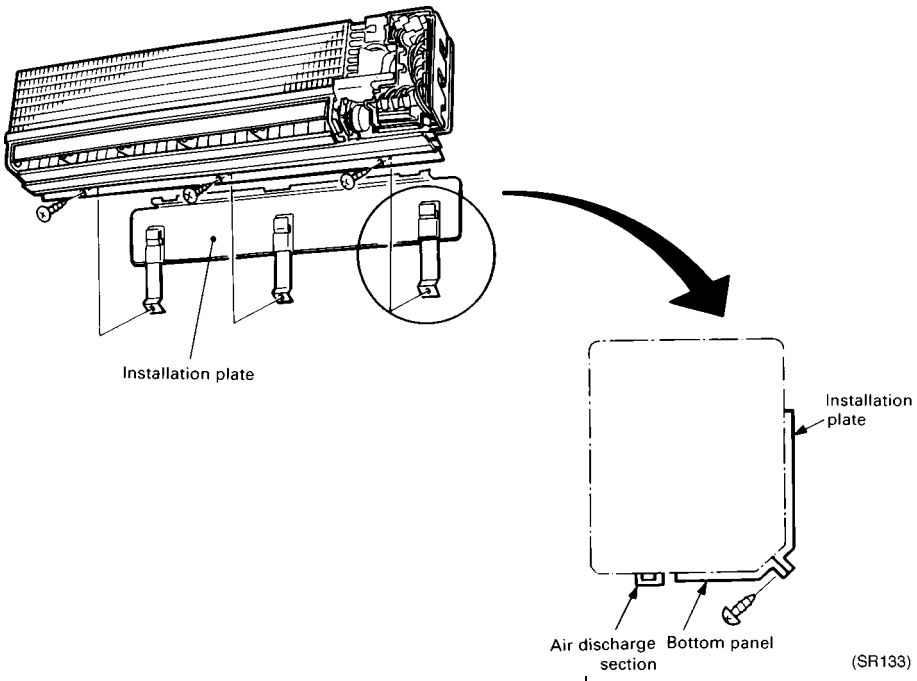
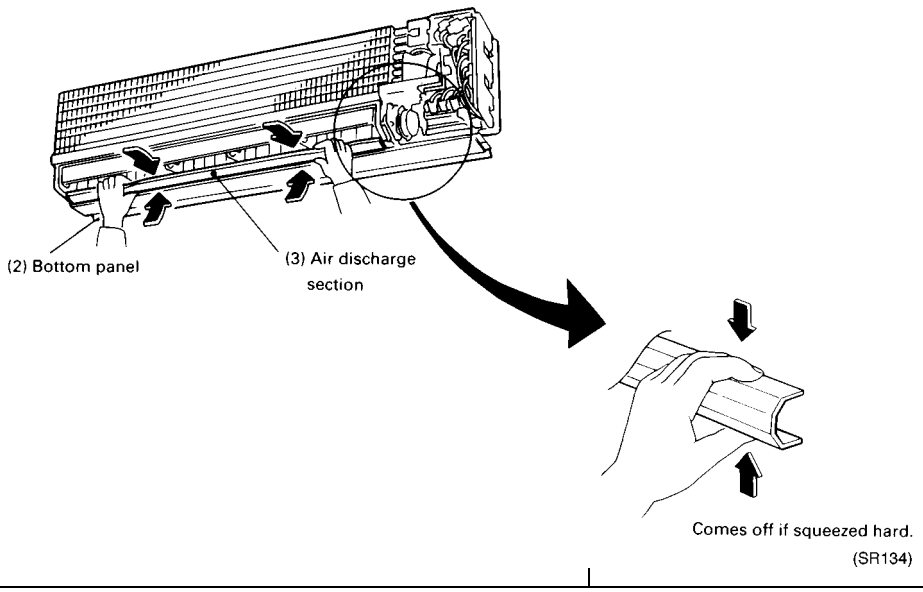
4.6 Removal of Fan Motor

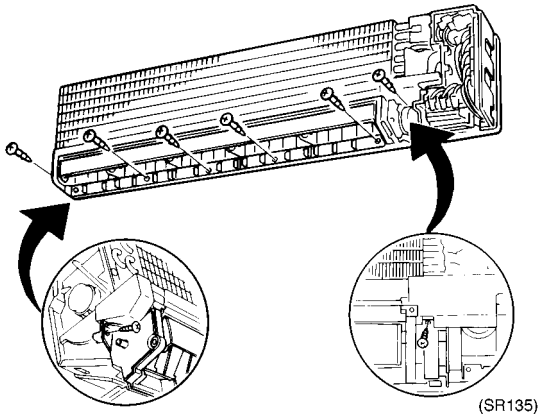
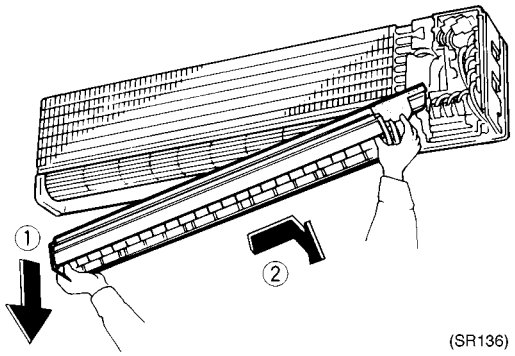
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
∗Remove side panels and other external casing, and electrical parts box according to their removal procedures.			
1	Loosen the hexagon set screw fastening the fan rotor and fan motor.		Use 2.5 mm hexagon nut driver.
2	Remove the fan motor fastener. (3 screws)		
3	Remove the fan motor.		

4.7 Removal of Drain Pan

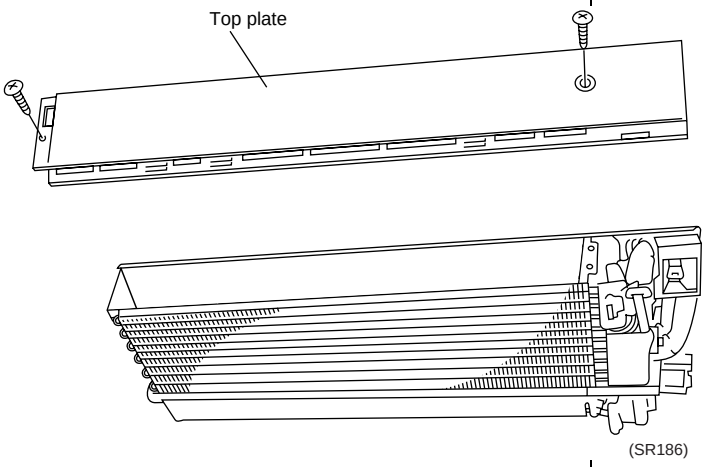
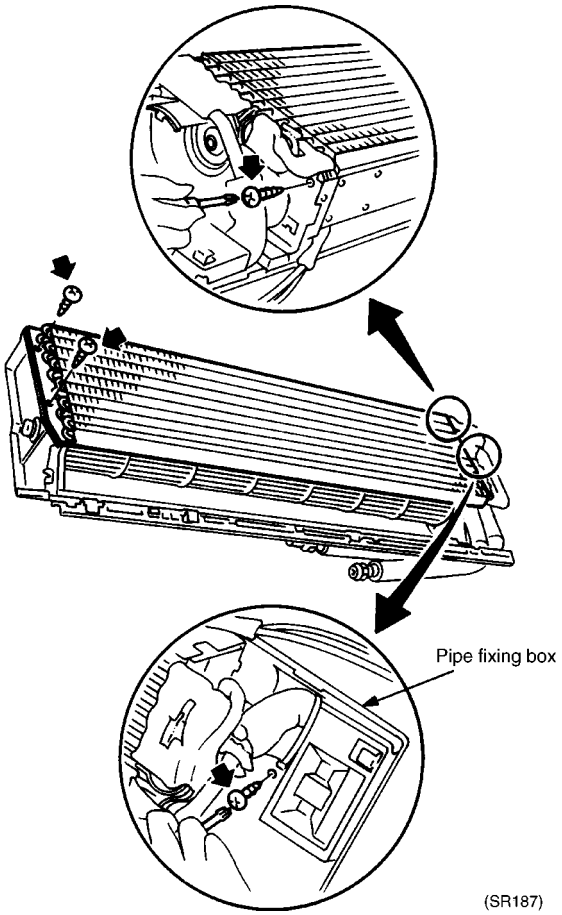
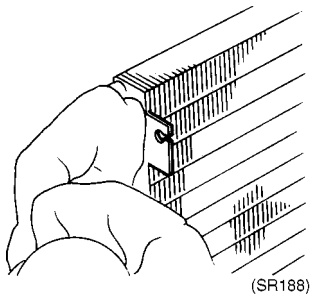
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
∗If removing the drain pan: Carry out pump down, disconnect the transmission piping and wiring, and remove the main unit. ∗Remove side panels, operation display cover and front cover according to their removal procedures.		The bottom panel is fastened to the unit installation plate by 3 screws.
1 Remove the bottom panel.		
2 Remove the air discharge section.		

Step	Procedure		Points
3	Remove the air discharge unit. (7 screws)	 (SR135)	Center of air discharge section also screw fastened.
4	Remove the drain pan.	 (SR136)	1 Pull left side toward yourself. 2 Move the drain hose to the right until it comes off.

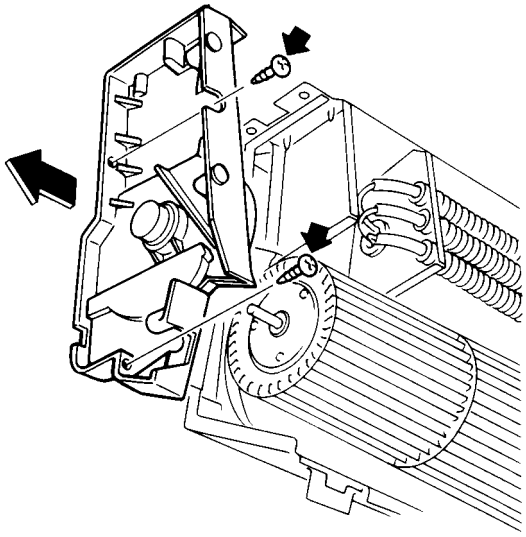
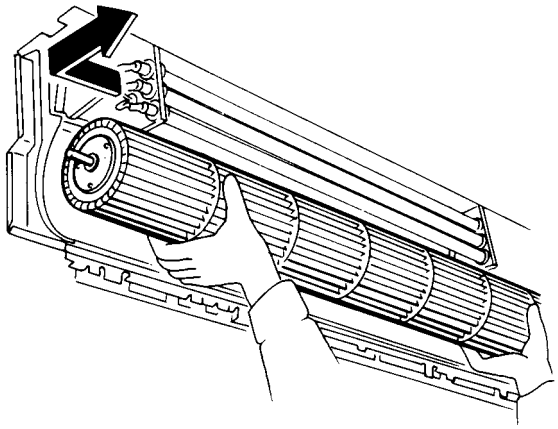
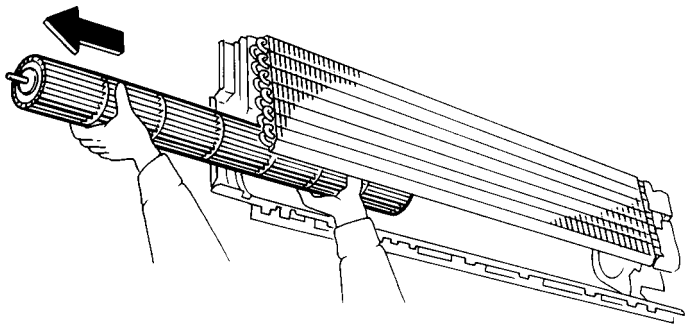
4.8 Removal of Heat Exchanger

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
∗Before dismounting a heat exchanger, make sure to proceed pump down refrigerant to outdoor unit and disconnect the connection pipe and wiring, then remove the indoor unit.		
1	Dismount top plate	 (SR186)
2	Remove the 3 setting screws for heat exchanger and one screw for pipe fixing box.	 (SR187)	There is a hock right hand side behind the heat exchanger.  (SR188)

4.9 Removal of Fan Rotor

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

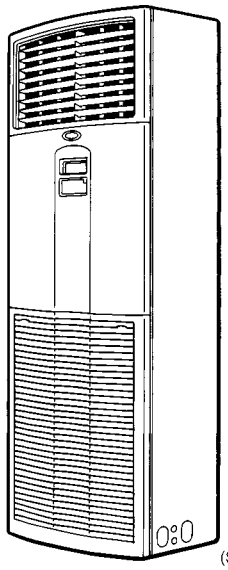
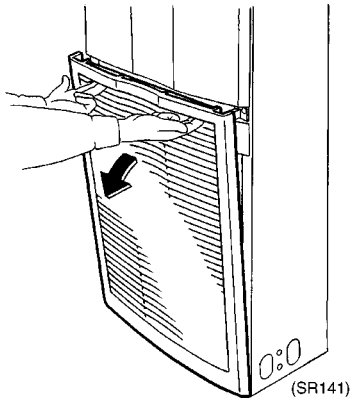
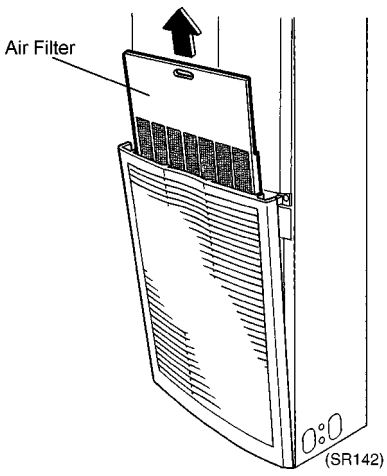
Step	Procedure	Points
∗Remove the heat exchanger according to its removal procedure.		You can also remove the auxiliary electric heater without removing the heat exchanger.
1	Remove the 2 screws of the left side panel.	 (SR137)
2	Remove the fan rotor by sliding to the left and pulling out toward yourself.	 (SR138)
Reference If you have enough space to pull the fan rotor out from the left side, you can remove it without dismounting the heat exchanger.		 (SR139)

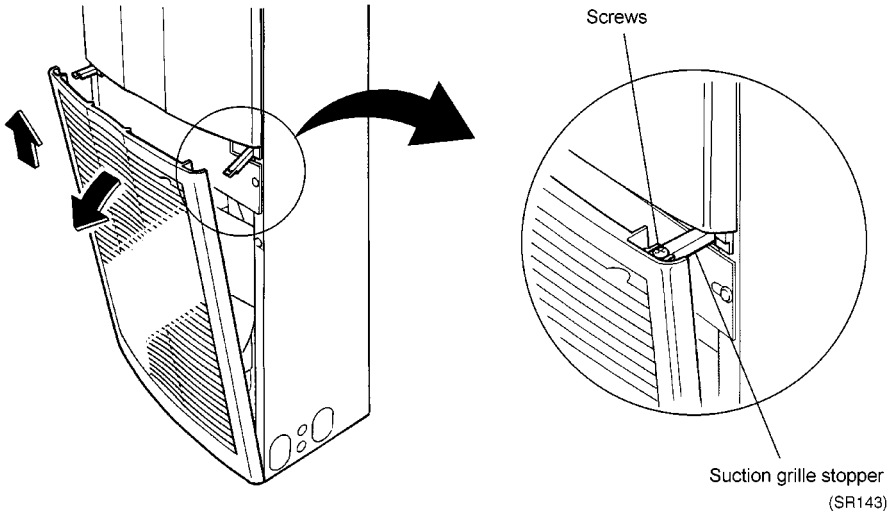
5. For FVY71L~125L

5.1 Removal of Suction Grille and Air Filter

Procedure

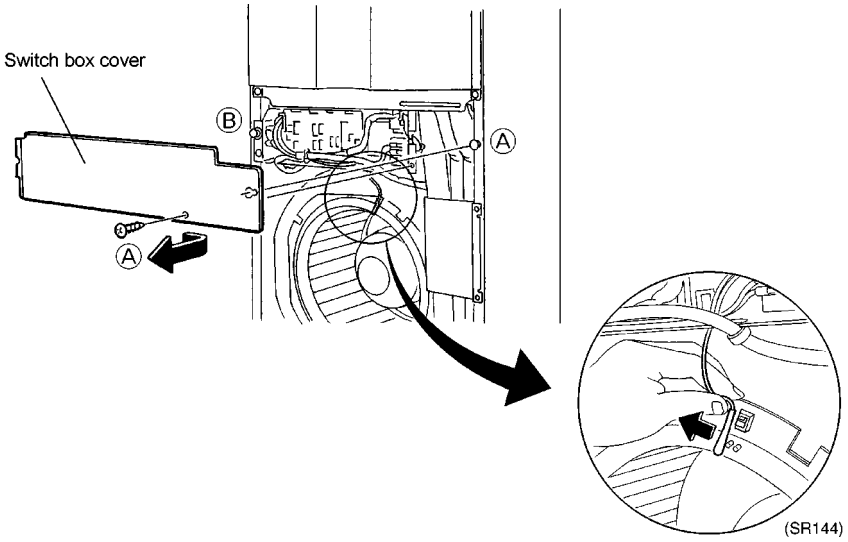
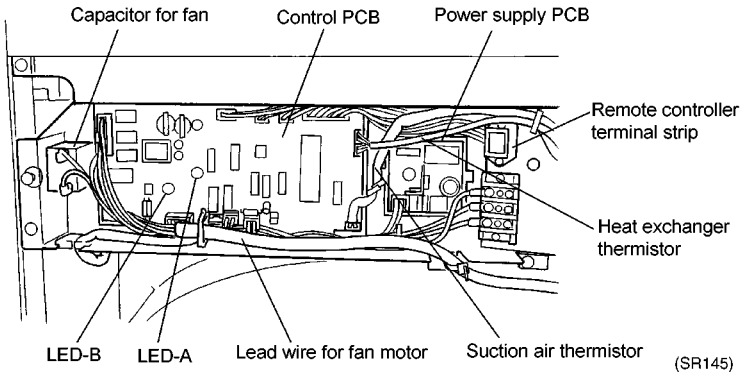
Warning **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
Removing air filter	 (SR140)	
1 Pull tabs of suction grille to open the grille slightly.	 (SR141)	
2 Lift up air filter	 (SR142)	

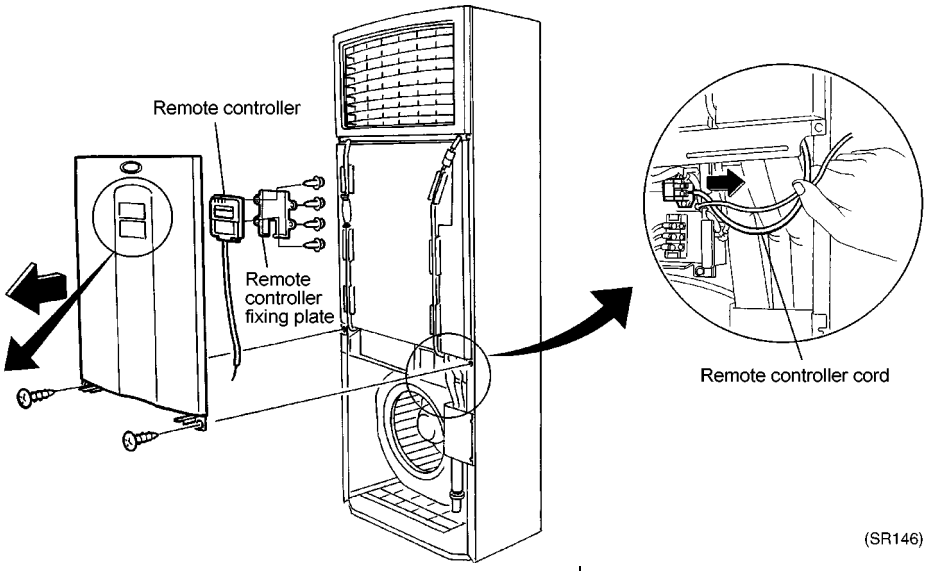
Step	Procedure	Points
Removing suction grille		
1 Remove two fixing screws located at both left and right sides of suction grille. 2 Open widely and lift suction grille to remove it.		

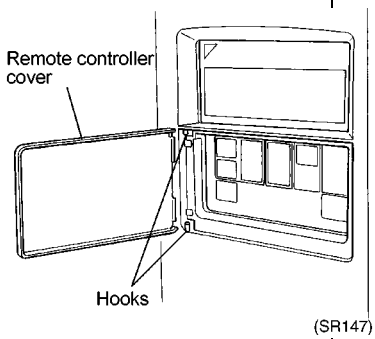
5.2 Removal of Electric Parts and Remote Controller

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
1	To remove switch box cover, dismount screw (A), loosen screw (B) and slide the cover to right side. Remove suction air thermistor from bell mouth.		
2	The figure right shows part layout inside switch box.		
3	Disconnect remote controller cord from switch box.		

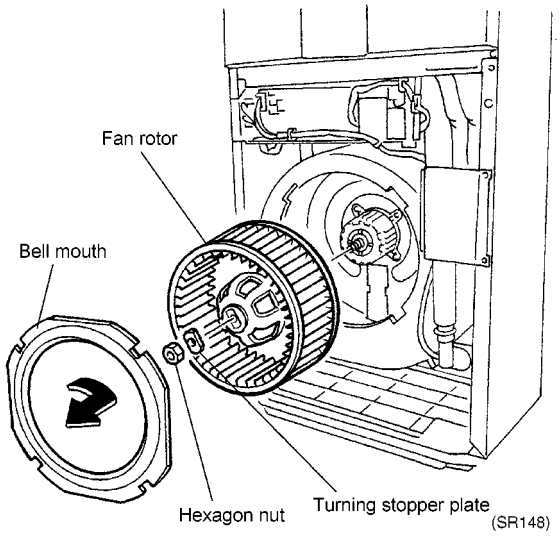
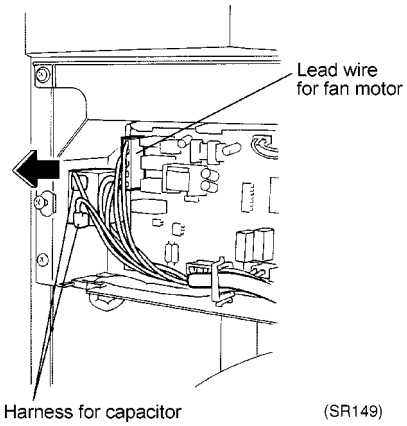
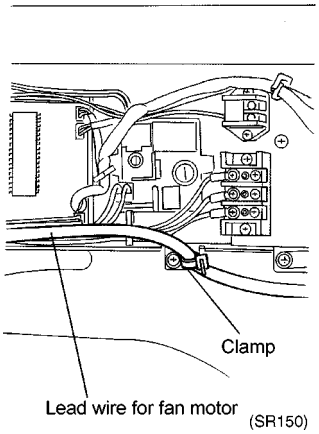
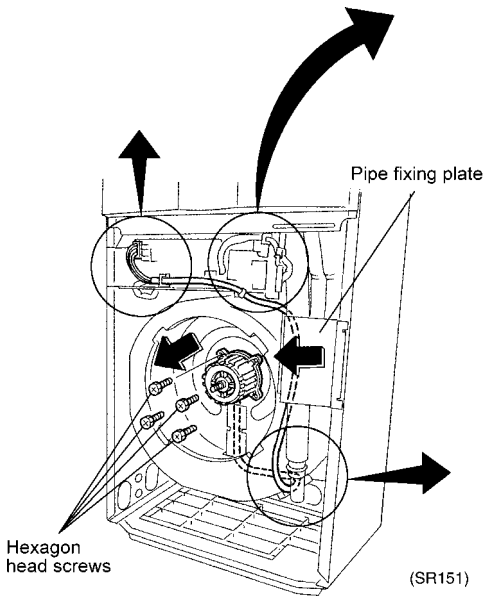
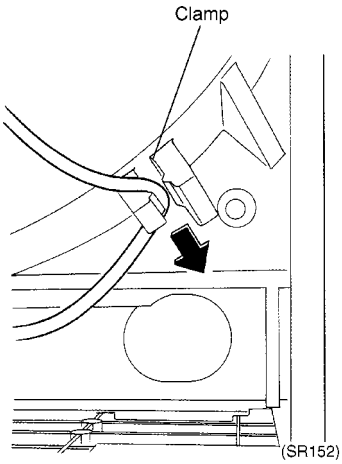
Step	Procedure	Points
4	Remove two screws to dismount front panel.	
5	Remove four screws to dismount remote controller.	





5.3 Removal of Fan Rotor and Fan Motor

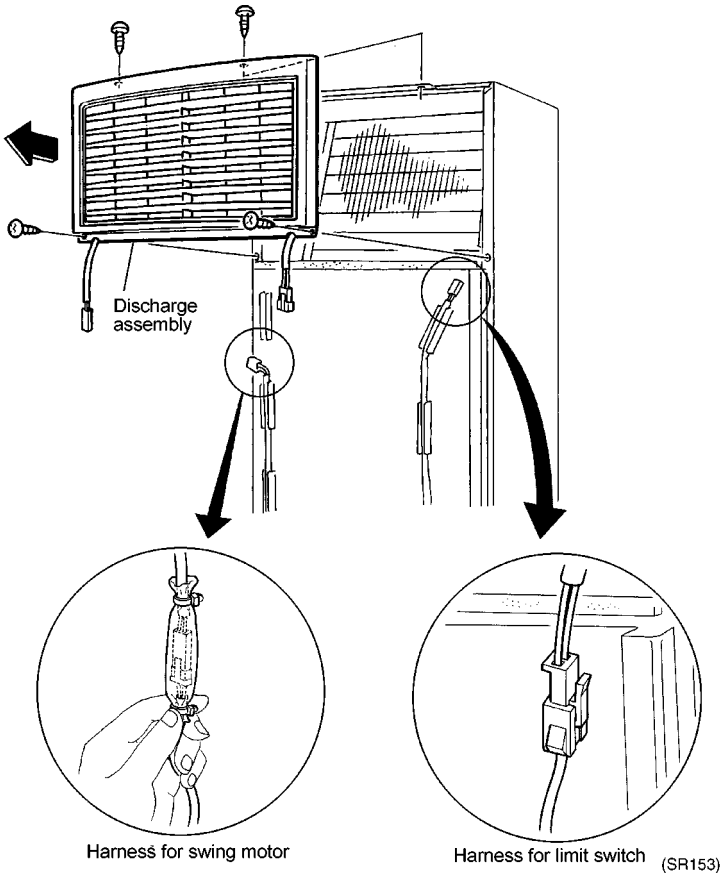
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

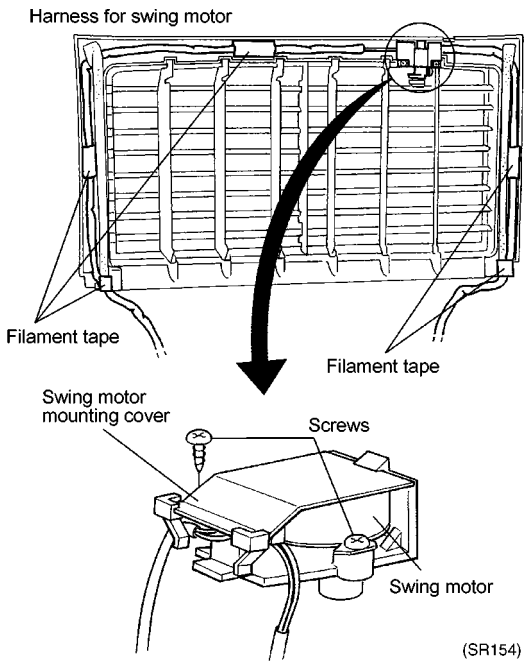
Step	Procedure	Points
Removing fan rotor		**Caution** When reassembling be sure to clamp wires.
1 Turn bell mouth in CW to remove it. 2 Remove hexagon nut and turning stopper plate to disassemble fan rotor.		
Removing fan motor		
1 Disconnect lead wire for fan motor and harness for capacitor from switch box. 2 To dismount pipe-fixing plate, remove a screw and slide the plate to left side. 3 To remove wire-fixing plate, remove two screws and slide the plate upward. 4 Remove four hexagon head screws to dismount fan motor.	   	

5.4 Removal of Swing Motor

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

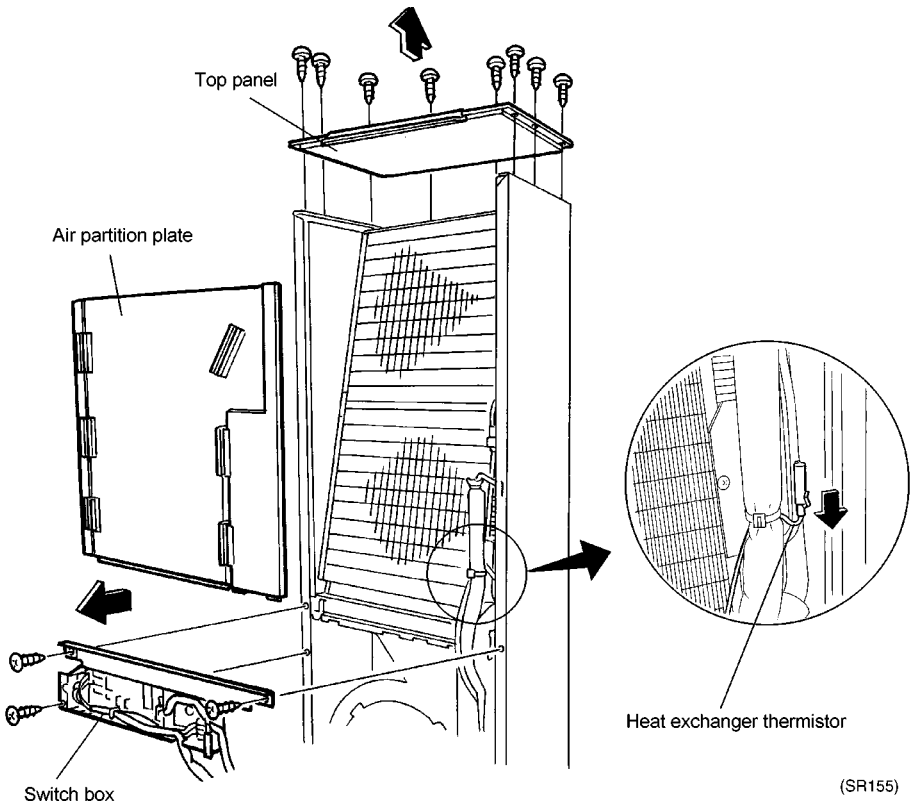
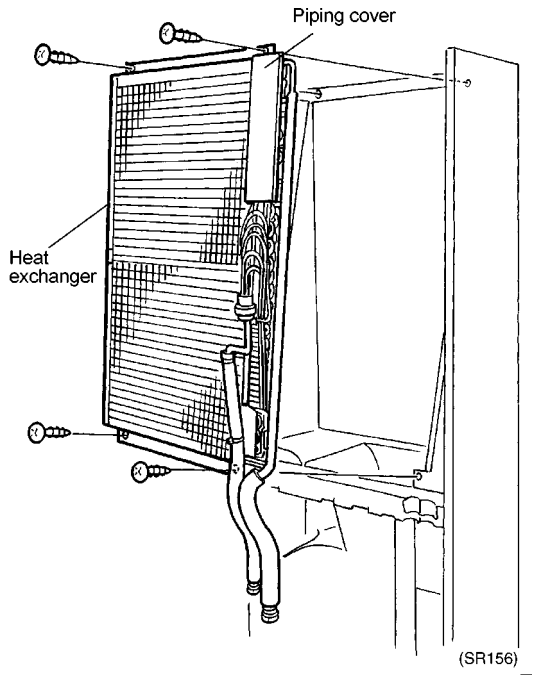
Step	Procedure	Points
1 2	Disconnect harness for swing motor and one for limit switch at connector section. Remove four screws to dismount discharge assembly.	
3 4	Remove two screws to dismount swing motor assembly. Disengage hooks on swing motor mounting plate cover and remove two screws. Then, remove swing motor.	**Caution** * Two of eight horizontal blades located at top and bottom position can be moved by hand individually, while rest six blades are linked to move by hand at the same time.





5.5 Removal of Heat Exchanger

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure	Points
Removing switch box		
1 Disconnect connector for swing motor and one for limit switch. 2 Remove heat exchanger thermistor from PCB. 3 Remove three mounting screws to dismount switch box and air partition plate.		
Removing top panel		
1 Remove eight screws to dismount top panel. (Six screws are used for model J56 to J80.)		
Removing heat exchanger		**Caution** * Be sure to remove heat exchanger before cleaning it.
1 Remove four screws to dismount heat exchanger.		

