

mark indicates procedures which, if improperly performed, might possibly result in personal harm to user, or damage to properly.

△ CAUTION	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to properly.
Thi	s air conditioner uses new refrigerant HFC (R410A).

k	wever, pay careful attention to the following points:
1)	Since the working pressure is 1.5 linea higher than that of conventional refrigerant (R122) models, some of the piping and installation and service looks are special; (Bee the table below.) Expecially, when replacing a conventional refrigerant (R122) model with a new refrigerant R410A model, always replace the conventional prings and filter resists with the R410A prings and filter resists.
	Models that use refrigerant R410A have a different charging port thread diameter to prevent erroneous charging with con-

Canana alman	E-11-4 Tel-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	
Gas leakage detector	Special gas leakage detector for HFC refrigerant R410A.	
Vacuum pump	A conventional vacuum pump can be used by installing a vacuum pump adapter.	
Charge hose	To increase pressure resistance, the hose material and base size were changed.	
Gauge manifold	It is recommended the gauge with seals =0.1 to 5.3 MPs (=76 cmHg to 53 kgflcm²) for high pressure. =0.1 to 3.8 MPs (=76 cmHg to 38 kgflcm²) for low pressure.	
	refrigerants, the diameter of each port has been changed.	

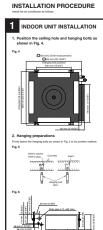
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Gas leakage detector	Special gas leakage detector for HFC refrigerant R410A.			
Copper pipes		Table 1	Thicknesses of	Anneal
is necessary to use seamless copper p f residual oil is less than 40 mg/10 m	ipes and it is desirable that the amount			
r residual os is less than 40 mg/10 m ollapsed, deformed or discolored porti Sherwise, the expansion valve or cap	on (especially on the interior surface).	Nominal diameter (inch)	Outer diameter (mm)	R41

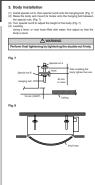
opper pipes	Table 1	Thicknesses of	Annealed Co
necessary to use seamless copper pipes and it is desirable that the amount residual oil is less than 40 mo/10 m. Do not use copper pipes having a			Thide
residual os is less train 40 mg/10 m. Do not use copper pipas naving a lispised, deformed or discolored portion (expecially on the interior surface), tervisias. The expansion valve or capillary tube may become blocked with	Nominal diameter (inch)	Outer diameter (mm)	R410A
staminants.	1/4	6.35	0.80
an air conditioner using R410A incurs pressure higher than when using	2.0	9.52	0.80
It is necessary to choose adequate materials. idonesses of copper pipes used with R410A are as shown in Table 1. Never	1/2	12.70	0.80
copper pipes thinner than 0.8 mm (Nominal diameter is 1/4 in., 3/8 in.,			

STANDARD PARTS The lodowing installation parts are furnished. Us INDOOR UNIT ACCESSORIES Name and Shape Ony 8

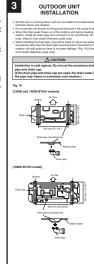
Omm

Drain pipe		1	For outdoor unit drain piping work lifeat & Cool model	
Drain cap	12000 and 14000 BTUh models	2	(Reverse cycle) only)	
	18000 BTUh model	1		
	ACCESSORIE			
Nam	e and Shape	Q'ty	Application	
Bolt		4	For mounting grille	
Washer	0	4	For mounting grille	
Washer Spring wa	(a)	4	For mounting grille For mounting grille	











(1) For the air conditioner to operate satisfactorily, install it as outlined in this installation instruction sheet.
(2) Connect the indoor unit and outdoor unit with the air conditioner piping and cords available from our standards parts. This installation instruction sheet describes the correct connections using the installation set available from our standard parts.
(3) Installation work must be performed in accordance with national wiring standards by authorized personnel only.
(4) Do not turn on the power until all installation work is complete.

SELECTING THE MOUNTING POSITION











ELECTRICAL REQUIREMENT





Ploe cutside	A(mm)		
Ciameter	Flam tool for	Conventional	(R22) flan
CHATHOLOGY	R410A, clutch type	Clutch type	Wing no
6.35 mm (1/4 in.)	0 to 0.5	1.0 to 1.5	1.5 to
9.52 mm (3/8 in.)	010 0.5	1.0161.5	1.510
12.70 mm (1/2 in.)	01o 0.5	1.0 to 1.5	2.01







		Tightening torque
Blank cap (2-s	ray valve)	20 to 25 N · m (200 to 250 kgf · cm
Stank cap (3-way valve)	9.52 mm (3/8 is.)	20 to 25 N - m (200 to 250 kgf - cn
	12.70 mm (1/2 in.)	25 to 30 N · m (250 to 300 kgf · cn
Charging port cap		10 to 12 N - m (100 to 120 kgf - cn











After connecting the piping, check the je age with gas leak detector.

