

# SPLIT TYPE ROOM AIR CONDITIONER INSTALLATION INSTRUCTION SHEET

(PART NO. 9370656015)

For authorized service personnel only.

- WARNING!** This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
- CAUTION!** This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

- WARNING**
- For the room air conditioner to operate satisfactorily, install it as outlined in this installation instruction sheet.
  - Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available standards parts. This installation instruction sheet describes the correct connections using the installation set available from our standard parts.
  - Installation work must be performed in accordance with national wiring standards by authorized personnel only.
  - Never cut the power cord, lengthen or shorten the cord, or change the plug.
  - Also, do not use an extension cord.
  - Plug in the power cord plug firmly. If the receptacle is loose, repair it before using the room air conditioner.
  - Do not turn on the power until all installation work is complete.

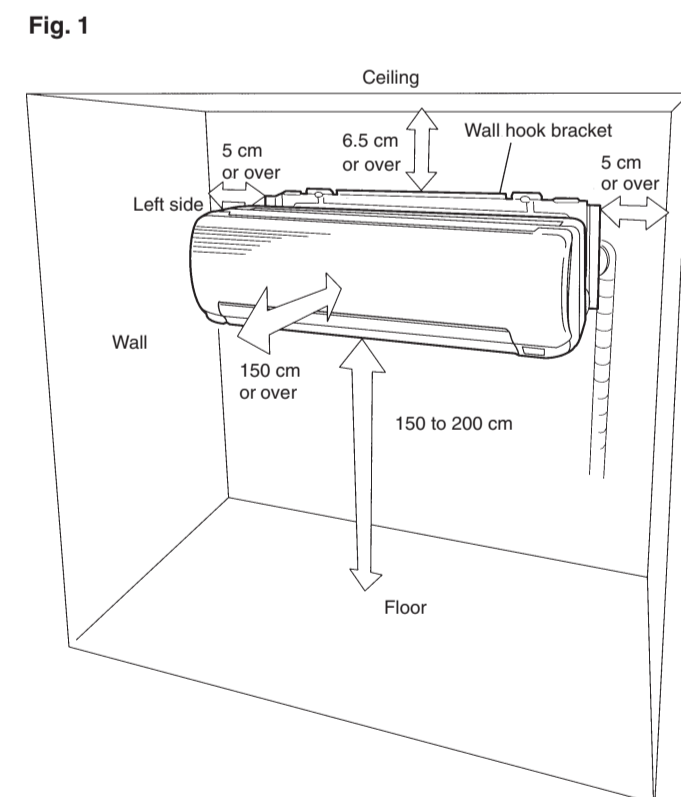
- Be careful not to scratch the room air conditioner when handling it.
- After installation, explain correct operation to the customer, using the operating manual.
- Let the customer keep this installation instruction sheet because it is used when the air conditioner is serviced or moved.

## SELECTING THE MOUNTING POSITION

- WARNING**
- Install at a place that can withstand the weight of the indoor and outdoor units and install positively so that the units will not topple or fall.
- CAUTION**
- Do not install where there is the danger of combustible gas leakage.
  - Do not install near heat sources.
  - When installing the indoor unit and outdoor unit, take precautions to prevent access to infants. Unexpected accidents could occur.

Decide the mounting position with the customer as follows:

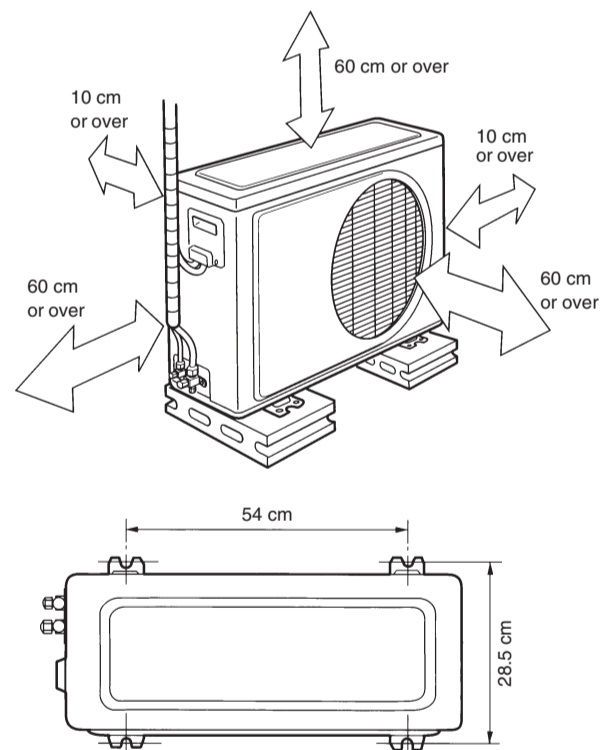
- ### 1. INDOOR UNIT
- Install the indoor unit level on a strong wall which is not subject to vibration.
  - The inlet and outlet ports should not be obstructed: the air should be able to blow all over the room.
  - Install the unit near a power supply (exclusive circuit). (Place within reach of the plug.)
  - Do not install the unit where it will be exposed to direct sunlight.
  - Install the unit where connection to the outdoor unit is easy.
  - Install the unit where the drain pipe can be easily installed.
  - Take servicing, etc. into consideration and leave the spaces shown in (Fig. 1). Also install the unit where the filter can be removed.



- ### 2. OUTDOOR UNIT
- If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)
  - Do not install the unit where a strong wind blows or where it is very dusty.
  - Do not install the unit where people pass.
  - Take your neighbors into consideration so that they are not disturbed by air blowing into their windows or by noise.
  - Provide the space shown in (Fig. 2) so that the air flow is not blocked. Also for efficient operation, leave open three of the four directions front, rear, and both sides.
  - Since the drain water flows from the outdoor unit during heating operation, when it is installed at a high place, install the drain pipe as shown in (Fig. 3) and connect it to a 16 mm (inside diameter) hose available anywhere. (Reverse cycle model only)
  - When installing the drain pipe, fill the holes other than the hole for the drain pipe in the bottom of the outdoor unit with drain cap to prevent water leakage. (Fig. 3) (Reverse cycle model only)

