

4 VACUUM PROCESS

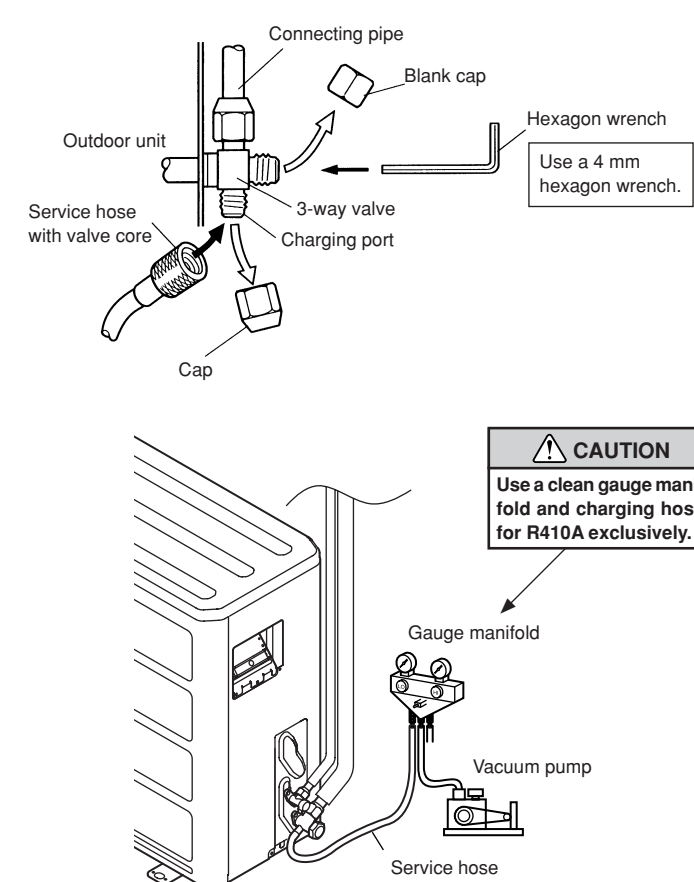
- CAUTION**
- Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for air purging!
 - Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.

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 gauge indicates -0.1 MPa (-76 cmHg).
- When -0.1 MPa (-76 cmHg) is reached, operate the vacuum pump for at least 15 minutes.
- Disconnect the service hoses and fit the cap to the charging valve to the specified torque.
- Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench (Torque : 6 to 7 N · m (60 to 70 kgf · cm).
- Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque.

	Tightening torque
Blank cap (2-way valve)	20 to 25 N · m (200 to 250 kgf · cm)
Blank cap (3-way valve)	25 to 30 N · m (250 to 300 kgf · cm)
Charging port cap	10 to 12 N · m (100 to 120 kgf · cm)

Fig. 17



2. ADDITIONAL CHARGE

Refrigerant suitable for a piping length of 7.5 m is charged in the outdoor unit at the factory. When the piping is longer than 7.5 m, additional charging is necessary. For the additional amount, see the table below.

Pipe length	7.5 m (25 ft)	10 m (33 ft)	15 m (49 ft)	20 m (66 ft)	g/m (oz/ft)
Additional refrigerant	None	37.5 g (1.3 oz)	112.5 g (4.0 oz)	187.5 g (6.6 oz)	15 g/m (0.53 oz/3.3 ft)

- When moving and installing the air conditioner, do not mix gas other than the specified refrigerant (R410A) inside the refrigerant cycle.

- When charging the refrigerant R410A, always use an electronic balance for refrigerant charging (to measure the refrigerant by weight).

- When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose composition is stable.

- Add refrigerant from the charging valve after the completion of the work.

- If the units are further apart than the maximum pipe length, correct operation can not be guaranteed.

3. GAS LEAKAGE INSPECTION

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

5 ELECTRICAL 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 of the indoor unit and the outdoor unit. 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 clamp. (If the insulator is chafed, electric leakage may occur.)
 - Always connect the ground wire.

