Procedure for Flushing the Heat Exchanger

NOTE This procedure is only intended for use by a qualified service professional or authorized Noritz Service Representative. Any unauthorized use of this procedure may result in voiding the Noritz America Limited Warranty. Contact Noritz America (1-866-766-7489) for additional support.

If the alarm code "C1#*" is flashing on the Remote Controller, it means there is Scale Build-up in the Heat Exchanger. To prevent damage to the Heat Exchanger from Scale Build-up, the Heat Exchanger needs to be flushed** to remove the Scale Build-up.
<u>Damage to the Water Heater due to Scale Build-up is not covered by the Water Heater's warranty.</u>
To clear the alarm code "C1#*", the Heat Exchanger must be flushed.
If the alarm code "C1#*" is displayed and flashing on the Remote Controller, contact Noritz America (1-866-766-7489).
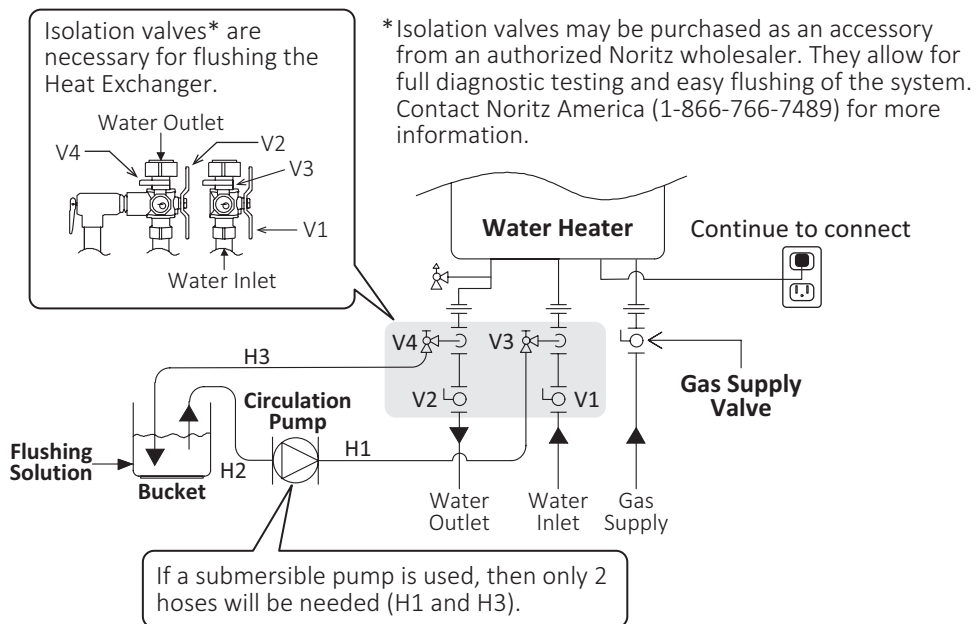
* Warning indication, # = 1-9
** Connect the blue connector marked "FLUSH" for flushing near the Circuit Board when flushing the Heat Exchanger. After connecting it, the Water Heater is set to "Flushing Mode".

NOTE The Water Heater must remain connected to the electrical power when flushing the Heat Exchanger.

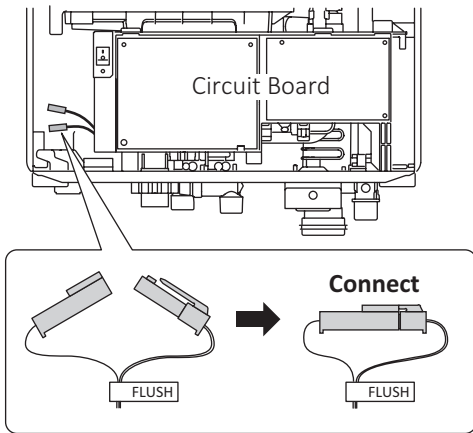### The preparation of the flushing system