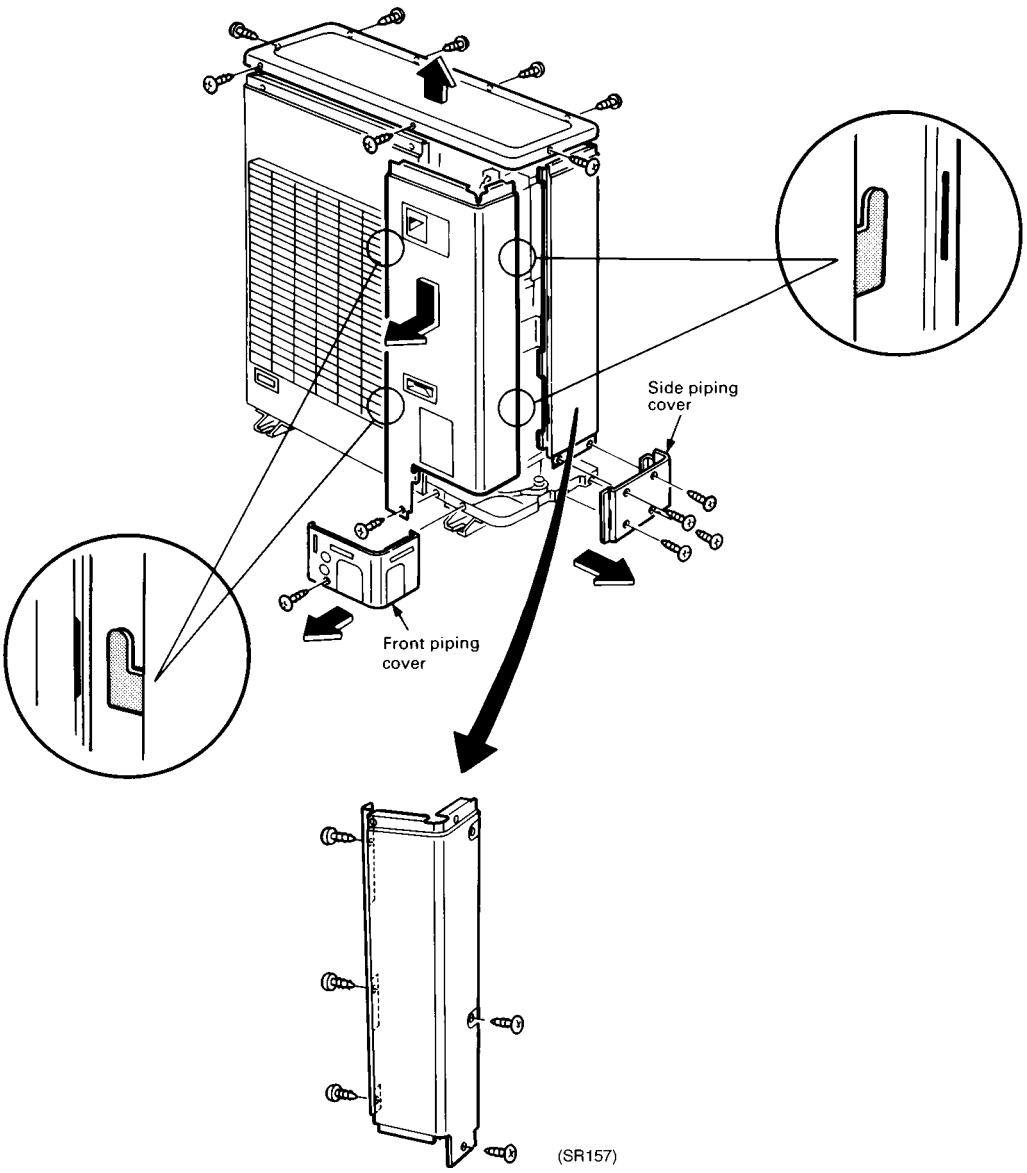
6. For R(Y)71K

6.1 Removal of External Casing

Procedure

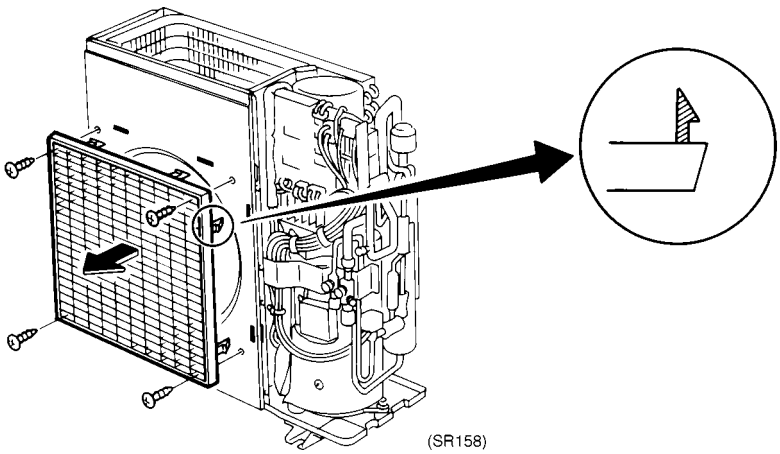
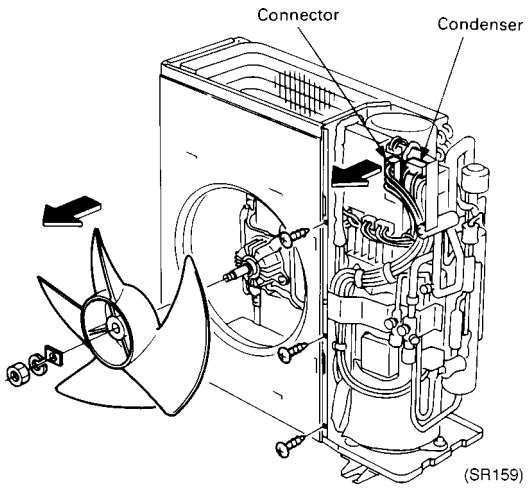
Warning **Be sure to turn off all power supplies before disassembling work.**

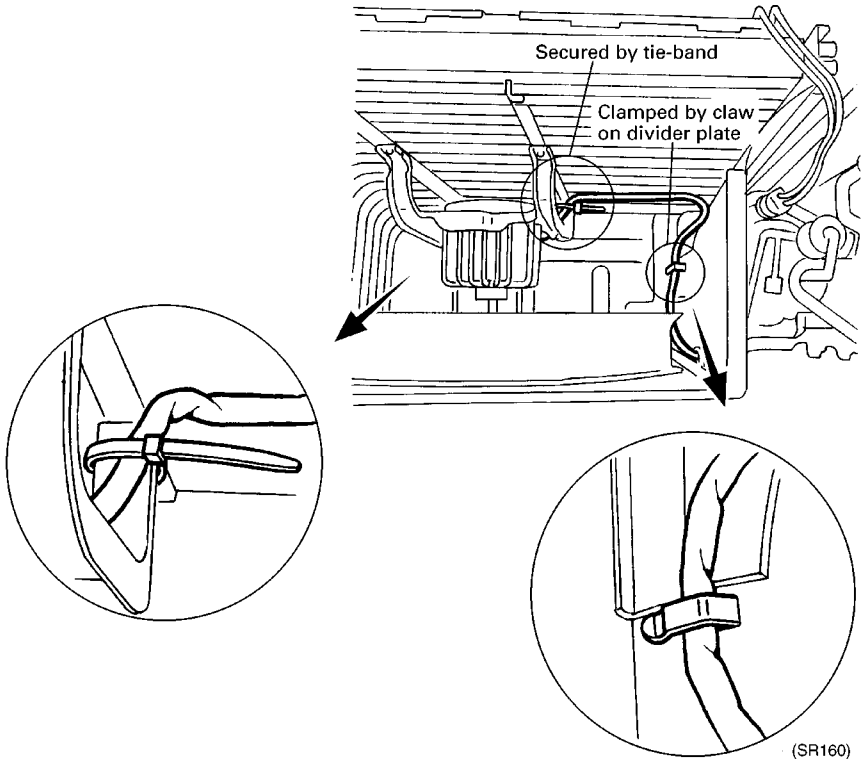
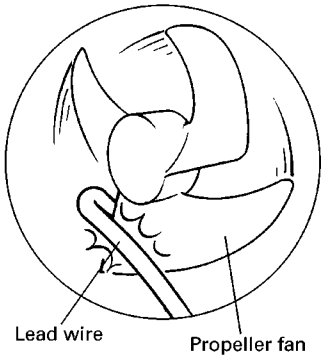
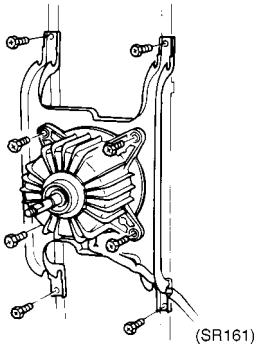
Step	Procedure	Points
1	Remove the 8 top plate screws.	
2	Remove the screw of the front piping cover.	
3	Remove the screw of the front casing and remove by pushing downward.	
4	Remove the 4 screws of the side piping cover.	
5	Remove the 5 screws of the rear/side casing.	



6.2 Removal of Outdoor Unit Fan and Fan Motor

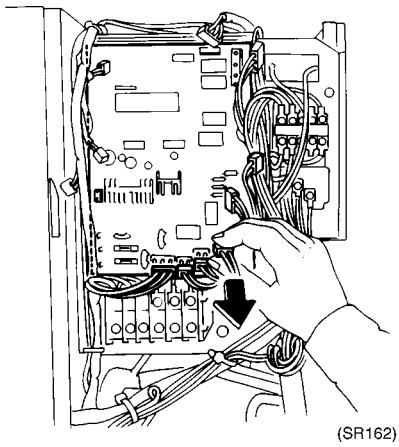
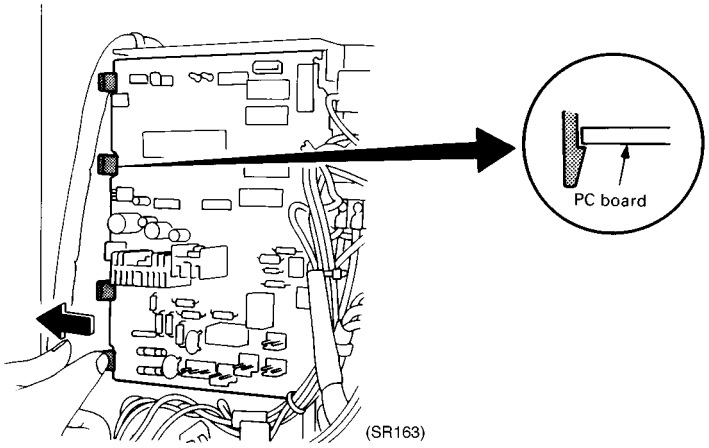
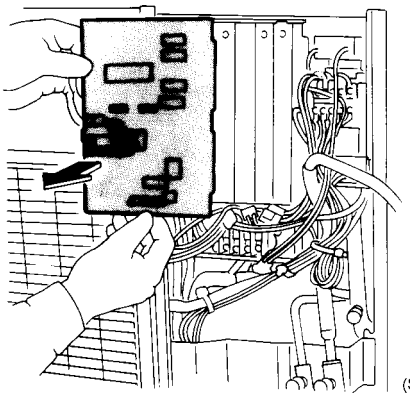
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
∗Remove the front piping cover, etc., according to the procedure for removing the external casing.			
1	Remove the 4 screws and disconnect the 8 tabs fastening the air discharge grille on the top/bottom and left/right, and remove the air discharge grille.	 (SR158)	
2 3	Remove the fan clamp fastening the propeller fan; remove the nut and washer. Disconnect the motor connector from the PC board's wiring connector, and remove the condenser.	 (SR159)	**Note:** The fan motor's lead wire cannot be disconnected as is. You must first remove the screw on the right side of the front casing (1).

Step	Procedure		Points
4	Locate the 2 clamps holding the fan motor lead wire in place. ∗4 clamps in RY100 to 140K.		 Caution during motor installation Be sure to secure the motor lead wire with the clamp. Loose lead wire can be caught by fan and damaged.
5 6	Remove the 4 hexagon bolts fastening the fan motor, and remove the fan motor. The motor base can be dismounted by removing the 4 hexagon bolts.		

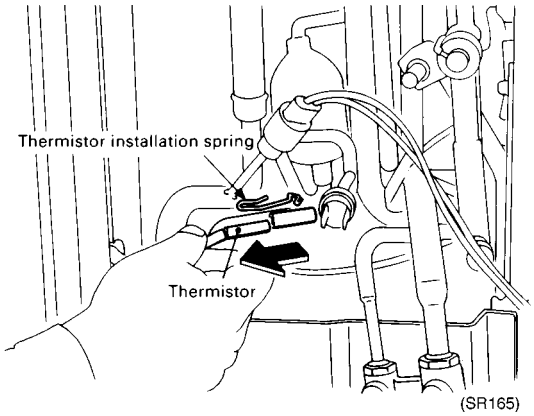
6.3 Removal of Outdoor Unit PC Board

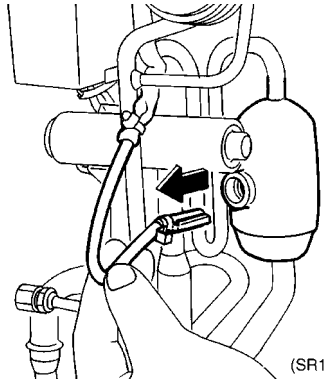
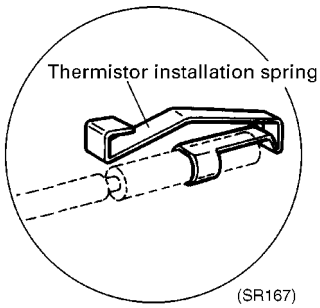
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

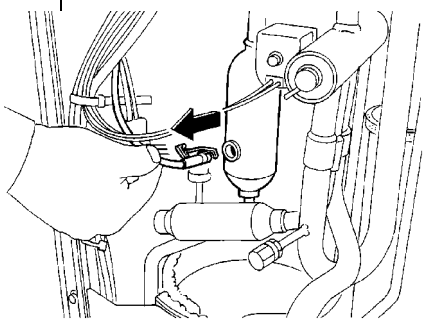
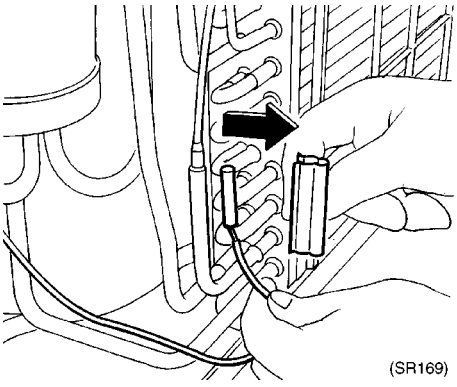
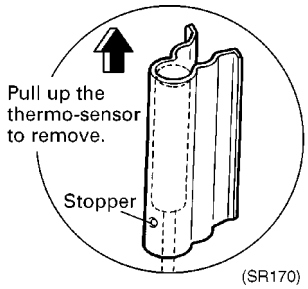
Step	Procedure	Points
∗Remove the top plate, front casing and side casing according the procedure for removing the external casing, etc.	 (SR162)	
1 Disconnect the connectors from the PC board.		
2 Unlatch the 4 tabs fastening the PC board on the left side, and disconnect from the hook on the right side.	 (SR163)	
3 Remove the PC board.	 (SR164)	

6.4 Removal of Electrical Parts Box

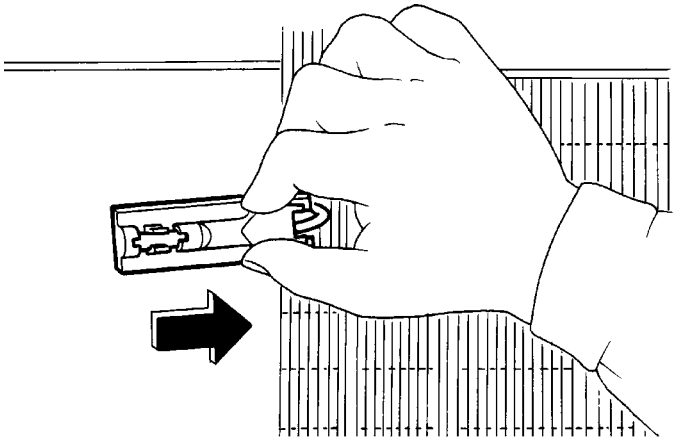
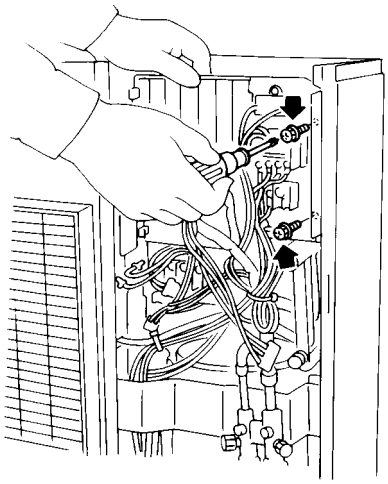
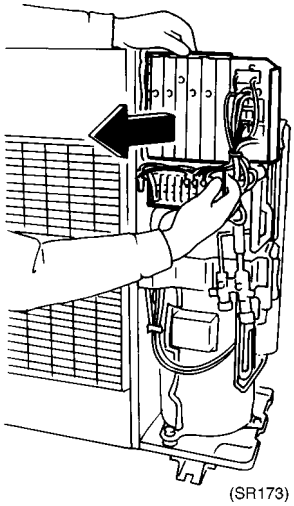
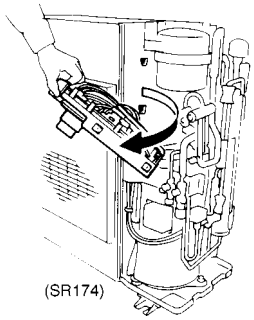
Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

<table>
<tr><th>Step</th><th>Procedure</th><th>Points</th></tr>
<tr><td colspan="2">∗Remove the top plate, front casing and side casing according the procedure for removing the external casing, etc.</td><td rowspan="2"><In case of cooling only model>
 

(SR165)
<In the case of heat-pump units>
 
(SR166)
 

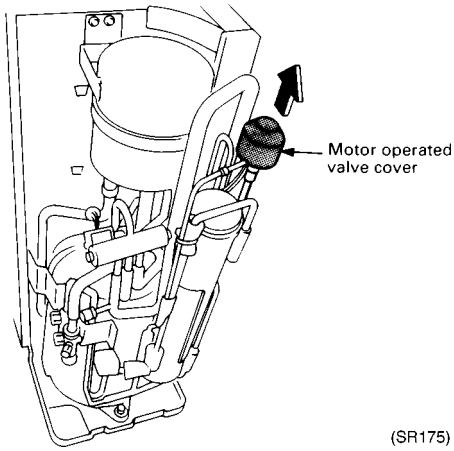
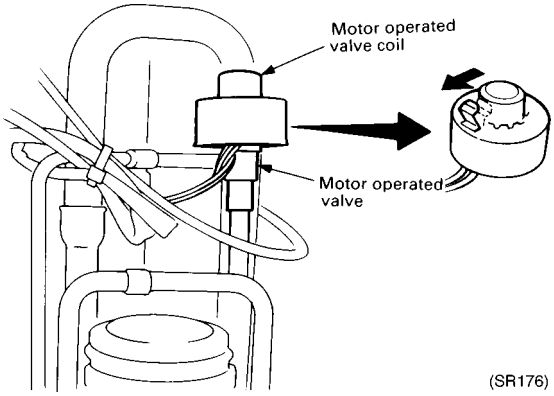
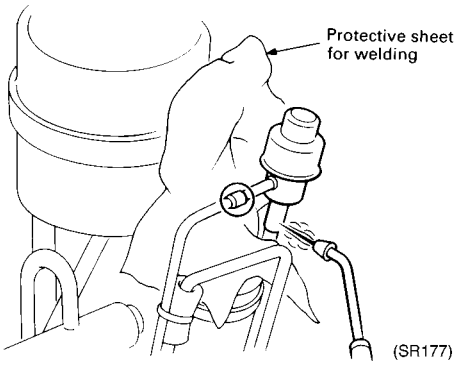
(SR167)
 
(SR168)</td><td rowspan="2">If the lead wire is clamped by the piping, etc., remove the clamp.</td></tr>
<tr><td>1</td><td>Remove the discharge pipe, heat exchanger and air thermistor. (If not removing, disconnect the connector from the PC board.)
1) Remove the discharge pipe thermistor.</td></tr>
<tr><td></td><td>2) Remove the heat exchanger thermistor.</td><td> 
(SR169)</td><td> 

(SR170)</td></tr>
</table>

Step	Procedure		Points
	3) Remove the ambient air thermistor.	 (SR171)	
2 3	Disconnect the motor operated valve coil, and crank case heater connectors from the PC board. Remove the electrical parts box installation screw.	 (SR172)	**Note :** If not dismounting the rear/side casing, remove the 2 screws of the electrical parts box.
4	Remove the electrical parts box by pulling it toward yourself and lifting.	 (SR173)	**Caution** Be careful of the lead wire protruding from the rear surface of the electrical parts box.  (SR174)

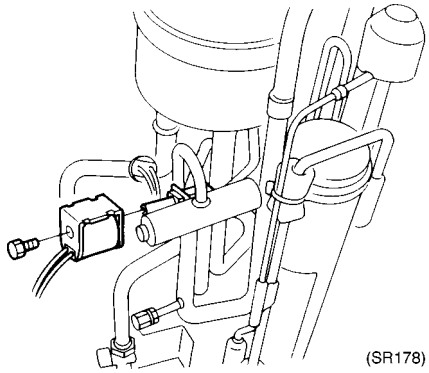
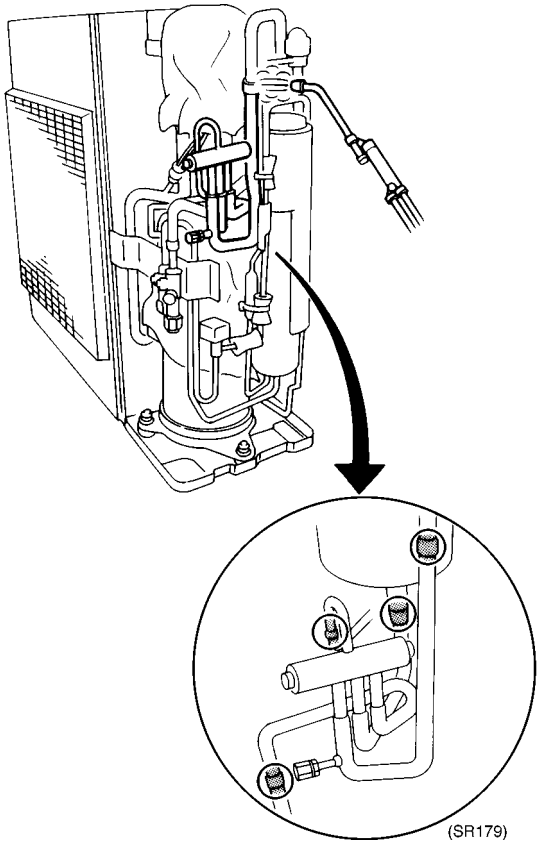
6.5 Removal of Electronic Expansion Valve and Solenoid Valve

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
∗Make sure the refrigerant is completely empty.			
1	Remove the electronic expansion valve cover.	 (SR175)	
2	The motor operated valve is removed by pulling while turning the electronic expansion valve coil's lever.	 (SR176)	
3 4	Use a metal plate or protective sheet for welding to prevent other pipes from being affected by the gas welding flame. Heart the brazed part and remove.	 (SR177)	**Note:** When installing, apply the flame while cooling with a leak cloth so that the temperature of the main body doesn't rise above 120ºC.

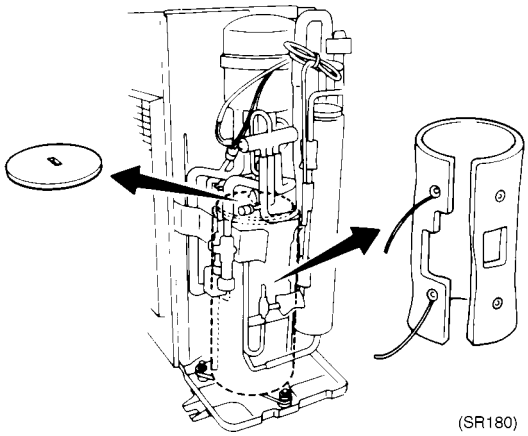
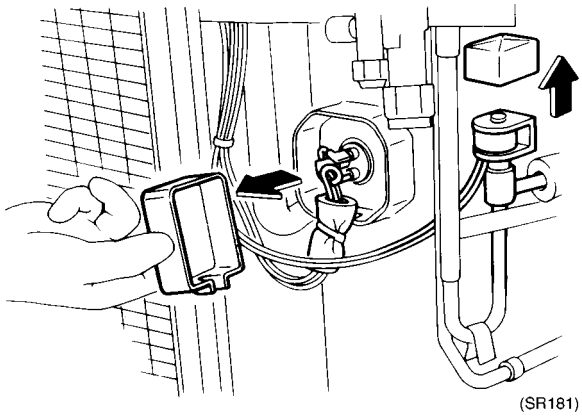
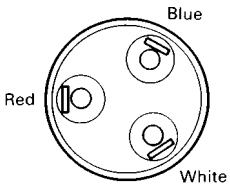
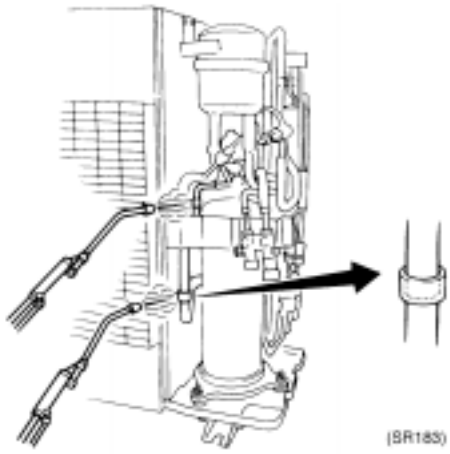
6.6 Removal of 4-Way Valve and Coil

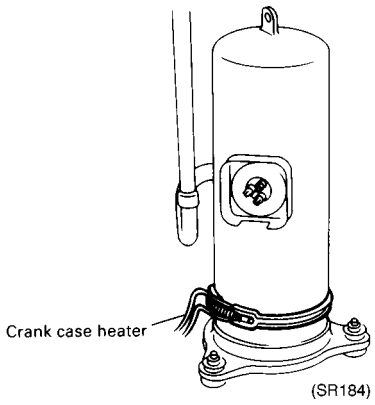
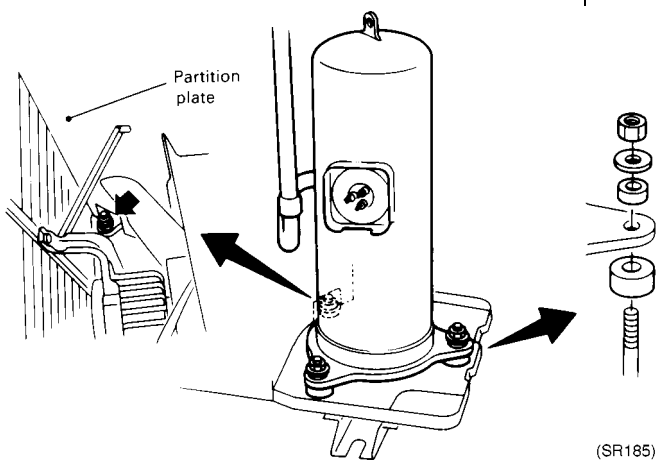
Procedure **Waring** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
∗Make sure the refrigerant is completely empty.		 (SR178)	
1	Remove the external casing, etc., and electrical parts according to their removal procedures.		
2	Remove the 4-way valve.		
3	Heart the brazed parts of the 4-way valve, and remove the assembly from the piping side by drawing out with a pair of pliers, etc.	 (SR179)	**Note:** Apply the flame while cooling with a leak cloth so that the temperature of the main body doesn't rise above 120 ºC. **Note:** When installing, first braze weld the 4-way valve and attached piping, then install the valve. Be sure to check the position angle of the piping when brazing.

6.7 Removal of Compressor

Procedure **Warning** **Be sure to turn off all power supplies before disassembling work.**

Step	Procedure		Points
∗Remove the external casing, etc., according to its removal procedure.			
1	Remove the compressor sound-proofing.	 (SR180)	
2	Disconnect the compressor lead wire from the compressor terminal. Remove the solenoid valve coil.	 (SR181)	 (SR182)
3	Heat the brazed parts of the discharge and suction pipes, and remove from the piping side with a pair of pliers, etc.	 (SR183)	

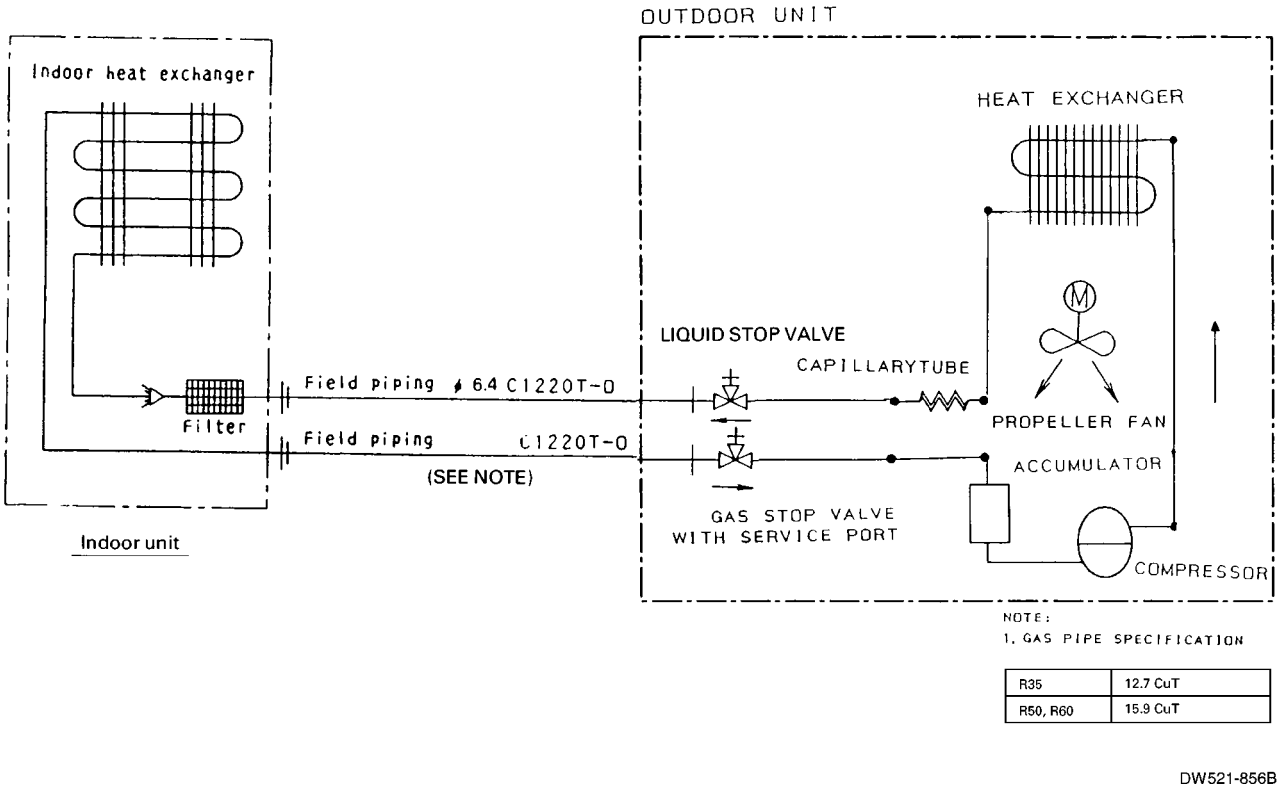
Step	Procedure		Points
4	Disconnect the crank case heater's spring and remove the heater.		
5 6	Remove the compressor's 3 washer based nuts. Use a T-type box spanner. Lift the compressor slightly and draw out toward yourself.		

