

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. Extinguish any open flame.
6. Leave the building.
7. Immediately call your local gas supplier after leaving the building. Follow the gas supplier's instructions.
8. If you cannot reach your gas supplier, call the Fire Department.

⚠ WARNING



Fire Hazard

Keep all flammable objects, liquids and vapors the minimum required clearances to combustibles away from heater.

Some objects will catch fire or explode when placed close to heater.

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

ROBERTS GORDON®

COMPLETE™

Model CTH2D

CTH2D-40

CTH2D-60

CTH2D-80

CTH2D-100

CTH2D-125

CTH2D-150

CTH2D-175

Fuel Conversion Kit Instructions

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can 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 in order to provide your service technician with necessary information.



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SECTION 1: HEATER SAFETY



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

Installation, service and annual inspection of heater 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.

Due to the nature of gas conversions, it is important you use the correct conversion kit for the heater model and gas you are converting to. Use only genuine ROBERTS GORDON® conversion kits.

This heater is designed for heating nonresidential indoor spaces. Do not install in residential spaces. These instructions, the layout drawing, local codes and ordinances, and applicable standards that apply to gas piping, electrical wiring, venting, etc. must be thoroughly understood before proceeding with the installation.

Protective gear is to be worn during installation, operation and service. Thin sheet metal parts, including the aluminum reflector portion of the heater and the various venting components, have sharp edges. To prevent injury, the use of work gloves is recommended. The use of gloves will also prevent the transfer of body oils from the hands to the surface of the reflector.

Before installation, check that the local distribution conditions, nature of gas and pressure, and adjustment of the appliance are compatible.

This heater must be applied and operated under the general concepts of reasonable use and installed using best building practices.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do no play with the appliance.

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

1.1 Manpower Requirements

To prevent personal injury and damage to the heater, two persons will be required for installation.

SECTION 2: INSTALLER RESPONSIBILITY

The installer is responsible for the following:

- To install the heater, as well as the gas and electrical supplies, in accordance with applicable specifications and codes. Roberts-Gordon recommends the installer contact a local Building Inspector or Fire Marshal for guidance.
- To use the information given in a layout drawing and in the manual together with the cited codes and regulations to perform the installation.
- To install the heater in accordance with the clearances to combustibles.
- To furnish all needed materials not furnished as standard equipment.
- To plan location of supports.
- To provide access to burners for servicing on all sides for burner removal.
- To provide the owner with a copy of this installation, operation and service manual.
- To never use heater as support for a ladder or other access equipment and never hang or suspend anything from heater.
- To ensure there is adequate air circulation around the heater and to supply air for combustion, ventilation and distribution in accordance with local codes.
- To safely and adequately install heater using materials with a minimal working load of 75 lbs (33 kg).
- To ensure the heater is placed in a approved application.

2.1 Wall Tag

A laminated wall tag is available for the heater as a permanent reminder of the safety instructions and the importance of the required clearances to combustibles. Please contact Roberts-Gordon or your ROBERTS GORDON® independent distributor to obtain the wall tag. Affix the tag by peeling off the backing of the adhesive strips on the rear surface and position the tag on a wall near the heater (e.g. thermostat or ROBERTS GORDON® Controller).

A copy of the wall tag (P/N 91037912) is illustrated on the back cover. For an immediate solution, you may affix this copy on the wall near the heater.

Know your model number and installed configuration. Model number and installed configuration are found

on the burner and in the Installation, Operation and Service Manual. Write the proper clearance dimensions in permanent ink according to your model number and configuration in the open spaces on the tag.

2.2 Corrosive Chemicals



<p>Product Damage Hazard</p> <p>Do not use heater in area containing corrosive chemicals.</p> <p>Refer to appropriate Material Safety Data Sheets (MSDS).</p> <p>Failure to follow these instructions can result in product damage.</p>

Roberts-Gordon cannot be responsible for ensuring that all appropriate safety measures are undertaken prior to installation; this is entirely the responsibility of the installer. It is essential that the contractor, the sub-contractor, or the owner identifies the presence of combustible materials, corrosive chemicals or halogenated hydrocarbons* anywhere in the premises.

* **Halogenated Hydrocarbons** are a family of chemical compounds characterized by the presence of halogen elements (fluorine, chlorine, bromine, etc.). These compounds are frequently used in refrigerants, cleaning agents, solvents, etc. If these compounds enter the air supply of the burner, the life span of the heater components will be greatly reduced. An outside air supply must be provided to the burners whenever the presence of these compounds is suspected. Warranty will be invalid if the heater is exposed to halogenated hydrocarbons.

2.3 National Standards and Applicable Codes

All appliances must be installed in accordance with the latest revision of the applicable standards and national codes. This refers also to the electric, gas and venting installation. Note: Additional standards for installations in Public Garages, Aircraft Hangars, etc. may be applicable.

SECTION 3: FOR NATURAL TO PROPANE CONVERSIONS ONLY**FIGURE 1: Conversion Kit Regulator Installation in Valve (Natural to Propane)**

This appliance has been converted to _____ fuel.
Orifice: _____
Manifold Pressure: _____
Input: _____

Cet appareil a été converti au: _____
Injecteur: _____
Pression à la tubulure d'alimentation: _____
Débit calorifique: _____

Este artefacto se ha convertido para funcionar con combustible _____
Orificio: _____
Presión del colector: _____
Entrada: _____

P/N 91039400 Rev C

⚠ **WARNING**



Check conversion kit part Number before proceeding.

Kit part number must match the corresponding model number.

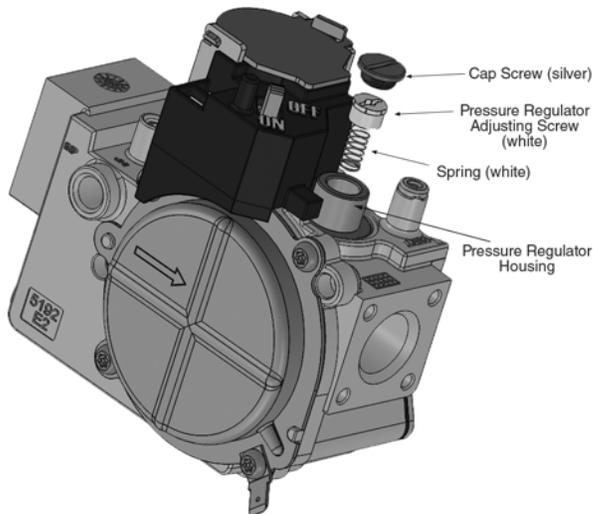
Failure to follow these instructions can result in death, injury or property damage.

