SPLIT TYPE ROOM AIR CONDITIONER

INSTALLATION INSTRUCTION SHEET ∆CAUTION

(PART NO. 9374113019)

authorized service personnel only.			
△ DANGER	This mark indicates procedures which, if improperly performed, are most likely to result in the death of or serious injury to the user or service personnel.		
∆ 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.		

	Pressure is high and cannot be measured with a conventional gauge. To prevent erroneous mixing of other
	refrigerants, the diameter of each port has been changed.
Gauge mannoro	It is recommended the gauge with seals -0.1 to 5.3 MPa (-75 cmHg to 53 kgflcm²) for high pressure.
	-0.1 to 3.8 MPa (-76 cmHg to 38 kgflcm²) for low pressure.
Charge hose	To increase pressure resistance, the hose material and base size were changed.
Vacuum pump	A conventional vacuum pump can be used by installing a vacuum pump adapter.
Gas leakage detector	Special gas leakage detector for HFC refrigerant R410A.

		Thickness (mm
Nominal dameter (inch)	Outer diameter (mm)	R410A
3/9	9.52	0.80
58	15.00	1.00

R410A REFRIGERANT

SELECTING THE MOUNTING POSITION



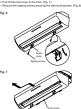


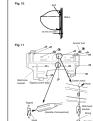




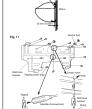
INSTALLATION PROCEDURE

1 INDOOR UNIT INSTALLATION









STANDARD ACCESSORIES

Time Ome

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





the wall pipe is not used, the cord interconnecting th door and outdoor units may touch metal and cause ele- c leakage.







CONNECTION PIPE REQUIREMENT







































↑ CAUTION

(1) 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!

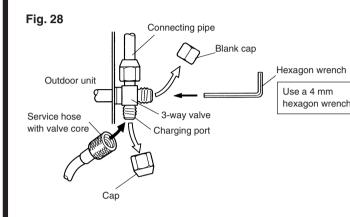
(2) Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.

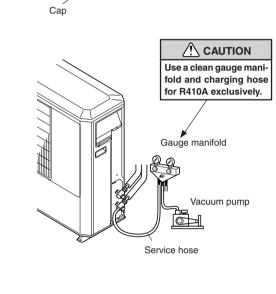
(1) Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve by the service hoses. (2) Vacuum the indoor unit and the connecting pipes until the pressure

- gauge indicates -0.1 MPa (-76 cmHg). (3) When -0.1 MPa (-76 cmHg) is reached, operate the vacuum pump
- for at least 15 minutes. (4) Disconnect the service hoses and fit the cap to the charging valve to
- 5) 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 6) Tighten the blank caps of the 2-way valve and 3-way valve to the
- specified torque.

Table 6

	Tightening torque
Blank cap (2-way valve)	20 to 25 N · m (200 to 250 kgf · cm)
Blank cap (3-way valve)	30 to 35 N · m (300 to 350 kgf · cm)
Charging port cap	10 to 12 N · m (100 to 120 kgf · cm)





2. ADDITIONAL CHARGE

refrigerant

Refrigerant suitable for a piping length of 10 m is charged in the outdoor unit at the factory. When the piping is longer than 10 m, additional charging is necessary. For the additional amount, see the table below.

Table 7				
10 m	15 m	20 m	25 m	
(33 ft)	(49 ft)	(66 ft)	(82 ft)	
None	250 g	500 g	750 g	50 g / 1 m
	(8.8 oz)	(17.6 oz)	(26.5 oz)	(1.76 oz / 3.3 f

Between 10 m and 25 m, when using a connection pipe other than that in the table, charge additional refrigerant with 50 g (1.76 oz) / 1 m (3.3 ft) as

CAUTION

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

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

(3) 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

(4) Add refrigerant from the charging valve after the completion of the work.

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

3. GAS LEAKAGE INSPECTION

⚠ CAUTION

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

ELECTRICAL WIRING

! WARNING (1) Before starting work, check that power is not being supplied to indoor unit and the outdoor unit.

