

75-511.10

5H72298A Rev. K

March, 2005

SELECTION AND INSTALLATION INSTRUCTIONS
conversion from natural gas to propane gas for
models PD/BD, PDP/BDP, PV/BV, DJE/DHE, IJE/IHE
with control codes 11-14 or 30-33 and built 4/91 or after,
DFG, IFG, NFG, DFS, IFS
duct furnances and system units with digits 11 & 12 of N1 or S1

! WARNING

This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life. The qualified service agency performing this work assumes responsibility for the proper conversion of this furnace with this kit.

! AVERTISSEMENT

Cet ensemble de conversion ne doit être installé que par le représentant d'un organisme qualifié et conformément aux instructions du fabricant et à tous les codes et exigences applicables de l'autorité compétente. Quiconque ne respecte pas à la lettre les instructions dans le présent manuel risque de déclencher un incendie ou une explosion entraînant des dommages matériels, des lésions corporelles ou la perte de vies humaines. L'organisme qualifié qui effectue les travaux est responsable de la conversion correcte de ce générateur d'air chaud à l'aide de cet ensemble.

The propane kits appearing in this bulletin are for use with units which are going to be installed between 0 and 2000 ft. elevation. If a unit is to be installed at higher elevations, a special "high altitude" propane orifice kit must be ordered in addition to the propane conversion kits shown here. See Bulletin 75-535 for selection of "high altitude" orifice kits.


When converting units to propane at elevations over 2000 ft., the main burner orifices in the propane conversion kit must be replaced with the orifices from the "high altitude" orifice kit. The remaining components of the propane kit, those other than the main burner orifices, are still required to complete the conversion to propane gas, regardless of the elevation at which the unit is installed.

Identifying the Model, Control Code and Date of Manufacture

Figure 2.1, shown on the next page, is an example of a typical serial plate. Markings pertinent to verifying correct application of the conversion kit are identified and explained in detail. **All prerequisites must be satisfied before the unit is deemed convertible.**

1. The first two or three characters in the model number box are letters. These letters identify the style of the heater. If any of the following model prefixes appear in this box, the unit is potentially convertible: PD/BD, PDP/BDP, PV/BV, DJE, IJE, DFG, IFG, NFG, DFS, IFS.
2. Next, the number 11, 12, 13, 14, 30, 31, 32, or 33 must be the control code or digits 11 and 12 of the model number are N1 or S1. This is item (2) in Figure 2.1. Any other number code disqualifies the unit for conversion.
3. Item (3) in Figure 2.1 in the serial number box designates the date the unit was built. In Figure 2.1, the numbers 3601 are shown. This number is interpreted as the thirty sixth week of 2001. Prior to January 1995, the digits preceding the year represent month of manufacture. After January 1995, the (2) digits preceding the year represent the week of manufacture. Any serial number dated 4/91 or after is acceptable for conversion.

Figure 2.1
Typical Serial Plate

Modine Manufacturing Company 1221 Magnolia Ave., Buena Vista, VA 24416; Phone: 540-261-2166		UNIT HEATER FOR INDUSTRIAL / COMMERCIAL USE AÉROTHERME POUR USAGE INDUSTRIEL / COMMERCIAL				Made in U.S.A.	
MODEL NUMBER NUMÉRO DE MODÈLE (1) PD 250AA01(11) (3)	MIN. INPUT BTU/HR DÉBIT CALORIFIQUE MIN. BTU/HEURE	VOLTS 115	AMPS 5.7	PHASE 1	HERTZ 60		
SERIAL NUMBER NUMÉRO DE SÉRIE 300110 (2) 3601-0978	MIN. INLET PRESS. FOR PURPOSE OF INPUT ADJUSTMENT PPRESSION D'ALIMENTATION EN GAZ MIN. ADMISE 6.0	IN. W.C. P.O.C.D'E 1	DESIGN COMPLIES WITH UNIT HEATER STANDARD: ANS Z83.8 - 96				
TYPE OF GAS TYPE DE GAZ Natural	MANIFOLD PRESSURE PPRESSION A LA TUBULURE D'ALIMENTATION 3.5	IN. W.C. P.O.C.D'E 1	APPROVALS CGA-2.6-M96				
	MAXIMUM EXTERNAL STATIC PRESSURE PPRESSION STATIQUE EXTERIEUR MAXIMUM 0.0	IN. W.C. P.O.C.D'E 1	ACCEPTED BY CITY OF NEW YORK MEA 293-96-E				
0 TO 2000 FT. 0 ET 610 M.	(IN CANADA) 2000 TO 4900 FT. 610 ET 1570 M.	MINIMUM CLEARANCE TO COMBUSTIBLE MATERIAL DÉGAGEMENT MINIMUM POUR MATIÈRES COMBUSTIBLES		PENNSYLVANIA APPROVAL NO. 3465			

Selection of the Proper Kit

Referring to the model number box on the serial plate in Figure 2.1 (above), the prefix letters and succeeding numbers which are needed for kit selection are PD250.

The letters identify the model, and the numbers indicate the size of the unit. Referring to Tables 2.1, 2.2, or 2.3 locate the model

type column (i.e. PD, BD, etc.). Working with Table 2.1 and the row labeled PD/BD, move right searching for the proper model size. Read the kit number suffix directly below the model size for a PD250. Add this suffix (-9) to the base part number for the propane conversion kit shown in the heading of Table 2.1. The correct kit for a PD250 with Control Code 11, is 3H034670-9.

Table 2.1
Natural Gas to Propane Gas Conversion Kit Selection Guide
Base Kit Number – 3H034670...(Choose correct suffix -1, -2, -3, etc...)

Model Type	Model Size											
PD/BD, PDP/BDP	30	50	75	100	125	150	175	200	250	300	350	400
Suffix	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12

Table 2.2
Natural Gas to Propane Gas Conversion Kit Selection Guide (For units manufactured after April 1, 1991)
Base Kit Number – 3H33749...(Choose correct suffix -1, -2, -3 etc., per instructions, before ordering propane conversion kits.)

