



ALWAYS HOT

## Installation Guide

Conversion Kits: CK-11, CK-12, CK-13, CK-14, CK-15, CK-16, CK-17, CK-18,  
CK-41



### WARNING

**This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer'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.**

In Canada:

The conversion shall be carried out in accordance with the requirements of the provincial authorities having jurisdiction and in accordance with the requirements of the CAN-B149.1 and CAN1-B149.2 Installation Code.

\*A qualified service agency is any individual, firm, corporation or company which either in person or through a representative is engaged in and is responsible for the connection, utilization, repair or servicing of gas utilization equipment or accessories; who is experienced in such work, familiar with all precautions required, and has complied with all of the requirements of the authority having jurisdiction.

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CK-IM-3  
Rev. 01/11



# 1. Before Conversion

Before attempting to convert a unit, verify that the proper kit has been purchased for the model type\*:

Conversion Kit	Model	Conversion Type
CK-11	N-0751M/NR98-SV	Propane to Natural Gas
CK-12	N-0751M/NR98-SV	Natural Gas to Propane
CK-13	N-0751M-OD/NR98-OD /NC199-OD	Propane to Natural Gas
CK-14	N-0751M-OD/NR98-OD /NC199-OD	Natural Gas to Propane
CK-15	N-0751M-DV	Propane to Natural Gas
CK-16	N-0751M-DV	Natural Gas to Propane
CK-17	N-0751M-DVC/NR98-DVC	Propane to Natural Gas
CK-18	N-0751M-DVC/N98-DVC /NC199-DVC	Natural Gas to Propane
CK-41	N-0751M-DVC/N98-DVC /NC199-DVC with Built-In Drain Tee	Propane to Natural Gas

\*The model type can be verified from the rating plate located on the front cover of the water heater.

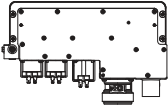






## Tools Required:

- Noritz Remote Controller (RC-7649M)
- Manometer (Capable of displaying digits in tenths (i.e. 2.4) and up to 20" W.C.)
- Philips screwdriver (#2 Recommended)
- Pliers
- Gas leakage device detector

NOTE: Do not attempt to perform a conversion without access to a manometer and a Noritz remote controller. A digital manometer is recommended.

## 2. Included Parts

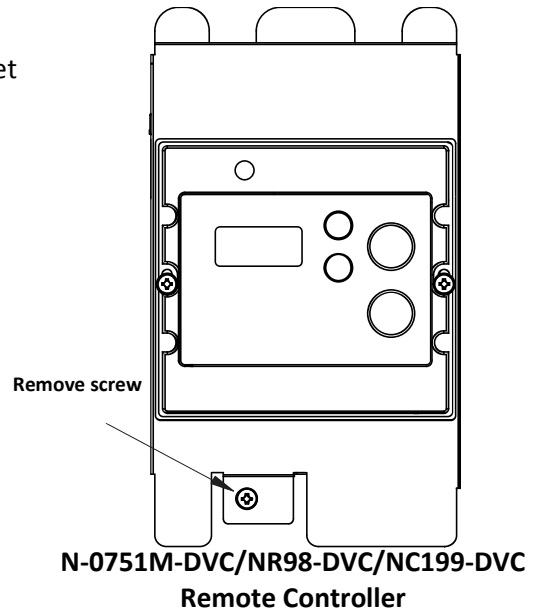
The following parts are supplied in the conversion kit. Check for any missing items before starting the conversion.

Parts	Shape	Quantity
Manifold Plate		1
O-Ring		2
Main Damper (N-0751M/NR98-SV NG/LPG, N-0751M-DV NG/LPG and N-0751- DVC /NR98-DVC/NC199-DVC NG/LPG only)		1
New Inlet and Manifold Pressure Rating Sticker		1
Date, Gas Type, Kit Number, Name of Company Sticker		1
Exhaust Ring (N-0751M-DVC/NR98-DVC NG only)		1
Exhaust Ring (N-0751M-DVC/NR98-DVC /NC199-DVC NG with Built-In Drain Tee only)		1

