

# **GAS CONVERSION PARTS AND INSTRUCTIONS**

## **FOR MODELS WITHOUT GAS CONVERSION KITS:**

**INDIRECT-FIRED MODEL RPV SERIES 6, 7, AND 8;  
MODELS SC, SCA, SCB, AND SCE, SERIES 5 AND 6;  
MODEL EEDU SERIES 3, 5, AND 6;  
MODELS X, XE, PAK, AND RX SERIES 7 AND 8;  
MODELS RG, RGB, RGBL, RP, RPB, RPBL, SSCBL, AND PGBL\*;  
DIRECT-FIRED MODEL ADF/ADFH WITHOUT ELECTRONIC MODULATION;  
MODELS ADF/ADFH, RDF, AND DV\*\***

**\*INCLUDES MODELS WITH PREFIX C, H, OR HC**

**\*\*WITH CAPACITIES  $\leq$ 750 MBH WITH ELECTRONIC MODULATION**

## **TABLE OF CONTENTS**

<b>IMPORTANT SAFETY INFORMATION</b> .....	<b>2</b>
<b>GENERAL INFORMATION</b> .....	<b>2</b>
<b>DECODING HEATER MODEL NUMBERS</b> .....	<b>2</b>
<b>SELECTING PARTS FOR GAS CONVERSION</b> .....	<b>3</b>
Step 1: Select Spring Regulator Kit or Replacement Valve .....	3
Step 2: Select Natural Gas or Propane Gas Pilot Orifice .....	5
Step 3: Select Main Burner Orifices .....	5
Step 4: Select Burner Air Shutter Assembly (for Natural Gas to Propane Conversion) .....	7
Step 5: Conversion Disk or Conversion Label Selection .....	7
Step 6: Select Ignition Controller (for Natural Gas to Propane Conversion with Spark Pilot) .....	7
Step 7: Select Carryover Parts .....	8
<b>INSTALLATION OF GAS CONVERSION PARTS</b> .....	<b>10</b>
<b>FLAME AND PRESSURE ADJUSTMENTS</b> .....	<b>15</b>
Adjust Pilot Flame .....	15
Adjust Manifold Gas Pressure .....	16
<b>GAS CONVERSION OF DIRECT-FIRED FURNACES</b> .....	<b>17</b>
<b>STARTUP CHECKLIST</b> .....	<b>18</b>
<b>APPENDIX: GAS CONVERSION AND IGNITION CONVERSION KITS</b> .....	<b>19</b>

## IMPORTANT SAFETY INFORMATION

Please read all instructions before servicing this equipment. Pay attention to all dangers, warnings, cautions, and notes highlighted in this manual. Safety markings should not be ignored and are used frequently throughout to designate a degree or level of seriousness.

**DANGER:** A danger statement describes a potentially hazardous situation that if not avoided, will result in severe personal injury or death and/or property damage.

**WARNING:** A warning statement describes a potentially hazardous situation that if not avoided, can result in severe personal injury and/or property damage.

**CAUTION:** A caution statement describes a potentially hazardous situation that if not avoided, can result in minor or moderate personal injury and/or property damage.

**NOTE:** A note provides important information that should not be ignored.

---

### ⚠ DANGER ⚠

---

**Gas conversion should be made only by a qualified service technician. Improper conversion will result in severe personal injury or death. The Manufacturer will not accept responsibility or liability as a result of improper gas conversion. Due to increased cost of material and labor, gas conversion should be discouraged as much as possible.**

---

---

### ⚠ WARNING ⚠

---

**Selection of replacement control parts from this manual and all servicing of products must be done by a qualified service technician. Improper selection or servicing could result in death, severe personal injury, and/or property damage.**

---

## GENERAL INFORMATION

**NOTE: This instruction sheet includes parts and instructions for several models. It applies only to the models listed on the front page and requires selection of individual parts. If the heater being serviced is not listed on the front page, check the [APPENDIX](#) for a list of models that have gas conversion kits. If your model is listed, contact your distributor to obtain a kit designed specifically for your application. If your heater model is not listed in either place, conversion parts are not available.**

---

All gas conversion must be done by a Distributor or other qualified service technician in accordance with these instructions and in compliance with all codes and requirements.

In Canada, the 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.

This form supersedes and obsoletes all prior information regarding this subject.

## DECODING HEATER MODEL NUMBERS

The identifying model number can be found on the heater rating plate. The rating plate identifies only original equipment, so also check the actual gas valve label and look for any gas or ignition conversion labels. When converting fuels, it is necessary that you have the complete heater model number. Refer to [Table 1](#) to decode a heater model number.

**NOTE: The complete model number, including all model suffixes, is required. Components needed for gas conversion cannot be selected without this information and, depending on the series, may not be available.**

---

**Table 1. Decoding Heater Model Numbers**

Model No.	Model	Size	Series No.	Suffix
RG 200-8-MB	RG	200	8	MB (mechanical modulation)

## SELECTING PARTS FOR GAS CONVERSION

Required conversion parts for models with conversion kits are all contained in the kit. Refer to the [APPENDIX](#) for a list of models that have gas conversion kits.

**NOTE: If the unit being converted has multiple furnace sections, order all parts for each furnace.**

Required conversion parts for models without conversion kits must be selected individually. The following parts are required for gas conversion:

- Spring regulator or gas valve (refer to [Step 1: Select Spring Regulator Kit or Replacement Valve](#))
- Pilot orifice (refer to [Step 2: Select Natural Gas or Propane Gas Pilot Orifice](#))
- Burner orifices (refer to [Step 3: Select Main Burner Orifices](#))
- Burner air shutters (required only for conversion from natural gas to propane) (refer to [Step 4: Select Burner Air Shutter Assembly \(for Natural Gas to Propane Conversion\)](#))
- Conversion disk or conversion label (refer to [Step 5: Conversion Disk or Conversion Label Selection](#))
- Ignition controller (required only for conversion from natural gas to propane with spark pilot) (refer to [Step 6: Select Ignition Controller \(for Natural Gas to Propane Conversion with Spark Pilot\)](#))
- Carryover parts as required (refer to [Step 7: Select Carryover Parts](#))

Select conversion parts in accordance with the following steps.

### STEP 1: SELECT SPRING REGULATOR KIT OR REPLACEMENT VALVE

Refer to [Table 2](#) for units with single-stage gas valves that require the installation of a spring regulator kit for gas conversion. Refer to [Table 3](#) for units with single-stage gas valves that require replacement gas valves for gas conversion. Refer to [Table 4](#) for units with two-stage gas valves that require replacement gas valves for gas conversion. Refer to [Table 5](#) for units with electronic modulation and spark **pilot** that require a replacement Maxitrol regulator and solenoid valve replacement kit.

<b>Table 2. Single-Stage Gas Valves that Require Installation of Spring Regulator Kit</b>					
Original Gas Valve		Spring Regulator Kit			
		Propane to Natural Gas Conversion		Natural Gas to Propane Conversion <sup>1</sup>	
PN	Manufacturer's PN	PN	Manufacturer's PN	PN	Manufacturer's PN
82196, 82197, 82198, 82199, 82624, 82669 <sup>2</sup>	Robertshaw 700 & 7000 models	51572	Robertshaw #82445	65291	Robertshaw #82431
82398, 89370, 89371, 96301, 96303, 96308	Honeywell V800 & VR8440 models	90204	Honeywell #391936	51749	Honeywell #391937
82395, 82396, 82397, 89397, 89398 <sup>3</sup> , 96300, 96309, 96311 <sup>3</sup> , 221525, 221526	White-Rodgers 36C & 36H models	82525	White-Rodgers #F92-0656	82524	White-Rodgers #F92-0659
96299, 96302, 96307, 96310 <sup>4</sup> , 121598, 121599, 121600, 147830, 147560, 150839, 150840, 176680, 176681, 208920, 209412	Honeywell VR82 & VR83 models	98721	Honeywell #394588	98720	Honeywell #393691

<sup>1</sup>If gas conversion requires lockout (required on indoor propane units in US and all propane units in Canada), select parts in [Step 6: Select Ignition Controller \(for Natural Gas to Propane Conversion with Spark Pilot\)](#).

<sup>2</sup>Use spring regulator kit to convert to natural gas on sizes up to 175 only. For sizes 200 through 400, change valve to PN 96301.

