



## N-084M and N-069M-DV Series Heat Exchanger Replacement

Models Include: N-069M-DV, N-084M, N-084M-DV  
N-084M-ASME, N-084M-DV-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.


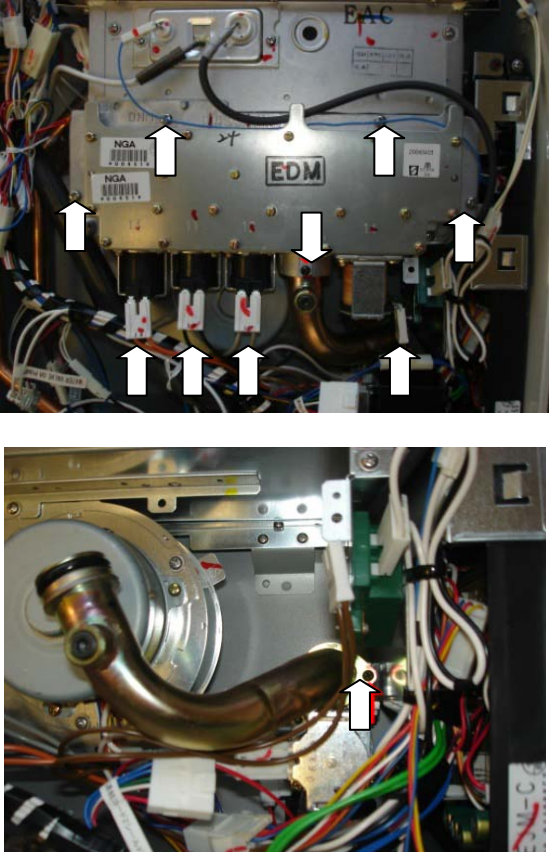
Please contact Noritz Technical Support (866-766-7489) for additional support.

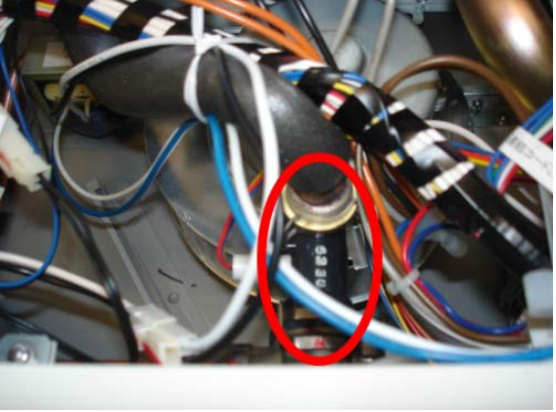


Noritz America Corporation

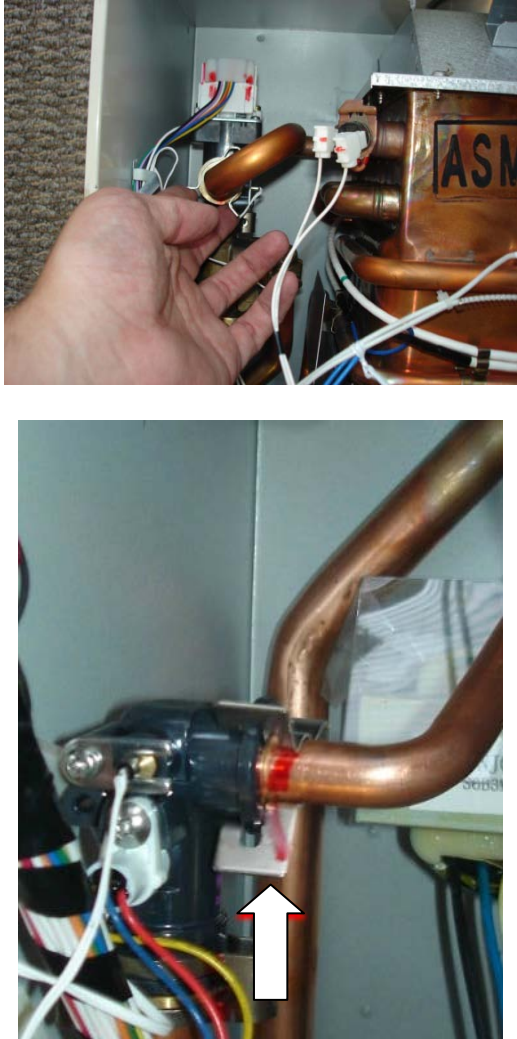
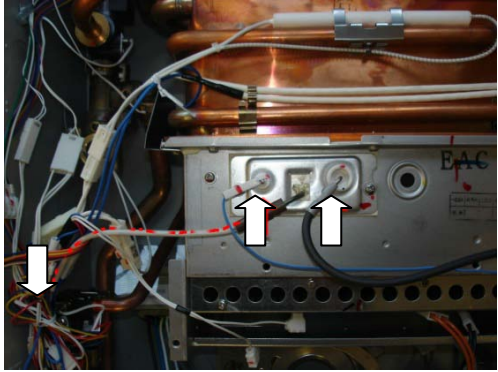
11160 Grace Avenue, Fountain Valley, CA 92708