Spring Kit (P/N 90032800)

Gas Conversion Label (P/N 91039400)



Orifice (P/N See table below)



3.1 Contents of Fuel Conversion Kits (Natural to Propane)

All kits include this manual and the Installation, Operation and Service Manual.

Kit Number	Model	Orifice P/N	Label	Spring Kit
CTH2D040NP	CTH2D-40	91910449	91039400	90032800
CTH2D060NP	CTH2D-60	91910501	91039400	90032800
CTH2D080NP	CTH2D-80	91910437	91039400	90032800
CTH2D100NP	CTH2D-100	91910471	91039400	90032800
CTH2D125NP	CTH2D-125	91910430	91039400	90032800
CTH2D150NP	CTH2D-150	91910507	91039400	90032800
CTH2D175NP	CTH2D-175	91910424	91039400	90032800

SECTION 4: FOR PROPANE TO NATURAL CONVERSIONS ONLY

FIGURE 2: Conversion Kit Regulator Installation in Valve (Propane to Natural)

This appliance has been converted to _____ fuel.
 Orifice: _____
 Manifold Pressure: _____
 Input: _____

Cet appareil a été converti au: _____
 Injecteur: _____
 Pression à la tubulure d'alimentation: _____
 Débit calorifique: _____

Este artefacto se ha convertido para funcionar con combustible _____
 Orificio: _____
 Presión del colector: _____
 Entrada: _____

P/N 91039400 Rev C

Gas Conversion Label (P/N 91039400)



Orifice: (P/N See table below)

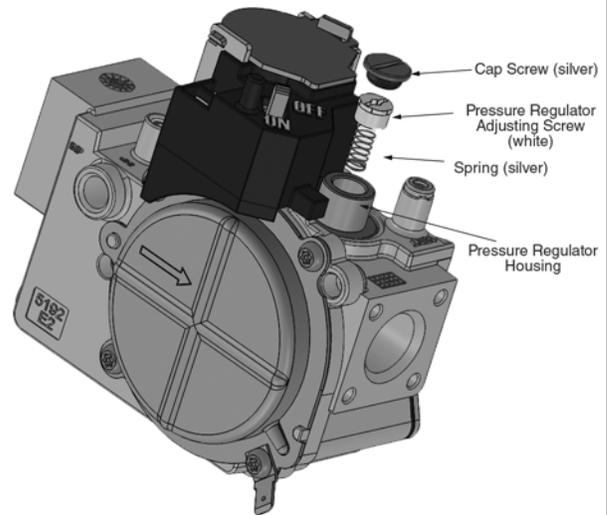
⚠ **WARNING**

Check conversion kit part Number before proceeding.

Kit part number must match the corresponding model number.

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

Spring Kit (P/N 90032900)



4.1 Contents of Fuel Conversion Kits (Propane to Natural)

All kits include this manual and the Installation, Operation and Service Manual.

Kit Number	Model	Orifice P/N	Label	Spring Kit
CTH2D040PN	CTH2D-40	91910432	91039400	90032900
CTH2D060PN	CTH2D-60	91910425	91039400	90032900
CTH2D080PN	CTH2D-80	91910418	91039400	90032900
CTH2D100PN	CTH2D-100	91910412	91039400	90032900
CTH2D125PN	CTH2D-125	91910405	91039400	90032900
CTH2D150PN	CTH2D-150	91910401	91039400	90032900
CTH2D175PN	CTH2D-175	91910406	91039400	90032900

SECTION 5: FUEL CONVERSION INSTRUCTIONS

⚠ WARNING



Severe Injury Hazard

Secure burner to burner tube with nuts and lockwashers.

Hang heater with materials with a minimum working load of 75 lbs (33 kg).

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

Step 5.1 Burner Removal

1. Turn off gas supply valve, disconnect gas from burner.
2. Turn off power supply and disconnect wires from burner.
3. Unplug thermostat wires from burner.
4. If outside air is installed, disconnect.
5. Remove the nuts which hold the burner on the transition tube using a 1/2" wrench.
6. Remove the burner. *See Figure 3.*
7. Save the gasket (P/N 92700025) or re-install a new one after conversion.

