

This Owner's Manual is provided and hosted by [Appliance Factory Parts](#).



# Sharp AFR1208X Owner's Manual

[Shop genuine replacement parts for Sharp AFR1208X](#)

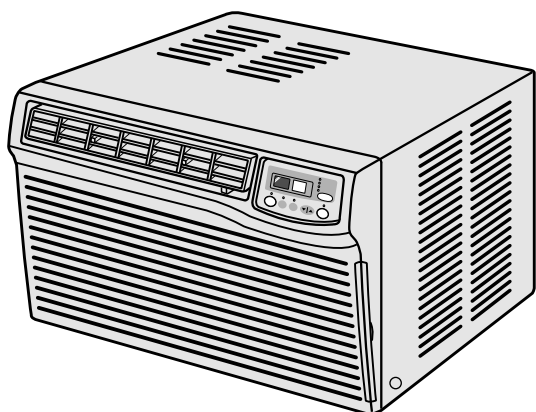
# SHARP

[Find Your Sharp Air Conditioner Parts - Select From 181 Models](#)

----- Manual continues below -----

# SHARP SERVICE MANUAL

S6830AFR128X/



## AIR CONDITIONER

**MODELS**    **AF-T908X**  
                   **AF-R908X**  
                   **AF-R1108X**  
                   **AF-R1208X**

In the interest of user-safety the air conditioner should be restored to its original condition and only parts identical to those specified should be used.

### TABLE OF CONTENTS

	Page
SPECIFICATIONS .....	2
WIRING DIAGRAM .....	3
EXTERNAL DIMENSIONS .....	4
OPERATION INSTRUCTIONS .....	4
INSTALLATION INSTRUCTIONS .....	7
DISASSEMBLING PROCEDURE .....	10
HOW TO REPAIR REFRIGERATION .....	14
ELECTRICAL COMPONENT TEST .....	16
MICROCOMPUTER CONTROL SYSTEM .....	17
TROUBLESHOOTING GUIDE .....	24
RUNNING CONDITION .....	28
PACKING AND ACCESSORIES .....	29
REPLACEMENT PARTS LIST .....	30

**SHARP CORPORATION**

This document has been published to be used for after sales service only.  
 The contents are subject to change without notice.

## SPECIFICATIONS

Models		AF-T908X, AF-R908X	AF-R1108X	AF-R1208X
Cooling capacity	BTU/h	8500	10500	12000
Moisture removal	Pints/h	2.1	3.0	3.8

### ELECTRICAL DATA

Phase		Single		
Rated frequency	Hz	60		
Rated voltage	Volts	115		
Rated current	Amps	8.0	10.2	11.9
Rated input	Watts	850	1100	1300
Power factor	%	92	94	95
EER	BTU/Wh	10.0	9.5	9.2

### COMPRESSOR

Type	(Hermetically sealed rotary type)		
Model, Remarks	QB125CL22A, 700W	QK164CN22A, 890W	QK189CN22A, 1050W

### REFRIGERANT SYSTEM

Evaporator	Louver fin, Grooved tube, 7mm, Hair pin		
Condenser	Louver fin, Bare tube, 7mm Hair pin	Louver fin, Grooved tube, 7mm Hair pin	
Control O.D. x I.D. x Length x Q'ty(mm)	Capillary tube 2.7 x 1.4 x 650 x 1	Capillary tube 2.7 x 1.6 x 800 x 1	Capillary tube 2.7 x 1.2 x 650 x 2
Refrigerant volume R-22(OZ)	15.2(Factory charged)	14.6(Factory charged)	18.5(Factory charged)

### NET DIMENSIONS

Width Height Depth	inches(mm)	22-1/16(560) x 14-3/4(375) x 24-5/16(617)		
Net Weight	lbs	84	84	88

### GROSS DIMENSIONS

Width Height Depth	inches(mm)	22-25/32(655) x 18-29/32(480) x 27-7/8(708)		
Gross Weight	lbs	95	95	99

### FAN SYSTEM

Indoor side(Evaporator)	Centrifugal fan			
Outdoor side(Condenser)	Propeller fan			
Air flow rate(indoor side)	CFM	(High/Med/Low) 275 / 223 / 198	(High/Med/Low) 293 / 265 / 237	(High/Med/Low) 286 / 258 / 230

### OTHERS

Safety devices	Compressor: Overload relay Fan motor: Internal thermal fuse			
Air filter	Polypropylene net			
Power cord length	ft	4.3		
Power plug type	125V, 15A			

### ELECTRICAL PARTS

Models	AF-T908X,AF-R908X	AF-R1108X	AF-R1208X
Running capacitor	370V-35 $\mu$ F	370V-40 $\mu$ F	370V-60 $\mu$ F
Fan capacitor(indoor/outdoor)	250V-3 $\mu$ F/250V-6 $\mu$ F	250V-6 $\mu$ F/250V-6 $\mu$ F	250V-6 $\mu$ F/250V-6 $\mu$ F
Thermistor	15k $\Omega$ at 78 $^{\circ}$ F		
Fan motor	RMLA046/RMLA045	RMLA044/RMLA043	RMLA044/RMLA043
Overload relay	MRA12061-9201	MRA98965-9200	MRA12053-9200

### WIRING DIAGRAM

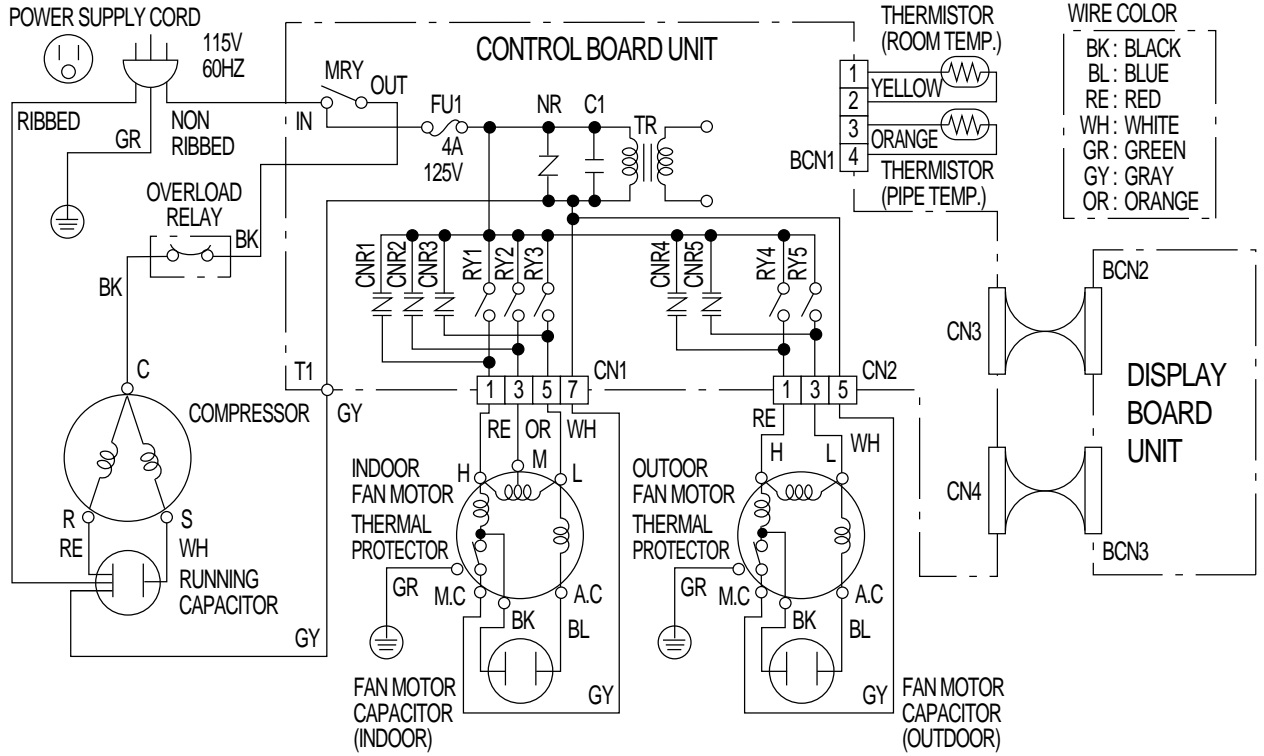


Figure W-1 .

### FAN MOTOR

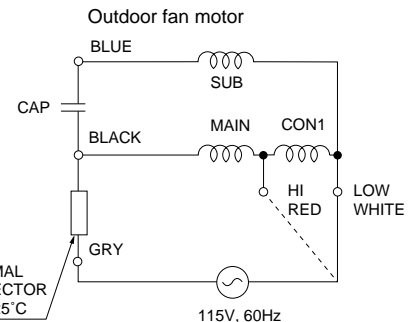
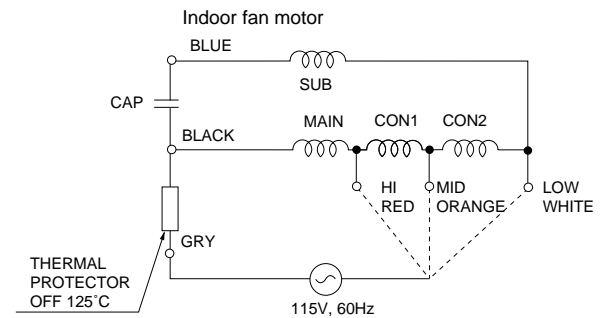
(1) Using a volt-ohm-meter set on resistance range, check the resistance between the motor windings.

#### Indoor fan motor

MODEL	AF-R908X, AF-T908X	AF-T1108X, AF-T1208X
MAIN COIL	approx. 58.95 $\Omega$	approx. 102.16 $\Omega$
SUB COIL	approx. 87.89 $\Omega$	approx. 77.26 $\Omega$
CON1	approx. 34.75 $\Omega$	approx. 18.16 $\Omega$
CON2	approx. 11.89 $\Omega$	approx. 12.30 $\Omega$

#### Outdoor fan motor

MODEL	AF-R908X, AF-T908X	AF-T1108X, AF-T1208X
MAIN COIL	approx. 51.40 $\Omega$	approx. 38.06 $\Omega$
SUB COIL	approx. 29.30 $\Omega$	approx. 37.32 $\Omega$
CON1	approx. 21.10 $\Omega$	approx. 25.22 $\Omega$

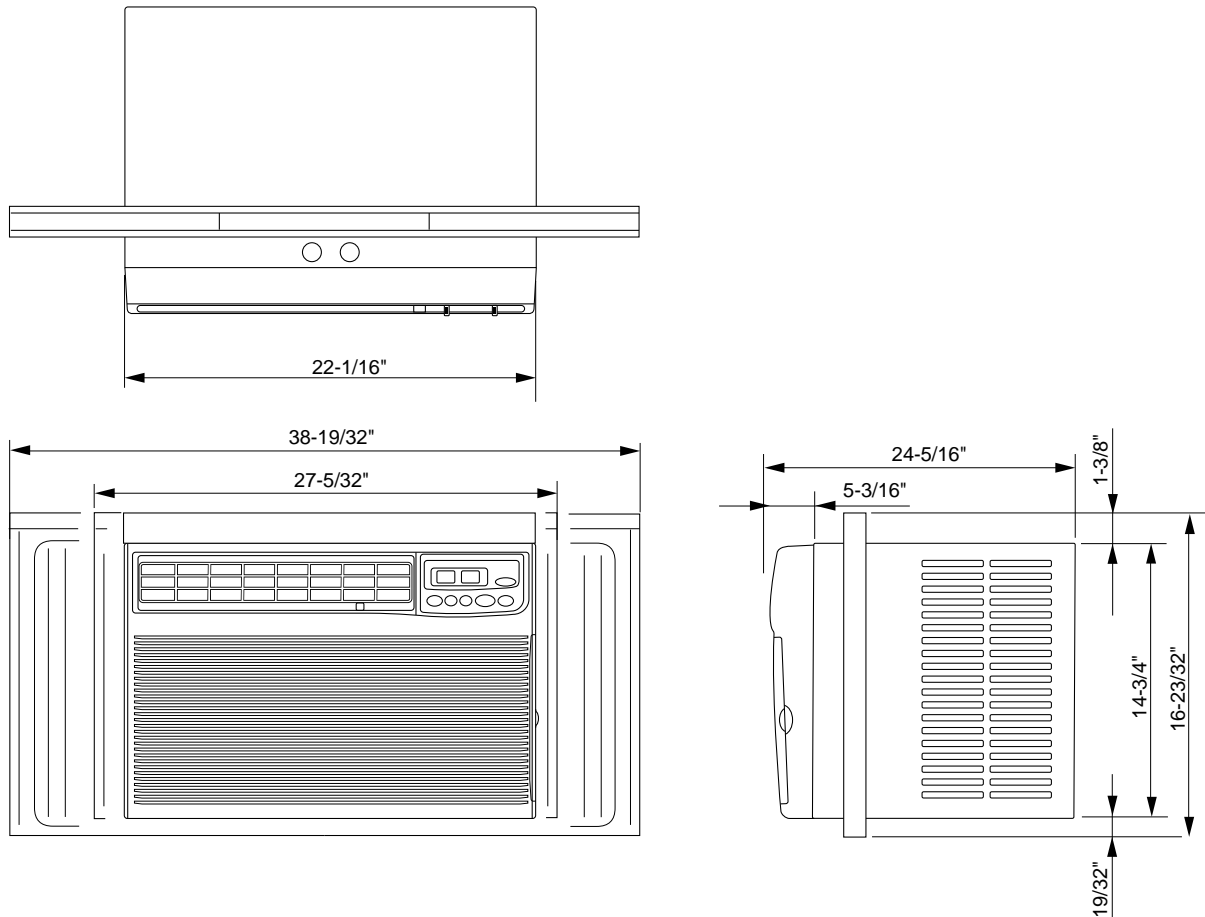


(2) Connect RED and GRAY wires to proper source and make run test by rotating the motor shaft by hand.

### MEGGER TESTING

Check the resistance between connector terminal and motor shaft. Reading must be more than 10M $\Omega$  at DC 500V.

## EXTERNAL DIMENSIONS

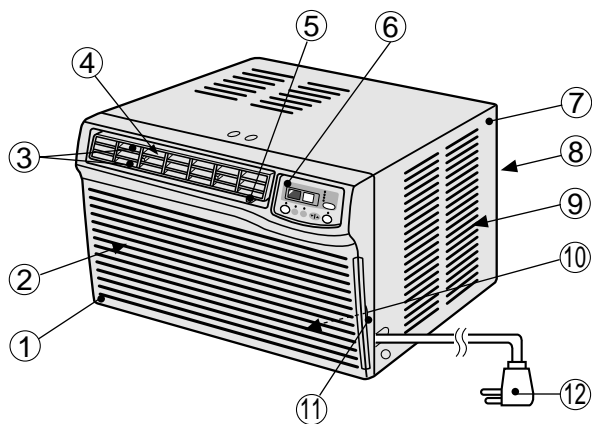


## OPERATION INSTRUCTIONS

### PARTS NAMES

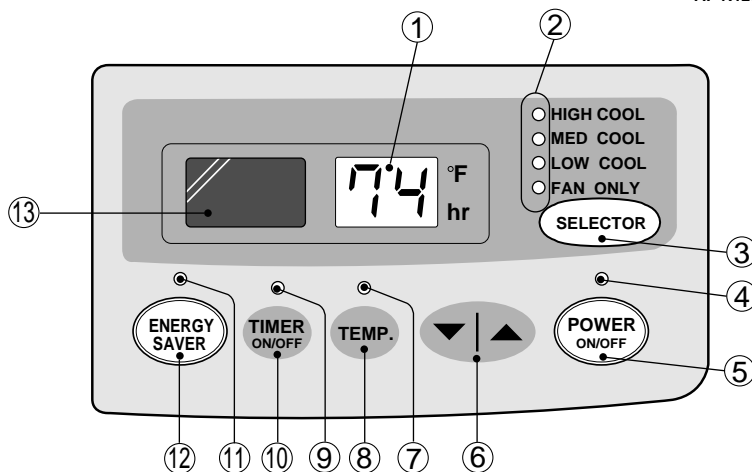
#### UNIT

- 1 Front panel
- 2 Air inlet (Indoor side)
- 3 Louvers
- 4 Air outlet (Indoor side)
- 5 Exhaust lever
- 6 Control panel
- 7 Cabinet
- 8 Air outlet (Outdoor side)
- 9 Air inlet (Outdoor side)
- 0 Filter (Pull the filter handle to the right to remove.)
- q Filter handle
- w Power cord



## CONTROL PANEL

- 1 **Display**
- 2 **SELECTOR indicator**
- 3 **SELECTOR pad**
- 4 **POWER indicator**
- 5 **POWER ON/OFF pad**
- 6 **TEMPERATURE and TIMER setting pad**
  - " ●●●Temp. lower or time reverse
  - ' ●●●Temp. raise or time advance
- 7 **TEMPERATURE indicator**
- 8 **TEMPERATURE pad**
- 9 **TIMER indicator**
- 0 **TIMER ON/OFF pad**
- q **ENERGY SAVER indicator**
- w **ENERGY SAVER pad**
- e **Receiver window for remote control signal**  
 (Models AF-R908X, AF-R1108X and AF-R1208X only)



## COOLING OPERATION

PROCEDURE	PAD	DISPLAY / INDICATOR
1. Touch POWER ON/OFF pad. <ul style="list-style-type: none"> <li>• The unit is preset at 74 °F and HIGH COOL. This will show in display when first turned on.</li> </ul>		<ul style="list-style-type: none"> <li>• POWER indicator, SELECTOR indicator (HIGH COOL) and TEMPERATURE indicator will light.</li> </ul>
2. Touch POWER ON/OFF pad again. <ul style="list-style-type: none"> <li>• The unit will stop operating.</li> </ul>		<ul style="list-style-type: none"> <li>• POWER indicator, SELECTOR indicator and TEMPERATURE indicator will go off.</li> </ul>


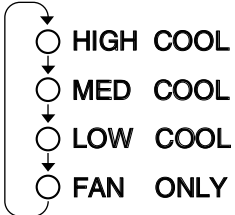
## TO CHANGE TEMPERATURE SETTING

PROCEDURE	PAD	DISPLAY / INDICATOR
<b>During cooling operation</b> 1. Touch TEMPERATURE pad.		<ul style="list-style-type: none"> <li>• TEMPERATURE indicator will light.</li> </ul>
2. Touch TEMPERATURE and TIMER setting pad to adjust temperature setting. <ul style="list-style-type: none"> <li>• It can be set within the range of 64°F to 86°F.</li> </ul>	<ul style="list-style-type: none"> <li>' ●●●Lower temp. setting.</li> <li>" ●●●Raise temp. setting.</li> </ul>	<ul style="list-style-type: none"> <li>• Display will change as you touch the pad.</li> </ul>

The latest temperature setting will be memorized and will appear on the display the next time it's turned on.

NOTE: In cases of power outages or when unit is disconnected; when the power is restored or unit is plugged in, the unit and display will return to the preset conditions of 74 °F and HIGH COOL. However the unit will not automatically turn back on.

## TO CHANGE FAN SPEED

PROCEDURE	PAD	DISPLAY / INDICATOR
<p><b>During operation</b></p> <p>Touch SELECTOR pad and select the desired fan speed.</p>		<ul style="list-style-type: none"> <li>• SELECTOR indicator will light in order as you touch.</li> </ul> 

### NOTES ON FAN SPEED

**HIGH COOL**

Fan and cooling at maximum performance. Unit is preset at factory to HIGH COOL.

