

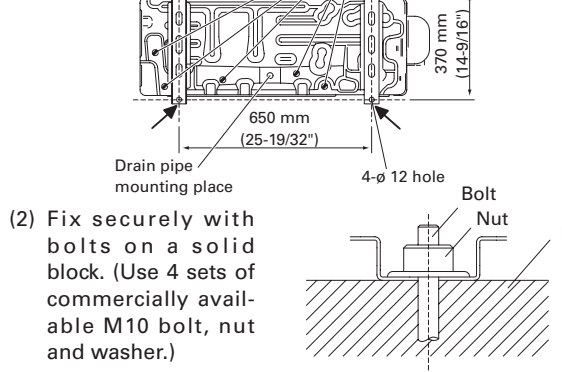
OUTDOOR UNIT

OUTDOOR UNIT INSTALLATION

WARNING

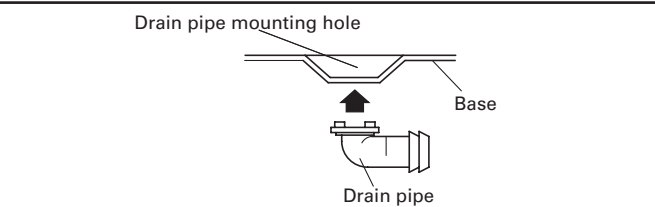
- (1) Install the unit where it will not be tilted by more than 3°. However, do not install the unit with it tilted towards the side containing the compressor.
- (2) When installing the outdoor unit where it may be exposed to strong wind, fasten it securely.

- (1) Outdoor unit to be fasten with bolts at the four places indicated by the arrows without fail.
- (3) Since the drain water flows out of the outdoor unit during heating operation, install the drain pipe and connect it to a commercial 16 mm (5/8") hose. (Reverse cycle model only)
- (4) When installing the drain pipe, plug all the holes other than the drain pipe mounting hole in the bottom of the outdoor unit with putty so there is no water leakage. (Reverse cycle model only)



CAUTION

When the outdoor temperature is 32 °F or less, do not use the accessory drain pipe and drain cap. If the drain pipe and drain cap are used, the drain water in the pipe may freeze in extremely cold weather. (Reverse cycle model only)



AIR PURGE

- (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 60 minutes.
- (4) Disconnect the service hoses and fit the cap to the charging valve to the specified torque.
- (5) Remove the blank caps, and fully open the spindles of the 3-way valves with a hexagon wrench [Torque: 6-7 N·m (60 to 70 kgf·cm)].
- (6) Tighten the blank caps of the 3-way valve to the specified torque.

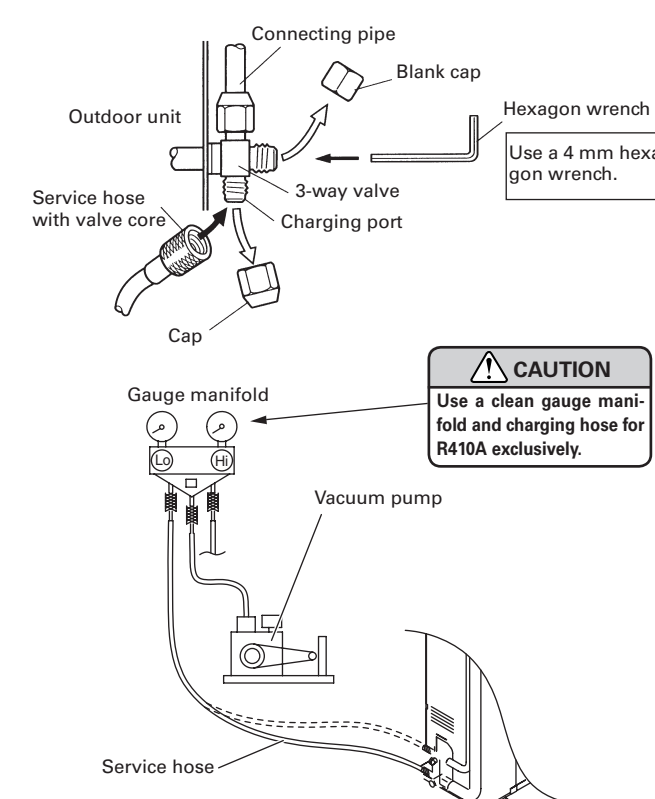
	Tightening torque
Blank cap	9.52 mm (3/8 in.) 20 to 25 N·m (200 to 250 kgf·cm) 15.88 mm (5/8 in.) 30 to 35 N·m (300 to 350 kgf·cm)
Charging port cap	10 to 12 N·m (100 to 120 kgf·cm)

WARNING

If refrigerant leaks while work is being carried out, ventilate the area. If the refrigerant comes in contact with a flame, it produces a toxic gas.