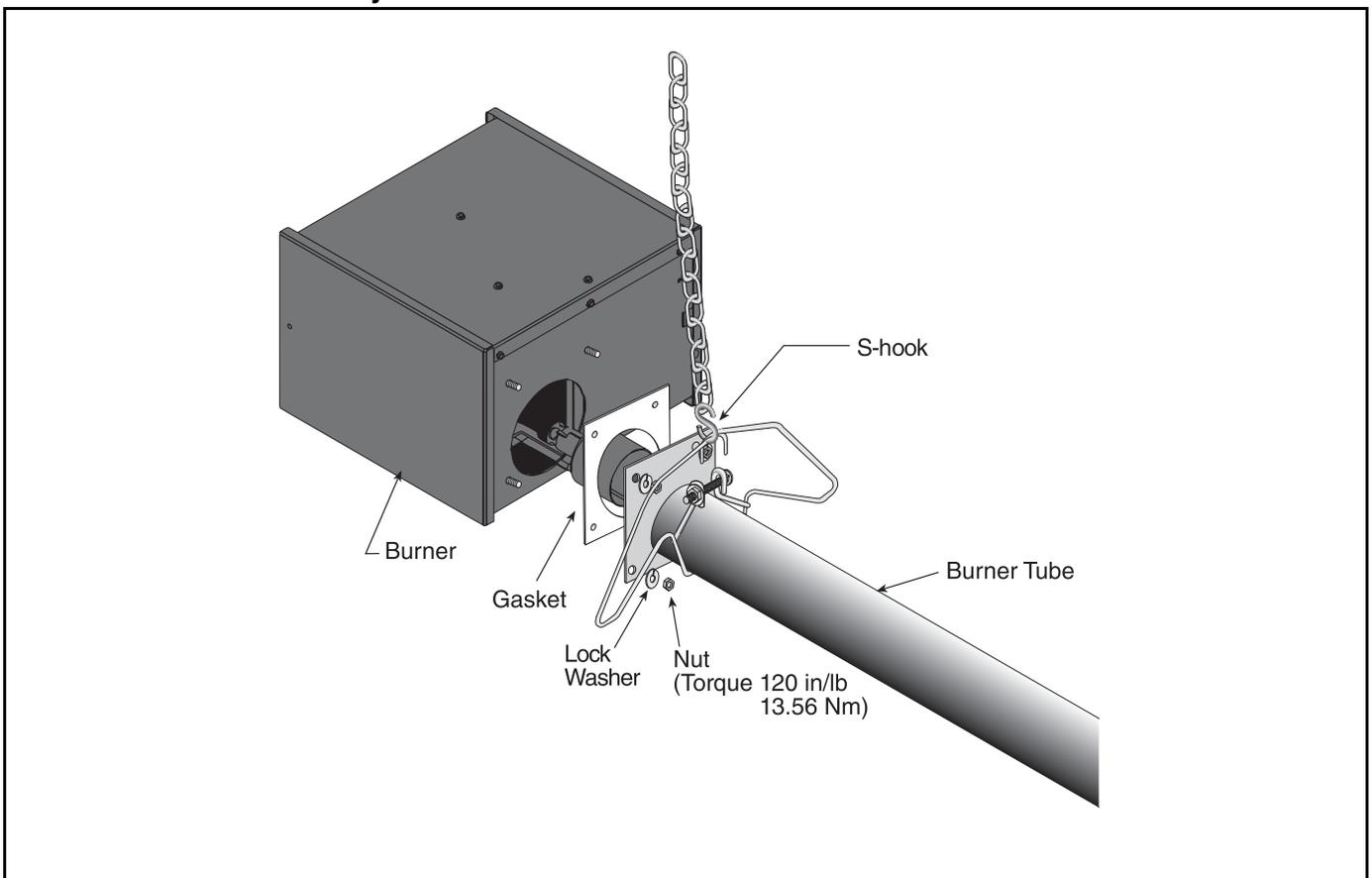
FIGURE 3: Burner Assembly Overview

FIGURE 4: Burner (External View)