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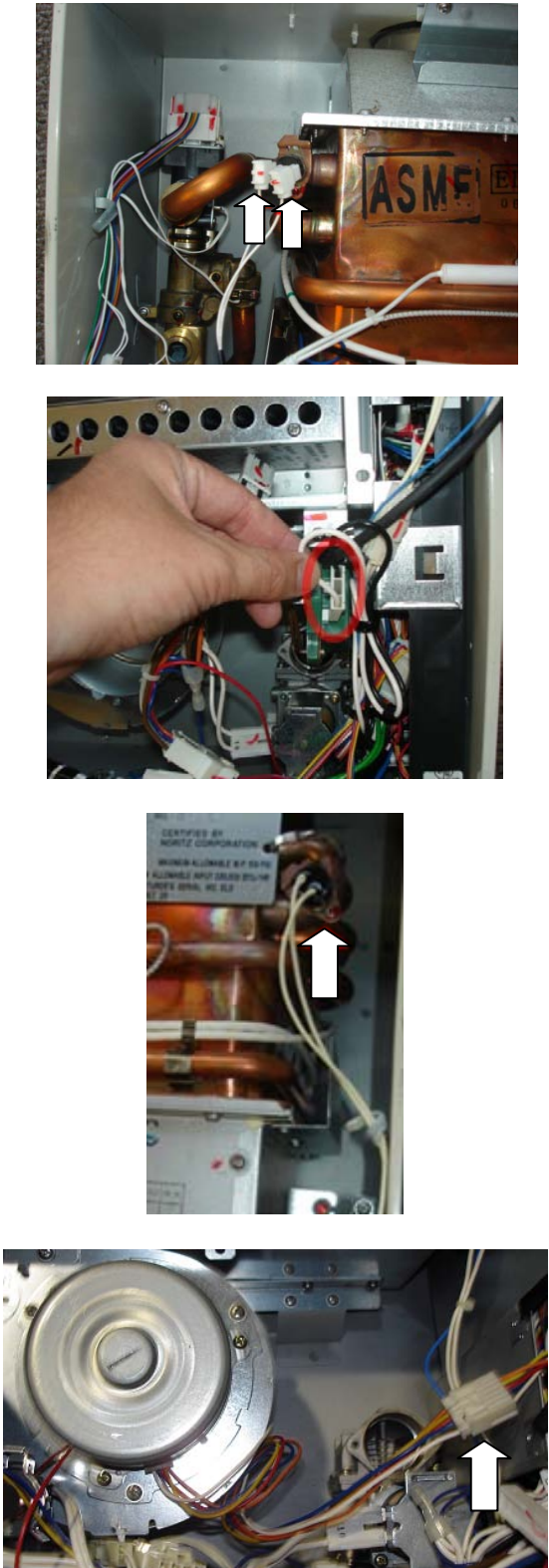
## N-084M(-DV), N-084M(-DV)-ASME, and N-069M-DV Heat Exchanger Replacement Procedure