Model Type	Model Size														
PAE/BAE	30	50	75	100	125	145	-	175	200	225	-	250	300	350	400
Suffix	-1	-2	*-14	-4	-5	-6	-	-7	-8	-9	-	-10	-11	-12	-13
PV/BV	30	50	75	100	125	145	-	175	200	-	-	250	300	350	400
Suffix	-1	-2	-14	-4	-5	-6	-	-7	-8	-	-	-10	-11	-12	-13
DJE/DHE	-	-	75	100	125	-	150	-	200	225	-	250	300	350	400
Suffix	-	-	-14	-15	-16	-	-6	-	-8	-17	-	-10	-11	-18	-13

* For units manufactured after September, 1993. For units manufactured prior to this date, consult the factory.

Table 2.3
Natural Gas to Propane Gas Conversion Kit Selection Guide
Base Kit Number – 3H036483...(Choose correct suffix -1, -2, -3 etc...)

Model Type	Model Size										
DFG/IFG/NFG, DFS/IFS	75	100	125	150	175	200	225	250	300	350	400
Suffix	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11

Installation of Kit

! CAUTION

Gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion. Failure to do so could result in fire, explosion or electrical shock.

Conversion of any unit is the responsibility of, and the risk of the person making the conversion.

General

1. Shut off gas supply to the unit. Disconnect the electrical power to the unit.
2. For codes 11, 12, 13, 14 or if digit 11 of the model number is S or T and digit 12 is 1, disconnect the pilot gas tube and thermocouple lead at the combination gas control. For codes 30, 31, 32, 33 or if digit 11 of the model number is N or P and if digit 12 is 1, disconnect the pilot gas tube at the combination gas control and the ignition cable(s) at the ignition control.
3. Remove burner assembly.

For PD/BD, PDP/BDP, and PV/BV Models

Lower bottom pan to expose burner and manifold (see Figure 3.1).

For codes 11, 12, 13, or 14, disconnect pilot gas tube and thermocouple lead at the controls. For codes 30, 31, 32, or 33, disconnect the pilot gas tube at the combination gas control and the ignition cable(s) at the ignition control.

Remove the two burner retaining pins holding the burner in place (see Figure 3.2). The burner can then be easily lowered from the unit. In replacing the burner, be certain that the slots at the front of the burner are located properly on their shoulder rivets and that the burner retaining pins are put back into their proper locations.

After removing burner assembly, proceed with step #4, page 4.

For Indoor Duct Furnace Models

On DHE/IHE models, lower the controls enclosure cover and disconnect the pilot gas supply line and thermocouple at the gas valve. On models DJE/IJE, DFG/IFG/NFG, DBG/IBG, and DCG/ICG models, the gas controls are exposed. On models DFS/IFS, remove lower access door to expose gas controls and burner.

The burner may be removed from either side of the duct furnace. To remove the burner, remove all of the sheet metal screws holding the side burner access panel in place. (Note: with the side access panel screws removed, the access panel is free to move, be careful not to drop the panel.)

Figure 3.1
Hinged Bottom for Burner Service

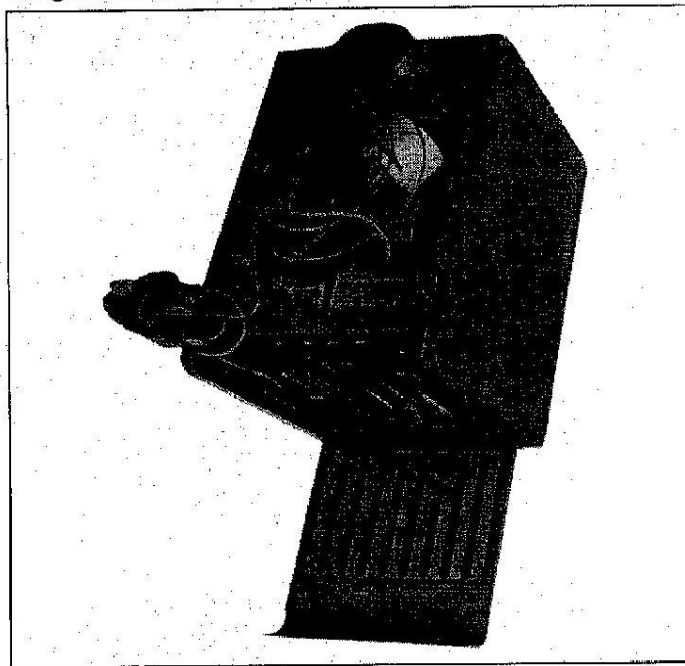


Figure 3.2
Manifold Adjustment

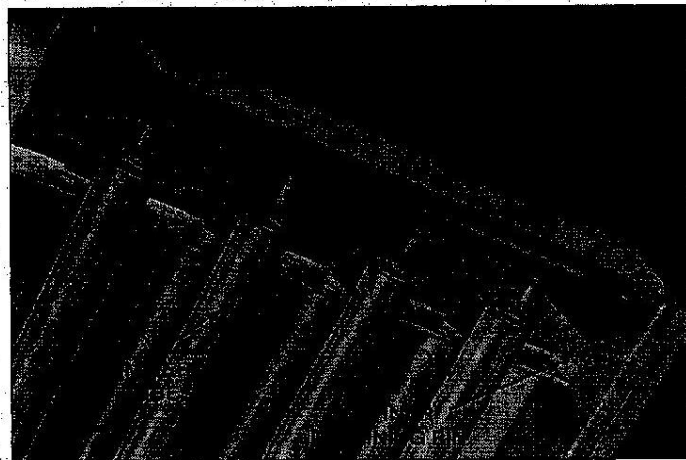
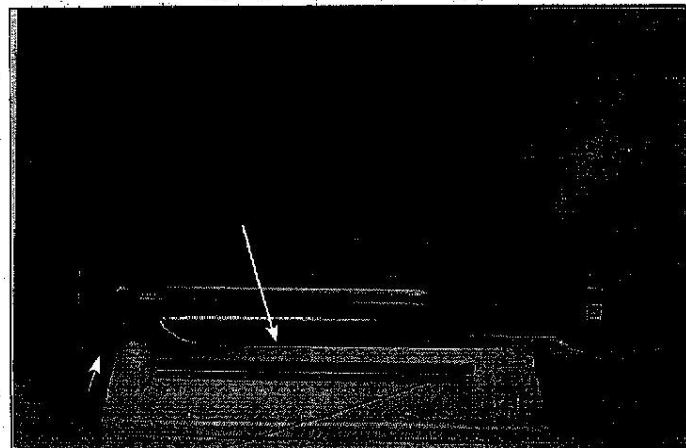