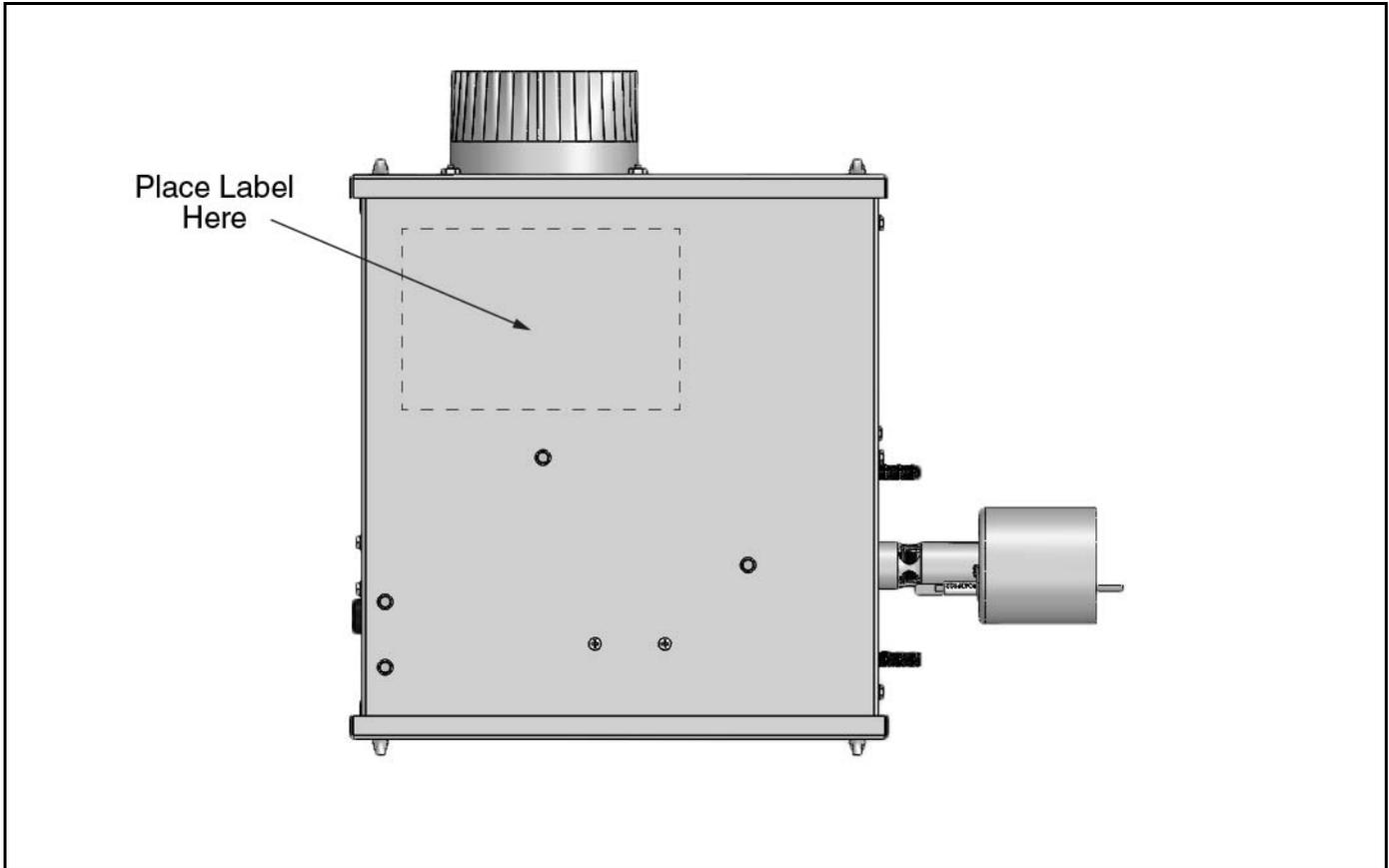
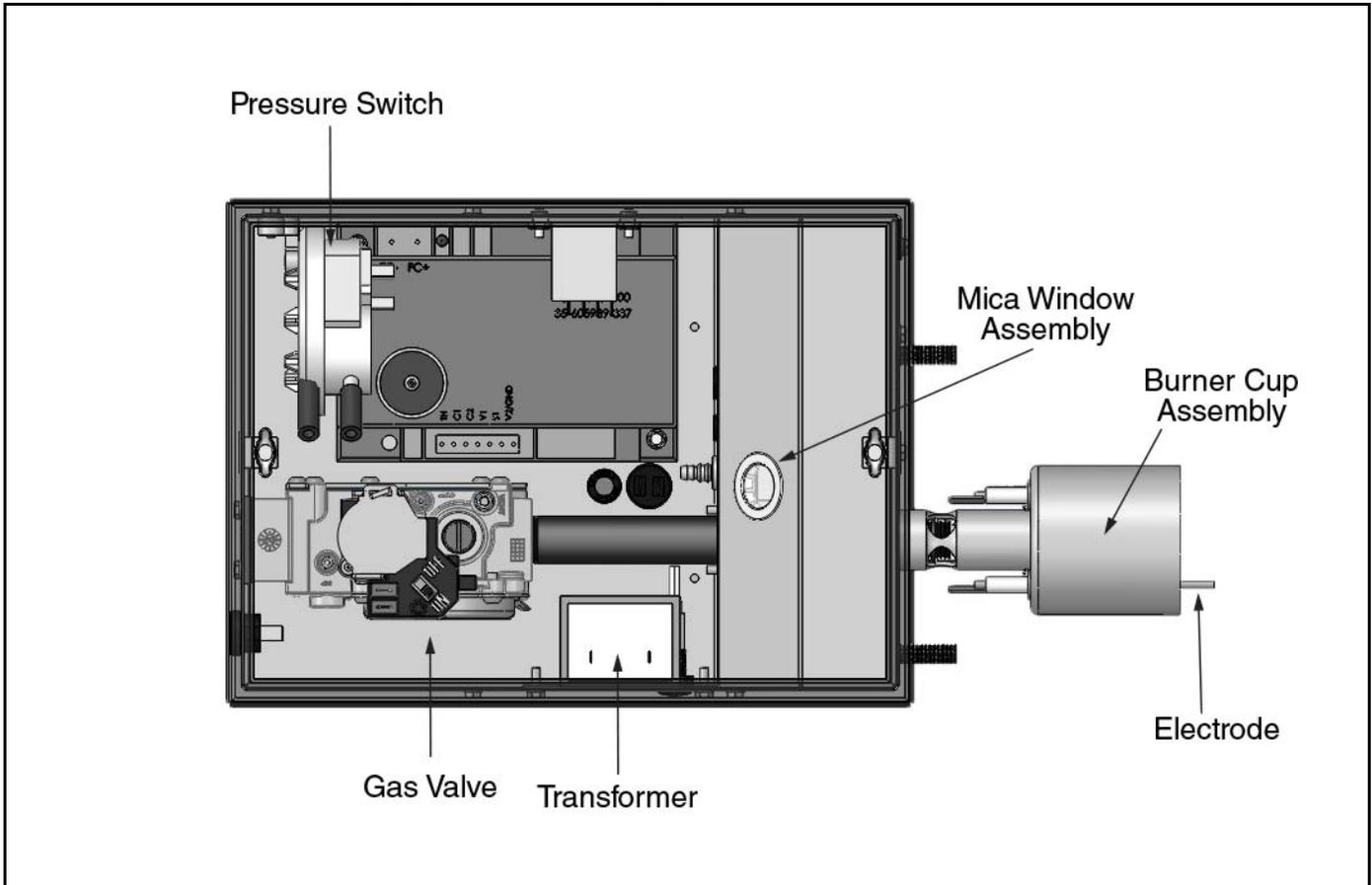


FIGURE 5: Burner, Side View (Internal Assembly)



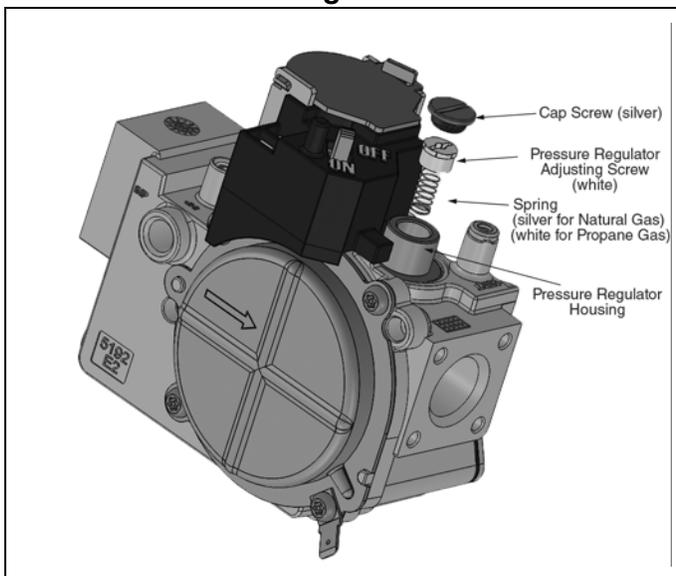
Step 5.2 Burner Cup Assembly Removal

1. Remove the burner cup assembly: Remove electrode and flame sense wires from components and unscrew the burner cup. See *Page 6, Figure 5*.
2. 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 orifice. The torque value for the orifice is 15 in/lbs; contact your factory representative for more details.

Step 5.3 Burner Cup Assembly Replacement

1. Be sure gas supply to heater is off.
2. Replace the burner cup and wire connections.
3. Open the control side door: Using your thumb and forefinger, remove the two thumb screws and take door off. See *Page 6, Figure 4*.
4. Replace the regulator spring. Using a flat head screwdriver, remove the cap from the regulator adjusting screw, remove the screw and remove and replace the spring. NOTE: Silver spring for Natural, white spring for Propane. See *Page 3, Section 3 and Page 4, Section 4* to verify spring kit components.
5. Replace the adjusting screw and turn down approximately 1/2".