(2) Match the terminal block numbers and connection cord

ous wiring may cause burning of the electric parts.

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,

Cut the wire end with a wire cutter or wire-cutting pliers, then strip

the insulation to about 25 mm (15/16") to expose the solid wire.

b) 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

1) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

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

(3) Using a round terminal fastener or pliers, securely clamp a round

4) Position the round terminal wire, and replace and tighten the ter-

B. Strand wire Round

block. Imperfect installation may cause a fire.

electric leakage may occur.)

(5) Always connect the ground wire.

HOW TO CONNECT WIRING

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

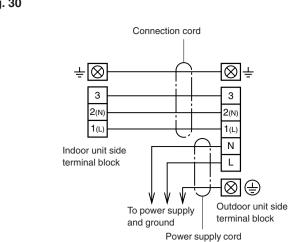
TO THE TERMINALS

B. For strand wiring

terminal to each stripped wire end.

minal screw using a screwdriver.

colors of the indoor unit and the outdoor unit. Errone-

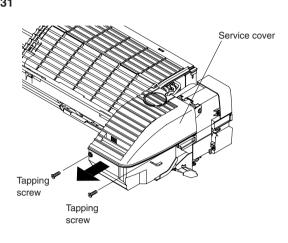


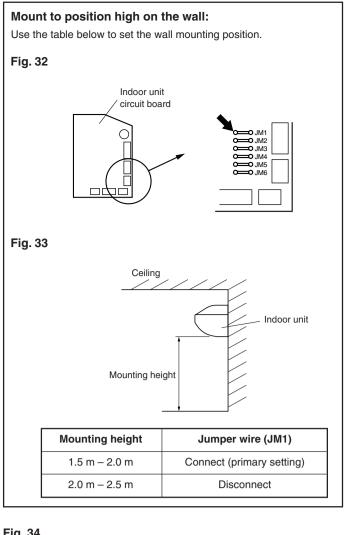
2. INDOOR UNIT SIDE

(1) Remove the service cover (Fig. 31). (2) Remove the cord clamp.

1. CONNECTION DIAGRAM

(3) Connect the end of the connection cord fully into the terminal block. (4) Fasten the connection cord with a cord clamp. (5) Install the service cover with the screw.





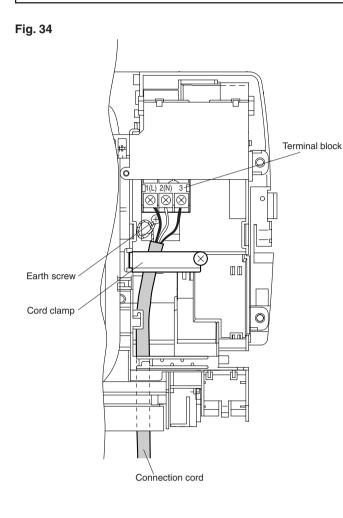
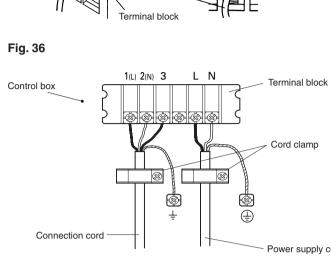
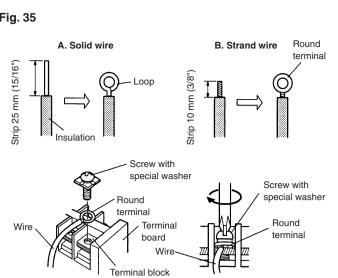