Part 7
Appendix

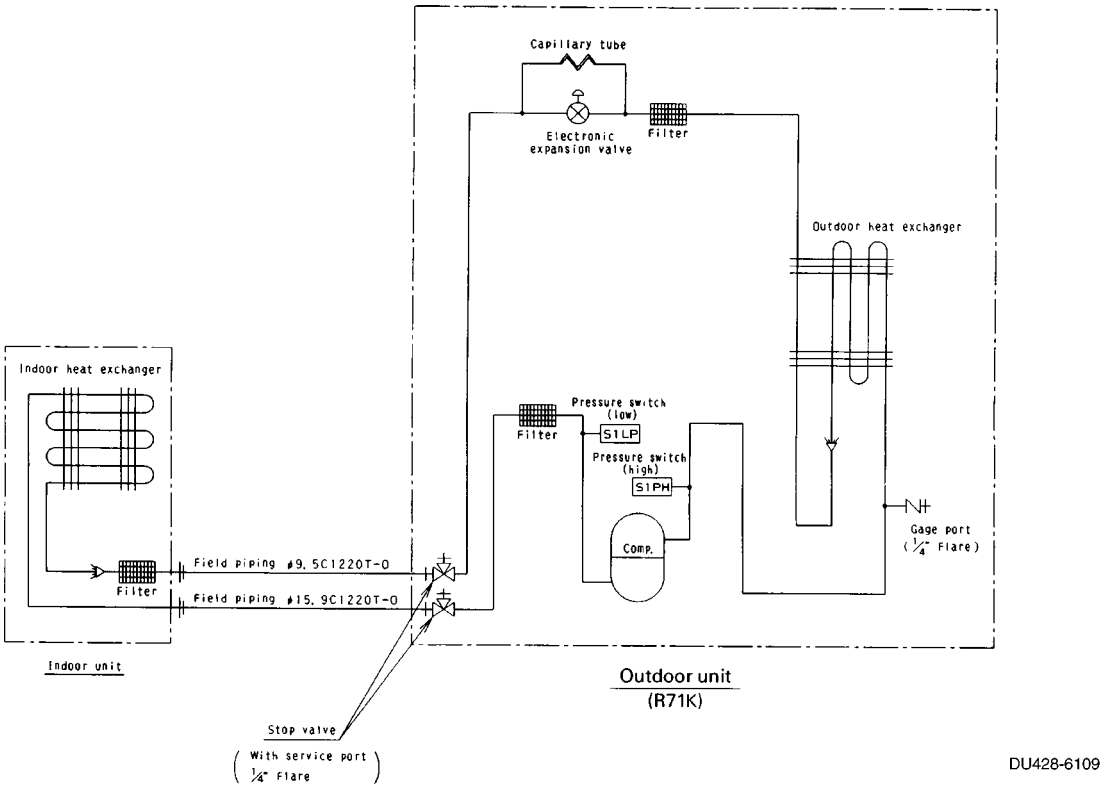
1. Piping Diagrams

1.1 Piping Diagrams

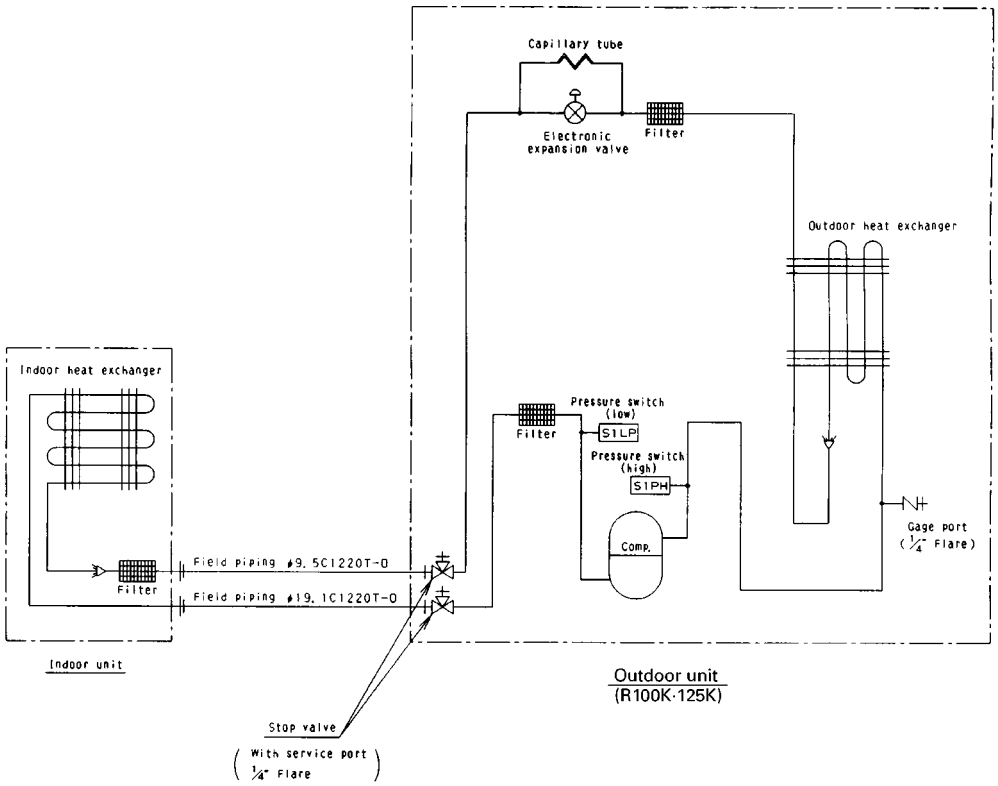
FHC35K / FHK35K / FHB35K / FH35F + R35G, FHC50K / FHK50K / FHB50K / FH45F + R50G, FHC60K / FHK60K / FHB60K / FH60F + R60G



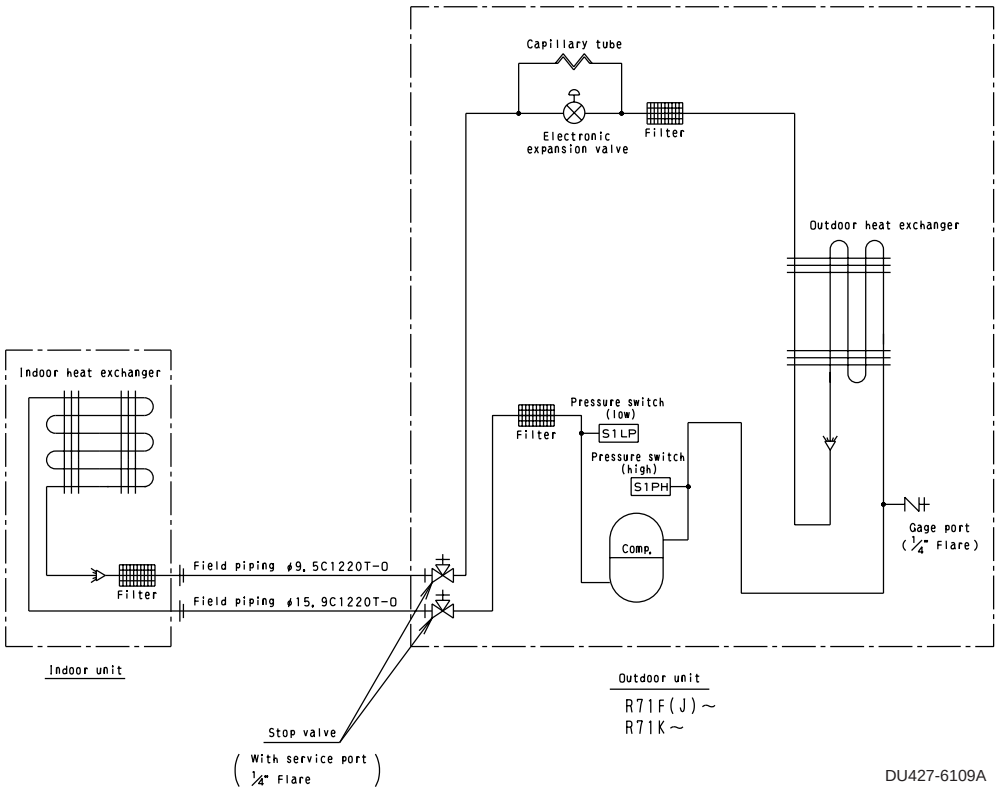
FHYC71K / FHK71F / FHYB71F / FH71F / FAY71F(A) / FVY71F + R71K



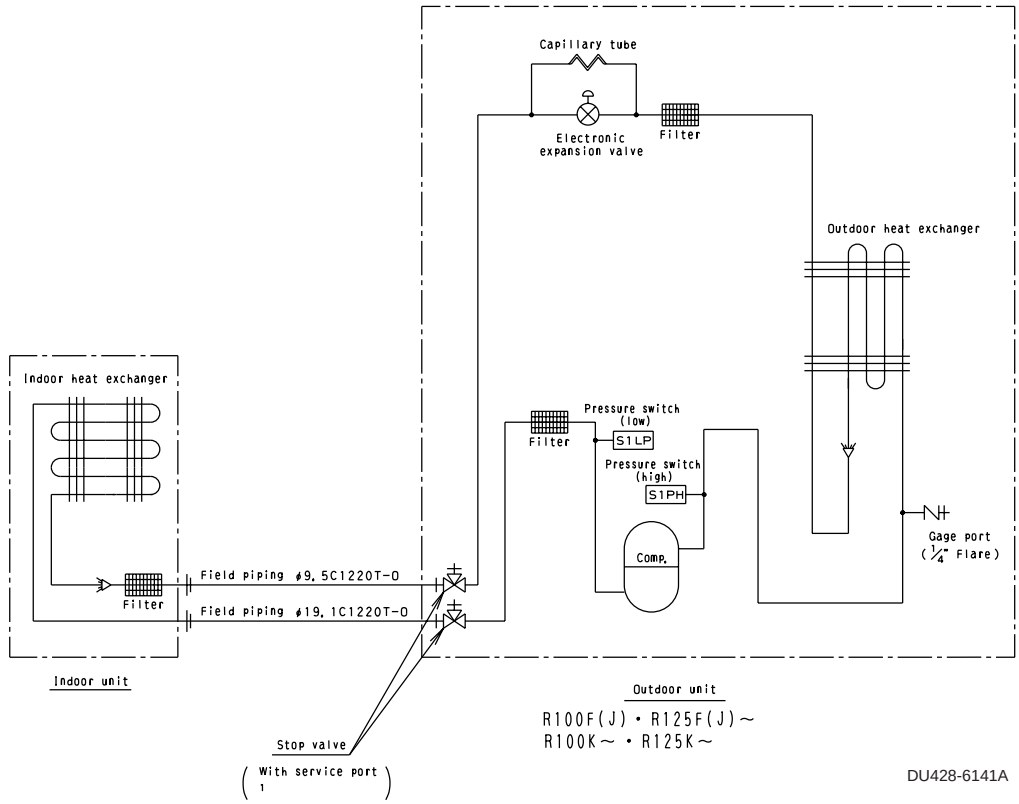
FHYC100K / FHYB100K / FH100K / FAY100K / FVY100F + R100K, FHYC125K / FHYB125K / FH125K / FVY125F + R125K



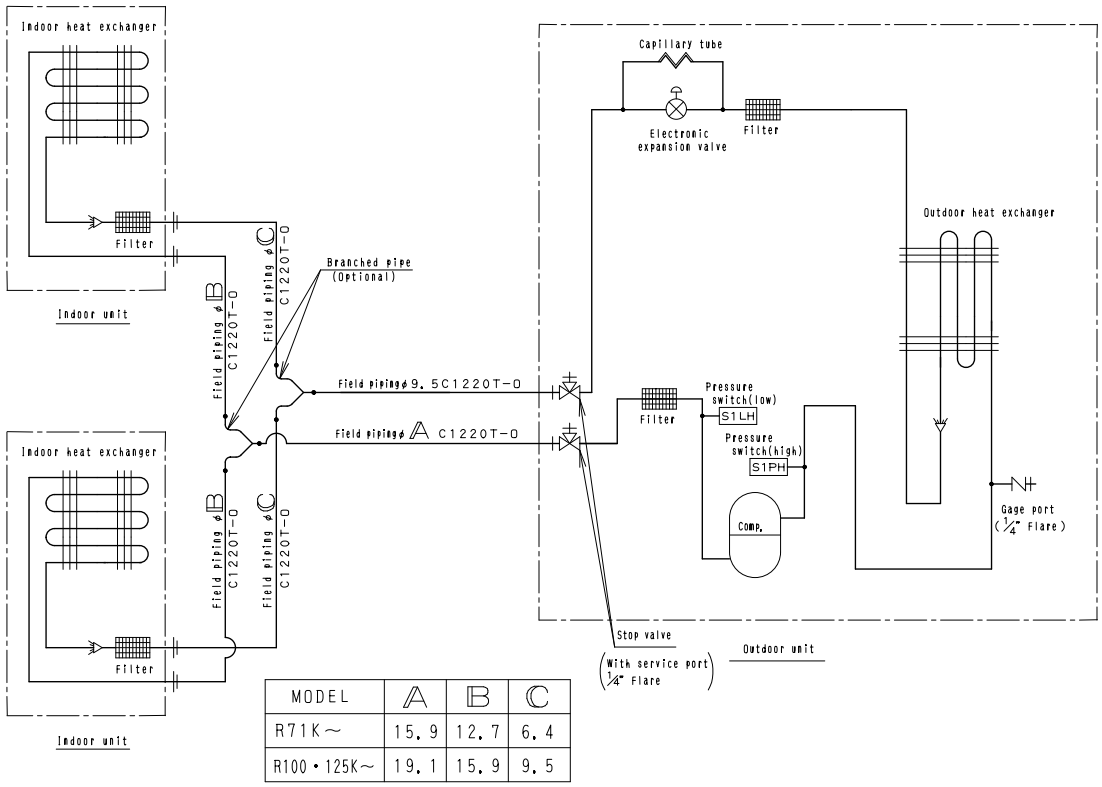
FUY71FJ + R71K



FUY100FJ + R100K, FUY125FJ + R125K



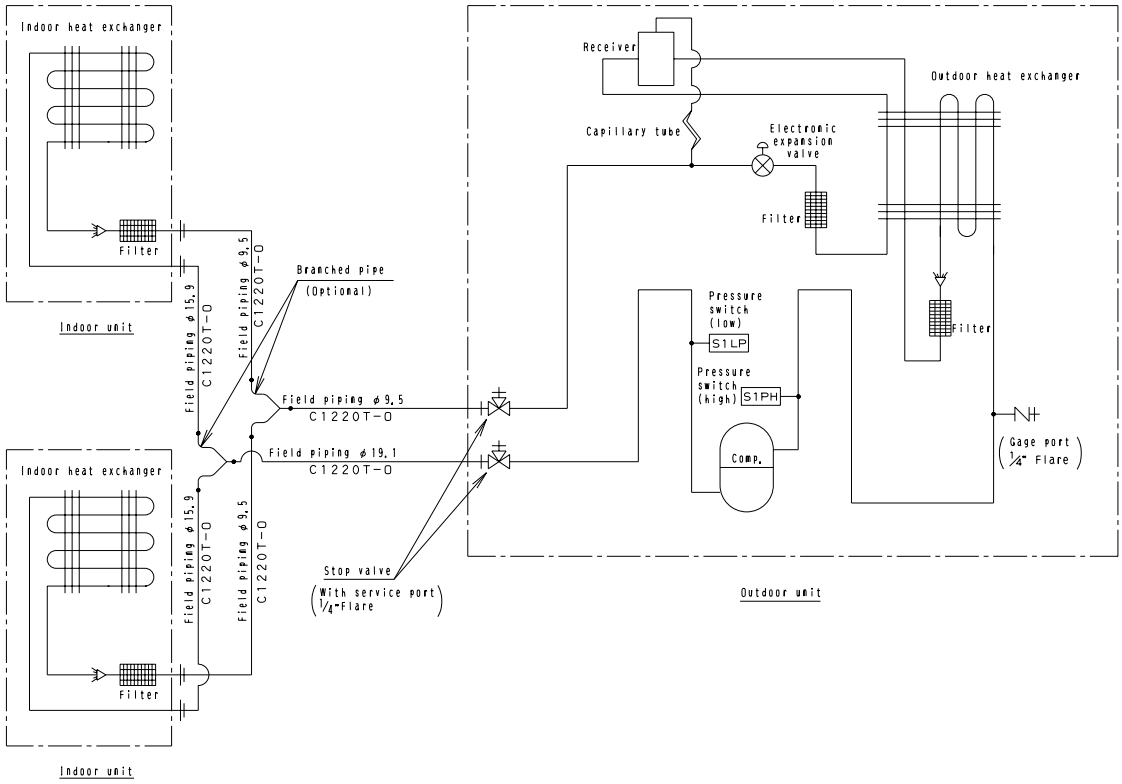
R71K / R100K / R125K (Twin System)



MODEL	A	B	C
R71K～	15.9	12.7	6.4
R100・125K～	19.1	15.9	9.5

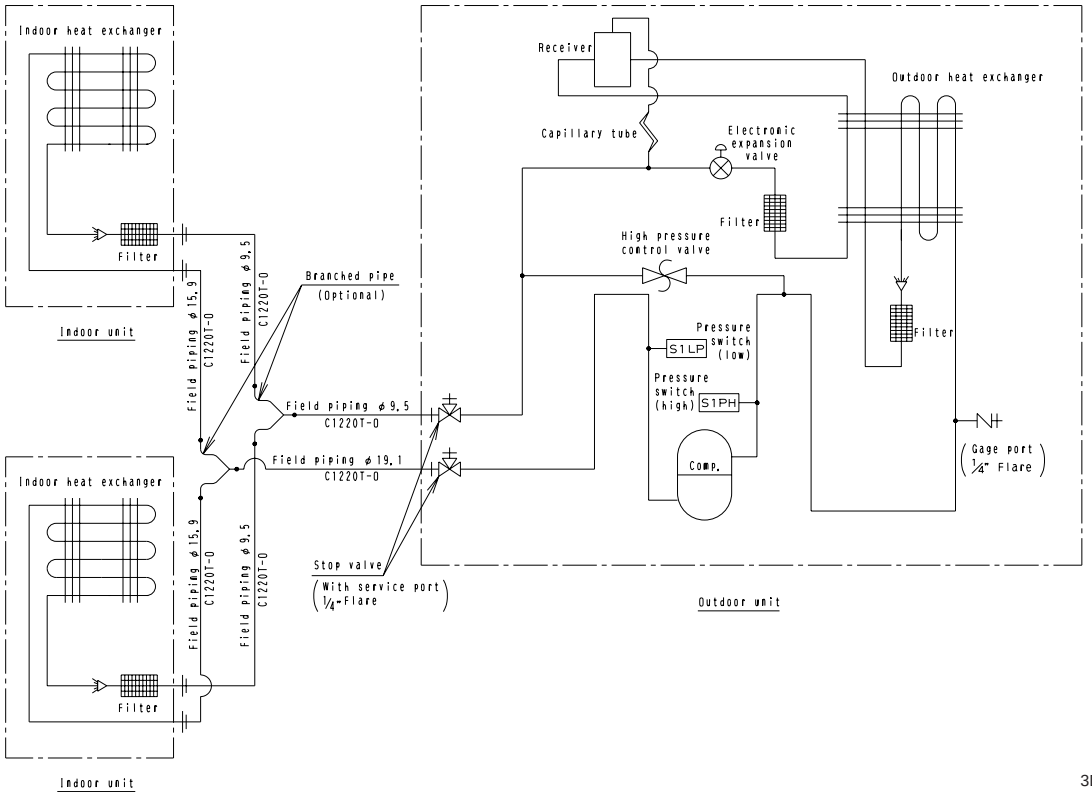
3D018539

R140KY1 (Twin System)



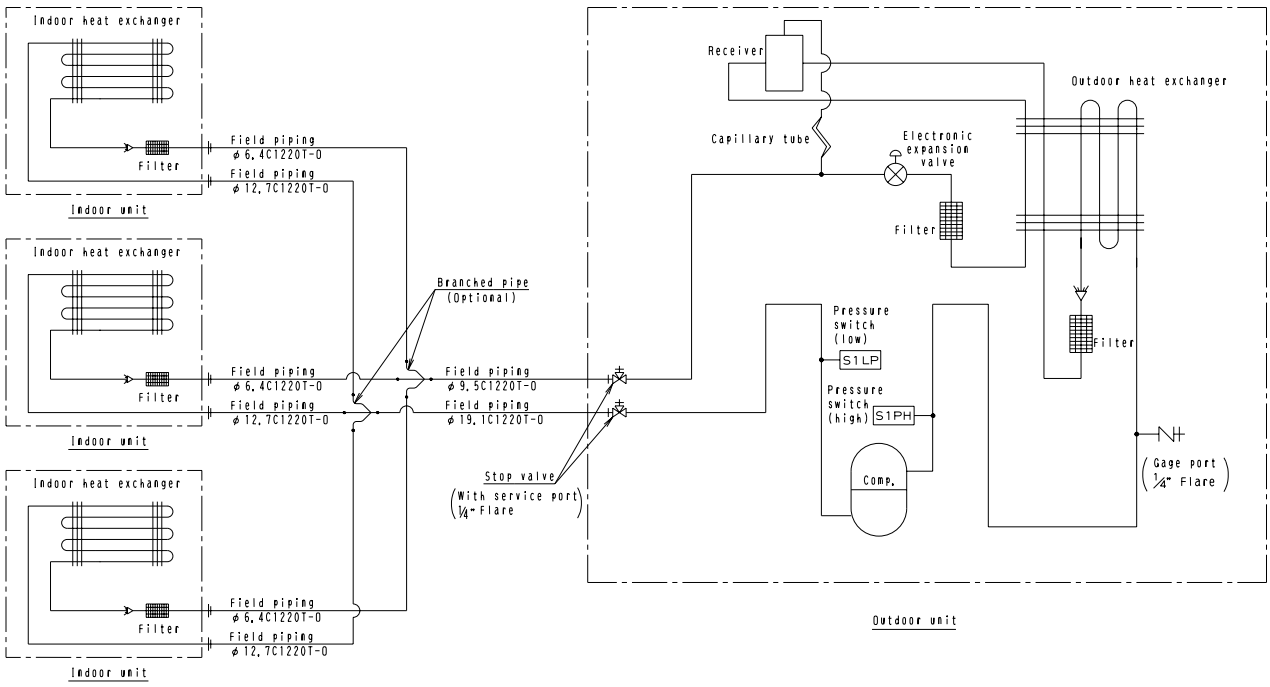
3D000191

R140KTAL (Twin System)



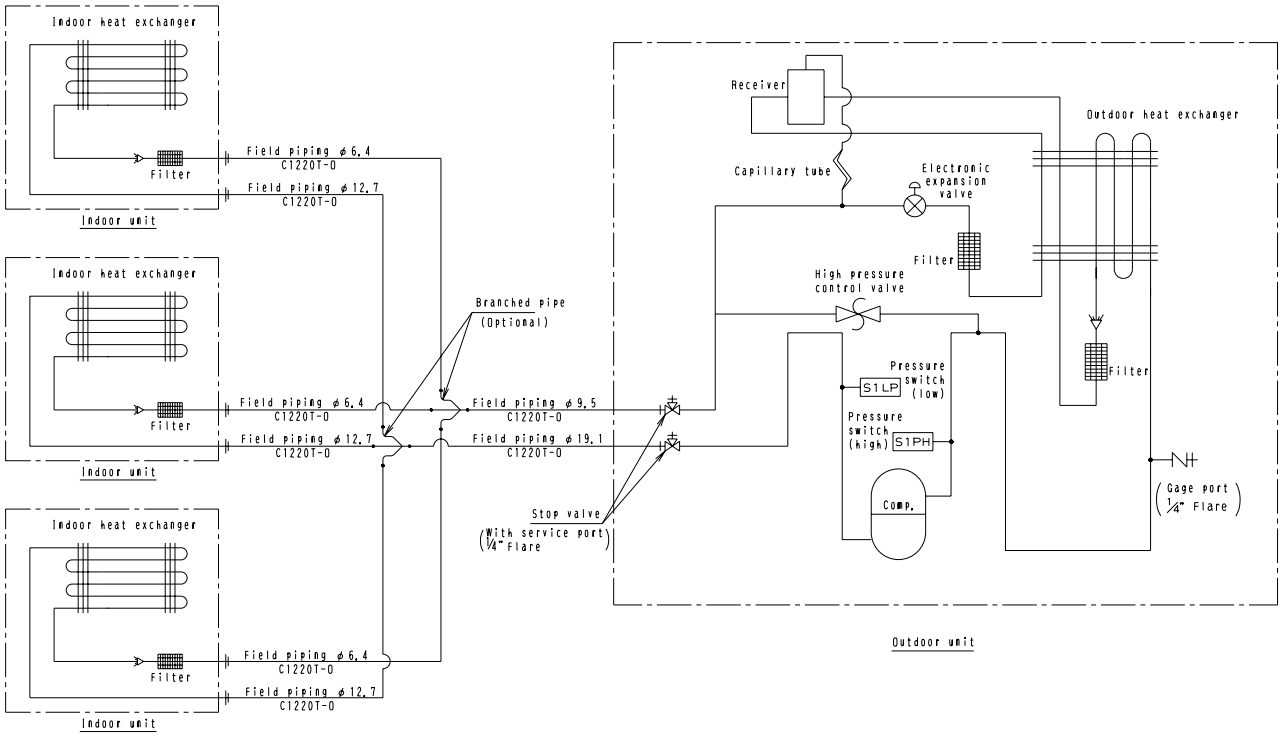
3D000222

R140KY1 (Triple System)



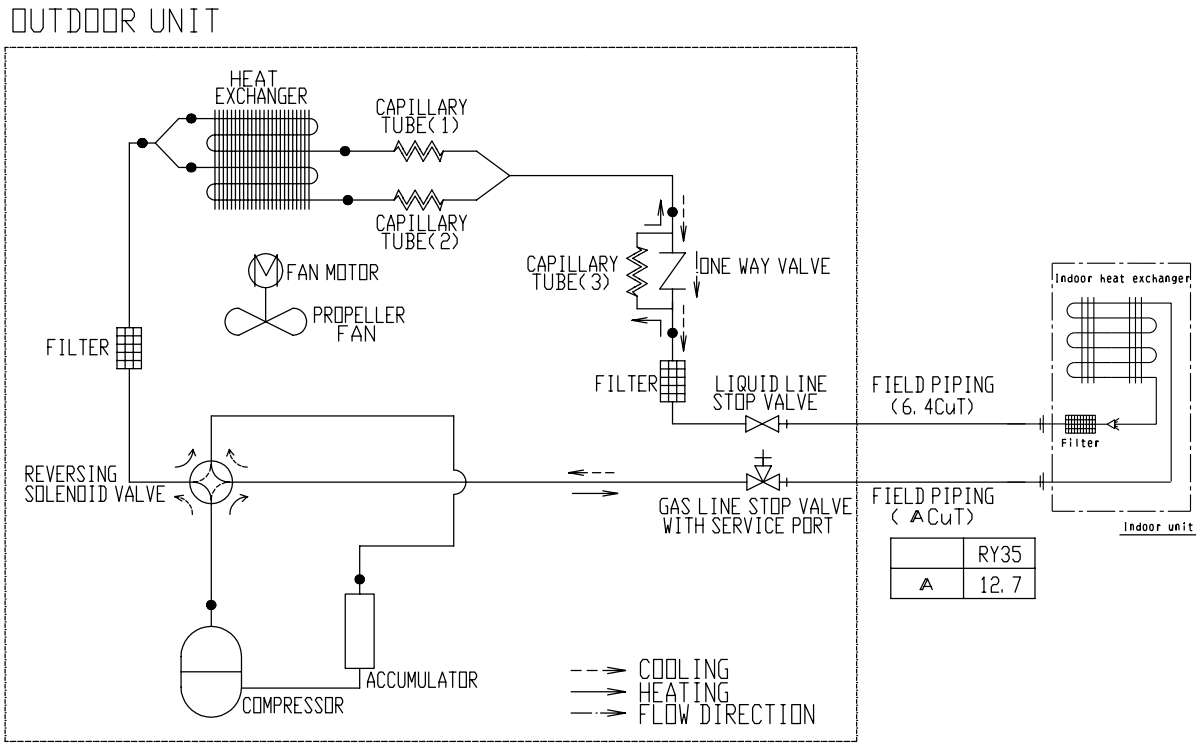
3D000192

R140KTAL (Triple System)