Figure 3.3



BURNER
ALIGNMENT PINS

Remove the side access panel to expose the furnace burner assembly.

For DJE, IJE, DHE, and IHE carefully thread the pilot tube and the thermocouple leads through the combustion air slot (at the rear of the unit) into the burner box so they may be drawn out with the burner.

Slide the complete burner assembly out of the burner box. The complete burner and pilot assembly are now free for service (see Fig. 4.1).

To replace the burner, follow the above steps in reverse order, being careful to align the burner assembly properly on the alignment pins on the access panels on both sides of the duct furnace (see Fig. 3.3).

4. Remove pilot gas tube at the pilot, and exchange pilot orifice (see Figure 4.3). For Robertshaw pilots, replace the pilot orifice stamped N18 with the pilot orifice supplied in the conversion kit stamped LP10 (see Figure 4.2 section a). For Honeywell pilots, replace the pilot orifice stamped BCR-18 with the pilot orifice supplied in the conversion kit stamped BBR - 11 or 12 (see Figure 4.2 section b).

Figure 4.1

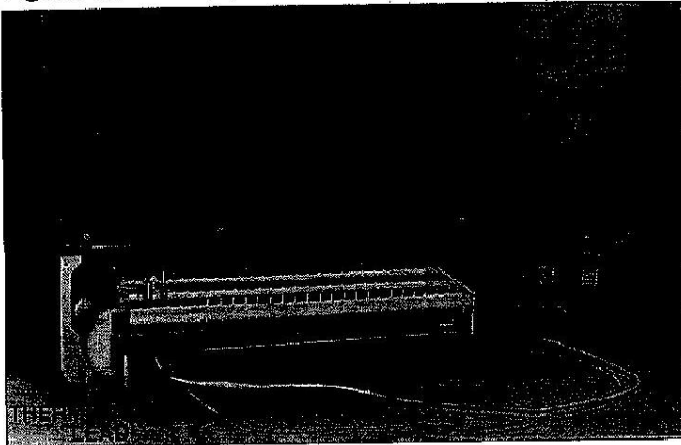


Figure 4.2
Pilot Orifices

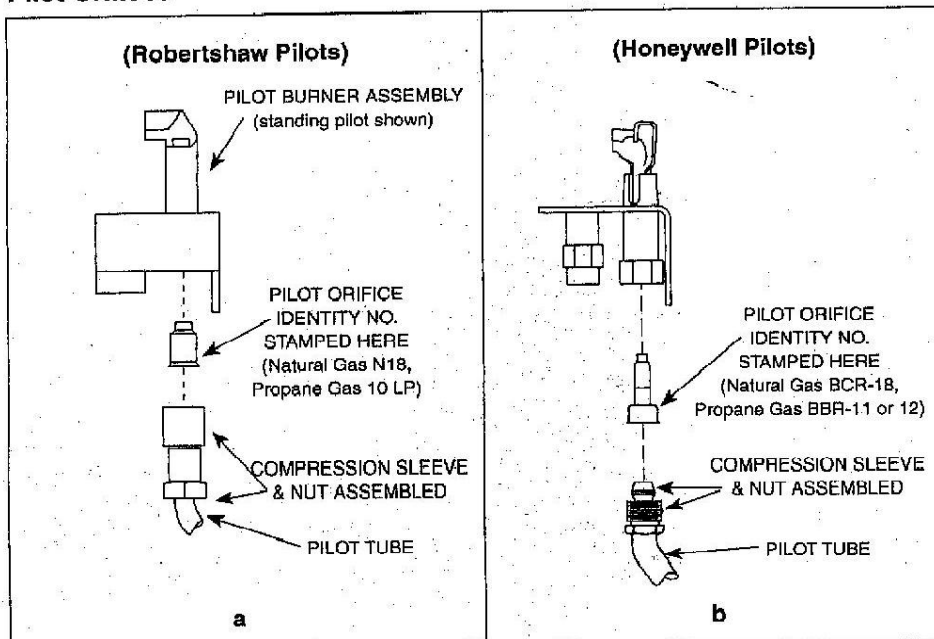
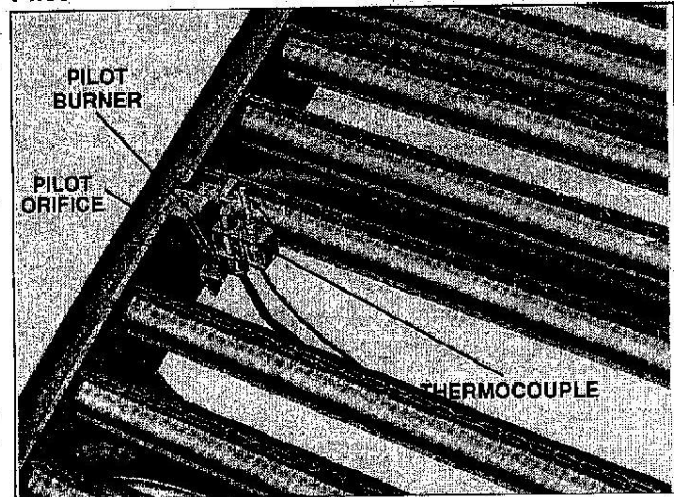


Figure 4.3
Pilot



5. Verify that pilot is oriented to main burner as shown in Fig. 4.3.
6. Exchange main burner orifice(s) and install air shutters (see Figure 4.4). Check the orifice number stamped on each orifice. Be sure that this number is the same number indicated on the kit parts list for the kit being installed. (See Table 5.1 or 5.2).

