SPLIT TYPE
ROOM AIR CONDITIONER

CASSETTE type
INVERTER

SERVICE INSTRUCTION

Models	Indoor unit	Outdoor unit
	AUU18RCLX	AOU18RLX
	AUU24RCLX	AOU24RLX
	AUU36RCLX	AOU36RLX
	AUU42RCLX	AOU42RLX

Refrigerant
R410A

FUJITSU GENERAL LIMITED

CONTENTS

1. DESCRIPTION OF EACH CONTROL OPERATION

2. TROUBLE SHOOTING

3. REPLACEMENT PARTS

Refrigerant
R410A

CASSETTE type
INVERTER

1 . DESCRIPTION OF EACH CONTROL OPERATION

1. COOLING OPERATION

1-1 COOLING CAPACITY CONTROL

A sensor (room temperature thermistor) built in the indoor unit will usually perceive difference or variation between a set temperature and present room temperature, and controls the operation frequency of the compressor.

* If the room temperature is 3.6 degF(2 degC) higher than a set temperature, the compressor operation frequency will attain to maximum performance.

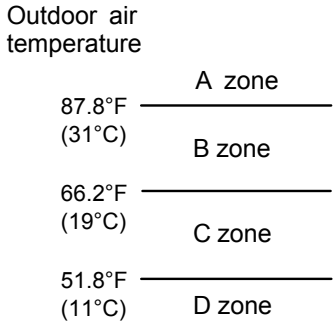
* If the room temperature is 3.6 degF(2 degC) lower than a set temperature, the compressor will be stopped.

* When the room temperature is between +3.6 degF(+2 degC) to -3.6 degF(-2 degC) of the setting temperature, the compressor frequency is controlled within the range shown in Table1. However, the maximum frequency is limited in the range shown in Figure 1 based on the fan speed mode and the outdoor temperature.

(Table 1 : Compressor Frequency Range)

	minimum frequency	maximum frequency
AUU18RCLX	20Hz	63Hz
AUU24RCLX	20Hz	80Hz
AUU36RCLX	20Hz	90Hz
AUU42RCLX	25Hz	92Hz

(Fig. 1 : Limit of Maximum Frequency based on Outdoor Temperature)



Fan speed mode		Hi	Me	Lo
AUU18RCLX	A zone	63Hz	45Hz	45Hz
	B zone	45Hz	35Hz	35Hz
	C zone	35Hz	35Hz	35Hz
	D zone	35Hz	30Hz	30Hz
AUU24RCLX	A zone	80Hz	55Hz	55Hz
	B zone	55Hz	45Hz	45Hz
	C zone	45Hz	45Hz	45Hz
	D zone	45Hz	35Hz	35Hz
AUU36RCLX	A zone	90Hz	75Hz	75Hz
	B zone	75Hz	70Hz	70Hz
	C zone	70Hz	63Hz	63Hz
	D zone	63Hz	55Hz	55Hz
AUU42RCLX	A zone	92Hz	72Hz	72Hz
	B zone	72Hz	60Hz	60Hz
	C zone	60Hz	60Hz	60Hz
	D zone	60Hz	53Hz	53Hz

2. HEATING OPERATION

2-1 HEATING CAPACITY CONTROL

A sensor (room temperature thermistor) built in the indoor unit will usually perceive difference or variation between a set temperature and present room temperature, and controls the operation frequency of the compressor.

* If the room temperature is lower 5.4 degF(3 degC) than a set temperature, the compressor operation frequency will attain to maximum performance.

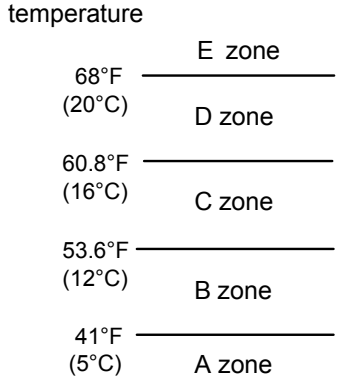
* If the room temperature is higher 3.6 degF(2 degC) than a set temperature, the compressor will be stopped.

* When the room temperature is between +3.6 degF(+2 degC) to -5.4 degF(-3 degC) of the setting temperature, the compressor frequency is controlled within the range shown in Table2. However, the maximum frequency is limited in the range shown in Figure 2 based on the outdoor temperature.

(Table 2 : Compressor Frequency Range)

	minimum frequency	maximum frequency
AUU18RCLX	20Hz	87Hz
AUU24RCLX	20Hz	87Hz
AUU36RCLX	20Hz	95Hz
AUU42RCLX	23Hz	92Hz

(Fig.2 : Limit of Maximum Frequency based on Outdoor Temperature)



		Limit of Maximum Frequency
AUU18RCLX	A zone	87Hz
	B zone	85Hz
	C zone	70Hz
	D zone	70Hz
	E zone	60Hz
AUU24RCLX	A zone	87Hz
	B zone	85Hz
	C zone	70Hz
	D zone	70Hz
	E zone	60Hz
AUU36RCLX	A zone	95Hz
	B zone	95Hz
	C zone	90Hz
	D zone	80Hz
	E zone	80Hz
AUU42RCLX	A zone	92Hz
	B zone	92Hz
	C zone	90Hz
	D zone	80Hz
	E zone	80Hz

3. DRY OPERATION

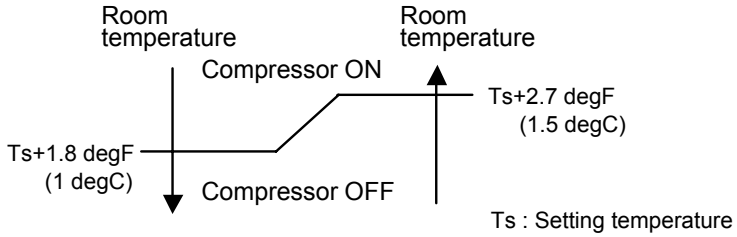
3-1 INDOOR UNIT CONTROL

The compressor rotation frequency shall change according to set temperature and room temperature variation which the room temperature sensor of the indoor unit has detected as shown in the Table 3.

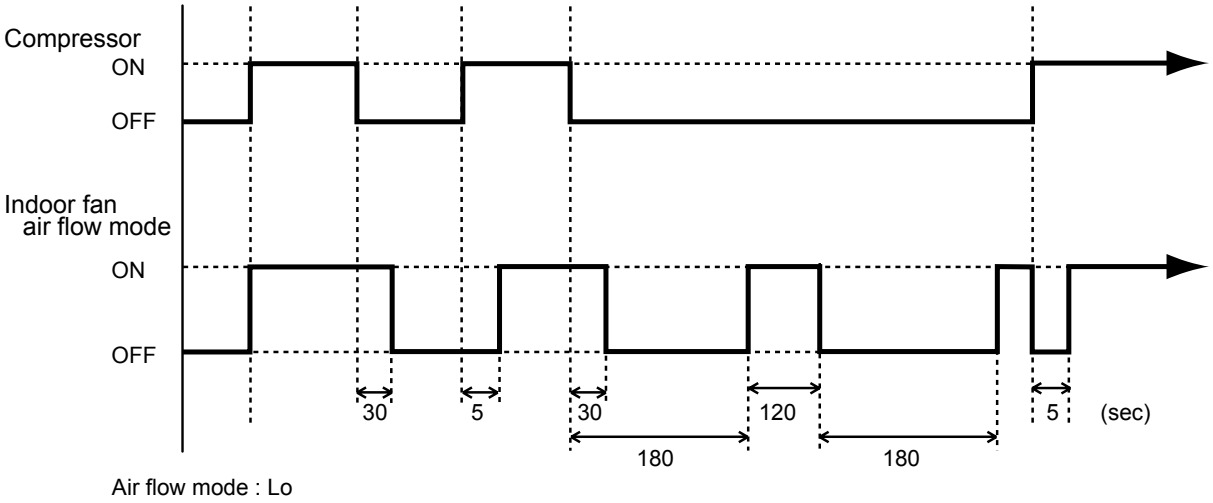
(Table 3 : Compressor frequency)

	Operating frequency
AUU18RCLX	25Hz
AUU24RCLX	30Hz
AUU36RCLX	45Hz
AUU42RCLX	30Hz

(Fig.3 : Compressor Control based on Room Temperature)



(Fig.4 : Indoor Fan Control)



Air flow mode : Lo

4. AUTO CHANGEOVER OPERATION

When the air conditioner is set to the AUTO mode by remote control, operation starts in the optimum mode from among the HEATING, COOLING and MONITORING modes. During operation, the optimum mode is automatically swiched in accordance with temperature changes. The temperature can be set between 64°F(18°C) and 88°F(30°C) in 2 degF(1 degC) steps.

① When operation starts, only the indoor fan is operated for 1 minute. (Air flow mode: S- Lo)
After 1 minute, depends on the room temperature and outdoor unit's operarion mode,
the operation mode is selected in accordance with the table below.

(Table 4 : Operation mode selection table)

Room temperature :TR	Operation mode
TR ≧ Ts +3.6 degF (2 degC)	Cooling
Ts +3.6 degF > TR > Ts-3.6 degF (2 degC) (2 degC)	Monitoring
Ts +3.6 degF ≧ TR (2 degC)	Heating

Ts : Setting temperature

② When COOLING was selected at ①, the same operation as COOLING OPERATION is performed.

③ When HEATING was selected at ①, the same operation as HEATING OPERATION is performed.

④ When the compressor was stopped for 6 consecutive minutes by the temperature control function after the COOLING or HEATING operation mode was selected at ① above, operation is switched to MONITORING and the operation mode is selected again.

5. INDOOR FAN CONTROL

1. Fan speed

(Table 5 : Indoor Fan Speed)

・AUU18RCLX

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	400
	Me	350
	Lo	310
	S-Lo	250
Cooling	Hi	450
	Me	390
	Lo	330
	S-Lo	250

・AUU24RCLX

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	440
	Me	380
	Lo	330
	S-Lo	250
Cooling	Hi	490
	Me	430
	Lo	360
	S-Lo	250

・AUU36RCLX

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	580
	Me	510
	Lo	440
	S-Lo	300
Cooling	Hi	580
	Me	510
	Lo	440
	S-Lo	300

・AUU42RCLX

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	620
	Me	550
	Lo	470
	S-Lo	300
Cooling	Hi	620
	Me	550
	Lo	470
	S-Lo	300

2. FAN OPERATION

The airflow can be switched in 4 steps such as AUTO, LOW, MED, HIGH, while the indoor fan only runs.

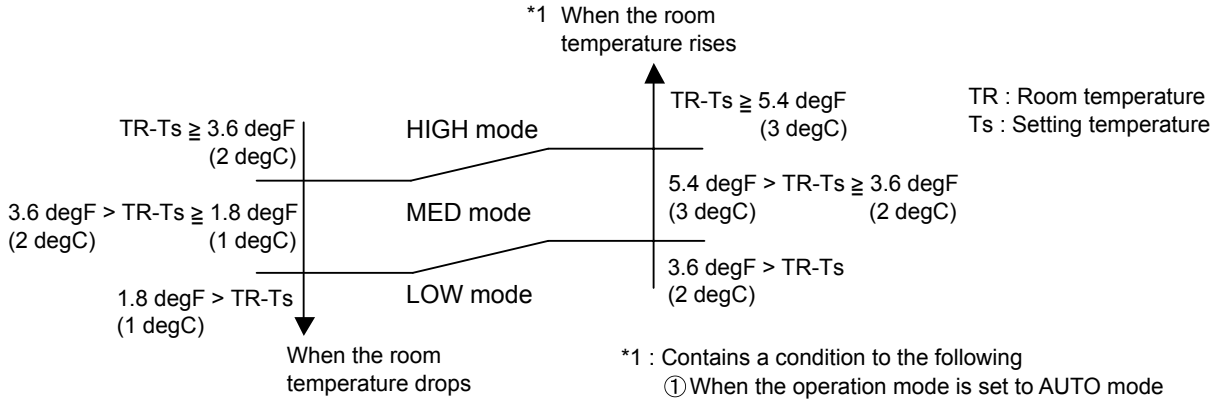
When [AUTO] is selected, the indoor fan motor runs LO and OFF at 1 minute intervals.

3. COOLING OPERATION

Switch the airflow [AUTO], and the indoor fan motor will run according to a room temperature, as shown in Figure 5.

On the other hand, if switched in [HIGH]～[LOW], the indoor motor will run at a constant airflow of [COOL] operation modes LOW, MED, HIGH,as shown in Table 5.

(Fig.5 : Airflow change - over (Cooling : AUTO))



*1 : Contains a condition to the following

①When the operation mode is set to AUTO mode at the start of operation.

②When the setting temperature was changed.

③When the operation mode was changed to COOLING mode.

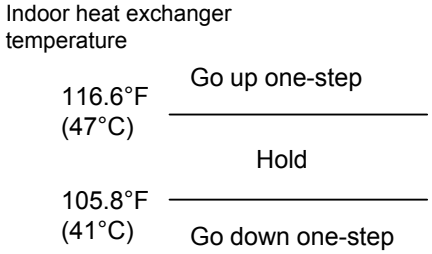
④When the airflow mode was changed to AUTO mode.

4. HEATING OPERATION

When the airflow is set to [AUTO], the indoor fan motor operates [MED] mode.
Then the indoor fan motor will run according to a room temperature, as shown in Figure 6.

On the other hand, if switched in [HIGH] ～ [LOW], the indoor motor will run at a constant airflow of [COOL] operation modes LOW, MED, HIGH, as shown in Table 5.

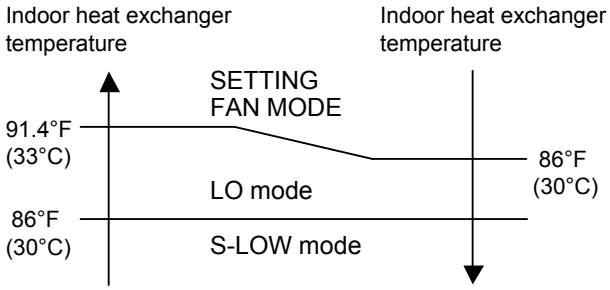
(Fig.6 : Airflow change - over (Heating : AUTO))



5. COOL AIR PREVENTION CONTROL (Heating mode)

The maximum value of the indoor fan speed is set as shown in Figure 7, based on the detected temperature by the indoor heat exchanger sensor on heating mode.

(Fig.7 : Cool Air Prevention Control)



6. DRY OPERATION

Refer to the Figure 4.
During the dry mode operation, the fan speed setting can not be changed.

6. OUTDOOR FAN CONTROL

1. Outdoor Fan Motor

Following table shows the fan speed of the outdoor unit.

(Table 6 : Fan speed of the outdoor unit)

		Cooling	Heating
AUU18RCLX		780/ 400/ 250/ 220/ 200 rpm	780/ 400/ 250/ 220/ 200 rpm
AUU24RCLX		900/ 850/ 780/ 400/ 250/ 220/ 200 rpm	900/ 780/ 400/ 250/ 220/ 200 rpm
AUU36RCLX			
AUU42RCLX	Upper fan	850/ 780/ 400/ 350/ 300 rpm	900/ 850/ 780/ 350/ 200/ 170/ 150 rpm
	Lower fan	780/ 750/ 350/ 0 rpm	850/ 780/ 750/ 350/ 200/ 170/ 150 rpm

* AUU42RCLX has two fan motors.
* The outdoor fan speed changs in the range mentioned avobe depending on the compressor frequency and outdoor temperature.
  (When the compressor frequency and outdoor temperature increase, the outdoor fan speed also changes to the higher speed.
  When the compressor frequency and outdoor temperature decrease, the outdoor fan speed also changes to the lower speed.)

* For AUU18RCLX
  It runs at 250rpm for 20 seconds after starting up the outdoor fan.
  When the outdoor heat exchanger tenperature is lower than 35.6°F (2°C),
  the fan speed switches to 780rpm on heating mode.

* For AUU24RCLX / AUU36RCLX
  It runs at 250rpm for 20 seconds after starting up the outdoor fan.
  When the outdoor heat exchanger tenperature is lower than 35.6°F (2°C),
  the fan speed switches to 900rpm on heating mode.

* For AUU42RCLX
  It runs at 500rpm for 20 seconds after starting up the outdoor fan.
  When the outdoor heat exchanger tenperature is lower than 35.6°F (2°C),
  the fan speed switches to 900rpm(Upper fan) and 850rpm(Lower fan) on heating mode.

7. LOUVER CONTROL

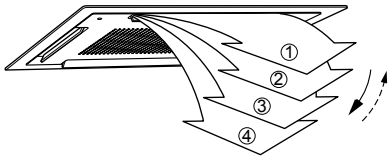
1. VERTICAL LOUVER CONTROL

(Function Range)

Each time the button is pressed, the air direction range will change as follows:

①→②→③→④
←　←　←

(Fig.8 : Air Direction Range)



(Operation Range)

Cooling / Dry mode :
Heating mode :
Fan mode :
} ①－②－③－④

Use the air direction adjustments within the ranges shown above.

・The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.

Cooling / Dry / Fan mode : Horizontal flow ①
Heating mode : Downward flow ④

・For AUU18/ 24RCLX
At the start of operation if the setting louver position is ① ,the setting position is set to ①
after the louver moves from totally-enclosed position to ②. (Positioning Control)

・For AUU36/ 42RCLX
At the start of operation if the setting louver position is ① or ② ,the setting position is set to ① or ②
after the louver moves from totally-enclosed position to ③. (Positioning Control)

・The indoor fan motor starts after the louver reaches to the setting position.

2. SWING OPERATION

When the swing signal is received from the remote controller, the vertical louver starts to swing.
The range of swing depends on the set airflow direction.

(Swinging Range)

Airflow direction set	Range of swing
①	① to ③
②	② to ④
③	② to ④
④	① to ④

・When the indoor fan is either at S-Lo or Stop mode, the swinging operation is interrupted and the louver stops at the memorized position.
(Stop mode means Operation stop.)

8. COMPRESSOR CONTROL

1. OPERATION FREQUENCY RANGE

The operation frequency of the compressor is different based on the operation mode as shown in Table 7.

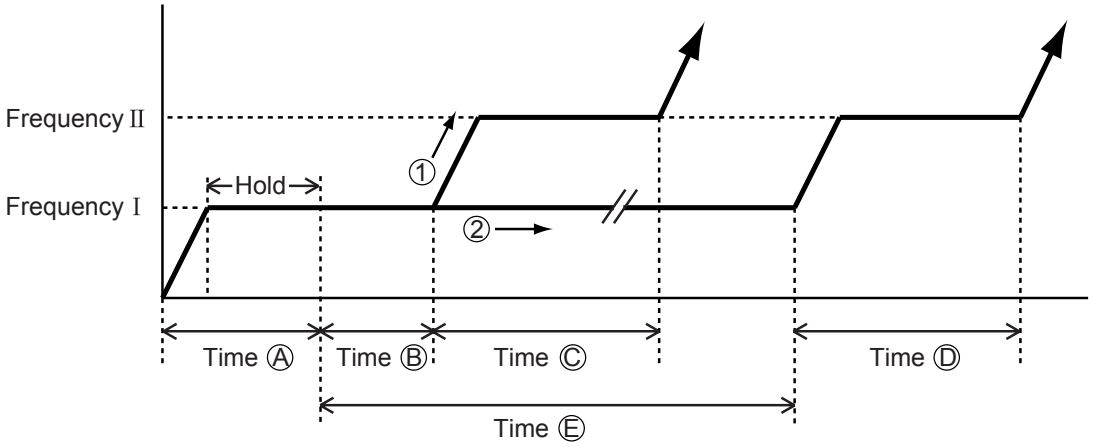
(Table 7 : Compressor Operation Frequency Range)

	Cooling		Heating		Dry
	Min	Max	Min	Max	
AUU18RCLX	20Hz	63Hz	20Hz	87Hz	25Hz
AUU24RCLX	20Hz	80Hz	20Hz	87Hz	30Hz
AUU36RCLX	20Hz	90Hz	20Hz	95Hz	45Hz
AUU42RCLX	25Hz	92Hz	23Hz	92Hz	30Hz

2. OPERATION FREQUENCY CONTROL AT START UP

The compressor frequency soon after the start-up is controlled as shown in Figure 9.

(Fig.9 : Compressor Control at Start-up)



(Frequency)

	Frequency I	Frequency II
AUU18RCLX	40Hz	56Hz
AUU24RCLX		
AUU36RCLX		
AUU42RCLX	56Hz	70Hz

For AUU18/ 24/ 36RCLX
① Discharge pipe temp. ≧ 50°F (10°C) ,86°F (30°C)
(Cooling) (Heating)
② Discharge pipe temp. < 50°F (10°C) ,86°F (30°C)
(Cooling) (Heating)

For AUU42RCLX
① Discharge pipe temp. ≧ 50°F (10°C) ,95°F (35°C)
(Cooling) (Heating)
② Discharge pipe temp. < 50°F (10°C) ,95°F (35°C)
(Cooling) (Heating)

(Time)

	Time Ⓐ	Time Ⓑ	Time Ⓒ	Time Ⓓ	Time Ⓔ
AUU18RCLX	180sec	60sec	120sec	120sec	720sec
AUU24RCLX					
AUU36RCLX					
AUU42RCLX	180sec	80sec	180sec	180sec	720sec

9. TIMER OPERATION CONTROL

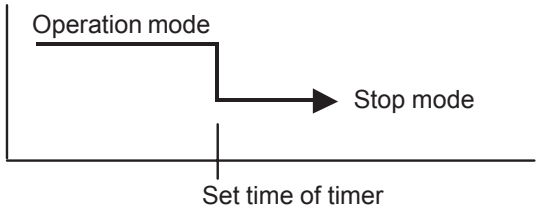
9-1 Wired Remote Controller

AR-3TA14

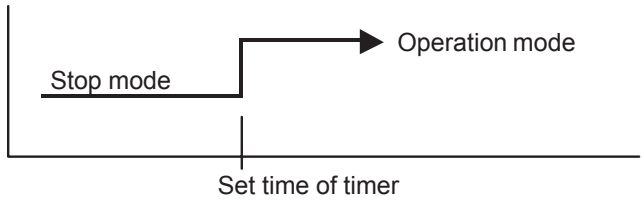
- ON / TIMER
- OFF / TIMER
- WEEKLY TIMER
- TEMPERATURE SET BACK TIMER

1. ON / OFF TIMER

・OFF timer : When the clock reaches the set time, the air conditioner will be turned off.



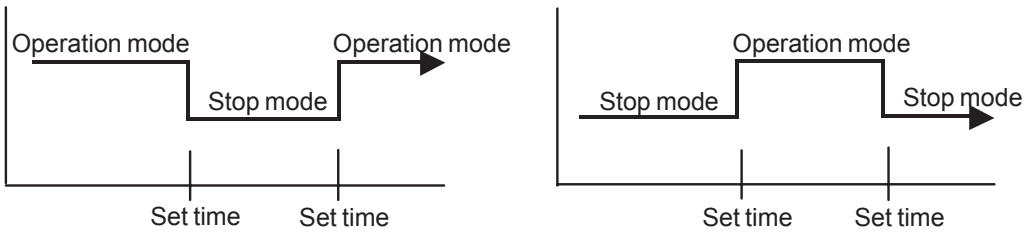
・ON timer : When the clock reaches the set time, the air conditioner will be turned on.



2. WEEKLY TIMER

2-1. WEEKLY TIMER

・Use this timer function to set operating time for each day of the week.
・The weekly timer allows up to two ON and OFF time to set up per day.

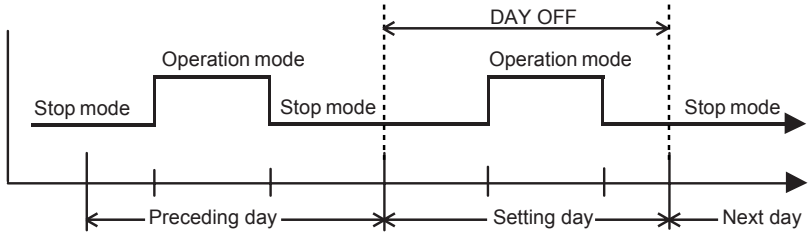


・The operating time can be set in 30 min increments only.
・The OFF time can be carried over to next day.
・The ON timer and the OFF timer functions cannot be set with using the weekly timer. Both ON and OFF time must be set.

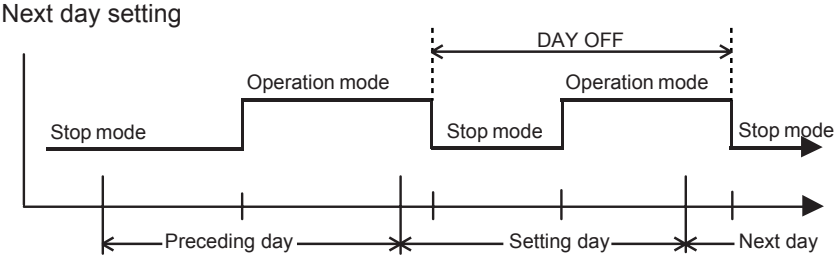
2-2. DAY OFF setting

- The DAY OFF setting is only available for days for which weekly settings already exist.
- If the operating time carries over to the next day (during a next day setting), the effective DAY OFF range will be set as shown below.

- Normal



- Next day setting

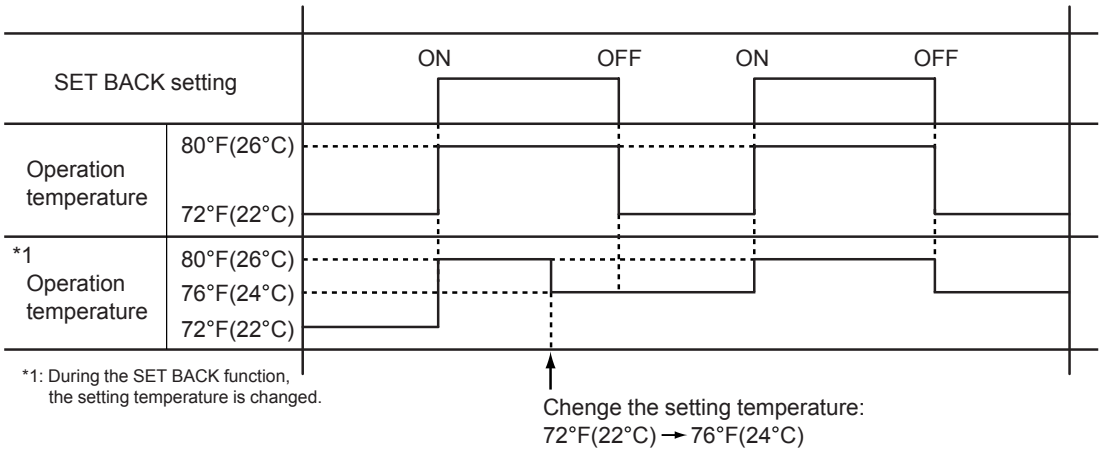


- The DAY OFF setting can only be set one time. The DAY OFF setting is cancelled automatically after the set day has passed.

3. TEMPERATURE SET BACK TIMER

- The SET BACK timer only changes the set temperature for 7 days, it cannot be used to start or stop air conditioner operation.
- The SET BACK timer can be set to operate up to two times per day but only one temperature setting can be used.
- During the COOL/DRY mode, the air conditioner will operate at a minimum of 64°F(18°C) even if the SET BACK temperature is set to 62°F(17°C) or lower.

Case of SET BACK timer on the Cooling operation.
(Setting temperature :72°F(22°C), SET BACK temperature :80°F(26°C))



10. ELECTRONIC EXPANSION VALVE CONTROL

The most proper opening of the electronic expansion valve is calculated and controlled under the present operating condition based on the following values.
The compressor frequency, the temperatures detected by the discharge temperature sensor and the outdoor temperature sensor.

* The pulse range of the electronic expansion valve control is between 50 to 480 pulses.
* At the time of supplying the power to the outdoor unit, the initialization of the electronic expansion valve is operated (1000 pulses are input to the closing direction).

11. TEST OPERATION CONTROL

▪ With Wired Remote Controller

Under the condition where the air conditioner stops, press the MASTER CONTROL button and the FAN CONTROL button simultaneously for 5 seconds or more, and the test operation control mode will appear.
During test running, "  " will display on the remote controller display.
Set the test operation mode, and the compressor will continue to run regardless of whatever the room temperature sensor detects.
The test operation mode is released if 60 minutes have passed after setting up the test operation.

12. PREVENT TO RESTART FOR 3 MINUTES (3 MINUTES ST)

The compressor won't enter operation status for 3 minutes after the compressor is stopped, even if any operation is given.

13. 4-WAY VALVE EXTENSION SELECT

At the time when the air conditioner is switched from the cooling mode to heating mode, the compressor is stopped, and the 4-way valve is switched in 3 minutes later after the compressor stopped.

14. AUTO RESTART

When the power was interrupted by a power failure, etc. during operation, the operation contents at that time are memorized and when power is recovered, operation is automatically resumed with the memorized operation contents.
When the power is interrupted and recovered during timer operation, timer operation is canceled, but only setting time is memorized.

[Operation contents memorized when the power is interrupted]

- Operation mode
- Set temperature
- Set air flow
- Timer mode and timer time
- Air flow Direction
- Swing
- Thermistor detected position

15. PUMP DOWN (Refrigerant collecting operation)

Perform the following procedures to collect the refrigerant when moving the indoor unit or the outdoor unit.

When the product is stopped:

1. Press the PUMP DOWN switch (SW2) on the outdoor unit.
   (The LED on the outdoor unit circuit board flickers every 1second.)
2. The pump down operation (cooling operation) begins right away.
   After operation starts, close the 3-way valve (liquid).
3. After 2-3minutes, operation stops. Close the 3-way valve (gas) within 1minute after operations stops.
4. The LED will go out 3minutes after it stops. Disconnect the power supply after confirming that the LED has gone out.

When the product is operating:

1. Press the PUMP DOWN switch (SW2) on the outdoor unit. The LED on the outdoor unit circuit board flickers every 1second, and operation stops.
   At this point, recovery has not been completed, so do not close the 2 and 3-way valves.
2. The pump down operation (cooling operation) begins after 3minutes.
   Close the 3-way valve (liquid) after operation starts.
3. After 2-3minutes, operation stops. Close the 3-way valve (gas) within 1minute after operations stops.
4. The LED will go out 3minutes after it stops. Disconnect the power supply after confirming that the LED has gone out.

16. COMPRESSOR PREHEATING

When the outdoor heat exchanger temperature is lower than Operation temperature (Refer to Table 8) and the heating operation has been stopped for 3 hours, power is applied to the compressor and the compressor is heated.
(By heating the compressor, warm air is quickly discharged when operation is started.)
When operation was started, and when the outdoor temperature rises to Release temperature or greater, preheating is over.

(Table 8 : Preheating Operation / Release Temperature)

	Before 24 hour		After 24 hour	
	Operation temperature	Release temperature	Operation temperature	Release temperature
AUU18RCLX	37.4°F (3°C)	44.6°F (7°C)	32°F (0°C)	39.2°F (4°C)
AUU24RCLX				
AUU36RCLX				
AUU42RCLX				

17. DEFROST OPERATION CONTROL

1. CONDITION OF STARTING THE DEFROST OPERATION

The defrost operation starts when the outdoor heat exchanger temperature sensor detects the temperature lower than the values shown in Table 9.