<sup>3</sup>If used on natural gas units equipped with Maxitrol control systems, see [Table 5](#).

<sup>4</sup>Use spring regulator kit to convert to natural gas on sizes up to 165 only. For sizes 200 and 250, change valve to PN 121599. For sizes 300, 350, and 400, change valve using kit PN 222037.

## SELECTING PARTS FOR GAS CONVERSION—CONTINUED

### STEP 1: SELECT SPRING REGULATOR KIT OR REPLACEMENT VALVE—CONTINUED

<b>Table 3. Single-Stage Gas Valves that Require Replacement Gas Valves</b>			
Propane to Natural Gas Conversion		Natural Gas to Propane Conversion*	
Original Gas Valve PN (Manufacturer's PN)	Replacement Gas Valve PN (Manufacturer's PN)	Original Gas Valve PN (Manufacturer's PN)	Replacement Gas Valve PN (Manufacturer's PN)
<b>Units with Spark Pilot</b>			
89462 (Robertshaw #DER7100)	96307 (Honeywell #VR8204M1000)	89461 (Robertshaw #DER7100)	96310 (Honeywell #VR8204M1018)
<b>Units with Direct Ignition</b>			
147134 (Robertshaw #7222DERLP)	260604 (Honeywell #VR8215S1263)	147133 (Robertshaw #7222DER)	260606 (Honeywell #VR8215S5215)
*If gas conversion of unit with spark pilot requires lockout (required on indoor propane units in US and all propane units in Canada), select parts in <a href="#">Step 6: Select Ignition Controller (for Natural Gas to Propane Conversion with Spark Pilot)</a> .			

**NOTE: Two-stage is identified with suffix “2” in model number (e.g., XE300-2).**

<b>Table 4. Two-Stage Gas Valves that Require Replacement Gas Valves</b>			
Propane to Natural Gas Conversion		Natural Gas to Propane Conversion <sup>1</sup>	
Original Gas Valve PN (Manufacturer's PN)	Replacement Gas Valve PN (Manufacturer's PN)		Replacement Gas Valve PN (Manufacturer's PN)
	Size 75–250	Size 300–400	Size 75–400
<b>Units with Match-Lit Pilot</b>			
62967 (Honeywell #V850A)  96306 (Honeywell #V850E)  115352 (White-Rodgers #36C41)	115351 (White-Rodgers #36C40, 3/4-inch) <sup>2</sup>		62966 (Honeywell #V850A)  96304 (Honeywell #V850E) <sup>3</sup>  96305 (Honeywell #V850E) <sup>3</sup>  115351 (White-Rodgers #36C40)
<b>Units with Spark Pilot</b>			
87431 (White-Rodgers #36D13)  96312 (White-Rodgers #36D13)  177395 (Honeywell #VR8204)  177398 (Honeywell #VR8304)	177396 (Honeywell #VR8204Q, 1/2-inch) <sup>4</sup>	177397 (Honeywell #VR8304Q, 3/4-inch) <sup>2,4</sup>	87430 (White-Rodgers #36D13)  87432 (White-Rodgers #36D13)  177396 (Honeywell #VR8204)  177397 (Honeywell #VR8304)
<sup>1</sup> Lockout is required for indoor propane models in US and for all propane models in Canada on units with spark pilot. If equipped with Johnson Controls model G67BG-2 or G67BG-5, change ignition controller using kit PN 257473. If lockout is required for any other model, change ignition controller to PN 257010 (refer to <a href="#">Step 6: Select Ignition Controller (for Natural Gas to Propane Conversion with Spark Pilot)</a> ).			
<sup>2</sup> Field-provided reducer is required for 1/2-inch manifold.			
<sup>3</sup> Honeywell model V85OE valve change requires male compression nut PN 9664 (Baso #43283-2) for 1/4 pilot tubing connection. Remove pilot tubing fitting supplied with new valve.			
<sup>4</sup> New valve bracket (PN 194152) is required for EEDU 300, 350, and 400 when replacing valve 177395, 177396, 177397, or 177398.			
<sup>5</sup> Requires field compression fitting PN 9664 (Baso #43283-2) for 1/4-inch pilot tubing connection. Remove pilot tubing fitting supplied with valve.			
<sup>6</sup> Field-provided reducer is required for 3/4-inch manifold on sizes 300–400.			

**NOTE: Electronic modulation control is identified with suffix “MV” in model number (e.g., RP400-MV). This does not apply to modulation options AG 39, 40, 41, and 42.**

Original Gas Valve PN (Manufacturer’s PN)	Size 75–125		Size 150–200		Size 225–400	
	Replacement Regulator PN (Maxitrol Model)	Solenoid Valve Replacement Kit PN	Replacement Regulator PN (Maxitrol Model)	Solenoid Valve Replacement Kit PN	Replacement Regulator PN (Maxitrol Model)	Solenoid Valve Replacement Kit PN
<b>Propane to Natural Gas Conversion</b>						
157167 (White-Rodgers #36C68)	42278 (Maxitrol #MR410, 1/2-inch)	221634	42279 (Maxitrol #MR510, 1/2-inch)	221634	42280 (Maxitrol #MR510, 3/4-inch) <sup>2</sup>	221634
157168 (White-Rodgers #36C68)						
<b>Natural Gas to Propane Conversion<sup>3</sup></b>						
89398 (White-Rodgers #36C68)	156462 (Maxitrol #MR410H-1, 1/2-inch) <sup>4</sup>	221634	156463 (Maxitrol #MR510H-1, 1/2-inch) <sup>4</sup>	221634	156464 (Maxitrol #MR510H-1, 3/4-inch) <sup>2,4</sup>	221634
96311 (White-Rodgers #36C68)						
<sup>1</sup> Electronic modulation control is identified with suffix MV in model number (e.g., RP400-MV). It does not apply to modulation options AG 39, 40, 41, and 42.						
<sup>2</sup> Field-provided reducer is required for 1/2 manifold.						
<sup>3</sup> Lockout is required for indoor propane models in U.S. and for all propane models in Canada. If equipped with Johnson Controls model G67BG-2 or G67BG-5, change ignition controller using kit PN 257473. If equipped with UTC model 1003-638-A, change ignition controller to PN 257010 (refer to <a href="#">Step 6: Select Ignition Controller (for Natural Gas to Propane Conversion with Spark Pilot)</a> ).						
<sup>4</sup> Add time delay relay PN 89661 to prevent delayed ignition. Consult factory for wiring diagram.						

## STEP 2: SELECT NATURAL GAS OR PROPANE GAS PILOT ORIFICE

Refer to [Table 6](#) for pilot orifice selection.

**NOTE: Required pilot orifice quantity is always one (1).**

Model*	Propane to Natural Gas Conversion		Natural Gas to Propane Conversion	
	Type	PN	Type	PN
<b>Standing Pilot</b>				
X, XE, CX, CXE, PAK, CPAK series 7 or 8	6218	46392	4211	42089
<b>Spark Pilot</b>				
EEDU 75-400 prior to series 6	7221	63088	4209	37801
EEDU 75-400 series 6	9731	103034	9733	98695
X, XE, CX, CXE, PAK, CPAK series 7 or 8	7221	63088	4209	37801
SC, SCA, SCB, SCE series 6	7715	93973	9715	126024
RX, CRX series 7 or 8	7223	63397	4209	37801
SC, SCA, SCB, SCE series 5				
RPV, CRPV series 6, 7, and 8				
All RG, CRG, RGB, CRGB, RP, CRP, RPB, CRPB, RGBL, CRGBL, RPBL, CRPBL, SSCBL, PGBL				
*Also applicable to these models with suffix letter “H”.				

## STEP 3: SELECT MAIN BURNER ORIFICES

Refer to [Table 7](#) for main burner orifice selection.

