

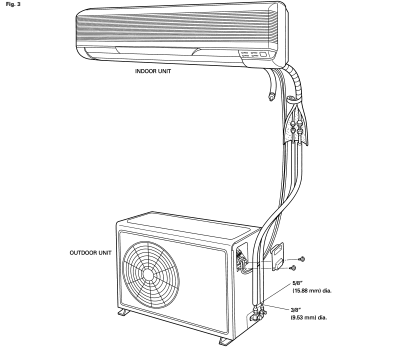
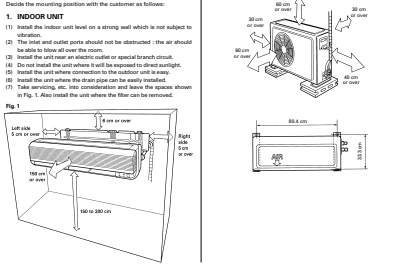
SPLIT TYPE ROOM AIR CONDITIONER INSTALLATION MANUAL

(PART NO. 9363416015)
For authorized service personnel only.

- WARNING**
- For the room air conditioner to operate satisfactorily, install it as outlined in this installation manual.
 - Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available standards parts. This installation manual 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.
 - Always be sure to 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 manual because it is used when the room air conditioner is serviced or moved.

SELECTING THE MOUNTING POSITION

- WARNING**
- Install in 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.
 - If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.
- Specify the mounting position with the customer as follows:
- INDOOR UNIT**
 - Install the indoor unit level on a strong wall which is not subject to vibration.
 - The inlet and outlet pipes should not be obstructed - the air should be able to flow out over the room.
 - Install the unit near an electric outlet or special branch circuit.
 - 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.
 - The servicing, air-conditioning and other clearances in Fig. 1. Also install the unit where the filter can be removed.
 - 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 flowing over their windows or doors.
 - 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).



STANDARD ACCESSORIES

The following standard accessories are supplied (see item as required).

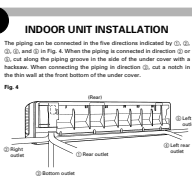
Name and Shape	Qty	Use
Wall hook bracket	1	For indoor unit installation
Remote control unit	1	Use for air conditioner operation
Battery (battery)	4	For remote control unit
Remote control unit holder	1	Use as remote control unit holder
Tapping screw (flat) 2.4 x 20	12	For wall hook bracket installation
Tapping screw (round) 3.2 x 12	3	For remote control unit holder installation

Name and Shape	Qty	Use
Washer (washer)	1	For air purge
Flexible tube	1	For outdoor unit drain piping work (Heat & Cool model (Reversible cycle) only)
Drain pipe	1	
Drain cap	2	

Power cord length	MAX	3.0
Connection cord length	MAX	1.0
Flue capacity (A)	MAX	1.0
Flue capacity (A)	MAX	30

Always use HTRM-F or equivalent in the connection cord.
Install the disconnected device with a contact gap of at least 2 mm meeting the units. (Both indoor unit and outdoor unit).

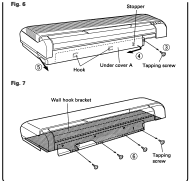
INDOOR UNIT INSTALLATION



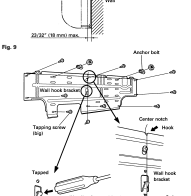
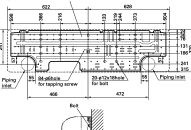
- 1. INSTALLING THE WALL HOOK BRACKET**

Removing the wall hook bracket

 - Remove the wall hook bracket in the following order:
 - Remove one side of under cover B by pulling it forward (same direction in Fig. 5).
 - Remove the tapping screw fastened to under cover A. Fig. 6.
 - While pulling the right side of under cover A toward the inside (opposite) side, under cover A is to the left and unlock the two inside hooks. Fig. 6.
 - Next, remove under cover A by pulling the left side toward (same direction in Fig. 6).
 - Remove the four tapping screws holding the wall hook bracket as in Fig. 7.



- 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.
 - As the weight of the indoor unit is 37 or 44 lbs (17 or 20 kg), it should be installed after properly securing the place where it is attached to the bracket. If the place is not strong enough, a plank or girder should be used to make the place sufficiently strong so that the unit can support the weight.
- (Installation directly to a wall)**
- Before fastening the wall hook bracket to the wall with the screws, fasten the hook at the center of bracket to the wall with the weight of an arm.
- Fasten the wall hook bracket to the wall with 6 or more screws and anchor bolts through the holes near the cover edge of the bracket.
 - Do not install the wall hook bracket at only one place or at an angle. For a concrete wall, unthread anchor bolts 10 mm dia. into the wall and the wall hook bracket holes (2" x 10 mm dia.). Drive the anchor bolts to stick out at least 10 mm from the wall (Fig. 8) and fasten the unit to the anchor bolts with nuts through the wall hook bracket. Use 2 bolts for concrete wall and 4 bolts for plaster concrete wall.
 - Finally tighten the bolts and wood screws after confirming, using the level indicator, that the change is horizontal.