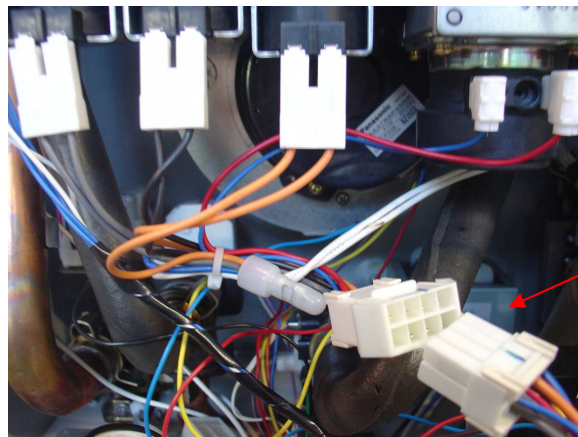
### 3. Conversion Procedure

#### Parts Replacement:

- 1) If the display on the remote controller is on, turn off the unit by pressing the “ON/OFF” button on the remote controller. There should be no display on the remote controller.
- 2) Turn off electrical power to heater by disconnecting the electrical plug from the outlet or shut off the breaker providing power to water heater.
- 3) Turn off the gas supply to the water heater by closing the gas shut-off valve.
- 4) Remove the front cover of the unit by removing the 4 screws holding it to the case.
- 5) **FOR N-0751M-DVC/NR98-DVC/NC199-DVC only:** Detach the Remote Controller with metal plate by removing the screw below (see image).

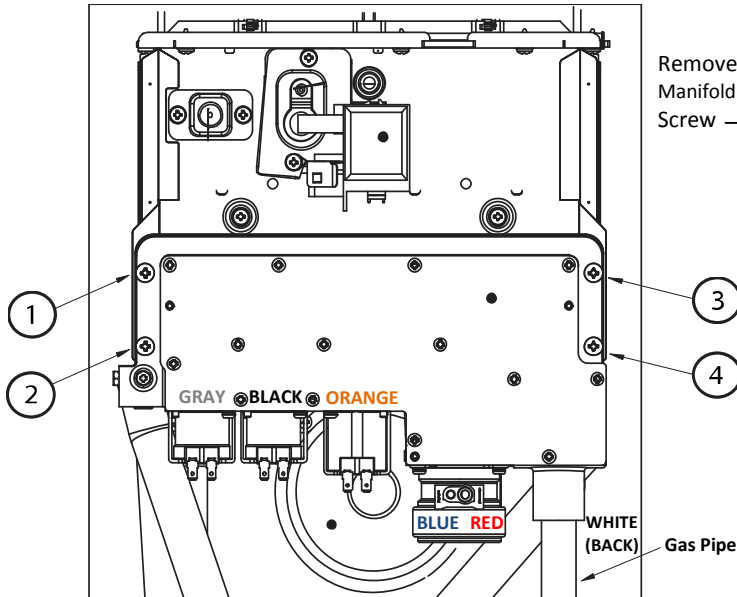


- 6) Locate the six colored wire connectors (Gray, Black, Orange, White, Blue, and Red) from the electrical solenoids on the manifold from the locations indicated in Figure 1 on the following page. Follow the wires to a white clip and disconnect it. Disconnect the gas pipe from the gas supply inlet by removing the C-Clamp at the bottom of the gas pipe (Figure 2). For easier access remove the mounting plate with the current leakage safety device in front of the gas pipe.

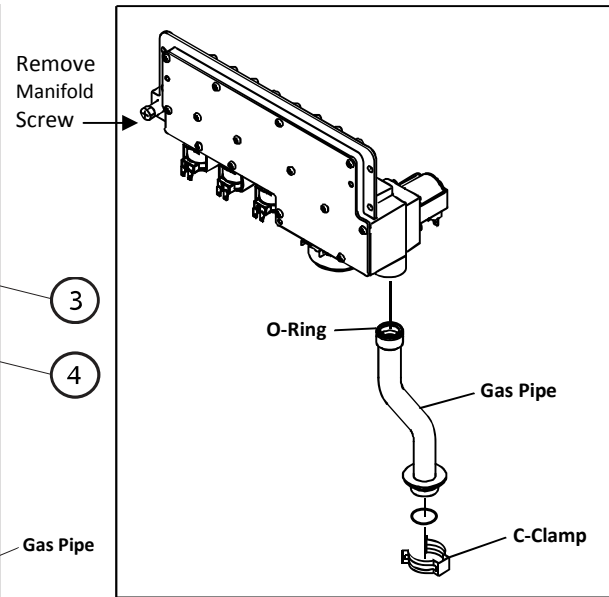


- 7) Then locate and remove the 4 screws with a Philips screwdriver (Figure 1). Do NOT use a power drill. Once screws are removed, pull the gas pipe from the gas fitting. When the pipe and manifold have been detached, remove the gas pipe from the manifold inlet.

