

Heat Exchanger Replacement : GQ-C3260 / GQ-C2860 / GQ-C2660

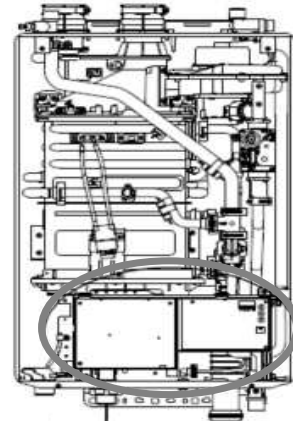
This instructional manual is only intended for use by a qualified service professional or authorized Service Representative. Any unauthorized use of this manual may result in voiding the warranty.

Reach out to our customer care for additional support.

Contact details are available on the rating plate of the water heater.

LIMITING Circuit Board Replacement Without Functional Verification

When replacing the heat exchanger due to water leakage, the Circuit Board shall, in principle, be reused and Should not be replaced without functional verification.



Circuit Board Check Procedure

Perform the following **inspection and operation check** before reusing the circuit board.

1. Visual inspection of the circuit board.

Discoloration, Corrosion on CB-side connector pins, Cracks, and Damaged or Bulging electrolytic capacitors.

2. Operation Check

If no issues are found, power on the unit and check operation.

Turn **ON** the **Operation SW** on the remote controller.

Confirm that the display screen is active and that no error alarms are triggered.

Note: Keep gas and water valves closed during this check.

3. Conclusion

If operation is normal, **continue using the circuit board**.

Replacement is **not required**.

Items Needed for service(Not Included)
• 14" Phillips head Screwdriver (magnetic)
• 8" Phillips head Screwdriver (magnetic)
• Flat head Screwdriver or Box wrench (5/16")
• Pliers
• hand towels
• 1-5 gallon bucket

Procedure

1. Drain the unit as shown in following procedure.

Drainage using the Remote Controller

RC-7651M-A

- 1** (1) The  button is OFF.
- (2) Press and hold the  button until a sound is heard (approximately 2 seconds).
 - The maximum hot water temperature will blink. (e.g. 120°F)
- (3) Press the  button several times until the item number "5" is displayed.
 
- (4) Press the  button.
 - The display will change from "of" to "on".

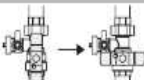
RC-9018M

- 1** (1)  button is "OFF".
- (2) Press the  button inside the cover, Select **Misc settings** using the  buttons. Press the  button. The "Misc settings" screen appears.
- (3) Select **Drain water** using the  buttons, and then press  button.
- (4) Select "YES" using the  buttons,

No Drain water
 Yes now ?

 Press  button.

Follow the drain procedures in the manual

- 2** Close the water supply valve. 
- 3** Fully open all hot water fixtures/faucets. 

- 4** GQ-C3260WX-FF / GQ-C2860WX-FF
 - 1) Open the drain plug(1).
 - 2) Open the drain plug(2)and(3). (Figure 1)

GQ-C3260WZ-FF

Open the drain plug(1)and(2). (Figure 2)

GQ-C3260WXQ-FF / GQ-C2660WXQ-FF

Open the drain plug(1)to(6). (Figure 3)

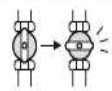
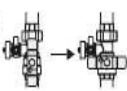
And then drain the water out of the unit.

- 5** When the water is completely drained, replace all drain plugs and close the hot water fixtures/faucets.

- 6** Close the gas valve and disconnect the electrical power supplied to the unit. 

Do not touch with wet hands.

Manual Draining

- 1** Close the gas valve. 
- 2** (1) Turn the power on/off button "On".
 (2) Turn and leave open the hot water fixtures for more than 2 minutes and close. 
 - * If multiple units are being used, drain two minutes for each unit.
 - * An 11 Error Code may appear on the remote controller. This is not a malfunction of the unit. Do not turn Power ON/OFF Button OFF.
- 3** Close the water supply valve and disconnect the electrical power supplied to the unit. 

Do not touch with wet hands.
- 4** Fully open all hot water fixtures. 
- 5** GQ-C3260WX-FF / GQ-C2860WX-FF
 - 1) Open the drain plug(1).
 - 2) Open the drain plug(2)and(3). (Figure 1)

GQ-C3260WZ-FF

Open the drain plug(1)and(2). (Figure 2)

GQ-C3260WXQ-FF / GQ-C2660WXQ-FF

Open the drain plug(1)to(6). (Figure 3)

And then drain the water out of the unit.

- 6** When the water is completely drained, replace all drain plugs and close the hot water fixtures.

