

HAZARD INTENSITY LEVELS

1. **DANGER:** Failure to comply will result in severe personal injury or death and/or property damage.
2. **WARNING:** Failure to comply could result in severe personal injury or death and/or property damage.
3. **CAUTION:** Failure to comply could result in minor personal injury and/or property damage.



**HIGH ALTITUDE KITS
for Model TR Heaters**

**Installation Form RGM 456-HA (Version C)
Obsoletes Form 456-HA-B**

APPLIES TO: **INFRA-REZ™ Heater TR Models and
Burner/Control Boxes**

WARNING: 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.

WARNING: Heaters converted to high altitude operation must only be operated at elevations within the specified altitude ranges. Use these kits only on the model, size, and gas type designated. DO NOT USE THESE KITS TO CONVERT GAS TYPE.

Description/Application

Installation of a high altitude kit will enable the heater to operate at full input at elevated altitudes or change the elevation range of a heater already built for high altitude operation.

Before beginning installation, verify

- that the application is permissible as listed in the table below;
- that the kit is appropriate for the heater size, gas type, and elevation;
- that the kit components are the same as listed on page 4.

High Altitude Conversion Kits (full rate operation)			TR/TR-H 50	TR/TR-H 75	TR/TR-H 100	TR-H 125*	TR-H 150*	TR/TR-H 175	TR/TR-H 200
Natural Gas Only	2001-4000 ft	U.S. or Canada**	126440	120880	120882	132664	132667	132670	132673
	4001-6000 ft	U.S. ONLY	126442	120884	120886	132682	132685	132688	132691
	6001-8000 ft	U.S. ONLY	126444	120888	120890	132700	132703	132706	N/A
Propane Gas Only	2001-4000 ft	U.S. or Canada**	126441	120881	120883	132676	132679	N/A	N/A
	4001-6000 ft	U.S. ONLY	126443	120885	120887	132694	132697	N/A	N/A
	6001-8000 ft	U.S. ONLY	126445	120889	120891	132712	132715	N/A	N/A

* Kits for Sizes 125 and 150 may *only* be used to change a Model TR-H from one high altitude elevation to another.

DO NOT attempt to convert a sea level Model TR125 or TR150 to high altitude.

**Canadian high altitude installations must choose kits designed for 2001-4000 ft elevation.

WARNING: This high altitude conversion kit is to be installed by a qualified agency in accordance with the manufacturer’s instructions and all applicable codes and requirements of the authorities having jurisdiction. Failure to follow instructions could result in serious injury, death or property damage. The qualified agency performing this work assumes responsibility for this conversion.

Installation Instructions

IMPORTANT: Special Instructions for Burner/Control Boxes that include a BTUH Size Conversion Kit — **If converting both BTUH input and altitude, install *only* the high altitude kit for the desired BTUH input. Do not install the size conversion kit that is in the burner/control box carton.**

1. Fill-In High Altitude Labels

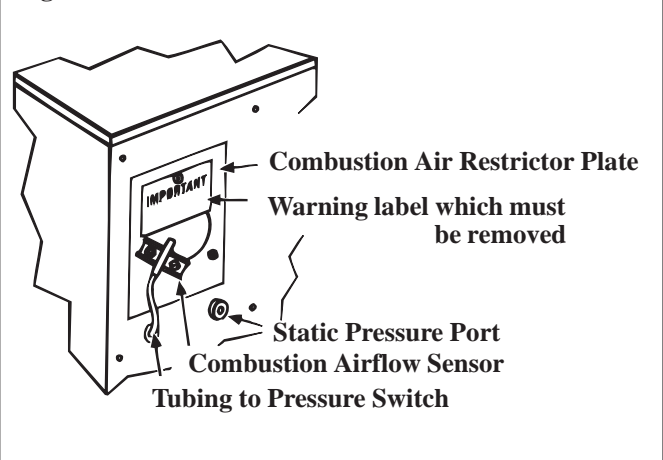
Remove the restrictor plate and the labels from the kit. Complete the conversion information on both the restrictor plate label and the field-modification label(s) for the burner box.

2. Install the High Altitude Combustion Air Restrictor Plate

Refer to Figure 1 and identify the combustion air inlet on the side of the burner/control box. Note the paper warning label adhered to the factory-installed combustion air restrictor plate.

Attached to the air restrictor plate is a combustion air flow sensor tube bracket. See Figure 2 and follow the instructions.