**NOTE: [Table 7](#) is *not applicable* for high-altitude operation. When installation is above an elevation of 2000 feet, the unit must be de-rated. Consult your Distributor for proper orifice size.**

## SELECTING PARTS FOR GAS CONVERSION—CONTINUED

### STEP 3: SELECT MAIN BURNER ORIFICES—CONTINUED

<b>Table 7. Main Burner Orifice Selection</b>					
Size	Orifice Quantity	Propane to Natural Gas Conversion		Natural Gas to Propane Conversion	
		Drill Size	Burner Orifice PN	Drill Size	Burner Orifice PN
<b>(H)EEDU Series 3, 5, and 6</b>					
75	4	45	38678	1.20 mm	63003
100	4	41	11792	1.45 mm	61652
125	5	41	11792	1.45 mm	61652
140	5	38	45870	1.55 mm	61653
170	6	38	45870	1.55 mm	61653
200	7	38	45870	1.55 mm	61653
225	8	38	45870	1.55 mm	61653
250	9	39	45871	1.55 mm	61653
300	11	39	45871	53	9789
350	13	39	45871	53	9789
400	15	39	45871	53	9789
<b>Models X, PAK, RX Series 7 and 8; All Models RG, RGB, RGL, PGL<sup>1</sup></b>					
75	4	45	38678	1.20 mm	63003
100	4	41	11792	1.45 mm	61652
125	5	41	11792	1.45 mm	61652
150	7	43	11828	55	11830
175	7	41	11792	1.45 mm	61652
200	9	43	11828	55	11830
225	9	41	11792	1.45 mm	61652
250	12	44	11833	55	11830
300	12	41	11792	1.45 mm	61652
350	14	41	11792	1.45 mm	61652
400	16	41	11792	1.45 mm	61652
D300	16	45	38678	1.20 mm	63003
<b>Models RPV Series 6, 7, and 8; Models SC, SCA, SCB, SCE Series 5 and 6; All Models RP, RPB, RPBL<sup>1</sup></b>					
100	4	41	11792	1.45 mm	61652
125	5	42	84437	1.45 mm	61652
150	7	44	11833	55	11830
175	7	42	84437	1.45 mm	61652
200	9	43	11828	55	11830
225	9	42	84437	1.45 mm	61652
250	12	44	11833	55	11830
300	12	42	84437	1.45 mm	61652
350	14	42	84437	1.50 mm	93410
400	16	42	84437	1.45 mm	61652
D300	16	45	38678	1.20 mm	63003
<b>Models CX, CXE, CRX, CPAK Series 7 and 8; Models CRPV Series 6, 7, and 8; All Models CRG, CRGB, CRP, CRPB, CRGL, CRPL<sup>2</sup></b>					
75	4	45	38678	1.20 mm	63003
100	4	43	11828	55	11830
125	5	43	11828	55	11830
175	7	43	11828	55	11830
225	9	43	11828	55	11830
250	12	45	38678	1.20 mm	63003
300	12	43	11828	55	11830
350	14	43	11828	55	11830
400	16	43	11828	55	11830

<sup>1</sup>Also applies to models listed with prefix H. Do not use on models with prefix C.

<sup>2</sup>Also applies to these C models listed with prefix H.

## STEP 4: SELECT BURNER AIR SHUTTER ASSEMBLY (FOR NATURAL GAS TO PROPANE CONVERSION)

**NOTE: Do not order a burner air shutter assembly if the natural gas unit is already equipped with optional factory-installed air shutters. Burner air shutters are required when converting to propane.**

Refer to **Table 8** for burner air shutter assembly selection.

Table 8. Burner Air Shutter Assembly Selection												
Model	Size											
	75 & 100	125	140	150	170	200	225	250	300	350	400	
Burner Air Shutter Assembly PN												
EEDU, HEEDU <sup>1</sup>	165684	165685		—	165686	—	165687	165688	165689	165690	165691	165692
	55552	46109		—	46113	—	46115	46117	46119	46121	46123	46125
X, XE, PAK, RX, , RPV, SC, SCA, SCB, SCE, SSCBL, CX, CXE, CRX, CRPV, RG, CRG, RGB, CRGB, RGL, CRGL, RP CRP, RPB, CRPB, RPBL, CRPBL, PGBL <sup>2</sup>	15681	26562	—	26563	—	26563	15683	15683	15685	15685 <sup>3</sup>	26693	26885 <sup>3</sup>

<sup>1</sup>No assembly PN—order both air shutter assembly and guide.  
<sup>2</sup>Also applies to these models with prefix H.  
<sup>3</sup>Assembly listed for size 400 also applies to size 300 with prefix D (DX, DRX, DRPV, HDX, HDRX, HDRPV).

## STEP 5: CONVERSION DISK OR CONVERSION LABEL SELECTION

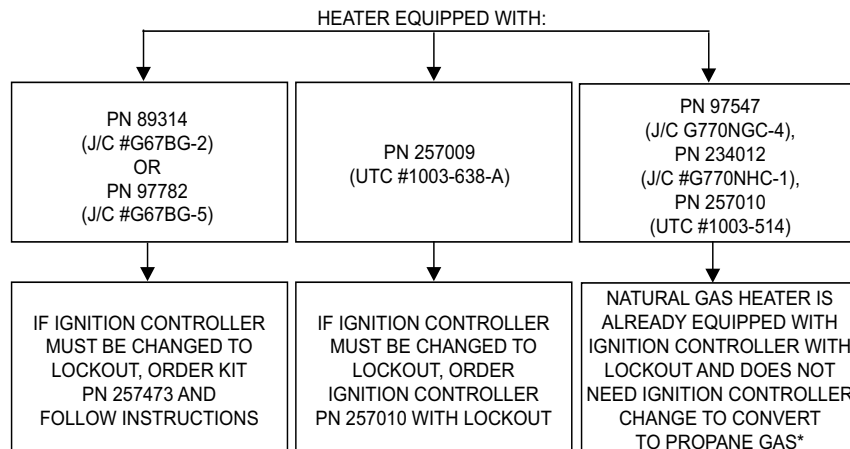
Refer to **Table 9** for conversion disk or conversion label selection.

Table 9. Conversion Disk or Conversion Label Selection		
Heater with A.G.A. Rating Plate or CSA Rating Plate to ANSI Standards		Heater with C.G.A. Rating Plate or CSA Rating Plate to ANSI Standards
Propane to Natural Gas Conversion	Natural Gas to Propane Conversion	Conversion Label PN
Conversion Disk PN		
1401	37752	64391

## STEP 6: SELECT IGNITION CONTROLLER (FOR NATURAL GAS TO PROPANE CONVERSION WITH SPARK PILOT)

**NOTE: When converting indoor units with a spark pilot (indoor and outdoor in Canada) to propane, the ignition controller must have 100% lockout.**

Refer to the flowchart shown in **Figure 1** for ignition controller selection.



\*IF UNIT IS GRAVITY VENTED AND AN AUTOMATIC VENT DAMPER IS ALSO BEING ADDED, IGNITION CONTROLLER MAY NEED TO BE REPLACED. AVAILABILITY VARIES BY IGNITION CONTROLLER. PN 97547 (JOHNSON CONTROLS #G770NGC-4) REQUIRES INSTALLATION OF KIT PN 257473. PN 234012 (JOHNSON CONTROLS #G770NHC-1) AND PN 257010 (UTC #1003-514) REQUIRE NO CHANGE AS EACH OF THESE CONTROLLERS ACCOMMODATES AN AUTOMATIC VENT DAMPER.

**Figure 1. Ignition Controller Flowchart**

## SELECTING PARTS FOR GAS CONVERSION—CONTINUED

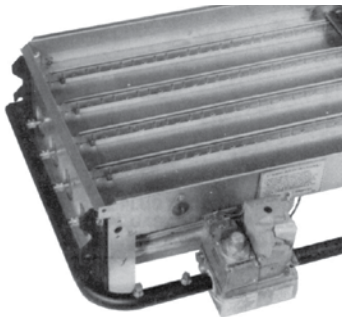
### STEP 7: SELECT CARRYOVER PARTS

#### Step 7a: Carryover Lighter Tube System Determination

**NOTE: Step 7a applies to models (H)SC, SCA, SCB, SCE series 5 and 6; models (H)X, (H)CX, (H)XE, (H)CXE, (C)PAK; (H)RX, (H)CRX series 7 and 8; models (H)RPV, (H)CRPV series 6 and 8; and all models (H)RG, (H)CRG, (H)RGB, (H)CRGB, (C)RGLB; (H)RP, (H)CRP, (H)RPB, (H)CRPB, (C)RPBL as indicated.**

Visually inspect the burner rack to determine whether or not it is factory-equipped with a carryover lighter tube system. See [Figure 2](#) for burner rack options, which include 1) a burner rack without a carryover lighter tube, 2) a burner rack with a carryover lighter tube without a regulator (used with natural gas), and 3) a burner rack with a regulated carryover lighter tube (used with propane).

