Gas Conversion Kits and Instructions

Applies to: Model CAUA

General and Warnings

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.**
- **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.**

— **Installation and service must be performed by a qualified installer, service agency, or the gas supplier.**

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.

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 CSA-B149.1 and .2 installation code.

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.

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

HAZARD INTENSITY LEVELS used in this manual.

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.**

DANGER:

The gas burner in this gas-fired equipment is designed and equipped to provide safe, 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.

DANGER

Safe operation of indirect-fired gas burning equipment requires a properly operating vent system which vents all flue products to the outside atmosphere. FAILURE TO PROVIDE PROPER VENTING WILL RESULT IN A HEALTH HAZARD WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH.

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.

Description and Kit Selection

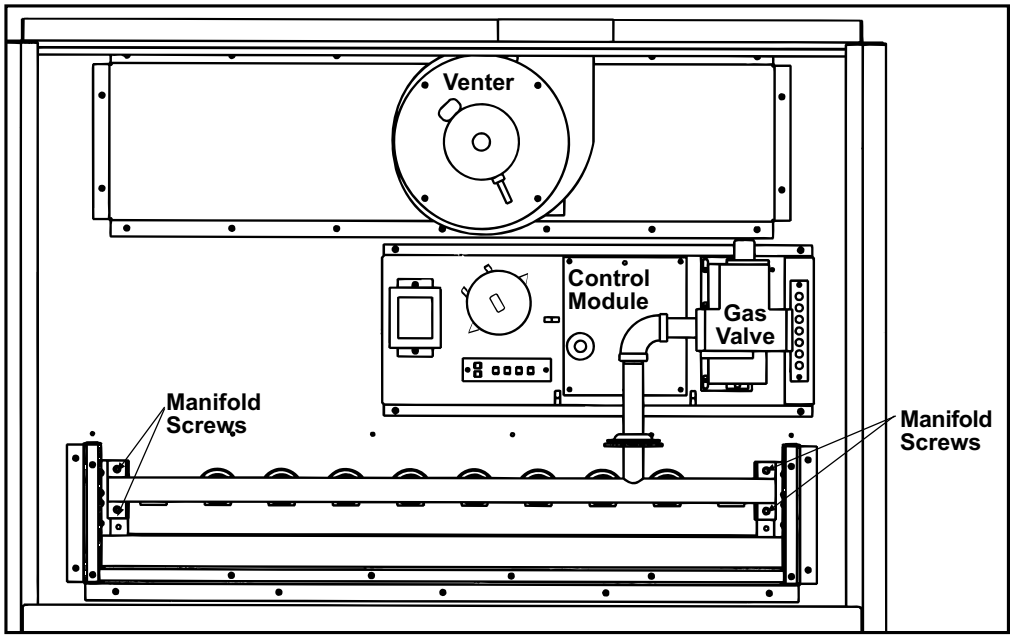
NOTE: When converting a unit with a two-stage valve (Option AG2), check for valve manufacturer. If the unit has a two-stage White-Rodgers valve, a new two-stage gas valve is required. See page 8 for details.

The gas conversion kits in these instructions are for Model CAUA heaters equipped with specific single-stage or two-stage valves (see NOTE left). The kits are for operation at sea level. See pages 5-6 for conversion kit application and components. See page 7 for high altitude burner orifices.

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. From the rating plate, copy the complete Model of the heater. Also, copy the manufacturer's name and number found on the gas valve.

IMPORTANT: 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 manufacturer Representative to select and verify parts required for gas conversion.

FIGURE 1 - View of Model CAUA Control Compartment with Access Panel and All Sections of the Burner Cover Removed
(Wires are not illustrated.)



Gas Conversion Instructions

1. **Check kit contents to the parts list**. (Parts lists are on pages 5-6.)
   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. Turn off the gas supply at a shutoff valve upstream of the combination gas valve and turn off the electrical supply. Open the control access panel.
3. **Install the Regulator Spring Kit**

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.

The conversion kits include two or three regulator spring kits -- one or two for a single-stage valve and one for a two-stage valve. Check the package carefully and choose the regulator spring kit that corresponds with the valve on the heater. **NOTE:** The other regulator spring kit(s) will not be used.

