

# RAYPAK INSTALLATION INSTRUCTIONS

## HIGH ELEVATION CONVERSION KITS

### FOR DIGITAL ATMOSPHERIC POOL HEATERS: 206A, 266, 266A, 336A, 399, AND 406A

**! WARNING** These instructions are for use by qualified personnel specifically trained and experienced in the installation of this type of heating equipment and related system components. Installation and service personnel may be required to be licensed in some states. Persons not qualified shall not attempt to install this equipment nor attempt repairs according to these instructions.

**! WARNING** Make sure water, gas, and power have been turned OFF before making any repairs or servicing this equipment. Make sure the heat exchanger is not under any pressure before attempting to service this part. Allow the appliance to cool before attempting this installation.

**! DANGER** **SHOCK HAZARD:** Make sure the electrical power to the appliance is disconnected to avoid damage to components, potential serious personal injury or death.

**SCOPE:** The details of this document will provide the instructions for replacing orifices and converting gas types and multiple components on Raypak Digital Atmospheric Gas Heaters in high elevation environments.

#### KIT CONTENTS:

KIT NUMBER	KIT CONTENTS	QTY.
100-10004695 (MODEL 206)	#52 BURNER ORIFICE ONLY	13
100-10004696 (MODEL 266)	#52 BURNER ORIFICE ONLY	18
100-10004697 (MODEL 336)	#52 BURNER ORIFICE ONLY	22
100-10004698 (MODEL 406)	#52 BURNER ORIFICE ONLY	27

Table A. NATURAL GAS ORIFICE CONVERSION TO 6000-8999ft

KIT NUMBER	KIT CONTENTS	QTY.
100-10004699 (MODEL 206)	#60 PILOT ORIFICE	1
	#60 BURNER ORIFICE	13
	3/4" GAS VALVE	1
	GAS VALVE DECAL FOR PROPANE	2
	UNIT DECAL FOR GAS CONVERSION	1
100-10004700 (MODEL 266)	#60 PILOT ORIFICE	1
	#60 BURNER ORIFICE	18
	3/4" GAS VALVE	1
	GAS VALVE DECAL FOR PROPANE	2
	UNIT DECAL FOR GAS CONVERSION	1
100-10004701 (MODEL 336)	#60 PILOT ORIFICE	1
	#60 BURNER ORIFICE	22
	3/4" GAS VALVE	1
	GAS VALVE DECAL FOR PROPANE	2
	UNIT DECAL FOR GAS CONVERSION	1
100-10004702 (MODEL 406)	#60 PILOT ORIFICE	27
	#60 BURNER ORIFICE	1
	3/4" GAS VALVE	1
	GAS VALVE DECAL FOR PROPANE	2
	UNIT DECAL FOR GAS CONVERSION	1

Table B. NATURAL GAS TO PROPANE CONVERSION TO 5000-6999ft

#### RECOMMENDED TOOLS:

DESCRIPTION
Small Pick
5/16" Nut Driver
Adjustable Wrench
1/2" Open-End Wrench
7/16" Open-End Wrench
3/8" Socket
Pliers
Pipe Compound

## NOTE

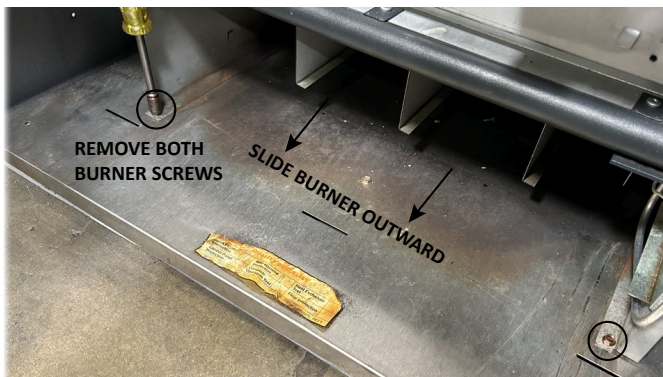
THIS INSTRUCTION SET IS DIVIDED INTO TWO SECTIONS:

**SECTION 1:** DETAILS THE REPLACEMENT OF THE HEATER'S BURNER ORIFICES ONLY;

**SECTION 2:** DETAILS THE REPLACEMENT OF THE HEATER'S PILOT ORIFICE, GAS VALVE AND DECAL INSTALLATION.

### SECTION 1 - (BURNER ORIFICE REPLACEMENT):

1. Shut off main electrical power switch to heater.
2. Turn power switch on heater to "off" position.
3. Shut off gas supply to heater.
4. Disconnect gas line to heater.
5. Remove the heater's front panel.
6. Using a nut driver, remove the two (2) 5/16" hex screws that hold the burner tray in place (See **Figure 1**).
7. Remove the electrical connections from the gas valve. Mark the wires as required.
8. Slide the burner tray outward to disconnect from the heater (See **Figure 1**).