#### Burner Rack Without Carryover Lighter Tube

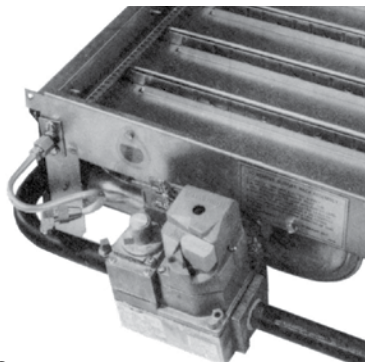


#### No Carryover

Applies only to **natural gas** on (H)SC, SCA, SCB, SCE Series 6; (H)X, (H)XE, PAK Series 8; and PGBL

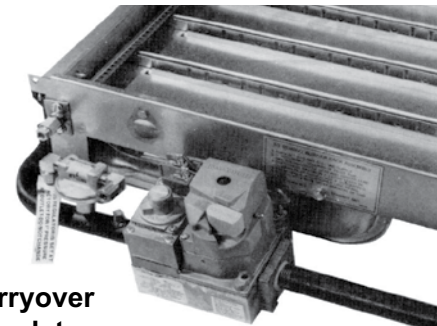
NOTE: Some older models did not have a carryover tube; parts are no longer available to convert those units.

#### Burner Rack with Lighter Tube Carryover System Without Regulator (Used with Natural Gas)



Carryover Tubing - Orifice is at the burner end.

#### Burner Rack with Lighter Tube Carryover System with Regulator (Used with Propane Gas)



#### Carryover Regulator and Tubing

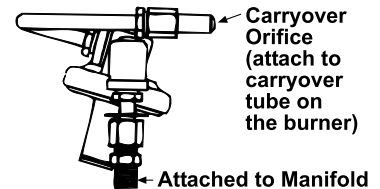


Figure 2. Burner Rack Options

#### Step 7b: Carryover Lighter Tube System for Propane to Natural Gas Conversion

**NOTE: Step 7b applies to models (H)SC, SCA, SCB, SCE series 5 and 6; models (H)X, (H)CX, (H)XE, (H)CXE, (C)PAK; (H)RX, (H)CRX series 7 and 8; models (H)RPV, (H)CRPV series 6 and 8; and all models (H)RG, (H)CRG, (H)RGB, (H)CRGB, (C)RGLB; (H)RP, (H)CRP, (H)RPB, (H)CRPB, (C)RPBL as indicated.**

For propane to natural gas conversions, order the carryover lighter tube orifice listed in [Table 10](#) (if required) *plus* the following:

- One (1) elbow, brass (PN 93388)
- One (1) tube, carryover, 8-3/4 (PN 93389)
- One (1) fitting, compression (PN 9664)

**NOTE: For units with multiple furnaces, order parts for each furnace.**



**Table 10. Carryover Lighter Tube Orifice Selection (Propane to Natural Gas Conversions)**

Model*	Part	Size													
		75 & 100		125		150 & 175		200 & 225		250 & 300		350		400	
		PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size
(H)X, (H)CX, (H)RX, (H)CRX, (H)XE, (H)CXE series 7 and 8	Natural gas carryover orifice	9870	70	9870	70	9680	65	10370	59	10370	59	9792	54	9792	54
All (H)RG, (H)CRG, (H)RGB, (H)CRGB, RGLB, CRGLB, PGBL		—		9680	65	9680	65	9680	65	10370	59	9792	54	11872	52
(H)SC, SCA, SCB, SCE series 5 SSCBL		—		9680	65	9680	65	9680	65	10370	59	9792	54	11872	52

\*Models (H)RP, (H)CRP, (H)RPB, (H)CRPB; Models (H)RPV, (H)CRPV Series 6, 7, and 8; Models SC, SCA, SCB, SCE Series 6; Models (H)X, (H)XE, PAK Series 8; and Model PGBL do not require a carryover orifice change when converting from either propane to natural gas or natural gas to propane. When converting to natural gas, remove the regulated carryover lighter tube (see [Figure 2](#)) and install the natural gas carryover tube using the original (propane) carryover orifice.

**Step 7c: Select Carryover Lighter Tube System for Natural Gas to Propane Conversion**

**NOTE: Step 7c applies to models (H)SC, SCA, SCB, SCE series 5 and 6; models (H)X, (H)CX, (H)XE, (H)CXE, (C)PAK; (H)RX, (H)CRX series 7 and 8; models (H)RPV, (H)CRPV series 6 and 8; and all models (H)RG, (H)CRG, (H)RGB, (H)CRGB, (C)RGLB; (H)RP, (H)CRP, (H)RPB, (H)CRPB, (C)RPBL as indicated.**

For natural gas to propane conversions, order the carryover lighter tube orifice system parts listed in [Table 11](#) (if required) *plus* one (1) regulated carryover assembly (PN 100712) as shown in [Figure 3](#).

**⚠ CAUTION ⚠**

**The regulator is factory-set at 1 inch of pressure at the outlet. DO NOT CHANGE PRESSURE SETTING.**

**NOTE: For units with multiple furnaces, order parts for each furnace.**

**Table 11. Carryover Lighter Tube System Parts Selection (Natural Gas to Propane Conversions)**

Model <sup>1</sup>	Part	Size													
		75 & 100		125		150 & 175		200 & 225		250 & 300		350		400	
		PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size	PN	Drill Size
(H)X, (H)CX, (C)PAK, (H)RX, (H)CRX, (H)XE, (H)CXE series 7 (series 8 see below) <sup>2</sup>	Propane carryover orifice	9870	70	9870	70	9680	65	9680	65	10370	59	9791	56	9791	56
All (H)RG, (H)CRG, (H)RGB, (H)CRGB, (C)RGLB <sup>2</sup>															
(H)SC, SCA, SCB, SCE series 5	Propane carryover orifice	9870	70	9870	70	9870	70	9680	65	10370	59	38274	57	38274	57
SSCBL, (H)SC, SCA, SCB, SCE series 6 <sup>2</sup>	<b>Part</b>	<b>PN</b>	<b>LG<sup>3</sup></b>	<b>PN</b>	<b>LG<sup>3</sup></b>	<b>PN</b>	<b>LG<sup>3</sup></b>	<b>PN</b>	<b>LG<sup>3</sup></b>	<b>PN</b>	<b>LG<sup>3</sup></b>	<b>PN</b>	<b>LG<sup>3</sup></b>	<b>PN</b>	<b>LG<sup>3</sup></b>
(H)X, (H)XE, PAK series 8 <sup>2</sup>	Carryover lighter tube for burner	9899	12-3/8	9859	15-1/8	9821	20-5/8	9783	26-1/8	9747	34-7/8	9711	39-7/8	9520	45-3/8
PGBL <sup>2</sup>	Drip shield	15015	—	15014	—	15013	—	15012	—	15011	—	15010	—	14957	—

<sup>1</sup>(H)RP, (H)CRP, (H)RPB, (H)CRPB, (H)RPV, (H)CRPV series 6, 7, and 8 do not require a carryover orifice change when converting from either propane to natural gas or natural gas to propane. When converting to propane, they do require the addition of the regulated carryover assembly (PN 100712) using the original (natural) carryover orifice.

<sup>2</sup>(H)SC, SCA, SCB, SCE series 6; (H)X, (H)XE, PAK series 8; and PGBL do not have a lighter tube carryover system on a natural gas burner. When converting to propane, remove the burner and remove the factory-installed flash carryover from the *orifice end* of the burner rack—do not remove the flash carryover from the other end of the burner rack. Order the drip shield and carryover lighter tube listed by PN and install as shown in [Figure 4](#).

<sup>3</sup>LG = length in inches.

