# N-132M, N-1321M and NC380 Series Heat Exchanger Replacement

Models Include: N-132M, N-132M-ASME,

N-1321M-ASME, NC380-SV-ASME

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.

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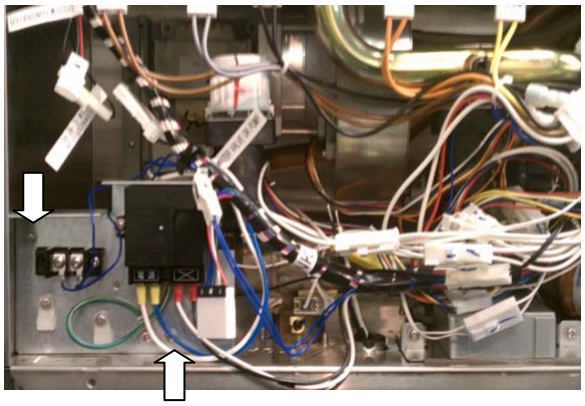
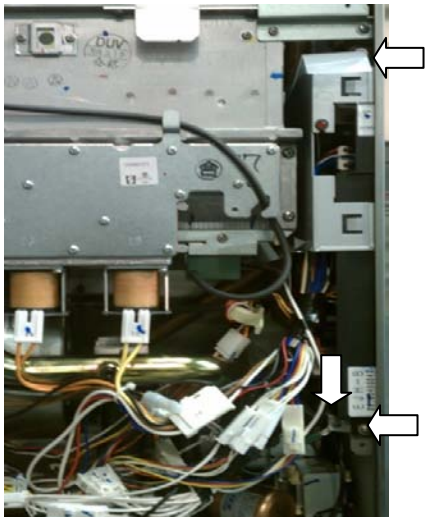
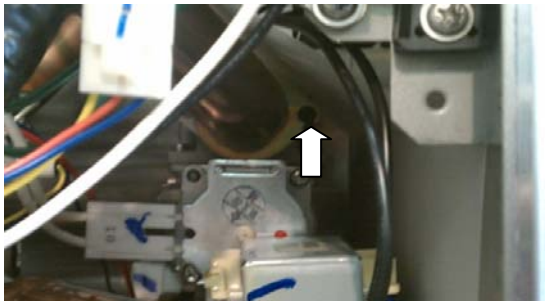
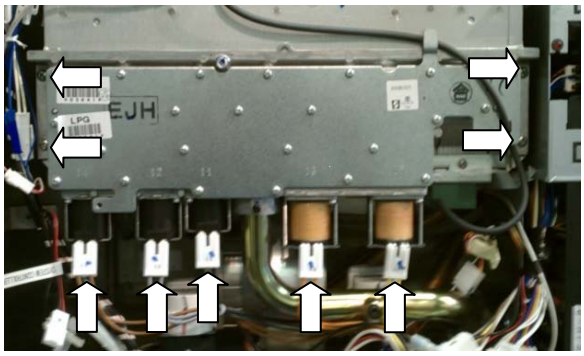
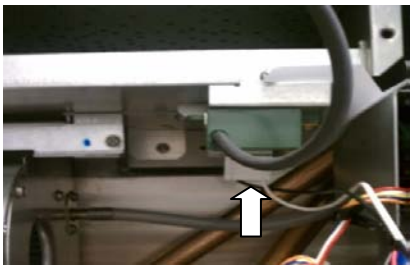
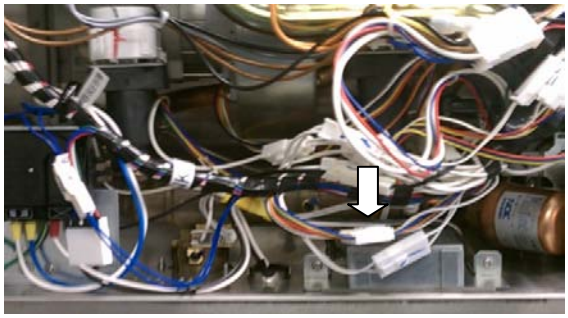
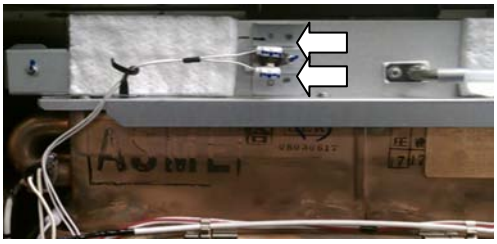
