

1. VACUUM

- (1) Remove the cap, and connect the gauge manifold and the va-
- cuum pump to the charging valve by the service hoses. (2) Vacuum the indoor unit and the connecting pipes until the pres-
- sure in them lowers to below 1.5 mmHg. (3) Disconnect the service hoses and fit the cap to the charging valve
- (Tightening torque: 70 to 90 kgf·cm). (4) 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 kgf·cm, 3-way valve: 100 to 120 kgf·cm). (5) Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque (200 to 250 kgf·cm).

Fig. 29

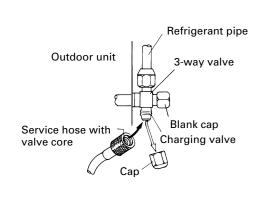
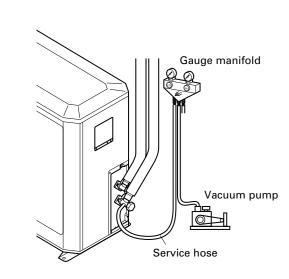


Fig. 30



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 neces-

For the additional amount, see the table below.

			Table 5			
Pipe I	ength	25 ft (7.5 m)	33 ft (10 m)	49 ft (15 m)	66 ft (20 m)	82 ft (25 m)
Additional	Heat & Cool (Reverse cycle)	None	3.5 oz (100 g)	10.6 oz (300 g)	17.6 oz (500 g)	24.7 oz (700 g)
refrigerant	Cooling model	None	1.5 oz (43 g)	4.5 oz (128 g)	7.5 oz (213 g)	10.5oz (298 g)

Between 7.5 m and 25 m, when using a connection pipe other than that in the table, charge additional refrigerant with 1.4 oz (40 g)/3.3 ft (1 m) (Reverse cycle model), 0.6 oz (17 g)/3.3 ft (1 m) (Cooling model) as the criteria.

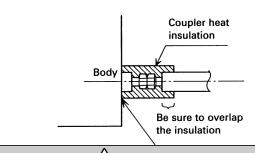
CAUTION

- When charging the refrigerant, always use a measur-
- 2 Add refrigerant from the charging valve after the completion of the work.

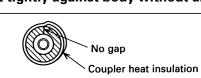
6 **INSTALLING THE COUPLER HEAT INSULATION**

After checking for gas leaks, insulate by wrapping insulation around the two parts (large and small) of the indoor unit coupling, using the coupler heat insulation.

After installing the coupler heat insulation, wrap both ends with vinyl tape so that there is no gap.



!\ CAUTION Must fit tightly against body without any gap.



ELECTRICAL WIRING

HOW TO CONNECT WIRING TO THE TERMINALS

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

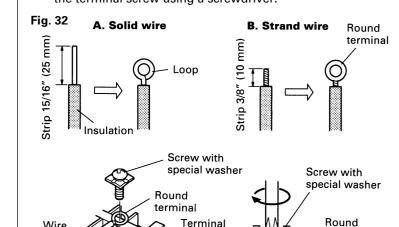
(1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 15/16" (25 mm) of expose the solid wire.

(2) Using a screwdriver, remove the terminal screw(s) on the

- terminal board. (3) Using pliers, bend the solid wire to form a loop suitable for
- the terminal screw.
- (4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a

B. For strand wiring

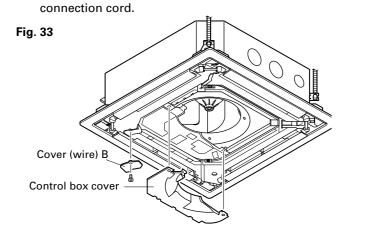
- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 3/8" (10 mm) of expose the strand wiring.
- (2) Using a screwdriver, remove the terminal screw(s) on the
- (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped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



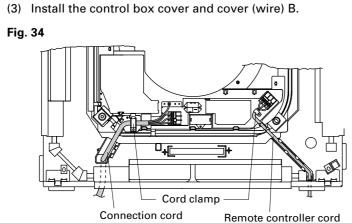
1. INDOOR UNIT SIDE

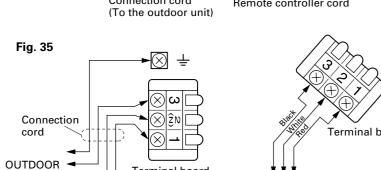
! WARNING

- D Before starting work, check that power is not being supplied to the indoor unit.
- 2) Match the terminal board numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.
- 3 Connect the connection cord firmly to the terminal board. 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.)
- ⑤ Always connect the ground wire.
- (1) Remove the cotrol box cover and cover (wire) B and install the



(2) After wiring is complete, clamp the remote controller cord and connection cord with the cord clamp.