1. Close the gas supply valve.
2. Close the water inlet valve (V1) and the water outlet valve (V2).
3. Connect the one drain hose (H1) to the drain valve (V3), and then the other to the circulation pump.
4. Connect the drain hose (H2) to the circulation pump.
5. Connect the drain hose (H3) to the drain valve (V4).
6. Pour 1 gallon of "Calcium, Lime and Rust Removal Product" and 1 gallon water into the bucket. Noritz recommends "Calcium, Lime and Rust Removal Product" for flushing.
7. Place the both drain hoses (H2 and H3) into the bucket filled with the flushing solution.
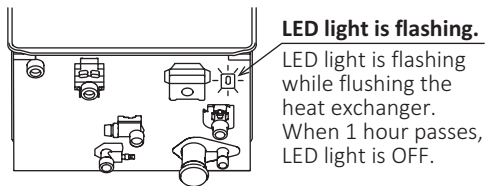8. Open the both drain valves (V3 and V4).

Isolation valves* are necessary for flushing the Heat Exchanger.

Water Outlet
V4 — V2
— V3
— V1
Water Inlet

*Isolation valves may be purchased as an accessory from an authorized Noritz wholesaler. They allow for full diagnostic testing and easy flushing of the system. Contact Noritz America (1-866-766-7489) for more information.

Water Heater   Continue to connect

Gas Supply Valve

Circulation Pump

H3

Flushing Solution

Bucket

H2   H1

V4   V3
V2   V1

Water Outlet   Water Inlet   Gas Supply

If a submersible pump is used, then only 2 hoses will be needed (H1 and H3).
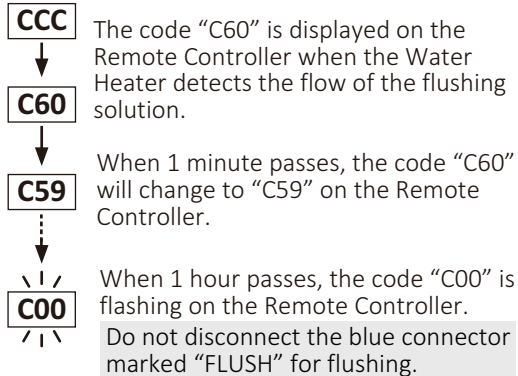
For Single Water Heater

[Procedure 1. Flushing the Heat Exchanger]
1. Open the front cover.
2. Connect the blue connector marked "FLUSH" for flushing near the Circuit Board.

3. Then the code $\boxed{\text{CCC}}$ is displayed on the Remote Controller.
4. Turn on the circulation pump to circulate the flushing solution through the Water Heater for 1 hour at a rate of 1.5 GPM or more.
5.

$\boxed{\text{CCC}}$ The code "C60" is displayed on the Remote Controller when the Water Heater detects the flow of the flushing solution.
↓
$\boxed{\text{C60}}$

$\boxed{\text{C59}}$ When 1 minute passes, the code "C60" will change to "C59" on the Remote Controller.
↓

$\boxed{\text{C00}}$ When 1 hour passes, the code "C00" is flashing on the Remote Controller.
Do not disconnect the blue connector marked "FLUSH" for flushing.

LED light is flashing.
LED light is flashing while flushing the heat exchanger. When 1 hour passes, LED light is OFF.

NOTE Check whether the reverse connection of the hose (H1) and (H3) if the display number will not change. In that case, the flow rate of the flushing solution may be under 1.5 GPM.
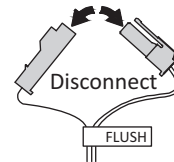
6. Turn off the circulation pump.