**MED COOL**

Fan operates at medium speed; cooling power at medium.


**LOW COOL**

Cooling for sleeping comfort with low fan speed.

### FAN ONLY OPERATION

This setting can be used to circulate air whenever cooling is not desired.



**The fan will operate at medium speed.**

PROCEDURE	PAD	DISPLAY / INDICATOR
<p><b>During operation</b></p> <p>Touch SELECTOR pad and select FAN ONLY.</p>		<ul style="list-style-type: none"> <li>• SELECTOR indicator FAN ONLY will light. After 10 seconds, the compressor will stop and the unit will operate in FAN ONLY mode.</li> </ul>

The fan speed setting or FAN ONLY setting of the latest speed will be memorized and will light the next time unit is turned on.

### ENERGY SAVER

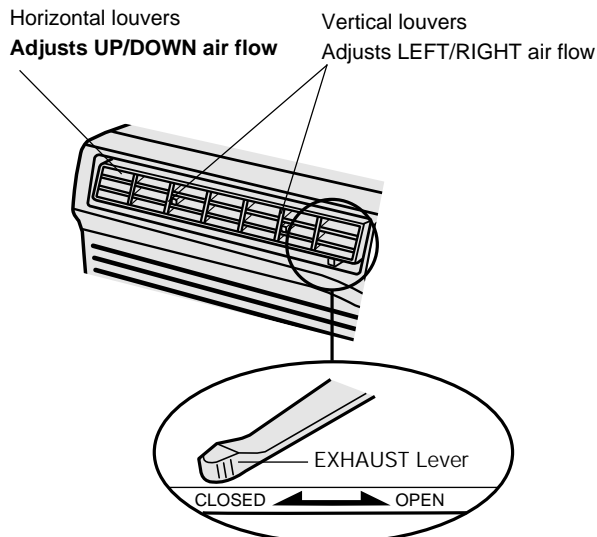
During normal operation, the thermostat automatically controls cooling and the fan runs continuously whenever the air conditioner is in operation. When the ENERGY SAVER is set, the thermostat automatically controls cooling and the fan automatically stops when the compressor is not operating. (Fan will stop in 30 seconds after the compressor stops.)

PROCEDURE	PAD	DISPLAY / INDICATOR
<p><b>During cooling operation</b></p> <p>1. Touch ENERGY SAVER pad.</p>		<ul style="list-style-type: none"> <li>• ENERGY SAVER indicator will light.</li> </ul>
<p>2. To cancel, touch ENERGY SAVER pad again.</p>		<ul style="list-style-type: none"> <li>• ENERGY SAVER indicator will go off.</li> </ul>

NOTE : ENERGY SAVER cannot be set during FAN ONLY mode operation.

## CHANGING AIR FLOW DIRECTION

Adjust the louvers to change the direction of air flow for uniform and efficient cooling of the room.



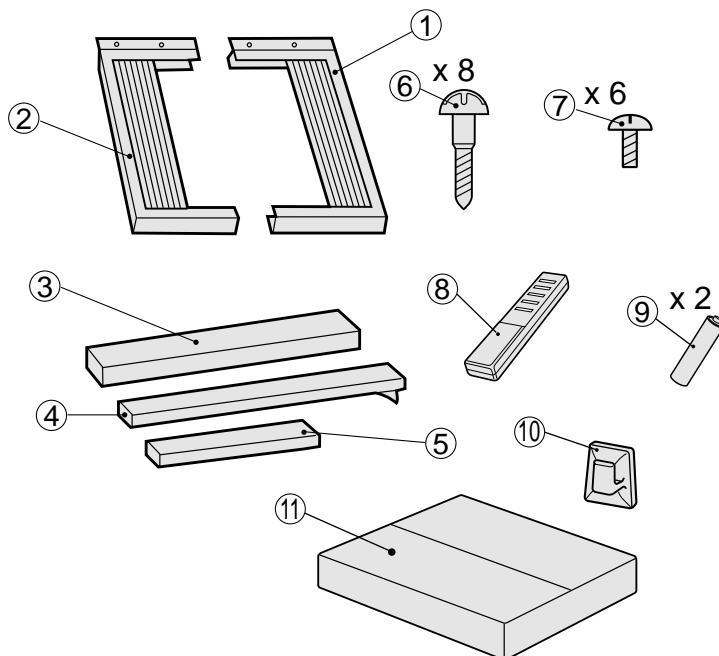
## EXHAUST

If air in your room is stale, set the EXHAUST lever to the OPEN position. This will exhaust stale air to the outside. The EXHAUST lever should normally be kept in the CLOSED position during cooling for maximum efficiency.

## INSTALLATION INSTRUCTIONS

### ITEMS PACKED WITH THIS UNIT

No.	Accessories	Q'ty	
1	Right closure assembly	1	
2	Left closure assembly	1	
3	Window sash foam seal	1	
4	Window sash foam seal (adhesive type)	1	
5	Bottom gasket	1	
6	Screws L=1", (25.4mm)	8	
7	Screws L=13/32", (10mm)	6	
8	only for models	Remote control	1
9	AF-R908X	Battery	2
0	AF-R1108X	Remote control hook	1
q	AF-R1208X		
	Front panel assembly	1	



## SUGGESTED TOOLS

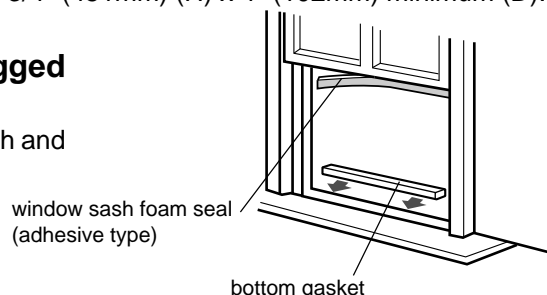
1. Screw driver (medium size Phillips)
2. Tape measure or ruler
3. Knife or scissors

## INSTALLATION

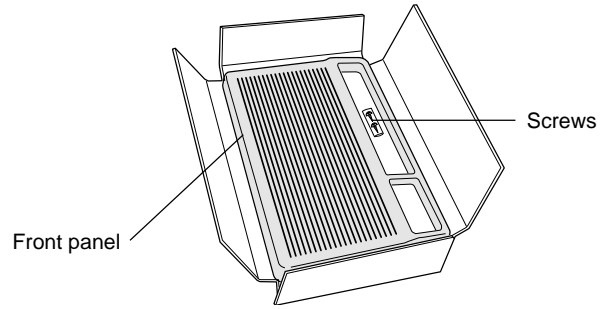
**NOTE:** These models can also be installed through the wall with the optional through the wall mounting kit, model AZ-80WK. To order this kit either contact your dealer or call 1-800-BE-SHARP. The wall opening dimensions for through the wall installation are: 25" (635mm) (W) x 17 1/4" (438mm) to 17 3/4" (451mm) (H) x 4" (102mm) minimum (D). Complete instructions are included with the wall mounting kit.

**WARNING: Make sure the unit is turned off and unplugged before working.**

- 1-1. Cut the window sash foam seal (adhesive type) to the proper length and attach it to the underside of the window sash.
- 1-2. Attach the bottom gasket to the outer side of the window sill.



- Open the box of the front panel assembly and take out the front panel and 2 screws.

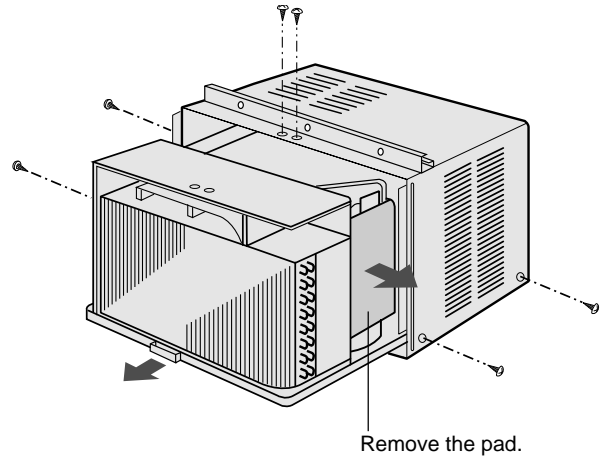


- Unscrew the 6 stopper screws of the cabinet. Keep the 4 screws from the top and front, as they will be used later.

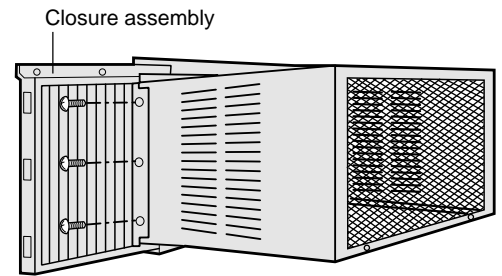
- Slide the chassis out from the cabinet by pulling on the hand hold located at the bottom center of the chassis.

- Remove the pad in side of the compressor.

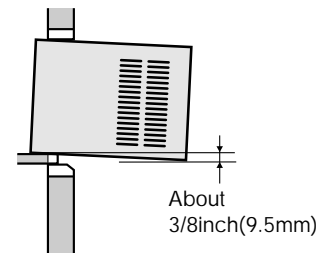
**CAUTION:** Do not remove any material (ex. styrofoam, etc.) from inside the unit.



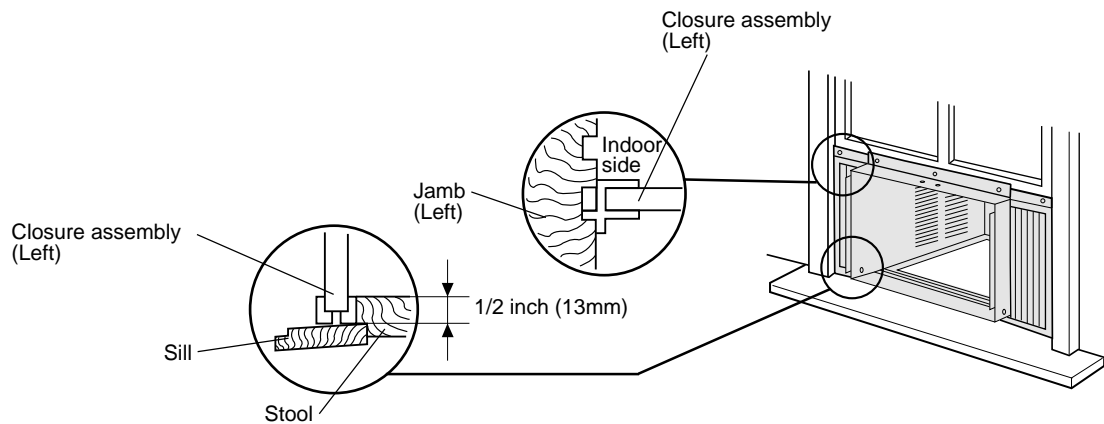
- Insert the right closure assembly and the left closure assembly into the top angle and the bottom channels. Secure the right and left closure to the cabinet with 6 of the provided screws. (L= 13/32", 10 mm)



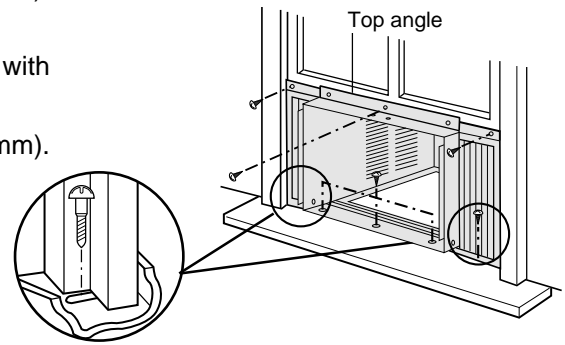
- Open the window sash and place the cabinet on the sill. The cabinet should be inclined backward by approx. 3/8 inch (9.5 mm). Close the window sash securely behind the top angle.



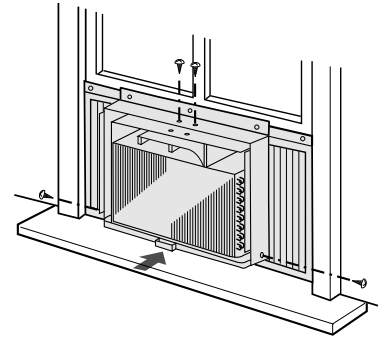
- Insert the closure assemblies on both sides into the rails of the jamb.



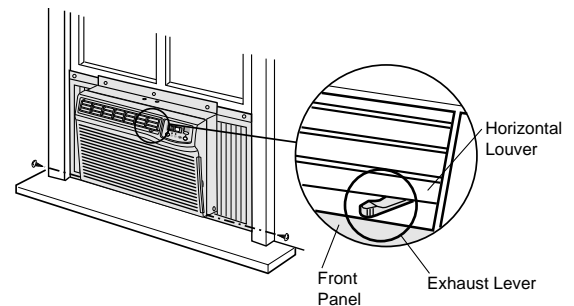
- 7-1. Secure the cabinet to the window stool with 3 screws (L=1", 25.4 mm), working from the inside of the cabinet.
- 7-2. Secure the top angle and the closure assemblies to the window sash with 3 screws (L=1", 25.4 mm).
- 7-3. Secure the closure assemblies to the sill with 2 screws (L=1", 25.4 mm).



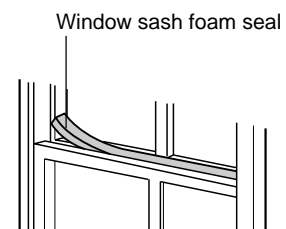
- 8-1. Slide the chassis back into the cabinet.
- 8-2. Replace the 4 screws removed in step 3 to the top and side of the cabinet.



- 9-1. Replace the front panel. Slip the exhaust lever through the opening between horizontal louver and front panel, and then hook the cabinet top.
- CAUTION:** Take care not to damage the exhaust lever with the front panel.
- 9-2. Screw the front cabinet on at the bottom corners with 2 screws removed in step 2.



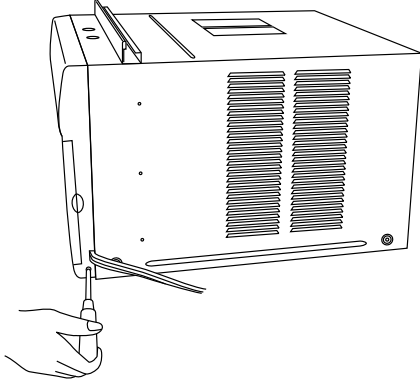
- 10. Cut the window sash foam seal to the proper length and seal the opening between the top of the inside window sash and the outside window sash.



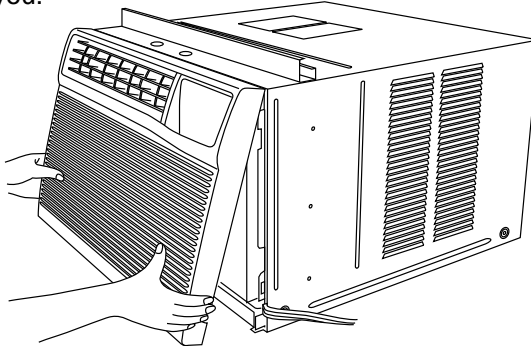
## DISASSEMBLING PROCEDURE

**CAUTION: DISCONNECT THE ROOM AIR CONDITIONER FROM THE POWER SUPPLY BEFORE ANY SERVICE**

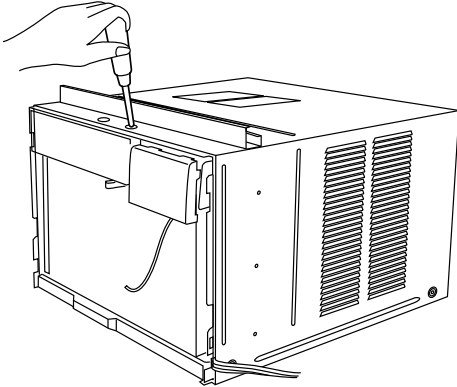
1. Unscrew the two screws holding the front panel on each side.



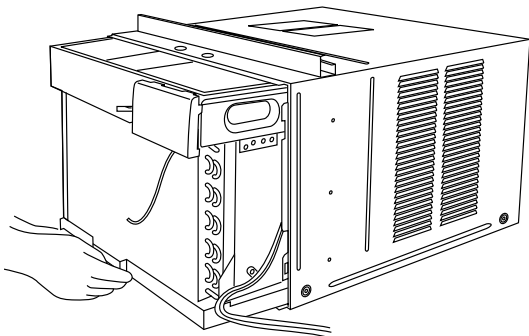
2. Remove the front panel by pulling it at the lower corner toward you about 1 inch and next lift up and pull it toward you.



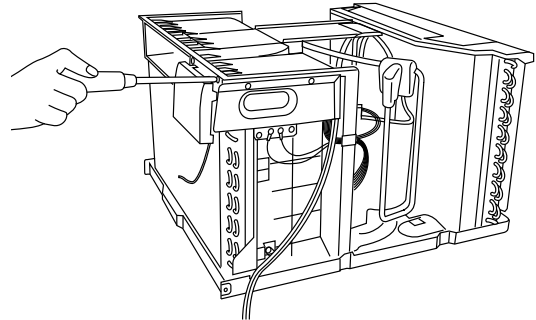
3. Unscrew the four screws holding the cabinet.  
Two screws are on top side.  
Two screws are on each side.



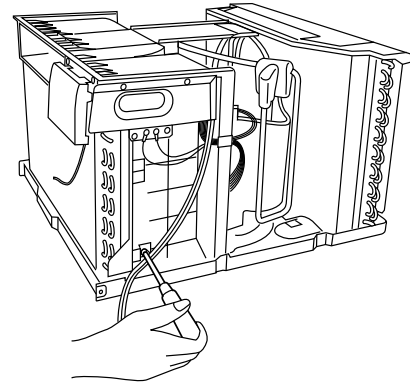
4. Slide the chassis away from the cabinet by pulling on each corner of the base pan.



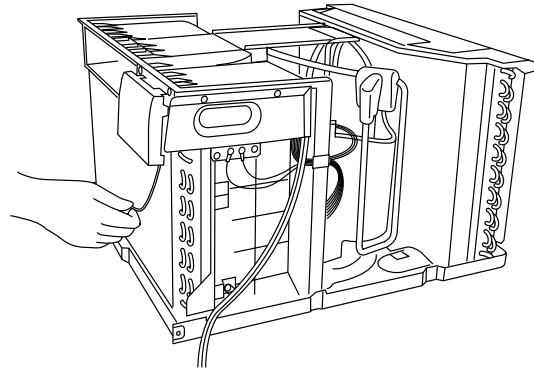
5. Unscrew the four screws holding the control unit.  
Two screws are on front side.  
Two screws are on right side.



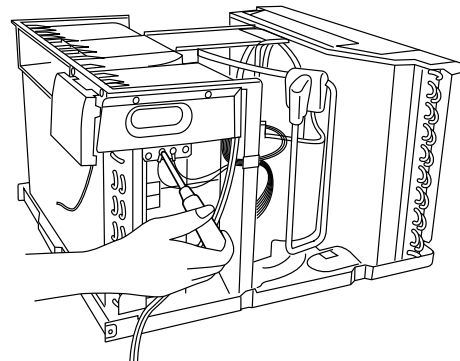
6. Unscrew the one screw holding the power supply cord.