HOW TO CONNECT WIRING TO THE TERMINALS

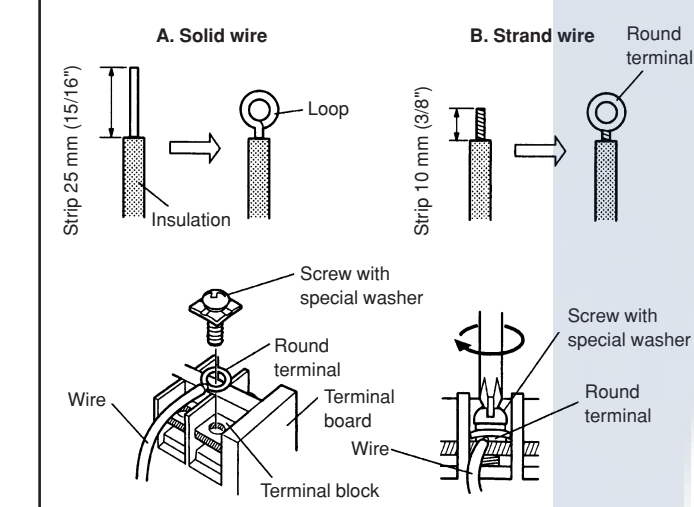
A. For solid core wiring (or F-cable)

- Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 25 mm (1.5"16") to expose the solid wire.
- Using a screwdriver, remove the terminal screw(s) on the terminal board.
- Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

B. For strand wiring

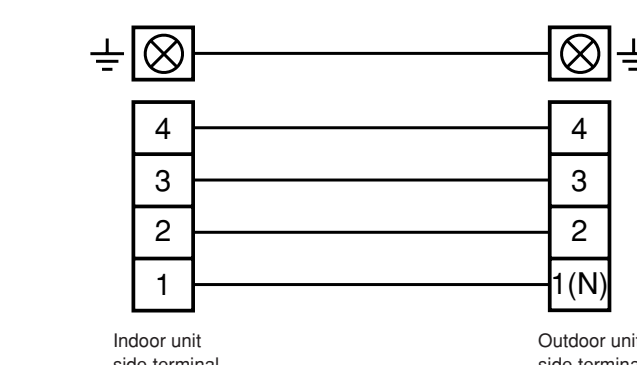
- Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 10 mm (3/8") to expose the strand wiring.
- Using a screwdriver, remove the terminal screw(s) on the terminal board.
- Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver.

Fig. 18

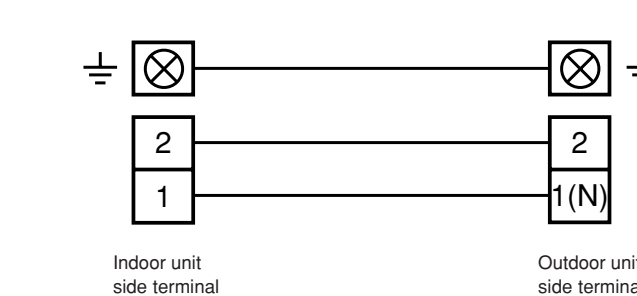


1. CONNECTION DIAGRAM

- Fig. 19
[Heat & Cool model (Reverse cycle)]



[Cooling model]



2. INDOOR UNIT SIDE

- [Heat & Cool model (Reverse cycle)]

- 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.21) and bend the end of each cord as shown in (Fig.20).
- Remove the cable clamp.
- Connect the end of the connection cord fully into the terminal block and fasten with a screw.

Fig. 20 Stripped length

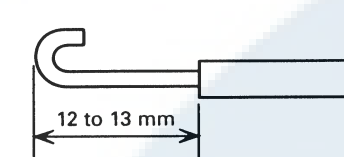
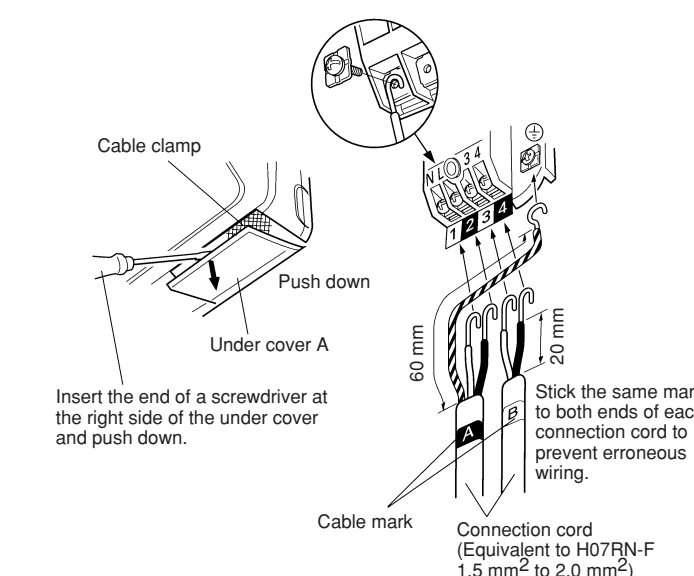