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 and gauge manifold and charging hose for R410A exclusively. Using the same vacuum for different refrigerants may damage the vacuum pump or the unit.
- (3) After connecting the piping, check the all joints for gas leakage with gas leak detector.
- (4) When inspecting gas leakage, always use the vacuum pump for pressure. Do not use nitrogen gas.



CAUTION

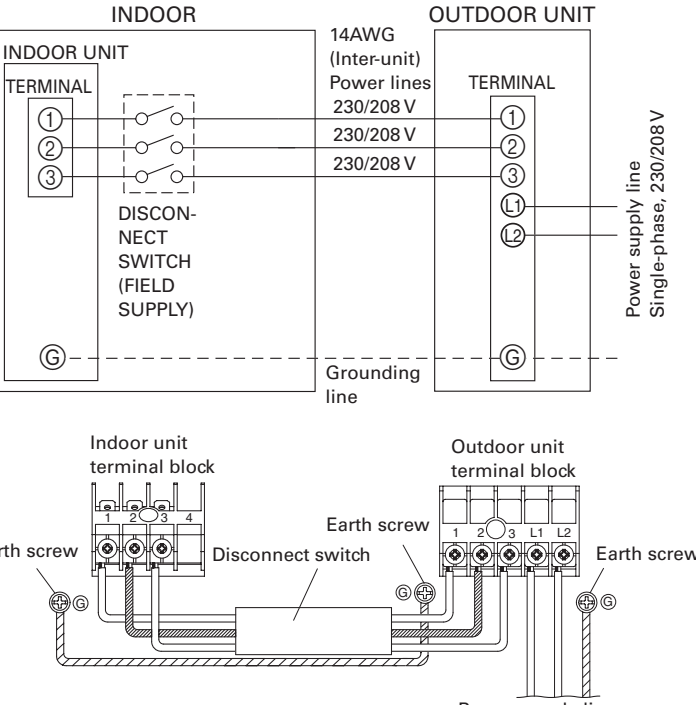
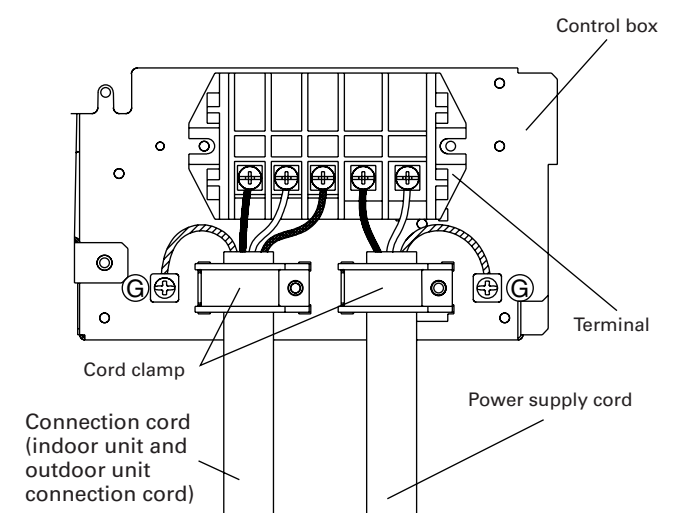
Use a clean gauge manifold and charging hose for R410A exclusively.

ELECTRICAL WIRING (OUTDOOR UNIT)

CAUTION

When connecting the power supply cord, make sure that the phase of the power supply matches with the phase of the terminal board. If the phases do not match, the compressor will rotate in reverse and will not be able to compress.

