

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 safe distances 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®

CARIBE™

Gas-Fired, Low-Intensity Infrared Heaters for Light Industrial/Commercial Applications

CGTH-30
CGTH-40
CGTH-50

Use and Care Manual

⚠ 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: BEFORE YOU BEGIN

Thank you for purchasing a ROBERTS GORDON® heating product. We are pleased you have chosen the CGTH-Series overhead tube heater. In addition to the quality you receive from our company, you also receive years of infrared heating experience.

For years of trouble-free operation from your heater, carefully read this Use & Care Manual. This Manual contains valuable information to help you use the heater safely and properly.

To obtain warranty service, please complete and mail the Owner Warranty Registration Card found on the

last page of this manual. In addition to activating your warranty, registering your heater enables us to contact you with safety and product updates.

Keep this manual in a safe place in case you have any questions or require service in the future. Also, since proof of purchase is required to obtain warranty coverage, keep the original sales receipt in a safe place. Remember to record the model and serial numbers of your heater below. Model and serial numbers are found on the rating tag affixed to the heater. See *Page 3, Section 2* for rating tag location.

Model Number:	Serial Number:	Fuel:	Installation Date:
Installed By: Company		Purchased From (if different from installer): Company	
Name		Name	
Address		Address	
Phone		Phone	
Fax		Fax	
E-mail		E-mail	

1.1 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. Improper installation, service or maintenance can result in death, injury or property damage.

Check the minimum required safe distances from combustibles given on the outside of each burner to make sure that the product is suitable for your application. The minimum required safe distances from

combustibles are also found *on page 11, section 6* of this manual. After the installation is complete, check product operation as provided in these instructions.

This heater must be applied and operated under the general concepts of reasonable use and installed using best business 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 not play with the appliance.

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

1.2 Questions, Comments or Suggestions

Please direct any questions, comments or suggestions to:

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Toll Free: 800.828.7450

www.robertsgordon.com
www.rg-inc.com
www.radiantheaters.com

SECTION 2: INTRODUCTION

2.1 About Roberts-Gordon LLC

Roberts-Gordon LLC pioneered low-intensity infrared heating systems with the introduction of its revolutionary, custom-engineered CORAYVAC® system. With years of infrared expertise in commercial and industrial applications, Roberts-Gordon LLC offers the CGTH-Series heater for use in light industrial/commercial applications.

2.2 About the Heater

The CGTH-Series is a factory-assembled, gas-fired, low-intensity heating system that incorporates a balanced flue. The system has been designed for easy installation and can provide years of economical operation and trouble-free service. Not only is infrared heat efficient, it also provides the most comfortable conditions in open areas, such as garages.

Gas-Fired means it uses clean-burning natural or LP gas.

Low-Intensity means that the radiant surface of the tube does not glow red. Instead, it operates at a lower temperature, less than 1000° F (538° C) and radiates energy at a lower intensity per square foot of radiating surface. The lower temperature and intensity levels are within a range that is effective in establishing and maintaining personal comfort levels. An aluminum reflector directs the radiant energy downward to the occupied area.

Balanced Flue means that the burner draws combustion air from outdoors and exhausts the products of combustion, also to the outdoors, through a shared opening. This is accomplished through two concentric tubes.

Radiant refers to the energy radiated by the CGTH-Series heater. Because the energy is in the form of infrared rays, it does not directly heat the air. Instead, the rays heat objects such as the floor, cars, machines and people. The warm objects, in turn, heat the air.

These combined features are key to the comfort and fuel efficiency provided by the CGTH-Series heater.

2.3 Unpacking the Heater

2.3.1 Manpower Requirements

To prevent personal injury and damage to the heater, two persons will be required to remove the heater from the carton. Both ends of the heater should be lifted from the carton at the same time. The burner should be lifted by gripping the bottom. The reflector of the heater should be lifted using the hanger.

2.3.2 Safety

⚠ WARNING



Cut/Pinch Hazard

Wear protective gear during installation, operation and service.

Edges are sharp.

Failure to follow these instructions can result in injury.

Protective gear is to be worn during installation, operation and service. Thin sheet metal parts, such as 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.

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

2.4 Safety Labels and Their Placement

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. See *Page 4, Figure 1 through Page 5, Figure 2*.

2.5 California Proposition 65

In accordance with California Proposition 65 requirements, a warning label must be placed in a highly visible location on the outside of the equipment (i.e., near equipment's serial plate). See label placement drawing on *Page 5, Figure 2* for label location. Avoid placing label on areas with extreme heat, cold, corrosive chemicals or other elements. To order additional labels, please contact Roberts-Gordon LLC or your ROBERTS GORDON® independent distributor.

FIGURE 1: Bottom and Side Panel Label Placement

Logo Label

Bottom Panel

Side Panel

Clearances to Combustibles Label

Operating Instruction Label

▲WARNING		▲AVERTISSEMENT																				
<p>Fire Hazard</p> <p>Some objects will catch fire or explode when placed close to heater. Keep all flammable objects, liquids and vapors the required safe distances away from heater. Keep clothing and furniture away from heater. Failure to follow these instructions can result in death, injury or property damage.</p>	<p>Burn Hazard</p> <p>Keep all persons, especially children, away from heater. Do not touch any part of the heater. Heater is very hot. Failure to follow these instructions can result in death, injury or property damage.</p>																					
<p>Required Safe Distances from Combustibles Distances de Déplacement par Rapport aux Combustibles</p>																						
<p>Horizontal Mount/Montage Horizontal</p>	<p>45° Mount/Montage à 45°</p>																					
<table border="1" style="margin: auto;"> <thead> <tr> <th>Model</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>CGTH-18</td> <td>18</td> <td>18</td> <td>18</td> <td>18</td> <td>18</td> <td>18</td> </tr> <tr> <td>CGTH-20</td> <td>18</td> <td>18</td> <td>18</td> <td>18</td> <td>18</td> <td>18</td> </tr> </tbody> </table>		Model	A	B	C	D	E	F	CGTH-18	18	18	18	18	18	18	CGTH-20	18	18	18	18	18	18
Model	A	B	C	D	E	F																
CGTH-18	18	18	18	18	18	18																
CGTH-20	18	18	18	18	18	18																
<p>NOTES: 1. All dimensions are from the reflector. 2. Use reflector with vent pipe.</p> <p>Know your local codes. Model Number is based on Heating Load (BTU) and Voltage (120V or 240V). See manual for details on venting and installation. For more information, visit www.rg.com. Printed in the U.S.A. © 2010 Roberts & Gordon. P/N 91037800 Rev. 0</p>																						

▲WARNING		▲AVERTISSEMENT	
<p>Fire or Explosion Hazard</p> <p>Improper installation, adjustment, alteration, service or maintenance can cause serious injury or property damage. Read the installation, operation and service manual provided with this equipment thoroughly before installing, operating or servicing the equipment.</p> <p>For assistance or additional information, consult a contractor qualified in the installation and service of gas-fired heating equipment or the gas supplier.</p> <p>If you do not follow these instructions exactly, a fire or explosion may result in death, serious injury or property damage.</p>			
<p>SAFETY INSTRUCTIONS READ BEFORE OPERATING</p> <p>A. This heater does not have a pilot. It is equipped with an automatic gas control system. Do not attempt to light the burner by hand.</p> <p>B. BEFORE OPERATING, ensure all around the heater area is clear. Do not place any items on the floor outside the gas line. Do not place any items on the floor inside the heater area.</p> <p>C. Use only your hand to turn the gas valve handle. Never use tools. After reading and before use, be sure to turn the gas valve to the "OFF" position. If the heater is not operating properly, it may be necessary to shut off the gas supply. If you are not sure, call your service technician or gas supplier.</p> <p>D. Do not use this heater if any part has been under water. If necessary, call a qualified service technician to inspect the heater and to replace any part of the control system and the gas control which has been under water.</p>	<p>OPERATING INSTRUCTIONS</p> <p>STOP! Read the safety instructions above and to the left on the label.</p> <p>1. Set the thermostat to the lowest setting.</p> <p>2. Turn off the electric power to the heater. Do not try to light the burner by hand.</p> <p>3. Turn off the manual gas valve in the heater supply line. The heater needs to be clean out any gas. If you have small gas STOP! From "OFF" to the safety distance to the left on this label. If you do not smell gas, go to the next step.</p> <p>4. Open the manual gas valve in the heater supply line.</p> <p>5. Turn on electric power to the heater.</p> <p>6. Set the thermostat to the desired setting.</p> <p>7. If the heater will not operate, follow the instructions "To Turn Off Gas To Heater" and call your service technician or gas supplier.</p> <p>TO TURN OFF THE GAS TO HEATER</p> <p>1. Set the thermostat to the lowest setting.</p> <p>2. Turn off the electric power to the heater if service is to be performed.</p> <p>3. Turn off the manual gas valve in the heater supply line.</p>		
<p>CONSIGNES DE SÉCURITÉ À LIRE AVANT UTILISATION</p> <p>A. Cet appareil de chauffage n'a pas de veilleuse. Il est équipé d'un système de contrôle automatique du gaz. Ne tentez pas d'allumer le brûleur à la main.</p> <p>B. AVANT L'UTILISATION, assurez-vous que tout ce qui se trouve dans la zone de passage du gaz est clair. Ne placez rien sur le sol à l'extérieur du gaz. Ne placez rien sur le sol à l'intérieur de la zone de passage du gaz.</p> <p>C. Utilisez uniquement votre main pour tourner la poignée de la vanne à gaz. Ne tentez jamais d'utiliser d'outils. Après avoir lu et avant d'utiliser, assurez-vous que la vanne à gaz est tournée vers la position "OFF". Si le chauffage ne fonctionne pas correctement, il peut être nécessaire de couper l'alimentation en gaz. Si vous n'êtes pas sûr, appelez votre technicien ou votre fournisseur de gaz.</p> <p>D. Ne tentez pas d'utiliser ce chauffage si une partie a été sous l'eau. Si nécessaire, appelez un technicien qualifié pour inspecter le chauffage et remplacer toute partie du système de contrôle et du contrôle à gaz qui a été sous l'eau.</p>		<p>CONSIGNES D'UTILISATION</p> <p>1. STOP! Lire attentivement les consignes de sécurité figurant sur l'étiquette et à gauche de l'appareil.</p> <p>2. Réglez le thermostat sur la position la plus basse.</p> <p>3. Coupez l'alimentation électrique au chauffage.</p> <p>4. Ne tentez pas d'allumer le brûleur à la main.</p> <p>5. Fermez la vanne à gaz manuel située dans la conduite d'alimentation en gaz du chauffage.</p> <p>6. Attendez que le gaz se soit dissipé dans la zone de passage du gaz. Si vous sentez du gaz, arrêtez-vous immédiatement et appelez votre technicien ou votre fournisseur de gaz.</p> <p>7. Ouvrez la vanne à gaz manuelle située dans la conduite d'alimentation en gaz.</p> <p>8. Allumez le chauffage.</p> <p>9. Réglez le thermostat sur la position souhaitée.</p> <p>10. Si le chauffage ne fonctionne pas, suivez les consignes "Arrêter l'alimentation en gaz du chauffage" et appelez votre technicien ou votre fournisseur de gaz.</p> <p>POUR COUPER L'ALIMENTATION EN GAZ DE L'APPAREIL DE CHAUFFAGE</p> <p>1. Réglez le thermostat au niveau le plus bas.</p> <p>2. Coupez l'alimentation électrique du chauffage.</p> <p>3. Fermez la vanne à gaz manuelle située dans la conduite d'alimentation en gaz du chauffage.</p>	