**Figure 1. Remove Burner Tray from Heater**

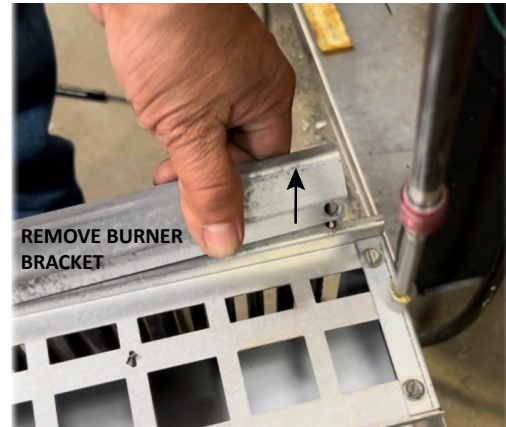
9. Remove the four (4) 5/16" screws from the rear of the burner hold down bracket (See **Figure 2**).



**Figure 2. Remove Four Burner Bracket Screws**

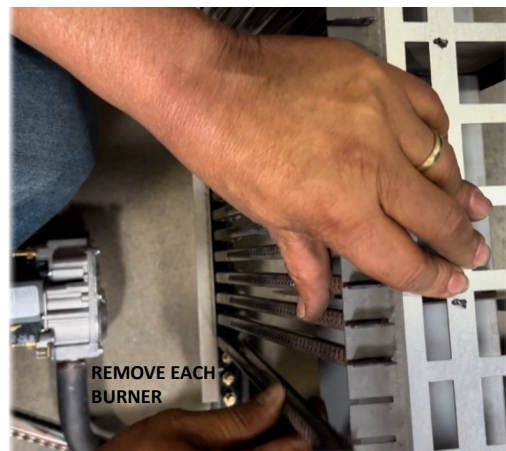
## APPROVED

10. Once the screws have been removed, detach the burner bracket from the burner tray (See **Figure 3**).



**Figure 3. Remove Burner Bracket**

11. With the burner bracket removed, each individual burner must be removed in order to access the burner orifices.
12. Pull each burner vertically to detach and set aside for re-assembly (See **Figure 4**).



**Figure 4. Remove Individual Burners**

13. Using a 3/8" socket, remove each individual burner orifice from the burner's gas line (See **Figure 5**).



**Figure 5. Remove Individual Burner Orifices**



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14. Install the supplied burner orifices into each gas line port (See **Figure 5**).

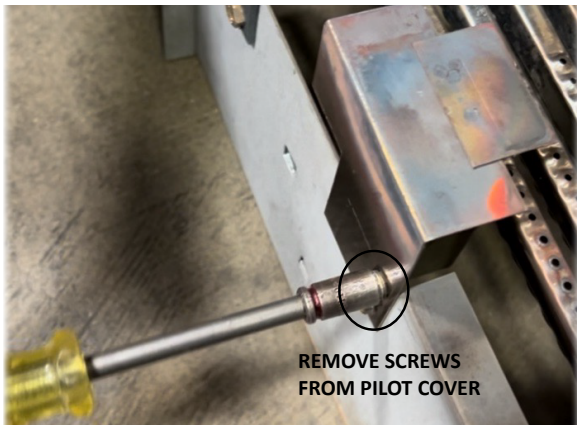
### NOTE

The number of burner orifices and burners vary dependent on the unit's BTU output. See orifice quantity call-outs for each unit type listed in Table A.

15. Re-install each individual burner removed in **Step 12**.
16. Re-install the burner hold down bracket and secure with the four (4) screws removed in **Step 9**.
17. Reverse **Step 8** through **Step 1** to bring the heater back into operation. Otherwise, continue onto **Section 2** for Pilot Orifice and Gas Valve installation.

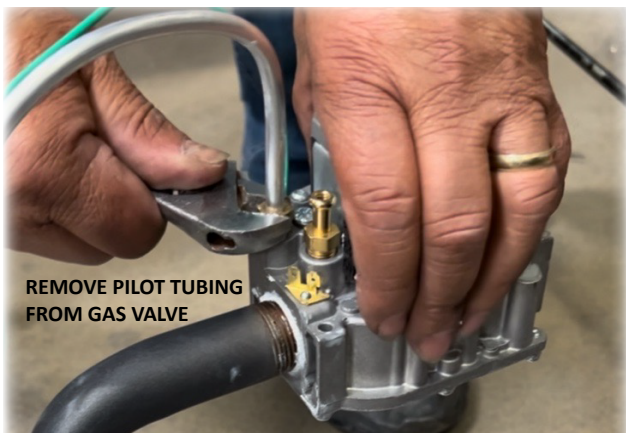
## SECTION 2 - (PILOT ORIFICE, GAS VALVE AND DECAL INSTALLATION):

1. With the burner tray still removed per **Section 1**, continue to **Step 2** for all other component replacements.
2. Remove the two (2) 5/16" hex screws from the Pilot Cover to expose the Pilot assembly (See **Figure 6**).