- (1) Service cover removal
 - Remove the two mounting screws.
 - Remove the service cover by pushing downwards.
- (2) Fasten the power supply cord and the connection cord to the conduit holder using the lock nut. (open the knock out holes if necessary)
- (3) Connect the power supply cord and the connection cord to terminal.
- (4) Fasten the power supply cord and connection cord with cord clamp.



NOTE:
Factory installed protective inline fuses for indoor units' conductors are installed on the Power Supply PCB.

Keep the earth wire longer than the other wires.

WARNING

Disconnect switch for over current protection given in the table below is to be installed between the indoor unit and the outdoor unit.

Disconnect switch

20A

CAUTION

Be sure to comply with local codes while running the wire from the indoor unit to the outdoor unit (size of wire and wiring method, etc.).

Every wire must be connected firmly.

No wire should be allowed to touch refrigerant tubing, the compressor or any moving part.

Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also exist. Therefore, be sure all wiring is tightly connected.

Connect wires to the matching numbers of terminals.

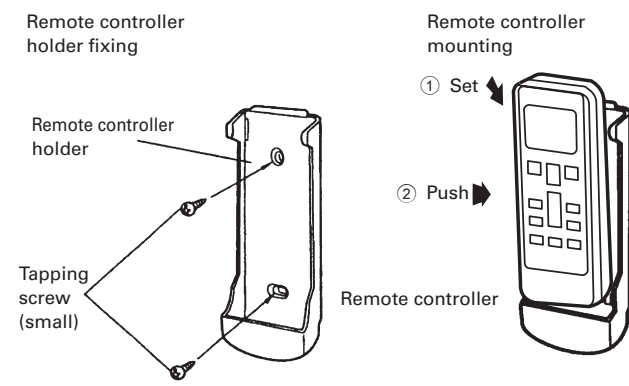
REMOTE CONTROLLER INSTALLATION

CAUTION

- (1) Check that the indoor unit correctly receives the signal from the remote controller, then install the remote controller holder.
- (2) Select the remote controller 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 CONTROLLER HOLDER INSTALLATION

- Install the remote controller with a distance of 23 ft (7 m) between the remote controller and the photocell as the criteria. However, when installing the remote controller, check that it operates positively.
- Install the remote controller holder to a wall, pillar, etc. with the tapping screw.



PUMP DOWN OPERATION (FORCED COOLING OPERATION)

To avoid discharging refrigerant into the atmosphere at the time of relocation or disposal, recover refrigerant by doing the cooling operation or forced cooling operation according to the following procedure. (When the cooling operation cannot start in winter, and so on, start the forced cooling operation.)

- (1) Do the air purging of the charge hose by connecting the charging hose of gauge manifold to the charging port of 3 way valve (large) and opening the low-pressure valve slightly.
- (2) Close the valve stem of 3 way valve (small) completely.
- (3) Start the cooling operation or following forced cooling operation.
When using the remote controller
Press the TEST RUN button after starting the cooling operation by the remote controller.
The operation indicator lamp and timer indicator lamp will begin to flash simultaneously during test run.
When using the MANUAL AUTO button of the indoor unit (The remote controller is lost, and so on.)
Keep on pressing the MANUAL AUTO button of the indoor unit for more than 10 seconds.
(The forced cooling operation cannot start if the MANUAL AUTO button is not kept on pressing for more than 10 seconds.)
- (4) Close the valve stem of 3 way valve (large) when the reading on the compound pressure gage becomes 0.05-0 MPa (0.5-0 kgf/cm²).
- (5) Stop the operation.
 - Press the START/STOP button of the remote controller to stop the operation.
 - Press the MANUAL AUTO button when stopping the operation from indoor unit side. (It is not necessary to press on keeping for more than 10 seconds.)

