



INSTALLATION AND OPERATION MANUAL

Knightsbridge™

SAFETY INFORMATION

! WARNING

FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death, or property damage.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

- WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbour's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

- Installation and service must be performed by a qualified installer, service agency, or the supplier.

This appliance may be installed in an aftermarket, permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes.

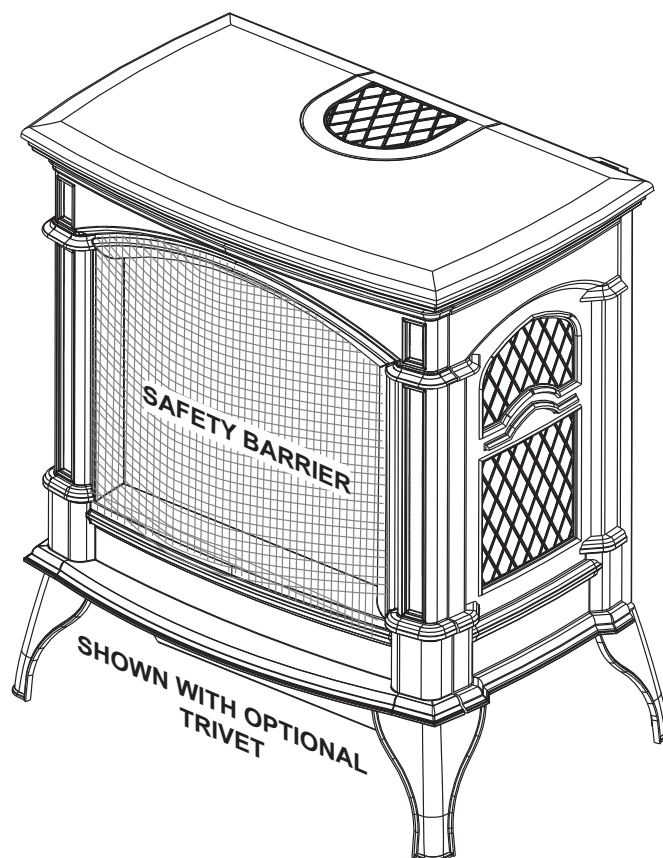
This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

INSTALLER:

Leave this manual with the appliance

CONSUMER:

Retain this manual for future reference



FOR INDOOR USE ONLY

CERTIFIED TO THE CANADIAN AND AMERICAN NATIONAL STANDARDS:
CSA 2.22 AND ANSI Z21.50 FOR VENTED DECORATIVE GAS APPLIANCES

APPLY SERIAL NUMBER LABEL FROM CARTON



BARRIER



Wolf Steel Ltd., 24 Napoleon Rd., Barrie, ON, L4M 0G8 Canada / 103 Miller Drive, Crittenden, Kentucky, USA, 41030
Phone 1 (866) 820-8686 • www.napoleon.com • hearth@napoleon.com