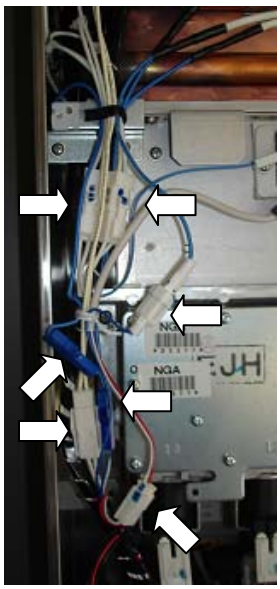
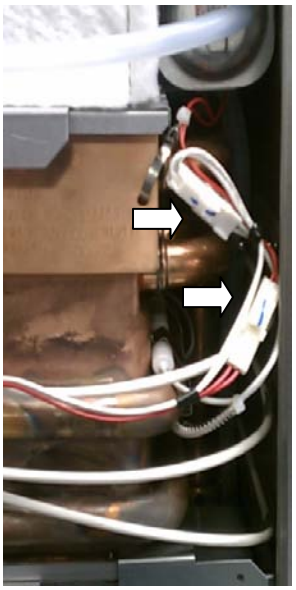
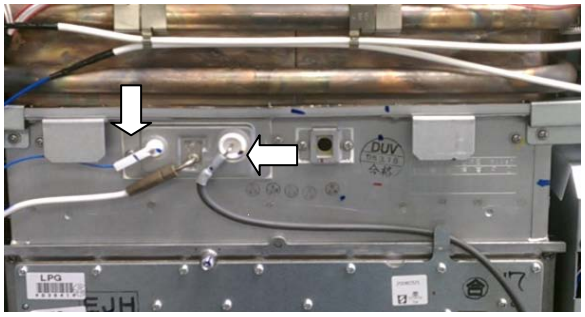
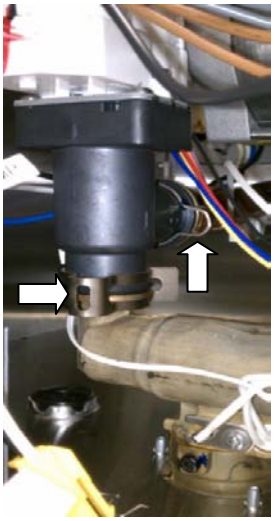
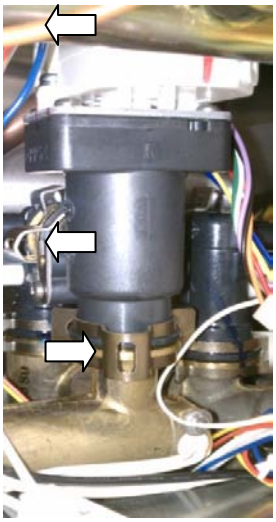
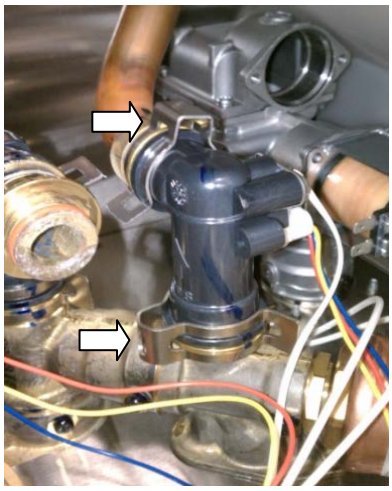
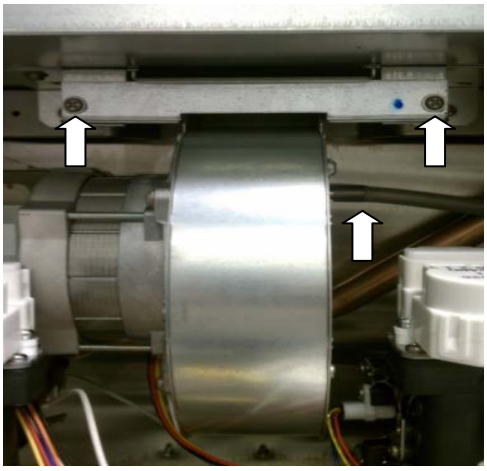
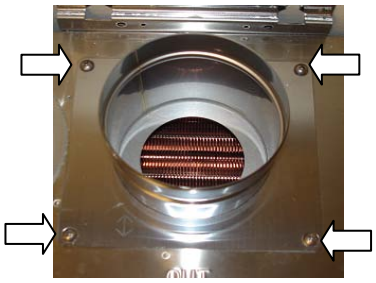
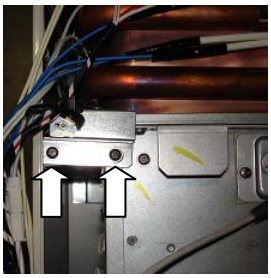
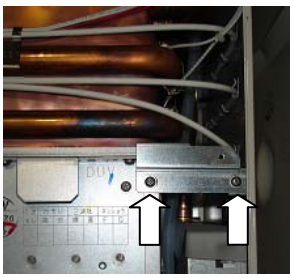
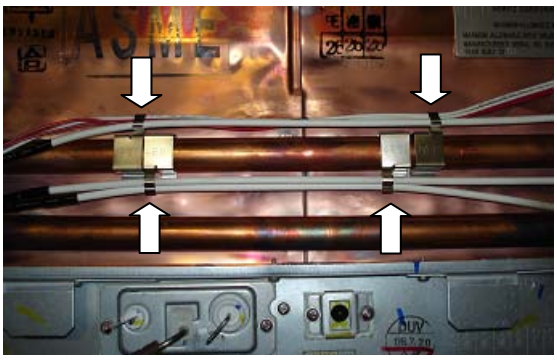
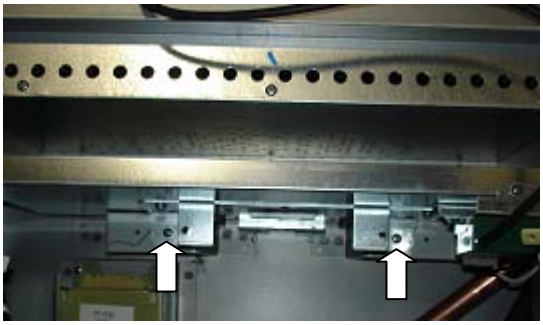
**N-132M, N-1321M, NC380 Series Heat Exchanger Replacement Procedure**