Procedure

GQ-C3260WX-FF / GQ-C2860WX-FF

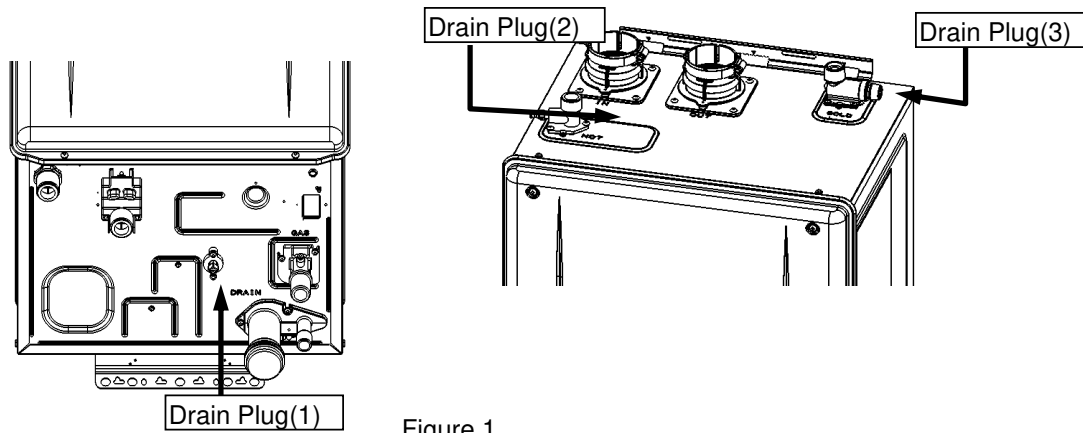


Figure 1

GQ-C3260WZ-FF

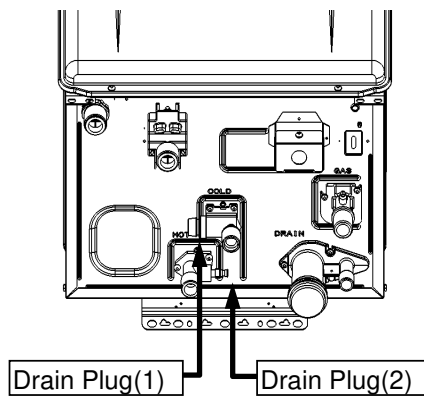


Figure 2

GQ-C3260WXQ-FF / GQ-C2660WXQ-FF

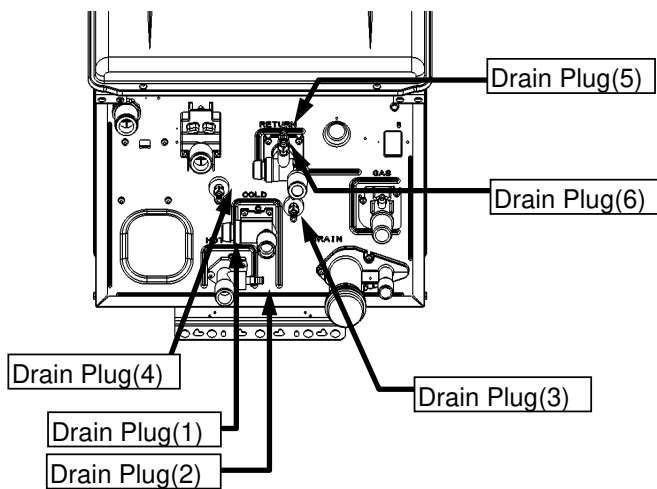
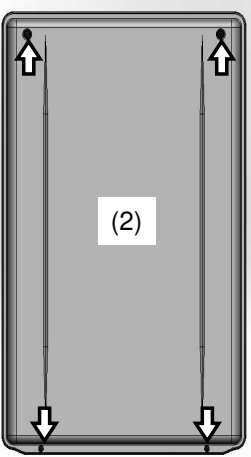
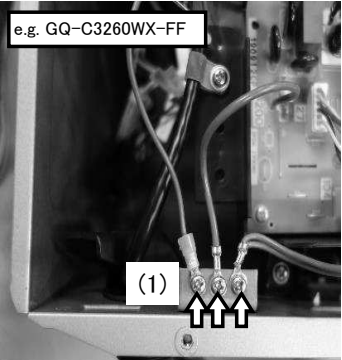
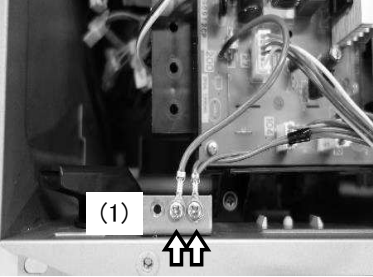
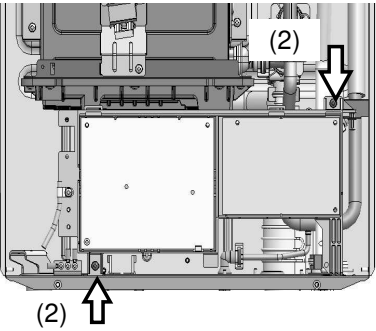


Figure 3

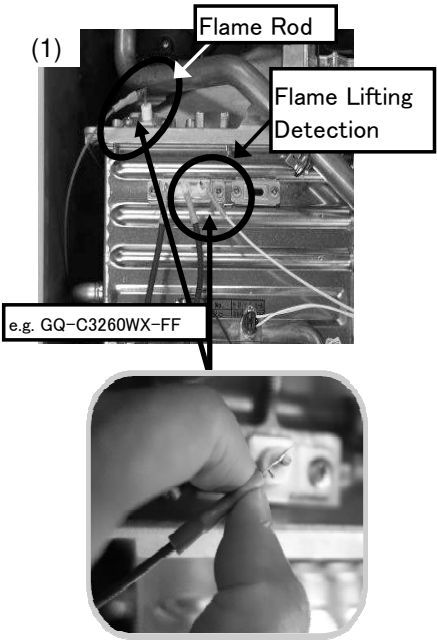
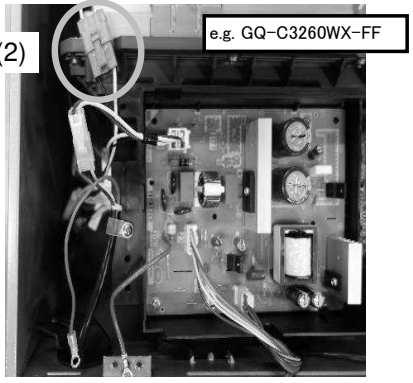
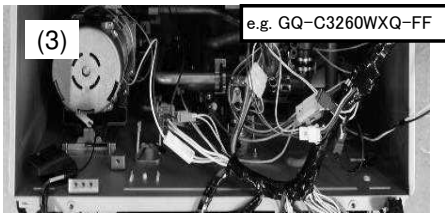
Drain Plugs

Each drain plug might not be visible if insulation is installed around the piping.