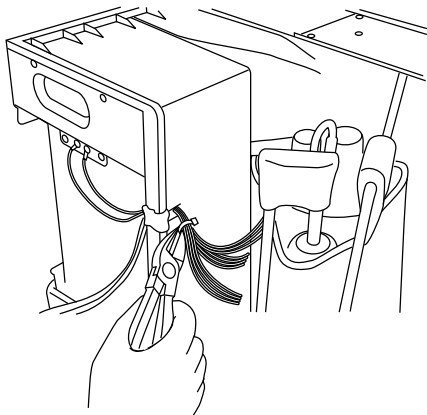
7. Pull out thermistor holder.



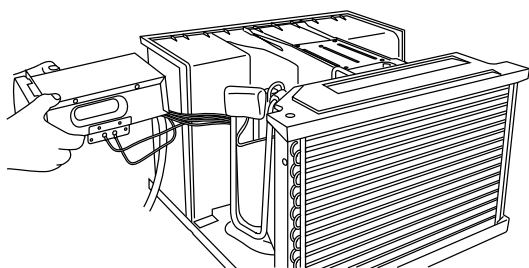
8. Unscrew the one screw holding earth wire code.



9. Cut the fixing band holding the wires.

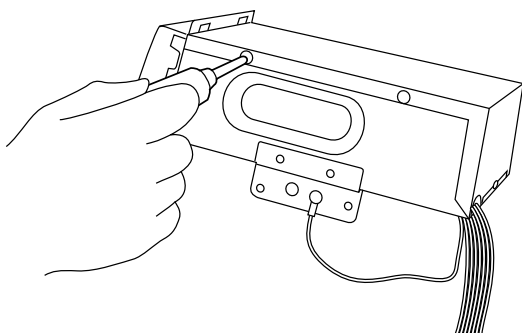


10. Remove the control unit.

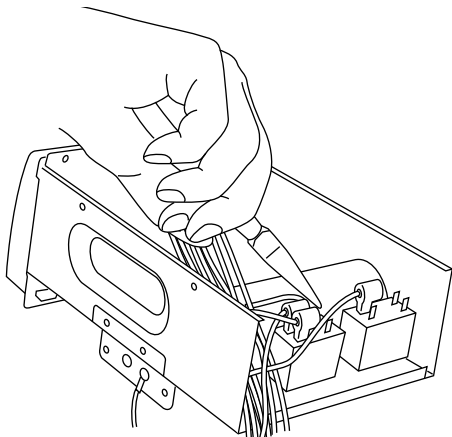


11. Unscrew the four screws holding control box cover.  
Two are on the right side, one is on the left side, one is on the back side.

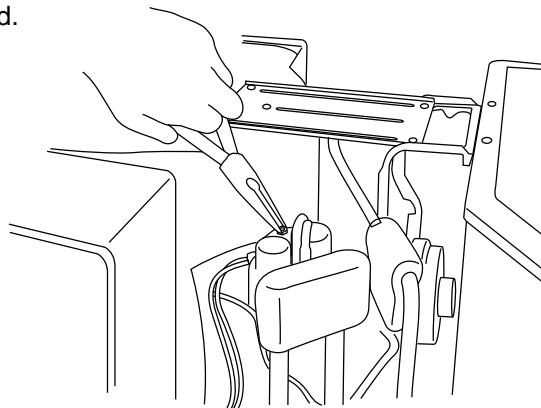
**CAUTION: DISCHARGE THE FAN MOTOR CAPACITOR AND RUNNING CAPACITOR BEFORE TOUCHING THOSE CAPACITORS OR OTHER COMPONENTS OR WIRING.**



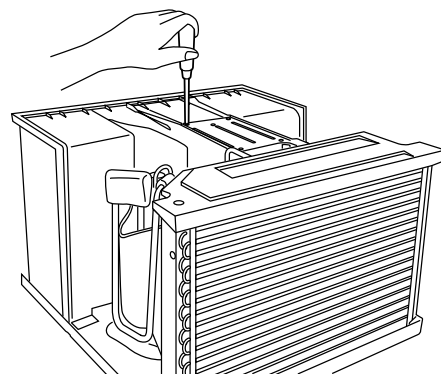
12. Detach each terminals of fan motors by using long-nose pliers.



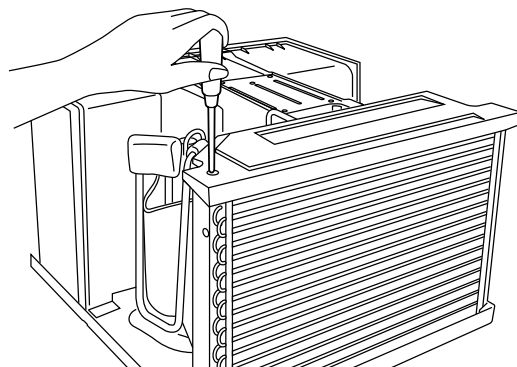
13. Remove the putty and unfasten the one nut at the top of compressor holding the terminal cover. Then remove the wiring connector of the compressor cord.



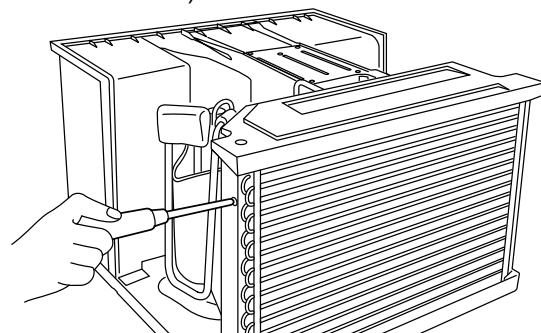
14. Unscrew the five screws holding the connecting stay.



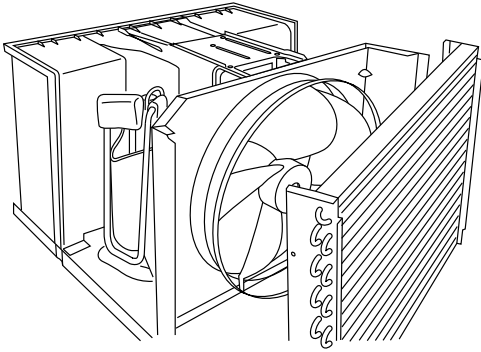
15. Unscrew the four screws holding the shroud cover.



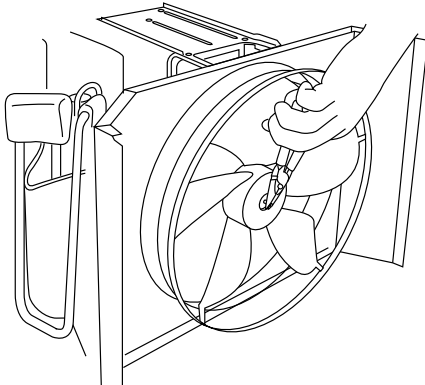
16. Unscrew the six screws holding the condenser and condenser shroud.  
Two screws are on the back side.  
Four screws are on the each side.  
Unscrew the two screws holding the condenser cover (AF-R1208X ONLY).



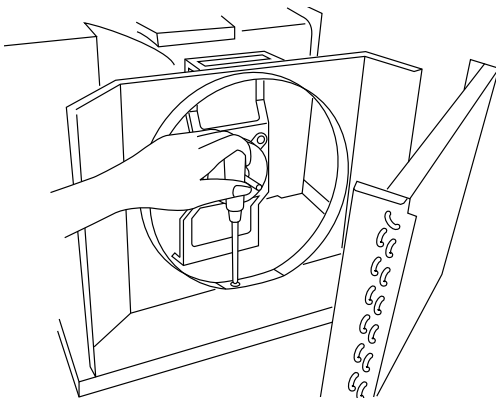
17. Remove the condenser by lifting up about 1 inch and pull it toward you and move to right.



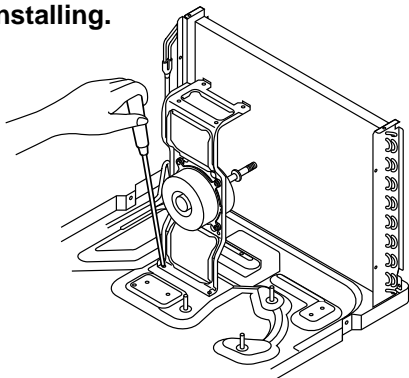
18. Unfasten the one nut holding propeller fan by rotating it clockwise. And remove the propeller fan.



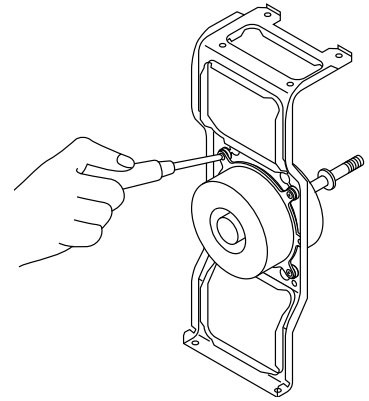
19. Unscrew the three screws holding condenser shroud.  
**Note: Seal three female screws with silicone sealer before re-installing.**



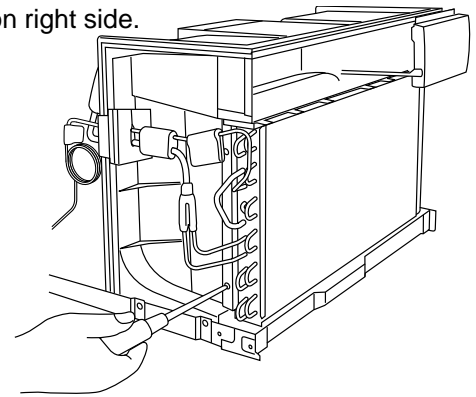
20. Unscrew the two screws holding fan motor angle assembly, and cut wire fixing band holding fan motor lead wire.  
**Note: Seal two female screws with silicone sealer before re-installing.**



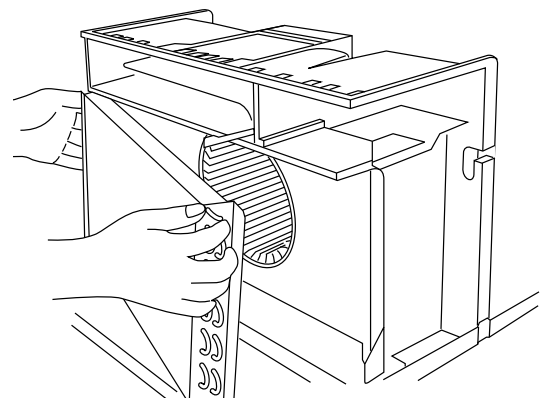
21. Unscrew the four screws holding the fan motor.  
**Note: Torque is 7 - 10 kgf.cm at re-installing.**



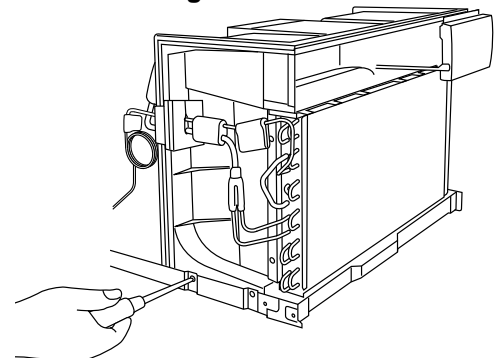
22. Unscrew the four screws holding the evaporator.  
Two are on left side.  
Two are on right side.



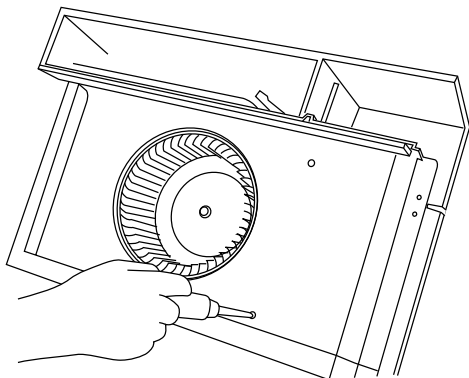
23. Remove the evaporator.



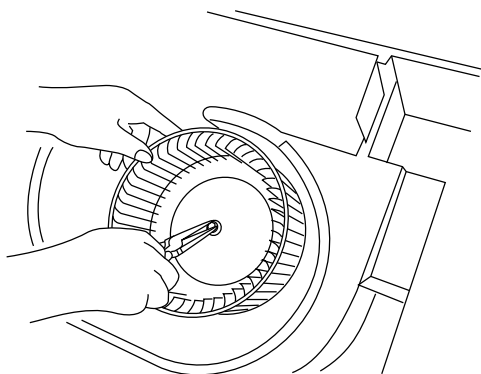
24. Unscrew the four screws holding the bulkhead.  
Three screws are on the each side.  
One screw is on the bottom side.  
**Note: Seal one female screws with silicone sealer before re-installing.**



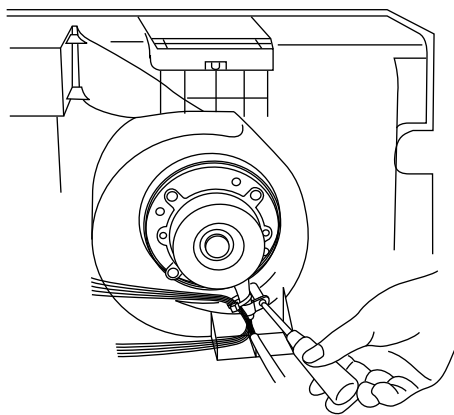
25. Unscrew the two screws holding the orifice



26. Unfasten the one nut holding the centrifugal fan by rotating it counterclockwise.

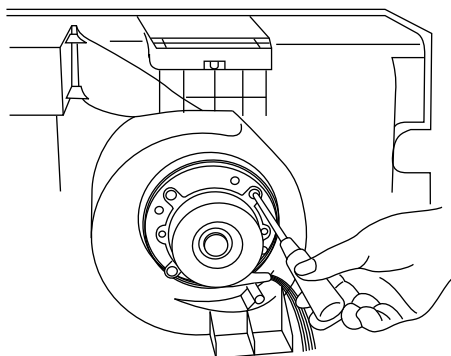


27. Unscrew the one screw holding the fan motor lead wire.

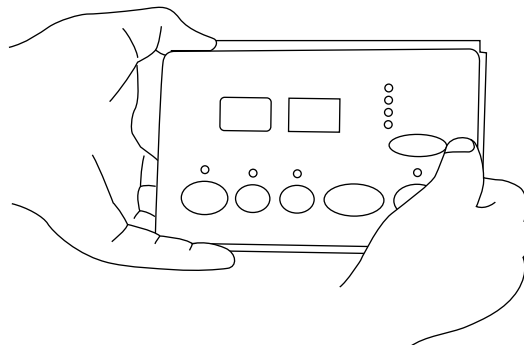


28. Remove the fan motor by unscrewing the four screws that have large head holding it with bulkhead.

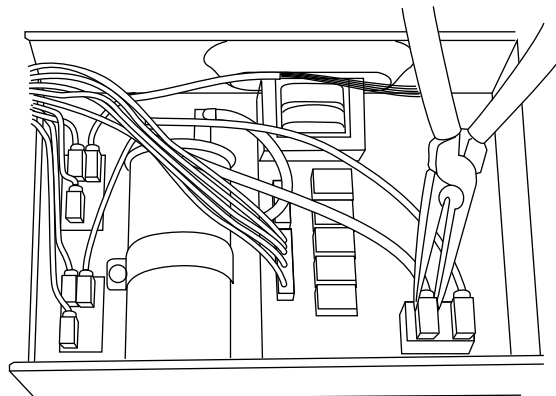
**Note: Torque is 7 - 10 kgf.cm at re-installing.**



29. Unscrew the three screws holding the printed wiring board.

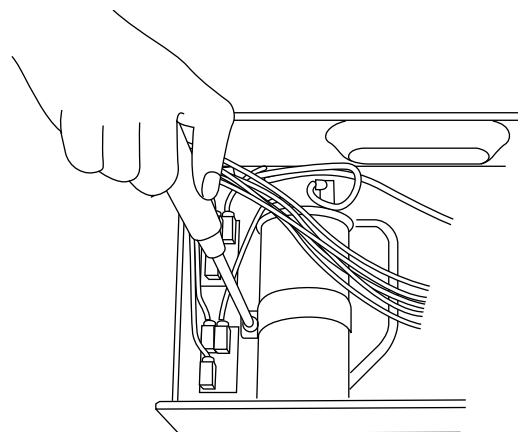


30. Detach terminals by using long-nose pliers.



31. Unscrew the five screws.

Two screws are holding the fan motor capacitors.  
One screw is holding the capacitor clamp.  
Two screws are holding the transformer.  
Unfasten the three spacers of the control box unit.



## HOW TO REPAIR REFRIGERATION

Before sealed system work can be preformed a refrigerant recovery EPA and LOCALLY approved certification is required, additionally, EPA and LOCALLY approved refrigerant recovery equipment is required.

### SEALED SYSTEM REPAIR

Sealed system repairs should be properly diagnosed before entering into a repair of the system.

It is important to follow proper procedures when doing a system repair for safety reasons and that the repair will result in a restoration of the system to proper factory standards.

### SAFETY REMINDERS

- 1) Do not heat any system component with an open flame for any reason.
- 2) Do not solder until you are sure that all refrigerant has been removed from the system.
- 3) Do not heat the charging cylinder with an open flame. Use warm water only and do not exceed 125°F (not too hot to keep your hand in.)
- 4) Do not over fill any charging cylinders, as they could explode when over filled.
- 5) Use proper wrenches.
- 6) Use safety goggles when working with refrigerants.
- 7) Keep a fire extinguisher within easy reach.
- 8) Watch flame direction when soldering so as not to burn clothing, wiring or other components.
- 9) Solder in a well ventilated area. If a high concentration of freon is present, an open flame will create phosgene gas which can be harmful.

### PROPER SOLDERING

Joint clearances should be maintained so that the brazing alloy will flow between the closely mated surfaces rather than forming large fillets.

This films make the strongest joints, capillary attraction also work best with close tolerance.

The best clearance is between 0.001" to 0.003", the amount of lap will be approximately 3/8" depending on the swaging tool used. (Figure 1.)

### CLEANING TUBING

To make a sound, leak tight joint, the brazing alloy when raised to brazing temperature, must wet and flow freely over the entire surface of the tubing in the joint area.

To assure this, the tubing surfaces must be free of all dirt, grease, oil and oxides otherwise the alloy will not wet and flow properly over any surface with these elements present. Cleaning can be done with an abrasive cloth or steel wool. Never blow into the tubing because this will introduce a lot of moisture into the system. Open tubing joints should be covered if exposed for long periods of time.

### PROPER FLUXING

Flux is necessary when using silver solder; it is not required when using silfos on copper to copper joints.

To do a good job the flux should cover the tube surface completely. Be careful not to introduce any flux inside the tubing.

Fluxing should be done after the tubing is mated together and just before brazing is done. Do not allow it to dry out.

When brazing, the flux should become entirely liquid and clear, like water. The temperature will be at 1100°F and only a little more heat will allow the alloy to flow freely into the joint.

