This water heater is configured for Natural Gas from the factory. If conversion to Propane Gas is required, the conversion kit supplied with the water heater must be used.

**WARNING**
This conversion kit shall be installed by a qualified service agency* in accordance with Navien’s instructions and all applicable codes and requirements of the authority having jurisdiction. The information in these instructions must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or death. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer’s instructions supplied with the kit.

### Procedure:
1. Turn off both gas and water supply to the water heater.
2. Using a Phillips hand screwdriver, remove 4 screws (2 from the top and 2 from the bottom) of the front cover assembly to gain access to the internal components. See Figure 1 for illustration of the front cover on the unit.
3. Once the front cover is removed, place it in a safe location to prevent accidental damage. With the internal components exposed, locate the gas inlet pipe and the Gas Valve near the left side of the unit which are highlighted in Figure 2.

   ![Figure 1. NPE Series Front cover](image)

   ![Figure 2. NPE Series Internal Components](image)

4. Use a Phillips screwdriver to remove the two screws at Location A - the connection below the Gas Valve where it connects to the pipe. See Figure 3 for reference. Once the screws are removed, carefully separate the pipe from the Gas Valve.

5. Once the gas inlet pipe is detached from the Gas Valve, find Location B - the connection above the Gas Valve where it is attached to the Fan Motor Assembly. Carefully remove the four screws by hand using a Phillips screwdriver and pull the Gas Valve away from the Fan Assembly to access the Gas Orifice.

   ![Figure 3. Detaching Gas Valve from Gas Inlet Pipe and Fan Motor Assembly](image)

6. Once the Gas Orifice is exposed, remove the two screws that hold the part in place. Remove the Gas Orifice from its housing and prepare the new Gas Orifice for the LP conversion for installation.

7. Remove the Gas Orifice, ensure that the packing is properly seated inside the port, and then install the new Gas Orifice for use with LP gas. Ensure that the Orifice is properly seated on the packing inside the port before proceeding to the next step.

8. Replace the gas inlet pipe to its original position and use all screws to secure all connections.

   **Note**
   Do not overtighten as this may damage or crack the components.

9. Set the Front Panel Dip switch according to the gas type.

10. Turn on the gas and water supply to the water heater.

### Tools Required:
- Phillips Screwdriver
- Flathead Screwdriver
- \( \frac{1}{4} \) in or 4 mm Allen Wrench
- Combustion Analyzer or Dual Port Manometer
- Gas Leak Detector

**Included Items:**
- Gas Orifice (refer to below table)
- Gas Pressure and Conversion Kit Number Labels

**Table 1. Orifice Size**

<table>
<thead>
<tr>
<th>Model</th>
<th>NG</th>
<th>LP</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPE-150S</td>
<td>Ø 6.50</td>
<td>Ø 5.10</td>
</tr>
<tr>
<td>NPE-180A/NPE-180S</td>
<td>Ø 5.95</td>
<td>Ø 4.75</td>
</tr>
<tr>
<td>NPE-210A/NPE-210S</td>
<td>Ø 6.00</td>
<td>Ø 4.95</td>
</tr>
<tr>
<td>NPE-240A/NPE-240S</td>
<td>Ø 6.30</td>
<td>Ø 5.05</td>
</tr>
</tbody>
</table>

### Table 2. Orifice Size

<table>
<thead>
<tr>
<th>Model</th>
<th>1STAGE</th>
<th>2STAGE</th>
<th>1STAGE</th>
<th>2STAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPE-150S</td>
<td>Ø 4.80</td>
<td>Ø 4.80</td>
<td>Ø 5.95</td>
<td>Ø 5.95</td>
</tr>
<tr>
<td>NPE-210A/NPE-210S</td>
<td>Ø 6.10</td>
<td>Ø 6.10</td>
<td>Ø 6.30</td>
<td>Ø 6.30</td>
</tr>
<tr>
<td>NPE-240A/NPE-240S</td>
<td>Ø 6.80</td>
<td>Ø 6.80</td>
<td>Ø 7.10</td>
<td>Ø 7.10</td>
</tr>
</tbody>
</table>

**WARNING**
- DO NOT adjust or attempt to measure gas valve outlet pressure. The gas valve is factory-set for the correct outlet pressure. This setting is suitable for natural gas and propane, requiring no field adjustment.
- Attempting to alter or measure the gas valve outlet pressure could result in damage to the valve, causing potential severe personal injury, death or substantial property damage. Navien water heaters are shipped ready to fire natural gas ONLY.

**DANGER**
Inspect the O-ring between the gas valve and gas valve inlet adapter whenever they are disassembled. The O-ring must be in good condition and must be installed. Failure to comply will cause a gas leak, resulting in severe personal injury or death.