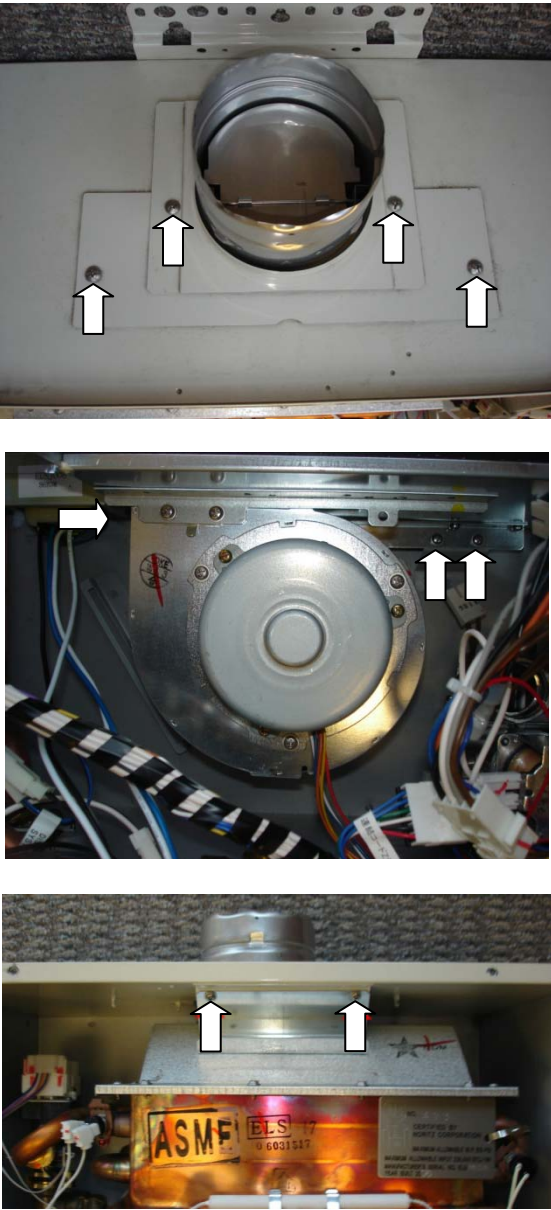
Procedure	Diagram
<p>1. Remove front cover</p> <ul style="list-style-type: none"><li>(1) Disconnect electrical power to unit</li><li>(2) Remove 4 screws</li><li>(3) Turn off gas and water</li><li>(4) Remove filter and drain unit completely</li></ul>	
<p>2. Remove the Manifold Plate and Gas Pipe</p> <ul style="list-style-type: none"><li>(1) Remove the 4 large silver screws around the edge of the manifold plate</li><li>(2) Remove the black set screw that holds the gas pipe into the bottom of the plate</li><li>(3) Remove the wiring to the solenoids that are on the manifold plate.</li><li>(4) Locate inlet gas pipe. There is a black set screw on the bottom of this pipe that holds it on to the gas valve. Remove this screw and pull the pipe straight out.</li></ul>	

Procedure	Diagram
<p data-bbox="240 279 574 310">3. Remove the bypass pipe</p> <ol data-bbox="289 352 792 840" style="list-style-type: none"><li data-bbox="289 352 792 594">(1) The bypass flow sensor is in the bottom center of the heater. Remove the "C" clamp on the bottom of the flow sensor and the "C" clamp on the front. Pull the pipe out of the front of the flow sensor then pull the flow sensor up and out.</li><li data-bbox="289 604 792 741">(2) The bypass flow control valve is to the left of the heat exchanger. Remove the "C" clamp from the back of the flow control valve.</li><li data-bbox="289 751 537 783">(3) Remove the pipe</li><li data-bbox="289 793 792 840">(4) Disconnect the wiring from the bypass flow control valve</li></ol>	  

Procedure	Diagram
<p>4. Disconnect the water pipes coming from the heat exchanger.</p> <p>(1) Locate the main flow control valve in the upper left corner of the heater and the main flow sensor that is located to the left of the burner.</p> <p>(2) Remove "C" clamps from flow sensor and main flow control valve</p> <p>(3) Disconnect water pipes from each water connection</p>	
<p>5. Remove any wiring that is attached to the burner and heat exchanger</p> <p>(1) Remove the wiring for the igniter, flame rod, and burner sensor on the front of the burner. The blue wire and black wire can be disconnected from the front of the burner; the middle/white wire has to be followed into the wiring harness and disconnected there (it becomes a red/white wire then a white plug).</p>	