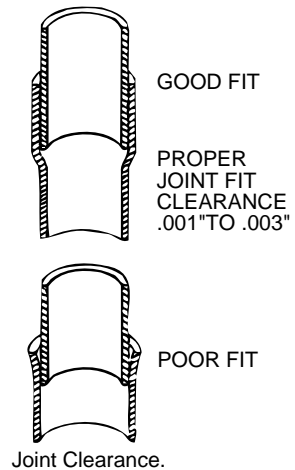


Figure 1

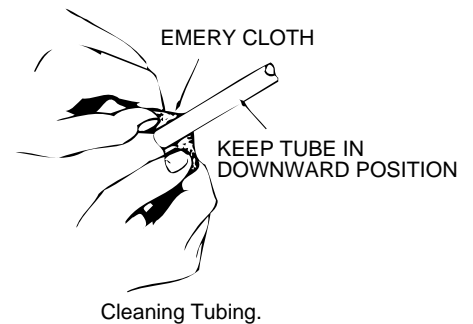
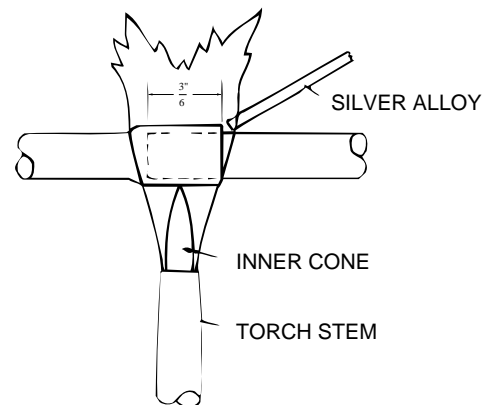


Figure 2



Directing Torch Flame to Copper Tubing.

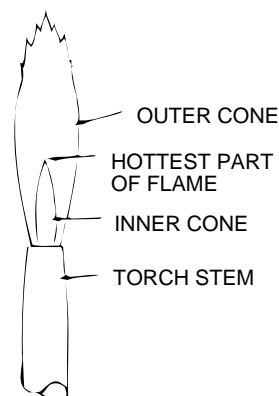
Figure 3

## HEATING THE TUBING

Direct the torch flame so that the larger tube receives most of the heat. Silver solder flows at 1200°F and silfos flows at 1300°F.

Heat all around the tubing.

The flame is composed of two cones, a smaller inner cone (pale blue) in color and a much larger outer cone. The hottest part of the flame is at the tip of the inner cone. The flame should be directed at the joint with the tip of the cone just touching the surface of the tubing. Figure 3 and 4.



Composition of Torch Flame.

Figure 4

## DEHYDRATING SEALED SYSTEM

Many servicers feel that since air conditioners run with evaporator temperatures above 33°F, moisture will not present a problem. Nothing is further from the truth. Oxygen in moisture plus the heat produced during compression will react with the refrigerant oil to produce harmful acids in the system which will break down motor winding insulation, create sludge and pit component parts, reducing efficiency of the air conditioner and shortening the life of compressors.

There it becomes mandatory that good dehydrating practices be adhered to at all times.

Proper hook up procedures as shown in Figure 5 must be used in order to pull and good vacuum from the system.

The use of a good vacuum pump is very important so that the boiling point of any water in the system will be lowered to a point where it will vaporize and be expelled from the system in the form of vapor.

### Type of evacuation methods

1. **Piston Type Compressor** No good.  
System parts must be above 110 °F.
2. **Rotary Vacuum Pump** Disadvantages.  
Low CFMC. Oil gets dirty.
3. **Single Stage Vacuum Pump** will not clean oil.  
Oil must be changed often.
4. **Two Stage Vacuum Pump** will reach 50 microns.  
First stage is below atmospheric pressure.  
Moisture is removed into second stage which works up to atmospheric pressure thus keeping oil clean.  
Manometer cannot be read to 1/2 mm. Micron gauge reads from 25,400 microns to 0.

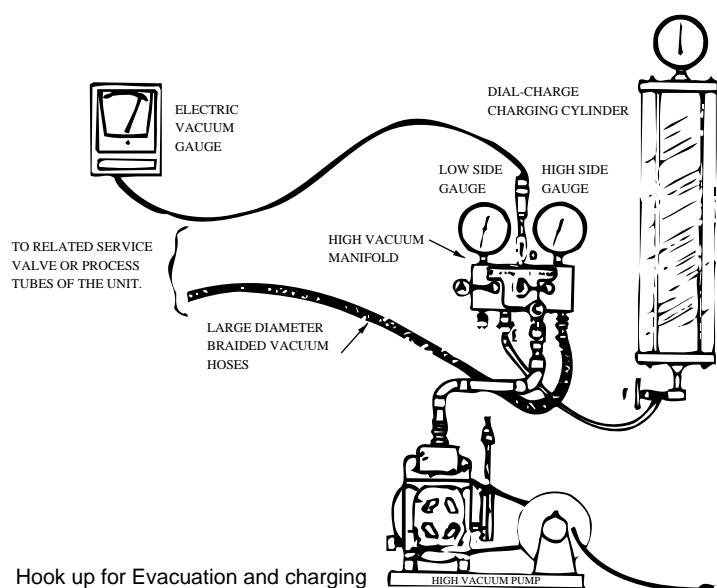


Figure 5

It becomes clear that good equipment and maintained properly must be used in order to remove air and moisture from the system.

When a vacuum of 1,000 to 500 microns is reached, block off the vacuum pump from the system.

This is done by closing the value between the pump and system. If the micron gauge does not increase above 1,000, the system is free of moisture and no leak exists. If the micron gauge increases to higher levels moisture or a leak exists.

## LEAKS

Several methods are used to detect leaks in systems.

**Electronic Leak Detectors** are very sensitive and are able to detect leaks down to 1/2 ounce per year.

A good electronic leak detector is generally far better in locating very small leaks.

**Halide Torch** be sure the room is free from refrigerant vapors. Watch the flame for the slightest change in color.

A very faint green indicates a small leak. The flame will be unmistakably changed to green or purple when large leaks are encountered. To simplify leak detection pressurize the system to approximately 75 lbs.

Some leaks can be located by a visual inspection of the system components and solder joints and if oil is found at any given location it generally is a sign that a leak exists at that point due to the fact that flame does carry oil with it travels through the system.

### Soap Bubbles

Liquid detergents can sometimes assist in finding small leaks by brushing detergent on the suspect area and watching for bubbles. Before applying detergent be sure that the system is pressurized.

Tap line devices are permissible for diagnosis only they are not suitable when evacuating the system. After the diagnosis has been made they must be removed so that the system will be restored to a hermetically sealed condition.

## ELECTRICAL COMPONENT TEST

### RUNNING CAPACITOR AND FAN CAPACITOR

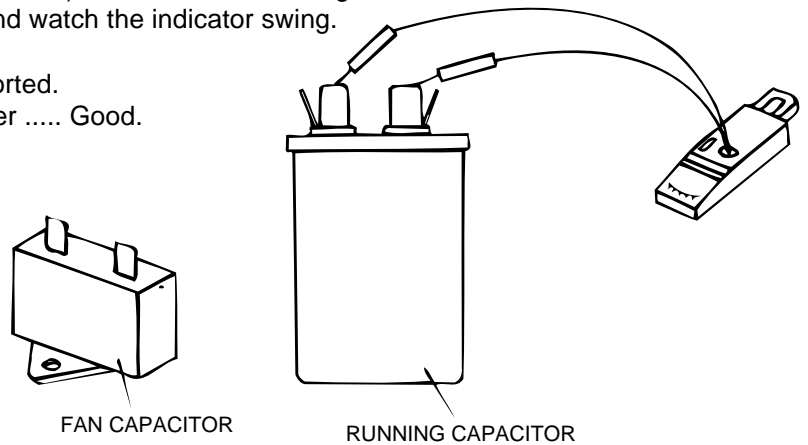
**CAUTION: DISCHARGE THE RUNNING CAPACITOR AND FAN CAPACITOR BEFORE TOUCHING CAPACITOR OR WIRING.**

- (1) Discharge capacitor by shorting terminals.
- (2) Take the wires off the capacitor terminals.
- (3) Set the selector switch of a volt-ohm-meter (or a tester) on the resistance range.
- (4) Connect the probes to the capacitor terminals and watch the indicator swing.

The indicator does not swing at all ..... Open.

The indicator swings but does not return ..... Shorted.

The indicator swings, then returns a moment later ..... Good.



### INSULATION TEST

Check the resistance between the terminals and case.  
Reading must be more than  $10M\Omega$  at DC 500V.

### OVERLOAD RELAY

Check continuity between terminals with volt-ohm-meter.

### INSULATION TEST

Check resistance between terminals and the relay case.  
Reading must be more than  $10M\Omega$  at DC 500V.

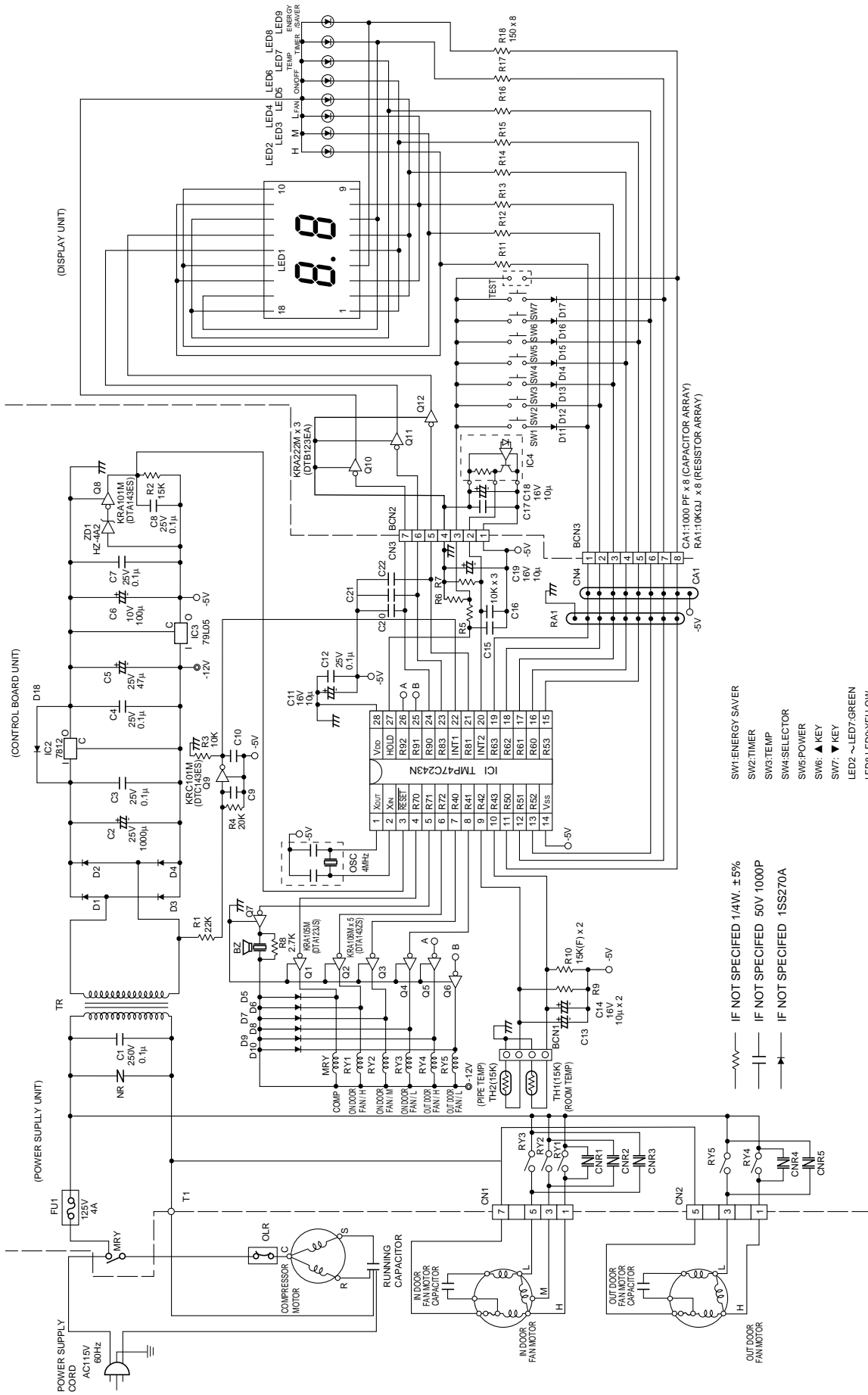
### COMPRESSOR

- (1) Take the wires off compressor terminals.
- (2) Set selector switch of volt-ohm-meter on the resistance range.
- (3) Put the probes on the terminals of the compressor and check continuity between each terminal.

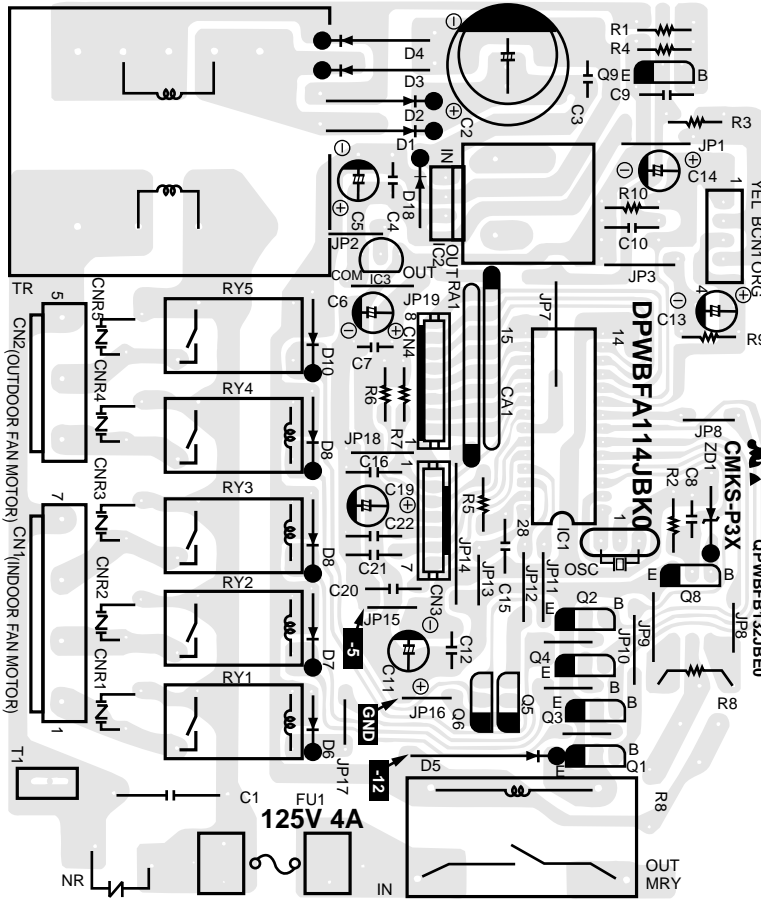
### INSULATION TEST

Check the resistance between the terminals and the copper tube.  
Reading must be more than  $10M\Omega$  at DC 500V.

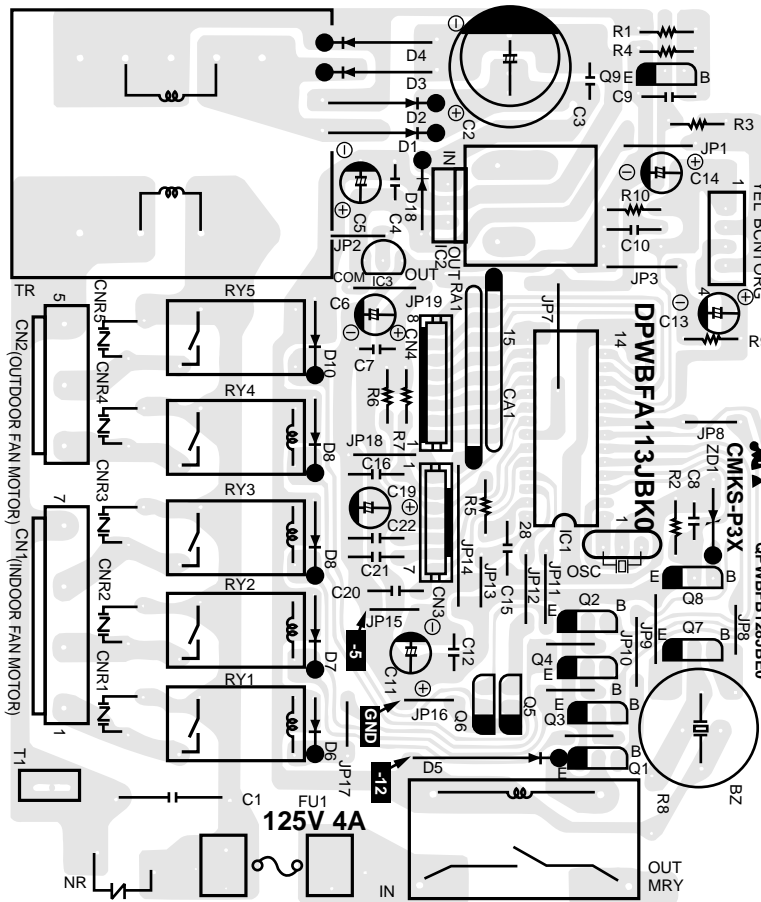
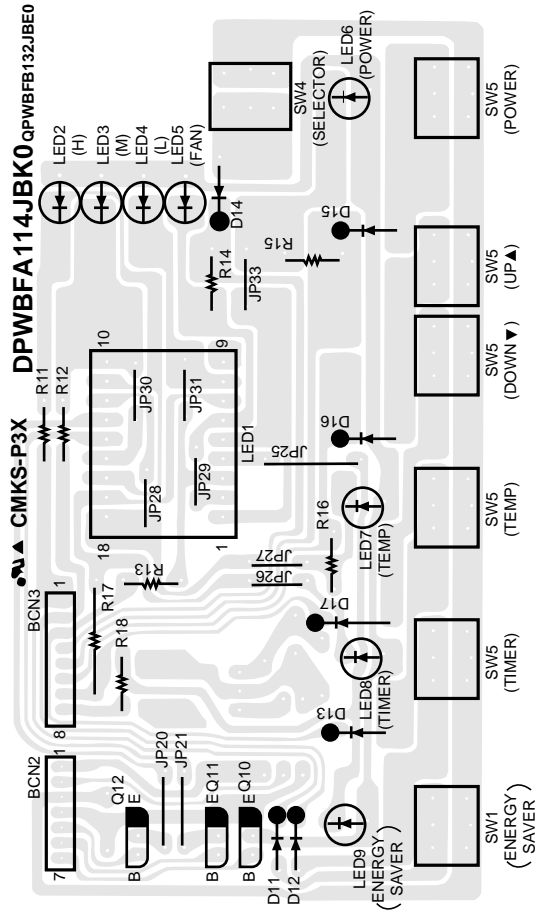




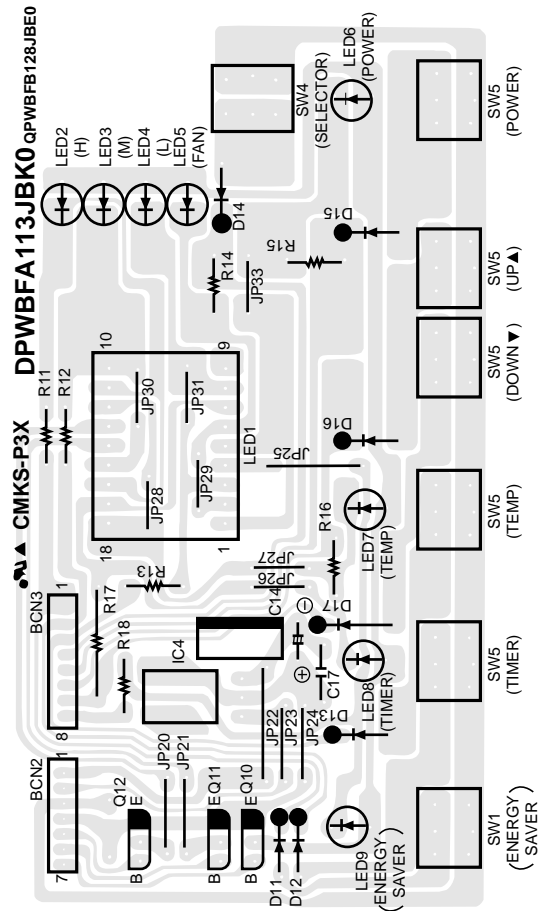
Electronic Control Circuit Diagram for AF-R908X, AF-R1108X and AF-R1208X



Printed Wiring Board for AF-T908X



Printed Wiring Board for AF-R908X and AF-R1108X and AF-R1208X



# MICROCOMPUTER CONTROL SYSTEM

## 1. Temperature control characteristic

### 1-1 COOL operation

In the "COOL" mode, the thermostat circuit is controlled by two thermostat lines (C1, C2).