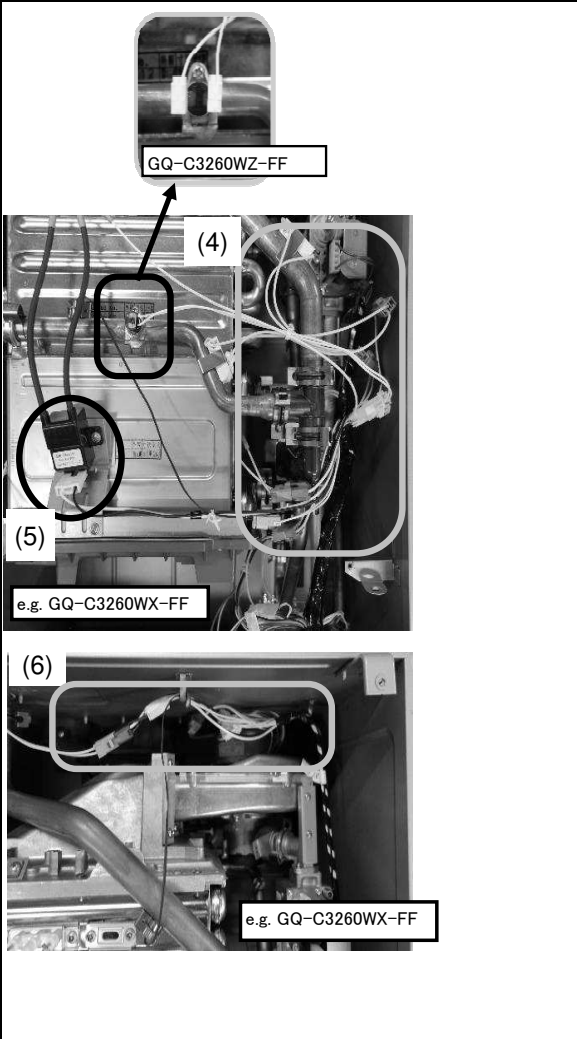
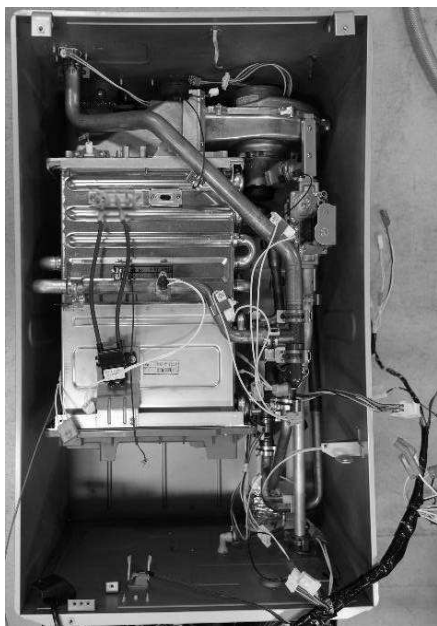
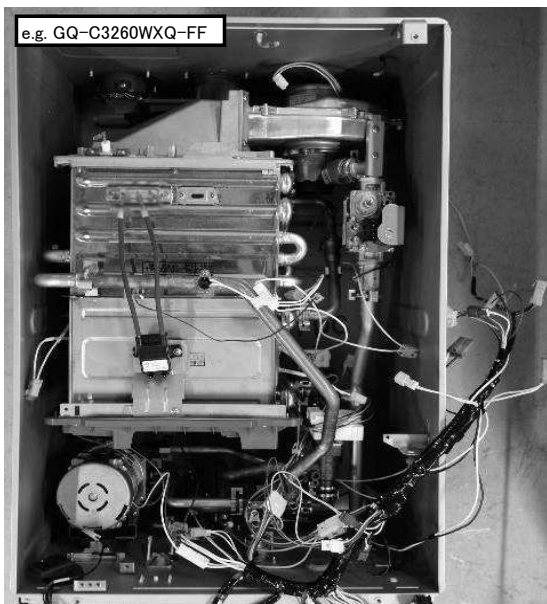
Heat Exchanger Replacement Procedure

Procedure	Diagram
2. Remove Front Cover (1) Disconnect electrical power to the unit. (2) Remove 4 screws w/ washer(M4×12).	
3. Remove ground wires ■ GQ-C3260WX-FF / GQ-C2860WX-FF GQ-C3260WXQ-FF / GQ-C2660WXQ-FF (1) Remove 3 ground wires. ■ GQ-C3260WZ-FF (1) Remove 2 ground wires. (2) Remove 2 screws(M4×12) that hold Circuit Board.	 e.g. GQ-C3260WX-FF (1) <u>GQ-C3260WX-FF / GQ-C2860WX-FF</u> <u>GQ-C3260WXQ-FF / GQ-C2660WXQ-FF</u>  (1) <u>GQ-C3260WZ-FF</u>  (2)

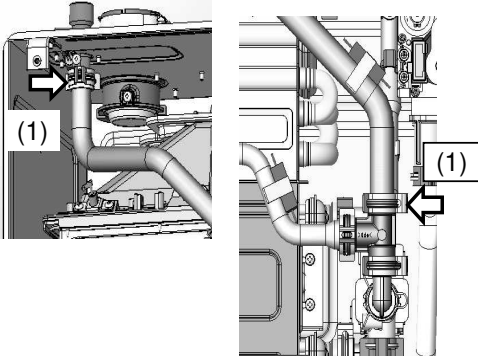
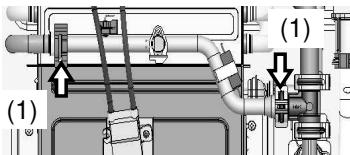
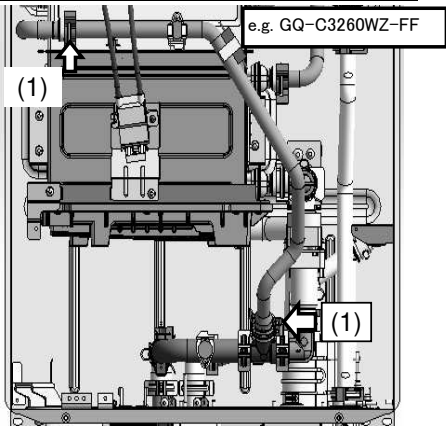
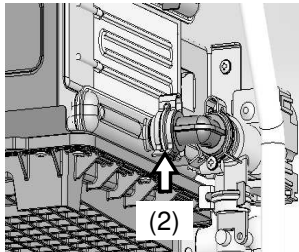
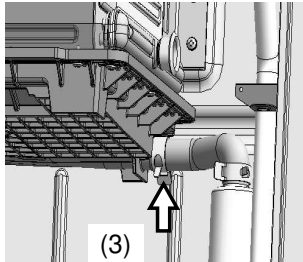
Heat Exchanger Replacement Procedure

Procedure	Diagram
4. Unplug all wires that attach to Wiring Harness (1) Unplug the Flame Rod. Unplug the Flame Lifting Detection. Hold this part of figures by fingers and remove the plug. (2) Unplug Freeze Prevention Heater. (3) Remove Circuit Board to the outside of the unit.	  

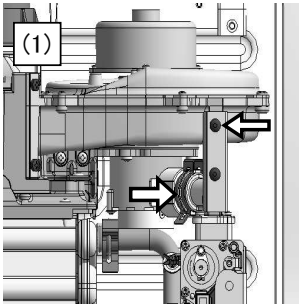
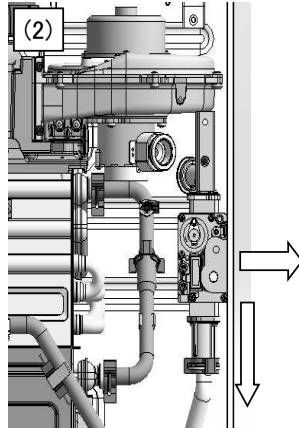
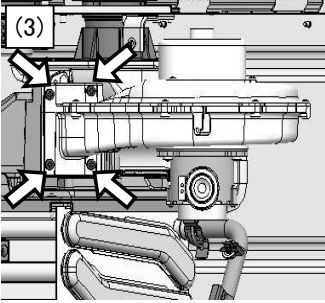
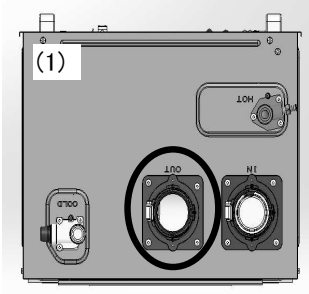
Heat Exchanger Replacement Procedure

