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Room Air Conditioner

SERVICE MANUAL

CAUTION

- BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.
- ONLY FOR AUTHORIZED SERVICE PERSONNEL.

MODEL: HBLG7000H

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1. PREFACE

This **SERVICE MANUAL** provides various service information, including the mechanical and electrical parts etc. This room air conditioner was manufactured and assembled under a strict quality control system. The refrigerant is charged at the factory. Be sure to read the safety precautions prior to servicing the unit.

1.1 SAFETY PRECAUTIONS

1. When servicing the unit, set the **ROTARY SWITCH** or **POWER SWITCH** to **OFF** and unplug the power cord.
2. Observe the original lead dress.
If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing the unit, make an insulation resistance test to protect the customer from being exposed to shock hazards.

1.2 INSULATION RESISTANCE TEST

1. Unplug the power cord and connect a jumper between 2 pins (black and white).
2. The grounding conductor (green or green & yellow) is to be open.
3. Measure the resistance value with an ohm meter between the jumpered lead and each exposed metallic part on the equipment at all the positions (except **OFF** or **O**) of the **ROTARY SWITCH**.
4. The value should be over 1M Ω .

1.3 SPECIFICATIONS

<div>MODEL</div> <div>ITEMS</div>			HBLG7000H	
POWER SUPPLY			1Ø, 115V, 60Hz	
COOLING	CAPACITY (Btu/h)		7,000	
	INPUT (W)		720	
	RUNNING CURRENT (A)		6.6	
	E.E.R. (Btu/W.h)		9.7	
HEATING	CAPACITY (Btu/h)		3,850	
	INPUT (W)		1,260	
	RUNNING CURRENT (A)		11.0	
OPERATING TEMPERA-TURE	COOLING	INDOOR (°C)	26.7 (DB)	19.4 (WB)
		OUTDOOR (°C)	35 (DB)	23.9 (WB)
	HEATING	INDOOR (°C)	21.1 (DB)	15.6 (WB)
		OUTDOOR (°C)	8.3 (DB)	6.1 (WB)
REFRIGERANT (R-22) CHARGE(g)			330 (11.6 OZ)	
EVAPORATOR			2 ROW 16 STACKS	
CONDENSER			2 ROW 16 STACKS	
FAN, INDOOR			BLOWER	
FAN, OUTDOOR			PROPELLER TYPE FAN WITH SLINGER-RING	
FAN SPEEDS (FAN/COOLING/HEATING)			1/ 2/ 2	
FAN MOTOR			4 POLES	
OPERATION CONTROL			ROTARY SWITCH	
ROOM TEMP. CONTROL			THERMOSTAT	
AIR DIRECTION CONTROL			VERTICAL LOUVER (RIGHT & LEFT)	
			HORIZONTAL LOUVER (UP & DOWN)	
CONSTRUCTION			SLIDE IN-OUT CHASSIS	
ELECTRIC HEATER			1.2 KW, 115V	
PROTECTOR	COMPRESSOR		OVERLOAD PROTECTOR	
	FAN MOTOR		INTERANL THERMAL PROTECTOR	
	ELECTRIC HEATER		FUSE LINK, BIMETAL THERMOSTAT	
POWER CORD			1.6m (3 WIRE WITH GROUDING)	
			ATTACHMENT PLUG (CORD-CONNECTED TYPE)	
DRAIN SYSTEM			DRAIN PIPE OR SPLASHED BY FAN SLINGER	
NET WEIGHT		(lbs/kg)	64/29	
OUTSIDE DIMENSION (W x H x D)		(inch)	18½ x 13⅞ x 20 ¹¹ / ₁₆	
		(mm)	470 x 353 x 525	

1.4 FEATURES

- Powerful and quiet cooling.
- Slide-in and slide-out chassis for the simple installation and service.
- Reversible inlet grille.
- Side air-intake, side cooled-air discharge.
- Built in adjustable THERMOSTAT.
- Washable one-touch filter.
- Compact size.

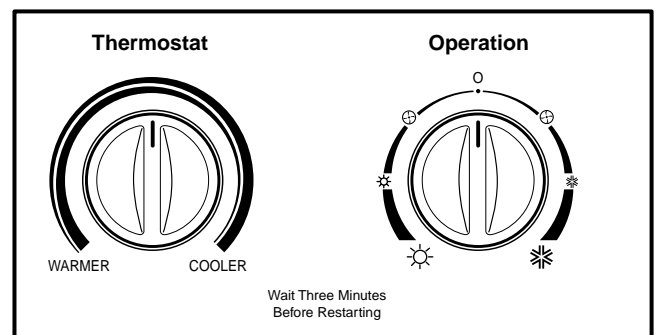
• CAUTION

When the air conditioner has been performing its cooling operation and is turned off or set to the fan position, wait at least 3 minutes before resetting to the cooling operation again.

• THERMOSTAT

Turn the thermostat control to the desired setting. The control position is a normal setting for average conditions. You can change this setting, if necessary, in accordance with your temperature preference.

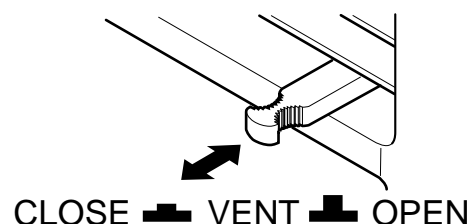
The thermostat automatically controls cooling or heating, but the fan runs continuously whenever the air conditioner is in operation. If the room is too warm, turn the thermostat control clockwise. If the room is too cool, turn the thermostat control anticlockwise.



• OPERATION

- OFF (O) : Turns the air conditioner off.
- FAN (⊕) : Permits the low fan speed operation without cooling (heating).
- LOW COOL (*) : Permits cooling with the low fan speed operation.
- HIGH COOL (✱) : Permits cooling with the high fan speed operation.
- LOW HEAT (☆) : Permits heating with the low fan speed operation.
- HIGH HEAT (☼) : Permits heating with the high fan speed operation.

A slight heat odor may come from the unit when first switching to HEAT after the cooling season is over. This odor, caused by fine dust particles on the heater, will disappear quickly.



• VENTILATION

The ventilation lever must be in the CLOSE position in order to maintain the best cooling conditions. When a fresh air is necessary in the room, set the ventilation lever to the OPEN position. The damper is opened and room air is exhausted.

2. DISASSEMBLY INSTRUCTIONS

— Before the following disassembly, POWER SWITCH set to OFF and disconnect the power cord.

2.1 MECHANICAL PARTS

2.1.1 FRONT GRILLE

1. Open the Inlet grille upward or downward.
2. Remove the screw which fastens the front grille.
3. Pull the front grille from the right side.
4. Remove the front grille.
5. Re-install the component by referring to the removal procedure, above.(See Figure 1)

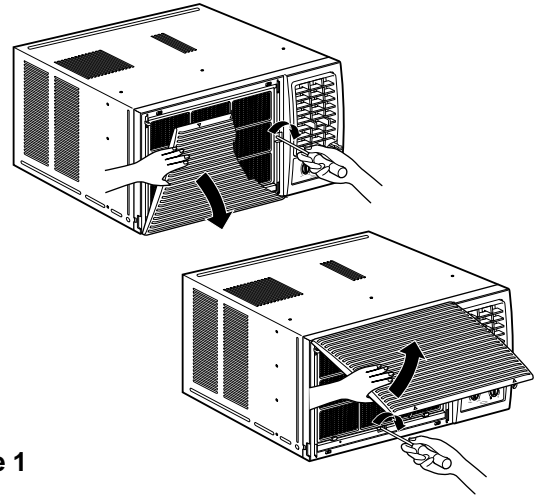


Figure 1

2.1.2 CABINET

1. After disassembling the FRONT GRILLE, remove the 2 screws which fasten the cabinet at both sides.
2. Remove the 2 screws which fasten the cabinet at back.
3. Pull the base pan forward. (See Figure 2)
4. Remove the cabinet.
5. Re-install the component by referring to the removal procedure, above.

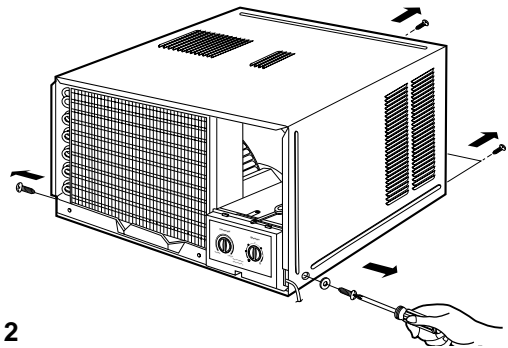


Figure 2

2.1.3 CONTROL BOX

1. Disconnect the unit from the power source.
2. Remove the front grille. (Refer to section 2.1.1)
3. Remove the cabinet. (Refer to section 2.1.2)
4. Remove the screw which fastens the control box cover.
5. Remove the housing which connects motor wire in the control box.
6. Remove the 3 leads from the compressor. (Refer to section 2.3.1)
7. Discharge the capacitor by placing a 20,000 ohm resistor across the capacitor terminals.
8. Remove the 2 screws which fasten the control box.(See Figure 3)
9. Pull the control box forward completely.
10. Re-install the components by referring to the removal procedure, above. (See Figure 3)
(Refer to the circuit diagram found on page 24 in this manual or on the control box.)

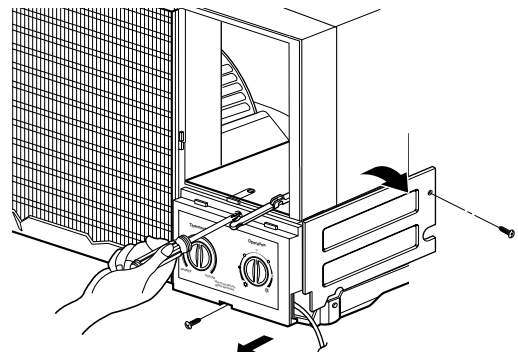


Figure 3

2.2 AIR HANDLING PARTS

2.2.1 AIR GUIDE AND BLOWER

1. Remove the front grille. (Refer to section 2.1.1)
2. Remove the cabinet. (Refer to section 2.1.2)
3. Remove the control box. (Refer to section 2.1.3)
4. Remove the 3 screws which fasten the brace.
5. Remove the brace.
6. Remove the 2 screws which fasten the evaporator.
7. Move the evaporator forward and pulling it upward slightly. (See Figure 4)
8. Move the evaporator to the left carefully.
9. Remove the 3 screws which fasten the Heater Cover.(See Figure 5)
10. Remove the Heater Cover.
11. Remove the clamp with a hand plier which secures the blower.(Sww Figure 6)
12. Remove the blower.
13. Remove the 4 screws which fasten the air guide from the barrier.
14. Move the air guide backward, pulling out from the base pan.
15. Re-install the components by referring to the removal procedure, above.