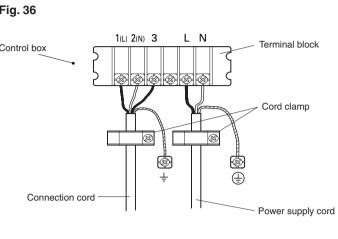
Fig. 35



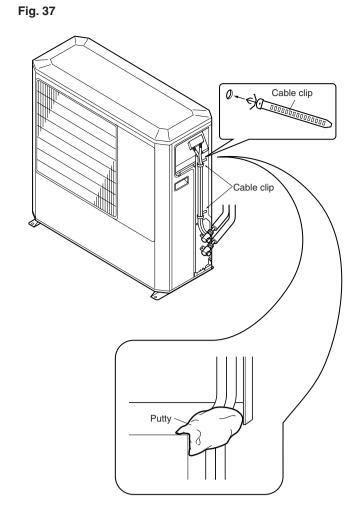
3. OUTDOOR UNIT SIDE

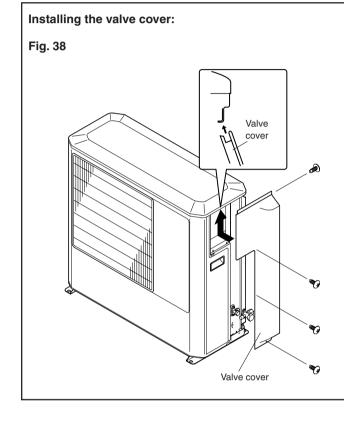
- (1) Process the end of the connection cords to the dimensions shown in (2) Connect the end of the connection cord fully into the terminal block
- and fasten with the screws. (3) Fasten the sheath with a cord clamp. (Fig. 36) (4) Fasten the power supply cord and connection cord with a cable clip,
- and then make a putty-fix. (Fig. 37)
- (5) Install the valve cover. (Fig. 38)





CAUTION Apply putty so that there is no gap when the valve cover is





- For ① Rear, ② Right, and ③ Bottom piping, overlap the connection pipe heat insulation and indoor unit pipe heat insulation and bind
- insulation and indoor unit pipe heat insulation together and bind them with vinyl tape so that there is no gap.



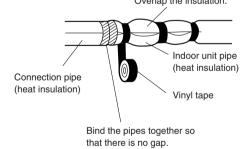
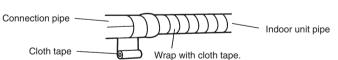
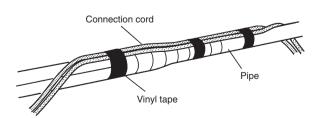


Fig. 40

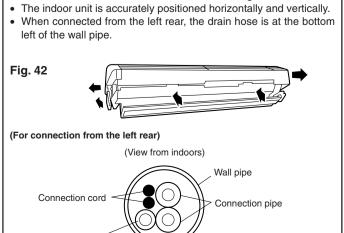


of the pipe with vinyl tape.



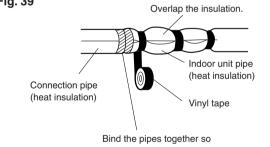
Check that:

• The top and bottom hooks are hooked firmly and the indoor unit does not move to the front and rear or left and right.

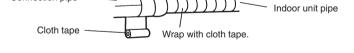


FINISHING

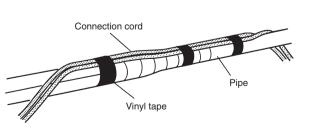
- them with vinyl tape so that there is no gap.



• For ④ Left rear and ⑤ Left piping, wrap the area which accommodates the rear piping housing section with cloth tape.



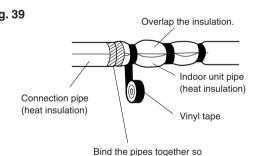
For 4 Left rear and 5 Left piping, bind the connection cord to the top

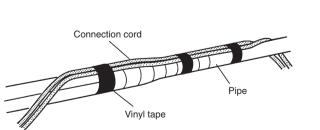


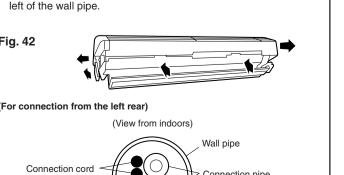
1. CONNECTION PIPE, CORD AND DRAIN HOSE

(1) Insulate between pipes.

