

FOR YOUR SAFETY

If you smell gas:

1. Open windows.
2. **DO NOT** try to light any appliance.
3. **DO NOT** use electrical switches.
4. **DO NOT** use any telephone in your building.
5. Leave the building.
6. Immediately call your local gas supplier after leaving the building. Follow the gas supplier's instructions.
7. If you cannot reach your gas supplier, call the Fire Department.

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

 **ROBERTS GORDON**

GordonRay® BH

Fuel Conversion Kit Instructions



BH-40 BH-125
BH-60 BH-150
BH-80 BH-175
BH-100 BH-200

WARNING

Improper installation, adjustment, alteration, service or maintenance will result in death, injury or property damage. Read the installation, operation and service manual thoroughly before installing or servicing this equipment.

Installation must be done by a contractor qualified in the installation and service of gas-fired heating equipment or your gas supplier.

Installer

Please take the time to read and understand these instructions prior to any installation. Installer must give a copy of this manual to the owner.

Owner

Keep this manual in a safe place to provide your serviceman with information should it become necessary.



Quality in Any Language™

Roberts-Gordon
1250 William Street
P.O. Box 44
Buffalo, New York 14240-0044
Telephone: 716.852.4400
Fax: 716.852.0854
Toll Free: 800.828.7450
<http://www.rg-inc.com>

Roberts-Gordon Canada Inc.
241 South Service Road West
Grimsby, Ontario L3M 1Y7 Canada
Telephone: 905.945.5403
Fax: 905.945.0511
Toll Free: 800.663.9025

Table of Contents

BEFORE YOU BEGIN1
 Read This Manual1
 Questions, Comments or Suggestions1

HEATER SAFETY2
 Your Safety is Important to Us2
 Important Notice2

FUEL CONVERSION KITS3
 For Natural -to- Propane Conversions Only (**FIGURE 1.**)3
 Contents of Fuel Conversion Kits (Natural -to- Propane)3
 For Propane -to- Natural Conversions Only (**FIGURE 2.**)4
 Contents of Fuel Conversion Kits (Propane -to- Natural)4
 Warnings5

FUEL CONVERSION INSTRUCTIONS6
 Step 1 (**FIGURE 3.**)6
 Step 2 (**FIGURE 4.**)7
 Step 3 (**FIGURE 5.**)8
FIGURE 6.9
 Step 49
 (**FIGURE 7.**)10
 Step 5 (**FIGURE 8.**)11
 Step 611

CLEARANCES TO COMBUSTIBLES12
FIGURES 9, 10, 1113
FIGURES 12, 13, 1414
FIGURES 15, 16, 1715

OPERATION AND MAINTENANCE16
 Sequence of Operation16
 Pre-Season Maintenance and Annual Inspection16
 Remember to Check17
 Remember to Check continued18

LIMITED WARRANTY19

<p>© 1999 ROBERTSGORDON</p>
<p>All rights reserved. No part of this work covered by the copyrights herein may be reproduced or copied in any form or by any means - graphic, electronic, or mechanical, including photocopying, recording, taping or information storage and retrieval systems - without the written permission of Roberts-Gordon.</p>

***Read this
Manual***

Read these instructions carefully before servicing this equipment. Improper installation, servicing or maintenance will cause death, injury or property damage. Installer must be a contractor qualified in the installation and service of gas-fired heating equipment or your gas supplier. After the installation is complete, check product operation as provided in these instructions.

For additional copies of the GORDONRAY® BH Installation, Operation and Service Manual, please contact Roberts-Gordon.

***Questions,
Comments or
Suggestions***

Please direct any questions, comments or suggestions to:

In the United States:

Roberts-Gordon
1250 William Street
P.O. Box 44
Buffalo, New York 14240-0044
USA

Telephone: 716.852.4400
Toll Free: 800.828.7450
Fax: 716.852.0854
Home Page: www.rg-inc.com

In Canada:

Roberts-Gordon Canada Inc.
241 South Service Road West
Grimsby, Ontario L3M 1Y7
Canada

Telephone: 905.945.5403
Toll Free: 800.663.9025
Fax: 905.945.0511
Home Page: www.rg-inc.com

Heater Safety

GORDONRAY® BH SERIES HEATER

Your Safety is Important to Us



This symbol is used throughout the manual to notify you of possible fire, electrical or shock hazards. Please pay special attention when reading and following the warnings in these sections.

Important Notice

Due to the nature of gas conversions, it is important you use the correct conversion kit for the heater model and the gas you are converting to.

⚠ WARNING

Service and annual inspection must be done by a contractor qualified in the installation and service of gas-fired heating equipment.

Failure to follow these instructions will result in death, injury or property damage.

⚠ WARNING

Use only genuine ROBERTS GORDON® conversion kits.

Failure to follow these instructions will result in death, injury or property damage.

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 CAN1-B149.1 and .2 installation codes.

Fuel Conversion Kits Configuration

For Natural -to- Propane Conversions Only

⚠ WARNING

Natural - to - Propane Conversion

Check Conversion Kit Part Number before proceeding. Kit Part Number must match the corresponding model number.

Failure to follow these instructions will result in death, injury or property damage.

This appliance has been converted to _____ fuel.

Orifice: _____

Manifold Pressure: _____

Input: _____

Cet appareil a ete converti au: _____

Injecteur: _____

Pression a la tubulure d'alimentation: _____


Debit calorifique: _____

© ROBERTS-GORDON Printed in the U.S.A./Imprimé aux États-Unis P/N 91039400

SPRING KIT: P/N 90032600

COLOR CODE FOR PROPANE GAS

Cap Screw	BLACK
O Ring	BLACK
Pressure Regulator Adjusting Screw	WHITE
Spring	RED



Orifice
P/N (see Table below)

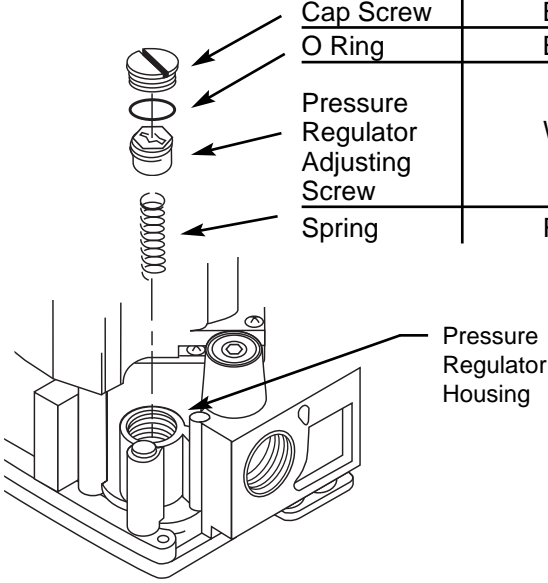


FIGURE 1. Conversion Kit Installation in Regulator

Contents of Fuel Conversion Kits (Natural -to- Propane)

All kits include this manual (P/N 270101NA) and the GORDONRAY® BH Installation, Operation and Service Manual (P/N 170101NA).

