Refrigerant R410A INVERTER

Hybrid Flex Inverter System

3 . DISASSEMBLY PROCESS

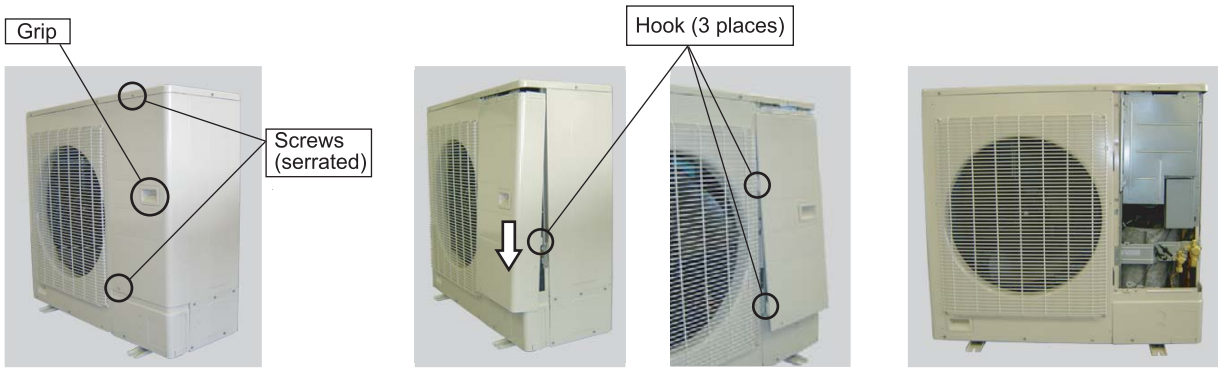
3-1 . DISASSEMBLY PROCESS for Outdoor Unit

⚠ WARNING

Before servicing the unit, turn the power supply switch OFF,
Then, do not touch electric parts for 10 minutes due to the risk of electric shock.

1. Appearance

2. SERVICE PANEL removal



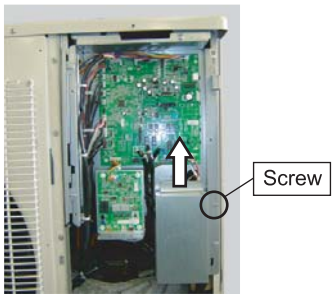
Remove the 2 mounting screws.

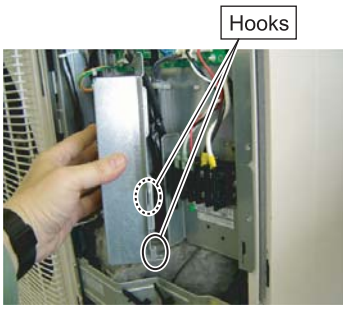
Remove the SERVICE PANEL
by sliding downward.

3. COVER(FRONT) removal

Remove the 3 mounting screws.
Remove the COVER(FRONT) by sliding toward.

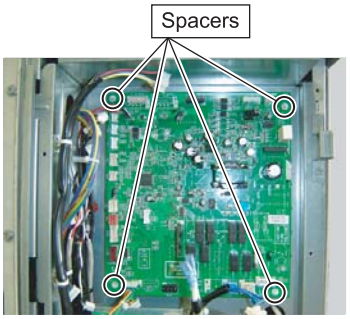
4. COVER(TERMINAL) removal





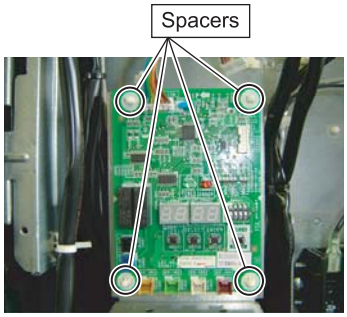
Remove the mounting screw.
Remove the COVER(TERMINAL) by sliding upward.

5. MAIN PCB removal



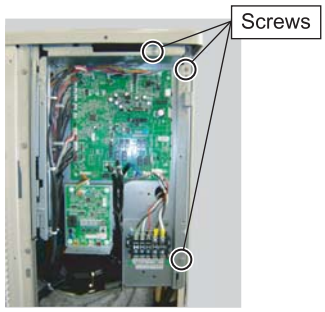
Remove the connectors and spacers.

6. I/O PCB removal



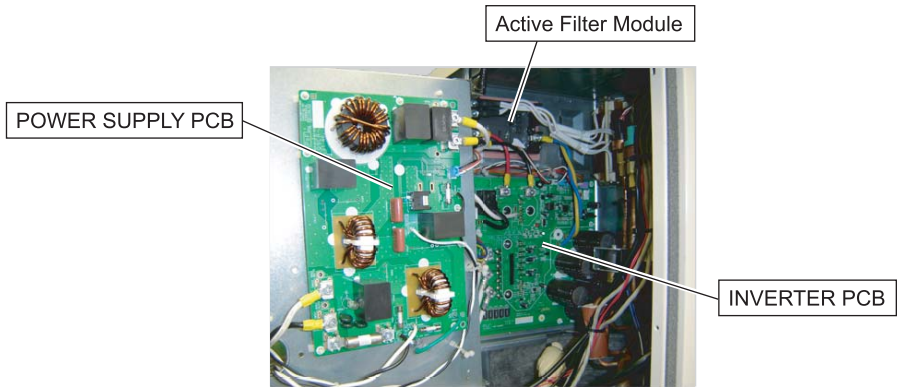
Remove the connectors and spacers.

7. INVERTER PCB, POWER SUPPLY PCB and Active Filter Module removal

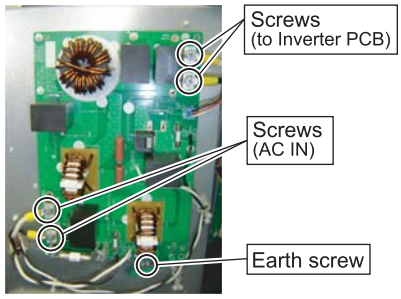


Remove the 3 mounting screws.

Open the CASE(MAIN) with handle.

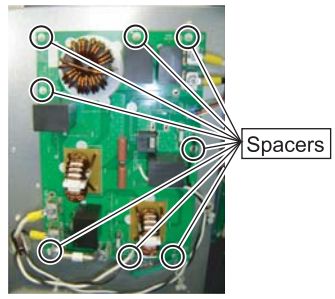


7-1. POWER SUPPLY PCB removal



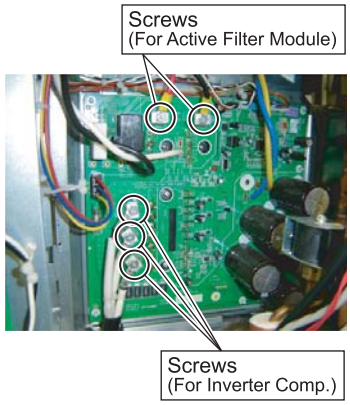
Remove the connector and screws.

Note the tightening torque
at the installation.
Tightening torque is 2.5±0.2N•m
(except for the earth screw)



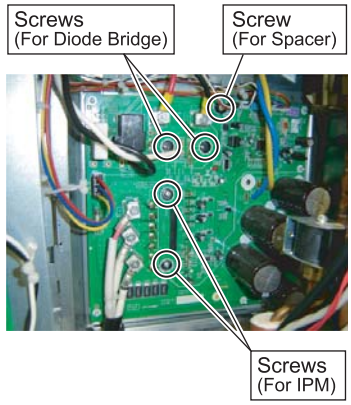
Remove the spacers.
(8 places)

7-2. INVERTER PCB removal



Remove the 5 mounting screws and wires.

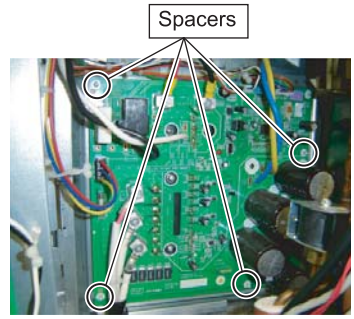
Note the tightening torque at the installation.
Tightening torque is 2.5±0.2N▪m.



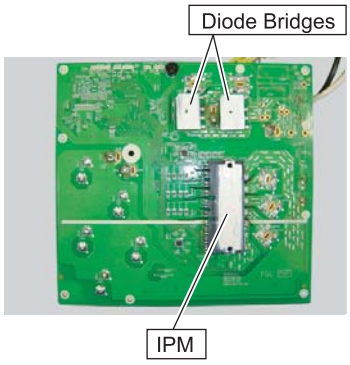
Remove the 5 mounting screws.