Procedure	Diagram
(4) Remove Cable Ties, Unplug Water Servo - Bypass, Gas Valve, Thermistor (Blue) - Primary Heat Exchanger Inlet, Thermistor (Yellow) - Primary Heat Exchanger Outlet, High Limit Switch. ■ GQ-C3260WX-FF / GQ-C2860WX-FF Unplug 4 Freeze Prevention Heaters. ■ GQ-C3260WZ-FF GQ-C3260WXQ-FF / GQ-C2660WXQ-FF Unplug 3 Freeze Prevention Heaters. (5) Unplug Igniter. (6) Detach the Wiring Harness from the Wire clamps. Unplug Fan Motor, Thermistor (White) - Exhaust. ■ ONLY GQ-C3260WX-FF / GQ-C2860WX-FF Unplug 2 Freeze Prevention Heaters, Thermistor (Pink) - Hot water.	
Overall view  <u>GQ-C3260WX-FF / GQ-C2860WX-FF</u>  <u>GQ-C3260WXQ-FF / GQ-C2660WXQ-FF</u> <u>GQ-C3260WZ-FF</u>	

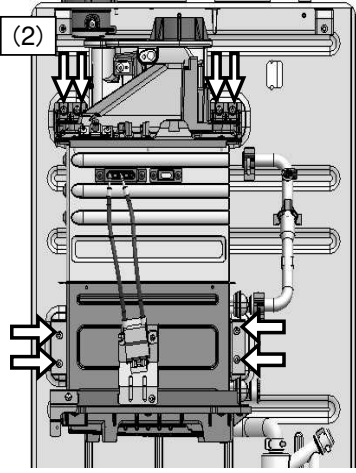
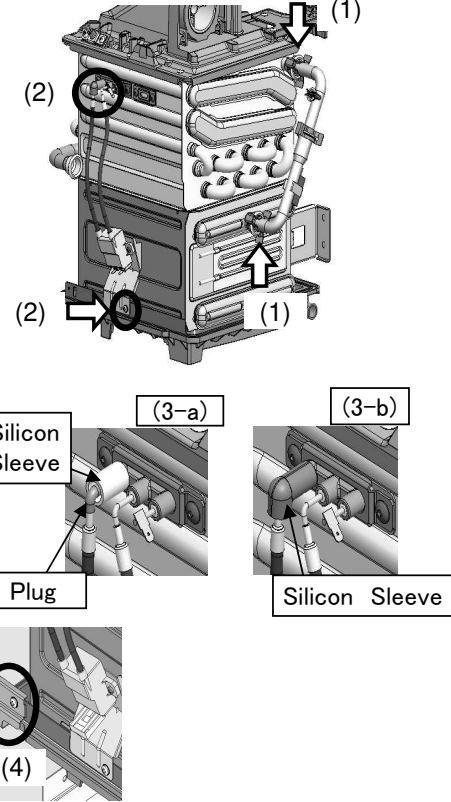
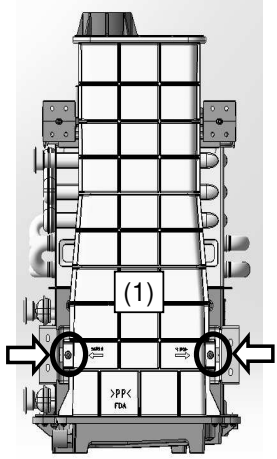
Heat Exchanger Replacement Procedure

Procedure	Diagram
5. Remove Pipes, Elbow and Hose. (1) Remove "C" Clamp. ■ GQ-C3260WX-FF / GQ-C2860WX-FF Remove 2 "C" Clamps, Pipe - Water Connector-T-Elbow to Outlet Water Connection. Remove 2 "C" Clamps, Pipe - Heat Exchanger to Water Connector -T-Elbow. ■ GQ-C3260WZ-FF ■ GQ-C3260WXQ-FF / GQ-C2660WXQ-FF Remove 2 "C" Clamps, Pipe - Heat Exchanger to Water Connector -T-Elbow. (2) Remove "C" Clamp, Water Connector-Elbow - Heat Exchanger Connection. (3) Remove Hose Clamp, pull Drain Hose - Exhaust Duct off.	<u>GQ-C3260WX-FF / GQ-C2860WX-FF</u>  <u>GQ-C3260WX-FF / GQ-C2860WX-FF</u>  <u>GQ-C3260WZ-FF</u> <u>GQ-C3260WXQ-FF / GQ-C2660WXQ-FF</u> e.g. GQ-C3260WZ-FF   

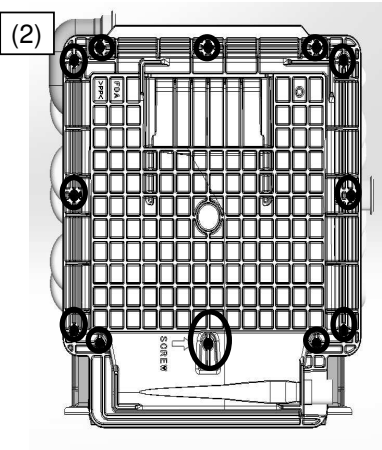
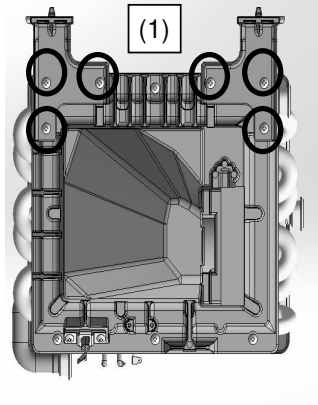
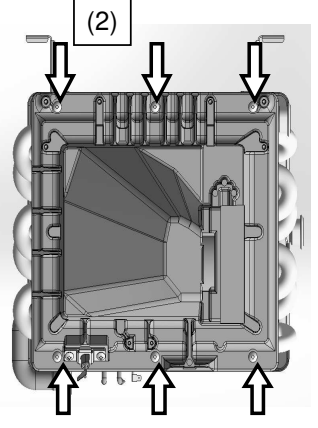
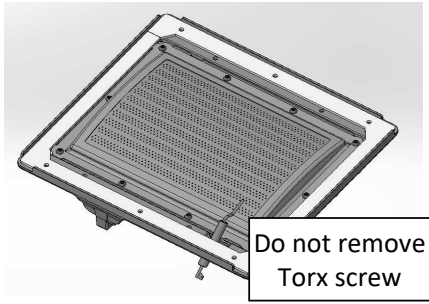
Heat Exchanger Replacement Procedure