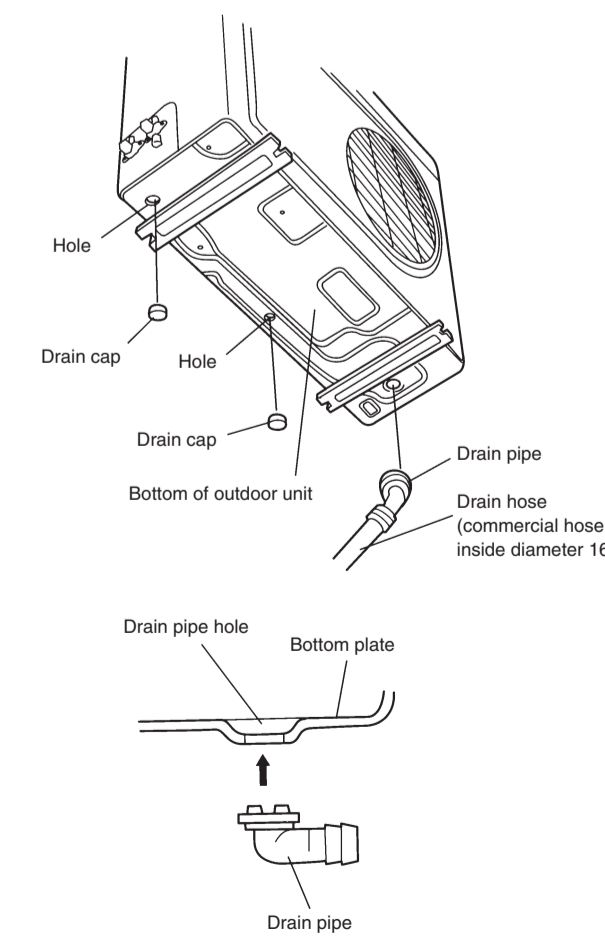
**NOTE:**  
Installation in cold regions. Do not use the accessory drain pipe. (If the drain pipe is used, the drain water in the pipe may freeze in extremely cold weather.)

Fig. 2



[Reverse cycle model]

Fig. 3

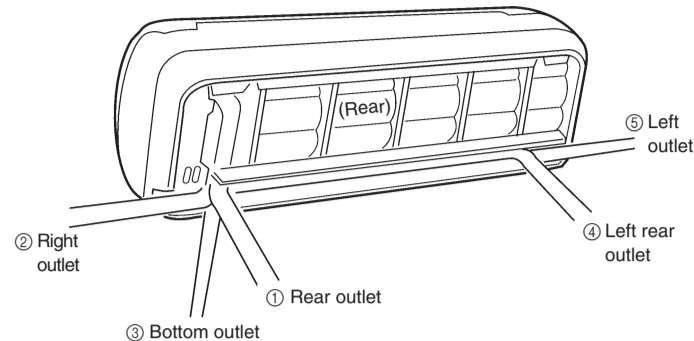


## INSTALLATION PROCEDURE

### 1 INDOOR UNIT INSTALLATION

The piping can be connected in the five directions indicated by ①, ②, ③, ④, and ⑤ in (Fig. 4).

Fig. 4



#### 1. INSTALLING THE WALL HOOK BRACKET

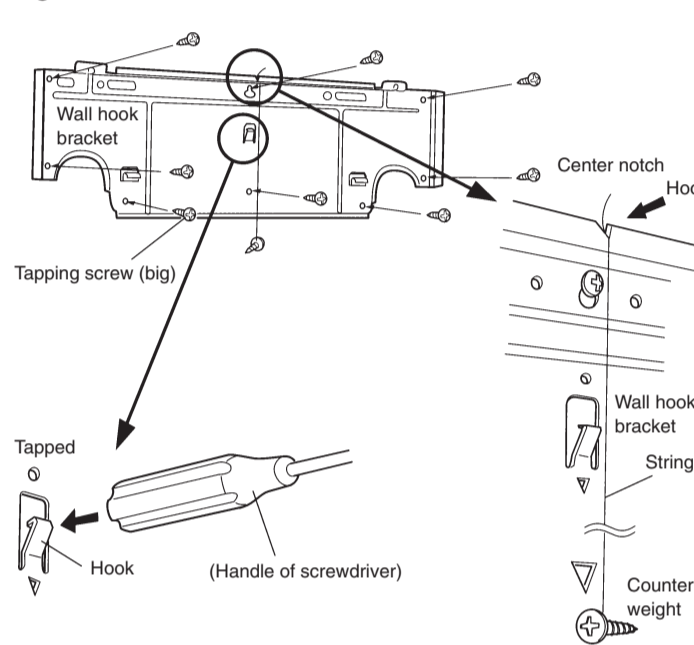
**WARNING**  
Install the wall hook bracket so that it is strong enough to withstand the weight of an adult.

**CAUTION**  
Install the wall hook bracket so that it is correctly positioned horizontally and vertically. If the wall hook bracket is tilted, water will drip to the floor.

[Installation directly to a wall]  
Before fastening the wall hook bracket to the wall with the screws, level it by tapping the hook at the center of bracket to the wall with the handle of a screwdriver.

- Fasten the wall hook bracket to the wall with 6 or more screws through the holes near the outer edge of the bracket.
- Check that there is no rattie at the wall hook bracket.

Fig. 5

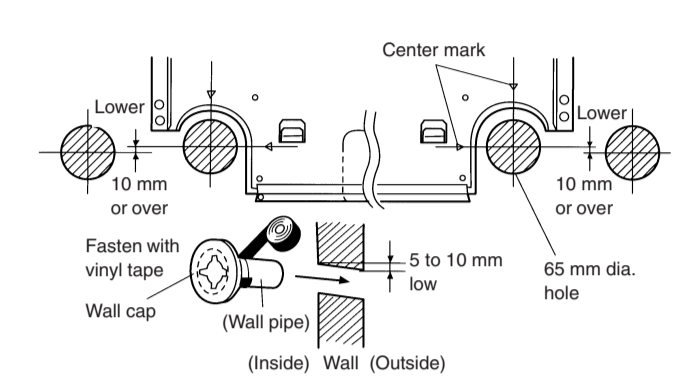


### 2. CUTTING THE HOLE IN THE WALL FOR THE CONNECTING PIPING

**WARNING**  
If the wall pipe is not used, the cord interconnecting the indoor and outdoor units may touch metal and cause electric leakage.