Description	Part Number
Logo Label	91037702
Operating Instruction Label	91037100
Clearances to Combustibles Label	91037800

FIGURE 2: Control Side and Back Panel Label Placement

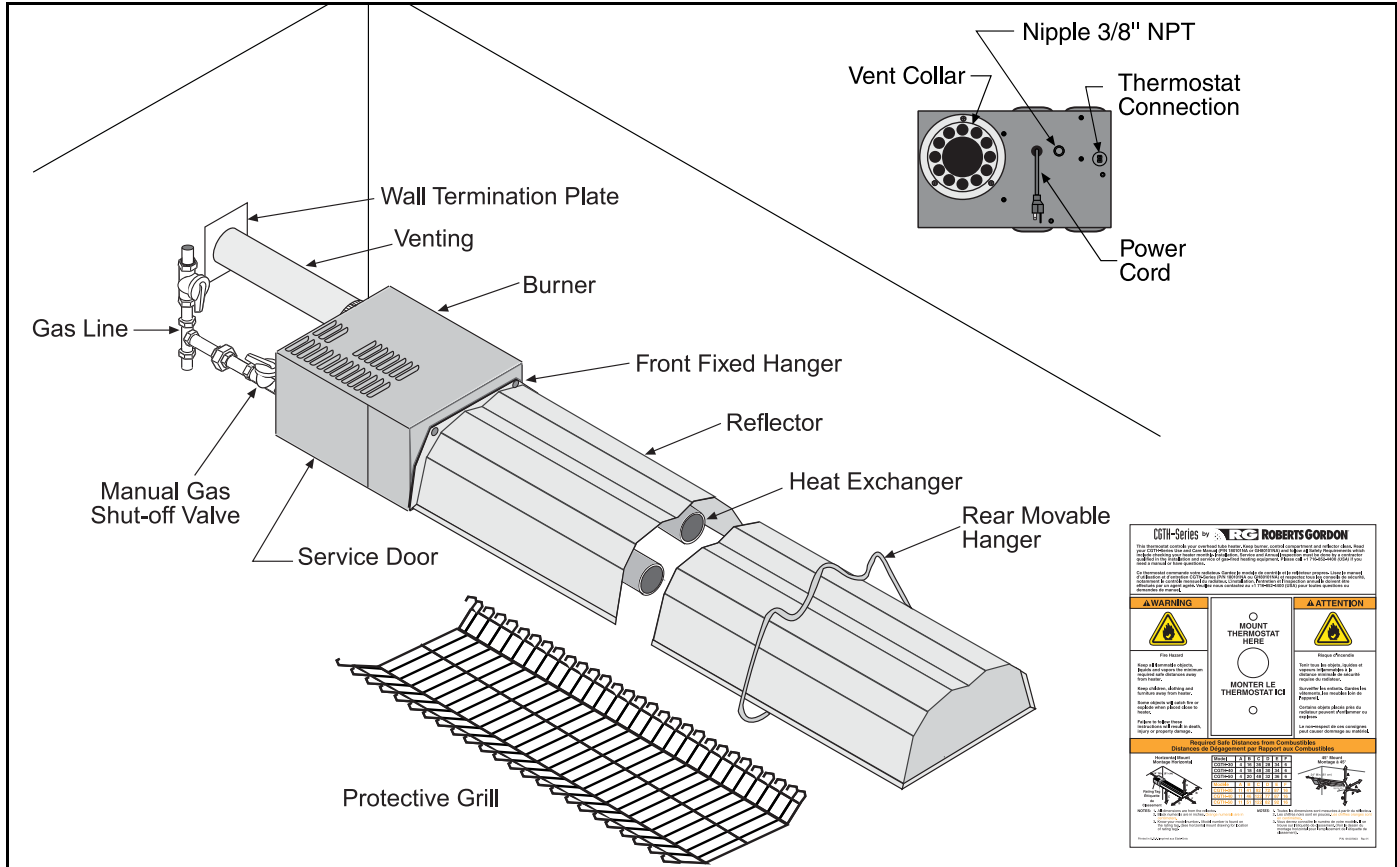
The diagram illustrates the placement of various labels on the control side and back panels of a heater. The labels are as follows:

- Shock Hazard Label:** Located on the top left of the control side panel. It features a lightning bolt icon and text in both English and French.
- Wiring Diagram Label:** Located on the top right of the control side panel. It contains two wiring diagrams: 'CONNEXION (SCHEMATA) DE CONNEXION' and 'LIGAGE (SCHEMATA) DE SÉQUENCE'.
- Fire Hazard Label:** Located on the right side of the control side panel. It features a flame icon and text in both English and French.
- Cord Shock Hazard Label:** Located on the top left of the back panel. It features a lightning bolt icon and text in both English and French.
- Rating Plate Label:** Located on the bottom left of the control side panel. It contains technical specifications and safety information.
- Proposition 65 Warning Label:** Located on the bottom left of the control side panel. It contains a warning in both English and French regarding chemicals.
- Thermostat Connection Label:** Located on the right side of the back panel. It features a circular icon and text in both English and French.
- Carbon Monoxide Hazard Label:** Located on the bottom right of the back panel. It features a person icon and text in both English and French.

Description	Part Number
Shock Hazard Label	91037901
Wiring Diagram Label	91037600
Fire Hazard Label	91037900
Cord Shock Hazard Label	91037500
Thermostat Connection Label	91037902
Carbon Monoxide Hazard label	91037300
Rating Plate Label	91010401
Proposition 64 Warning Label	91070016

SECTION 3: COMPONENTS IDENTIFICATION

FIGURE 3: Assembly Overview



Burner - Contains the electrical components (i.e. blower motor, power transformer, etc.) and gas distribution components (i.e. gas valve, etc.) that make the heater work. There are no owner serviceable items contained in this box.

Front Fixed Hanger - Provides rigid support and mounting surface for the reflector. Holes are provided in the upper corners of the bulkhead to accommodate suspension hardware required for installation of the heater.

Reflector - The reflector is made from formed aluminum and reflects the radiant energy downward, bathing people and objects below.

Heat Exchanger - A U-shaped tube through which the heated products of combustion pass.

Rear Movable Hanger - Provides support for the tube and reflector at the end that is furthest from the burner. The support may be moved (within limits) to accommodate hanging of the unit.

Service Door - To be removed only by a contractor qualified in the installation and service of gas-fired heating equipment or your gas supplier. Removal of this service door provides access to the electrical and gas distribution components.

Gas Line - Must only be installed and serviced by a licensed contractor or gas fitter.

Wall Termination Plate - Placed on the outside wall over the venting.

Venting - Installer must properly exhaust the heater outside. The 5" outer duct carries fresh air to the burner. The 3" inner duct carries the products of combustion to the outside.

Thermostat - 24 Volt Thermostat mounted with Thermostat Tag.

Protective Grille - Included with select models. See Page 21, Section 7.6 for details.

Vent Collar - Accommodates a 5" (125 mm) diameter combustion air inlet duct that delivers fresh air to the burner. The fresh air enters the burner through the twelve equally spaced holes shown above. The 3" (80 mm) diameter hole in the center of the flue collar accommodates the venting duct that carries the products of combustion to be vented outdoors.

Nipple-3/8" (10 mm) NPT - Point at which the gas supply is connected to the heater.

Thermostat Connection - Two terminals to which the thermostat wires will be connected.

Power Cord - Includes a three-prong plug that must be connected to a dedicated and properly grounded three-prong ceiling outlet.

CGTH-Series by **ROBERTS GORDON**

This document contains proprietary information. It is intended for use by qualified installers and service technicians only. It is not to be distributed to the general public. The information contained herein is for informational purposes only. The manufacturer is not responsible for any damage or injury resulting from the use of this information.

WARNING	CAUTION	ATTENTION
 This heater must be installed, operated, and serviced by a qualified professional technician only. Improper installation, operation, or servicing may result in fire or property damage. Read and follow the instructions carefully.	 MOUNT THERMOSTAT HERE MONTEZ LE THERMOSTAT ICI	 Sharp Objects This heater has sharp objects which may cause injury. Do not touch the heater until it has cooled down. Les objets aigues de ce chauffage peuvent causer des blessures. Ne touchez pas le chauffage jusqu'à ce qu'il se soit refroidi.

Thermostat Mounting Dimensions (mm)

Model	Mounting Hole Diameter	Mounting Hole Spacing
CGTH-1000	50	100
CGTH-1500	50	100
CGTH-2000	50	100
CGTH-2500	50	100
CGTH-3000	50	100
CGTH-3500	50	100
CGTH-4000	50	100
CGTH-4500	50	100
CGTH-5000	50	100
CGTH-5500	50	100
CGTH-6000	50	100
CGTH-6500	50	100
CGTH-7000	50	100
CGTH-7500	50	100
CGTH-8000	50	100
CGTH-8500	50	100
CGTH-9000	50	100
CGTH-9500	50	100
CGTH-10000	50	100

SECTION 4: INSTALLATION CONSIDERATIONS

! WARNING**Fire Hazard**

Keep all flammable objects, liquids and vapors the minimum required safe distances 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.