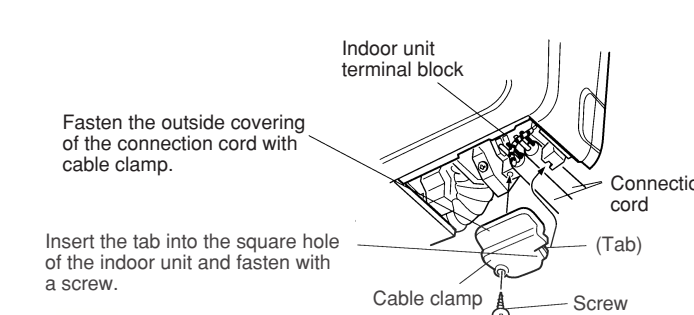
Fig. 21



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

- Fasten the connection cord with a cable clamp.

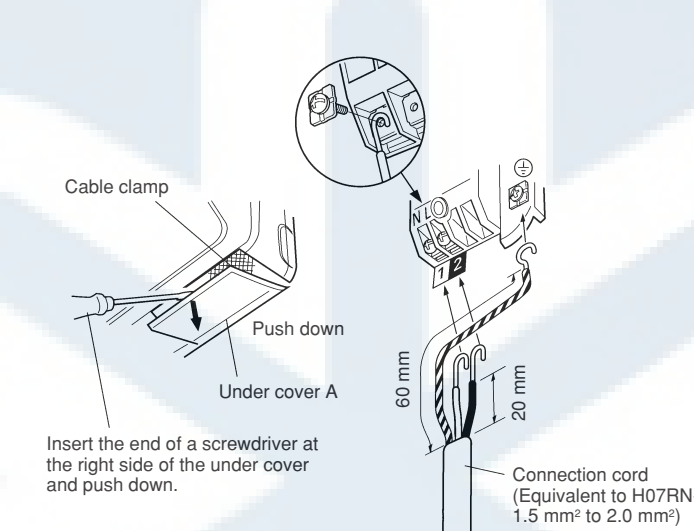
Fig. 22



[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.23) and bend the end of each cord as shown in (Fig.20).
- Connect the end of the connection cord fully into the terminal block and fasten with a screw.

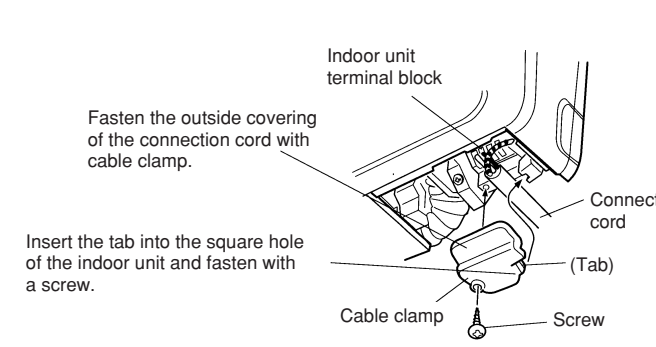
Fig. 23



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

- Fasten the connection cord with a cable clamp.

Fig. 24



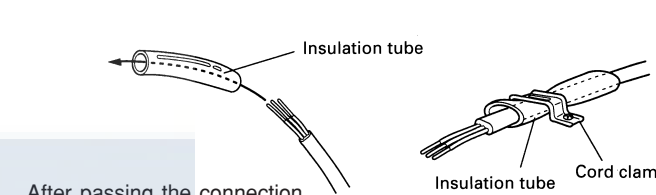
3. OUTDOOR UNIT SIDE

CAUTION

Use VW-1, 12 mm diameter, 0.5 to 1.0 mm thick, connection PVC tube as the insulation tube.