## SELECTING PARTS FOR GAS CONVERSION—CONTINUED

### STEP 7: SELECT CARRYOVER PARTS—CONTINUED

#### Step 7c: Select Carryover Lighter Tube System for Natural Gas to Propane Conversion—Continued

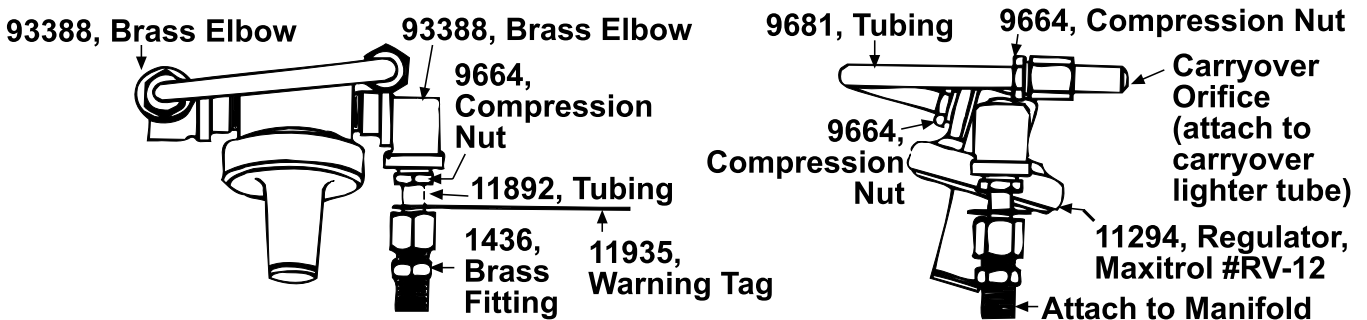
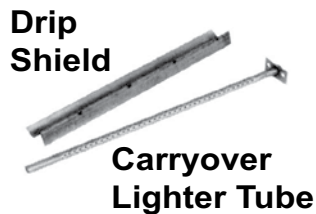


Figure 3. Regulated Carryover Assembly for Propane Gas

#### Carryover Lighter Tube and Drip Shield for Burner



#### Remove Flash Carryover and Install Carryover Lighter Tube and Drip Shield

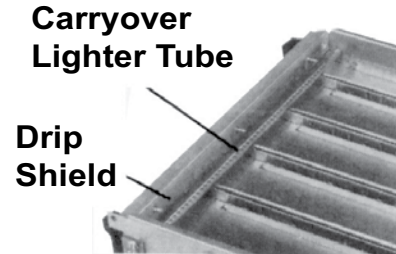


Figure 4. Carryover Lighter Tube and Drip Shield

## INSTALLATION OF GAS CONVERSION PARTS

### ⚠ WARNING ⚠

All gas conversions are to be done by a qualified service technician 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.

**NOTE: Field-supplied hardware is required but differs by model and size. Read the instructions before beginning to determine what hardware is required.**

Install selected gas conversion parts as follows (these instructions apply to either all models or to specific models and sizes, as noted).

1. Check to ensure that selected gas conversion parts are appropriate for furnace model and size being converted.
2. If heater is installed, shut OFF gas supply at shutoff valve upstream of combination valve.
3. Disconnect electrical supply.
4. Remove burner rack in accordance with instructions that apply to heater being converted. [Figure 5](#) shows a burner rack removed from a model SC unit.

**NOTE: SC series burner racks include a burner rack skirt that is used only on separated-combustion models.)**



**Figure 5. SC Series Burner Rack with Burner Rack Skirt**

- a. Remove side panel from unit.
  - b. Disconnect pilot tubing and thermocouple or sensor lead from pilot.
  - c. Disconnect electric leads.
  - d. Uncouple union in gas supply to permit removal of burner rack.
5. Replace burner orifices.
- a. Remove two screws that secure bottom of burner rack assembly.
  - b. Slide *drawer-type* burner rack out of heater.
  - c. If burner rack is equipped with carryover lighter tube, break connection at manifold fitting and remove manifold bracket screws and manifold.
  - d. Install replacement burner orifices.

---

**⚠ WARNING ⚠**

---

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

---

6. Replace pilot orifice.
  - a. Remove screws and lift out pilot burner.
  - b. Install replacement pilot orifice.
7. Install valve regulator spring kit.

---

**⚠ WARNING ⚠**

---

**The manufacturer of the spring kit and the gas valve must be the same. Spring kits of different manufacturers are not interchangeable. A spring kit must be used only in the valves for which the kit is designated.**

---

- a. Follow valve manufacturer's installation instructions that are included with spring kit.
  - b. Following spring kit installation, it is necessary to adjust spring for correct manifold pressure. This adjustment can be made only after heater is in operation. Follow instructions in [Adjust Manifold Gas Pressure](#).
8. Install burner air shutters (for natural gas to propane conversion).

---

**⚠ WARNING ⚠**

---

**Failure to install and/or adjust air shutters according to directions could cause death, personal injury, and/or property damage.**

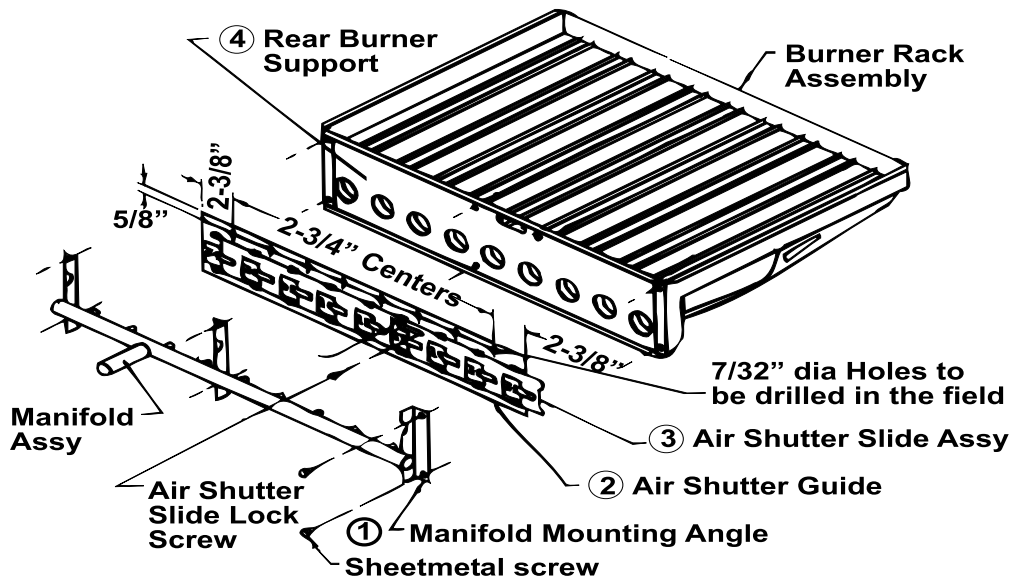
---

**NOTE: All of these heaters require burner air shutters when operated on propane. If converting to propane and the heater does not have air shutters, follow the installation instructions that apply. If converting to natural gas, it is not necessary to remove the shutters, but the shutters should be adjusted to full open position.**

---

## INSTALLATION OF GAS CONVERSION PARTS—CONTINUED

- a. Install burner air shutters—on models EEDU and HEEDU—in accordance with following steps (see [Figure 6](#)):
- (1) Remove 1/4-inch sheet metal screws① in manifold mounting angles and remove manifold assembly.
  - (2) Drill 7/32-inch holes in air shutter guide②, 5/8 inch from top of guide and in 2-3/8 inch on both sides. Drill additional 7/32-inch holes on 2-3/4-inch centers as required by heater size. Guide must fit flat against rear support to prevent air leakage around air shutter.
  - (3) Position air shutter assembly③ on rear burner support④ so that clearance holes in lower edge of air shutter guide fit over extruded holes located on rear burner support.
  - (4) Ensure that manifold orifices are centered in air shutter and re-attach manifold to rear burner support④ using 1/4-inch sheet metal screws①.
  - (5) Using 7/32-inch holes drilled in air shutter guide② as guides, drill 1/8-inch holes through rear burner support④ and fasten air shutter guide using #10 × 5/8-inch sheet metal screws.
  - (6) Adjust air shutter to wide open position.