Procedure	Diagram
6. Remove Fan Motor and Venturi assembly (1) Remove the "C" Clamp. Then remove the screw (M4×10) with a Phillips screwdriver. (2) Disconnect the Gas Valve SET and push down it. (3) Remove the 4 screws(M5×25) with a Long Phillips screwdriver. <u>Do not use a power driver.</u> (4) Detach Fan Motor and Venturi assembly.	  
7. Remove Heat Exchanger assembly from Case (1) Remove 4 screws(M4×12), pull Exhaust Flue off. Discard these screws.	e.g. GQ-C3260WX-FF 

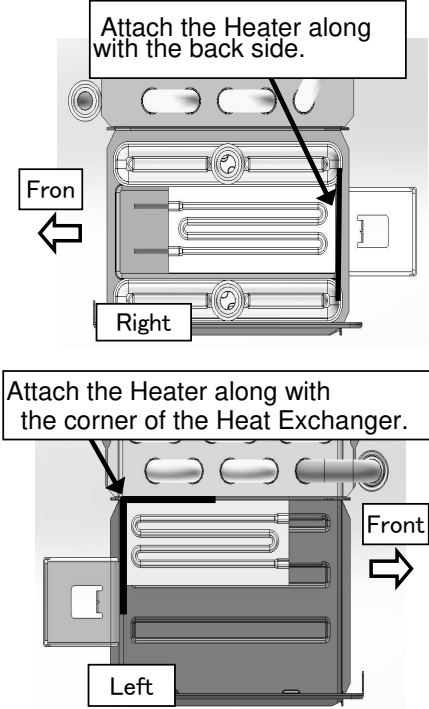
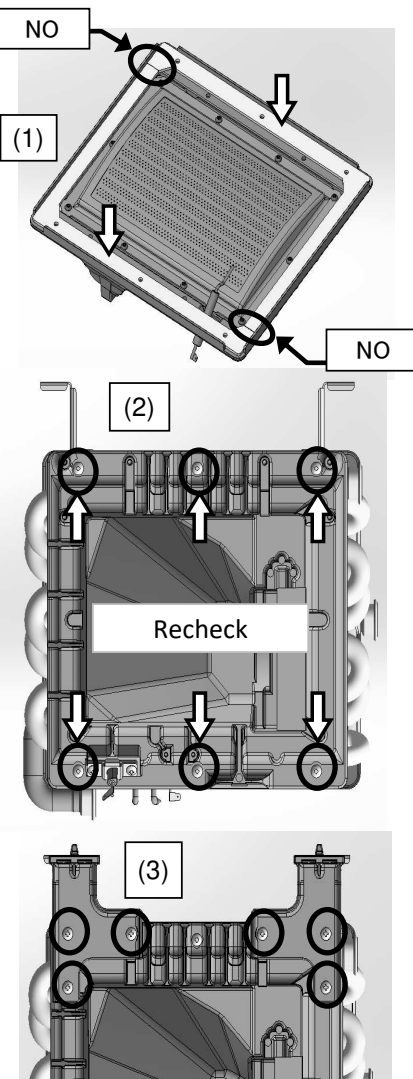
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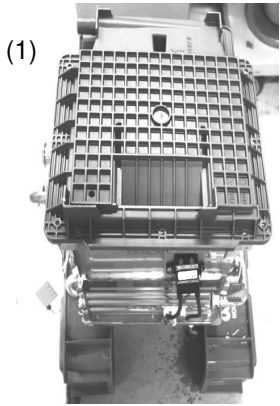
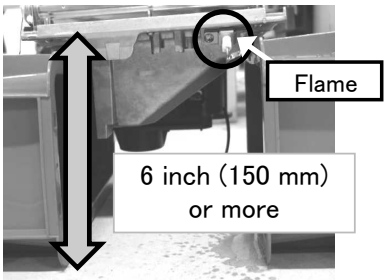
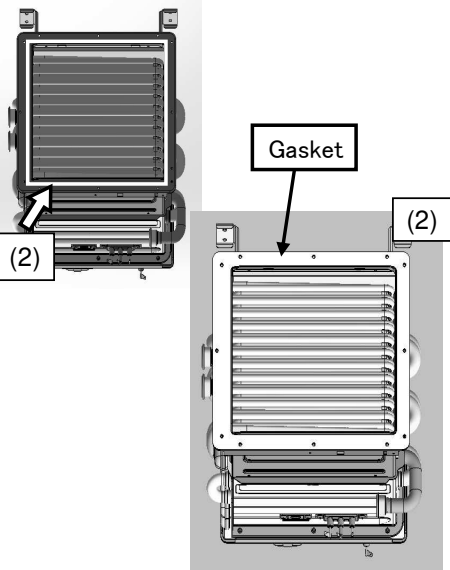
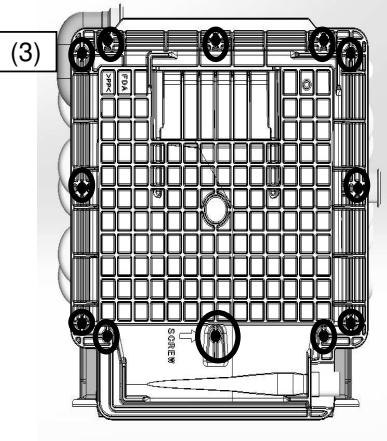
Procedure	Diagram
(2) Remove 8 screws(M4×10) fixing heat exchanger assembly. (3) Lift up and remove the heat exchanger assembly from the case.	
8.Remove parts from Heat Exchanger (1) Remove 2 "C" Clamps, Pipe - Secondary SS HEX to Primary SS HEX. (2) Remove the screw(M4×8), unplug High Voltage Igniter Wires from Ignition Plug. (3-a) Remove and discard Silicon Sleeve and Plug Cover. (3-b) Remove and discard Silicon Sleeve. ■ ONLY GQ-C3260WZ-FF (4) Remove the screw(M4×8). Then remove Mounting Plate - System Controller.	
9. Remove Exhaust Duct (1) Remove 2 screws(M4×12) on the back of Exhaust Duct.	