CAUTION

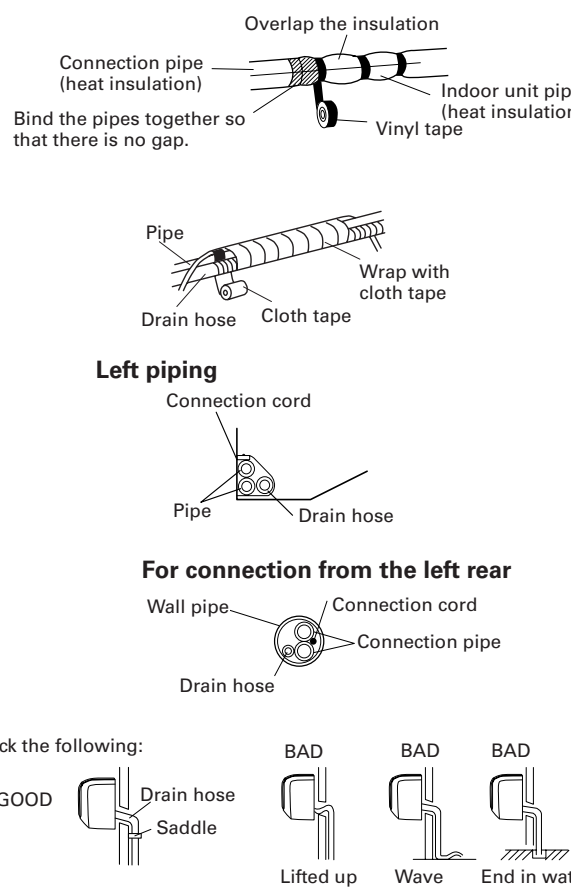
During the pump-down operation, make sure that the compressor is turned off before you remove the refrigerant piping. Do not remove the connection pipe while the compressor is in operation 3 way valve open. This may cause abnormal pressure in the refrigeration cycle that leads to breakage and even injury.

CAUTION

Install heat insulation around both the gas and liquid pipes. Failure to do so may cause water leaks. Use heat insulation with heat resistance above 248 °F (Reverse cycle model only). In addition, if the humidity level at the installation location of the refrigerant piping is expected to exceed 70%, install heat insulation around the refrigerant piping. If the expected humidity level is 70-80%, use heat insulation that is 15 mm or thicker and if the expected humidity exceeds 80%, use heat insulation that is 20 mm or thicker. If heat insulation is used that is not as thick as specified, condensation may form on the surface of the insulation. In addition, use heat insulation with heat conductivity of 0.045 W/(m·K) or less (at 68 °F).

FINISHING

- (1) 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.
 - For left and left rear piping, bundle the piping and drain hose together by wrapping them with cloth tape over the range within which they fit into the rear piping housing section.
- (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 saddles, 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.



FRONT PANEL REMOVAL AND INSTALLATION

THE INTAKE GRILLE REMOVAL

- (1) Open the intake grille.
- (2) Pull down the knob.
- (3) Lift the intake grille upward, until the axle at the top of the intake grille is removed.

THE INTAKE GRILLE INSTALLATION

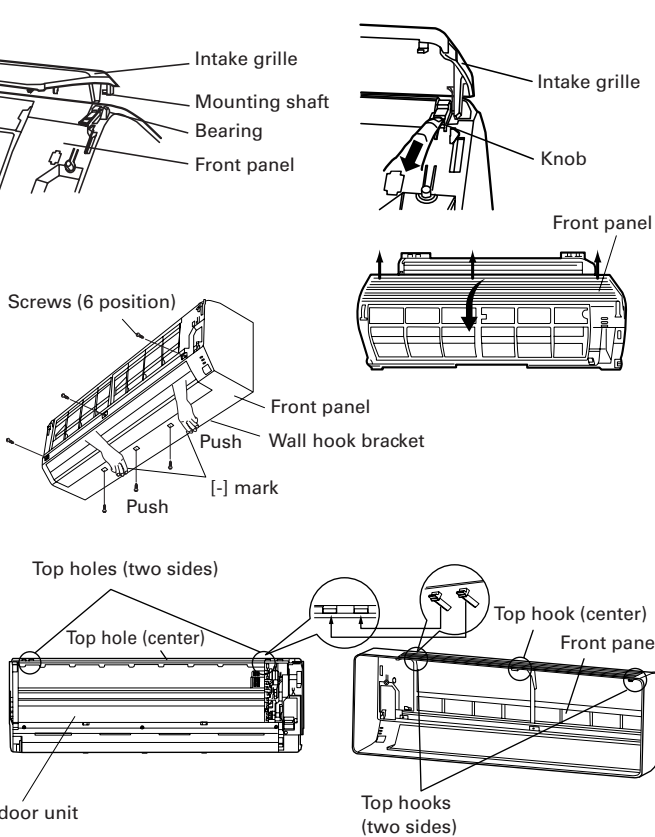
- (1) The fixing axle of the intake grille is installed on the Panel.
- (2) Lay down the intake grille.