FIGURE 6: Pressure Regulator



⚠ WARNING



Severe Injury Hazard

Secure burner to burner tube with nuts and lockwashers.

Hang heater with materials with a minimum working load of 75 lbs (33 kg).

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

6. 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 Installation, Operation and Service Manual included in this Conversion Kit.

Step 5.4 Adjust Regulator

1. Using a 3/32" hex key, remove the plug at the valve outlet and install a hose. Connect the hose to a liquid filled manometer. See *Page 9, Figure 7*.
2. Turn on gas and power. Turn up thermostat.
3. When unit comes on, adjust the regulator by turning the adjusting screw to set the pressure to:
Natural: 3.5" wc
Propane: 10.5" wc
4. Turn off power and gas.
5. Remove hose and replace plug at valve outlet. Replace O Ring and cap screw.

Step 5.5 Inlet Gas Pressure Checks

The gas inlet pressure to the heater must be checked as follows:

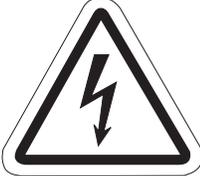
1. Turn off electrical supply to heater.
2. Turn off gas supply to heater.
3. Remove the plug at the valve inlet and install a hose. Connect the hose to a liquid filled

manometer. See *Page 9, Figure 7*.

4. Turn on gas supply to heater.
5. The manometer should read a maximum gas pressure of 14.0" wc for Natural or L.P. gas.
6. Turn on electrical supply to heater.
7. With heater in operation, manometer should read a minimum inlet pressure of 4.5" wc for Natural gas or 11.0" wc for L.P. gas.
8. If in steps 5 and 7, the recommended maximum and minimum pressures are not obtained, the main gas supply pressure to the heater must be adjusted as necessary for compliance.
9. Turn off main gas supply to heater.
10. Turn off electrical supply to heater.
11. Remove manometer and insert pipe plug into valve inlet.
12. Turn on main gas supply to heater.
13. Leak test plug in tapping using soap solution.
14. Turn on electrical supply to heater.

FIGURE 7: Manometer Reading

⚠ DANGER



Electrical Shock Hazard

Disconnect electric before service.

Appliance must be properly grounded.

Failure to follow these instructions can result in death or electrical shock.

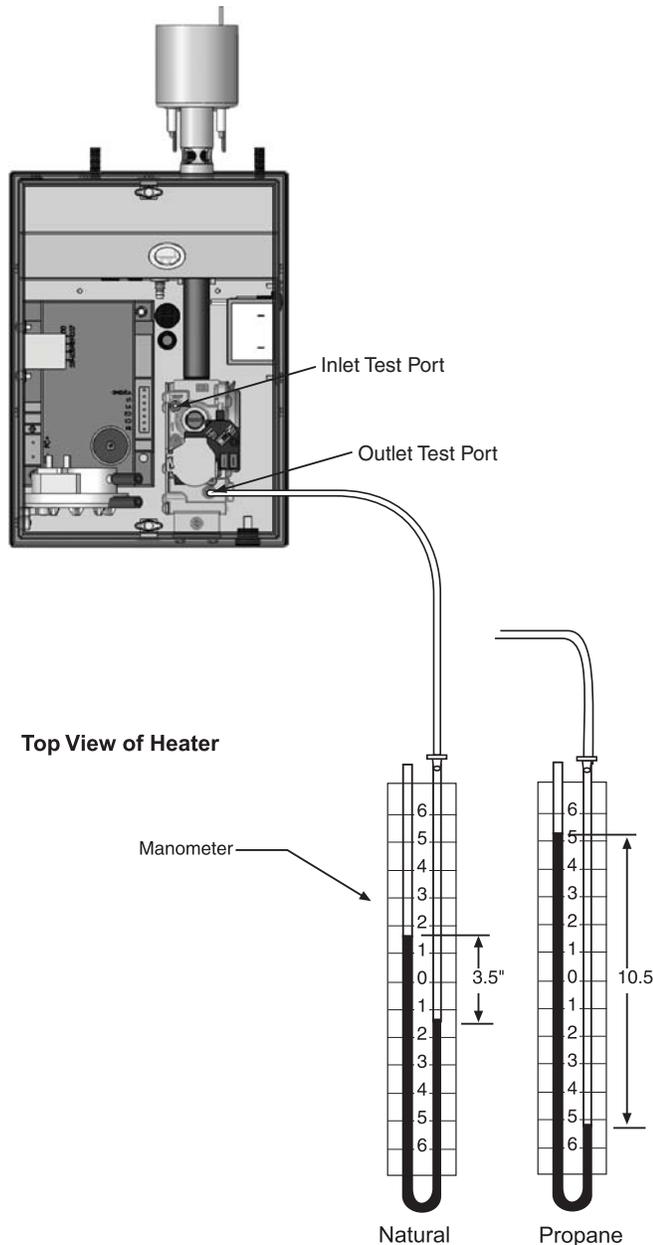


FIGURE 8: Label P/N 91039400

Enter Data for Natural to Propane Conversions		Enter Data for Propane to Natural Conversions	
Model	Propane Orifice Size	Model	Natural Orifice Size
CTH2D-40	#49	CTH2D-40	#32
CTH2D-60	2.3mm	CTH2D-60	#25
CTH2D-80	#37	CTH2D-80	#18
CTH2D-100	2.9mm	CTH2D-100	#12
CTH2D-125	#30	CTH2D-125	#5
CTH2D-150	3.56mm	CTH2D-150	#1
CTH2D-175	#24	CTH2D-175	"C"

Propane → This appliance has been converted to _____ fuel. ← Natural
 10.5" wc → Orifice: _____ ← 3.5" wc
 From Serial Plate → Manifold Pressure: _____ ← From Serial Plate
 Input: _____

Cet appareil a été converti au: _____
 Injecteur: _____
 Pression à la tubulure d'alimentation: _____
 Débit calorifique: _____

Este artefacto se ha convertido para funcionar con combustible _____
 Orificio: _____
 Presión del colector: _____
 Entrada: _____

P/N 91039400 Rev C

Step 5.6 Burner Conversion Label Information

Print the requested information in the fields of the burner conversion label as shown in See Page 10, Figure 8.