[Procedure 2. Cleaning the Heat Exchanger]
The flushing solution needs to be rinsed and cleaned out of the Water Heater.
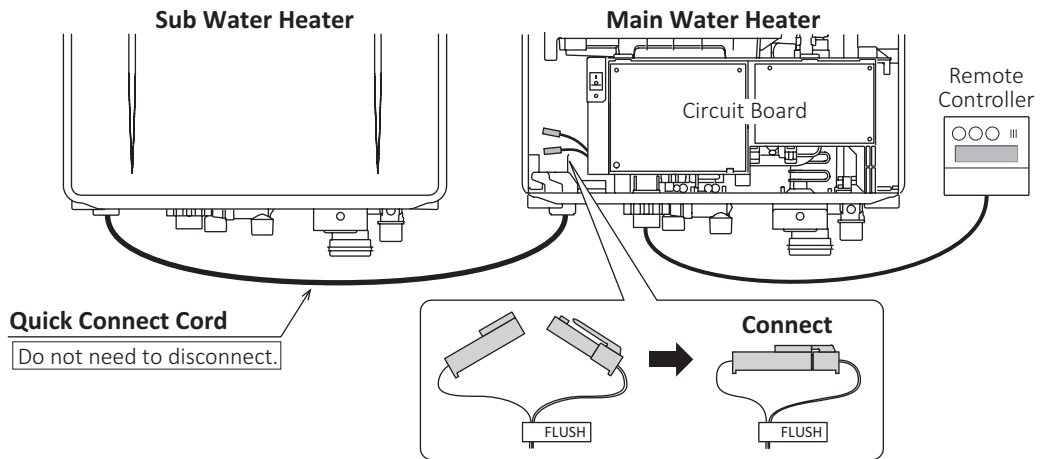Below is the way to rinse and clean the flushing solution.
1. Remove both drain hoses (H2 and H3) from the bucket. And then place the drain hose (H3) into the sink or outside to drain.
2. Close the drain valve (V3) and then open the water inlet valve (V1).
Do not open the fresh water outlet valve (V2).
3. Clean the Water Heater with fresh water for 3 minutes or more.
(Needs to have enough time to clean the Water Heater.)
4. Close the drain valve (V4) and then remove the drain hose (H3) from the drain valve (V4).
5. Remove the drain hose (H1) from the drain valve (V3).
6. Disconnect the blue connector marked "FLUSH" for flushing.
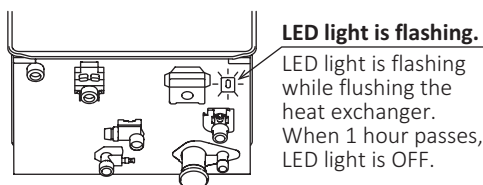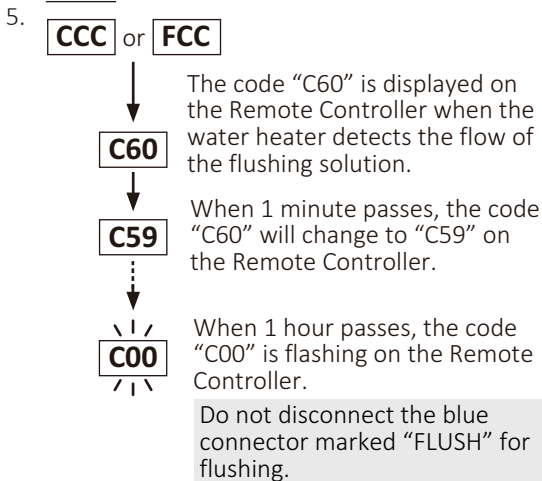The code "C00" goes out on the Remote Controller.

7. Close the front cover.
8. Open the gas supply valve and water outlet valve (V2).
9. Check for correct operation of the Water Heater.

For Quick Connect Multi-System

1. Open the front covers.
2. Connect the blue connector marked "FLUSH" for Water Heater needing to be flushed.
   (The Water Heater is isolated from Quick Connect Multi-system when the blue connector marked "FLUSH" for flushing is connected. Do not need to disconnect the Quick Connect Cord.)