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 (15/16") of expose the solid wire.

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

B. For strand wiring

1. Indoor unit side

) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 10 mm (3/8") of expose the strand wiring. (2) Using a screwdriver, remove the terminal screw(s) on the terminal

⚠ WARNING 1) Before starting work, check that power is not being sup-

2) Match the terminal board numbers and connection cord

Erroneous wiring may cause burning of the electric

(3) Connect the connection cords firmly to the terminal

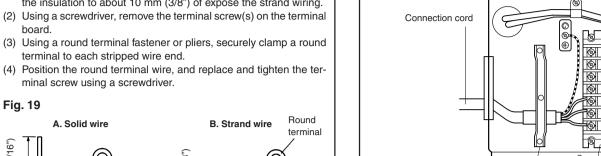
4) Always fasten the outside covering of the connection

cord with the cord clamp. (If the insulator is chafed,

board. Imperfect installation may cause a fire.

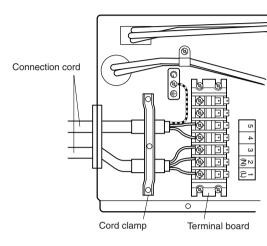
plied to indoor unit and the outdoor unit.

colors with those of the outdoor unit side.



[18000 BTU/h Cooling model]

[12000 and 14000 BTU/h Cooling models]



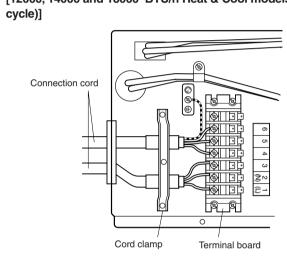
(1) Remove the control box cover and install the connection cord.

Control box cover

(Figs. 20 and 21)

Fig. 20

[12000, 14000 and 18000 BTU/h Heat & Cool models (Reverse



2. Outdoor unit side

colors with those of the indoor unit side.

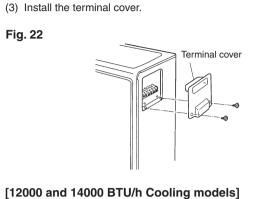
↑ WARNING (1) Before starting work, check that power is not being supplied to the indoor unit and outdoor unit. 2) Match the terminal board numbers and connection cord

Erroneous wiring may cause burning of the electric (3) Connect the connection cords and the power supply

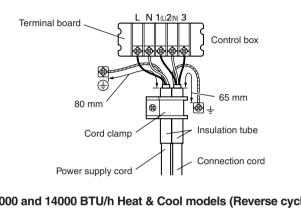
cord firmly to the terminal board. Imperfect installation may cause a fire.

(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.)

(1) Remove the terminal cover of the outdoor unit, and insert the end of the connection cord and the power supply cord into the terminal board. (2) Fasten the connection cord and the power supply cord with the cord



(5) Always connect the ground wire.



[12000 and 14000 BTU/h Heat & Cool models (Reverse cycle)]

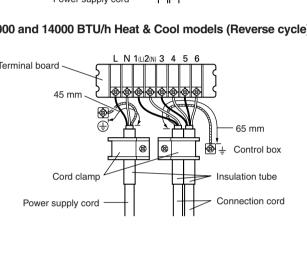
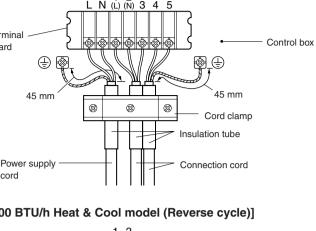
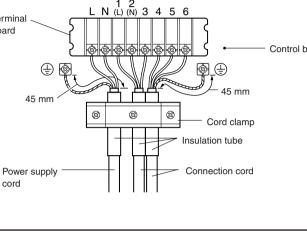


Fig. 23 Terminal cover

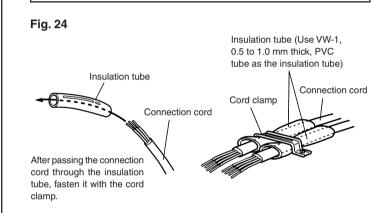
[18000 BTU/h Cooling model]



[18000 BTU/h Heat & Cool model (Reverse cycle)]



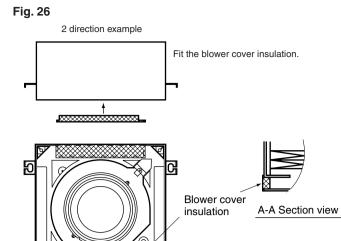
CAUTION When routing the ground wires, leave slack as shown in the illustrations.