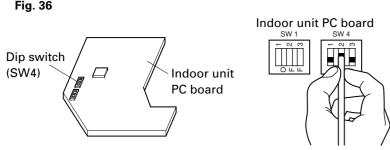




Ceiling height setting

Set the DIP switch for the ceiling height according to the table be-

l able b						
Ceiling height		DIP-SW4				
(m)		1	2	3		
2.5 ~ 3.0	Normal	_	OFF	OFF		
3.0 ~ 3.5	High ceiling 1	_	ON	OFF		
More than 3.5	High ceiling 2	_	OFF	ON		
Less than 2.5	Low ceiling	_	ON	ON		



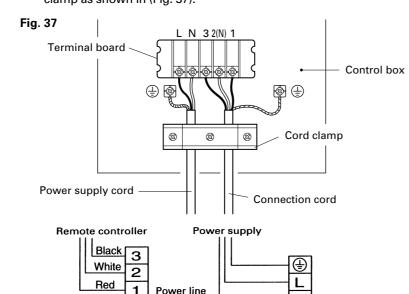
! CAUTION

- ① If the setting for a low ceiling is selected, the capacity of the air conditioner decreases slightly.
- 2) Do not set any switches other than those specified in this sheet or the remote controller installation instruction sheet. The air conditioner may not operate correctly if any switches other than those specified

2. OUTDOOR UNIT SIDE

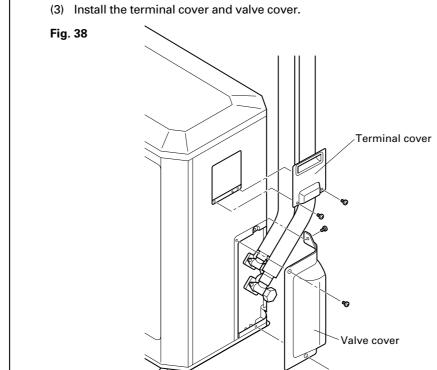
! WARNING

- 1) Before starting work, check that power is not being supplied to the outdoor unit.
- ② Match the terminal board 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 and the power supply cord firmly to the terminal board. Imperfect installation may cause a fire.
- 4 Always fasten the outside covering of the connection cord and the power supply cord with cord clamps. (If the insulator is chafed, electric leakage may occur.)
- Always connect the ground wire.
- (1) Remove outdoor unit terminal cover and connect the power supply cord and the outdoor unit connection cord wired at the indoor
- (2) Fasten the power supply cord and connection cord with cord clamp as shown in (Fig. 37).



⊗ EARTH⊕ Outdoor unit Indoor unit side terminal

(3) Install the terminal cover and valve cover.



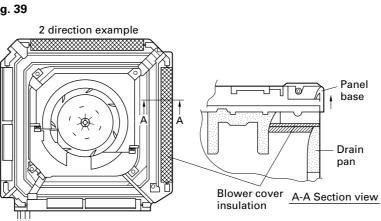
GRILLE INSTALLATION

BLOWER COVER INSULATION Install the blower cover insulation only when the outlet direction is not

Two blower cover insulations are packed with the indoor unit. Install the blower cover insulation at the diffuser position shown in

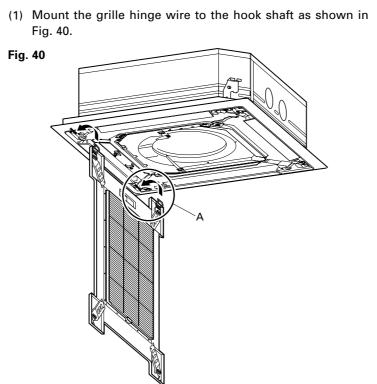
Fig. 39. At this time, use the piping position as the criteria. Fig. 39

(Piping direction)



INSTALLING THE INTAKE GRILLE

(1) Mount the grille hinge wire to the hook shaft as shown in



POWER

⚠ WARNING

• Latch the grille hinge wire to the hook shaft, and fasten.

• Pass the hook wire through the panel base from the rear side as shown in Fig. 43, and fasten to the reinforced

metal fitting of the intake grille using a screw.

(3) Loosen the screw, put the loop of the hook wire over it,

and tighten the screw again.

bly. If it falls, it may cause injuries.

shown in Figs. 45, 46, and fasten.

Fig. 46

9

!\ CAUTION

Install the intake grille hook wire to the grille assem-

(4) Bring up the intake grille by pushing it up at an angle as

Fig. 42 Part A section view

Grille hinge

Hook wire

Hook wire

Fig. 41 Part A detail view

(2) Install the hook wire.