Sub Water Heater　　　　　　**Main Water Heater**

Remote Controller

Circuit Board

Quick Connect Cord

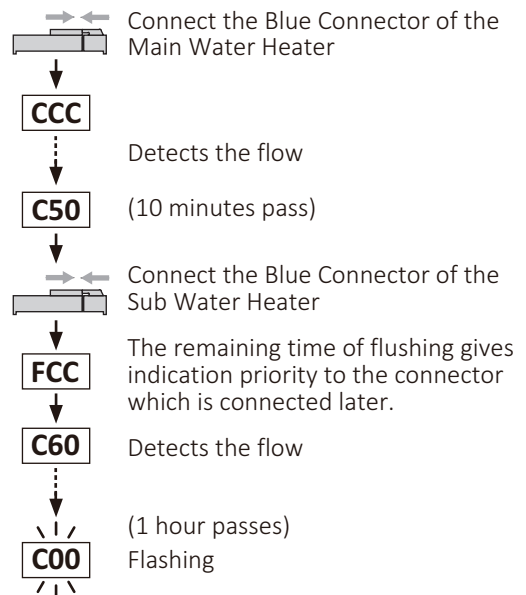Do not need to disconnect.

Connect

FLUSH　　　　FLUSH

3. Then the code **CCC** or **FCC** is displayed on the Remote Controller.
   - "CCC" is displayed when the Blue Connector of the Main Water Heater is connected.
   - "FCC" is displayed when the Blue Connector of the Sub Water Heater is connected.
4. Turn on the circulation pump to circulate the flushing solution through the Water Heaters for 1 hour at a rate of 1.5 GPM or more.
5.

   CCC or **FCC**

   ↓

   C60 The code "C60" is displayed on the Remote Controller when the water heater detects the flow of the flushing solution.

   ↓

   C59 When 1 minute passes, the code "C60" will change to "C59" on the Remote Controller.

   ↓

   C00 When 1 hour passes, the code "C00" is flashing on the Remote Controller.

   Do not disconnect the blue connector marked "FLUSH" for flushing.

   LED light is flashing.
   LED light is flashing while flushing the heat exchanger. When 1 hour passes, LED light is OFF.

   NOTE Check whether the reverse connection of the hose (H1) and (H3) if the display number will not change. In that case, the flow rate of the flushing solution may be under 1.5 GPM.
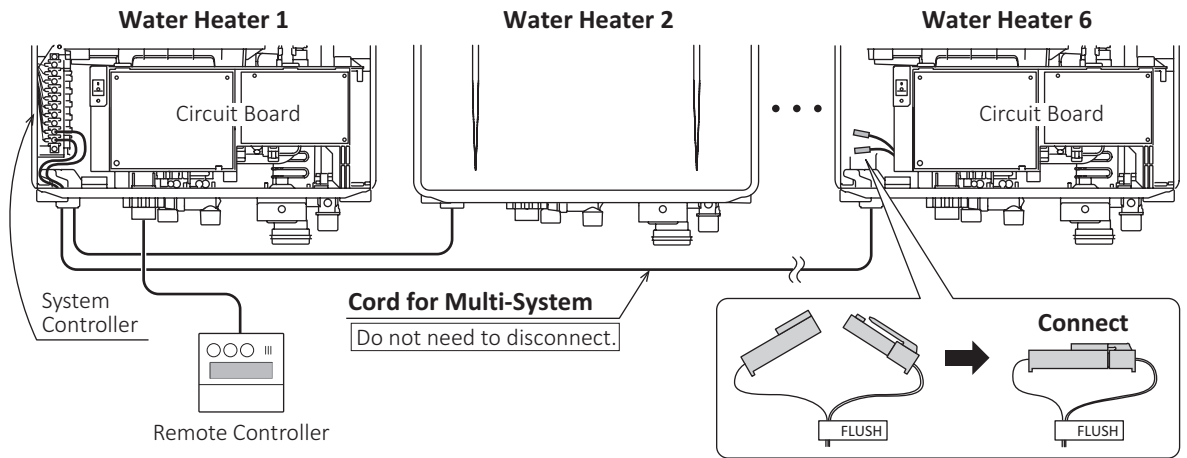
(e.g. The display when the both Water Heaters are flushed at the same time)

→←　Connect the Blue Connector of the Main Water Heater

↓

CCC

↓

Detects the flow

C50 (10 minutes pass)

↓

→←　Connect the Blue Connector of the Sub Water Heater

↓

FCC The remaining time of flushing gives indication priority to the connector which is connected later.