Figure 1 - Air Inlet Side of the Burner/Control Box



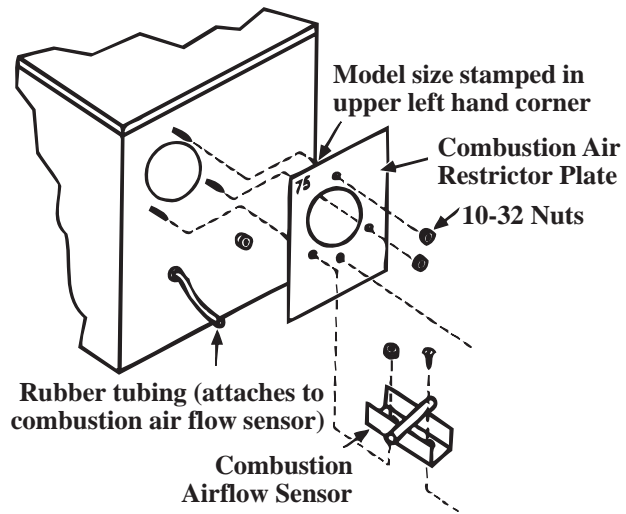
Installation Instructions (cont'd)

2. Install the High Altitude Combustion Air Restrictor Plate (cont'd)

Figure 2 - Combustion Air Restrictor Plate and Sensor Bracket

Instructions:

- 1) Remove the hardware (screws and or nuts) holding the combustion air flow sensor bracket.
- 2) Remove the screws and/or nuts holding the combustion air restrictor plate.
- 3) Remove and DISCARD the factory-installed combustion air restrictor plate.
- 4) Using the same hardware, attach the combustion air restrictor plate from the option kit.
- 5) Re-attach the sensor bracket.



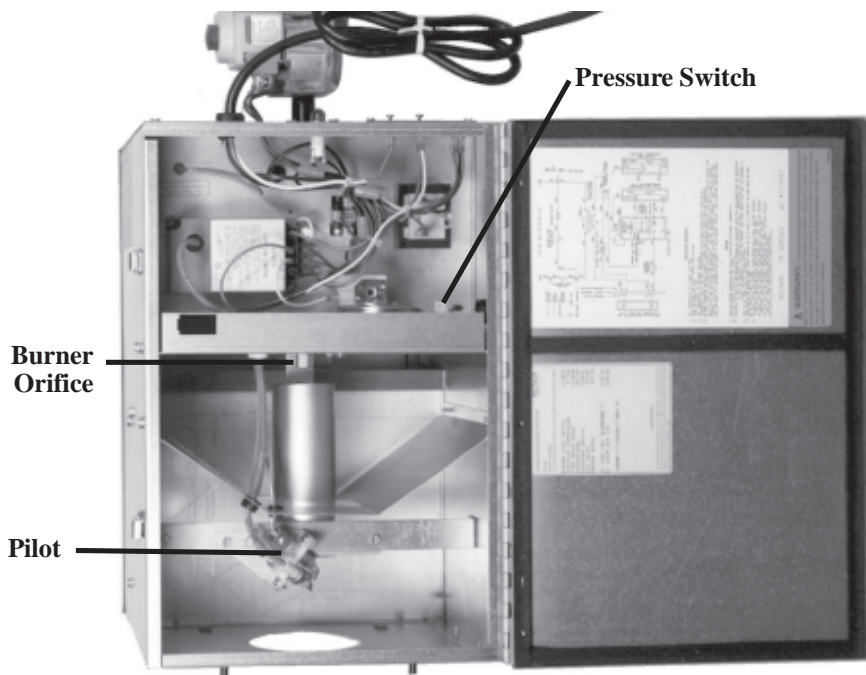
3. Install the High Altitude Burner Orifice

On the bottom of the burner control box, open the hinged panel. Locate the burner orifice. See Figure 3.

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

Install the burner orifice shipped in the option kit. Tighten the new orifice firmly to prevent leakage.

Figure 3 - Burner Orifice, Pressure Switch, and Pilot Locations



4. Install High Altitude Pressure Switch — Applies to Size 50 above 6000 ft and all Size 175 and Size 200 installations

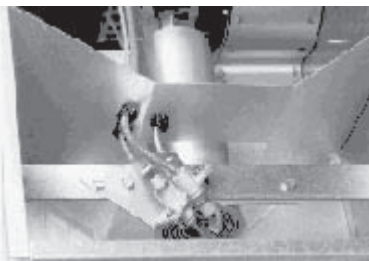
- 1) Locate the factory-installed pressure switch (See Figure 3).
- 2) Disconnect the tubing from the pressure switch.
- 3) Remove the screws holding the pressure switch (Either discard the switch or keep it in parts inventory. Parts removed may not be returned for credit.)
- 4) Using the same screws, install the high altitude switch included in the kit.
- 5) Attach the tubing.

5. Install the Pilot Orifice — Applies to All Installations above 6000 ft (See Figure 4)

Tools required: 5/16" nut driver, 1/2" open-end wrench, 7/16" open end wrench

- 1) Disconnect the pilot line tubing — Use the two open-end wrenches to disconnect the gas supply tubing. Use one wrench to hold the pilot orifice and the second to loosen the pilot gas line fitting. (Do not attempt using only one wrench; pilot line tubing could be damaged.)
- 2) Remove the pilot orifice and discard.
- 3) Install the new pilot orifice and re-connect the tubing being careful not to damage the tubing.