Kit Number	Model BH-	Orifice P/N	Label	Spring Kit
BH040NP	40	91910449	91039400	90032600
BH060NP	60	91910444	91039400	90032600
BH080NP	80	91910437	91039400	90032600
BH100NP	100	91910433	91039400	90032600
BH125NP	125	91910430	91039400	90032600
BH150NP	150	91910428	91039400	90032600
BH175NP	175	91910425	91039400	90032600
BH200NP	200	91910420	91039400	90032600

For Propane -to- Natural Conversions Only

⚠ WARNING

Propane - to - Natural Conversion

Check Conversion Kit Part Number before proceeding. Kit Part Number must match the corresponding model number.

Failure to follow these instructions will result in death, injury or property damage.

This appliance has been converted to _____ fuel.

Orifice: _____

Manifold Pressure: _____

Input: _____

Cet appareil a ete converti au: _____

Injecteur: _____

Pression a la tubulure d'alimentation: _____

Debit calorifique: _____


© ROBERTSGORDON Printed in the U.S.A./Imprimé aux Etats-Unis P/N 91039400

SPRING KIT: P/N 90032700

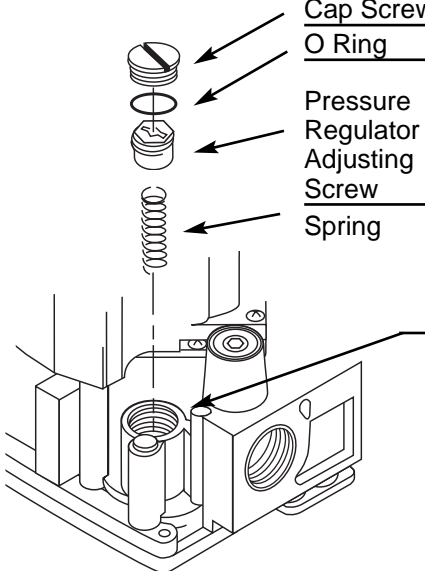
COLOR CODE FOR NATURAL GAS

Cap Screw	SILVER
O Ring	BLACK
Pressure Regulator Adjusting Screw	WHITE
Spring	STAINLESS STEEL

Gas Conversion Label:
P/N 91039400



Orifice
P/N (see Table below)




Pressure Regulator Housing


FIGURE 2. Conversion Kit Installation in Regulator


Contents of Fuel Conversion Kits (Propane -to- Natural)

All kits include this manual (P/N 270101NA) and the GORDONRAY® BH Installation, Operation and Service Manual (P/N 170101NA).

Kit Number	Model BH-	Orifice P/N	Label	Spring Kit
BH040PN	40	91910432	91039400	90032700
BH060PN	60	91910426	91039400	90032700
BH080PN	80	91910418	91039400	90032700
BH100PN	100	91910412	91039400	90032700
BH125PN	125	91910403	91039400	90032700
BH150PN	150	91910496	91039400	90032700
BH175PN	175	91910495	91039400	90032700
BH200PN	200	91910492	91039400	90032700

⚠ WARNING

<p style="text-align: center;">Health Hazard</p> <p>Gasket material may be harmful if inhaled.</p> <p>Gasket material may also be irritating to the skin, eyes and respiratory tract.</p> <p>Failure to follow these instructions will result in injury.</p>

⚠ WARNING

<p style="text-align: center;">Explosion Hazard</p> <p>Turn off the gas supply to the heater before performing any service or maintenance.</p> <p>Failure to follow these instructions will result in death, injury or property damage.</p>

⚠ WARNING

<p style="text-align: center;">Electrical Shock Hazard</p> <p>Unplug the electrical cord from the outlet before performing any service or maintenance.</p> <p>Failure to follow these instructions will result in death, injury or property damage.</p>

⚠ WARNING

Burner is secured to transition tube by Bolts and Lockwashers.

Upon removal of Bolts, Burner is free from Transition Tube and will fall if not supported.

Failure to follow these instructions will result in death, injury or property damage.

Step 1

NOTE: The burner may be removed to a workbench or converted in place.

- a. Turn off gas supply valve, disconnect gas from burner.
- b. Turn off power supply and disconnect wires from burner.
- c. Unplug thermostat wires from burner.
- d. If outside air is installed, disconnect.
- e. Remove the (4) bolts which hold the burner on the transition tube using a 1/2" wrench.
- f. Remove the burner. Refer to *Page 6, Figure 3*.
- g. Save the Gasket (P/N 02568200) or re-install a new one after conversion.