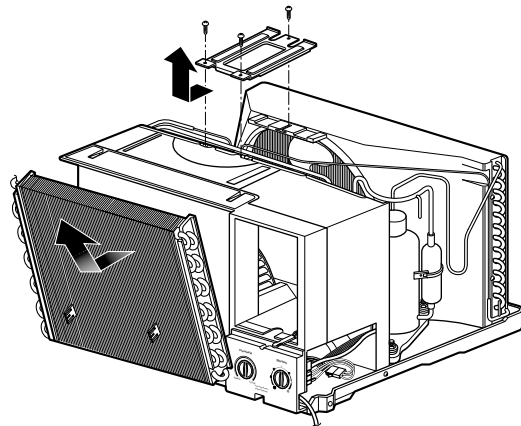


Figure 4

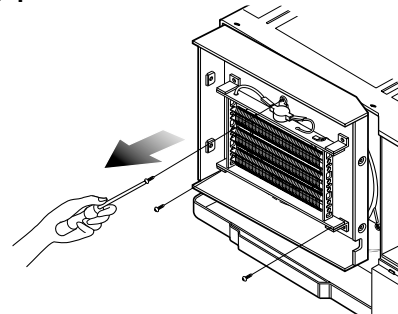


Figure 5

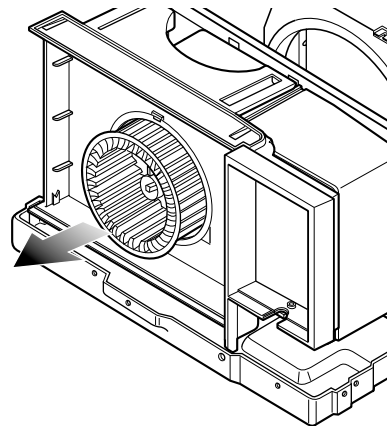


Figure 6

2.2.2 FAN AND SHROUD

1. Remove the cabinet. (Refer to section 2.1.2)
2. Remove the brace (Refer to section 2.2.1)
3. Remove the 3 screws which fasten the condenser.
4. Move the condenser to the left carefully.
5. Remove the clamp which secures the fan.
6. Remove the fan and then pull out the shroud. (See Figure 7)
7. Re-install by referring to the removal procedure.

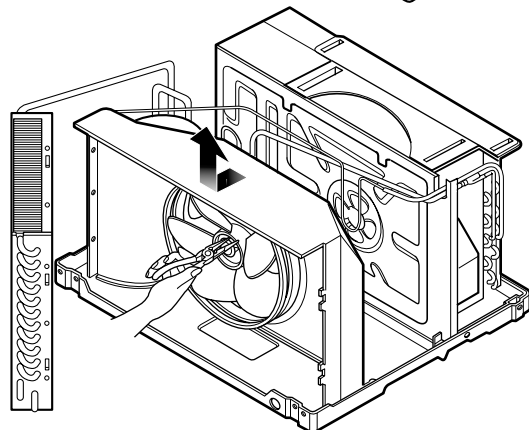


Figure 7

2.3 ELECTRICAL PARTS

2.3.1 OVERLOAD PROTECTOR

1. Remove the cabinet. (Refer to section 2.1.2)
2. Remove the nut which fastens the terminal cover.
3. Remove the terminal cover. (See Figure 8)
4. Remove all the leads from the overload protector.
5. Remove the overload protector.
6. Re-install the component by referring to the removal procedure, above.

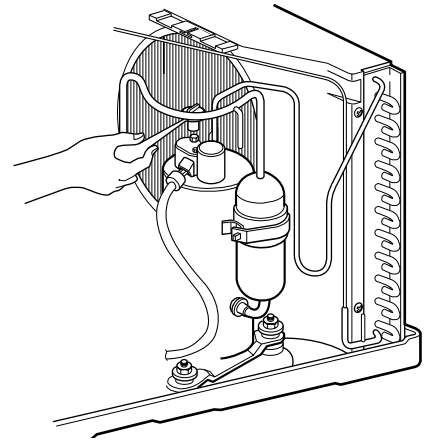


Figure 8

2.3.2 COMPRESSOR

1. Remove the cabinet. (Refer to section 2.1.2)
2. Discharge the refrigerant system using a Freon™ Recovery System.
If there is no valve to attach the recovery system, install one (such as a WATCO A-1) before venting the Freon™. Leave the valve in place after servicing the system.
3. Remove the overload protector. (Refer to section 2.3.1)
4. After purging the unit completely, unbraid the suction and discharge tubes at the compressor connections.
5. Remove the 3 nuts and the 3 washers which fasten the compressor.
6. Remove the compressor. (See Figure 9)
7. Re-install the components by referring to the removal procedure, above.

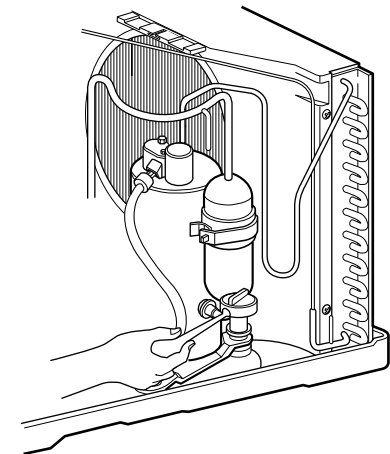


Figure 9

2.3.3 CAPACITOR

1. Remove the control box. (Refer to section 2.1.3)
2. Remove the knobs and the screw which fasten control panel from control box.
3. Remove the screw which located in the front.
4. Open the bottom side of control box.
5. Remove the screw and the clamp which fastens the capacitor.
6. Disconnect all the leads of capacitor terminals.
7. Re-install the components by referring to the removal procedure, above. (See Figure 10)

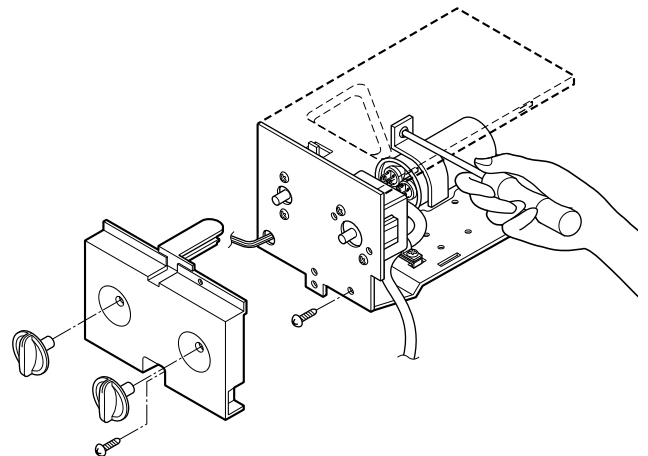


Figure 10

2.3.4 POWER CORD

1. Remove the control box. (Refer to section 2.1.3)
2. Open the control box. (Refer to section 2.3.3)
3. Disconnect the grounding screw from the control box.
4. Disconnect the 2 receptacles.
5. Remove a screw which fastens the clip cord.
(See Figure 11)
6. Remove the power cord.
7. Re-install the component by referring to the above removal procedure, above.
(Use only one ground-marked hole \oplus for ground connection.)
8. If the supply cord of this appliance is damaged, it must be replaced by the special cord. (The special cord means the cord which has the same specification marked on the supply cord attached at the unit.)

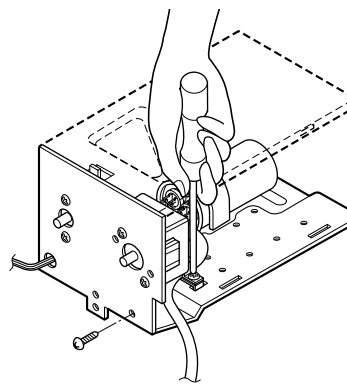


Figure 11

2.3.5 THERMOSTAT

1. Remove the control box. (Refer to section 2.1.3)
2. Open the control box. (Refer to section 2.3.3)
3. Remove the 2 screws which fasten the thermostat.
4. Disconnect 2 leads of thermostat terminals.
5. Remove the thermostat.
6. Re-install the components by refereing to the above removal procedure. (See Figure 12)

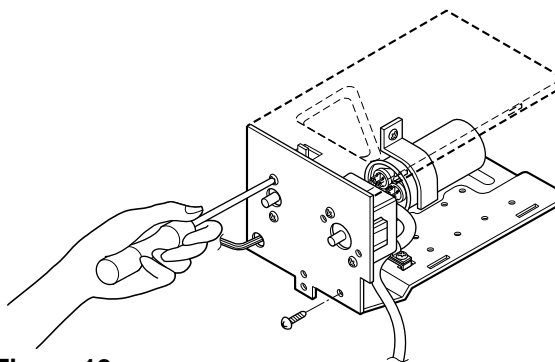


Figure 12

2.3.6 ROTARY SWITCH

1. Remove the control box. (Refer to section 2.1.3)
2. Open the control box. (Refer to section 2.3.3)
3. Remove the 2 screws which fasten the rotary switch.
4. Disconnect all the leads of the rotary switch terminals.
5. Remove the rotary switch.
6. Re-install the components by referring to the above removal procedure. (See Figure 13)

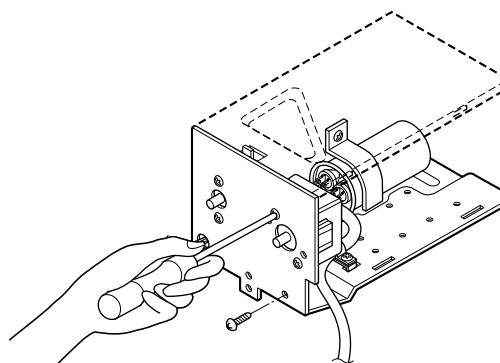


Figure 13

2.3.7 MOTOR

1. Remove the cabinet. (Refer to section 2.1.2)
2. Remove the evaporator. (Refer to section 2.2.1)
3. Remove the orifice. (Refer to section 2.2.1)
4. Remove the blower. (Refer to section 2.2.1)
5. Remove the fan. (Refer to section 2.2.2)
6. Remove the control box cover and housing of the motor in the control box. (Refer to section 2.1.3)
7. Remove the 2 screws which fasten the motor from the mount motor. (See Figure 14)
8. Remove the motor.
9. Re-install the components by referring to the removal procedure, above.(See Figure 14)

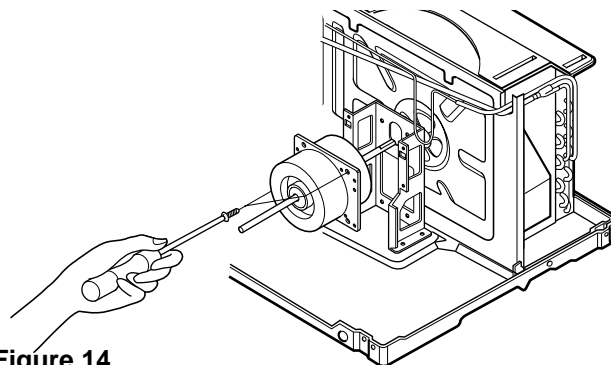


Figure 14

2.4 REFRIGERATING CYCLE

CAUTION

Discharge the refrigerant system using a Freon™ Recovery System.