THE FRONT PANEL REMOVAL

- (1) Remove intake grille (Reference the intake grille removal.)
- (2) Remove six screws.
- (3) The thumb is hung on the lower part as shown in the figure, and it pulls to the front, pushing [-] mark, and bottom hooks (two position) is removed from wall hook bracket.
- (4) The front panel is pulled to the front, raising the upper surface, and a front panel is removed.

THE FRONT PANEL INSTALLATION

- (1) Firstly, fit the lower part of the front panel, and insert top and bottom hooks. (Three top sides)
- (2) Six screws is attached.
- (3) The intake grille is attached.



TEST RUNNING

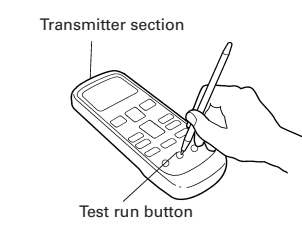
WARNING

Do not turn on the power until all installation work is complete.

CAUTION

When restarting after a long period of disuse in the winter, turn the power switch on at least 12 hours before starting the unit.

- Perform test operation and check items 1 and 2 below.
 - For the test operation method, refer to the operating manual.
 - The outdoor unit, may not operate, depending on the room temperature. In this case, press the test run button on the remote controller while the air conditioner is running. (Point the transmitter section of the remote controller toward the air conditioner and press the test run button with the tip of a ball-point pen, etc.)
 - To end test operation, press the remote controller START/STOP button. (When the air conditioner is run by pressing the test run button, the OPERATION indicator lamp and TIMER indicator lamp will simultaneously flash slowly.)
- 1. INDOOR UNIT**
 - (1) Is operation of each button on the remote controller normal?
 - (2) Does each lamp light normally?
 - (3) Do the air flow-direction louver 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?
 - (3) Is there any gas leakage?



POWER

WARNING

- (1) The rated voltage of this product is 208/230 V AC 60 Hz.
- (2) Before turning on the power, check if the voltage is within the 208 V -10 % to 230 V +10% range.
- (3) Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
- (4) Use a circuit breaker and receptacle matched to the capacity of the air conditioner.
- (5) Do not extend the power cord.
- (6) Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.
- (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 raised.

CUSTOMER GUIDANCE

Explain the following to the customer in accordance with the operating manual:
(1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote controller operations.
(2) Air filter removal and cleaning, and how to use the air louvers.
(3) Give the operating and installation manuals to the customer.

OPTIONAL KIT INSTALLATION(OPTION)

This air conditioner can be connected with the following optional kits.

- Wired remote controller
- External input/output kit

BEFORE INSTALL WIRED REMOTE CONTROLLER

- When you use wired remote controller, some functions may not be used.
- Please use the recommended wired remote controller.

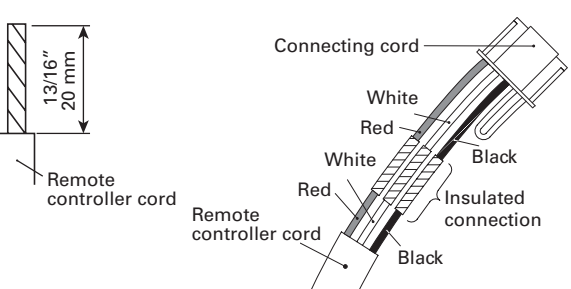
CAUTION

- (1) Before installing, be sure to disconnect all power supply.
- (2) Don't touch the heat exchanger.
- (3) During installing or removing operation, be sure not to have wire caught by parts or draw it hard. Or it may result troubles to the air-conditioner.
- (4) Avoid place in direct sunlight.
- (5) Select place that will not be affected by the heat from a stove, etc.
- (6) Before setting up the optional kit, please confirm whether air-conditioner can receive the signal.
- (7) Do not connect the wired remote control to the terminal for power supply.
- (8) When connecting the wired remote controller with the indoor unit, please use the connecting cord packaged up with the wired remote controller.
- (9) Recommended cord length of wired remote controller is 10m. Make sure to do insulate of connecting part when extended the cord.