Figure 4.4
Burner Orifices and Air Shutters

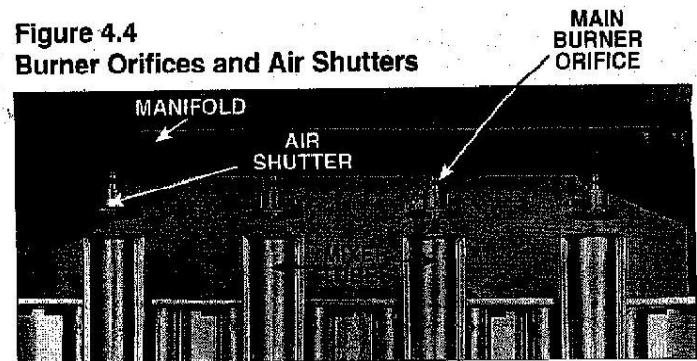


Table 5.1 – Conversion Kit Parts List, Natural to Propane

Kit 3H034670 (-)	Qty	Part Number	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
Regulator Kit for Honeywell VR8200, VR8300, VR8204, VR8304	1	393691		x	x	x	x	x	x	x	x	x	x	x
Regulator Kit for Honeywell V800, VR800, VR8440	1	391937											x	x
Regulator Kit for Robertshaw 7200ER, 7200IPER	1	78776	x	x	x	x	x	x	x	x				
Regulator Kit for Robertshaw 7000BER/BDER/ERHC/DERHC	1	85478									x	x	x	x
Regulator Kit for Robertshaw 7222IPER	1	54302	x	x	x	x	x							
Regulator Kit for White-Rogers 36E, 36C	1	92-0659	x	x	x	x	x	x	x	x	x	x	x	x
Main Burner Orifice Drill Size	()	5H54751 Qty	52 (1)	45 (1)	39 (1)	45 (2)	43 (2)	39 (2)	43 (3)	42 (3)	36 (3)	39 (4)	41 (5)	42 (6)

Table 5.2 – Conversion Kit Parts List, Natural to Propane (For units manufactured after April 1, 1991)

Kit No. 3H33749 (-)	Qty	Part Number	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18
Regulator Kit for Honeywell VR8200, VR8300, VR8204, VR8304	1	393691						X		X		X		X	X	X	X	X	X	
Regulator Kit for Honeywell V800, VR800, VR8440	1	391937	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Regulator Kit for Robertshaw 7200ER, 7200IPER	1	78776									X	X	X	X	X					
Regulator Kit for Robertshaw 7000BER/BDER/ERHC/DERHC	1	85478	X	X	X	X	X	X	X	X										
Regulator Kit for Robertshaw 7222IPER	1	54302	X	X		X	X	X	X	X	X	X	X	X	X					X
Main Burner Orifice Drill Size	()	5H54751B... Qty	52 (1)	45 (1)	49 (2)	45 (2)	42 (2)	45 (3)	43 (3)	40 (3)	43 (4)	42 (4)	43 (5)	39 (5)	40 (6)	37 (1)	45 (2)	48 (3)	37 (3)	43 (6)
Carton Label	1	5H73193C...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

	Description	Qty.	Part Number
Parts Common To Kits: (Table 5.1 and Table 5.2)	Honeywell Pilot Orifice	1	Orifice Stamp BBR-11
	Robertshaw Pilot Orifice	1	Orifice Stamp 10 LP
	Air Shutter	Same As Main Burner Orifice Qty.	3H20634A2
	Gas Designation Disc	1	5H604841A
	Conversion Kit Rating Plate	1	5H73734A
	Instruction Sheet	1	5H72298A

Table 5.3 – Conversion Kit Parts List, Natural to Propane

Kit No. 3H36483 (-)	Qty	Part Number	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
Regulator Kit for Honeywell VR8204, VR8200A, VR8300A	1	5H71926A2	X	X	X	X	X	X	X	X	X	X	X
Regulator Kit for Honeywell V800A	1	5H7057A2											X
Regulator Kit for Robertshaw 7200IPER, 7200ER	1	5H73135A2	X	X	X	X	X	X					
Regulator Kit for Robertshaw 700BDER, 700DERHC, 7000BER, 7000ERHC	1	5H73134A2								X	X	X	X
Regulator Kit for White Rodgers 36E36, 36C36, 36C03	1	5H73134A2	X	X	X	X	X	X	X	X	X	X	X
Main Burner Orifice Drill Size	()	5H54751B Qty	37 (1)	45 (2)	42 (2)	45 (3)	43 (3)	40 (3)	37 (3)	42 (4)	37 (4)	43 (6)	40 (6)
Carton Label	1	5H78020B	1	2	3	4	5	6	7	8	9	10	11

	Description	Qty.	Part Number
Parts Common To Kit: (Table 5.3)	Robertshaw Pilot Orifice	1	5H71926A2
	Air Shutter	Same As Main Burner Orifice Qty.	3H20634A2
	Gas Designation Disc	1	5H604841A
	Conversion Kit Rating Plate	1	5H73734A
	Instruction Sheet	1	5H72298A