- Process the end of the connection cords to the dimensions 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. (Fig. 25)
- Install the terminal cover. (Fig. 27)

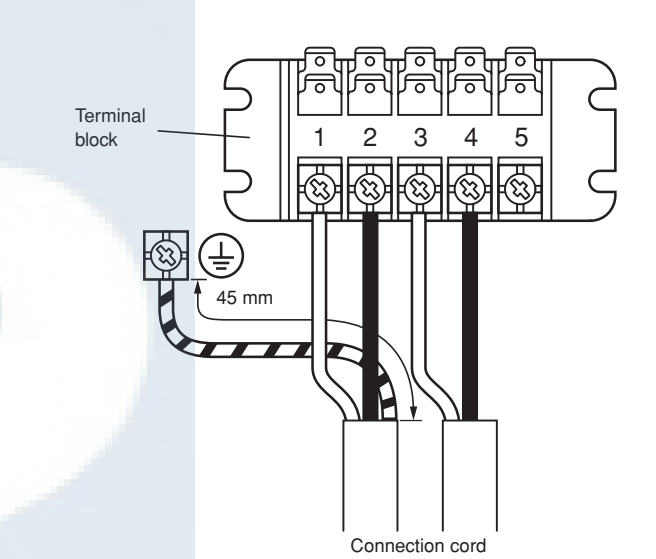
Fig. 25



After passing the connection cord through the insulation tube, fasten it with the cord clamp.

Fig. 26

[Heat & Cool model (Reverse cycle)]



[Cooling model]

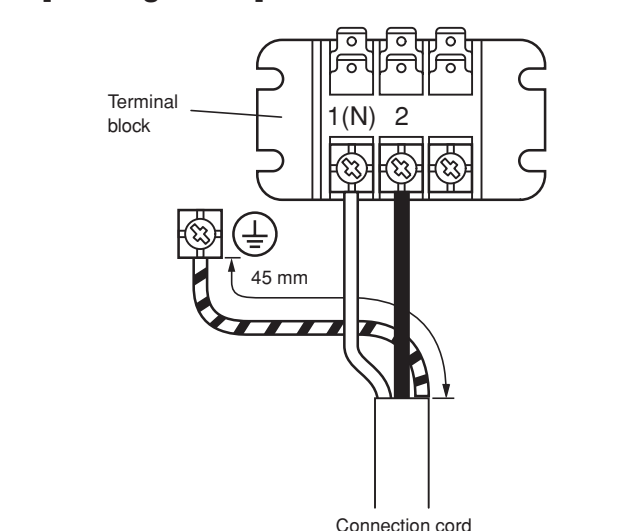
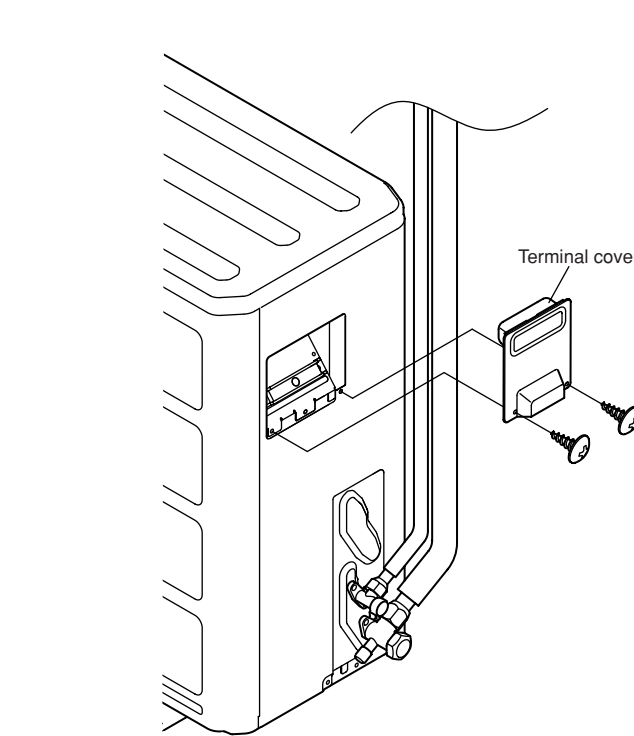