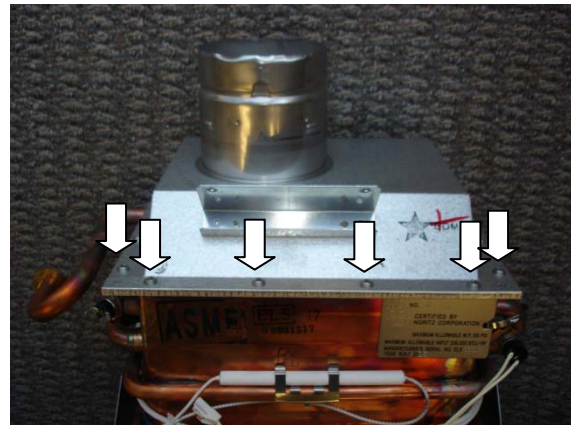
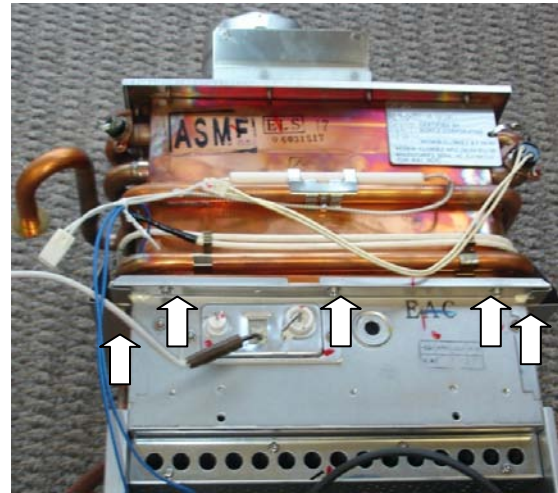
Procedure	Diagram
<p>(2) Remove the two white clips that connect the frost sensing switch on the upper left corner of the heat exchanger.</p> <p>(3) Remove the black and white wires from the igniter.</p> <p>(4) Remove the high limit switch on the upper right side of the heat exchanger by removing the screw.</p> <p>(5) Disconnect the wiring for the thermal fuse (white wire that wraps around heat exchanger, the connectors are blue).</p> <p>(6) Disconnect the wiring to the fan motor (5 multicolored wires).</p>	 <p>The diagram consists of four photographs showing the internal components of a furnace. The top photograph shows the heat exchanger with two white arrows pointing to the frost sensing switch area. The second photograph shows a hand disconnecting the wiring for the thermal fuse. The third photograph shows the thermal fuse with a white arrow pointing to the blue connectors. The bottom photograph shows the fan motor with a white arrow pointing to the multicolored wiring.</p>

Procedure	Diagram
<p>6. Remove heat exchanger from case</p> <ol style="list-style-type: none"><li>(1) Remove the 4 screws on the top of the case around the exhaust vent.</li><li>(2) Remove the 3 set screws on the bottom of the burner (on the left and right sides of the fan housing)</li><li>(3) Remove the upper left and right set screws near the top center of the case (support bottom of assembly)</li><li>(4) The heat exchanger, burner, and fan will now slide forward and drop down. The drop allows the venting to slide through the opening in the top of the heater.</li></ol>	 <p>The diagram consists of three vertically stacked photographs illustrating the removal of the heat exchanger assembly from a heater case. The top photograph shows the exterior of the heater case with a circular exhaust vent. Four white arrows point to screws around the vent. The middle photograph shows the interior of the case, focusing on the burner housing. Three white arrows point to set screws on the left and right sides of the burner housing. The bottom photograph shows the heat exchanger assembly being lowered into the case. Two white arrows point to set screws on the top center of the case. The heat exchanger has a yellow label with 'ASME' and 'E1S' markings.</p>

Procedure	Diagram
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7. Separate burner from heat exchanger