For screws of IPM and Spacer,
Note the tightening torque at the installation.
1. Temporary tightening : 0.2 to 0.4N▪m.
2. Final tightening : 0.98 to 1.47N▪m.

For screws of Diode Bridge,
Note the tightening torque at the installation.
1. Temporary tightening : 0.2 to 0.4N▪m.
2. Final tightening : 0.5 to 0.8N▪m.



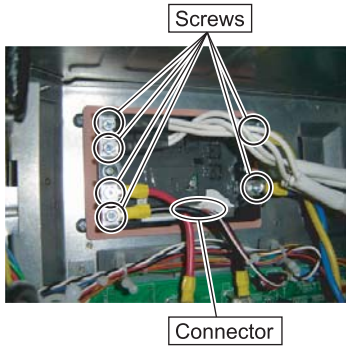
Remove the connectors and spacers.



Spread the Heat Transfer Compound on the other side of IPM and Diode Bridges when you exchange INVERTER PCB by the repair.

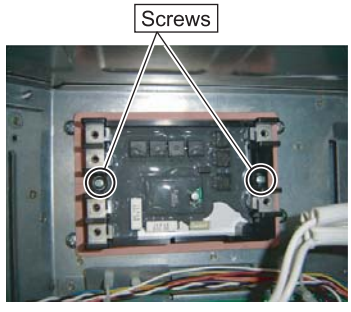
Specifications for the Heat Transfer Compound
- Manufacturer : Shin-Etsu Chemical Co.,Ltd.
  Grade : G746
- Manufacturer : Dow Corning Toray Co.,Ltd.
  Grade : SC102

7-3. Active Filter Module removal



Remove the 6 mounting screws and wires.
Remove the connector.

Note the tightening torque at the installation.
Tightening torque is 1.27 to 1.47N▪m.



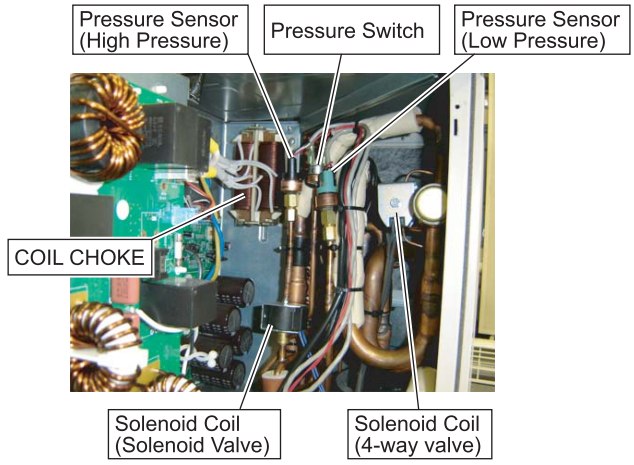
Remove the 2 mounting screws.

Note the tightening torque at the installation.
1. Temporary tightening : 0.2 to 0.4N▪m.
2. Final tightening : 0.6 to 0.9N▪m.

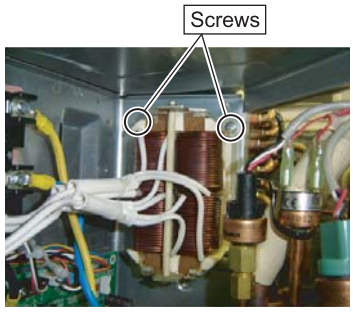
Spread the Heat Transfer Compound on the other side of Active Filter Module when you exchange Active Filter Module by the repair.

Specifications for the Heat Transfer Compound
- Manufacturer : Shin-Etsu Chemical Co.,Ltd.
  Grade : G746
- Manufacturer : Dow Corning Toray Co.,Ltd.
  Grade : SC102

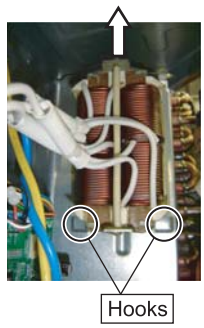
8. COIL CHOKE, PRESSURE SENSOR, and SOLENOID COIL removal



8-1. COIL CHOKE removal



Remove the wires from the terminal of Active Filter Module.
Remove the 2 mounting screws.

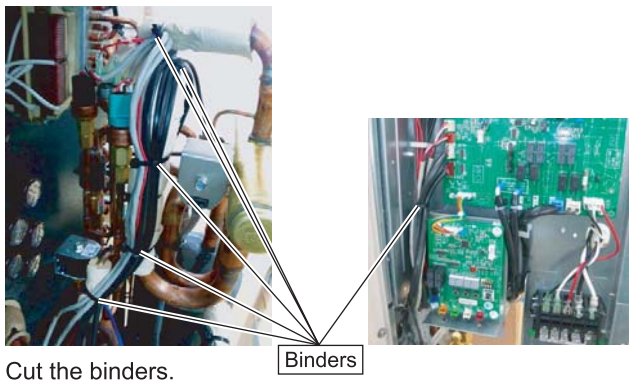


Remove the COIL CHOKE by sliding upward.

8-2. PRESSURE SENSOR removal

⚠ CAUTION

Wear gloves to prevent the frostbite,
because a small amount of refrigerant leaks during work.



Cut the binders.
(6 places)

Remove the PRESSURE SENSOR with wrench.

Note the tightening torque at the installation.
Tightening torque is 15±1.5N•m.

8-3. SOLENOID COIL (4way valve) removal

Remove the mounting screw.

Remove the SOLENOID COIL.
Note at the installation.
Bind all wires with binders (cable ties) at the location shown in the picture of "WIRING MANUAL".

8-4. SOLENOID COIL (Solenoid valve) removal

Remove the mounting screw.

Remove the SOLENOID COIL.
Note at the installation.
Bind all wires with binders (cable ties) at the location shown in the picture of "WIRING MANUAL".

9. EEV COIL removal

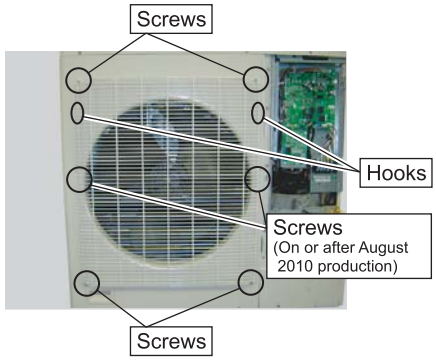
Remove the EEV COIL by hand.
Note at the installation.
Bind all wires with binders (cable ties) at the location shown in the picture of "WIRING MANUAL".

10. THERMISTOR removal

Remove the
THERMISTOR SPRING.

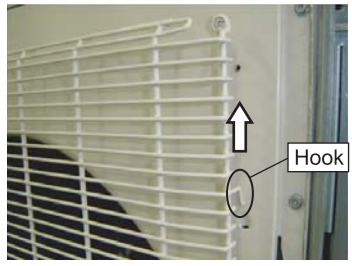
Remove the THERMISTOR.
Note at the installation.
Bind all wires with binders (cable ties) at the location shown in the picture of "WIRING MANUAL".

11. FAN MOTOR removal



Remove the 4 mounting screws.

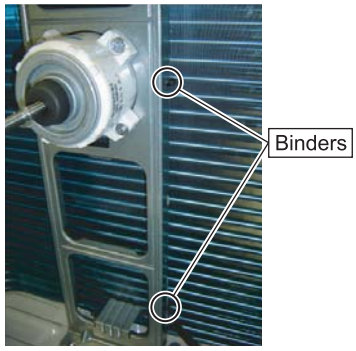
(On or after August 2010 production)
Remove the 6 mounting screws.



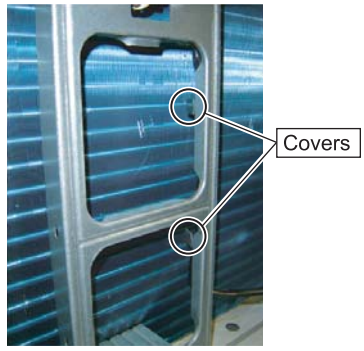
Remove the FAN GUARD
by sliding upward.

Remove the nut.
And remove the PROPELLER FAN.

Note at the installation.
Insert propeller Fan and Moter shaft reference D cutting position.
And the tightening torque at the installation.
Tightening torque is from 10 to 12N•m.



