NR501, NR662 Series Heat Exchanger Replacement

Model Include: NR501-OD, NR662-OD

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

Please contact Noritz Technical Support (866-766-7489) for additional support.

Noritz America Corporation

11160 Grace Avenue, Fountain Valley, CA 92708

Phone 866-766-7489 Fax 714-241-1196

SKJ70NL

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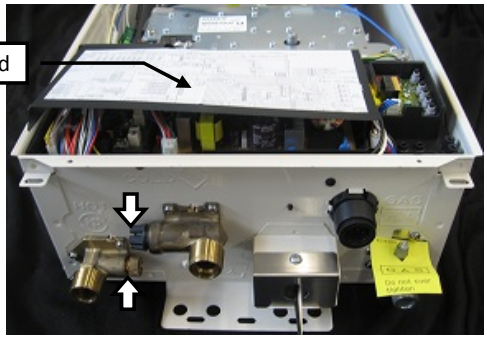
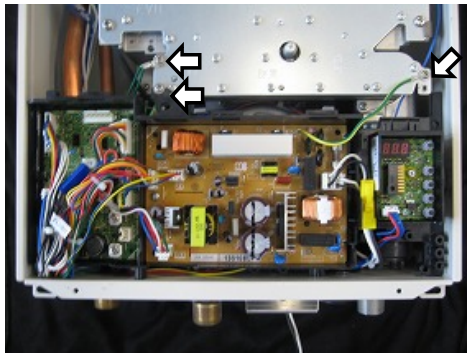
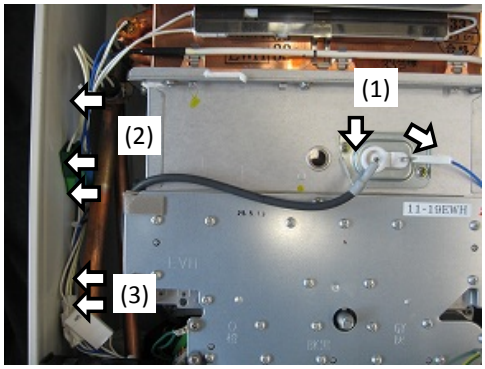
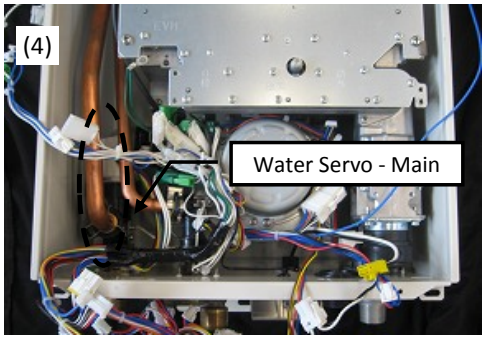
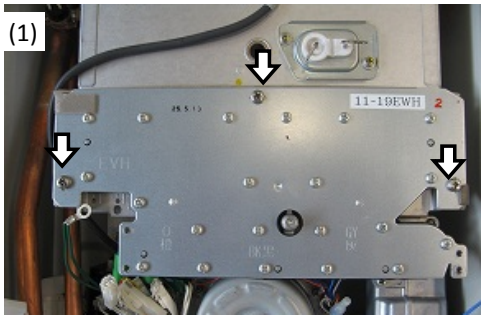
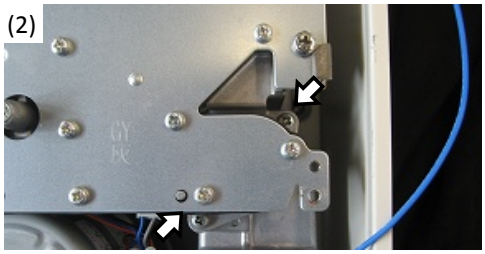
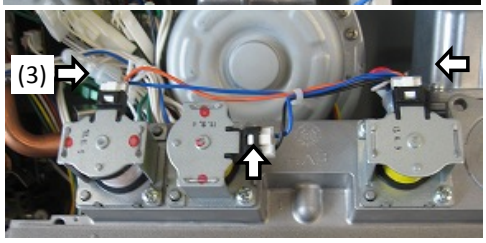
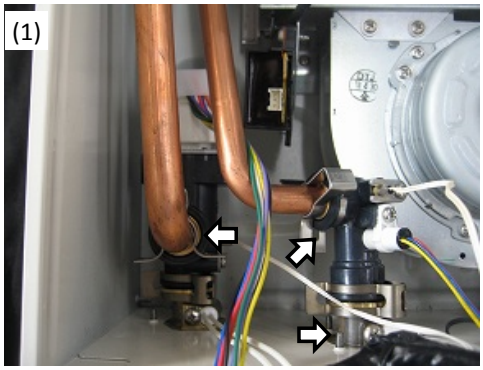
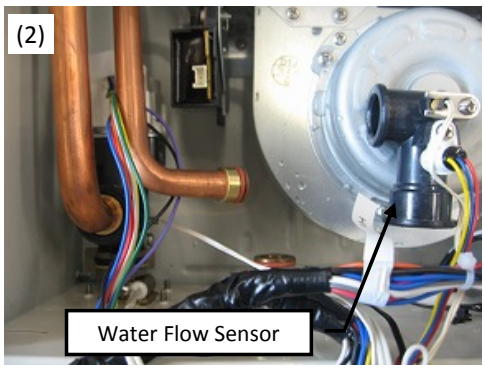
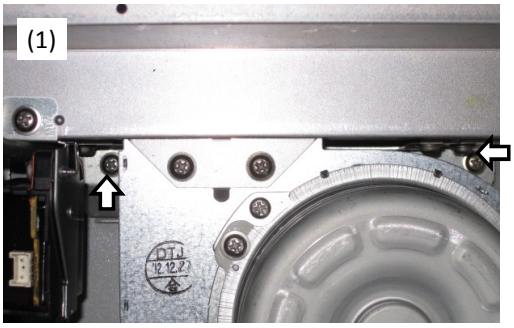
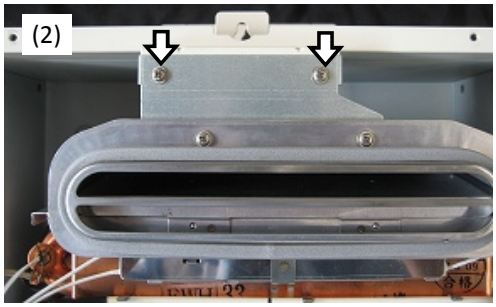
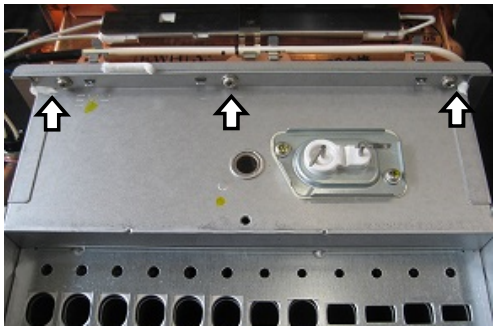
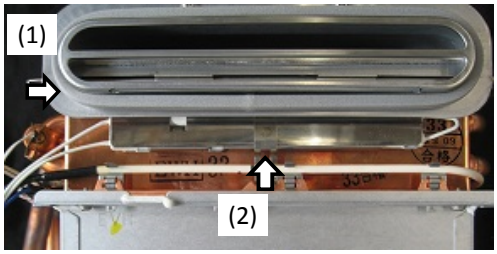
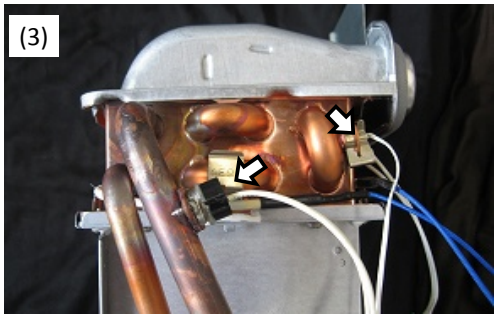