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 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 in Step No. 7.

4. Install Burner Orifices

WARNING

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

NOTES: Kits that apply to various sizes of heaters include the quantity of burner orifices required for the largest size of heater. When converting the smaller sizes, there will be extra burner orifices which will not be used. Burner orifices in these kits apply to sea level operation only. For high altitude, see Burner Orifice Chart, page 7.

1) Remove all burner cover sections. Depending on when the unit was manufactured, there will be either two or three sections. If two, there will be a right and a left section which extend over the front. If three, there will be a right, a left, and a separate front section.
2) Disconnect the manifold from the valve.
3) Remove the screws that retain the manifold assembly. (See **FIGURE 1**.)
4) With the manifold assembly removed from the heater, unscrew all of the existing orifices and replace with the orifices included in the conversion kit.

5. Re-Assemble the Heater

Reverse the procedure in Step 4 to re-assemble the heater.

Be certain that the manifold is positioned properly in relationship to the burner rack. Attach the conversion disk to the heater near the gas valve.

6. Check for Gas Leaks

Use a commercial leak detecting fluid or a rich soap and water solution. Leaks are indicated by the presence of bubbles.

a) Turn on the gas shutoff valve upstream of the combination gas valve. Check for gas leaks between the gas shutoff valve and the combination gas valve. If a leak is detected, tighten the connection and recheck. When there are no leaks, turn the manual shutoff valve off.

b) Turn on the electrical supply. Turn on the gas and follow the instructions on the heater to relight the burner. Check all manifold connections for leaks. If a leak cannot be stopped by tightening, turn off the gas and the electric, and replace the part or parts until there are no leaks.

7. Measure the Manifold Pressure

Before attempting to measure or adjust the manifold gas pressure, be certain that the inlet (supply) pressure is within the specified range (see pressure requirements in tables below) 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.

Follow these requirements and the instructions to measure and, if needed, adjust the manifold gas pressure:

Pressure Requirements for <u>Natural Gas</u>

Inlet (Supply)Pressure		5" w.c. minimum (or as stated on the rating plate); 14" w.c. maximum
Manifold Pressure	Single stage	3.5" w.c.
	2-stage high fire	3.5" w.c.
	2-stage low fire	1.8" w.c.

Pressure Requirements for <u>Propane</u>

Inlet (Supply) Pressure		11" w.c. minimum (or as stated on the rating plate);14" w.c. maximum
Manifold Pressure	Single Stage	10" w.c.
	2-stage high fire	10" w.c.
	2-stage low fire	5" w.c.

Gas Conversion Instructions (cont'd)

7. Measure the Manifold Pressure (cont'd)

WARNING

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

Instructions for Measuring and Adjusting Manifold Pressure:

1) Locate the 1/8” outlet pressure tap on the valve. Turn the knob on the top of the valve to “OFF”. Connect a manometer to the 1/8” pipe outlet pressure tap. Use a water column manometer that is readable to the nearest tenth of an inch. (**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.)

   Open the valve and operate the heater. Measure the gas pressure to the manifold. To measure low fire pressure on a two-stage valve, disconnect the wire from the "HI" terminal on the gas valve and measure the pressure. Reconnect the wire.

   If pressures are correct, remove the manometer and replace the cap. Check for leakage at the pressure tap fitting. Tighten if needed. Continue to Step 8.

   If adjustment is required, follow instructions in 2) below.

2) If adjustment is required:

CAUTION: DO NOT bottom out the gas valve regulator adjusting screw. This can result in unregulated manifold pressure causing excess overfire and heat exchanger failure.

Single-Stage and Two-Stage High Fire - Remove the cap from the outlet pressure adjusting screw and adjust the manifold pressure. Adjust pressure by turning the regulator screw IN (clockwise) to increase pressure or OUT (counterclockwise) to decrease pressure.

Two-Stage Low Fire - Disconnect the wire from the “HI” terminal on the gas valve. Locate the low fire adjusting screw. Turn the regulator screw to adjust the low fire outlet pressure. Re-connect the wire to the gas valve.