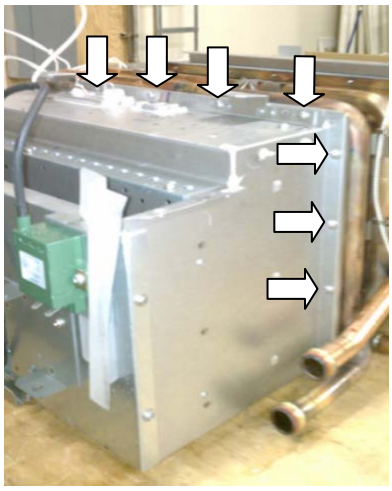
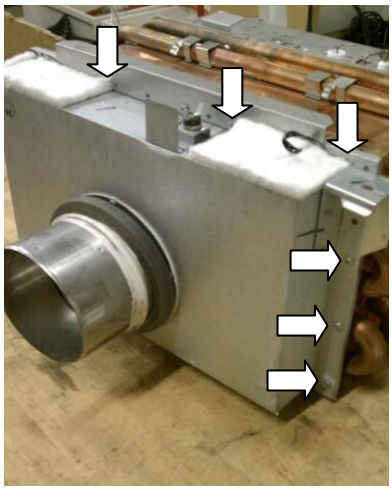
| Procedure | Diagram |
|---|---|
| 1. Remove front cover<br><br>(1) Disconnect electrical power to unit<br>(2) Remove 4 screws<br>(3) Turn off gas and water<br>(4) Remove filter and drain unit completely |  |
| 2. Remove GFCI and circuit board<br><br>(1) Remove 2 screws that hold the GFCI plate. Let GFCI hang outside of the unit<br>(2) Remove the ground wire that is to the left of the circuit board<br>(3) Remove the circuit board; there is one on top and bottom of the circuit board<br>(4) Pull the circuit board out and let the circuit board hang outside of the unit |  <br>  |