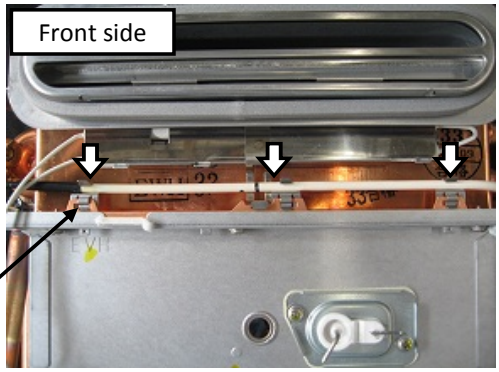
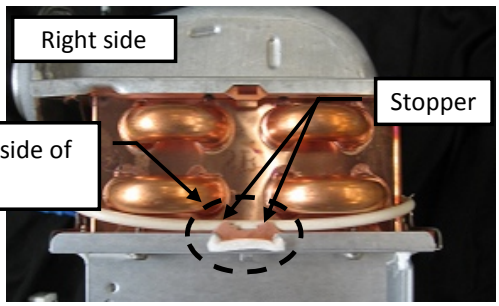
Procedure	Diagram
1. Remove the front cover (1) Disconnect electrical power to unit (2) Turn off gas and water (3) Remove 4 screws (4) Remove drain 2 valves and drain the unit completely (5) Remove the cover - circuit board	 
2. Disconnect the connectors from the circuit board and remove the ground wire, and the circuit board (1) Disconnect the connectors from the circuit board (2) Remove 2 ground wires (3) Remove the circuit board; there is a screw on middle-upper of the circuit board. Let the circuit board hang outside of the unit	
3. Unplug all wires that attach to the wiring harness and the body of water heater (1) Unplug Flame Rod and Ignition Plug (2) Loosen the cable tie and unplug the freeze prevention heater, thermal fuse (2) (3) Unplug the high limit switch and the thermistor - heat exchanger (4) Unplug all wires that attach to the wiring harness except water servo - main	 