Figure 4 - Pilot Assembly



Pilot Tubing and Orifice

Tubing

Orifice

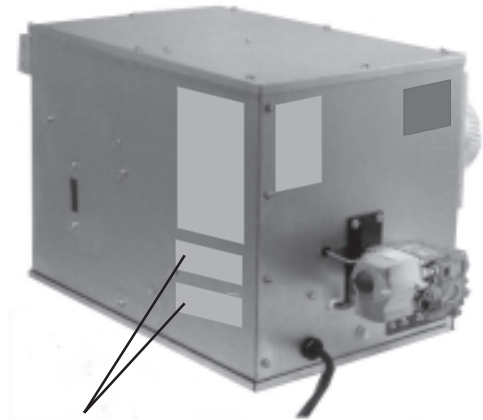
(NOTE: Pilot assembly is shown removed and "turned" to better illustrate parts. **DO NOT** remove pilot to install the new orifice.)

6. Attach High Altitude Field Modification Label(s)

Close and latch the bottom panel.

Refer to Figure 5 for the appropriate location. Be sure the surface is clean and dry. Adhere the label(s).

Figure 5 - High Altitude Label Location



Position label(s) directly below the Rating Plate

7. Option kit installation is complete.

When installed, the heater will operate at full rate input at the designated altitude for the option kit installed.

Follow the instructions in the heater installation manual to complete the installation.

DANGER: 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 tubular infrared heaters may be safely operated in the vented or unvented mode. Failure to provide proper venting or to meet fresh air requirements for unvented installation may 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 specifically for Model TR 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 heaters use the same vent terminal, a specially designed dual vent kit **MUST** be installed. If the unit is vented, **MAINTAIN THE VENT SYSTEM TO BE STRUCTURALLY SOUND AND FREE FLOWING.** If the unit is unvented, **PROVIDE 4 CFM OF FRESH AIR PER 1000 BTUH's FOR NATURAL GAS OR 5 CFM OF FRESH AIR PER 1000 BTUH's FOR PROPANE GAS.**

High Altitude Conversion Kit Component List by Heater Size, Elevation Range, and Type of Gas

HIGH ALTITUDE CONVERSION KIT COMPONENTS												
Elevation	2001-4000 feet (611-1219 meters)											
Type of Gas	Natural Gas							Propane Gas				
BTUH Size	50	75	100	125	150	175	200	50	75	100	125	150
Option Pkg P/N	126440	120880	120882	132664	132667	132670	132673	126441	120881	120883	132676	132679
Components: Qty (1) Each												
Restrictor Plate	126464	120921	120923	132665	132668	132671	132674	126465	120922	120924	132677	132680
Burner P/N	120147	120154	120158	131581	120166	120165	136201	124967	120138	120142	120145	120150
Orifice Size	#29	#19	#10	5.9mm	E	D	6.9mm	2.1mm	#39	3.0mm	3.3mm	#26
Label (English)	126446	120357	120360	132666	132669	132672	132675	126447	120906	120909	132678	132681
Label (French)	126456	120912	120913	132721	132725	132729	132733	126457	120914	120915	132737	132741
Pressure Switch	--	--	--	--	--	171826	171826	--	--	--	--	--

Elevation	4001-6000 feet (1220-1829 meters)											
Type of Gas	Natural Gas							Propane Gas				
BTUH Size	50	75	100	125	150	175	200	50	75	100	125	150
Option Pkg P/N	126442	120884	120886	132682	132685	132688	132691	126443	120885	120887	132694	132697
Components: Qty (1) Each												
Restrictor Plate	126466	120925	120927	132683	132686	132689	132692	126467	120926	120928	132695	132698
Burner P/N	124969	131579	120159	120162	120167	120166	136202	124968	120139	120143	120146	120151
Orifice Size	#28	4.25mm	5.0mm	A	F	E	7.0mm	2.15mm	#38	#31	3.4mm	3.8mm
Label	126448	120358	120361	132684	132687	132690	132693	126449	120907	120910	132696	132699
Pressure Switch	--	--	--	--	--	171826	171826	--	--	--	--	--

Elevation	6001-8000 feet (1830-2438 meters)											
Type of Gas	Natural Gas							Propane Gas				
BTUH Size	50	75	100	125	150	175	50	75	100	125	150	
Option Pkg P/N	126444	120888	120890	132700	132703	132706	126445	120889	120891	132712	132715	
Components: Qty (1) Each												
Restrictor Plate	126468	120929	120931	132701	132704	132707	126469	120930	120932	132713	132716	
Burner P/N	120149	120155	131580	120164	120168	120167	131578	120140	120144	120148	120152	
Orifice Size	#27	#18	#8	C	G	F	2.2mm	#37	3.1mm	3.5mm	#23	
Label	126450	120359	120362	132702	132705	132708	126451	120908	120911	132714	132717	
Pilot Orifice	134507	134507	134507	134507	134507	134507	134507	134507	134507	134507	134507	
Pressure Switch	171826	--	--	--	--	171826	171826	--	--	--	--	