If there is no valve to attach the recovery system, install one (such as a WATCO A-1) before venting the Freon™. Leave the valve in place after servicing the system.

2.4.1 CONDENSER

1. Remove the cabinet. (Refer to section 2.1.2)
2. Remove the 3 screws which fasten the brace. (Refer to section 2.2.1)
3. Remove the 3 screws which fasten the condenser and shroud.
4. After discharging the refrigerant completely, unbrazed the interconnecting tube at the condenser connections.
5. Remove the condenser carefully.
6. Re-install the component by referring to notes. (See Figure 15)

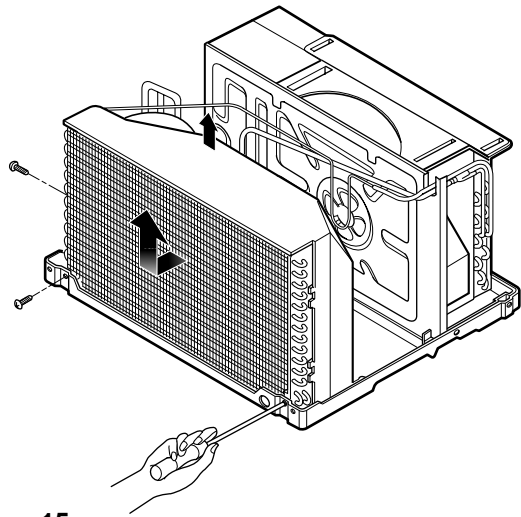


Figure 15

2.4.2 EVAPORATOR

1. Remove the cabinet. (Refer to section 2.1.2)
2. Remove the 2 screws which fasten the evaporator.
3. Move the evaporator sideways carefully. (Refer to section 2.2.1)
4. After discharging the refrigerant completely, unbrazed the interconnecting tube at the evaporator connections.
5. Remove the evaporator carefully.
6. Re-install the component by referring to notes. (See Figure 16)

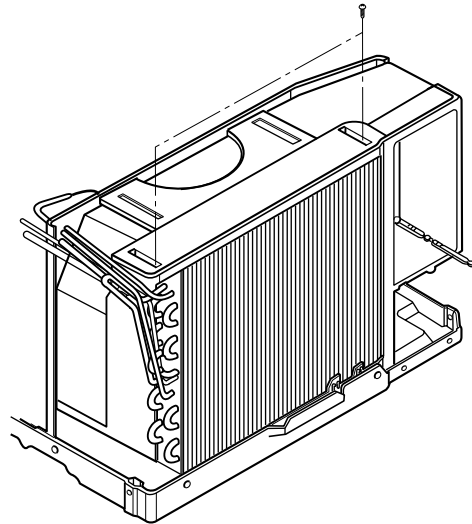


Figure 16

2.4.3 CAPILLARY TUBE

1. Remove the cabinet. (Refer to section 2.1.2)
2. After discharging the refrigerant completely, unbrazed the interconnecting tube at the capillary tube. (See caution above)
3. Remove the capillary tube.
4. Re-install the component by referring to notes.

NOTES

— Replacement of the refrigeration cycle.

1. When replacing the refrigeration cycle, be sure to Discharge the refrigerant system using a Freon™ recovery System.

If there is no valve to attach the recovery system, install one (such as a WATCO A-1) before venting the Freon™. Leave the valve in place after servicing the system.

2. After discharging the unit completely, remove the desired component, and unbraid the pinch-off tubes.
3. Solder service valves into the pinch-off tube ports, leaving the valves open.
4. Solder the pinch-off tubes with Service valves.
5. Evacuate as follows.

- 1) Connect the vacuum pump, as illustrated figure 17A.
- 2) Start the vacuum pump, slowly open manifold valves A and B with two full turns counterclockwise and leave the valves open. The vacuum pump is now pulling through valves A and B up to valve C by means of the manifold and entire system.

CAUTION

If high vacuum equipment is used, just crack valves A and B for a few minutes, then open slowly with the two full turns counterclockwise. This will keep oil from foaming and being drawn into the vacuum pump.

- 3) Operate the vacuum pump for 20 to 30 minutes, until 600 microns of vacuum is obtained. Close valves A and B, and observe vacuum gauge for a few minutes. A rise in pressure would indicate a possible leak or moisture remaining in the system. With valves A and B closed, stop the vacuum pump.
- 4) Remove the hose from the vacuum pump and place it on the charging cylinder. See figure 17B.
Open valve C.
Discharge the line at the manifold connection.
- 5) The system is now ready for final charging.

6. Recharge as follows :

- 1) Refrigeration cycle systems are charged from the High-side. If the total charge cannot be put in the High-side, the balance will be put in the suction line through the access valve which you installed as the system was opened.
- 2) Connect the charging cylinder as shown in figure 17B.
With valve C open, discharge the hose at the manifold connection.
- 3) Open valve A and allow the proper charge to enter the system. Valve B is still closed.
- 4) If more charge is required, the high-side will not take it. Close valve A.
- 5) With the unit running, open valve B and add the balance of the charge.
 - a. Do not add the liquid refrigerant to the Low-side.
 - b. Watch the Low-side gauge; allow pressure to rise to 30 lbs.
 - c. Turn off valve B and allow pressure to drop.
 - d. Repeat steps b. and c. until the balance of the charge is in the system.
- 6) When satisfied the unit is operating correctly, use the pinch-off tool with the unit still running and clamp on to the pinch-off tube. Using a tube cutter, cut the pinch-off tube about 2 inches from the pinch-off tool. Use sil-fos solder and solder pinch-off tube closed. Turn off the unit, allow it to set for a while, and then test the leakage of the pinch-off connection.

Equipment needed: Vacuum pump, Charging cylinder, Manifold gauge, Brazing equipment. Pin-off tool capable of making a vapor-proof seal, Leak detector, Tubing cutter, Hand Tools to remove components, Service valve.

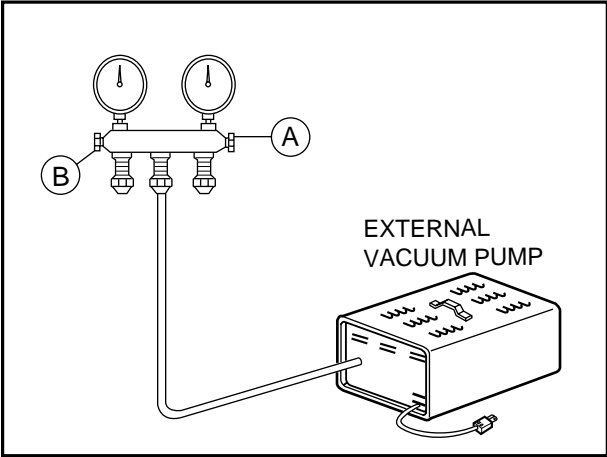
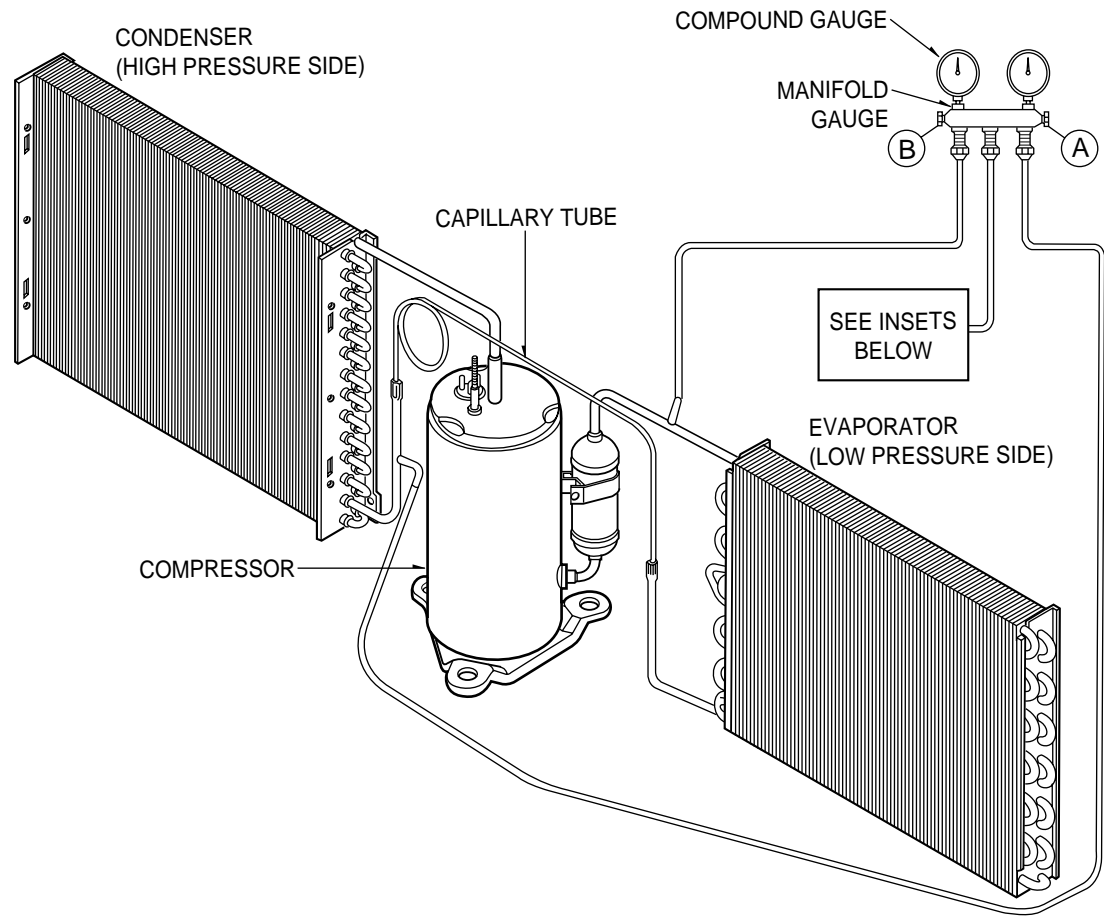