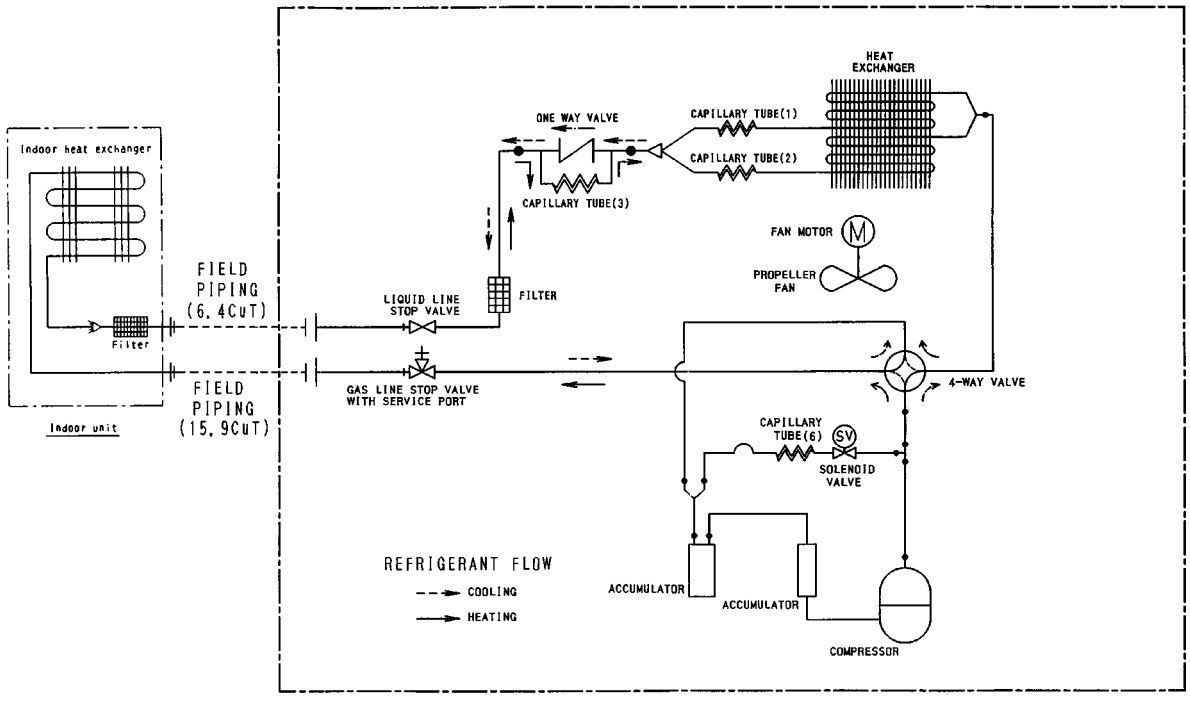


3D000224

FHYC35K / FHYK35FJ / FHYB35F / FHY35F + RY35FV1A

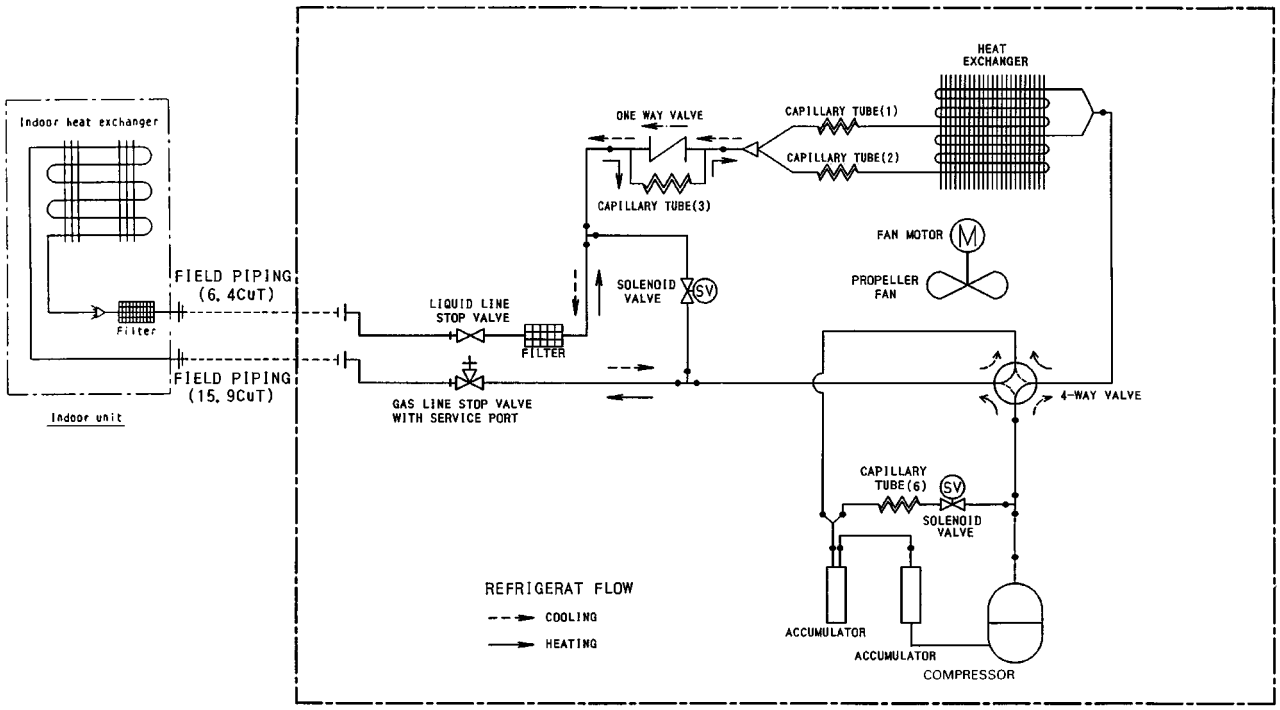


FHYC50K / FHYK45FJ / FHYB45F / FHY45F + RY50GV1A



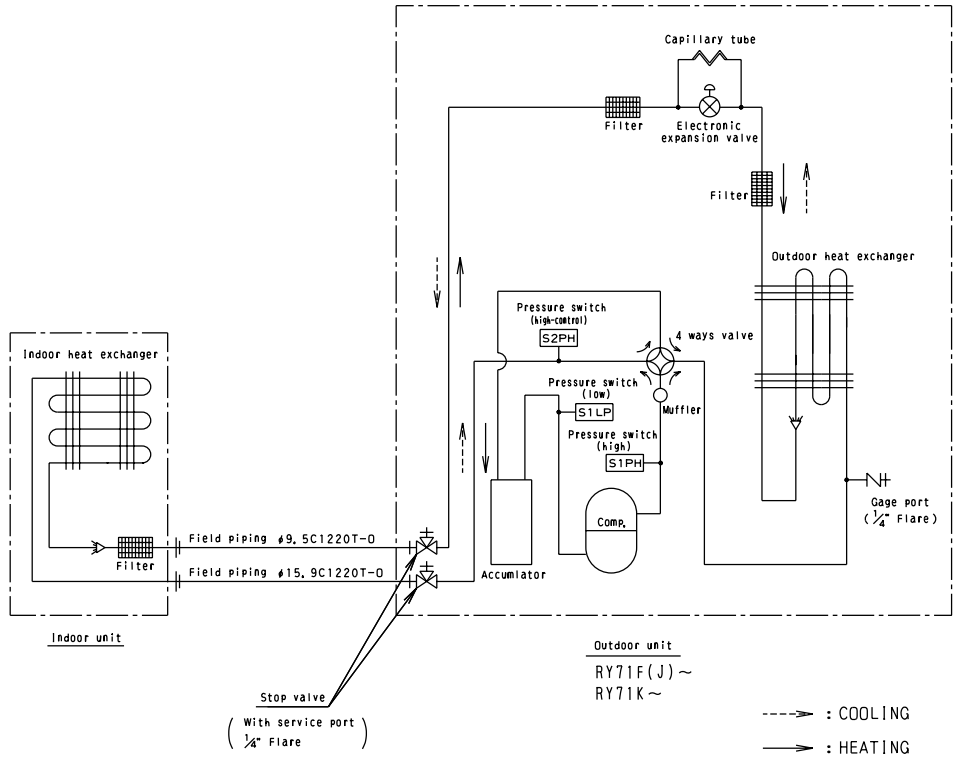
3D004866

FHYC60K / FHYK60FJ / FHYB60F / FHY60F + RY60GV1A



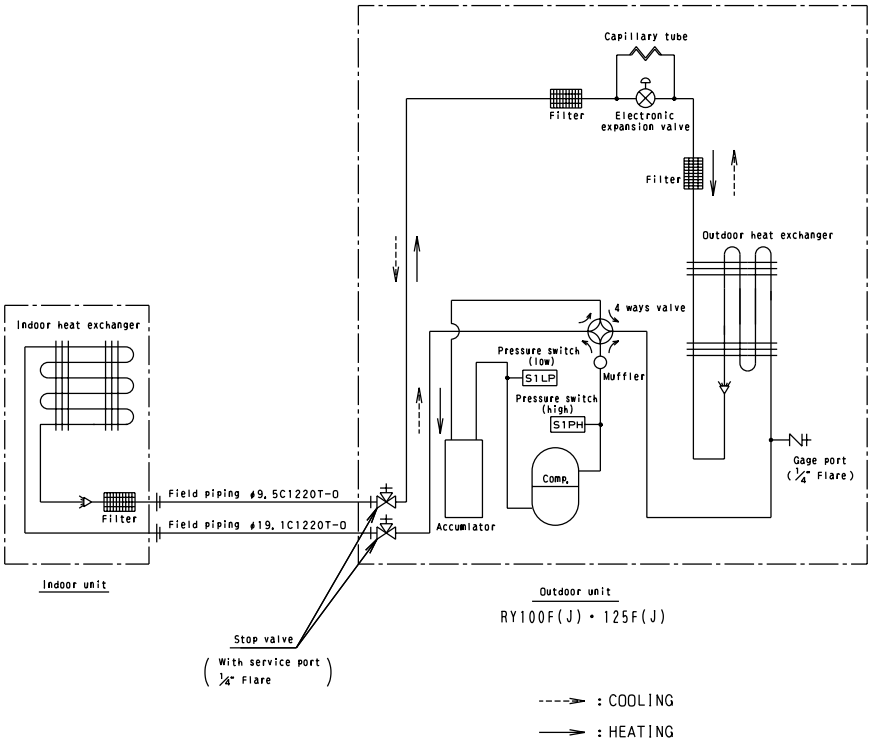
3D004865

FHYC71K / FHYK71FJ / FHYB71F / FHY71F / FAY71F / FVY71F + RY71K



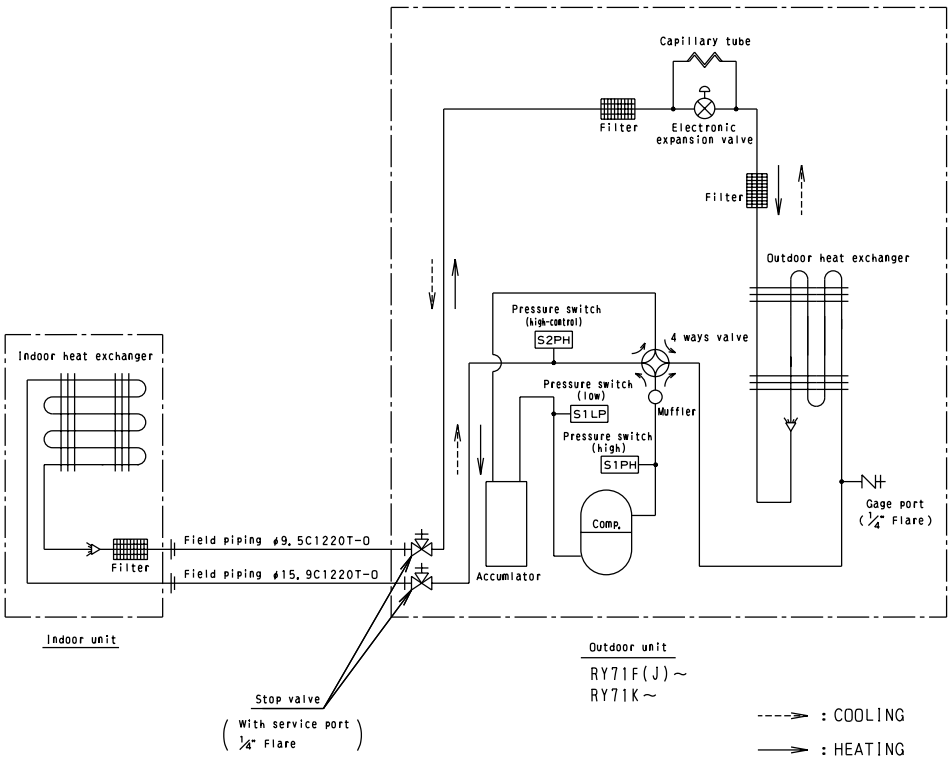
DU427-6108B

FHYC100 / FHYC125K / FHYB100F / FHYB125F / FHY100F / FHY125F / FAY100F / FVY100F / FVY125F + RY100K / RY125K



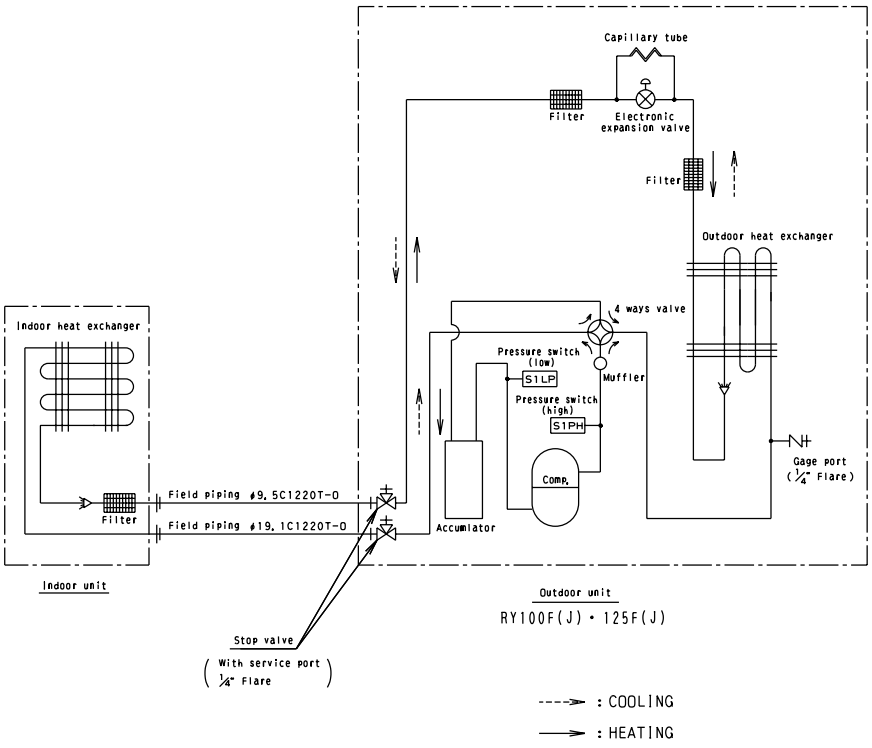
DU428-6140

FUY71FJ + RY71K



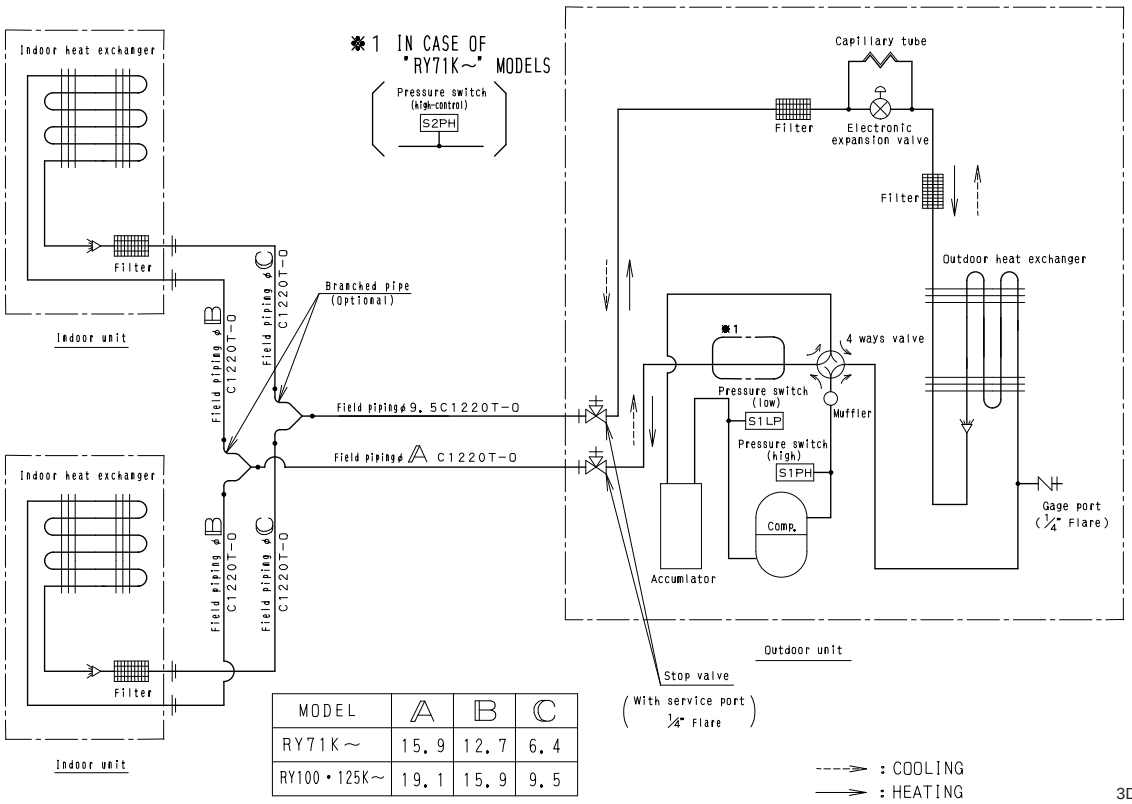
DU427-6108B

FUY100FJ + RY100K, FUY125FJ + RY125K



DU428-6140

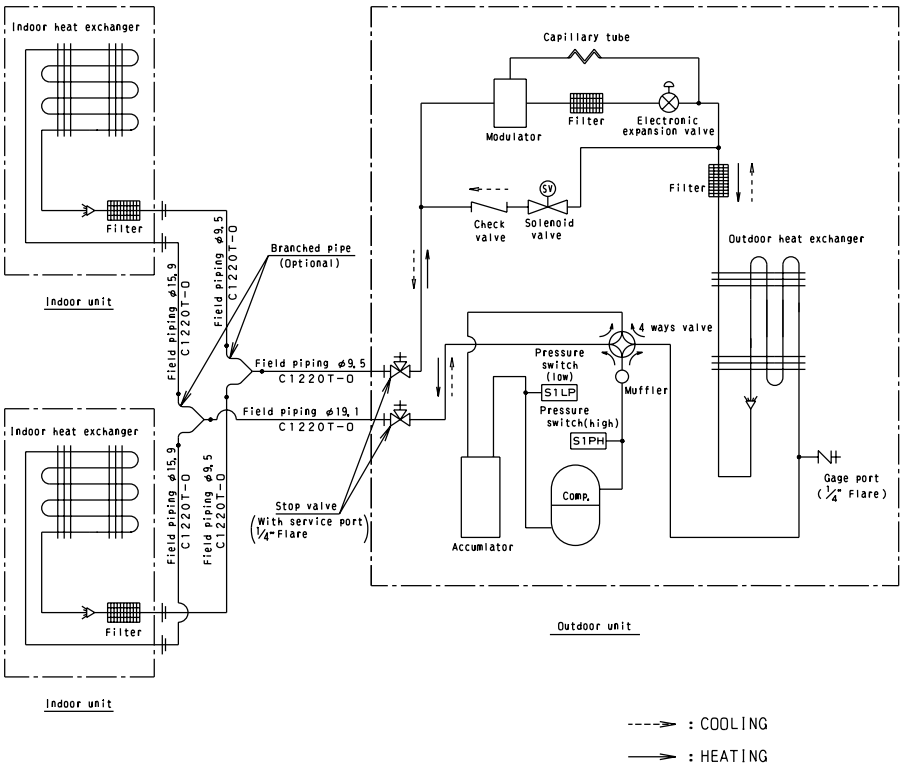
RY71K / RY100K / RY125K (Twin System)



MODEL	A	B	C
RY71K~	15.9	12.7	6.4
RY100・125K~	19.1	15.9	9.5

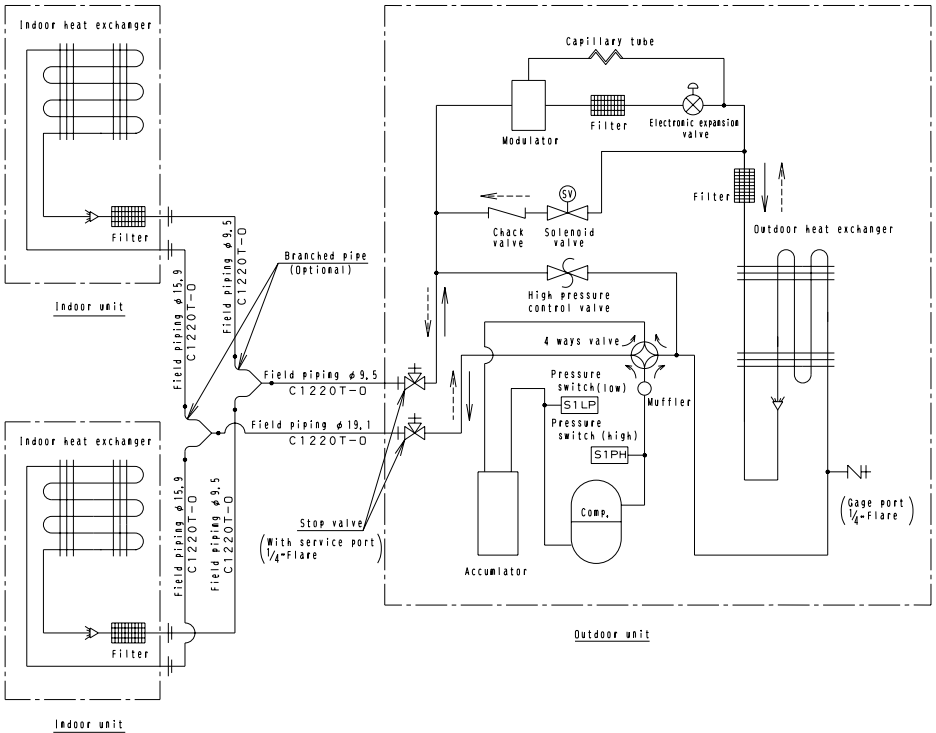
3D018540

RY140KY1(Twin System)



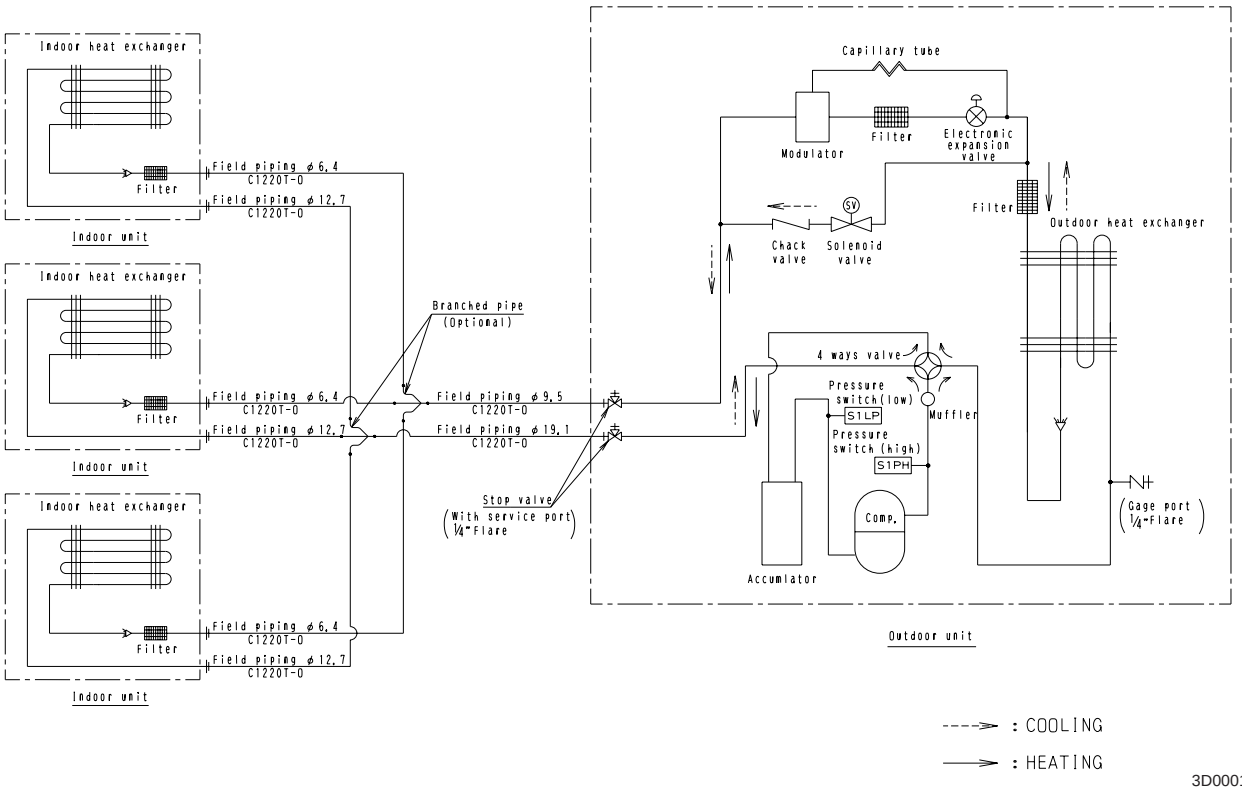
3D000187

RY140KTAL (Twin System)



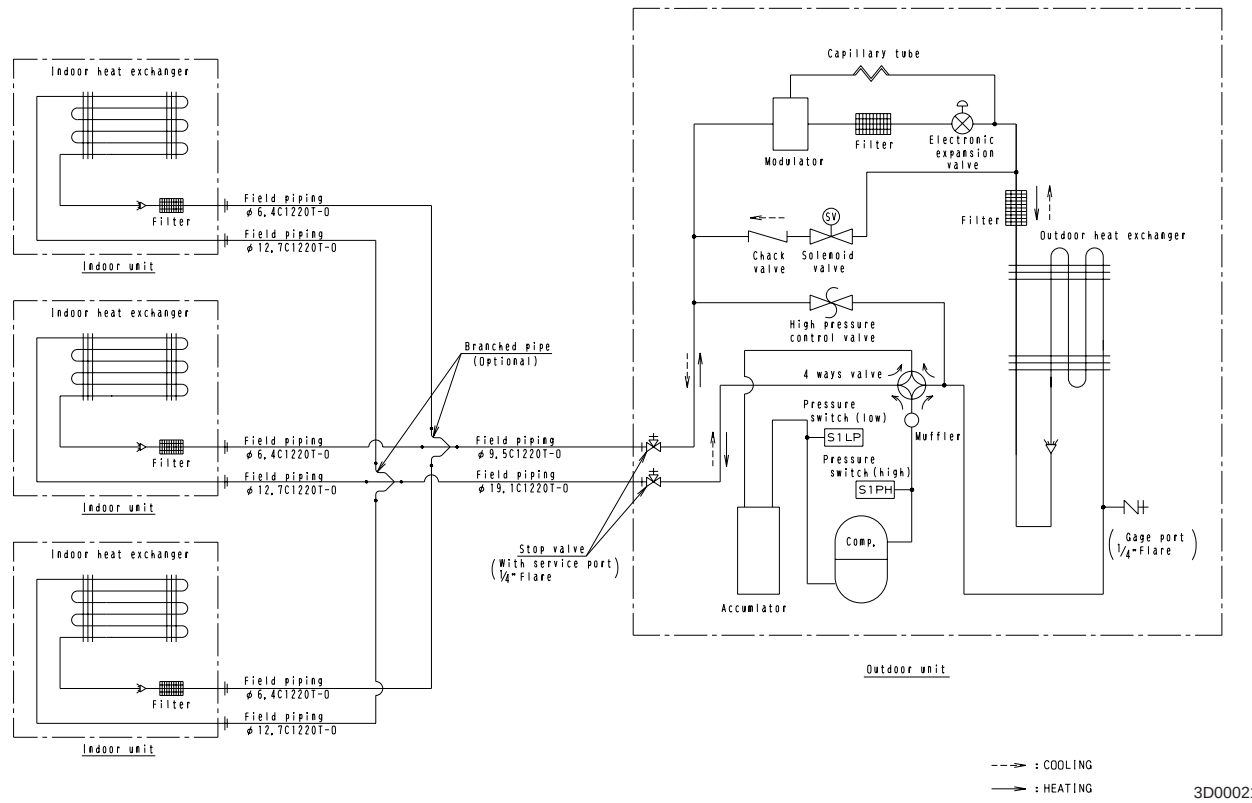
3D000216

RY140KY1 (Triple System)



3D000188

RY140KTAL (Triple System)

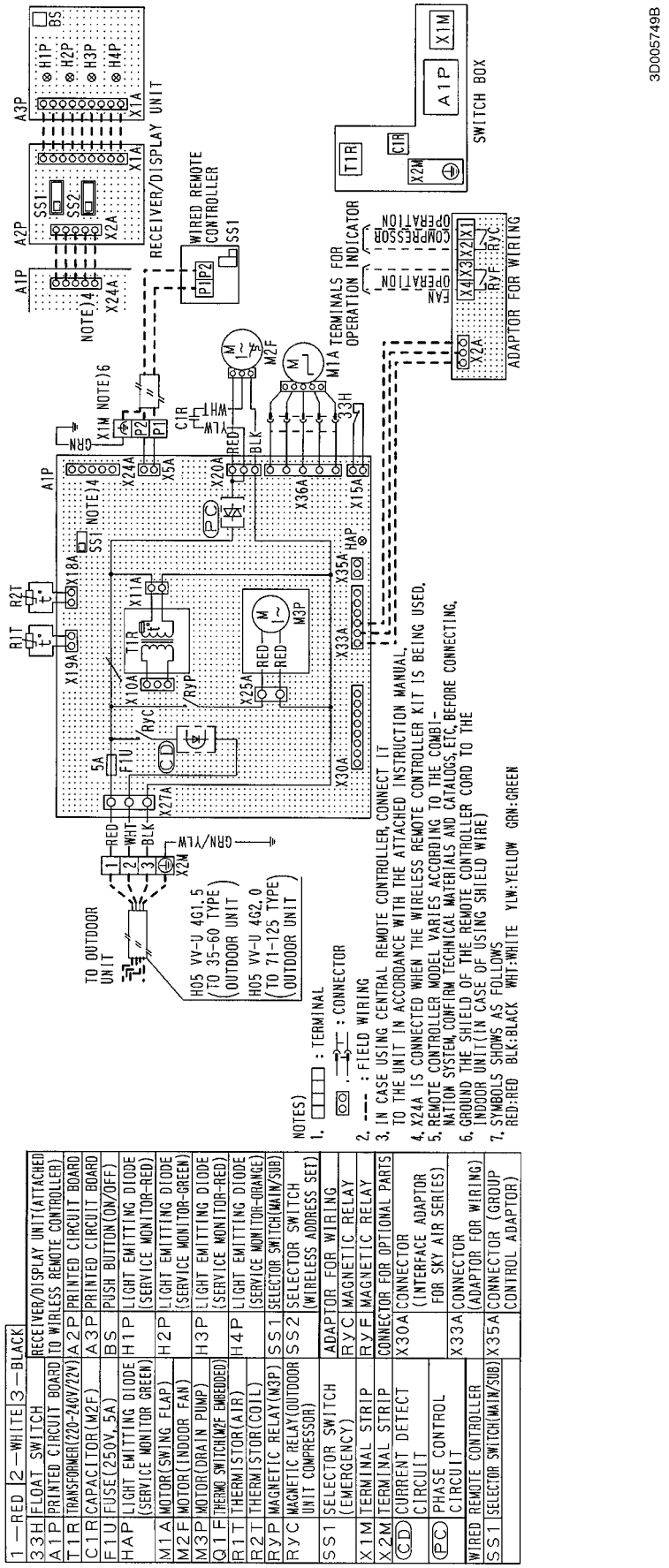


3D000217

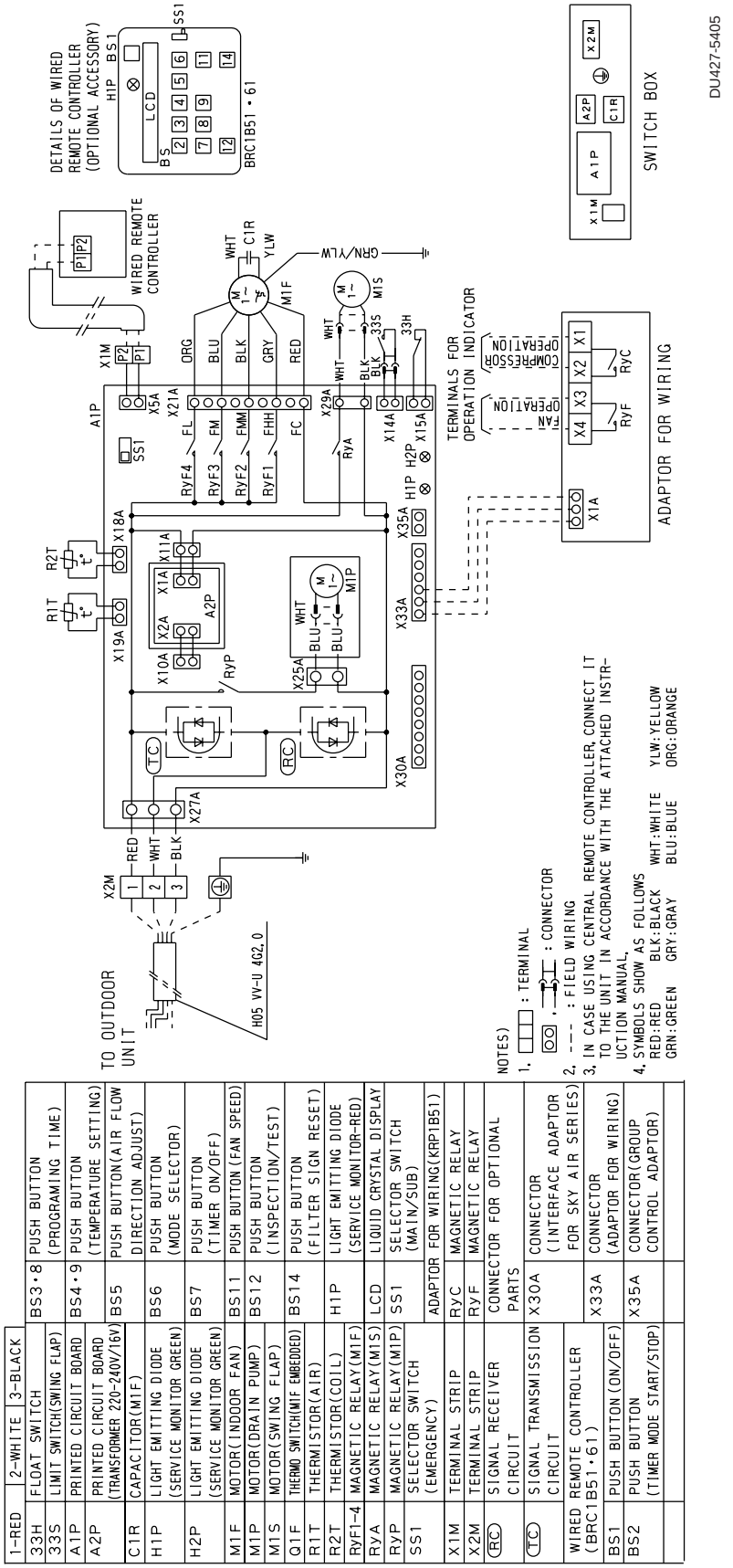
2. Wiring Diagram

2.1 Indoor Unit

FHC35KVE / FHC50KVE / FHC60KVE



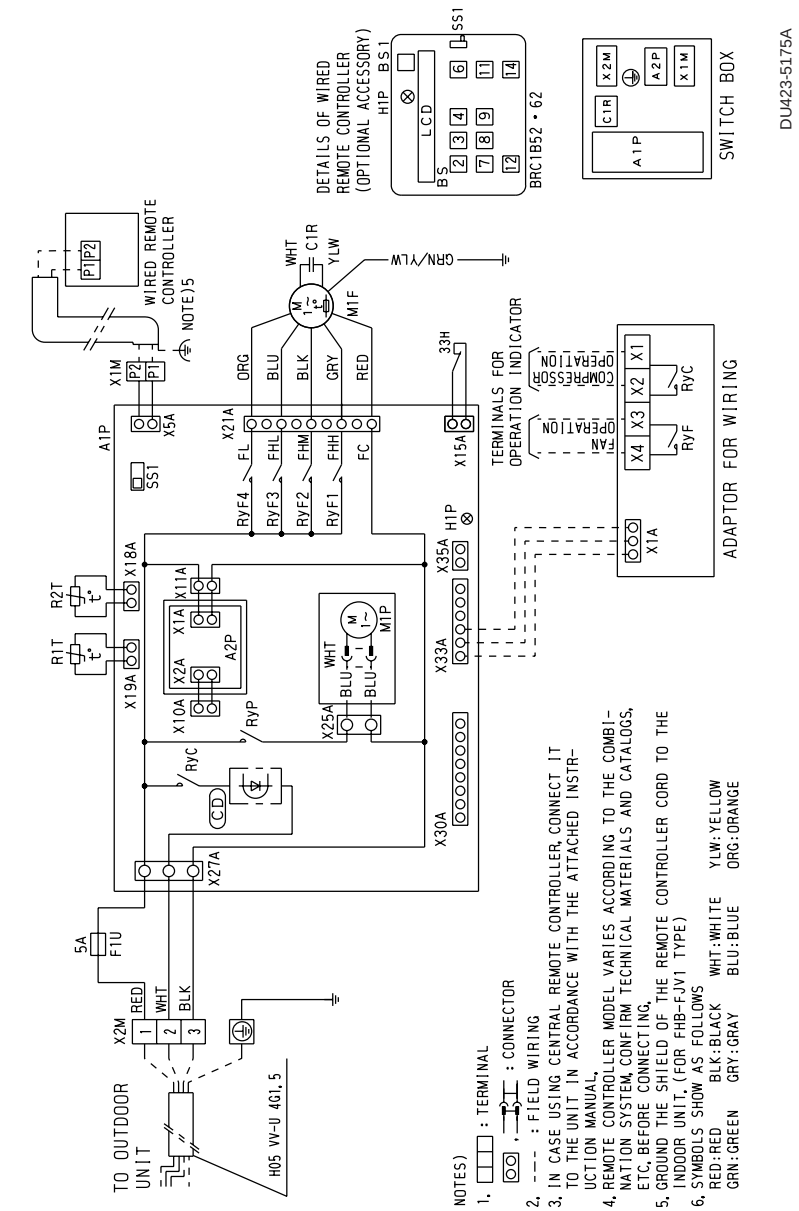
FHK35FV1~FHK71FV1



1-RED	2-WHITE	3-BLACK		
33H	FLOAT SWITCH		BS3・8	PUSH BUTTON (PROGRAMING TIME)
33S	LIMIT SWITCH(SWING FLAP)			
A1P	PRINTED CIRCUIT BOARD		BS4・9	PUSH BUTTON (TEMPERATURE SETTING)
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)		BS5	PUSH BUTTON(AIR FLOW DIRECTION ADJUST)
C1R	CAPACITOR(M1F)			
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS6	PUSH BUTTON (MODE SELECTOR)
H2P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS7	PUSH BUTTON (TIMER ON/OFF)
M1F	MOTOR(INDOOR FAN)		BS11	PUSH BUTTON (FAN SPEED)
M1P	MOTOR(DRAIN PUMP)		BS12	PUSH BUTTON (INSPECTION/TEST)
M1S	MOTOR(SWING FLAP)			
Q1F	THERMO SWITCH(M1F EMBEDDED)		BS14	PUSH BUTTON (FILTER SIGN RESET)
R1T	THERMISTOR(AIR)			
R2T	THERMISTOR(COIL)		H1P	LIGHT EMITTING DIODE (SERVICE MONITOR-RED)
RyF1-4	MAGNETIC RELAY(M1F)		LCD	LIQUID CRYSTAL DISPLAY
RyA	MAGNETIC RELAY(M1S)		SS1	SELECTOR SWITCH (MAIN/SUB)
RyP	MAGNETIC RELAY(M1P)			ADAPTOR FOR WIRING(KRP1B51)
SS1	SELECTOR SWITCH (EMERGENCY)		RyC	MAGNETIC RELAY
X1M	TERMINAL STRIP		RyF	MAGNETIC RELAY
X2M	TERMINAL STRIP		CONNECTOR FOR OPTIONAL PARTS	
(RC)	SIGNAL RECEIVER CIRCUIT		X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
(TC)	SIGNAL TRANSMISSION CIRCUIT			
WIRED REMOTE CONTROLLER (BRC1B51・61)			X33A	CONNECTOR (ADAPTOR FOR WIRING)
BS1	PUSH BUTTON(ON/OFF)			
BS2	PUSH BUTTON (TIMER MODE START/STOP)		X35A	CONNECTOR(GROUP CONTROL ADAPTOR)