Turn up the thermostat. Cycle the burner once or twice to properly seat the adjustment spring in the valve.

Re-check the pressure(s). When the outlet pressure is right for the installation, remove the manometer and replace the cap.

Check for leakage at the pressure tap fitting. Tighten if needed.

8. Check for safe and proper operation of the heater by operating the heater for at least one cycle. Observe main burners for complete flame carryover.

WARNING

In the event of improper ignition, wait at least five minutes before attempting to relight the heater.

9. Complete the information required on the gas conversion tape and affix the tape to a clean, dry surface near the heater rating plate. Close the access door.

Components - Natural *to* Propane Conversion Kits

See page 2 for Serial No. Code information and NOTE about verifying parts.

The burner orifices in these kits are for sea-level operation only. (For high altitude installation (above 2000 ft), see the Burner Orifice Chart on page 7.) All kits include the quantity of orifices required for the largest size of heater. Excess parts may not be returned for credit.

NOTE: When converting a unit with a two-stage valve (Option AG2), check for valve manufacturer. If equipped with a Honeywell valve, select the kit below. If equipped with a 2-stage White-Rodgers valve, a new gas valve is required. See page 8 for replacement valve, additional required parts, and instructions.

Natural TO Propane Conversion Kit, P/N 269833

Applies to Model CAUA 150

Equipped with

Any of these Natural Gas Valves

Manufacturer's No.	Type
H/W VR8304M2816	1-Stage
H/W VR8205M1130	
H/W VR8215S1263	
H/W VR8204Q2418	2-Stage

Components:

Qty	P/N	Description
1	**98720**	Nat to LP Spring Kit, H/W 393691, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**260605**	Nat to LP Spring Kit, H/W 396221 for a **VR8215** Single-Stage Valve
1	**197207**	Spring Regulator Kit, H/W 396021 (2-stage valve)
8	**97359**	Burner Orifice, 1.25 mm
1	**64391**	Conversion Tape
1	**37752**	Propane Disk

Natural TO Propane Conversion Kit, P/N 269834

Applies to Model CAUA 200

Equipped with

Any of these Natural Gas Valves

Manufacturer's No.	Type
H/W VR8304-M 2816	1-Stage
H/W VR8205M1130	
H/W VR8215S1263	
H/W VR8204Q2418	2-Stage

Components:

Qty	P/N	Description
1	**98720**	Nat to LP Spring Kit, H/W 393691, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**260605**	Nat to LP Spring Kit, H/W 396221 for a **VR8215** Single-Stage Valve
1	**197207**	Spring Regulator Kit, H/W 396021 (2-stage valve)
10	**11830**	Burner Orifice, #55
1	**64391**	Conversion Tape
1	**37752**	Propane Disk

Natural TO Propane Conversion Kit, P/N 170815

Applies to Model CAUA 250

Equipped with

Any of these Natural Gas Valves

Manufacturer's No.	Type
W/R 36C68-452	1-Stage
W/R 36H32-441	
H/W VR8305M4009	
H/W VR8304Q4404	2-Stage

Components:

Qty	P/N	Description
1	**82524**	Spring Regulator Kit, W/R F920659 (1-stg W/R valves)
1	**98720**	Nat to LP Spring Kit, H/W 393691, for a **VR8105, VR8205, VR8305** Single-Stage valves
1	**197207**	Spring Regulator Kit, H/W 396021 (2-stg valve)
13	**97359**	Burner Orifice, 1.25 mm
1	**64391**	Conversion Tape
1	**37752**	Propane Disk

Natural TO Propane Conversion Kit, P/N 170816

Applies to Model CAUA 300

Equipped with

Any of these Natural Gas Valves

Manufacturer's No.	Type
W/R 36C68-452	1-Stage
W/R 36H32-441	
H/W VR8305M4009	
H/W VR8304Q4404	2-Stage

Components:

Qty	P/N	Description
1	**82524**	Spring Regulator Kit, W/R F920659 (1-stg W/R valves)
1	**98720**	Nat to LP Spring Kit, H/W 393691, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**197207**	Spring Regulator Kit, H/W 396021 (2-stg valve)
15	**11830**	Burner Orifice, #55
1	**64391**	Conversion Tape
1	**37752**	Propane Disk