(Table 9 : Condition of starting Defrost Operation)

	Compressor integrating operation :Less than 45min.	Compressor integrating operation :45min and over		Outdoor temp. - Outdoor heat exchanger temp.	Outdoor heat exchanger temp.
		Less than 6 min. *1 or 10min. *2	After 6 min. *1 or 10min. *2		
AUU18RCLX	Does not operate		17.6°F(-8°C) *3 14°F (-10°C) *4	———	———
AUU24RCLX					
AUU36RCLX					
AUU42RCLX				21.6 degF (12 degC)	———
			———	———	- 4°F (-20°C)

*1. It means contiguous operation time.
*2. Compressor stop time: Below 20min. → Select 6min.
Above 20min. → Select 10min.
*3. Outdoor temp. ≧ 30.2°F (-1°C)
*4. Outdoor temp. < 30.2°F (-1°C)

2. CONDITION OF THE DEFROST OPERATION COMPLETION

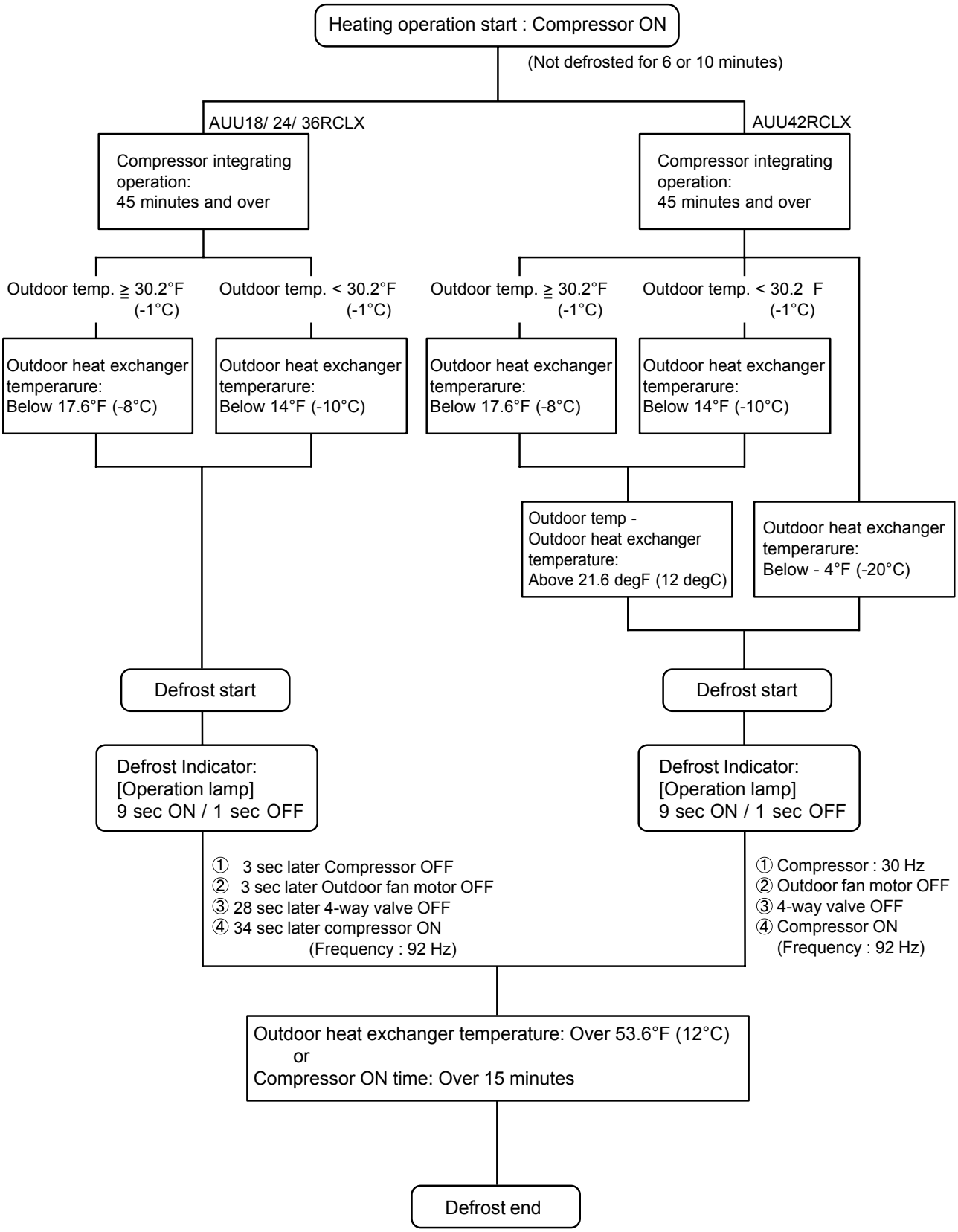
Defrost operation is released when the conditions become as shown in Table 10.

(Table 10 : Defrost Release Condition)

	Release Condition
AUU18RCLX	Outdoor heat exchanger temperature sensor value is higher than 53.6°F(12°C) or Compressor operation time has passed 15 minutes.
AUU24RCLX	
AUU36RCLX	
AUU42RCLX	

3. Defrost Flow Chart

The defrosting shall proceed by the integrating operation time and outdoor heat exchanger temperature as follows.



18. DRAIN PUMP OPERATION

▪ During Cooling / Dry operation

1. When the compressor starts, the drain pump starts simultaneously.
2. The drain pump operates continuously for 3 minutes after the compressor is turned off.
3. When the compressor stops by the "Indoor heat exchanger de-icing function", the drain pump is turned off in 1 hour after the compressor stops.
4. When the water level in the drain pan rises up and then the float switch functions:
   ① The compressor, indoor and outdoor fan motor operation are stopped.
   ② Drain pump operates continuously for 3 minutes after the float switch is turned off. (Almost condensing water may be drained)
5. When the float switch turns ON continuously for 3 min., "FAILURE INDICATION" operates.
6. When the float switch turns OFF within 3 min., the unit starts cooling operation.

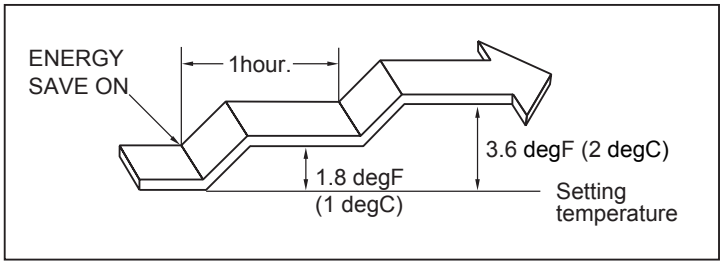
▪ During Heating / Fan / Stop operation

1. When the water level in the drain pan rises up and then the float switch functions:
   ① Drain pump operates continuously for 3 minutes after the float switch is turned off. (Almost condensing water may be drained)
2. When the float switch turns ON continuously for 3 min., "FAILURE INDICATION" operates.

19. ENERGY SAVE FUNCTION

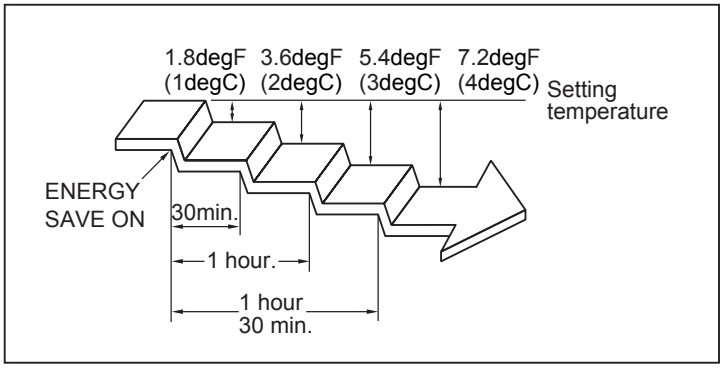
1. During Cooling / Dry operation:

The thermostat temperature setting increases by 1.8 degF (1 degC) as soon as the ENERGY SAVE button is pressed, and then increases by 1.8 degF (1 degC) after 1 hour later.
Afterwards, energy consumption is saved by continuing to cool or dry at a thermostat temperature of 3.6 degF (2 degC) higher than setting temperature.



2. During Heating operation:

The thermostat temperature setting decreases by 1.8 degF (1 degC) as soon as the ENERGY SAVE button is pressed, and then decreases by another 1.8 degF (1 degC) every 30 minutes.
Afterwards, energy consumption is saved by continuing to heat at a thermostat temperature of 7.2 degF (4 degC) lower than setting temperature.



20. VARIOUS PROTECTIONS

1. DISCHARGE GAS TEMPERATURE OVER RISE PREVENTION CONTROL

The discharge gas thermosensor (discharge thermistor : Outdoor side) will detect discharge gas temperature.

When the discharge temperature becomes higher than Temperature Ⅰ,the compressor frequency is decreased 10 Hz, and it continues to decrease the frequency for 10 Hz every 120 seconds until the temperature becomes lower than Temperature Ⅰ.
When the discharge temperature becomes lower than Temperature Ⅱ,the control of the compressor frequency is released.

When the discharge temperature becomes higher than Temperature Ⅲ,the compressor stops.
When the discharge temperature becomes lower than Temperature Ⅳ ,the compressor operates.

(Table 11 : Discharge Temperature Over Rise Prevention Control / Release Temperature)

	Temperature Ⅰ	Temperature Ⅱ	Temperature Ⅲ	Temperature Ⅳ
AUU18RCLX	221°F (105°C)	212°F (100°C)	239°F (115°C)	176°F (80°C)
AUU24RCLX				
AUU36RCLX				
AUU42RCLX				

2. CURRENT RELEASE CONTROL

The compressor frequency is controlled so that the outdoor unit input current does not exceeds the current limit value that was set up with the outdoor temperature.
The compressor frequency returns to the designated frequency of the indoor unit at the time when the frequency becomes lower than the release value.

(Table 12 : Current Release Operation Value / Release Value)

[Heating]

AUU18RCLX	Outdoor unit fan speed			
	780 rpm	400 rpm	250 rpm	220, 200 rpm
T0 ≧ 68°F (20°C)	10.0A / 9.5A	10.0A / 9.5A	8.0A / 7.5A	6.0A / 5.5A
T0 < 68°F (20°C)	12.0A / 11.5A			

T0: Outdoor temperature

AUU24RCLX	Outdoor unit fan speed			
	900, 780 rpm	400 rpm	250 rpm	220, 200 rpm
T0 ≧ 68°F (20°C)	10.0A / 9.5A	10.0A / 9.5A	8.0A / 7.5A	6.0A / 5.5A
T0 < 68°F (20°C)	12.0A / 11.5A			

T0: Outdoor temperature

AUU36RCLX	Outdoor unit fan speed				
	900 rpm	780 rpm	400 rpm	250 rpm	220 ,200 rpm
T0 ≧ 53.6°F (12°C)	15.0A / 14.5A	15.0A / 14.5A	13.0A / 12.5A	10.0A / 9.5A	8.0A / 7.5A
53.6°F > T0 ≧ 41°F (12°C) (5°C)	18.0A / 17.5A				
T0 < 41°F (5°C)		18.0A / 17.5A	18.0A / 17.5A	18.0A / 17.5A	18.0A / 17.5A

T0: Outdoor temperature

AUU42RCLX		Outdoor unit fan speed			
	Upper fan	900 ,850 ,780 ,350 rpm	200 rpm	170 rpm	150 rpm
	Lower fan	850 ,780 ,750 ,350 rpm	200 rpm	170 rpm	150 rpm
T0 ≧ 53.6°F (12°C)		20.0A / 19.5A	15.0A / 14.5A	12.0A / 11.5A	12.0A / 11.5A
T0 < 53.6°F (12°C)		20.0A / 19.5A	20.0A / 19.5A	20.0A / 19.5A	20.0A / 19.5A

T0: Outdoor temperature

[Cooling]

AUU18RCLX	Outdoor unit fan speed			
	780 rpm	400 rpm	250 rpm	220, 200 rpm
T0 ≧ 113°F (45°C)	8.0A / 7.5A	8.0A / 7.5A	5.0A / 4.5A	4.0A / 3.5A
113°F > T0 ≧ 77°F (45°C) (25°C)	10.0A / 9.5A			
77°F > T0 ≧ 66.2°F (25°C) (19°C)	12.0A / 11.5A	12.0A / 11.5A	7.0A / 6.5A	
66.2°F > T0 ≧ 55.4°F (19°C) (13°C)			8.0A / 7.5A	
55.4°F > T0 ≧ 44.6°F (13°C) (7°C)			8.5A / 8.0A	5.0A / 4.5A
44.6°F > T0 ≧ 32°F (7°C) (0°C)			9.0A / 8.5A	6.5A / 6.0A
T0 < 32°F (0°C)				7.5A / 7.0A

T0: Outdoor temperature

AUU24RCLX	Outdoor unit fan speed				
	900 ,850 rpm	780 rpm	400 rpm	250 rpm	220, 200 rpm
T0 ≧ 113°F (45°C)	8.0A / 7.5A	8.0A / 7.5A	8.0A / 7.5A	5.0A / 4.5A	4.0A / 3.5A
113°F > T0 ≧ 100.4°F (45°C) (38°C)	10.0A / 9.5A	10.0A / 9.5A			
100.4°F > T0 ≧ 77°F (38°C) (25°C)	12.0A / 11.5A				
77°F > T0 ≧ 66.2°F (25°C) (19°C)		12.0A / 11.5A	12.0A / 11.5A	7.0A / 6.5A	
66.2°F > T0 ≧ 55.4°F (19°C) (13°C)				8.0A / 7.5A	
55.4°F > T0 ≧ 44.6°F (13°C) (7°C)				8.5A / 8.0A	5.0A / 4.5A
44.6°F > T0 ≧ 32°F (7°C) (0°C)				9.0A / 8.5A	6.5A / 6.0A
T0 < 32°F (0°C)					7.5A / 7.0A

T0: Outdoor temperature

AUU36RCLX	Outdoor unit fan speed				
	900 ,850 rpm	780 rpm	400 rpm	250 rpm	220, 200 rpm
T0 ≧ 113°F (45°C)	10.0A / 9.5A	10.0A / 9.5A	10.0A / 9.5A	7.0A / 6.5A	5.5A / 5.0A
113°F > T0 ≧ 100.4°F (45°C) (38°C)	14.0A / 13.5A	14.0A / 13.5A			
100.4°F > T0 ≧ 66.2°F (38°C) (19°C)	18.0A / 17.5A				
66.2°F > T0 ≧ 55.4°F (19°C) (13°C)		15.0A / 14.5A	15.0A / 14.5A		7.0A / 6.5A
55.4°F > T0 ≧ 44.6°F (13°C) (7°C)				12.0A / 11.5A	
44.6°F > T0 ≧ 32°F (7°C) (0°C)					
T0 < 32°F (0°C)					9.5A / 9.0A

T0: Outdoor temperature

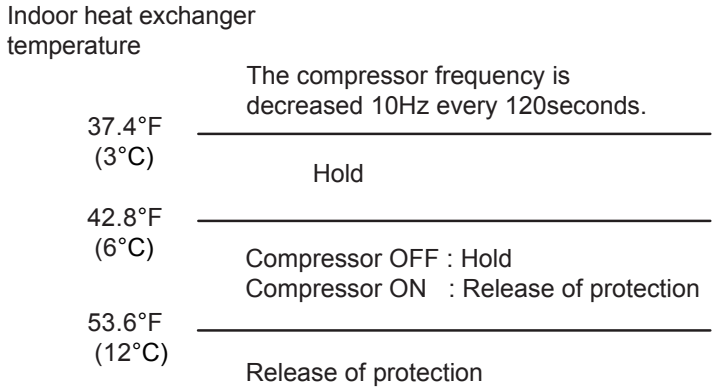
AUU42RCLX		Outdoor unit fan speed				
	Upper fan	850 rpm	780 rpm	350 rpm	400 rpm	350, 300 rpm
	Lower fan	750 rpm	780 rpm	350 rpm	0 rpm	0 rpm
T0 ≧ 113°F (45°C)		12.0A / 11.5A	12.0A / 11.5A	12.0A / 11.5A	12.0A / 11.5A	12.0A / 11.5A
113°F > T0 ≧ 87.8°F (45°C) (31°C)		20.0A / 19.5A	20.0A / 19.5A			
87.8°F > T0 ≧ 77°F (31°C) (25°C)				18.0A / 17.5A		
77°F > T0 ≧ 66.2°F (25°C) (19°C)					18.0A / 17.5A	
66.2°F > T0 ≧ 55.4°F (19°C) (13°C)				20.0A / 19.5A		15.0A / 14.5A
T0 < 55.4°F (13°C)						18.0A / 17.5A

T0: Outdoor temperature

3. ANTI-FREEZING CONTROL (Cooling mode)

The compressor frequency decreases on cooling mode when the indoor heat exchanger temperature sensor detects the temperature lower than 37.4°F (3°C).
Then, the anti-freezing control is released when it becomes higher than 42.8°F (6°C).

(Fig 10 : Anti-freezing Protection Operation / Release Temperature)



- When the compressor frequency becomes lower than minimum frequency, the compressor operates at minimum frequency.
  If the indoor heat exchanger temperature sensor detects the temperature lower than 37.4°F (3°C) after 2minutes upon operating the compressor at minimum frequency, the compressor stops.

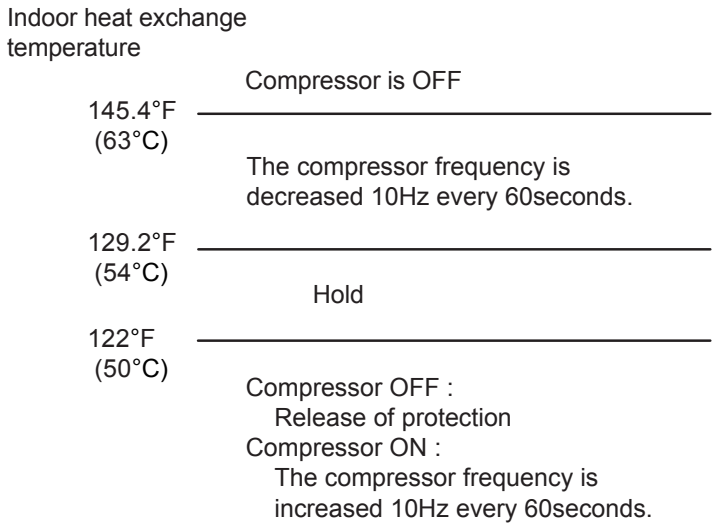
4. COOLING PRESSURE OVER RISE PROTECTION

When the outdoor unit heat exchange sensor temperature rises to 158.9°F (70.5°C) or greater, the compressor is stopped and error display is indicated.

5. HIGH TEMPERATURE RELEASE CONTROL (HEATING MODE)

On heating mode, the compressor frequency is controlled as following based on the detection value of the indoor heat exchanger temperature sensor.

(Fig 11 : Heating Overload Protection Control)



Refrigerant
R410A

CASSETTE type
INVERTER

2 . TROUBLE SHOOTING

2. TROUBLESHOOTING

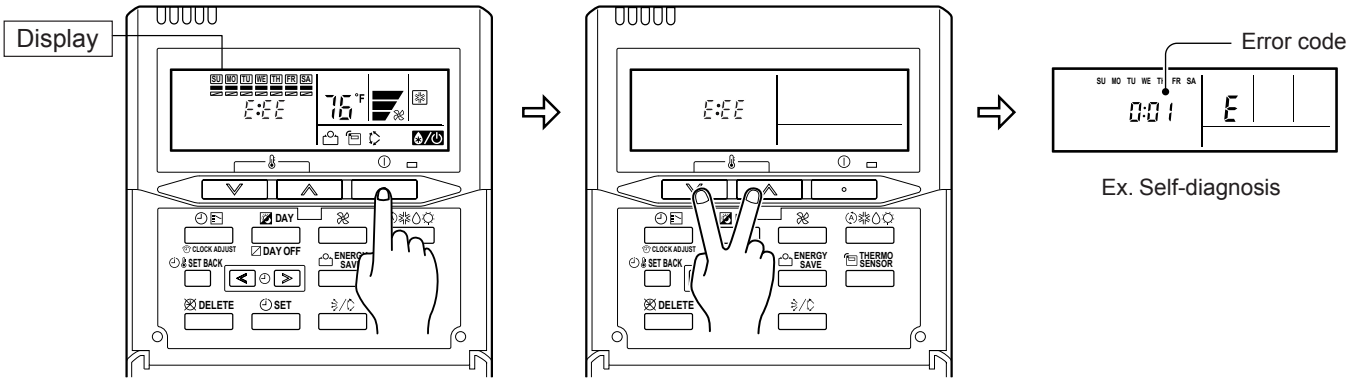
2-1 ERROR DISPLAY

2-1-1 WIRED REMOTE CONTROLLER DISPLAY

1. SELF - DIAGNOSIS

When the error indication "E:EE" is displayed, inspection of the air conditioning system is necessary. Please consult authoilzed servise personnel.

Run [Self-Diagnosis] if [E:EE] flashes on the clock display of the remote controller.



1. Stop the air conditioner operation.
2. Press the SET TEMPERATURE buttons ⋁ and ⋀ simultaneously for 5 seconds or more to start the self-diagnosis.
3. Press the SET TEMPERATURE buttons ⋁ and ⋀ simultaneously for 5 seconds or more or there is no key input for 20 seconds to stop the self-diagnosis.

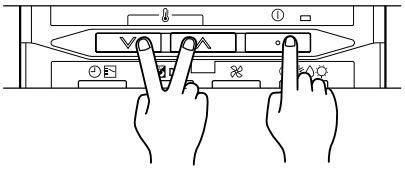
Error code	Error contents	Trouble shooting
E:00	Communication error (indoor unit ← remote control)	1
E:01	Communication error (Serial reverse transfer error)	2
E:02	Room temperature sensor open	3
E:03	Room temperature sensor short-circuited	
E:04	Indoor heat exchanger temperature sensor open	4
E:05	Indoor heat exchanger temperature sensor short-circuited	
E:06	Outdoor heat exchanger temperature sensor error	5
E:09	Water drain abnormal	6
E:0A	Outdoor temperature sensor error	7
E:0C	Outdoor discharge pipe temperature sensor error	8
E:11	Indoor EEPROM abnormal (Model No.)	9
E:12	Indoor fan motor abnormal	10
E:13	Outdoor communication signal error (Forward transfer signal error)	11
E:15	Compressor temperature sensor error	12
E:16	Pressure switch error	13
E:17	IPM error	14
E:18	CT error	15
E:19	Active filter module (AFM) error	16
E:1A	Compressor rotor location cannot detect (permanent stop)	17
E:1b	Outdoor unit fan motor error	18

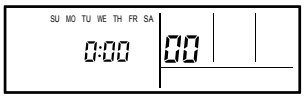
2. ERROR CODE HISTORY DISPLAY

Up to 16 memorized error codes may be displayed for the indoor unit connected to the remote controller.

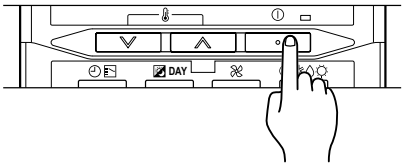
1. Stop the air conditioner operation.

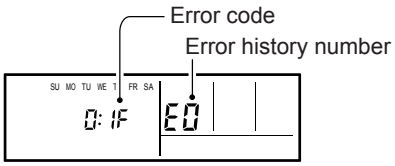
2. Press the SET TEMPERATURE buttons ⋁, ⋀ and the START/STOP button ⏻ simultaneously for 5 seconds or more to start the self-diagnosis.



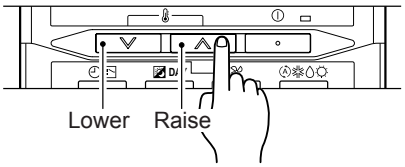


3. Press the START/STOP button.





4. Press the SET TEMPERATURE button to select the error history number.



0 ↔ 1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 7
F ↔ E ↔ d ↔ c ↔ b ↔ A ↔ 9 ↔ 8

5. Press the SET TEMPERATURE buttons ⋁, ⋀ and START/STOP button ⏻ simultaneously for 5 seconds or more or there is no key input for 20 seconds to stop the display.

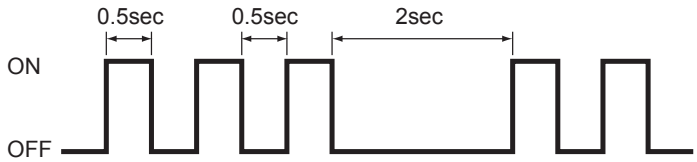
2-1-2 OUTDOOR UNIT DISPLAY

1. ERROR DISPLAY

Error contents	LED Flashing Pattern	Display priority	Trouble shooting
Outdoor communication signal error (Forward transfer signal error)	1 time flash	1	11
Outdoor discharge pipe temperature sensor error	2 times blink	2	8
Outdoor heat exchanger temperature sensor error	3 times blink	3	5
Outdoor temperature sensor error	4 times blink	4	7
Compressor temperature sensor error	7 times blink	5	12
Heat sink temperature sensor error	8 times blink	6	19
Pressure switch abnormal	9 times blink	7	13
IPM error	12 times blink	8	14
Compressor rotor location cannot detect	13 times blink	9	17
Compressor Start-up error	14 times blink	10	20
Outdoor unit fan motor error (upper fan)	15 times blink	11	18
Outdoor unit fan motor error (lower fan)	16 times blink	12	

2. ERROR DISPLAY METHOD

Outdoor LED Blink (1 to 16 times) 0.5sec ON / 0.5sec OFF blinking



3. NORMAL OPERATION DISPLAY

Operation	LED Blinking Pattern
Normal operation	Continuously lighting
Protected operation	5sec ON / 1sec OFF
Pump down operation	1sec ON / 1sec OFF

2-2 TROUBLE SHOOTING WITH ERROR CODE

Trouble shooting 1 **INDOOR UNIT Error Method:** **Communication Error** **(Indoor unit ← Remote control)**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 00**
Detective Actuators: Indoor unit controller PCB circuit Wired Remote Control	**Detective details:** When the indoor unit cannot receive the signal from Wired Remote more than 10seconds after power ON, or the indoor unit cannot receive the signal more than 1minute during normal operation.

Forecast of Cause:

1. Terminal connection abnormal 2. Wired Remote Control failure 3. Controller PCB failure

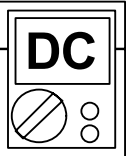
Check Point 1 : Check the connection of terminal

After turning off the power, check & correct the followings.

- Check the connection of terminal between remote control and Indoor unit, and check if there is a disconnection of the cable.

OK

Check Point 2 : Check Remote Control and Controller PCB



- Check Voltage at CN17 of Controller PCB. (Power supply to Remote Control)
  >> If it is DC12V, Remote Control is failure. (Controller PCB is normal) >> Replace Remote Control
  >> If it is DC 0V, Controller PCB is failure. (Check Remote Control once again) >> Replace Controller PCB

▶ **Upon correcting the removed connector or mis-wiring, reset the power.**

Trouble shooting 2 **OUTDOOR UNIT Error Method:** **Communication Error** **(Serial Reverse Transfer Error)**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 01**
Detective Actuators: Outdoor Unit Main PCB Circuit Active Filter Module	**Detective details:** When the indoor unit cannot receive the serial signal from Outdoor unit more than 10seconds.

Forecast of Cause:

1. Connection failure 2. External cause 3. Main PCB failure 4. Active Filter Module failure

Check Point 1-1 : Reset the power and operate

- Does Error indication show again?

NO

YES

Check Point 2 : Check Connection

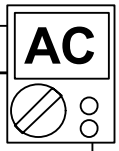
- Check any loose or removed connection line of Indoor unit and Outdoor unit.
  >> If there is an abnormal condition, correct it by referring to Installation Manual or Data & Technical Manual.
- Check connection between Outdoor Unit Main PCB and Filter PCB.
  (If there is loose connector or open cable)

Check Point 1-2:
Check external cause such as noise

- Check the complete insulation of the grounding.
- Check if there is any equipment that causes harmonic wave near the power cable (Neon light bulb or any electronic equipment which causes harmonic wave).

OK

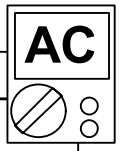
Check Point 3 : Check the voltage of power supply



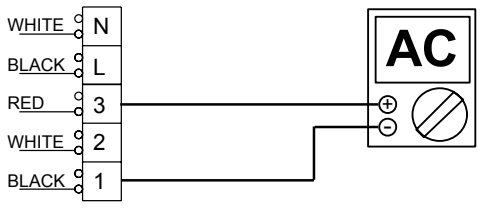
- Check the voltage of power supply
  >> Check if AC208 - 230V appears at Outdoor Unit Terminal L - N.

OK

Check Point 4 : Check Serial Signal (Reverse Transfer Signal)



- Check Serial Signal (Reverse Transfer Signal)
  >> Check if Indicated value swings between AC70V and AC130V at Outdoor Unit Terminal 1 - 3.
  >> If it is abnormal, Check Active Filter Module. (PARTS INFORMATION 3)
  >>If Active Filter Module is abnormal, replace it.
  >>If Active Filter Module is normal, replace Main PCB.



Trouble shooting 3 **INDOOR UNIT Error Method:** **Room Temperature Sensor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 02 / 03**

Detective Actuators:	**Detective details:**
Indoor Unit Controller PCB Circuit Room Temperature Thermistor	When Room Temperature Thermistor open or short-circuit is detected at power ON.

Forecast of Cause :

1. Connector connection failure 2.Thermistor failure 3. Controller PCB failure

Check Point 1 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Remove connector and check Thermistor resistance value

Thermistor Characteristics (Approx. value)

Temperature	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)	95°F (35°C)
Resistance Value (kΩ)	33.6	25.9	20.2	15.8	12.5	10.0	8.04	6.51

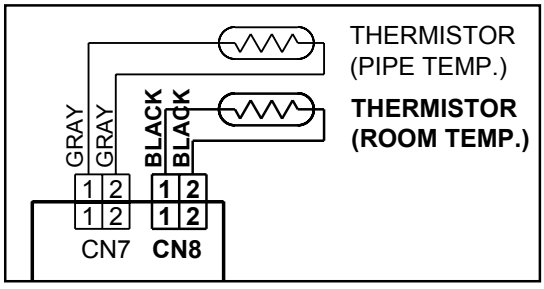
Temperature	104°F (40°C)	113°F (45°C)	122°F (50°C)
Resistance Value (kΩ)	5.30	4.35	3.59

▶ **If Thermistor is either open or shorted, replace it and reset the power.**

OK

Check Point 3 : Check voltage of Controller PCB (DC5.0V)

Make sure circuit diagram of indoor unit and check terminal voltage at Thermistor (DC5.0V)



▶ **If the voltage does not appear, replace Controller PCB.**

Trouble shooting 4 **INDOOR UNIT Error Method:** **Indoor Heat Exchanger Temperature Sensor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 04 / 05**
Detective Actuators: Indoor Unit Controller PCB Circuit Heat Exchanger Temperature Thermistor	**Detective details:** When Heat Exchanger Temperature Thermistor open or short-circuit is detected at power ON.

Forecast of Cause :

1. Connector connection failure 2.Thermistor failure 3. Controller PCB failure

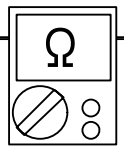
Check Point 1 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Remove connector and check Thermistor resistance value



Thermistor Characteristics (Approx. value)

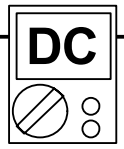
Temperature	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)	95°F (35°C)
Resistance Value (kΩ)	176	134	103	80.3	62.9	49.7	39.6	31.7

Temperature	104°F (40°C)	113°F (45°C)	122°F (50°C)
Resistance Value (kΩ)	25.6	20.8	17.1

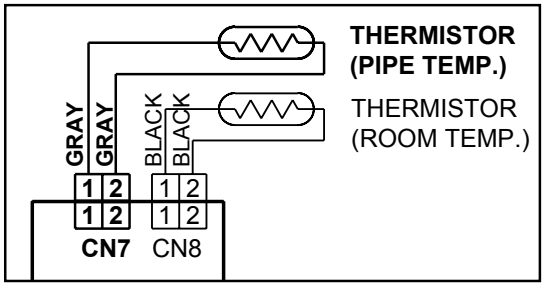
▶ **If Thermistor is either open or shorted, replace it and reset the power.**

OK

Check Point 3 : Check voltage of Controller PCB (DC5.0V)



Make sure circuit diagram of indoor unit and check terminal voltage at Thermistor (DC5.0V)



▶ **If the voltage does not appear, replace Controller PCB.**

Trouble shooting 5 **OUTDOOR UNIT Error Method:** **Outdoor Heat Exchanger Temperature Sensor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 3 times blink** **ERROR CODE : E : 06**
Detective Actuators: Outdoor Unit Main PCB Circuit Heat Exchanger Temperature Thermistor	**Detective details:** When Heat Exchanger Temperature Thermistor open or short-circuit is detected at power ON or while running the compressor.