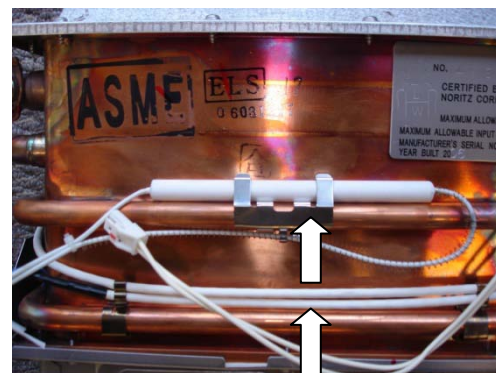
- (1) Remove 14 screws holding burner to heat exchanger.
- (2) The exhaust box will have to be removed there are 14 screws. A gasket is supplied with the heat exchanger for between the heat exchanger and exhaust box



8. Remove thermal fuse and freeze prevention heater and reattach to new heat exchanger

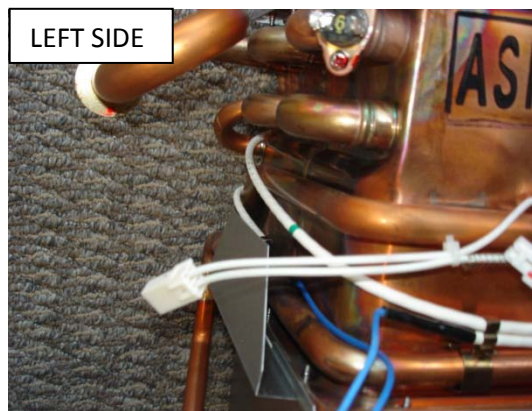
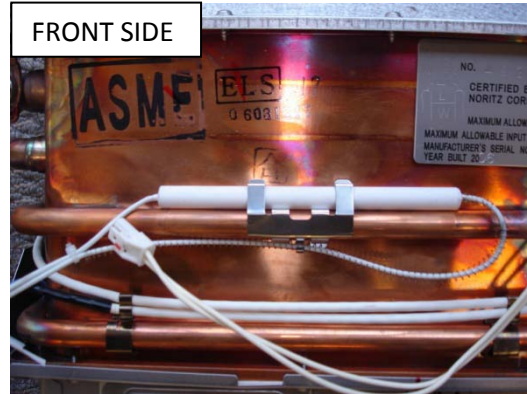
- (1) From the front left of the burner, the route of the thermal fuse is across the front, then up when going along the right side of the HX, then across the back high, then bring it back down to the front, then make the entire second wrap of the heat exchanger low.

Caution: The thermal fuse is a fusible link encased in a protective covering. If it is subjected to sharp bends or pinched it could break and have to be replaced.



Procedure

Diagram

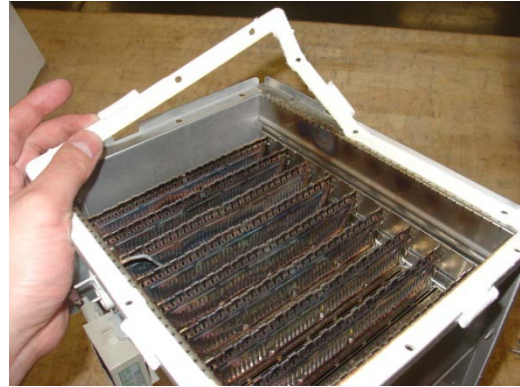




Procedure	Diagram
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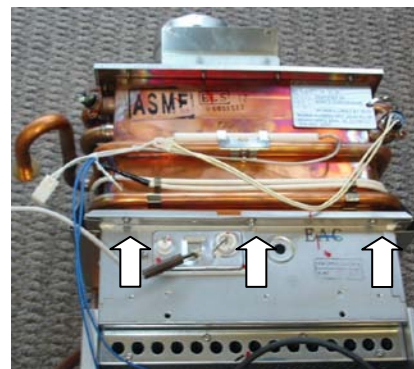
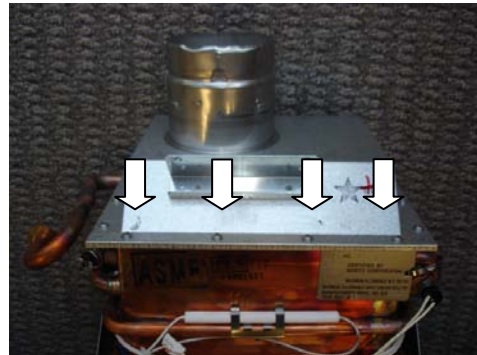
9. Replace burner gasket