↓

C60 Detects the flow

↓

C00 (1 hour passes)
Flashing

6. Turn off the circulation pump.
7. Rinse and clean the flushing solution out of the Water Heaters in accordance with "For Single Water Heater [Procedure 2]".
   (See the "Procedure 2.1-2.5".)
8. Disconnect the blue connector marked "FLUSH" for flushing.
   The Code "C00" goes out on the Remote Controller.
9. Close the front covers.
10. Open the gas supply valves and water outlet valves.
11. Check for correct operation of the Water Heaters.
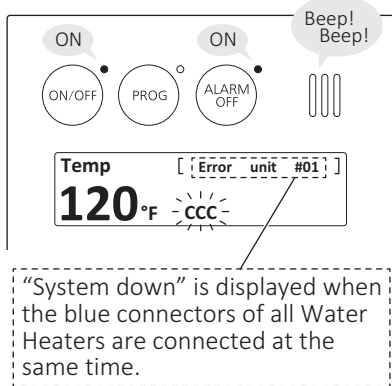
For Multi-System

1. Open the front covers.
2. Connect the blue connector marked "FLUSH" for Water Heater needing to be flushed.
   (The Water Heater is isolated from Multi-System when the blue connector marked "FLUSH" for flushing is connected. Not need to disconnect the "Cord for the Multi-System".)

Water Heater 1 **Water Heater 2** **Water Heater 6**

Circuit Board

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Circuit Board

System Controller

Cord for Multi-System
Do not need to disconnect.

Remote Controller

Connect

FLUSH → FLUSH

3. Then the code **CCC** is displayed on the Remote Controller and the error alarm continuously sounds.

> (e.g. The display when the blue connector of Unit #1 is connected)

ON   ON   Beep! Beep!

ON/OFF   PROG   ALARM OFF

Temp   [Error unit #01]

120°F CCC

"System down" is displayed when the blue connectors of all Water Heaters are connected at the same time.
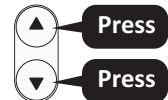
Press the "ALARM OFF" button to stop the error alarm.

4. Turn on the circulation pump to circulate the flushing solution through the Water Heaters for 1 hour at a rate of 1.5 GPM or more.

   NOTE The code "CCC" does not change when Multi-System mode. The display does not show the remaining time of flushing.

5. Check for the remaining time of flushing to see the Maintenance Monitor #80 (MM #80).

   Press the both buttons simultaneously for more than 2 seconds.

   ▲ **Press**
   ▼ **Press**

   (Display Example)

   Unit No   Item   Data
   00   03   000

   Press either ▲ or ▼ button in order to switch to MM #80.

   Unit No   Item   Data
   00   80   000

   Press either "ENTER" button ((ENTER))
   in order to move ( ).
   And then press either ▲ or ▼ button ()
   in order to switch the Unit No.
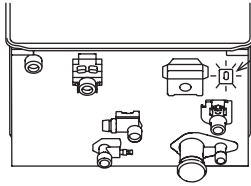
   Unit No   Item   Data
   01   80   051

   (e.g. Unit #1)
   It means the remaining time of flushing is "51 minutes".

   1 hour passes

   Unit No   Item   Data
   01   80   000

6. When 1 hour passes, turn off the circulation pump.

LED light is flashing.
LED light is flashing while flushing the heat exchanger. When 1 hour passes, LED light is OFF.

7. Rinse and clean the flushing solution out of the Water Heaters in accordance with "For Single Water Heater [Procedure 2]".
(See the "Procedure 2.1-2.5".)
8. <u>Disconnect the blue connector marked "FLUSH" for flushing.</u>
The Code "CCC" goes out on the Remote Controller.
9. Close the front covers.
10. Open the gas supply valves and water outlet valves.
11. Check for correct operation of the Water Heaters.

> **_NOTE_** Contact Noritz America (1-866-766-7489) for more information of flushing.