Heat Exchanger Replacement Procedure

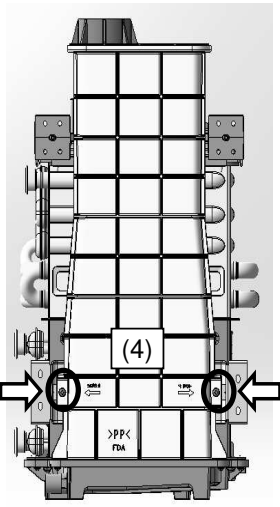
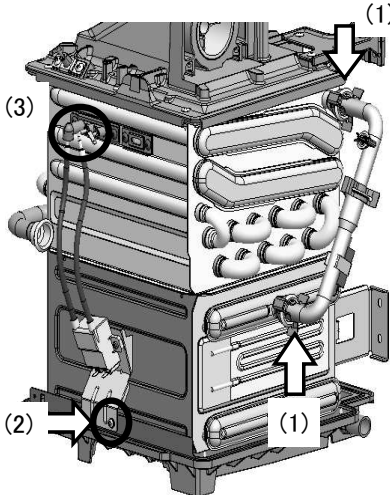
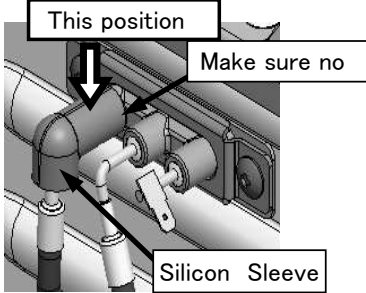
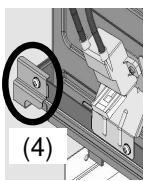
Procedure	Diagram
(2) Remove 12 screws(M4×12) on the bottom of Exhaust Duct. (3) Remove Exhaust Duct. NOTE: Remove Exhaust Duct carefully not to damage Heat Exchanger and Exhaust Duct. NOTE: Make sure that the exhaust duct is not deformed by heating. If it's deformed, replace it.	
10.Remove Burner Chamber SET (1) Remove 6 screws(M4×10) to remove Mounting Plate - Chamber. (2) Remove 6 screws(M4×18) to separate Heat Exchanger and Burner Chamber. (3) Detach Burner Chamber SET and Heat Exchanger.	 
NOTE : DO NOT place Burner Chamber SET with the burner side downward. If you need to place the Burner Chamber SET on somewhere, put the Burner Chamber SET so that the burner faces upward like as following image.	

Heat Exchanger Replacement Procedure

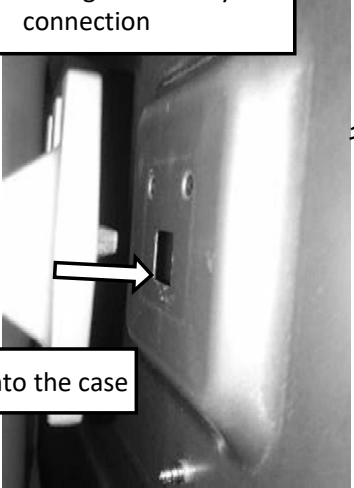
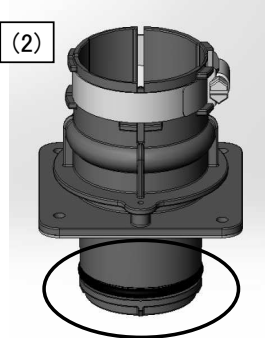
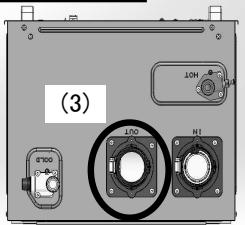
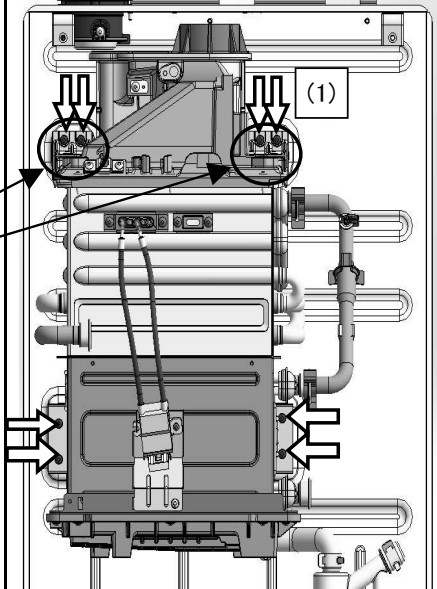
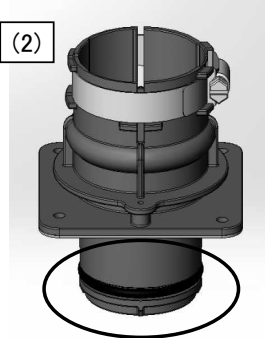
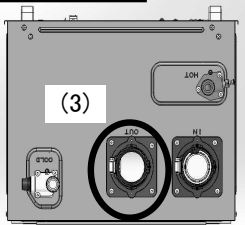
Procedure	Diagram
11. Replace Heat Exchanger Attach 2 Freeze Prevention Heaters to the new Heat Exchanger according with the instruction as right figure.	 Attach the Heater along with the back side. Attach the Heater along with the corner of the Heat Exchanger.
12. Secure Heat Exchanger to Burner Chamber SET (1) Peel off old Gasket- Burners and replace it with new Gasket - Burner. (2) Secure the new Burner Chamber SET to Heat Exchanger with 6 screws (M4×18). When tightening is over, please check again for looseness of screws. (3) Attach Mounting Plate - Chamber to Burner Chamber SET.	 NO (1) NO (2) Recheck (3)

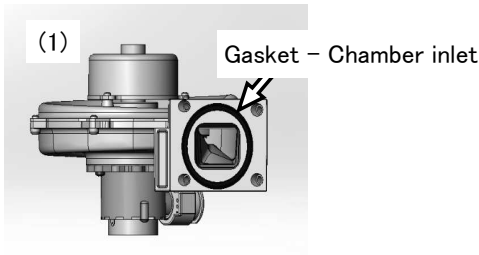
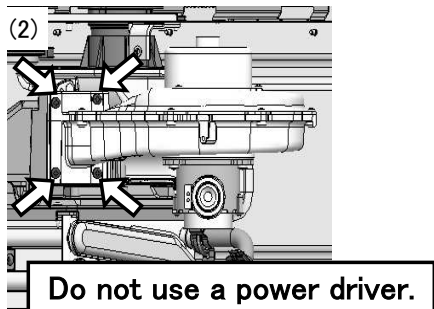
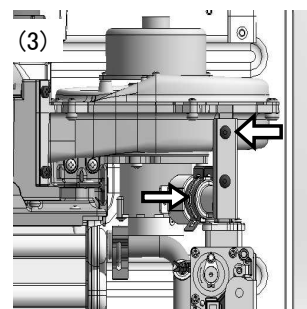
Procedure	Diagram
13. Attach Exhaust Duct to Heat Exchanger (1) Put the heat exchanger assembly upside down on something with the height of 6 inch (150 mm) or more. Without support, the chamber and Exhaust Duct can be damaged. <u>NOTE:</u> DO NOT deform the Flame Lifting Detection when turn the Heat Exchanger upside down. (2) Replace Gasket-Exhaust Duct with new one. Set Gasket-Exhaust Duct to match the line inside the Heat Exchanger. (3) Attach Exhaust Duct to Heat Exchanger and fix with 12 screws(M4×12).	 (1)  Flame 6 inch (150 mm) or more  Gasket (2)  (3)