7. Reinstall the burner assembly making certain that the retaining pins (and clips) are replaced and the burner is correctly positioned.
8. For codes 11 or 12 or if digit 11 of model number is S and digit 12 is 1, reconnect the pilot gas tube and thermocouple at the combination gas control. For codes 30 or 31 or if digit 11 of model number is N and digit 12 is 1, reconnect the pilot gas tube at the combination gas control and the ignition cable(s) at the ignition control.
9. Modify the combination gas control regulator to use propane gas. Follow the instructions in the regulator kit to convert the combination gas control. Some conversion kits will have more than one regulator kit and they are specific to the manufacturer of the combination gas control (i.e. Honeywell, Robertshaw, etc.). Check the conversion kit Parts List, Table 5.1, 5.2, or 5.3, for application of the correct regulator kit. A second check can be made by finding the model number on the combination gas control and matching it with the correct kit. Do not attempt to substitute one regulator kit for another.
10. Affix the propane conversion label to the combination gas control. This label is supplied with the regulator conversion kit (see Figure 6.2).
11. Affix the conversion Rating Plate adjacent to the unit's original rating plate (see Figure 6.3). Be sure that all blanks on the label are completely filled in (date of conversion, kit number, and organization/individual performing the conversion).
12. Remove the natural gas designation disc(s) and replace with the propane gas designation disc(s) included with the conversion kit (see Figure 7.1). Note that some units may use several discs.
13. Turn on the gas supply to the unit.
14. Check the line pressure of the gas supply upstream of the combination gas control either with a water column manometer or with a gauge with water column scale. The supply pressure should be no less than 12 in. w.c. and no more than 14 in. w.c.
15. Connect the manometer or (gauge) to the outlet pressure tap designated on the combination gas control.
16. Restore electric supply to unit.
17. Light unit following instructions on unit rating plate. Turn up thermostat setting to call for heat. After the main burners light, measure the outlet (manifold) pressure of the combination gas control. The outlet pressure should be 10 in. w.c. The outlet pressure can be adjusted at the combination gas control's regulator. Turning the adjustment clockwise will increase the outlet pressure while turning it counterclockwise will decrease the pressure.
18. Verify normal operating sequence of ignition system according to the Installation & Service Manual.
19. Check for leaks at all joints and connections in the gas lines. This is most easily done with a soap/water solution. Simply brush or spray some of the solution on a joint or connection and look for bubble formation.
20. Observe the main burner flame. The flame should have a well-defined conical shape with the base anchored to the burner port. If the flame appears to be lifting or rising above the burner port (see Figure 6.1), loosen the thumb screw on the air shutter and slide the shutter forward toward the mixer tube (see Figure 4.4).
21. If a majority of the flame is yellow, move the air shutter back away from the mixer tube. Slight yellow tips on a propane flame are common and are not objectionable. Adjust pilot flame. Follow instructions in Installation and

Figure 6.1
Lifting Flame

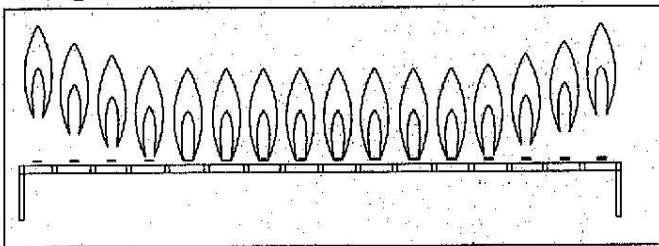


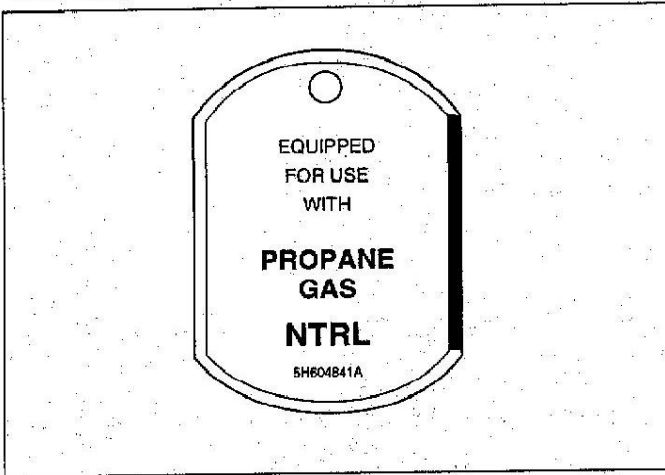
Figure 6.2
Typical Combination Gas Control Conversion Label



Figure 6.3
Conversion Rating Plate

MODINE MANUFACTURING COMPANY CONVERSION KIT RATING PLATE	
This appliance was converted on to propane gas with kit no. _____ by: _____	
which accepts the responsibility that this conversion has been properly made. Use parts supplied by Heating Division of Modine Manufacturing Company. Conversion to be performed by a qualified service technician.	
Appliance model number and input rating: See existing rating plate.	
Inlet gas pressure:	Minimum 12" W.C. Maximum 14" W.C.
Manifold gas pressure:	10" W.C.
Burner orifice size: # _____	drill
Ce générateur d'air chaud a été converti le _____ pour fonctionner au gaz propane à l'aide de l'ensemble n° _____ par _____	
(nom et adresse de l'organisme qui a effectué la conversion), qui accepte l'entière responsabilité de la conversion.	
5H73734A	

Figure 7.1
Gas Designation Disc



22. See the original rating plate for the unit heater's rated input. The input can be verified at any time simply by checking for the correct main burner orifice size and manifold pressure. This information is presented on the conversion kit rating plate.

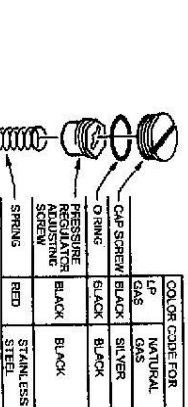


Fig. 2. Conversion kit installation in regulator.