Natural TO Propane Conversion Kit, P/N 170817

Applies to Model CAUA 350

Equipped with

Any of these Natural Gas Valves

Manufacturer's No.	Type
W/R 36C68-452	1-Stage
W/R 36H32-441	
H/W VR8305M4009	
H/W VR8304Q4404	2-Stage

Components:

Qty	P/N	Description
1	**82524**	Spring Regulator Kit, W/R F920659 (1-stg W/R valves)
1	**98720**	Nat to LP Spring Kit, H/W 393691, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**197207**	Spring Regulator Kit, H/W 396021 (2-stg valve)
12	**9789**	Burner Orifice, #53
1	**64391**	Conversion Tape
1	**37752**	Propane Disk

Natural TO Propane Conversion Kit, P/N 170818

Applies to Model CAUA 400

Equipped with

Any of these Natural Gas Valves

Manufacturer's No.	Type
W/R 36C68-452	1-Stage
W/R 36H32-441	
H/W VR8305M4009	
H/W VR8304Q4404	2-Stage

Components:

Qty	P/N	Description
1	**82524**	Spring Regulator Kit, W/R F920659 (1-stg W/R valves)
1	**98720**	Nat to LP Spring Kit, H/W 393691, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**197207**	Spring Regulator Kit, H/W 396021 (2-stg valve)
14	**61653**	Burner Orifice, 1.55mm
1	**64391**	Conversion Tape
1	**37752**	Propane Disk

Components - Propane *to* Natural Conversion Kits

See page 2 for Serial No. Code information and NOTE about verifying parts.

The burner orifices in these kits are for sea-level operation only. (For high altitude installation (above 2000 ft), see the Burner Orifice Chart on page 7.)
All kits include the quantity of orifices required for the largest size of heater. Excess burner orifices may not be returned for credit.

NOTE: When converting a unit with a two-stage valve (Option AG2), check for valve manufacturer. If equipped with a Honeywell valve, select the kit below. If equipped with a 2-stage White-Rodgers valve, a new gas valve is required. See page 8 for replacement valve, additional required parts, and instructions.

Propane TO Natural Conversion Kit, P/N 269849

Applies to Model CAUA 150

Equipped with

Any of these propane valves

Manufacturer's No.	Type
H/W VR8204M1018	1-Stage
H/W VR8205M1148	
H/W VR8215S5215	
H/W VR8304Q4412	2-Stage

Components:

Qty	P/N	Description
1	**98721**	LP to NAT Spring Kit, H/W 394588, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**261651**	LP to NAT Spring Kit, H/W 396222, for a **VR8215** Single-Stage Valve
1	**197208**	Spring Conversion Kit, H/W #3906025 (2-stage valve)
8	**164866**	Burner Orifice, 2.1mm
1	64391	Conversion Tape
1	1401	Natural Gas Disk

Propane TO Natural Conversion Kit, P/N 269850

Applies to Model CAUA 200

Equipped with

Any of these propane valves

Manufacturer's No.	Type
H/W VR8204M1018	1-Stage
H/W VR8205M1148	
H/W VR8215S5215	
H/W VR8304Q4412	2-Stage

Components:

Qty	P/N	Description
1	**98721**	LP to NAT Spring Kit, H/W 394588, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**261651**	LP to NAT Spring Kit, H/W 396222, for a **VR8215** Single-Stage Valve
1	**197208**	Spring Conversion Kit, H/W #396025 (2-stage valve)
10	**11833**	Burner Orifice, #44
1	**64391**	Conversion Tape
1	**1401**	Natural Gas Disk

Propane TO Natural Conversion Kit, P/N 170810

Applies to Models CAUA 250 and CAUA 300

Equipped with

Any of these propane valves

Manufacturer's No.	Type
W/R 36C68-325	1-Stage
W/R 36H32-442	
H/W VR8305M4819	
H/W VR8304Q4412	2-Stage

Components:

Qty	P/N	Description
1	**82525**	Spring Conversion Kit, W/R #92-0656 (1-stage W/R valves)
1	**98721**	LP to NAT Spring Kit, H/W 394588, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**197208**	Spring Conversion Kit, H/W #396025 (2-stage valve)
15	**11833**	Burner Orifice, #44
1	**64391**	Conversion Tape
1	**1401**	Natural Gas Disk

Propane TO Natural Conversion Kit, P/N 170811

Applies to Model CAUA 350

Equipped with

Any of these propane valves

Manufacturer's No.	Type
W/R 36C68-325	1-Stage
W/R 36H32-442	
H/W VR8305M4819	
H/W VR8304Q4412	2-Stage

Components:

Qty	P/N	Description
1	**82525**	Spring Conversion Kit, W/R #92-0656 (1-stage W/R valves)
1	**98721**	LP to NAT Spring Kit, H/W 394588, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**197208**	Spring Conversion Kit, H/W #396025 (2-stage valve)
12	**11835**	Burner Orifice, #37
1	**64391**	Conversion Tape
1	**1401**	Natural Gas Disk

Propane TO Natural Conversion Kit, P/N 170812

Applies to Model CAUA 400

Equipped with

Any of these propane valves

Manufacturer's No.	Type
W/R 36C68-325	1-Stage
W/R 36H32-442	
H/W VR8305M4819	
H/W VR8304Q4412	2-Stage

Components:

Qty	P/N	Description
1	**82525**	Spring Conversion Kit, W/R #92-0656 (1-stage W/R valves)
1	**98721**	LP to NAT Spring Kit, H/W 394588, for a **VR8105, VR8205, VR8305** Single-Stage Valves
1	**197208**	Spring Conversion Kit, H/W #396025 (2-stage valve)
14	**45870**	Burner Orifice, #38
1	**64391**	Conversion Tape
1	**1401**	Natural Gas Disk

Burner Orifice Chart - Model CAUA

The gas conversion kits on pages 5 and 6 include the standard sea level burner orifices listed as 0-2000 ft in the chart.

Model CAUA				**150**	**200**	**250**	**300**	**350**	**400**
BURNER ORIFICES			Quantity	8	10	13	15	12	14
Natural Gas, 0-2000 ft, installation in U.S. or Canada (orifices in the conversion kits)			**P/N**	**164866**	**11833**	**11833**	**11833**	**11835**	**45870**
			Size	2.1mm	#44	#44	#44	#37	#38
Propane, 0-2000 ft, installation in U.S. or Canada (orifices in the conversion kits)			**P/N**	**97359**	**11830**	**97359**	**11830**	**9789**	**61653**
			Size	1.25mm	#55	1.25mm	#55	#53	1.55mm
Installed in Canada	Natural Gas	2001-4500 ft	**P/N**	**40414**	**38678**	**38678**	**38678**	**45871**	**11792**
			Size	#48	#45	#45	#45	#39	#41
	Propane		**P/N**	**63003**	**11830**	**63003**	**11830**	**11834**	**61652**
			Size	1.2mm	#55	1.2mm	#55	#54	1.45mm
Installed in the U.S.	Natural Gas	2001-3000 ft	**P/N**	**84853**	**38678**	**38678**	**38678**	**45870**	**45871**
			Size	#47	#45	#45	#45	#38	#39
	Propane		**P/N**	**97359**	**11830**	**97359**	**11830**	**11834**	**9789**
			Size	1.25mm	#55	1.25mm	#55	#54	#53
	Natural Gas	3001-4000 ft	**P/N**	**84853**	**38678**	**38678**	**38678**	**45871**	**87391**
			Size	#47	#45	#45	#45	#39	#40
	Propane		**P/N**	**63003**	**11830**	**63003**	**11830**	**11834**	**9789**
			Size	1.2mm	#55	1.2mm	#55	#54	#53
	Natural Gas	4001-5000 ft	**P/N**	**40414**	**38678**	**38678**	**38678**	**45871**	**11792**
			Size	#48	#45	#45	#45	#39	#41
	Propane		**P/N**	**63003**	**11830**	**63003**	**11830**	**11834**	**61652**
			Size	1.2mm	#55	1.2mm	#55	#54	1.45mm
	Natural Gas	5001-6000 ft	**P/N**	**40414**	**16590**	**16590**	**16590**	**87391**	**11792**
			Size	#48	#46	#46	#46	#40	#41
	Propane		**P/N**	**63003**	**39658**	**63003**	**39658**	**11834**	**61652**
			Size	1.2mm	#56	1.2mm	#56	#54	1.45mm
	Natural Gas	6001-7000 ft	**P/N**	**40414**	**84583**	**84583**	**84583**	**11792**	**84437**
			Size	#48	#47	#47	#47	#41	#42
	Propane		**P/N**	**39658**	**39658**	**39658**	**39658**	**11834**	**61652**
			Size	#56	#56	#56	#56	#54	1.45mm
	Natural Gas	7001-8000 ft	**P/N**	**39651**	**84853**	**84853**	**84853**	**84437**	**84437**
			Size	#49	#47	#47	#47	#42	#42
	Propane		**P/N**	**63922**	**39658**	**63922**	**39658**	**11834**	**11834**
			Size	1.15mm	#56	1.15mm	#56	#54	#54
	Natural Gas	8001-9000 ft	**P/N**	**39651**	**40414**	**40414**	**40414**	**84437**	**11828**
			Size	#49	#48	#48	#48	#42	#43
	Propane		**P/N**	**63922**	**39658**	**63922**	**39658**	**11830**	**11834**
			Size	1.15mm	#56	1.15mm	#56	#55	#54