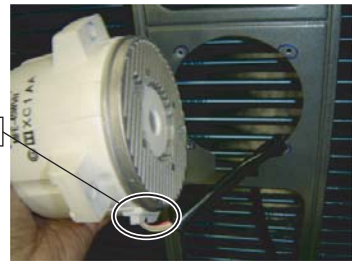
Cut the binders. (2 places)



Open the covers. (2 places)

Loose the clamp, and
remove the lead wires.

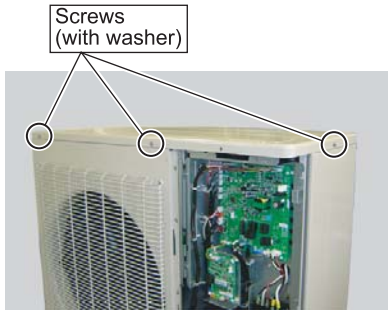
Remove the 4 mounting screws.



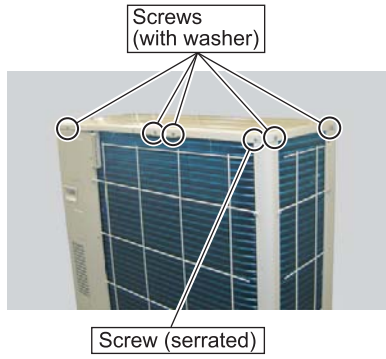
Remove the FAN MOTOR.

Note at the installation.
The position of the bushing must be downward.

12. TOP PANEL removal

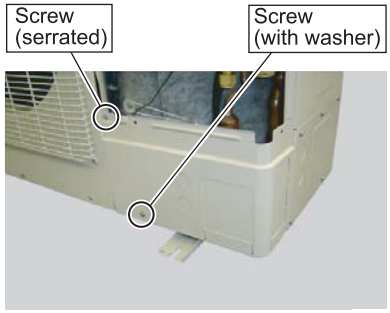


Remove the mounting screws.

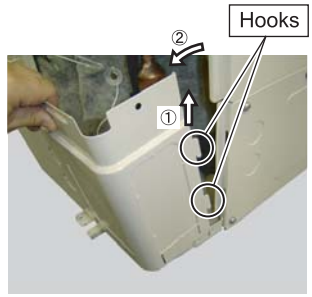


Remove the TOP PANEL.

13. PIPE COVER FRONT removal

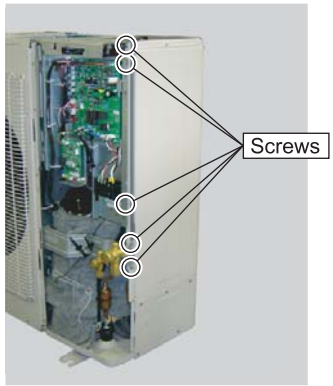


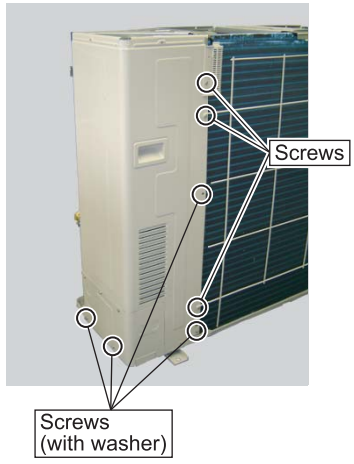
Remove the mounting screws.



Remove the PIPE COVER FRONT.

14. RIGHT PANEL removal





Remove the mounting screws.
Remove the RIGHT PANEL by sliding upward.

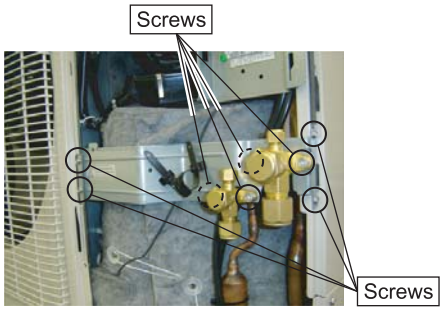
15. COMPRESSOR removal

Precautions for exchange of Compressor.

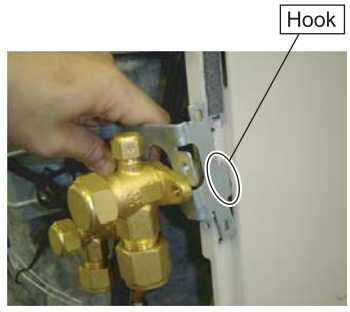
Do not allow moisture or debris to get inside refrigerant pipes during work.

Procedure for compressor removal.

(1) Turn off power.
(2) Remove the SERVICE PANEL.
(3) Fully close the 3WAY VALVE(GAS) and 3WAY VALVE(LIQUID).
(4) Collect the refrigerant from the 3WAY VALVE.
Start the following work after completely collecting the refrigerant.
Do not reuse the refrigerant that has been collected.

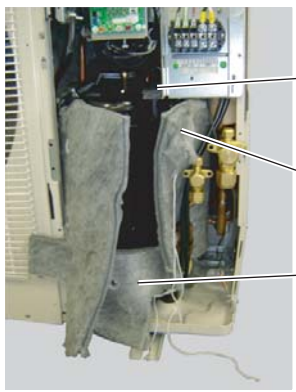


Remove the 8 mounting screws.



Remove the VALVE PLATE.

Remove the THERMISTOR SPRING
with the THERMISTOR (Compressor temp.)



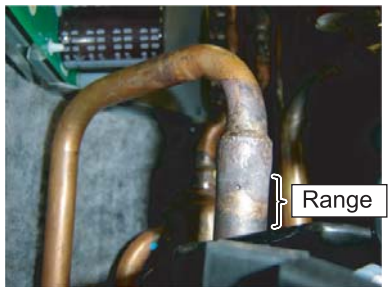
Remove the
COMPRESSOR COVER-A, -B, and -TOP

Cut the binder, and remove the heat insulation.

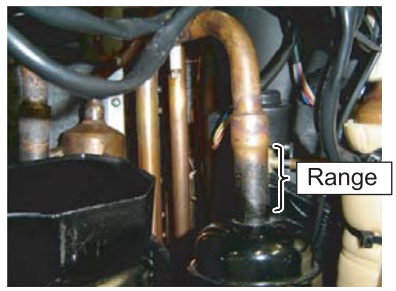
Remove the Thermistor(Discharge).

Loose the HEATER (CRANK CASE).

Remove the COMP BOLTs.
(3 places)



Cut the Discharge pipe in this range.



Cut the Suction pipe in this range.
Remove the COMPRESSOR.

Caution
・Keep their shape better.
・There is a possibility of catching fire to oil when removing by the welding without cutting it.

Procedure for compressor installation.

Reverse procedure to removing the compressor.

Precautions for installation of Compressor.

(1) When brazing, do not apply the flame to the terminal.
(2) When brazing, be sure to replace the air in the pipe with nitrogen gas to prevent forming oxidization scale.

16. Precautions for exchange of refrigerant-cycle-parts

(1) During exchange the following parts shall be protected by wet rag and not make the allowable temperature or more.
(2) Remove the heat insulation when there is the heat insulation near the welding place.
Move and cool it when its detaching is difficult.
(3) Cool the parts when there are parts where heat might be transmitted besides the replacement part.
(4) Interrupt the flame with the fire-retardant board when the flame seems to hit the following parts directly.
(5) Do not allow moisture or debris to get inside refrigerant pipes during work.
(6) When brazing, be sure to replace the air in the pipe with nitrogen gas to prevent forming oxidization scale.

Part name	Allowable temperature	Precautions in work
SOLENOID VALVE	120°C	Remove the coil before brazing. And install the coil after brazing.
EXPANSION VALVE	120°C	Remove the coil before brazing. And install the coil after brazing.
4WAY VALVE	120°C	Remove the suction temp. sensor before brazing. And install the suction temp. sensor after brazing.
3WAY VALVE (GAS)	120°C	
3WAY VALVE (LIQUID)		
UNION JOINT	100°C	Remove the pressure sensor before brazing. And install the pressure sensor after brazing.
PRESSURE SENSOR	100°C	Tighten the flare part gripping it. (Tightening torque :15±1.5N m) Do the static electricity measures.
PRESSURE SWITCH	100°C	

WIRING MANUAL

P/N 9380230007-02

APPLICABLE MODEL AOU48RLXFZ
AO*G45LAT8
ROG45LAT8
HOG45LAT8

Bind all wires with binders (cable ties) at the location shown in the picture of this manual.