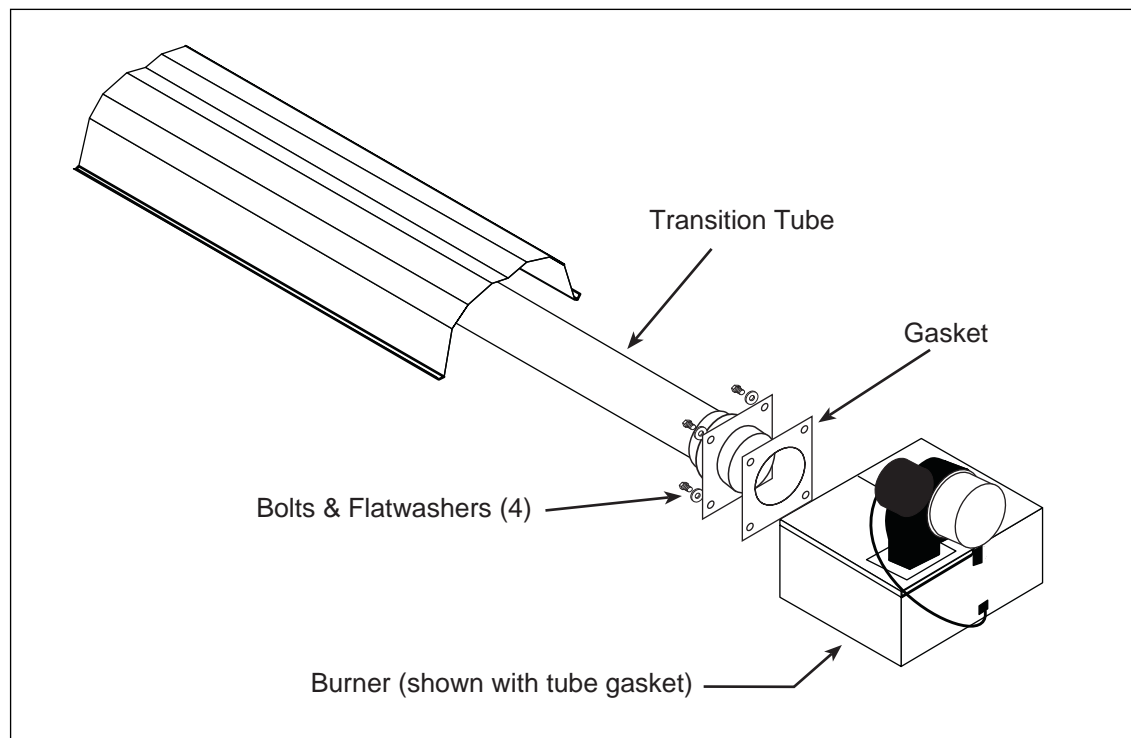


FIGURE 3. GORDONRAY® BH Assembly Overview

- Step 2** Remove the blower and door assembly from the burner assembly:
Unplug the blower; using a 1/4" nut driver or a phillips (+) screwdriver, remove the (7) screws and the door assembly and set aside.
Refer to *Page 7, Figure 4*.

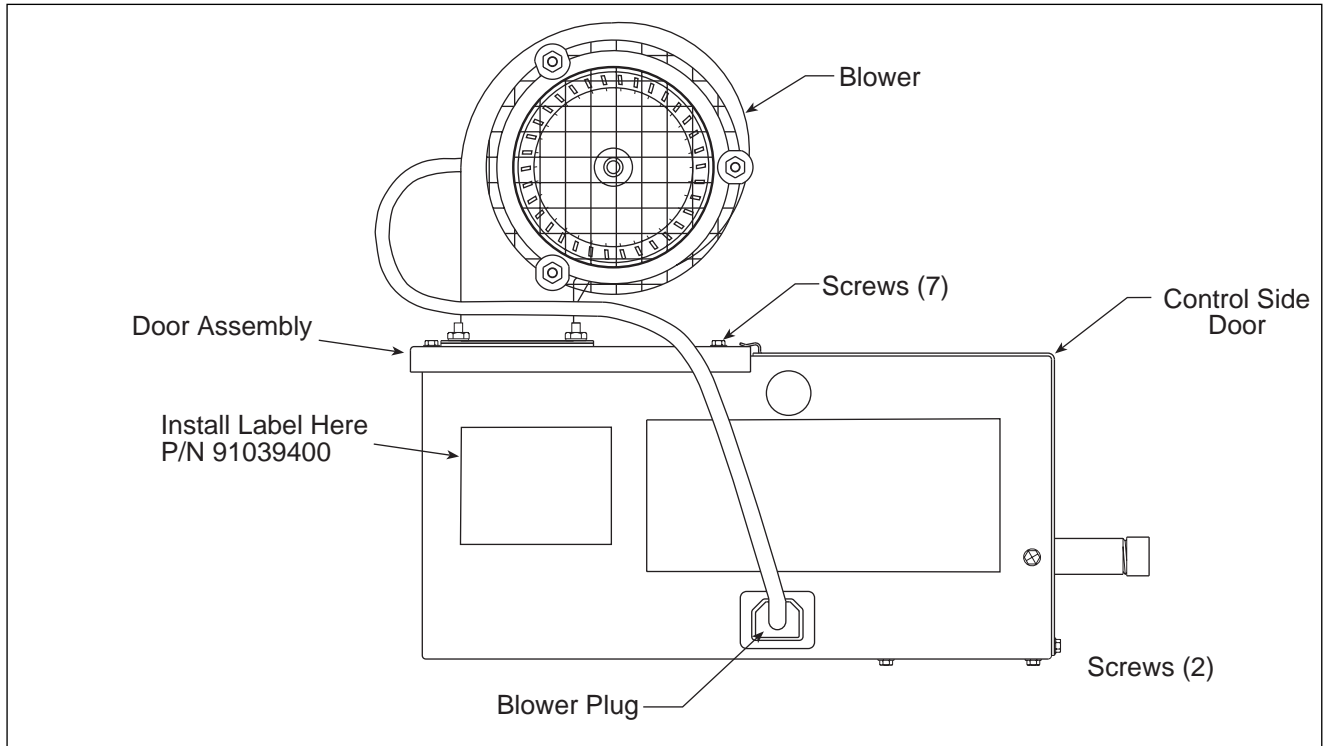


FIGURE 4. Burner (External View)

▲ WARNING

Use only genuine ROBERTS GORDON® replacement parts.

Use of parts not specified by Roberts-Gordon voids warranty.

Failure to follow these instructions will result in death, injury or property damage.

Step 3

- a. **Remove the burner cup assembly:** Unscrew the burner cup and pull back on the flex manifold to allow the cup to clear the electrode. Refer to *Page 8, Figure 5*.
- b. **Remove and replace the gas orifice:** Use a 1/2" open end wrench (spanner) to remove the orifice. Apply a small amount of pipe sealant to the threads of the replacement orifice. Be aware that over application of sealant may cause blockage of the orifice. Insert and tighten the replacement orifice.

CAUTION: Do not over-tighten the gas orifice. The torque value for the gas orifice is 15in/lbs; contact your factory representative for more details.

- c. **Replace the burner cup:** Insure large external tooth washer is in place, then tighten the burner cup.
- d. **Replace the blower and door assembly and plug in the blower.**
- e. **Open the control side door:** Using a 1/4" nut driver or a Phillips (+) screw driver, remove the two screws and swing the door up. Refer to *Page 7, Figure 4*.