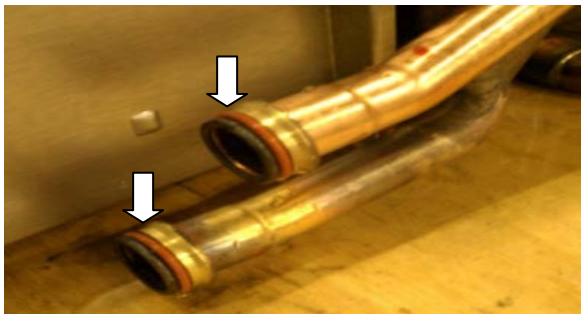
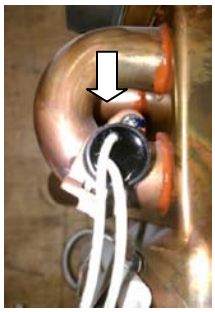
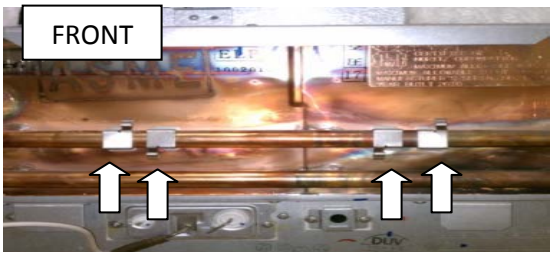
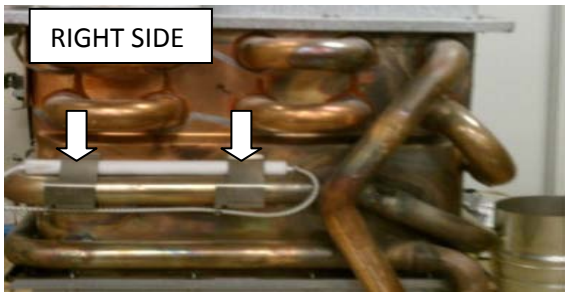
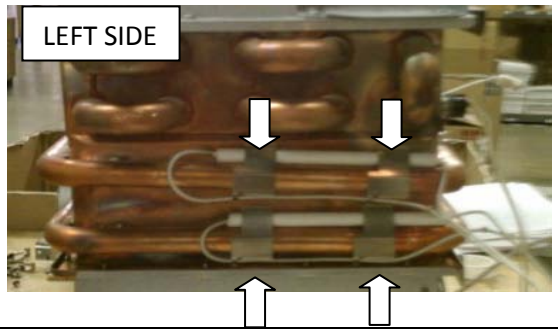
| Procedure | Diagram |
|---|---|
| 3. Remove gas pipe and manifold<br><br>(1) Remove the retaining bracket by removing the screw holding the pipe to the gas solenoid valve<br>(2) Disconnect the wires going to the solenoids on the manifold plate<br>(3) Next, locate the 4 big silver screws holding the manifold plate to the burner, there will be 2 on the right and left side of the manifold plate. Remove those 4 screws and the manifold plate and pipe can be set aside |  <br>  |
| 4. Unplug all wires that attach to the wiring harness and the body of the water heater<br><br>(1) Connecter from the ignition box<br>(2) Wiring for the fan<br>(3) Freeze prevention sensor (2) on exhaust box |  <br>  <br>  |