CAUTION

If replacing a component/part, bind all wire with cable ties. Loose wires may come in contact with PCB and overheat causing electric shock or fire.

PARTS LIST

※The following list is the necessary quantity of Binders (cable ties) for each service parts replacement.

WIRE	SURVICE PARTS	ATTACHED WIRE	Q'ty	BINDER (Q'ty)			MANUAL
				small size (80mm)	middle size (150mm)	large size (200mm)	
a	THERMISTOR ASSY A(SERVICE) 9380229001	THERMISTOR ASSEMBLY 9900599003	1	3	7	0	WIRING MANUAL 9380230007
b	THERMISTOR(HEX) ASSY(SERVICE) 9380229032	HEAT EXCHANGER THERMISTOR 9900600006	1	0	7	0	
c	THERMISTOR(OUT) ASSY(SERVICE) 9380229049	THERMISTOR(OUTDOOR TEMP) 9900210052	1	2	6	0	
d	SENSOR ASSY A(SERVICE) 9380229056	SENSOR 9900505059	1	0	6	0	
e	SENSOR ASSY B(SERVICE) 9380229063	SENSOR 9900505066	1	0	6	0	
f-1	SOLENOID ASSY A(SERVICE) 9380229094	SOLENOID 9970109010	1	0	2	0	
f-2	SOLENOID ASSY C(SERVICE) 9380229131	SOLENOID 9900189228	1				
g	SOLENOID ASSY B(SERVICE) 9380229100	SOLENOID 9970055072	1	0	2	0	
h-1	HTR(CRANK) ASSY(SERVICE) 9380229117	HEATER(CRANK CASE) 9900132088	1	0	3	1	
h-2	BELT HEATER ASSY(SERVICE) 9380229124	BELT HEATER 9361140301	1				
i	THERMISTOR ASSY B(SERVICE) 9380229018	THERMISTOR ASSEMBLY 9900599010	1	2	6	0	
j	THERMISTOR ASSY C(SERVICE) 9380229025	THERMISTOR ASSEMBLY 9900598006	1	0	6	0	
k	COIL(EXP VLV)ASSY A(SERVICE) 9380229070	COIL(EXPANSION VALVE) 9970098031	1	0	4	0	
l	COIL(EXP VLV)ASSY B(SERVICE) 9380229087	COIL(EXPANSION VALVE) 9970096068	1	0	4	0	

※f-1：SOLENOID ASSY A is applied only to the following models
[AOU48RLXFZ]/[AOBG45LAT8]

※f-2：SOLENOID ASSY C is applied only to the following models
[AOYG45LAT8]/ [AOHG45LAT8]/[ROG45LAT8]/[HOG45LAT8]

※h-1：HTR(CRANK) ASSY is applied only to the following model
[AOU48RLXFZ]

※h-2：BELT HEATER ASSY is applied only to the following models
[AOYG45LAT8]/ [AOHG45LAT8]/ [AOBG45LAT8]
/[ROG45LAT8]/[HOG45LAT8]

CHANGE BINDER LIST

When changing parts, the following Binder Numbers shown in the picture must be replaced at the same location.

WIRE	SURVICE PARTS	REMARK	change BINDER NO.		
			small size	middle size	large size
a	THERMISTOR ASSY A(SERVICE) 9380229001	TAPE COLOR : RED / NO MARK (2 WIRES 1 CONNECTOR)	4,6,7	5,10,12,13,14,15,18	
b	THERMISTOR(HEX) ASSY(SERVICE) 9380229032	TAPE COLOR : WHITE		3,10,12,13,14,15,18	
c	THERMISTOR(OUT) ASSY(SERVICE) 9380229049	OUTDOOR TEMP	1,2	10,12,13,14,15,18	
d	SENSOR ASSY A(SERVICE) 9380229056	CONNECTOR : WHITE		10,12,13,14,16,18	
e	SENSOR ASSY B(SERVICE) 9380229063	CONNECTOR : RED		10,12,13,14,16,18	
f-1	SOLENOID ASSY A(SERVICE) 9380229094	CONNECTOR : BLUE		11,19	
f-2	SOLENOID ASSY C(SERVICE) 9380229131	CONNECTOR : BLUE			
g	SOLENOID ASSY B(SERVICE) 9380229100	CONNECTOR : WHITE		11,17	
h-1	HTR(CRANK) ASSY(SERVICE) 9380229117	HEATER(CRANK CASE) (2 WIRES)		11,19,23	28
h-2	BELT HEATER ASSY(SERVICE) 9380229124	CONNECTOR : BLUE			
i	THERMISTOR ASSY B(SERVICE) 9380229018	TAPE COLOR : BLUE / YELLOW (2 WIRES 1 CONNECTOR)	8,9	10,18,20,22,24,25	
j	THERMISTOR ASSY C(SERVICE) 9380229025	TAPE COLOR : BROWN / GRAY (2 WIRES 1 CONNECTOR)		10,18,20,22,26,27	
k	COIL(EXP VLV)ASSY A(SERVICE) 9380229070	CONNECTOR : RED		10,18,20,21	
l	COIL(EXP VLV)ASSY B(SERVICE) 9380229087	CONNECTOR : WHITE		10,18,20,21	
m	WIRE(PRESSURE) SW	CONNECTOR : RED (2 WIRES)		10,12,13,14,16,18	

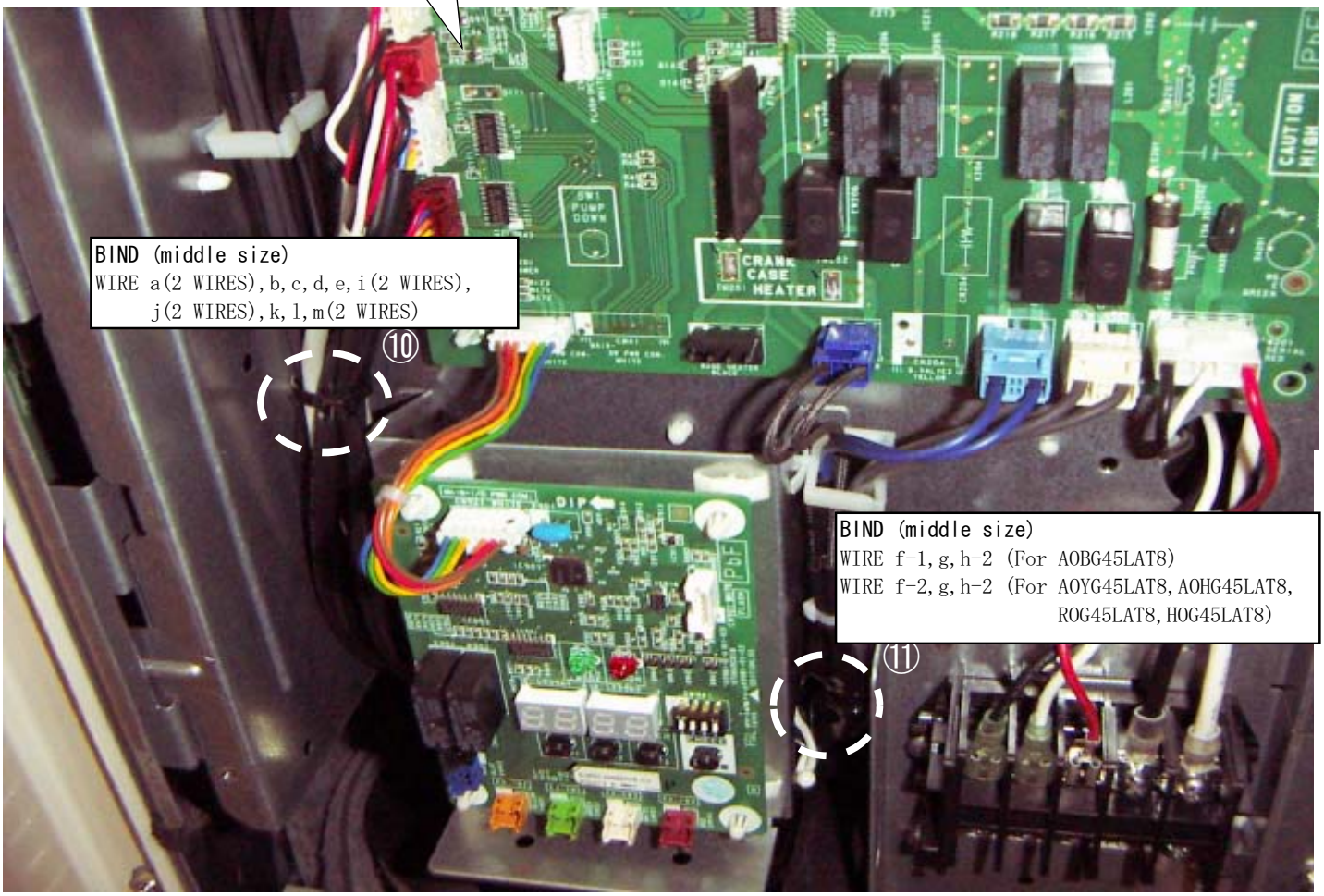
※m : WIRE(PRESSURE SW) are not service parts.