Fig. 44 Section view

- ① The rated voltage of this product is 220-240 V 50 Hz.
- Before turning on verify that the voltage is within the 198 to 264 V range.
- Always use a special branch circuit and install a special receptacle to supply power to the air conditioner.
- 4) Use a special branch circuit breaker and receptacle matched to the capacity of the air conditioner. (Install in accordance with standard.)
- Perform wiring work in accordance with standards so that the air conditioner can be operated safely and
- Install a leakage special branch circuit breaker in accordance with the related laws and regulations and electric company standards.

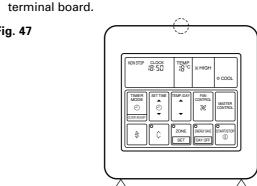
(CAUTION

When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

REMOTE CONTROLLER INSTALLATION

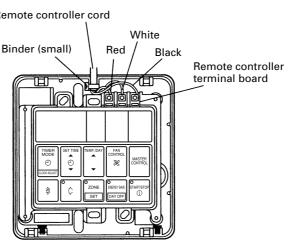
When mounting the remote controller, refer to the enclosed REMOTE CONTROLLER INSTALLATION INSTRUC-TION SHEET. Then, make the necessary settings on both the remote controller and the main unit.

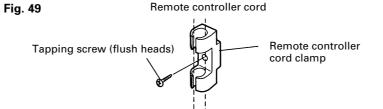
- Insert the end of a flat blade screwdriver at the arrow parts of the groove at the side of the remote controller case and remove the
- remote controller case top by turning the screwdriver. • Disconnect the remote controller cord from the remote controller



- (1) When remote controller exposed
- 1) Make a notch in the thin part () part of Fig. 47) at the remote controller case top and bottom with nippers, file, etc. 2) Connect the remote controller cord to the remote controller
- terminal board specified in (Fig. 48). 3) Clamp the remote controller cord sheath with the binder
- (small) as shown in (Fig. 48).
- 4) Cut off the excess binder. 5) Clamp the remote controller cord to a wall, etc. with the re-
- mote controller cord clamp furnished (Fig. 49).

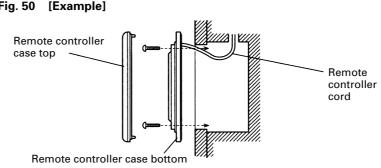
Remote controller cord





- (2) When remote controller cord embedded
- 1) Embed the remote controller cord and box. 2) Pass the remote controller cord through the hole at the remote
- controller case bottom and install the cord to the box (Fig. 50). 3) Connect the remote controller cord to the remote controller terminal board specified in (Fig. 48).

Fig. 50 [Example]



 After wiring work is complete, return the remote controller case top to its original state.

(CAUTION

- Do not bundle the remote controller cord, or wire the remote controller cord in parallel, with the indoor unit connection wire (to the outdoor unit) and the power supply cord. It may cause erroneous oper-
- When installing the remote controller and cord near a source of electromagnetic waves, separate the remote controller from the source of the electromagnetic waves and use shielded cord.
- 3 Do not touch the remote controller PC board and PC board parts directly with your hands.

TEST RUNNING

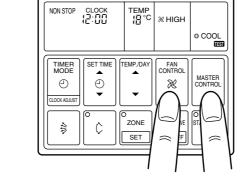
- 1. REMOTE CONTROLLER Supply power to the crankcase heater 12 hours before the start
- of operation in the winter. For test running, when the remote controller FAN CONTROL button and MASTER CONTROL button are pressed simultaneously

mote controller display. However, the SET TEMP./DAY setting button does not function, but all other buttons, displays, and protection functions operate (Fig. 51).

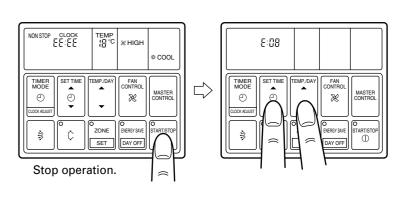
for more than three seconds when the air conditioner is not run-

ning, the air conditioner starts and TEST is displayed on the re-

Fig. 51



• When EE:EE blinks at the current time display, there is an error inside the air conditioner. If the SET TIME button (▼) and SET TEMP./DAY button (▼) are pressed simultaneously for more than three seconds, the self diagnosis check will start and the error contents will be displayed at the current time display (Fig. 52). When the operation lamp lights, press the START/STOP button and after operation lamp goes off, perform the same operation (Fig. 52). Process the error contents by referring to (Table 7).