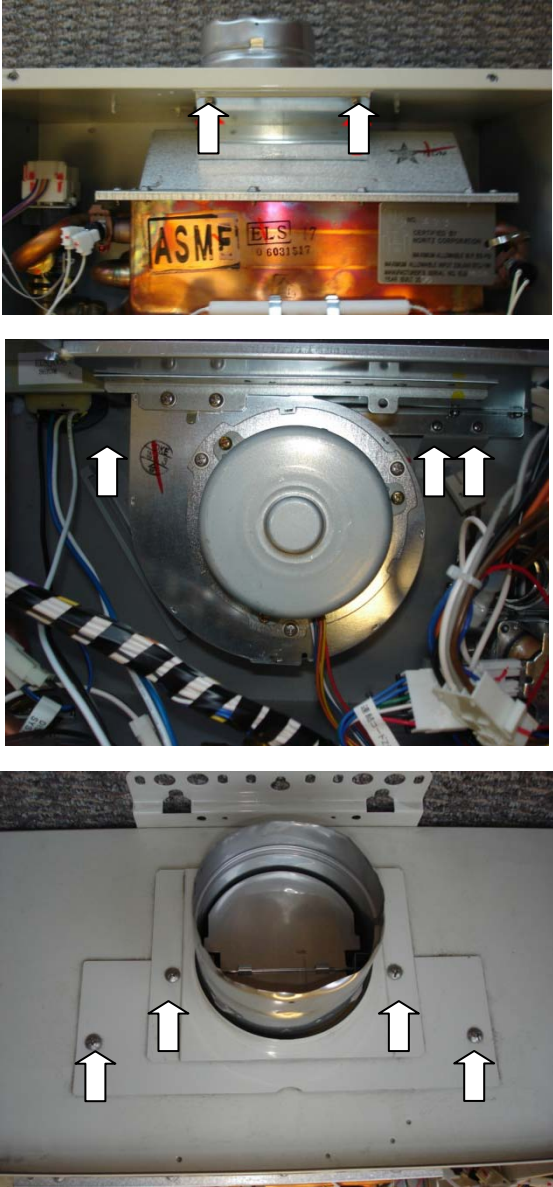
- (1) Remove old gasket
- (2) Replace with new gasket