FRONT VIEW (MAIN BOARD SIDE)

Please refer to below picture and attached table.
Please remove the binders where necessary and replace the wires.

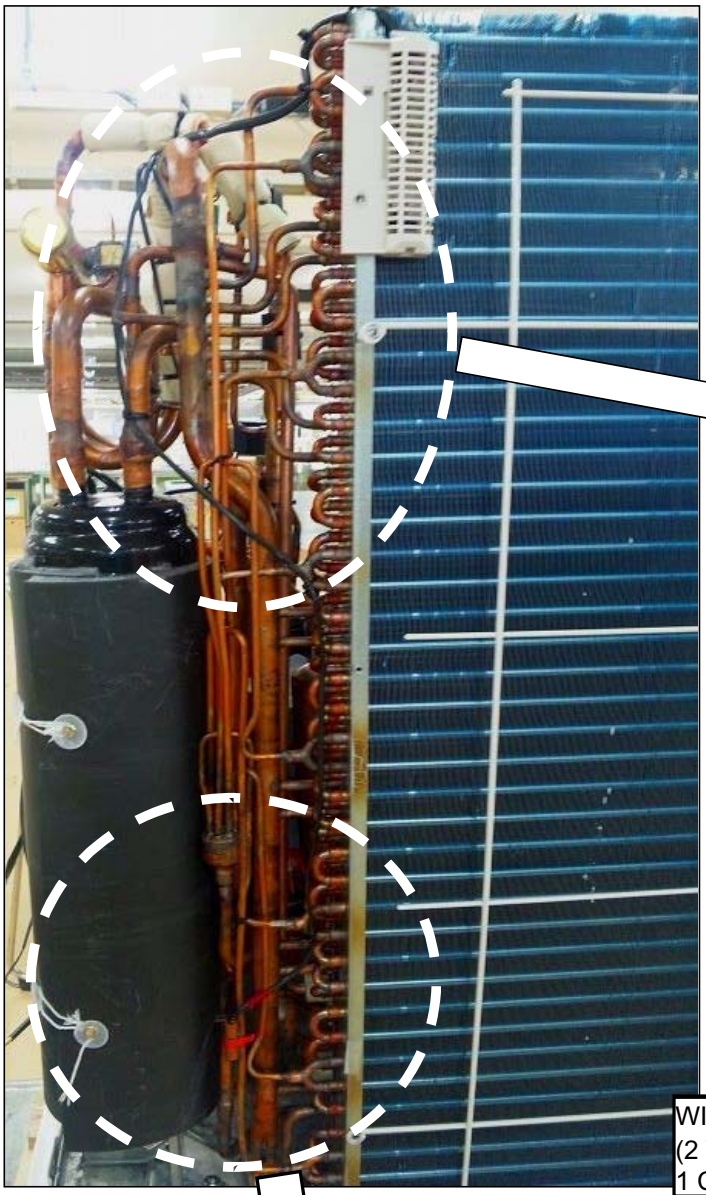
※We have removed the “Right panel” when taking the pictures.

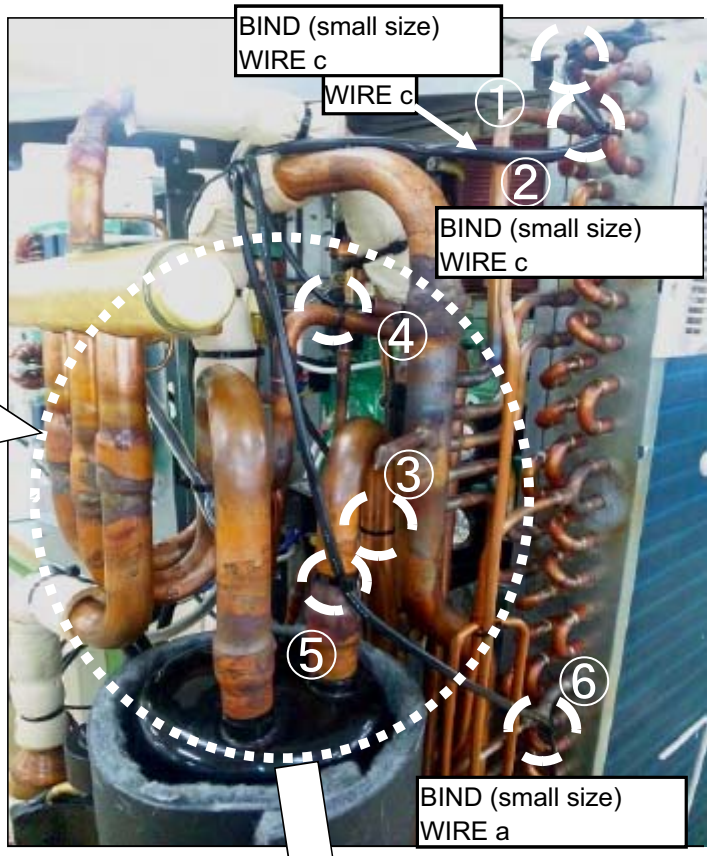
APPLICABLE MODEL : 【AO*G45LAT8】
【ROG45LAT8】
【HOG45LAT8】