- Cut a 65 mm diameter hole in the wall at the position shown in (Fig. 6).
- When cutting the wall hole at the inside of the installation frame, cut the hole to a point of intersection of center marks. When cutting the wall hole at the outside of the installation frame, cut the hole at least 10 mm below less.
- Cut the hole so that the outside end is lower (5 to 10 mm) than the inside end.
- Always align the center of the wall hole. If misaligned, water leakage will occur.
- Cut the wall pipe to match the wall thickness, stick it into the accessory wall cap, fasten the cap with vinyl tape, and stick the pipe through the hole. (Fig. 6)
- For ① Left piping and ② Right piping, cut the hole a little lower so that drain water will flow freely. (Fig. 6)

Fig. 6



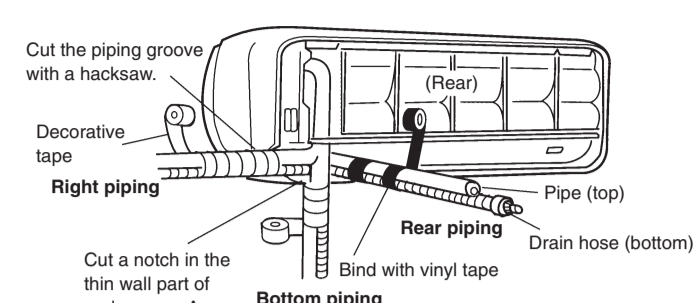
### 3. FORMING THE DRAIN HOSE AND PIPE

- CAUTION**
- Do not remove the flare nut from the indoor unit pipe until immediately before connecting the connection pipe.
  - To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 100 mm or over.
  - If the pipe is bent repeatedly at the same place, it will break.

[① Rear piping, ② Right piping, ③ Bottom piping]

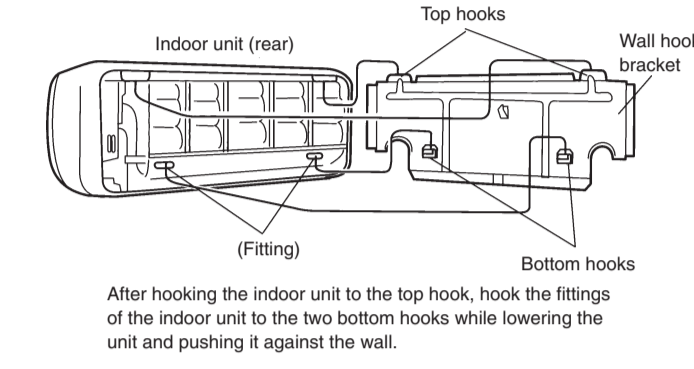
- Install the indoor unit piping in the direction of the wall hole and bind the drain hose and pipe together with vinyl tape. (Fig. 7)
- Install the piping so that the drain hose is at the bottom.

Fig. 7



- Perform "INDOOR UNIT WIRING" before performing this piping.
- Wrap the pipes of the indoor unit that are visible from the outside with decorative tape.
- After passing the indoor piping and drain hose through the wall hole, hang the indoor unit on the hooks at the top and bottom of the wall hook bracket.

Fig. 8



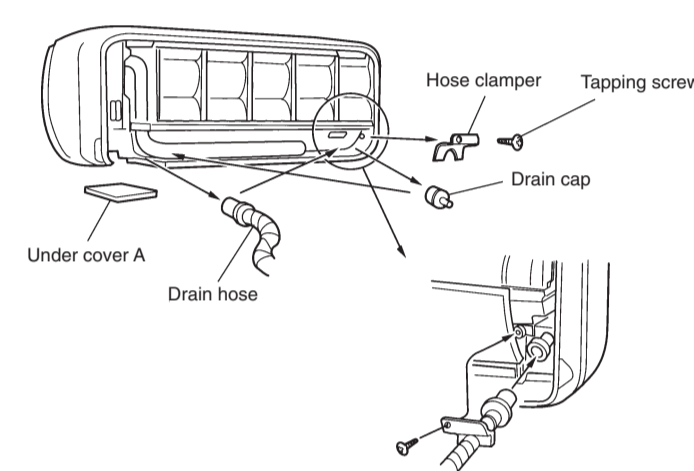
After hooking the indoor unit to the top hook, hook the fittings of the indoor unit to the two bottom hooks while lowering the unit and pushing it against the wall.

[③ Left rear piping, ⑤ Left piping]

**CAUTION**  
After removing the drain hose, don't forget to install the drain cap.

- Remove the hose clasper and install the drain hose and drain cap at the left and right. Then reinstall the hose clasper at its original position.

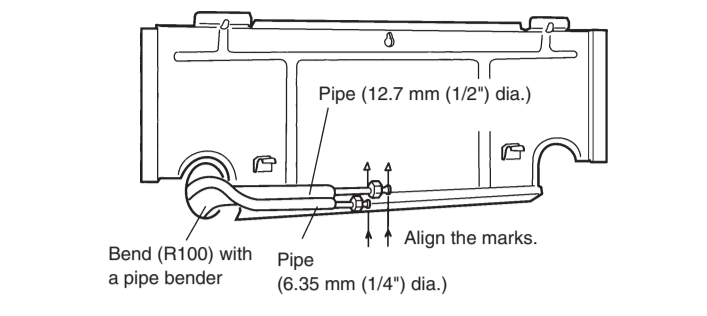
Fig. 9



For ③ Left rear piping and ⑤ Left piping, perform ■ CONNECTING THE PIPING simultaneously.

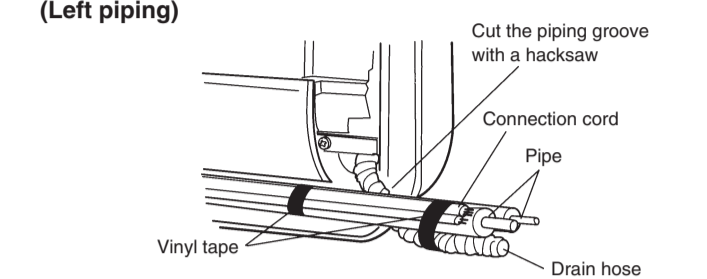
- Align the marks on the wall hook bracket and shape the connection pipe.
- Bend (about R100) the outlet section from the wall of left rear piping with a pipe bender and shape it as shown in (Fig. 10) so that there is no space between the pipe and the wall.