4.1 Where Can the Heater Be Installed?

The CGTH-Series heater is intended for installation in the following areas:

- Residential applications, such as:
 - garages
 - hobby greenhouses
 - workshops
- Light industrial/commercial applications, such as:
 - entranceways
 - lobby areas
 - lunch rooms
 - aircraft hangars
(See Page 9, Section 5.5.1 for restrictions)
 - public garages
(See Page 10, Section 5.5.2 for restrictions)

4.2 Where Can't the Heater Be Installed?

The CGTH-Series heater is **not intended** for installation in the following areas:

- Residential living or sleeping areas
- Basements

Due to high temperatures, ensure that the heater area is kept clear of furniture, draperies, clothing or other combustible materials. Children and adults should be alerted to the hazard of high surface temperatures and should stay away to avoid burns and clothing ignition. Young children should be carefully supervised when they are in the same room as the heater.

4.3 Installer's Responsibility

The CGTH-Series heater, the gas and electrical supplies, as well as the venting, must be installed in accordance with applicable specifications and codes. In the absence of local codes, the installation must comply with the National Fuel Gas Code ANSI 7223.1/NFPA-54, Natural Gas and Propane Installation Code, CSA B149.1. Only firms (or individuals) well qualified in this type of work should install the system. Consult local Building Inspectors, Fire Marshals or your local ROBERTS GORDON® independent distributor for guidance.

Use the information given in this manual together with the cited codes and regulations to perform the installation. The heater must be installed in accordance with the minimum required safe distances from combustibles and must be vented outside. If any aspects of the installation are unclear, consult your ROBERTS GORDON® independent distributor for clarification. The installer must furnish all needed materials that are not furnished as standard equipment. It is also the installer's responsibility to see that the materials and installation methods used result in a job that is workmanlike in appearance and is in compliance with the requirements of the Installation, Operation and Service Manual. The installer must give this manual and the Installation, Operation and Service Manual (P/N 180100NA) to the owner.

4.4 Thermostat Tag

A laminated thermostat tag is available for the heater as a permanent reminder of the safety instructions and the importance of the minimum required safe distances from combustibles. Please contact Roberts-Gordon LLC or your ROBERTS GORDON® independent distributor to obtain the thermostat tag. Affix the tag by peeling off the backing of the adhesive strips on the rear surface and position the tag on a wall behind the thermostat.

A copy of the thermostat tag (P/N 91037903) is illustrated on Page 12, Figure 5.

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. See Page 13, Figure 6 through Page 13, Figure 7.

SECTION 5: HEATER INSTALLATION REQUIREMENTS


5.1 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.

This section provides the following information:

- Defines the gas, electric and venting requirements for the CGTH-Series heater.
- Specifies the national standards and applicable codes that apply to the gas, electric and venting requirements.
- Specifies the national standards and applicable codes that apply to non-residential installations.

5.2 Gas Service Requirements

! WARNING

Explosion Hazard
Tighten gas hose fittings to connect gas supply according to Figure 36.
Leak test all components of gas piping before operation.
Gas can leak if piping is not installed properly.
Do not high pressure test gas piping with heater connected.
Failure to follow these instructions can result in death, injury or property damage.

5.2.1 Gas Type

The type of gas appearing on the nameplate must be the type of gas used. Installation must comply with local codes and recommendations of the local gas company. United States: Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest revision. Canada: Refer to Natural Gas and Propane Installation Code CSA B149.1 - latest revision.

5.2.2 Gas Supply Lines

The size of the gas supply lines must comply with

local codes and recommendations of the local gas company. United States: Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest revision.

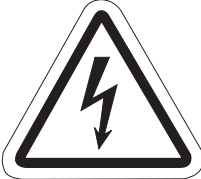
Canada: Refer to Natural Gas and Propane Installation Code CSA B149.1 - latest revision.

A 1/8" NPT plugged tap must be installed in the gas line connection immediately upstream of the burner that is farthest from the gas supply meter. The tap is required for checking system gas pressure.

5.2.3 Meter and Service

Meter and service must be large enough to handle all the heaters being installed plus any other connected load. The gas line which feeds the system must be large enough to supply the required gas with a maximum pressure drop of 1/2" wc. When gas piping is not included in the layout drawing, the local gas supplier will usually help in planning the gas piping.

5.3 Electrical Service Requirements

! DANGER

Electrical Shock Hazard
Plug heater into grounded three-prong ceiling receptacle.
Do not cut or remove the grounding prong from this plug.
Do not use with an extension cord.
Failure to follow these instructions can result in death or electrical shock.

The CGTH-Series heater requires a grounded three-prong electrical outlet to be installed within 18" of the rear surface of the heater's burner box. It is recommended that the outlet for the heater be ceiling-mounted and should be on a dedicated circuit. **DO NOT** use an electrical extension cord to operate the heater.

Heater Rating: 120 VAC, 60 hz, 1 Ø, 1 A

5.3.1 Grounding

The heater must be electrically grounded in accordance with the following codes: United States: Refer to National Electrical Code®, NFPA 70 - latest revision.

sion. Wiring must conform to the most current National Electrical Code®, local ordinances and any special diagrams furnished.

Canada: Refer to Canadian Electrical Code, CSA C22.1 Part 1 - latest revision.

5.3.2 Thermostat

It is important to note that the CGTH-Series heater is controlled by a low voltage (24V AC) thermostat supplied with the heater. The control transformer located inside the burner supplies the necessary electrical power to operate the thermostat. No other electrical power to the thermostat is required.

5.4 Venting Requirements

! WARNING

Carbon Monoxide Hazard
Heaters must be exhausted outside.
Use materials supplied.
This heater needs fresh air for safe operation and must be installed so there are provisions for adequate combustion and ventilation air.
Failure to follow these instructions can result in death or injury.

! WARNING

Cut/Pinch Hazard
Wear protective gear during installation, operation and service.
Edges are sharp.
Failure to follow these instructions can result in injury.

The CGTH-Series heater must be installed with the venting system supplied or with the optional venting kit available from Roberts-Gordon LLC. DO NOT

connect this heater to a separate chimney and do not common vent with any other fuel burning appliance.

The CGTH-Series heater employs a balanced flue/air venting duct system and must conform to the following length requirements:

Maximum Length: 10' (3 m)

Minimum Length: 2.5' (.7 m)

Maximum Elbows: Two with natural gas units,
one with propane gas units

5.4.1 Venting Codes

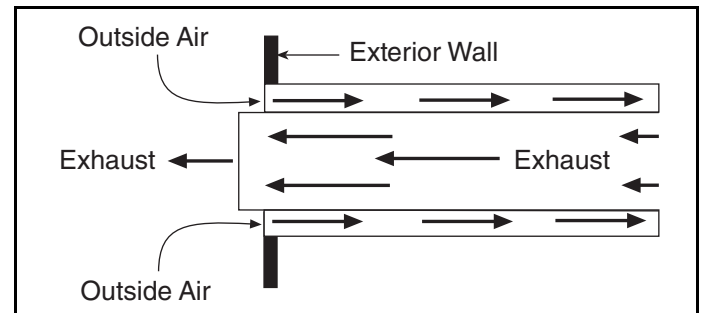
The location, size, installation and termination of vents, as well as the required safe distances from combustibles when penetrating combustible walls, must comply with local codes and recommendations of the local gas company. United States: Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest revision. Canada: Refer to Natural Gas and Propane Installation Code CSA B149.1 - latest revision.

5.4.2 Balanced Flue Construction

The balanced flue consists of a 3" (8 cm) diameter flue which is concentrically positioned inside a 5" (13 cm) diameter vent pipe (See Figure 4). The 5" (13 cm) diameter vent supplies outside air for combustion while the 3" (8 cm) diameter flue carries the products of combustion from the heater.

The balanced flue is applicable for both horizontal and vertical venting arrangements. Vertical venting will require the optional roof venting kit available from Roberts-Gordon LLC.

FIGURE 4: Balanced Flue



5.5 Non-Residential Installations

5.5.1 Aircraft Hangars

The CGTH-Series heater may be used in certain areas of aircraft hangars. Installation in aircraft hangars must be in accordance with the following codes: United States: Refer to Standard for Aircraft Hangars, NFPA 409 - latest revision. Canada: Refer to Natural Gas and Propane Installation Code CSA B149.1 - latest revision.

- Heaters in aircraft storage or service areas must be installed a minimum of 10' (3 m) above the

upper surface of wings or engine enclosures of the highest aircraft which may be housed in the hangar. (This should be measured from the bottom of the heater to the top of the wing, or engine enclosure, whichever is highest from the floor).

- In other sections of aircraft hangars, such as shops or offices, heaters must be installed a minimum of 8' (2.4 m) above the floor.
- Heaters installed in aircraft hangars shall be located so as not to be subject to damage by aircraft, cranes, movable scaffolding or other objects.
- When installed over hoists, the required safe distances from combustibles must be maintained from the uppermost point of the combustible materials placed on the hoist.

5.5.2 Public Garages

The CGTH-Series heater may be used in public garages. Installation in public garages must be in accordance with the following codes: United States: Refer to Standard for Parking Structures NFPA 88A - latest revision or the Code for Motor Fuel Dispensing Facilities and Repair Garages, NFPA 30A - latest revision. Canada: Refer to Natural Gas and Propane Installation Code CSA B149.1 - latest revision.

- Heaters must be installed a minimum of 8' (2.4 m) above the floor. Required safe distances to combustibles must be maintained from vehicles parked below the heater.
- When installed over hoists, the required safe distances from combustibles must be maintained from the uppermost point of the combustible materials placed on the hoist.

5.5.3 High Altitude

These heaters are approved for installations up to 2000' (610 m)(US), 4500' (1370 m)(Canada) without modification. Consult factory if US installation is above 2000' (610 m) or Canadian installation is above 4500' (1370 m).

5.5.4 Hazardous Locations

Where there is the possibility of exposure to combustible airborne material or vapor, consult the local fire marshal, the fire insurance carrier or other authorities for approval of the proposed installation.

SECTION 6: REQUIRED SAFE DISTANCES FROM COMBUSTIBLES

⚠ WARNING

Fire Hazard
Keep all flammable objects, liquids and vapors the minimum required safe distances 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.

⚠ WARNING

Burn Hazard
Keep all persons, especially children, away from heater.
Do not touch any part of the heater.
Heater is very hot.
Failure to follow these instructions can result in death, injury or property damage.

In all situations, the minimum required safe distances from combustibles must be maintained. Combustibles are materials which may catch fire and include many common items such as wood, paper, rubber, fabrics, etc. Combustible materials such as those noted, and any other combustible materials, must not be placed closer to any base or side of the CGTH-Series heater than the distances noted in the diagrams on the following page. If you have any questions about the required safe distances from combustibles, or the associated diagrams, please contact your installer, ROBERTS GORDON® independent distributor, or Roberts-Gordon LLC at +1.716.852.4400 or 1.800.828.7450, during normal

business hours which are Monday through Friday, 8:15 a.m. to 4:45 p.m., Eastern Time.