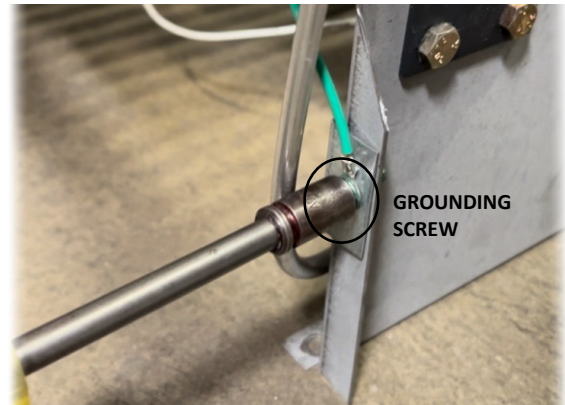
**Figure 6. Remove Pilot Cover Screws**

3. Using an adjustable wrench, remove the Pilot tubing from the Gas Valve (See **Figure 7**).



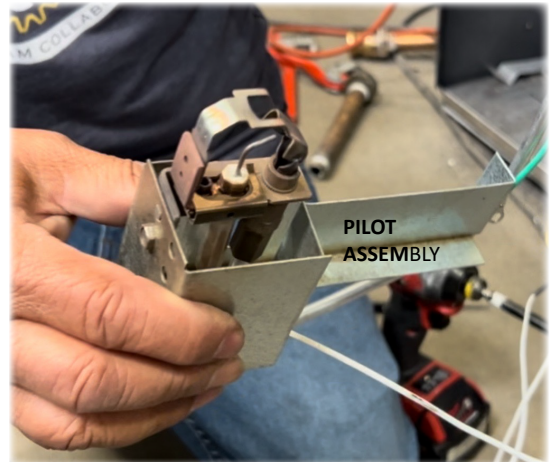
**Figure 7. Remove Pilot Tubing from Gas Valve**

4. Remove the 5/16" grounding screw from the Burner Tray (See **Figure 8**).



**Figure 8. Remove Grounding Screw**

5. Once the ground screw and pilot tubing have been removed, the Pilot assembly can be extracted from the Burner Tray (See **Figure 9**).



**Figure 9. Pilot Assembly Extracted**

6. Remove the 5/16" screw from the Pilot's mounting bracket (See **Figure 10**).



**Figure 10. Pilot Assembly Removal from Bracket**

## APPROVED

- Using a 1/2" and 7/16" open-ended wrench, remove the Pilot's brass fitting. This will expose the Pilot's Orifice Cavity and Orifice (See **Figure 11**).



**Figure 11. Remove Brass Fitting**

- Using a small pick, extract the Orifice from the Pilot's cavity (See **Figure 12**).

## NOTE

A slight tapping on a hard surface may help the Orifice break free from the Pilot cavity.



**Figure 12. Remove Orifice from Pilot Cavity**

- Install the supplied #60 Pilot Orifice into the cavity for your specific size heater. **Ensure the orifice's narrow shaft end is installed downward into the cavity.**
- Reverse the steps to re-assemble the Pilot Orifice assembly.

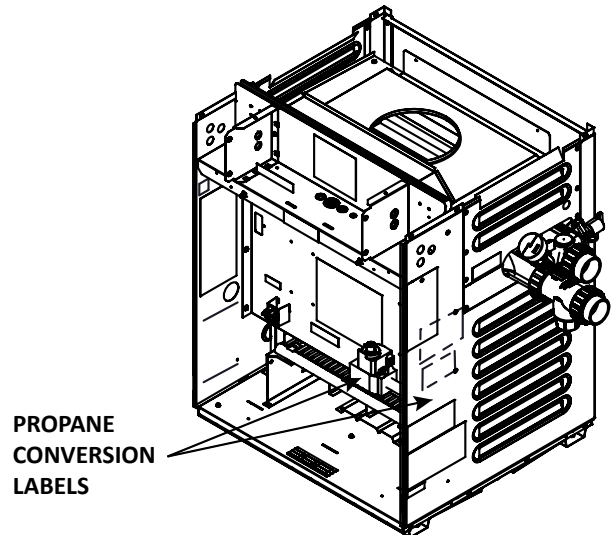
## GAS VALVE AND DECAL INSTALLATION:

- Unscrew the existing gas valve from the manifold piping.
- Clean any pre-existing pipe compound from the pipe threads.
- Apply a fresh coat of pipe compound to the manifold pipe threads.