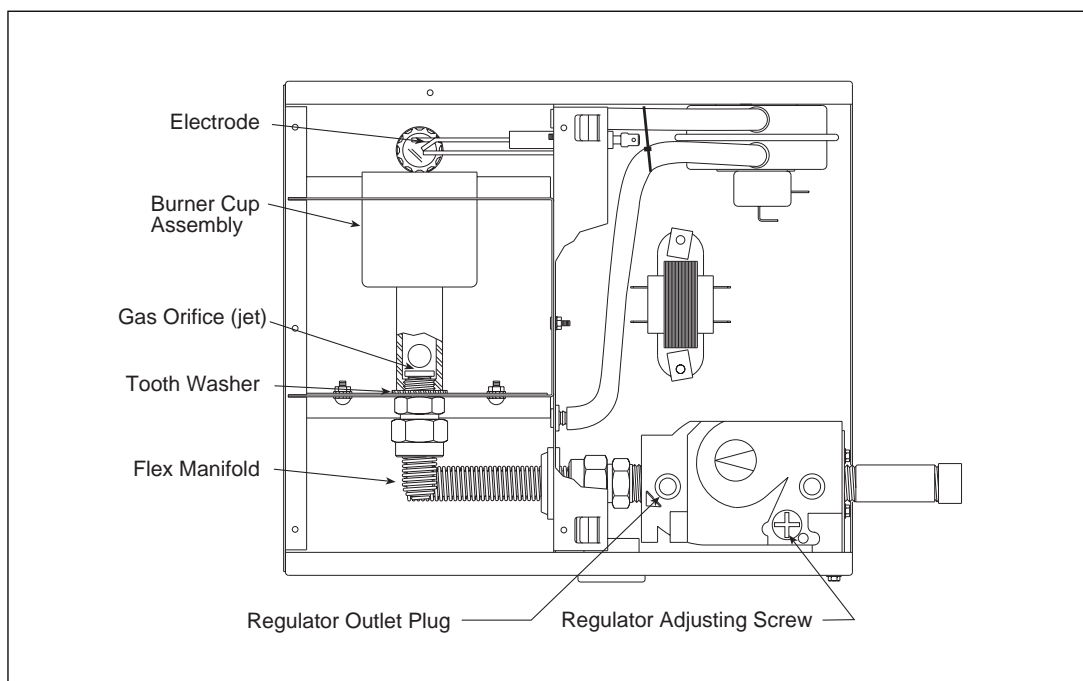


FIGURE 5. Internal Assembly

- f. **Replace the regulator spring:** Using a straight slot screwdriver, remove the cap from the regulator adjusting screw, remove the screw and remove and replace the spring. Refer to *Page 9, Figure 6*.

NOTE: Silver spring for Natural, red spring for Propane.
Refer to *Pages 3 and 4, Fuel Conversion Kits Configurations*.

Replace the adjusting screw and turn down approximately 1/2".

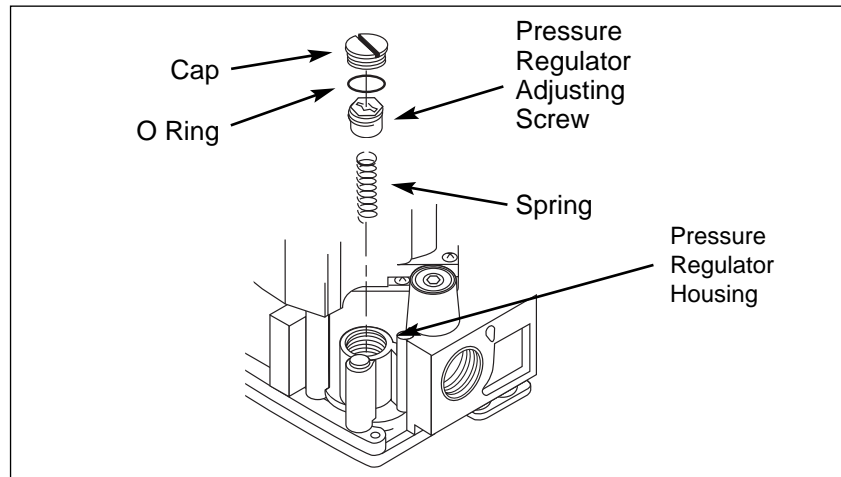


FIGURE 6. Pressure Regulator

⚠ WARNING

Bolts must be torqued to 120 in/lbs as stated below to secure transition tube to burner.

Transition tube will separate from burner if not torqued properly.

Failure to follow these instructions will result in death, injury or property damage.


- g. If the burner is removed, re-install the gasket and the burner on the transition tube by inserting lockwashers and bolts, torque to 120 in/lbs. Reconnect outside air, gas and electrical supplies. For proper installation procedures, see Venting, Gas Piping and Electrical Sections of the GORDONRAY® BH Installation, Operation and Service Manual (P/N 170101NA) included in this Conversion Kit.

Step 4

Adjust the regulator:

- Using a 3/16" hex key, remove the plug at the regulator outlet and install a test tap and hose. Connect the hose to a liquid filled manometer. Refer to *Page 10, Figure 7*.
- Turn on gas and power, turn up thermostat.
- When unit comes on; adjust the regulator by turning the adjusting screw to set the pressure to:
Natural: 3.5" w.c. (inches water column); Propane: 10.5" w.c.
- Secure power and gas.
- Remove tap and replace plug and adjusting screw.

Manometer Reading

⚠ WARNING	
	Electrical Shock Hazard
	<p>Disconnect electrical power before installation or service.</p> <p>Failure to follow these instructions will result in death or electrical shock.</p>