For owner safety, a thermostat tag is supplied with the CGTH-Series as a permanent reminder of the importance of maintaining the required safe distances from combustibles. Instructions for installing the tag are located on *Page 7, Section 4.4*. Immediately contact your ROBERTS GORDON® independent distributor or Roberts-Gordon LLC if the tag is missing. See *Page 15, Figure 8* for allowable vent terminal locations.

It is important to keep the minimum required safe distances from combustibles at all times. Clearances from vehicles parked beneath heaters must be maintained. The thermostat tag (included with the heater) must be posted to identify any possible violation of the minimum required safe distances from combustibles from the heater in vehicle areas. Maximum allowable stacking height in storage areas should be identified with signs or appropriate markings. See *Page 13, Figure 6 and Figure 7* for the minimum required safe distances from combustibles.

Due to high temperature, ensure that the heater area is kept clear of furniture, draperies, clothing or other combustible materials. Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns and clothing ignition. Young children should be carefully supervised when they are in the same room as the heater.

The warnings on this page appear on the heater and are also on the thermostat tag to serve as a constant reminder to maintain the required safe distances from combustibles at all times. If you do not have either the label on your heater or the thermostat tag, immediately call your installer or Roberts-Gordon LLC for replacement.

FIGURE 5: Thermostat Tag

CGTH-Series by ROBERTS GORDON®

This thermostat controls your overhead tube heater. Keep burner, control compartment and reflector clean. Read your CGTH-Series Use and Care Manual (P/N 180101NA or GH80101NA) and follow all Safety Requirements which include checking your heater monthly. Installation, Service and Annual Inspection must be done by a contractor qualified in the installation and service of gas-fired heating equipment. Please call +1 716-852-4400 (USA) if you need a manual or have questions.

Ce thermostat commande votre radiateur. Gardez le module de contrôle et le réflecteur propres. Lisez le manuel d'utilisation et d'entretien CGTH-Series (P/N 180101NA ou GH80101NA) et respectez tous les conseils de sécurité, notamment le contrôle mensuel du radiateur. L'installation, l'entretien et l'inspection annuelle doivent être effectués par un agent agréé. Veuillez nous contactez au +1 716-852-4400 (USA) pour toutes questions ou demandes de manuel.

⚠ WARNING



Fire Hazard

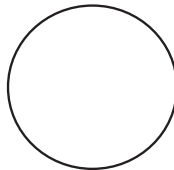
Keep all flammable objects, liquids and vapors the minimum required safe distances away from heater.

Keep children, clothing and furniture away from heater.

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

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

MOUNT
THERMOSTAT
HERE



MONTER LE
THERMOSTAT ICI



⚠ ATTENTION



Risque d'incendie

Tenir tous les objets, liquides et vapeurs inflammables à la distance minimale de sécurité requise du radiateur.

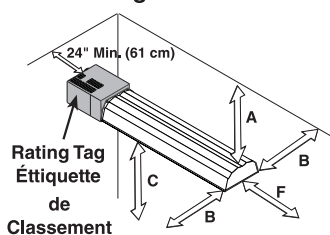
Surveiller les enfants. Gardes les vêtements, les meubles loin de l'appareil.

Certains objets placés près du radiateur peuvent s'enflammer ou exploser.

Le non-respect de ces consignes peut causer dommage au matériel.

Required Safe Distances from Combustibles Distances de Dégagement par Rapport aux Combustibles

Horizontal Mount Montage Horizontal

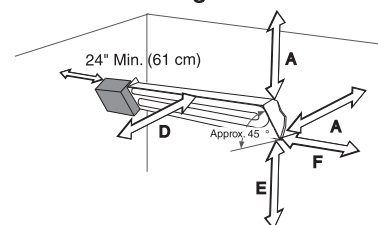


Model	A	B	C	D	E	F
CGTH-30	4	16	36	28	34	6
CGTH-40	4	18	48	30	34	6
CGTH-50	4	20	48	32	36	6

Modèle	A	B	C	D	E	F
CGTH-30	11	41	92	72	87	16
CGTH-40	11	46	122	77	87	16
CGTH-50	11	51	122	82	92	16

- NOTES:**
1. All dimensions are from the reflector.
 2. Black numerals are in inches. Orange numerals are in centimeters.
 3. Know your model number. Model number is found on the rating tag. (See horizontal mount drawing for location of rating tag).

45° Mount Montage à 45°



- NOTES:**
1. Toutes les dimensions sont mesurées à partir du réflecteur.
 2. Les chiffres noirs sont en pouces. Les chiffres oranges sont en centimètres.
 3. Vous devrez connaître le numéro de votre modèle. Il se trouve sur l'étiquette de classement. (Voir le dessin du montage horizontal pour l'emplacement de l'étiquette de classement).

Your heater may be installed in one of three ways: horizontal, 45° tilt left or 45° tilt right. Since the distances for the tilt installation are the same, the chart only shows one (the 45° tilt left). To determine the minimum required safe distances for your heater, you must know the mounting type and model number of your heater.

FIGURE 6: Horizontal Installations

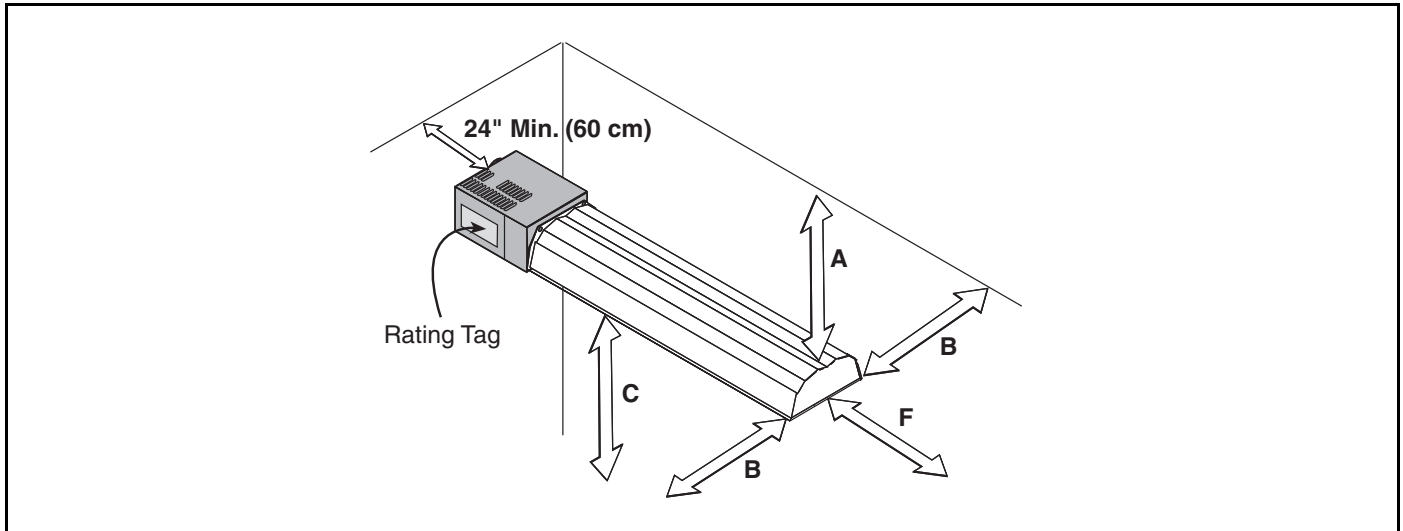
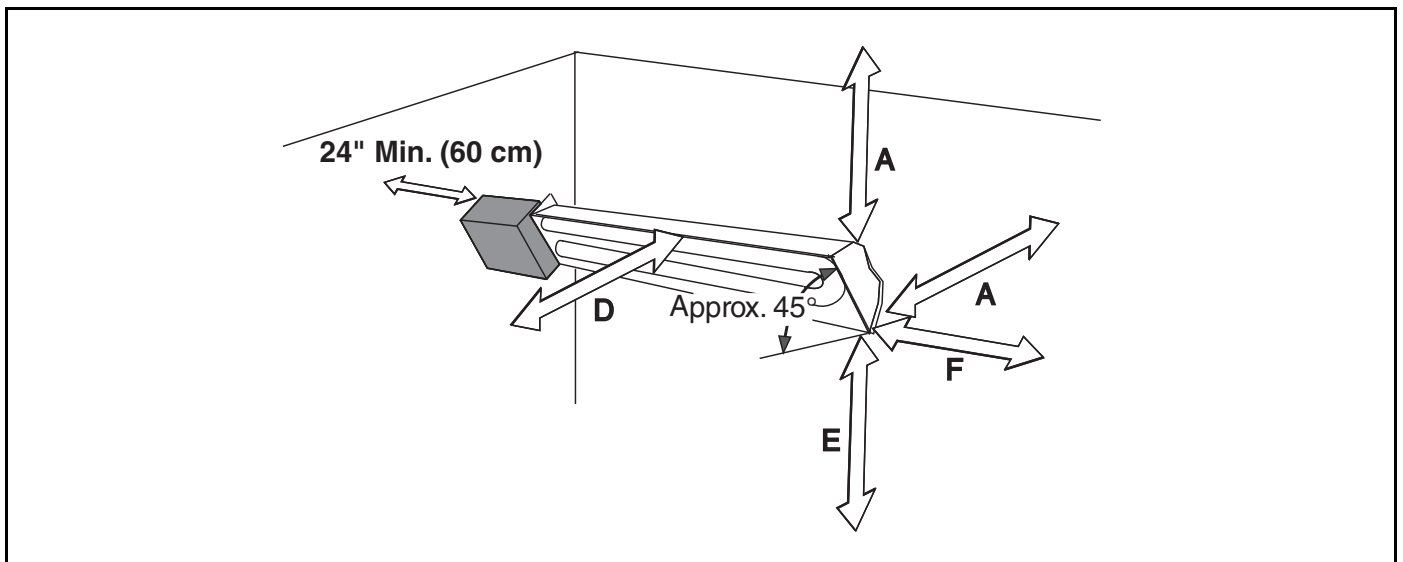


FIGURE 7: 45° Tilted Installations



Required safe distances from combustibles*												
Model	Inches						Metric (cm)					
	A	B	C	D	E	F	A	B	C	D	E	F
CGTH-30	4	16	36	28	34	6	11	41	92	72	87	16
CGTH-40	4	18	48	30	34	6	11	46	122	77	87	16
CGTH-50	4	20	48	32	36	6	11	51	122	82	92	16

*All dimensions are from the reflector.

