

Descaling (also called flushing) procedure for The Noritz 711-OD tankless water heater.
Updated 3/30/2022.

To descale this tankless water heater, you will need:

- a five-gallon bucket;
 - A bottle of descaler (calcium, lime and rust remover), diluted with water according to the instructions on the bottle); or, if you prefer, use 1.5-2.0 gallons of white vinegar (4-6% acetic acid) from the grocery store.
 - two 3/4 inch connection drain hoses, female on both ends (the water heater drain valves have a 3/4" male hose thread connections on their flush ports, hoses used for clothes washers will work.);
 - a submersible pump, at least 1.5 gpm or 90 gph, with a pumping height of at least 14 feet. The whole pump is dropped in the water, the electrical cord connection is watertight. However, the outlet hose connector may be 1/2", so you may need to use fittings to change to 3/4" male threads in order to fit the hoses.
 - channel lock pliers
 - small hook or similar tool to remove the inlet filter if it is stuck
 - small brush (smaller than a toothbrush) to clean the inlet water filter
 - phillips screwdriver to remove screws on metal covers
- If you want to borrow a descaling kit, contact Johnboska by Facebook private message.

See <https://www.youtube.com/watch?v=Mqh2EDcy6r8>

DESCALING A NORITZ NRC 711-OD TANKLESS WATER HEATER

Note Before Starting: On the unit, the red isolation valve indicates the hot water side, while the blue isolation valve indicates the cold water side. Turning the valve handle to align with the pipe indicates it is "on" and that water is free flowing. Turning the valve handle to the perpendicular position indicates it is "off." Threaded drain caps for the hot and cold pipes are facing out of the unit, and they each have a drain isolation valve. The two main isolation valves (hot and cold) are larger than the drain valves.

1. Remove the bottom section metal cover. Keep the unit electricity on but turn the gas supply valve off. Remove any insulation if necessary for access.
2. Drain the unit as follows (should be less than 0.5 gallon)(There may be hot water in the unit, depending on when it was last used):
 - Turn both the hot (red) and cold (blue) main isolation valves to the off position.
 - Remove the drain caps on both drain attachments.
 - Connect both drain hoses to the unit and place their ends in the bucket.
 - Turn the red and blue drain valves to the on position and water will drain from the unit into the bucket. Lift the hot side hose above the cold side drain connection if necessary to break vacuum and allow the water to drain.
3. Connect the cold line drain hose to the submersible pump and place the pump into the five-gallon bucket. Make sure the power cord extends out of the bucket.
4. Connect the flush signal to the circuit board as follows:
 - remove the top section metal cover by removing the screws . Since the unit is energized, be careful not to touch any electrical parts in the top section.
 - write down any error code on the data display in the lower right and investigate it using p.25 of the Owners Guide. If there is sunlight, you will need to shade the data display in order to read the codes (or else it will just look like 888).

- lift the plastic cover over the circuit board in the lower left.
- Find the two unconnected ends of the blue flush connector on the circuit board and connect them.
- The code CCC should display on the data display.

5. Initiate flushing as follows:

- Verify that the hot line drain hose free end is in the bucket.
- Fill the bucket with the specified amount of water and descaler (or use vinegar) and ensure there is adequate level in the bucket so the pump has adequate suction. Verify both drain valves are on, and turn on the pump.
- The code C60 will come up on the data display when the unit detects the flow of the flushing solution. It will count down every minute (C59, etc). If the display number does not change, the flush rate may be too low (less than 1.5 gallons per minute). The flushing may still be effective, but not optimal. Verify water is flowing by lifting the hot line drain hose and verifying flow into the bucket. If there is little or no flow, turn off the pump and troubleshoot the valve positions and connection points, or possible air binding in the pump.
- When C00 flashes on the display, an hour of flushing is done. Turn off the pump, but leave the blue flush connector connected on the circuit board.

6. Clean out the descaling solution from the unit by flushing about 20 gallons of fresh water as follows:

- the discharge will be from the hot line drain hose. The supply will be from the house main water line. Turn the blue drain valve to the off position. If the hot line drain hose is outside where water can be drained, remove the hot line drain hose from the bucket and place it where water can drain. Otherwise, remove the pump and cold line drain hose from the bucket and leave the hot line drain hose end in the bucket to catch the water.
- open the blue main isolation valve. Verify flow from the hot line drain hose. Flush for at least 5 minutes or until 20 gallons of water have passed through the heater. Turn the blue main isolation valve off as needed to empty the bucket.
- When cleaning is completed, turn the blue main isolation valve to off.
- Turn the red drain valve to off.
- disconnect the blue flush connector on the circuit board by pushing down on the locking flap tip and pulling the connector apart. Verify that C00 goes out on the data display. Reinstall the plastic cover for the circuit board.

7. Clean the inlet water filter as follows:

- repeat step 2 in order to drain the unit.
- the inlet water filter is located just above the blue main isolation valve, and the housing sticks out perpendicular to the pipe. Verify that the blue main isolation valve is off.
- unscrew and remove the inlet water filter for cleaning (it should open with finger pressure, but gently use pliers if it is stuck)—some water may flow out, be careful to keep the rubber o-ring on the filter plug and reuse it. Clean the filter under running water to remove any debris, or scrub with a very small brush.
- To reinstall, ensure the o-ring is on the filter plug, and the filter is on the plug, insert it into the housing and screw it in. Make sure it is seated tightly by hand, and a little tighter with a wrench.

8. Return the heater to service as follows:

- Turn both drain valves to off, remove the drain hoses, and install the drain caps (finger-tight).
- Verify that the inlet water filter has been installed tightly (finger-tight or slightly tighter).
- Turn the blue main isolation valve to on, and check for leaks. Close the valve to fix leaks if necessary.
- Turn the red main isolation valve to on.
- Turn the gas supply valve to on.
- If any error codes show on the data display, reset the unit by turning off the electricity at the switch behind the gas supply valve, wait a minute, then turn it back on. Whenever the electricity is restored to the unit, the display will show the set temperature for 3 minutes (default=120 degrees) and then turn off (unless there are other codes activated).

- reinstall the upper metal cover on the unit.
- Verify that hot water flows from a hot water faucet in the house.
- Check that there are no water leaks in the unit.
- Reinstall any insulation that was removed.
- Reinstall the lower metal cover on the unit.

9. Flush the descaling fluid from the pump as follows:

- Verify that the pump electrical cord is unplugged.
- Hook up one of the drain hoses from an outside hose faucet to the discharge of the pump.
- Turn on the faucet and run fresh water through the pump to clean it.