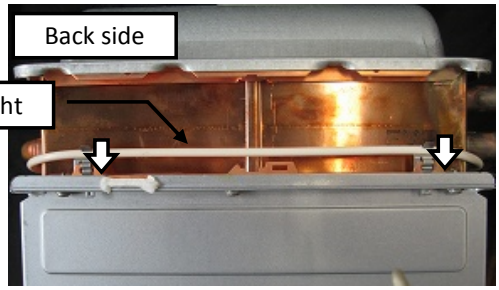
Procedure	Diagram
4. Remove the manifold plate (1) Remove 3 big silver screws on the manifold plate that attach the manifold to the burner (2) Remove 2 smaller silver screws from the manifold plate that attach the manifold to the gas valve (3) Remove manifold plate and unplug the connector from gas solenoid valves (3)	  
5. Disconnect pipes from the water flow sensor and the water servo - main (1) Remove "C" Clamp (3) (2) Remove the water flow sensor	 

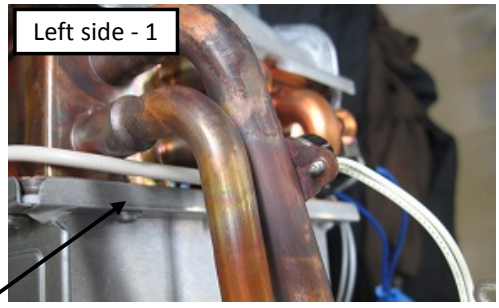
Procedure	Diagram
6. Remove the heat exchanger from the case (1) Remove the 2 set screws on the bottom of the burner (2) Remove the 2 set screws on the top of the case (support bottom of the assembly) (3) Copper Heat Exchanger(CU HE), Burner, and Fan will come out in one section. Remove from the unit.	 
7. Replacing the CU HE (1) Remove 10 screws holding the burner to the CU HE (2) Separate the burner from the CU HE	
8. Remove heat exchanger components from old heat exchanger and put on new heat exchanger (1) The gasket on the front of the exhaust box (2) Front side: Freeze prevention heater (3) Left side: High limit switch and thermistor - heat exchanger *Replace new O Ring for the thermistor - heat exchanger	 