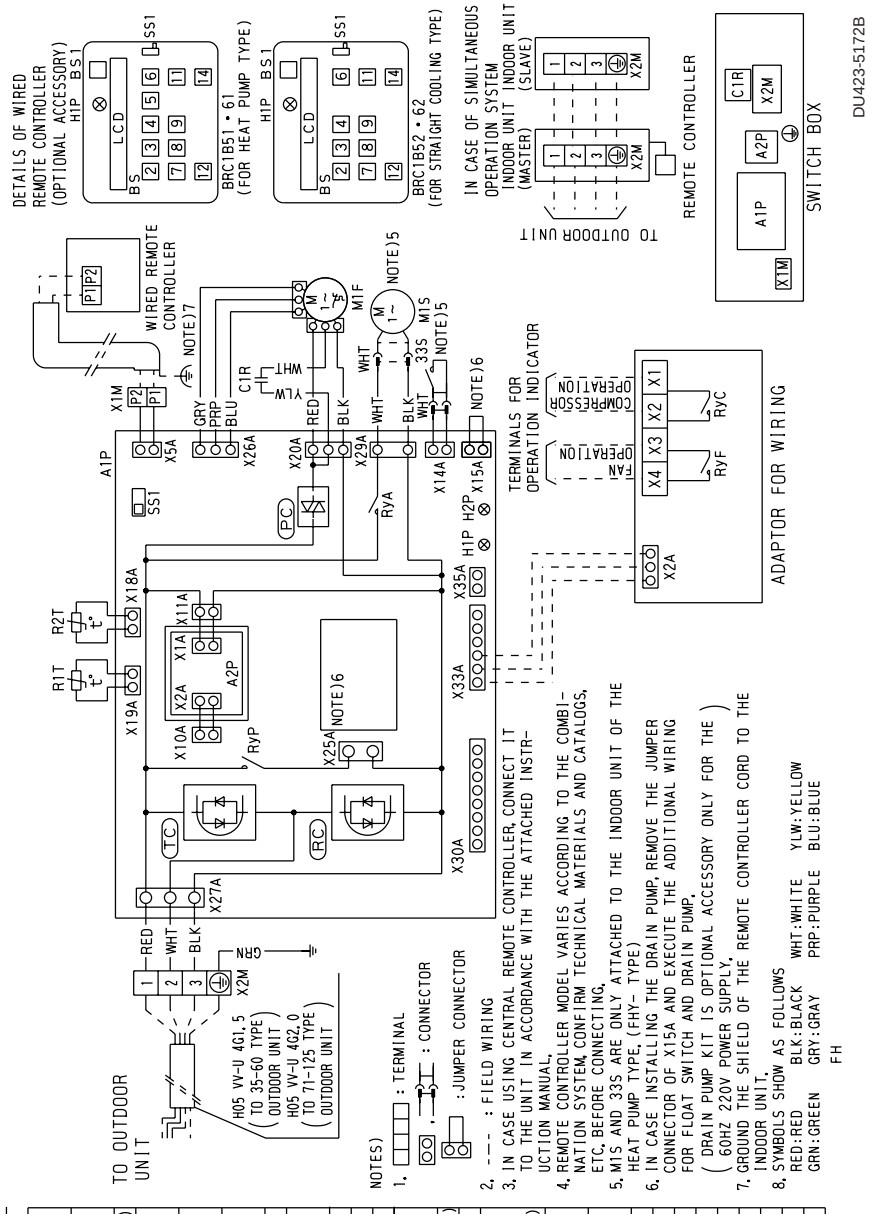
NOTES)
1. □□□ : TERMINAL
   ○○ , —○— : CONNECTOR
2. ---- : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. SYMBOLS SHOW AS FOLLOWS
   RED:RED BLK:BLACK WHT:WHITE YLW:YELLOW
   GRN:GREEN GRY:GRAY BLU:BLUE ORG:ORANGE

FHB35FV1~FHB60FV1



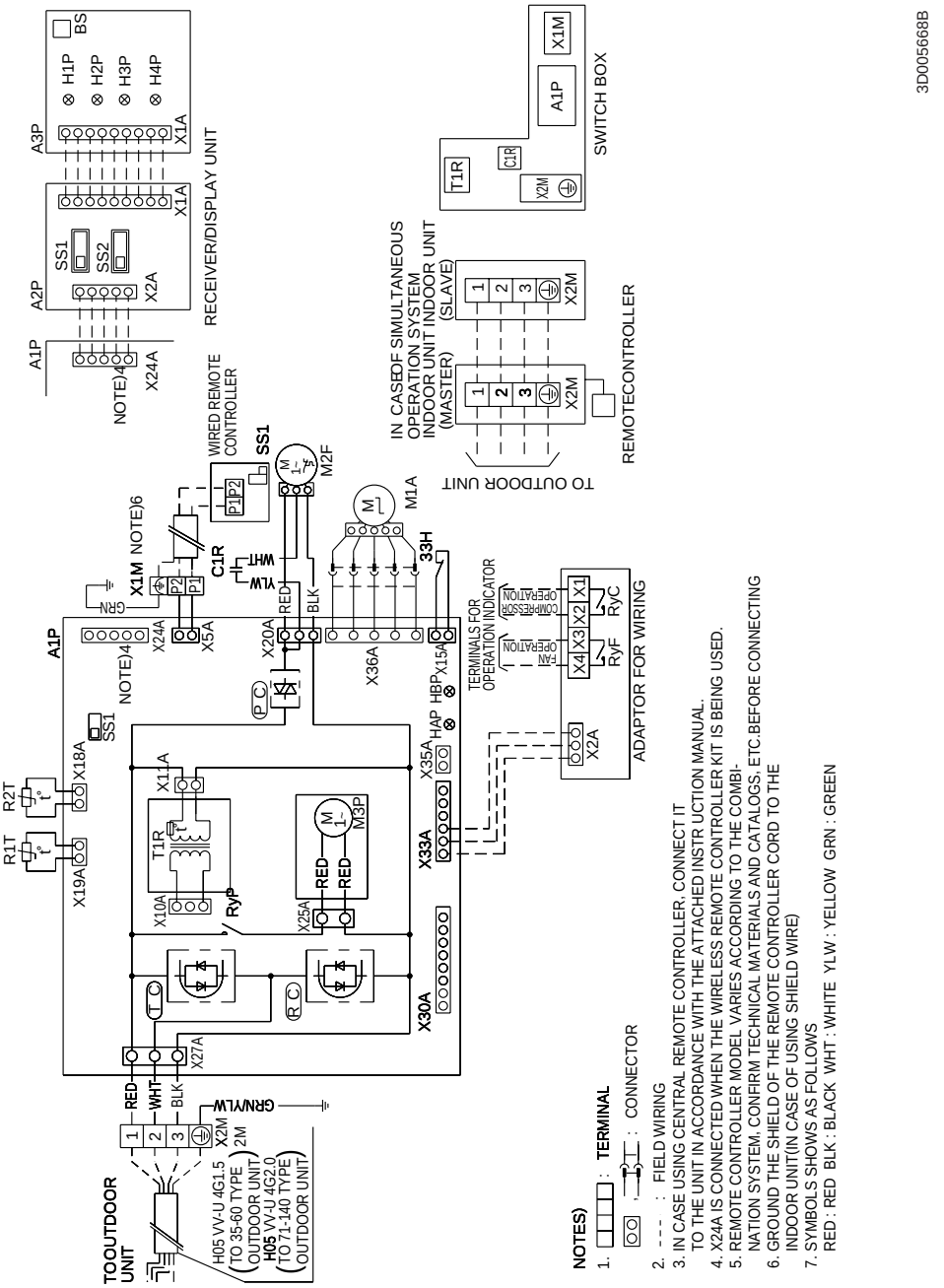
1-RED	2-WHITE	3-BLACK			
33H	FLOAT SWITCH		BS6	PUSH BUTTON (MODE SELECTOR)	
A1P	PRINTED CIRCUIT BOARD				
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)		BS7	PUSH BUTTON (TIMER ON/OFF)	
C1R	CAPACITOR(M1F)		BS11	PUSH BUTTON (FAN SPEED)	
F1T	THERMAL FUSE(152℃) (M1F EMBEDDED)		BS12	PUSH BUTTON (INSPECTION/TEST)	
F1U	FUSE(250V, 5A)		BS14	PUSH BUTTON (FILTER SIGN RESET)	
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-RED)	
M1F	MOTOR(INDOOR FAN)				
M1P	MOTOR(DRAIN PUMP)		LCD	LIQUID CRYSTAL DISPLAY	
R1T	THERMISTOR(AIR)		SS1	SELECTOR SWITCH (MAIN/SUB)	
R2T	THERMISTOR(COIL)				
RyC	MAGNETIC RELAY(OUTDOOR UNIT COMPRESSOR)		ADAPTOR FOR WIRING(KRP1B54)		
			RyC	MAGNETIC RELAY	
RyF1-4	MAGNETIC RELAY(M1F)		RyF	MAGNETIC RELAY	
RyP	MAGNETIC RELAY(M1P)		CONNECTOR FOR OPTIONAL PARTS		
SS1	SELECTOR SWITCH (EMERGENCY)		X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)	
X1M	TERMINAL STRIP				
X2M	TERMINAL STRIP				
CD	CURRENT DETECT CIRCUIT		X33A	CONNECTOR (ADAPTOR FOR WIRING)	
	WIRED REMOTE CONTROLLER (BRC1B52・62)		X35A	CONNECTOR(GROUP CONTROL ADAPTOR)	
BS1	PUSH BUTTON(ON/OFF)				
BS2	PUSH BUTTON (TIMER MODE START/STOP)				
BS3・8	PUSH BUTTON (PROGRAMING TIME)				
BS4・9	PUSH BUTTON (TEMPERATURE SETTING)				

FH35FVE~FH125FVE



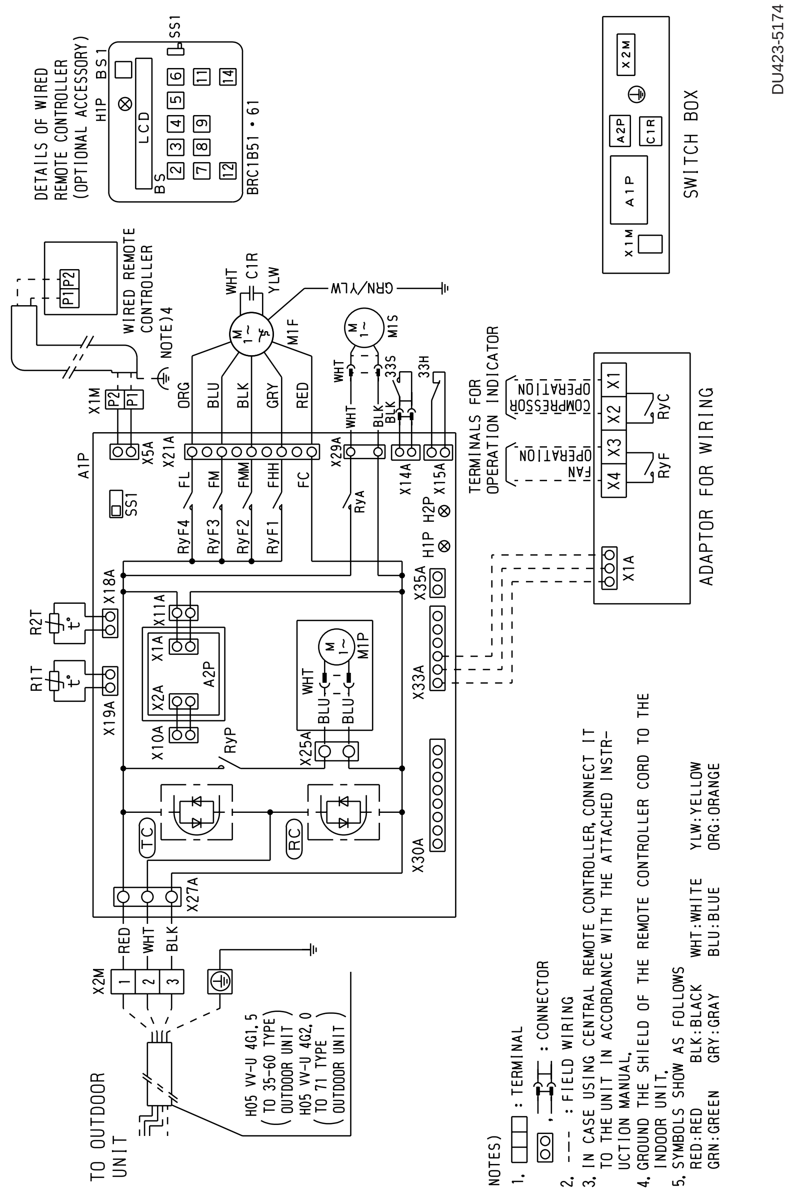
1-RED	2-WHITE	3-BLACK		
33S	LIMIT SWITCH (SWING FLAP)		BS6	PUSH BUTTON (MODE SELECTOR)
A1P	PRINTED CIRCUIT BOARD		BS7	PUSH BUTTON (TIMER ON/OFF)
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220~240V/16V)		BS11	PUSH BUTTON (FAN SPEED)
C1R	CAPACITOR(M1F)		BS12	PUSH BUTTON (INSPECTION/TEST)
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS14	PUSH BUTTON (FILTER SIGN RESET)
H2P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-RED)
M1F	MOTOR(INDOOR FAN)		LCD	LIQUID CRYSTAL DISPLAY
M1S	MOTOR(SWING FLAP)		SS1	SELECTOR SWITCH (MAIN/SUB)
Q1F	THERMO SWITCH (M1F EMBEDDED)		ADAPTOR FOR WIRING(KRP1B54)	
R1T	THERMISTOR(AIR)		RyC	MAGNETIC RELAY
R2T	THERMISTOR(COIL)		RyF	MAGNETIC RELAY
RyA	MAGNETIC RELAY(M1S)		CONNECTOR FOR OPTIONAL PARTS	
RyP	MAGNETIC RELAY(M1P)		X15A	CONNECTOR(FLOAT SWITCH)
SS1	SELECTOR SWITCH (EMERGENCY)		X25A	CONNECTOR(DRAIN PUMP)
X1M	TERMINAL STRIP		X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
X2M	TERMINAL STRIP			
PC	PHASE CONTROL CIRCUIT			
RC	SIGNAL RECEIVER		X33A	CONNECTOR (ADAPTOR FOR WIRING)
TC	SIGNAL TRANSMISSION CIRCUIT			
	WIRED REMOTE CONTROLLER (BRC1B51・52・61・62)		X35A	CONNECTOR(GROUP CONTROL ADAPTOR)
BS1	PUSH BUTTON(ON/OFF)			
BS2	PUSH BUTTON (TIMER MODE START/STOP)			
BS3・8	PUSH BUTTON (PROGRAMING TIME)			
BS4・9	PUSH BUTTON (TEMPERATURE SETTING)			
BS5	PUSH BUTTON(AIR FLOW DIRECTION ADJUST)			

FHYC35KVE~FHYC140KVE



1 — RED	2 — WHITE	3 — BLACK	
33H	FLOAT SWITCH		RECEIVER/DISPLAY UNIT(ATTACHED
A1P	PRINTED CIRCUIT BOARD		TO WIRLESS REMOTE CONTROLLER)
T1R	TRANSFORMER(220-240V/22V)		A2P PRINTED CIRCUIT BOARD
C1R	CAPACITOR(M2F)		A3P PRINTED CIRCUIT BOARD
HAP	LIGHT EMISSION DIODE		BS PUSH BUTTON(ON/OFF)
	(SERVICE MONITOR GREEN)		H1P LIGHT EMISSIONV DIODE
HBP	LIGHT EMISSION DIODE		(SERVICE MONITOR-RED)
	(SERVICE MONITOR GREEN)		H2P LIGHT EMISSION DIODE
M1A	MOTOR(SWING FLAP)		(SERVICE MONITOR-GREEN)
M2F	MOTOR(INDOOR FAN)		H3P LIGHT EMISSION DIODE
M3P	MOTOR(DRAIN PUMP)		(SERVICE MONITOR-RED)
Q1F	THERMO SWITCH(M2F EMBEDDED)		H4P LIGHT EMISSION DIODE
R1T	THERMISTOR(AIR)		(SERVICE MONITOR-ORANGE)
R2T	THERMISTOR(COIL)		SS1 SELECTOR SWITCH(MAIN/SUB)
RyP	MAGNETIC RELAY(M3P)		SS2 SELECTOR SWITCH
SS1	SELECTOR SWITCH		(WIRELESS ADDRESS SET)
	(EMERGENCY)		ADAPTOR FOR WIRING
X1M	TERMINAL STRIP		RyC MAGNETIC RELAY
X2M	TERMINAL STRIP		RyF MAGNETIC RELAY
(PC)	PHASE CONTROL CIRCUIT		CONNECTOR FOR OPTIONAL PARTS
(RC)	SIGNAL RECEIVER		X30A CONNECTOR
(TC)	SIGNAL TRANSMISSION		(INTERFACE ADAPTOR
	CIRCUIT		FOR SKY AIR SERIES)
WIRED	REMOTE CONTROLLER		X33A CONNECTOR
SS1	SELECTOR SWITCH(MAIN/SUB)		(ADAPTOR FOR WIRING)
			X35A CONNECTOR(GROUP
			CONTROL ADAPTOR)

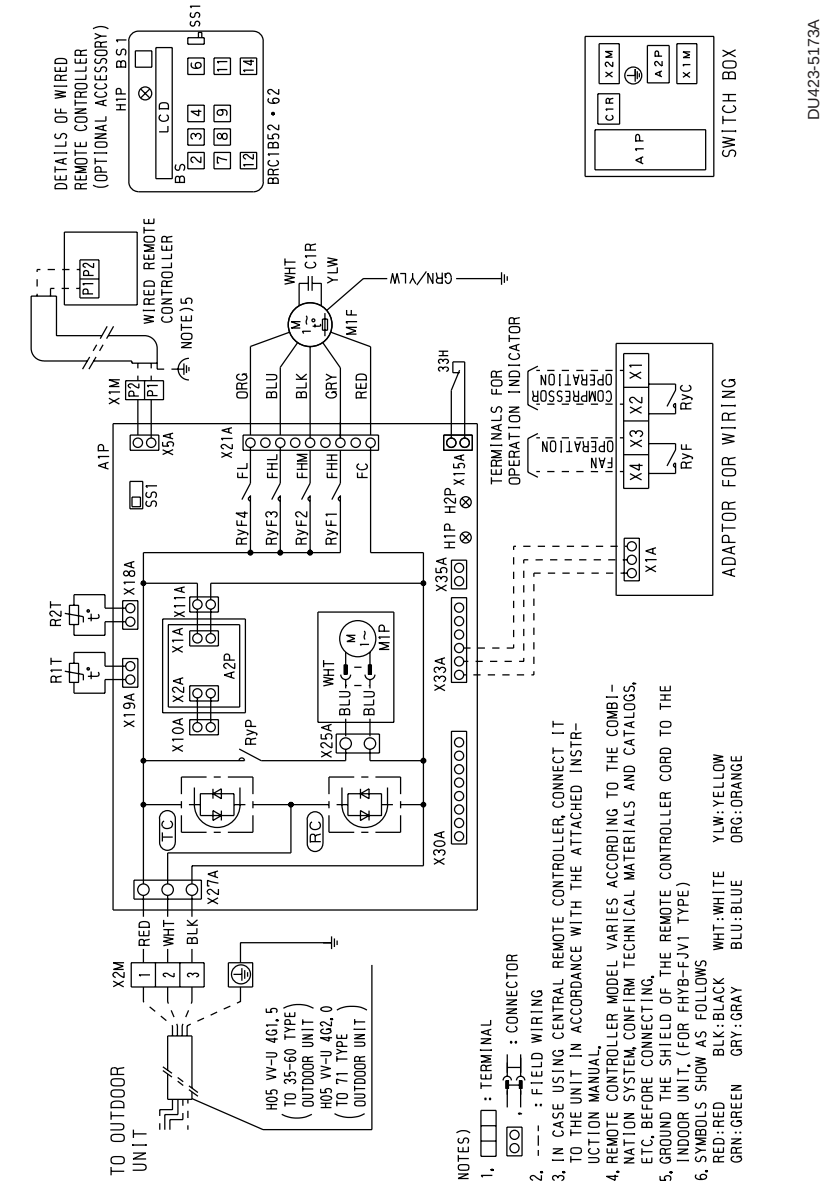
FHYK35FJV1~FHYK70FJV1



NOTES)
1. ▭▭▭ : TERMINAL
   ⊚⊚ , ⊐⊏ : CONNECTOR
2. - - - : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. GROUND THE SHIELD OF THE REMOTE CONTROLLER CORD TO THE INDOOR UNIT.
5. SYMBOLS SHOW AS FOLLOWS
   RED:RED BLK:BLACK WHT:WHITE YLW:YELLOW
   GRN:GREEN GRY:GRAY BLU:BLUE ORG:ORANGE

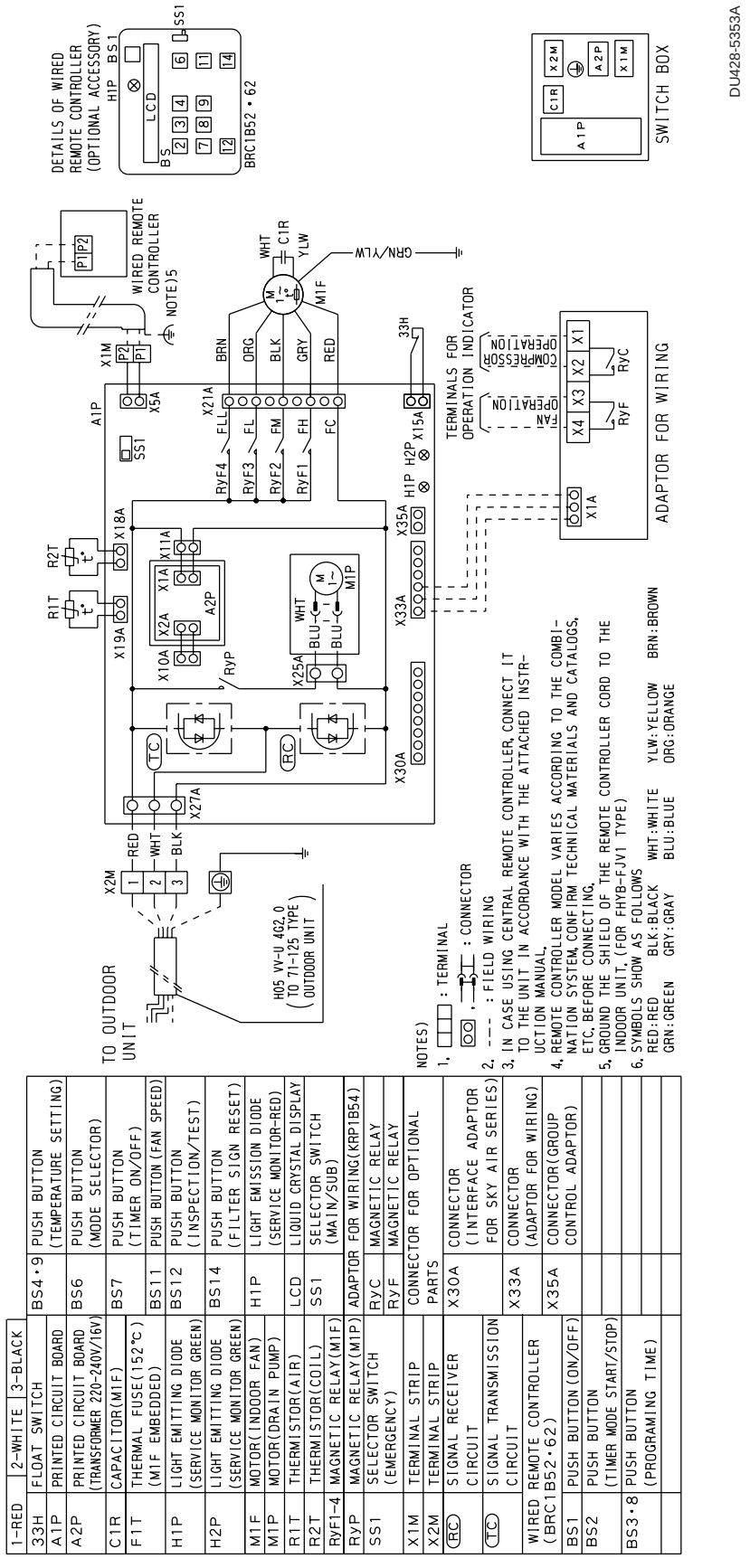
1-RED	2-WHITE	3-BLACK	
33H	FLOAT SWITCH	BS3・8	PUSH BUTTON (PROGRAMING TIME)
33S	LIMIT SWITCH(SWING FLAP)		
A1P	PRINTED CIRCUIT BOARD	BS4・9	PUSH BUTTON (TEMPERATURE SETTING)
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)	BS5	PUSH BUTTON(AIR FLOW DIRECTION ADJUST)
C1R	CAPACITOR(M1F)		
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	BS6	PUSH BUTTON (MODE SELECTOR)
H2P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	BS7	PUSH BUTTON (TIMER ON/OFF)
M1F	MOTOR(INDOOR FAN)	BS11	PUSH BUTTON (FAN SPEED)
M1P	MOTOR(DRAIN PUMP)	BS12	PUSH BUTTON (INSPECTION/TEST)
M1S	MOTOR(SWING FLAP)		
Q1F	THERMO SWITCH(M1F EMBEDDED)	BS14	PUSH BUTTON (FILTER SIGN RESET)
R1T	THERMISTOR(AIR)		
R2T	THERMISTOR(COIL)	H1P	LIGHT EMITTING DIODE (SERVICE MONITOR-RED)
RyF1-4	MAGNETIC RELAY(M1F)		
RyA	MAGNETIC RELAY(M1S)	LCD	LIQUID CRYSTAL DISPLAY
RyP	MAGNETIC RELAY(M1P)	SS1	SELECTOR SWITCH (MAIN/SUB)
SS1	SELECTOR SWITCH (EMERGENCY)	ADAPTOR FOR WIRING(KRP1B51)	
X1M	TERMINAL STRIP	RyC	MAGNETIC RELAY
X2M	TERMINAL STRIP	RyF	MAGNETIC RELAY
(RC)	SIGNAL RECEIVER CIRCUIT	CONNECTOR FOR OPTIONAL PARTS	
(TC)	SIGNAL TRANSMISSION CIRCUIT	X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
WIRED REMOTE CONTROLLER (BRC1B51・61)		X33A	CONNECTOR (ADAPTOR FOR WIRING)
BS1	PUSH BUTTON (ON/OFF)		
BS2	PUSH BUTTON (TIMER MODE START/STOP)	X35A	CONNECTOR(GROUP CONTROL ADAPTOR)

FHYB35FV1~FHYB71FV1



1-RED	2-WHITE	3-BLACK			
33H	FLOAT SWITCH		BS4・9	PUSH BUTTON (TEMPERATURE SETTING)	
A1P	PRINTED CIRCUIT BOARD				
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)		BS6	PUSH BUTTON (MODE SELECTOR)	
C1R	CAPACITOR(M1F)		BS7	PUSH BUTTON (TIMER ON/OFF)	
F1T	THERMAL FUSE(152℃) (M1F EMBEDDED)		BS11	PUSH BUTTON (FAN SPEED)	
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS12	PUSH BUTTON (INSPECTION/TEST)	
H2P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS14	PUSH BUTTON (FILTER SIGN RESET)	
M1F	MOTOR(INDOOR FAN)		H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-RED)	
M1P	MOTOR(DRAIN PUMP)				
R1T	THERMISTOR(AIR)		LCD	LIQUID CRYSTAL DISPLAY	
R2T	THERMISTOR(COIL)		SS1	SELECTOR SWITCH (MAIN/SUB)	
RyF1-4	MAGNETIC RELAY(M1F)		ADAPTOR FOR WIRING(KRP1B54)		
RyP	MAGNETIC RELAY(M1P)		RyC	MAGNETIC RELAY	
SS1	SELECTOR SWITCH (EMERGENCY)		RyF	MAGNETIC RELAY	
X1M	TERMINAL STRIP		CONNECTOR FOR OPTIONAL PARTS		
X2M	TERMINAL STRIP				
(RC)	SIGNAL RECEIVER CIRCUIT		X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)	
(TC)	SIGNAL TRANSMISSION CIRCUIT		X33A	CONNECTOR (ADAPTOR FOR WIRING)	
WIRED REMOTE CONTROLLER (BRC1B52・62)			X35A	CONNECTOR(GROUP CONTROL ADAPTOR)	
BS1	PUSH BUTTON (ON/OFF)				
BS2	PUSH BUTTON (TIMER MODE START/STOP)				
BS3・8	PUSH BUTTON (PROGRAMING TIME)				

