REZNOR Thomas&Betts

Gas Conversion Kits and Instructions

INSTALLATION FORM RGM 452-GC
New

APPLIES TO: **Model TRP**

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 .2 installation code.

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. For assistance or additional information, consult a qualified installer, service agency, or the gas supplier.

FOR YOUR SAFETY

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.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call your fire department.**

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

DANGER: The conversion kit is to be selected and installed by a qualified service person in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. 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.

Description and Kit Selection

The gas conversion kits in these instructions are for Model TRP heaters that are being operated at sea level. See pages 3-4 for conversion kits.
In order to verify which conversion kit is compatible to your heater, it is necessary to know the type of valve that is on the heater. This information is determined by decoding the heater serial number. From the rating plate, copy the complete Model and Serial No. of the heater. Also, copy the manufacturer's number on the gas valve.
Follow the example below to decode the Serial No.

Example: Heater Serial No. AWH71T9N12345

AWH	**75**	**W5**	**N**	**12345**
Month and Year of Manufacture	Safety Pilot Code **(Type of Ignition)**	Type of Valve	Type of Gas*	Consecutive Number

* N = Natural Gas; L = Propane Gas

IMPORTANT: Because the serial number code can only identify the original equipment, after the kit is selected, match the actual Model No. of the valve to the one listed for that kit. If the actual Model No. is different from the one listed, contact your Reznor Representative to select and verify parts required for gas conversion.

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.

FAILURE TO PROVIDE PROPER VENTING WILL RESULT IN A HEALTH HAZARD WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH. Follow the instructions in the installation manual.

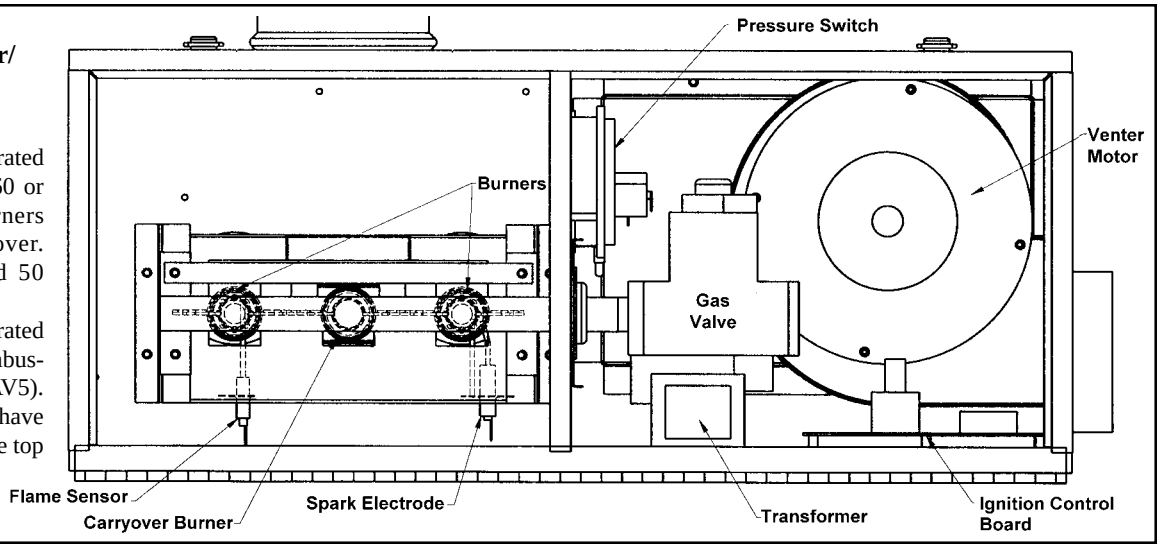
If installed as a separated-combustion system, install either the horizontal or vertical combustion air/vent system illustrated in the heater installation manual, using the concentric adapter supplied. All installations must comply with the combustion air requirements in the installation codes and instructions. Units installed in a confined space must be supplied with air for combustion and ventilation as required by Code and in the heater installation manual. Combustion air at the burner should be regulated only by manufacturer-provided equipment. NEVER RESTRICT OR OTHERWISE ALTER THE SUPPLY OF COMBUSTION AIR TO ANY HEATER. MAINTAIN THE VENT SYSTEM IN PROPERLY OPERATING CONDITION.