• For 4 Left rear and 5 Left piping, butt the connection pipe heat







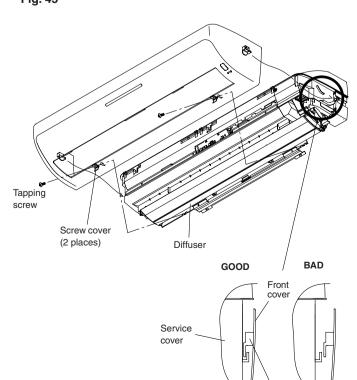
(2) Temporarily fasten the connection cord along the connection pipe with vinyl tape. (Wrap to about 1/3 the width of the tape from the bottom of the pipe so that water does not enter.) (3) Fasten the connection pipe to the outside wall with a saddle, etc.

(4) Fill the gap between the outside wall pipe hole and the pipe with sealer so that rain water and wind cannot blow in.

(5) Fasten the drain hose to the outside wall, etc.

Check the following:

- Carefully attach the front cover to the diffuser on the front of the
- Secure the lower section of the front cover with tapping screws in two locations and close the screw cover.
- side hook, 2 locations; under hook, 1 location. • The last step is to push in the hook above the blower outlet.



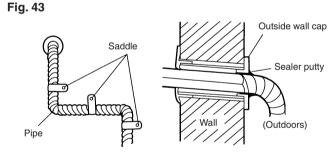
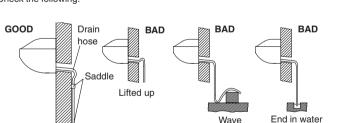


Fig. 44



2. INSTALLING FRONT COVER

- body of the indoor unit.
- Push in the following hooks from the outside: front hook, 3 locations;
- between the contacts of each pole. (6) Perform wiring work in accordance with standards so that the room air conditioner can be operated safely

standards.

⚠ CAUTION The power source capacity must be the sum of the room

. WARNING (1) The rated voltage of this product is 220-240 V A.C.

POWER

- (2) Before turning on the verify that the voltage is within the 198 V to 264 V range.
- (3) Always use a special branch circuit and install a special breaker to supply power to the room air conditioner.
- room air conditioner. (Install in accordance with stand-(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

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

- and positively. 7) Install a leakage circuit breaker in accordance with the related laws and regulations and electric company
- 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 diffi-

cult to start, contact the power company the voltage

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

/!\ CAUTION

Fig. 47 Short the two metal contacts under the battery compartment lid.

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 (1) When the air conditioner is run by pressing the remote control unit TEST RUN button, the OPERATION and TIMER lamps flash slowly
- current capacity, change the DIP switches on the circuit board to the settings shown in Table 8 below. DIP-SW CURRENT (MAX.)

16.5 A

14.0 A

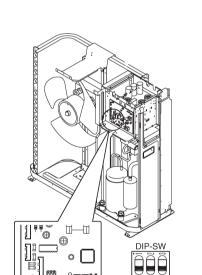
(2) If the breaker is tripped during the test operation due to insufficient

⚠ CAUTION

performance will be reduced.

(1) Never set the 24,000 BTU model to the maximum current of 16.5 A. The protection devices will be activated and the unit will not operate properly. (2) If the maximum current is reduced, cooling or heating

Fig. 48



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

	Error display		
Error contents	OPERATION (RED)	TIMER (YELLOW)	SWING (ORANGE)
Indoor unit circuit board error	0	0	_
Indoor unit room temperature sensor wire opened	2 times	0	_
Indoor unit room temperature sensor wire short circuited	2 times	0	0
Indoor unit piping sensor wire opened	3 times	0	_
Indoor unit piping sensor short circuited	3 times	0	0
Indoor unit fan error	6 times	0	_
Outdoor unit circuit board error or miswiring between outdoor unit and indoor unit	5 times	0	0
Outdoor unit discharge temperature sensor error	0	5 times	_
Outdoor unit piping sensor		3 times	
Outdoor unit outdoor temperature sensor error	0	4 times	_

○ : Fast flashing● : Slow flashing— : Off

CHECK ITEMS (1) INDOOR UNIT

(3) Is there any gas leakage?