**Remember to remove the manifold screw. This will be used on the new manifold plate.** Discard the original manifold plate.

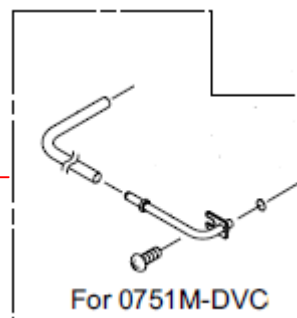
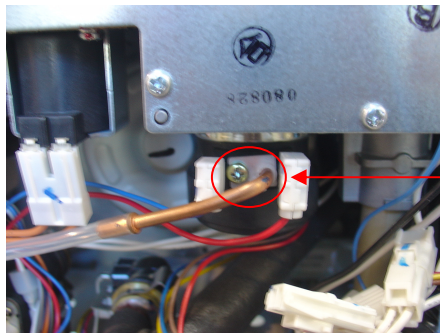


**FIGURE 1**



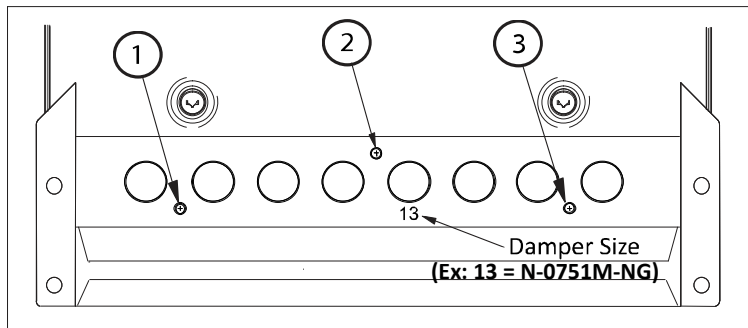
**FIGURE 2**

- 8) **FOR N-0751M-DVC/NR98-DVC/NC199-DVC ONLY:** Remove screw, feed back pipe, and o-ring from the gas valve. **This will be reinstalled on the new manifold plate.**



**FIGURE 3**

- 9) **FOR N-0751M/NR98-SV NG/LPG, N-0751M-DV NG/LPG, and N-0751M-DVC/NR98-DVC/NC199-DVC NG/LPG ONLY:** After manifold plate is removed, the existing damper will be exposed as indicated in Figure 4 below. Remove screws (1), (2), (3), and then pull the damper off the burner assembly. Check for proper size of damper with the chart below and replace with new damper that was included with your gas conversion kit.



**FIGURE 4**

Model Name	Gas Conversion	Damper Size
N-0751M /NR98-SV	NG to LPG	11
	LPG to NG	13
N-0751M-DV	NG to LPG	9-10
	LPG to NG	9-13
N-0751M-DVC /NR98-DVC /NC199-DVC	NG to LPG	11
	LPG to NG	9-13H

10) Locate the black O-rings on the gas pipe as indicated in Figure 2 & 5. If torn or damaged, remove and replace O-rings with the new O-rings supplied in the conversion kit. Discard the old O-rings.

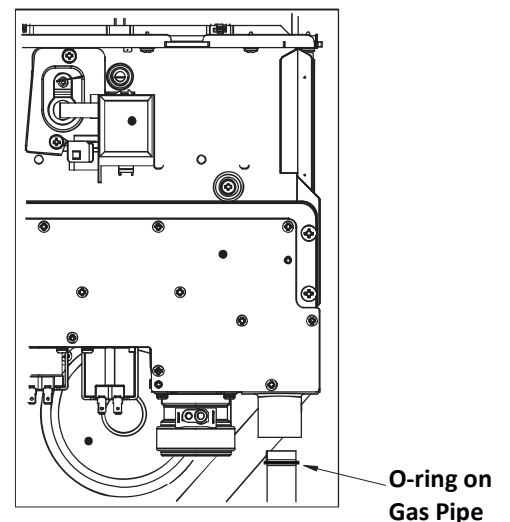
11) Insert the new manifold plate supplied with the conversion kit. The orifice size of the gas manifold plate should be marked as follows (check Figure 5):