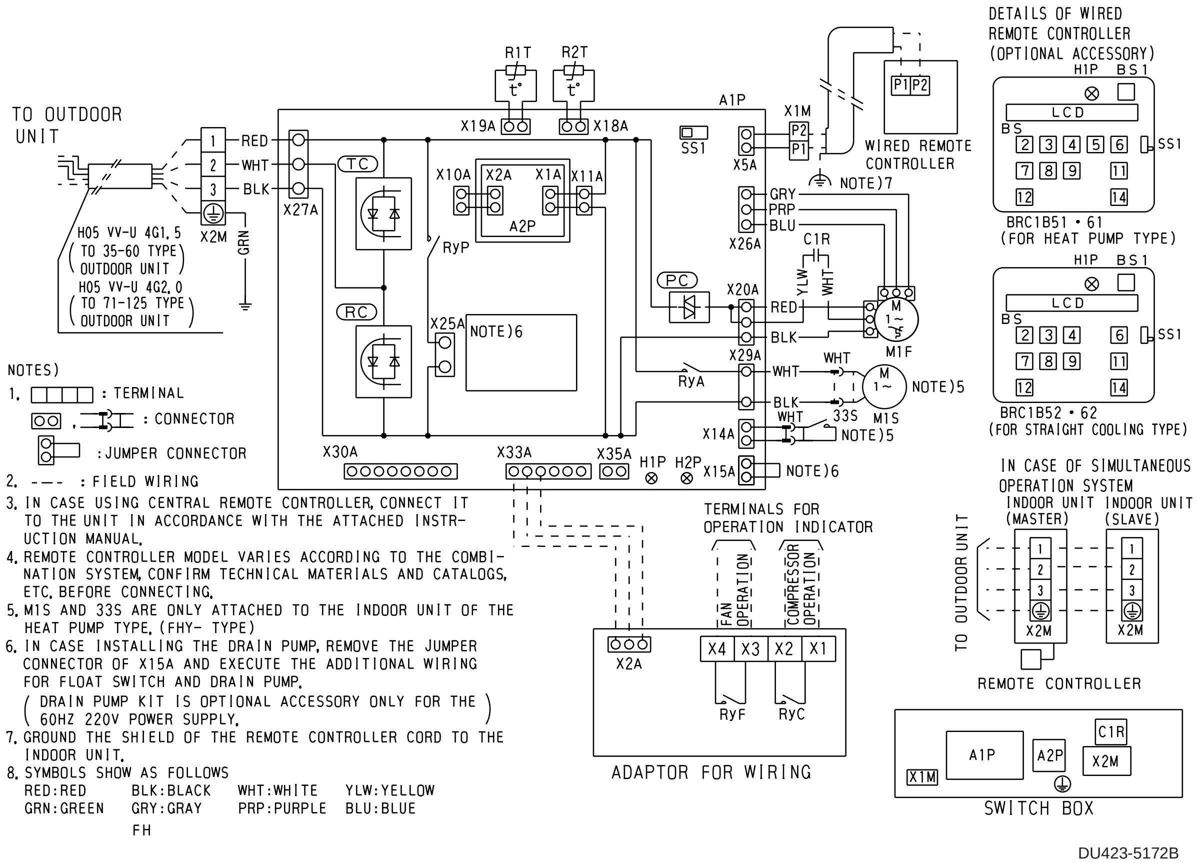
FHYB100FV1 / FHYB125FV1



1-RED	2-WHITE	3-BLACK		
33H	FLOAT SWITCH		BS4・9	PUSH BUTTON (TEMPERATURE SETTING)
A1P	PRINTED CIRCUIT BOARD			
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)		BS6	PUSH BUTTON (MODE SELECTOR)
C1R	CAPACITOR(M1F)		BS7	PUSH BUTTON (TIMER ON/OFF)
F1T	THERMAL FUSE(152℃) (M1F EMBEDDED)		BS11	PUSH BUTTON(FAN SPEED)
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS12	PUSH BUTTON (INSPECTION/TEST)
H2P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS14	PUSH BUTTON (FILTER SIGN RESET)
M1F	MOTOR(INDOOR FAN)		H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-RED)
M1P	MOTOR(DRAIN PUMP)			
R1T	THERMISTOR(AIR)		LCD	LIQUID CRYSTAL DISPLAY
R2T	THERMISTOR(COIL)		SS1	SELECTOR SWITCH (MAIN/SUB)
RyF1-4	MAGNETIC RELAY(M1F)			
RyP	MAGNETIC RELAY(M1P)		ADAPTOR FOR WIRING(KRP1B54)	
SS1	SELECTOR SWITCH (EMERGENCY)		RyC	MAGNETIC RELAY
			RyF	MAGNETIC RELAY
X1M	TERMINAL STRIP		CONNECTOR FOR OPTIONAL PARTS	
X2M	TERMINAL STRIP			
(RC)	SIGNAL RECEIVER CIRCUIT		X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
(TC)	SIGNAL TRANSMISSION CIRCUIT		X33A	CONNECTOR (ADAPTOR FOR WIRING)
WIRED REMOTE CONTROLLER (BRC1B52・62)			X35A	CONNECTOR(GROUP CONTROL ADAPTOR)
BS1	PUSH BUTTON (ON/OFF)			
BS2	PUSH BUTTON (TIMER MODE START/STOP)			
BS3・8	PUSH BUTTON (PROGRAMING TIME)			

FHY35FVE~FHY125FVE

1-RED	2-WHITE 3-BLACK		
33S	LIMIT SWITCH (SWING FLAP)	BS6	PUSH BUTTON (MODE SELECTOR)
A1P	PRINTED CIRCUIT BOARD	BS7	PUSH BUTTON (TIMER ON/OFF)
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)	BS11	PUSH BUTTON (FAN SPEED)
C1R	CAPACITOR(M1F)	BS12	PUSH BUTTON (INSPECTION/TEST)
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	BS14	PUSH BUTTON (FILTER SIGN RESET)
H2P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-RED)
M1F	MOTOR(INDOOR FAN)		
M1S	MOTOR(SWING FLAP)	LCD	LIQUID CRYSTAL DISPLAY
Q1F	THERMO SWITCH (M1F EMBEDDED)	SS1	SELECTOR SWITCH (MAIN/SUB)
R1T	THERMISTOR(AIR)	ADAPTOR FOR WIRING(KRP1B54)	
R2T	THERMISTOR(COIL)	RyC	MAGNETIC RELAY
RyA	MAGNETIC RELAY(M1S)	RyF	MAGNETIC RELAY
RyP	MAGNETIC RELAY(M1P)	CONNECTOR FOR OPTIONAL PARTS	
SS1	SELECTOR SWITCH (EMERGENCY)	X15A	CONNECTOR(FLOAT SWITCH)
		X25A	CONNECTOR(DRAIN PUMP)
X1M	TERMINAL STRIP	X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
X2M	TERMINAL STRIP		
PC	PHASE CONTROL CIRCUIT		
RC	SIGNAL RECEIVER		
TC	SIGNAL TRANSMISSION CIRCUIT	X33A	CONNECTOR (ADAPTOR FOR WIRING)
WIRED REMOTE CONTROLLER (BRC1B51·52·61·62)		X35A	CONNECTOR(GROUP CONTROL ADAPTOR)
BS1	PUSH BUTTON(ON/OFF)		
BS2	PUSH BUTTON (TIMER MODE START/STOP)		
BS3·8	PUSH BUTTON (PROGRAMING TIME)		
BS4·9	PUSH BUTTON (TEMPERATURE SETTING)		
BS5	PUSH BUTTON(AIR FLOW DIRECTION ADJUST)		



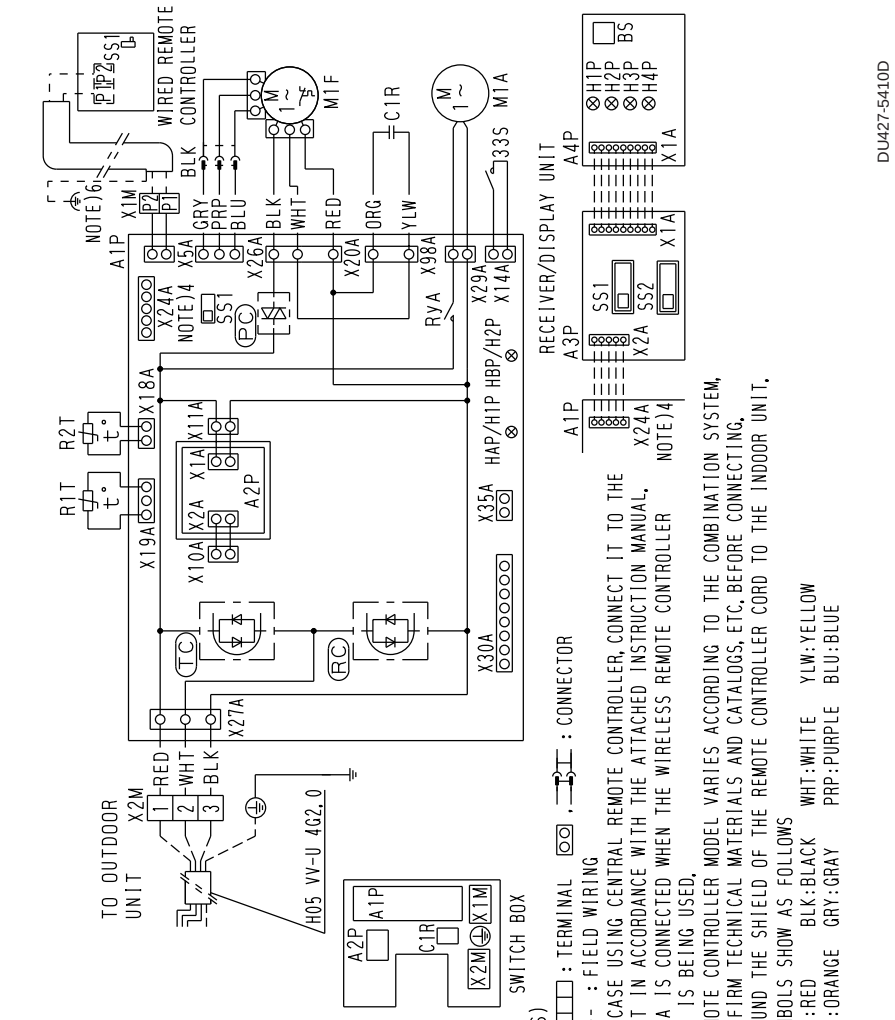
NOTES)

1. ▭▭▭ : TERMINAL
   ○○ , ⊐⊏ : CONNECTOR
   : JUMPER CONNECTOR
2. ––– : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. REMOTE CONTROLLER MODEL VARIES ACCORDING TO THE COMBINATION SYSTEM, CONFIRM TECHNICAL MATERIALS AND CATALOGS, ETC. BEFORE CONNECTING.
5. M1S AND 33S ARE ONLY ATTACHED TO THE INDOOR UNIT OF THE HEAT PUMP TYPE. (FHY- TYPE)
6. IN CASE INSTALLING THE DRAIN PUMP, REMOVE THE JUMPER CONNECTOR OF X15A AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH AND DRAIN PUMP.
   (DRAIN PUMP KIT IS OPTIONAL ACCESSORY ONLY FOR THE 60HZ 220V POWER SUPPLY.)
7. GROUND THE SHIELD OF THE REMOTE CONTROLLER CORD TO THE INDOOR UNIT.
8. SYMBOLS SHOW AS FOLLOWS
   RED:RED BLK:BLACK WHT:WHITE YLW:YELLOW
   GRN:GREEN GRY:GRAY PRP:PURPLE BLU:BLUE

FH

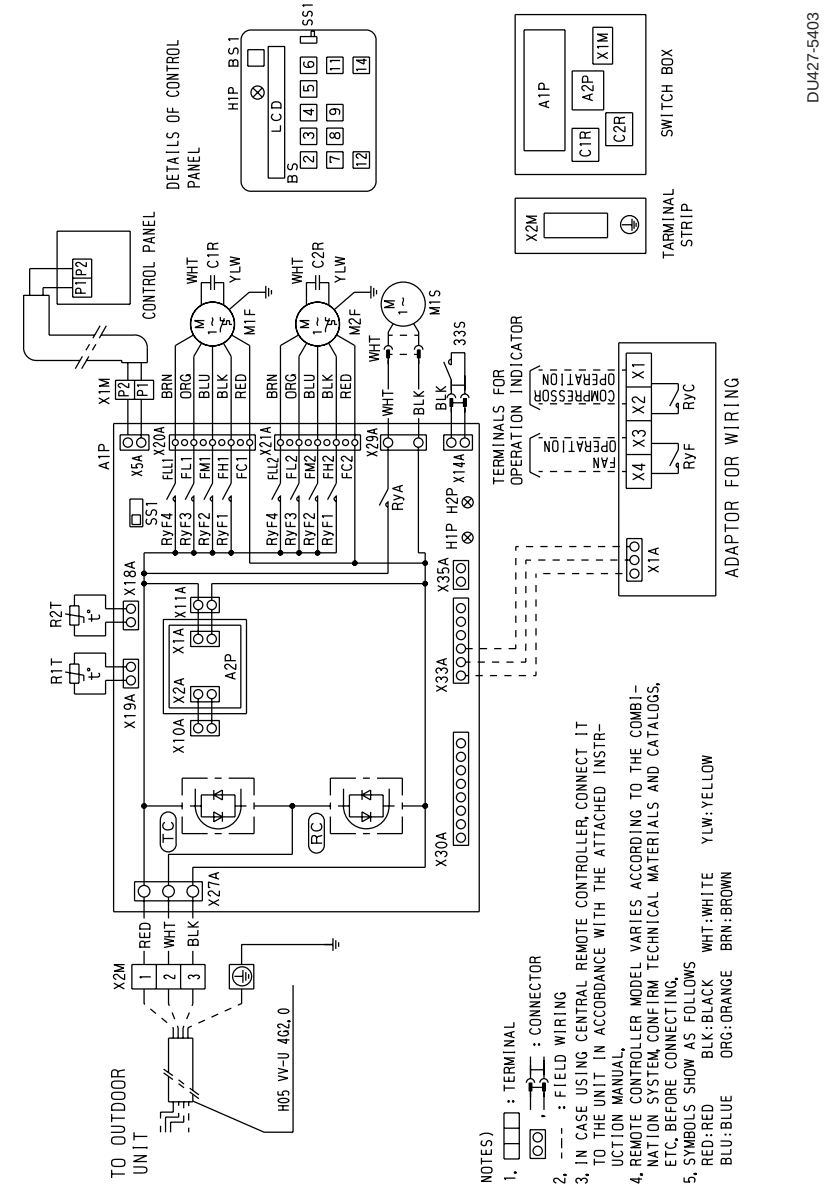
DU423-5172B

FAY71F(A)VE / FAY100F(A)VE



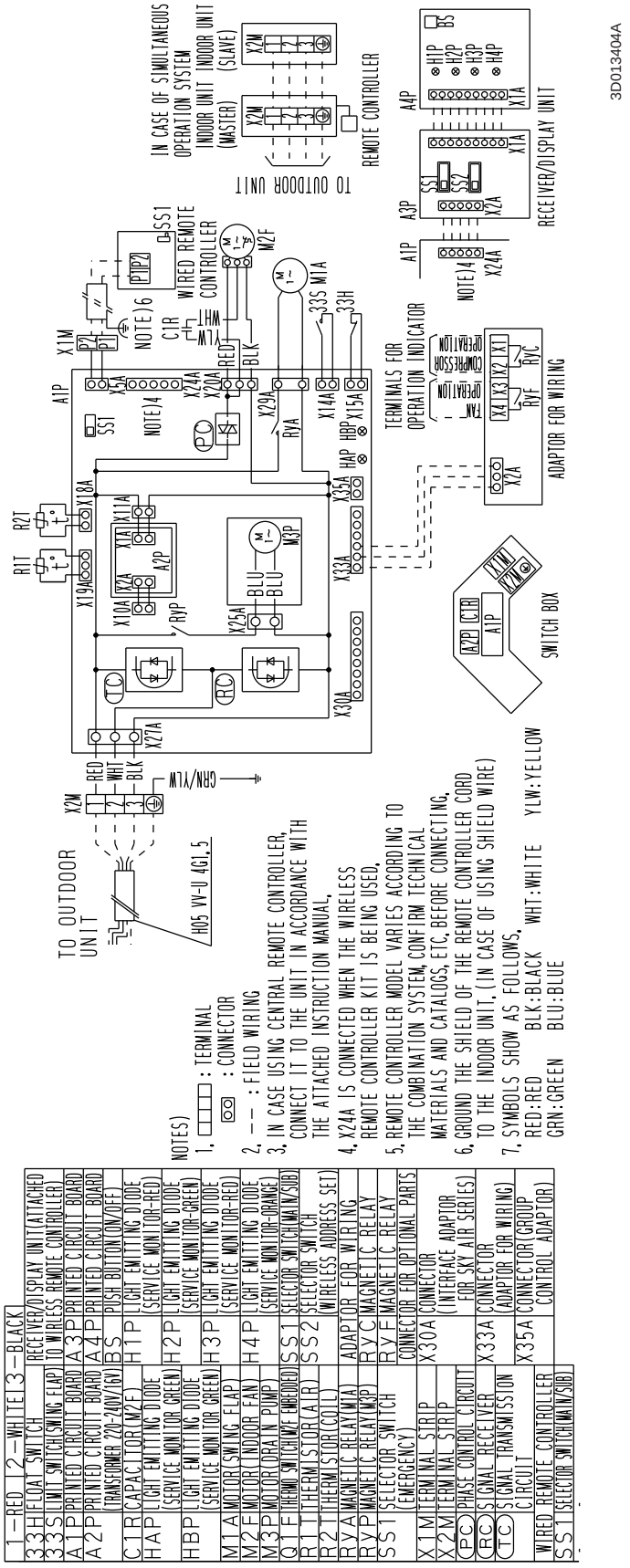
1-RED	2-WHITE	3-BLACK	WIRED REMOTE CONTROLLER	
33S	LIMIT SWITCH (SWING FLAP)		SS1	SELECTOR SWITCH (MAIN/SUB)
A1P	PRINTED CIRCUIT BOARD		WIRELESS REMOTE CONTROLLER (RECEIVER/DISPLAY UNIT)	
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)		A3P	PRINTED CIRCUIT BOARD
C1R	CAPACITOR(M1F)		A4P	PRINTED CIRCUIT BOARD
HAP (H1P)	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)		BS	PUSH BUTTON(ON/OFF)
HBP (H2P)	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)		H1P	LIGHT EMITTING DIODE (ON-RED)
M1A	MOTOR(SWING FLAP)		H2P	LIGHT EMITTING DIODE (TIMER-GREEN)
M1F	MOTOR(INDOOR FAN)		H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
Q1F	THERMO SWITCH (M1F EMBEDDED)		H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)
R1T	THERMISTOR(AIR)		SS1	SELECTOR SWITCH (MAIN/SUB)
R2T	THERMISTOR(COIL)		SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
RyA	MAGNETIC RELAY(M1A)		CONNECTOR FOR OPTIONAL PARTS	
SS1	SELECTOR SWITCH (EMERGENCY)		X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
X1M	TERMINAL STRIP		X35A	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
X2M	TERMINAL STRIP			
(PC)	PHASE CONTROL CIRCUIT			
(RC)	SIGNAL RECEIVER CIRCUIT			
(TC)	SIGNAL TRANSMISSION CIRCUIT			

FVY71FV1~FVY125FV1

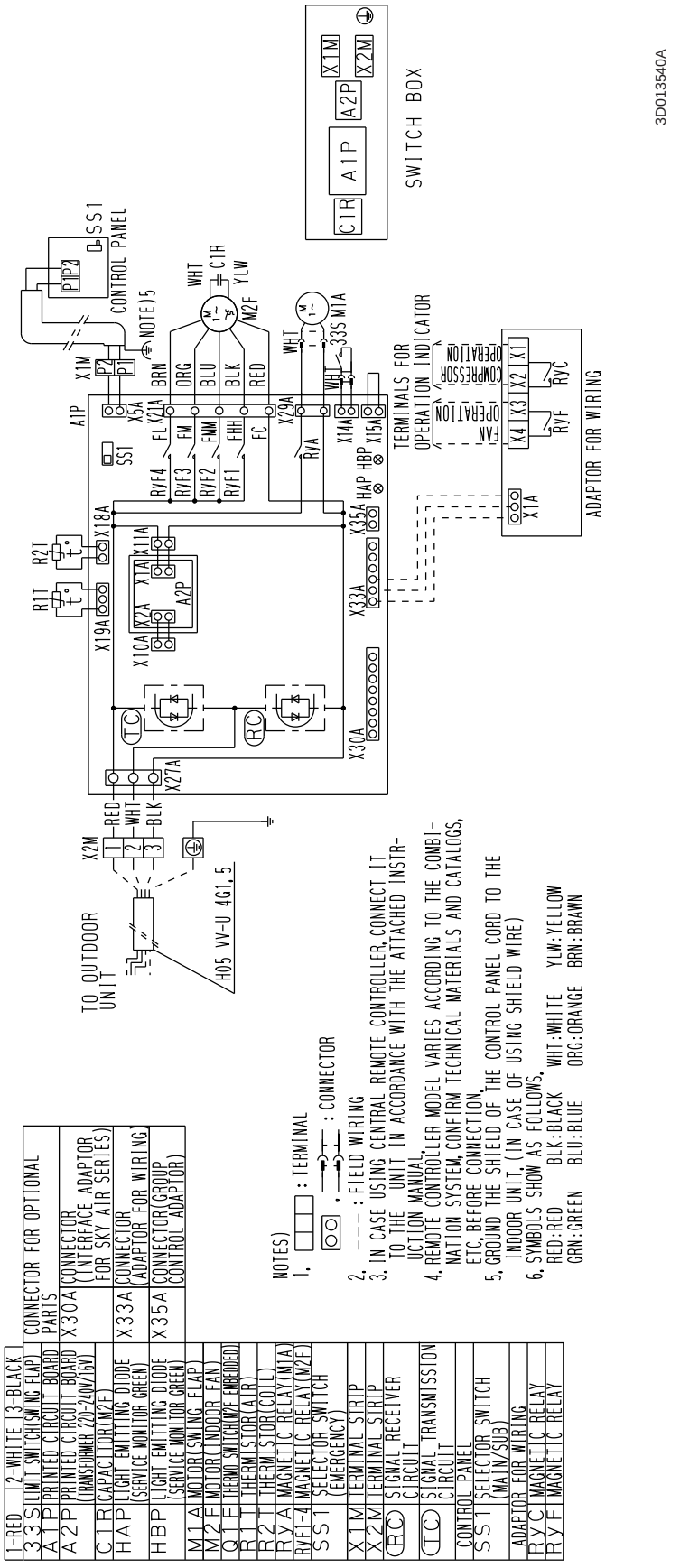


1-RED	2-WHITE	3-BLACK		
33S	LIMIT SWITCH (SWING FLAP)		BS4・9	PUSH BUTTON (TEMPERATURE SETTING)
A1P	PRINTED CIRCUIT BOARD		BS5	PUSH BUTTON(AIR FLOW DIRECTION ADJUST)
A2P	PRINTED CIRCUIT BOARD (TRANSFORMER 220-240V/16V)		BS6	PUSH BUTTON (MODE SELECTOR)
C1・2R	CAPACITOR(M1・2F)			
H1P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS7	PUSH BUTTON (TIMER ON/OFF)
H2P	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)		BS11	PUSH BUTTON(FAN SPEED)
M1・2F	MOTOR(INDOOR FAN)		BS12	PUSH BUTTON (INSPECTION/TEST)
M1S	MOTOR(SWING FLAP)		BS14	PUSH BUTTON (FILTER SIGN RESET)
Q1・2F	THERMO SWITCH (M1・2F EMBEDDED)		H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-RED)
R1T	THERMISTOR(AIR)			
R2T	THERMISTOR(COIL)		LCD	LIQUID CRYSTAL DISPLAY
RyA	MAGNETIC RELAY(M1S)		SS1	SELECTOR SWITCH (MAIN/SUB)
RyF1-4	MAGNETIC RELAY(M1・2F)			
SS1	SELECTOR SWITCH (EMERGENCY)		ADAPTOR FOR WIRING(KRP1B56)	
			RyC	MAGNETIC RELAY
X1M	TERMINAL STRIP		RyF	MAGNETIC RELAY
X2M	TERMINAL STRIP		CONNECTOR FOR OPTIONAL PARTS	
(RC)	SIGNAL RECEIVER CIRCUIT			
(TC)	SIGNAL TRANSMISSION CIRCUIT		X30A	CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)
CONTROL PANEL			X33A	CONNECTOR (ADAPTOR FOR WIRING)
BS1	PUSH BUTTON (ON/OFF)			
BS2	PUSH BUTTON (TIMER MODE START/STOP)		X35A	CONNECTOR(GROUP CONTROL ADAPTOR)
BS3・8	PUSH BUTTON (PROGRAMING TIME)			