Forecast of Cause :

1. Connector connection failure 2.Thermistor failure 3. Main PCB failure

Check Point 1 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Remove connector and check Thermistor resistance value

Thermistor Characteristics (Approx. value)

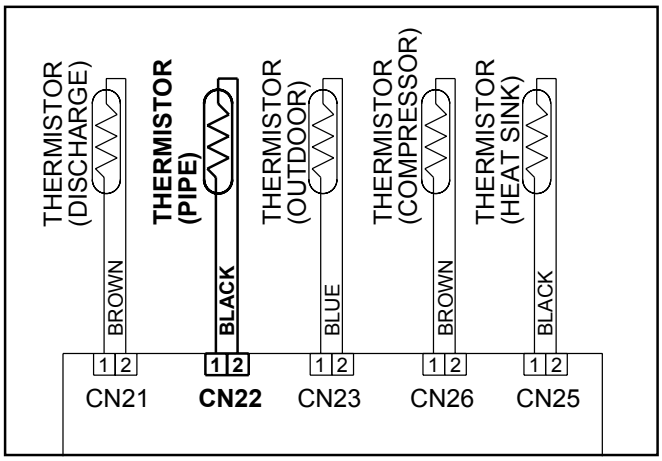
Temperature	14°F (-10°C)	23°F (-5°C)	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)
Resistance Value (kΩ)	27.5	20.9	16.1	12.4	9.73	7.67	6.10	4.89	3.95

▶ If Thermistor is either open or shorted, replace it and reset the power.

OK

Check Point 3 : Check voltage of Main PCB (DC5.0V)

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)



▶ If the voltage does not appear, replace Main PCB.

Trouble shooting 6 **INDOOR UNIT Error Method:** **Water Drain Abnormal**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 09**

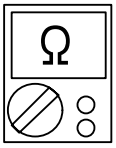
Detective Actuators:	**Detective details:**
Indoor Unit Controller PCB Circuit Float Switch	When Float Switch is ON for more than 3 minutes.

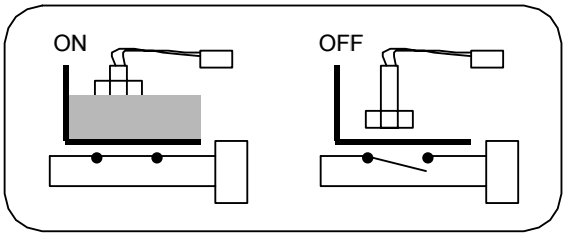
Forecast of Cause :

1. Float Switch failure 2. Shorted connector/ wire 3. Controller PCB failure

Check Point 1 : Check Float Switch

- Check operation of float switch. (any blocking by dust, etc.)
- Remove Float switch and check ON/OFF switching operation by using a meter.
  >>If Float switch is detective, replace it.





OK

Check Point 2 : Check Connector (CN15) / Wire

- Check loose contact of CN15 /shorted wire (pinched wire).
  >>Replace Float switch if the wire is abnormal

OK

Check Point 3 : Replace Controller PCB

▶ **If Check Point 1 & 2 do not improve the symptom, change Controller PCB.**

Trouble shooting 7 **OUTDOOR UNIT Error Method:** **Outdoor Temperature Sensor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 4 times blink** **ERROR CODE : E : 0A**

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Outdoor Temperature Thermistor	When Outdoor Temperature Thermistor open or short-circuit is detected at power ON or while running the compressor.

Forecast of Cause :

1. Connector connection failure 2.Thermistor failure 3. Main PCB failure

Check Point 1 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Remove connector and check Thermistor resistance value

Thermistor Characteristics (Approx. value)

Temperature	- 4°F (-20°C)	14°F (-10°C)	23°F (-5°C)	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)
Resistance Value (kΩ)	115	62.3	46.6	35.2	26.9	20.7	16.1	12.6

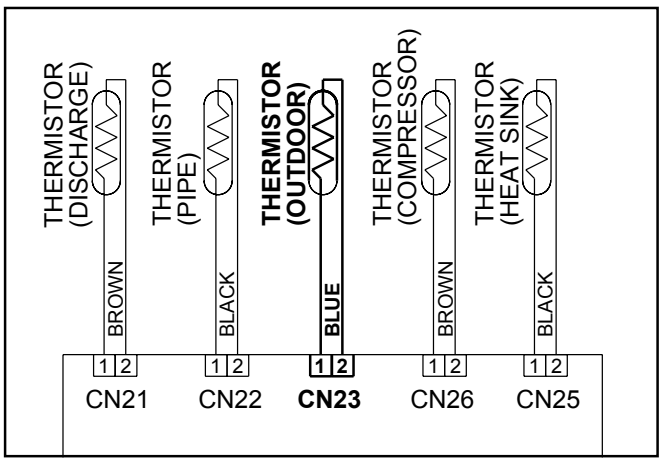
Temperature	86°F (30°C)	104°F (40°C)	122°F (50°C)	140°F (60°C)	158°F (70°C)
Resistance Value (kΩ)	7.97	5.18	3.45	2.36	1.65

▶ **If Thermistor is either open or shorted, replace it and reset the power.**

OK

Check Point 3 : Check voltage of Main PCB (DC5.0V)

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)



▶ **If the voltage does not appear, replace Main PCB.**

Trouble shooting 8 **OUTDOOR UNIT Error Method:** **Outdoor Discharge Pipe Temperature Sensor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 2 times blink** **ERROR CODE : E : 0C**

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Discharge Pipe Temperature Thermistor	When Discharge Pipe Temperature Thermistor open or short-circuit is detected at power ON or while running the compressor.

Forecast of Cause :

1. Connector connection failure 2.Thermistor failure 3. Main PCB failure

Check Point 1 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Remove connector and check Thermistor resistance value

Thermistor Characteristics (Approx. value)

Temperature	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	86°F (30°C)	104°F (40°C)	122°F (50°C)	140°F (60°C)
Resistance Value (kΩ)	176	135	105	81.8	64.5	41.1	26.9	18.1	12.5

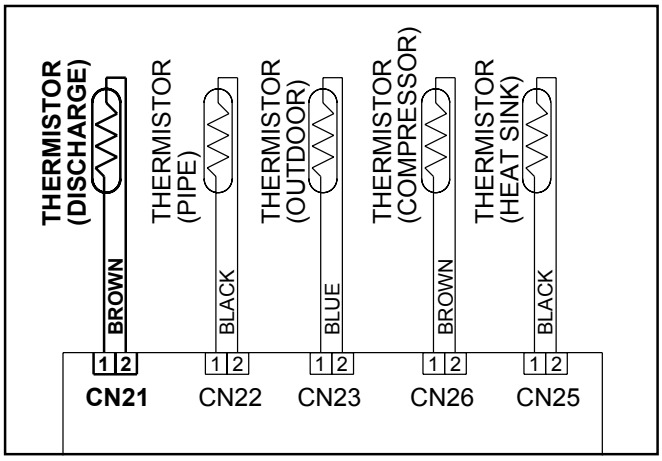
Temperature	158°F (70°C)	176°F (80°C)	194°F (90°C)	212°F (100°C)	248°F (120°C)	284°F (140°C)	320°F (160°C)	356°F (180°C)
Resistance Value (kΩ)	8.78	6.31	4.61	3.43	1.98	1.21	0.77	0.51

▶ **If Thermistor is either open or shorted, replace it and reset the power.**

OK

Check Point 3 : Check voltage of Main PCB (DC5.0V)

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)



▶ **If the voltage does not appear, replace Main PCB.**

Trouble shooting 9 **INDOOR UNIT Error Method:** **Indoor EEPROM abnormal (Model No.)**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 11**

Detective Actuators:	**Detective details:**
Indoor Unit Controller PCB circuit	When the model information being read from EEPROM has an apparent error.

Forecast of Cause:

1. External cause 2. Defective connection of electric components 3. Controller PCB failure

Check Point 1-1 : Reset Power Supply and operate

- Does Error indication show again?

NO → Check Point 1-2 :
Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop : Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure : Check if there is a defective contact or leak current in the power supply circuit.
- Noise : Check if there is any equipment causing harmonic wave near electric line.(Neon bulb or electric equipment that may cause harmonic wave) Check the complete insulation of grounding.

YES ↓

Check Point 2 :
Check Indoor Unit electric components

- Check all connectors. (loose connector or incorrect wiring)
- Check any shortage or corrosion on PCB.

↓

Check Point 3 : Replace Controller PCB

▶ **Change Controller PCB.**

Note : EEPROM

EEPROM(Electronically Erasable and Programmable Read Only Memory) is a non-volatile memory which keeps memorized information even if power is turned off. It can change the contents electronically.
To change the contents, it uses higher voltage than normal, and it can not change a partial contents. (Rewriting shall be done upon erasing the all contents.)
There is a limit in a number of rewriting.

Trouble shooting 10 **INDOOR UNIT Error Method:** **Indoor Fan Motor abnormal**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 12**
Detective Actuators: Indoor Unit Controller PCB Circuit Indoor Fan Motor	**Detective details:** When the condition that actual frequency of Indoor Fan is below 1/3 of target frequency is continued more than 56 seconds.

Forecast of Cause:

1. Fan rotation failure 2. Fan motor winding open 3. Motor protection by surrounding temperature rise
4. Capacitor failure 5. Control PCB failure

Check Point 1 : Check rotation of Fan

- Rotate the fan by hand when operation is off.
  (Check if fan is caught, dropped off or locked motor)
  >>If Fan or Bearing is abnormal, replace it.

OK

Check Point 2 : Check Motor winding

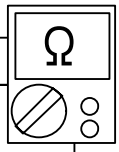
- Check Indoor Fan motor. **(PARTS INFORMATION 5)**
  >>If Fan motor is abnormal, replace it.

OK

Check Point 3 : Check ambient temp. around motor

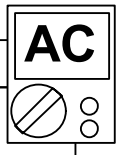
- Check excessively high temperature around the motor.
  (If there is any surrounding equipment that causes heat)
  >>Upon the temperature coming down, restart operation.

OK



Check Point 4 : Check Motor Capacitor

- Check continuity of motor capacitor
  >>If it is shorted, replace the capacitor.



Check Point 5 : Check Output Voltage of Control PCB

- Check indoor unit circuit diagram
  and the output voltage (between 2 (White) and 3 (Red)) of CN5.
  - AUU18RCLX : 77% of Input AC voltage (Cooling, Airflow[HIGH])
    73% of Input AC voltage (Heatling, Airflow[HIGH])
  - AUU24RCLX : 93% of Input AC voltage (Cooling, Airflow[HIGH])
    81% of Input AC voltage (Heatling, Airflow[HIGH])
  - AUU36RCLX : 91% of Input AC voltage (Cooling, Airflow[HIGH])
    91% of Input AC voltage (Heatling, Airflow[HIGH])
  - AUU42RCLX : 98% of Input AC voltage (Cooling, Airflow[HIGH])
    98% of Input AC voltage (Heatling, Airflow[HIGH])

▶ **If the voltage is not correct, replace Controller PCB.**

Trouble shooting 11 **INDOOR UNIT Error Method:** **Outdoor Communication Signal Error (Forward Transfer Signal Error)**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 1 time blink** **ERROR CODE : E : 13**
Detective Actuators: Indoor Unit Controller PCB Circuit	**Detective details:** When the outdoor unit cannot receive the serial signal from Indoor unit more than 10seconds.

Forecast of Cause:

1. Connection failure 2. External cause 3. Controller PCB failure

Check Point 1-1 : Reset the power

- Does Error indication reappear?

NO

YES

Check Point 2 : Check Connection

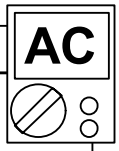
- Check any loose or removed connection line of Indoor unit and Outdoor unit.
  >> If there is an abnormal condition, correct it by referring to Installation Manual or Data & Technical Manual.
- Check connection between Indoor Unit Controller PCB and Filter PCB.
  (If there is loose connector or open cable)

Check Point 1-2:
Check external cause such as noise

- Check the complete insulation of the grounding.
- Check if there is any equipment that causes harmonic wave near the power cable (Neon light bulb or any electronic equipment which causes harmonic wave).

OK

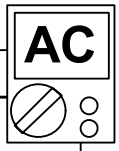
Check Point 3 : Check the voltage of power supply



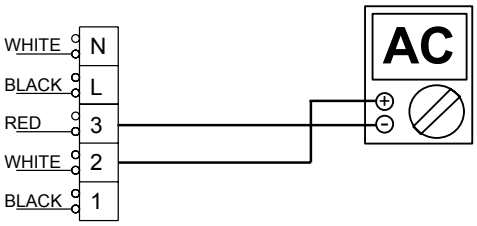
- Check the voltage of power supply
  >> Check if AC208 - 230V appears at Outdoor Unit Terminal L - N.

OK

Check Point 4 : Check Serial Signal (Forward Transfer Signal)



- Check Serial Signal (Forward Transfer Signal)
  >> Check if Indicated value swings between AC70V and AC130V at Outdoor Unit Terminal 2 - 3.
  >> If it is abnormal, Controller PCB is failure. >> Replace Controller PCB



Trouble shooting 12 **OUTDOOR UNIT Error Method:** **Compressor Temperature Sensor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 7 times blink** **ERROR CODE : E : 15**

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Compressor Temperature Thermistor	When Compressor Temperature Thermistor open or short-circuit is detected at power ON or while running the compressor.

Forecast of Cause :

1. Connector connection failure 2. Thermistor failure 3. Main PCB failure

Check Point 1 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Remove connector and check Thermistor resistance value

Thermistor Characteristics (Rough value)

Temperature	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	86°F (30°C)	104°F (40°C)	122°F (50°C)	140°F (60°C)
Resistance Value (kΩ)	176	135	105	81.8	64.5	41.1	26.9	18.1	12.5

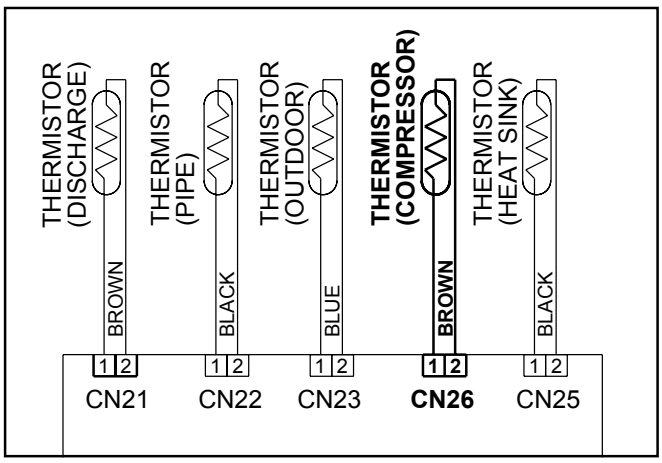
Temperature	158°F (70°C)	176°F (80°C)	194°F (90°C)	212°F (100°C)	248°F (120°C)	284°F (140°C)	320°F (160°C)	356°F (180°C)
Resistance Value (kΩ)	8.78	6.31	4.61	3.43	1.98	1.21	0.77	0.51

▶ **If Thermistor is either open or shorted, replace it and reset the power.**

OK

Check Point 3 : Check voltage of Main PCB (DC5.0V)

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)



▶ **If the voltage does not appear, replace Main PCB.**

Trouble shooting 13 **OUTDOOR UNIT Error Method:** **Pressure Switch Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 9 times blink** **ERROR CODE : E : 16**
Detective Actuators: Outdoor Unit Main PCB Circuit Pressure Switch	**Detective details:** When pressure switch open is detected in 10 seconds after the power is turned on.

Forecast of Cause :

1. Connector connection failure 2. Pressure Switch failure 3. Main PCB failure

Check Point 1 : Reset Power Supply and operate

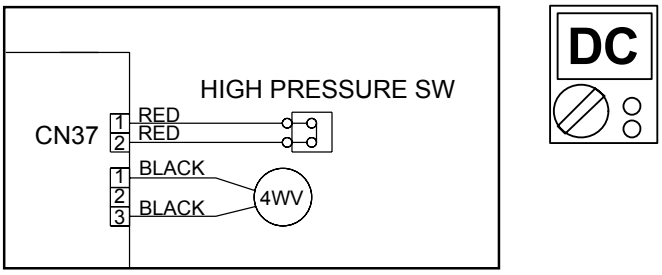
- Does abnormal LED indication show again?

NO

YES

Check Point 2 : Check voltage of Main PCB (DC5.0V)

- Make sure circuit diagram of outdoor unit and check terminal voltage at Pressure Switch. (DC5.0V)



▶ **If the voltage does not appear, replace Main PCB.**

OK

Check Point 3 : Check Pressure Switch

- Check if connector is loose or cable is open.
  >> If no abnormal connection is found, replace Pressure Switch.

▶ **After replacing Pressure Switch, check operating condition and pressure in operation.**

Trouble shooting 14 **OUTDOOR UNIT Error Method:** **IPM error (Permanent Stop)**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 12 times blink** **ERROR CODE : E : 17**

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Compressor	① When more than normal operating current to IPM in Main PCB flows, the compressor stops. ② After the compressor restarts, if the same operation is repeated within 40sec, the compressor stops again. ③ If ① and ② repeats 5 times, the compressor stops permanently.

Forecast of Cause :

1. Defective connection of electric components
2. Outdoor Fan Operation failure
3. Outdoor Heat Exchanger clogged
4. Compressor failure
5. Main PCB failure

Check Point 1 : Check connections of Outdoor Unit Electrical Components

- Check if the terminal connection is loose.
- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Check Outdoor Fan, Heat Exchanger

- Is there anything obstructing the air distribution circuit?
- Is there any clogging of Outdoor Heat Exchanger?
- Is the Fan rotating by hand when operation is off ?

>> If the Fan Motor is locked, replace it.

- Check Outdoor Fan Motor. (Refer to Trouble shooting 18)

>> If the Fan Motor is failure, replace it.

OK

Check Point 3 : Check Compressor

- Check Compressor. **(PARTS INFORMATION 2)**

OK

Check Point 4 : Replace Main PCB

▶ **If Check Point 1, 2, 3 do not improve the symptom, change Main PCB.**

Trouble shooting 15 **OUTDOOR UNIT Error Method:** CT error	**Indicate or Display:** Indoor Unit : No LED Outdoor Unit : No indication ERROR CODE : E : 18

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Outdoor Unit Filter PCB Circuit (Input current sensor unit)	When Input Current Sensor has detected lower than 0.5A while Inverter Compressor is operating at higher than 56Hz, after 1minute upon starting the Compressor. (Except during the defrost operation)

Forecast of Cause :

1. Defective connection of electric components 2. External cause 3. Filter PCB failure 4. Main PCB failure

Check Point 1-1 : Reset Power Supply and operate

- Does Error indication show again?

NO → **Check Point 1-2 :**
Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop : Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure : Check if there is a defective contact or leak current in the power supply circuit.
- Noise : Check if there is any equipment causing harmonic wave near electric line.(Neon bulb or electric equipment that may cause harmonic wave) Check the complete insulation of grounding.

YES ↓

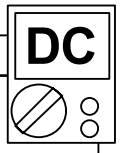
Check Point 2 :
Check connections of Outdoor Unit Electrical Components

- Check if the terminal connection is loose.
- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK ↓

Check Point 3 : Check Filter PCB and Main PCB



- Check DC voltage of CN1 (between 2 (Brown) and 3 (Red)) on Filter PCB.

>> After 40seconds upon starting the Compressor,
If it is higher than 0.2V, Main PCB is failure. (Filter PCB is normal) >> Replace Main PCB
>> If it is lower than 0.2V, Filter PCB is failure. >> Replace Filter PCB

▶ **If it does not improve the symptom, change Main PCB.**

Trouble shooting 16 **OUTDOOR UNIT Error Method:** **Active Filter Module (AFM) error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : No indication** **ERROR CODE : E : 19**

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Active Filter Module	When inverter input DC voltage is higher than 467V or lower than 237V. When a momentary power cut off occurred on low voltage.

Forecast of Cause :

1. External cause 2. Connector connection failure 3. Active Filter Module failure 4 . Main PCB failure

Check Point 1 : Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop : Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure : Check if there is a defective contact or leak current in the power supply circuit.
- Noise : Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave) Check the complete insulation of grounding.

OK

Check Point 2 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 3 : Check Active Filter Module

- Check Active Filter Module. **(PARTS INFORMATION 3)**

>>If Active Filter Module is abnormal, replace it.

OK

Check Point 4 : Replace Main PCB

▶ **If Check Point 1, 2 do not improve the symptom, change Main PCB.**

Trouble shooting 17 **OUTDOOR UNIT Error Method:** **Compressor rotor location cannot detect (Permanent Stop)**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 13 times blink** **ERROR CODE : E : 1A**
Detective Actuators: Outdoor Unit Main PCB Circuit	**Detective details:** ① While running the compressor, if the detected rotor location is out of phase with actual rotor location more than 90 degrees, the compressor stops. ② After the compressor restarts, if the same operation is repeated within 40sec, the compressor stops again. ③ If ① and ② repeats 5 times, the compressor stops permanently.

Forecast of Cause :

1. Defective connection of electric components 2. Main PCB failure

Check Point 1 : Check connection of around the Compressor components

For Compressor Terminal, Main PCB

- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.
  (Refer to PARTS INFORMATION 2)

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Replace Main PCB

▶ **If Check Point 1 do not improve the symptom, change Main PCB.**

Trouble shooting 18 **OUTDOOR UNIT Error Method:** **Outdoor Unit Fan Motor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 15 (Fan motor 1)/ 16(Fan motor 2) times blink** **ERROR CODE : E : 1b**

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Outdoor Fan Motor	① When outdoor fan rotation speed is less than 100rpm in 20 seconds after fan motor starts, fan motor stops. ② After fan motor restarts, if the same operation within 60sec is repeated 3 times in a row, compressor and fan motor stops. ③ If ① and ② repeats 5 times in a row, compressor and fan motor stops permanently.

Forecast of Cause:

1. Fan rotation failure 2. Motor protection by surrounding temperature rise 3. Main PCB failure

Check Point 1 : Check rotation of Fan

・Rotate the fan by hand when operation is off.
(Check if fan is caught, dropped off or locked motor)
>>If Fan or Bearing is abnormal, replace it.

OK

Check Point 2 : Check ambient temp. around motor

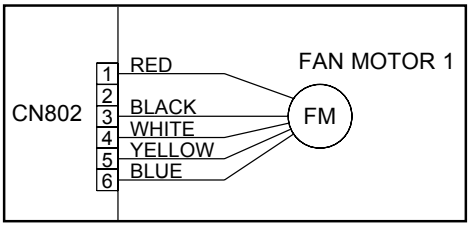
・Check excessively high temperature around the motor.
(If there is any surrounding equipment that causes heat)
>>Upon the temperature coming down, restart operation.

OK

Check Point 3 : Check Output Voltage of Main PCB

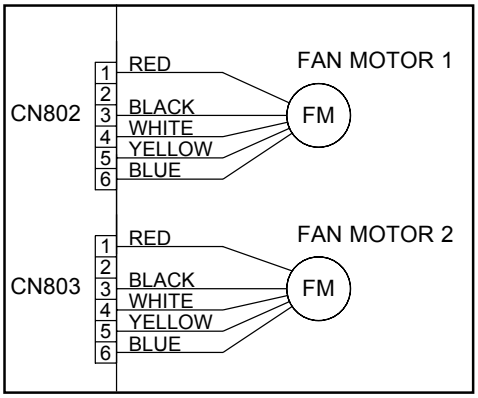
・Check outdoor unit circuit diagram and the voltage. (Measure at Main PCB side connector)

AUU18/ 24/ 36RCLX



Read wire	DC voltage
Red - Black	150～380V
White - Black	15±1.5V

AUU42RCLX



▶ **If the voltage is not correct, replace Main PCB.**

Trouble shooting 19 **OUTDOOR UNIT Error Method:** **Heat Sink Temperature Sensor Error**	**Indicate or Display:** **Indoor Unit : No LED** **Outdoor Unit : LED 8 times blink** **ERROR CODE : No indication**

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit Heat Sink Temperature Thermistor	When Heat Sink Temperature Thermistor open or short-circuit is detected at power ON or while running the compressor.

Forecast of Cause :

1. Connector connection failure 2.Thermistor failure 3. Main PCB failure

Check Point 1 : Check connection of Connector

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Remove connector and check Thermistor resistance value

Thermistor Characteristics (Approx. value)

Temperature	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	86°F (30°C)	104°F (40°C)	122°F (50°C)
Resistance Value (kΩ)	16.1	12.4	9.73	7.67	6.10	3.95	2.62	1.79

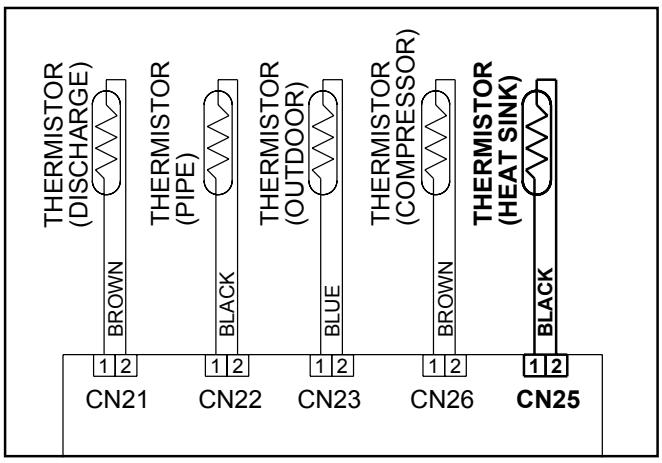
Temperature	140°F (60°C)	158°F (70°C)	176°F (80°C)	194°F (90°C)	212°F (100°C)	230°F (110°C)	248°F (120°C)
Resistance Value (kΩ)	1.25	0.89	0.65	0.48	0.36	0.27	0.21

▶ **If Thermistor is either open or shorted, replace it and reset the power.**

OK

Check Point 3 : Check voltage of Main PCB (DC5.0V)

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)



▶ **If the voltage does not appear, replace Main PCB.**

Trouble shooting 20 **OUTDOOR UNIT Error Method:** Compressor Start-up error (Permanent Stop)	**Indicate or Display:** Indoor Unit : No LED Outdoor Unit : LED 14 times blink ERROR CODE : No indication

Detective Actuators:	**Detective details:**
Outdoor Unit Main PCB Circuit	① On start-up the compressor, when detected rotor position is out of phase with actual rotor position more than 90 degrees,the compressor stops. ② After the compressor restarts, if the same operation is repeated within 40sec, the compressor stops again. ③ If ① and ② repeats 5 times, the compressor stops permanently.

Forecast of Cause :

1. Defective connection of electric components 2. Main PCB failure

Check Point 1 : Check connection of around the Compressor components

For Compressor Terminal, Main PCB

- Check if connector is removed.
- Check erroneous connection.
- Check if cable is open.
  (Refer to PARTS INFORMATION 2)

>>Upon correcting the removed connector or mis-wiring, reset the power.

OK

Check Point 2 : Replace Main PCB

▶ **If Check Point 1 do not improve the symptom, replace Main PCB.**

2-3 TROUBLE SHOOTING WITH NO ERROR CODE

Trouble shooting 21

Indoor Unit - No Power

Forecast of Cause:

1. Power Supply failure 2. External cause
3. Electrical Components defective

Check Point 1 : Check Installation Condition

- Isn't the breaker down?
- Check loose or removed connection cable.

>>If abnormal condition is found, correct it by referring to Installation Manual or Data & Technical Manual.

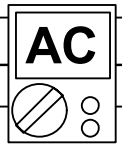
OK

Check Point 2 : Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop ----- Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure ----- Check if there is a defective contact or leak current in the power supply circuit.
- Noise ----- Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave) Check the complete insulation of grounding.

OK

Check Point 3 : Check Electrical Components



- Check Voltage of power supply.

>> Check AC208 - 230V appears at Indoor Unit Terminal 1 - 2 (Power Supply).

NO

YES

- Check Fuse (F101) in Filter PCB.

>> If Fuse is open, check if the wiring between Terminal and Filter PCB is loose, and replace Fuse.

- Check Varistor (VA101, VA102) in Filter PCB.

>> If Varistor is defective, there is a possibility of an abnormal power supply. Check the correct power supply and replace Varistor.

OK

▶ If the symptom does not change by above Check3, replace Filter PCB.

Trouble shooting 22

Outdoor Unit - No Power

Forecast of Cause:

1. Power Supply failure 2. External cause
3. Electrical Components defective

Check Point 1 : Check Installation Condition

- Isn't the breaker down?
- Check loose or removed connection cable.

>>If abnormal condition is found, correct it by referring to Installation Manual or Data & Technical Manual.

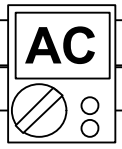
OK

Check Point 2 : Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop ----- Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure ----- Check if there is a defective contact or leak current in the power supply circuit.
- Noise ----- Check if there is any equipment causing harmonic wave near electric line.
  (Neon bulb or electric equipment that may cause harmonic wave)
  Check the complete insulation of grounding.

OK

Check Point 3 : Check Electrical Components



- Check the voltage of power supply.

>> Check if AC208 - 230V appears at Outdoor Unit Terminal L - N.

NO

YES

- Check Fuse (F2, F4) in Main PCB.

>> If Fuse is open, check loose terminal or removed connector (CN1) , and replace Fuse.

- Check Varistor in Main PCB (VA103).

>> If Varistor is defective, there is a possibility of an abnormal power supply. Check the correct power supply and replace Varistor. Upon checking the normal power supply, replace Varistor.

YES

- Check Active Filter Module. **(PARTS INFORMATION 3)**

>>If Active Filter Module is abnormal, replace it.

OK

▶ **If the symptom does not change by above Check 3, replace Main PCB.**

Trouble shooting 23

No Operation (Power is ON)

Forecast of Cause:

1. Setting/ Connection failure 2. External cause
3. Electrical Component defective

Check Point 1 : Check indoor and outdoor installation condition

- Indoor Unit - Check incorrect wiring between Indoor Unit - Remote Control, or terminals between Indoor Units. Or, check if there is an open cable connection.
- Are these Indoor Unit, Outdoor Unit, and Remote Control suitable model numbers to connect?

>> If there is some abnormal condition, correct it by referring to Installation manual and Data & Technical Manual.

OK

Turn off Power and check/ correct followings.

- Is there loose or removed communication line of Indoor Unit and Outdoor Unit?

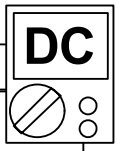
OK

Check Point 2 : Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop ----- Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure ----- Check if there is a defective contact or leak current in the power supply circuit.
- Noise ----- Check if there is any equipment causing harmonic wave near electric line.
  (Neon bulb or electric equipment that may cause harmonic wave)
  Check the complete insulation of grounding.

OK

Check Point 3 : Check Electrical Components at Indoor and Outdoor



- Check Voltage at CN17 of Controller PCB. (Power supply to Remote Control)

>> If it is DC12V, Remote Control is failure. (Controller PCB is normal) >> Replace Remote Control
>> If it is DC 0V, Controller PCB is failure. (Check Remote Control once again) >> Replace Controller PCB

>> If the symptom does not change by above Check 1, 2, 3, replace Main PCB of Outdoor unit.

Trouble shooting 24

No Cooling / No Heating

Forecast of Cause:

1. Indoor Unit error 2. Outdoor Unit error
3. Effect by Surrounding environment
4. Connection Pipe / Connection Wire failure 5. Refrigeration cycle failure

Check Point 1 : Check Indoor Unit

- Does Indoor Unit FAN run on HIGH FAN?
- Is Air Filter dirty?
- Is Heat Exchanger clogged?
- Check if Energy save function is operated.

OK

Check Point 2 : Check Outdoor Unit Operation

- Check if Outdoor Unit is operating
  (If not, refer to Trouble shooting 23)
- Check any objects that obstruct the air flow route.
- Check clogged Heat Exchanger.
- Is the Valve open?

OK

Check Point 3 : Check Site Condition

- Is capacity of Indoor Unit fitted to Room size?
- Any windows open? Or direct sunlight ?

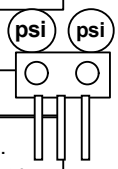
OK

Check Point 4 : Check Indoor/ Outdoor Installation Condition

- Check connection pipe
  (specified pipe length & Pipe diameter?)
- Check any loose or removed communication line.

>> If there is an abnormal condition, correct it by referring to Installation Manual or Data & Technical Manual.