## CAUTION

Do not use excessive pipe compound on the connections. Leave the two ending threads uncoated. Pipe compound must be resistant to natural gas and propane gas.

- Install the manifold pipe into the outlet port of the supplied Gas Valve.
- Hand-tighten the Gas Valve, with an additional 1/2 turn to secure.
- Apply one (1) supplied "Propane" decal on the Gas Valve and the second Propane Conversion Decal on the heater's outer cabinet (See **Figure 13**).
- Enter the propane conversion data onto the Propane Conversion Decal for visual inspection purposes (See **Figure 14**).
- Reverse **Step 8** through **Step 1** in **Section 1** to complete the repair procedure and bring the heater back into operation.



**Figure 13. Apply Propane Decals**

THIS APPLIANCE WAS CONVERTED ON \_\_\_\_\_ (DAY/MONTH/YEAR)  
TO \_\_\_\_\_ GAS WITH KIT NO. \_\_\_\_\_  
BY \_\_\_\_\_  
(NAME AND ADDRESS OF ORGANIZATION MAKING THIS  
CONVERSION), THAT ACCEPTS THE  
RESPONSIBILITY FOR THE CORRECTNESS OF  
THIS CONVERSION.

**Figure 14. Gas Conversion Decal**

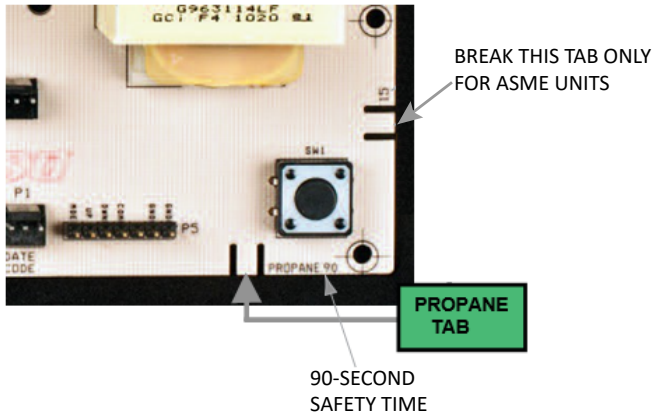


**PREPARING BOARD FOR PROPANE GAS USE:**

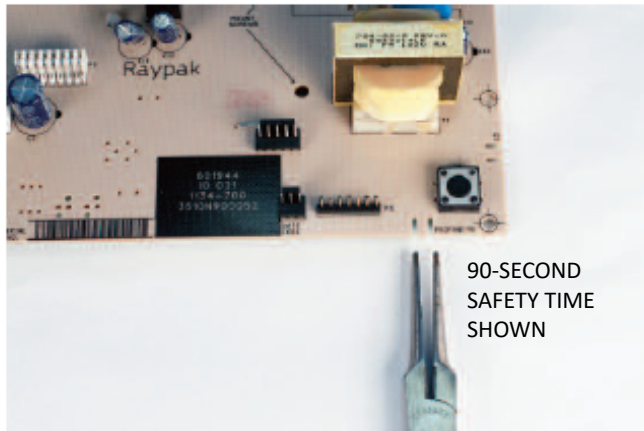
**NOTE: PROPANE HEATERS ONLY!**

1. Locate the proper propane tab on the PCB board as shown in Figure 15.
2. Break off tab with pliers as shown in Figures 16 & 17.

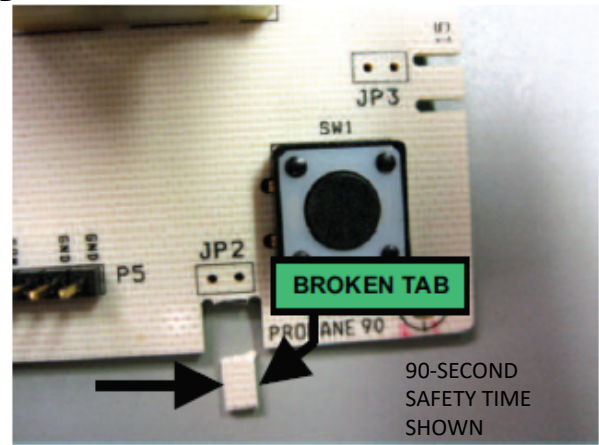
**NOTE: Requirements for Propane safety time vary by area. Check your local and state code regulations. Propane safety time is 90-seconds.**



**Figure 15. Propane Tab Location**



**Figure 16. Break Off Tab with Pliers**



**Figure 17. Tab Broken Off PCB Board**