FUY71FJV1 / FUY100FJV1 / FUY125FJV1

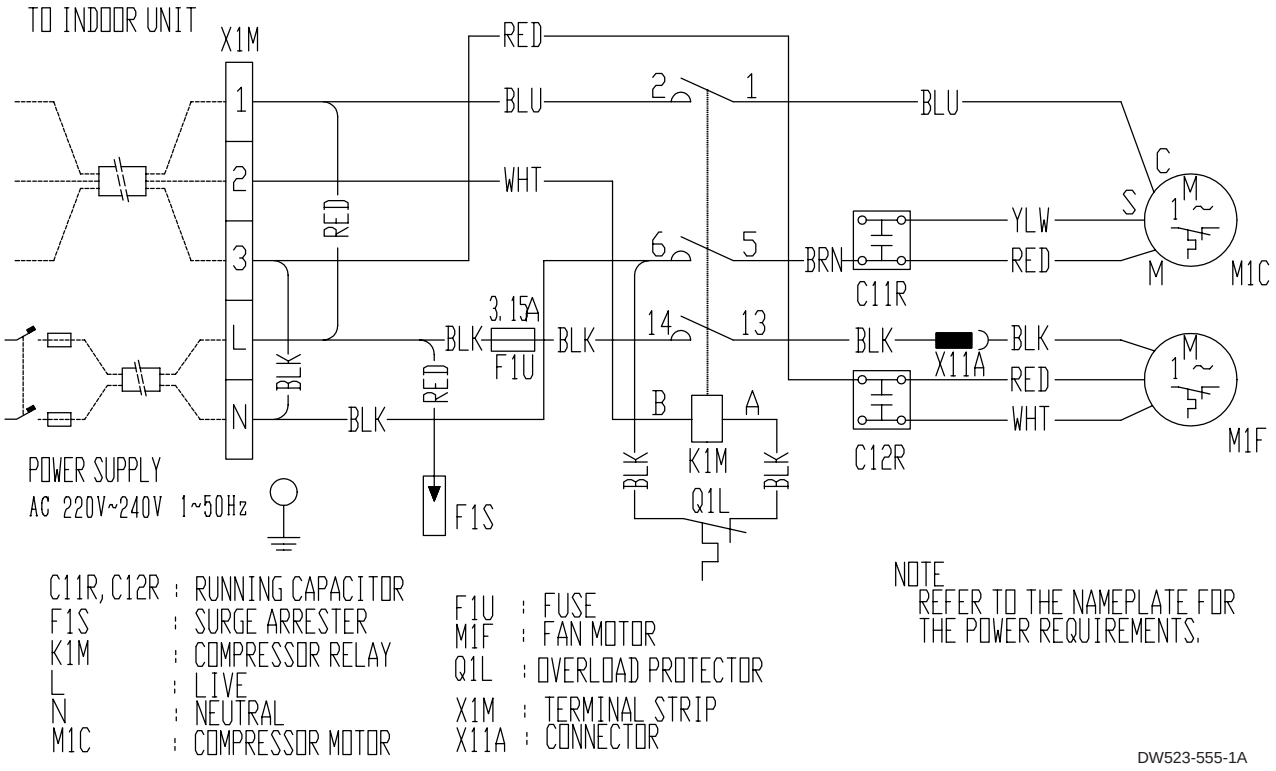


FVY71LVE / FVY100LVE / FVY125LVE

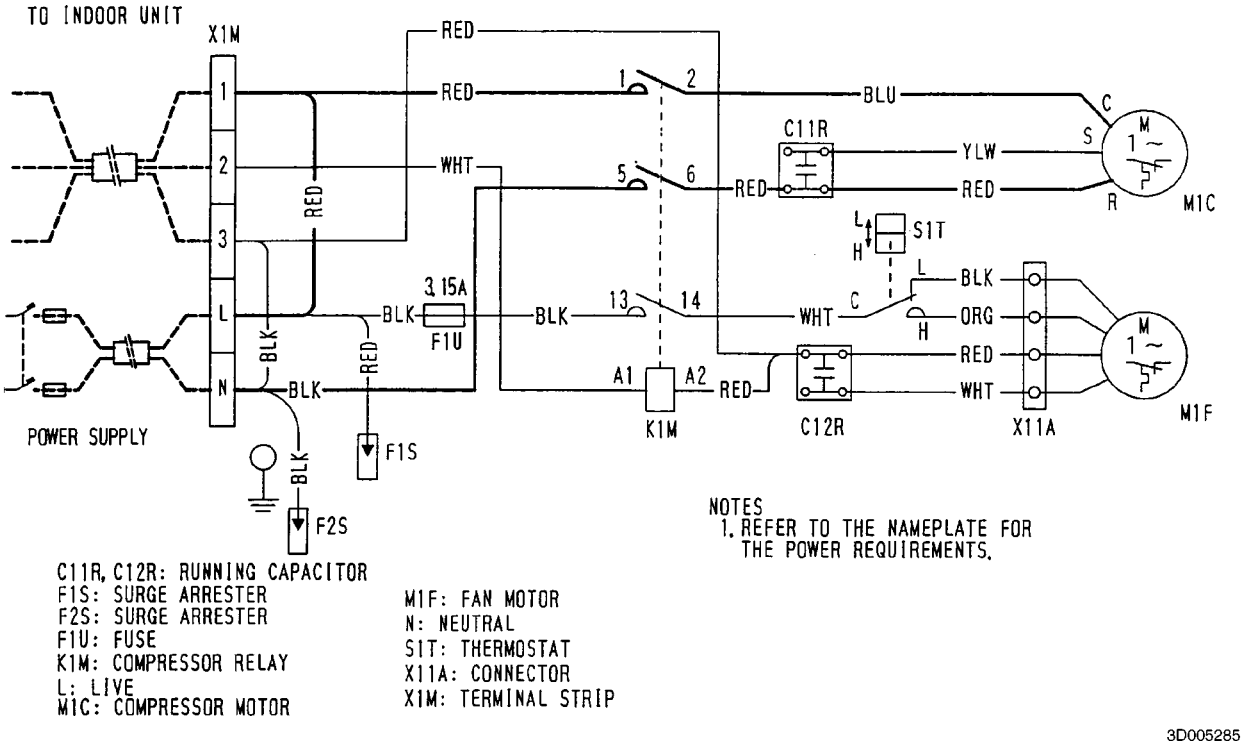


2.2 Outdoor Units (50Hz)

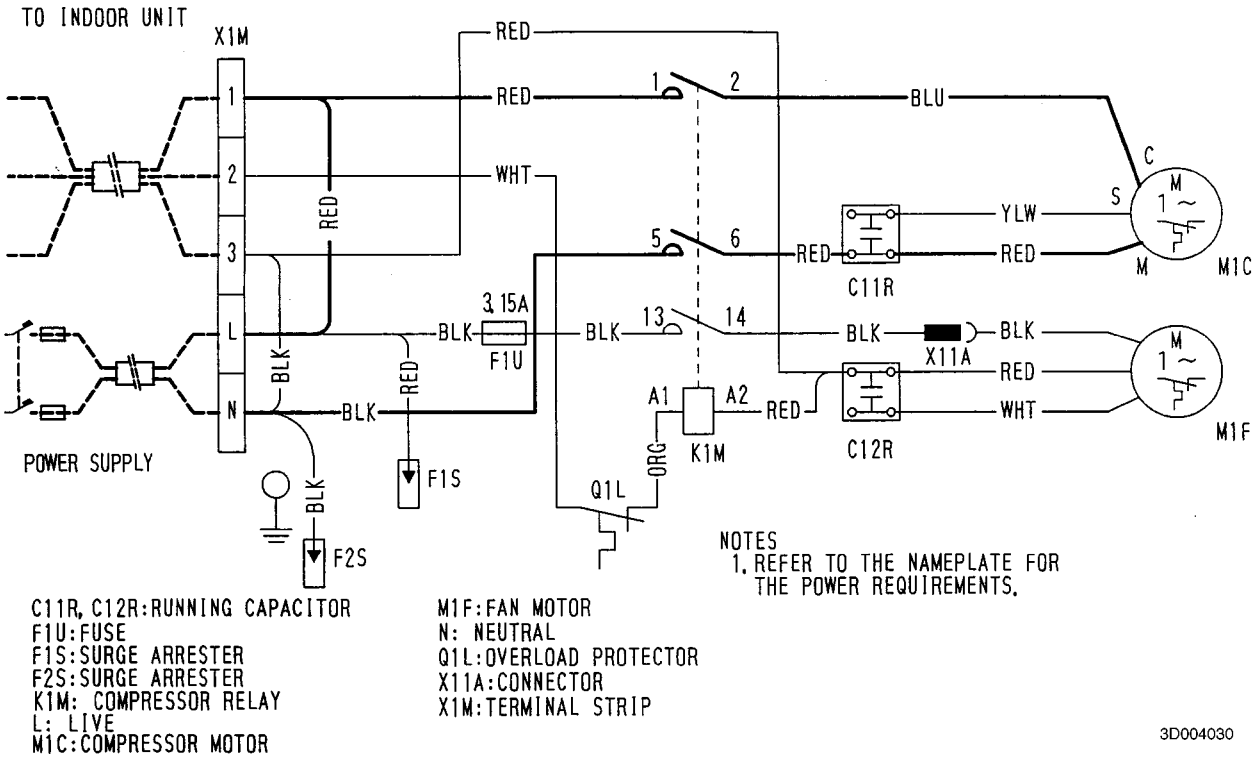
R35GV1



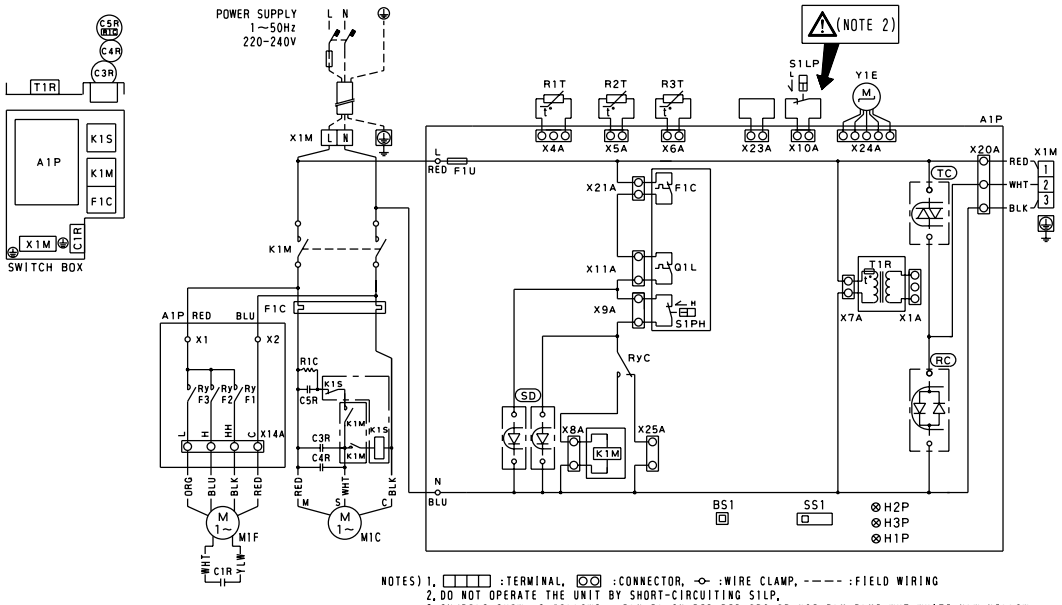
R50GV1



R60GV1



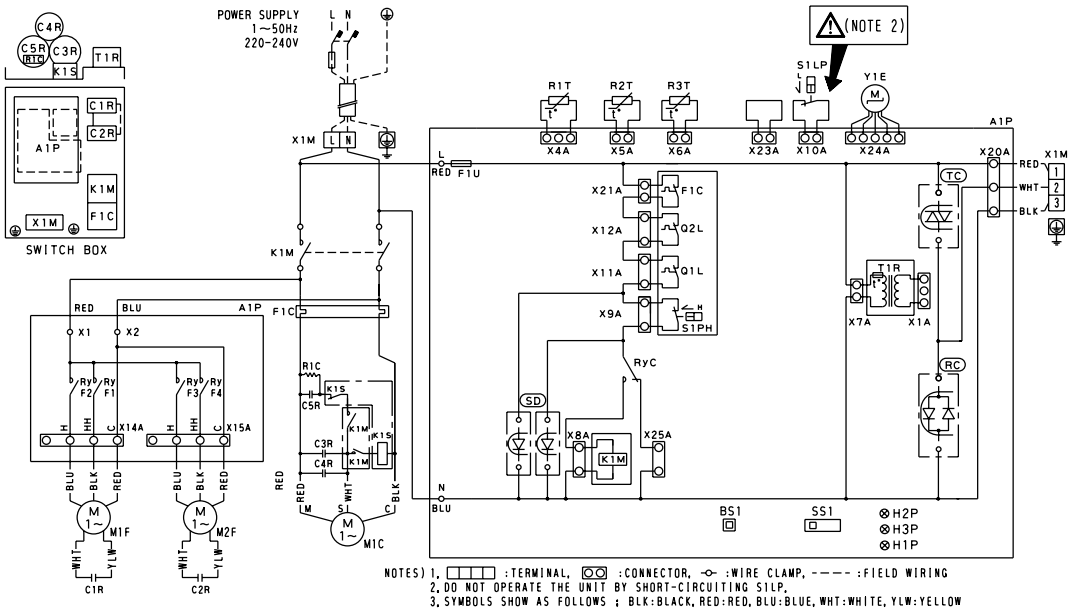
R71KV1



L-RED	N-BLU	S1LP	PRESSURE SWITCH (LOW)	M1F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)
A1P	PRINTED CIRCUIT BOARD	S1PH	PRESSURE SWITCH (HIGH)	Q1L	THERMO SWITCH (M1F)	T1R	TRANSFORMER(220-240V/16V)
BS1	PUSH BUTTON(PUMP DOWN)	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1C	RESISTOR	X1M	TERMINAL STRIP
C1R	CAPACITOR (M1F)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R1T	THERMISTOR(AIR)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
C3R·C4R	CAPACITOR (M1C)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	RC	SIGNAL RECEIVER CIRCUIT
C5R	STARTING CAPACITOR (M1C)	K1M	MAGNETIC CONTACTOR (M1C)	R3T	THERMISTOR(DISCHARGE PIPE)	SD	SAFETY DEVICES INPUT
F1C	OVER-CURRENT RELAY (M1C)	K1S	STARTING CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)	TC	SIGNAL TRANSMISSION CIRCUIT
F1U	FUSE (250V, 5A)	M1C	MOTOR (COMPRESSOR)	RyF1·2·3	MAGNETIC RELAY (M1F)		

DU427-5399C

R100KV1

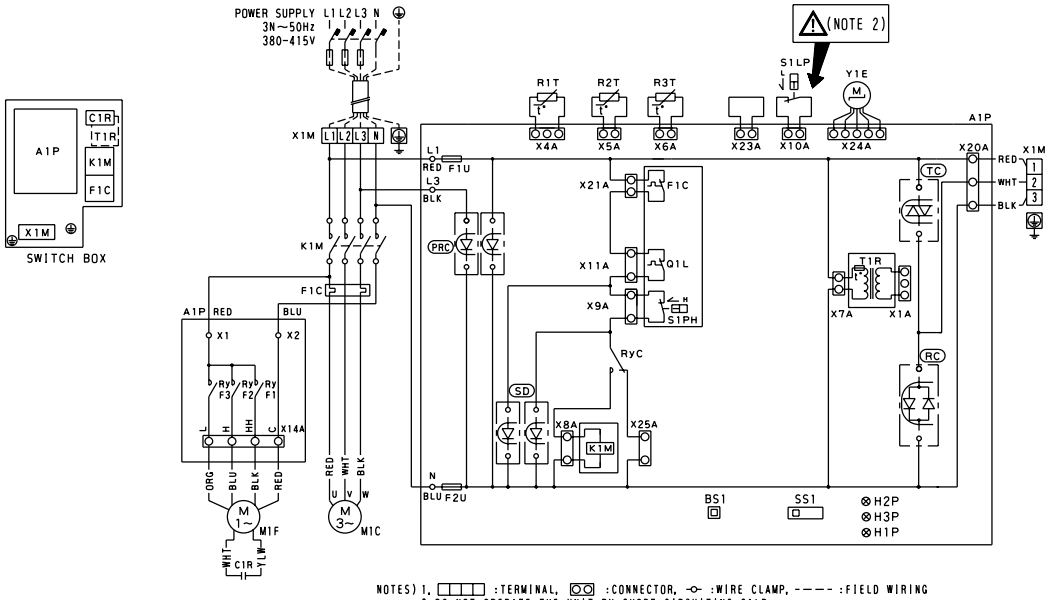


NOTES) 1, □□□ :TERMINAL, ⊙⊙ :CONNECTOR, -o- :WIRE CLAMP, ---- :FIELD WIRING
2, DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3, SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, BLU:BLUE, WHT:WHITE, YLW:YELLOW

L-RED	N-BLU	S1LP	PRESSURE SWITCH (LOW)	M1F・M2F	MOTOR (FAN)	RyS	MAGNETIC RELAY (Y1R)
A1P	PRINTED CIRCUIT BOARD	S1PH	PRESSURE SWITCH (HIGH)	Q1L・Q2L	THERMO SWITCH (M1F・M2F)	SS1	SELECTOR SWITCH(EMERGENCY)
BS1	PUSH BUTTON(PUMP DOWN)	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1C	RESISTOR	T1R	TRANSFORMER(220-240V/16V)
C1R・C2R	CAPACITOR (M1F・M2F)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R1T	THERMISTOR(AIR)	X1M	TERMINAL STRIP
C3R・C4R	CAPACITOR (M1C)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
C5R	STARTING CAPACITOR (M1C)	K1M	MAGNETIC CONTACTOR (M1C)	R3T	THERMISTOR(DISCHARGE PIPE)	RC	SIGNAL RECEIVER CIRCUIT
F1C	OVER-CURRENT RELAY (M1C)	K1S	STARTING CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)	SD	SAFETY DEVICES INPUT
F1U	FUSE (250V, 5A)	M1C	MOTOR (COMPRESSOR)	RyF1・2・3・4	MAGNETIC RELAY (M1F・M2F)	TC	SIGNAL TRANSMISSION CIRCUIT

DU428-5349E

R71KY1

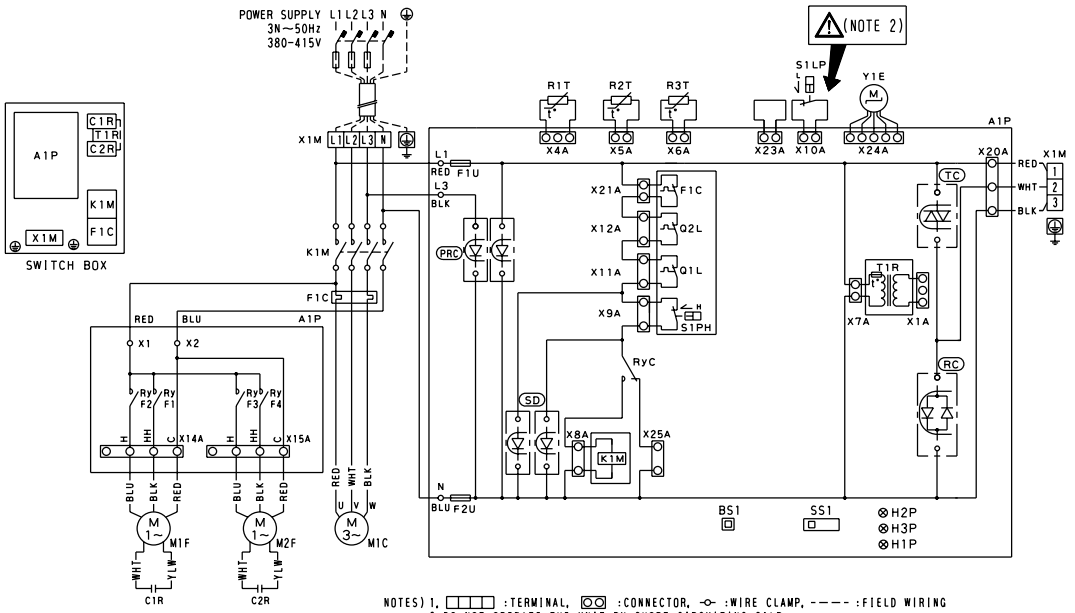


NOTES) 1, □□□ :TERMINAL, ⊙⊙ :CONNECTOR, -o- :WIRE CLAMP, ---- :FIELD WIRING
2, DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3, SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, ORG:ORANGE, BLU:BLUE, WHT:WHITE, YLW:YELLOW

L1-RED	L2-WHT	L3-BLK	N-BLU	S1PH	PRESSURE SWITCH (HIGH)	Q1L	THERMO SWITCH (M1F)
A1P	PRINTED CIRCUIT BOARD			H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1T	THERMISTOR(AIR)
BS1	PUSH BUTTON(PUMP DOWN)			H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)
C1R	CAPACITOR (M1F)			H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R3T	THERMISTOR(DISCHARGE PIPE)
F1C	OVER-CURRENT RELAY (M1C)			K1M	MAGNETIC CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)
F1U・F2U	FUSE (250V, 5A)			M1C	MOTOR (COMPRESSOR)	RyF1・2・3	MAGNETIC RELAY (M1F)
S1LP	PRESSURE SWITCH (LOW)			M1F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)
T1R	TRANSFORMER(220-240V/16V)						
X1M	TERMINAL STRIP						
Y1E	EXPANSION VALVE (ELECTRONIC TYPE)						
PRC	PHASE REVERSAL DETECT CIRCUIT						
RC	SIGNAL RECEIVER CIRCUIT						
SD	SAFETY DEVICES INPUT						
TC	SIGNAL TRANSMISSION CIRCUIT						

DU427-5401B

R100KY1 / R125KY1



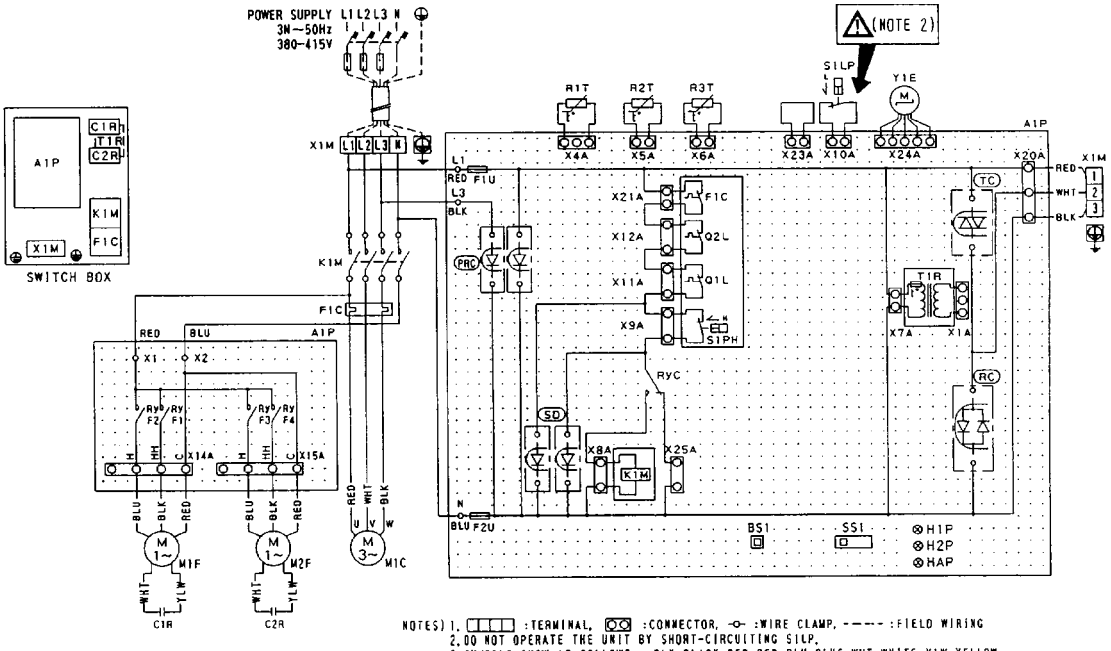
NOTES) 1. □□□ :TERMINAL, ⊡⊡ :CONNECTOR, -o- :WIRE CLAMP, ----- :FIELD WIRING
2. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3. SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, BLU:BLUE, WHT:WHITE, YLW:YELLOW

L1-RED	L2-WHT	L3-BLK	N-BLU	S1PH	PRESSURE SWITCH (HIGH)	Q1L・Q2L	THERMO SWITCH (M1F, M2F)
A1P	PRINTED CIRCUIT BOARD			H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1T	THERMISTOR(AIR)
BS1	PUSH BUTTON(PUMP DOWN)			H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)
C1R・C2R	CAPACITOR (M1F・M2F)			H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R3T	THERMISTOR(DISCHARGE PIPE)
F1C	OVER-CURRENT RELAY (M1C)			K1M	MAGNETIC CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)
F1U・F2U	FUSE (250V, 10A)			M1C	MOTOR (COMPRESSOR)	Ry F1・2・3・4	MAGNETIC RELAY (M1F・M2F)
S1LP	PRESSURE SWITCH (LOW)			M1F・M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)

T1R	TRANSFORMER(220~240V/16V)		
X1M	TERMINAL STRIP		
Y1E	EXPANSION VALVE (ELECTRONIC TYPE)		
PRC	PHASE REVERSAL DETECT CIRCUIT		
RC	SIGNAL RECEIVER CIRCUIT		
SD	SAFETY DEVICES INPUT		
TC	SIGNAL TRANSMISSION CIRCUIT		

DU428-5351D

R140KY1



NOTES) 1. □□□ :TERMINAL, ⊡⊡ :CONNECTOR, -o- :WIRE CLAMP, ----- :FIELD WIRING
2. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3. SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, BLU:BLUE, WHT:WHITE, YLW:YELLOW

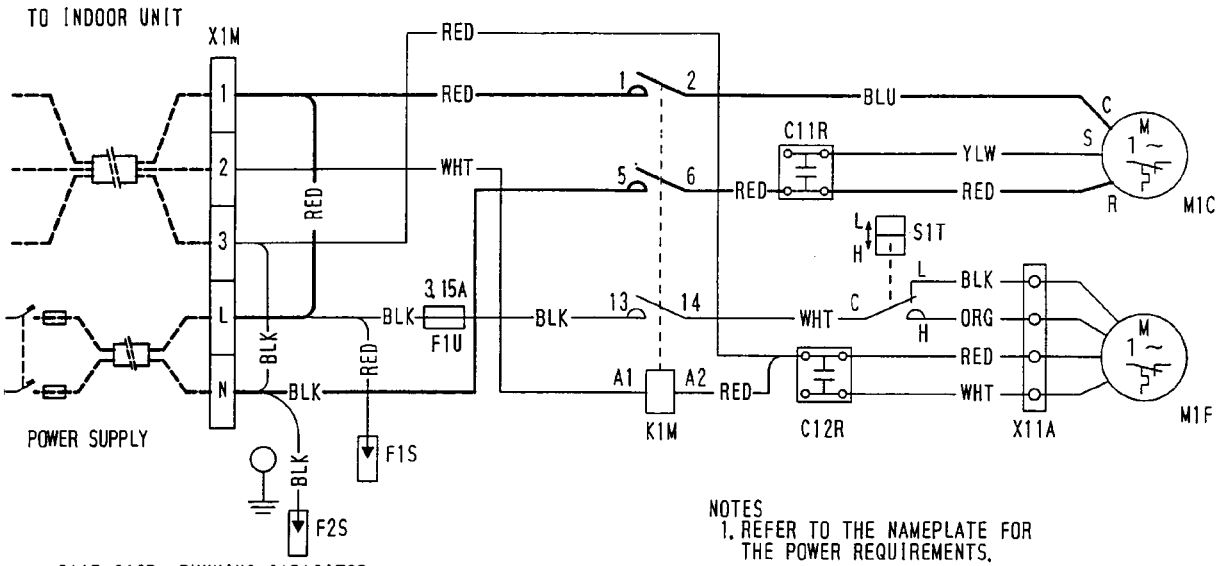
L1-RED	L2-WHT	L3-BLK	N-BLU	S1PH	PRESSURE SWITCH (HIGH)	Q1L・Q2L	THERMO SWITCH (M1F, M2F)
A1P	PRINTED CIRCUIT BOARD			H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R1T	THERMISTOR(AIR)
BS1	PUSH BUTTON(PUMP DOWN)			H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)
C1R・C2R	CAPACITOR (M1F・M2F)			HAP	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R3T	THERMISTOR(DISCHARGE PIPE)
F1C	OVER-CURRENT RELAY (M1C)			K1M	MAGNETIC CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)
F1U・F2U	FUSE (250V, 10A)			M1C	MOTOR (COMPRESSOR)	Ry F1・2・3・4	MAGNETIC RELAY (M1F・M2F)
S1LP	PRESSURE SWITCH (LOW)			M1F・M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)

T1R	TRANSFORMER(220~240V/16V)		
X1M	TERMINAL STRIP		
Y1E	EXPANSION VALVE (ELECTRONIC TYPE)		
PRC	PHASE REVERSAL DETECT CIRCUIT		
RC	SIGNAL RECEIVER CIRCUIT		
SD	SAFETY DEVICES INPUT		
TC	SIGNAL TRANSMISSION CIRCUIT		

3D000103A

2.3 Outdoor Units (60Hz)

R50GVAL



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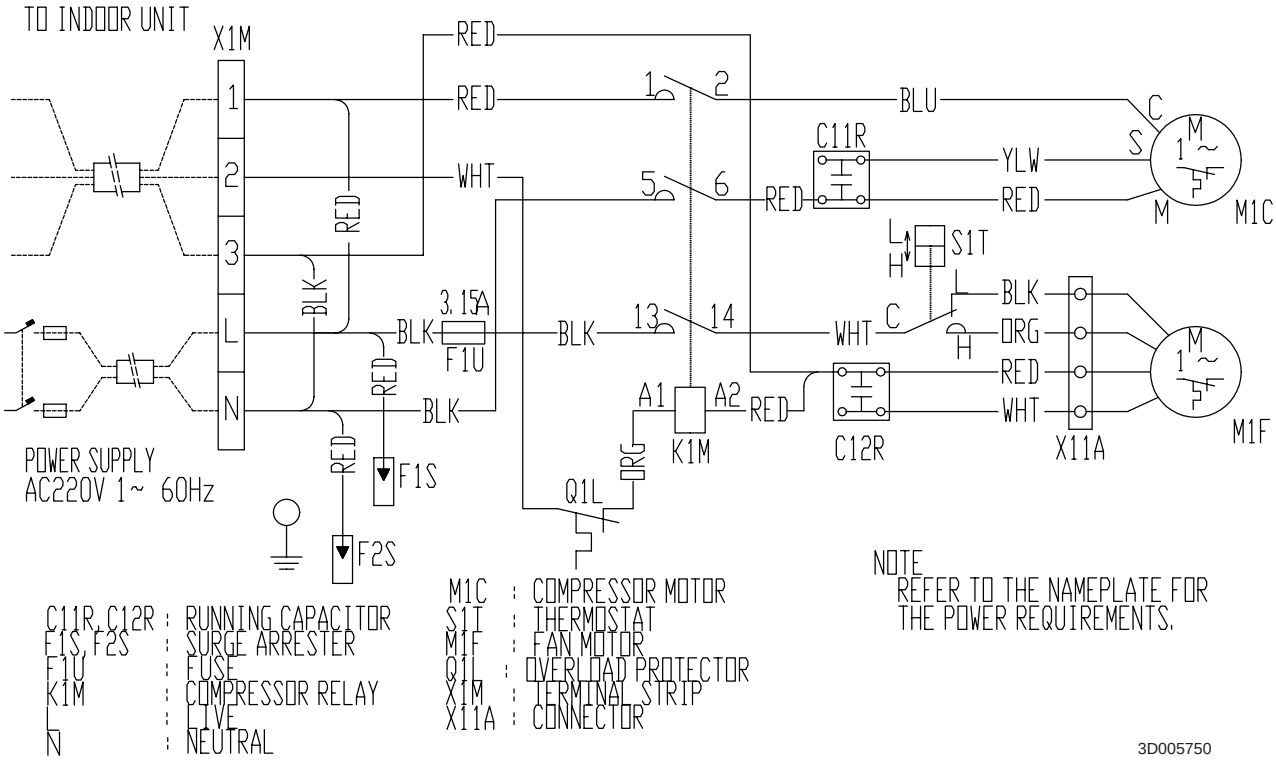
R60GVAL



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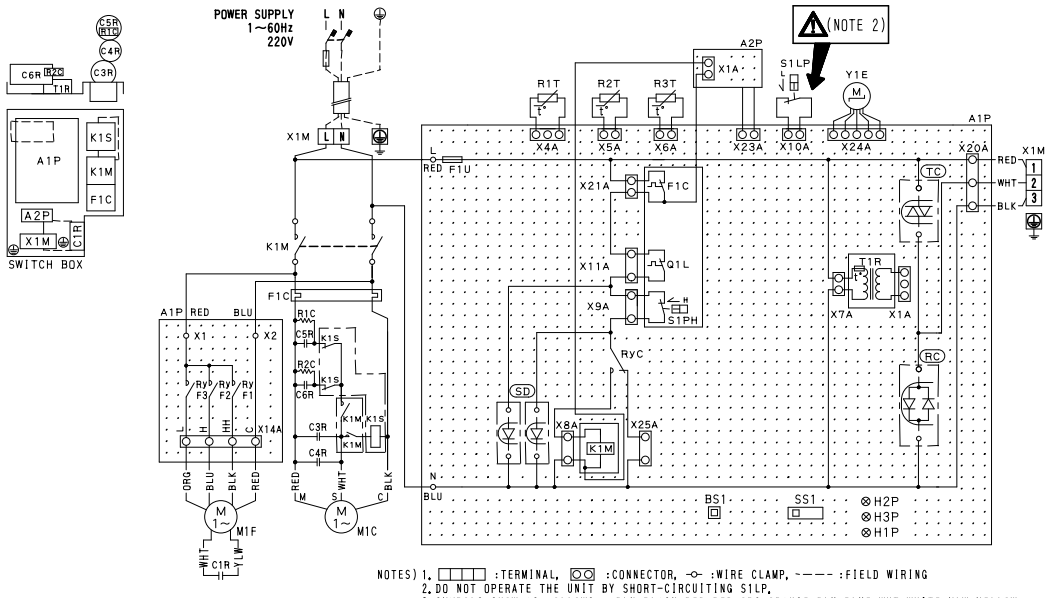
R71KVAL



NOTES) 1. ☐☐☐ :TERMINAL, ⊡⊡ :CONNECTOR, -o- :WIRE CLAMP, ~--- :FIELD WIRING
2. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3. SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, ORG:ORANGE, BLU:BLUE, WHT:WHITE, YLW:YELLOW

L-RED	N-BLU						
A1P	PRINTED CIRCUIT BOARD	S1LP	PRESSURE SWITCH (LOW)	M1F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)
A2P	PRINTED CIRCUIT BOARD	S1PH	PRESSURE SWITCH (HIGH)	Q1L	THERMO SWITCH (M1F)	T1R	TRANSFORMER(220-240V/16V)
BS1	PUSH BUTTON(PUMP DOWN)	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1C・R2C	RESISTOR	X1M	TERMINAL STRIP
C1R	CAPACITOR (M1F)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R1T	THERMISTOR(AIR)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
C3R・C4R	CAPACITOR (M1C)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	RC	SIGNAL RECEIVER CIRCUIT
C5R・C6R	STARTING CAPACITOR (M1C)	K1M	MAGNETIC CONTACTOR (M1C)	R3T	THERMISTOR(DISCHARGE PIPE)	SD	SAFETY DEVICES INPUT
F1C	OVER-CURRENT RELAY (M1C)	K1S	STARTING CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)	TC	SIGNAL TRANSMISSION CIRCUIT
F1U	FUSE (250V, 5A)	M1C	MOTOR (COMPRESSOR)	RyF1・2・3	MAGNETIC RELAY (M1F)		

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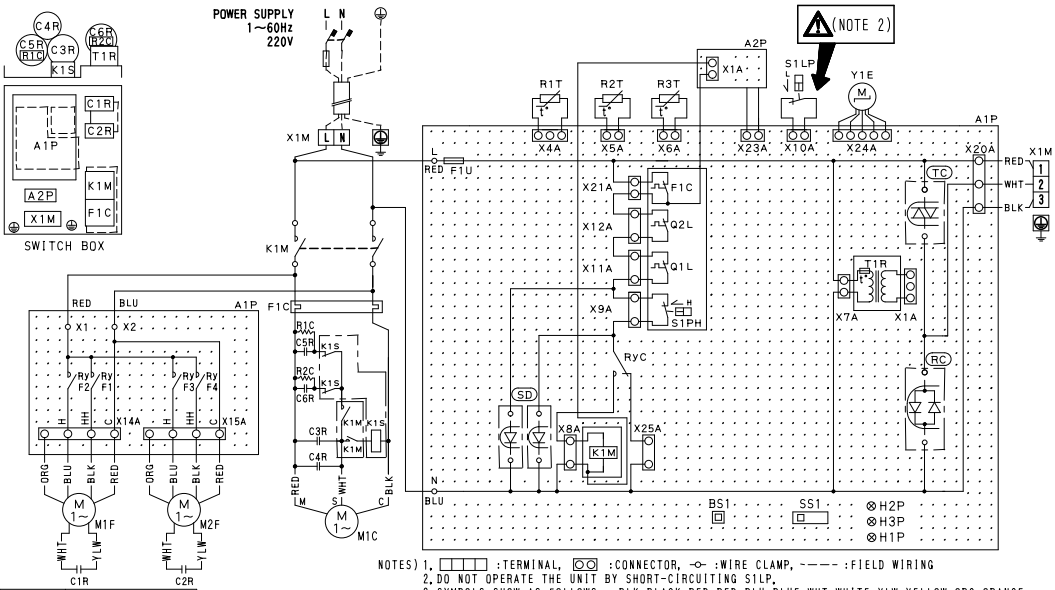
R100KVAL



NOTES) 1. ☐☐☐ :TERMINAL, ⊡⊡ :CONNECTOR, -o- :WIRE CLAMP, ~--- :FIELD WIRING
2. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3. SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, BLU:BLUE, WHT:WHITE, YLW:YELLOW, ORG:ORANGE

L-RED	N-BLU						
A1P	PRINTED CIRCUIT BOARD	S1LP	PRESSURE SWITCH (LOW)	M1F・M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)
A2P	PRINTED CIRCUIT BOARD	S1PH	PRESSURE SWITCH (HIGH)	Q1L・Q2L	THERMO SWITCH (M1F・M2F)	T1R	TRANSFORMER(220-240V/16V)
BS1	PUSH BUTTON(PUMP DOWN)	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1C・R2C	RESISTOR	X1M	TERMINAL STRIP
C1R・C2R	CAPACITOR (M1F・M2F)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R1T	THERMISTOR(AIR)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
C3R・C4R	CAPACITOR (M1C)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	RC	SIGNAL RECEIVER CIRCUIT
C5R・C6R	STARTING CAPACITOR (M1C)	K1M	MAGNETIC CONTACTOR (M1C)	R3T	THERMISTOR(DISCHARGE PIPE)	SD	SAFETY DEVICES INPUT
F1C	OVER-CURRENT RELAY (M1C)	K1S	STARTING CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)	TC	SIGNAL TRANSMISSION CIRCUIT
F1U	FUSE (250V, 5A)	M1C	MOTOR (COMPRESSOR)	RyF1・2・3・4	MAGNETIC RELAY (M1F・M2F)		

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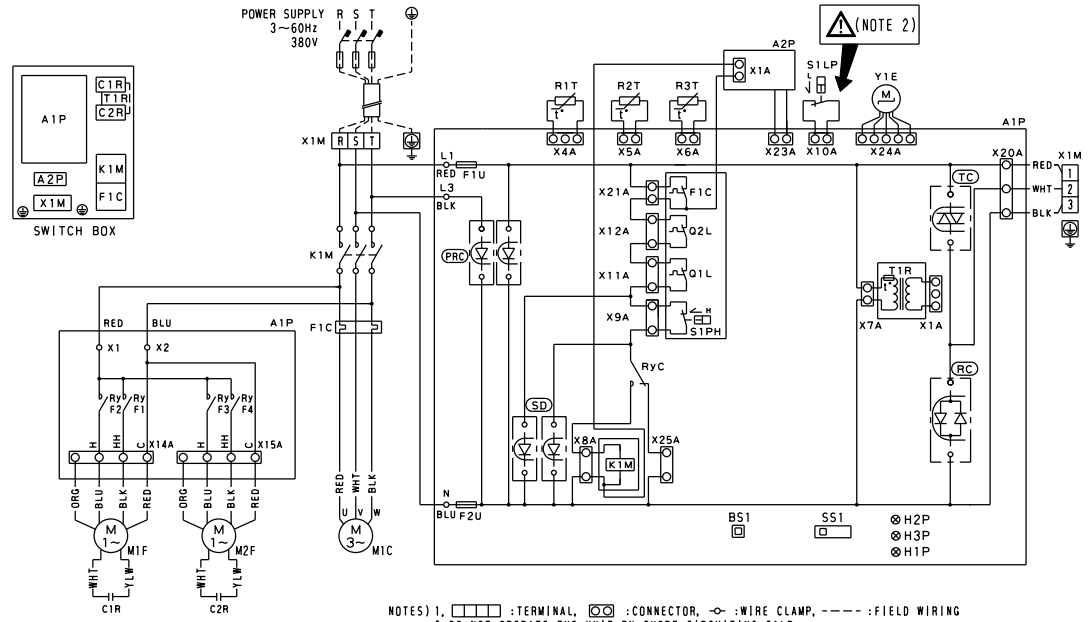
R125KTAL



NOTES) 1. □□□ :TERMINAL, ⊡⊡ :CONNECTOR, -o- :WIRE CLAMP, ---- :FIELD WIRING
2. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3. SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, BLU:BLUE, WHT:WHITE, YLW:YELLOW, ORG:ORANGE