**WARNING**
Be sure to turn off the power before changing the DIP switch setting.
11. Measure and adjust the gas/air ratio.
   Option 1. Using Combustion Analyzer (recommended)
   a. Loosen the screw, rotate the plate and remove the
      gasket to access the emissions monitoring port as
      shown in Figure 7.
   b. Insert the analyzer into the port (Figure 7).
   c. Fully open several hot water fixtures and set the water
      heater to operate at 1-stage MIN mode (refer to page 8).
      Measure the CO₂ value at low fire.
      If the CO₂ value is not within 0.5% of the value listed
      in Table 2, the gas valve set screw will need to be
      adjusted.
      If adjustment is necessary, locate the set screw as
      shown in Figure 8. Using a 5/32 in or 4 mm Allen wrench,
      turn the set screw no more than 5/8 turn clockwise to raise
      or counterclockwise to lower the CO₂ value.
   d. At high fire, do not check the offset value and never
      adjust the gas valve.

   [Diagram: Figure 7 and Figure 8]

<table>
<thead>
<tr>
<th>Water Heater</th>
<th>Fuel</th>
<th>High fire</th>
<th>Low fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPE-150S</td>
<td>NG</td>
<td>8.9</td>
<td>9.5</td>
</tr>
<tr>
<td>NPE-150A</td>
<td>NG</td>
<td>8.9</td>
<td>9.5</td>
</tr>
<tr>
<td>NPE-180S</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-180A</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-210S</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-210A</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-240S</td>
<td>NG</td>
<td>8.9</td>
<td>9.5</td>
</tr>
<tr>
<td>NPE-240A</td>
<td>NG</td>
<td>8.9</td>
<td>9.5</td>
</tr>
</tbody>
</table>

   Table 2. CO₂ and CO value
   (CO₂ values must be within 0.5% of the values listed.)

   Option 2. Using Digital Manometer
   a. Open the offset pressure port by loosening the screw
      two turns as shown in Figure 9.
   b. Connect a manometer to the offset pressure port. For
      dual port manometers, use the positive pressure side.
   c. Fully open a hot water fixture and set the water heater
      to operate at 1-stage MIN mode (refer to page 8).
      Measure the offset value at low fire.
      If adjustment is necessary, locate the set screw as
      shown in Figure 10. Using a 5/32 in or 4 mm Allen wrench,
      turn the set screw no more than 5/8 turn clockwise to raise
      or counterclockwise to lower the offset value.
   d. Fully open several hot water fixtures and set the water
      heater to operate at 2-stage MAX mode (refer to page 8).
      Measure the CO₂ value at high fire. If the CO₂ values do not match Table 2 at high fire, do not adjust the gas valve. Check for the proper Gas Orifice.

   [Diagram: Figure 9 and Figure 10]

<table>
<thead>
<tr>
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<tr>
<td>NPE-150A</td>
<td>NG</td>
<td>8.9</td>
<td>9.5</td>
</tr>
<tr>
<td>NPE-180S</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-180A</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-210S</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-210A</td>
<td>LP</td>
<td>10.2</td>
<td>10.8</td>
</tr>
<tr>
<td>NPE-240S</td>
<td>NG</td>
<td>8.9</td>
<td>9.5</td>
</tr>
<tr>
<td>NPE-240A</td>
<td>NG</td>
<td>8.9</td>
<td>9.5</td>
</tr>
</tbody>
</table>

   Table 3. Offset value for low fire
   (offset values must be within 0.5% of the values listed.)

   12. Once the CO₂ or offset values have been confirmed, apply the included conversion stickers to show that the appliance has been converted to propane gas. Place this labels adjacent to the rating plate as shown in Figure 11.

   [Diagram: Figure 11]

   [Note: Gas Conversion Kit Labels]

   a. Open the offset pressure port by loosening the screw
      two turns as shown in Figure 9.
   b. Connect a manometer to the offset pressure port. For
      dual port manometers, use the positive pressure side.
   c. Fully open a hot water fixture and set the water heater
      to operate at 1-stage MIN mode (refer to page 8).
      Measure the offset value at low fire.
      If adjustment is necessary, locate the set screw as
      shown in Figure 10. Using a 5/32 in or 4 mm Allen wrench,
      turn the set screw no more than 5/8 turn clockwise to raise
      or counterclockwise to lower the offset value.
   d. Fully open several hot water fixtures and set the water
      heater to operate at 2-stage MAX mode (refer to page 8).
      Measure the CO₂ value at high fire. If the CO₂ values do not match Table 2 at high fire, do not adjust the gas valve. Check for the proper Gas Orifice.