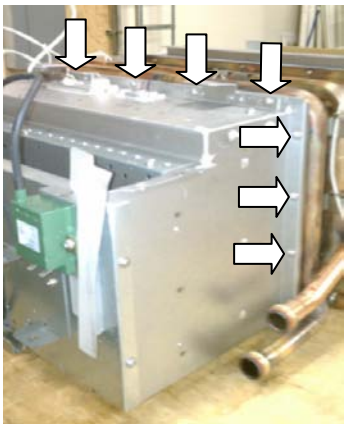
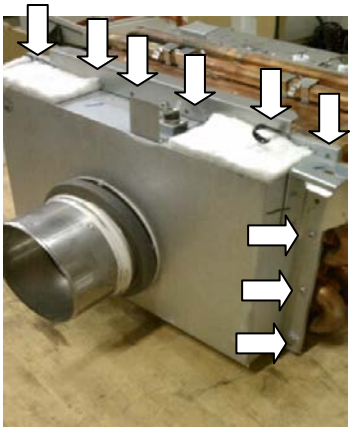
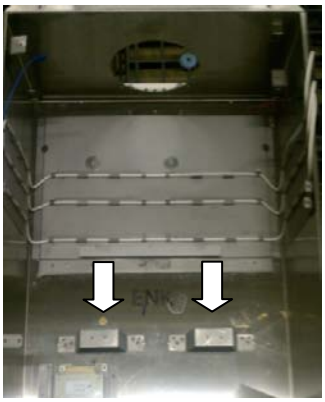
| Procedure | Diagram |
|---|---|
| (4) Left side of Heat Exchanger: Freeze prevention heaters (2), thermal fuse (3), high limit switch, burner sensor<br>(5) Right side of the Heat Exchanger: Freeze prevention heater, wind pressure switch<br>(6) Flame rod, ignition rod<br><br>**NOTE:** The wind pressure switch is not in the NC380 Series unit |    |
| 5. Removing the water servo valves<br><br>(1) Remove the 2 “C” clamps holding the main water control valve to the heat exchanger piping and mixing mechanism set<br>(2) Remove the 2 “C” clamps holding the bypass water control valve to the bypass flow sensor and the mixing mechanism set |   |

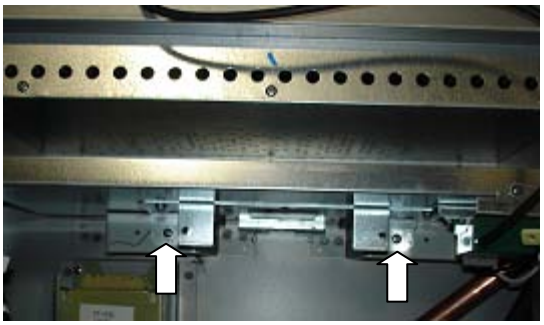
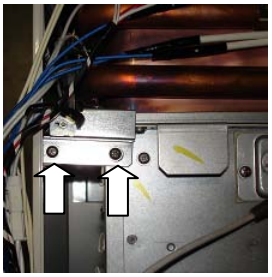
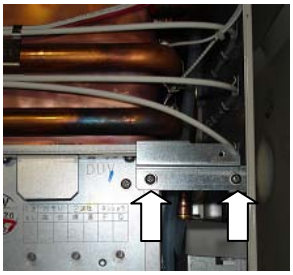
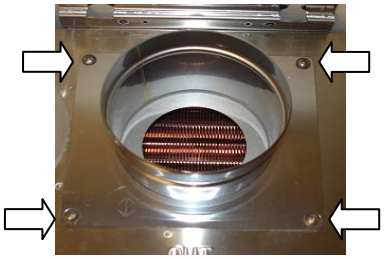
| Procedure | Diagram |
|---|---|
| 6. Remove the heat exchanger flow sensor<br><br>(1) Remove the 2 “C” clamps and pull flow sensor out |  |
| 7. Removing the fan housing<br><br>(1) Remove the 2 screws holding the fan housing to the burner case<br>(2) Disconnect the rubber hose on the back right side of the fan<br>(3) Pull the fan out and set aside<br><br>**NOTE:** This hose is not in the NC380 Series units |  |
| 8. Remove heat exchanger from case<br><br>(1) Remove the 4 case cover set screws and pull off flue ring and packing<br>(2) Remove the wind pressure switch set screw<br>**NOTE:** The wind pressure switch is not in the NC380 Series unit |  <br>  |