R-RED	S-WHT	T-BLK						
A1P	PRINTED CIRCUIT BOARD	S1PH	PRESSURE SWITCH (HIGH)	Q1L・Q2L	THERMO SWITCH (M1F, M2F)	T1R	TRANSFORMER(220-240V/16V)	
A2P	PRINTED CIRCUIT BOARD	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1T	THERMISTOR(AIR)	X1M	TERMINAL STRIP	
BS1	PUSH BUTTON(PUMP DOWN)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)	
C1R・C2R	CAPACITOR (M1F・M2F)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R3T	THERMISTOR(DISCHARGE PIPE)	PRC	PHASE REVERSAL DETECT CIRCUIT	
F1C	OVER-CURRENT RELAY (M1C)	K1M	MAGNETIC CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)	RC	SIGNAL RECEIVER CIRCUIT	
F1U・F2U	FUSE (250V, 6, 3A)	M1C	MOTOR (COMPRESSOR)	RyF1・2・3・4	MAGNETIC RELAY (M1F・M2F)	SD	SAFETY DEVICES INPUT	
S1LP	PRESSURE SWITCH (LOW)	M1F・M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)	TC	SIGNAL TRANSMISSION CIRCUIT	

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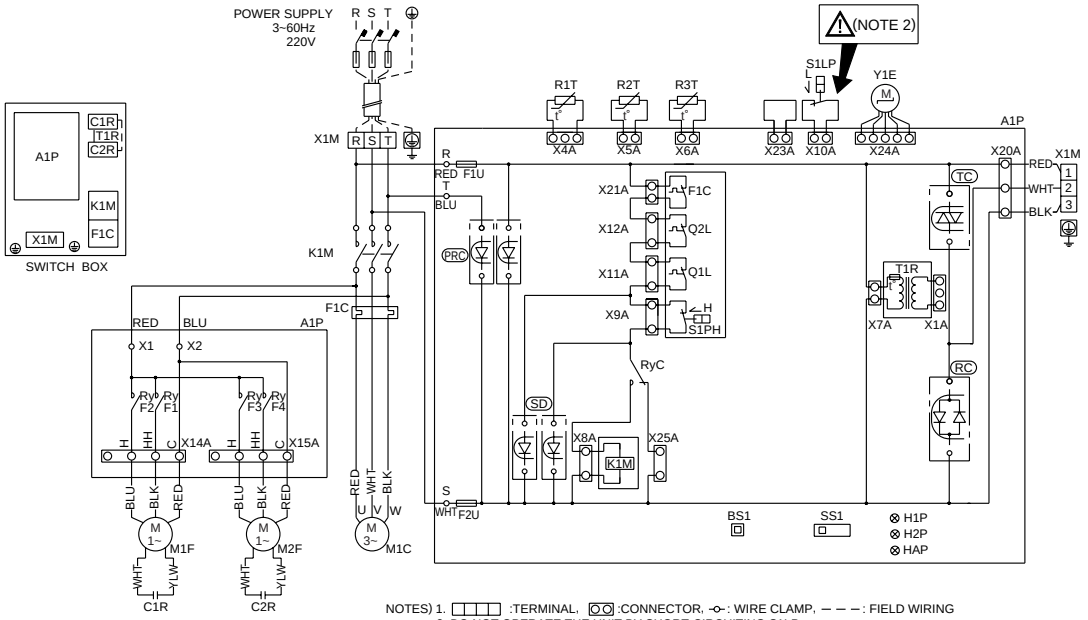
R140KTAL



NOTES) 1. □□□ :TERMINAL, ⊡⊡ :CONNECTOR, -o-: WIRE CLAMP, — — —: FIELD WIRING
2. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3. SYMBOLS SHOW AS FOLLOWS ; BLK : BLACK, RED : RED, BLU : BLUE, WHT : WHITE, YLW : YELLOW

R-RED	S-WHT	T-BLU						
A1P	PRINTED CIRCUIT BOARD	S1PH	PRESSURE SWITCH (HIGH)	Q1L ·Q2L	THERMO SWITCH (M1F,M2F)	T1R	TRANSFORMER(220V/16V)	
BS1	PUSH BUTTON(PUMP DOWN)	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R1T	THERMISTOR(AIR)	X1M	TERMINAL STRIP	
C1R·C2R	CAPACITOR (M1F·M2F)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)	
F1C	OVER-CURRENT RELAY (M1C)	HAP	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R3T	THERMISTOR(DISCHARGE PIPE)	PRC	PHASE REVERSAL DETECT CIRCUIT	
F1U·F2U	FUSE(250V, 10A)	K1M	MAGNETIC CONTACTOR (M1C)	RyC	MAGNETIC RELAY (K1M)	RC	SIGNAL RECEIVER CIRCUIT	
S1LP	PRESSURE SWITCH (LOW)	M1C	MOTOR (COMPRESSOR)	RyF1·2·3·4	MAGNETIC RELAY (M1F·M2F)	SD	SAFETY DEVICES INPUT	
		M1F·M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)	TC	SIGNAL TRANSMISSION CIRCUIT	

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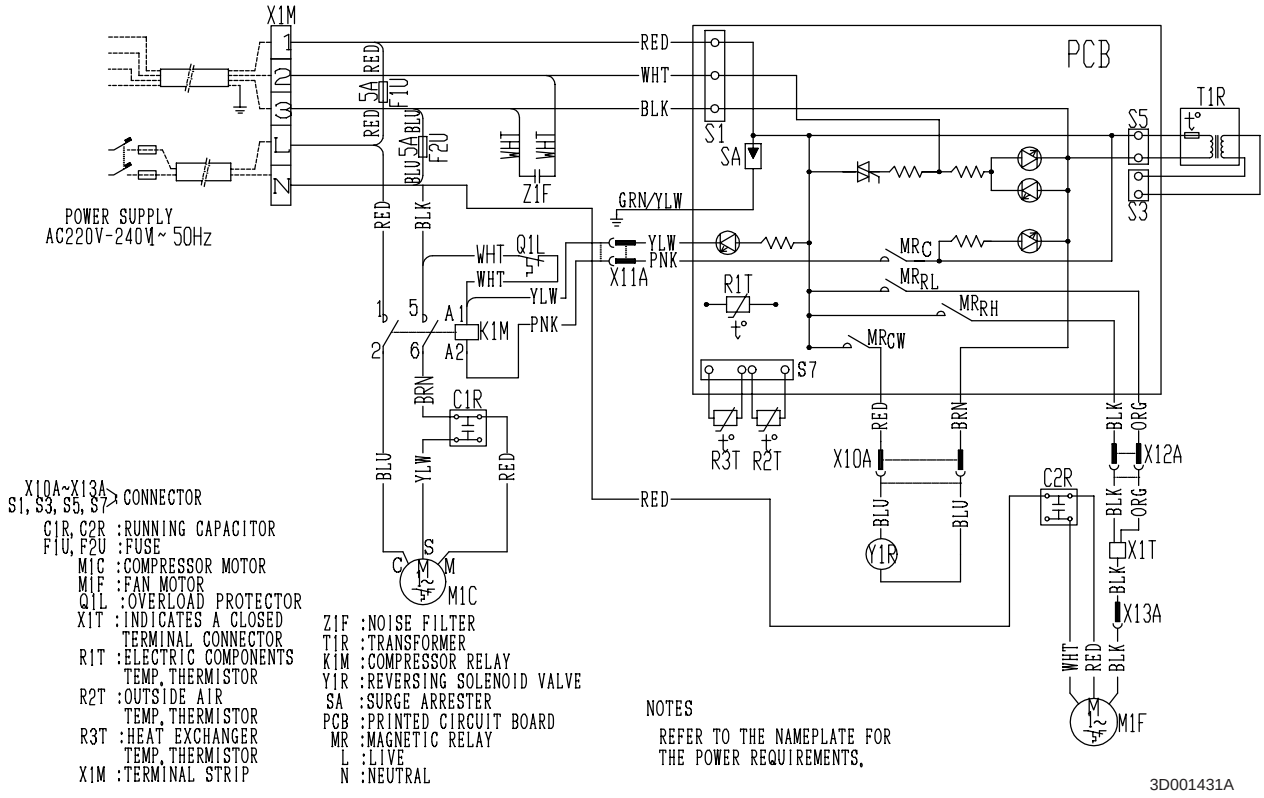
2.4 Outdoor Unit (HeaT Pump)

RY35FV1A



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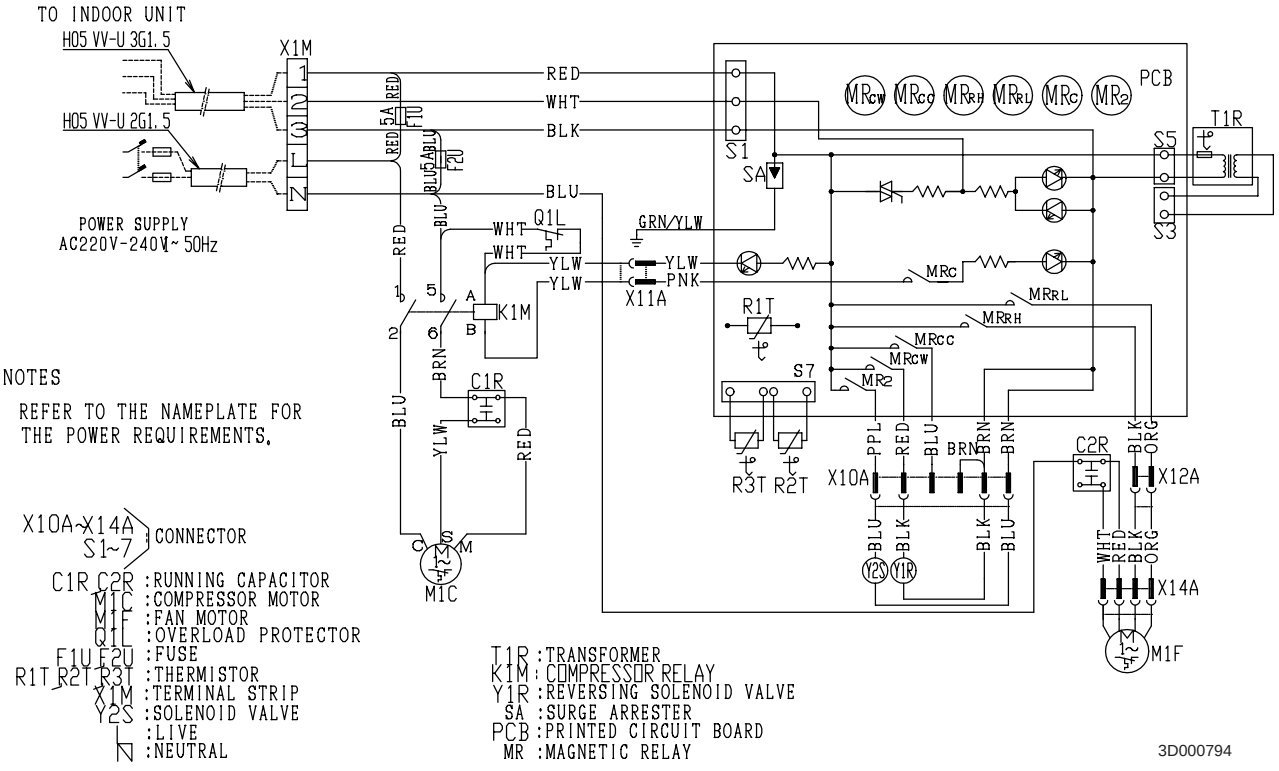

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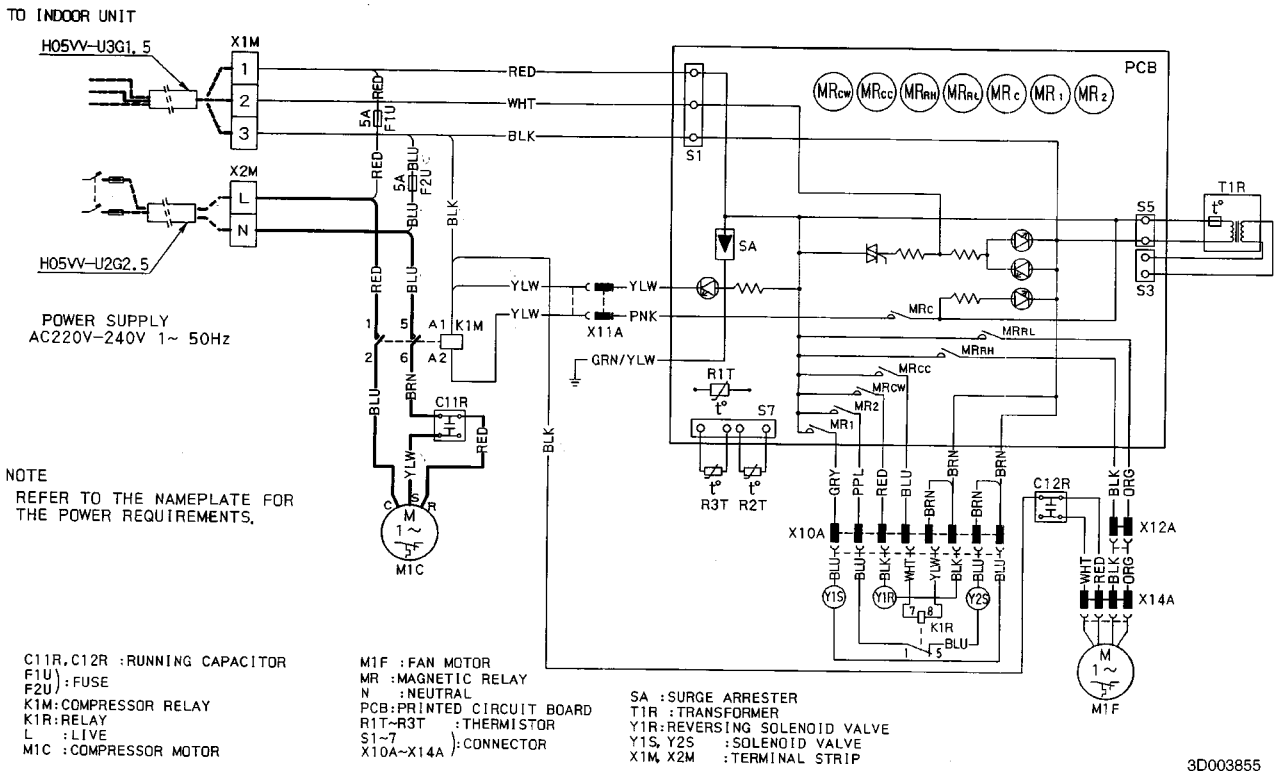

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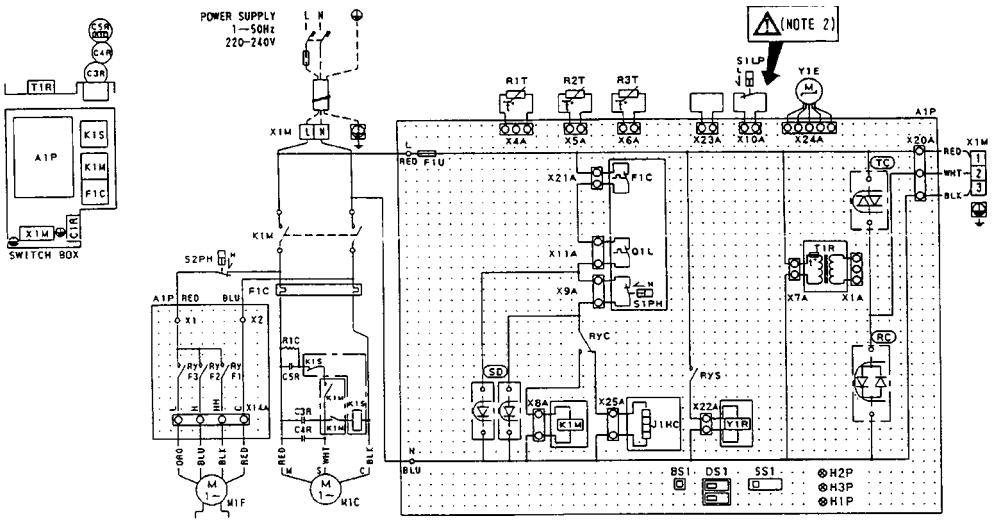
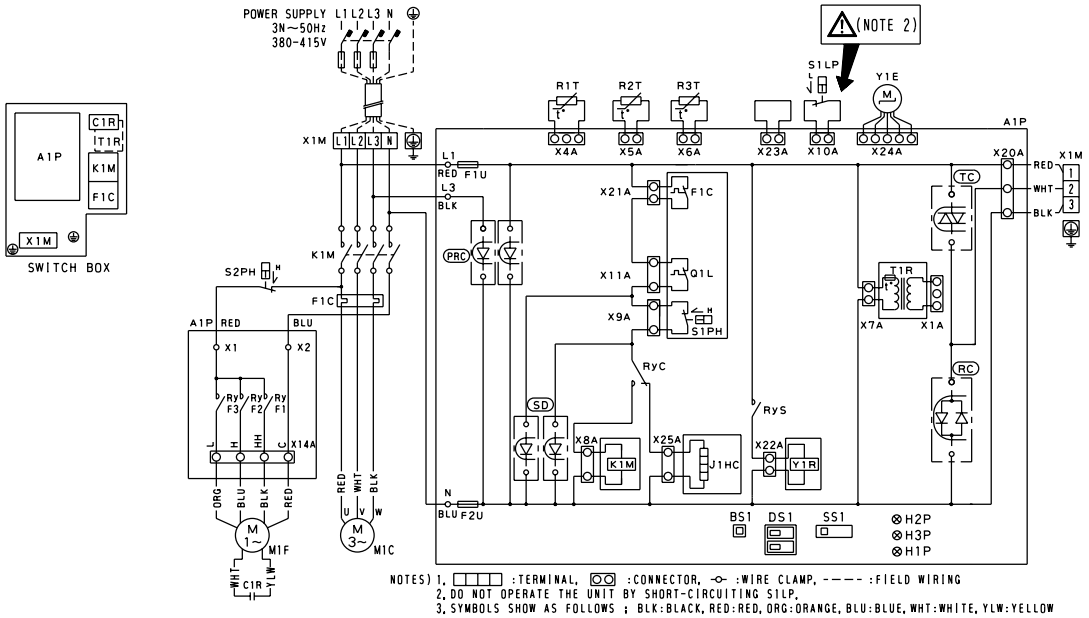


NOTES) 1. □□□ :TERMINAL, ⊠⊠ :CONNECTOR, -o- :WIRE CLAMP, ----- :FIELD WIRING
2. DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.
3. SYMBOLS SHOW AS FOLLOWS ; BLK:BLACK, RED:RED, ORG:ORANGE, BLU:BLUE, WHT:WHITE, YLW:YELLOW

L-RED	N-BLU	S1LP	PRESSURE SWITCH (LOW)	M1C	MOTOR (COMPRESSOR)	RYS	MAGNETIC RELAY (Y1R)
A1P	PRINTED CIRCUIT BOARD	S1PH	PRESSURE SWITCH (HIGH)	M1F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)
BS1	PUSH BUTTON(FORCED DEF. · PUMP DOWN)	S2PH	PRESSURE SWITCH (HIGH-CONTROL)	Q1L	THERMO SWITCH (W1F)	T1R	TRANSFORMER(220-240V/16V)
C1R	CAPACITOR (W1F)	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1C	RESISTOR	X1M	TERMINAL STRIP
C3R·C4R	CAPACITOR (W1C)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R1T	THERMISTOR(AIR)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
C5R	STARTING CAPACITOR (W1C)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	Y1R	4 WAY VALVE
DS1	SELECTOR SWITCH (DEFROST)	J1HC	CRANKCASE HEATER	R3T	THERMISTOR(DISCHARGE PIPE)	(RC)	SIGNAL RECEIVER CIRCUIT
F1C	OVER-CURRENT RELAY (W1C)	K1M	MAGNETIC CONTACTOR (W1C)	RyC	MAGNETIC RELAY (K1M)	(SD)	SAFETY DEVICES INPUT
F1U	FUSE (250V, 5A)	K1S	STARTING CONTACTOR (W1C)	RyF1·2·3	MAGNETIC RELAY (W1F)	(TC)	SIGNAL TRANSMISSION CIRCUIT

DU427-5395C

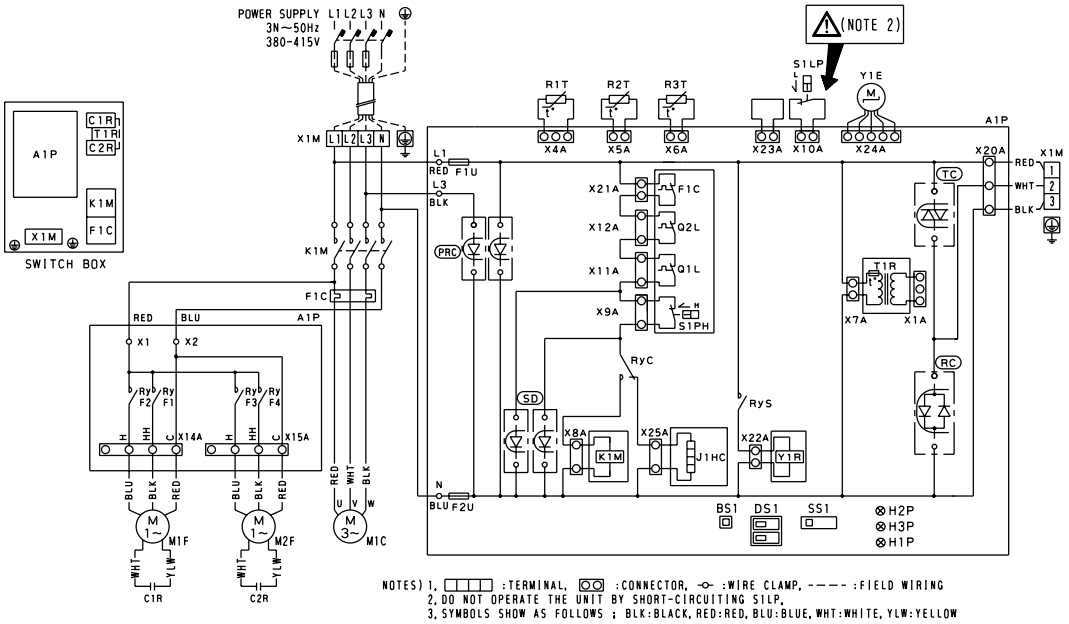
RY71KY1



L1-RED L2-WHT L3-BLK N-BLU	S2PH	PRESSURE SWITCH (HIGH-CONTROL)	R1T	THERMISTOR(AIR)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)	
A1P	PRINTED CIRCUIT BOARD	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R2T	THERMISTOR(COIL)	Y1R	4 WAY VALVE
BS1	PUSH BUTTON(FORCED DEF. • PUMP DOWN)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R3T	THERMISTOR(DISCHARGE PIPE)	PRC	PHASE REVERSAL DETECT CIRCUIT
C1R	CAPACITOR (M1F)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	RyC	MAGNETIC RELAY (K1M)	RC	SIGNAL RECEIVER CIRCUIT
DS1	SELECTOR SWITCH (DEFROST)	J1HC	CRANKCASE HEATER	RyF1・2・3	MAGNETIC RELAY (M1F)	SD	SAFETY DEVICES INPUT
F1C	OVER-CURRENT RELAY (M1C)	K1M	MAGNETIC CONTACTOR (M1C)	RyS	MAGNETIC RELAY (Y1R)	TC	SIGNAL TRANSMISSION CIRCUIT
F1U・F2U	FUSE (250V, 5A)	M1C	MOTOR (COMPRESSOR)	SS1	SELECTOR SWITCH(EMERGENCY)		
S1LP	PRESSURE SWITCH (LOW)	M1F	MOTOR (FAN)	T1R	TRANSFORMER(220-240V/16V)		
S1PH	PRESSURE SWITCH (HIGH)	Q1L	THERMO SWITCH (M1F)	X1M	TERMINAL STRIP		

DU427-5397B

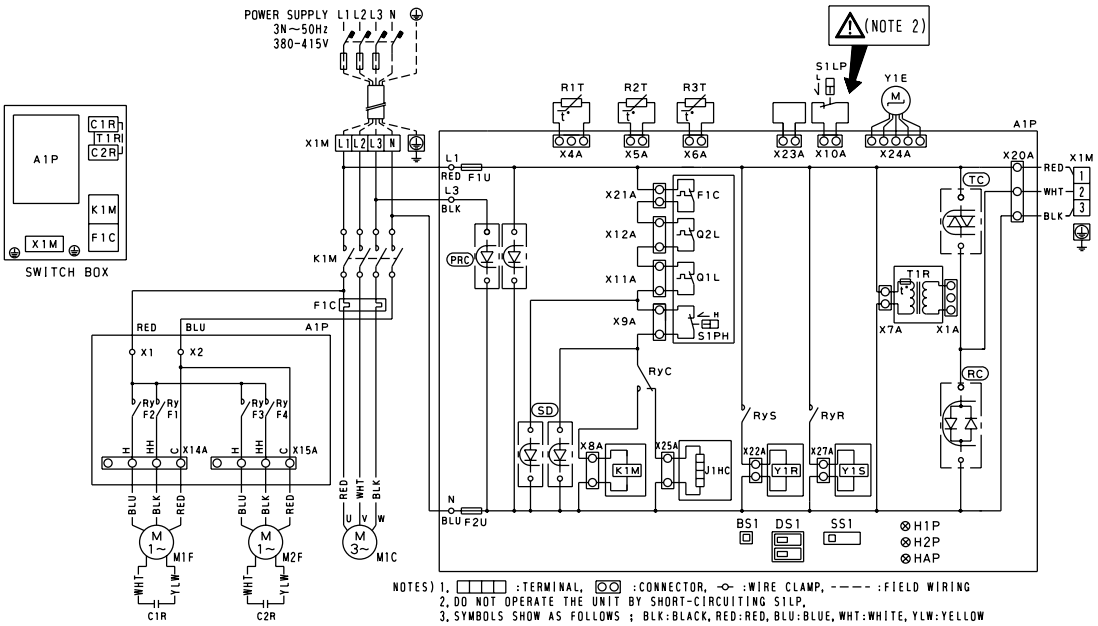
RY100KY1 / RY125KY1



L1-RED L2-WHT L3-BLK N-BLU	S1PH	PRESSURE SWITCH (HIGH)	Q1L・Q2L	THERMO SWITCH (M1F, M2F)	T1R	TRANSFORMER(220-240V/16V)	
A1P	PRINTED CIRCUIT BOARD	H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	R1T	THERMISTOR(AIR)	X1M	TERMINAL STRIP
BS1	PUSH BUTTON(FORCED DEF. • PUMP DOWN)	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
C1R・C2R	CAPACITOR (M1F・M2F)	H3P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R3T	THERMISTOR(DISCHARGE PIPE)	Y1R	4 WAY VALVE
DS1	SELECTOR SWITCH (DEFROST)	J1HC	CRANKCASE HEATER	RyC	MAGNETIC RELAY (K1M)	PRC	PHASE REVERSAL DETECT CIRCUIT
F1C	OVER-CURRENT RELAY (M1C)	K1M	MAGNETIC CONTACTOR (M1C)	RyF1・2・3・4	MAGNETIC RELAY (M1F・M2F)	RC	SIGNAL RECEIVER CIRCUIT
F1U・F2U	FUSE (250V, 10A)	M1C	MOTOR (COMPRESSOR)	RyS	MAGNETIC RELAY (Y1R)	SD	SAFETY DEVICES INPUT
S1LP	PRESSURE SWITCH (LOW)	M1F・M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)	TC	SIGNAL TRANSMISSION CIRCUIT

DU428-5347D

RY140KY1



L1-RED L2-WHT L3-BLK N-BLU		H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
A1P	PRINTED CIRCUIT BOARD	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R3T	THERMISTOR(DISCHARGE PIPE)	Y1R	4 WAY VALVE
BS1	PUSH BUTTON(FORCED DEF, · PUMP DOWN)	HAP	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	RyC	MAGNETIC RELAY (K1M)	Y1S	SOLENOID VALVE
C1R·C2R	CAPACITOR (M1F · M2F)	J1HC	CRANKCASE HEATER	RyF1·2·3·4	MAGNETIC RELAY (M1F · M2F)	PRC	PHASE REVERSAL DETECT CIRCUIT
DS1	SELECTOR SWITCH (DEFROST)	K1M	MAGNETIC CONTACTOR (M1C)	RyR	MAGNETIC RELAY (Y1S)	RC	SIGNAL RECEIVER CIRCUIT
F1C	OVER-CURRENT RELAY (M1C)	M1C	MOTOR (COMPRESSOR)	RyS	MAGNETIC RELAY (Y1R)	SD	SAFETY DEVICES INPUT
F1U·F2U	FUSE (250V, 10A)	M1F·M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)	TC	SIGNAL TRANSMISSION CIRCUIT
S1LP	PRESSURE SWITCH (LOW)	Q1L·Q2L	THERMO SWITCH (M1F, M2F)	T1R	TRANSFORMER(220-240V/16V)		
S1PH	PRESSURE SWITCH (HIGH)	R1T	THERMISTOR(AIR)	X1M	TERMINAL STRIP		

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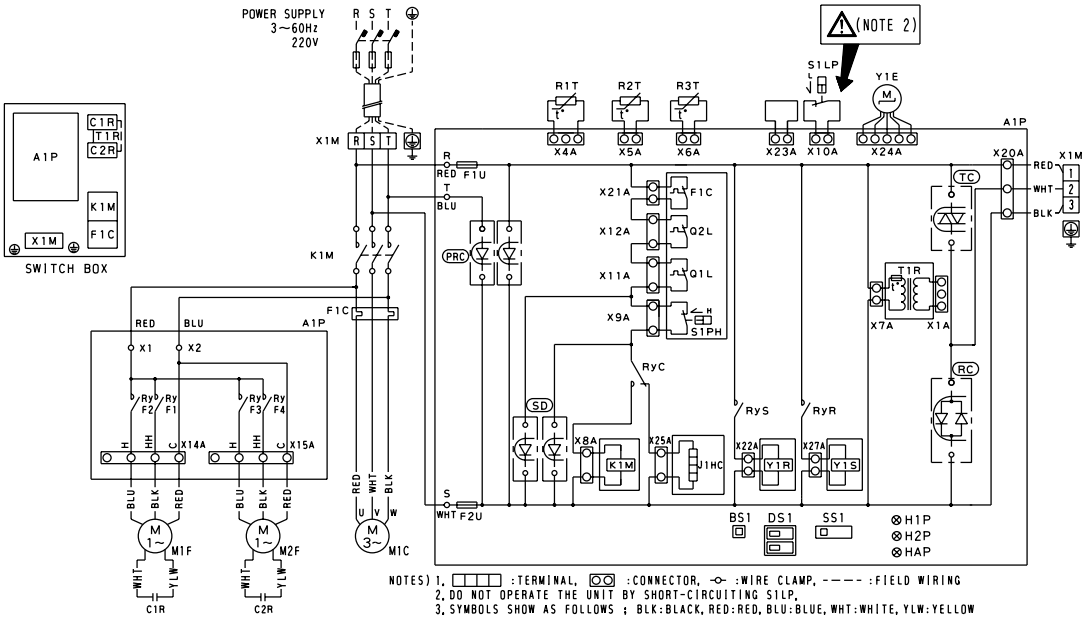
RY140KTAL



R-RED S-WHT T-BLU		H1P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R2T	THERMISTOR(COIL)	Y1E	EXPANSION VALVE (ELECTRONIC TYPE)
A1P	PRINTED CIRCUIT BOARD	H2P	LIGHT-EMITTING DIODE(SERVICE MONITOR-RED)	R3T	THERMISTOR(DISCHARGE PIPE)	Y1R	4 WAY VALVE
BS1	PUSH BUTTON(FORCED DEF, · PUMP DOWN)	HAP	LIGHT-EMITTING DIODE(SERVICE MONITOR-GREEN)	RyC	MAGNETIC RELAY (K1M)	Y1S	SOLENOID VALVE
C1R·C2R	CAPACITOR (M1F · M2F)	J1HC	CRANKCASE HEATER	RyF1·2·3·4	MAGNETIC RELAY (M1F · M2F)	PRC	PHASE REVERSAL DETECT CIRCUIT
DS1	SELECTOR SWITCH (DEFROST)	K1M	MAGNETIC CONTACTOR (M1C)	RyR	MAGNETIC RELAY (Y1S)	RC	SIGNAL RECEIVER CIRCUIT
F1C	OVER-CURRENT RELAY (M1C)	M1C	MOTOR (COMPRESSOR)	RyS	MAGNETIC RELAY (Y1R)	SD	SAFETY DEVICES INPUT
F1U·F2U	FUSE (250V, 10A)	M1F·M2F	MOTOR (FAN)	SS1	SELECTOR SWITCH(EMERGENCY)	TC	SIGNAL TRANSMISSION CIRCUIT
S1LP	PRESSURE SWITCH (LOW)	Q1L·Q2L	THERMO SWITCH (M1F, M2F)	T1R	TRANSFORMER(220V/16V)		
S1PH	PRESSURE SWITCH (HIGH)	R1T	THERMISTOR(AIR)	X1M	TERMINAL STRIP		

3D000104A

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Drawings & Flow Charts

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