! WARNING

- **This appliance is hot when operated and can cause severe burns if contacted.**
- **Any changes or alterations to this appliance or its controls can be dangerous and is prohibited.**
- Do not operate appliance before reading and understanding operating instructions. Failure to operate appliance according to operating instructions could cause fire or injury.
- Ensure the glass door is opened or removed when lighting the pilot for the first time and when the gas supply has run out.
- Risk of fire or asphyxiation, do not operate appliance with fixed glass removed and never obstruct the front opening of the appliance.
- Do not connect 110 volts to the control valve, with the exception of models; GSST8 and GT8.
- Risk of burns. The appliance should be turned off and cooled before servicing.
- Do not install damaged, incomplete or substitute components.
- Risk of cuts and abrasions. Wear protective gloves, protective footwear, and safety glasses during installation. Sheet metal edges may be sharp.
- Do not burn wood or other materials in this appliance.
- Provide adequate ventilation and combustion air. Provide adequate accessibility clearance for servicing and operating the appliance.
- High pressure will damage valve. Disconnect gas supply piping before pressure testing gas line at test pressures above 1/2 psig. Close the manual shut-off valve before pressure testing gas line at test pressures equal to or less than 1/2 psig (35mb).
- The appliance must not be operated at temperatures below freezing (32°F / 0°C). Allow the appliance to warm to above freezing prior to operation, with the exception of models; GSS36, GSS42; these appliances are suitable for 0°F / -18°C.
- **Children and adults should be alerted to hazards of high surface temperature and should stay away to avoid burns or clothing ignition.**
- **Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at risk individuals in the house. To restrict access to an appliance or stove, install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces.**
- **Clothing or other flammable material should not be placed on or near the appliance.**
- **Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.**
- Furniture or other objects must be kept a minimum of 4 feet (1.22m) away from the front of the appliance.
- Ensure you have incorporated adequate safety measure to protect infants/toddlers from touching hot surfaces.
- Even after the appliance is off, it will remain hot for an extended period of time.
- Check with your local hearth specialty dealer for safety screens and hearth guards to protect children from hot surfaces. These screens and guards must be fastened to the floor.
- **Any safety screen, guard or barrier removed for servicing the appliance, must be replaced prior to operating the appliance.**
- It is imperative that the control compartments, burners and circulating blower and its passageway in the appliance and venting system are kept clean. The appliance and its venting system should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. The appliance area must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.
- If the appliance shuts off, do not re-light until you provide fresh air. If appliance keeps shutting off, have it serviced. Keep burner and control compartment clean.
- Under no circumstances should this appliance be modified.
- Do not allow wind or fans to blow directly into the appliance. Avoid any drafts that alter burner flame patterns.

! DANGER



HOT GLASS WILL CAUSE BURNS.

DO NOT TOUCH GLASS UNTIL COOLED.

NEVER ALLOW CHILDREN TO TOUCH GLASS.

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.


! WARNING

- Do not use a blower insert, heat exchanger insert or other accessory not approved for use with this appliance.
- This appliance must not be connected to a chimney flue pipe serving a separate solid fuel burning appliance.
- Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.
- Do not operate the appliance with the glass door removed, cracked or broken. Replacement of the glass should be done by a licensed or qualified service person, if equipped.
- Do not strike or slam shut the appliance glass door, if equipped.
- **Only doors / optional fronts certified with the appliance are to be installed on the appliance.**
- Keep the packaging material out of reach of children and dispose of the material in a safe manner. As with all plastic bags, these are not toys and should be kept away from children and infants.
- Carbon or soot should not occur in a vent free appliance as it can distribute into the living area of your home. If you notice any signs of carbon or soot, immediately turn off your appliance and arrange to have it serviced by a qualified technician before operating it again.
- If equipped, the screen must be in place (closed) when the appliance is in operation.
- When equipped with pressure relief doors, they must be kept closed while the appliance is operating to prevent exhaust fumes containing carbon monoxide, from entering into the home. Temperatures of the exhaust escaping through these openings can also cause the surrounding combustible materials to overheat and catch fire.
- Carbon monoxide poisoning may lead to death; early signs of carbon monoxide poisoning resemble the flu, with headache, dizziness and/or nausea. If you have these signs, the appliance may not be working properly. Get fresh air at once! Have appliance serviced. Some people; pregnant women, persons with heart or lung disease, anemia, those under the influence of alcohol, those at high altitudes are more affected by carbon monoxide than others. Failure to keep the primary air opening(s) of the burner(s) clean may result in sooting and property damage.
- As with any combustion appliance, we recommend having your appliance regularly inspected and serviced as well as having a Carbon Monoxide Detector installed in the same area to defend you and your family against Carbon Monoxide (not applicable for outdoor appliances).
- Ensure clearances to combustibles are maintained when building a mantel or shelves above the appliance. Elevated temperatures on the wall or in the air above the appliance can cause melting, discolouration or damage to decorations, a TV or other electronic components.
- **For appliances equipped with a safety barrier; if the barrier becomes damaged, the barrier shall be replaced with the manufacturer's barrier for this appliance.**
- **Installation and repair should be done by a qualified service person. It is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.**
- For outdoor products only: this appliance must not be installed indoors or within any structure that prevents or inhibits the exhaust gases from dissipating in the outside atmosphere.
- If applicable, the millivolt version of this appliance uses and requires a fast acting thermocouple. Replace only with a fast acting thermocouple supplied by Wolf Steel Ltd.