(1) Is operation of each button on the remote control unit normal?

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

- (2) Does each lamp light normally? (3) Do not air flow direction louvers operate normally? (4) Is the drain normal?
- (2) OUTDOOR UNIT (1) Is there any abnormal noise and vibration during operation? (2) Will noise, wind, or drain water from the unit disturb the neighbors?
- Do not operate the air conditioner in the test running state for a long • For the operation method, refer to the operating manual and perform operation check.

REMOTE CONTROL UNIT **INSTALLATION**

↑ CAUTION

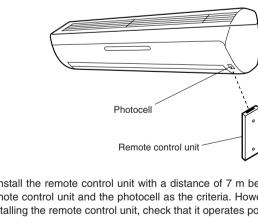
(1) Check that the indoor unit correctly receives the signal from the remote control unit, then install the remote control unit holder.

(2) Select the remote control unit holder selection site by paying careful attention to the following: Avoid places in direct sunlight. Select a place that will not be affected by the heat from

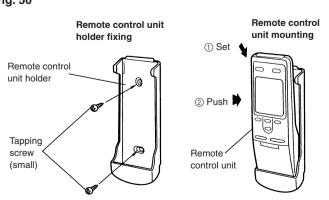
1. REMOTE CONTROL UNIT HOLDER INSTALLA-

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

a stove, etc.

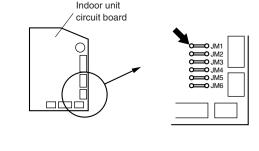


- Install the remote control unit with a distance of 7 m between the remote control unit and the photocell as the criteria. However, when installing the remote control unit, check that it operates positively. • Install the remote control unit holder to a wall, pillar, etc. with the tap-
- ping screw (Fig. 50).



2. SWITCHING REMOTE CONTROL UNIT SIGNAL

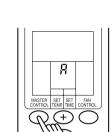
• Air conditioner settings



Remote control unit settings

(1) Press the START/STOP button and display only the clock.

(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 button (\bigcirc button (\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc).

- (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.

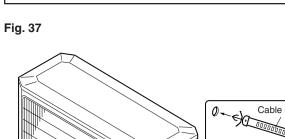
Table 10			
Jumper wire		Remote control unit	
JM2	JM3	signal code	
Connect	Connect	A (Primary setting)	
Disconnect	Connect	В	
Connect	Disconnect	С	
Disconnect	Disconnect	D	

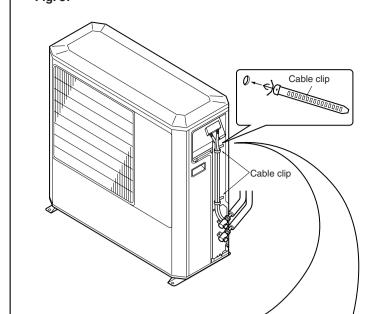
CUSTOMER GUIDANCE

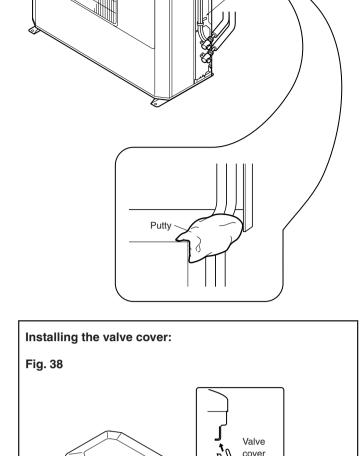
Explain the following to the customer in accordance with the operating

- (1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit op-
- (2) Air filter removal and cleaning, and how to use the air louvers. (3) Give the operating manual and installation instruction sheet to the

PART NO. 9374113019

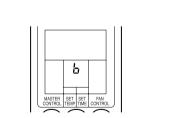












Jumpe	er wire	Remote control unit signal code	
JM2	JM3		
Connect	Connect	A (Primary setting)	
Disconnect	Connect	В	
Connect	Disconnect	С	
D'annual t	D'		