Heat Exchanger Replacement Procedure

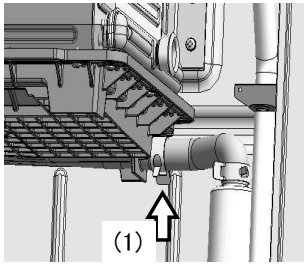
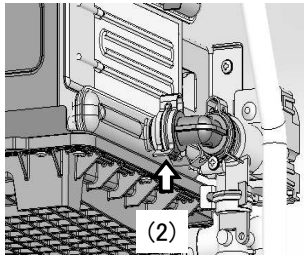
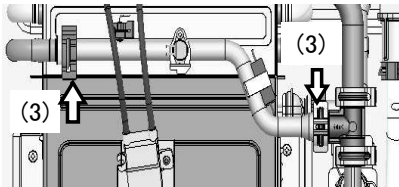
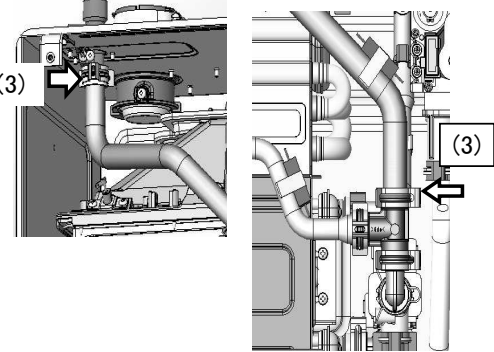
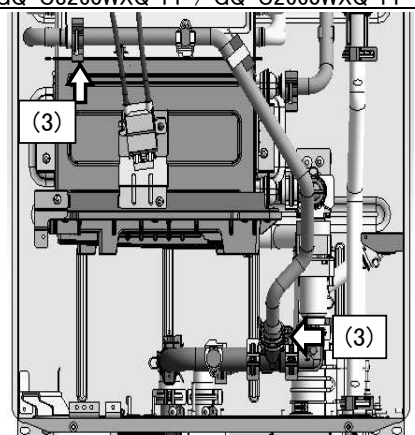
Procedure	Diagram
(4) Attach the Heat Exchanger to Exhaust Duct with 2 screws(M4×12) from the backside.	
14. Attach parts to Heat Exchanger (1) Attach Pipe - Secondary SS HEX to Primary SS HEX with 2 "C" Clamps. In that case, exchange O ring - High Temp P16 of Pipe - Secondary SS HEX to Primary SS HEX for a new one. (2) Attach Mounting Plate - Igniter with the screw(M4×8). (3) Install a new Silicon Sleeve of Ignition Plug on the left side only. Then plug High Voltage Igniter Wires to Ignition Plug. ■ ONLY GQ-C3260WZ-FF (4) Attach Mounting Plate - System Controller with the screw(M4 × 8).	  

Heat Exchanger Replacement Procedure

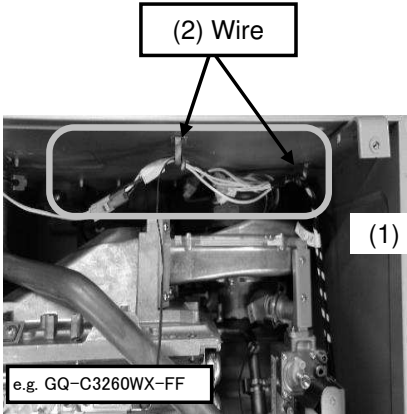
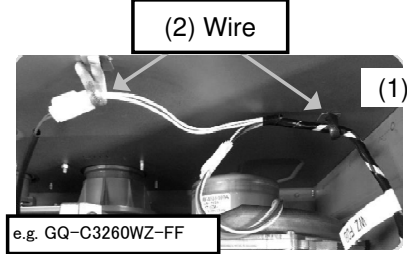
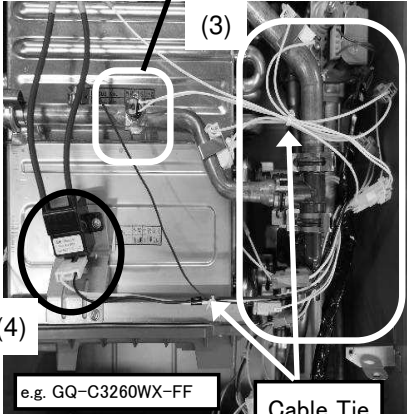
Procedure	Diagram
15. Secure Heat Exchanger assembly in the case (1) Secure Heat Exchanger assembly in the case with 8 screws(M4×10). Heat exchanger assembly connection  Put into the case (2) Replace the O-Ring of Exhaust Flue with new one. (2)  (3) Attach Exhaust Flue to the case with 4 new screws (M4×12). e.g. GQ-C3260WX-FF (3) 	Diagram (1)  (2)  e.g. GQ-C3260WX-FF (3) 

Procedure	Diagram
16. Attach Fan Motor and Venturi assembly (1) Make sure that the Gasket is secured properly in place. <u>NOTE</u>: Failure to do so will cause gas leaks, possibly resulting in severe personal injury or death. (2) Attach the Fan Motor and Venturi assembly. Secure the Fan Motor and Venturi assembly to the Burner by tightening the 4 screws(M5×25) removed in Step 6. The screws need only to be hand tightened and should not be tightened using a drill. First, insert and tighten 4 screws, but do not fully tighten these screws. Once all screws are inserted, proceed to completely tighten 4 screws. <u>NOTE</u>: When tightening the screws, be certain to not apply excess force. Excess force can strip out the original holes and screws. Keep the Fan motor in horizontal. It makes easier to tighten the screws correctly. (3) Attach the Gas Valve SET to Venturi assembly. Attach the "C" Clamps. Then attach the screw (M4×10) with a Phillips screwdriver.	(1)  (2)  (3) 