! WARNING: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer, and chemicals including carbon monoxide, which are known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

! WARNING !

FIRE RISK HAZARD / DELAYED IGNITION
High supply pressure will damage the valve / controls.



Disconnect the appliance main gas valve/control from the supply piping when pressure testing that system at pressures in excess of 1/2 psi (3.5 kPa).

Isolate the appliance with it's shut off valve during any pressure testing of the supply piping at pressures equal to or less than 1/2 psi (3.5 kPa).

table of contents

1.0	general information	5	5.0	finishing	36
1.1	rating plate information	7	5.1	front cast removal	36
1.2	dimensions	7	5.2	safety barrier installation and removal	36
1.3	shipping bracket	8	5.3	glass door installation and removal	37
2.0	direct venting - model GDS60-1	9	5.4	battery housing installation	38
2.1	typical vent installations	10	5.5	glass / door replacement	38
2.2	special vent installations	12	5.6	log placement	39
2.2.1	periscope termination	12	5.7	logo placement	40
2.2.2	corner termination	12	5.8	switch and bracket installation	40
2.3	vent terminal clearances	13	6.0	optional blower installation	41
2.4	venting application flow chart	14	7.0	wiring diagram	42
2.5	definitions	15	8.1	operating instructions	43
2.6	elbow vent length values	15	8.0	operation	43
2.7	top exit horizontal termination	16	8.2	pilot-on-demand	44
2.8	top exit horizontal termination	17	8.3	operating instructions - for your safety	
2.9	rear exit horizontal termination	18		read before operating	45
2.10	top or rear exit vertical termination	20	8.4	lighting instructions	45
3.0	installation preparation - model GDS60-1	22	9.0	adjustment	46
3.1	orifice replacement	22	9.1	pilot burner adjustment	46
3.2	changing a top vent to a rear vent	23	9.2	venturi adjustment	46
4.0	installation	24	9.3	flame characteristics	47
4.1	minimum clearance to combustibles	24	9.4	restricting vertical vents - model GDS60-1	47
4.1.1	horizontal installation	25	10.0	maintenance	48
4.1.2	vertical installation	26	10.1	annual maintenance	49
4.1.3	horizontal air terminal installation - model GDS60-1	27	10.2	care of glass	49
4.1.4	vertical air terminal installation - model GDS60-1	28	11.0	replacement parts	50
4.2	appliance vent connection - model GDS60-1	29	11.1	overview	51
4.3	vertical through existing chimney	30	11.2	valve train assembly	52
4.4	mobile home installation - model GDS60-1	31	12.0	accessories	53
4.5	gas installation	31	13.0	troubleshooting	54
4.6	optional wall switch	31	14.0	warranty	56
4.7	natural vent specifics - model GS60-1	32	15.0	service history	57
4.7.1	chimney installation	32			
4.7.2	installing natural vent	33			
4.7.3	natural vent	33			
4.7.4	combustion air	33			
4.7.5	adding vent sections	34			
4.7.6	installing flashing and storm collar	35			

NOTE: Changes, other than editorial, are denoted by a vertical line in the margin.

Installer, please fill out the following information:

Customer: _____
 Address: _____
 Date of Installation: _____
 Location of appliance: _____
 Installer: _____
 Dealer/Distributor contact number: _____
 Serial #: _____

Model:

Natural Gas: ☐ GDS60-1N
☐ GS60-1N

Propane: ☐ GDS60-1P
☐ GS60-1P

1.0 general information

When the appliance is installed at elevations above 4,500ft (1371m), and in the absence of specific recommendations from the local authority having jurisdiction, the certified high altitude input rating shall be reduced at the rate of 4% for each additional 1,000ft (305m).