Figure 1 - View of Model TRP Burner/ Control Box

NOTES:

• The burner box illustrated is for a Model TRP 60 or 100 having dual burners with a center carryover. Models TRP 30 and 50 have a single burner.

• The burner box illustrated is for a separated combustion system (Option AV5). Standard units do not have the dividing wall or the top collar.



Gas Conversion Instructions

1. **Check kit contents for agreement with the parts list**. A parts list for each kit is on pages 3-4. Verify burner orifice size by comparing the size number stamped on the orifice to the parts list. **If there are any discrepancies, do not install the kit.**

   The kits listed in this manual are intended for use on units that will be operated at sea level. Conversion of a unit using these kits will not alter the input rate. Refer to the rating plate on the heater for input rate and other appropriate information.

2. **Prepare Unit for Conversion**

   Turn off the gas supply at a shutoff valve upstream of the combination valve and turn off the electrical supply. Allow the unit to cool. Open the burner/control box door. Disconnect the gas line before the valve.

3. **Remove Manifold/Valve Assembly**

   If the unit is separated combustion, on the dividing wall between the burner and control compartments, remove the manifold cover plate.

   Remove the screws holding the manifold to the burner rack. Remove the assembled manifold and valve.

4. **Install the Regulator Spring Kit**

   Follow the valve manufacturer's installation instructions that are included with the regulator spring kit. After a new 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. 9.

WARNING: The manufacturer of the regulator spring kit and the 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.

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

5. **Change Burner and Carryover Orifices**

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

NOTES: Kits that apply to two sizes of heaters include two burner orifices. When converting the smaller sizes, there will be an extra burner orifice which will not be used. Burner orifices in these kits apply to sea level operation only. See Burner Orifice Chart, page 4.

1) **Change Burner Orifices**

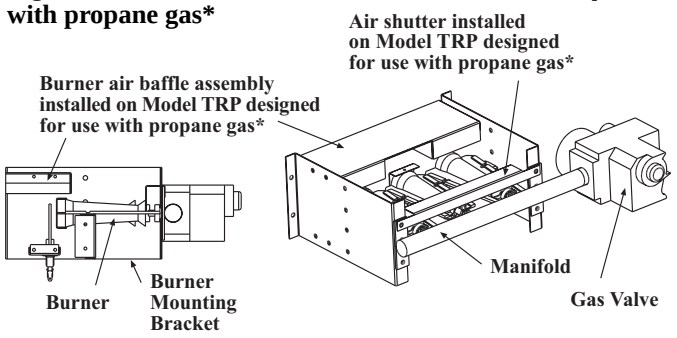
   Locate the burner orifice(s) on the manifold. On Models TRP 60 and 100, the burner orifices are the ones on the two "outside" burners. Models TRP 30 and 50 have only one burner. Unscrew the existing burner orifice(s) and replace with the orifices included in the conversion kit.

2) **Change Carryover Orifice (Models TRP 60 and 100 only)**

   Locate the carryover orifice. Using a wrench, hold the hex bushing between the manifold and the carryover orifice. Unscrew the existing carryover orifice and replace with the orifice included in the conversion kit.

6. **Install or Remove Burner Air Baffle and Air Shutter Required for Propane Gas**

Figure 2 - Burner Air Baffle and Air Shutter are *required* with propane gas*



***Burner air baffle and air shutter are not required on Size 100 units with propane gas and separated combustion venting/combustion air system (Option AV5)**

If converting from natural gas to propane gas, remove the burner rack and install the air shutter and the burner air baffle. Follow the illustration in Figure 2 using the 1/2" long sheetmetal screws in the kit.

If converting from propane gas to natural gas, remove the burner rack. Remove and discard the air shutter and the burner air baffle assembly.

7. Re-assemble the heater. Attach the conversion disk to the manifold close to the gas valve.

8. Turn on the electric and the gas. Relight, following the instructions on the heater. Check for gas leaks using a commercial leak detecting fluid or a rich soap and water solution. Leaks are indicated by the presence of bubbles. Check all connections which were worked on during the conversion. If a leak cannot be stopped by tightening, replace the part.

9. **Adjust the Manifold Pressure** - Follow these requirements and instructions to adjust the manifold gas pressure:

   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 5" w.c. (or as noted on the rating plate) and a maximum of 14" w.c.