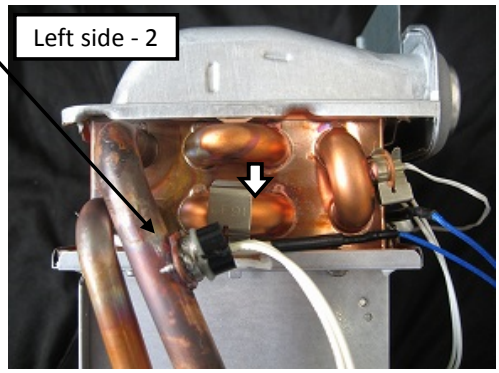
Procedure	Diagram
(4) Attach the thermal fuse and 6 clamps from 4 sides of heat exchanger, See 4 views of the heat exchanger to make sure the thermal fuse is routed correctly	

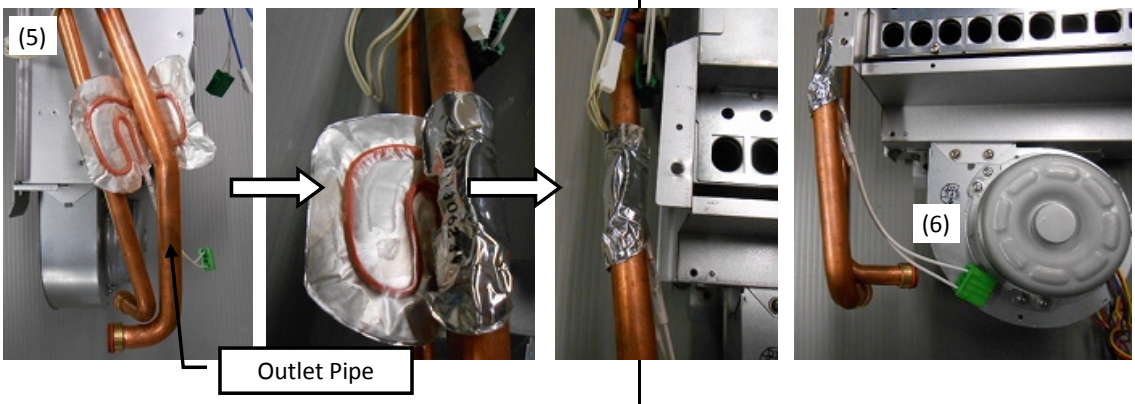
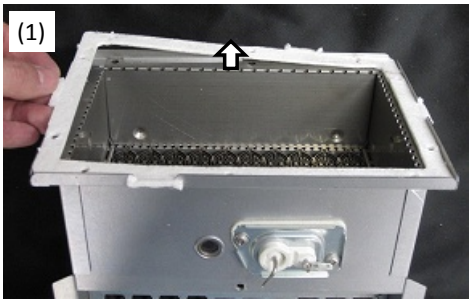
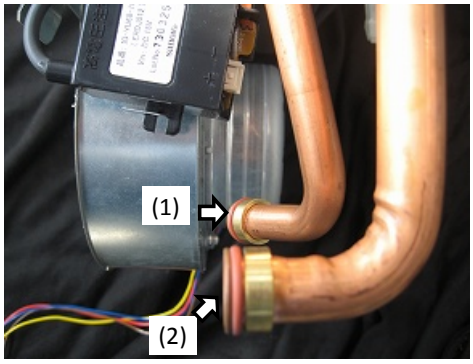