**Figure 6. Burner Air Shutter Installation on Models EEDU and HEEDU**

- b. Install burner air shutters—on models Models RPV series 6, 7, and 8; models SC, SCA, SCB, SCE series 5 and 6; model SSCBL; model EEDU series 3, 5, and 6; models X, XE, PAK, RX series 7 and 8; all models PGBL, RG, RGB, RGBL, RP, RPB, RPBL (including the above models with prefix C, H, or HC)—in accordance with following steps (see [Figure 7](#)):
- (1) Remove 1/4-inch sheet metal manifold bracket screws and remove manifold assembly.
  - (2) Drill 7/32-inch holes in air shutter①, 5/8 inch from top of guide and in 2-3/8 inch on both ends. Drill additional 7/32-inch holes on 2-3/4-inch centers as required by heater size. Guide must fit flat against rear support to prevent air leakage around air shutter.
  - (3) Drill 9/32-inch hole in corner of manifold bracket next to controls, in 3/8 inch from edge of bracket (see INSET A, [Figure 7](#)).
  - (4) Insert 1/4-inch × 2-1/2-inch adjustment bolt through 9/32-inch hole drilled in manifold bracket (see INSET B, [Figure 7](#)). Install 1/4-inch locknut onto bolt and tighten until locknut clears bracket by 1/16 inch.
  - (5) Insert threaded end of adjustment bolt into adjustment bolt tab② on air shutter and turn into thread until manifold bracket lines up with mounting holes.
  - (6) Ensure that manifold orifices are centered in air shutter and re-attach manifold to rear burner support using 1/4-inch sheet metal screws.
  - (7) Using 7/32-inch holes drilled in air shutter as guides, drill 1/8-inch holes through rear burner support and fasten air shutter using #10 × 5/8-inch sheet metal screws.
  - (8) Adjust air shutters to fully open position.

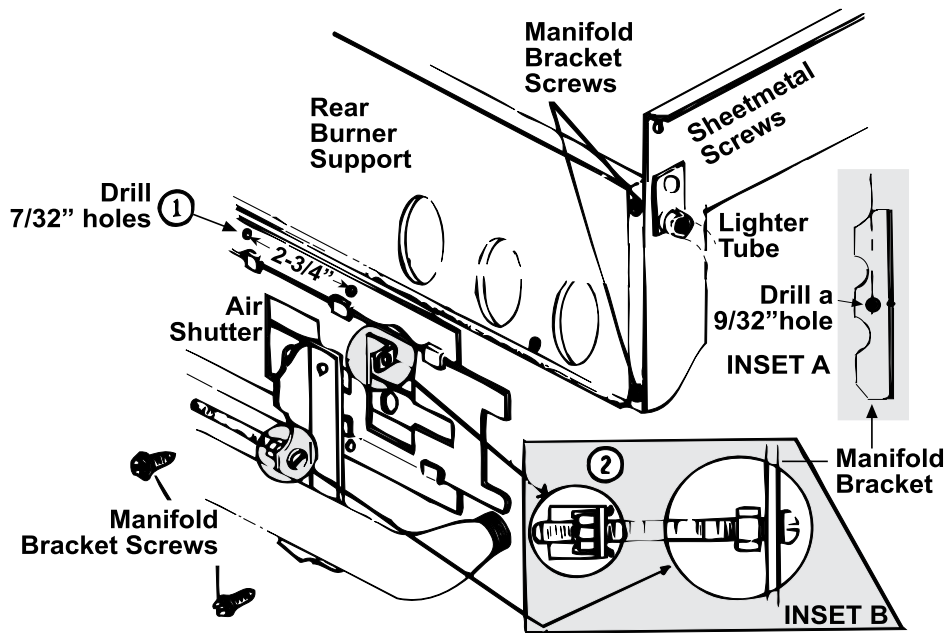
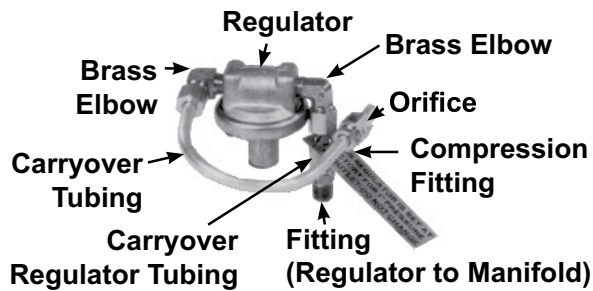


Figure 7. Burner Air Shutter Installation on Various Models

9. Install carryover components on required models in accordance with [Step 7: Select Carryover Parts](#).
  - a. If converting from natural gas to propane, refer to regulated carryover required on propane units and to propane burner rack with regulated lighter tube carryover system installed as shown in [Figure 8](#).

**Regulated Carryover Required on Propane Units**



**Burner Rack with Carryover Lighter Tube equipped with Carryover Regulator Used with Propane**

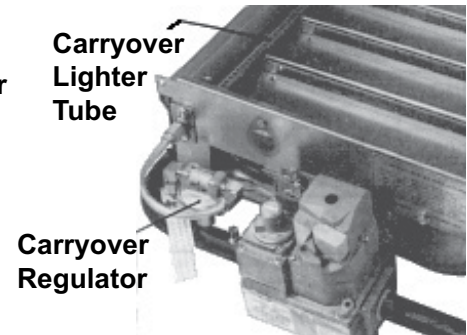
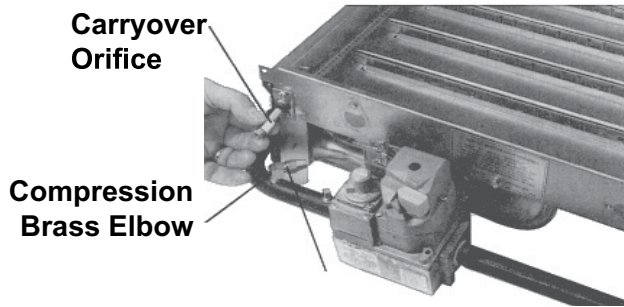


Figure 8. Carryover Components (Natural Gas to Propane Conversion)

- b. If converting from propane to natural gas and removal of carryover regulator is required, as determined in [Step 7: Select Carryover Parts](#), remove carryover regulator assembly and fittings. If orifice change is required, remove carryover orifice. Install carryover components required (refer to [Table 11](#)) in accordance with following steps:
  - (1) Install brass elbow with compression fitting in manifold pipe. If orifice change is required, insert replacement orifice (see [Figure 9](#)).
  - (2) Install carryover tubing from manifold pipe to carryover orifice, replacing carryover regulator that was required for propane (see [Figure 9](#)).

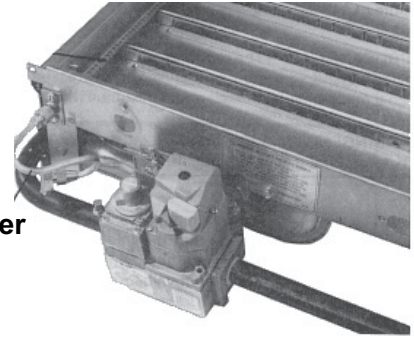
## INSTALLATION OF GAS CONVERSION PARTS—CONTINUED

### Burner Rack with Carryover Regulator Removed



Lighter Carryover Tubing Used with Natural Gas

Carryover Tubing



**Figure 9. Carryover Components (Propane to Natural Gas Conversion)**

10. Reverse above procedures to reassemble heater.
  - a. Ensure that reassembly is done correctly so that unsafe conditions are not created.
  - b. Ensure that burner rack is properly positioned and is tight against heat exchanger.
  - c. If conversion requires ignition controller replacement, do not reconnect flame-sensing wire and high-tension lead to present controller.
11. Replace ignition controller (when required).
  - a. If ignition controller replacement with lockout is required by [Step 1: Select Spring Regulator Kit or Replacement Valve](#) or [Step 6: Select Ignition Controller \(for Natural Gas to Propane Conversion with Spark Pilot\)](#), follow instructions in replacement kit.