   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 pressure to correct settings by turning the regulator screw IN (clockwise) to increase pressure. Turn regulator screw OUT (counterclockwise) to decrease pressure. Replace plug in 1/8" pressure tap.

10. Close and latch the door panel. Check for safe and proper operation of the heater by operating the heater for at least one cycle. On dual burner models, observe main burners for complete flame carryover.

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

11. Complete the information required on the gas conversion tape and affix the tape to the heater near the rating plate.

Conversion Kit Components - Natural *to* Propane

The burner orifices in these kits are for sea-level operation only. For high altitude installation, see the Burner Orifice Chart on page 4.

Natural TO Propane Conversion Kit, P/N 175610

Applies to Model TRP 30

Equipped with

Ignition Type Serial No. Code	Valve	
	Serial No. Code	Manufacturer's No.
75	W5	VR8105M2187

Components:

Qty	P/N	Description
1	98720	Spring Regulator Kit, M/H 393691
1	97361	Burner Orifice, 1.6 mm
1	64391	Conversion Tape
1	37752	Propane Gas Disk
1	174427	Burner Air Baffle
1	173634	Air Shutter
4	113275	Sheetmetal Screws, #10 x 1/2" long

CK99

Natural TO Propane Conversion Kit, P/N 175611

Applies to Model TRP 50

Equipped with

Ignition Type Serial No. Code	Valve	
	Serial No. Code	Manufacturer's No.
75	W5	VR8105M2187

Components:

Qty	P/N	Description
1	98720	Spring Regulator Kit, M/H 393691
1	16590	Burner Orifice, #46
1	64391	Conversion Tape
1	37752	Propane Gas Disk
1	174428	Burner Air Baffle
1	173634	Air Shutter
4	113275	Sheetmetal Screws, #10 x 1/2" long

CK100

Natural TO Propane Conversion Kit, P/N 175612

Applies to Model TRP 60

Equipped with

Ignition Type Serial No. Code	Valve	
	Serial No. Code	Manufacturer's No.
75	W5	VR8105M2187

Components:

Qty	P/N	Description
1	98720	Spring Regulator Kit, M/H 393691
2	97361	Burner Orifice, 1.6 mm
1	98695	Carryover Orifice
1	64391	Conversion Tape
1	37752	Propane Gas Disk
1	174433	Burner Air Baffle Assembly
1	173635	Air Shutter
4	113275	Sheetmetal Screws, #10 x 1/2" long

CK101

Natural TO Propane Conversion Kit, P/N 175613

Applies to standard Model TRP 100 with Power Vent -- *does not apply* to Model TRP 100 with Separated-Combustion (Option AV5)

Equipped with

Ignition Type Serial No. Code	Valve	
	Serial No. Code	Manufacturer's No.
75	U2	VR8205M1130

Components:

Qty	P/N	Description
1	98720	Spring Regulator Kit, M/H 393691
2	16590	Burner Orifice, #46
1	98695	Carryover Orifice
1	64391	Conversion Tape
1	37752	Propane Gas Disk
1	174434	Burner Air Baffle Assembly
1	173635	Air Shutter
4	113275	Sheetmetal Screws, #10 x 1/2" long

CK102

Conversion Kit Components - Natural *to* Propane (cont'd)

The burner orifices in these kit are for sea-level operation only. For high altitude installation, see the Burner Orifice Chart below. All kits include the quantity of orifices required for the largest size of heater. Excess burner orifices may not be returned for credit.

Natural TO Propane Conversion Kit, P/N 175624		
Applies to Model TRP 100 with Optional Separated Combustion (Option AV5) - - *does not apply* to standard Model TRP with power vent		
Equipped with		
Ignition Type Serial No. Code	**Valve**	
	Serial No. Code	**Manufacturer's No.**
75	**U2**	**VR8205M1130**
Components:		
Qty	**P/N**	**Description**
1	98720	Spring Regulator Kit, M/H 393691
2	16590	Burner Orifice, #46
1	98695	Carryover Orifice
1	64391	Conversion Tape
1	37752	Propane Gas Disk
CK103		

Conversion Kit Components - Propane *to* Natural

The burner orifices in these kit are for sea-level operation only. For high altitude installation, see the Burner Orifice Chart below. All kits include the quantity of orifices required for the largest size of heater. Excess burner orifices may not be returned for credit.