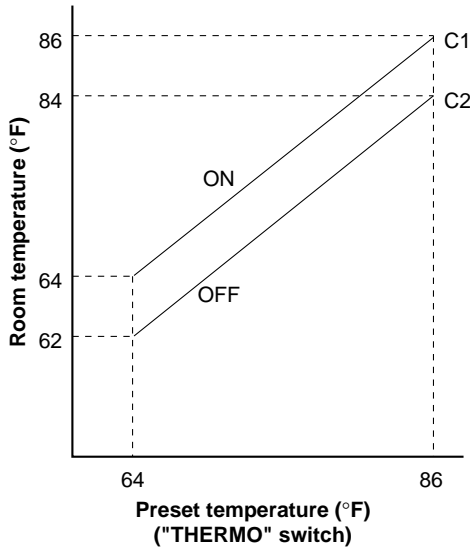


Figure Y-1

## 2. Operation mode

### 2-1 COOL operation

The compressor turns on or off, at thermostat lines C1 and C2. The fan motor is also controlled with the

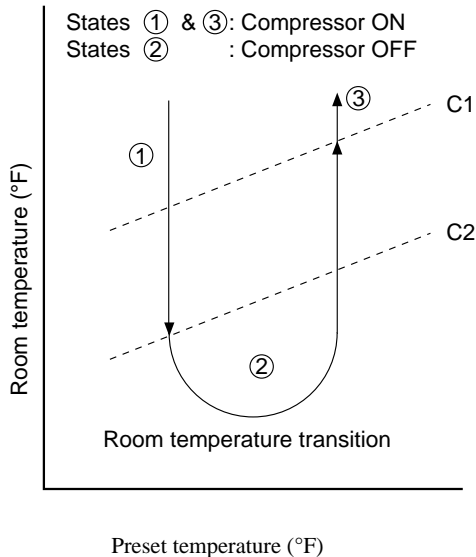


Figure Y-2

### 2-2 FAN ONLY operation

The fan motor always turns on.

## 3. Fan speed

Fan speeds are given by the fan motor, "H", "M" and "L", which are available in the following operation mode.

Selector	Indoor fan motor	Outdoor fan motor
HIGH COOL	H	H
MED COOL	M	L
LOW COOL	L	L
FAN ONLY	M	L

Table Y-1

## 4. 12-hours timer

### 4-1 OFF-TIMER operation

Set the delay timer during operation.

The unit will turn off automatically according to your setting. Timer duration can be set by 0.5 hours to maximum 12 hours. Up to 9.5 hours, you can set by 0.5 hours increments and from 10 to 12 hours, by 1 hour increment.

If you touch button "POWER ON/OFF" during OFF-TIMER operation, then the unit turns off and OFF-TIMER operation is canceled.

### 4-2 ON-TIMER operation

Set the delay timer when unit is not operating.

The unit will turn on automatically according to your setting. Timer duration can be set by 0.5 hours to maximum 12 hours. Up to 9.5 hours, you can set by 0.5 hours increments and from 10 to 12 hours, by 1 hour increment.

If you touch button "POWER ON/OFF" during ON-TIMER operation, then the unit turns on and ON-TIMER operation is canceled.

ON-TIME and OFF-TIME display will count down the remaining time.

from 0.5 to 9.5 ..... 0.5 hours  
 from 10 to 12 ..... 1 hour

## 5. Energy saver

During normal operation, the thermostat automatically controls cooling and the fan runs continuously whenever the air conditioner is in operation.

When the ENERGY SAVER is set, the thermostat automatically controls cooling and the fan automatically stop when compressor is not operating. (Fan will stop in 30 seconds after the compressor stops.)

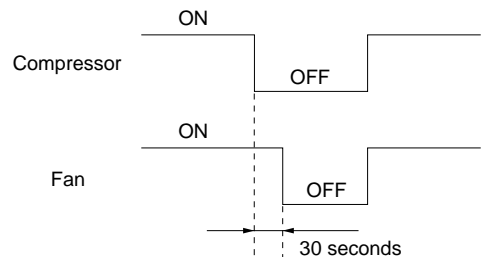


Figure Y-3

## 6. Safety start

When you turn the air conditioner OFF and restart again soon, wait at least 3 minutes before the cooling operation starts.

## 7. Test mode

Keep pushing both buttons "POWER ON/OFF" and " " and supply the power, the system will go to the test mode. In this mode, the output operation is switched by pushing buttons. Normal outputs are shown in Table Y-2.

**Table Y-2**

Step	Button	Display	Indicator								Indoor Fan motor	Outdoor Fan motor
			High COOL	Med COOL	Low COOL	Fan Only	Power	Temp.	Timer	Energy		
0		8.8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF
1	Selector	0.1	※1	※2	ON	ON	ON	ON	ON	ON	" L " ON	" L " ON
2	Power ON/OFF	0.2	※1	※2	ON	ON	ON	ON	ON	ON	" M " ON	" L " ON
3	▲	0.3	※1	※2	ON	ON	ON	ON	ON	ON	" H " ON	" H " ON
4	▼	0.4	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF
5	Temp.	0.5	※1	※2	ON	ON	ON	ON	ON	ON	" L " ON	" L " ON
6	Timer	0.6	※1	※2	ON	ON	ON	ON	ON	ON	" M " ON	" L " ON
7	Energy saver	0.7	※1	※2	ON	ON	ON	ON	ON	ON	" H " ON	" H " ON

※1 : -17 (°F) < (Room temp.) < 210 (°F) ●●●●● Indicator LED is ON

※2 : 0 (°F) < (Thermo. temp.) < 250 (°F) ●●●●● Indicator LED is ON  
If indicator LED is OFF, then replace the thermistor in PWB ass'y.

## Characteristic of thermistor

**Table Y-3**

T(°C)	T(°F)	R(kΩ)	※V(volt)
0	32.0	49.33	1.17
1	33.8	46.86	1.21
2	35.6	44.53	1.26
3	37.4	42.33	1.31
4	39.2	40.25	1.36
5	41.0	38.29	1.41
6	42.8	36.44	1.46
7	44.6	34.68	1.51
8	46.4	33.02	1.56
9	48.2	31.45	1.61
10	50.0	29.96	1.67
11	51.8	28.55	1.72
12	53.6	27.22	1.78
13	55.4	25.96	1.83
14	57.2	24.76	1.89
15	59.0	23.62	1.94
16	60.8	22.55	2.00
17	62.8	21.52	2.05
18	64.4	20.55	2.11
19	66.2	19.63	2.17
20	68.0	18.76	2.22
21	69.8	17.93	2.28
22	71.6	17.14	2.33
23	73.4	16.39	2.39
24	75.2	15.68	2.44
25	77.0	15.00	2.50
26	78.8	14.36	2.55
27	80.6	13.74	2.61
28	82.4	13.16	2.66
29	84.2	12.60	2.71
30	86.0	12.07	2.77
31	87.8	11.57	2.82
32	89.6	11.09	2.87
33	91.4	10.63	2.93
34	93.2	10.19	2.98
35	95.0	9.78	3.03
36	96.8	9.38	3.08
37	98.6	9.00	3.13
38	100.4	8.64	3.17
39	102.2	8.30	3.22
40	104.0	7.97	3.27

※ V ●●●●● Input the voltage of microcomputer (No. 10-Port).

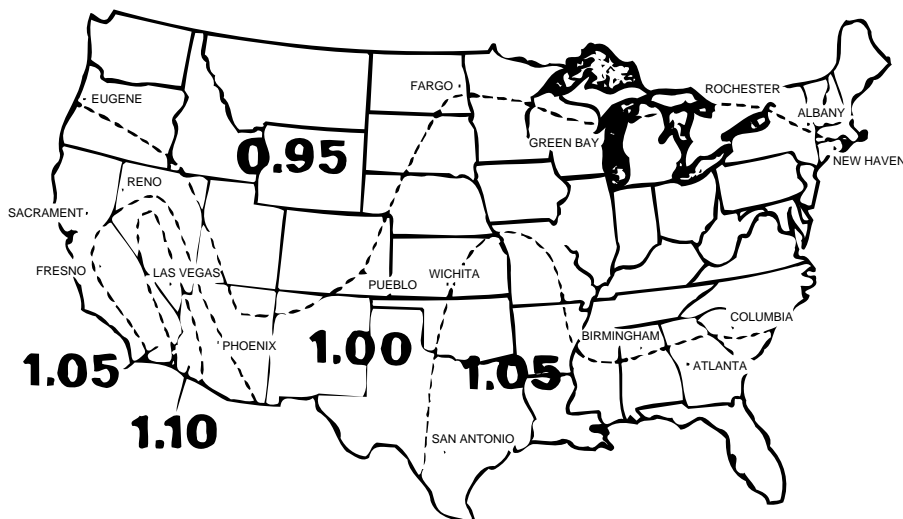
## INSTRUCTIONS FOR USING COOLING LOAD ESTIMATE FORM FOR ROOM AIR CONDITIONERS

(AHAM PUB. NO. RAC-1)

- A. This cooling load estimate form is suitable for estimating the cooling load for comfort air conditioning installations which do not require specific conditions of inside temperature and humidity.
- B. The form is based on an outside design temperature of 95°F dry bulb and 75°F wet bulb. It can be used for areas in the continental United States having other outside design temperature by applying a correction factor for the particular locality as determined from the map.
- C. The form includes "day" factors for calculating cooling loads in rooms where daytime comfort (such as living rooms, offices, etc.).
- D. The numbers of the following paragraphs refer to the correspondingly numbered item on the form:
  1. Multiply the square feet of window area for each exposure by the applicable factor. The window area is the area of the wall opening in which the window is installed. For windows shaded by inside shades or venetian blinds, use the factor for "Inside Shades". For windows shaded by outside awnings or by both outside awnings and inside shades (or venetian blinds), use the factor for "Outside Awnings". "Single Glass" includes all types of single thickness windows, and "Double Glass" includes sealed air-space types, storm windows, and glass block. Only one number should be entered in the right-hand column for item 1, and this number should represent only the exposure with the largest load.
  2. Multiply the total square feet of all windows in the room by the applicable factor.
  - 3a. Multiply the total length (linear feet) of all walls exposed to the outside by the applicable factor. Doors should be considered as being part of the wall. Outside walls facing due north should be calculated separately from outside walls facing other directions. Walls which are permanently shaded by adjacent structures should be considered as being "North Exposure". Do not consider trees and shrubbery as providing permanent shading. An insulated frame wall or a masonry wall 8 inches or less in thickness is considered "Light Construction". An insulated frame wall or a masonry wall over 8 inches in thickness is considered "Heavy Construction".
  - 3b. Multiply the total length (linear feet) of all inside walls between the space to be conditioned and any unconditioned spaces by the given factor. Do not include inside walls which separate other air conditioned rooms.
  4. Multiply the total square feet of roof or ceiling area by the factor given for the type of construction most nearly describing the particular application. (Use one line only.)
  5. Multiply the total square feet of floor area by the factor given. Disregard this item if the floor is directly on the ground or over a basement.
  6. Multiply the number of people who normally occupy the space to be air conditioned by the factor given. Use a minimum of 2 people.
  7. Determine the total number of watts for lights and electrical equipment, except the air conditioner itself, that will be in use when the room air conditioning is operating. Multiply the total wattage by the factor given.
  8. Multiply the total width (linear feet) of any doors or arches which are continually open to an unconditioned space by the applicable factor.  
NOTE: Where the width of the doors or arches is more than 5 feet, the actual load may exceed the calculated value. In such cases, both adjoining rooms should be considered as a single large room, and the room air conditioner unit or units should be selected according to a calculation made on this new basis.
  9. Total the loads estimated for the foregoing 8 items.
  10. Multiply the sub-total obtained in item 9 by the proper correction factor, selected from the map, for the particular locality. The result is the total estimated design cooling load in BTU per hour.
- E. For best results a room air conditioner unit or units having a cooling capacity rating (determined in accordance with the NEMA Standards Publication for Room Air Conditioners, CN 1-1960) as close as possible to the estimated load should be selected. In general, a greatly oversized unit which would operate intermittently will be much less satisfactory than one which is slightly undersized and which would operate more nearly continuously.
- F. Intermittent loads such as kitchen and laundry equipment are not included in this form.

## COOLING LOAD ESTIMATE FORM

HEAT GAIN FROM	QUANTITY	FACTORS			BTU/Hr (Quantity x Factor)
		DAY			
		No Shades	Inside Shades	Outside Shades	(Area a Factor)
1. WINDOWS: Heat gain from sun.					
Northeast	_____ sq ft	60	25	20	Use _____
Southeast	_____ sq ft	80	40	25	only _____
South	_____ sq ft	75	30	20	the _____
Southwest	_____ sq ft	75	35	20	largest _____
Southeast	_____ sq ft	110	45	30	load _____
West	_____ sq ft	150	65	45	Use _____
Northwest	_____ sq ft	120	50	35	only _____
North	_____ sq ft	0	0	0	only _____
These factors are for single glass only. For glass block, multiply the above factors by 0.5; for double-glass or storm windows, multiply the above factors by 0.8.					
2. WINDOWS: Heat gain by conduction. (Total of all windows)					
Single glass	_____ sq ft			14	_____
Double glass or glass block	_____ sq ft			7	_____
3. WALLS: (Based on linear feet of wall.)			Light Construction	Heavy Construction	
a. Outside walls					
North exposure	_____ ft		30	20	_____
Other than North exposure	_____ ft		60	30	_____
b. Inside Walls (between conditioned and unconditioned spaces only)	_____ ft			30	_____
4. ROOF OR CEILING: (Use one only.)					
a. Roof, uninsulated	_____ sq ft			19	_____
b. Roof, 1 inch or more insulation	_____ sq ft			8	_____
c. Ceiling, occupied space above.	_____ sq ft			3	_____
d. Ceiling, insulated with attic space above	_____ sq ft			5	_____
e. Ceiling, uninsulated, with attic space above	_____ sq ft			12	_____
5. FLOOR: (Disregard if floor is directly on ground or over basement.)	_____ sq ft			3	_____
6. NUMBER OF PEOPLE:				600	_____
7. LIGHTS AND ELECTRICAL EQUIPMENT IN USE	_____ watts			3	_____
8. DOORS AND ARCHES CONTINUOUSLY OPENED TO UNCONDITIONED SPACE: (Linear feet of width.)	_____ ft			300	_____
9. TOTAL COOLING LOAD: (BTU per hour to be used for selection of room air conditioner(s).)	x x x x x			x x x x x	_____



## TROUBLESHOOTING GUIDE

### TROUBLESHOOTING GUIDE

Symptom	Check	Defect	Remedy
Neither fan motor nor compressor operate	1) Check power supply switch or plug and measure the voltage	1) Fuse open or circuit breaker open	1) If fuse or breaker are normal, ask the power supply company for check.
		2) Plug disconnected	2) Connect properly.
		3) Plug connected properly but contact defective	3) Change power supply cord with plug.
		4) PWB ass'y fuse open.	4) Change fuse.
In sufficient cooling	1) Set temperature	1) The set temperature high	1) Down set temperature
		2) Check thermistor (Refer to page 27)	1) Change thermistor
	2) Check air filter	Air filter clogged	Clean
	3) Check for a high heat source		Remove the added heat source
	4) Check doors and windows		Windows and doors must be kept closed
	5) Undersized unit		Calculate heat load
	6) Check if condenser and evaporator are clean		Clean them with steam cleaner or another method
	7) Check if any object is restricting heat radiation from the condenser		Remove the object or move the air conditioner
	8) Sealed system		Check sealed system
No cooling	1) No temperature difference between discharge pipe and suction pipe of compressor	1) Gas leak	1) Repair gas leak
		2) Compressor defective	2) Change compressor
	2) Check if temp. difference between inlet and outlet air of indoor unit is over 14°F	1) Equipment defective if no temp. difference	1) Change or repair defect
		2) Outside air too high temp.	2) Improve ventilation, avoid sunshine
		3) Air conditioner normal but heat load excessive	3) Calculate cooling load and change or remove heat source
	3) Check indoor exchanger inlet/outlet piping temp. Sweat is less than half of coil or frost sticks to capillary tube	1) Capillary tube restricted	1) Change capillary tube
		2) Gas leak	2) Check for gas leak and repair, recharge

Symptom	Check	Defect	Remedy	
Fan motor runs but compressor doesn't operate	1) No current runs. (Compressor circuit)	1) Overload relay defective	1) Change overload relay	
		2) Compressor coil burnt out	2) Change compressor	
		3) Wiring disconnected or burnt out	3) Connect	
	2) Current runs. (Before operating current, capacitor normal)	1) Compressor (main winding) burnt out	1) Change compressor	
		2) Compressor relay defective	2) Change PWB ass'y	
	3) High current draw	1) Compressor locked	1) Change compressor	
		2) Compressor (Auxiliary winding) burn out	2) Change compressor	
		3) Overload relay contact burn out	3) Change overload relay	
		4) Capacitor defective	4) Change capacitor	
		5) Compressor winding short	5) Change compressor	
4) High current draw compressor operates but stops immediately	1) Compressor winding short	1) Change compressor		
	2) Heat source near to air conditioner	2) Remove heat source		
	3) Partial restriction in sealed system	3) Check sealed system		
Compressor tries to start	1) Check power source voltage, start voltage drop	1) Power source voltage too low	1) Improve the supply	
		2) Wiring for power supply equipment too small	2) Improve power equipment	
With switch set for cooling, fuse or circuit breaker open	1) Check power line fuse or circuit breaker	1) Insufficient capacity of fuse	1) Change to rated fuse	
		2) Circuit breaker "OFF"	2) Circuit breaker "ON"	
	2) Check power source voltage	Power source cut off or contact defective	Repair	
		3) Check compressor	1) Compressor locked	1) Change compressor
			2) One connection terminal of compressor burn out	2) Solder terminal
3) Check compressor	3) One core of lead of compressor burn out	3) Change compressor		
	4) Insulation test on compressor	Circuit insulation defective	Change compressor	