Step 5.7 Attach Burner Conversion Label

1. Attach the small yellow gas label (included in conversion kit) to the gas valve. Attach the conversion label (P/N 91039400) to the side of the burner housing top. See Page 6, Figure 4.
2. Replace the burner housing door.

SECTION 6: CLEARANCES TO COMBUSTIBLES

6.1 Required Clearances to Combustibles

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

Clearances for all heater models are located on the burner of the heater and *on Page 12, Figure 9 through Page 14, Figure 16* in this manual. 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.
- The stated clearances to combustibles represents a surface temperature of 90° F (30°C) above room temperature. Building materials with a low heat tolerance (such as plastics, vinyl siding, canvas, triply, etc) may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are protected from degradation.
- Maintain clearances from heat sensitive equipment and workstations.
- Maintain clearances from vehicles parked below the heater.
- Maintain clearances from swinging and overhead doors, overhead cranes, vehicle lifts, partitions, storage racks, hoists, building construction, 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.
- Hang heater in accordance to the minimum suspension requirements.
- If the radiant tubes must pass through the building structure, be sure that adequate sleeving and fire stop is installed to prevent scorching and/or fire hazard.

NOTE: 1. All dimensions are from the surfaces of all tubes, couplings and elbows.
 2. Clearances B, C and D can be reduced by 50% after 25' (7.5 m) of tubing downstream from where the burner and burner tube connect.

FIGURE 9: Level Reflector

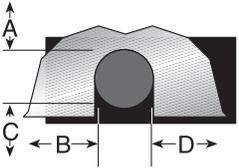
	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	6	27	53	27	16	69	135	69
	CTH2D-60	6	35	63	35	16	89	161	89
	CTH2D-80	6	38	66	38	16	97	168	97
	CTH2D-100	6	40	71	40	16	102	181	102
	CTH2D-125	6	46	77	46	16	117	196	117
	CTH2D-150	6	50	80	50	16	127	204	127
	CTH2D-175	8	52	82	52	21	133	209	133

FIGURE 10: Level Side Reflector

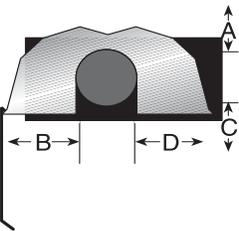
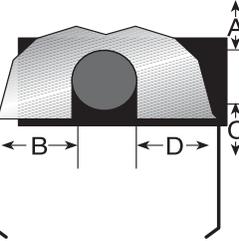
	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	6	9	53	44	16	23	135	112
	CTH2D-60	6	9	63	47	16	23	161	120
	CTH2D-80	6	9	70	54	16	23	178	138
	CTH2D-100	6	9	77	59	16	23	196	150
	CTH2D-125	6	9	83	65	16	23	211	166
	CTH2D-150	6	9	86	69	16	23	219	176
	CTH2D-175	8	9	88	73	21	23	224	186

FIGURE 11: Two Side Reflectors

	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	6	15	53	15	16	39	135	39
	CTH2D-60	6	23	66	23	16	59	168	59
	CTH2D-80	6	25	72	25	16	64	183	64
	CTH2D-100	6	27	78	27	16	69	199	69
	CTH2D-125	6	32	84	32	16	82	214	82
	CTH2D-150	6	35	88	35	16	89	224	89
	CTH2D-175	8	40	91	40	21	102	232	102

- NOTE:** 1. All dimensions are from the surfaces of all tubes, couplings and elbows.
 2. Clearances B, C and D can be reduced by 50% after 25' (7.5 m) of tubing downstream from where the burner and burner tube connect.

FIGURE 12: 45° Tilt Reflector

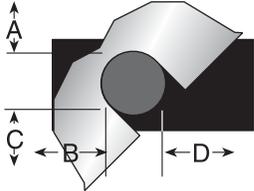
	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	8	8	51	46	21	21	130	117
	CTH2D-60	8	8	60	54	21	21	153	138
	CTH2D-80	8	8	66	60	21	21	168	153
	CTH2D-100	10	8	74	64	26	21	188	163
	CTH2D-125	10	8	78	69	26	21	199	176
	CTH2D-150	12	8	84	74	31	21	214	188
	CTH2D-175	12	8	85	79	31	21	216	201

FIGURE 13: U-Tube, Level Reflector

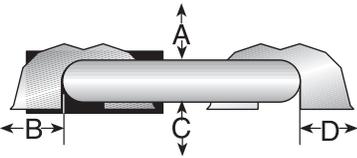
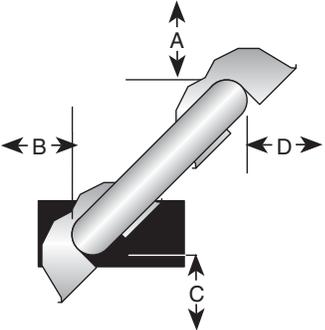
	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	- UNAPPROVED -				- UNAPPROVED -			
	CTH2D-60	6	35	63	30	16	89	161	77
	CTH2D-80	6	38	69	37	16	97	176	94
	CTH2D-100	6	40	76	39	16	102	194	100
	CTH2D-125	6	46	79	43	16	117	201	110
	CTH2D-150	6	50	84	47	16	127	214	120
	CTH2D-175	8	54	87	51	21	138	221	130

FIGURE 14: U-Tube, 45°

	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	- UNAPPROVED -				- UNAPPROVED -			
	CTH2D-60	8	8	60	42	21	21	153	107
	CTH2D-80	8	8	66	46	21	21	168	117
	CTH2D-100	8	8	74	52	21	21	188	133
	CTH2D-125	8	8	78	61	21	21	199	155
	CTH2D-150	8	8	84	66	21	21	214	168
	CTH2D-175	8	8	85	70	21	21	216	178

NOTE: 1. All dimensions are from the surfaces of all tubes, couplings and elbows.
 2. Clearances B, C and D can be reduced by 50% after 25' (7.5 m) of tubing downstream from where the burner and burner tube connect.