1. REMOTE CONTROLLER CORD MODIFICATION

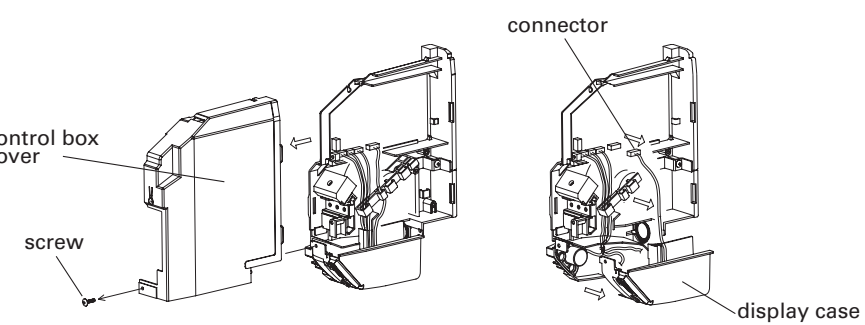
- (1) Use a tool to cut off the terminal on the end of the remote controller cord, and then remove the insulation from the cut end of the cord.
- (2) Connect the remote controller cord and connecting cord. (supplied with wired remote controller)

Important: Be sure to insulate the connection between the cords.



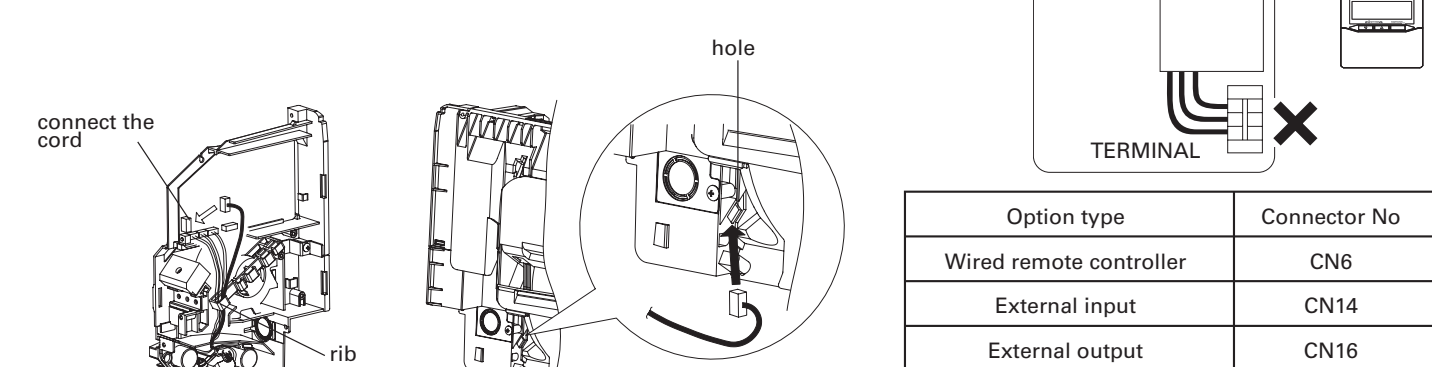
2. FRONT PANEL, CONTROL BOX COVER AND DISPLAY CASE REMOVAL

- (1) Refer to "FRONT PANEL REMOVAL AND INSTALLATION" to remove the front panel.
- (2) Remove the screw then remove the control box cover.
- (3) Remove the display case and connector.