NOTE: All dimensions indicate the minimum required safe distances from combustibles. Dimensions "C" and "E" DO NOT indicate the required mounting height. The minimum mounting height is 7' (2.1 m), except for aircraft hangars and public garages. See Page 9, Sections 5.5.1 and 5.5.2.

Flue clearances from combustibles are zero. It is not necessary to provide additional clearance on penetrations through the wall or roof.

Know your model number. Model number is found on the rating plate label. See Page 5, Figure 2.

SECTION 7: INSTALLATION

⚠ WARNING



Fire Hazard

Keep all flammable objects, liquids and vapors the minimum required safe distances 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.

⚠ WARNING



Burn Hazard

Keep all persons, especially children, away from heater.

Do not touch any part of the heater.

Heater is very hot.

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

7.1 Choose Location for Heater

When selecting a suitable mounting location for the CGTH-Series heater it is important to consider the following:

- The heater must meet the minimum mounting height requirement of 7' (2.1 m) above the floor. For aircraft hangars and public garages, the heater must meet the minimum mounting height requirement of 8' (2.4 m) above the floor.
- The proposed mounting location allows for the minimum required safe distances from combustibles such as vehicles, wood, gasoline and flammable objects, liquids and vapors.

- The proposed location of the heater will not restrict motion of passageway doors or windows.
- The proposed location will not interfere with operation of the overhead garage door or allow the door to enter the minimum required safe distances from combustibles.
- The proposed location will provide the best coverage of the total area to be heated.
- Consideration be given to the types of vehicles that will be parked in the garage (cars, vans, boats, RV's, etc.).
- The proposed location will allow for the required safe distances from combustibles with respect to the vehicles parked in the garage.
- The proposed location will allow the required utilities (i.e.: gas and electric) and venting to be installed (maximum vent length is 10' (3 m)).
- Sufficient clearances will exist to allow for easy access to the service door.
- Overhead structural members (rafters, beams, etc.) are accessible for attaching the heater.
- To ensure the heater is placed in a approved application.

7.2 General Venting Guidelines

⚠ WARNING



Carbon Monoxide Hazard

Heaters must be exhausted outside.

Use materials supplied.

This heater needs fresh air for safe operation and must be installed so there are provisions for adequate combustion and ventilation air.

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

Regardless of the venting arrangement that will be connected to the heater, the following general guidelines for venting must be followed:

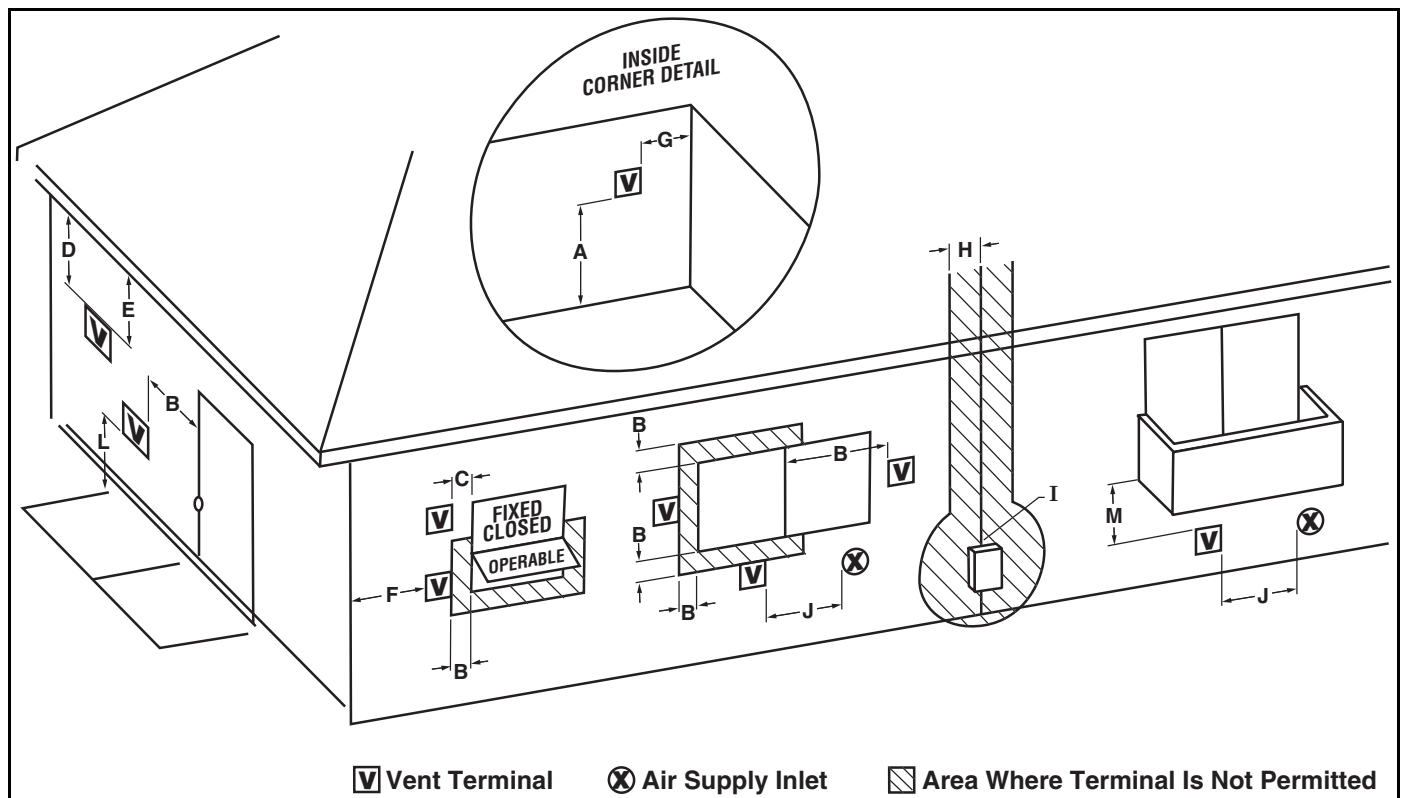
1. See Page 15, Figure 8 for allowable vent terminal locations.

- The 3" (8 cm) flue pipe must be centered inside the 5" (13 cm) air supply pipe.
- The total length of vent pipe (horizontal and vertical runs combined, plus the length of the exterior termination) must not exceed 10' (3 m), and must not be less than 2' 6" (76 cm). A maximum of two elbows are allowed with natural gas, one elbow with propane.
- The vent terminal, mounted outside of the building, should not be located above walkways. Condensate produced during operation of the heater could drip onto the walkway forming ice during cold weather.
- Be sure that the venting installation is in accordance with all applicable local codes and recommendations of the local gas company.
- DO NOT connect this heater to a separate chimney and DO NOT common vent with any other fuel burning appliance.

IMPORTANT: For standard flue, seal all vent pipe connections with high temperature silicone sealant. Where required, drill holes and secure each connection with three sheetmetal screws.

NOTE: Failure to seal all flue connections 3" (8 cm) will result in erratic heater operation.

FIGURE 8: Vent Terminal Locations



		Canadian Installations ¹	US Installations ²
A	Clearances above grade, veranda, porch, deck, or balcony	12" (30 cm)	12" (30 cm)
B	Clearances to window or door that may be open	12" (30 cm)	9" (23 cm)
C	Clearances to permanently closed window	12" (30 cm)*	12" (30 cm)*

D	Vertical clearances to ventilated soffit located above the terminal within a horizontal distance of 2' (61 cm) from the center line of the terminal.	12" (30 cm)	12" (30 cm)
E	Clearances to unventilated soffit	12" (30 cm)	12" (30 cm)
F	Clearances to outside corner	*	*
G	Clearances to inside corner	18" (46 cm)	18" (46 cm)
H	Clearances to each side of center line extended above meter/regulator assembly	3' (91 cm) within a height 15' (4.5 m) above the meter/regulator assembly	*
I	Clearances to service regulator vent outlet	3' (91 cm)	*
J	Clearances to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	12" (30 cm)	9" (23 cm)
K	Clearances to mechanical air supply inlet	6' (1.83 m)	3' (91 cm) above if within 10' (3 m) horizontally
L	Clearances above paved sidewalks or paved driveway located on private property	7' (2.13 m) ⁺	7' (2.13 m) ⁺
M	Clearances under veranda, porch, deck, or balcony	12" (30 cm)**	12" (30 cm)**

¹ In accordance with the current CSA B149.1, Natural Gas and Propane Installation Code

² In accordance with the current ANSI Z223.1/NFPA 54, National Fuel Gas Code

+ A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

** Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

* For clearances not specified in ANSI Z223.1/NFPA 54 or CSA B149.1, clearance shall be in accordance with local installation codes and the requirements of the gas supplier.

7.3 Venting

As mentioned on Page 7, Section 4.3, it is the Installer's Responsibility to properly vent (exhaust) the heater outside. Please make sure your heater is vented. If it is not vented, do not use the heater. Immediately call your installer.

Your heater may be vented in one of three ways: horizontal through the wall, horizontal with an elbow through the wall or vertical through the roof. You should know the way your heater is vented. Refer to the following drawings to determine the type of venting you have. If you are not sure, please contact your installer.

To avoid frost and condensation forming in the balanced flue, set thermostat to 50° F (10° C) and above if outside air temperature falls below -20° F (-28° C).

! WARNING

Carbon Monoxide Hazard
Heaters must be exhausted outside.
Use materials supplied.
This heater needs fresh air for safe operation and must be installed so there are provisions for adequate combustion and ventilation air.
Failure to follow these instructions can result in death or injury.

7.3.1 Venting

This heater is considered a Category III vented appliance. The Serial plate on the heater will indicate vent Category and this manual will describe the installation requirements for this vent Category.

This heater must be vented in accordance with the rules contained in this manual and with the following national codes and any state, provincial or local codes which may apply:

United States: Refer to National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest revision.

Canada: Refer to Natural Gas and Propane Installation Code CSA B149.1 - latest revision.

7.3.2 Vent Category Definitions

Radiant tube heaters are divided into four categories based on the static pressure produced in the vent and the percentage flue loss.