Symptom	Check	Defect	Remedy
Fan motor doesn't operate with "Selector switch" set at "Fan only"	1) Check PWB connector CN1	1) Connector open CN1	1) Joint of connector CN1
		2) Crack at solder part of CN1	2) Over solder
	2) Check a. Fan capacitor b. Power cord c. Fan motor	1) Fan capacitor defective	1) Change capacitor
		2) Power supply voltage is too low	2) Improve power supply equipment
		3) Fan motor defective	3) Change fan motor
	3) Check a. Current exceeds rated one b. Motor lead wire	1) Fan motor breaking locked	1) Change fan motor
		2) Fan motor lead wire burn out	2) Change repair lead wire
	4) Check fan motor circuit	1) Fan motor coil shorted	1) Change fan motor
Fan motor operates but supplies no air when "Selector switch" set at "Fan only"	1) Check motor rotating direction	1) Motor lead wire burn out 2) Motor rotating wrong	1) Change repair lead wire 2) Change fan motor
	1) Check air filter and fan elements	1) Dirty air filter	1) Clean
		2) Fan screw or nut loose and only motor rotating	2) Tighten up
Compressor starts but stops soon	1) Measure power supply voltage	1) Voltage is low and over-current runs, overload relay or internal thermostat operates	1) Improve the equipment
		2) Wiring for power supply equipment too thin	2) Improve the equipment
	2) Check if air is delivered	1) Overload relay or internal thermostat operates as fan is not rotating	1) Change switch check electric circuit (fan)
		2) Overload relay or internal thermostat operates as fan nut is loose	2) Tighten up
	3) Check the temp. of air at condensor	1) Overload relay or internal thermostat operates as outdoor air temp. is too high	1) Ventilate well for outdoor exchanger, avoid sun light, remove heat source from around outdoor unit
		2) Improper ventilation for outdoor heat exchanger. Overload relay or internal thermostat operates as the temp. of outdoor unit is too high	2) Clean the outdoor unit Improve ventilation for outlet port of outdoor exchanger
	4) Rated current is normal but overload relay or internal thermostat cuts out	Overload relay or internal thermostat defective	Change overload relay or compressor

Symptom	Check	Defect	Remedy
Compressor operates in cooling but fan doesn't rotate	1) Check PWB connector CN1	1) Connector open CN1 2) Crack at solder part of CN1	1) Joint of connector CN1 2) Over solder
	2) Check fan capacitor	Capacitor defective	Change capacitor
	3) Check fan motor	Fan motor defective	Change fan motor
Noise	1) Vibrating noise	1) Insulation unstable	1) Secure
		2) Cabinet screw loose	2) Tighten up
	2) Metallic sound	Piping touches cabinet or other parts	Repair
	3) Noise created by fan	1) Fan cracked or deformed	1) Change fan
		2) Screw or nut loose causing vibrating noise	2) Secure
Check mounting of compressor	Compressor mounts defective	Replace	
Excessive vibration and noise	Check noise source	1) Compressor	1) Change compressor
		2) Electric parts	2) Repair or change
		3) Piping touched	3) Repair
		4) Cabinet or parts set-screws loosened	4) Tighten up
		5) Fan touching	5) Adjust
		6) Insulation unstable	6) Secure

### Control circuit

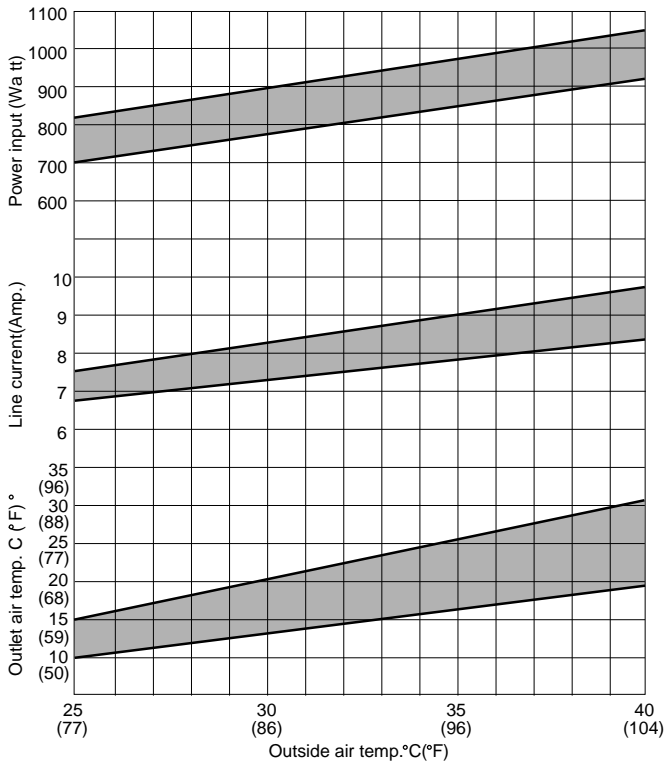
Symptom	Check	Defect	Remedy
PWB ass'y does not operate	1) Check fuse(FU1)	1) Fuse(FU1)open	1) Change fuse(FU1)(NR)
	2) Check transformer (TR)	2) Secondary voltage of transformer (TR)	2) Change PWB ass'y
The room is not cool enough or not cool at all.	Check thermistor	Check thermistor (Refer to page 27)	Change thermistor
The compressor does not turn off	Check compressor relay	Defective compressor relay	Change relay or Replace PWB ass'y

## RUNNING CONDITION

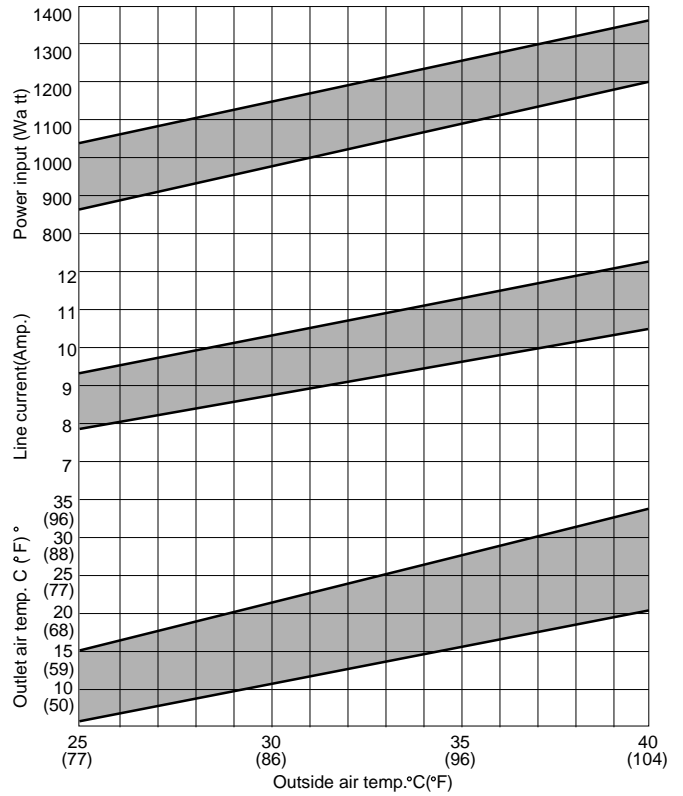
Note:

1. Select mode of the Running Condition of a Room Air Conditioner.  
 SELECTOR ..... HIGH COOL  
 TEMPERATURE ..... 64°F
2. Data of Performance Curve is measured between 40RH% and 70RH%.  
 If you measure the Room Air Conditioner above or below this rating, the data may miss the range of the performance curve.
3. Outlet air temp. is influenced by the method of measurement. Measurement examples are shown.
4. Use power input data when checking the Running Condition.

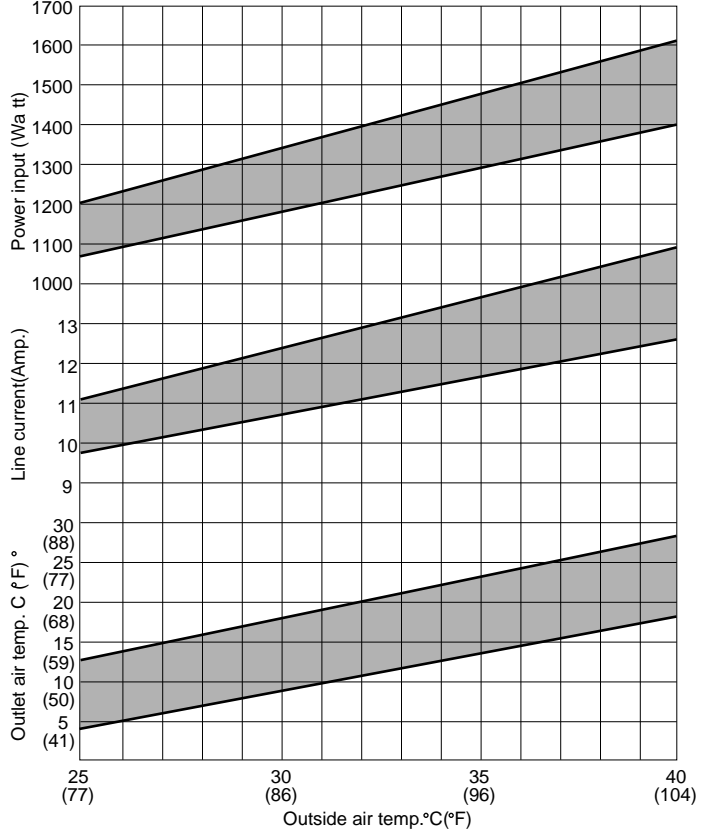
**RUNNING CONDITION FOR  
 MODEL AF-T908X/AF-R908X  
 PERFORMANCE CURVE**



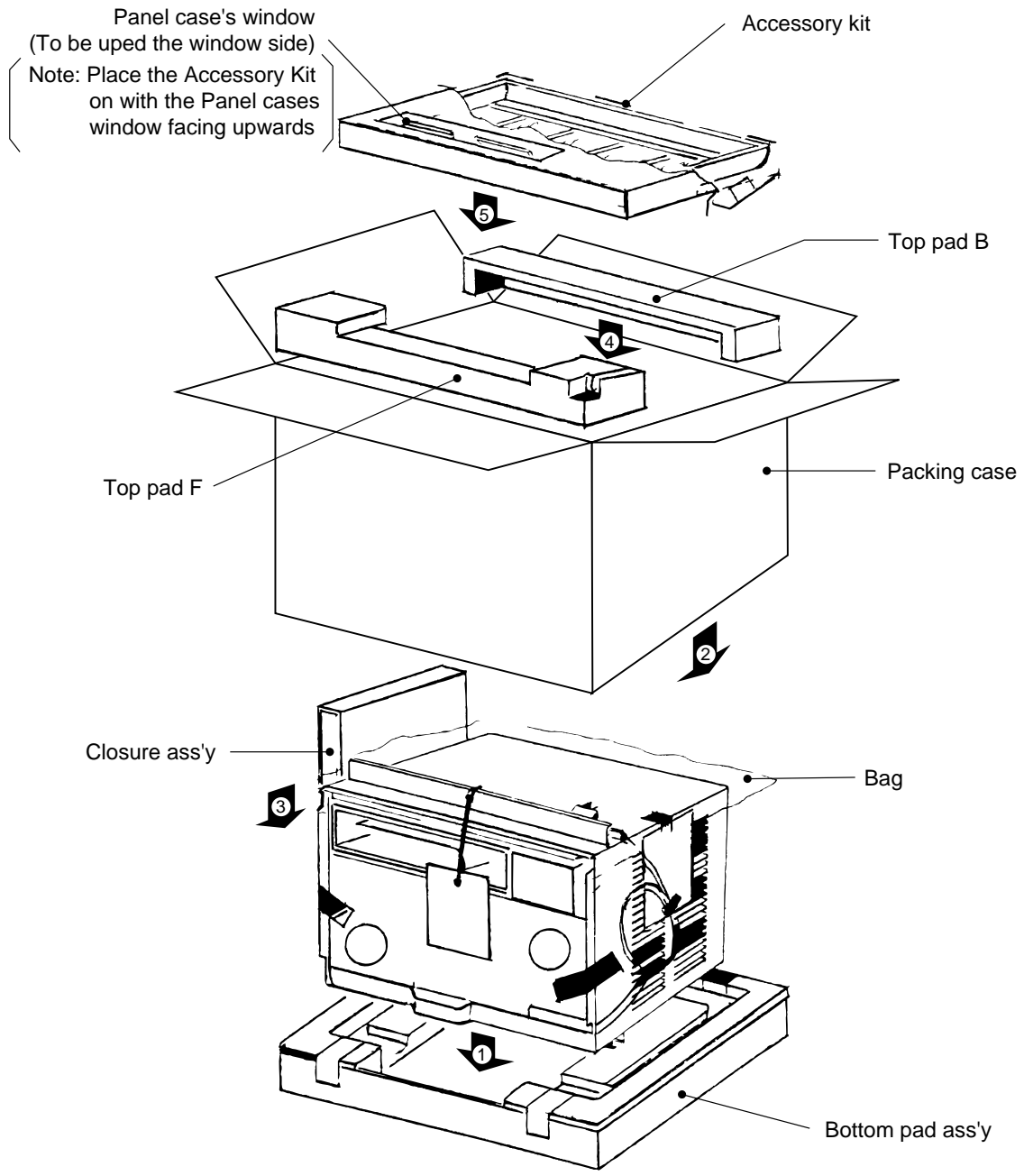
**RUNNING CONDITION FOR  
 MODEL AF-R1108X  
 PERFORMANCE CURVE**



**RUNNING CONDITION FOR  
 MODEL AF-R1208X  
 PERFORMANCE CURVE**



## PACKING AND ACCESSORIES



## REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
<b>CABINET AND UNIT PARTS</b>				
1- 1	RMOTLA045JBE0	Fan motor [AF-T908X]	1	BL
1- 1	RMOTLA045JBE0	Fan motor [AF-R908X]	1	BL
1- 1	RMOTLA043JBE0	Fan motor [AF-R1108X]	1	BL
1- 1	RMOTLA043JBE0	Fan motor [AF-R1208X]	1	BL
1- 2	DCHS-A301JBT0	Base pan ass'y	1	BG
1- 3	DCAB-A068JBT0	Cabinet ass'y	1	BN
1- 4	RMOTLA046JBE0	Fan motor [AF-T908X]	1	BL
1- 4	RMOTLA046JBE0	Fan motor [AF-R908X]	1	BL
1- 4	RMOTLA044JBE0	Fan motor [AF-R1108X]	1	BL
1- 4	RMOTLA044JBE0	Fan motor [AF-R1208X]	1	BL
1- 5	HPNLCA707JBFA	Control panel	1	AF
1- 6	PGIDMA050JBFA	Air guide	1	AE
1- 7	LANG-A354JBW0	Conecting stay	1	AH
1- 8	LANG-A355JBTA	Top inst. angle	1	AP
1- 9	LHLD-A315JBF0	Thermistor holder	1	AE
1-10	CLEV-A024JBK0	Damper ass'y	1	AE
1-11	NFANPA073JBF0	Propeller fan	1	BF
1-12	NFANSA024JBF0	Centrifugal fan	1	AX
1-13	PFILMA116JBEA	Air filter	1	AQ
1-14	PFPFPB466JBE0	Insulator [AF-R1208X]	2	AL
1-15	PKESPA067JBT0	Condenser shroud [AF-T908X]	1	AL
1-15	PKESPA067JBT0	Condenser shroud [AF-R908X]	1	AL
1-15	PKESPA067JBT0	Condenser shroud [AF-R1108X]	1	AL
1-15	PKESPA047JBT0	Condenser shroud [AF-R1208X]	1	AX
1-16	PKESPA063JBFA	Orifice	1	AR
1-17	LBND-A046JBE0	Wire fixing band	4	AE
1-18	PCOV-A454JBFA	Con. shroud cover [AF-T908X]	1	AE
1-18	PCOV-A454JBFA	Con. shroud cover [AF-R908X]	1	AE
1-18	PCOV-A454JBFA	Con. shroud cover [AF-R1108X]	1	AE
1-18	PCOV-A002JBFA	Con. shroud cover [AF-R1208X]	1	AE
1-19	PGUMMA180JBE0	Tube rubber [AF-T908X]	1	AE
1-19	PGUMMA180JBE0	Tube rubber [AF-R908X]	1	AE
1-19	PGUMMA180JBE0	Tube rubber [AF-R1108X]	1	AE
1-20	PTUB-A161JBE0	Tube insulator	2	AD
1-21	LANG-A356JBTA	Bottom inst. angle	1	AE
1-22	PSKR-A163JBFA	Bulkhead	1	BD
1-23	PSRA-A105JBF0	Drain tray	1	AF
1-24	TLAB-B071JBR0	Energy card [AF-T908X]	1	AD
1-24	TLAB-B066JBR0	Energy card [AF-R908X]	1	AD
1-24	TLAB-B064JBR0	Energy card [AF-R1108X]	1	AD
1-24	TLAB-B069JBR0	Energy card [AF-R1208X]	1	AD
1-25	TSPC-C508JBR0	Name badge [AF-T908X]	1	AE
1-25	TSPC-C505JBR0	Name badge [AF-R908X]	1	AE
1-25	TSPC-C504JBR0	Name badge [AF-R1108X]	1	AE
1-25	TSPC-C507JBR0	Name badge [AF-R1208X]	1	AE
1-26	GWAKPA136JBFA	Louver duct	1	AK
1-27	GWAKPA135JBFA	Front panel	1	AV
1-28	TLABBA110JBRA	Sharp badge	1	AB
1-29	LANGAA038JBFA	Left closure frame	1	AL
1-30	LANGAA039JBFA	Right closure frame	1	AK
1-31	PPLTPA013JBFA	Closure	2	AM
1-32	PSPRCA010JBE0	Spring	1	AD
1-33	TLABKA564JBE0	Number card	1	AC
1-34	PFPFPB446JBE0	Insulator	1	AC
1-35	PSEL-B536JBE0	Con. shroud insulator [AF-T908X]	1	AB
1-35	PSEL-B536JBE0	Con. shroud insulator [AF-R908X]	1	AB
1-35	PSEL-B536JBE0	Con. shroud insulator [AF-R1108X]	1	AB
1-36	MJNTPA074JBFA	Louver link	2	AB
1-37	MLOV-A252JBFA	Vertical louver A	4	AC
1-38	MLOV-A253JBFA	Vertical louver B	2	AC
1-39	PSEL-B360JBE0	Cabinet insulator	1	AB
1-40	PSEL-B537JBE0	Drain tray insulator	1	AE
1-41	PSEL-B361JBE0	Cabinet insulator	2	AE
1-42	PSEL-B367JBE0	Cabinet insulator	2	AC
1-43	PSEL-B516JBE0	Base pan insulator	2	AC
1-44	PSEL-B517JBE0	Condenser insulator [AF-T908X]	1	AF
1-44	PSEL-B517JBE0	Condenser insulator [AF-R908X]	1	AF
1-44	PSEL-B517JBE0	Condenser insulator [AF-R1108X]	1	AF
1-44	PFPFPB443JBE0	Condenser insulator [AF-R1208X]	1	AC
1-45	PSEL-B518JBE0	Bulkhead insulator	1	AG
1-46	PSEL-B519JBE0	Angle insulator	1	AD

