

GAS CONVERSION KIT INSTALLATION FOR GAS-FIRED LOW-INTENSITY RADIANT TUBE HEATER

DISCONTINUED MODEL TR

These gas conversion kits are for model TR in unit sizes 75, 100, 125 and 150, equipped for sea level operation only. Unit size 50 is not designed for gas conversion in the field—parts are not available. Unit sizes 175 and 200 are available for use with natural gas only. When converting fuels, it is necessary to have the complete heater model. The identifying model number can be found on the heater rating plate. The rating plate identifies only original equipment so also compare the label on the gas valve with the description listed.

⚠ DANGER ⚠

- All gas conversion must be done by a qualified service person in accordance with these instructions and in compliance with all codes and requirements. In Canada, gas 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/CGA-B149.1 and CAN/CGA-B149.2 installation code. Failure to follow instructions could result in death, serious injury and/or property damage. The qualified agency performing this work assumes responsibility for this conversion.
- Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.
- The gas burner in this gas-fired equipment is designed and equipped to provide safe and economically controlled complete combustion. However, if the installation does not permit the burner to receive the proper supply of combustion air, complete combustion may not occur. The result is incomplete combustion which produces carbon monoxide, a poisonous gas that can cause death. Model TR/TH Heaters may be safely operated in the vented or unvented mode. **FAILURE TO PROVIDE PROPER VENTING OR TO MEET FRESH AIR REQUIREMENTS FOR UNVENTED INSTALLATIONS WILL RESULT IN A HEALTH HAZARD WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH.**
- Always comply with the combustion air requirements in the installation codes and instructions. If combustion air is brought from outside, use only the outside combustion air kit designed for Model TR/TH Heaters. **NEVER RESTRICT OR OTHERWISE ALTER THE SUPPLY OF COMBUSTION AIR TO ANY HEATER.** Indoor units installed in a confined space must be supplied with air for combustion as required by Code and in the heater installation manual. If two Model TR/TH infrared heaters use the same vent terminal, a specially designed Reznor® dual vent kit **MUST** be installed. If the unit is vented, **MAINTAIN THE VENT SYSTEM IN STRUCTURALLY SOUND AND PROPERLY OPERATING CONDITION.** If the unit is unvented, **PROVIDE 4 CFM OF FRESH AIR PER 1,000 BTU/h FOR NATURAL GAS OR 5 CFM OF FRESH AIR PER 1,000 BTU/h FOR PROPANE GAS.**

FIRE OR EXPLOSION HAZARD

- Failure to follow safety warnings exactly could result in serious injury, death, or property damage.
- Improper installation, adjustment, alteration, service, or maintenance can cause serious injury, death, or property damage.
- Installation and service must be performed by a qualified installer, service agency, or the gas supplier.
- Be sure to read and understand the installation, operation, and service instructions in this manual.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Leave the building immediately.
- Immediately call your gas supplier from a phone remote from the building. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

DO NOT DESTROY. PLEASE READ CAREFULLY. KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

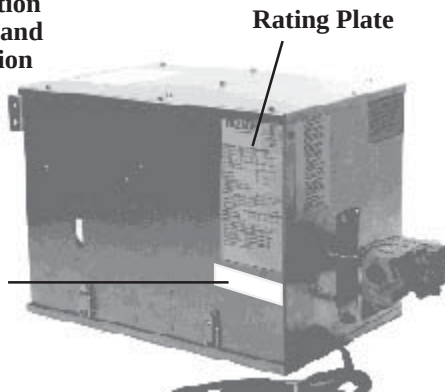
Gas Conversion Instructions

1. Verify that the gas conversion kit is the appropriate kit for the heater.

IMPORTANT NOTE: If the heater is not installed and is a Model TR75/100 that will be operated as a Model Size TR100 or a Model TR125/150 that will be operated as a Model Size TR150, install the size conversion kit included in the burner/control box carton **before** doing the gas conversion. Affix the model conversion label.

- ❑ Check the heater rating plate or model conversion label on the burner/control box. See Figures 1 and 2.

Figure 1 - Location of Rating Plate and Model Conversion Label



MODEL CONVERSION LABEL - On a heater with a rating plate reading Model TR75 or Model TR125, always look for a Model Conversion Label. (Refer to Figures 1 and 2.)