GRILLE INSTALLATION

1. Blower cover insulation

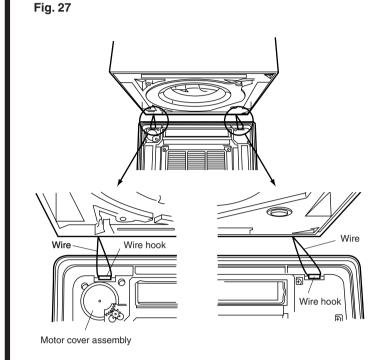
Install the blower cover insulation only when the outlet direction is not Two blower cover insulations are packed with the grille assembly. Install the blower cover insulation at the diffuser position shown in Fig. 26. At the time, use the piping position as the criteria.



2. Installing grille assembly to body

Hang the grille assembly on the wires attached to the indoor unit as shown

(Piping direction)



and washers. Fig. 28

No gap between ceiling and

grille around entire periphery.

Install the grille assembly to the body with the four bolts, spring washers,

Wireless unit connection wire wiring

Bolting the grille assembly to the body

Connect the connector in accordance part A detail view. Then clamp the lead wire with clamp so that it does not touch the rotating

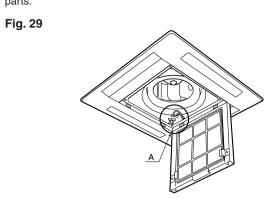
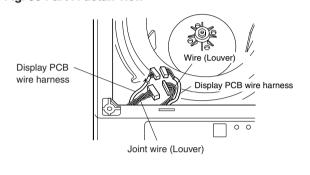
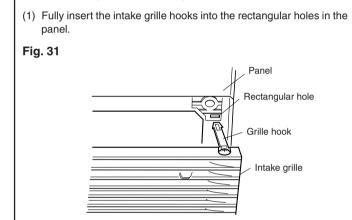


Fig. 30 Part A detail view

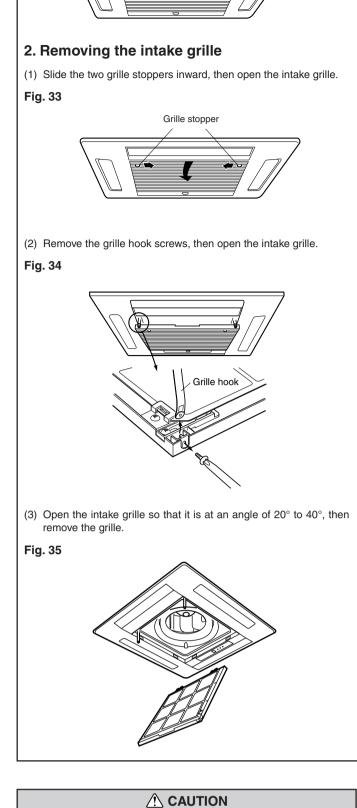


INSTALLING/REMOVING THE INTAKE GRILLE . Installing the intake grille

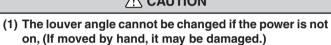


Duct (inside dia. 150 mm)

18000 BTU/h model



(2) Close the intake grille, then slide the two grille stoppers outward.



- (2) The grille assembly is directional relative to the air con-
- ditioner body.
- (3) Install so that there is no gap between the grille assembly and the air conditioner body.

POWER

⚠ WARNING

the 198 V to 264 V range.

electric leakage may occur.)

(5) Always connect the ground wire.

- (1) The rated voltage of this product is 230 V A.C. 50 Hz. (2) Before turning on the verify that the voltage is within
- (3) Always use a special branch circuit and install a special breaker to supply power to the air conditioner.
- conditioner. (Install in accordance with standard) (5) 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.