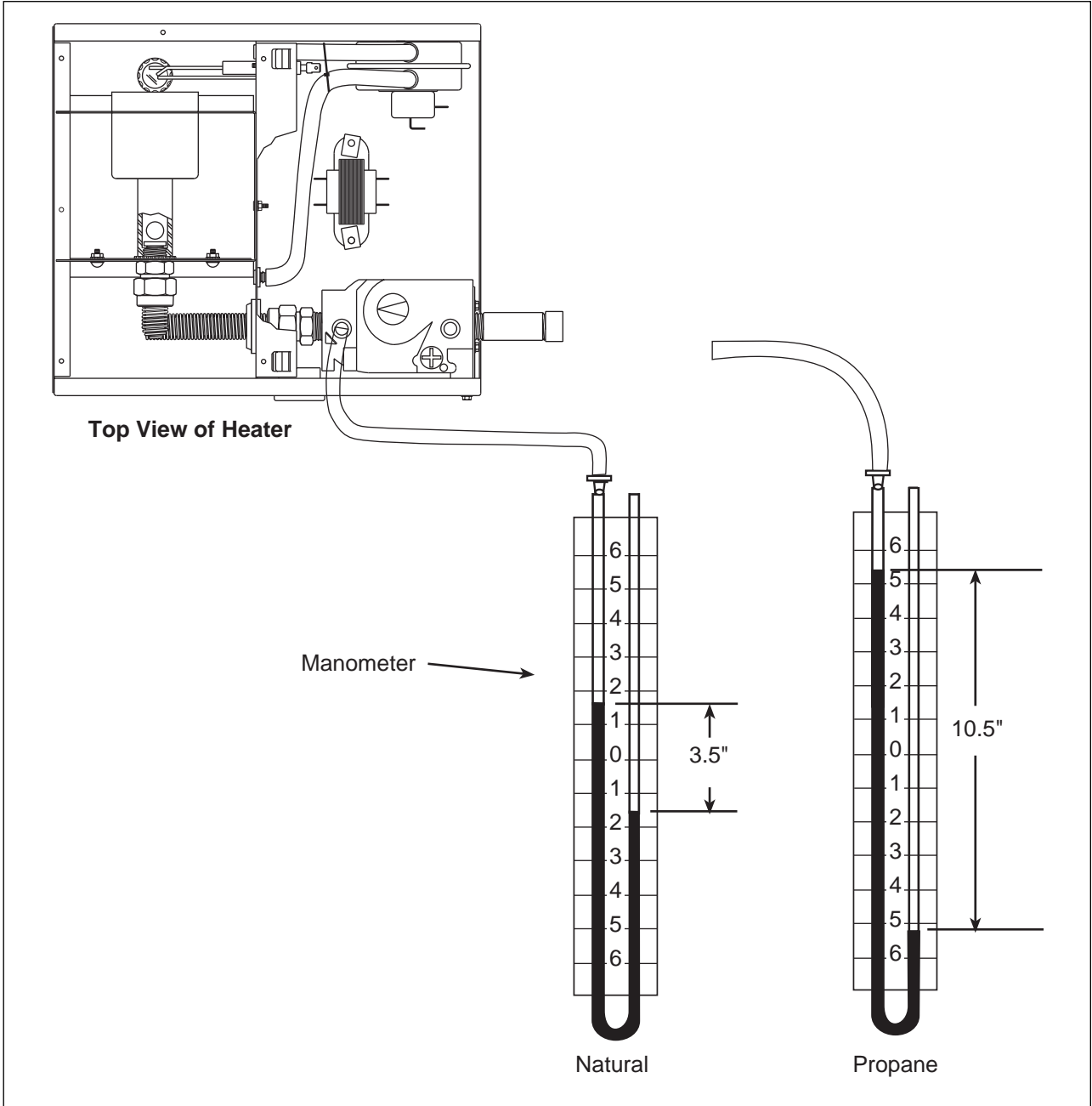


FIGURE 7. Manometer Reading

Step 5

Print the requested information in the fields of the burner conversion label as shown below.

Enter following data for <i>Natural -to- Propane</i> Conversions		Enter following data for <i>Propane -to- Natural</i> Conversions	
For Model No.	Enter Size for Propane	For Model No.	Enter Size for Natural
BH-40	#49	BH-40	#32
BH-60	#44	BH-60	#26
BH-80	#37	BH-80	#18
BH-100	#33	BH-100	#12
BH-125	#30	BH-125	#3
BH-150	#28	BH-150	"A"
BH-175	#25	BH-175	"E"
BH-200	#20	BH-200	6.8 mm

Propane → This appliance has been converted to _____ fuel. ← Natural

Orifice: _____ ← 3.5" w.c.

10.5" w.c. → Manifold Pressure: _____ ← From Serial Plate

From Serial Plate → Input: _____ ← From Serial Plate

Cet appareil a ete converti au: _____

Injecteur: _____

Pression a la tubulure d'alimentation: _____

Debit calorifique: _____

© ROBERTSGORDON Printed in the U.S.A./Imprimé aux Etats-Unis P/N 91039400

FIGURE 8. Label (P/N 91039400)

⚠ WARNING

Conversion label must be attached to burner after conversion.

Failure to follow these instructions will result in death, injury or property damage.

Step 6

1. Attach labels:

Attach the small gas label (yellow, included in spring kit) to the gas valve. Attach the conversion label (P/N 91039400) to the rear of the heater. Refer to *Page 7, Figure 4.*

2. Replace the door.

Clearances to Combustibles

GORDONRAY® BH SERIES HEATER

Clearances are the required distances that combustible objects must be away from the heater to prevent serious fire hazards. Combustibles are materials, vapors or liquids, which may catch on fire and include common items such as wood, paper, rubber, fabric, etc. Maintain clearances to combustibles at all times for your safety.

Clearances for all heater models are located on the burner of the heater and in the GORDONRAY® BH Installation, Operation and Service Manual (P/N 170101NA). Check the clearances on each burner for the model heater being installed to make sure the product is suitable for your application and the clearances are maintained. Read and follow the safety guidelines below:

- Keep gasoline or other combustible materials including flammable objects, liquids, dust or vapors away from this heater or any other appliance.
- Maintain clearances from heat sensitive material, equipment and workstations.
- Maintain clearances from vehicles parked below the heater.
- Maintain clearances from swinging doors, overhead cranes, vehicle lifts, partitions, storage racks, hoists, etc.
- In locations used for the storage of combustible materials, signs must be posted to specify the maximum permissible stacking height to maintain required clearances from the heater to the combustibles. Signs must be posted adjacent to the heater thermostat. In the absence of a thermostat, signs must be posted in a conspicuous location.
- Consult local Fire Marshal, Fire Insurance Carrier or other authorities for approval of proposed installation when there is a possibility of exposure to combustible airborne materials or vapors.

