

### **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 or death and/or property damage.

**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.

### **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.

### **High Altitude Option Kits DJ**

Applies: Models TR, & Burner/Control Boxes TR-A, TR-J, TR-C & TR-K

**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 and the application listed below. DO NOT USE THESE KITS TO CONVERT GAS TYPE.

### **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 2.

Size or Box ID	Factory built for operation at altitudes	APPLICABLE OPTION KITS AND PERMISSIBLE APPLICATIONS - See page 2 for specific kits by Model Size, Type of Gas and A.G.A. or C.G.A. Rating Plate
50	0 - 2,000 ft.	DJ3, DJ4, DJ5to convert to high altitude
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
J	0 - 2,000 ft.	DJ3, DJ4, DJ5to convert to high altitude
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
75	0 - 2,000 ft.	DJ3, DJ4, DJ5to convert to high altitude
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
100	0 - 2,000 ft.	DJ3, DJ4, DJ5to convert to high altitude
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
Α	0 - 2,000 ft.	DJ3, DJ4, DJ5to convert to high altitude
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
125	0 - 2,000 ft.	Not Available Size 125 may not be field-converted to high altitude operation
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
150	0 - 2,000 ft.	Not Available Size 150 may not be field-converted to high altitude operation
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
С	0 - 2,000 ft.	Not Available Burner Box C may not be field-converted to high altitude operation
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
175	0 - 2,000 ft.	DJ3, DJ4, DJ5to convert to high altitude
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
200	0 - 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
	Above 2,000 ft.	DJ3, DJ4to convert to high altitude
K*	0 - 2,000 ft.	DJ3, DJ4, DJ5to convert to high altitude
	Above 2,000 ft.	DJ3, DJ4, DJ5to change elevation range
* Α "K" Βι	urner Box operated at 2	200,000 BTU may not be converted for high altitude use above 6,000 ft

# High Altitude Conversion Kit Components List by Heater Size, Burner Box ID, Elevation Range, Type of Gas and Rating Plate

HIGH ALTITUDE CONVERSION KITS FOR HEATER WITH AN A.G.A. RATING PLATE													
OPTION DJ3													
Elevation	tion 2,001 - 4,000 ft.												
Type of Gas	Natural Gas Propane Gas												
BTUH Size	50	75	100	125	150	175	200	50	75	100	125	150	
Burner Box ID	J	A*		C*		K*		J	<b>A</b> *		C*		
Option Pkg P/N	126440	120880	120882	132664	132667	132670	132673	126441	120881	120883	132676	132679	
Components: Qty (1) e	ach												
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	
Pressure Switch						120322	120322						

OPTION DJ4												
Elevation	4,001 - 6,000 ft.											
Type of Gas		Natural Gas Propane Gas										
BTUH Size	50	75	100	125	150	175	200	50	75	100	125	150
Burner Box ID	J	А	*	C* K*		(* J		A*		C*		
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	Α	F	Е	7.0mm	2.15mm	#38	#31	3.4mm	3.8mm
Label (English)	126448	120358	120361	132684	132687	132690	132693	126449	120907	120910	132696	132699
Pressure Switch						120322	120322					

OPTION DJ5													
Elevation	Elevation 6,001 - 8,000 ft.												
Type of Gas			Natura	al Gas			Propane Gas						
BTUH Size	50	75	100	125	150	175	50	75	100	125	150		
Burner Box ID	L	А	*	C	C*		J	A*		C*			
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	С	G	F	2.2mm	#37	3.1mm	3.5mm	#23		
Label (English)	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	120322					120322	120322						