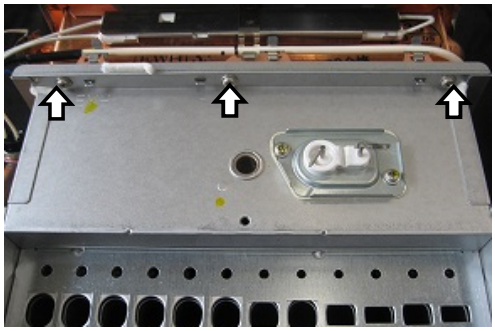
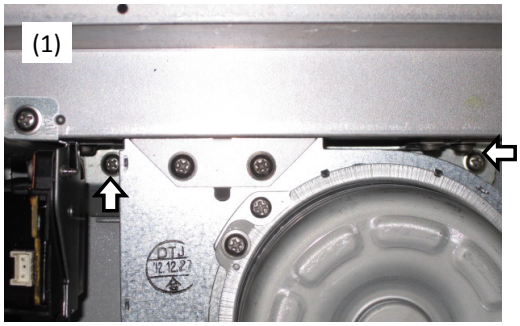
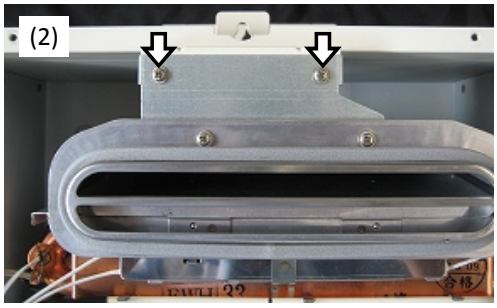
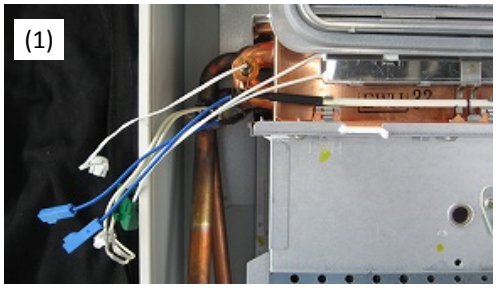
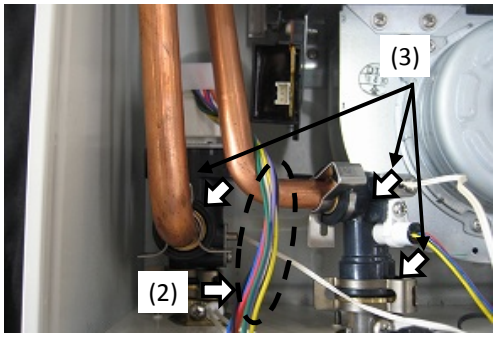


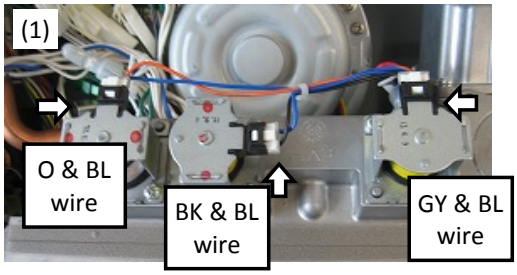
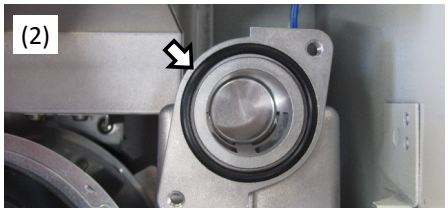
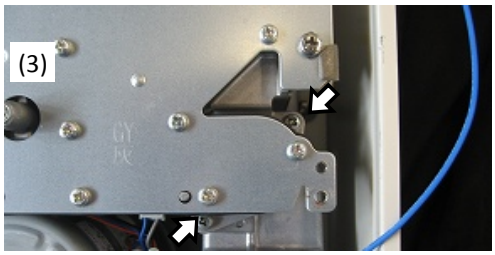
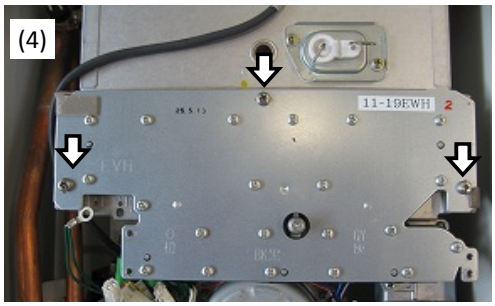
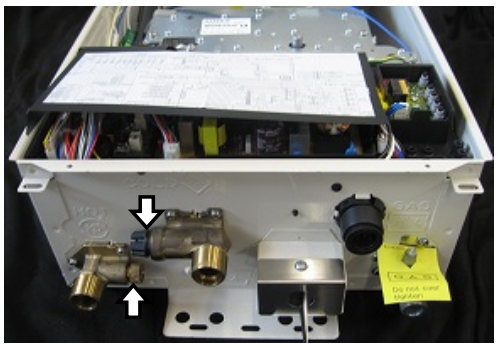