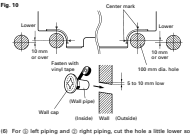


- 2. CUTTING THE HOLE IN THE WALL FOR THE CONNECTING PIPING**

WARNING

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

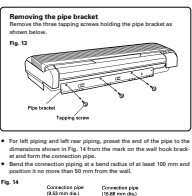
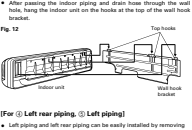
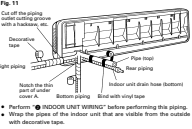
 - Cut a 100 mm diameter hole in the wall at the position shown in Fig. 10.
 - When cutting the wall hole at the inside of the installation frame, cut the hole at a point of intersection of center marks. When cutting the wall hole at the outside of the installation frame, cut the hole at least 10 mm below the hole.
 - Cut the hole so that the outside end is lower (5 to 10 mm) than the inside end.
 - Align the edge of the wall hole. If misaligned, water leakage will occur.
 - Use the wall pipe to match the wall thickness, stick it into the wall hole, insert the cap with vinyl tape, and stick the pipe through the hole. (The connection pipe is supplied in the installation set.) Fig. 10.



- 3. FORMING THE DRAIN HOSE AND PIPE**

CAUTION

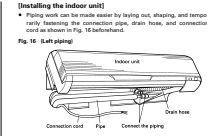
 - Do not remove the flange nut from the indoor unit pipe until immediately before connecting the connection pipe.
 - To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 100 mm or over.
 - If the pipe is bent repeatedly at the same place, it will break.



- 4. REMOVING THE PIPE BRACKET**

Remove the pipe bracket as shown below.

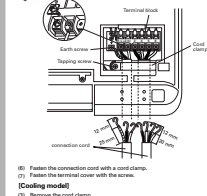
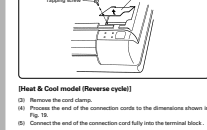
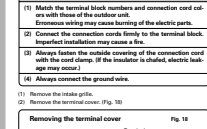
 - For left piping and left rear piping, prevent the end of the pipe to the dimensions shown in Fig. 14 from the mark on the wall hook bracket and form the connection pipe.
 - Bend the connection piping at a bend radius of at least 100 mm and position it so more than 10 mm from the wall.



- 5. REMOVING THE TERMINAL COVER**

Remove the terminal cover as shown below.

 - Remove the terminal cover (Fig. 15).
 - Remove the flange nut from the pipe and flow the pipe with a flange nut.



- 6. CONNECTION**

Install the outdoor unit cap (equipped with the optional installation set) or ground the shell to the wall pipe.

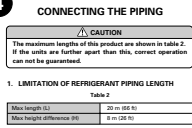
 - Connect the outdoor unit and indoor unit piping.
 - After matching the end of the flange surface and tightening the nut hand tight, tighten the nut to the specified tightening torque with a torque wrench. (Tighten the nut on the outdoor unit 3 ways after air purging.)

OUTDOOR UNIT INSTALLATION

- 1. INSTALLING THE OUTDOOR UNIT**

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 maintain shock and vibration.
 - Do not set the unit directly on the ground because it will cause trouble.

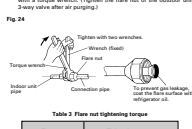
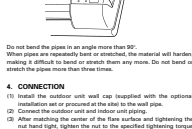


- 2. CONNECTING THE PIPING**

CAUTION

The maximum lengths of this product are shown in table 2. If the units are further apart than this, correct operation can not be guaranteed.

Max. length (ft)	20	100
Max. height difference (ft)	8	20 (8.5)



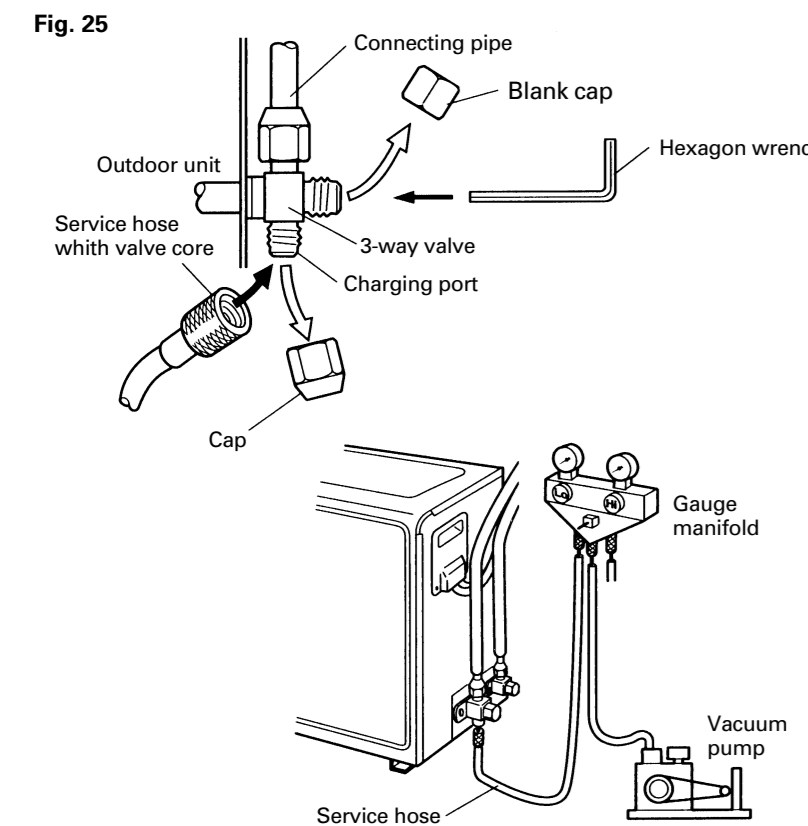
Flare nut	Tightening torque
8.2 mm dia.	30 to 24.5 N·m (3.0 to 250 kgf·cm)
15.8 mm dia.	110 to 76.5 N·m (150 to 100 kgf·cm)

- 3. 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.
 - Charging of additional refrigerant (R22) according to the piping length is unnecessary.