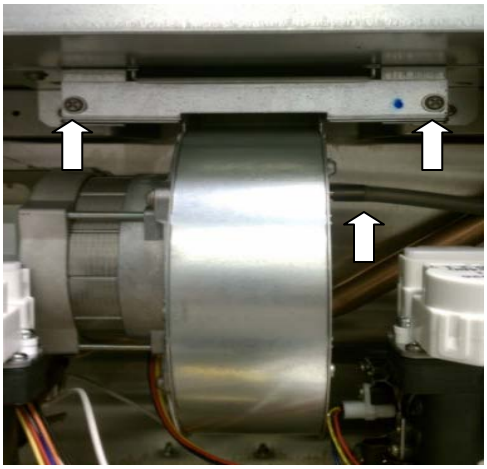
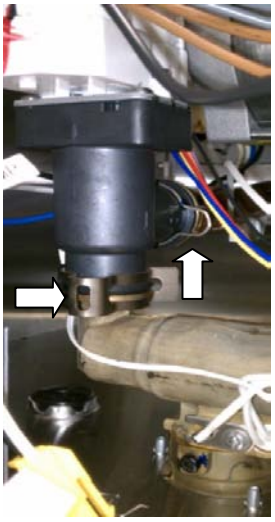
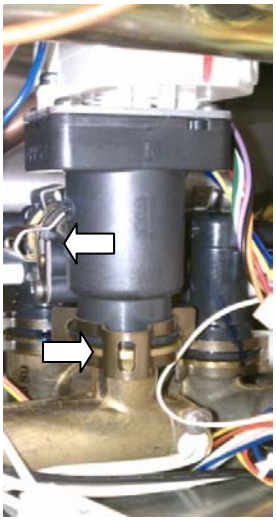
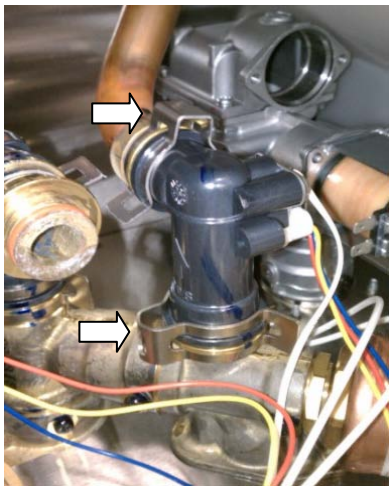
| Procedure | Diagram |
| --- | --- |
| (3) Remove the burner brackets on both sides of the burner. There is 2 screws per bracket<br>(4) Remove the wires from the clips on the heat exchanger pipe<br>(5) Remove the 2 set screws on the bottom of the burner<br>(6) Remove the right and left set screws on the exhaust box<br>(7) Remove the right and left set screws on the burner case. Support the body from the bottom<br>(8) Remove the main body from the case which includes the flue, exhaust box, heat exchanger and burner |      |

| Procedure | Diagram |
|---|---|
| 9. Separate burner from heat exchanger<br><br>(1) Remove the burner (19 screws). A gasket is supplied with the heat exchanger for between the heat exchanger and burner<br>(2) Remove the exhaust box (18 screws). A gasket is supplied with the heat exchanger for between the heat exchanger and the exhaust box |  <br>  |
| 10. Remove water feed pipes from the heat exchanger<br><br>(1) Remove the hot water feed pipe (long pipe) by removing the set screw and pulling out the pipe<br>(2) Remove the water inlet pipe (short pipe) by removing the set screw and pulling out the pipe |   |

| Procedure | Diagram |
|---|---|
| 11. Place new O-Rings on new heat exchanger or pipes and reattach the feed pipes<br><br>(1) Water inlet (back pipe, shorter)<br>(2) Hot water feed (front pipe, longer)<br><br>**NOTE:** Non-ASME heaters will need to have the o-rings placed on the water inlet pipe and the hot water feed pipe. |  |
| 12. Remove heat exchanger components and put on new heat exchanger<br><br>(1) High limit switch.<br>(2) Fasteners from three sides of heat exchanger<br>(3) Freeze prevention heaters, 1 on right side and 2 on left side |  <br>  <br>  <br>  |

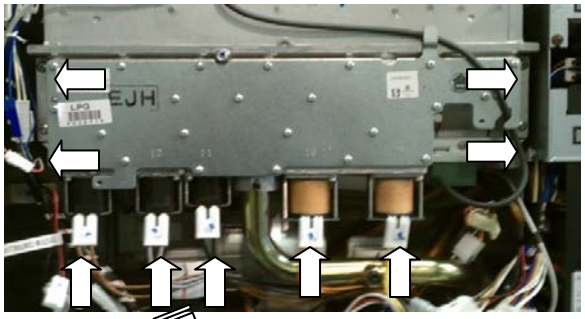
| Procedure | Diagram |
| --- | --- |
| 13. Replace burner gasket and exhaust gasket<br><br>(1) Remove old gasket<br>(2) Replace with new gasket |   |
| 14. Reattach burner, heat exchanger, and exhaust box assembly<br><br>(1) 19 screws around perimeter of burner and heat exchanger<br>(2) 18 screws around perimeter of exhaust box and heat exchanger |   |
| 15. Replace assembly back inside case<br><br>(1) Place assembly on brackets located inside the case. When putting body into case line up the flue with the opening at the top of the case and use the brackets to support the body |  |