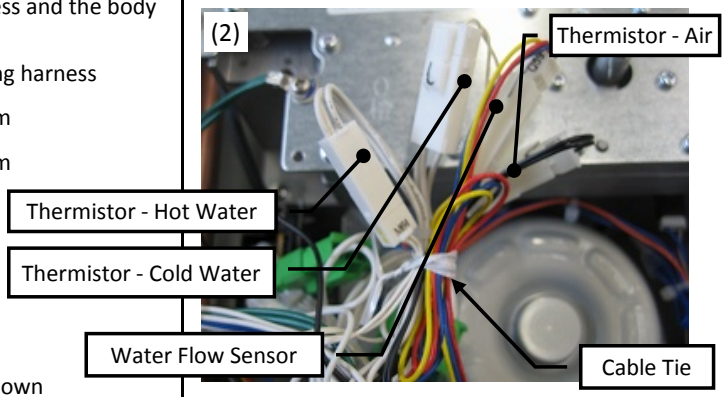
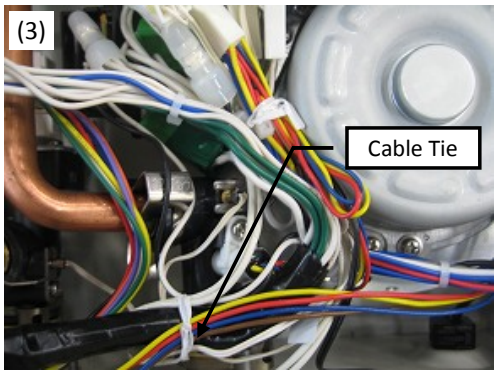
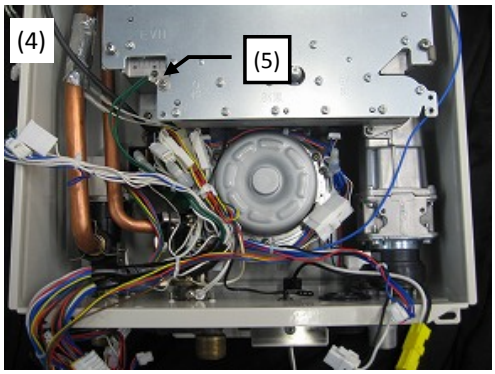


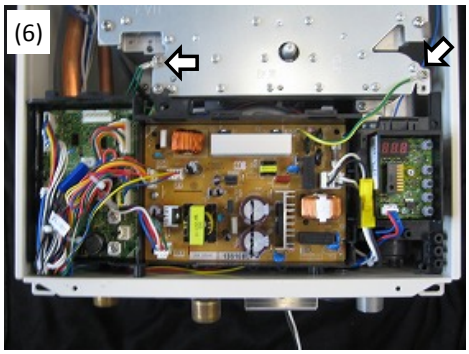
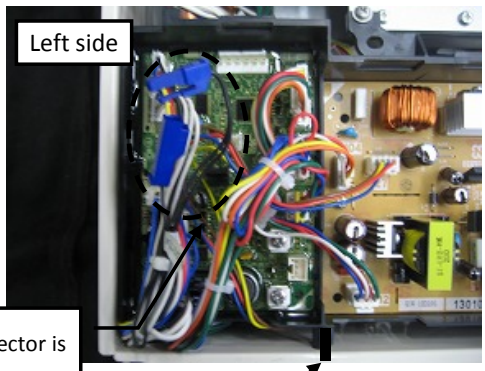
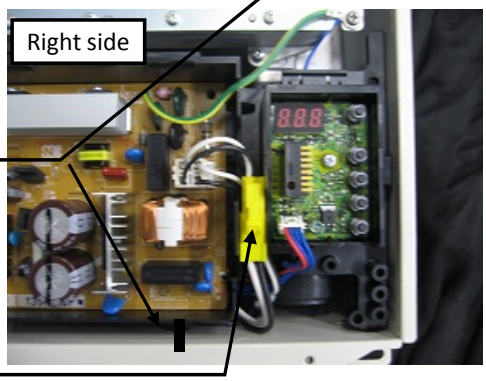
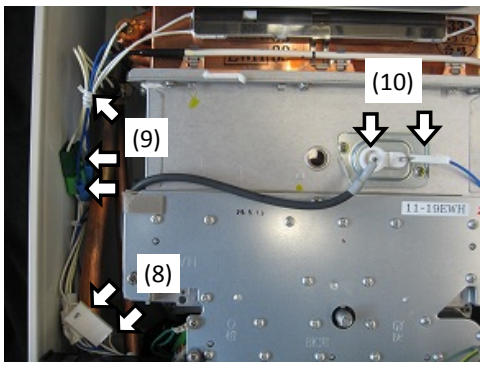