- 1. VACUUM**
- Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve 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 valve (Tightening torque : 70 to 90 kg·cm).
 - Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench (Torque : 2-way valve: 70 to 90 kg·cm, 3-way valve: 100 to 120 kg·cm).
 - Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque (200 to 250 kg·cm).



- 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	16 ft (5 m)	33 ft (10 m)	49 ft (15 m)	66 ft (20 m)
Additional refrigerant	None	2.8 oz (80 g)	5.6 oz (160 g)	8.5 oz (240 g)

Between 5 m and 20 m, when using a connection pipe other than that in the table, charge additional refrigerant with 0.56 oz (16 g) / 3.3 ft (1 m) (Cooling model) as the criteria.

6 GAS LEAKAGE INSPECTION

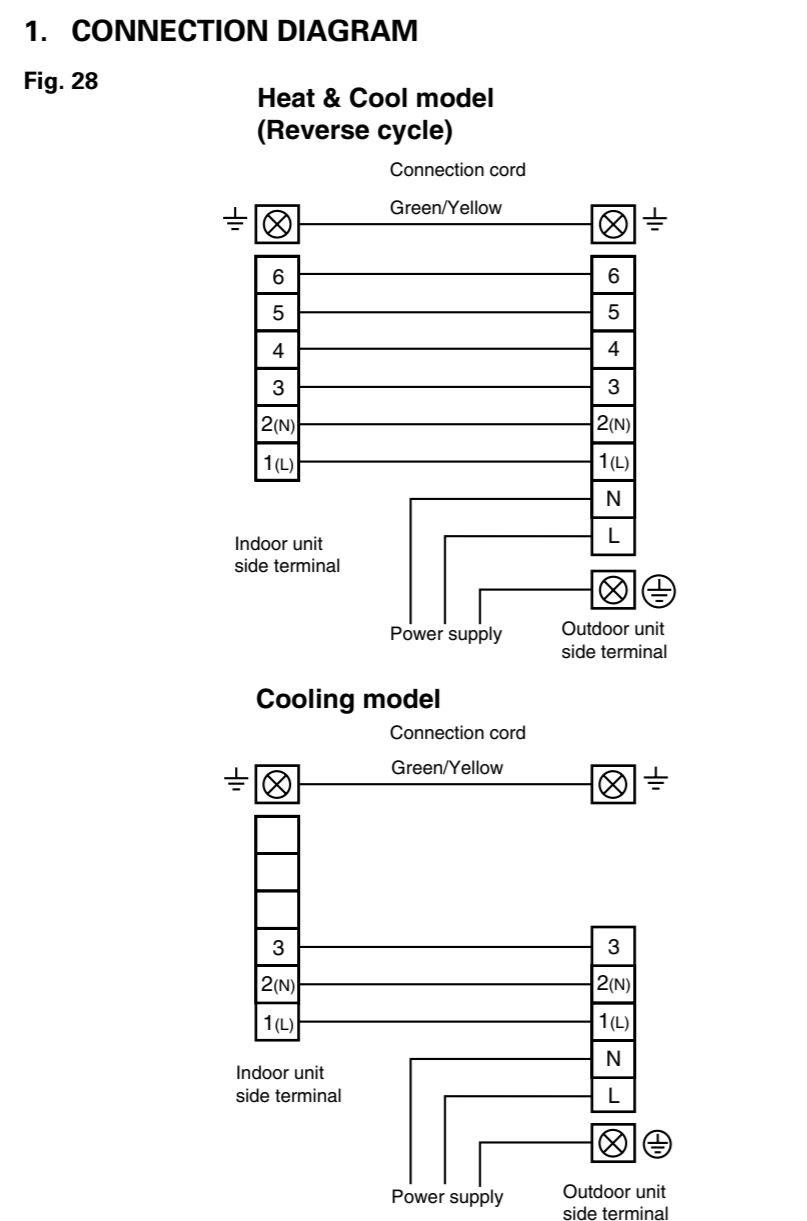
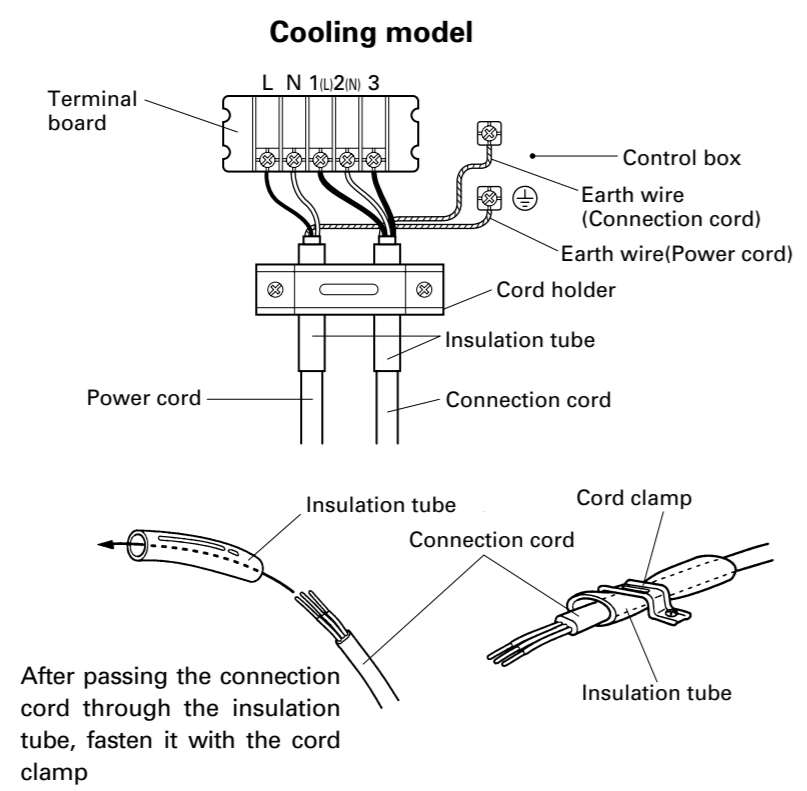
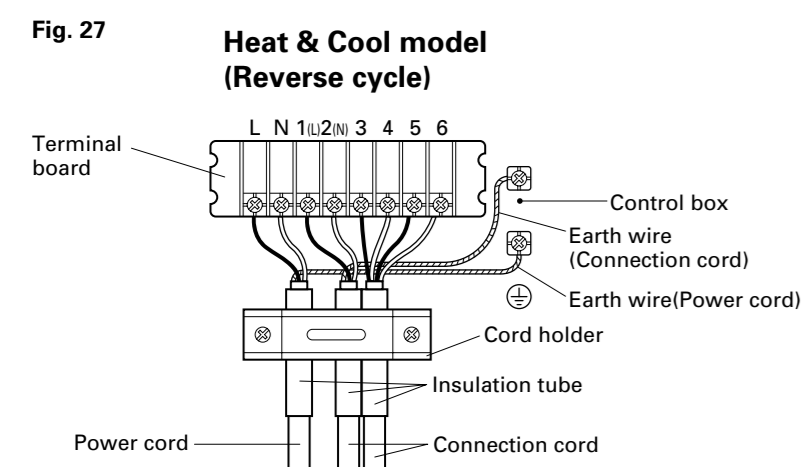
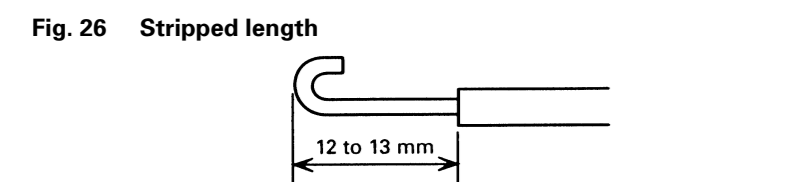
CAUTION
After connecting the piping, check the joints for gas leakage with gas leak detector.