Fig. 10

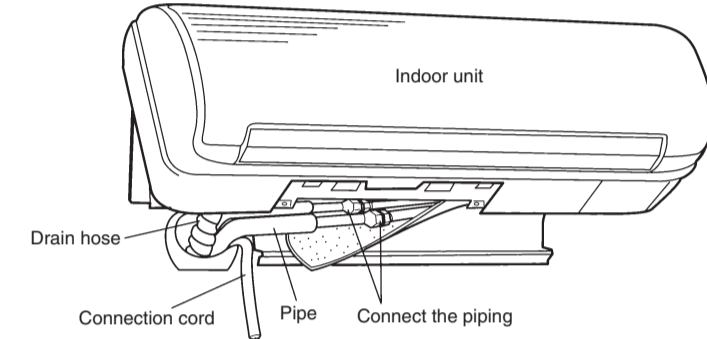
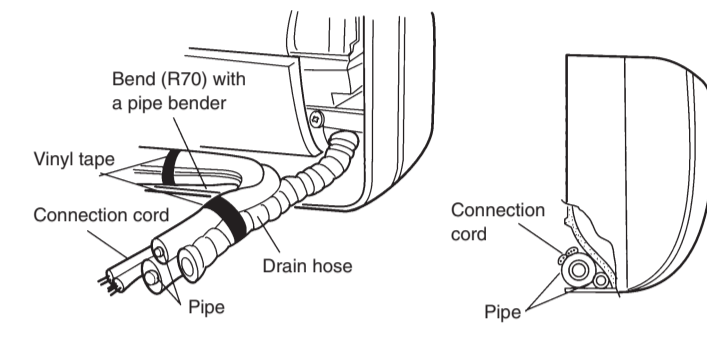


- Piping work can be made easier by laying out, shaping, and temporarily fastening the connection pipe, drain hose, and connection cord as shown in (Fig. 11) beforehand.

Fig. 11 (Left piping)



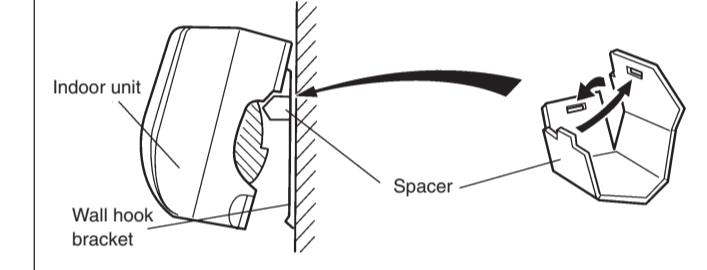
(Left rear piping)



**How to use the spacer:**

- Hang the indoor unit from the hooks at the top of the wall hook bracket.
- Insert the accessory spacer between the indoor unit and the wall hook bracket and separate the bottom of the indoor unit from the wall.

Fig. 12



## 2 INDOOR UNIT WIRING

- WARNING**
- Match the terminal block numbers and connection cord colors with those of the outdoor unit side. Erroneous wiring may cause burning of the electric parts.
  - Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
  - Always fasten the outside covering of the connection cord with the cord clamps. (If the insulator is clamped, electric leakage may occur.)
  - Always connect the ground wire.

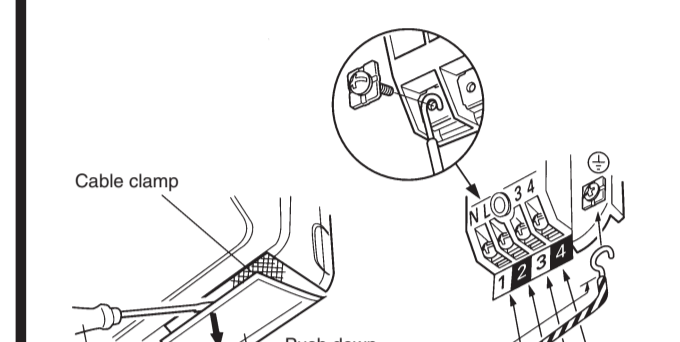
#### [Reverse cycle model]

- Remove the under cover A.
- Remove the front panel.
- Remove the cable clamp.
- Process the end of the connection cords to the dimensions shown in (Fig. 14) and bend the end of each cord as shown in (Fig. 13).
- Stick the cable mark to both ends of the connection cord.
- Connect the end of the connection cord fully into the terminal block and fasten with a screw.

Fig. 13 Stripped length

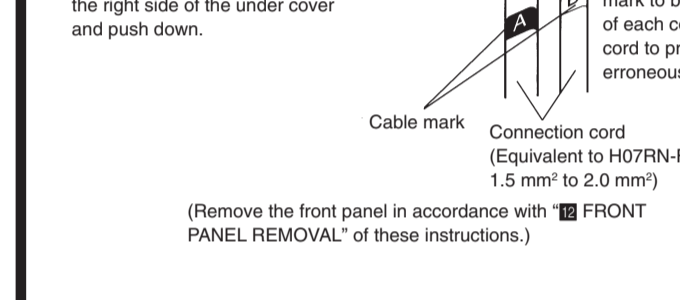


Fig. 14



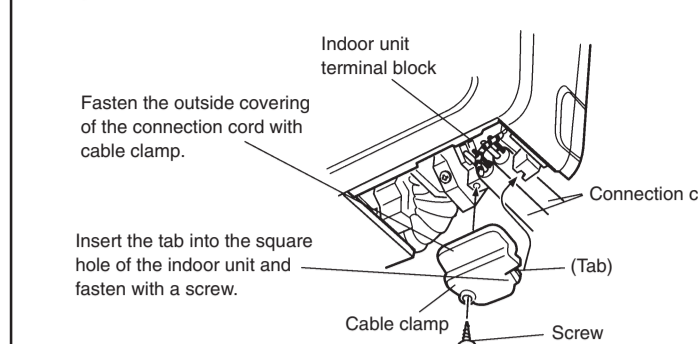
(Remove the front panel in accordance with ■ FRONT PANEL REMOVAL of these instructions.)

Fig. 17



(7) Fasten the connection cord with a cable clamp.