FIGURE 15: U-Tube, Opposite 45° Reflector

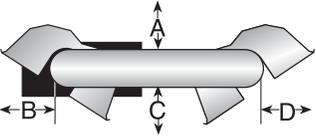
	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	- UNAPPROVED -				- UNAPPROVED -			
	CTH2D-60	8	54	60	22	21	138	153	56
	CTH2D-80	8	60	66	22	21	153	168	56
	CTH2D-100	10	64	74	22	26	163	188	56
	CTH2D-125	10	70	78	22	26	178	199	56
	CTH2D-150	12	74	84	22	31	188	214	56
	CTH2D-175	12	76	85	22	31	194	216	56

FIGURE 16: 2-Foot Deco Grille, 1-Foot Deco Grille and Protective Grille

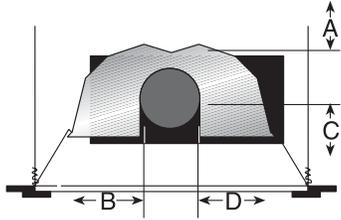
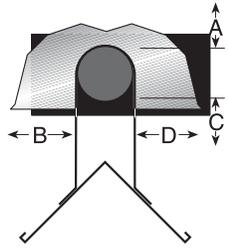
	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	6	27	53	27	16	69	135	69
	CTH2D-60	6	35	63	35	16	89	161	89
	CTH2D-80	6	38	66	38	16	97	168	97
	CTH2D-100	6	40	71	40	16	102	181	102
	CTH2D-125	6	46	77	46	16	117	196	117
	CTH2D-150	6	50	80	50	16	127	204	127
	CTH2D-175	8	52	82	52	21	133	209	133

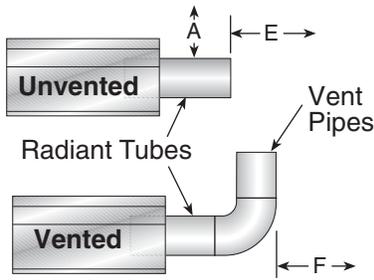
FIGURE 17: Lower Clearance Shield*

	Model	(inches)				(centimeters)			
		A	B	C	D	A	B	C	D
	CTH2D-40	6	34	27	34	16	87	69	87
	CTH2D-60	6	39	33	39	16	100	84	100
	CTH2D-80	6	40	38	40	16	102	97	102
	CTH2D-100	6	50	44	50	16	127	112	127
	CTH2D-125	6	54	48	54	16	138	122	138
	CTH2D-150	6	55	50	55	16	140	127	140
	CTH2D-175	- UNAPPROVED -				- UNAPPROVED -			

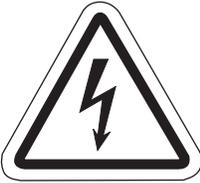
*When installed in the first 10' (3 m).

NOTE: 1. All dimensions are from the surfaces of all tubes, couplings and elbows.
 2. Clearances B, C and D can be reduced by 50% after 25' (7.5 m) of tubing downstream from where the burner and burner tube connect.

FIGURE 18: VENTING

	Model	(inches)			(centimeters)		
		A	E	F	A	E	F
	CTH2D-40	14	18	18	36	46	46
	CTH2D-60	14	18	18	36	46	46
	CTH2D-80	20	24	18	51	61	46
	CTH2D-100	20	24	18	51	61	46
	CTH2D-125	20	24	18	51	61	46
	CTH2D-150	20	30	18	51	77	46
	CTH2D-175	20	30	18	51	77	46

SECTION 7: OPERATION AND MAINTENANCE

⚠ DANGER	⚠ WARNING		
			
<p>Electrical Shock Hazard</p> <p>Disconnect electric before service.</p> <p>Heater must be connected to a properly grounded electrical source.</p>	<p>Explosion Hazard</p> <p>Turn off gas supply to heater before service.</p>	<p>Burn Hazard</p> <p>Allow heater to cool before service.</p> <p>Tubing may still be hot after operation.</p>	<p>Cut/Pinch Hazard</p> <p>Wear protective gear during installation, operation and service.</p> <p>Edges are sharp.</p>
<p>Failure to follow these instructions can result in death, electric shock, injury or property damage.</p>			

This heater is equipped with a direct spark ignition system.

7.1 Sequence of Operation

1. Turn the thermostat up. When the thermostat calls for heat, the blower motor will energize.
2. When the motor approaches nominal running RPM, the pressure switch closes and activates the ignition module.
3. After a 45 second prepurge, the ignition module then opens the gas valve and energizes the spark igniter.
4. When the flame is established, the sparking sequence ceases.
5. If the flame is not established during the ignition sequence, the ignition module closes the gas valve and purge begins. Module will try 2 additional times for ignition (with purges in between trials). If ignition is not established, the module will lockout.
6. If the flame extinguishes during operation, the ignition module will attempt the multiple trial sequence described in step 5. If ignition is not re-established, the module will lockout for one hour or until reset.
7. After lockout, the control can be reset by turning down thermostat for five seconds, and then raising it again to desired temperature, or by disconnecting power and then reconnecting.

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

7.2 To Shut Off Heater

- Set thermostat to lowest setting.
- Turn OFF electric power to heater.
- Turn OFF manual gas valve in the heater supply line.

7.3 To Start Heater

- Turn gas valve and electric power OFF and wait five minutes for unburned gases to vent from heater.
- Turn ON main gas valve.
- Turn ON electric power.
- Set thermostat to desired temperature.
- Burner should light automatically.

7.4 Pre-Season Maintenance and Annual Inspection

To ensure your safety and years of trouble-free operation of the heating system, service and annual inspections must be done by a contractor qualified in the installation and service of gas-fired heating equipment.

Turn off gas and electric supplies before performing service or maintenance. Allow heater to cool before servicing.

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 should be inspected thoroughly.

NOTE: Gas flow and burner ignition are among the first things that should be inspected.

Please See *Page 17, Section 7.4* for suggested items to inspect.

7.5 Maintenance Checklist

Installation Code and Annual Inspections:

All installation and service of ROBERTS GORDON® equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Roberts-Gordon LLC and conform to all requirements set forth in the ROBERTS GORDON® manuals and all applicable governmental authorities pertaining to the installation, service, operation and labeling of the equipment.