Figure 17A-Pulling Vacuum

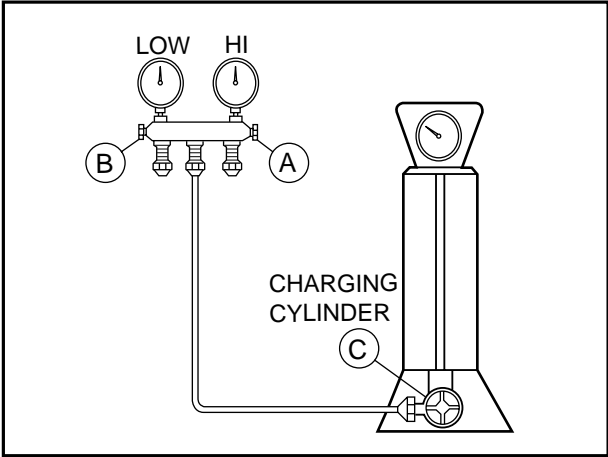


Figure 17B-Charging

3. INSTALLATION

3.1 SELECT THE BEST LOCATION

- 1.To prevent vibration and noise, make sure the unit is installed securely and firmly.
- 2.Install the unit where the sunlight does not shine directly on the unit.
- 3.The outside of the cabinet must extend outward for at least 11" and there should be no obstacles, such as a fence or wall, within 20" from the back of the cabinet because it will prevent heat radiation of the condenser.
Restriction of outside air will greatly reduce the cooling efficiency of the air conditioner.

CAUTION

All side louvers of the cabinet must remain exposed to the outside of the structure.

- 4.Install the unit a little slanted so the back is slightly lower than the front (about $\frac{1}{2}$ "). This will help force condensed water to the outside.
- 5.Install the unit from the bottom about 30"~60" above the floor level.

3.2 CHECK OF INSTALLATION

The setting conditions must be checked prior to initial starting.

The undermentioned items are especially important checking points when the installation is finished.

1. Grounding wire (Green or Green and Yellow) is provided in the power cord. The green wire must be grounded.
2. Connect to a single-outlet 15A circuit.
3. To avoid vibration or noise, make sure the air conditioner is installed securely.
4. Avoid placing furniture or draperies in front of the air inlet and outlet.

3.3. HOW TO DRAIN (When using drain pipe)

The air conditioner must be installed horizontally or tilted slightly to the outside for proper water drainage.

On exceptionally hot and humid days the air conditioner may overflow condensed water.

If the air conditioner is used in a hot and high humidity zone, exchange the ① HOLE RUBBER for the ② DRAIN PIPE.(See figure 19, figure 20.)

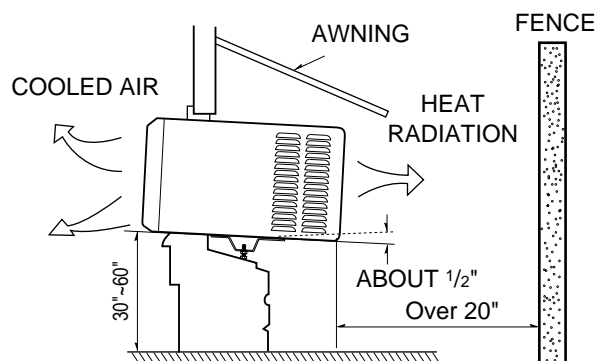


Figure 18

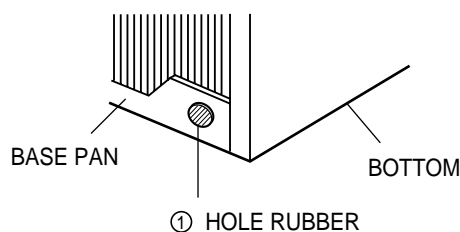


Figure 19

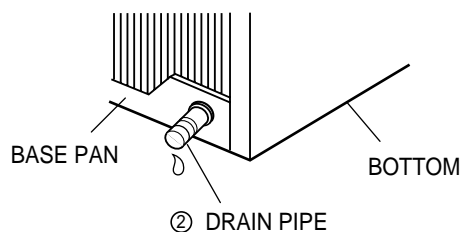
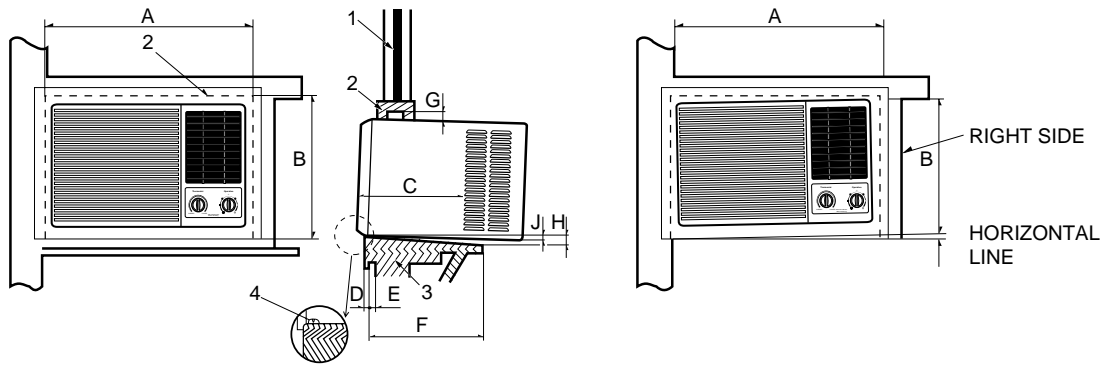


Figure 20

3.4 HOW TO INSTALL

3.4.1 WHEN USING GASKET



1. WINDOW (WIDTH-A, HEIGHT-B)
2. GASKET
3. WALL
4. DETAILS 5.1 x 30 ROUND HEAD WOOD
SCREWS

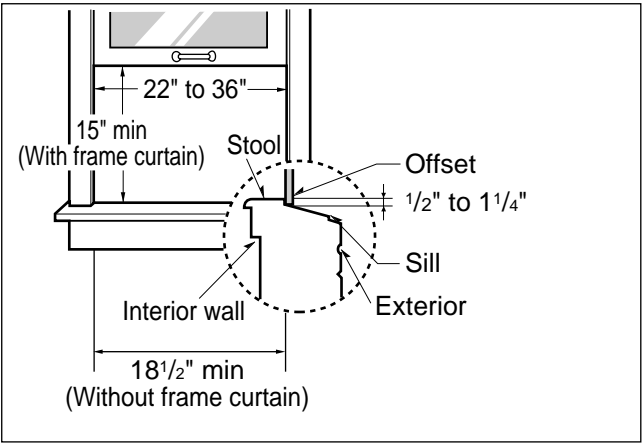
A	B	C	D	E	F	G	H	J	K
495mm (19½")	366mm (14 ⁷ / ₁₆ ")	250mm (10")	30mm (1 ¹ / ₁₆ ")	0~25mm (0~1")	OVER 420mm (OVER 16 ¹⁷ / ₃₂ ")	12mm (½")	32mm (1¼")	5~10mm (³ / ₁₆ "~ ³ / ₈ ")	0~5mm (0~ ³ / ₁₆ ")

3.4.2 WHEN USING INSTALLATION KITS

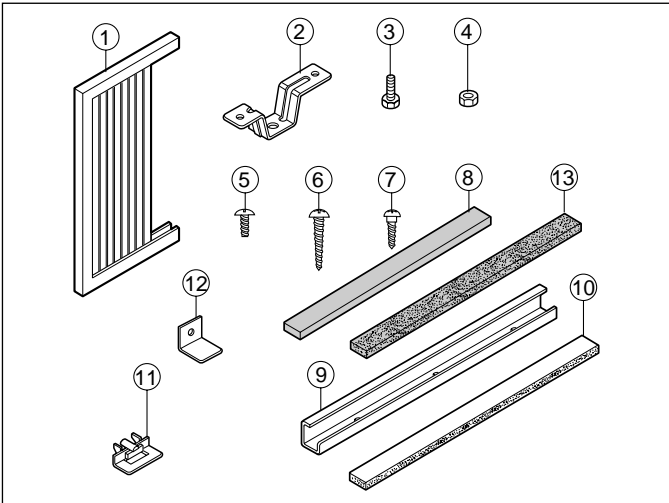
A. WINDOW REQUIREMENTS

This unit is designed for installation in standard double hung windows with actual opening widths from 22" to 36".

The top and bottom window sash must open sufficiently to allow a clear vertical opening of 15" from the bottom of the upper sash to the window stool.