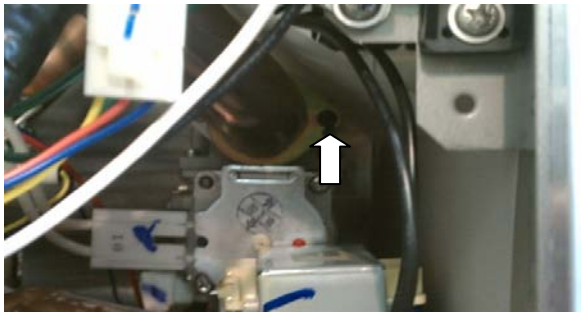
| Procedure | Diagram |
| --- | --- |
| (2) Replace the right and left set screws on the exhaust box<br>(3) Replace the two set screws on the bottom of the burner<br>(4) Replace the burner brackets on both sides of the burner. There is 2 screws per bracket<br>(5) Replace the four case cover set screws<br>(6) Replace the wind pressure switch<br><br>**NOTE:** The wind pressure switch is not in the NC380 Series unit |  <br>  <br>  <br>  <br>  <br>  |

| Procedure | Diagram |
|---|---|
| 16. Replace fan housing and reconnect water connections<br><br>(1) Inset the fan housing and the secure with the 2 screws<br>(2) Secure the rubber hose on the back right side of the fan<br><br>**NOTE:** This hose is not in the NC380 Series units<br><br>(3) (Left side of fan) Insert the main water control valve and use the 2 “C” clamps to lock it in place<br>(4) (Right side of fan) Insert the bypass water control valve and use the 2 “C” clamps to lock it in place<br>(5) Insert the flow sensor and use the 2 “C” clamps to lock it in place<br>(6) Replace water inlet filter<br>(7) Turn on cold water shut off valve **slowly** (check for leaks around “C” clamps and feed pipes)<br>(8) If you get leaks shut off water and re-secure “C” Clamps<br>(9) When you know there are no leaks turn off water again |  <br>  <br>  <br>  |

17. Replace gas valve assembly

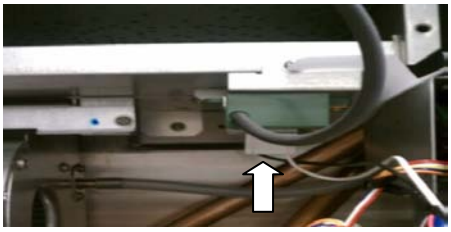
    (1) Replace the 4 big silver screws holding the manifold plate to the burner, there will be 2 on the right and left side of the manifold plate
    (2) Reconnect the wires going to the solenoids on the manifold plate. When reattaching the wires to the gas solenoid valves, make sure to attach them to the correct order. There are numbers etched into the manifold plate above the solenoid that match the wire connectors
    (3) Replace the retaining bracket by replacing the screw holding it to the gas solenoid valve