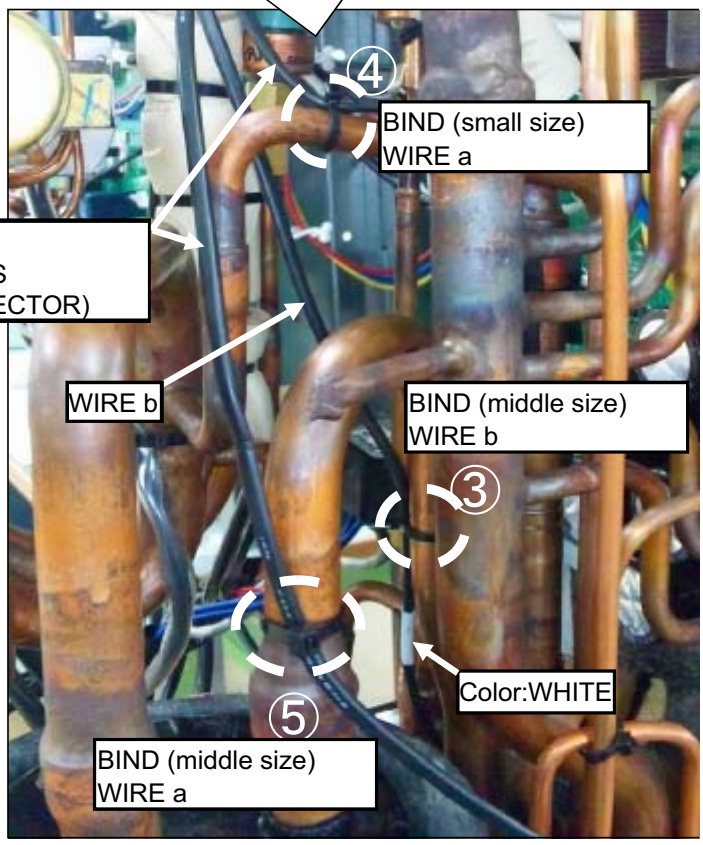


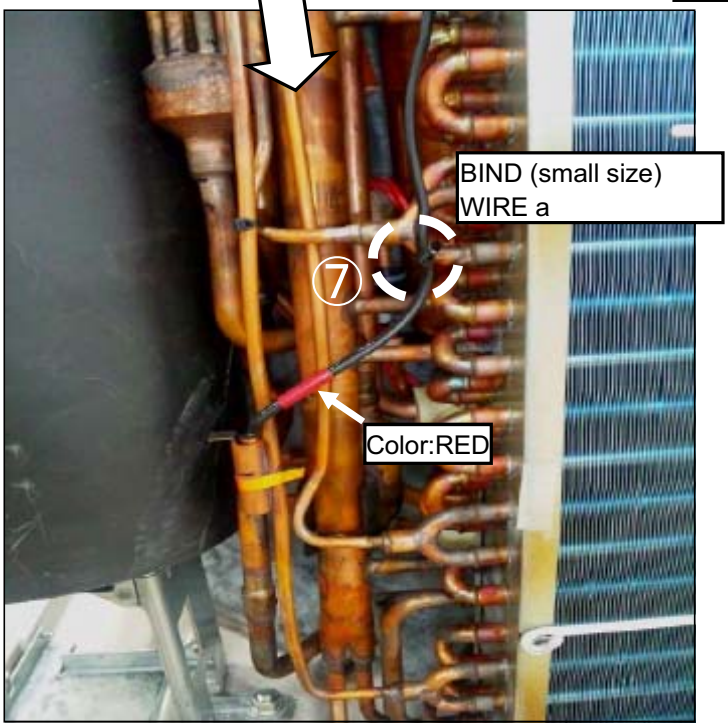
BACK VIEW

APPLICABLE MODEL：ALL MODEL





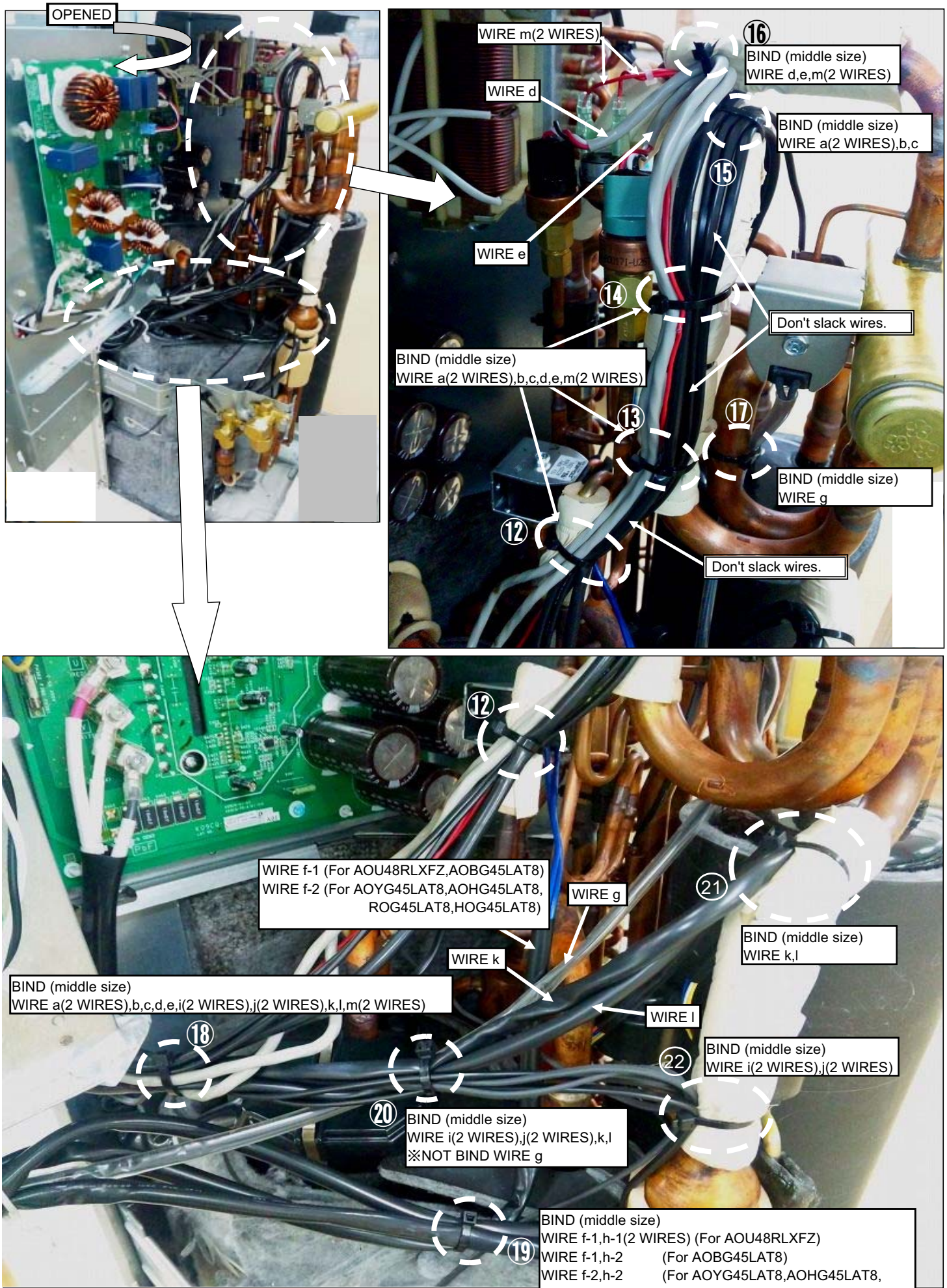




※We have removed the“Right panel”when taking the pictures.