Figure 2 - Sample of a Model Conversion Label

This appliance has been converted at the time of installation to a Model 100 with Kit No. 120096 by _____, who accepts the responsibility for the correctness of this conversion.

ORIFICE SIZE - #12 drill

NORMAL INPUT - 100,000 btu/hr

Minimum permissible gas supply pressure for purposes of input adjustment - 4.5" w.c.

- If the Rating Plate reads Model TR75 and the Model Conversion Label reads TR100, the heater is the same as a factory-built Model TR100. Select the gas conversion kit for a Model TR100.
- If the Rating Plate reads Model TR125 and the Model Conversion Label reads TR150, the heater is the same as a factory-built Model TR150. Select the gas conversion kit for a Model TR150.

- ❑ Check the altitude on the rating plate (See Figure 1.) and check for a field attached high altitude conversion label (adhered to the burner/control box near the rating plate). Gas conversion kits are for sea level Model TR only; **do not use these kits to convert high altitude heaters.**

Consult your Reznor Representative for component requirements to gas convert a high-altitude heater (high altitude is either a Model TR-H on the rating plate or a heater with a field-installed high altitude kit as designated by a high altitude conversion label).

- ❑ Compare the gas conversion kit part number with the list below:

Model TR Gas Conversion Kits		
Sizes	Natural to Propane	Propane to Natural
TR 75 and 100	193859	193861
TR 125 and 150	193860	193862

- ❑ Check its contents with the parts list on page 4.

2. Turn off the gas supply at a shutoff valve upstream of the combination valve and turn off the electrical supply.

3. Install the Regulator Spring Kit (valve conversion kit)

To install a regulator spring conversion kit, follow the valve manufacturer's installation instructions that are included with the regulator spring kit. After a new regulator spring kit is installed, it is necessary to adjust the spring for the correct manifold pressure. This adjustment can only be made after the heater is in operation. Instructions are included in Step No. 8.

WARNING: Manufacturer of regulator spring kit and gas valve must be the same. Spring kits of different manufacturers are not interchangeable, and each spring kit must be used only in the valve for which the kit is designated.

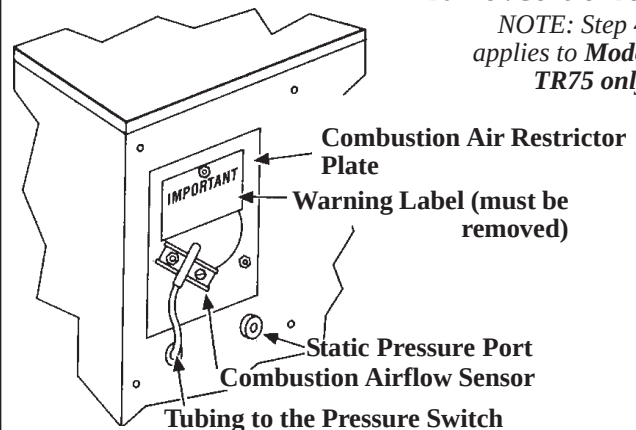
CAUTION: The operating valve is the primary safety shutoff. The gas supply line must be free of dirt or scale before connecting the unit.

4. Change Combustion Air Restrictor Plate Assembly - MODEL TR75 ONLY

(a) Identify Combustion Air Inlet on Burner/Control Box. See Figure 3.

Figure 3 - Combustion Air Inlet on the Side of the Burner/Control Box

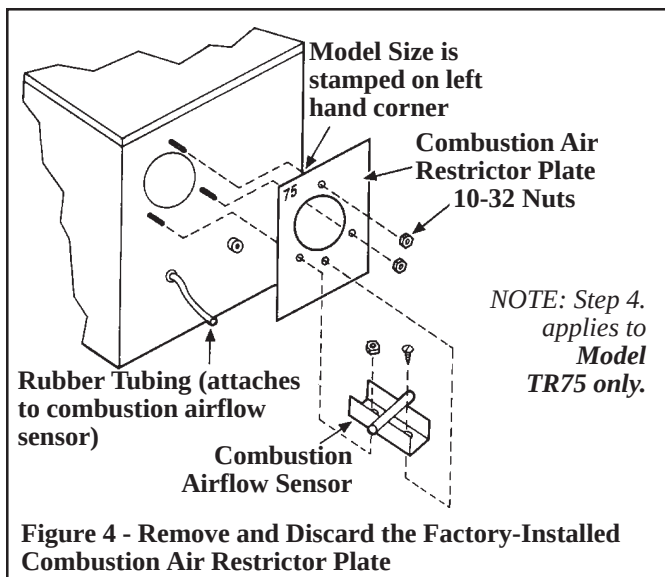
NOTE: Step 4. applies to **Model TR75 only.**



(b) Refer to Figure 4.