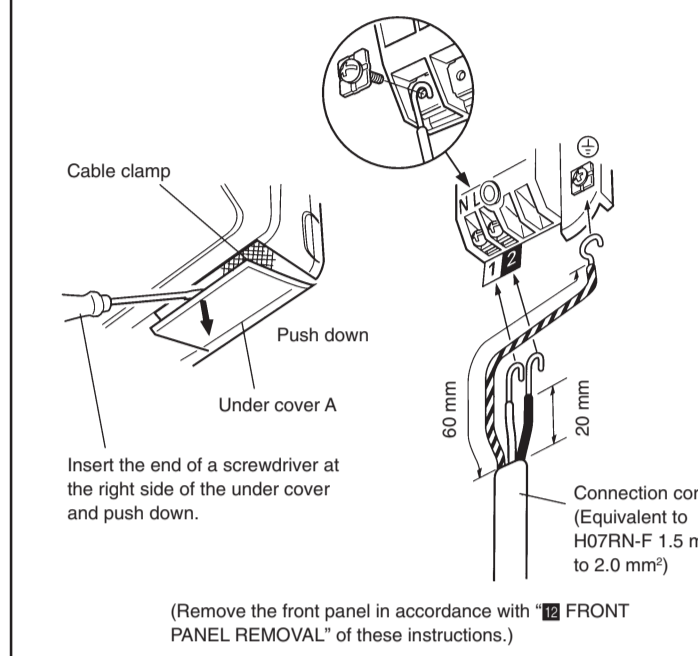
Fig. 15



#### [Cooling model]

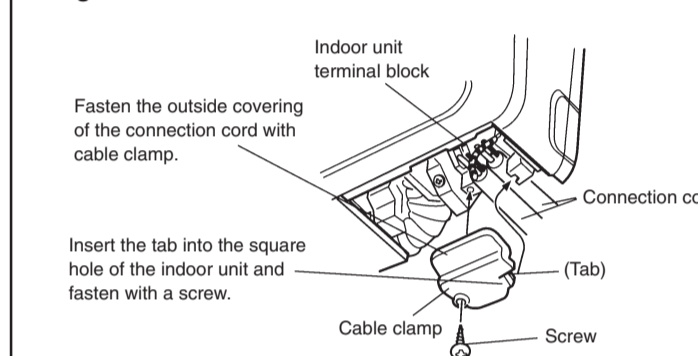
- Remove the under cover A.
- Remove the front panel.
- Remove the cable clamp.
- Process the end of the connection cords to the dimensions shown in (Fig. 16) and bend the end of each cord as shown in (Fig. 13).
- Connect the end of the connection cord fully into the terminal block and fasten with a screw.

Fig. 16



(6) Fasten the connection cord with a cable clamp.

Fig. 17



## STANDARD ACCESSORIES

The following installation accessories are supplied. Use them as required.

Name and Shape	Qty	Use
Wall hook bracket	1	For indoor unit installation
Wall cap	1	For through hole connection pipe protection
Remote controller	1	
Battery (penlight)	2	For remote controller
Cable mark (Reverse cycle model only)	1	Stick on both ends of connection cord (to prevent incorrect wiring)
Tapping screw (big) (ø4 × 20)	8	For wall hook bracket installation
Tapping screw (small) (ø3 × 12)	2	For remote controller holder installation
Flange screw (ø4 × 10)	2	For indoor unit installation
Spacer	1	For indoor unit installation
Remote controller holder	1	
Cloth tape	1	For indoor unit installation
Seal A	1	For indoor unit installation
Hexagon wrench	1	For air purge
Drain pipe	(1)	For outdoor unit drain piping work (May not be supplied, depending on the model)
Drain pipe	(1)	For outdoor unit drain piping work (May not be supplied, depending on the model)
Flexible tube	(1)	For outdoor unit drain piping work (May not be supplied, depending on the model)
Drain cap	(2)	For outdoor unit drain piping work (May not be supplied, depending on the model)

This installation manual refers to following parts which are included in the optionally available installation set.

Name	Qty
Connection pipe assembly	1
Connection cord (3-conductor)	1
Connection cord (2-conductor) (Reverse cycle model only)	1
Wall pipe	1
Decorative tape	1 roll
Vinyl tape	1 set
Wall cap	1 set
Saddle	1 set
Drain hose	1
Wood screws	1 set
Sealant	1 set

## ELECTRICAL REQUIREMENT

Always make the air conditioner power supply a special branch circuit and provide a special switch and receptacle. Do not extend the power cord.

## 3 OUTDOOR UNIT INSTALLATION

- WARNING**
- Install the unit where it will not be tilted by more than 5°.
  - When installing the outdoor unit where it may be exposed to strong wind, fasten it securely.

- Set the unit on a strong stand, such as one made of concrete blocks to minimize shock and vibration.
- Do not set the unit directly on the ground because it will cause trouble.

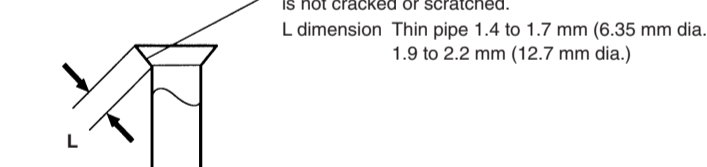
## 4 CONNECTING THE PIPING

- CAUTION**
- The maximum length of the piping is 10 m. If the units are further apart than this, correct operation can not be guaranteed.

### 1. FLARING

- Cut the connection pipe to the necessary length with a pipe cutter.
- Hold the pipe downward so that cuttings will not enter the pipe and remove the burrs.
- Insert the flare nut onto the pipe and flare the pipe with a flaring tool.

Fig. 18



### 2. BENDING

- When bending the pipe, be careful not to crush it.
- To prevent crushing of the pipe, bend the pipe with a radius of curvature of 100 mm or over.
- If the copper pipe is bent or pulled to often, it will become stiff. Do not bend the pipe more than three times at one place.

### 3. CONNECTION

- Install the outdoor unit wall cap (supplied with the optional installation set or procured at the site) to the wall hole pipe.
- Connect the outdoor unit and indoor unit piping.
- After matching the center of the flare surface and tightening the nut hand tight, tighten the nut to the specified tightening torque with a torque wrench. (Tighten the flare nut of the outdoor unit 3-way valve after air purging.)

Fig. 19

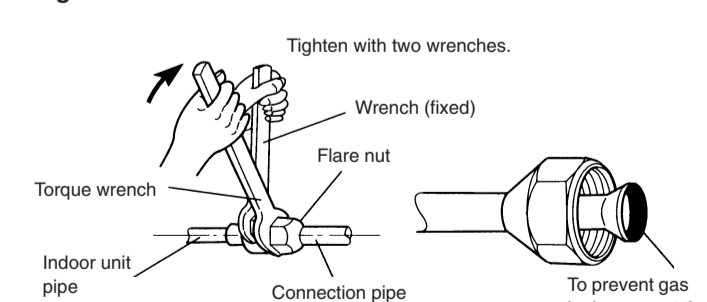


Table 1 Flare Nut Tightening Torque

Flare nut	Tightening torque kgf-cm	Tightening torque standard (using a 20 cm wrench)
6.35 mm (1/4") dia.	150 to 200	Wrist strength
12.7 mm (1/2") dia.	500 to 550	Arm strength

Do not remove the cap from the connection pipe before connecting the pipe.