7 OUTDOOR UNIT WIRING

- WARNING**
- Before starting work, check that power is not being supplied to indoor unit and the outdoor unit.
 - 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 cord clamps. (If the insulator is clamped, electric leakage may occur.)
 - Always connect the ground wire.

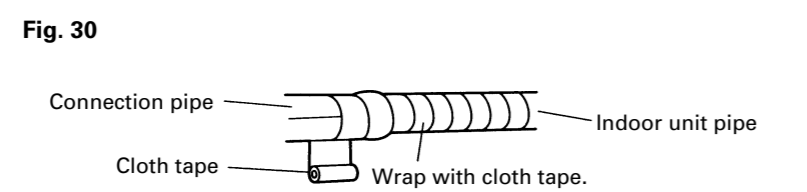
- CAUTION**
- The power cord is not supplied with the outdoor unit. Use 2.5 mm² to 3.5 mm² H07RN-F or equivalent as the connection cord.
 - Use VW-1, 12 mm diameter, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

- Remove the outdoor unit terminal cover.
- Process the end of the connection cords to the dimensions shown in Fig. 27 and bend the end of each cord as shown in Fig. 26.
- Connect the end of the connection cord fully into the terminal block and fasten with the screws.
- Fasten the sheath with a cord clamp.
- Install the terminal cover.