To help facilitate optimum performance and safety, Roberts-Gordon LLC recommends that a qualified contractor conduct, at a minimum, annual inspections of your ROBERTS GORDON® equipment and perform service where necessary, using only replacement parts sold and supplied by Roberts-Gordon LLC.

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 tubes or in the decorative or protective grilles (included with select models). Immediately remove objects in violation of the clearances to combustibles.
Reflector	Support reflector with reflector hanger and support strap. Reflector must not touch tube. 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. 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. The area must be free of dirt and dust. Clean and reinstall as required.
Tubes	Make sure there are no cracks. Make sure tubes are connected and suspended securely. Make sure there is no sagging, bending or distortion. Clean or replace as required.
Gas Line	Check for gas leaks.

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.
Electrode	Replace if there are cracked ceramics, excessive carbon residue, or erosion of the electrode. The electrode gap should be 1/8" (3.2 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.
Decorative and Protective Grille (optional)	The grille must be securely attached. Check that the 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.)
Lower Clearance Shield (optional)	The lower shield must be securely attached. Inspect shield support straps and lower clearance shield anchor points. Make sure shield is installed correctly and secured in place if necessary.
Wall Tag	If wall tag is present, make sure it is legible and accurate. Please contact Roberts-Gordon LLC or your ROBERTS GORDON® independent distributor, if you need a wall tag.
Safety Labels	Product safety signs or labels should be replaced by the product user when they are no longer legible. Please contact Roberts-Gordon LLC or your ROBERTS GORDON® independent distributor to obtain replacement signs or labels.

SECTION 8: THE ROBERTS GORDON® COMPLETE™CTH2D WARRANTY**ROBERTS-GORDON LLC WILL PAY FOR:**

Within 36 months from date of purchase by buyer or 42 months from date of shipment by Roberts-Gordon LLC (whichever occurs first), replacement parts will be provided free of charge for any part of the product which fails due to a manufacturing or material defect.

Roberts-Gordon LLC will require the part in question to be returned to the factory. Roberts-Gordon LLC will, at its sole discretion, repair or replace after determining the nature of the defect and disposition of part in question.

ROBERTS GORDON® Replacement Parts are warranted for a period of 12 months from date of shipment from Roberts-Gordon LLC or the remaining ROBERTS GORDON® COMPLETE™CTH2D warranty.

ROBERTS-GORDON LLC WILL NOT PAY FOR:

Service trips, service calls and labor charges.

Shipment of replacement parts.

Claims where the total price of the goods have not been paid.

Damage due to:

- Improper installation, operation or maintenance.
- Misuse, abuse, neglect, or modification of the ROBERTS GORDON® COMPLETE™CTH2D in any way.
- Use of the ROBERTS GORDON® COMPLETE™CTH2D for other than its intended purpose.
- Incorrect gas or electrical supply, accident, fire, floods, acts of God, war, terrorism, or other casualty.
- Improper service, use of replacement parts or accessories not specified by Roberts-Gordon.
- Failure to install or maintain the ROBERTS GORDON® COMPLETE™CTH2D as directed in the Installation, Operation and Service Manual.
- Relocation of the ROBERTS GORDON® COMPLETE™CTH2D after initial installation
- Use of the ROBERTS GORDON® COMPLETE™CTH2D in a corrosive atmosphere containing contaminants.
- Use of the ROBERTS GORDON® COMPLETE™CTH2D in the vicinity of a combustible or explosive material.
- Any defect in the ROBERTS GORDON® COMPLETE™CTH2D arising from a drawing, design, or specification supplied by or on behalf of the consumer.
- Damage incurred during shipment. Claim must be filed with carrier.

WARRANTY IS VOID IF:

The ROBERTS GORDON® COMPLETE™CTH2D is not installed by an 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 ownership of the ROBERTS GORDON® COMPLETE™CTH2D is moved or transferred. This warranty is non-transferable.

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

READ YOUR INSTALLATION, OPERATION AND SERVICE MANUAL.

If you have questions about your equipment, contact your installing professional. Should you need Replacement Parts or have additional questions, call or write:

Roberts-Gordon LLC

1250 William Street

P.O. Box 44

Buffalo, New York 14240-0044

Telephone: +1.716.852.4400

Fax: +1.716.852.0854

Toll Free: 800.828.7450

www.robertsgordon.com

Roberts-Gordon LLC'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 LLC 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 ROBERTS GORDON® COMPLETE™CTH2D. 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 LLC 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 war, fire, flood, strike, government or court orders, acts of God, terrorism, unavailability of supplies, parts or power. No person is authorized to assume for Roberts-Gordon LLC any other warranty, obligation or liability.

LIMITATIONS ON AUTHORITY OF REPRESENTATIVES:

No representative of Roberts-Gordon LLC, 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 LLC's duly authorized Executive Officer.



OWNER WARRANTY REGISTRATION CARD

Mail or Fax to:

Roberts Gordon LLC • 1250 William Street, P.O. Box 44 • Buffalo, NY 14240-0044 • Phone: 716-852-4400 • Fax: 716-852-0854
Toll Free: 800-828-7450 • www.robertsgordon.com

About the Owner:

Name: _____
Address: _____ City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____ E-mail: _____

About the Installer:

Name: _____
Address: _____ City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____ E-mail: _____

Purchased From (if different than installer):

Name: _____
Address: _____ City: _____ State: _____ Zip Code: _____
Phone: _____ Fax: _____ E-mail: _____

About your Heater:

Model #: _____ Serial #: _____ Fuel: _____ Installation Date: _____

Type of Installation (check one):

- Automotive Manufacturing Warehouse Recreational Aircraft
 Public Building Office Retail Agricultural Other _____

Installation Code and Annual Inspections: All installation and service of ROBERTS GORDON® equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Roberts-Gordon LLC and conform to all requirements set forth in the ROBERTS GORDON® manuals and all applicable governmental authorities pertaining to the installation, service, operation and labeling of the equipment.

To help facilitate optimum performance and safety, Roberts-Gordon LLC recommends that a qualified contractor conduct, at a minimum, annual inspections of your ROBERTS GORDON® equipment and perform service where necessary, using only replacement parts sold and supplied by Roberts-Gordon LLC.

These products are not for residential use.

This product is intended to assist licensed professionals in the exercise of their professional judgment.

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