B. INSTALLATION KITS CONTENTS



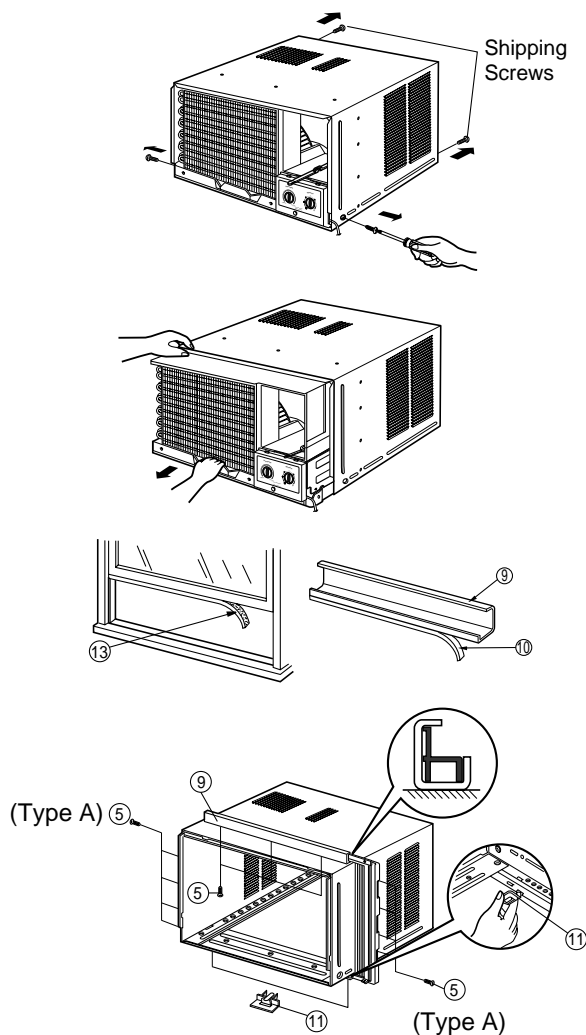
NO.	NAME OF PARTS	Q'TY
1	FRAME CURTAIN	2
2	SILL SUPPORT	2
3	BOLT	2
4	NUT	2
5	SCREW(TYPE A)	16
6	SCREW(TYPE B)	3
7	SCREW(TYPE C)	5
8	FOAM-STRIP	1
9	UPPER GUIDE	1
10	FOAM-PE	1
11	FRAME GUIDE	2
12	WINDOW LOCKING BRACKET	1
13	FOAM-PE	1

SUGGESTED TOOL REQUIREMENTS

SCREWDRIVER(+, -), RULER, KNIFE, HAMMER, PENCIL, LEVEL

PREPARATION OF CHASSIS

1. Remove the screws which fasten the cabinet at both sides and at the back.
2. Slide the unit from the cabinet by gripping the base pan handle and pulling forward while bracing the cabinet.
3. Cut the window sash seal to the proper length. Peel off the backing and attach the foam-pe ⑬ to the underside of the window sash.
4. Remove the backing from the top upper guide Foam PE ⑩ and attach it to the bottom of the upper guide ⑨.
5. Attach the upper guide onto the top of the cabinet with 3 type A screws.
6. Insert the frame guides ⑪ into the bottom of the cabinet.
7. Insert the Frame Curtain ① into the upper guide ⑨ and frame guides ⑪.
8. Fasten the curtains to the unit with 4 Type A screws.



CABINET INSTALLATION

1. Open the window. Mark a line on center of the window stool(or desired air conditioner location). Carefully place the cabinet on the window stool and align the center mark on the bottom front with the center line marked in the window stool.
2. Pull the bottom window sash down behind the upper guide until it meets.

NOTE:

- Do not pull the window sash down so tightly that the movement of Frame Curtain is restricted.

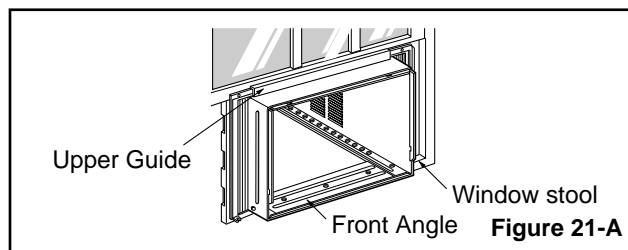


Figure 21-A

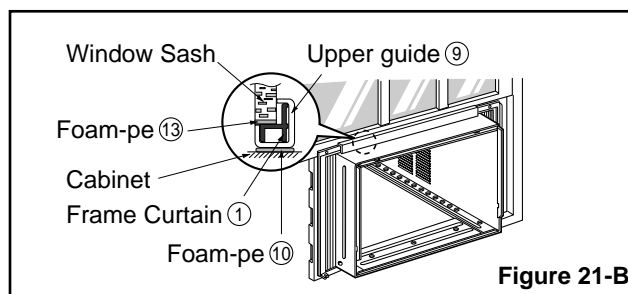


Figure 21-B

3. Loosely assemble the sill support using the parts in Figure 22.

4. Select the position that will place the sill support near the outer most point on sill (See Figure 23)

NOTE: Be careful when you install the cabinet (frame guides ⑪ are broken so easily).

5. Attach the sill support to the cabinet track hole in relation to the selected position using 2 Type A screws in each support(See Figure 23).

6. The cabinet should be installed with a very **slight tilt(about 1/2") downward** toward the outside (See Figure 24).
Adjust the bolt and the nut of sill support for balancing the cabinet.

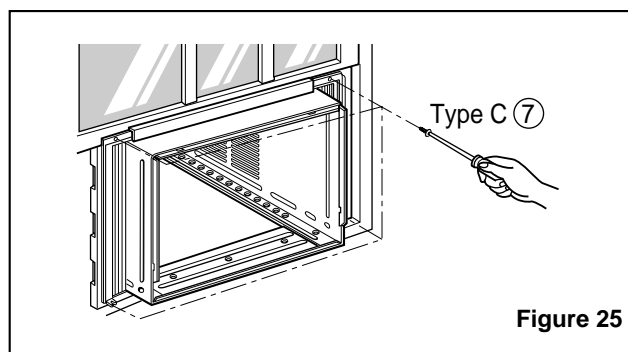
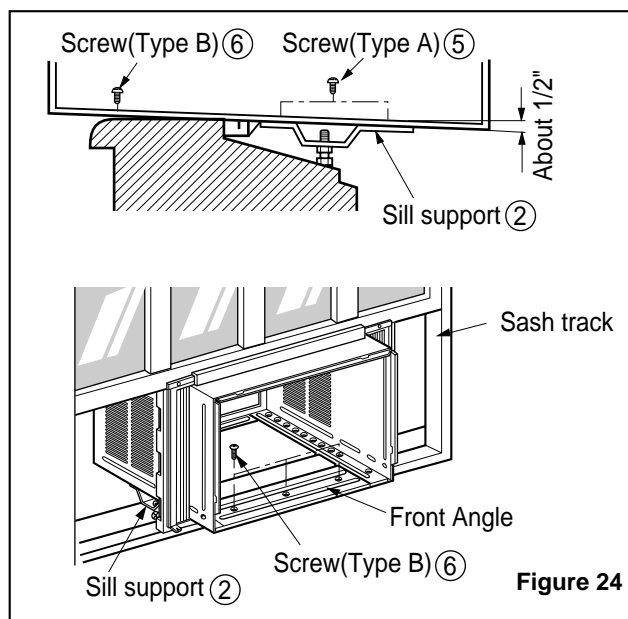
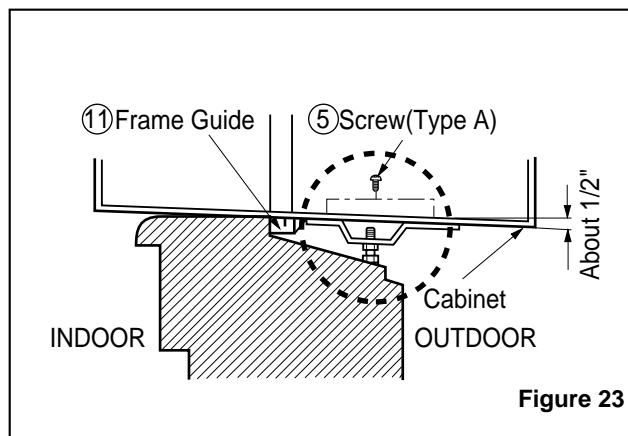
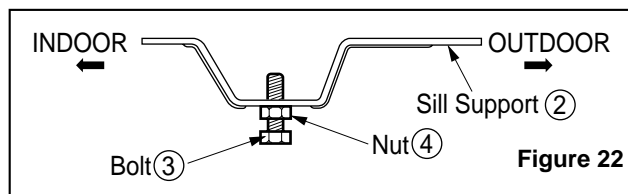
7. Attach the cabinet to the window stool by driving the screws ⑥(Type B: Length sixteen millimeters and below.) through the front angle into window stool.

8. Pull each Frame curtain fully to each window sash track, and repeat step 2.

9. Attach each Frame curtain the window sash using screws ⑦(Type C).(See Figure 25)

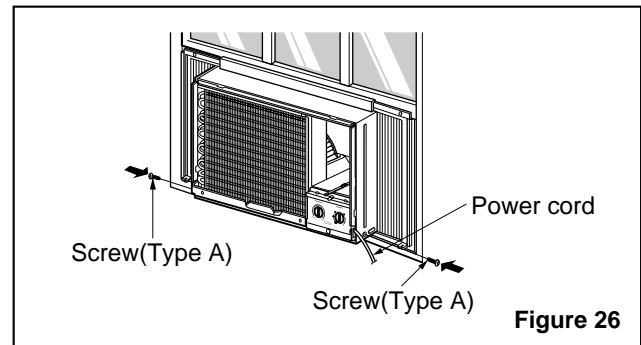
CAUTION: DO NOT DRILL A HOLE IN THE BOTTOM PAN.

The unit is designed to operate with approximately 1/2" of water in bottom pan.

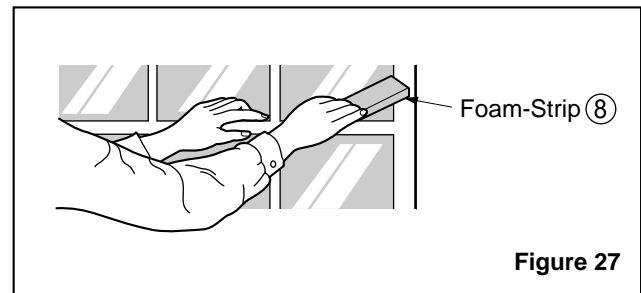


10. Slide the unit into the cabinet.(See Figure 26)

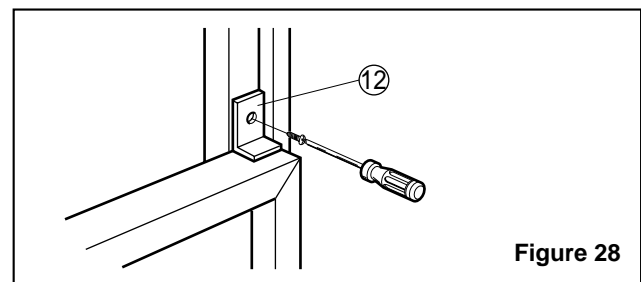
CAUTION: For security purpose, reinstall screws(Type A) at cabinet's sides.