Remove hardware (1 screw, 3 nuts) holding combustion air flow sensor bracket and combustion air restrictor plate. Remove and DISCARD the combustion air restrictor plate.

From the conversion kit, attach the combustion air restrictor plate with the conversion label. Re-attach the combustion air flow sensor bracket.



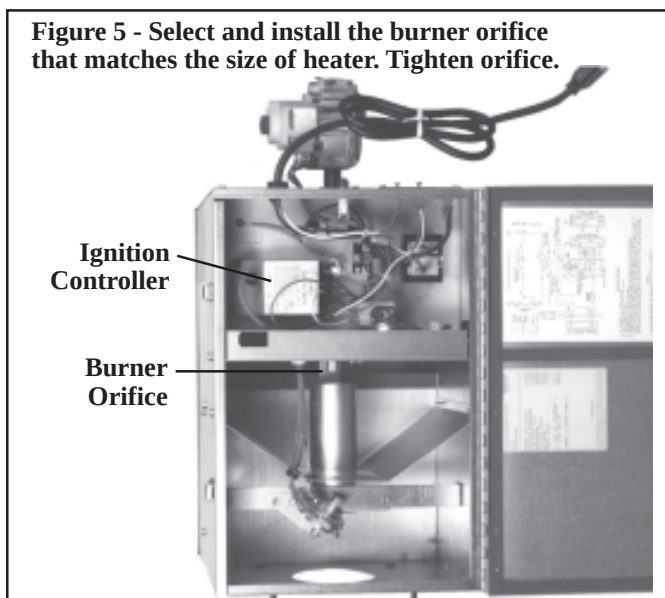
5. Change Burner Orifice

Open the bottom access panel.

Using a 9/16" open end wrench, remove and DISCARD the factory-installed burner orifice. See Figure 5.

The kit includes two burner orifices. Check the component list on page 4 and select the orifice that is correct for the size of unit being converted. (The orifice size is stamped on the orifice.)

Install the correct orifice, being certain that it is fully tightened. (NOTE: The other orifice will not be used. Either discard it or put in into stock.)



WARNING: Do not attempt to drill orifice. Use factory-supplied orifice only.

6. Change Ignition Controller - Natural TO Propane Conversion ONLY

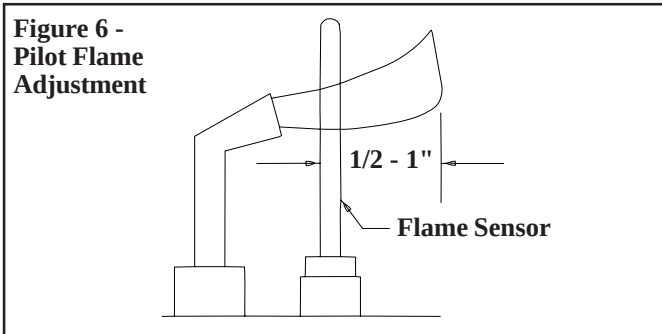
Locate the ignition controller in the burner/control box. See Figure 3. Mark and disconnect all wires. Remove the factory-installed ignition controller. Using the same screws, attach the new ignition controller (Model G770NGC-4). Connect the wires as marked to the terminals on the new ignition con-

troller. Make sure the connections agree with the wiring diagram on the burner/control box door.

7. Close the access panel. Turn on the electric and the gas. Set the thermostat to above room temperature and wait for the time delay relay to start the combustion air blower.

Observe the pilot flame through the observation port. The flame should extend 1/2 to 1 inch past the flame sensing device. Refer to Figure 6.

To adjust the pilot flame, remove the pilot adjustment cover screw from the combination valve. Turn the inner adjustment screw clockwise to decrease or counterclockwise to increase the pilot flame. Replace the cover screw after adjustment to prevent gas leakage.



8. **Adjust the manifold pressure.** Follow these requirements and instructions to adjust manifold gas pressure:

For Natural Gas - The regulator in the valve must be adjusted to provide a manifold pressure of 3.5" w.c. Inlet pressure to the valve must be a minimum of 4.5" w.c. and a maximum of 14" w.c.