10. Reattach burner and HX

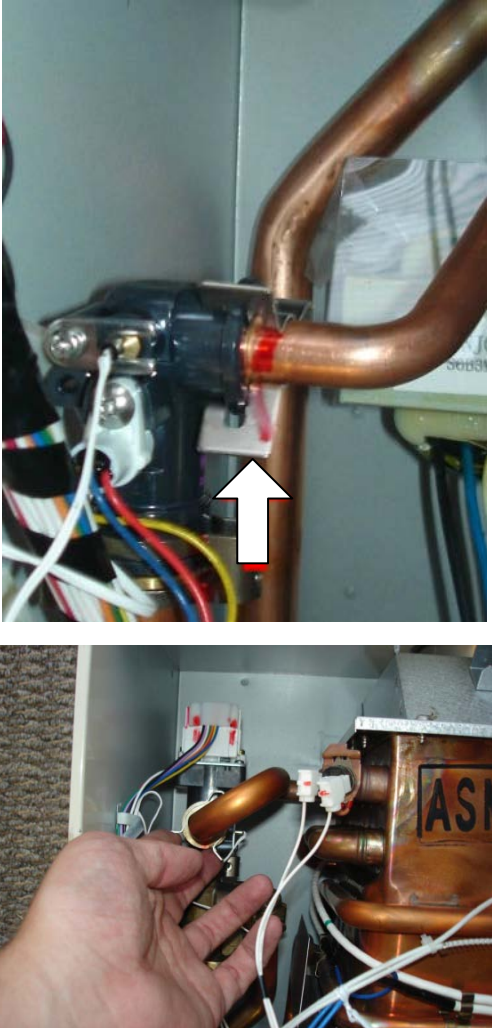

- (1) Place the heat exchanger onto the burner. It is usually best to stand the heat exchanger upside down and let the burner rest on top. Verify the orientation of the heat exchanger and burner (see picture). As well, there are two L-shaped plates that attach on the left and right of the burner; these plates are fastened using the front two screws on each side.
- (2) Replace the exhaust box with 14 screws, there will be a gasket that comes with the new heat exchanger



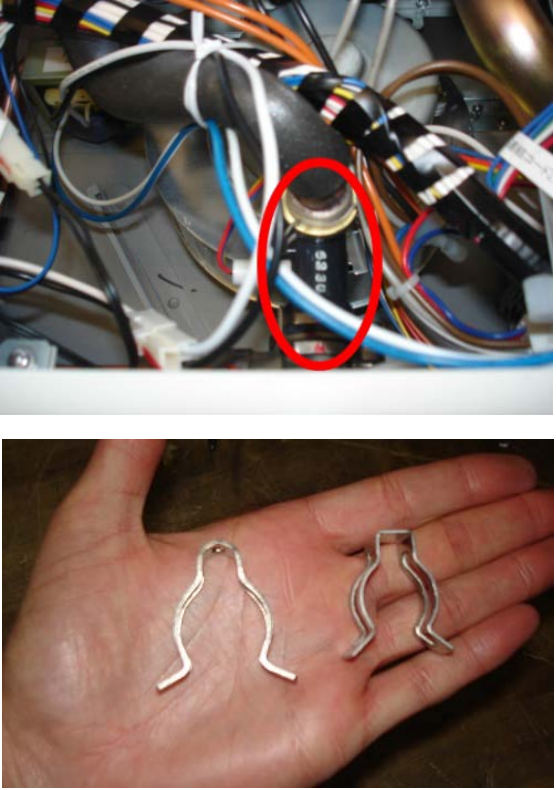
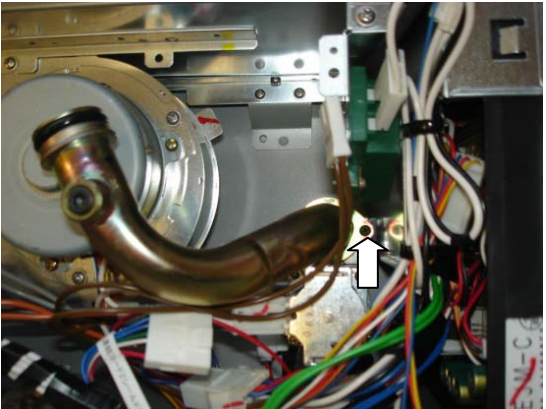
Procedure	Diagram
<p>11. Replace the heat exchanger</p> <ol style="list-style-type: none"><li>(1) Set the heat exchanger, burner, and fan assembly in place</li><li>(2) Replace the 2 set screws on the top of the burner box and the 3 short screws on the side of the fan.</li><li>(3) Replace the plates on the top of the heater. The larger plate goes on the bottom, then the gray/foam gasket between the two plates, then put the smaller plate on top.</li></ol>	 <p>The diagram consists of three photographs illustrating the assembly process. The top photograph shows the burner box and fan assembly being positioned within a housing, with two white arrows pointing to the top of the burner box. The middle photograph shows the fan assembly being secured to the burner box, with three white arrows pointing to the side of the fan. The bottom photograph shows the heat exchanger being installed into a larger plate, with four white arrows pointing to the screws that hold the assembly in place.</p>