OK



Check Point 5 : Check Refrigeration Cycle

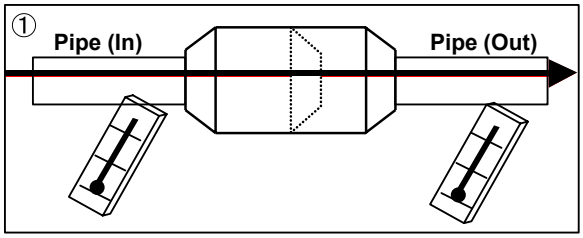
- Check if Strainer is clogged (Refer to the figure at right).
- Measure Gas Pressure and if there is a leakage, correct it.

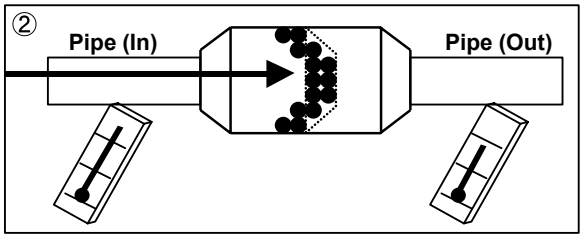
>> When recharging the refrigerant, make sure to perform vacuuming, and recharge the specified amount.

- Check EEV (PARTS INFORMATION 4)
- Check Compressor (PARTS INFORMATION 1,2)

Attention

Strainer normally does not have temperature difference between inlet and outlet as shown in ①, but if there is a difference like shown in ②, there is a possibility of inside clogged. In this case, replace Strainer.





Trouble shooting 25

Abnormal Noise

Forecast of Cause :

1. Abnormal installation (Indoor/ Outdoor) 2. Fan failure(Indoor/ Outdoor)
3. Compressor failure (Outdoor)

Diagnosis method when Abnormal Noise is occurred

- Abnormal noise is coming from Indoor Unit. (Check and correct followings)
  - Is Main Unit installed in stable condition?
  - Is the installation of Air suction grille and front panel normal?

  OK
  - Is Fan broken or deformed?
  - Is the screw of Fan loose?
  - Is there any object which obstruct the Fan rotation?

- Abnormal noise is coming from Outdoor Unit. (Check and correct followings)
  - Is Main Unit installed in stable condition?
  - Is Fan Guard installed normally?

  OK
  - Is Fan broken or deformed?
  - Is the screw of Fan loose?
  - Is there any object which obstruct the Fan rotation?

  OK
  - Check if vibration noise by loose bolt or contact noise of piping is happening.

  OK
  - Is Compressor locked?
    >> Check Compressor (PARTS INFORMATION 1,2)

Trouble shooting 26

Water Leaking

Forecast of Cause:

1. Erroneous installation 2. Drain hose failure 3. Float Switch failure

Diagnosis method when water leak occurs

- Is Main Unit installed in stable condition?
- Is Main Unit broken or deformed at the time of transportation or maintenance?

OK
- Is Drain Hose connection loose?
- Is there a trap in Drain Hose?
- Is Drain Hose clogged?

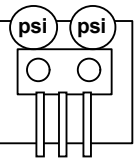
OK
- Is Fan rotating?
  >> Check Fan Motor (PARTS INFORMATION 5)

OK
- Is Float Switch defective?
  >> Check Float Switch (Refer to Trouble Shooting 6)

Diagnosis method when water is spitting out.

- Is the filter clogged?

OK
- Check Gas Pressure and correct it if there was a gas leak.



2-4 SERVICE PARTS INFORMATION

SERVICE PARTS INFORMATION 1

Compressor

Diagnosis method of Compressor (If Outdoor Unit LED displays Error, refer to Trouble shooting)

Does not start up

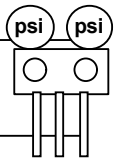
- Is there open or loose connection cable?
- Check Filter PCB, Main PCB, connection of Compressor,and winding resistance. (Refer to the next page).

>> If there is no failure, the defect of Compressor is considered (Locked compressor due to clogged dirt or less oil)

Replace Compressor

Stops soon after starting up

- Is there open or loose connection cable?
- Is Gas Pipe Valve open? (Low Pressure is too low)
- Check if Refrigerant is leaking. (Recharge Refrigerant)



- Check if Strainer is clogged. (PARTS INFORMATION 4)
- Check Filter PCB, Main PCB, connection of Compressor,and winding resistance. (Refer to the next page).

>> If there is no failure, the defect of Compressor can be considered. (Compression part broken or valve defective.)

Replace Compressor

Abnormal noise

- Check if vibration noise by loose bolt or contact noise of piping is happening.

▶Defective Compressor can be considered. (due to inside dirt clogging or broken component)

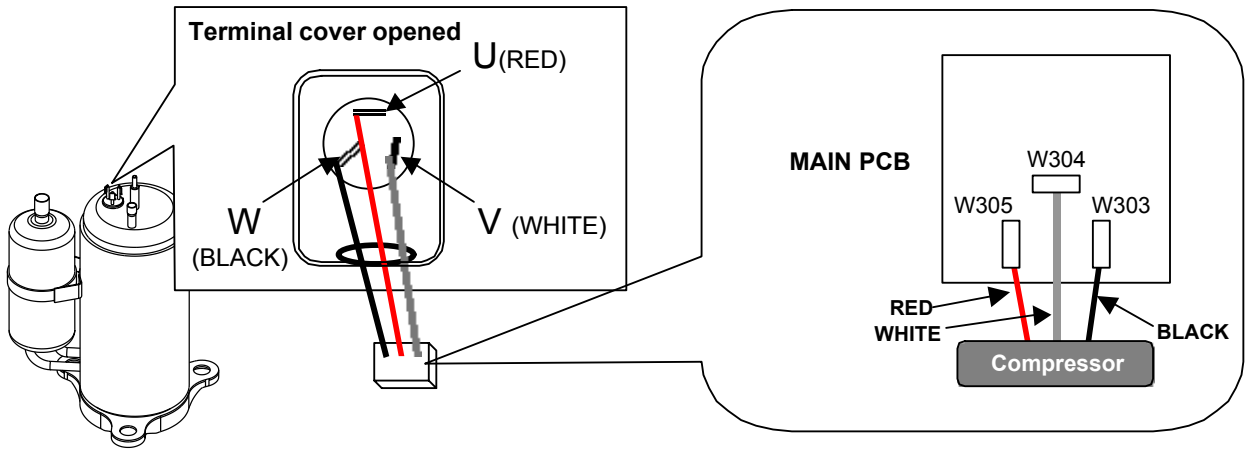
Replace Compressor

SERVICE PARTS INFORMATION 2

Inverter Compressor

Check Point 1 : Check Connection

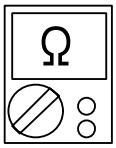
- Check terminal connection of Compressor (loose or incorrect wiring)
- Check connection of Main PCB (Loose or incorrect wiring)

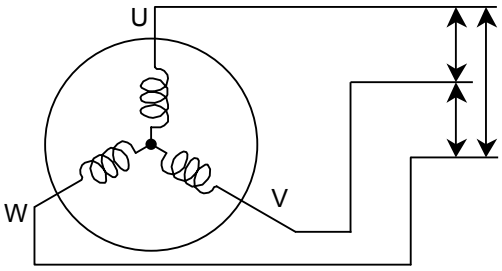


Check Point 2 : Check Winding Resistance

- Check winding resistance of each terminal

▶**If the resistance value is 0Ω or infinite, replace Compressor.**





Resistance Value :
0.88 Ω (For AUU18/ 24/ 36RCLX)
0.188 Ω (For AUU42RCLX)
at 68°F(20°C)

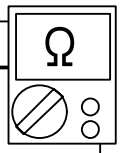
Check Point 3 : Replace Main PCB

▶**If the symptom does not change with above Check 1, 2, replace Main PCB.**

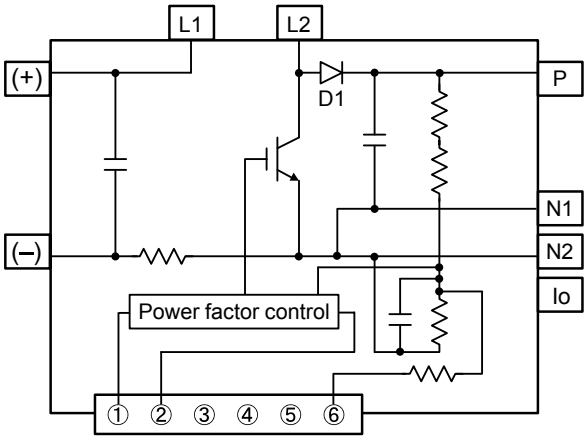
SERVICE PARTS INFORMATION 3

Active Filter Module

Check Point 1 : Check Open or Short-circuit and Diode (D1)



・Remove connector, check the open or short-circuit and the diode in the module



Check the open or short-circuit

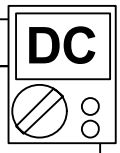
Terminal		Resistance value
Tester(+)	Tester(-)	
(+)	(–)	**360k**Ω
(–)	N1	**0**Ω
P	(+)	**720k**Ω
L1	L2	**5.4M**Ω (approx.)
P	N1	**360k**Ω
L1,L2	Control Box	**∞** Ω
L2	N2	**5.8M**Ω(approx.)

Check the diode

Terminal		Resistance value
Tester(+)	Tester(-)	
L2	P	**5.3M**Ω (approx.)
P	L2	**5.4M**Ω (approx.)

▶**If it is abnormal,replace ACTIVE FILTER MODULE**

Check Point 2 : Check the Output DC voltage (between P and N1)



・Check the Output DC voltage (between P and N1) of compressor stopping and operating.

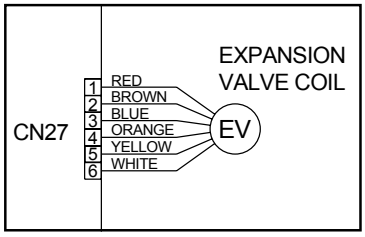
>> If the output voltage of compressor operating is less than the output voltage of compressor stopping, Active Filter Module is detective. >> **Replace Active Filter Module**

SERVICE PARTS INFORMATION 4

Outdoor unit Electronic Expansion Valve
(EEV)

Check Point 1 : Check Connections

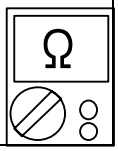
· Check connection of connector (CN27)
(Loose connector or open cable)



Check Point 2 : Check Coil of EEV

· Remove connector, check each winding resistance of Coil.

Read wire	Resistance value
White - Red	**46** Ω ± **4** Ω at 68°F(20°C)
Yellow - Brown	
Orange - Red	
Blue - Brown	

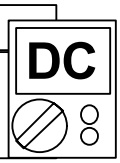


▶ **If Resistance value is abnormal, replace EEV.**

Check Point 3 : Check Voltage from Main PCB.

· Remove Connector and check Voltage (DC12V)

▶ **If it does not appear, replace Main PCB.**



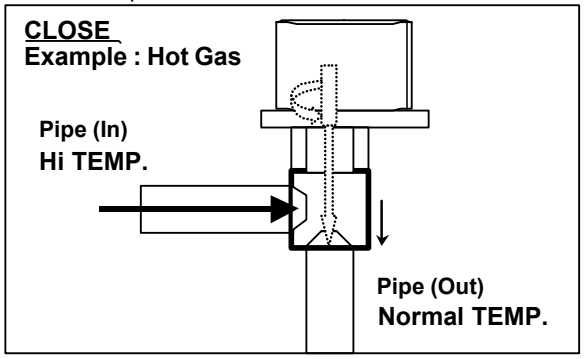
Check Point 4 : Check Noise at start up

· Turn on Power and check operation noise.

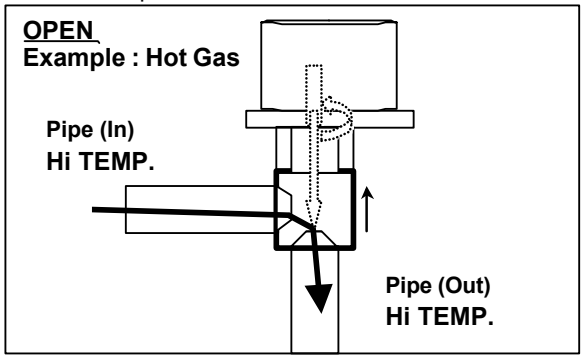
▶ **If an abnormal noise does not show, replace Main PCB.**

Check Point 5 : Check Opening and Closing Operation of Valve

When Valve is closed,
it has a temp. difference between Inlet and Outlet.

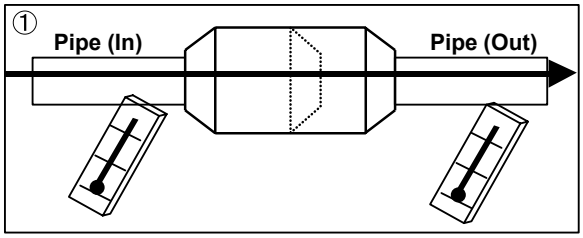


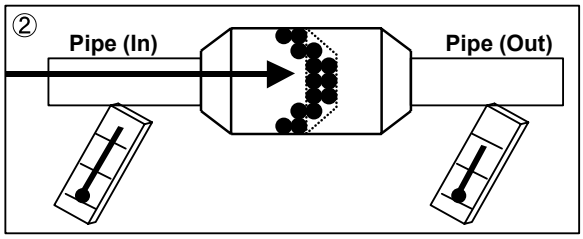
If it is open,
it has no temp. difference between Inlet and Outlet.



Check Point 6 : Check Strainer

Strainer normally does not have temperature difference between inlet and outlet as shown in ① ,
but if there is a difference as shown in ② , there is a possibility of inside clogged. In this case, replace Strainer.

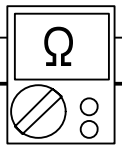




SERVICE PARTS INFORMATION 5

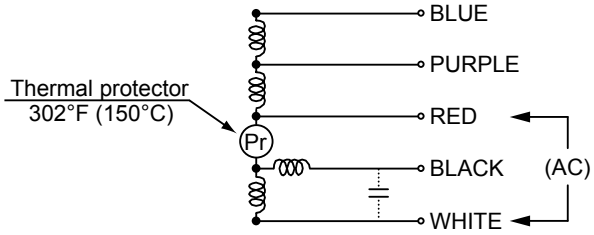
Indoor Unit Fan Motor

Check Point : AUU18/ 24RCLX



· Check each winding resistance of the motor

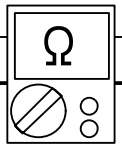
▶ **If Resistance value is abnormal, replace motor.**



Read Wire	Resistance value
White - Red	**120** Ω ±**8%**
Red - Black	**55.3** Ω ±**8%**
Red - Purple	**61.2** Ω ±**8%**
Red - Purple	**283** Ω ±**8%**

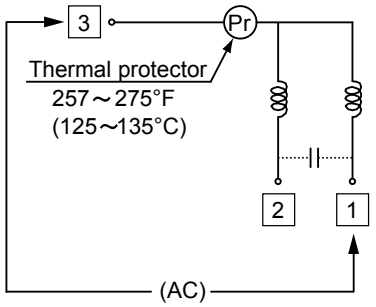
at 68°F(20°C)

Check Point : AUU36/ 42RCLX



· Check each winding resistance of the motor

▶ **If Resistance value is abnormal, replace motor.**



The connector inserting numbers	Resistance value
1 – 3	**44.5** Ω ±**10%**
2 – 3	**40.5** Ω ±**10%**

at 68°F(20°C)

Refrigerant
R410A

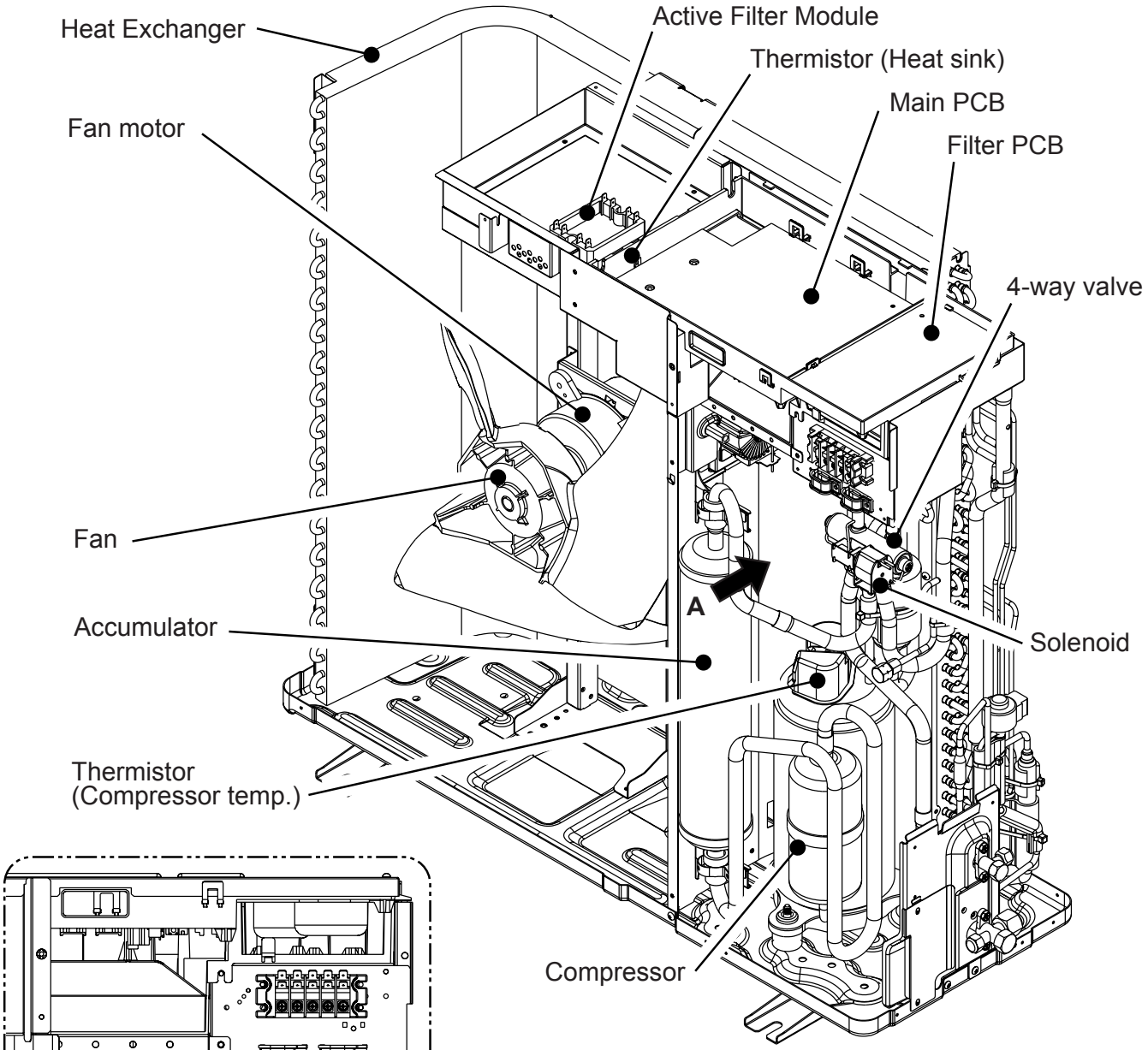
CASSETTE type
INVERTER

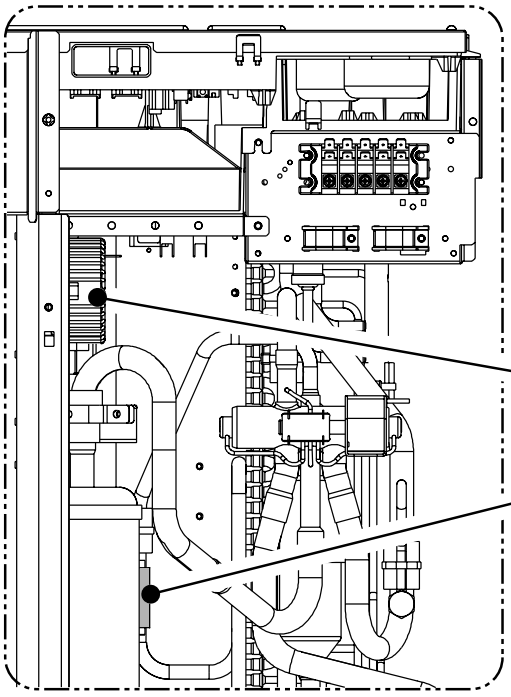
3 . REPLACEMENT PARTS

1. REPLACEMENT PARTS (For OUTDOOR UNIT)

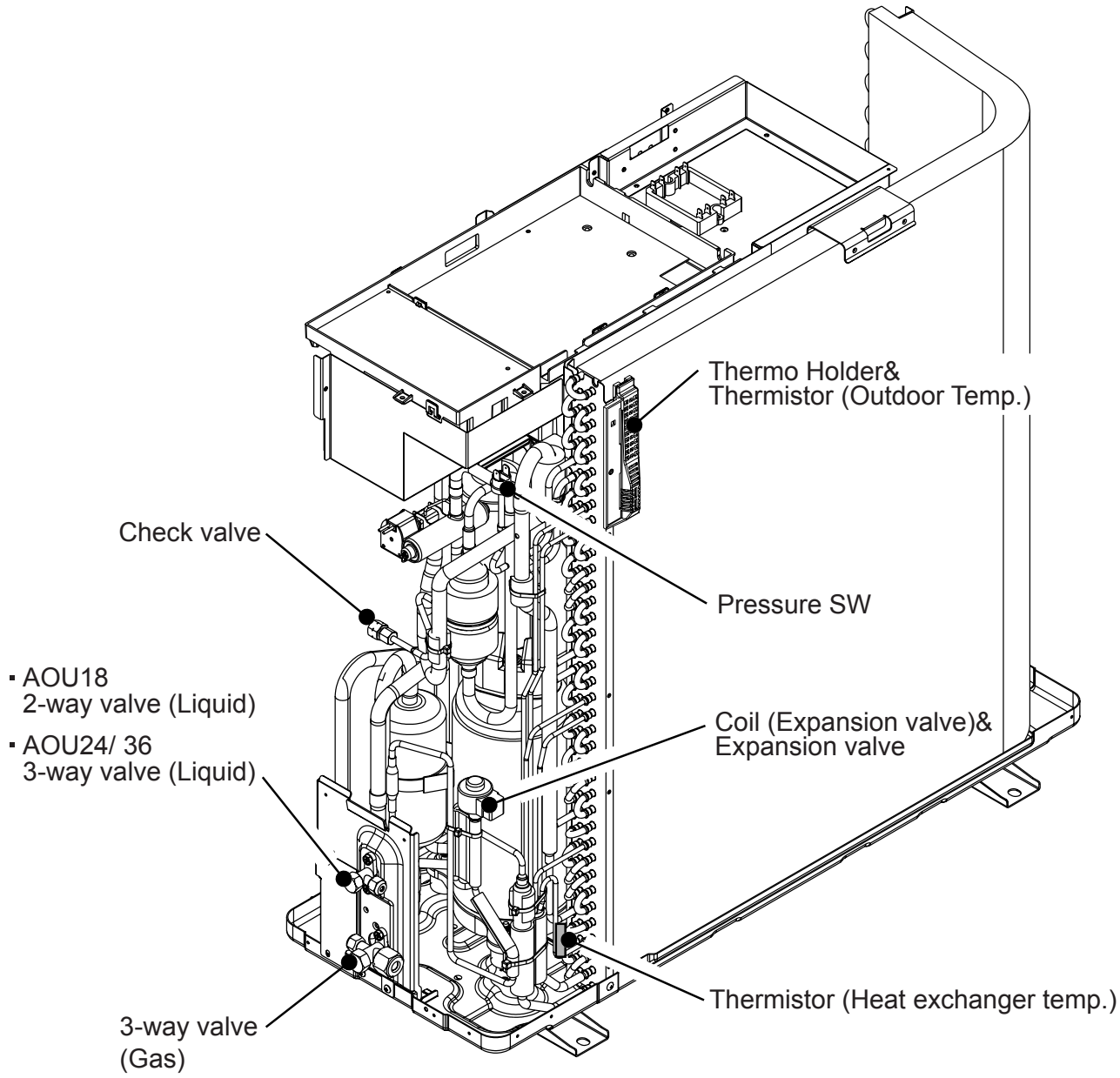
1-1 For AOU18/ 24/ 36RLX

1-1-1 PARTS LAYOUT DRAWING

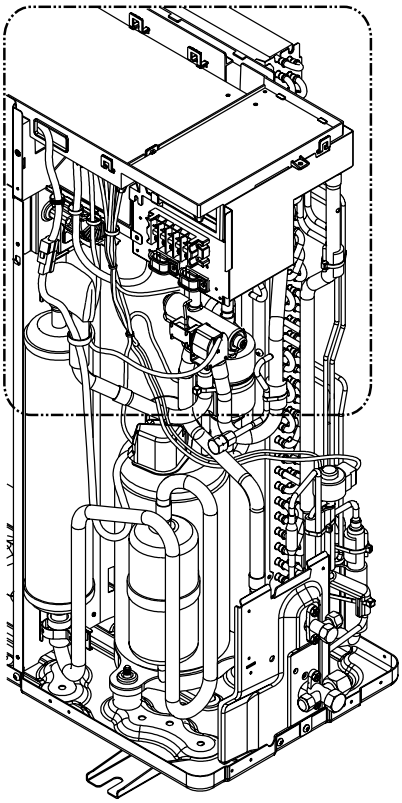


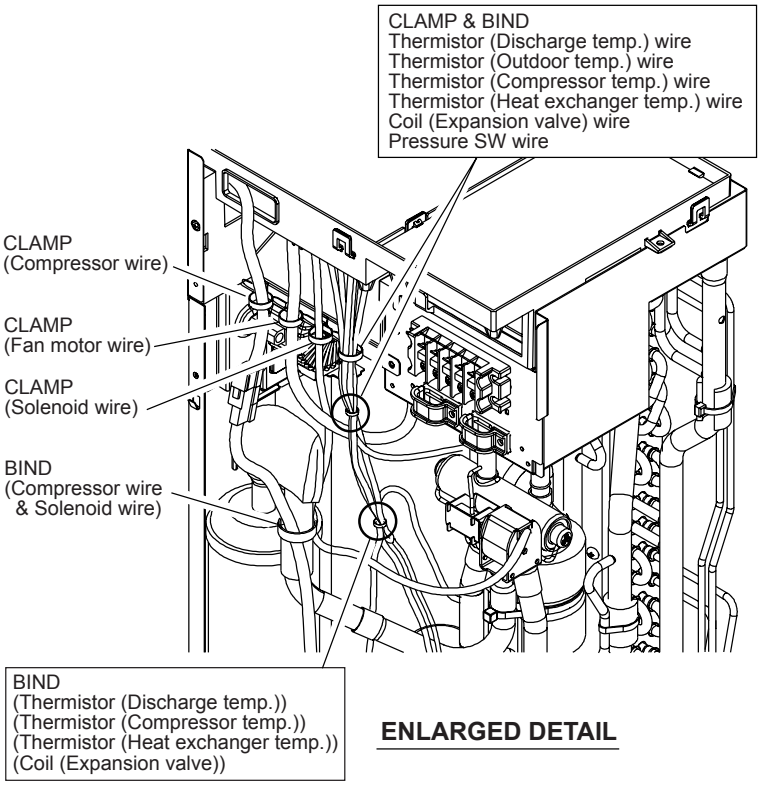


VIEW - A

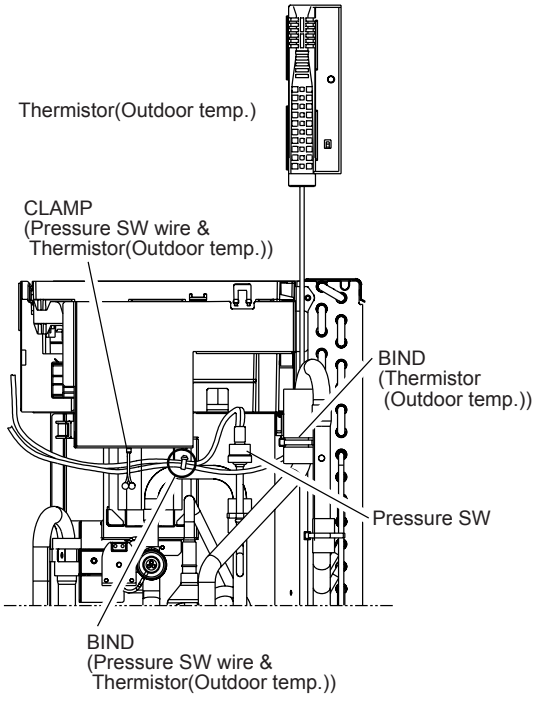

Thermo Holder&
Thermistor (Outdoor Temp.)
Check valve
Pressure SW
▪ AOU18
2-way valve (Liquid)
▪ AOU24/ 36
3-way valve (Liquid)
Coil (Expansion valve)&
Expansion valve
Thermistor (Heat exchanger temp.)
3-way valve
(Gas)

1-1-2 WIRING (For AOU18/ 24/ 36RLX)

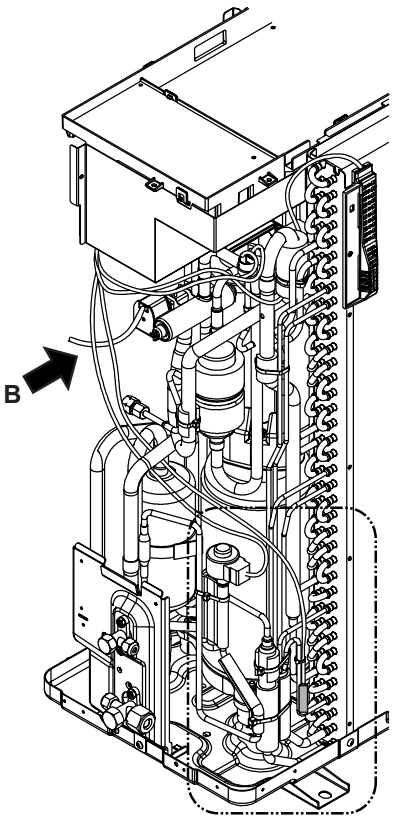


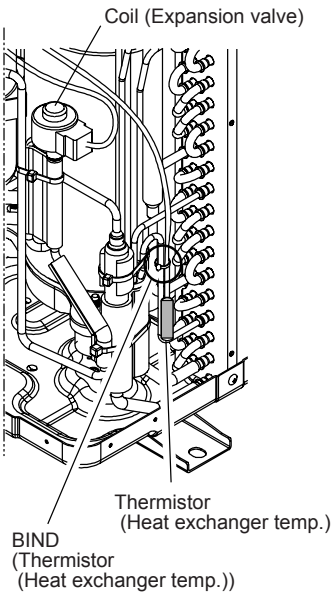


ENLARGED DETAIL



VIEW - B



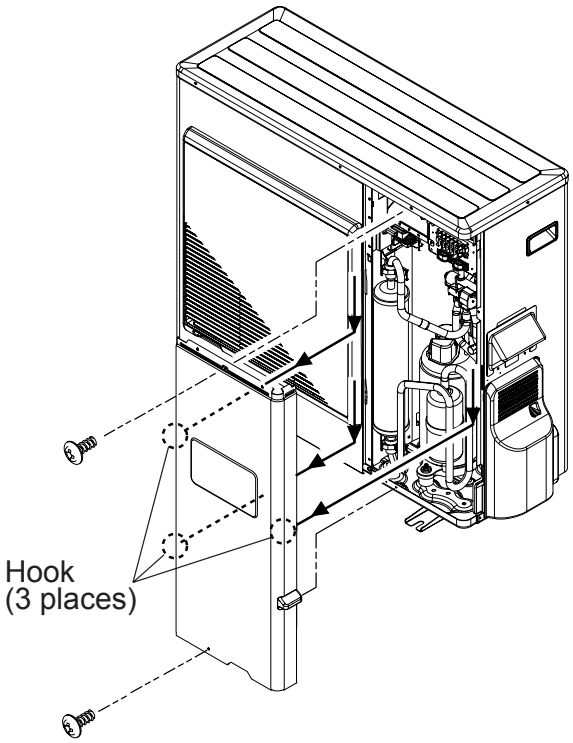


ENLARGED DETAIL

1-1-3 DISASSEMBLY PROCESS (For AOU18/ 24/ 36RLX)

1. SERVICE PANEL removal

- Remove the 2 mounting screws.
- Remove the SERVICE PANEL by sliding downward.