Category I - a radiant tube heater that operates with a non-positive vent static pressure and with a vent gas temperature that avoids excessive condensate production in the vent

Category II - a radiant tube heater that operates with a non-positive vent static pressure and with a vent gas temperature that can cause excessive condensate production in the vent

Category III - a radiant tube heater that operates with a positive vent static pressure and with a vent gas temperature that avoids excessive condensate production in the vent

Category IV - a radiant tube heater that operates with a positive vent static pressure and with a vent gas temperature that can cause excessive condensate production in the vent

This heater is considered a Category I or Category III vented appliance. The Serial plate on the heater will indicate vent Category and this manual will describe the installation requirements for each vent Category.

FIGURE 9: Horizontal Venting Through The Wall

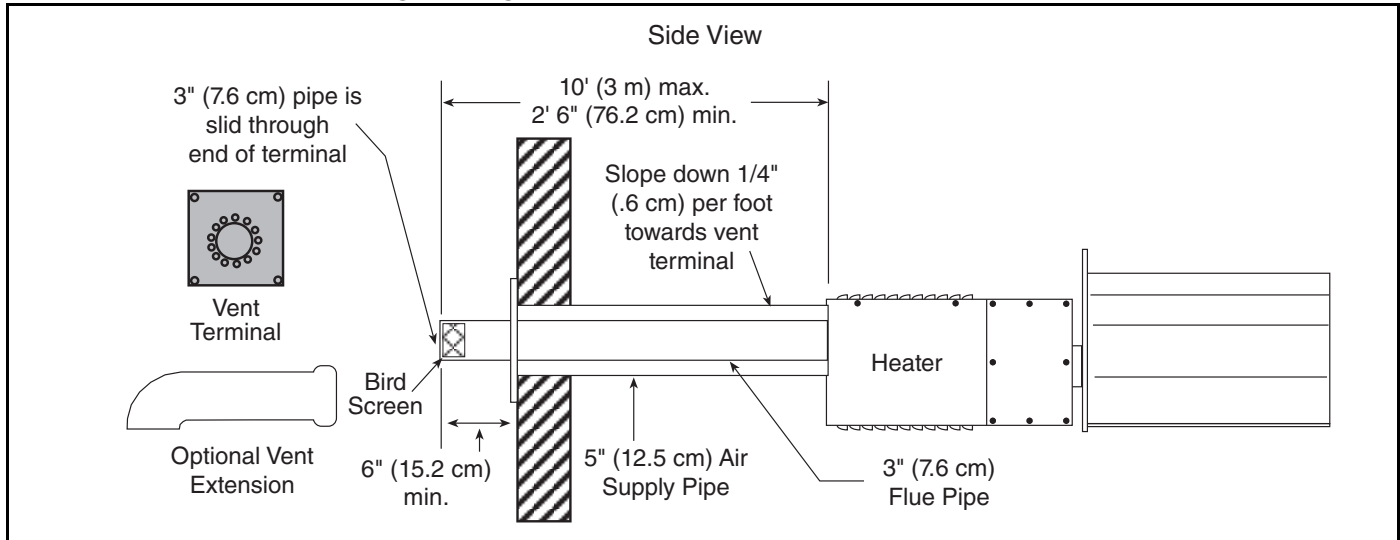


FIGURE 10: Horizontal Venting With An Elbow

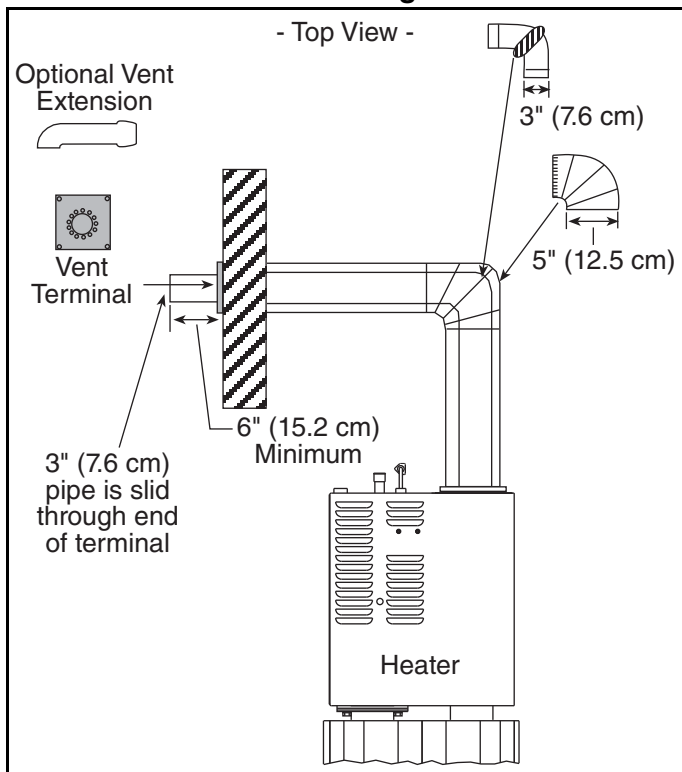
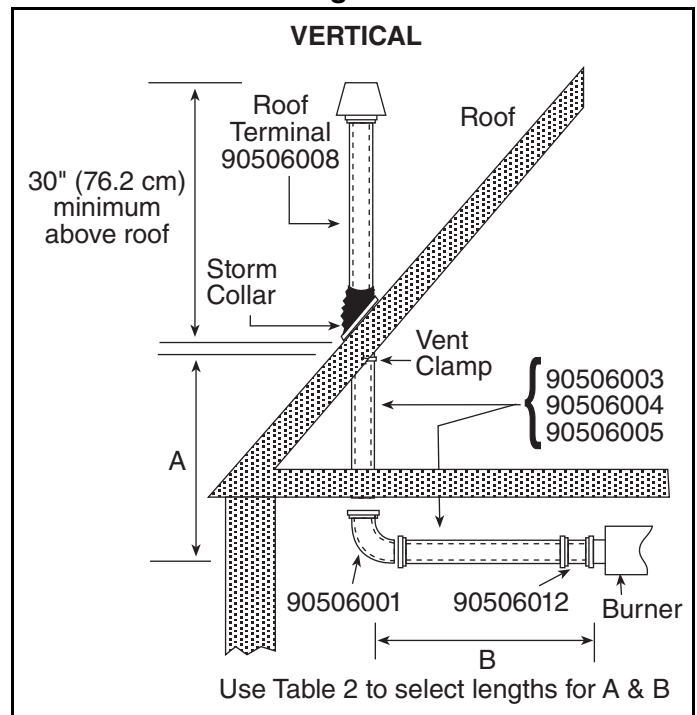


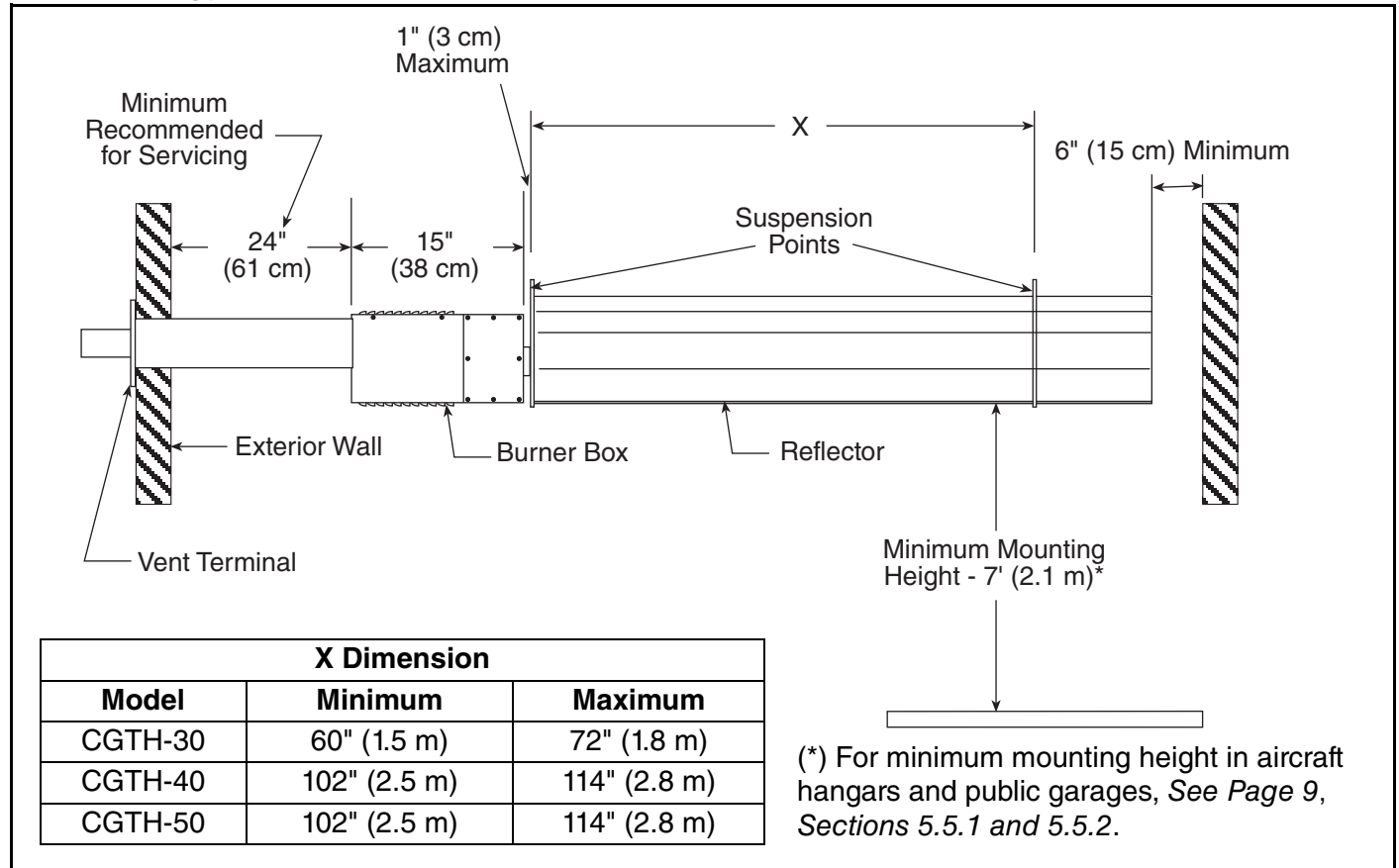
FIGURE 11: Roof Venting



7.4 Typical Installation

Figure 12, Page 19, shows a typical installation of the CGTH-Series heater. The installation drawing shown has a straight horizontal venting arrangement and specifies the minimum space required for maintenance, as well as the allowable range of distances between the two suspension points. Detailed venting arrangements are illustrated in the venting section of this manual.