N-0751M/NR98-SV, N-0751M-OD/NR98-OD/NC199-OD, and N-0751M-DV:

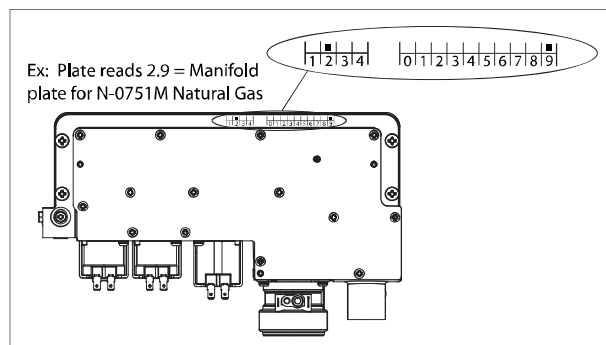
- To fire Natural Gas (NG) – 2.9
- To fire Propane Gas (LPG) – 2.0

N-0751M-DVC/NR98-DVC/NC199-DVC:

- To fire Natural Gas (NG) – 3.3
- To fire Propane Gas (LPG) – 2.1



**FIGURE 5**



**FIGURE 6**

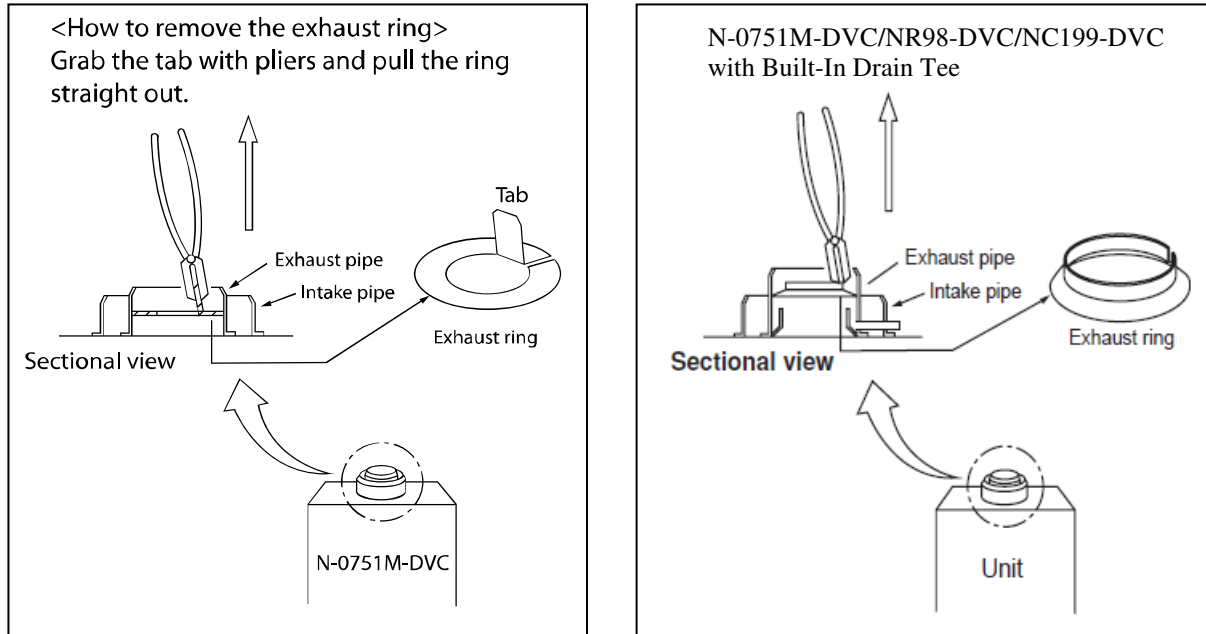
**DO NOT continue with conversion if manifold plate is incorrect.**

- 12) Make sure that the O-Ring is secured properly in place. **Failure to do so will cause gas leaks, possibly resulting in severe personal injury or death.**
- 13) Once O-ring is in place, slide the gas pipe into the manifold inlet. Make sure that the gas pipe is completely inserted into the manifold inlet in order to prevent any gas from leaking.
- 14) Insert gas pipe into the gas supply inlet and hold the manifold plate in place.
- 15) Secure the new manifold plate to the unit using the screws removed in Step 7. The screws need only to be hand tightened and should not be tightened using a drill. First, insert screws 1-4 from Figure 1, but do not fully tighten these screws. Once all screws are inserted, proceed to completely tighten screws 1-4.