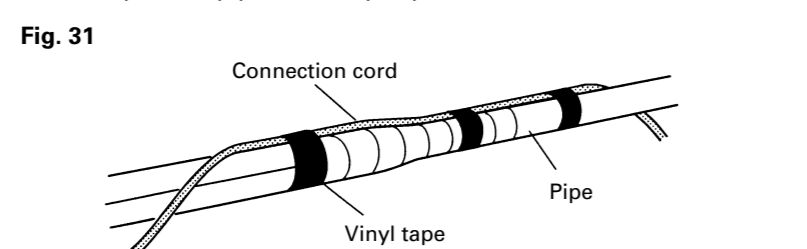


8 FINISHING

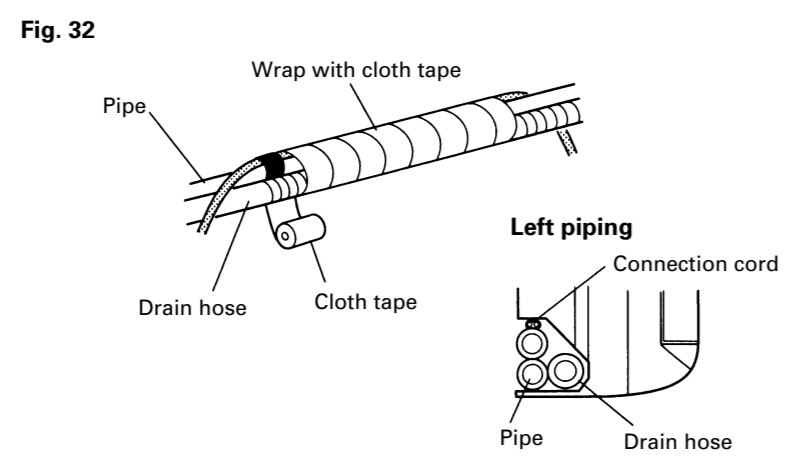
- Insulate between pipes.
 - For rear, right, and bottom piping, overlap the connection pipe heat insulation and indoor unit pipe heat insulation and bind them with vinyl tape so that there is no gap.
 - For left and left rear piping, butt the connection pipe heat insulation and indoor unit pipe heat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



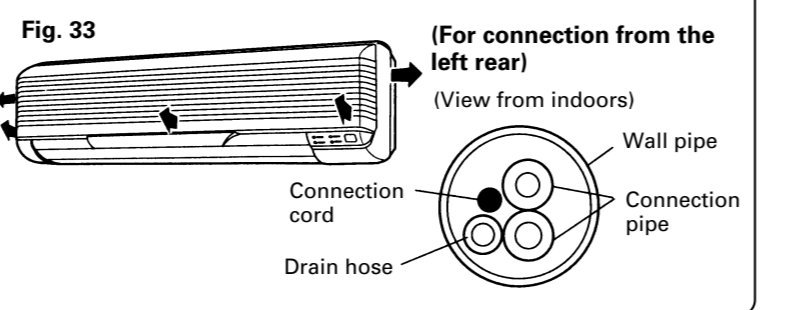
- For left and left rear piping, wrap the area which accommodates the rear piping housing section with cloth tape.



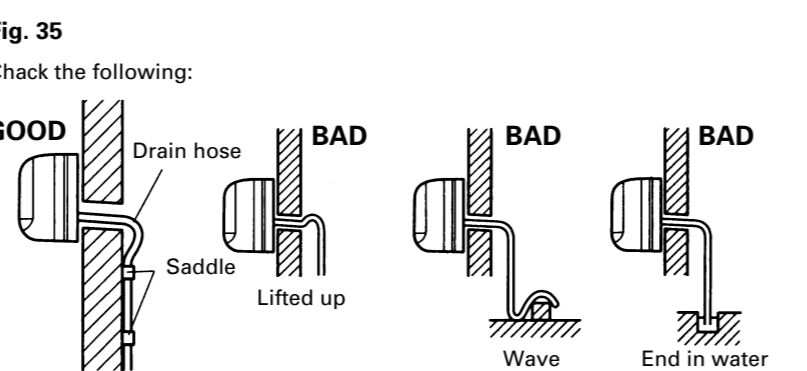
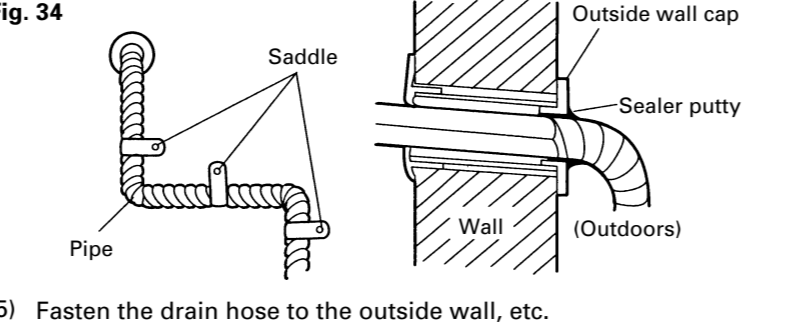
- For left and left rear piping, bind the connection cord to the top of the pipe with vinyl tape.



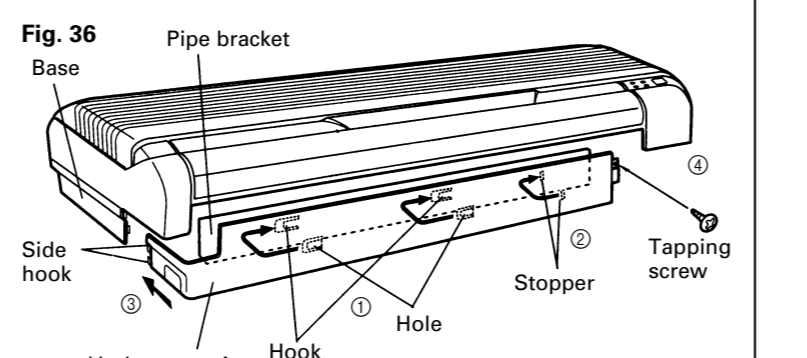
- Check that:**
- The top and bottom hooks are hooked firmly and the indoor unit does not move to the front and rear or left and right.
 - The indoor unit is accurately positioned horizontally and vertically.
 - When connected from the left rear, the drain hose is at the bottom left of the wall pipe.