HIGH ALTITUDE CONVERSION KITS FOR HEATER WITH A C.G.A. RATING PLATE													
OPTION DJ3													
Elevation	2,001 - 4,500 ft. (611-1,370 meters)												
Type of Gas	Natural Gas Propane Gas												
BTUH Size	50	75	100	125	150	175	200	50	75	100	125	150	
Burner Box ID	J	A*		C*		K*		J	<b>A</b> *		C*		
Option Pkg P/N	126452	120892	120894	132718	132722	132726	132730	126453	120893	120895	132734	132738	
Components: Qty (1) e	ach												
Restrictor Plate	126472	120933	120935	132719	132723	132727	132731	126473	120934	120936	132735	132739	
Orifice P/N	120147	120154	120158	131581	120166	120165	136201	124967	120138	120142	120145	120150	
Orifice Size	#29	#19	#10	5.9mm	Е	D	6.9mm	2.1mm	#39	3.0mm	3.3mm	#26	
Label (English)	126454	120363	120364	132720	132724	132728	132732	126455	120365	120366	132736	132740	
Label (French)	126456	120912	120913	132721	132725	132729	132733	126457	120914	120915	132737	132741	
Pressure Switch						120322	120322	-	-				

\*IMPORTANT: Special instructions for Burner/Control Boxes A, C & K that include a BTUH size conversion kit - *Discard the parts bag in the burner/control box carton labeled, "APPLIES TO SIZES 100, 150 or 200 ONLY"*. Size conversion is accomplished by installing an Option DJ high altitude kit. Form 456-HA (07-15) P/N 120989, page 2

**WARNING:** This high altitude conversion kit is to be installed by a qualified agency in accordance with the manufacture's instructions and all 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

### 1. Fill-In High Altitude Labels

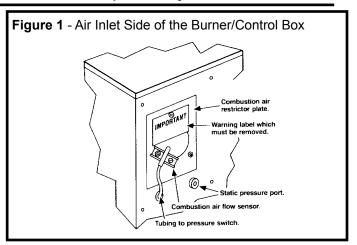
Remove the restrictor plate and the label(s) from the kit (A.G.A. kits have one label; C.G.A. kits have two labels). Complete the conversion information on both the restrictor plate label and the field-modification label(s) for the burner box.

### 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.

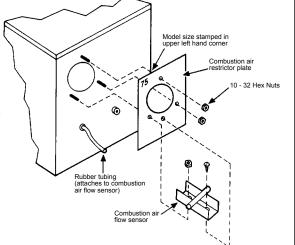
Attached to the air restrictor plate is a combustion

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



## **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.

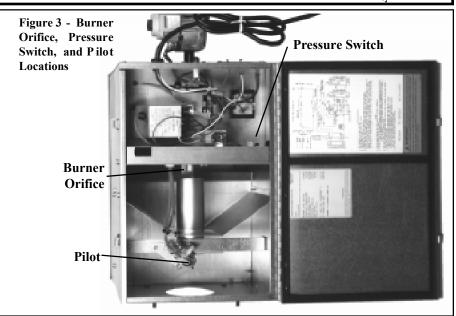


### 3. Install the High Altitude Burner Orifice

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.



#### 4. Install High Altitude Pressure Switch -- Applies to Size 50/Burner Box "J" above 6.000 ft. and all Size 175 and 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 (TriDelta #FS6690-1360).
- Attach the tubing.

#### 5. Install the Pilot Orifice -- Applies to ALL Installations above 6,000 ft.

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

- 1. Disconnect the pilot line tubing -- Use the two openended wrenches to disconnect the gas supply tubing. Use one wrench to hold the pilot orifice and the other to loosen the pilot gas line fitting. (Do not attempt to use only one wrench - the pilot tubing could be damaged).
- Remove the pilot orifice and discard.
- 3. Install the new pilot orifice and re-connect the tubing. being very careful not to damage the tubing.

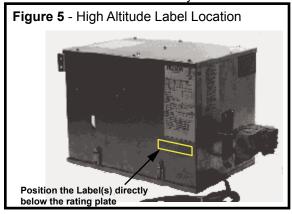
Figure 4 - Pilot Assembly **Pilot Tubing** & Orifice Orifice

Note: Pilot assembly is shown removed and "turned" to better illustrate the parts. Pilot need not be removed 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 that the surface is clean and dry. Adhere the label(s).



### 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 heaters may be safety 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 the 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 1,000 BTUH'S FOR NATURAL GAS OR 5 CFM OF FRESH AIR PER 1,000 BTUH'S FOR PROPANE GAS.

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