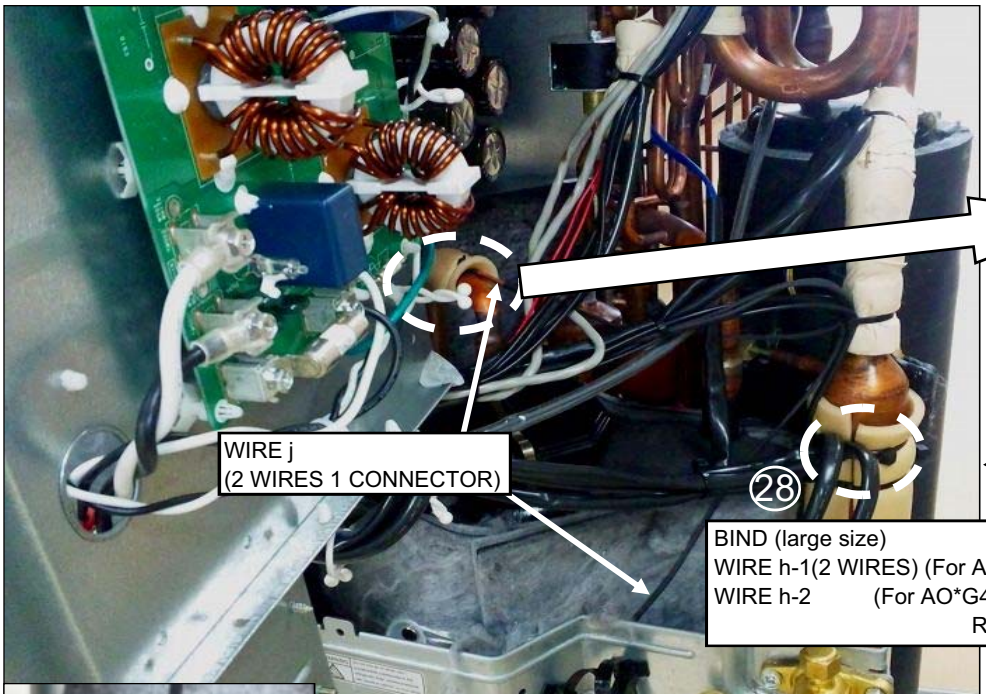
FRONT VIEW

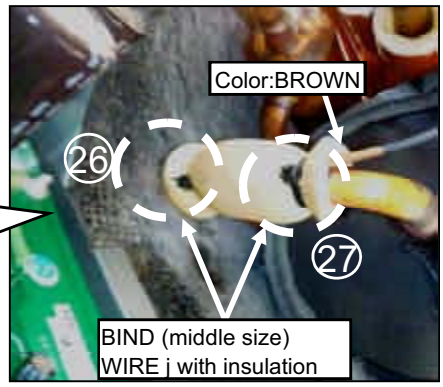
APPLICABLE MODEL：ALL MODEL



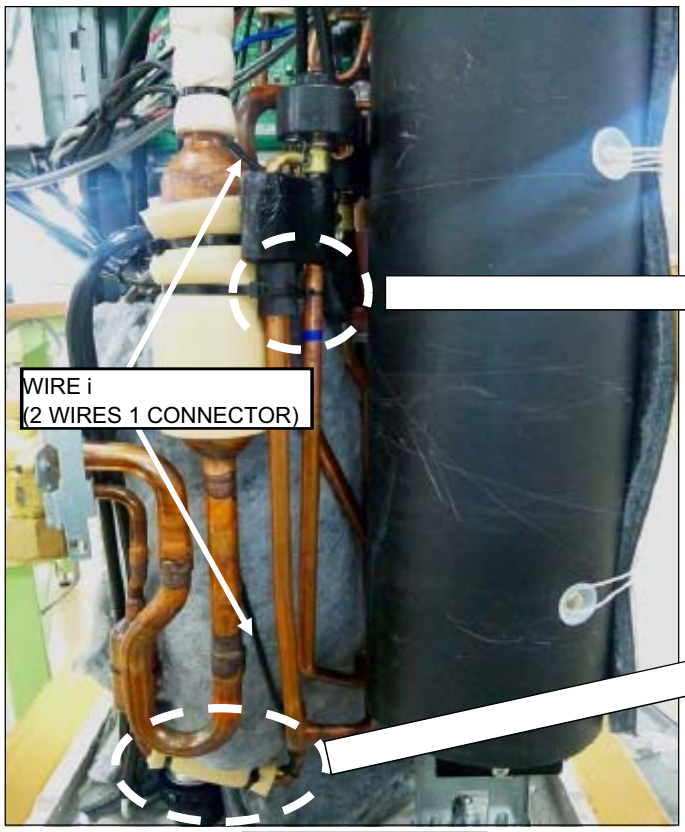
※We have removed the “Right panel” when taking the pictures.

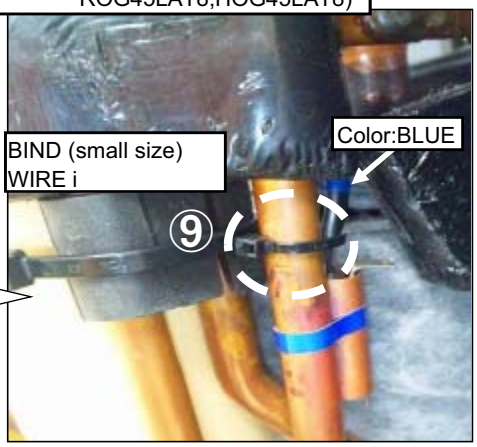
APPLICABLE MODEL：ALL MODEL

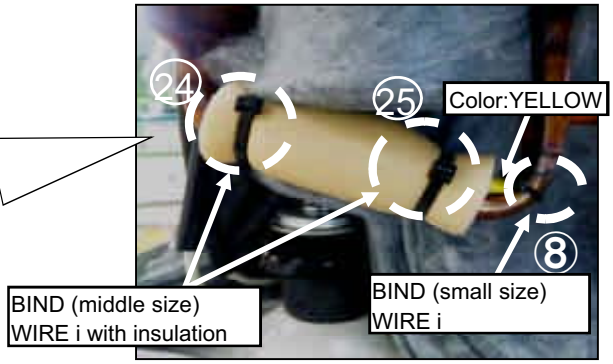




SIDE VIEW







SIDE VIEW

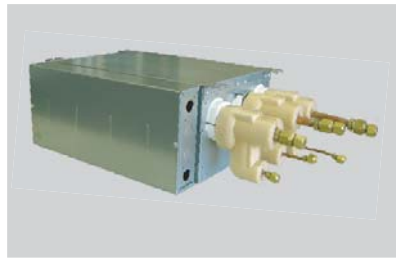
※We have removed the “Right panel” when taking the pictures.

3-2. DISASSEMBLY PROCESS for Branch Box

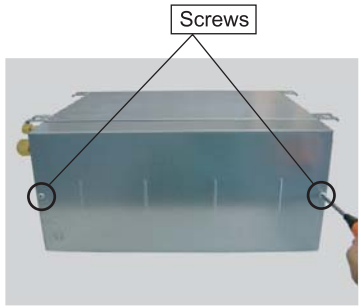
⚠ WARNING

Before servicing the unit, turn the power supply switch OFF,
Then, do not touch electric parts for 10 minutes due to the risk of electric shock.

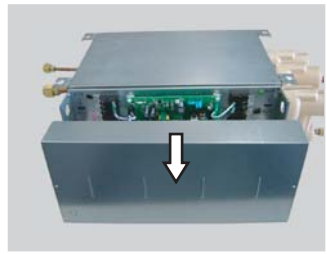
1. Appearance



2. CONTROLLER BOX COVER removal



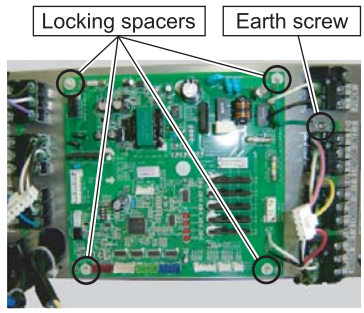
Remove the mounting screws.



Remove the CONTROL BOX COVER
by sliding toward.

3. CONTROLLER PCB removal

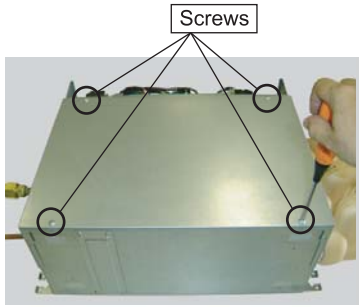
Remove the connectors.



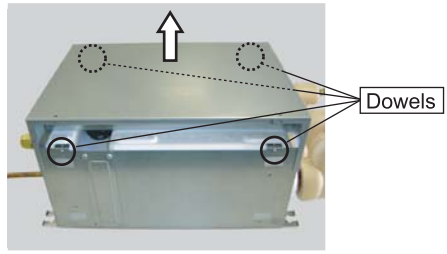
Remove the earth screw and
the locking spacers.

[REFERENCE DATA]
Model : UTP-PU03B (Secondary type)

4. BOTTOM PANEL removal

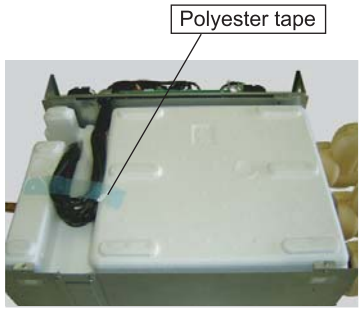


Remove the mounting screws.

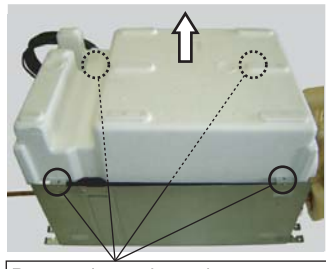


Remove the BOTTOM PANEL
by sliding upward.

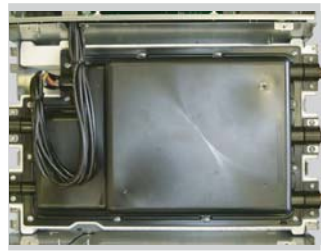
4. INSULATION BOX (BOTTOM) removal



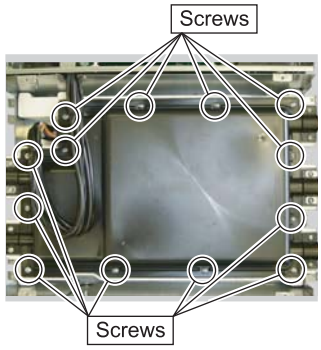
Remove the polyester tape.



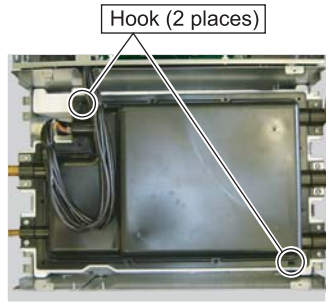
Remove the INSULATION BOX(BOTTOM)
by sliding upward.