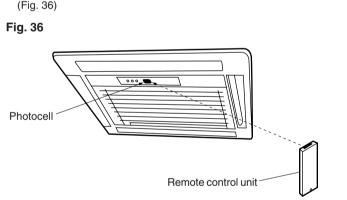
(4) Use a circuit breaker matched to the capacity of the air

- (6) Perform wiring work in accordance with standards so that the air conditioner can be operated safely and posi-
- (7) Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

↑ CAUTION

- (1) The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- (2) When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage
- (3) This air conditioner must be connected to a power source that has an electrical impedance of 0.25 Ω or less or has a supply current of 100 A or greater. If the power supply does not meet the specifications, contact the power company.

REMOTE CONTROL UNIT **INSTALLATION**



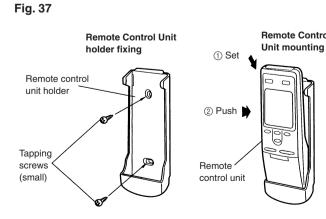
• Install the remote control unit with a distance of 5 m between the remote control unit and the grille photocell as the criteria. However, when installing the remote control unit, check that it operates

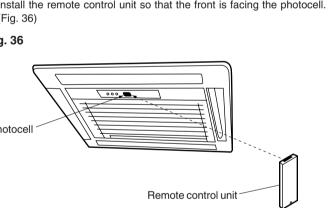
↑ CAUTION

paying careful attention to the following: Avoid places in direct sunlight. a stove, etc.

I. REMOTE CONTROL UNIT HOLDER INSTALLATION

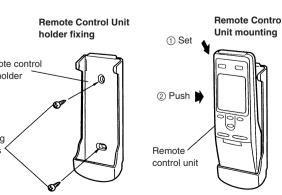
ping screws.





- (1) Check that the indoor unit correctly receives the signal from the remote control unit, then install the remote control unit holder.
- 2) Select the remote control unit holder selection site by Select a place that will not be affected by the heat from

• Install the remote control unit holder to a wall, pillar, etc. with the tap-



2. SWITCHING REMOTE CONTROL UNIT SIGNAL CODES

Install the remote control unit so that the front is facing the photocell.

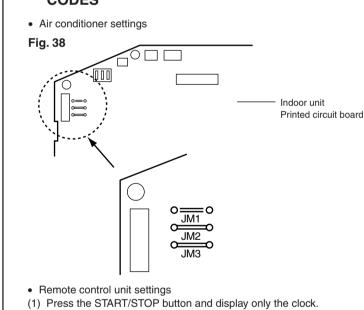
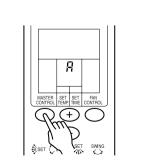


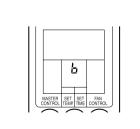
Fig. 39

~ 18 : Si

(2) Press the MASTER CONTROL button continuously for more than five seconds to display the current signal code.



(3) Change the signal code with the \bigcirc / \bigcirc button (\nearrow \rightarrow \bigcirc \rightarrow \bigcirc). Fig. 41



(4) Press the MASTER CONTROL button again to return to the clock display and change the signal code.

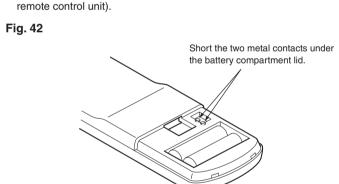
Confirm the setting of the remote control unit signal code and the printed circuit board setting. If these are not confirmed, the remote control unit cannot be used to operate for the air conditioner.

Table 8	
	_

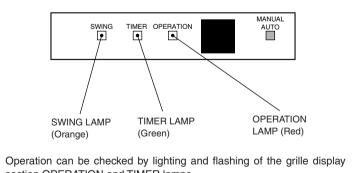
lable 8				
Jumper wire		Remote control unit		
JM2	JM3	signal code		
onnect	Connect	A (Primary setting)		
onnect	Disconnect	В		
connect	Connect	С		
connect	Disconnect	D		

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, the 'TEST RUN' signal is received during air conditioner operation (use a metallic object to short the two metal contacts under the battery compartment lid and send the 'TEST RUN' signal from the



• To end test operation, press the remote control unit START/STOP but-(When the air conditioner is run by pressing the remote control unit TEST RUN button, the OPERATION and TIMER lamps will simultaneously flash slowly.)



section OPERATION and TIMER lamps. Perform judgment in accordance with the following.

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

Table 9

The OPERATION, TIMER and SWING lamps operate as follows (Table 9) according to the error contents.