---

### ⚠ CAUTION ⚠

---

**If any of the original wire as supplied with the appliance must be replaced, it must be replaced with wiring material having a temperature rating of at least 105°C, except energy cutoff, blocked vent switch, and sensor lead wires which must be 150°C.**

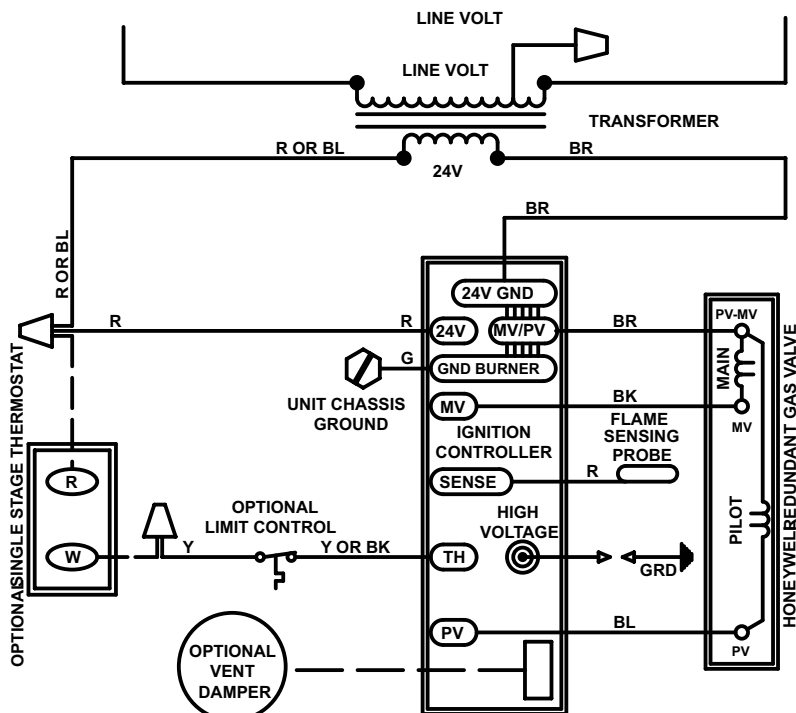
---

- b. If replacing UTC ignition controller, model #1003-638-A (PN 257009) with UTC ignition controller, model #1003-514A (PN 257010), follow unit wiring diagram or [Figure 10](#).

**NOTE: When installing kit (PN 257243) with controller (PN 257010), all of the wires are connected to the ignition controller at the factory except to the TH terminal. There are two loose wire assemblies in the kit. If the existing wire from the limit control is yellow, use the yellow wire to connect the limit control to the TH terminal. If the existing wire from the limit is black, use the black wire to connect the limit control to the TH terminal. One wire will not be used.**

---

12. Verify wiring connections as shown in [Figure 10](#). Check special wiring instructions in [Figure 10](#) and follow if applicable. Keep diagram shown in [Figure 10](#) for future reference.



USED ON: OPTION AH3 FIELD REPLACEMENT WD.# 257478

Figure 10. Wiring of Controller (PN 257010) with Lockout and Vent Damper Terminal

**Special Wiring Instructions when replacing either a PN 89488 (Johnson Controls #G67NG-2) or PN 89314 (Johnson Controls #G67BG-2) ignition controller:**

In order to connect the ignitor lead to the new controller, it will be necessary to cut off the Rajah connector (metal terminal) on the spark wire. Push back the rubber boot and cut off the terminal (cutting off no more than 1" of wire). Remove the rubber boot. Push the wire directly onto the spike connector on the ignition controller.

**Special Wiring Instructions when using an automatic vent damper:**

Remove the plug from the ignition controller and plug in the wiring harness from the vent damper. The wiring harness electrically interlocks the vent damper to the control. Unplugging either end results in a system shutdown.

13. Turn ON electric and gas.
14. Relight heater.
  - a. Follow *Lighting Instructions* on heater.

## ⚠ WARNING ⚠

**All components of a gas supply system must be leak tested prior to placing equipment in service. NEVER TEST FOR LEAKS WITH AN OPEN FLAME. Failure to comply could result in personal injury, property damage, or death.**

- b. Check for gas leaks using commercial leak-detecting fluid or rich soap and water solution. Leaks are indicated by presence of bubbles. Check all connections including pilot connections.
- c. If leak cannot be stopped by tightening connection, replace part.
- d. Observe pilot flame through pilot-lighting hole. Flame should extend 1/2 inch past flame-sensing device (see [Figure 11](#)).

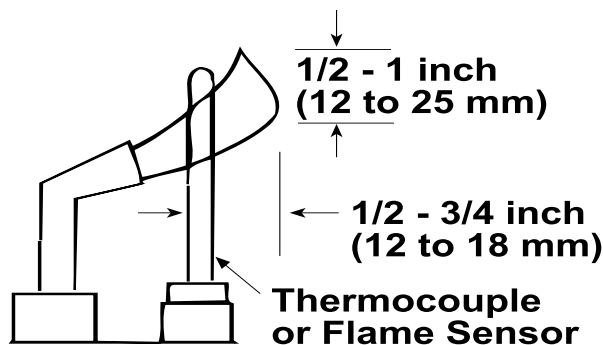


Figure 11. Desired Pilot Flame Height

## FLAME AND PRESSURE ADJUSTMENTS

When installation of gas conversions parts is complete, adjust the pilot flame and the manifold pressure as follows.

### ADJUST PILOT FLAME

Refer to [Figure 11](#), which shows the desired pilot flame height and adjust the pilot flame as follows.

---

#### ⚠ WARNING ⚠

---

**In the event of a pilot outage or improper ignition, wait at least 5 minutes before attempting to relight the heater.**

---

1. Loosen and remove pilot adjustment cover screw on valve.
2. Turn inner adjustment screw counterclockwise to increase flame or clockwise to decrease flame.
3. Install and tighten pilot adjustment cover screw on valve.

### ADJUST MANIFOLD GAS PRESSURE

---

#### ⚠ WARNING ⚠

---

**Manifold gas pressure must never exceed 3.5 IN WC for natural gas or 10 IN WC for propane.**

---

---

#### ⚠ CAUTION ⚠

---

**Before attempting to measure or adjust the manifold gas pressure, ensure that the inlet (supply) pressure is within the specified range for the gas being used—both when the heater is in operation and when it is on standby. Incorrect inlet pressure could cause excessive manifold gas pressure immediately or at some time in the future.**

---

**NOTE: Always check the rating plate for the minimum gas supply pressure. Minimum supply pressure requirements vary based on size of burner and gas control option. Most units require a minimum of 5 IN WC natural gas, but size 350 with mechanical modulation requires a minimum of 7 IN WC and sizes 350 and 400 with electronic modulation require a minimum of 6 IN WC natural gas supply.**

---

**For Natural Gas:** High fire manifold pressure is regulated by the combination valve to 3.5 IN WC. Inlet pressure to the valve must be a minimum of 5 IN WC or as noted on the rating plate and a maximum of 14 IN WC.

**For Propane:** The regulator in the valve must be adjusted to provide a manifold pressure of 10 IN WC. Inlet pressure to the valve must be a minimum of 11 IN WC and a maximum of 14 IN WC.

Measure and adjust (if required) the manifold gas pressure as follows:

1. Position manual valve (on combination valve) to prevent flow to main burner.
  2. Connect manometer to 1/8-inch pipe outlet pressure tap in valve.
- 

**NOTE: A manometer (fluid-filled gauge) is recommended for measuring manifold gas pressure rather than a spring-type gauge, due to the difficulty of maintaining the calibration of a spring-type gauge.**

---

3. Open valve and operate heater to measure manifold gas pressure.



## ⚠ CAUTION ⚠

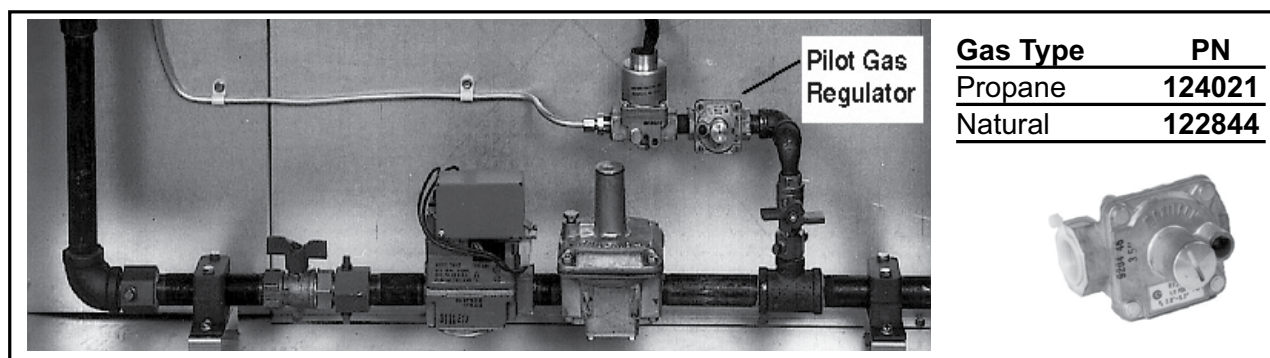
**DO NOT bottom out the gas valve regulator adjusting screw. This can result in unregulated manifold pressure, which can cause excess overfire and heat exchanger failure.**

4. If manometer indicates that manifold gas pressure needs adjustment, set correct pressure by turning regulator screw on valve IN (clockwise) to increase pressure or OUT (counterclockwise) to decrease pressure.
5. Disconnect manometer from 1/8-inch pipe outlet pressure tap in valve.