Error code	Error contents
E:00	Communication error (indoor unit remote controller)
E:[] {	Communication error (indoor unit outdoor unit)
E:02	Room temperature sensor open
E:[]}	Room temperature sensor shorted
E:[]4	Indoor heat exchanger temperature sensor open
E:05	Indoor heat exchanger temperature sensor shorted
E:05	Outdoor heat exchanger temperature sensor open
E:07	Outdoor heat exchanger temperature sensor shorted
E:08	Power source connection error
E:09	Float switch operated
E:OR	Outdoor temperature sensor open
E:Ob	Outdoor temperature sensor shorted
E:III	Discharge pipe temperature sensor open
E:Od	Discharge pipe temperature sensor shorted
E:DE	Outdoor high pressure abnormal
E:OF	Discharge pipe temperature abnormal
E: { {	Model abnormal
E: 12	Indoor fan abnormal

2. OUTDOOR UNIT

When the outdoor temperature drops, the outdoor unit's fans may switch to low speed.

ERROR: HEAT &COOL MODEL (REVERSE CYCLE) ONLY The LED lamps operate as follows (Table 8) according to the error

Outdoor signal abnormal

E: | Outdoor EEPROM abnormal

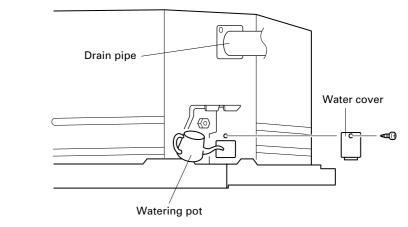
Table 8					
Error o					
LED1	LED2	Error contents			
ON OFF	ON OFF	Model abnormal or EEPROM abnormal			
Quick flash continued	Quick flash continued				
0.5 sec.	ON OFF	Power source connection error			
quick flash repeated	Lighting continued				
0.5 sec.	ON OFF	Discharge temperature sensor error			
quick flash repeated	Lighting continued				
on the section of the	ON OFF	Outdoor heat exchanger temperature sensor error			
quick flash repeated	Lighting continued	Outdoor temperature sensor error			
quick flash repeated	Lighting continued	Communication signal error			
quick flash repeated	Lighting continued	Indoor unit error			
quick flash repeated	Lighting continued	Discharge temperature abnormal			

When the fault is cleared, the LED lamp goes off. However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

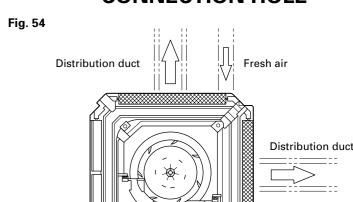
8 quick flash repeated | Lighting continued | High pressure abnormal

3. CHECKING DRAINAGE

To check the drain, remove the water cover and fill with 2 to 3 ℓ of water as shown in Fig. 53. The drain pump operates when operating in the cooling mode.



OPENING THE DUCT CONNECTION HOLE



!\ CAUTION

- When performing hole opening work, be careful not to damage the drain pan.
- 2 When connecting the distribution duct, to make the air flow easily, block the outlet port with the blower cover insulation as shown by the hatched lines in Fig. 54. For the blocking direction, refer to Fig. 39.

1. DIMENSION

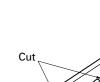
Fig. 56

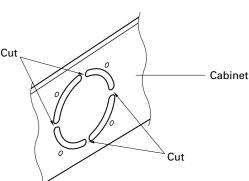
Screw position and connection hole which are fresh air duct and distribution duct. Fig. 55 Unit: mm

2. DISTRIBUTION DUCT AND FRESH AIR DUCT HOLE **PROCESSING**

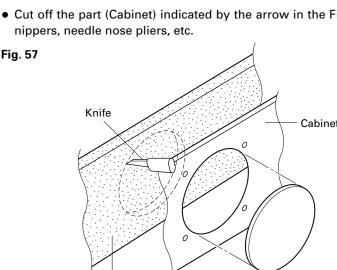
Use the distribution duct hole and fresh air duct hole by removing the insulation material as shown below.

12-ø3.3 self tapping screw holes (for 4 mm)





• Cut off the part (Cabinet) indicated by the arrow in the Fig. 56 with



- Open the holes and cut the insulation with a knife.
- * Be careful not to damage the internal parts. * Be careful not to cut yourself on the cutout in the metal plate. * Please remove the insulation (inner box) left over after cutting.
- Connect the distribution duct. * When mounting the duct, block the gap so that there is no cold air leakage.
- * Insulate the duct and cut connection.

! CAUTION

The air conditioner cannot take in fresh air by itself. When connecting a fresh air duct, always use a duct fan.