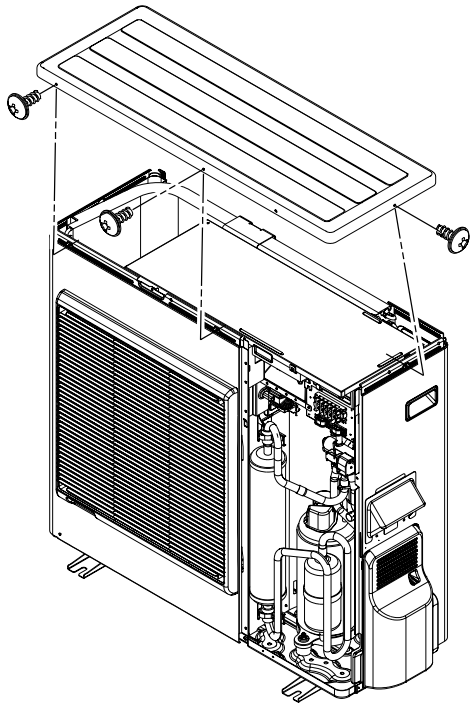


Replaceable Component

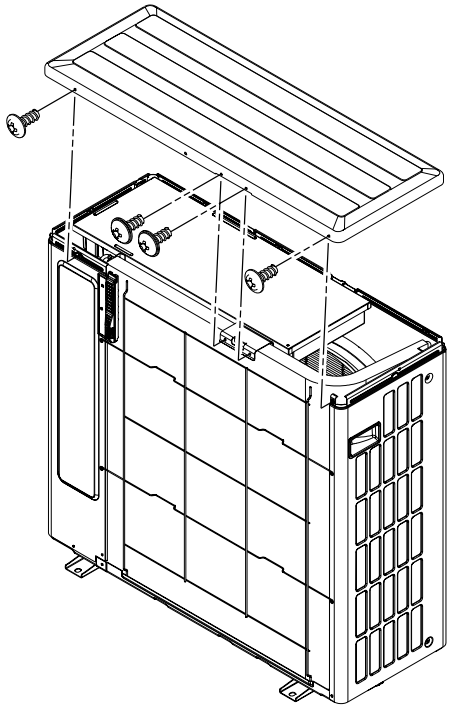
Compressor
Accumulator
4-way valve
Solenoid
Thermistor (Compressor temp.)
Thermistor (Discharge temp.)
Thermistor (Outdoor temp.)
Thermistor (Heat exchanger temp.)
Pressure SW
Coil (Expansion valve)

2. TOP PANEL removal

- Remove the 7 mounting screws.
- Remove the TOP PANEL upward.



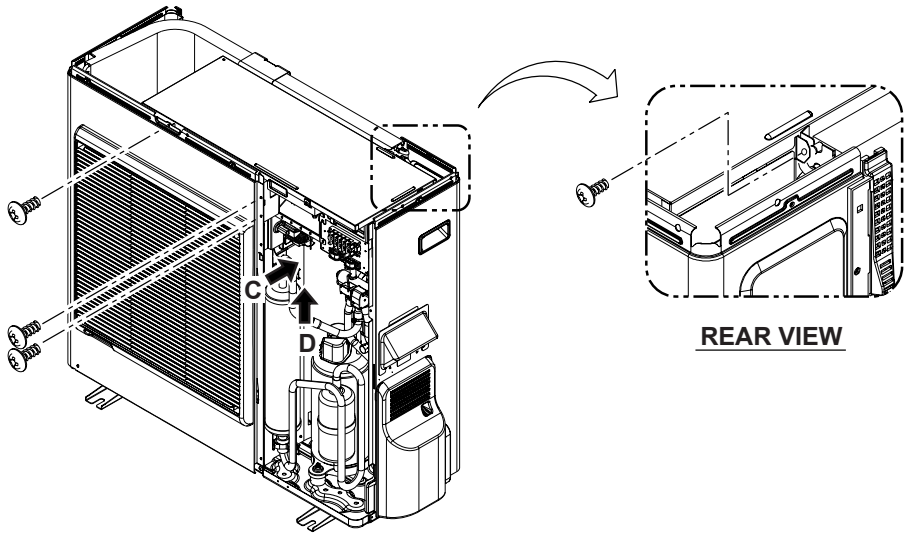
FRONT VIEW



REAR VIEW

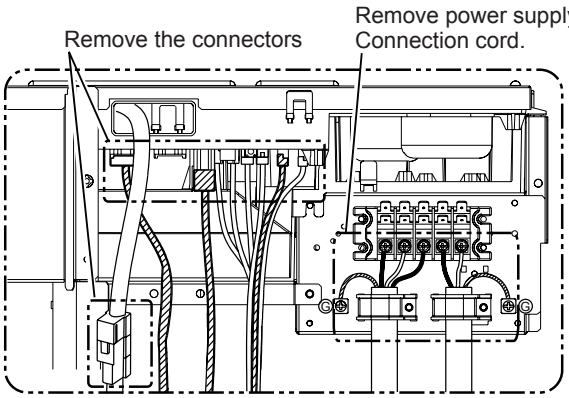
3. INVERTER BOX removal

- Remove the 4 mounting screws.
- Remove the connectors and cords. (Refer to VIEW -C,-D)
- Remove the INVERTER BOX upward.

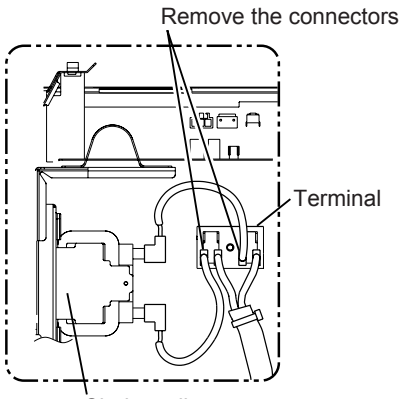


FRONT VIEW

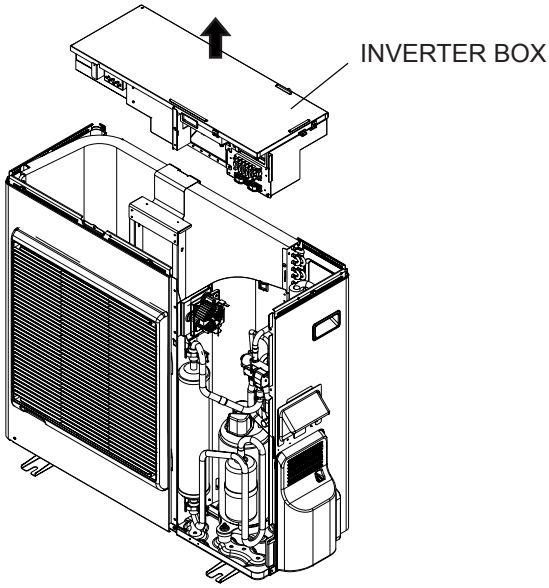
REAR VIEW



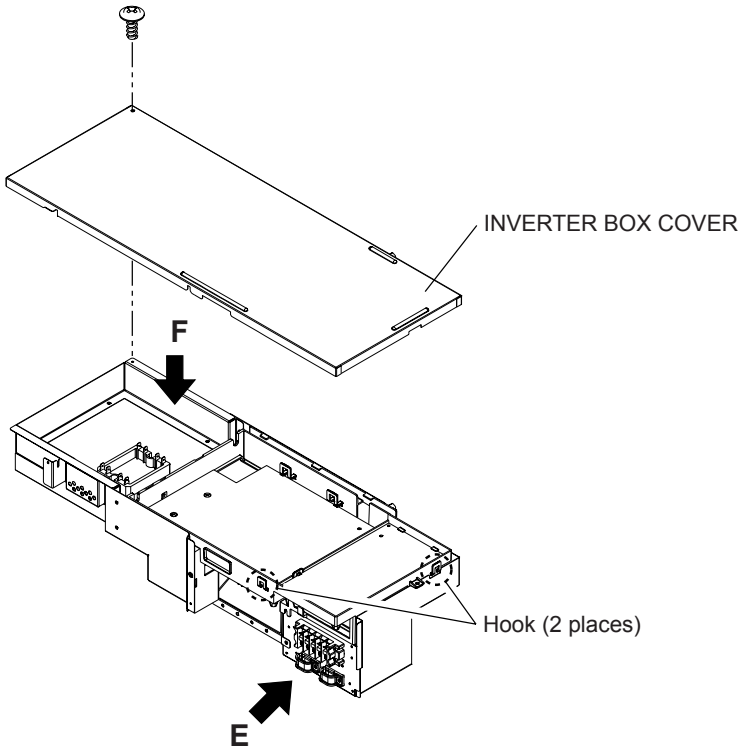
VIEW - C



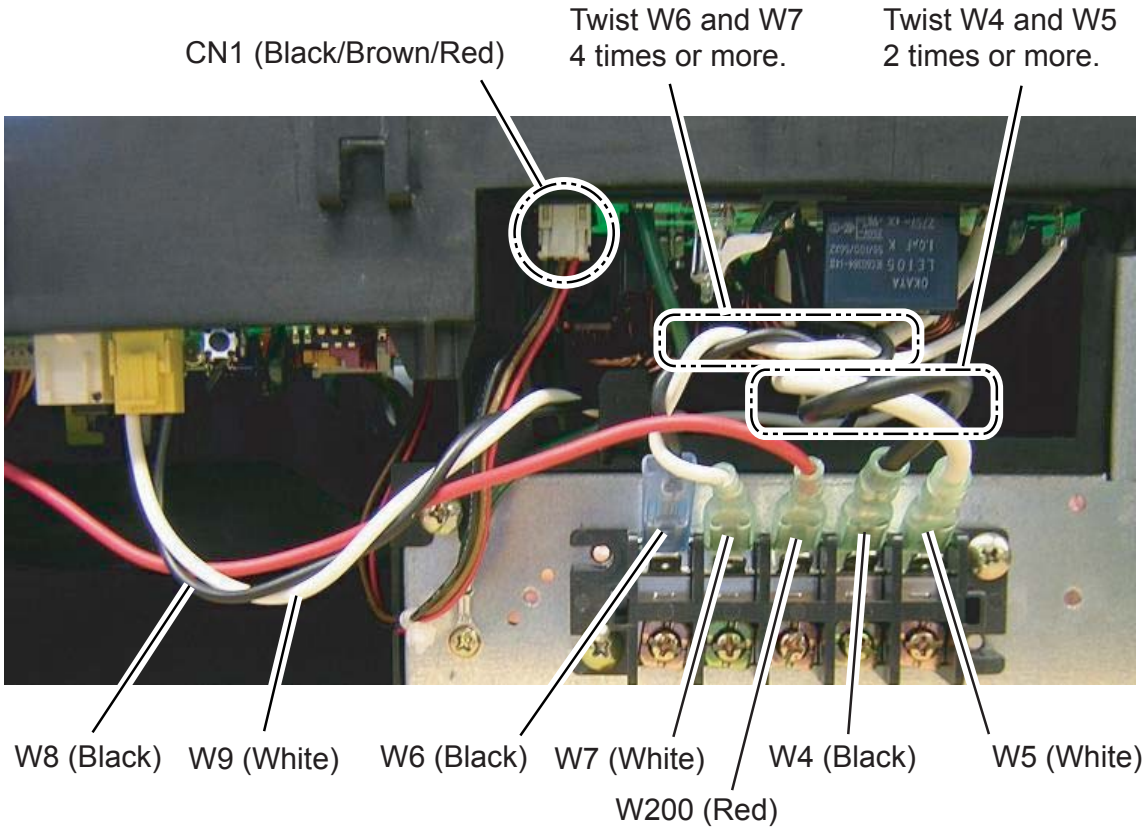
VIEW - D



- Remove the 1 mounting screw.
- Remove the INVERTER BOX COVER upward.

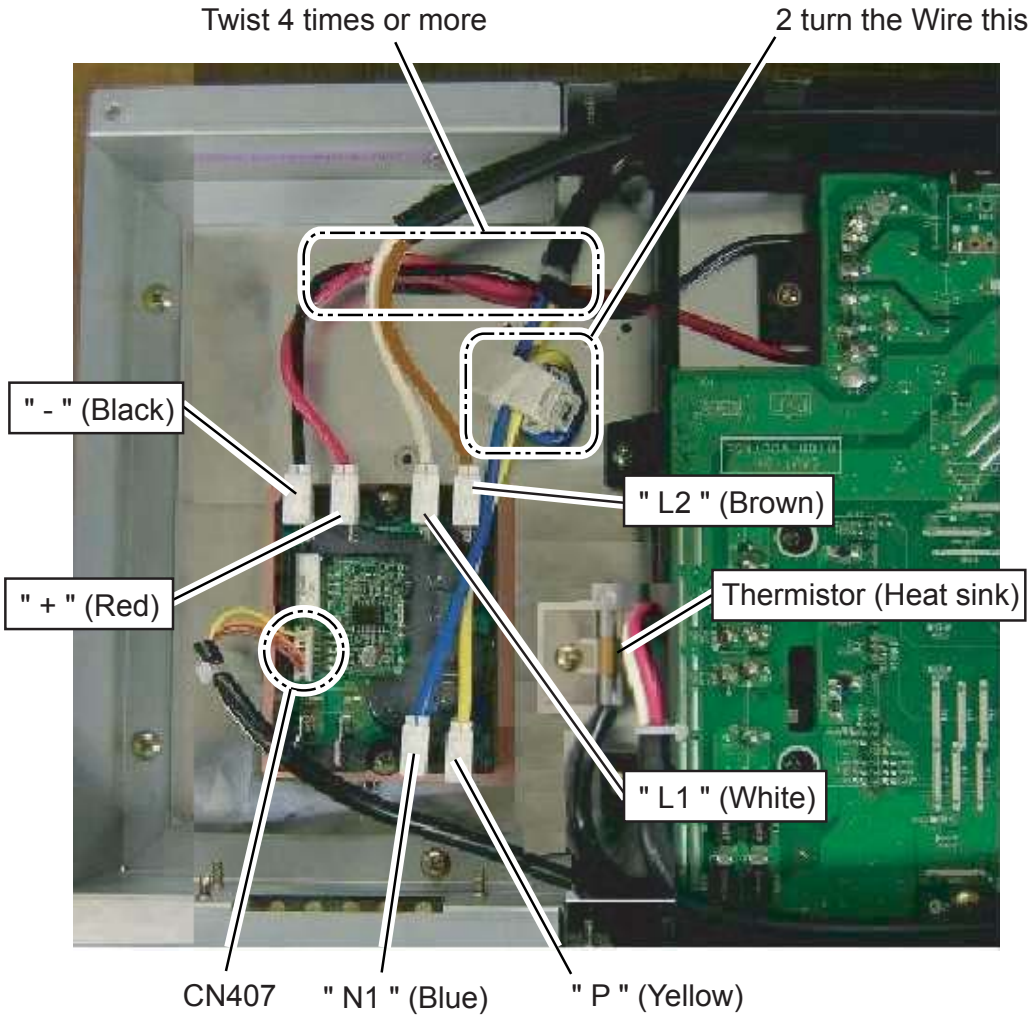


- Remove the connector and cords.

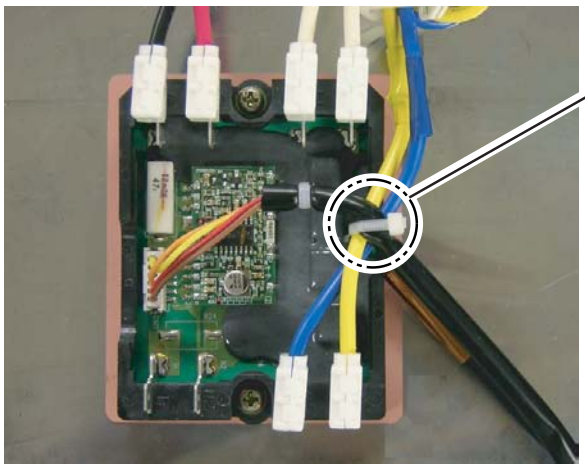


VIEW - E

▪ Remove the connector and cords.

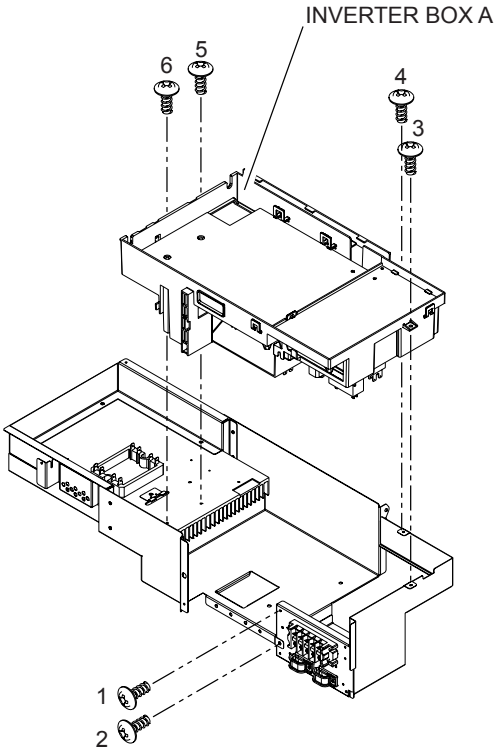


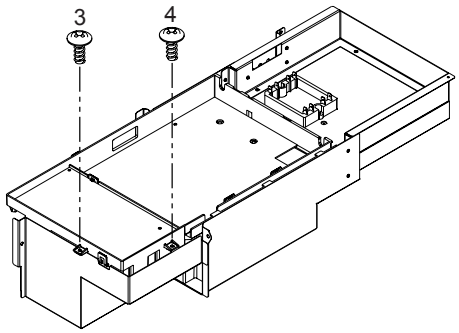
VIEW - F



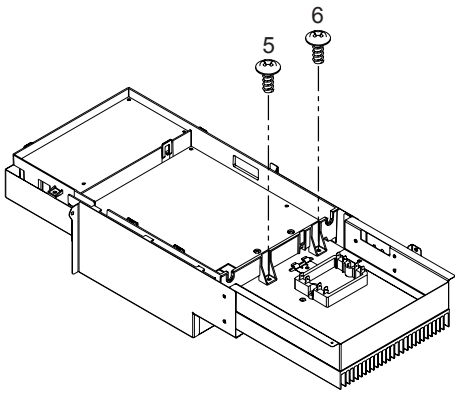
DETAIL

- Remove the 6 mounting screws.
- Remove the INVERTER BOX A upward.





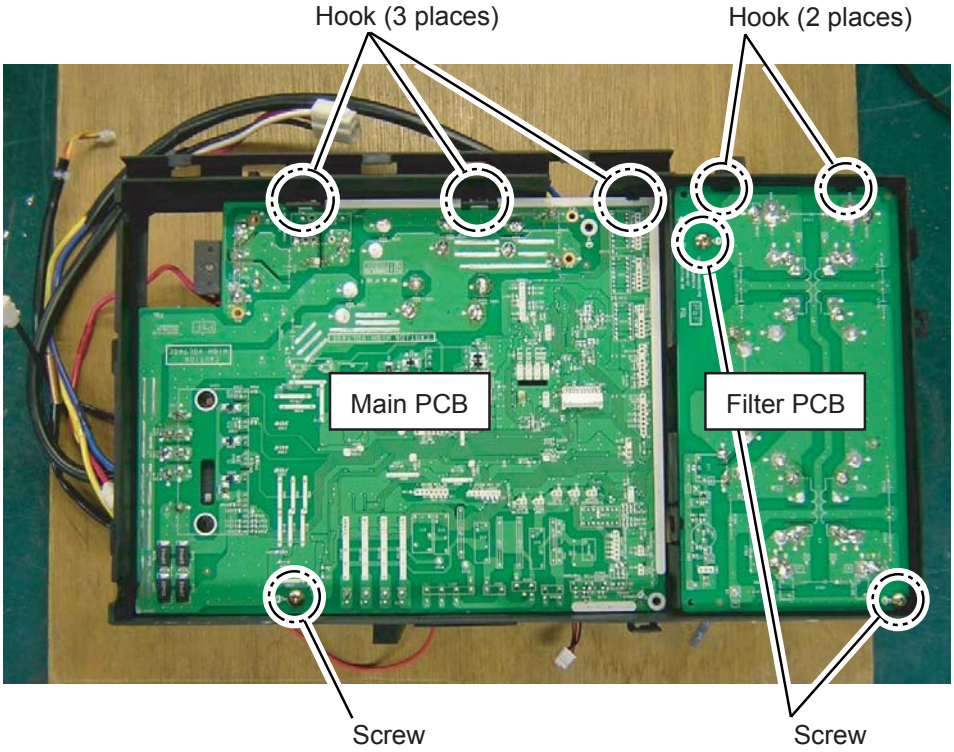
REAR VIEW



LEFT SIDE VIEW

Main PCB
- Remove the 1 mounting screw.
- Remove the Main PCB upward.

Filter PCB
- Remove the 2 mounting screws.
- Remove the Filter PCB upward.



1-1-4 ASSEMBLY PROCESS of INVERTER UNIT (For AOU18/ 24/ 36RLX)

1. FILTER PCB

- As shown in Fig.1, assemble FILTER PCB to INVERTER BOX A.
- As shown in Fig.2, pull out the wires of FILTER PCB.

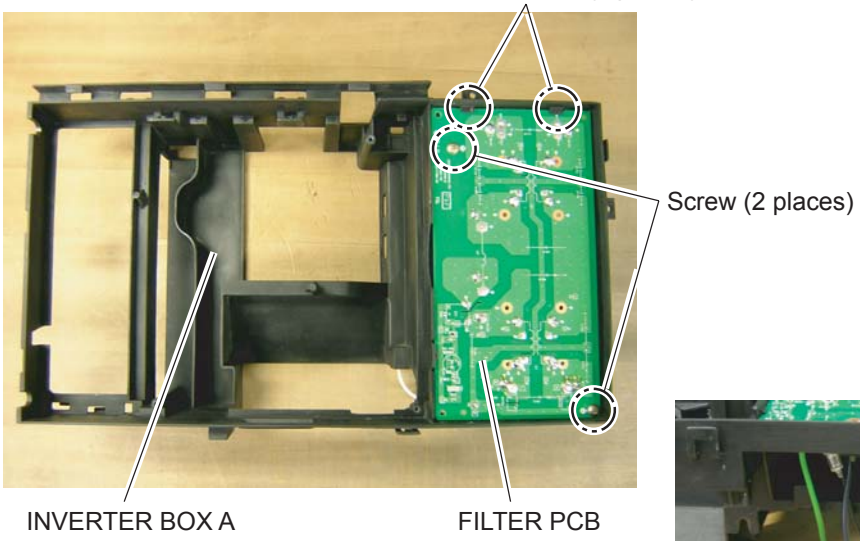


Fig.1

Fig.2

2. MAIN PCB

- As shown in Fig.3, temporarily fix MAIN PCB to INVERTER BOX A.
- After it is temporary fix of MAIN PCB, As shown in the Fig 4 - 7, pull out the wires of MAIN PCB.

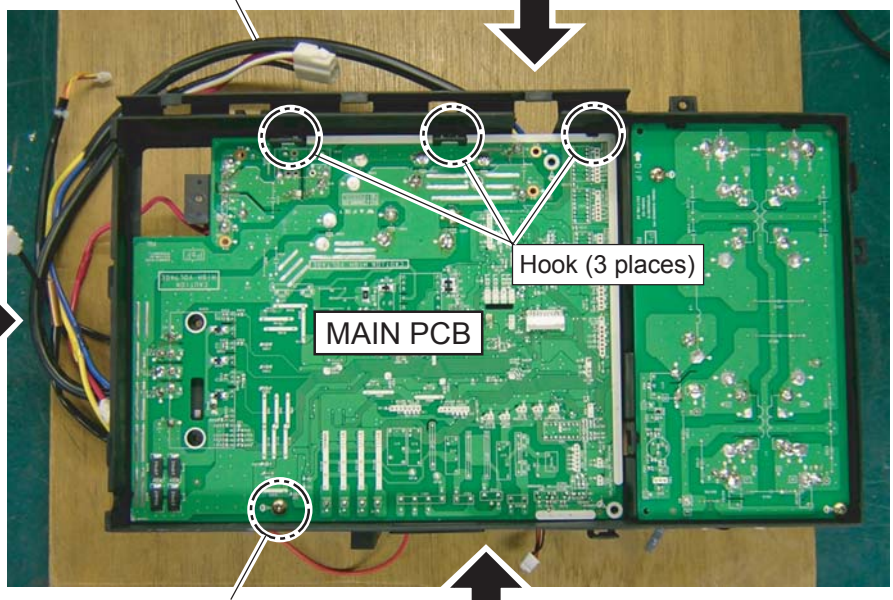


Fig.3

▪ As shown in Fig.4, pull out the wires.

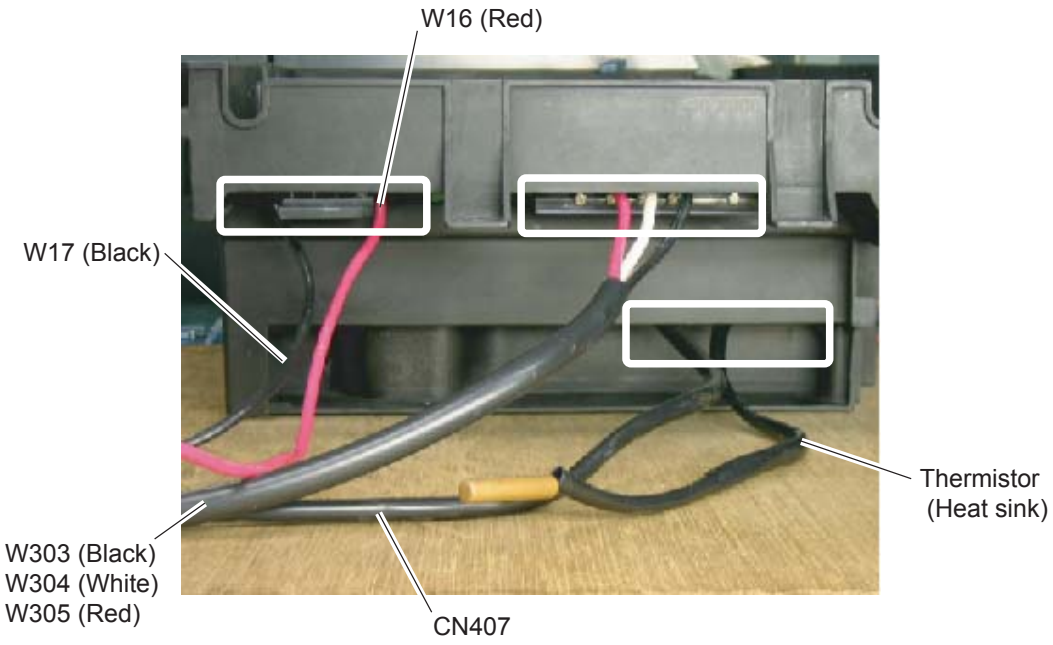


Fig. 4

▪ As shown in Fig.5, pull out the wires and fix them.

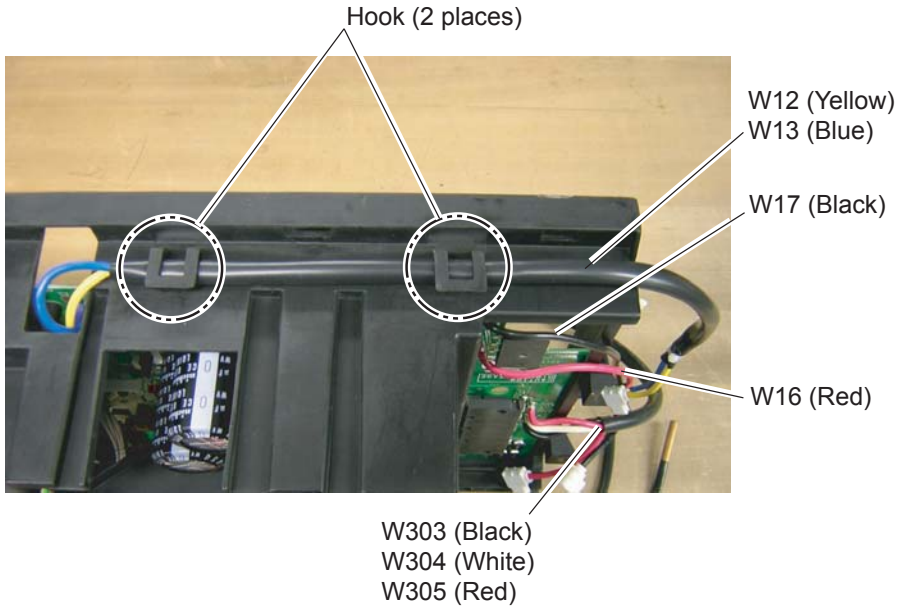


Fig. 5

▪ As shown in Fig.6, pull out the wires.

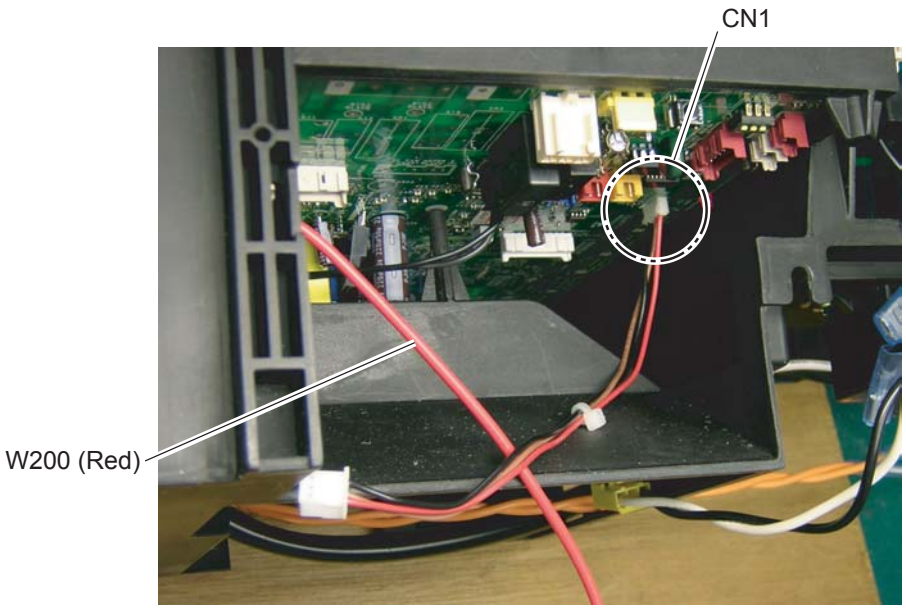


Fig. 6

▪ As shown in Fig.7, pull out the wires.

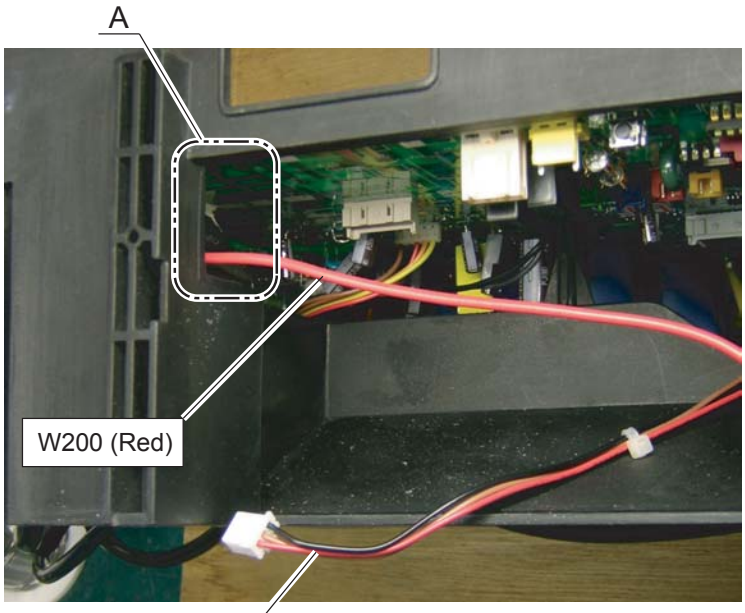
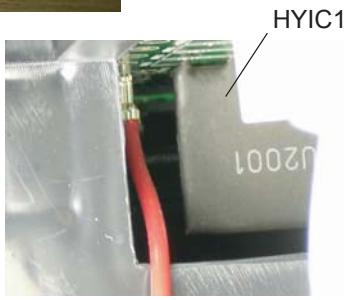


Fig. 7



Don't come in contact with HYIC1.