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
1-47	PSEL-B520JBEO	Motor insulator	1	AC
1-48	PSEL-B528JBEO	Base pan insulator	1	AM
1-49	PSEL-B530JBEO	Bulkhead insulator	1	AD
1-50	PFPPFB528JBEO	Insulator	1	AD
1-51	PSEL-B533JBEO	Con. shroud insulator [AF-T908X]	2	AC
1-51	PSEL-B533JBEO	Con. shroud insulator [AF-R908X]	2	AC
1-51	PSEL-B533JBEO	Con. shroud insulator [AF-R1108X]	2	AC
1-52	PFPPFB611JBEO	Insulator	1	AG
1-53	PSEL-B553JBEO	Orifice insulator	1	AD
1-54	PSEL-B394JBEO	Panel insulator	1	AB
1-55	PSEL-B534JBEO	Cabinet seal	1	AC
1-56	LANG-A360JBW0	Fan motor angle	1	AP
1-57	PSEL-B240JBEO	Fan motor angle seal	1	AB
1-58	LX-BZA224JBEO	Special screw(out side)	4	AC
1-59	PGUMMA166JBEO	Motor cushion	8	AF
1-60	PSEL-B366JBEO	Panel insulator	1	AD
1-61	LANG-A361JBW0	Fan motor angle	1	AL
1-62	LHLDW0367JBEO	Wire holder(NK-7N)	1	AA
1-63	LHLDW0368JBEO	Wire holder(NK-8N)	1	AA
1-64	PSEL-A432JBEO	Damper insulator	1	AC
1-65	PSEL-B532JBEO	Damper insulator	1	AG
1-66	PSEL-B560JBEO	Damper insulator	1	AB
1-67	HPNLCA711JBEO	Decoration panel [AF-T908X]	1	AL
1-67	HPNLCA708JBEO	Decoration panel [AF-R908X]	1	AM
1-67	HPNLCA708JBEO	Decoration panel [AF-R1108X]	1	AM
1-67	HPNLCA708JBEO	Decoration panel [AF-R1208X]	1	AM
1-68	MSPR-A027JBEO	Thermistor spring [AF-T908X]	1	AB
1-68	MSPR-A027JBEO	Thermistor spring [AF-R908X]	1	AB
1-68	MSPR-A027JBEO	Thermistor spring [AF-R1108X]	1	AB
1-68	MSPR-A036JBEO	Thermistor spring [AF-R1208X]	1	AB
1-69	PSEL-B150JBEO	Cabinet seal [AF-R1208X]	2	AD
1-70	PSEL-B362JBEO	Evaporator insulator	1	AE

**CONTROL BOX PARTS**

2- 1	LBNDKA078JBW0	Capacitor clamp [AF-T908X]	1	AM
2- 1	LBNDKA078JBW0	Capacitor clamp [AF-R908X]	1	AM
2- 1	LBNDKA078JBW0	Capacitor clamp [AF-R1108X]	1	AM
2- 1	LBNDKA081JBW0	Capacitor clamp [AF-R1208X]	1	AL
2- 2	LPLTMA128JBW0	Control box cover	1	AK
2- 3	DPLT-A047JBW0	Cont. box angle ass'y	1	AS
2- 4	QACC-A236JBEO	Power supply cord	1	AV
2- 5	QW-VZD102JBEO	Lead wire(Comp.)	1	AH
2- 6	QW-VZD104JBEO	Lead wire(Earth)	1	AH
2- 7	QW-VZD108JBEO	Compressor cord	1	AH
2- 8	RC-HZA358JBEO	Fan motor capacitor [AF-T908X]	1	AN
2- 8	RC-HZA256JBEO	Fan motor capacitor [AF-T908X]	1	AM
2- 8	RC-HZA358JBEO	Fan motor capacitor [AF-R908X]	1	AN
2- 8	RC-HZA256JBEO	Fan motor capacitor [AF-R908X]	1	AM
2- 8	RC-HZA256JBEO	Fan motor capacitor [AF-R1108X]	2	AM
2- 8	RC-HZA256JBEO	Fan motor capacitor [AF-R1208X]	2	AM
2- 9	RC-HZA361JBEO	Running capacitor [AF-T908X]	1	AX
2- 9	RC-HZA361JBEO	Running capacitor [AF-R908X]	1	AX
2- 9	RC-HZA357JBEO	Running capacitor [AF-R1108X]	1	BA
2- 9	RC-HZA362JBEO	Running capacitor [AF-R1208X]	1	BA
2-10	TLABCA985JBR0	Wiring diagram	1	AC
2-11	DPWBFA114JBK0	Control board unit[AF-T908X]	1	BT
2-11	DPWBFA113JBK0	Control board unit[AF-R908X]	1	BU
2-11	DPWBFA113JBK0	Control board unit[AF-R1108X]	1	BU
2-11	DPWBFA113JBK0	Control board unit[AF-R1208X]	1	BU
2-12	PSPA-A084JBEO	Spacer	2	AC
2-13	PSPA-A085JBEO	Spacer	1	AC

**CYCLE PARTS**

3- 1	PCMPRA251JBEO	Compressor [AF-T908X]	1	CB
3- 1	PCMPRA251JBEO	Compressor [AF-R908X]	1	CB
3- 1	PCMPRA250JBEO	Compressor [AF-R1108X]	1	CC
3- 1	PCMPRA252JBEO	Compressor [AF-R1208X]	1	CG
3- 2	PPIPCD397JB10	Discharge tube [AF-T908X]	1	AN
3- 2	PPIPCD397JB10	Discharge tube [AF-R908X]	1	AN
3- 2	PPIPCD386JB10	Discharge tube [AF-R1108X]	1	AG
3- 2	PPIPCD462JB10	Discharge tube [AF-R1208X]	1	AN
3- 3	PPIPCD387JB10	Suction tube [AF-T908X]	1	AN
3- 3	PPIPCD387JB10	Suction tube [AF-R908X]	1	AN

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
3- 3	PPIPCD387JB10	Suction tube [AF-R1108X]	1	AN
3- 3	PPIPCD465JB10	Suction tube [AF-R1208X]	1	AW
3- 4	PPIPCD389JB10	Lead tube [AF-T908X]	1	AE
3- 4	PPIPCD389JB10	Lead tube [AF-R908X]	1	AE
3- 4	PPIPCD389JB10	Lead tube [AF-R1108X]	1	AE
3- 4	PPIPCD463JB10	Lead tube [AF-R1208X]	1	AE
3- 5	LPLT-A034JBE0	Joint tube	1	AG
3- 6	PPIPCD893JB10	Lead tube [AF-T908X]	1	AM
3- 6	PPIPCD893JB10	Lead tube [AF-R908X]	1	AM
3- 6	PPIPCD893JB10	Lead tube [AF-R1108X]	1	AM
3- 6	PPIPCD388JB10	Lead tube [AF-R1208X]	1	AH
3- 7	GLEG-A097JBE0	Compressor cushion	3	AF
3- 8	PSEL-B380JBE0	Gasket washer	1	AG
3- 9	PCOV-A434JBE0	Terminal cover	1	AN
3-10	PSEL-B379JBE0	Terminal gasket	1	AN
3-11	MSPR-A122JBE0	Protector spring	1	AE
3-12	RHOG-A151JBE0	Overload relay [AF-T908X]	1	AX
3-12	RHOG-A151JBE0	Overload relay [AF-R908X]	1	AX
3-12	RHOG-A150JBE0	Overload relay [AF-R1108X]	1	AX
3-12	RHOG-A164JBE0	Overload relay [AF-R1208X]	1	AZ
3-13	PCON-A382JBK0	Condenser [AF-T908X]	1	BU
3-13	PCON-A382JBK0	Condenser [AF-R908X]	1	BU
3-13	PCON-A381JBK0	Condenser [AF-R1108X]	1	BT
3-13	DCON-A023JBK0	Condenser ass'y [AF-R1208X]	1	BY
3-14	PEVA-A347JBE0	Evaporator [AF-T908X]	1	BU
3-14	PEVA-A347JBE0	Evaporator [AF-R908X]	1	BU
3-14	PEVA-A347JBE0	Evaporator [AF-R1108X]	1	BU
3-14	PEVA-A356JBE0	Evaporator [AF-R1208X]	1	BS
3-15	DCPY-A145JBK0	Capillary tube ass'y [AF-T908X]	1	AR
3-15	DCPY-A145JBK0	Capillary tube ass'y [AF-R908X]	1	AR
3-15	DCPY-A144JBK0	Capillary tube ass'y [AF-R1108X]	1	AR
3-15	DCPY-A149JBK0	Capillary tube ass'y [AF-R1208X]	1	AX
3-16	PPIPCD390JB10	Lead tube [AF-T908X]	1	AD
3-16	PPIPCD390JB10	Lead tube [AF-R908X]	1	AD
3-16	PPIPCD390JB10	Lead tube [AF-R1108X]	1	AD
3-16	PPIPCD464JB10	Lead tube [AF-R1208X]	1	AE
3-17	MSPR-A129JBE0	Cycle spring [AF-R1108X]	2	AD
3-17	MSPR-A129JBE0	Cycle spring [AF-R1208X]	1	AD
3-18	PPIPCD467JB10	Lead tube [AF-T908X]	1	AD
3-18	PPIPCD467JB10	Lead tube [AF-R908X]	1	AD
3-18	PPIPCD467JB10	Lead tube [AF-R1108X]	1	AD
3-18	PPIPCD020JB10	Lead tube [AF-R1208X]	1	AD
3-19	LPFT-A015JBE0	Joint tube	1	AK
3-20	PPIPCD582JB10	Lead tube [AF-T908X]	1	BB
3-20	PPIPCD582JB10	Lead tube [AF-R908X]	1	BB
3-20	PPIPCD582JB10	Lead tube [AF-R1108X]	1	BB
3-20	PPIPCD078JB10	Lead tube [AF-R1208X]	1	AE
3-21	PPIPCD466JB10	Lead tube [AF-T908X]	1	AD
3-21	PPIPCD466JB10	Lead tube [AF-R908X]	1	AD
3-21	PPIPCD466JB10	Lead tube [AF-R1108X]	1	AD
3-21	PPIPCD019JB10	Lead tube [AF-R1208X]	1	AD
3-22	PSPF-A635JBE0	Compressor cover	1	AX
3-23	LPLTMA113JBW0	Condenser stay [AF-R1208X]	2	AD
3-24	LPLTMA114JBW0	Condenser cover [AF-R1208X]	2	AH

**ACCESSORY PARTS**

4- 1	TINSEA181JBR0	Operation manual	1	AF
4- 2	PSEL-A349JBE0	Window insulator	1	AE
4- 3	PSEL-A350JBE0	Window insulator	1	AD
4- 4	PSEL-B365JBE0	Window insulator	1	AD
4- 5	TCAD-A001JBE0	Consumer card	1	AB
4- 6	DX-BZA027JBK0	Screws kit	1	AE
4- 7	CRMC-A463JBE0	Remote controller [AF-R908X]	1	AX
4- 7	CRMC-A463JBE0	Remote controller [AF-R1108X]	1	AX
4- 7	CRMC-A463JBE0	Remote controller [AF-R1208X]	1	AX
4- 8	LHLD-A389JBFA	Controller holder [AF-R908X]	1	AE
4- 8	LHLD-A389JBFA	Controller holder [AF-R1108X]	1	AE
4- 8	LHLD-A389JBFA	Controller holder [AF-R1208X]	1	AE
4- 9	SSAKAA017YDE0	Bag [AF-R908X]	1	AC
4- 9	SSAKAA017YDE0	Bag [AF-R1108X]	1	AC
4- 9	SSAKAA017YDE0	Bag [AF-R1208X]	1	AC
4-10	UBATUA025JBE0	Battery pack [AF-R908X]	1	AE
4-10	UBATUA025JBE0	Battery pack [AF-R1108X]	1	AE
4-10	UBATUA025JBE0	Battery pack [AF-R1208X]	1	AE

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
4-11	DX-BZA039JBK0	Screws kit	1	AD

**PACKING PARTS**

5- 1	CPADBA700YDK0	Top pad ass'y	1	AQ
5- 2	CPADBA687YDK0	Bottom pad ass'y	1	AT
5- 3	SPAKCI187YDE0	Packing case [AF-T908X]	1	AZ
5- 3	SPAKCI156YDE0	Packing case [AF-R908X]	1	AZ
5- 3	SPAKCI155YDE0	Packing case [AF-R1108X]	1	AZ
5- 3	SPAKCI160YDE0	Packing case [AF-R1208X]	1	AZ
5- 4	TLAB-B072JBR0	Bar code badge [AF-T908X]	1	AC
5- 4	TLAB-B067JBR0	Bar code badge [AF-R908X]	1	AC
5- 4	TLAB-B065JBR0	Bar code badge [AF-R1108X]	1	AC
5- 4	TLAB-B070JBR0	Bar code badge [AF-R1208X]	1	AC
5- 5	SSAKHA314YDE0	Protect	1	AD
5- 6	SPADBC137YDE0	Name badge cover	1	AB
5- 7	PPAK-A007JBE0	Inner packing	1	AG
5- 8	CPADBA701YDK0	F panel pad ass'y	1	AN
5- 9	SPADBC102YDE0	Comp. pad 2	1	AD
5-10	SPADBC103YDE0	Eva pad	1	AF
5-11	SSAKAA053YDE0	Bag	1	AB
5-12	TLAB-B181JBR0	Caution label	1	AB
5-13	TLABMA297JBR0	Feature card [AF-T908X]	1	AF
5-13	TLABMA291JBR0	Feature card [AF-R908X]	1	AF
5-13	TLABMA291JBR0	Feature card [AF-R1108X]	1	AF
5-13	TLABMA291JBR0	Feature card [AF-R1208X]	1	AF

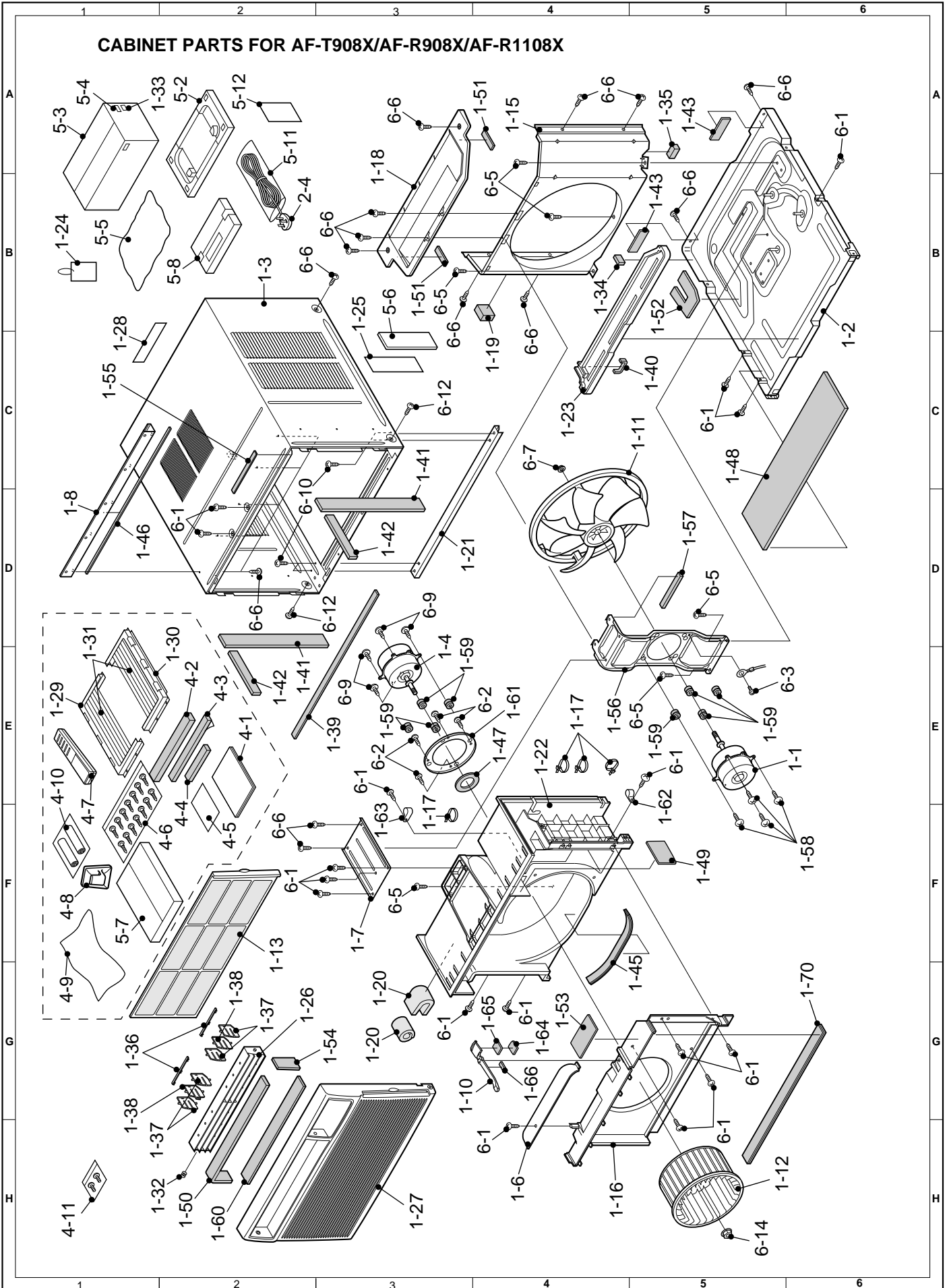
**SCREWS AND NUT**

6- 1	XTTSD40P12000	Tapping screw	19	AA
6- 2	XTTSD40P20000	Tapping screw	4	AA
6- 3	XHTSD40P08000	Tap tight screw; 4mm x 8mm	9	AA
6- 4	LX-NZA164JBE0	Special nut	1	AE
6- 5	LX-HZA001JBE0	Special screw	6	AB
6- 6	XCTSD40P10000	Tapping screw	22	AB
6- 7	LX-NZA074JBE0	Special nut	1	AA
6- 8	LX-NZA028JBE0	Special nut	3	AB
6- 9	LX-BZA216JBE0	Special screw(inside)	4	AB
6-10	XCTSD40P06000	Tapping screw [AF-T908X]	4	AA
6-10	XCTSD40P06000	Tapping screw [AF-R908X]	4	AA
6-10	XCTSD40P06000	Tapping screw [AF-R1108X]	4	AA
6-10	XCTSD40P06000	Tapping screw [AF-R1208X]	16	AA
6-11	XBPSD40P06J00	Machine screw [AF-R1208X]	2	AA
6-12	LX-CZA038WRE0	Special screw	4	AA
6-13	XHTSD40P10000	Tap tight screw [AF-R1208X]	2	AA
6-14	LX-NZA075JBE0	Special nut	1	AA
6-15	XTPSD40P08000	Tapping screw	3	AA