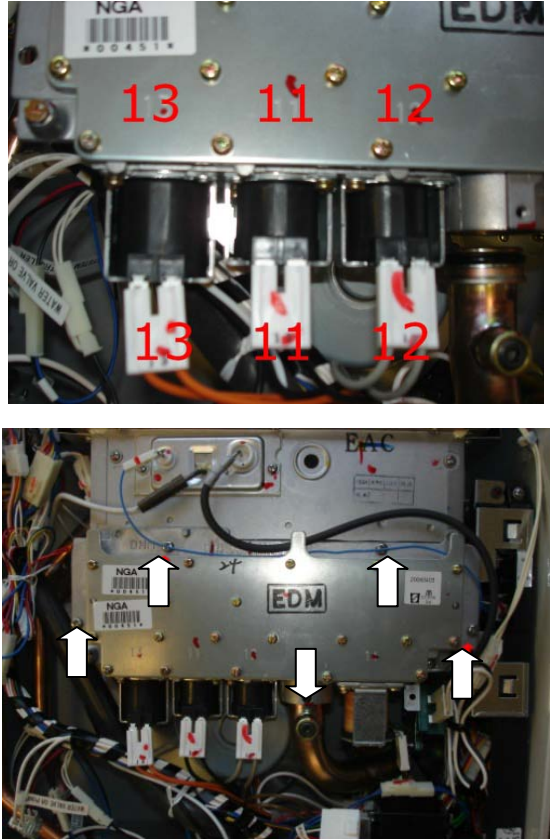
Procedure	Diagram
<p>12. Replacing wiring that is attached to the burner and heat exchanger</p> <ol style="list-style-type: none"> <li>(1) Reconnect the wiring to the fan motor.</li> <li>(2) Reconnect the thermal fuse wires.</li> <li>(3) Replace the wiring for the igniter, flame rod, and burner sensor on the front of the burner.</li> <li>(4) Replace the two white clips that connect the frost sensing switch on the upper left corner of the heat exchanger.</li> <li>(5) Replace the black and white wires from the igniter.</li> <li>(6) Replace the high limit switch on the upper right side of the heat exchanger.</li> </ol>	



Procedure	Diagram
<p>13. Reconnect the water pipes coming from the heat exchanger.</p> <p>(1) Replace the water pipes on the main flow control valve and flow sensor.</p> <p>(2) Replace the “C” clamps on the main flow sensor and valve. The “C” clamp on the main flow control valve is one of the larger rounded off clamps. The “C” clamp on the flow sensor is large on one side, small on the other (see picture). Note how the pipe is pushed completely into the elbow and the “C” clamp is clipped over the pipe not on the fitting.</p>	
<p>14. Replace the bypass pipe</p> <p>(1) Put the pipe back in place</p> <p>(2) Push the bypass flow control valve back into place. Reconnect the “C” clamp on the back of the flow control valve.</p> <p>(3) Reconnect the wiring to the bypass flow control valve</p>	



Procedure	Diagram
<p>(4) Replace the bypass flow sensor. Put the flow sensor in place and push it down onto the inlet fitting first then reconnect the “C” clamp (this “C” clamp is larger and is rounded off). Then push the pipe into the front of the flow sensor and reconnect the “C” clamp (This “C” clamp is smaller than the “C” clamp on the bottom, squared off, and labeled 12.7).</p>	
<p>15. Replace the gas pipe</p> <p>(1) Push the gas pipe into the gas valve then replace the black set screw.</p> <p>(2) Replace the clips onto the solenoids. Notice that the clips are numbered – the numbers will match up to numbers printed on the manifold plate.</p>	

Procedure	Diagram
<p>16. Replace the Manifold Plate</p> <ol style="list-style-type: none"> <li>(1) Replace the gas pipe into the bottom of the manifold plate. Make sure the pipe is pushed in fully then replace the black set screw. This screw should tighten down to the head – if the thread is still visible on the screw, the gas pipe is not fully replaced and could leak.</li> <li>(2) Replace the 4 large silver screws. Do this with a screwdriver as the screws will strip if too much torque is applied</li> </ol>	
<p>17. Replace the front cover</p> <ol style="list-style-type: none"> <li>(1) Replace filter</li> <li>(2) Turn on gas and water (slowly, check for leaks from "C" clamps)</li> <li>(3) Replace the 4 front cover screws</li> <li>(4) Restore electrical power</li> </ol>	