DETAIL - A

▪ For AOU18/ 24RLX

▪ As shown in Fig.8, connect wires.

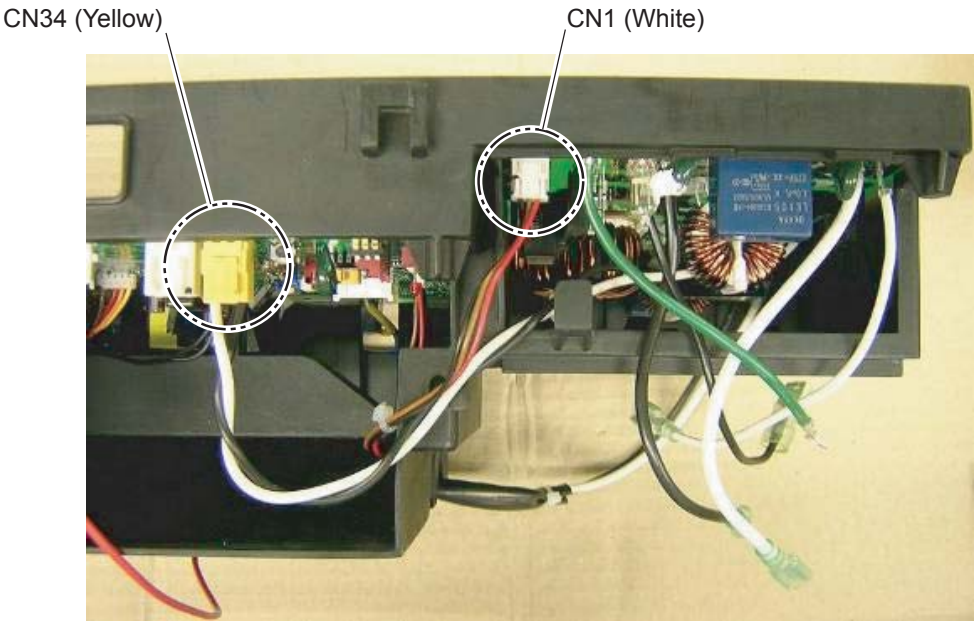


Fig. 8

▪ As shown in Fig.9, connect wires.

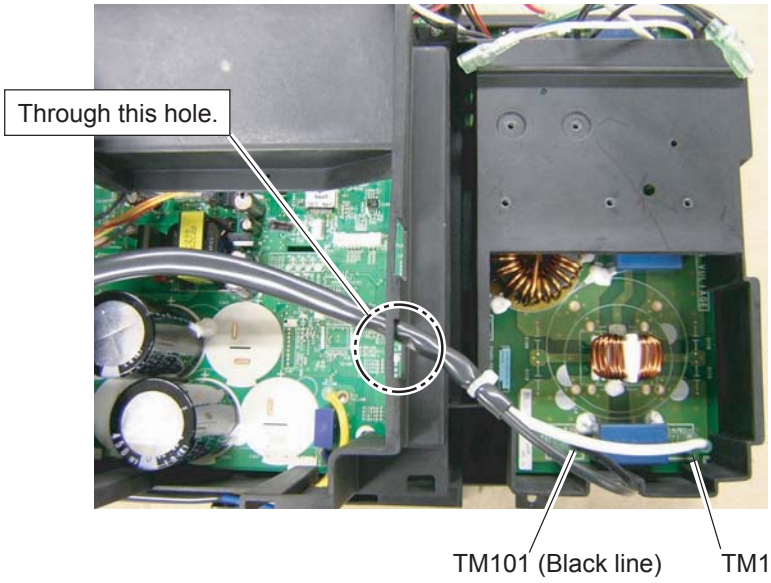


Fig. 9

▪ For AOU36RLX

▪ As shown in Fig.8, connect wires.

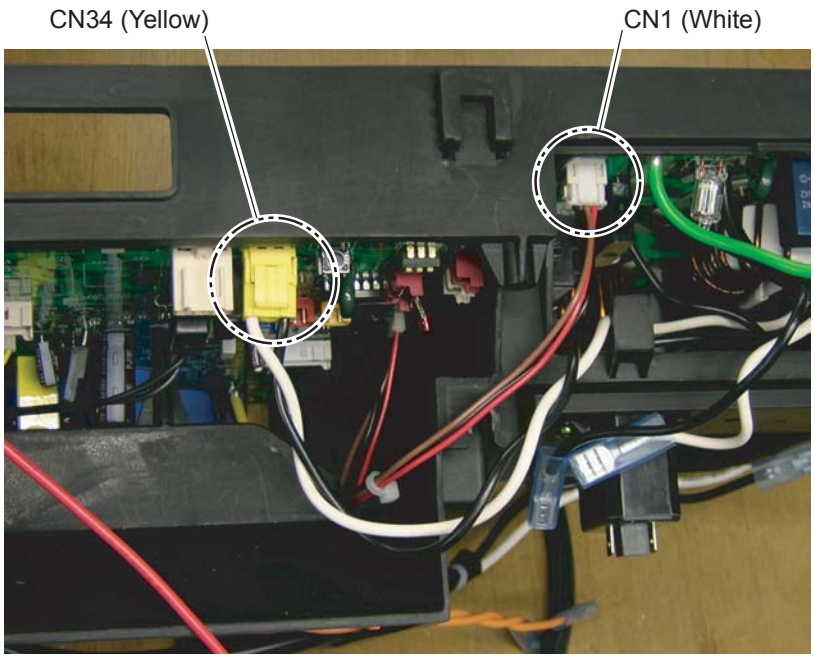


Fig. 8

▪ As shown in Fig.9, connect wires.

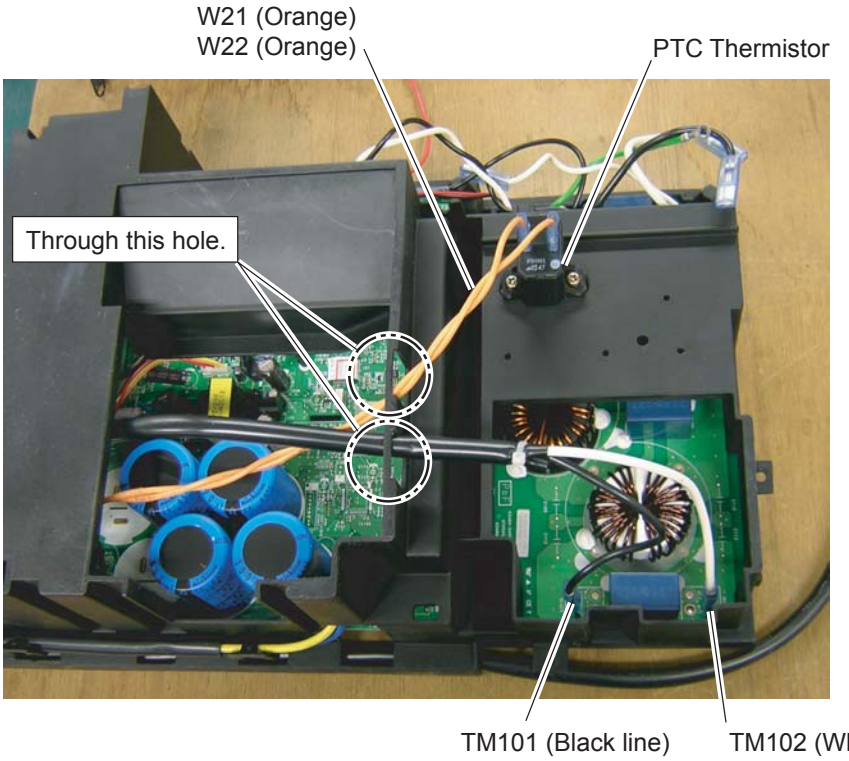


Fig. 9

▪ As shown in Fig.10, fix the wire to INVERTER BOX A.

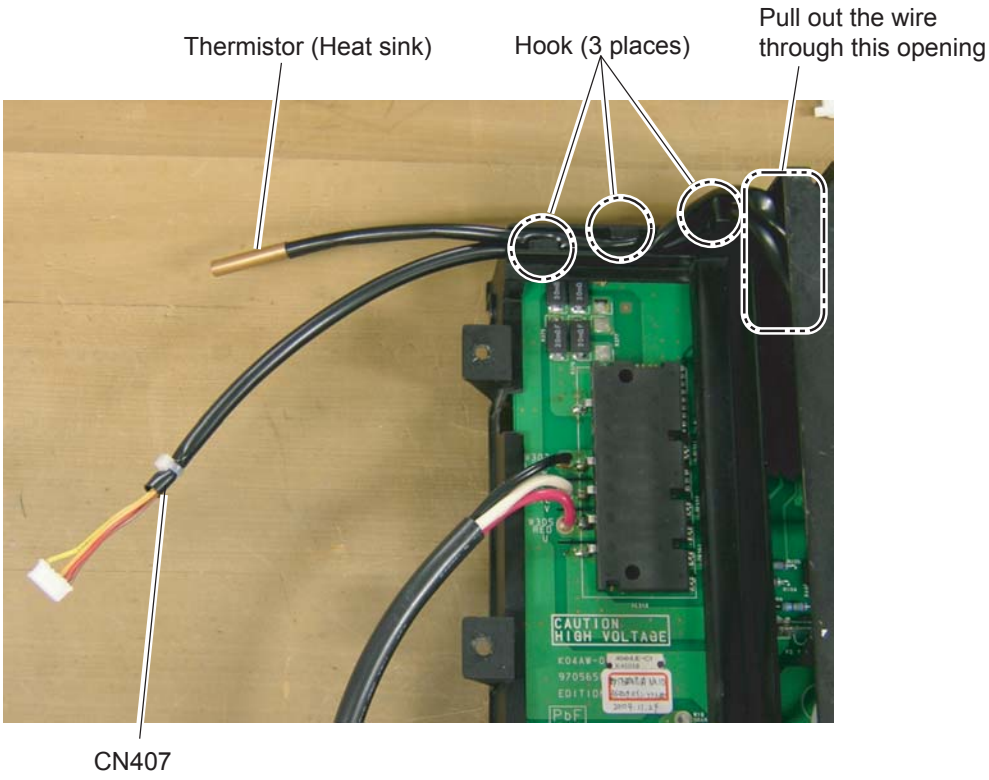


Fig. 10

▪ As shown in the figures, set wire with connector and bind it to INVERTER BOX A.

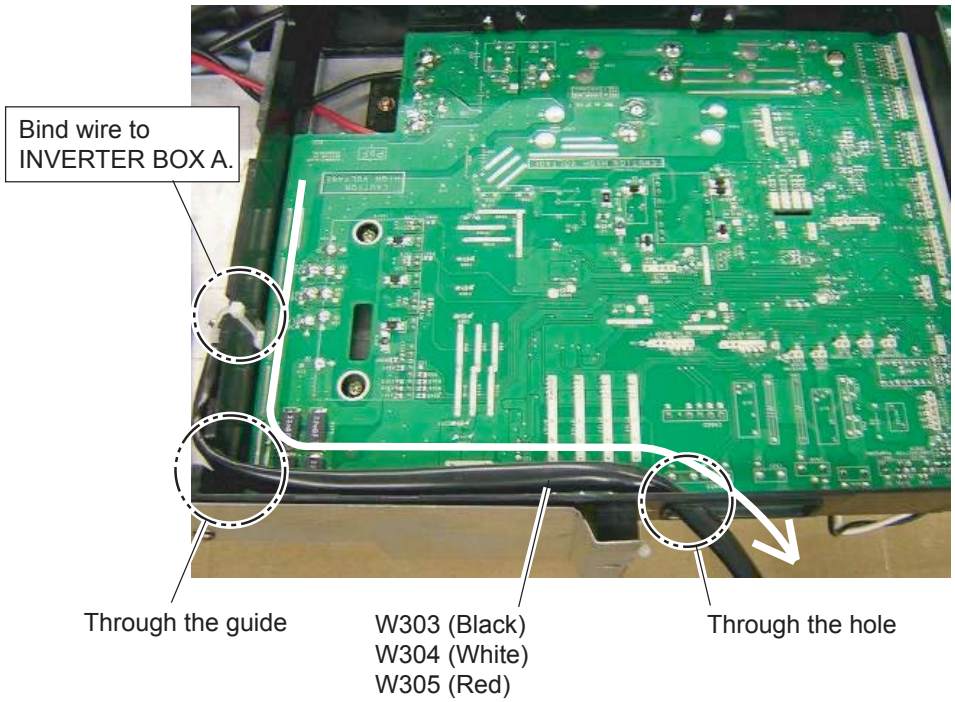
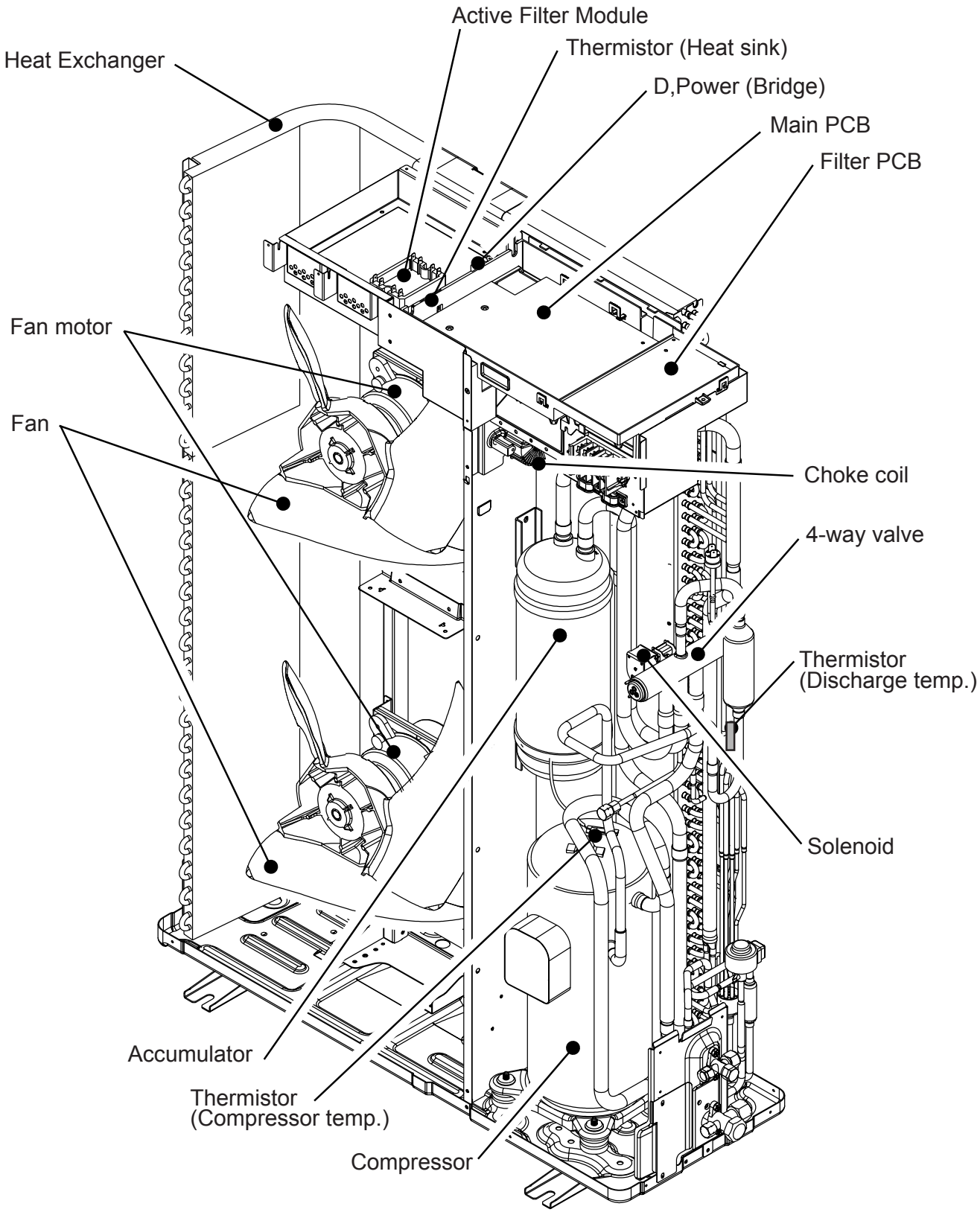
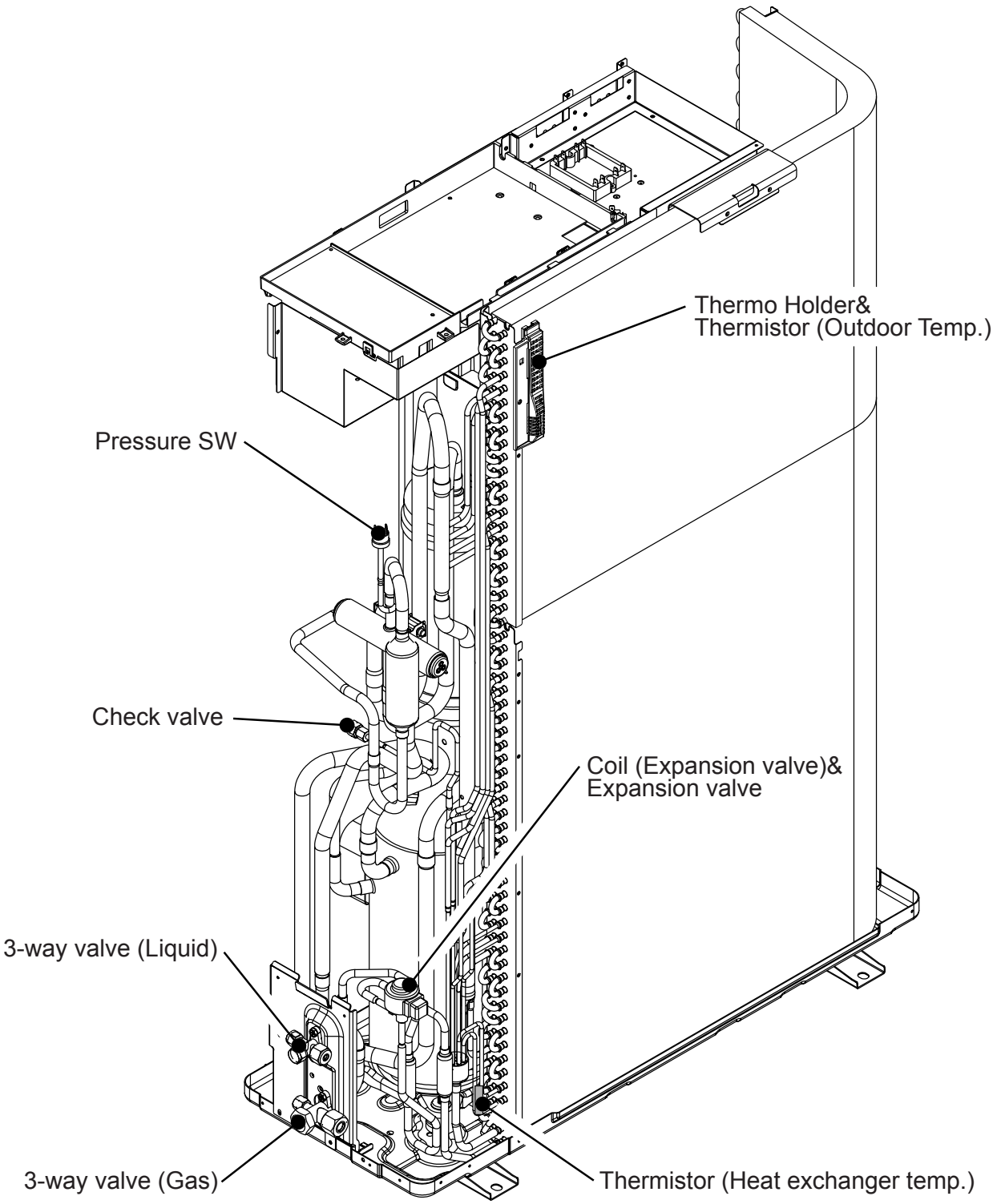


Fig. 11

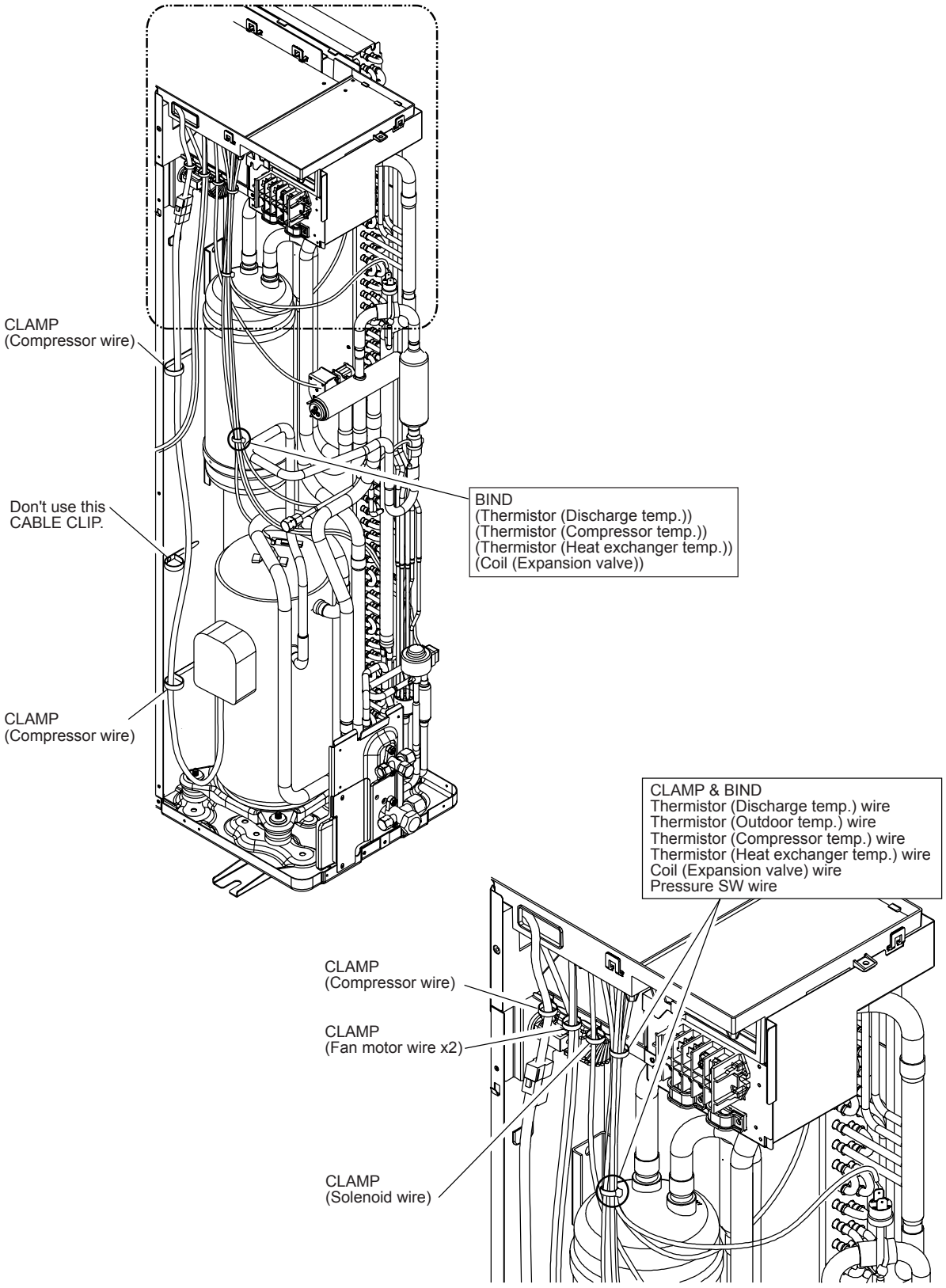
1-2 For AOU42RLX

1-2-1 PARTS LAYOUT DRAWING

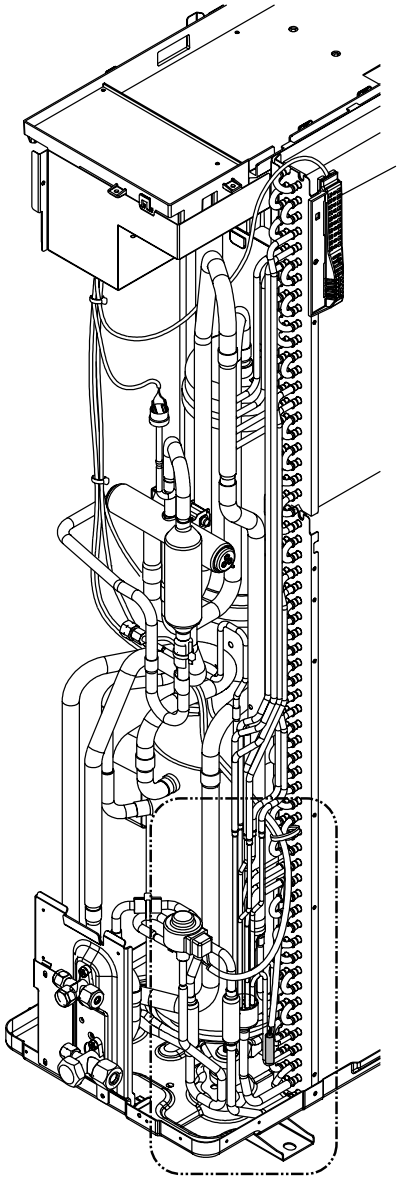


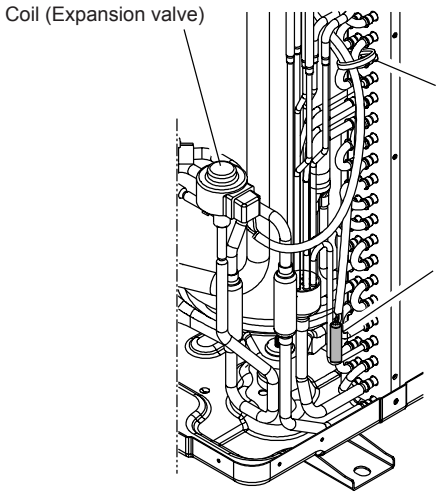

Thermo Holder&
Thermistor (Outdoor Temp.)
Pressure SW
Check valve
Coil (Expansion valve)&
Expansion valve
3-way valve (Liquid)
3-way valve (Gas)
Thermistor (Heat exchanger temp.)

1-2-2 WIRING (For AOU42RLX)



ENLARGED DETAIL



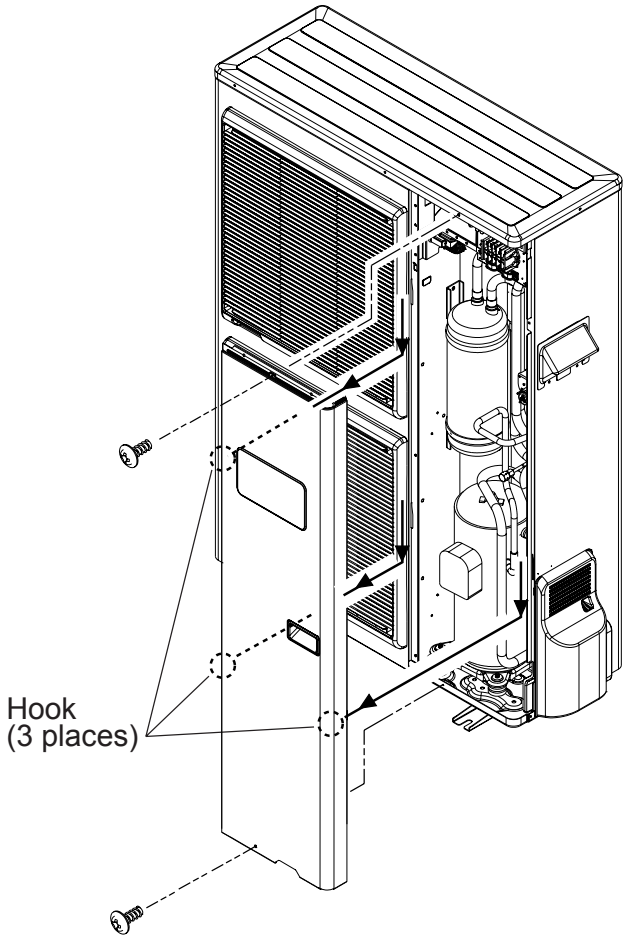


ENLARGED DETAIL

1-2-3 DISASSEMBLY PROCESS (AOU42RLX)

1. SERVICE PANEL removal

- Remove the 2 mounting screws.
- Remove the SERVICE PANEL by sliding downward.

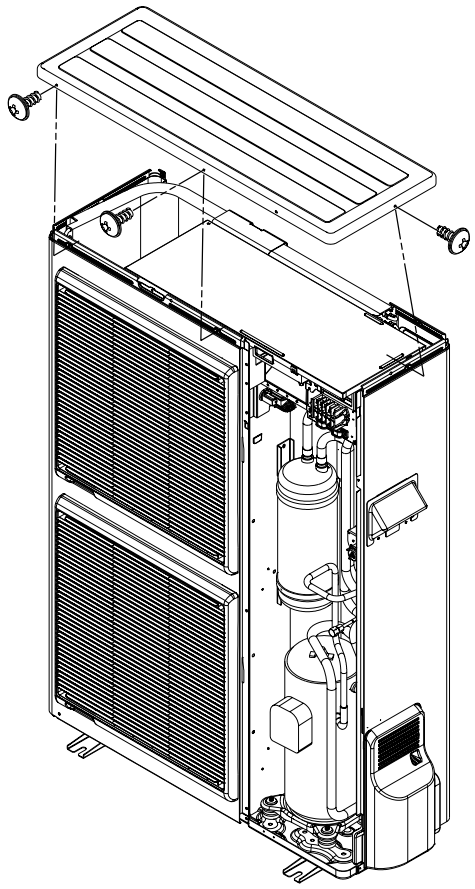


Replaceable Component

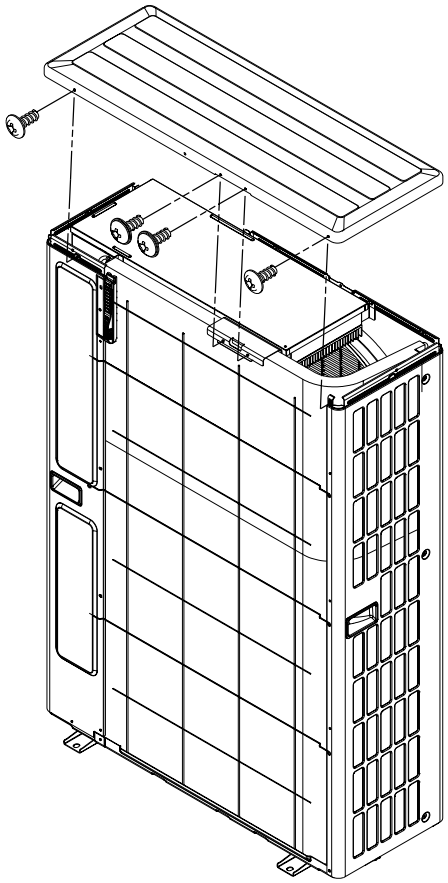
Compressor
Accumulator
4-way valve
Solenoid
Thermistor (Compressor temp.)
Thermistor (Discharge temp.)
Thermistor (Outdoor temp.)
Thermistor (Heat exchanger temp.)
Pressure SW
Coil (Expansion valve)

2. TOP PANEL removal

- Remove the 7 mounting screws.
- Remove the TOP PANEL upward.