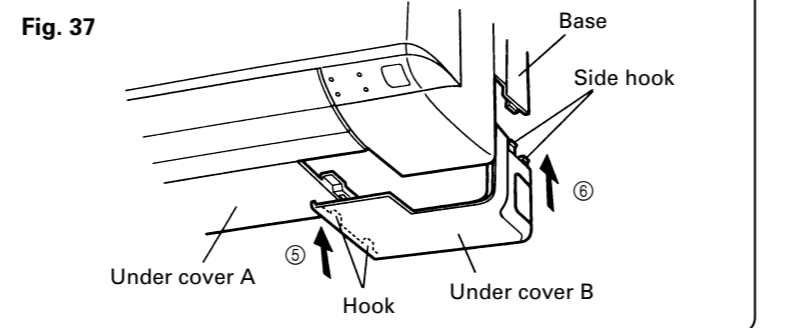
- Temporarily fasten the connection cord along the connection pipe with vinyl tape. (Wrap to about 1/3 the width of the tape from the bottom of the pipe so that water does not enter.)
- Fasten the connection pipe to the outside wall with a saddle, etc.
- Fill the gap between the outside wall pipe hole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



- Installing the under covers**
- Installing under cover A (Fig. 36)
 - Hook the two pipe bracket hooks to the two holes in the back of under cover A.
 - While pulling the left side of under cover A forward about 1 cm (at this time, hole hook ③ so that it does not come unhooked), slide under cover A to the right and hook the hook.
 - Push the left side of under cover A in the arrow direction and hook the two side hooks to the base.
 - Install under cover A to the pipe bracket with the tapping screw.



- Installing under cover B (Fig. 37)
 - Push the left side of under cover B in the arrow direction and hook the two hooks to under cover A.
 - Push the right side of under cover B in the arrow direction and hook the two side hooks to the base.



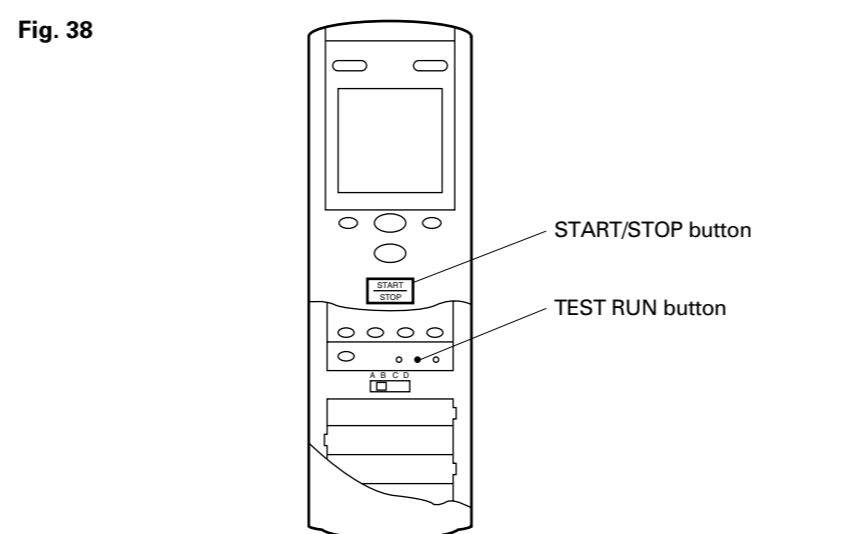
9 POWER

- 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. (Install in accordance with standard)
 - The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3 mm between the contacts of each pole.
 - 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

- Press the remote control unit test run button while the air conditioner is running.
- At the end of test running, press the remote control unit start-stop button. (Fig. 38)



- Operation can be checked by lighting and flashing of the display section OPERATION and TIMER lamps.
- Perform judgement in accordance with the following.
- Test running
- When the air conditioner is run by pressing the remote control unit test run button, the OPERATION and TIMER lamps flash slowly at the same time.
- Error
- The OPERATION and TIMER lamps operate as follows (Table 5) according to the error contents.

Error display	Error contents
OPERATION LAMP ON 0.5 sec. OFF 5 sec. ON 0.5 sec. OFF 5 sec.	Two quick flashes repeated Room temperature thermostat abnormal temperature detected
TIMER LAMP ON 0.1 sec. OFF 0.1 sec.	0.1 sec ON/OFF repeated
OPERATION LAMP ON 0.5 sec. OFF 5 sec. ON 0.5 sec. OFF 5 sec.	Three quick flashes repeated Piping thermostat abnormal temperature detected
TIMER LAMP ON 0.1 sec. OFF 0.1 sec.	0.1 sec ON/OFF repeated

- CHECK ITEMS**
- (1) INDOOR UNIT**
- Is operation of each button on the remote control unit normal?
 - Does each lamp light normally?
 - Do not air flow direction louvers operate normally?
 - Is the drain normal?
 - Is there any abnormal noise and vibration during operation?
- (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?
- Do not operate the air conditioner in the test running state for a long time.
 - For the operation method, refer to the operating manual and perform operation check.