Error display

OPERATION: TIMER Model information abnormal (permanent type) Drain abnormal (permanent 4 times 6 times Room air temperature thermistor open circuit Room air temperature thermistor short circuit Piping thermistor open Piping thermistor short

CHECK ITEMS

(4) Is the drain normal?

- (1) INDOOR UNIT (1) Is operation of each button on the remote control unit normal?
- (2) Does each lamp light normally? (3) Do not air flow direction louvers operate normally?

(5) Is there any abnormal noise and vibration during operation? (2) OUTDOOR UNIT

[12000 and 14000 BTU/h Cooling models]

Indoor unit

side terminal

[18000 BTU/h Cooling model]

side terminal

÷⊗

Indoor unit

side terminal

cycle)]

Green/Yellow

[12000,14000 and 18000 BTU/h Heat & Cool models (Reverse

Green/Yellow

⊗ EARTH⊕

-⊗ EARTH -

- EARTH⊕

-⊗ EARTH <u>+</u>

–⊗ EARTH 🖶

-⊗ EARTH<u>+</u>

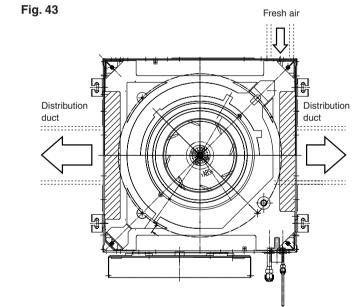
Outdoor unit

Outdoor unit

side terminal

- (1) Is there any abnormal noise and vibration during operation? (2) Will noise, wind or drain water from the unit disturb the neighbors? (3) Is there any gas leakage?
- Do not operate the air conditioner in the test running state for a long

OPENING THE DUCT CONNECTION HOLE



CAUTION (1) When performing hole opening work, be careful not to damage the drain pan.

(2) When connecting the distribution duct, to make the air

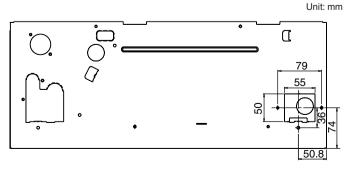
flow easily, block the outlet port with the blower cover

insulation as shown by the hatched lines in Fig. 43. For

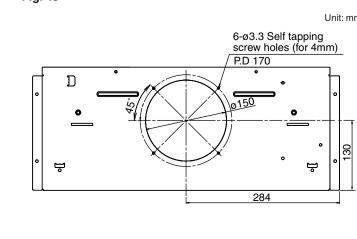
1. DIMENSION

(1) Fresh air duct connection hole and screw positions.

the blocking direction, refer to Fig. 26.



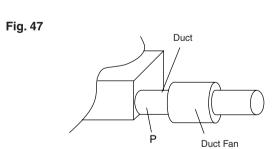
(2) Distribution duct connection hole and screw positions.



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

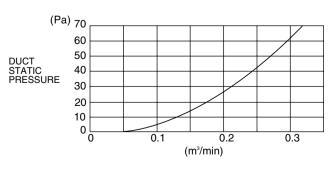
OUTLET AIR Fig. 46 DUCT STATIC

12000 and 14000 BTU/h models **FRESH AIR**



take in fresh air

Static pressure required to



INSTALLING THE OPTION PARTS (ADDITIONAL GRILLE)

THE ADDITIONAL GRILLE

- Mount the assembled additional grille to the indoor unit (grille) that has been removed from the main unit. • Make sure all areas are properly installed the reinforcement plate.
- Mount 4 additional grilles. (Fig. 49) After confirming proper meshing of the additional grilles, secure them in place using the 8 screws provided.

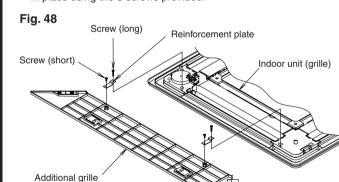
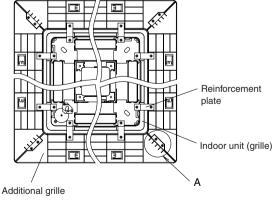
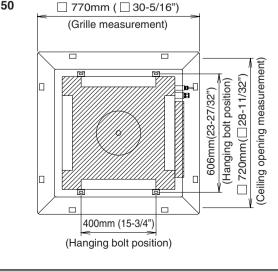


Fig. 49 Illustration of completed mounting



POSITIONTHE CEILING HOLE AND HANGING BOLTS



⚠ CAUTION When installing the additional grille, please refer to the installation instruction sheet supplied with the additional

PART NO. 9359992097