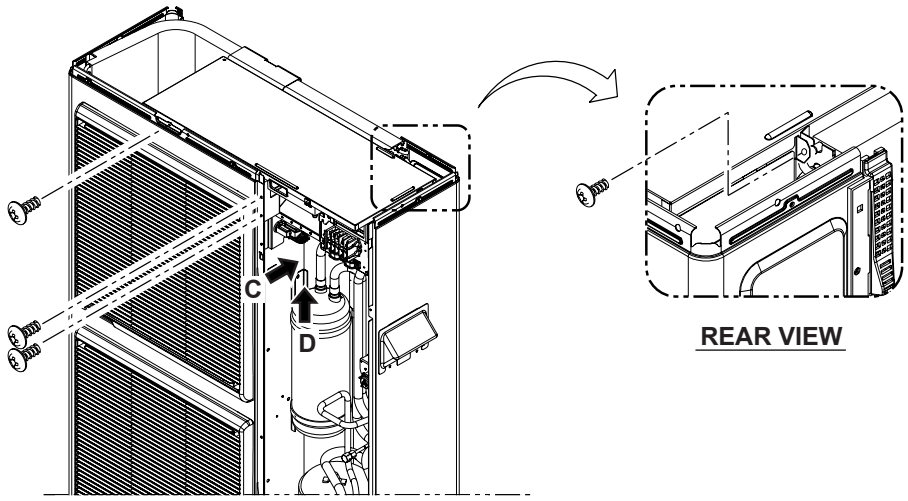
FRONT VIEW



REAR VIEW

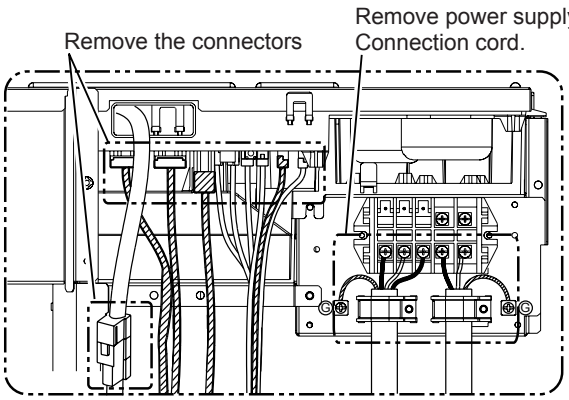
3. INVERTER BOX removal

- Remove the 4 mounting screws.
- Remove the connectors and cords. (Refer to VIEW -C,-D)
- Remove the INVERTER BOX upward.

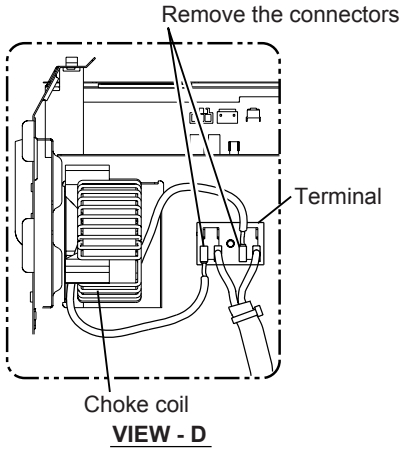


FRONT VIEW

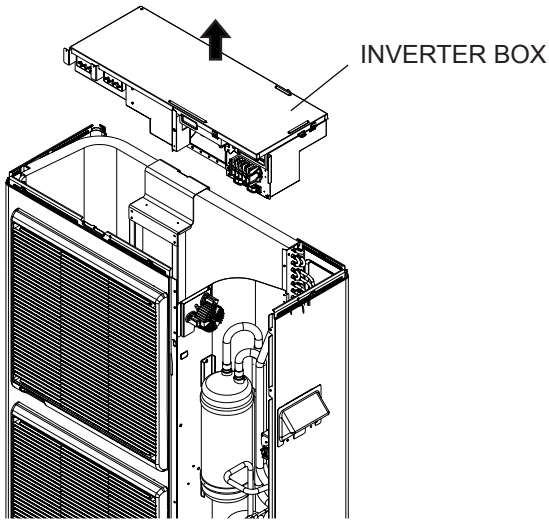
REAR VIEW



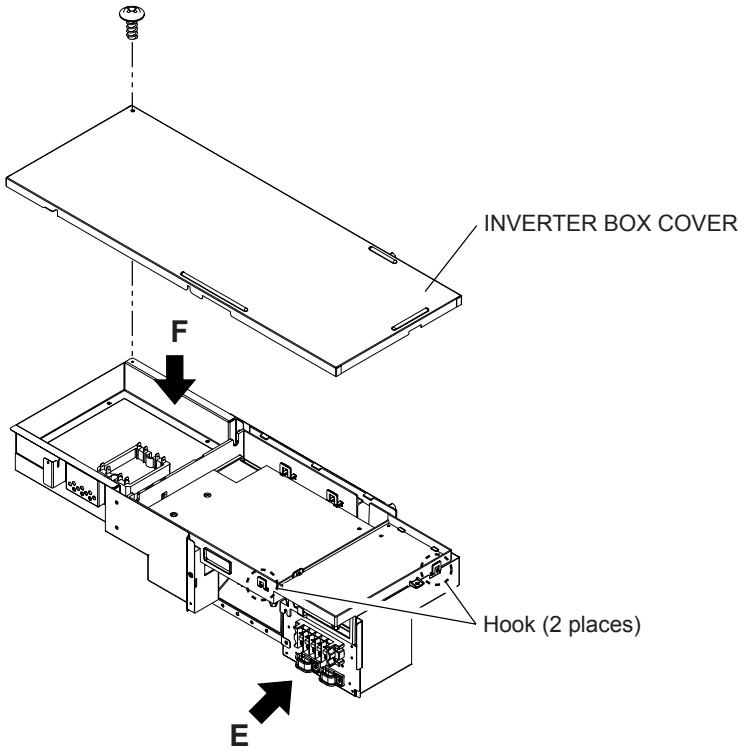
VIEW - C



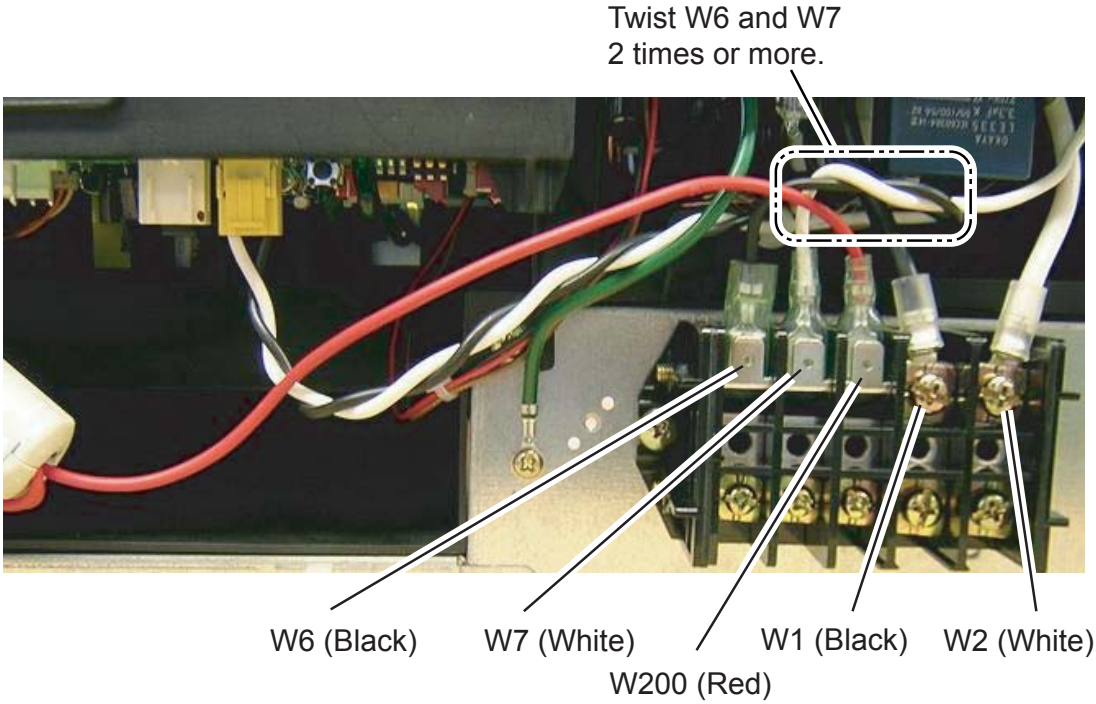
VIEW - D



- Remove the 1 mounting screw.
- Remove the INVERTER BOX COVER upward.

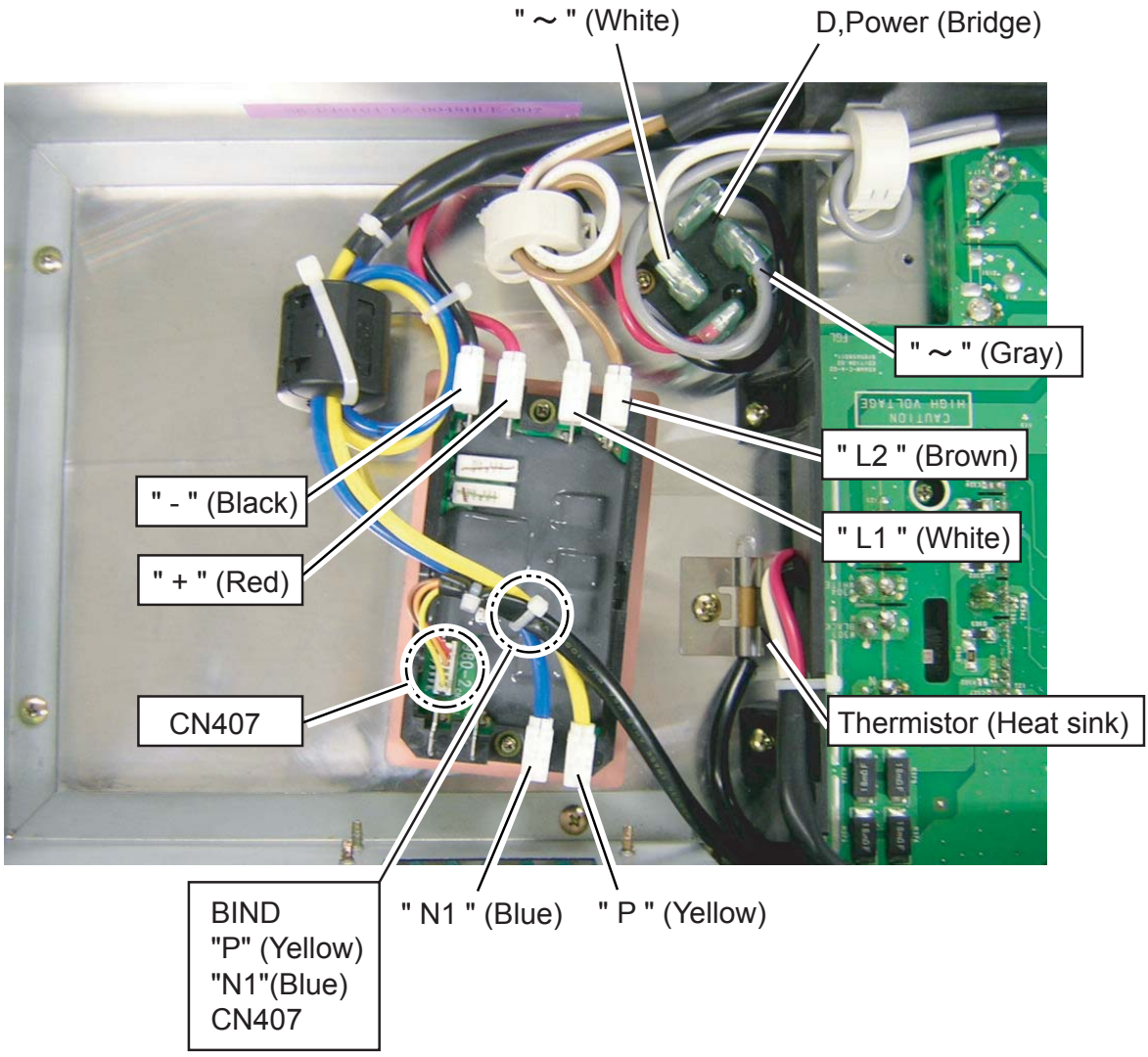


- Remove the connector and cords.



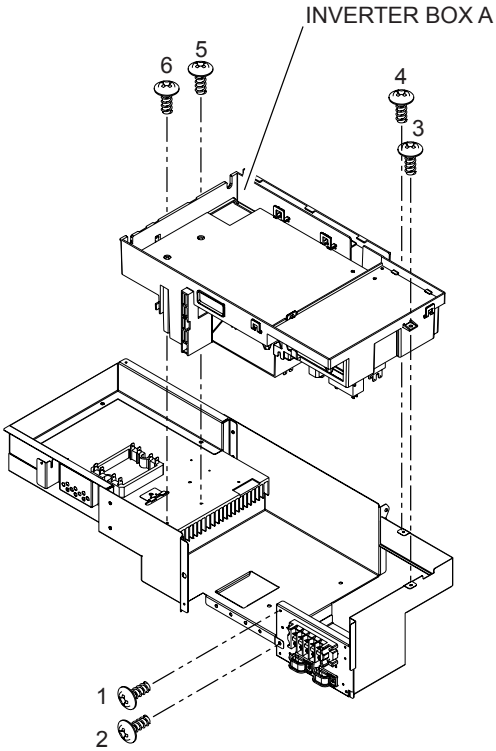
VIEW - E

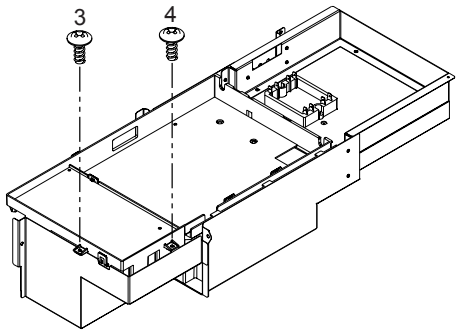
▪ Remove the connector and cords.



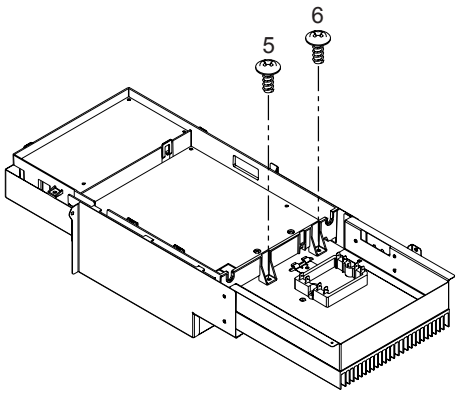
VIEW - F

- Remove the 6 mounting screws.
- Remove the INVERTER BOX A upward.





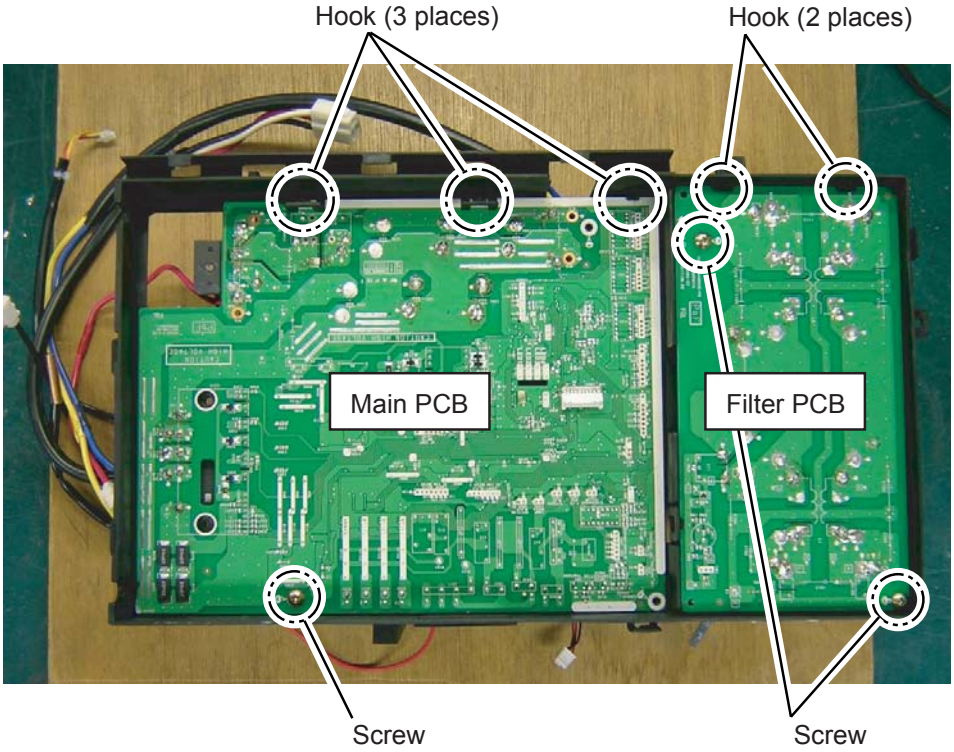
REAR VIEW



LEFT SIDE VIEW

Main PCB
- Remove the 1 mounting screw.
- Remove the Main PCB upward.

Filter PCB
- Remove the 2 mounting screws.
- Remove the Filter PCB upward.



1-2-4 ASSEMBLY PROCESS of INVERTER UNIT (For AOU42RLX)

1. FILTER PCB

- As shown in Fig.1, assemble FILTER PCB to INVERTER BOX A.
- As shown in Fig.2, pull out the wires of FILTER PCB.

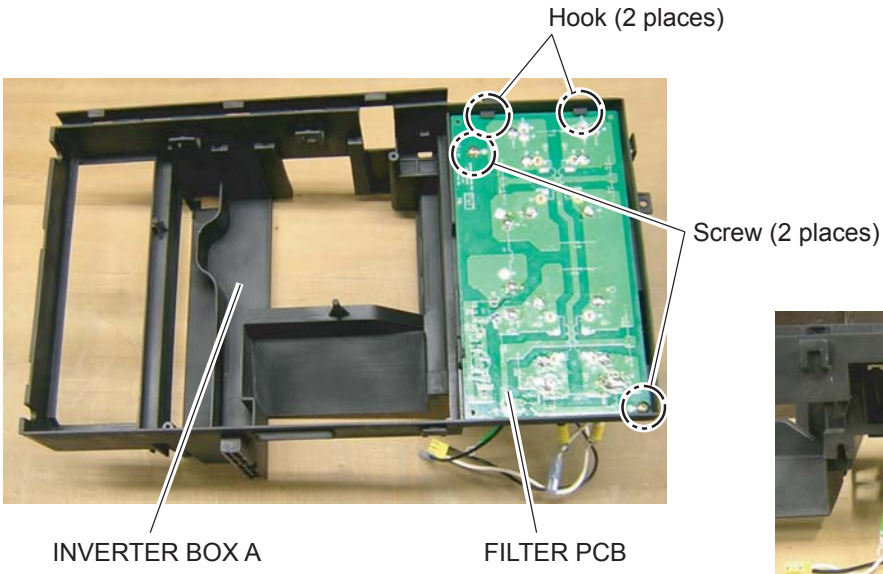


Fig.1

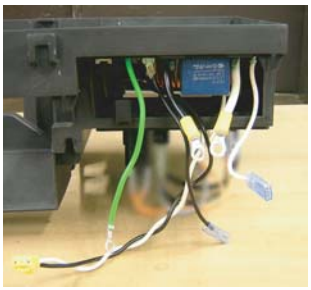


Fig.2

2. MAIN PCB

- As shown in Fig.3, temporarily fix MAIN PCB to INVERTER BOX A.
- After it is temporary fix of MAIN PCB, As shown in the Fig 4 - 6, pull out the wires of MAIN PCB.

Fig.5

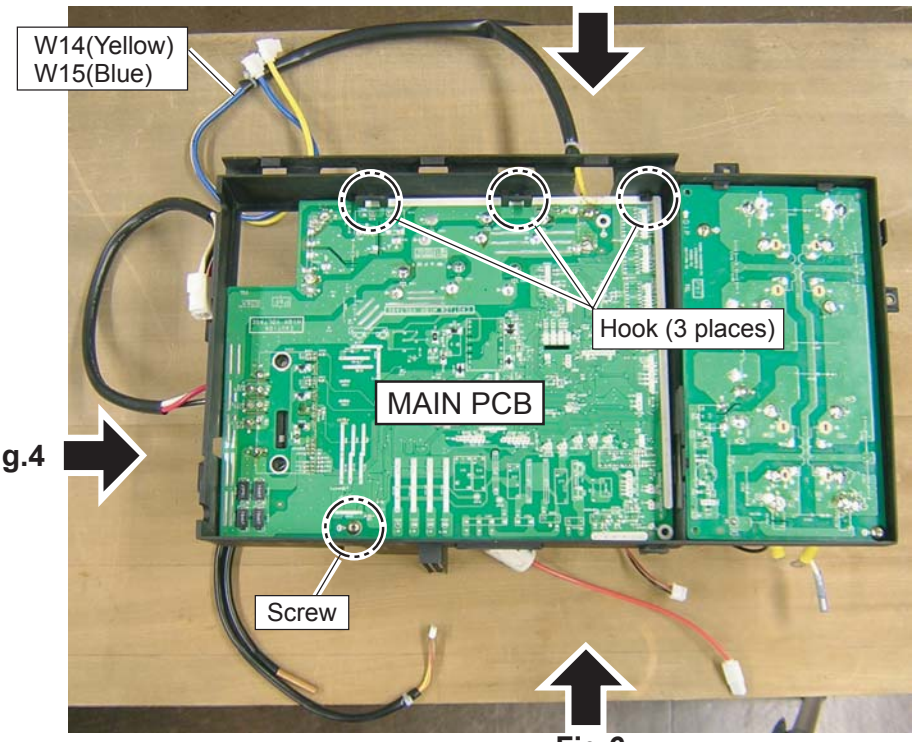


Fig.4

Fig.6

Fig.3

▪ As shown in Fig.4, pull out the wires.

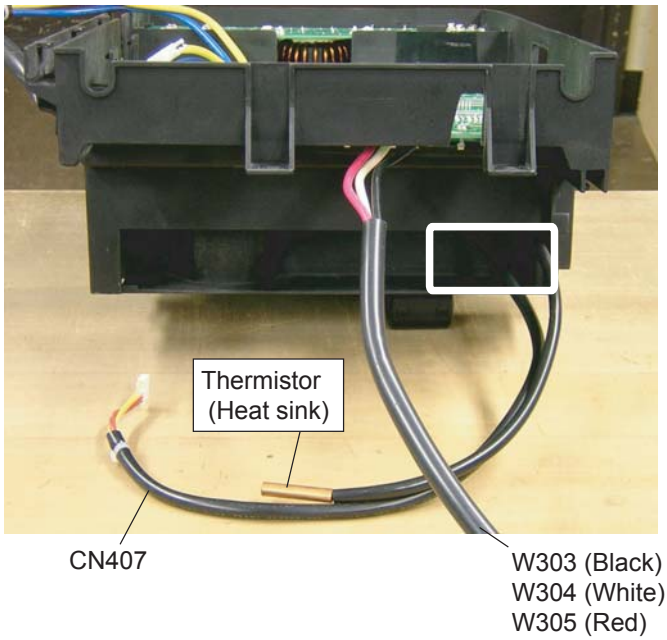


Fig. 4

▪ As shown in Fig.5, pull out the wires and fix them.

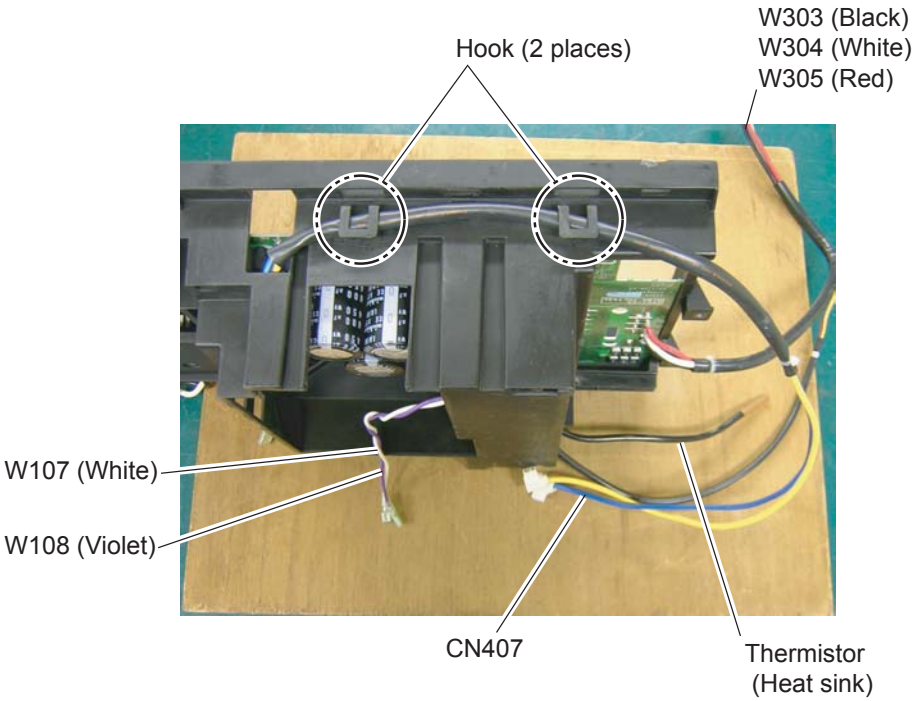


Fig. 5

▪ As shown in Fig.6, pull out the wires.

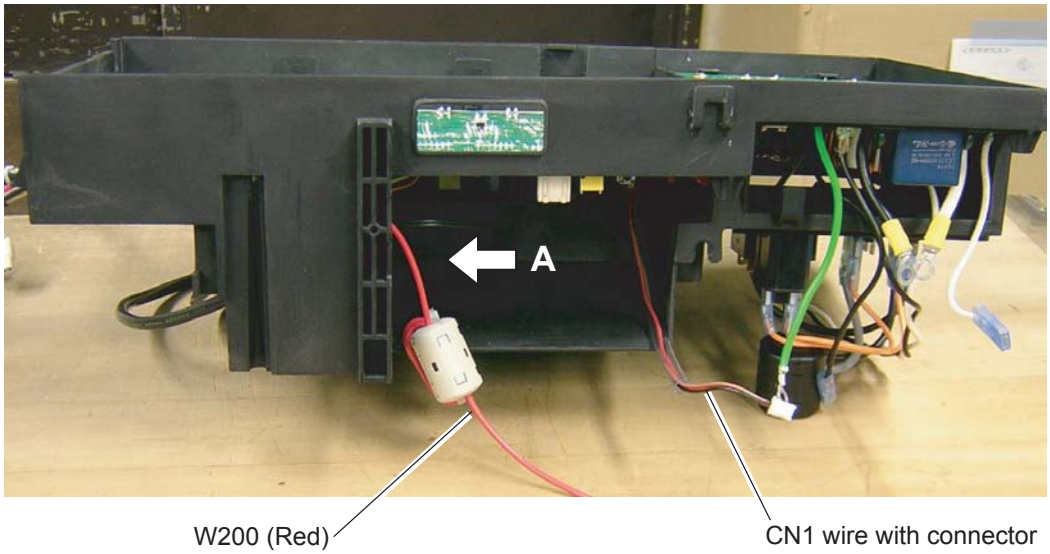
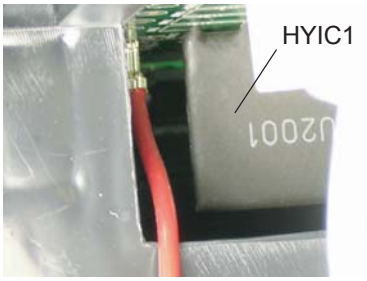


Fig. 6



Don't come in contact with HYIC1.

VIEW - A

▪ As shown in Fig.7, connect wires.

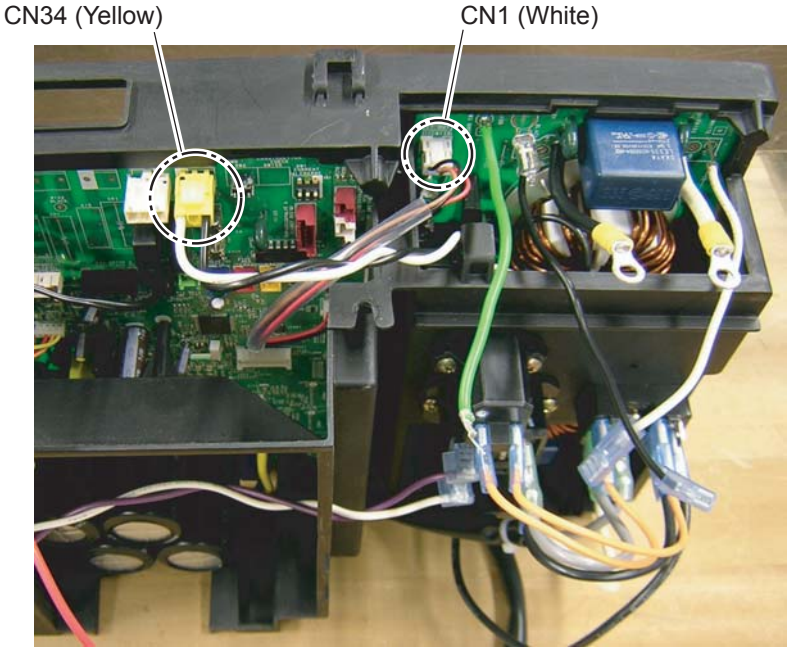


Fig. 7

▪ As shown in Fig.8, connect wires.

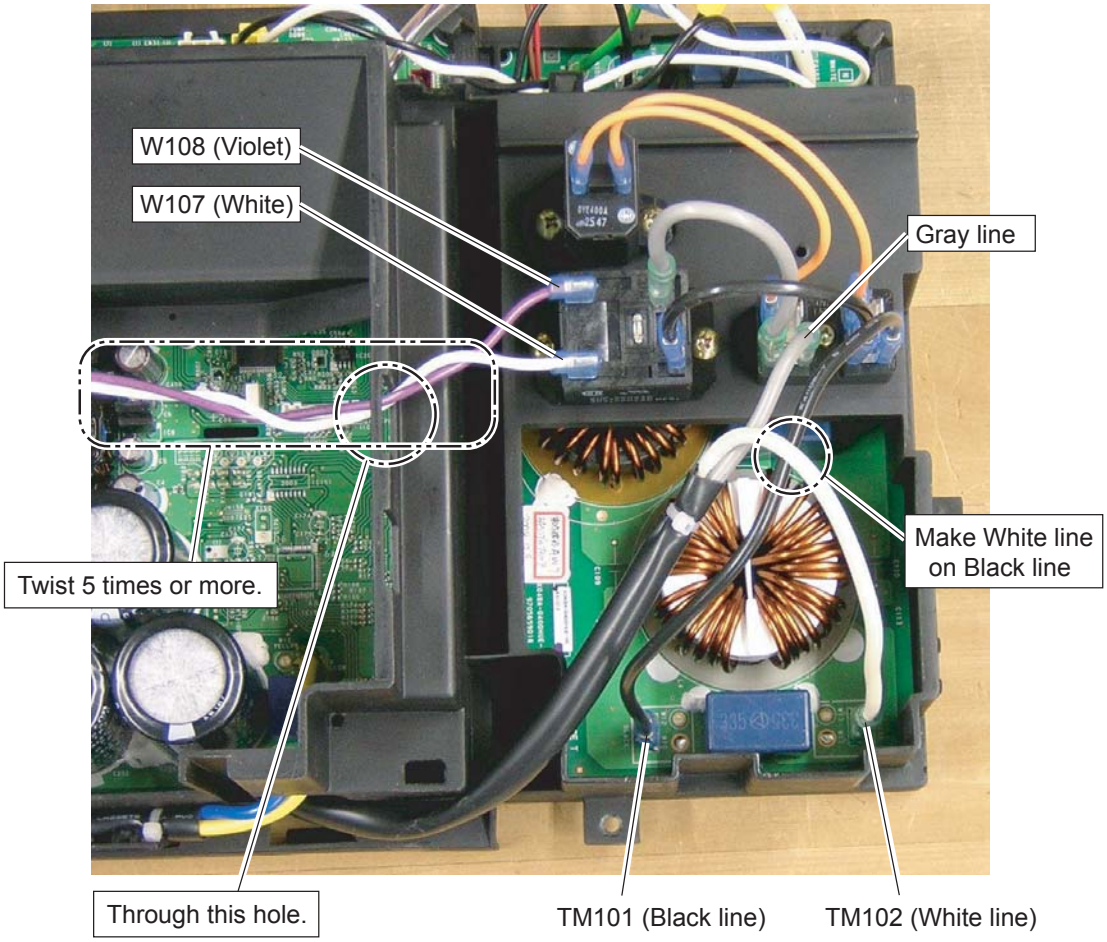


Fig. 8

▪ As shown in Fig.9, fix the wire to INVERTER BOX A.