Fig. 27

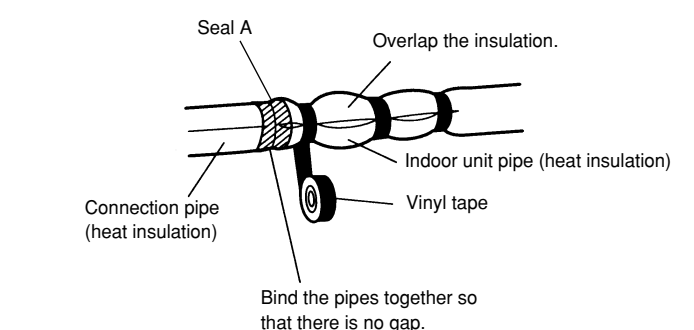


6 FINISHING

1. CONNECTION PIPE, CORD AND DRAIN HOSE

- 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 seal A and vinyl tape so that there is no gap.

Fig. 28



- For left and left rear 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. 29

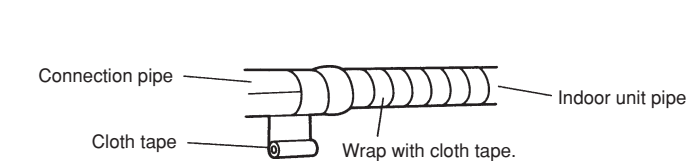
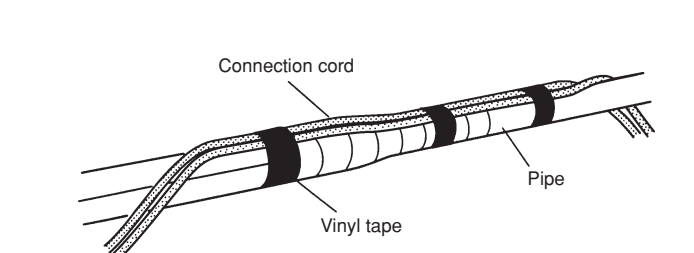


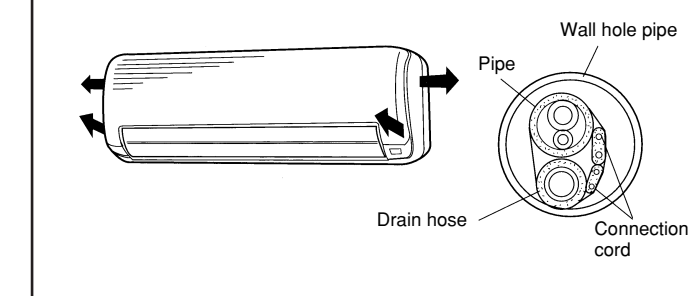
Fig. 30



Check that:

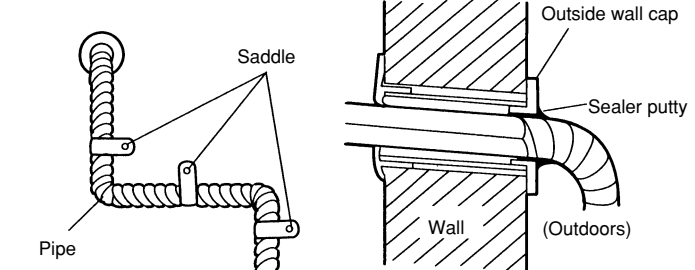
- The top and bottom hooks are hooked firmly and the indoor unit does not move to the front and rear or left and right.
- The indoor unit is accurately positioned horizontally and vertically.
- The drain hose is at the bottom left of the wall pipe.