- Install the new plastic pressure regulator adjustment screw. Assure that the screw top is flush with the regulator top.
- Turn pressure regulator adjustment screw clockwise eleven complete turns. The preliminary pressure setting is approximately 14.0 in. w.c. (2.5 kPa) for LP gas regulator (392691) and 3.5 in. w.c. (0.9 kPa) for natural gas regulator (394588).
- Check the regulator setting using a manometer or by checking the gas meter. See Check and Adjust Gas Input and Burner Ignition section.
- Install the new cap screw and O-ring.
- Mount conversion label on the gas control.
- Install the gas control and appliance according to appliance manufacturer instructions.

START-UP

Gas Control Knob Settings

OFF: Prevents pilot and main burner gas flow.
PILLOT (On standing pilot controls only): Permits pilot burner gas flow when red knob is held down or thermocouple current is above power limit dropout value.

ON: Permits gas flow into gas control. Pilot burner/gas is controlled as in the PILLOT position for standing pilot and intermittent pilot systems. Main burner gas flow is controlled by thermostat and automatic valve operators.

Perform Gas Leak Test

⚠ WARNING

Fire or Explosion Hazard. Can cause severe injury, death or property damage.
 Check for gas leaks with soap and water solution. Any lime work is done on a gas system.

Gas Leak Test

- Paint pipe connections upstream of gas control with rich soap and water solution. Bubbles indicate gas leak.
- If gas leak is detected, tighten all pipe connections. Stand clear of main burner while lighting to prevent injury caused from hidden leaks that could cause flashback in the appliance vestibule. Light main burner.
- With main burner operating, paint pipe joints (including adapters) and control inlet and outlet with rich soap and water solution.
- If another gas leak is detected, tighten adapter screws, joints, and pipe connectors.
- Replace part if gas leak can not be stopped.

Light Pilot (Standing Pilot Models)

- Turn gas control knob clockwise to OFF. Wait five minutes to dissipate any unburned gas. Smell for gas around the appliance near the floor. Do not relight pilot flame if you smell gas.
- Turn gas control knob counterclockwise to PILLOT. Push down and hold the knob while lighting the pilot flame.
- Hold down the gas control knob about one minute, then release.
 - If pilot flame goes out, turn gas control knob clockwise to OFF and repeat steps 1 through 3.
 - If pilot flame remains lit, turn gas control knob counterclockwise to ON.

Turn on System (Intermittent and Direct Ignition Systems)

Rotate the gas control knob counterclockwise to ON.

Turn on Main Burner

Follow appliance manufacturer instructions or adjust thermostat setting to call for heat.

Adjust Pilot Flame

The pilot flame should envelop 3/8 to 1/2 in. (10 to 13 mm) of the thermocouple or igniter-sensor tip. Refer to Fig. 3. To adjust pilot flame:

- Remove pilot adjustment cap screw. Refer to Fig. 1.
- Turn inner adjustment screw clockwise to decrease or counterclockwise to increase pilot flame.
- Always replace cap screw after adjustment and tighten firmly to safeguard proper operation.

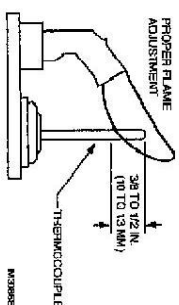


Fig. 3. Proper flame adjustment.

Check and Adjust Gas Input and Burner Ignition

⚠ CAUTION

Equipment Damage Hazard. Exceeding input ratings can damage the equipment.

- Do not exceed input rating stamped on appliance nameplate, or manufacturer recommended burner orifice pressure for size orifice(s) used. Make certain primary air supply to main burner is properly adjusted for complete combustion. Follow appliance manufacturer instructions.

2. IF CHECKING GAS INPUT BY CLOCKING GAS METER:

- Make sure that the only gas flowing through the meter is for the appliance being checked.
 - Make certain that other appliances are turned off with their pilot flames extinguished (or deduct their gas consumption from the meter reading).
 - Convert flow rate to Bluh as described in form 70-2602, Gas Controls Handbook, and compare to Bluh input rating on appliance nameplate.
3. IF CHECKING GAS INPUT WITH MANOMETER:
- Be sure the gas control knob is in the PILLOT position before removing outlet pressure tap plug to connect manometer (pressure gauge).
 - Turn the gas control knob back to PILLOT when removing gauge and replacing plug.
 - Shut off gas supply at the appliance service valve, or for LP gas, at the gas tank, before removing the outlet pressure tap plug and before disconnecting manometer and replacing outlet pressure tap plug.
 - Perform Gas Leak Test at outlet pressure tap plug.

Checking Gas Pressure Using a Manometer (Pressure Gauge)

- Turn gas control knob to PILLOT (standing pilot systems) or OFF (intermittent and direct ignition systems).
- Remove outlet pressure tap plug from gas control and connect pressure gauge. Refer to Fig. 1.
- Turn gas control knob to ON position. To obtain an accurate outlet pressure reading, main burner must be cycled on and off several times to stabilize the pressure regulator diaphragm.
- Light main burner and read pressure gauge. If necessary, adjust pressure regulator to match appliance rating (On step-opening regulators match the full rate outlet pressure.)
- Remove pressure regulator adjustment cap screw.
 - Using a screwdriver, turn inner adjustment screw clockwise to increase or counterclockwise to decrease gas pressure to main burner.
 - Always replace cap screw and tighten firmly to prevent gas leakage.
- Turn gas control knob to PILLOT (standing pilot system) or OFF (intermittent and direct ignition systems).
- Remove pressure gauge and replace outlet pressure tap plug and pressure regulator cap screw. Proceed to Checkout section.

Checking Gas Pressure Using Meter Clocking Method

NOTE: Use this method when manometer is not available or when manifold pressure is not specified in in. w.c. (kPa) by the burner manufacturer.