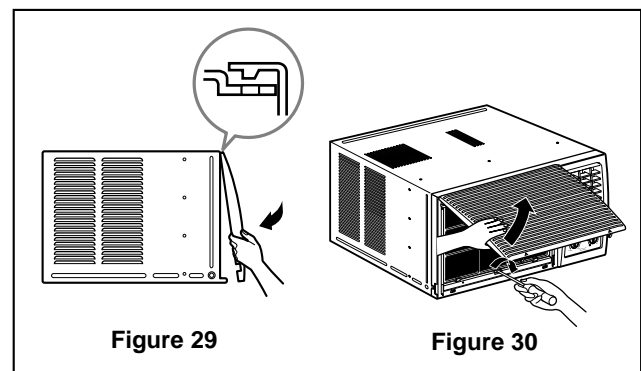
11. Cut the foam-strip ⑧ to the proper length and insert between the upper window sash and the lower window sash.
(See Figure 27)



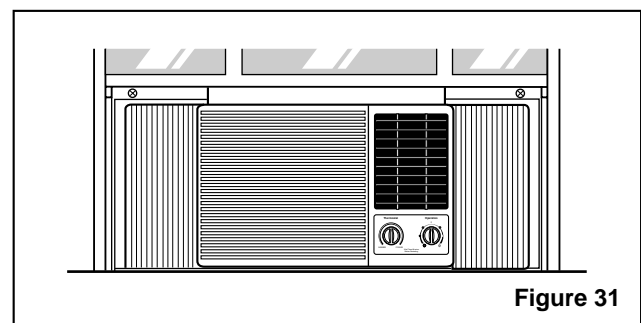
12. Attach the window locking bracket ⑫ with a type C screw. (See Figure 28)



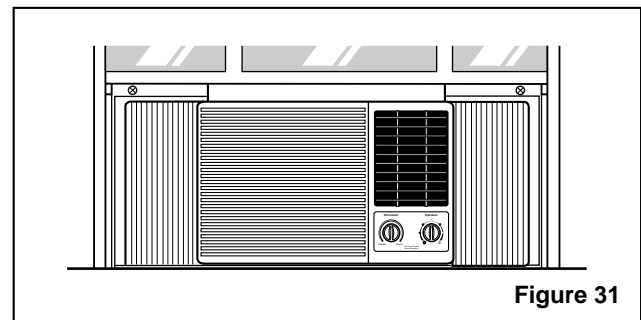
13. Attach the front grille to the cabinet by inserting the tabs on the grille into the tabs on the front of the cabinet. Push the grille in until it snaps into place.
(See Figure 29)



14. Lift the inlet grille and secure it with a type A screw through the front grille.
(See Figure 30)



15. **Window installation of room air conditioner is now completed. See ELECTRICAL DATA for attaching power cord to electrical outlet.**



3.5 HOW TO USE THE REVERSIBLE INLET GRILLE

1. If you want to pull out the filter upward, open the inlet grille slightly. Turn inside out the front grille.
Disassemble the inlet grille from the front grille with separating the hinged part by inserting a "—" type screw-driver tip.
Rotate the inlet grille 180 degrees and insert the hooks into the lower holes of front grille.
Then, insert the filter. (See Figure 32, 33)

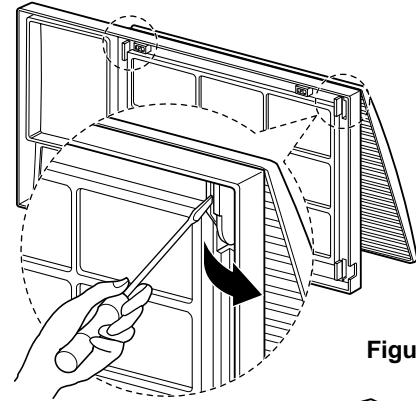


Figure 32

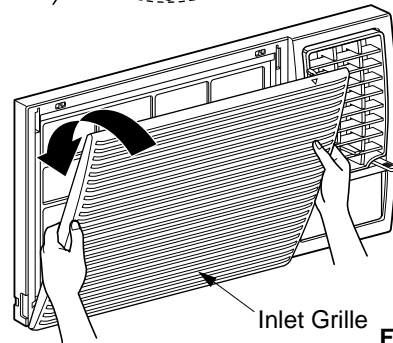


Figure 33

2. Attach the front grille to the cabinet by inserting the tabs on the grille into the tabs on the front of the cabinet. Push the grille in until it snaps into place.
(See Figure 34)

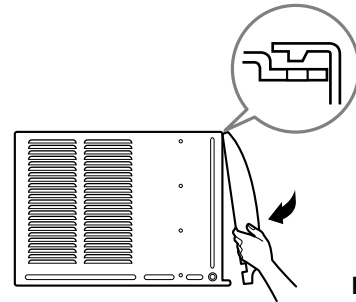


Figure 34

3. Lift the inlet grille and secure it with a type A screw through the front grille.
(See Figure 35)
4. If you want to pull out the filter downward, use the reversible inlet grille without change.
(The grille is already assembled for that way.)

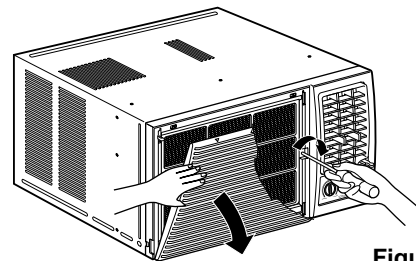
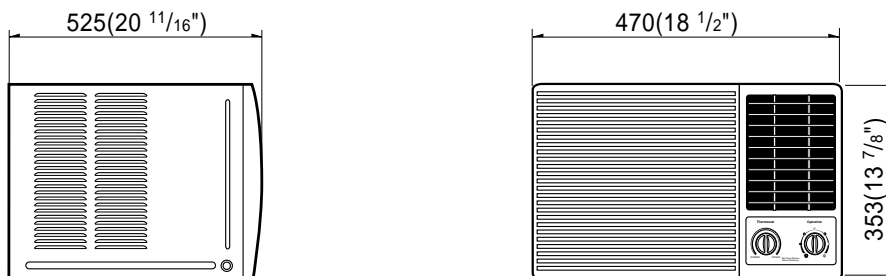