Fig. 31



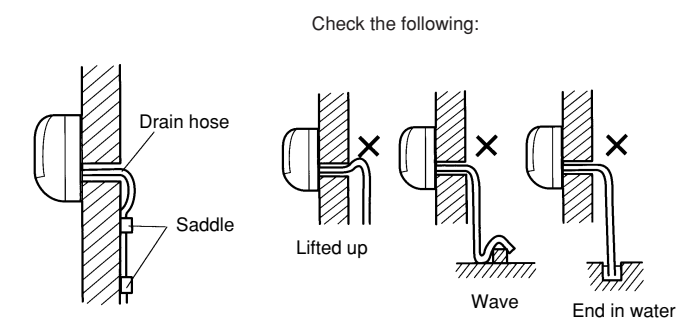
- Temporarily fasten the connection cord along the connection pipe with vinyl tape. (Wrap to about 1/3 the width of the tape from the bottom of the pipe so that water does not enter.)
- Fasten the connection pipe to the outside wall with a saddle, etc.
- Fill the gap between the outside wall pipe hole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

Fig. 32



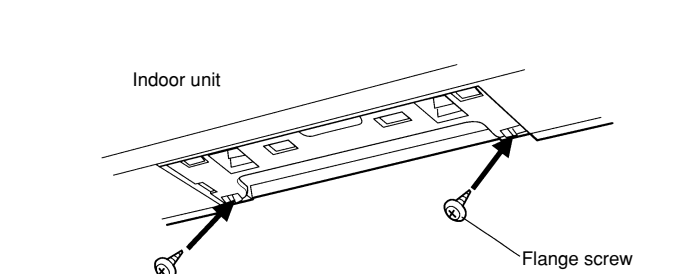
- Fasten the drain hose to the outside wall, etc.

Fig. 33



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

Fig. 34



- Install under cover B.

Fig. 35

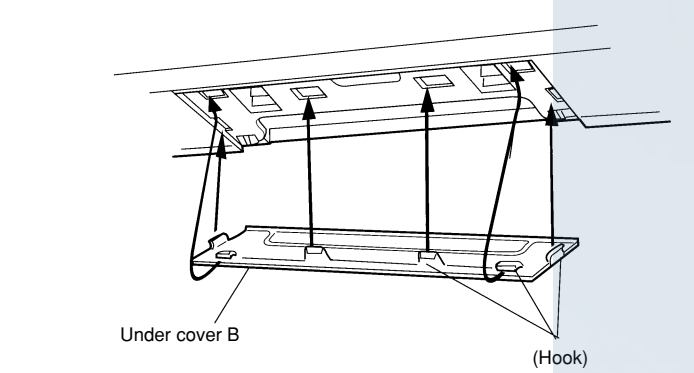
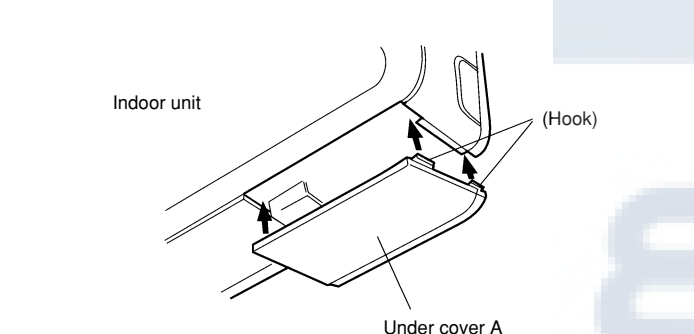


Fig. 36



7 POWER

- WARNING**
- The rated voltage of this product is 230 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 breaker to supply power to the room air conditioner.
 - Use a circuit breaker 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.

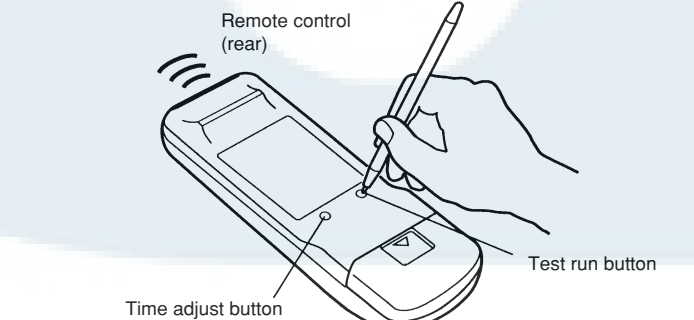
CAUTION

- 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.