FIGURE 12: Typical Installation



7.5 Heater Orientation

The CGTH-Series heater may be installed in any of the three orientations indicated below. Select the heater orientation that is best suited for the location that you have chosen for your heater.

- Horizontal
- Tilted 45° Right
- Tilted 45° Left

NOTE: If the heater is going to be vented through the roof, be sure to carefully review the roof option installation instructions on Page 17, Figure 9, through Page 18, Figure 11. Ensure that the selected mounting site will satisfy the measurement parameters (vent length not to exceed 10' [3 m]) described in that section.

FIGURE 13: Horizontal Installation

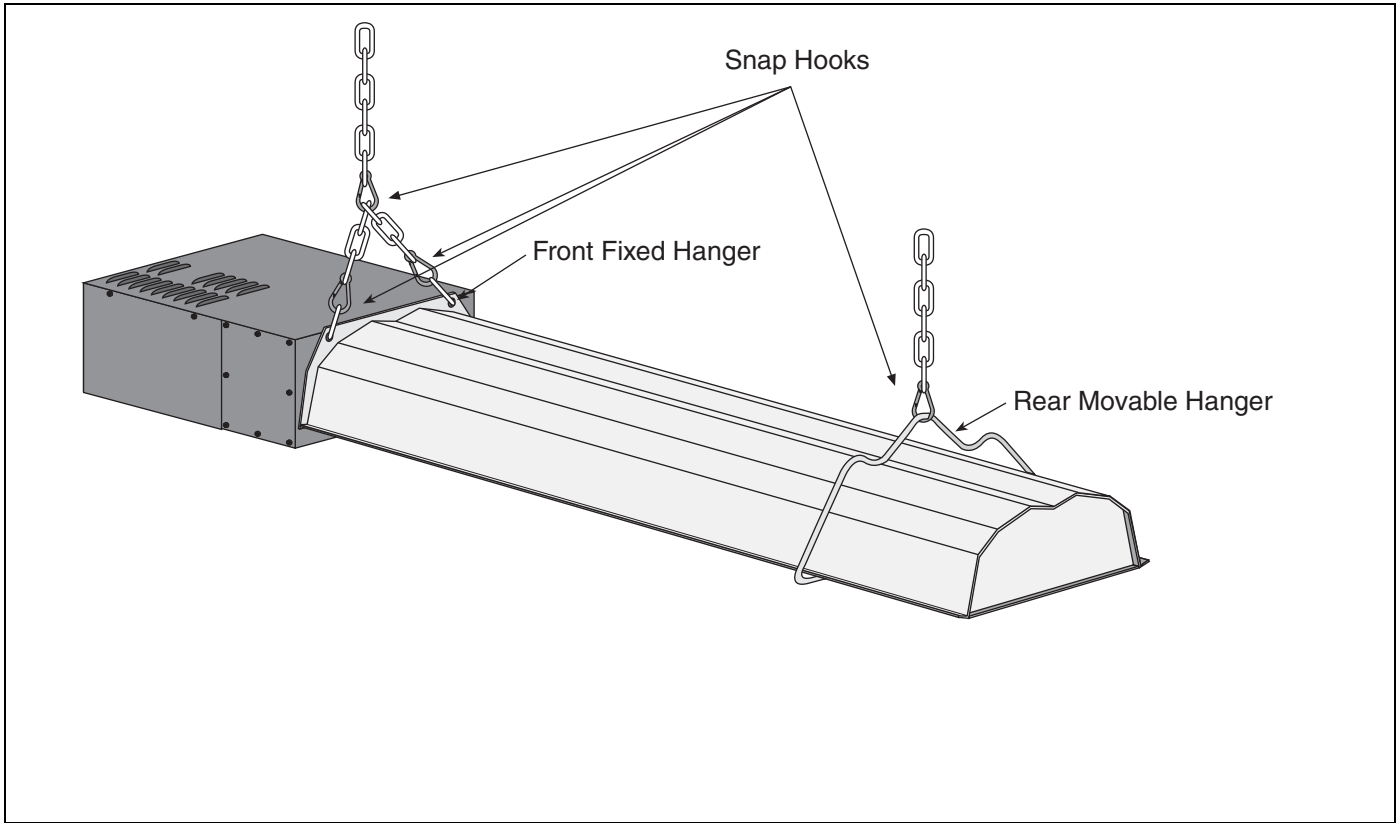
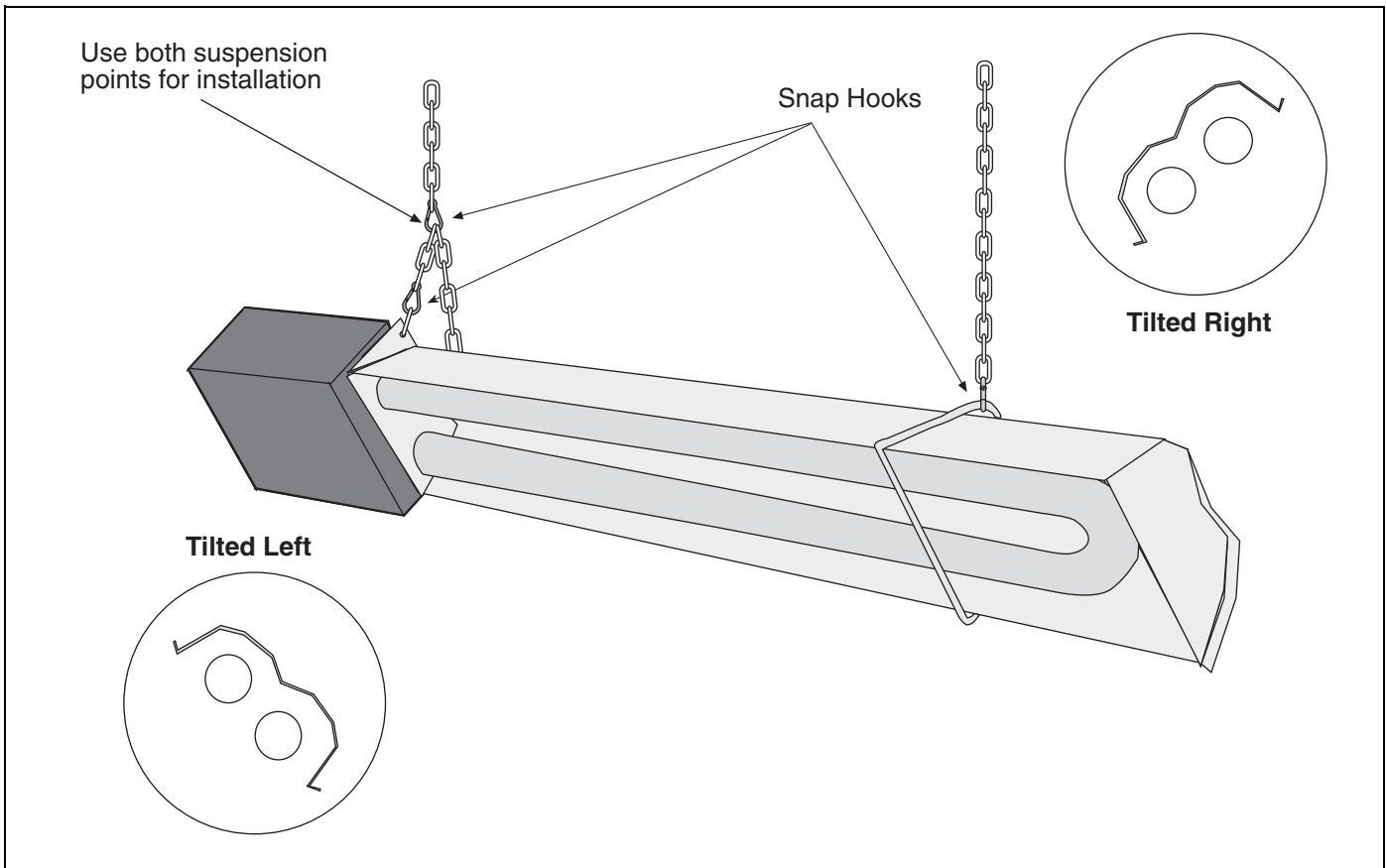


FIGURE 14: 45° Tilted Installation



7.6 Protective Grille

- **Do not touch the heater**
- **Keep all persons, especially children, away from the heater.**
- **Use of protective grille (included with select models) is recommended.**

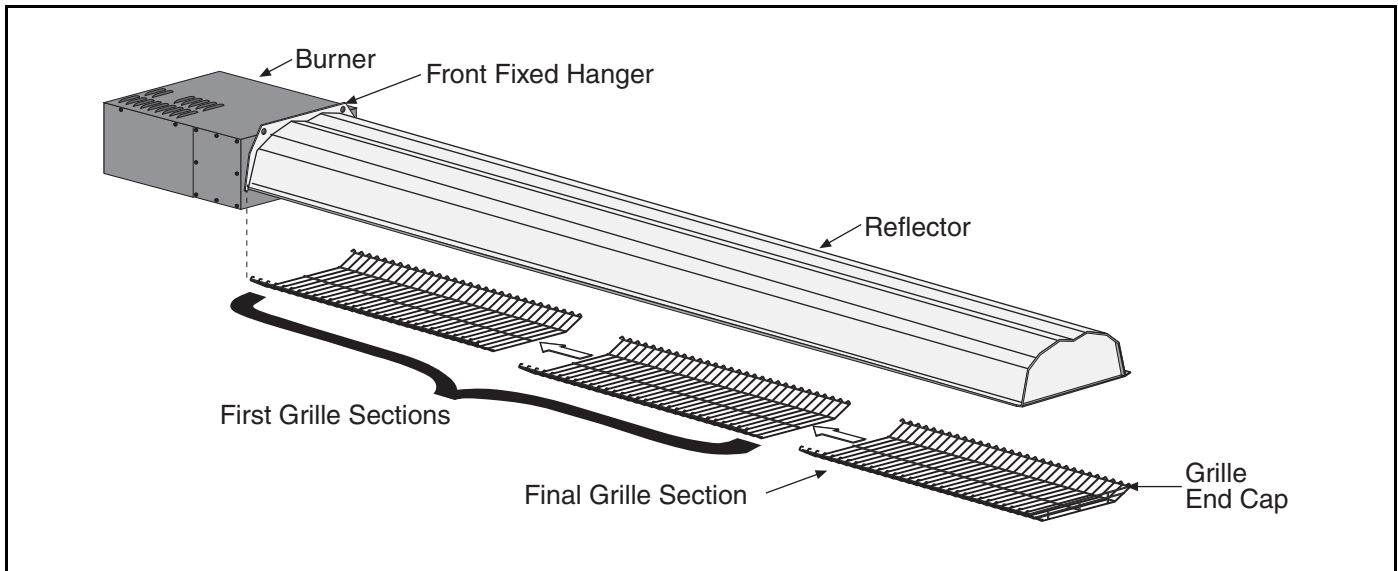
A protective grille is included with select models of the CGTH-Series heater. This grille is supplied in sections and must be installed on the underside of the reflector prior to operation.