Propane TO Natural Conversion Kit, P/N 175617		
Applies to Model TRP 30 and Model TRP 60		
Equipped with		
Ignition Type Serial No. Code	**Valve**	
	Serial No. Code	**Manufacturer's No.**
75	**W6**	**VR8105RM2825**
Components:		
Qty	**P/N**	**Description**
1	98721	Spring Regulator Kit, M/H 394588
2	11835	Burner Orifice, #37
1	93973	Carryover Orifice (not used on Size 30)
1	64391	Conversion Tape
1	1401	Natural Gas Disk
CK104		

Propane TO Natural Conversion Kit, P/N 175618			
Applies to Model	**Equipped with**		
	Ignition Type	**Valve**	
	Serial No. Code	**Serial No. Code**	**Manufacturer's No.**
TRP 50	**75**	**W6**	**VR8105RM2825**
TRP 100	**75**	**U3**	**VR8205M1148**
Components:			
Qty	**P/N**	**Description**	
1	98721	Spring Regulator Kit, M/H 394588	
2	173846	Burner Orifice, 3.4 mm	
1	93973	Carryover Orifice (not used on Size 50)	
1	64391	Conversion Tape	
1	1401	Propane Gas Disk	
CK105			

Burner Orifice Chart - Model TRP

The gas conversion kits on pages 3-4 include the standard sea level burner orifices. Elevations above 4000 ft require a pressure switch change.

Model TRP				**30**	**50**	**60**	**100**
BURNER ORIFICES			Qty	1	1	2	2
Natural Gas, 0-2000 ft			**P/N**	**11835**	**173846**	**11835**	**173846**
			Size	#37	3.4 mm	#37	3.4 mm
Propane Gas, 0-2000 ft			**P/N**	**97631**	**16590**	**97631**	**16590**
			Size	1.6mm	#46	1.6mm	#46
For installation in Canada	Natural Gas	2001-4500 ft	**P/N**	**45871**	**173846**	**45871**	**173846**
			Size	#39	3.4mm	#39	3.4mm
	Propane Gas		**P/N**	**9789**	**84853**	**9789**	**84853**
			Size	#53	#47	#53	#47
For installation in U.S.A.	Natural Gas	2001-3000 ft	**P/N**	**45870**	**173846**	**45870**	**173846**
			Size	#38	3.4mm	#38	3.4mm
	Propane Gas		**P/N**	**97631**	**84853**	**97631**	**84853**
			Size	1.6mm	#47	1.6mm	#47
NOTE: Above 4000 ft requires pressure switch change.	Natural Gas	3001-4000 ft	**P/N**	**45871**	**173846**	**45871**	**173846**
			Size	#39	3.4mm	#39	3.4mm
	Propane Gas		**P/N**	**9789**	**84853**	**9789**	**84853**
			Size	#53	#47	#53	#47
	Natural Gas	4001-5000 ft	**P/N**	**45871**	**173846**	**45871**	**173846**
			Size	#39	3.4mm	#39	3.4mm
	Propane Gas		**P/N**	**9789**	**84853**	**9789**	**84853**
			Size	#53	#47	#53	#47

Model TRP				**30**	**50**	**60**	**100**
BURNER ORIFICES			Qty	1	1	2	2
Natural Gas	5001-6000 ft		**P/N**	**87391**	**26112**	**87391**	**26112**
			Size	#40	#30	#40	#30
Propane Gas			**P/N**	**9789**	**40414**	**9789**	**40414**
			Size	#53	#48	#53	#48
Natural Gas	6001-7000 ft		**P/N**	**11792**	**26112**	**11792**	**26112**
			Size	#41	#30	#41	#30
Propane Gas			**P/N**	**9789**	**40414**	**9789**	**40414**
			Size	#53	#48	#53	#48
Natural Gas	7001-8000 ft		**P/N**	**84437**	**26113**	**84437**	**26113**
			Size	#42	#31	#42	#31
Propane Gas			**P/N**	**9789**	**39651**	**9789**	**39651**
			Size	#53	#49	#53	#49
Natural Gas	8001-9000 ft		**P/N**	**84437**	**26113**	**84437**	**26113**
			Size	#42	#31	#42	#31
Propane Gas			**P/N**	**11834**	**39651**	**11834**	**39651**
			Size	#54	#49	#54	#49

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