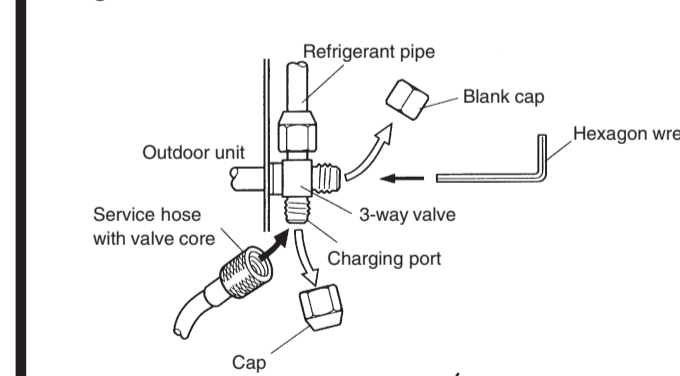
## 5 AIR PURGE

- CAUTION**
- When moving and installing the room air conditioner, do not mix gas other than the specified refrigerant (R22) inside the refrigerant cycle.
  - When adding refrigerant, add the refrigerant from the charging port at the completion of work.

### 1. AIR PURGE

- Remove the cap, and connect the gauge manifold and the vacuum pump to the charging port by the service hoses.
- Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below 1.5 mmHg.
- Disconnect the service hoses and fit the cap to the charging port (Tightening torque: 70 to 90 kgf-cm).
- Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench (Torque: 70 to 90 kgf-cm).
- Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque (200 to 250 kgf-cm).

Fig. 20



### 2. ADDITIONAL CHARGE

Refrigerant suitable for a piping length of 5 m is charged in the outdoor unit at the factory. When the piping is longer than 5 m, additional charging is necessary. For the additional amount, see the table below.

Pipe length	Table 2		
	16 ft (5 m)	23 ft (7 m)	33 ft (10 m)
Additional refrigerant	None	1.4 oz (40 g)	3.4 oz (100 g)
		0.7 oz/3.3 ft (20 g/1 m)	

Between 5 m and 10 m, when using a connection pipe other than that in the table, charge additional refrigerant with 0.7 oz (20 g) / 3.3 ft (1 m) as the criteria.

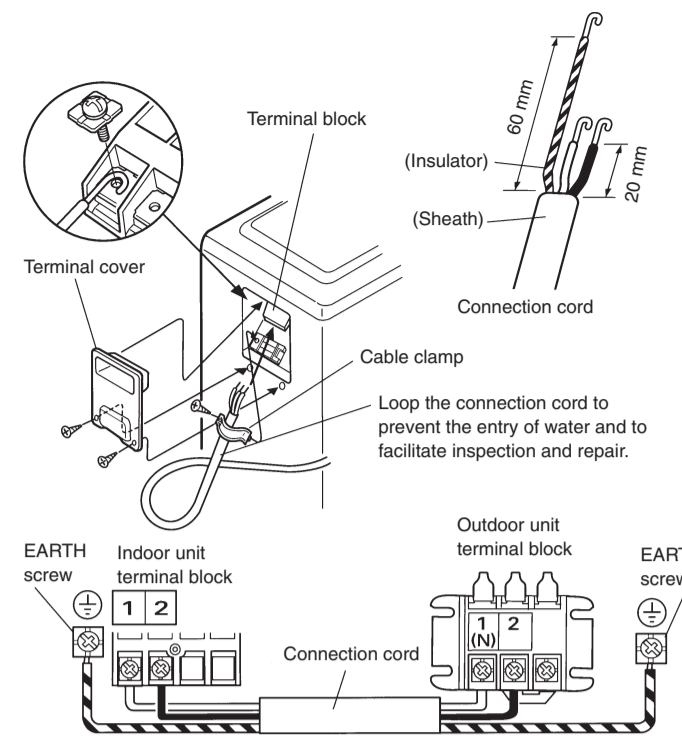
## 6 GAS LEAKAGE INSPECTION

- CAUTION**
- After connecting the piping, check the joints for gas leakage with gas leak detector.

## 7 OUTDOOR UNIT WIRING

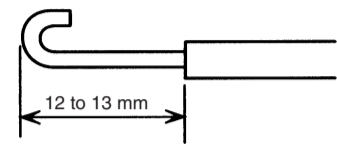
[Cooling model]

Fig. 23



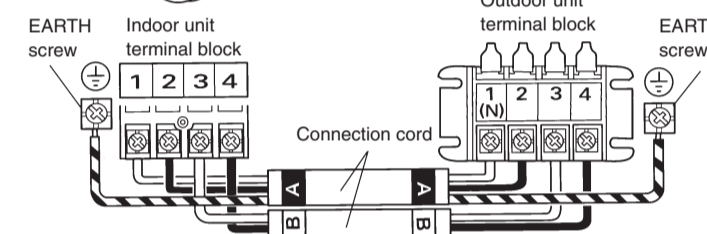
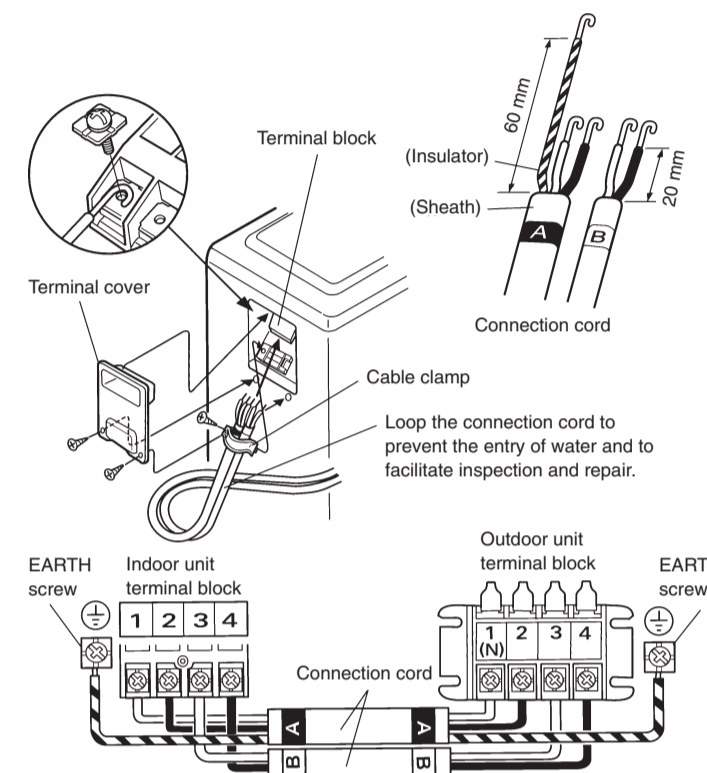
- WARNING**
- Match the terminal block numbers and connection cord colors with those of the indoor unit side. Erroneous wiring may cause burning of the electric parts.
  - Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
  - Always fasten the outside covering of the connection cord with the cord clamps. (If the insulator is clamped, electric leakage may occur.)
  - Always connect the ground wire.