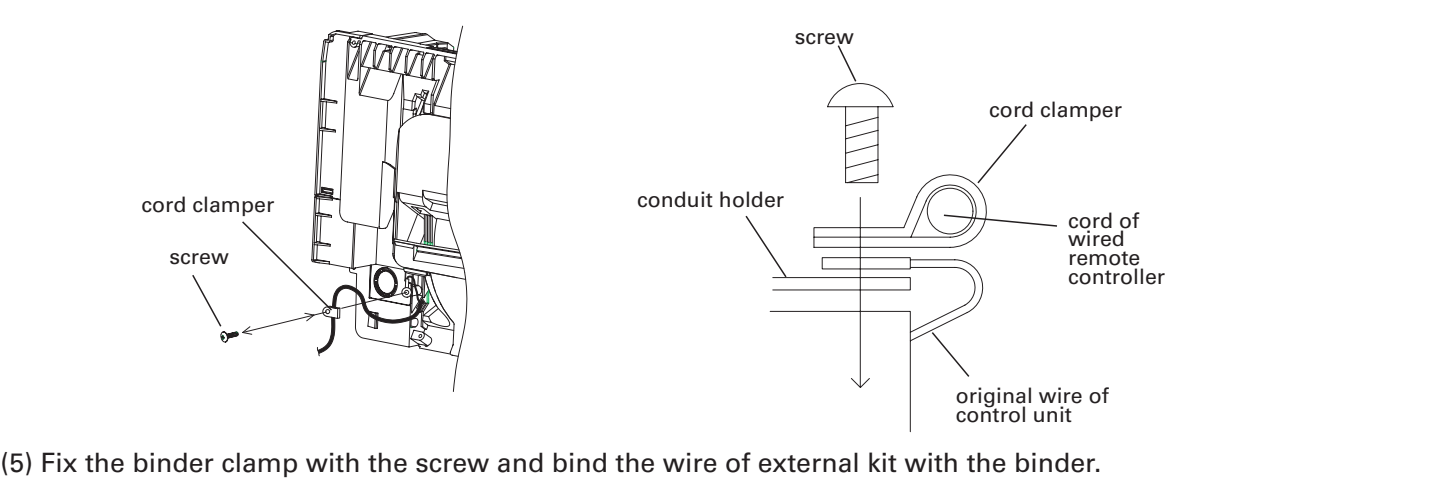


3. CONNECTING CORD TO CONTROL BOARD CONNECTOR

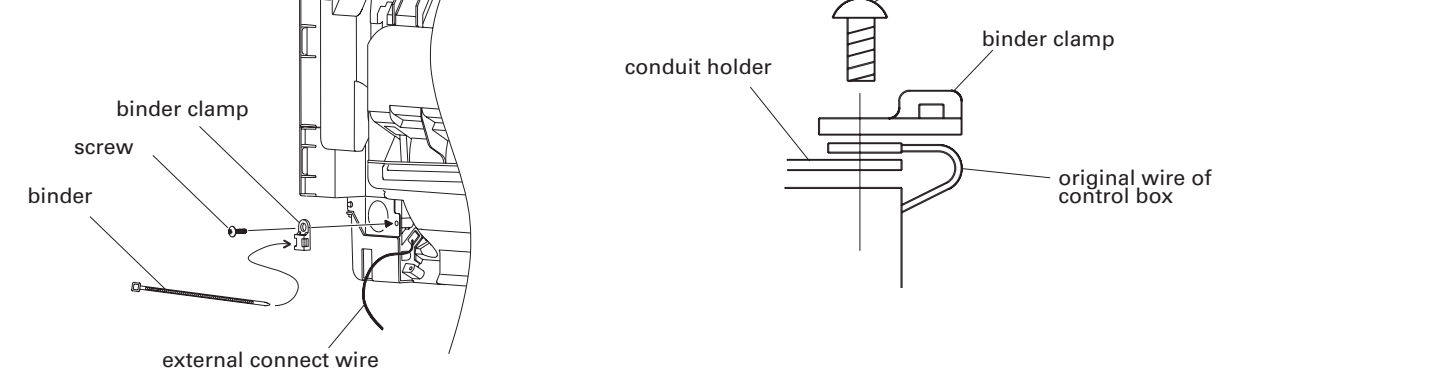
- (1) Pass the cord from the hole in the back of indoor unit.
- (2) Connect the cord to the control board connector.
- (3) Hook the cord to the rib.



- (4) Use cord clammer and screw to fasten the cord of wired remote controller.



- (5) Fix the binder clamp with the screw and bind the wire of external kit with the binder.



4. FRONT PANEL, CONTROL BOX COVER AND DISPLAY CASE INSTALLATION

Install front panel, control box cover and display case by the reverse procedures as stated in "2.FRONT PANEL, CONTROL BOX COVER AND DISPLAY CASE 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.