8 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 controller while the room air conditioner is running. (With the transmit section of the remote controller facing the body, press the test run button with the tip of a ball point pen.)

Fig. 37



- 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 controller test run button, the RUN and TIMER lamps will simultaneously flash slowly.)

(1) INDOOR UNIT

- Is operation of each button on the remote controller 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?

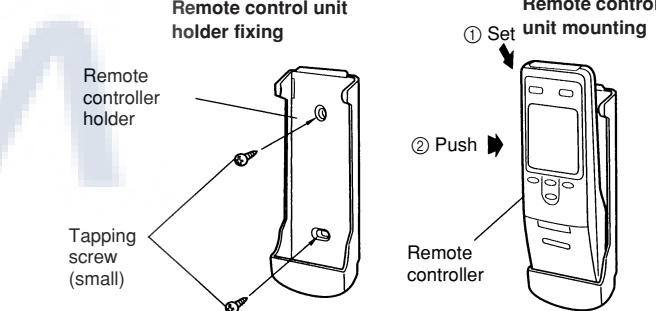
9 REMOTE CONTROL UNIT INSTALLATION

- 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 controller holder to a wall or pillar with the tapping screws.

Fig. 38

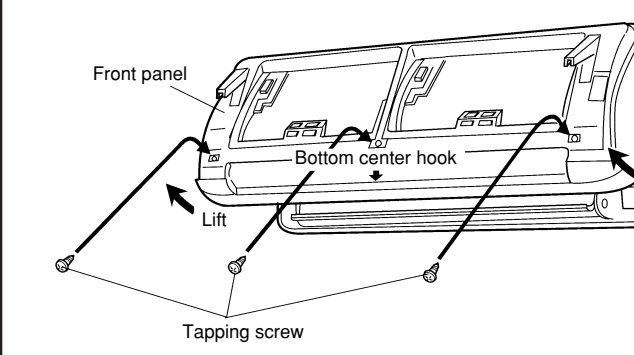


2. REMOTE CONTROL UNIT MOUNTING

- Set the remote controller.
- Push the remote controller into the holder.

[Model : 17F • 17U]

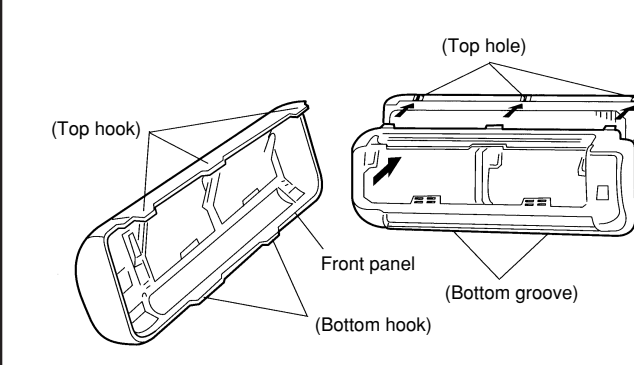
Fig. 40



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. 41



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

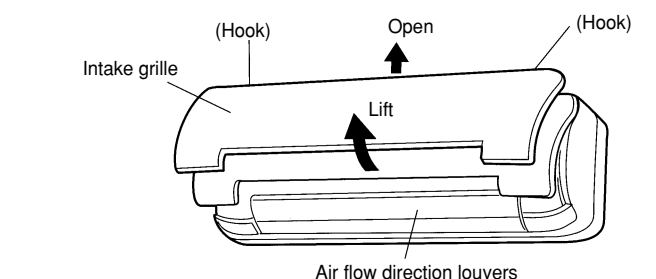
10 FRONT PANEL REMOVAL

- 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. 39



2. FRONT PANEL REMOVAL

- Remove the under cover B.
- Remove the tapping screws.
- After placing the air flow direction louvers to the horizontal position, remove the front panel.

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 manual and installation instruction sheet to the customer.
- If the signal code is changed, explain to the customer how it changed (the system returns to signal code A when the batteries in the remote control unit are replaced).