Fig. 21 Stripped length



[Reverse cycle model]

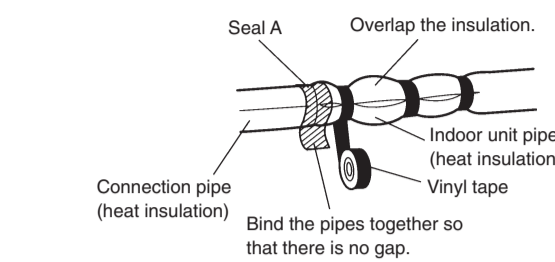
Fig. 22



## 8 FINISHING

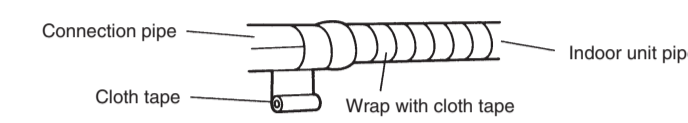
- Insulate between pipes.
  - For rear, right, and bottom piping, overlap the connection pipe heat insulation and indoor unit pipe heat insulation and bind them with vinyl tape so that there is no gap.
  - For left rear and left piping, butt the connection pipe heat insulation and indoor unit pipe heat insulation together and bind them with seal A and vinyl tape so that there is no gap.

Fig. 24



- For left rear and left piping, wrap the area which accommodates the rear piping housing section with cloth tape. Then lift the indoor unit slightly and lower it while pushing the wall side and hook the two hooks at the bottom of the wall hook bracket to the hook holes.

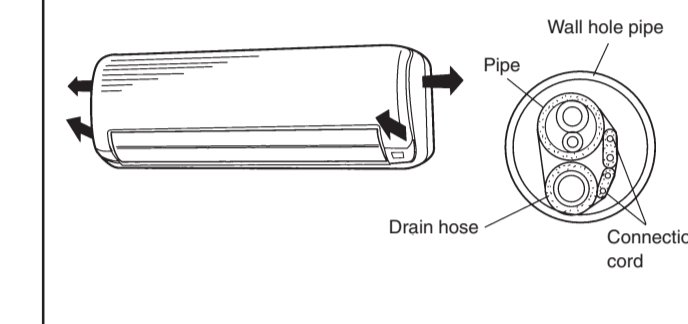
Fig. 25



Check that:

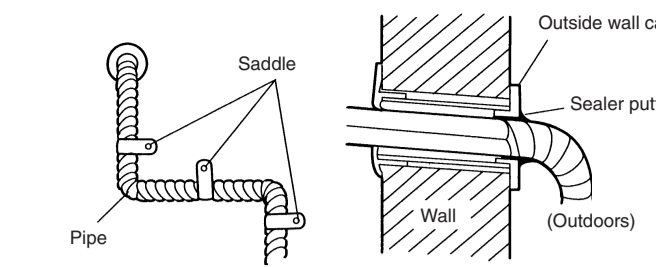
- The top and bottom hooks are hooked firmly and the indoor unit does not move to the front and rear or left and right.
- The indoor unit is accurately positioned horizontally and vertically.
- The drain hose is at the bottom left of the wall pipe.

Fig. 26



- Temporarily fasten the connection cord along the connection pipe with vinyl tape. (Wrap to about 1/3 the width of the tape from the bottom of the pipe so that water does not enter.)
- Fasten the connection pipe to the outside wall with a saddle, etc.
- Fill the gap between the outside wall pipe hole and the pipe with sealer so that rain water and wind cannot blow in.

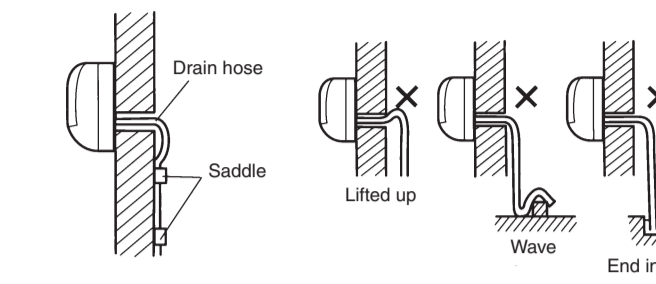
Fig. 27



- Fasten the drain hose to the outside wall, etc.

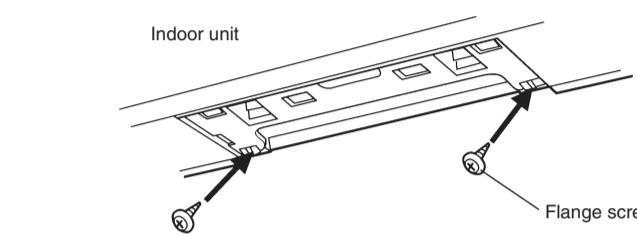
Fig. 28

Check the following:



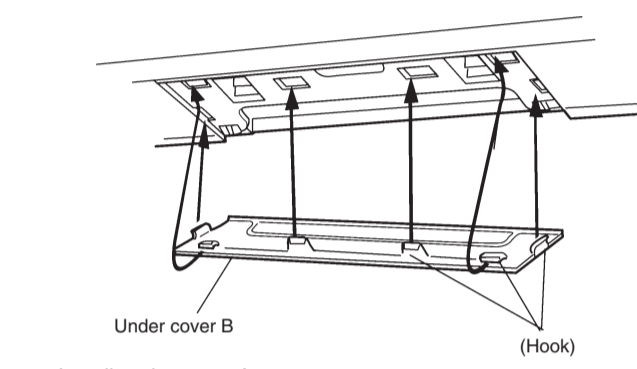
- Fasten the indoor unit.
  - Fasten the bottom of the indoor unit to the wall hook bracket with the two flange screws.

Fig. 29



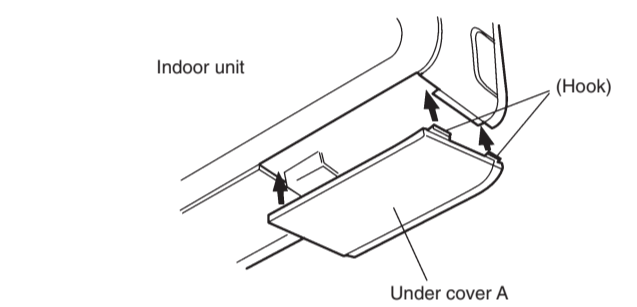
- Install under cover B.