⚠ WARNING	
	
Fire Hazard	Burn Hazard
<p>Some objects will catch fire or explode when placed close to heater.</p> <p>Keep all flammable objects, liquids and vapors the required safe distances away from heater.</p> <p>Failure to follow these instructions will result in death or injury.</p>	<p>Keep all persons, especially children, away from heater.</p> <p>Do not touch any part of the heater.</p> <p>Heater is very hot.</p> <p>Failure to follow these instructions will result in severe injury.</p>
⚠ ATTENTION	
Risque d'incendie	Risque de brûlure
<p>Certains objets placés près du radiateur peuvent s'enflammer ou exploser.</p> <p>Tenir tous les objets, liquides et vapeurs inflammables à la distance de sécurité requise du radiateur.</p> <p>Le non-respect de ces consignes peut causer mort, blessures ou dommage matériel.</p>	<p>Ne laisser personne, en particulier des enfants, s'approcher du radiateur.</p> <p>Ne toucher aucune partie du radiateur.</p> <p>Le radiateur est brûlant.</p> <p>Le non-respect de ces consignes peut entraîner des blessures graves.</p>

- NOTE:** 1. All dimensions are from the tube surface.
 2. Clearances B, C and D can be reduced by 50% after 25' (7 m) of tubing downstream from where the burner and transition tube connect.
 3. For Brooder Clearances, use United States clearances.

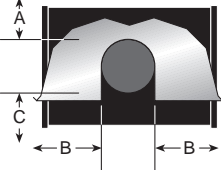
STANDARD REFLECTOR															
	United States (inches)				Canada (inches)				Canada - Metric (cm)						
	Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
	BH-40	6	27	52	27	BH-40	6	23	50	23	BH-40	15	58	127	58
	BH-60	6	35	62	35	BH-60	6	27	53	27	BH-60	15	69	135	69
	BH-80	6	38	65	38	BH-80	6	30	59	30	BH-80	15	76	150	76
	BH-100	6	40	70	40	BH-100	6	33	64	33	BH-100	15	84	163	84
	BH-125	6	46	76	46	BH-125	6	35	66	35	BH-125	15	89	168	89
	BH-150	6	50	79	50	BH-40	6	39	71	39	BH-40	15	99	180	99
	BH-175	8	52	82	52	BH-175	8	43	75	43	BH-175	20	109	191	109
	BH-200	8	52	82	52	BH-200	8	43	75	43	BH-200	20	109	191	109

FIGURE 9.

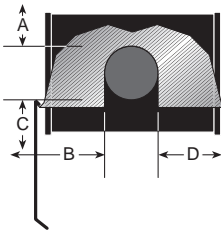
ONE SIDE REFLECTOR															
	United States (inches)				Canada (inches)				Canada - Metric (cm)						
	Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
	BH-40	6	9	52	44	BH-40	6	9	50	35	BH-40	15	23	127	89
	BH-60	6	9	62	47	BH-60	6	9	55	39	BH-60	15	23	135	99
	BH-80	6	9	69	54	BH-80	6	9	61	45	BH-80	15	23	155	114
	BH-100	6	9	76	59	BH-100	6	9	66	50	BH-100	15	23	168	127
	BH-125	6	9	82	65	BH-125	6	9	71	55	BH-125	15	23	180	140
	BH-150	6	9	85	69	BH-150	6	9	75	58	BH-150	15	23	191	147
	BH-175	8	9	88	73	BH-175	8	9	80	61	BH-175	20	23	203	155
	BH-200	8	9	88	73	BH-200	8	9	80	61	BH-200	20	23	203	155

FIGURE 10.

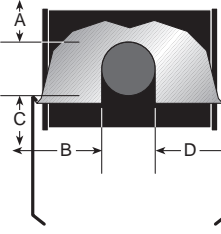
TWO SIDE REFLECTORS															
	United States (inches)				Canada (inches)				Canada - Metric (cm)						
	Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
	BH-40	6	15	52	15	BH-40	6	14	52	14	BH-40	15	36	132	36
	BH-60	6	23	65	23	BH-60	6	20	58	20	BH-60	15	51	147	51
	BH-80	6	25	71	25	BH-80	6	22	63	22	BH-80	15	56	160	56
	BH-100	6	27	77	27	BH-100	6	26	67	26	BH-100	15	66	170	66
	BH-125	6	32	83	32	BH-125	6	29	71	29	BH-125	15	74	180	74
	BH-150	6	35	87	35	BH-150	6	33	77	33	BH-150	15	84	196	84
	BH-175	8	40	91	40	BH-175	8	38	87	38	BH-175	20	97	221	97
	BH-200	8	40	91	40	BH-200	8	38	87	38	BH-200	20	97	221	97

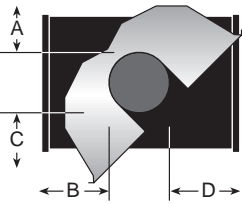
FIGURE 11.

Clearances to Combustibles

GORDONRAY® BH SERIES HEATER

- NOTE:** 1. All dimensions are from the tube surface.
 2. Clearances B, C and D can be reduced by 50% after 25' (7 m) of tubing downstream from where the burner and transition tube connect.
 3. For Brooder Clearances, use United States clearances.

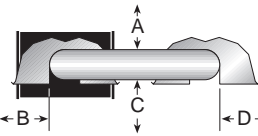
45° TILT REFLECTOR



United States (inches)					Canada (inches)					Canada - Metric (cm)				
Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
BH-40	8	8	50	46	BH-40	7	7	42	41	BH-40	18	18	107	104
BH-60	8	8	59	54	BH-60	7	7	47	46	BH-60	18	18	119	117
BH-80	8	8	65	60	BH-80	7	7	53	52	BH-80	18	18	135	132
BH-100	10	8	73	64	BH-100	9	7	60	59	BH-100	23	18	152	150
BH-125	10	8	77	69	BH-125	9	7	64	63	BH-125	23	18	163	160
BH-150	12	8	83	74	BH-150	11	7	67	66	BH-150	28	18	170	168
BH-175	12	8	85	79	BH-175	11	7	70	68	BH-175	28	18	178	173
BH-200	12	8	85	79	BH-200	11	7	70	68	BH-200	28	18	178	173

FIGURE 12.

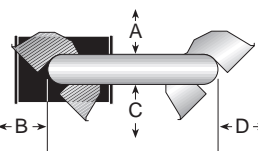
U-TUBE, STANDARD REFLECTORS



United States (inches)					Canada (inches)					Canada - Metric (cm)				
Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
BH-40	-	-	-	-	BH-40	-	-	-	-	BH-40	-	-	-	-
BH-60	6	35	62	30	BH-60	6	29	56	25	BH-60	15	74	142	64
BH-80	6	38	68	37	BH-80	6	33	63	30	BH-80	15	84	160	76
BH-100	6	40	75	39	BH-100	6	36	66	32	BH-100	15	91	168	81
BH-125	6	46	78	43	BH-125	6	40	71	36	BH-125	15	102	180	91
BH-150	6	50	83	47	BH-150	6	42	73	37	BH-150	15	107	185	94
BH-175	8	54	87	51	BH-175	8	47	78	42	BH-175	20	119	198	107
BH-200	8	54	87	51	BH-200	8	47	78	42	BH-200	20	119	198	107

FIGURE 13.