393691 LP Gas and 394588 Natural Gas Conversion Kits

FOR VR8200/VR8300/SV9500/SV9600 FAMILY OF COMBINATION GAS CONTROLS

INSTALLATION INSTRUCTIONS

APPLICATION

The 393691 LP Conversion Kit changes VR8200/VR8300/SV9500/SV9600 family combination gas controls from regulated natural gas to regulated LP gas. The 394588 Natural Gas Conversion Kit changes VR8200/VR8300/SV9500/SV9600 family combination gas controls from regulated LP gas to regulated natural gas. Kits include a new cap screw, pressure regulator adjustment screw, spring and conversion label.

To use this kit, assure gas control is equipped with a standard or slow opening pressure regulator.

NOTE: Slow regulator valves cannot be converted.

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow instructions can damage product or cause a hazardous condition.
2. Check ratings given in instructions and on product to make sure product is suitable for your application.
3. The installer must be a trained, experienced service technician.
4. After installation is complete, use these instructions to check out product operation.

WARNING

Fire or Explosion Hazard.
Can cause severe injury, death or property damage.
Follow these warnings exactly:

1. Disconnect power supply before wiring to prevent electrical shock or equipment damage.
2. To avoid dangerous accumulation of fuel gas, turn off gas supply at appliance service valve before starting installation and perform Gas Leak Test after completion of installation.
3. Use only your hand to turn gas control knob. Never use any tools. If gas control knob will not operate by hand, then a qualified technician should replace the gas control. Force or attempted repair may result in fire or explosion.
4. Change main and pilot burner orifices to meet appliance manufacturer specifications.

To convert from one gas to another:

1. Turn off gas supply at the appliance service valve.
2. Remove regulator cap screw and pressure regulator adjusting screw. Refer to Fig. 1.
3. Remove the existing spring.
4. Insert the replacement spring. Refer to Fig. 2.

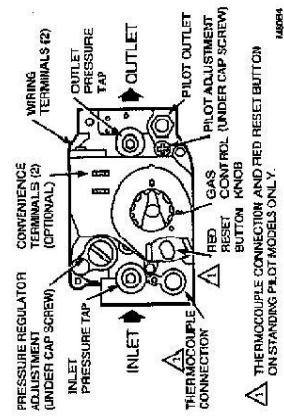


Fig. 1. Top view of VR8200 combination gas control.

Time (sec)	Flow (cfh)	Flow (m ³ /hr)
70	51	1.44
72	50	1.42
74	49	1.39
76	47	1.33
78	46	1.30
80	45	1.27
84	43	1.22
88	41	1.16
92	39	1.10
96	38	1.08
100	36	1.02
105	34	0.96
110	33	0.93
115	31	0.88
120	30	0.85
125	29	0.82
130	28	0.79
135	27	0.76
140	26	0.74
150	24	0.68
160	23	0.65
170	21	0.59
180	20	0.57

CHECKOUT

1. Make certain the primary air supply to the main burner is properly adjusted for complete combustion at final pressure regulator setting. Main burner must light reliably under all conditions.
2. Place system in operation and observe through at least one complete cycle to assure all controls are operating properly.
3. If manometer (pressure gauge) method is used, perform Gas Leak Test at outlet pressure tap plug.
4. Apply the conversion label in the conversion kit to the gas control, heating appliance, and any other controls to show conversion to a new type of gas.

- For one r² per revolution gas meter dials, use Table 1 directly.
- For 1/2 r² per revolution gas meter dials:
 - (1) Determine time for two dial revolutions
 - (2) Use Table 1 directly.
- For two r² per revolution gas meter dials:
 - (1) Determine time for one complete dial revolution.
 - (2) Divide time by two.
 - (3) Use Table 1 directly.

Table 1. Converting Gas Flow Rate.

Time (sec)	Flow (cfh)	Flow (m ³ /hr)
90	88	2.55
88	86	2.50
86	84	2.44
84	82	2.38
82	80	2.32
80	78	2.27
78	77	2.21
77	75	2.18
75	73	2.12
73	72	2.07
72	71	2.04
71	69	2.01
69	68	1.95
68	67	1.93
67	66	1.90
66	65	1.84
64	64	1.81
63	63	1.78
62	62	1.76
61	61	1.73
60	60	1.70
58	58	1.64
56	56	1.59
54	54	1.53
53	53	1.50

Honeywell

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WHITE-RODGERS
F92-0659

 Regulated Natural to L.P. Gas
 Conversion Kit

INSTALLATION INSTRUCTIONS
Installer: Save these instructions for future use!

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

⚠ WARNING

This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, a fire, explosion, or production of carbon monoxide may result, causing property damage, personal injury, or loss of life. The qualified service agency performing the work assumes the responsibility for the proper conversion of this appliance with this kit.

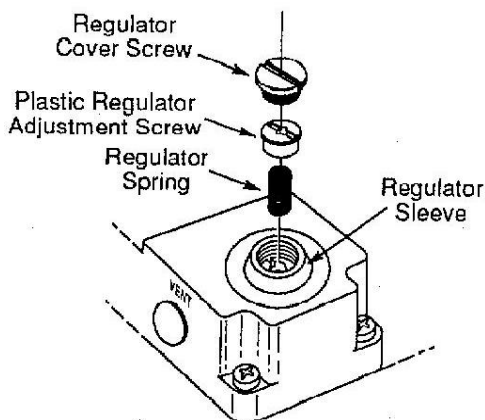


Figure 1. 36C model

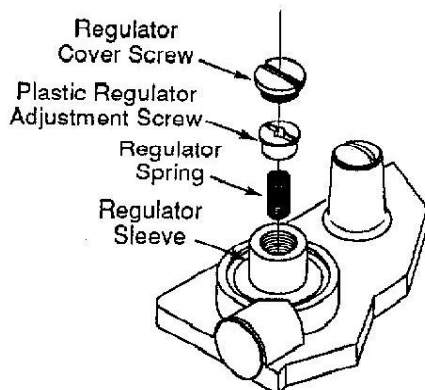


Figure 2. 36E model

APPLICATION

This regulated Natural Gas to regulated L.P. Gas conversion kit allows the 36C and 36E Series gas valves to be used on L.P. gas applications. This conversion kit is for use on all single stage, fast and slow open models only.