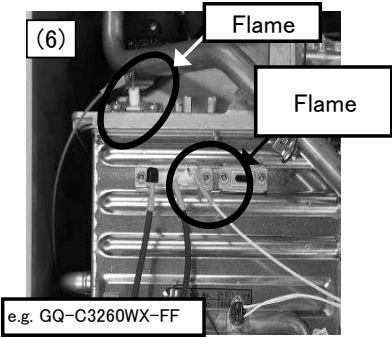
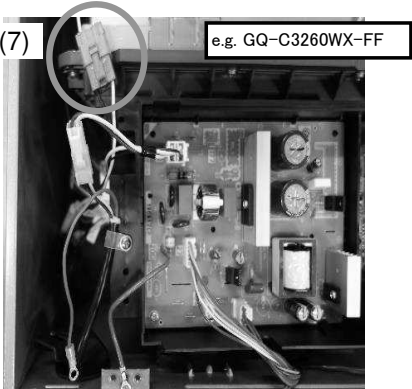
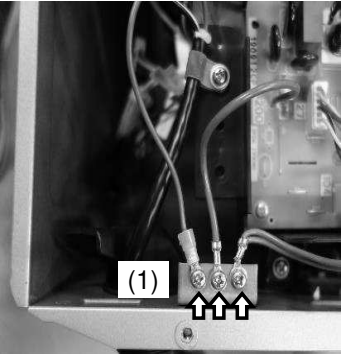
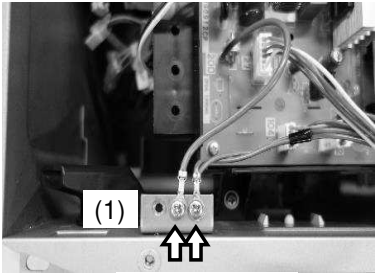
Heat Exchanger Replacement Procedure

Procedure	Diagram
17. Attach Pipes, Elbow and Hose. (1) Attach Drain Hose - Heat Exchanger into the drain outlet of Exhaust Duct and fix it with Hose Clamp. (2) Attach "C" Clamp, Elbow - Heat Exchanger Connection. (3) Attach "C" Clamp. ■ GQ-C3260WX-FF / GQ-C2860WX-FF Attach 2 "C" Clamps, Pipe -Heat Exchanger to Water Connector -T-Elbow. Remove 2 "C" Clamps, Pipe - Water Connector-T-Elbow to Outlet Water Connection. ■ GQ-C3260WZ-FF GQ-C3260WXQ-FF / GQ-C2660WXQ-FF Attach 2 "C" Clamps, Pipe - Heat Exchanger to Water Connector -T-Elbow.	  <u>GQ-C3260WX-FF / GQ-C2860WX-FF</u>  <u>GQ-C3260WX-FF / GQ-C2860WX-FF</u>  <u>GQ-C3260WZ-FF</u> <u>GQ-C3260WXQ-FF / GQ-C2660WXQ-FF</u> 

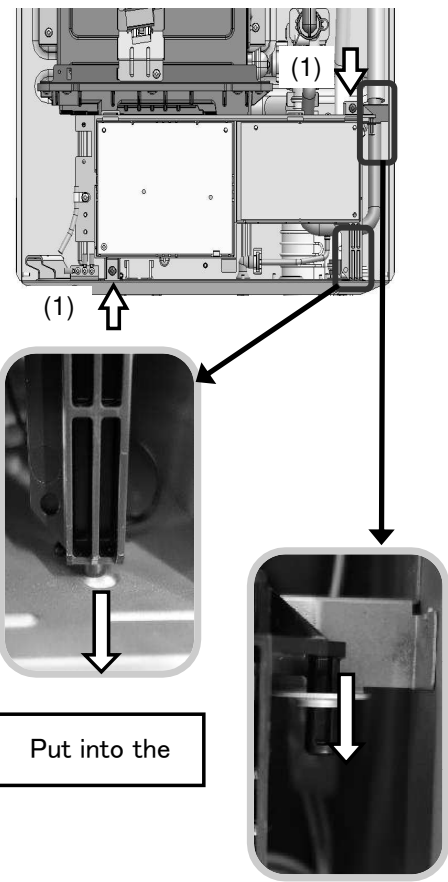
Heat Exchanger Replacement Procedure

Procedure	Diagram
18. Plug all wires that attach to Wiring Harness (1) Attach the Wiring Harness to the Wire clamps. ■ GQ-C3260WX-FF / GQ-C2860WX-FF Plug Fan Motor, Thermistor (White) - Exhaust. Plug 2 Freeze Prevention Heaters, Thermistor (Pink) - Hot water. ■ GQ-C3260WZ-FF GQ-C3260WXQ-FF / GQ-C2660WXQ-FF Plug Fan Motor, Thermistor (White) - Exhaust. (2) Hook Wiring Harness by using Wire Clamps. (3) Plug Water Servo - Bypass, Gas Valve, Thermistor (Blue) - Primary Heat Exchanger Inlet, Thermistor (Yellow) - Primary Heat Exchanger Outlet, High Limit Switch. ■ GQ-C3260WX-FF / GQ-C2860WX-FF Plug 4 Freeze Prevention Heaters, and bundle Wiring Harness with 2 Cable Ties. ■ GQ-C3260WZ-FF GQ-C3260WXQ-FF / GQ-C2660WXQ-FF Plug 3 Freeze Prevention Heaters, and bundle Wiring Harness with 2 Cable Ties. (4) Plug Igniter.	(2) Wire  (1) (2) Wire  (1) GQ-C3260WZ-FF (3)  (4) Cable Tie e.g. GQ-C3260WX-FF

Heat Exchanger Replacement Procedure

Procedure	Diagram
(6) Plug the Flame Rod. Plug the Flame Lifting Detection. (7) Plug Heater connector.	 
19. Attach ground wires ■ GQ-C3260WX-FF / GQ-C2860WX-FF GQ-C3260WXQ-FF / GQ-C2660WXQ-FF (1) Attach 3 ground wires. ■ GQ-C3260WZ-FF (1) Attach 2 ground wires.	 <u>GQ-C3260WX-FF / GQ-C2860WX-FF</u> <u>GQ-C3260WXQ-FF / GQ-C2660WXQ-FF</u>  <u>GQ-C3260WZ-FF</u>

Heat Exchanger Replacement Procedure

Procedure	Diagram
20. Attach Circuit Board (1) Attach Circuit Board with 2 screws(M4×12).	
21. Attach Front Cover (1) Attach Front Cover with 4 screws w/ washer(M4×12).	