U-TUBE, OPPOSITE, 45° REFLECTORS

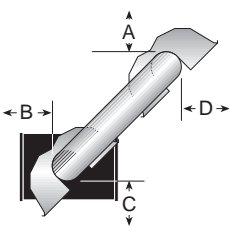


United States (inches)					Canada (inches)					Canada - Metric (cm)				
Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
BH-40	-	-	-	-	BH-40	-	-	-	-	BH-40	-	-	-	-
BH-60	8	54	59	22	BH-60	7	46	47	17	BH-60	18	117	119	43
BH-80	8	60	65	22	BH-80	7	52	53	17	BH-80	18	132	135	43
BH-100	10	64	73	22	BH-100	9	59	60	17	BH-100	23	150	152	43
BH-125	10	70	77	22	BH-125	9	63	64	17	BH-125	23	160	163	43
BH-150	12	74	83	22	BH-150	11	66	67	17	BH-150	28	168	170	43
BH-175	12	76	85	22	BH-175	11	70	80	17	BH-175	28	178	203	43
BH-200	12	76	85	22	BH-200	11	70	80	17	BH-200	28	178	203	43

FIGURE 14.

- NOTE:** 1. All dimensions are from the tube surface.
 2. Clearances B, C and D can be reduced by 50% after 25' (7 m) of tubing downstream from where the burner and transition tube connect.
 3. For Brooder Clearances, use United States clearances.

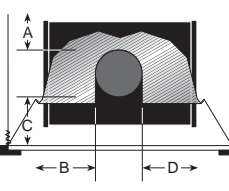
U-TUBE, FULL, 45°



United States (inches)					Canada (inches)					Canada - Metric (cm)				
Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
BH-40	-	-	-	-	BH-40	-	-	-	-	BH-40	-	-	-	-
BH-60	8	8	59	42	BH-60	7	7	47	36	BH-60	18	18	119	91
BH-80	8	8	65	46	BH-80	7	7	53	44	BH-80	18	18	135	112
BH-100	8	8	73	52	BH-100	7	7	60	49	BH-100	18	18	152	124
BH-125	8	8	77	61	BH-125	7	7	64	55	BH-125	18	18	163	140
BH-150	8	8	83	66	BH-150	7	7	67	58	BH-150	18	18	170	147
BH-175	8	8	85	70	BH-175	7	9	71	63	BH-175	18	18	180	160
BH-200	8	8	85	70	BH-200	7	7	71	63	BH-200	18	18	180	160

FIGURE 15.

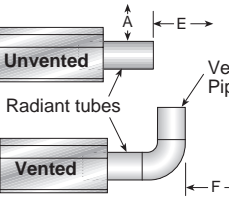
2 FOOT DECO GRILLE



United States (inches)					Canada (inches)					Canada - Metric (cm)				
Model	A	B	C	D	Model	A	B	C	D	Model	A	B	C	D
BH-40	6	27	52	27	BH-40	6	23	50	23	BH-40	15	58	127	58
BH-60	6	35	62	35	BH-60	6	27	53	27	BH-60	15	69	135	69
BH-80	6	38	65	38	BH-80	6	30	59	30	BH-80	15	76	150	76
BH-100	6	40	70	40	BH-100	6	33	64	33	BH-100	15	84	163	84
BH-125	6	46	76	46	BH-125	6	35	66	35	BH-125	15	89	168	89
BH-150	6	50	79	50	BH-150	6	39	71	39	BH-150	15	99	180	99
BH-175	8	52	82	52	BH-175	8	43	75	43	BH-175	20	109	191	109
BH-200	8	52	82	52	BH-200	8	43	75	43	BH-200	20	109	191	109

FIGURE 16.

VENTING



United States (inches)				Canada (inches)				Canada - Metric (cm)			
Model	A	E	F	Model	A	E	F	Model	A	E	F
BH-40	14	18	18	BH-40	14	18	18	BH-40	36	46	46
BH-60	14	18	18	BH-60	14	18	18	BH-60	36	46	46
BH-80	20	24	18	BH-80	14	24	18	BH-80	51	61	46
BH-100	20	24	18	BH-100	20	24	18	BH-100	51	61	46
BH-125	20	24	18	BH-125	20	24	18	BH-125	51	61	46
BH-150	20	30	18	BH-150	20	30	18	BH-150	51	76	46
BH-175	20	30	18	BH-175	20	30	18	BH-175	51	76	46
BH-200	20	30	18	BH-200	20	30	18	BH-200	51	76	46

FIGURE 17.

⚠ WARNING



Fire Hazard

Do not remove door while operating heater.

No user servicable parts inside

Failure to follow these instructions will result in death, injury or property damage.

⚠ ATTENTION

Risque d'incendie

Ne pas retirer porte lors du fonctionnement du radiateur.

No contient aucune pièce réviasble par l'utilisateur.

Le non-respect de ces consignes peut causer mort, blessures ou dommage matériel.

After lockout, control must be reset by turning down thermostat for five (5) seconds, and then raising it again to desired temperature, or by disconnecting power and then reconnecting.

When thermostat is satisfied, all power to the unit is shut off.

Pre-Season Maintenance and Annual Inspection

⚠ WARNING

Service and annual inspection must be done by a contractor qualified in the installation and service of gas-fired heating equipment.

Failure to follow these instructions will result in death, injury or property damage.

⚠ WARNING

Disconnect gas and electrical supplies before performing service or maintenance.

Failure to follow these instructions will result in death, injury or property damage.

The BH-Series heater is equipped with a direct spark ignition system.

Sequence of operation

Turn the thermostat up. When the thermostat calls for heat, the blower motor will energize.

When the motor approaches nominal running RPM, the air proving switch closes and activates the ignition module.

The ignition module then opens the redundant gas valve and energizes the spark igniter.

When the flame is established, the sparking sequence ceases.

If the flame is not established during the ignition sequence, the ignition module closes the gas valve and purge begins. Module will try two additional times for ignition (with purge in between). If ignition is not established, the module will lock out.