TO CONVERT FROM NATURAL TO L.P. GAS

1. Remove regulator cover screw.
2. Remove regulator adjustment screw (beneath the cover screw).
3. Remove Natural Gas regulator spring from regulator sleeve.
4. Insert the L.P. regulator spring (provided in the conversion kit) into the regulator sleeve.
5. Replace the regulator adjustment screw. Then adjust the outlet pressure to the appliance manufacturer's specified outlet pressure.
6. Replace the regulator cover screw.
7. Attach the WARNING label (provided in the kit) to the gas valve where it can be readily seen. Also attach the small round L.P. label to the top of the regulator cover screw.
8. If present pilot burner is to be used, the pilot orifice must be replaced.

Conversion back to Natural Gas use may be made at a later date by retaining the Natural Gas spring (removed in step 3, above) and following the same procedures (except for burner pressure given in step 5).



Figure 3. Contents of kit



WHITE-RODGERS

F92-0659

Nécessaire de conversion gaz naturel
régulé en gaz de pétrole liquéfié régulé
INSTRUCTIONS RELATIVES AU MONTAGE

Monteur: Ces instructions doivent être conservées pour usage futur!

L'OMISSION DE LIRE ET DE SUIVRE TOUTES LES INSTRUCTIONS SOIGNEUSEMENT AVANT DE MONTER OU D'UTILISER CETTE COMMANDE PEUT PROVOQUER DES LÉSIONS CORPORELLES ET/OU DES DOMMAGES MATÉRIELS.

⚠ MISE EN GARDE

Ce nécessaire de conversion devra être monté par une agence de service qualifiée conformément aux instructions du fabricant ainsi qu'à tous les codes et exigences applicables de l'autorité ayant juridiction. Si les informations contenues dans ces instructions ne sont pas suivies à la lettre, il peut s'ensuivre un incendie, une explosion ou la production de monoxyde de carbone, causant ainsi des dommages matériels, des lésions corporelles ou la mort. L'agence de service qualifiée effectuant le travail assume la responsabilité de la conversion appropriée de cet appareil à l'aide de ce nécessaire.

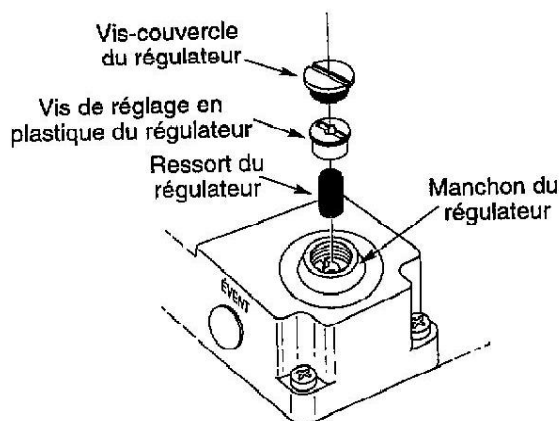


Figure 1. Modèle 36C

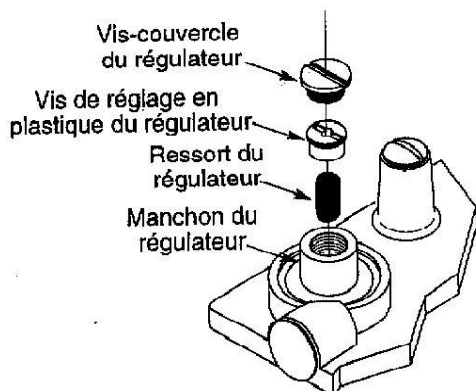


Figure 2. Modèle 36E

APPLICATION

Ce nécessaire de conversion gaz naturel régulé en gaz de pétrole liquéfié régulé permet l'utilisation des soupapes de gaz 36C et 36E sur les applications de gaz de pétrole liquéfié. Ce nécessaire de conversion n'est destiné à être utilisé que sur tous les modèles à un étage, à ouverture rapide et lente.

CONVERSION DU GAZ NATUREL AU GAZ DE PÉTROLE LIQUÉFIÉ

1. Retirer la vis-couvercle du régulateur.
2. Retirer la vis de réglage du régulateur (sous la vis-couvercle).
3. Retirer le ressort du régulateur de gaz naturel du manchon du régulateur.
4. Insérer le ressort du régulateur de gaz de pétrole liquéfié (compris dans le nécessaire de conversion) dans le manchon du régulateur.
5. Remettre la vis de réglage du régulateur en place. Régler ensuite cette vis à une colonne d'eau de 28 cm (ou autre réglage désiré) tout en surveillant la pression du brûleur.
6. Remettre la vis-couvercle du régulateur en place.
7. Fixer l'étiquette de mise en garde (comprise dans le nécessaire) sur la soupape de gaz là où elle peut être vue facilement. Fixer également la petite étiquette ronde LP sur le dessus de la vis-couvercle du régulateur.
8. Si la veilleuse actuelle doit être utilisée, l'orifice de celle-ci doit être remis en place.

La reconversion à l'utilisation gaz naturel peut être faite subséquemment en conservant le ressort gaz naturel (retiré dans l'étape 3, ci-dessus) et en suivant les mêmes procédures (sauf pour la pression du brûleur indiquée à l'étape 5).



Étiquette de
MISE EN GARDE



Ressort du
régulateur P.L.



Étiquette P.L.

Figure 3. Contenu du nécessaire