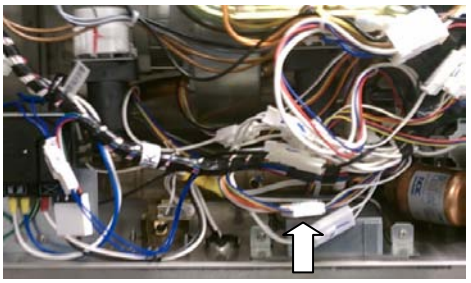


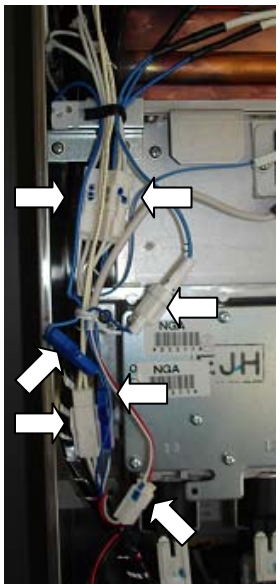
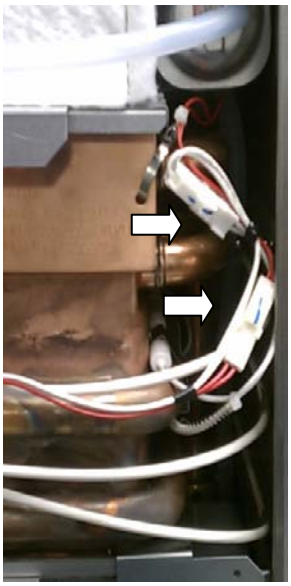
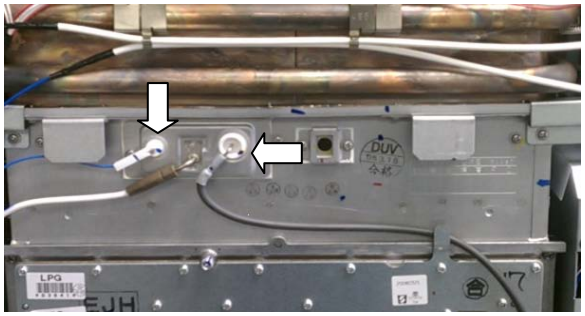
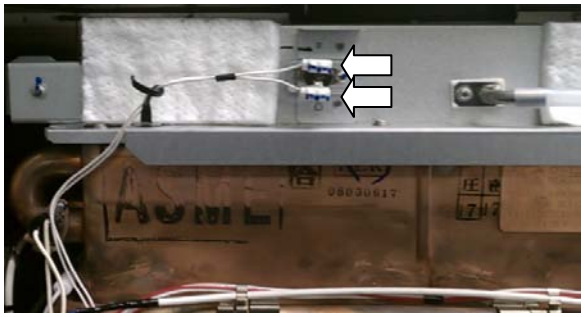


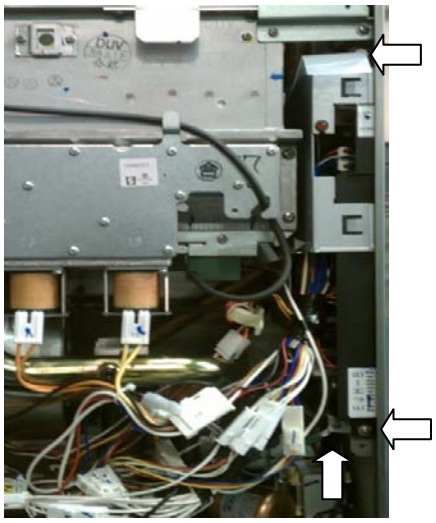
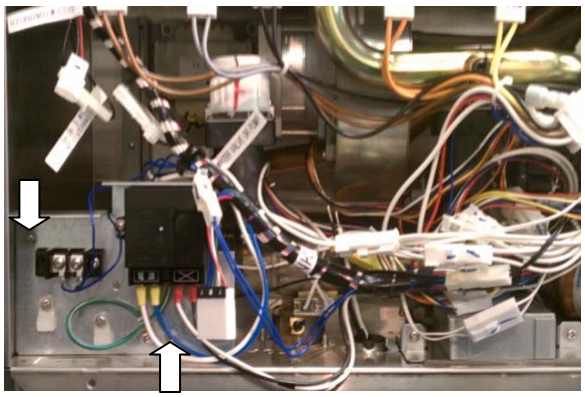
18. Reconnect all wires that attach to the wiring harness and the body of the water heater

    (1) Connecter to the ignition box
    (2) Wiring for the fan





| Procedure | Diagram |
| --- | --- |
| (3) Left side of Heat Exchanger: Freeze prevention heaters (2), thermal fuse (3), high limit switch, burner sensor<br>(4) Right side of the Heat Exchanger: Freeze prevention heater, wind pressure switch<br><br>**NOTE:** The wind pressure switch is not in the NC380 Series unit<br><br>(5) Flame rod, ignition rod<br>(6) Freeze prevention sensor (2) on exhaust box |     |

| Procedure | Diagram |
|---|---|
| 19. Replace circuit board and GFCI<br><br>(1) Slide circuit back into original position<br>(2) Secure top of circuit board screw<br>(3) Secure bottom of circuit board screw and ground wire to the left<br>(4) Secure GFCI plate to case with 2 screws |  <br>  |
| 20. Replace Front Cover<br><br>(1) Turn on water<br>(2) Turn on gas<br>(3) Secure front cover with 4 screws<br>(4) Return electrical power to the unit. |  |