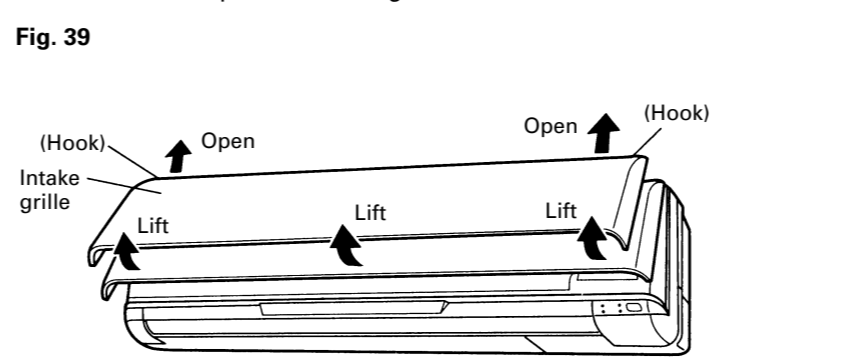
11 CUSTOMER GUIDANCE

- 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.
 - Air filter removal and cleaning, and how to use the air louvers.
 - Give the operating and installation manuals to the customer.

12 FRONT PANEL REMOVAL

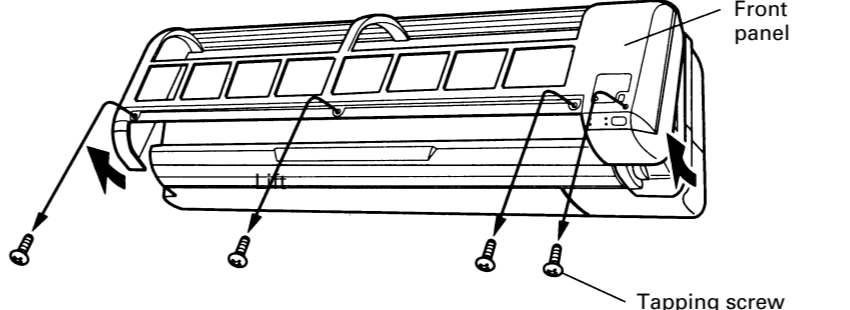
CAUTION
Install the front panel and intake grille securely. If installation is imperfect, the front panel or intake grille may fall off and cause injury.

- 1. INTAKE GRILLE REMOVAL**
- Open the intake grille.
 - Open the intake grille and lift the intake grille upward until the hook at the top of the intake grille is unhooked.



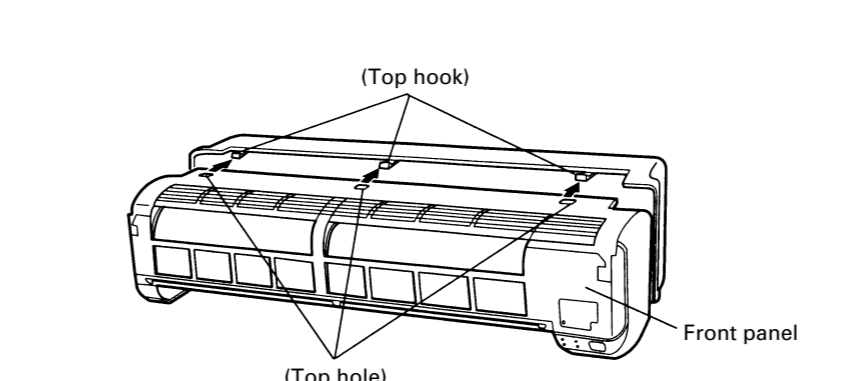
2. FRONT PANEL REMOVAL

- Remove the four tapping screws.
- Remove the front panel by lifting the bottom of the front panel upward.



3. FRONT PANEL INSTALLATION

- Hook the top hole of the front panel to the hook of the base.
- Fasten the front panel with the screw.



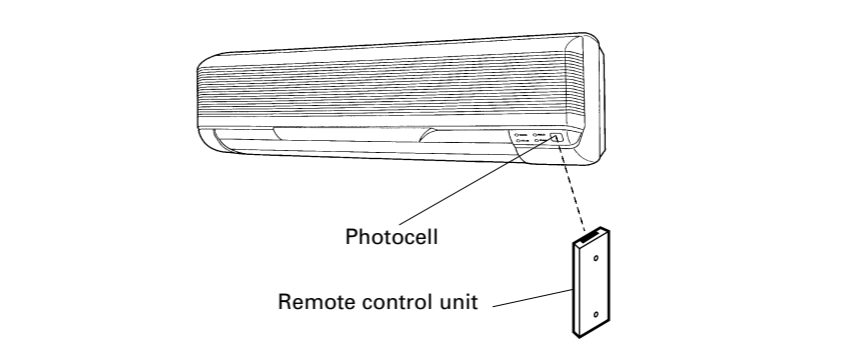
Be sure that the top hole of the front panel is hooked securely to the hook of the base.