Note: When tightening the screws, be certain to not apply excess force as the screws should turn easily. If extra force is required, stop, remove the screw and tighten by hand first. Excess force can strip out the original holes.

- 16) Attach C-Clamp at the bottom of the gas pipe (Figure 2). **Failure to do so will cause gas leaks, possibly resulting in severe personal injury or death.**
- 17) Reconnect the white clip that contains the wires to the electrical solenoids on the manifold from the locations indicated in Figure 1.
- 18) **FOR N-0751M-DVC/NR98-DVC ONLY:** Reinstall the o-ring, feed back pipe, and screw on the gas valve as shown in Figure 3.
- 19) Before replacing the front cover, the unit must be adjusted and tested as described in the next section.
- 20) **FOR CONVERSION OF N-0751M-DVC/NR98-DVC/NC98-DVC FROM NG to LPG:** Locate the exhaust ring within the exhaust pipe that is located on the top of the unit as shown in Figure 7. Use pliers to pull the tab on the exhaust ring in order to remove the ring from the pipe.

**FOR CONVERSION OF N-0751M-DVC/NR98-DVC/NC98-DVC FROM LPG to NG:** Use the exhaust ring that came included with your gas conversion kit and insert it into the exhaust pipe “Please refer to installation manual regarding vent length”. Make sure that the ring is completely seated inside the pipe.



**FIGURE 7**

### Adjustments:

- 1) Before electrical power is applied to the unit, install a remote controller to the unit if it is not already installed.
- 2) Reconnect the electrical power to the unit.
- 3) Within the first ten minutes of connecting electrical power to the unit, but before pressing the Power ON/OFF button (display should be blank), hold the up button on the remote controller until the display blinks “99”. This will put the unit into Maintenance Writer mode. If pressing the up button does not put the unit into Maintenance Writer mode, make sure the remote display is blank, unplug the unit for sixty seconds, and try again.
- 4) After accessing the Maintenance Writer mode, use the “up” and “down” buttons to change the Maintenance Writer item number display. Pressing the “FLOW METER ALARM SET” button for 0.5 seconds will change the item number setting from “ON” to “OFF”. If the Priority lamp is flashing when an item number is displayed, this indicates an “ON” setting for that item number, and if the Priority lamp is off, the item number is “OFF”.



- 5) **FOR N-0751M USING NATURAL GAS (ELV CIRCUIT BOARD) ONLY:** Use the “up” arrow key until the remote controller displays “19”. Change “19” from “OFF” to “ON”. The priority light should be flashing after pressing the “FLOW METER ALARM SET”.
- 6) Change “FC” and “FE” from OFF to ON. The priority light should be flashing on both item numbers after pressing the “FLOW METER ALARM SET”.
- 7) Choose the proper conversion setting from the chart below and set the “A1” Maintenance Writer item number according to the chart below.

**Note: DO NOT change the other item numbers. This will cause a fault in the water heater.**

Models	Desired Gas Type	A1	
N-0751M/NR98-SV, N-0751M-OD/NR98-OD/NC199-OD, N-0751M-DV, and N-0751M-DVC/NR98-DVC/NC199-DVC	Natural Gas	ON	ON: “Priority” light is flashing.
N-0751M/NR98-SV, N-0751M-OD/NR98-OD/NC199-OD, N-0751M-DV, and N-0751M-DVC/NR98-DVC/NC199-DVC	Propane	OFF	OFF: “Priority” light is off.

- 8) After setting the “A1” item number for the desired gas type, press and hold the “up” and “down” buttons together for five seconds to confirm the new settings. The remote controller will emit a tone and the display will go blank when the settings are confirmed. If this is not done, the unit will not put the setting changes into effect.

Note: The setting changes can be cancelled by pressing the Power ON/OFF button before confirming the settings, or if the unit is left alone for ten minutes without confirming the settings. If the default setting needs to be changed again, disconnect the electrical power to the unit, reconnect it and repeat this procedure.