The Model CGTH-30 heater is 8' (2.5 m) long and requires installation of two protective grille sections and one grille endcap, while the Models CGTH-40 and CGTH-50 are 11' 6" (3.5 m) long and require three protective grille sections and one grille endcap.





One grille has a formed end panel and is installed at the end of the reflector that is furthest from the burner box. The other grille has an open-end and is installed closest to the burner box.

To purchase the protective grille for your heater, please contact your installer.

FIGURE 15: Reflector and Grille



SECTION 8: OPERATION

⚠ DANGER	⚠ WARNING		
			
<p>Electrical Shock Hazard</p> <p>Disconnect electric before service.</p> <p>Replace door before operating.</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>			

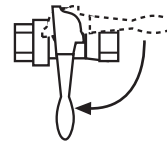
1. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. **DO NOT** try to light the burner by hand.
2. **BEFORE OPERATING**, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
3. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
4. **DO NOT** use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and replace any part of the control system and any gas control which has been under water.

8.1 Operating Instructions

STOP! Read the safety information above.

1. Set the thermostat to the lowest setting.
2. Turn off all electric power to the heater.
3. Do not try to light the burner by hand.

4. Turn off the manual gas valve in the heater supply line.



5. Wait five (5) minutes to clear out any gas. If you then smell gas, **STOP!** If you do not smell gas, go to the next step.

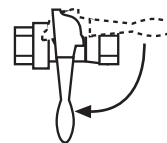
6. Open the manual gas valve in the heater supply line.



7. Turn on electric power to the heater.
8. Set the thermostat to the desired setting.
9. If the heater will not operate, See Page 22, Section 8.2 and call your service technician or gas supplier.

8.2 To Turn Off Gas To Heater

1. Set the thermostat to the lowest setting.
2. Turn off all electric power to the heater if service is to be performed.
3. Turn off the manual gas valve in the heater supply line.








8.3 Sequence of Operation

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

2. When the motor approaches nominal running speed, the pressure switch closes and activates the ignition module which in turn initiates the purge.
3. The ignition module then energizes the spark igniter.
4. When sparking begins, the gas valve is energized.
5. If a flame is detected, the gas valve remains open. When the call for heat is satisfied, the system control mechanism de-energizes and the gas valve is turned off.
6. If no flame is detected, the gas valve is closed, and a purge period begins. After the purge period, the ignition module energizes the spark igniter and the gas valve. If a flame is still not established, a third and final purge/ignition sequence is begun. After three failed attempts, the system control mechanism will lock out for a period of one hour or until the unit is reset.
7. Reset is accomplished by removing power from the heater for at least five seconds.
8. With a three-try module, when the flame is established and then lost on the first or second trial, the gas valve will automatically turn off. A purge and trial for ignition will then occur.

SECTION 9: TROUBLESHOOTING

⚠ DANGER

<p style="text-align: center;">Electrical Shock Hazard</p> <p>Disconnect electric before service.</p> <p>Replace door before operating.</p> <p>Heater must be properly grounded.</p> <p>Failure to follow these instructions can result in death or electrical shock.</p>

⚠ WARNING			
			
<p style="text-align: center;">Fire Hazard</p> <p>Keep all flammable objects, liquids and vapors the minimum required safe distances to combustibles away from heater.</p> <p>Some objects will catch fire or explode when placed close to heater.</p>	<p style="text-align: center;">Explosion Hazard</p> <p>Turn off gas supply to heater before service.</p>	<p style="text-align: center;">Burn Hazard</p> <p>Allow heater to cool before service.</p> <p>Tubing may still be hot after operation.</p>	<p style="text-align: center;">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, injury or property damage.</p>			

9.1 General

This troubleshooting guide has been designed to assist you in locating and correcting minor problems that may occur with the CGTH-Series heater.

Installation Code and Annual Inspections:

installations and service of ROBERTS GORDON® equipment must be performed by a contractor qualified in the installation and service equipment sold and supplied by Roberts-Gordon LLC and conform to all requirements set forth in the ROBERTS GOR-

DON® 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.

BLOWER DOES NOT COME ON

Possible Cause

Try this....

Power cord is not plugged in.

Plug power cord into a grounded three prong outlet.

Thermostat setting is too low.

Increase thermostat temperature setting.

DSI module needs to be reset.

Unplug heater power cord from the electrical outlet; wait for a minimum of five seconds. Plug heater cord back into outlet.

No power at electrical outlet.

Replace fuse or reset circuit breaker.

Faulty thermostat wiring or faulty thermostat.

Install jumper wire across THERMOSTAT CONNECTION wires on the rear of the burner. If blower starts, remove jumper wire and proceed as follows: Check wiring between thermostat and heater. If wiring is OK, then, replace thermostat.

IGNITER DOES NOT SPARK

Possible Cause

Try this....

DSI module needs to be reset.

Unplug heater power cord from the electrical outlet; wait for a minimum of five seconds. Plug heater cord back into outlet.

Faulty igniter or ignition wire.

Unplug heater power cord from the electrical outlet; check igniter and ignition wire for damage. If damaged, replace igniter and/or ignition cable.

Blocked Vent/Air Supply

The heater has a pressure switch to detect a blocked vent or air supply. If the flue or air supply ducts are blocked the pressure switch will not allow the heater to continue operation. Check flue/air supply duct for obstructions; remove any obstructions. Check for loose/leaky air hoses to the pressure switch; repair/replace/tighten hoses as required.

Pressure switch does not operate.

Check flue/air supply duct for obstructions; remove any obstructions. Check for loose/leaky air hoses to the pressure switch; repair/

replace/tighten hoses as required. Check for 24V across the secondary terminals 4 and 5 (red and yellow wires) of the transformer.

IF NO: Check for 120V across the primary terminals 1 and 3 (black and white wires) of the transformer. If 120V is present, replace transformer. If 120V is not present, check wiring between power cord, blower motor and transformer.

IF YES: Connect a jumper wire across pressure switch terminals; if jumper wire allows blower to operate, replace pressure switch. See the Installation, Operation and Service Manual (P/N 180100NA) for part number that applies to your unit rating. Do not resume normal heater operation until replacement pressure switch has been installed.

Igniter spark gap incorrect. Reset spark gap to 1/8" (3.175 mm).

BURNER DOES NOT LIGHT

Possible Cause

Air in the gas line.

Try this....

Purge gas lines.

Improper gas inlet pressure. Check gas inlet pressure at the supply line. Gas inlet pressure should be as follows:
Natural Gas: 5.0" wc (12.4 mbar) minimum;
 14.0" wc (34.8 mbar) maximum
LP Gas: 11.0" wc (27.4 mbar) minimum;
 14.0" wc (34.8 mbar) maximum
 If gas inlet pressure does not meet inlet pressure requirements, contact the gas company.

Gas valve does not open. Check for 24 V across valve terminals.
 IF NO: Check wiring between the ignition module and the valve. Repair/replace wires as required. If wiring is OK, replace ignition module.
 IF YES: Replace gas valve.

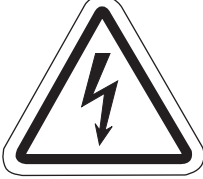



Low gas outlet pressure. Check gas manifold pressure. Measure manifold pressure at the pressure tap on the gas valve. See the Installation, Operation and Service Manual (P/N 180100NA) for details.
Natural Gas: 3.5" wc (8.7 mbar)
LP Gas: 10.5" wc (26.1 mbar)
 If manifold pressure does not meet requirements, adjust valve outlet pressure with the adjustment screw on the valve.
NOTE: Proper inlet gas pressure must be verified before performing outlet pressure testing.

9.2 Basic Heater Care

- Make sure the heater is off and cool. Dust the burner, reflector and control compartment off with a dry cloth. Increase cleaning frequency if the heater is in an area where excessive dirt, dust or lint material etc. can build up.
- Do not use the heater in an area containing corrosive chemicals.
- Do not install or use the heater outdoors.

- Do not use the heater if any part has been under water. Immediately call a licensed contractor to inspect the heater and to replace any part of the control system which has been under water.
- Do not paint any part of the heater.

9.3 Replacement Parts

⚠ DANGER		⚠ WARNING	
			
Electrical Shock Hazard	Explosion Hazard	Fire Hazard	Carbon Monoxide Hazard
Use only genuine ROBERTS GORDON® replacement parts per this installation, operation and service manual.			
Failure to follow these instructions can result in death, electric shock, injury or property damage.			

SECTION 10: THE ROBERTS GORDON® CARIBE® 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® CARIBE® 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® CARIBE® in any way.
- Use of the ROBERTS GORDON® CARIBE® 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 LLC.
- Failure to install or maintain the ROBERTS GORDON® CARIBE® as directed in the Installation, Operation and Service manual.
- Relocation of the ROBERTS GORDON® CARIBE® after initial installation
- The use of the ROBERTS GORDON® CARIBE® in a corrosive atmosphere containing contaminants.
- The use of the ROBERTS GORDON® CARIBE® in the vicinity of a combustible or explosive material.
- Any defect in the ROBERTS GORDON® CARIBE® 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® CARIBE® is not installed by an electrician 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® CARIBE® is moved or transferred. This warranty is nontransferable.

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

READ YOUR INSTALLATION, OPERATION AND SERVICE MANUAL

If you have questions about your controller, 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

716.852.4400

On the web at:

www.robertsgordon.com

www.rg-inc.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® CARIBE®. 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.rg-inc.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.

Further Information: Applications, engineering and detailed guidance on systems design, installation and equipment performance is available through ROBERTS GORDON® representatives. Please contact us for any further information you may require, including the Installation, Operation and Service Manual.

This product is not for residential use.

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