Fig. 30



- Install under cover A.

Fig. 31



## 9 POWER

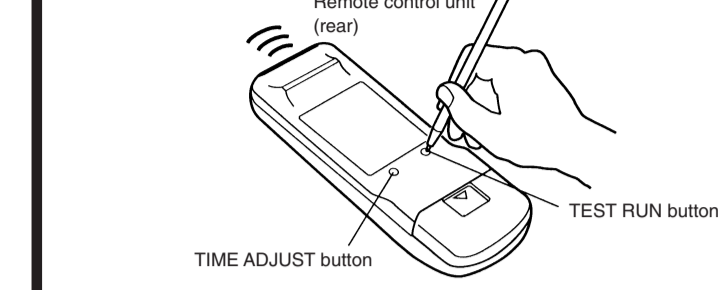
- WARNING**
- The rated voltage of this product is 220-240 V A.C. 50 Hz.
  - Before turning on the verify that the voltage is within the 198 V to 264 V range.
  - Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
  - Use a circuit breaker and receptacle matched to the capacity of the room air conditioner.
  - Do not extend the power cord.
  - Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
  - Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

- CAUTION**
- The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
  - When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

## 10 TEST RUNNING

- Perform test operation and check items 1 and 2 below.
- For the operation method, refer to the operating manual.
- The outdoor unit may not run, depending on the room temperature. In this case, press the TEST RUN button at the back of the remote control unit while the room air conditioner is running. (With the transmit section of the remote control unit facing the body, press the TEST RUN button with the tip of a ball point pen.)

Fig. 32



- To end test operation, press the remote controller START/STOP button. (When the power is turned on for the first time after unpacking, the RUN and TIMER lamps will alternately flash rapidly. When operation starts, the flashing stops. Thereafter, when the power is turned off and then turned on, operation immediately before the power was turned off, or the stop state, will be automatically reproduced.) (When the room air conditioner is run by pressing the remote control unit TEST RUN button, the RUN and TIMER lamps will simultaneously flash slowly.)

### 1. INDOOR UNIT

- Is operation of each button on the remote control unit normal?
- Does each lamp light normally?
- Do the air flow direction louvers operate normally?
- Is the drain normal?

### 2. OUTDOOR UNIT

- Is there any abnormal noise and vibration during operation?
- Will noise, wind, or drain water from the unit disturb the neighbors?
- Is there any gas leakage?

## 11 CUSTOMER GUIDANCE

Explain the following to the customer in accordance with the operating manual:

- Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit operations.
- Filter removal and cleaning, and how to use the air flow direction louvers.
- Give the operating and installation manuals to the customer.

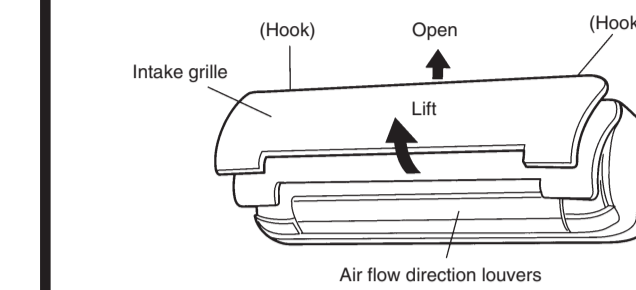
## 12 FRONT PANEL REMOVAL

- CAUTION**
- Install the front panel and intake grille securely. If installation is imperfect, the front panel or intake grille may fall off and cause injury.

### 1. INTAKE GRILLE REMOVAL

- Open the intake grille.
- Open the intake grille further and lift off the grille.

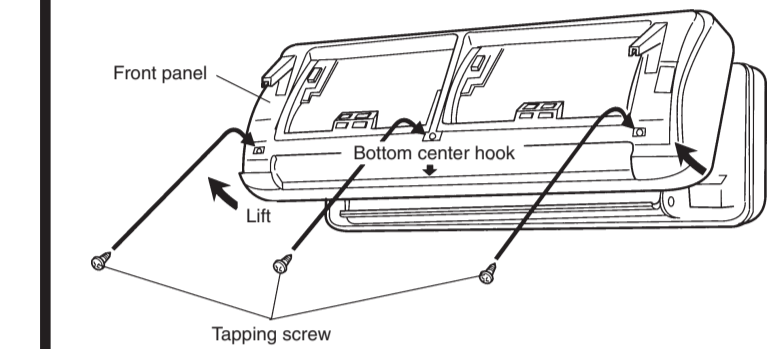
Fig. 33



### 2. FRONT PANEL REMOVAL

- Remove the under cover B.
- Remove the tapping screws.
- After placing the air flow direction louvers to the horizontal position and unlatching the bottom center hook, lift off the front panel.

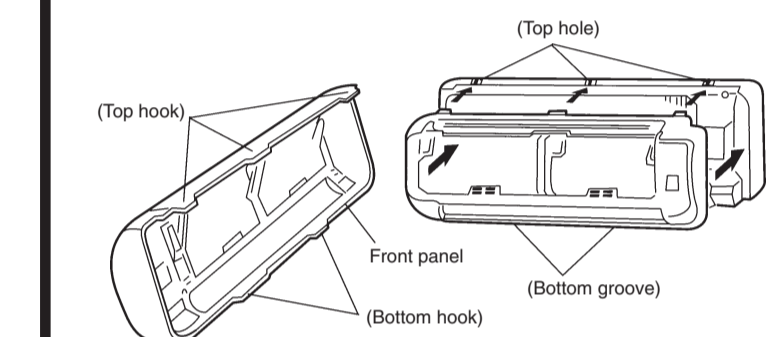
Fig. 34



### 3. FRONT PANEL INSTALLATION

- Set the air flow direction louvers to the horizontal position and install the front panel straight from the front with the tapping screws.

Fig. 35



- Check that the top hooks are firmly seated in the top holes and the bottom hooks are firmly seated in the bottom grooves.

## 13 REMOTE CONTROL UNIT HOLDER INSTALLATION

- CAUTION**
- Check that the indoor unit correctly receives the signal from the remote control unit, then install the remote control unit holder.
  - Select the remote control unit holder selection site by paying careful attention to the following: Avoid places in direct sunlight. Select a place that will not be affected by the heat from a stove, etc.

Install the remote control unit holder to a wall or pillar with the tapping screw.

Fig. 36