For Propane Gas - The regulator in the valve must be adjusted to provide a manifold pressure of 10" w.c. Inlet pressure to the valve must be a minimum of 11" w.c. and a maximum of 14" w.c.

WARNING: Manifold gas pressure must never exceed 3.5" w.c. for natural gas or 10" w.c. for propane gas.

Instructions for Adjusting Manifold Pressure:

Before attempting to measure or adjust the manifold gas pressure, be certain that the inlet (supply) pressure is within the specified range for the gas being used both when the heater is in operation and on standby. Incorrect inlet pressure could cause excessive manifold gas pressure immediately or at some future time.

- 1) With the manual valve positioned to prevent flow to the main burners, connect a manometer to the 1/8" pipe outlet pressure tap in the valve. NOTE: A manometer (fluid-filled gauge) is recommended rather than a spring type gauge due to the difficulty of maintaining calibration of a spring type gauge.
- 2) Open the valve and operate the heater. Measure the gas pressure to the manifold. If adjustment is necessary, set the correct pressure at the valve by turning the regulator screw IN (clockwise) to increase pressure. Turn regulator screw OUT (counterclockwise) to decrease pressure.

Gas Conversion Instructions (cont'd)

9. Check for safe and proper operation of the heater by operating the heater for at least one cycle.

WARNING: Wait at least five minutes before attempting to relight the heater in the event of improper ignition.

10. Select the appropriate gas conversion label from the kit. Complete the information required on the gas conversion label and affix it to the heater near the rating plate.

Attach the gas conversion disk to the heater near the gas valve.

Conversion Kit Components - Gas Conversion Kits for Model TR75, TR100, TR125 and TR150

These kits apply to Model TR heaters equipped for sea level operation.

Natural to Propane Conversion Kits

Natural TO Propane Conversion Kit, P/N 193859		
Applies to Model TR75 and Model TR 100		
Kit Components (apply to both sizes except where indicated):		
Qty	P/N	Description
1	98720	Regulator Spring Conversion Kit, MH #393691
1	120137	Burner Orifice #40 Drill for Model TR75 only
1	120141	Burner Orifice #32 Drill for Model TR100 only
1	120529	Combustion Air Restrictor Plate Assembly for Model TR75 only
1	97547	Ignition Controller, Model G770NGC-4
1	37752	Propane Gas Disk
1	121555	Conversion Label for Model TR75 only
1	121556	Conversion Label for Model TR100 only
CK 193859		

Natural TO Propane Conversion Kit, P/N 193860		
Applies to Model TR125 and Model TR150		
Kit Components (apply to both sizes except where indicated):		
Qty	P/N	Description
1	98720	Regulator Spring Conversion Kit, MH #393691
1	120145	Burner Orifice 3.3mm Drill for Model TR125 only
1	120149	Burner Orifice #27 Drill for Model TR150 only
1	97547	Ignition Controller, Model G770NGC-4
1	37752	Propane Gas Disk
1	121557	Conversion Label for Model TR125 only
1	121558	Conversion Label for Model TR150 only
CK-193860		

Propane to Natural Conversion Kits

Propane TO Natural Conversion Kit, P/N 193861		
Applies to Model TR75 and Model TR100		
Kit Components (apply to both sizes except where indicated):		
Qty	P/N	Description
1	98721	Regulator Spring Conversion Kit, MH #394588
1	120153	Burner Orifice #20 Drill for Model TR75 only
1	120157	Burner Orifice #12 Drill for Model TR100 only
1	120354	Combustion Air Restrictor Plate Assembly for Model TR75 only
1	1401	Natural Gas Disk
1	121559	Conversion Label for Model TR75 only
1	121560	Conversion Label for Model TR100 only
CK-193861		

Propane TO Natural Conversion Kit, P/N 193862		
Applies to Model TR125 and Model TR150		
Kit Components (apply to both sizes except where indicated):		
Qty	P/N	Description
1	98721	Regulator Spring Conversion Kit, MH #394588
1	120161	Burner Orifice #1 Drill for Model TR125 only
1	120165	Burner Orifice D Drill for Model TR150 only
1	1401	Natural Gas Disk
1	121561	Conversion Label for Model TR125 only
1	121562	Conversion Label for Model TR150 only
CK-193862		

Specifications and illustrations subject to change without notice or incurring obligations.

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