13 REMOTE CONTROL UNIT 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.

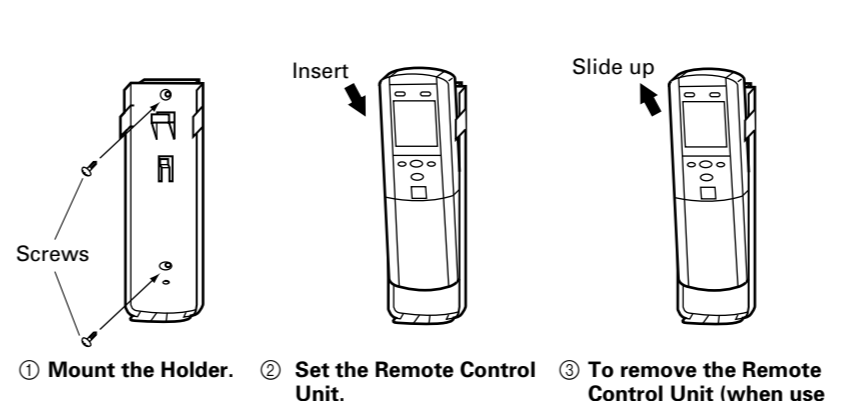
1. REMOTE CONTROL UNIT HOLDER INSTALLATION

- Install the remote control unit so that the front is facing the photocell. (Fig. 42)

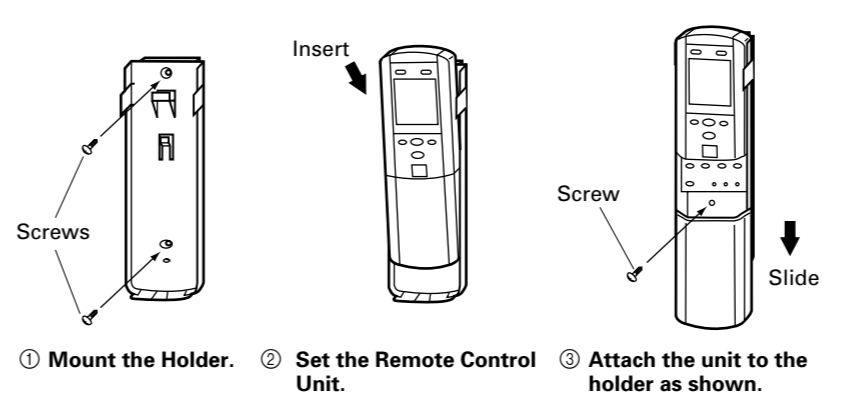


- Install the remote control unit with a distance of 7 m between the remote control unit and the photocell as the criteria. However, when installing the remote control unit, check that it operates positively.
- Install the remote control unit holder to a wall, pillar, etc. with the tapping screw (Fig. 43).

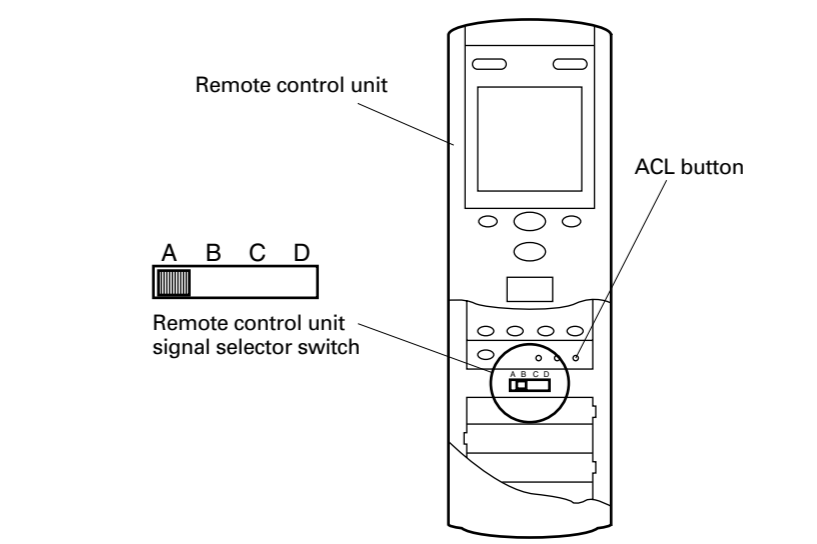
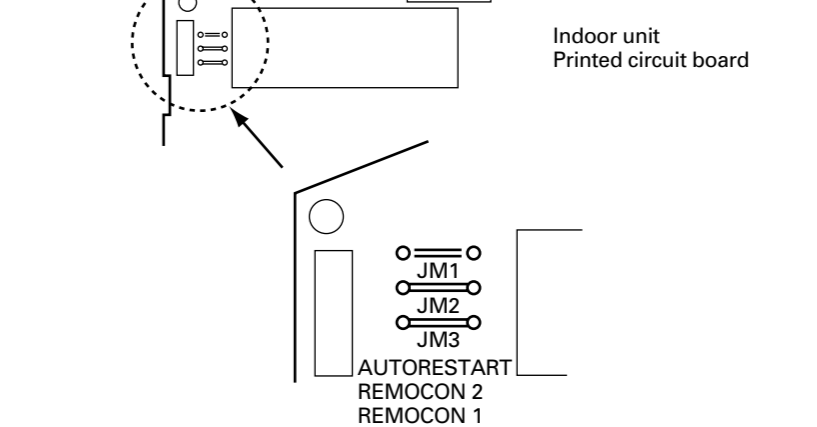
Fig. 43 For use as Handy Type



For use as Wall Fixing Type



2. REMOTE CONTROL UNIT CODE SWITCHING



Confirm the remote control unit signal selector switch selection and the printed circuit board setting. If these are not set to the same setting, the remote control unit cannot be used to operate for the air conditioner.

Jumper wire	Remote control unit signal selector switch
JM 2	JM 3
Connect	Connect
Connect	Disconnect
Disconnect	Connect
Disconnect	Disconnect

After setting the remote control unit signal selector switch, press the ACL button.