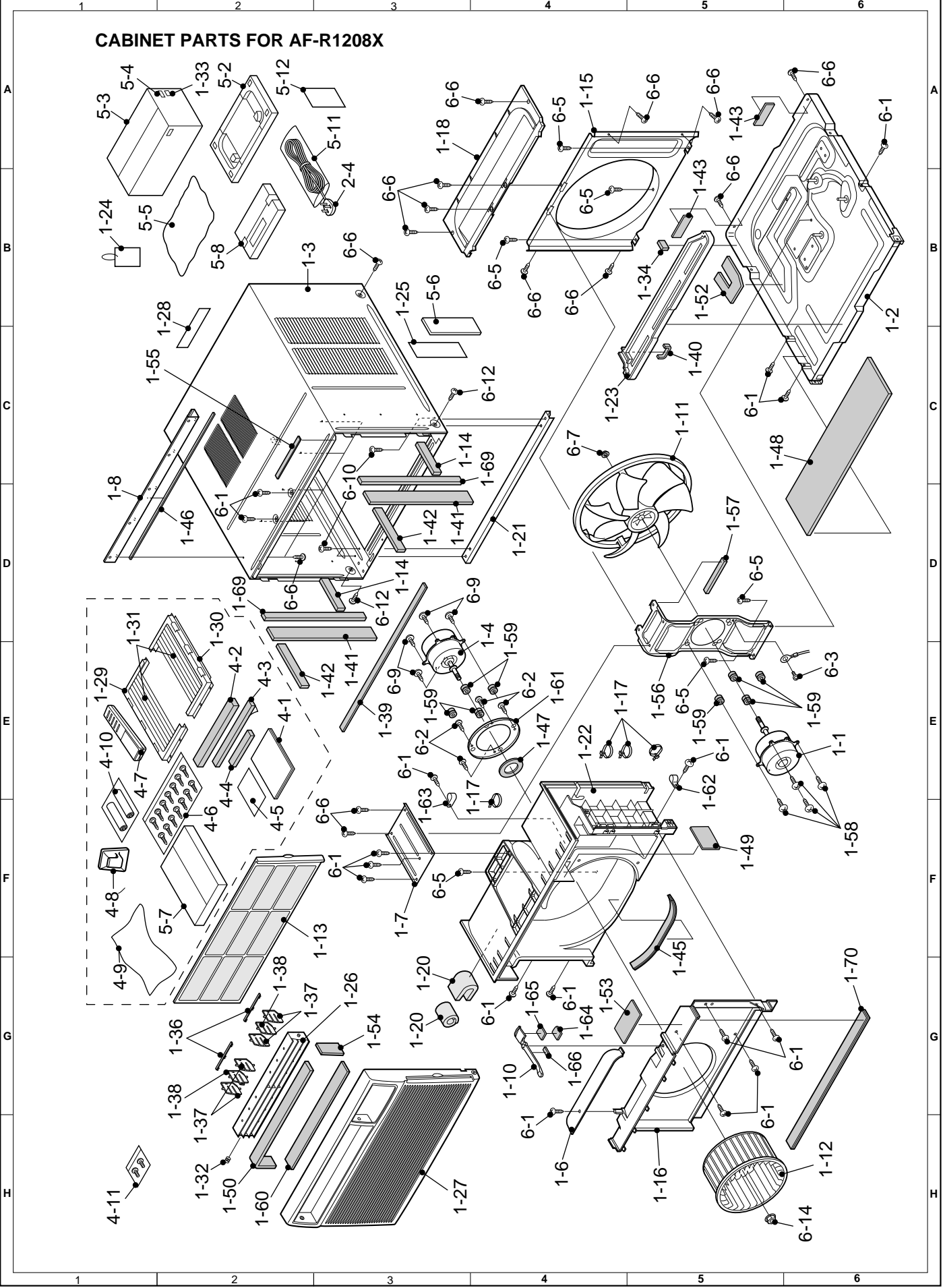
**HOW TO ORDER REPLACEMENT PARTS**

To have your order filled promptly and correctly, please furnish the following information.

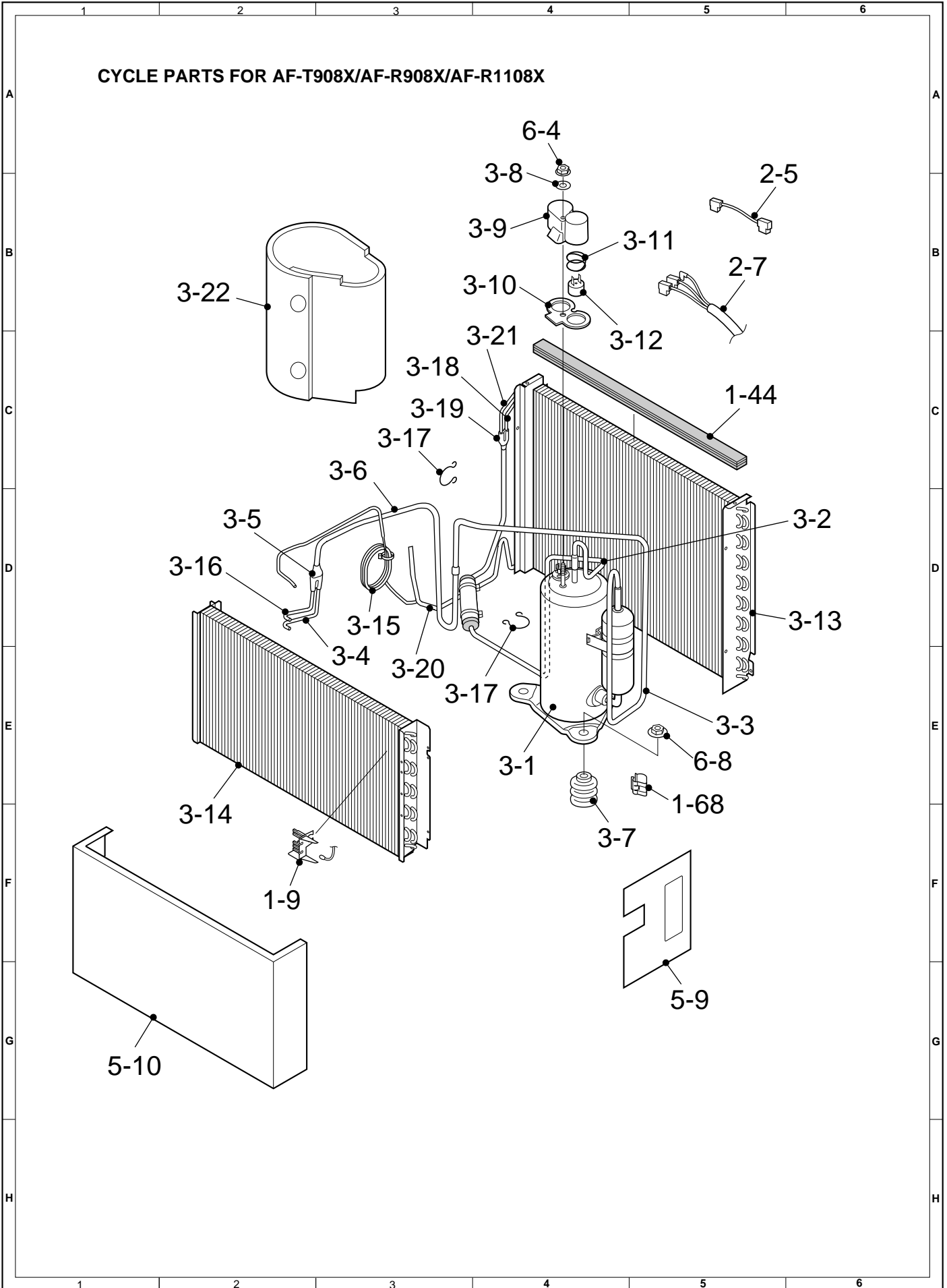
- |                 |                |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO.    |
| 3. PART NO.     | 4. DESCRIPTION |



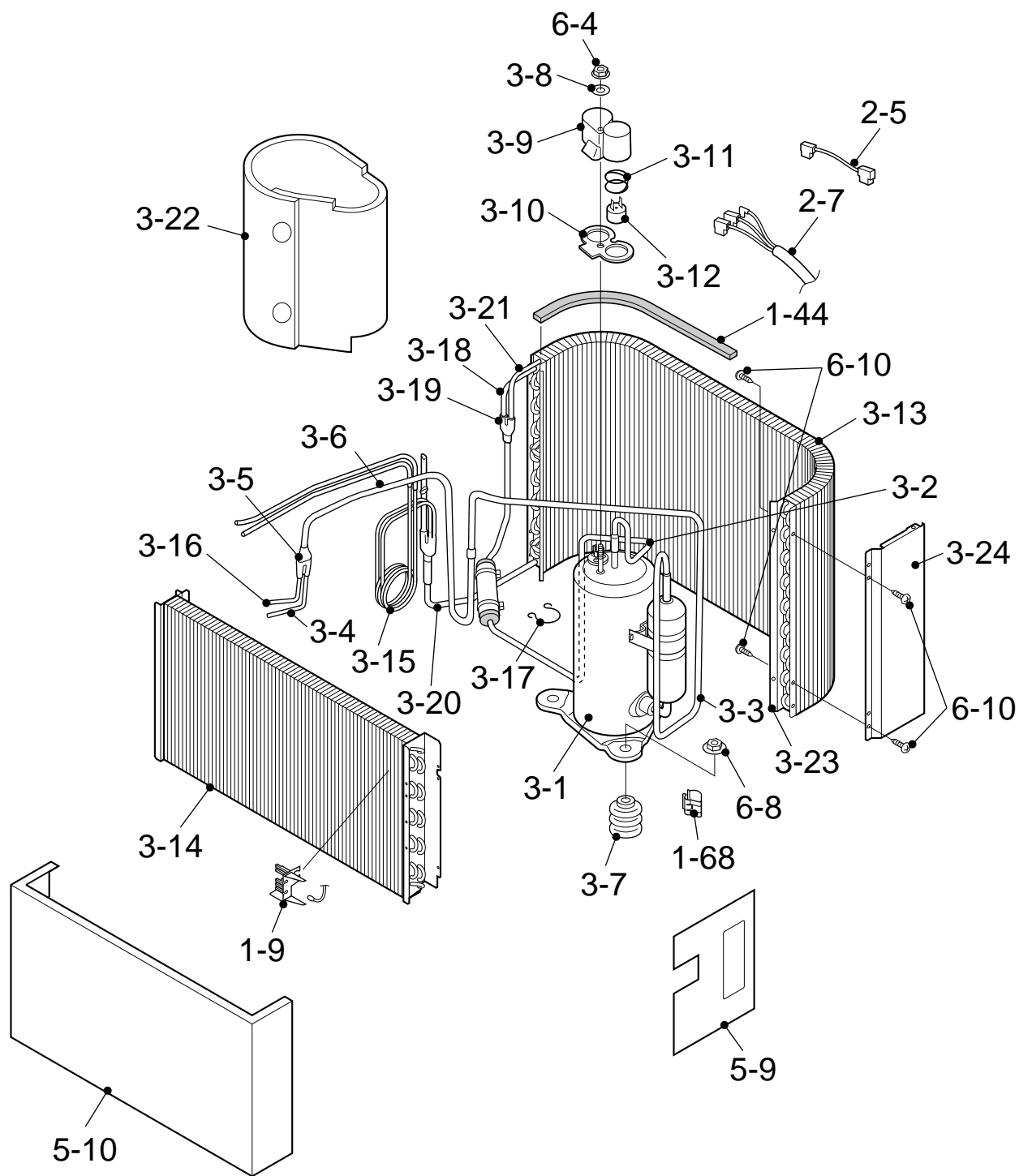
### CABINET PARTS FOR AF-R1208X



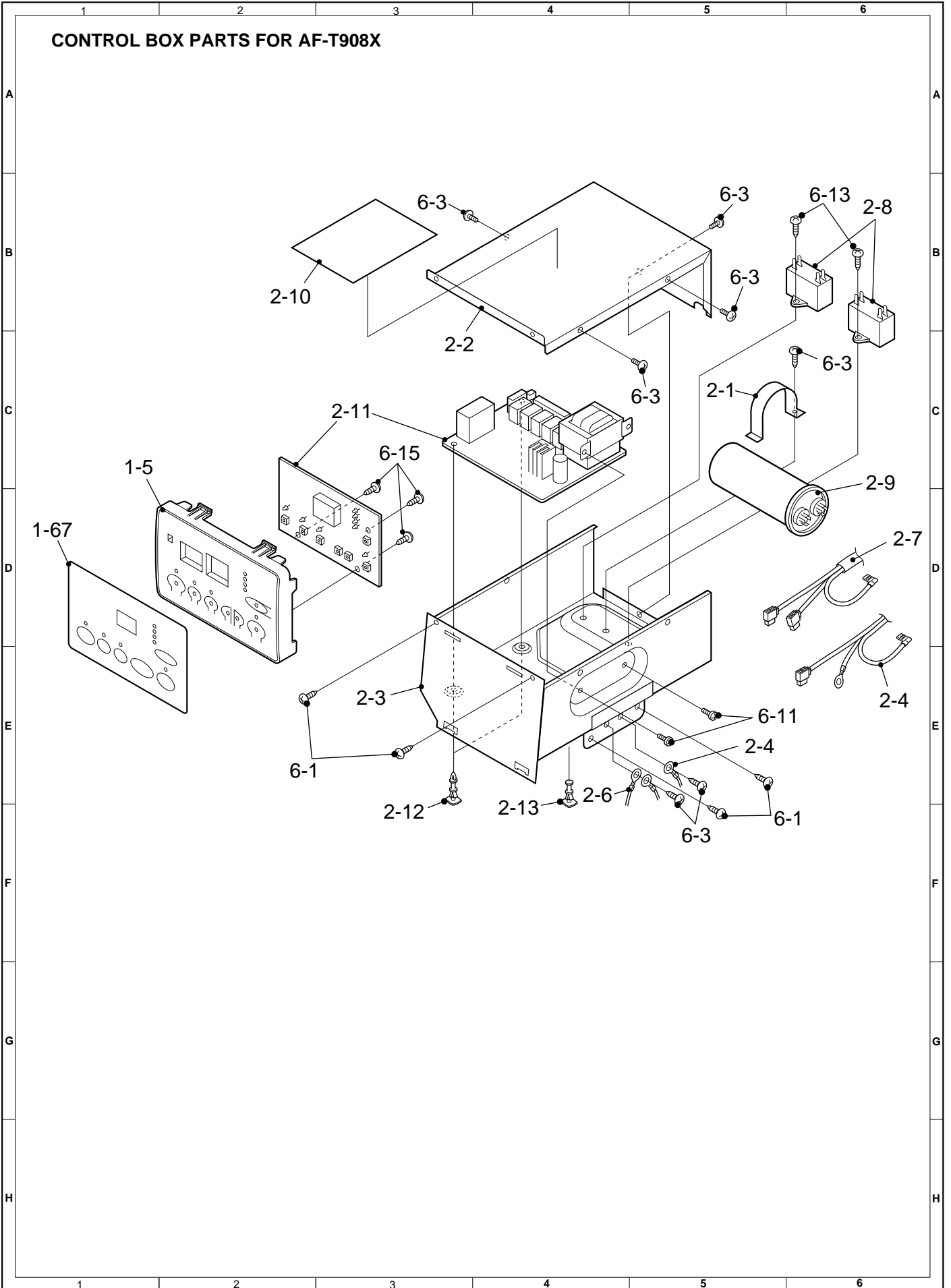
CYCLE PARTS FOR AF-T908X/AF-R908X/AF-R1108X



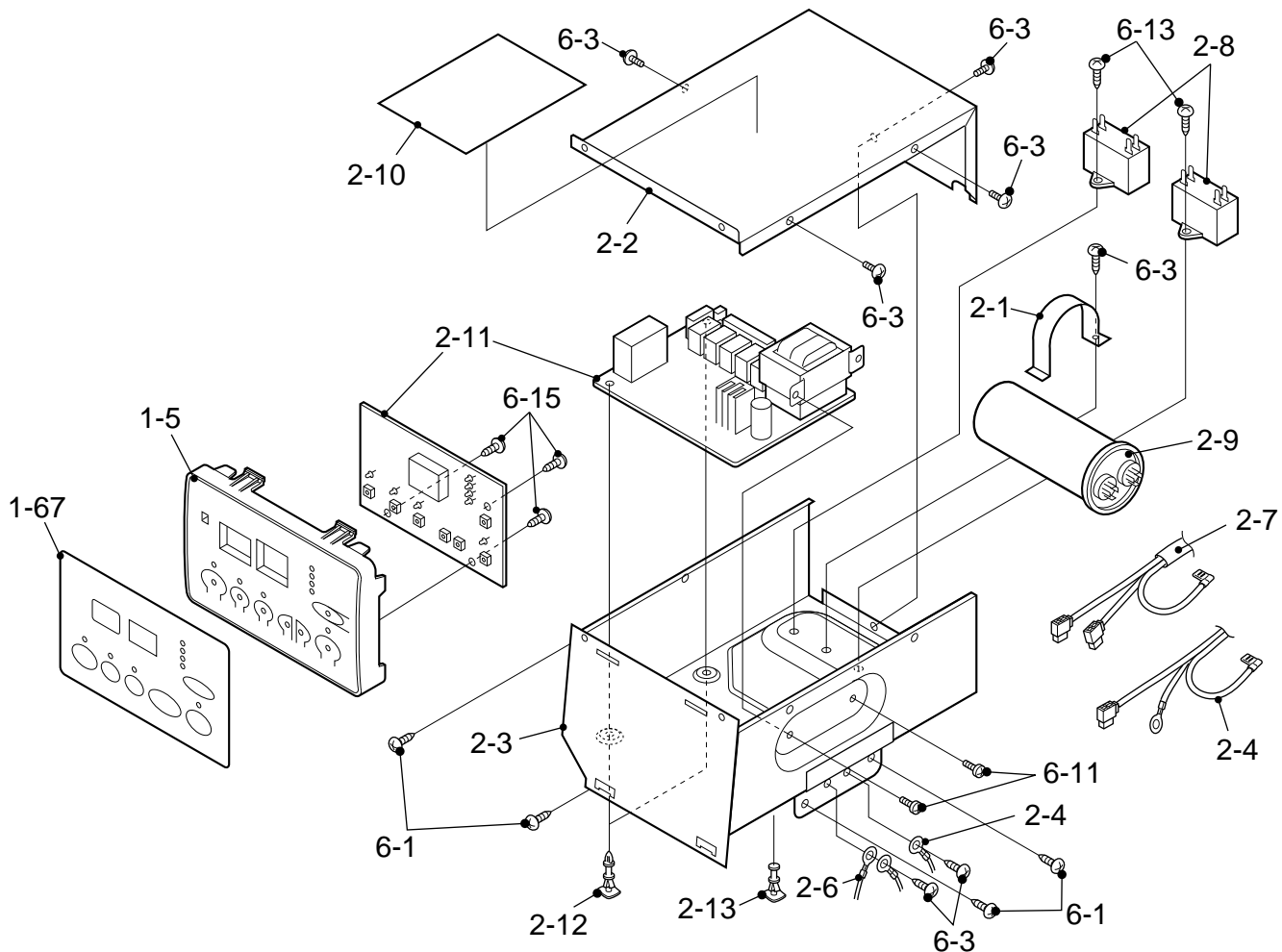
CYCLE PARTS FOR AF-R1208X



### CONTROL BOX PARTS FOR AF-T908X



CONTROL BOX PARTS FOR AF-R908X/AF-R1108X/AF-R1208X



# SHARP

COPYRIGHT © 1998 BY SHARP CORPORATION

ALL RIGHTS RESERVED.

No part of this publication may be reproduced, stored in a retrieval systems, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the publisher.