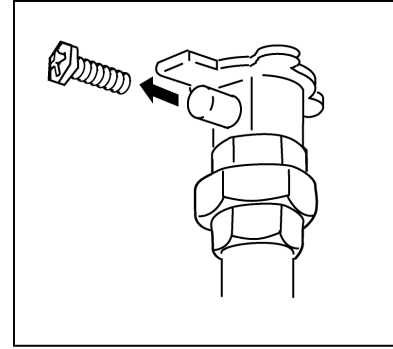
### Testing:

- 1) Before turning on the gas supply to the unit, verify that the inlet gas supply pressure is within the following operating ranges:
  - a. Natural Gas Supply: Min. 4 – Max. 10.5 inches
  - b. Propane Supply: Min. 8 – Max. 14 inches

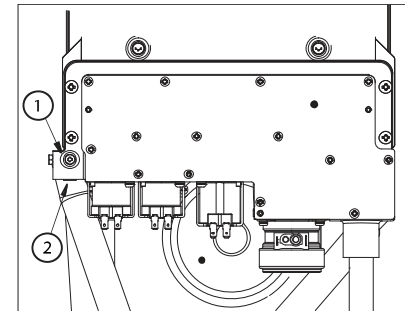
Note: If the supply pressure is higher than the maximum allowable pressure, adjust the pressure at the regulator or install a secondary regulator on the supply line connected to the water heater. **DO NOT attempt to operate heater if gas supply pressure is not within ranges specified above. High supply pressure can damage the unit and possibly cause a gas leak.**

Next, verify the supply pressure at the unit. To check the gas supply pressure to the unit, a tap is provided on the gas inlet (Figure 8). Make sure gas supply is turned off to the unit. Remove the hex head Philips screw from the tap. A 9/32” nut driver is recommended for the removal of this screw. If a nut driver is not available, a Philips screwdriver can be used. Gently remove the screw, so as not to strip out the screw.

- 2) Connect a manometer to the tap by using a silicone tube. Turn on gas supply to unit and confirm the supply pressure.
- 3) After supply pressure to heater has been confirmed, turn off the gas supply, remove the manometer tube and replace the hex head screw.
- 4) The manifold pressure will also have to be checked using a manometer (digital manometer is suggested). In order to check the gas manifold pressure, a tap is provided on the manifold plate inside the unit (Figure 9). The pressure can be checked either by removing the Philips head screw (1) and connecting a manometer with a silicon tube, or by removing the 1/8" NPT screw (2) with an Allen wrench and connecting the appropriate pressure gauge. Be sure to zero out the manometer before attaching it to the tap.



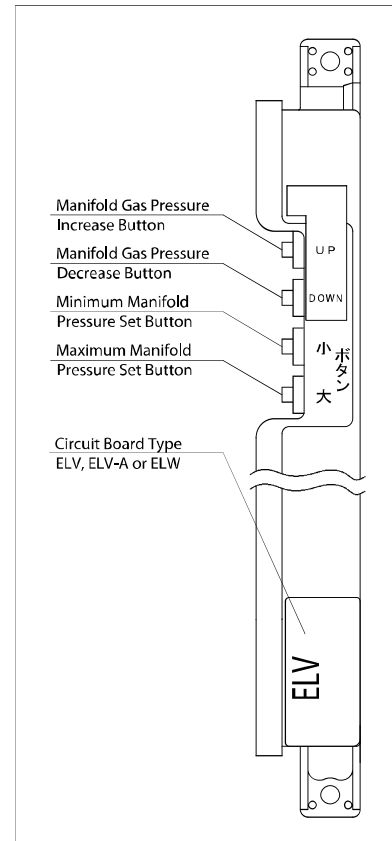
**FIGURE 8**



**FIGURE 9**

- 5) Turn on the gas supply to the unit.
- 6) Before firing the unit, check for gas leaks at the gas inlet fitting and around the manifold plate using a gas leak detection device.
- 7) If not already on, press the Power "ON/OFF" button so that the unit is in standby mode. The priority light should be on.
- 8) Open up several hot water fixtures (high flow rate is required through the unit) and allow the unit to go through its startup sequence. It may take several ignition attempts in order to purge air from the gas chambers. If an "11" code appears on the remote controller, reset the unit by pressing the Power button on the remote controller off and then on again.
- 9) Once the heater has ignited and has begun to run continuously, locate the manifold adjustment buttons on the right side of the circuit board (Figure 10). Check directly below the manifold adjustment buttons for a label in order to identify the type i.e. ELV, ELV-A, ELW, etc.
- 10) Press and hold the maximum pressure set button. Verify from the tables below that the appropriate pressure is read from the manometer. If the pressure needs adjustment, use the manifold pressure increase and decrease buttons to adjust to the correct pressure, while continuing to hold down the maximum pressure set button.