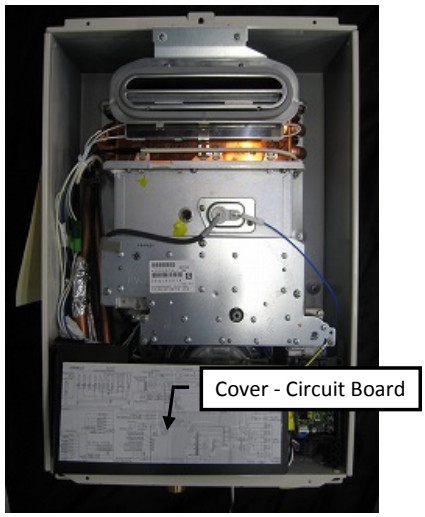
Procedure	Diagram
(5) Place the new freeze prevention heater with one that was shipped in the heat exchanger kit. Wrap the freeze prevention heater around outlet pipe from the CU HE as shown in diagrams (6) Make sure to route the wire as shown in the diagram (6)	
9. Replace gasket (1) Remove old burner gasket and replace with new one	
10. Place new O Rings on new CU HE (1) Inlet to the CU HE (2) Outlet from the CU HE	

Procedure	Diagram
11. Reattach the burner and the CU HE (1) Attach 10 screws around perimeter of the burner and the CU HE	
12. Replace the assembly back inside the case (1) Secure the 2 set screws on the bottom of the burner (2) Secure the 2 set screws on the top of the case	 
13. Reconnect water connections (1) Maintain the high limit switch, the thermistor - heat exchanger, the thermal fuse, and the freeze prevention heater as shown in diagram (1) (2) Maintain wiring harness as shown in diagram (2) (3) Insert the outlet pipe to the water servo - main and attach "C" clamp Insert the water flow sensor to the inlet water connection and attach "C" clamp. And then insert the inlet pipe to the water flow sensor and attach "C" clamp.	 

Procedure	Diagram
14. Replace the manifold plate (1) Plug the connector to gas solenoid valves (3) as right diagram (2) Confirm that there is o-ring before replace the manifold plate (3) Replace the 2 smaller silver screws from the manifold plate that attach the manifold to the gas valve (4) Replace the 3 big silver screws on the manifold plate that attach the manifold to the burner (5) Hand tighten 5 screws equally	   
15. Check for water leaks (1) Replace drain 2 valves (2) Turn on cold water shut off valve slowly (check for leaks around “C” clamps) (3) If you get leaks shut off water and re-secure “C” Clamps	

Procedure	Diagram
16. Plug all wires that attach to the wiring harness and the body of the water heater (1) Plug all wires that attach to the wiring harness (2) Tie wires by cable tie as right diagram (3) Tie wires by cable tie as right diagram (4) Put the all wires in the position as shown in diagram (4) (5) Secure the ground wire	  

Procedure	Diagram
(6) Replace the circuit board; secure the screw on middle-upper of the circuit board. Secure the ground wire. (7) Reconnect the connectors to the circuit board (8) Plug the high limit switch and the thermistor - heat exchanger (9) Plug the freeze prevention heater, the thermal fuse (2) and tie the wires by the cable tie (10) Plug Flame Rod and Ignition Plug.	  Confirm that the blue connector is disconnected.  Take out all wires on the outside of the line Push the yellow connector. 

Procedure	Diagram
(11) Put all wires as the diagram NR501-OD	NR662-OD 
 (14) Replace the cover - circuit board	
24. Check for gas leaks and doing trial operation (1) Turn on gas (2) Turn on the unit. Check for leaks around the manifold plate and joining areas. For example - Between Burer and CU HE (3) If you get leaks shut off gas and water, re-secure leaking points	
25. Replace the front cover (1) Secure the front cover with 4 screws