Figure 35

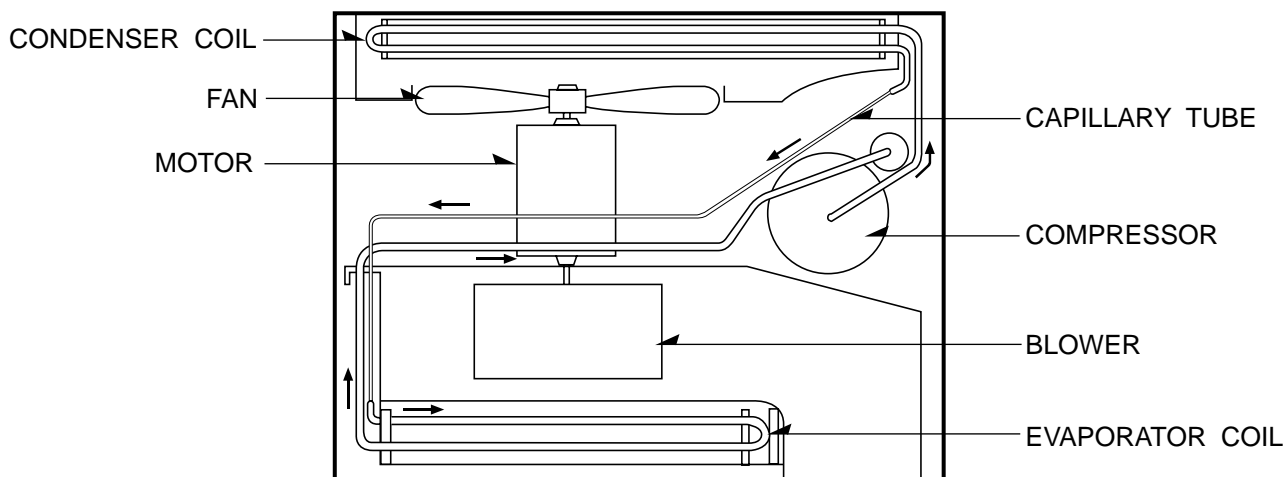
4. TROUBLESHOOTING GUIDE

4.1 OUTSIDE DIMENSIONS

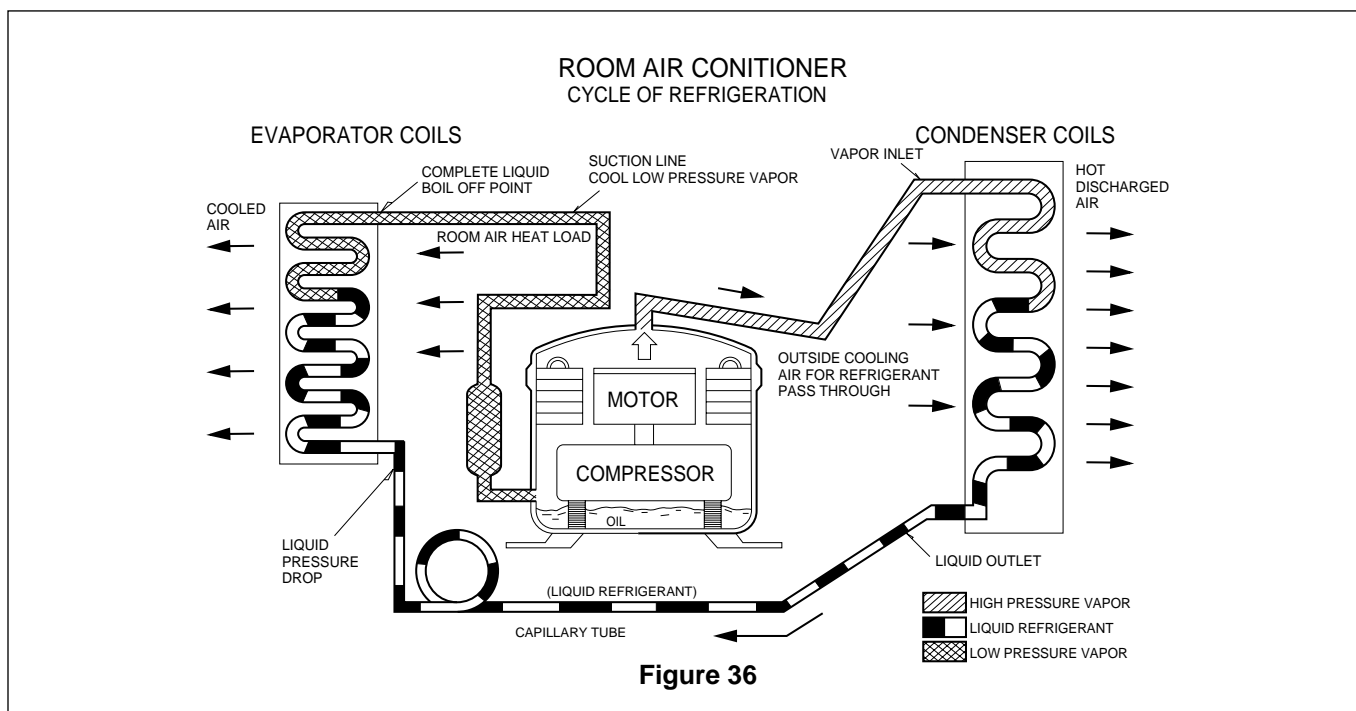
unit: mm(inch)



4.2 PIPING SYSTEM



Following is a brief description of the important components and their function in what is called the refrigeration system. Reference should be made to Figure 36 to follow the refrigeration cycle and the flow of the refrigerant in the cooling cycle.

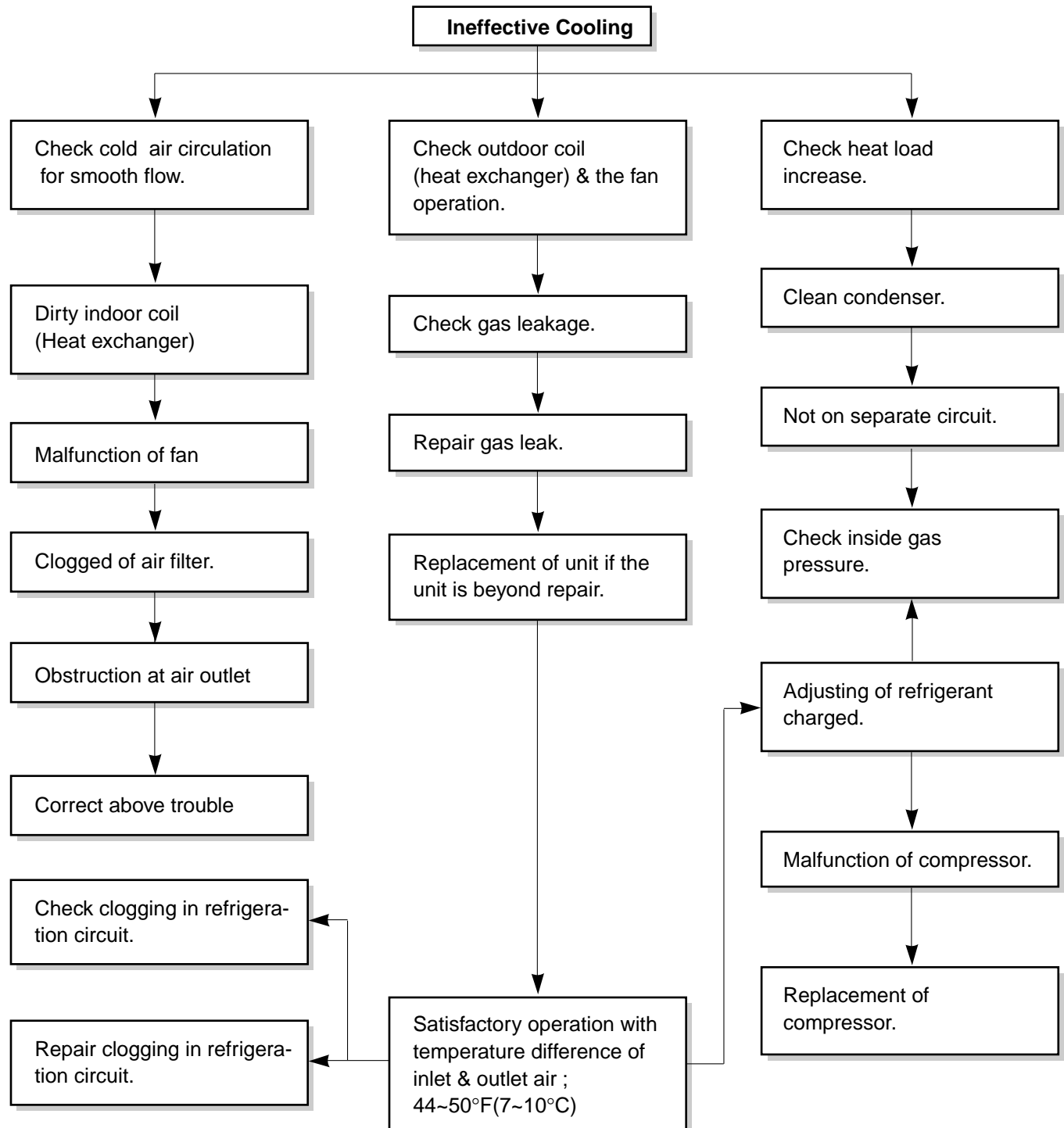


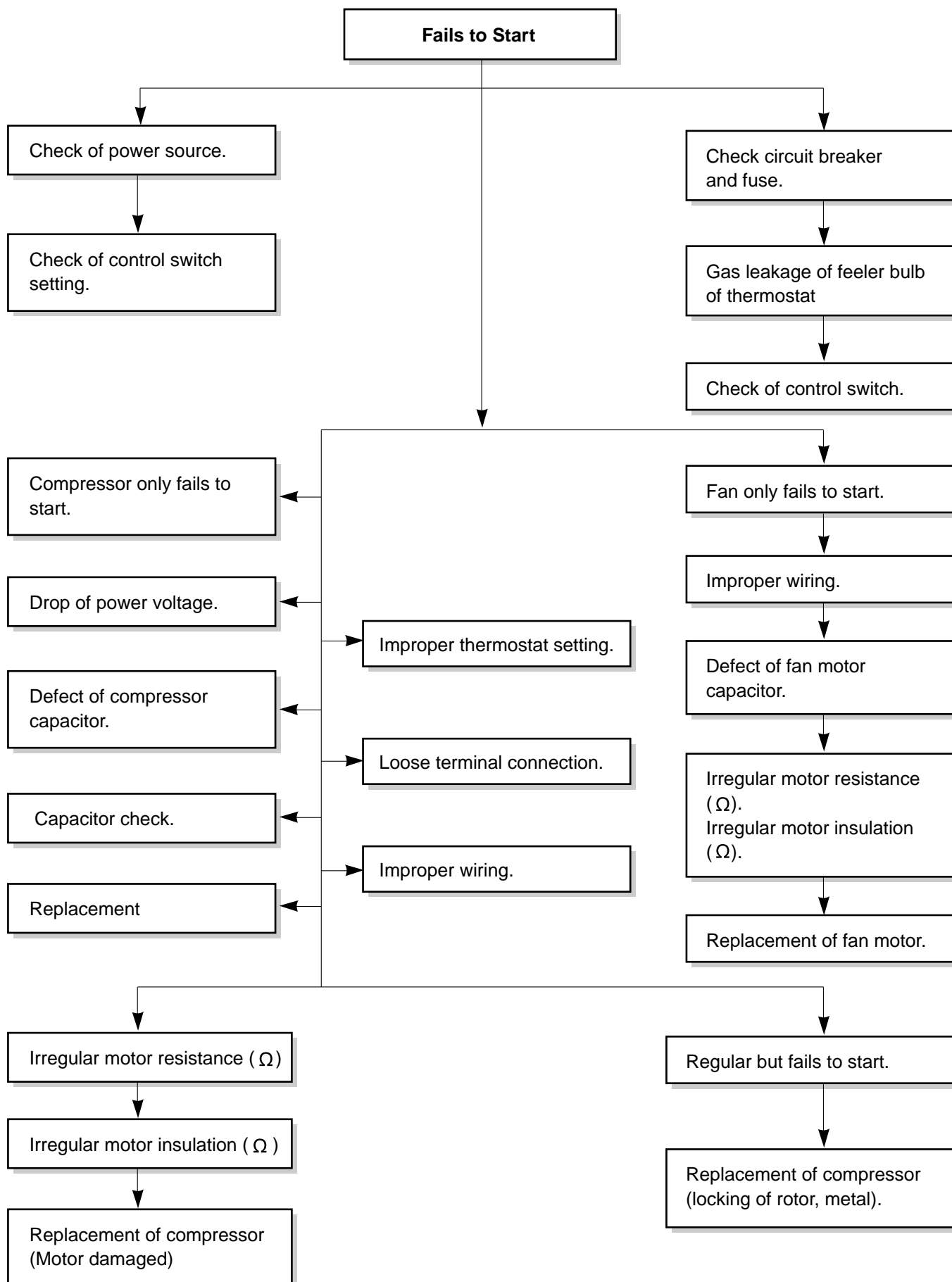
4.3 TROUBLESHOOTING GUIDE

In general, possible trouble is classified in two kinds.

The one is called Starting Failure which is caused from an electrical defect, and the other is ineffective Air Conditioning caused by a defect in the refrigeration circuit and improper application.

Unit runs but poor cooling.