### GAS CONVERSION OF DIRECT-FIRED FURNACES

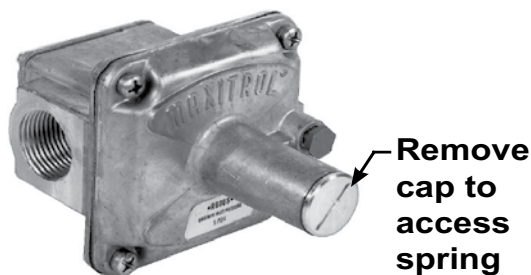
Perform gas conversion of direct-fired furnaces as follows:

1. Shut OFF gas at main manual shutoff.
2. Turn OFF electric at disconnect switch.
3. Open burner section door panel.
4. For ADF/ADFH models, replace pilot gas regulator. Refer to [Figure 12](#) to select replacement pilot gas regulator.



**Figure 12. Pilot Gas Regulator Selection for ADF/ADFH Models**

5. For ADF/ADFH model that does not have electronic modulation gas controls, follow valve manufacturer's instructions to install spring regulator kit or to install replacement valve. Refer to [Step 1: Select Spring Regulator Kit or Replacement Valve](#) to select spring kit or replacement valve.
6. For ADF/ADFH models with single-stage or two-stage gas valve, follow valve manufacturer's instructions to install spring regulator kit or replacement valve.
7. For units with direct-fired burner with capacity  $\leq 750$  MBH with electronic modulation controls, replace spring in main gas regulator in accordance with following steps:
  - a. Locate pressure regulator and remove cap (see [Figure 13](#)) and adjustment screw from pressure regulator. Regulator spring is now visible.



**Figure 13. Regulator Spring Replacement**

- b. Remove regulator spring.
- c. Refer to [Table 12](#) to select replacement regulator spring.

## GAS CONVERSION OF DIRECT-FIRED FURNACES—CONTINUED

**Table 12. Regulator Springs for Direct-Fired Models with Electronic Modulation Gas Control System**

Spring PN	Spring Color	Gas Type	Pressure Range	Maxitrol Model
97351	Orange	Natural	4–8 IN WC	R5310-48
91787	Brown	Propane	1–3.5 IN WC	R5310-13
97196	Cadmium-Plated	Natural	3–6 IN WC	R5310-36

d. Install replacement regulator spring and replace adjustment screw.

**NOTE: Direct-fired models with capacities of  $\leq 750$  MBH that are equipped with an electronic gas control system have a pressure regulator (see [Figure 13](#)) that regulates the gas pressure to the burner. The maximum differential gas pressure at the burner is 5 IN WC for natural gas and 2 IN WC for propane. If the firing rate of the installation is less than the full capacity of the burner, it will be necessary to contact your distributor to determine the proper pressure setting.**

- e. Measure gas pressure at burner and adjust pressure to meet application requirements.
- f. Replace cap on pressure regulator.
- 8. Turn ON electric at disconnect switch.
- 9. Turn ON gas at main manual shutoff.
- 10. Check for gas leaks using commercial leak-detecting fluid or rich soap and water solution. Leaks are indicated by presence of bubbles. Check all connections including pilot connections. If leak cannot be stopped by tightening connection, replace part.
- 11. Replace burner section door panel. Unit is now operational from system switch on remote console.

### STARTUP CHECKLIST

Check for safe and proper operation of the heater as follows:

- Operate heater for at least one cycle
- Cautiously observe main burners for complete flame carryover. Flame must be present on full length of each burner.

**⚠ DANGER ⚠**

**Failure to install and/or adjust air shutters according to directions could cause death, personal injury, and/or property damage.**

- Adjust air shutters (if used) after heater has been in operation for 15 minutes. Turn adjustment screws to close air shutters no more than is necessary to eliminate any problem condition.
- Observe flame for yellow tipping. A limited amount of yellow tipping is permissible for propane. Natural gas should not display any yellow-tipping. A hard blue flame may cause resonance. Adjust air shutters slightly until noise disappears.
- Complete information required on conversion label. Attach disk to heater near gas valve. Attach conversion label to heater near rating plate.

Gas conversion is now complete.

## APPENDIX: GAS CONVERSION AND IGNITION CONVERSION KITS

Currently-Manufactured Models with Gas Conversion Kits			
Model(s)	Applicable Technical Manual*		Application
	Form	PN	
B, F	CP-F/B-GC	99279	All sizes
CAUA	CP-CAUA-GC	170635	
LDAP	CP-LDAP-GC	208881	
PDH, RDH, RHH, SDH, SHH	CP-PREEVA-GC	212063	Units with single- or two-stage gas controls
UDAP, UDAS, UDBP, UDBS, APD	CP-UD&APD Series GC	197209	All sizes
UEAS	I-UEAS	221232	
VR	CP-VR-GC	205510	

\*Technical manual lists conversion kit PNs by size. Contact your Distributor for copies of technical manuals listed in this table.

**NOTE: Ignition conversion kits are NOT gas conversion kits.**

Ignition Conversion Kits to Convert from Match-Lit Pilot to Spark Pilot for Models F and B Manufactured <i>Before</i> AUG 2008					
Model F or B	Gas	Ignition Conversion Kit			Technical Manual Form (PN)
		Description	Model	PN	
F/B 25-165	Natural	Spark-ignited, intermittent safety pilot <i>without</i> lockout	UTC Model 1003-638A (PN 257009)	100525	CP-F/B IGN (100550)
F/B 200-250				100526	
F 300-400, B 300				100527	
B 400				102348	
F/B 25-165	Natural	Spark-ignited, intermittent safety pilot <i>with</i> lockout	UTC Model 1003-514 (PN 257010)*	100528	
F/B 200-250				100529	
F 300-400, B 300				100530	
B 400				102349	
F/B 25-200	Propane			100531	
F 250-400, B 250-300				100532	
B 400				102350	

\*Controller includes terminal for connecting vent damper.

Ignition Conversion Kits to Convert Pilot Systems to Updated Spark Pilot, Hot Surface, or Direct Spark Ignition System for Models Listed							
Ignition System Being Replaced		Gas	Ignition Conversion Kit		Technical Manual (Included in Kit)		Application
PN	Manufacturer's Model		PN	Ignition Controller PN (Manufacturer's Model)	Form	PN	
89488	J/C #G67NG-2	Natural or propane	257473	257010 (UTC #1003-514)	CP-IGN CNTRL	134704	Indirect-fired model with spark pilot and 100% lockout
97547	J/C #G770NGC-4						
234012	J/C #G770NHC-1						
89314	J/C #G67BG-2		257472	257009 (UTC #1003-638-A)	CP-IGN CNTRL	134704	Indirect-fired model with spark pilot and continuous try
97782	J/C #G67BG-5						
147102	RAM #3MC4-03		257531	195265 (UTC #1097-210)	CP-DSI CNTRL	256905	Models FT, SFT, and TRP with direct spark ignition
174260	J/C #G861KCC-5401D						
86972	H/W #RA890F		146268, 146318, 146319	204376 (Synetek #IH-11040B-C)	CP-RDF-HIS*	146321	Model RDF with spark ignition
89409	H/W #RA890G						
89407	H/W #R7795B						
89436	H/W #R7795A						
86974	H/W #Q624A						
178453	RAM #3MC4-06		258251	195573 (UTC #1097-211)	CP-CAUA-IGN CNTRL	178435	Model CAUA with direct spark ignition
193804	J/C #G822KCC-5401D						
97547	J/C #G770NGC-4		216970	DSI #204955 (UTC #1016-426)	CP-TR-IGN CNV**	216975	Models TR and TR-H with spark pilot
97782	J/C #G67BG-5						

\*Converts spark—flame rectification or ultraviolet—to hot surface ignition.

\*\*Converts spark pilot to direct spark ignition.