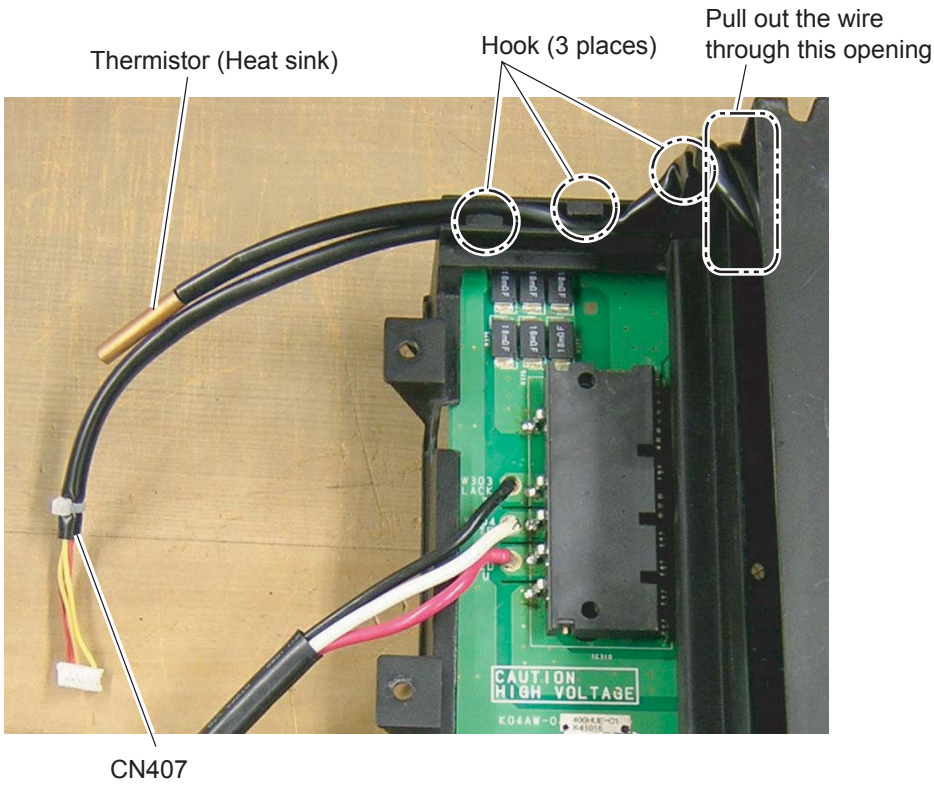


Fig. 9

▪ As shown in the figures, set wire with connector and bind it to INVERTER BOX A.

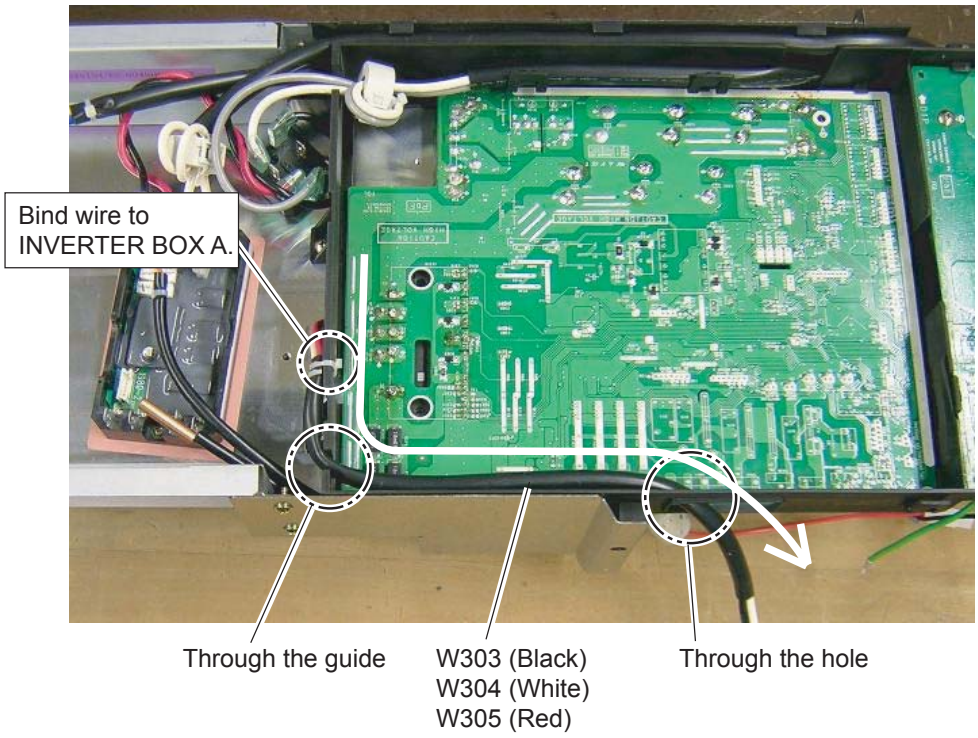


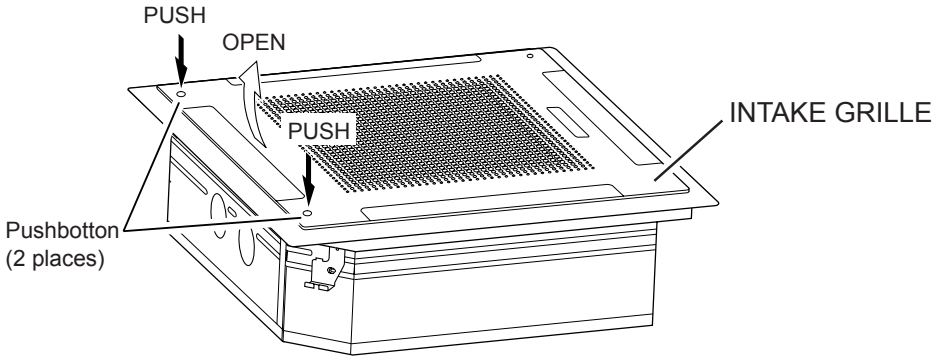
Fig. 10

2. REPLACEMENT PARTS (For INDOOR UNIT)

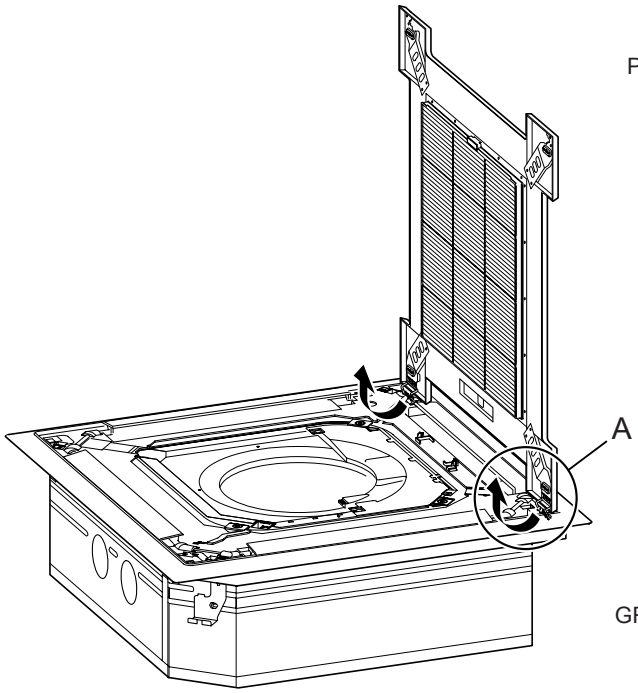
2-1 PARTS LAYOUT DRAWING

1. INTAKE GRILLE removal

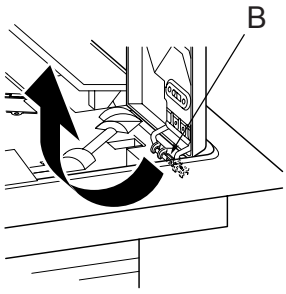
- Push the INTAKE GRILLE pushbuttons (2 places).
- Open the INTAKE GRILLE



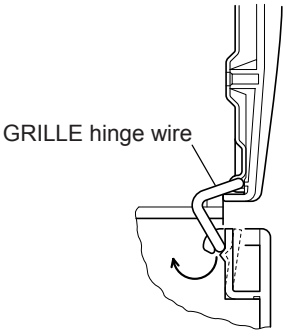
- Remove the GRILLE hinge wire.



Pull up while pressing the B section.



Part A detail view

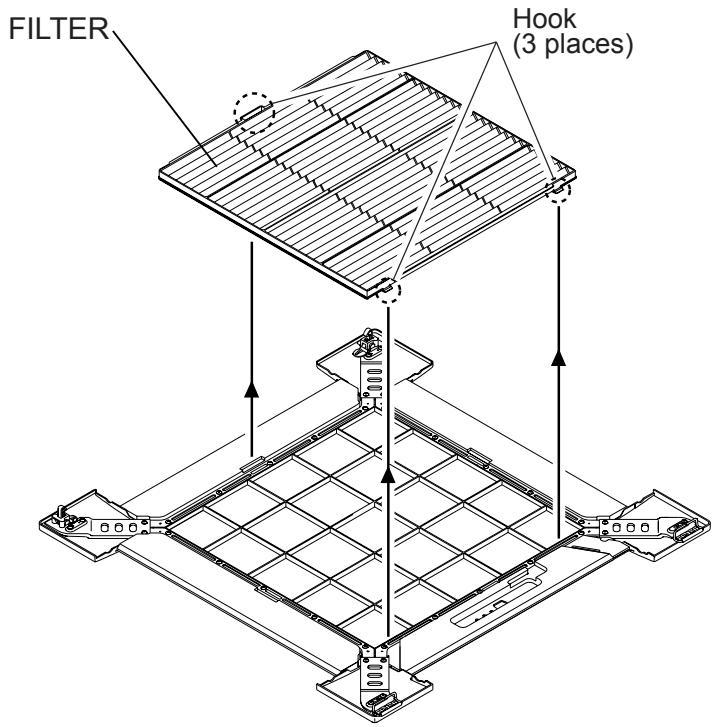


Part B section view

- Remove the INTAKE GRILLE.

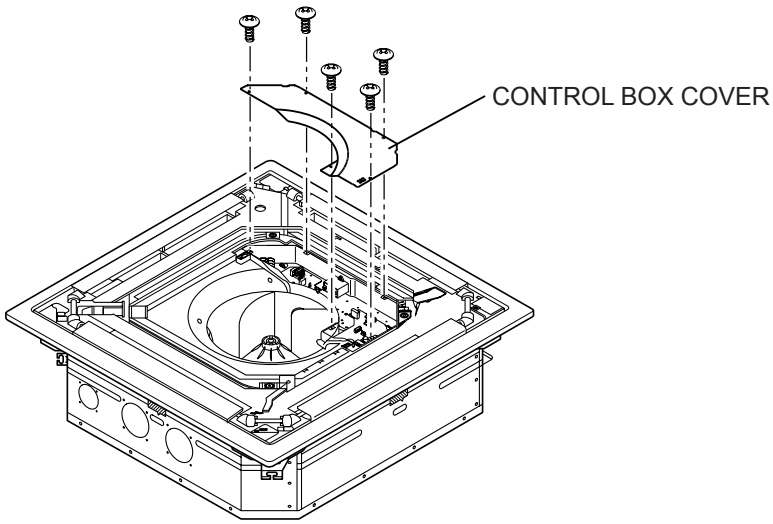
2. FILTER removal

▪ Remove the FILTER.

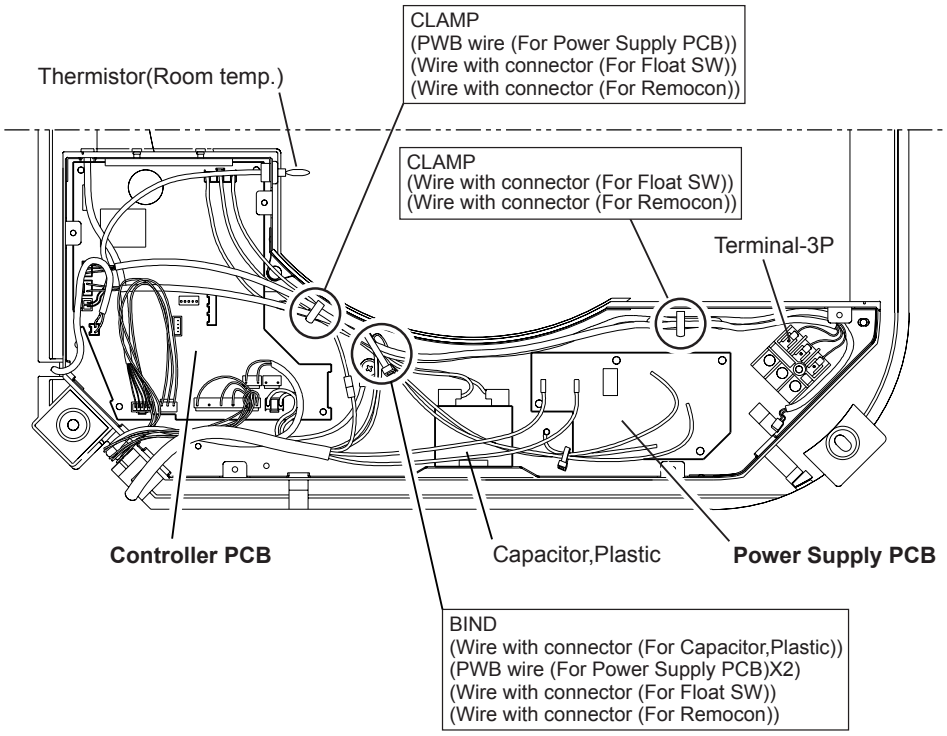


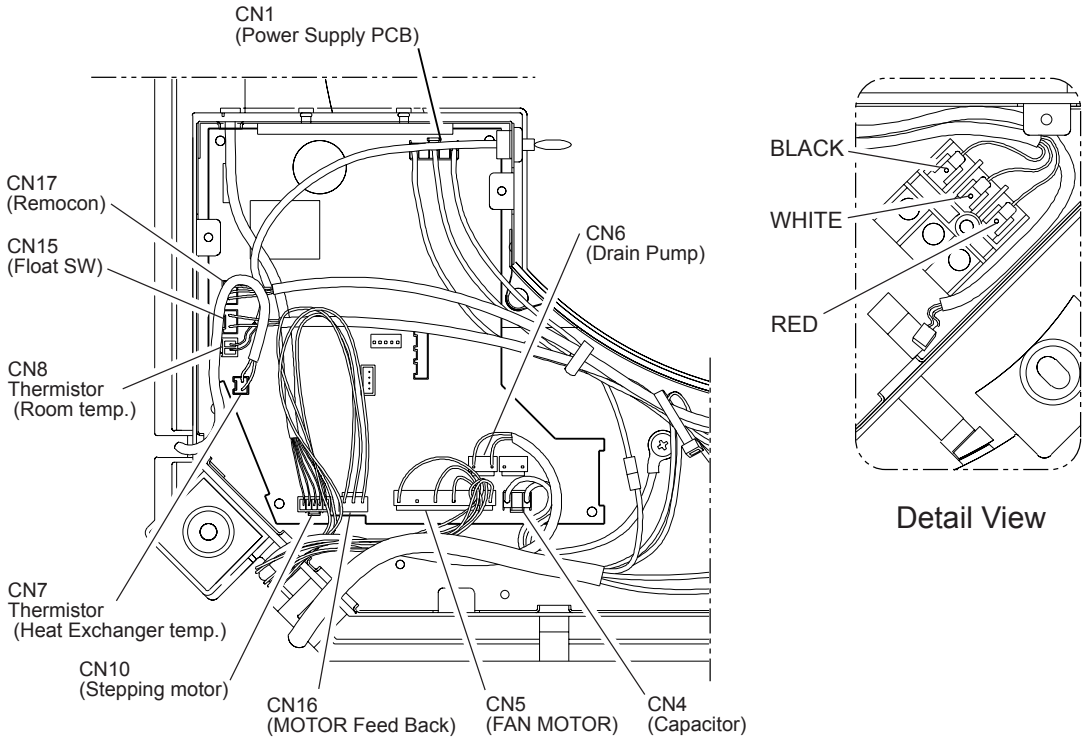
3. CONTROL BOX COVER removal

▪ Remove the 5 mounting screws.
Remove the CONTROL BOX COVER upward.



4. Wiring and Parts layout



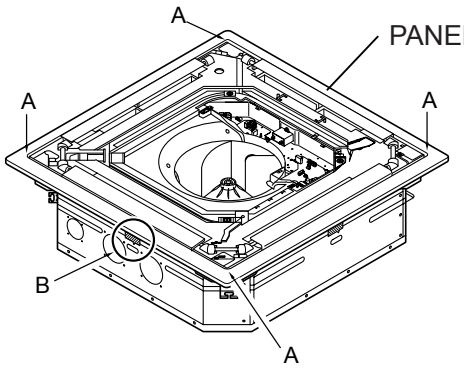


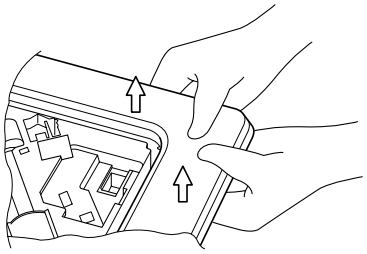
Detail View

Detail View

5. PANEL FRAME removal

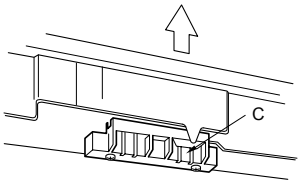
- Pull up the corner section (A) of the PANEL FRAME as shown in figure (4 locations).



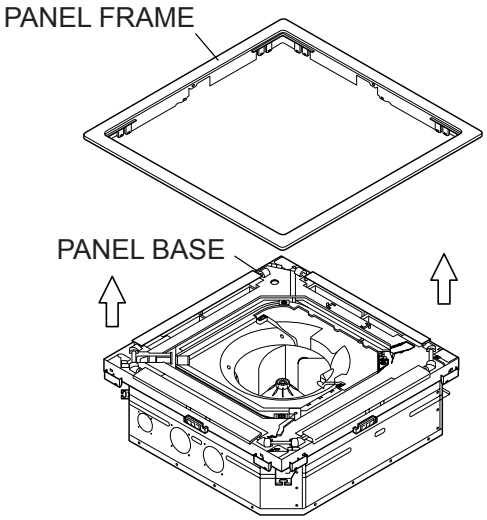


Part A detail view

- Pull up in the direction of the arrow while holding down the C section of figure (4 locations).

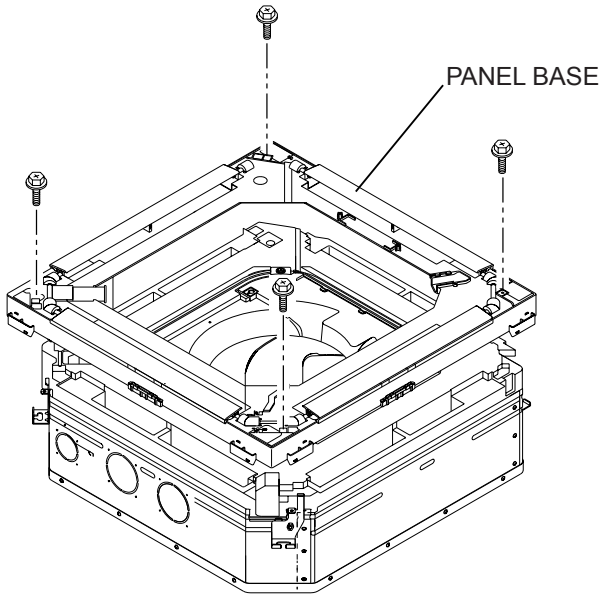


Part B detail view



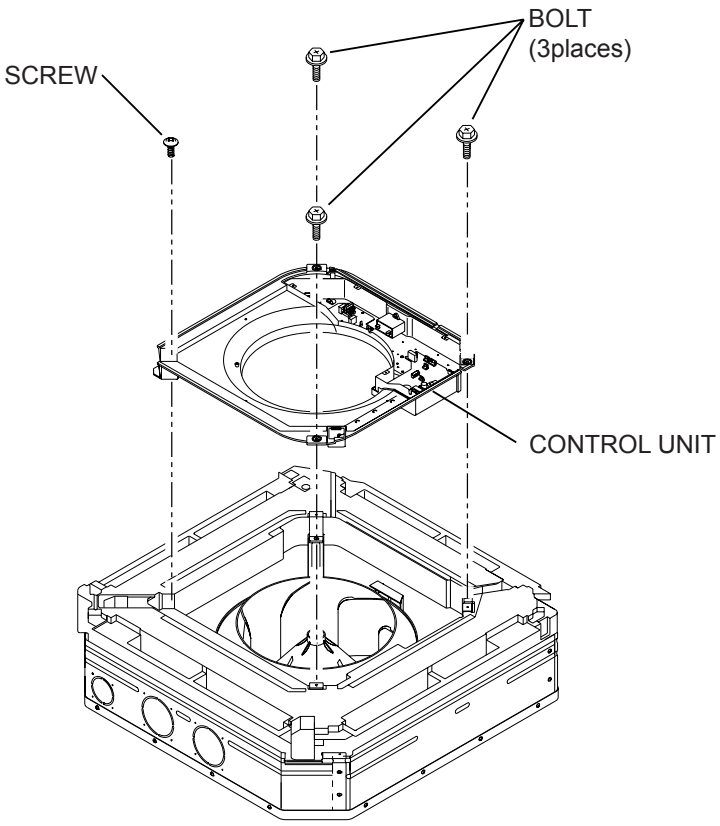
5. PANEL BASE removal

- Remove the 4 mounting bolts.
- Remove the PANEL BASE upward.



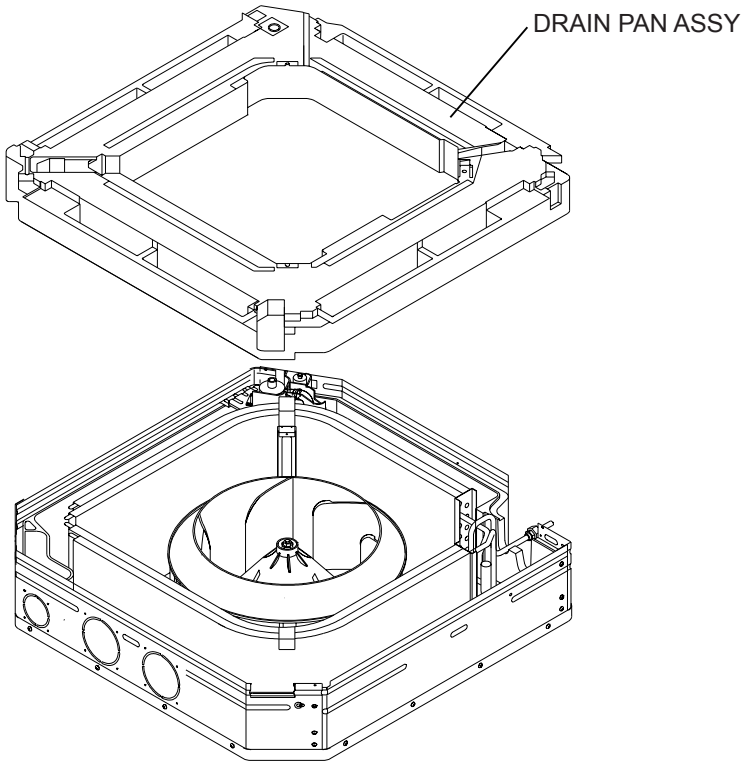
6. CONTROL UNIT removal

- Remove the 3 mounting bolts and 1 mouting screw.
- Remove the CONTROL UNIT upward.



7. DRAIN PAN removal

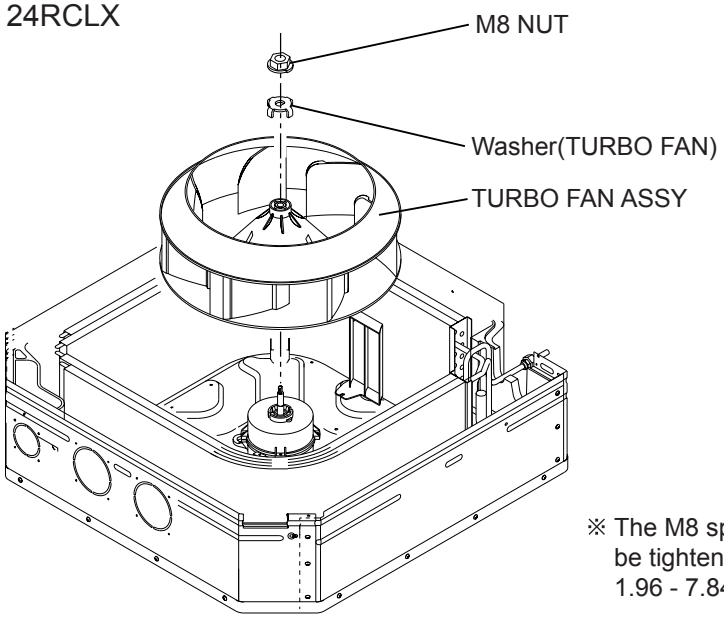
▪ Remove the DRAIN PAN ASSY.



8. TURBO FAN removal

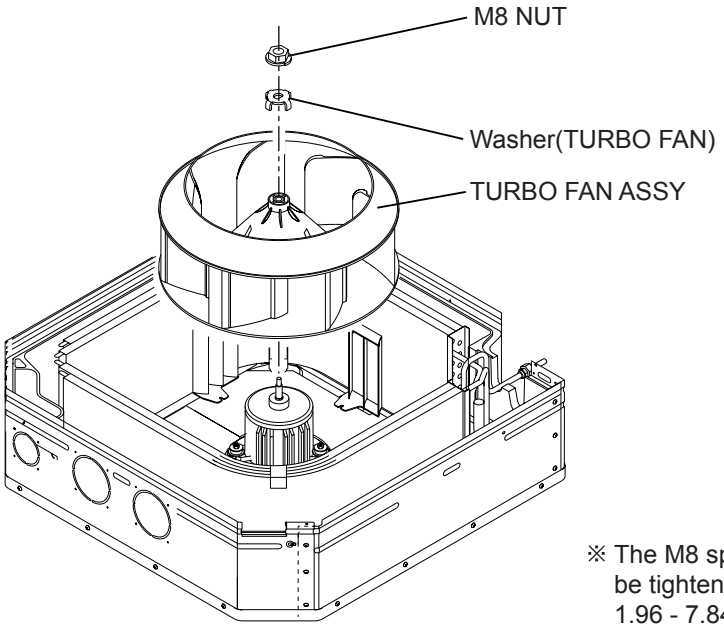
▪ Remove the M8 NUT and Washer(TURBO FAN).
Remove the TURBO FAN ASSY.

▪ For AUU18/ 24RCLX



※ The M8 special NUT should be tightened with a torque of 1.96 - 7.84 N m. ▪

▪ For AUU36/ 42RCLX

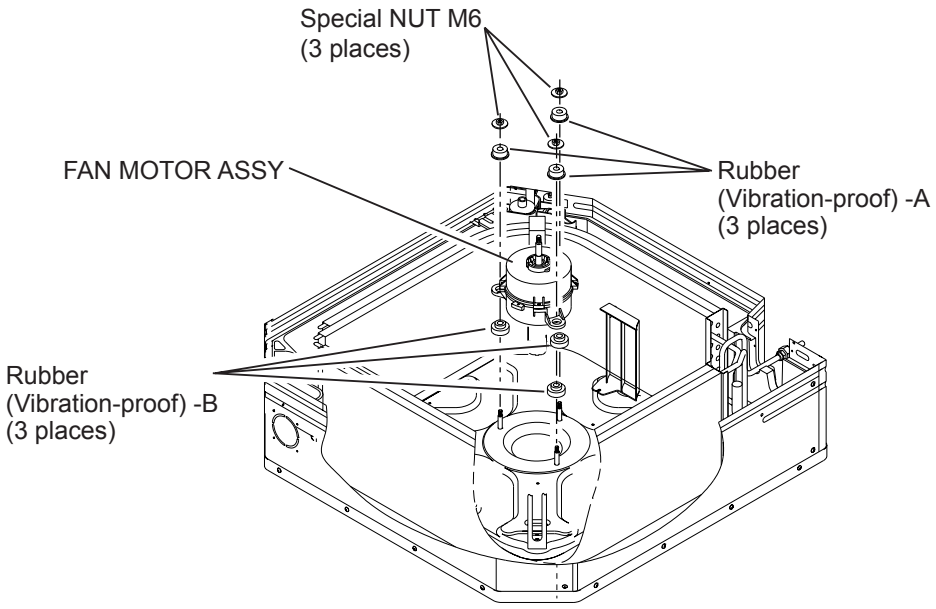


※ The M8 special NUT should be tightened with a torque of 1.96 - 7.84 N m.

9. FAN MOTOR removal

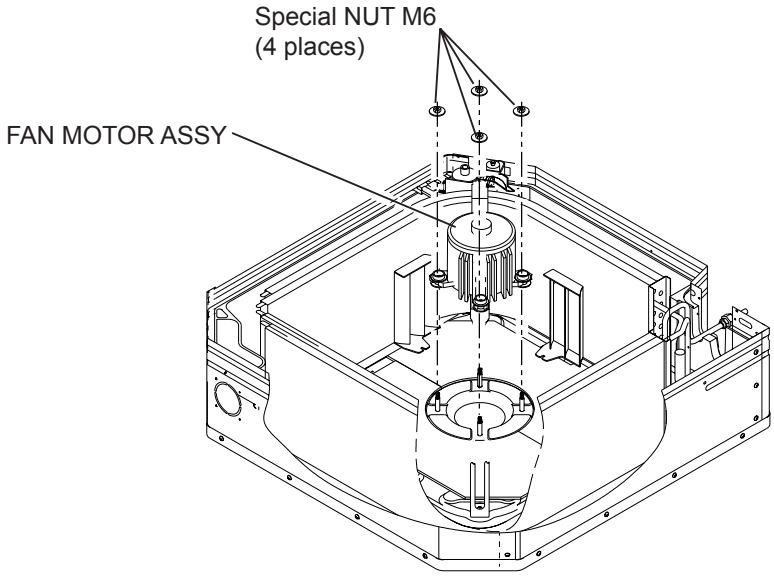
▪ For AUU18/ 24RCLX

▪ Remove the 3 mounting nuts.
▪ Remove the FAN MOTOR ASSY.



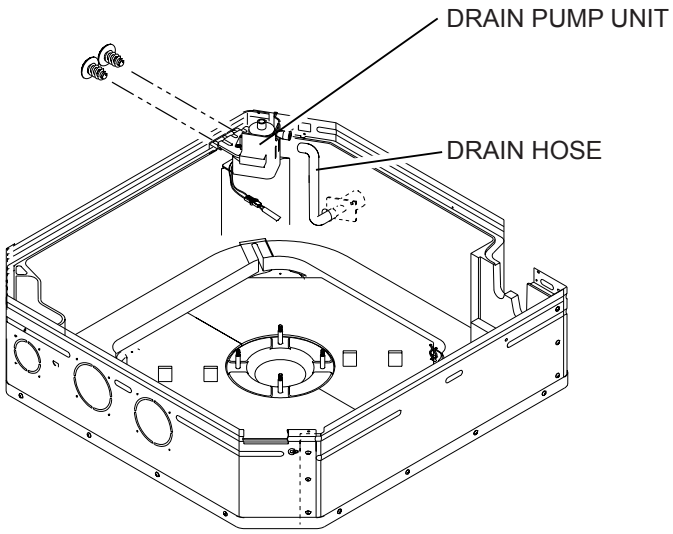
▪ For AUU36/ 42RCLX

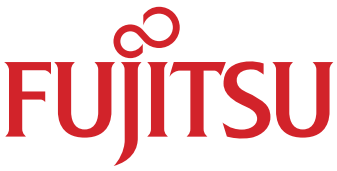
▪ Remove the 4 mounting nuts.
▪ Remove the FAN MOTOR ASSY.



10. DRAIN PUMP removal

- Remove the 2 mounting screws.
- Remove the DRAIN PUMP UNIT.





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