If the flame extinguishes during operation, the ignition module will provide multiple trial sequence, described above. If ignition is not re-established, the module will lock out.

To ensure your safety and years of trouble-free operation of the heater, annual inspections by a contractor qualified in the installation and service of gas-fired heating equipment and owner are essential.

Before every heating season, a contractor qualified in the installation and service of gas-fired heating equipment must perform a thorough safety inspection of the heater. For best performance, the gas, electrical, thermostat connections, tubing, venting, suspensions and overall heater condition are some of the areas requiring inspection.

Please see the chart on pages 18 and 19, for suggested items to inspect.

REMEMBER TO CHECK:**⚠ WARNING**

Installation, Service and Annual Inspection must be done by a contractor qualified in the installation and service of gas-fired heating equipment.

Read this manual carefully before installation, operation, or service of this equipment.

Failure to follow these instructions will result in death, injury or property damage.

- The Vicinity of the Heater** Do not store or use flammable objects, liquids or vapors near the heater.
Immediately remove these items if they are present.
-
- Vehicles and Other Objects** Maintain the clearances to combustibles.
Do not hang anything from, or place anything on, the heater.
Make sure nothing is lodged underneath the reflector, in between the heat exchanger tubes or in the decorative or protective grilles (included with select models).
Immediately remove objects in violation of the clearances to combustibles.
-
- Reflector** Make sure there is no dirt, sagging, cracking or distortion.
Do not operate if there is sagging, cracking or distortion.
Make sure reflectors are correctly overlapped.
Clean outside surface with a damp cloth.
-
- Vent Pipe** Venting must be intact. Using a flashlight, look for obstructions, cracks on the pipe, gaps in the sealed areas or corrosion.
Do not operate if there are obstructions, cracks, gaps or corrosion.
The area must be free of dirt and dust.
Remove any carbon deposits or scale using a wire brush.
-
- Outside Air Inlet** Inlet must be intact. Look for obstructions, cracks on the pipe, gaps in the sealed areas or corrosion.
Do not operate if there are obstructions, cracks, gaps or corrosion.
The area must be free of dirt and dust.
Clean and reinstall as required.

Heat Exchanger Tubes	Make sure there are no cracks. Make sure tubes are connected and suspended securely. Make sure there is no sagging, bending or distortion. Do not operate if there is sagging, cracking or distortion.
Gas Line	Check for gas leaks. Do not operate if there is a gas leak.
Burner Observation Window	Make sure it is clean and free of cracks or holes. Clean and replace as required.
Blower Scroll, Wheel and Motor	Compressed air or a vacuum cleaner may be used to clean dust and dirt.
Burner Cup and Orifice	Clear of obstructions (even spider webs will cause problems). Carefully remove any dust and debris from the burner.
Electrodes	Replace if there are cracked ceramics, excessive carbon residue, or erosion of the electrodes. The electrode gap should be .125" (32 mm).
Thermostat	There should be no exposed wire or damage to the thermostat.
Suspension Points	Make sure the heater is hanging securely. Look for signs of wear on the chain or ceiling. Do not operate if the heater is hanging insecurely.
Decorative and Protective Grilles (optional)	The grille must be securely attached. Check that side reflector extensions are installed correctly and secured in place if necessary (decorative grille only). Make sure shield is installed correctly and secured in place if necessary. (Decorative grille only.)

ROBERTS-GORDON WILL PAY FOR:

For 36 months from the date of purchase by the original consumer or 42 months from date of shipment by Roberts-Gordon, whichever occurs first: we will provide, free of charge, replacement parts for any part of the GORDON-RAY® BH that fails because of a manufacturing or material defect.

ROBERTS GORDON® replacement parts are warranted for the period of the original heater Warranty.

ROBERTS-GORDON WILL NOT PAY FOR:

Service trips, service calls and labor charges.

Shipment of Replacement Parts.

Damage due to:

Failure to install, operate or maintain heater as directed in Installation, Operation and Service Manual. You must follow requirements printed in this Manual.

Misuse, abuse, neglect or modification of heater in any way.

Improper service, use of replacement parts or accessories that are not specified by Roberts-Gordon.

Improper installation, or any relocation of heater after initial installation.

Incorrect gas or electrical supply, accident, fire, flood, acts of God or other casualty.

Use of heater for other than its intended purpose.

Use of heater in a corrosive atmosphere or any atmosphere containing contaminants.

Shipping. Claim must be filed with carrier.

WARRANTY IS VOID IF:

Heater is not installed by a contractor qualified in the installation and service of gas-fired heating equipment.

You cannot prove original purchase date and required annual maintenance history.

The data plate and/or serial number are removed, defaced, modified or altered in any way.

The heater is transferred. This Warranty is nontransferable.

Roberts-Gordon is not permitted to inspect the damaged heater and/or component parts.

READ YOUR INSTALLATION, OPERATION AND SERVICE MANUAL

If you have questions about your heater, contact your installing professional. Should you need replacement parts or have additional questions, call or write Roberts-Gordon:

U.S.A.

1250 William Street

P.O. Box 44

Buffalo, New York 14240-0044

Telephone: 716.852.4400

Fax: 716.852.0854

Canada

241 South Service Road, West

Grimsby, Ontario L3M 1Y7

Telephone: 905.945.5403

Fax: 905.945.0511

On the web at:

www.rg-inc.com

Roberts-Gordon's liability, and your exclusive remedy, under this Warranty or any implied warranty (including the implied warranties of merchantability and fitness for a particular purpose) is limited to providing Replacement Parts during the term of this Warranty. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you. There are no rights, warranties or conditions, expressed or implied, statutory or otherwise, other than those contained in this Warranty.

Roberts-Gordon shall in no event be responsible for incidental or consequential damages or incur liability for damages in excess of the amount paid by you for the heater. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

Roberts-Gordon shall not be responsible for failure to perform under the terms of this warranty if caused by circumstances out of its control, including but not limited to fire, flood, strike, government or court orders, unavailability of supplies, parts or power. No person is authorized to assume for Roberts-Gordon any other warranty, obligation or liability.

LIMITATIONS ON AUTHORITY OF REPRESENTATIVES:

No representative of Roberts-Gordon, other than an Executive Officer, has authority to change or extend these provisions. Changes or extensions shall be binding only if confirmed in writing by Roberts-Gordon's duly authorized Executive Officer.