- 11) Press and hold the minimum pressure set button.  
Verify from the tables on the following page that the appropriate pressure is read from the manometer. If the pressure needs adjustment, use the manifold pressure increase and decrease buttons to adjust to the correct pressure, while continuing to hold down the minimum pressure set button.



**FIGURE 10**

Model Name	Gas Type	Supply Pressure (inch H <sub>2</sub> O)	Manifold Pressure (inch H <sub>2</sub> O) Cover Off	
			Max Value	Min Value
N-0751M	NGA	7.9	2.76	0.91
	LPG	11.0	4.17	1.14
N-0751M-OD	NGA	7.9	2.68	0.75
	LPG	11.0	4.17	1.06
N-0751M-DV	NGA	7.9	3.23	0.75
	LPG	11.0	4.69	1.10

**Manifold Gas Pressure Maximum and Minimum Values  
(ELV Circuit Board)**

Model Name	Gas Type	Supply Pressure (inch H <sub>2</sub> O)	Manifold Pressure (inch H <sub>2</sub> O) Cover Off	
			Max Value	Min Value
N-0751M	NGA	7.9	2.99	0.79
	LPG	11.0	4.17	1.14
N-0751M-OD	NGA	7.9	2.95	0.75
	LPG	11.0	4.17	1.06
N-0751M-DV	NGA	7.9	3.54	0.94
	LPG	11.0	4.69	1.10

**Manifold Gas Pressure Maximum and Minimum Values  
(ELV-A or ELW Circuit Board)**

Model Name	Gas Type	Supply Pressure (inch H <sub>2</sub> O)	Manifold Pressure (inch H <sub>2</sub> O) Cover Off	
			Max Value	Min Value
N-0751M /NR98-SV	NGA	7.9	2.99	0.79
	LPG	11.0	4.25	1.12
N-0751M-OD /NR98-OD /NC199-OD	NGA	7.9	2.95	0.75
	LPG	11.0	4.25	1.06
N-0751M-DV	NGA	7.9	3.54	0.94
	LPG	11.0	4.69	1.06
N-0751M-DVC /NR98-DVC /NC199-DVC	NGA	7.9	Refer to the "Setting list for gas manifold pressure (N-0751M-DVC)" below	
	LPG	11.0		

**Manifold Gas Pressure Maximum and Minimum Values  
(ELV-B or ELW-A and later Circuit Board)**

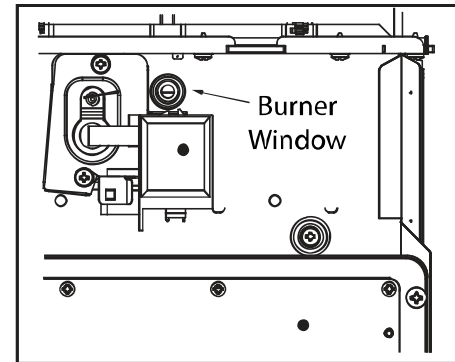
**Setting list for Gas manifold pressure (N-0751M-DVC/NR98-DVC/NC199-DVC)**

Manifold Pressure for N-0751M-DVC/NR98-DVC/NC199-DVC (inch H <sub>2</sub> O) Cover off						
Vent length adjustment	Connector ON		Connector OFF		Connector OFF, No vent	
Gas type / Vent length	Max. value	Min. value	Max. value	Min. value	Max. value	Min. value
Natural / Min length	3.16	0.77	2.91	0.71	3.29	0.80
(Vertical termination)*	(2.79)	(0.69)	(2.68)	(0.65)		
Natural / Max length	3.03	0.73	2.79	0.68		
(Vertical termination)*	(2.79)	(0.67)	(2.61)	(0.63)		
LPG / Min length	4.02	0.95	3.85	0.90	4.14	0.96
(Vertical termination)*	(3.67)	(0.87)	(3.60)	(0.84)		
LPG / Max length	3.89	0.91	3.75	0.87		
(Vertical termination)*	(3.63)	(0.85)	(3.54)	(0.83)		