ROOM AIR CONDITIONER VOLTAGE LIMITS

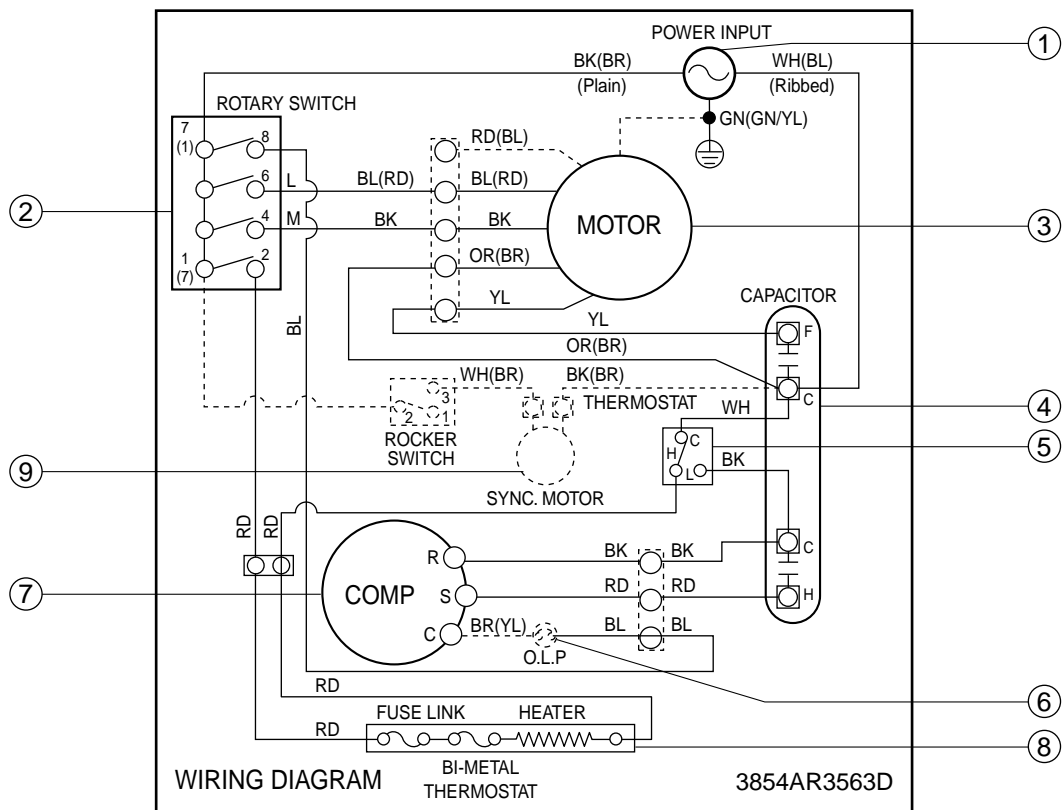
NAME PLATE RATING	MINIMUM	MAXIMUM
115V \pm 10%	103.5V	126.5V

COMPLAINT	CAUSE	REMEDY
Fan motor will not run.	No power	Check voltage at outlet. Correct if none.
	Power supply cord	Check voltage to rotary switch. If none, check power supply cord. Replace cord if circuit is open.
	Rotary switch	Check switch continuity. Refer to wiring diagram for terminal identification. Replace switch if defective.
	Wire disconnected or connection loose	Connect wire. Refer to wiring diagram for terminal identification. Repair or replace loose terminal.
	Capacitor (Discharge capacitor before testing.)	Test capacitor. Replace if not within $\pm 10\%$ of manufacturer's rating. Replace if shorted, open, or damaged.
	Will not rotate	Fan blade hitting shroud or blower wheel hitting scroll. Realign assembly. Units using slinger ring for condenser fan must have $\frac{1}{4}$ to $\frac{5}{16}$ inch clearance to the base. If it hits the base, shim up the bottom of the fan motor with mounting screw(s). Check fan motor bearings; if motor shaft will not rotate, replace the motor.
Fan motor runs intermittently	Revolves on overload.	Check voltage. If not within limits, call an electrician.
		Test capacitor. Check bearings. Does the fan blade rotate freely? If not, replace fan motor.
		Pay attention to any change from high speed to low speed. If the speed does not change, replace the motor.

COMPLAINT	CAUSE	REMEDY
Fan motor noise.	Fan	If cracked, out of balance, or partially missing, replace it.
	Blower	If cracked, out of balance, or partially missing, replace it.
	Loose clamper	Tighten it.
	Worn bearings	If knocking sounds continue when running or loose, replace the motor. If the motor hums or noise appears to be internal while running, replace motor.
Compressor will not run, but fan motor runs.	Voltage	Check voltage. See the limits on the preceeding page. If not within limits, call an electrician.
	Wiring	Check the wire connections, if loose, repair or replace the terminal. If wires are off, refer to wiring diagram for identification, and replace. Check wire locations. If not per wiring diagram, correct.
	Rotary	Check for continuity, refer to the wiring diagram for terminal identification. Replace the switch if circuit is open.
	Thermostat	Check the position of knob If not at the coldest setting, advance the knob to this setting and restart unit. Check continuity of the thermostat. Replace thermostat if circuit is open.
	Capacitor (Discharge capacitor before servicing.)	Check the capacitor. Replace if not within $\pm 10\%$ of manufacturers rating. Replace if shorted, open, or damaged.
	Compressor	Check the compressor for open circuit or ground. If open or grounded, replace the compressor.
Compressor cycles on overload.	Overload	Check the compressor overload, if externally mounted. Replace if open. (If the compressor temperature is high, remove the overload, cool it, and retest.)
	Voltage	Check the voltage. If not within limits, call an electrician.

COMPLAINT	CAUSE	REMEDY
Compressor cycles on overload(Cont'd)	Fan motor	If not running, determine the cause. Replace if required.
	Condenser air flow restriction	Remove the cabinet. inspect the interior surface of the condenser; if restricted, clean carefully with a vacuum cleaner (do not damage fins) or brush. Clean the interior base before reassembling.
	Condenser fins (damaged)	If condenser fins are closed over a large area on the coil surface, head pressures will increase, causing the compressor to overload. Straighten the fins or replace the coil.
	Capacitor	Test capacitor.
	Wiring	Check the terminals. If loose, repair or replace.
	Refrigerating system	Check the system for a restriction.
Insufficient cooling	Air filter	If restricted, clean or replace.
	Exhaust damper door	Close if open.
	Unit undersized	Determine if the unit is properly sized for the area to be cooled.
Excessive noise.	Blower or fan	Check the set screw or clamp. If loose or missing, correct. If the blower or fan is hitting air guide, rearrange the air handling parts.
	Copper tubing	Remove the cabinet carefully and rearrange tubing not to contact cabinet, compressor, shroud, and barrier.

5. CIRCUIT DIAGRAM



NO.	DESCRIPTION
1	POWER CORD
2	ROTARY SWITCH
3	FAN MOTOR
4	CAPACITOR
5	THERMOSTAT
6	OVERLOAD PROTECTOR
7	COMPRESSOR
8	ELECTRIC HEATER
9	SYNCHRONOUS MOTOR

This exploded view diagram illustrates the assembly of a refrigerator. The components are numbered 1 through 49, with additional callouts A, B, C, and D. The diagram shows the main body (1), top panel (2), and bottom panel (3). The interior includes the evaporator (4), condenser (5), and various shelves (6-10). The door assembly consists of the door panel (11), inner door panel (12), and door handle (13). The bottom section shows the base (14), feet (15), and various internal components like the compressor (16), condenser fan (17), and evaporator fan (18). The diagram also shows the control panel (19) and various wiring and connectors (20-29). The callouts A, B, C, and D indicate specific assembly points or options.

7. REPLACEMENT PARTS LIST

• MODEL: HBLG7000H

R: Service Parts

N: Non Service Parts

SERIAL NO.	DESCRIPTION	PART NO.	QTY PER SET	RE-MARK
		HBLG7000H		
135312	FRONT GRILLE ASSEMBLY	3531A10128B	1	R
135313	INLET GRILLE	3530A10027A	1	R
152302	AIR FILTER ASSEMBLY	5231A20004A	1	R
147581	HORIZONTAL LOUVER	4758A20002D	1	R
147582	VERTICAL LOUVER	4758A30008A	2	R
130910	CABINET ASSEMBLY	3091A30005D	1	R
554160	COMPRESSOR	2520UAEC2DA	1	R
567502	OVERLOAD PROTECTOR	6750U-L005A	1	R
550140	ISOLATOR, COMP	5040AR4195A	3	R
130410	BASE ASSEMBLY, SINGLE	3041A30005D	1	R
352390	AIR GUIDE ASSEMBLY	5239A30002N	1	R
349011	VENTILATION DAMPER	4901A30001A	1	R
349600	MOTOR MOUNT	4960A20002A	1	R
346811	MOTOR ASSEMBLY	4681A20027A	1	R
149980	SHROUD	4998A10001A	1	R
359012	FAN ASSEMBLY, BLOWER	5901A10005B	1	R
559010	FAN ASSEMBLY, AXIAL	5900AR1167B	1	R
W48602	CLAMP SPRING	3H02932B	2	R
148000	BRACE	4800A30001A	1	R
354210	EVAPORATOR ASSEMBLY	5421A20036C	1	R
554030	CONDENSER ASSEMBLY	5403A20024B	1	R
249950	CONTROL BOX ASSEMBLY	4995A20119N	1	R
137215	CONTROL PANEL	3721A10018K	1	R
149410	KNOB ASSEMBLY	4941A30011A	2	R
W0CZZ	CAPACITOR, DRAWING	6120AR2359Y	1	R
264110	POWER CORD ASSEMBLY	2H00677S	1	R
269310	THERMOSTAT	2H01127B	1	R
266003	ROTARY SWITCH	2H00598F	1	R
135500	COVER, CONTROL BOX	3550A30036B	1	R

R: Service Parts
N: Non Service Parts

SERIAL NO.	DESCRIPTION	PART NO.	Q'TY PER SET	RE- MARK
		HBLG7000H		
35211A	SUCTION TUBE ASSEMBLY	5211A20130A	1	R
352113	DISCHARGE TUBE	5210A20119D	1	R
352115	TUBE FORMED ASSEMBLY, EVAP. IN	5211A20131H	1	R
552113	TUBE ASSEMBLY, COND. OUT	5211AR3399A	1	R
552111	TUBE, CAPILLARY BENT	5211A30260D	1	R
731373	INSTALL PART ASSEMBLY	3127AR3403A	1	R
753010	HEATER ASSEMBLY, ELECTRIC	5301A20013A	1	R
753000	HEATER, ELECTRIC	5300A20003B	1	R