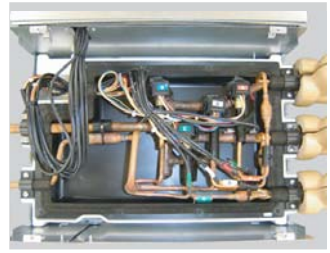
5. CASE (BOTTOM) removal



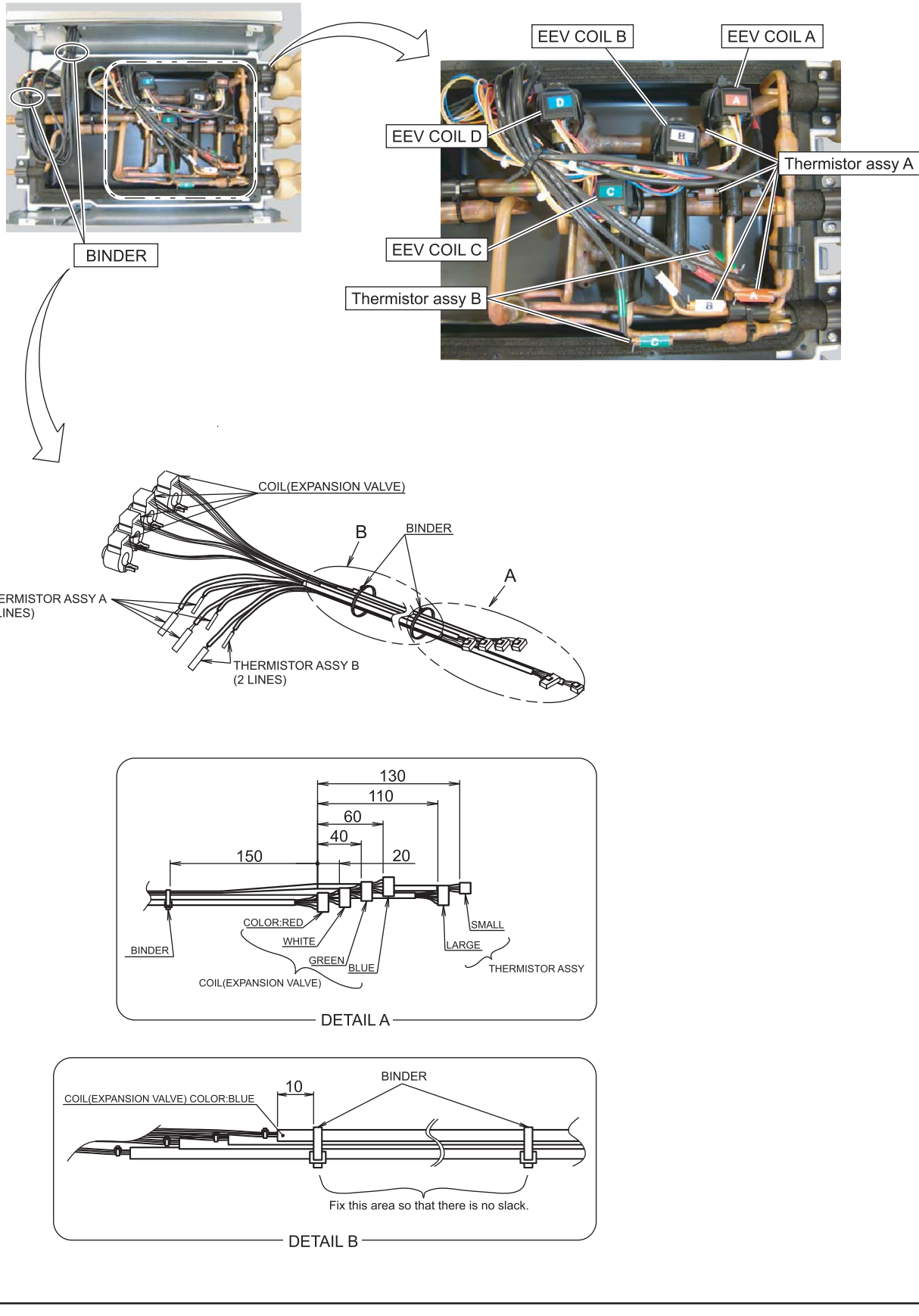
Remove the mounting screws.
(13 places)

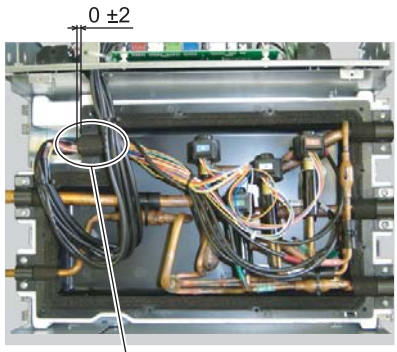


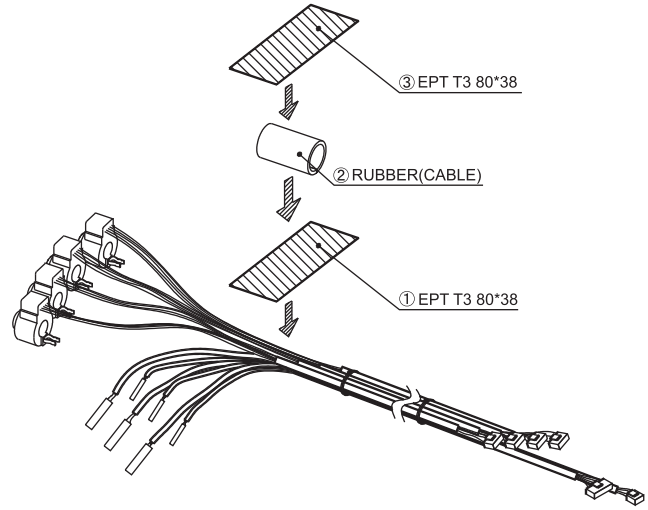
Remove the CASE (BOTTOM).

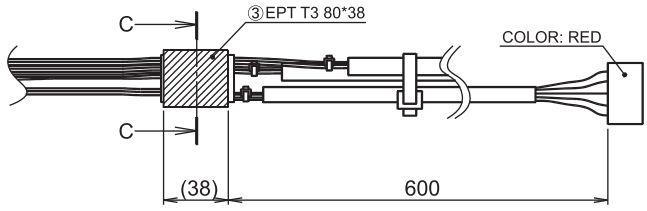


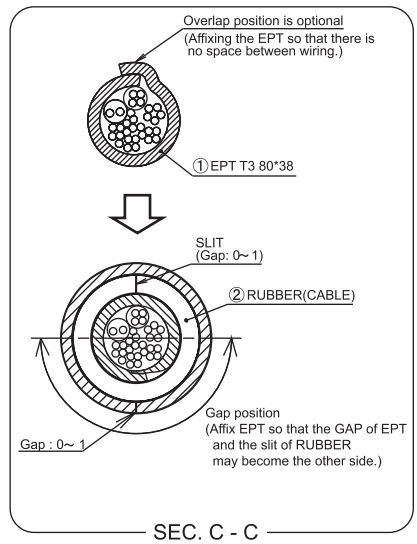
6. Layout plan in CASE




0 ±2
RUBBER (CABLE)


③EPT T3 80*38
②RUBBER(CABLE)
①EPT T3 80*38


C
③EPT T3 80*38
COLOR: RED
C
(38)
600


Overlap position is optional
(Affixing the EPT so that there is no space between wiring.)
①EPT T3 80*38
SLIT
(Gap: 0~ 1)
②RUBBER(CABLE)
Gap position
(Affix EPT so that the GAP of EPT and the slit of RUBBER may become the other side.)
Gap : 0~ 1
SEC. C - C

7. THERMISTOR removal

· THERMISTOR (Liquid)

Remove the THERMISTOR SPRING
with the THERMISTOR.

· THERMISTOR (Gas)

Remove the THERMISTOR SPRING.

Remove the THERMISTOR.

8. EEV COIL removal

Remove the EEV coil by hand.

9. Precautions for exchange of refrigerant-cycle-parts

(1) During exchange the following parts shall be protected by wet rag and not make the allowable temperature or more.
(2) Remove the heat insulation when there is the heat insulation near the welding place.
Move and cool it when its detaching is difficult.
(3) Cool the parts when there are parts where heat might be transmitted besides the replacement part.
(4) Interrupt the flame with the fire-retardant board when the flame seems to hit the following parts directly.
(5) Do not allow moisture or debris to get inside refrigerant pipes during work.
(6) When brazing, be sure to replace the air in the pipe with nitrogen gas to prevent forming oxidization scale.

Part name	Allowable temperature	Precautions in work
EXPANSION VALVE	120°C	Remove the coil before brazing. And install the coil after brazing.
UNION JOINT	100°C	Remove the pressure sensor before brazing. And install the pressure sensor after brazing.