\*Use these settings when the unit terminates using the vertical rain cap

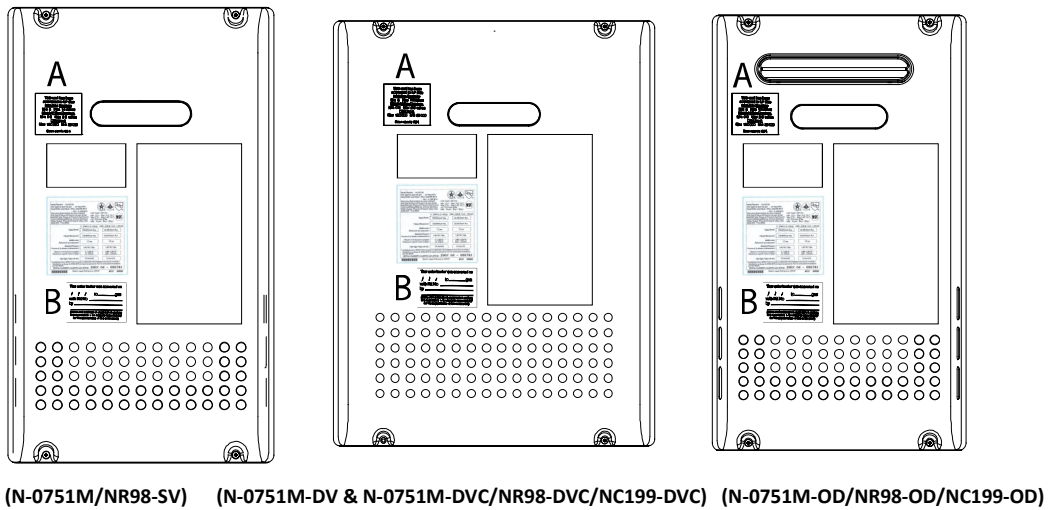
After the manifold pressures have been confirmed, verify that the flame is a steady blue color using the inspection window (Figure 11).

- 12) Turn off water and gas to unit. Replace screw from manifold tap and turn gas back on to unit.
- 13) Perform a final gas leak check around the entire manifold plate, especially near the gas pipe and manifold inlet, using a gas leak detection device.
- 14) If the remote controller needs to be removed, disconnect electrical power to heater and proceed to remove controller connections.



### Apply conversion labels:

- 1) Replace the front cover of the unit using the 4 screws previously removed.
- 2) Locate the 2 conversion stickers supplied in the conversion kit.
- 3) Place the sticker indicating the new inlet and manifold pressures directly above the rating sticker so as not to cover any existing markings as indicated by “A” in Figure 12.
- 4) Fill out the required information on the remaining sticker indicating the date, gas type, kit number, and name of the company performing the conversion. Place this sticker on the front cover as indicated by “B” in Figure 11. Do not to cover any existing markings.



**FIGURE 12**

## **Installation Checklist:**

### Parts Replacement:

- ☐ Remove existing manifold plate, main damper, and O-ring. (Model N-0751M-OD/NR98-OD/NC199-OD does not have a main damper.) Discard these parts.
- ☐ Replace with new manifold plate, main damper, and O-ring. (Model N-0751M-DVC-NG/NR98-DVC-NG/NC199-DVC-NG will need a new exhaust ring.)
- ☐ Make sure that manifold plate, main damper, and O-ring are securely in place.

### Adjustments:

- ☐ Access Maintenance Writer mode and set the A1 item number to desired gas type.
- ☐ Confirm gas type settings.

### Testing:

- ☐ Before opening gas valve to heater, verify that gas supply pressure is within operating range of heater.
- ☐ If gas supply pressure is not within specification, adjust the pressure at the regulator or install a secondary regulator on the supply line connected to the water heater.
- ☐ Remove hex Philips screw from inlet of Noritz heater and confirm gas supply pressure at unit with manometer. Replace screw after confirmation of gas supply pressure.
- ☐ Remove hex Philips screw or 1/8" NPT screw from gas valve and connect manometer to gas valve.
- ☐ Check for gas leaks around gas inlet fitting and manifold plate using a gas leak detection device.
- ☐ Check and confirm correct manifold pressures. Make adjustments if necessary. Replace screw after manifold pressures have been confirmed.
- ☐ Perform final gas leak check again with gas leak detection device.

### Apply Conversion Labels:

- ☐ Place New Inlet and Manifold Pressure Rating Sticker above rating sticker on front cover.
- ☐ Fill out information on Date, Gas Type, Kit Number, Name of Company Sticker and place on front cover.