Gas Conversion - Applies only to Model CAUA with 2-Stage White-Rodgers Valve (Serial No. Codes H5, H6, M9) NOTE: See example on page 2 for decoding the serial number.

Components required to convert a Model CAUA with a 2-stage White-Rodgers valve:

☐ **The applicable conversion kit listed on pages 5 - 7.** (Spring kits in the conversion kit will not be used.)

☐ **Parts listed by size in the table:**

CAUA Size	2-stage Gas Valve		Brass Plug	3/4 to 1/2 Bushing - Natural to Propane only
	Natural Gas	Propane		
150	177396	177398	107367	37385
200	177396	177398	107367	37385
250	177397	177398	107367	-
300	177397	177398	107367	-
350	177397	177398	107367	-
400	177397	177398	107367	-

☐ **If operating above 2000 ft, select orifices on page 7.**

Instructions - Follow all of the conversion instructions starting on page 2, **REPLACING Steps 3, 4, and 5 with the following:**

3. Change the Combination Gas Valve (applies to heaters with White-Rodgers 2-stage valve)

1) Mark the wires and disconnect them from the existing valve. Disconnect and remove the valve.

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

2) On the new valve (from the table above), locate the port labeled "pilot". Since the Model CAUA does not have a pilot, use the brass plug, P/N 107367, to plug the port.
3) Connect the inlet side of the valve to the gas supply line. (Do not connect the valve to the manifold until after the orifices are changed.)
4) Connect the wires to the valve as marked; verify connections with the unit wiring diagram. Consult the valve manufacturer's literature for details concerning the valve.

4. Install Burner Orifices

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

NOTES: Kits that apply to various sizes of heaters include the quantity of burner orifices required for the largest size of heater. When converting the smaller sizes, there will be extra burner orifices which will not be used. Burner orifices in these kits apply to sea level operation only. For high altitude, see Burner Orifice Chart, page 7.

1) Remove all burner cover sections. Depending on when the unit was manufactured, there will be either two or three sections. If two, there will be a right and a left section which extend over the front. If three, there will be a right, a left, and a separate front section.
2) Remove the screws that retain the manifold assembly. (See **FIGURE 1, page 2**).
3) With the manifold and control assembly removed from the heater, unscrew all of the existing orifices and replace with the orifices included in the conversion kit.

5. Re-Assemble the Heater

Reverse the procedure in Step 4 to re-assemble the heater. When converting Sizes 150 and 200 from natural gas to propane, use a 3/4" to 1/2" reducing bushing (see chart above) to connect the valve.

Be certain that the manifold is positioned properly in relationship to the burner rack.

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

Return to page 3 and complete Steps 6 through 9 to check for leaks and check manifold pressure.

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