Change in flame appearance from "HI" to "LO" is more evident in natural gas than in propane.

Expansion / contraction noises during heating up and cooling down cycles are normal and to be expected.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

GDS60-1 - This appliance is not approved for closet or recessed installations. It is approved for bathroom, bedroom and bed-sitting room installations. This appliance may be installed in an aftermarket permanently located, manufactured (mobile) home, where not prohibited by local codes. **(Rear vent)** Rear exit installations which terminate horizontally and have no vertical vent runs must have the BTU input reduced to 21,000 BTU/hr by changing the orifice (supplied).

GS60-1 - This appliance is approved for bedroom and bed-sitting room installations.

	GDS60-1		GS60-1	
	NG	P	NG	P
Altitude (FT)	0-4,500		0-4500	
Max. Input (BTU/HR)	35,000 (Top vent) 21,000 (Rear vent)	31,500 (Top vent) 21,000 (Rear vent)	35,000	31,500
Max. Output (BTU/HR)	27,300	24,570	27,300	24,570
Min. Inlet Gas Supply Pressure	4.5" (11mb) Water Column	11" (27mb) Water Column	4.5" (11mb) Water Column	11" (27mb) Water Column
Max. Inlet Gas Supply Pressure	7" (17mb) Water Column	13" (33mb) Water Column	7" (17mb) Water Column	13" (33mb) Water Column
Manifold Pressure (Under Flow Conditions)	3.5" (9mb) Water Column	10" (25mb) Water Column	3.5" (9mb) Water Column	10" (25mb) Water Column



Batteries must be disposed of according to the local laws and regulations. Some batteries may be recycled, and may be accepted for disposal at your local recycling center. Check with your municipality for recycling instructions.

! WARNING

- Always light the pilot - whether for the first time or if the gas supply has run out - with the glass door opened or removed.
- Provide adequate clearance for servicing and operating the appliance.
- Provide adequate ventilation.
- Never obstruct the front opening of the appliance.
- Objects placed in front of the appliance must be kept a minimum of 48" (121.9cm) from the front face of the appliance.
- Surfaces around and especially above the appliance can become hot. Avoid contact when the appliance is operating.
- Fire risk. Explosion hazard.
- High pressure will damage valve. Disconnect gas supply piping before pressure testing gas line at test pressures above 1/2psig. Close the manual shut-off valve before pressure testing gas line at test pressures equal to or less than 1/2psig (35mb).
- Use only Wolf Steel-approved optional accessories and replacement parts with this appliance. Using non-listed accessories (blowers, doors, louvers, trims, gas components, venting components, etc.) could result in a safety hazard and will void the warranty and certification.

THIS GAS APPLIANCE MUST BE INSTALLED AND SERVICED BY A QUALIFIED INSTALLER to conform with local codes. Installation practices vary from region to region and it is important to know the specifics that apply to your area, for example in the state of Massachusetts:

- This product must be installed by a licensed plumber or gas fitter when installed within the commonwealth of Massachusetts.
- The appliance damper must be removed or welded in the open position prior to installation of an appliance insert or gas log.
- The appliance off valve must be a "T" handle gas cock.
- The flexible connector must not be longer than 36 inches (0.9m).
- A carbon monoxide detector is required in all rooms containing gas fired appliances.
- The appliance is not approved for installation in a bedroom or bathroom unless the unit is a direct vent sealed combustion product.

The installation must conform with local codes or, in absence of local codes, the National Gas and Propane Installation Code CSA B149.1 in Canada, or the National Fuel Gas Code, ANSI Z223.1 / NFPA 54 in the United States. Suitable for mobile home installation if installed in accordance with the current standard CAN/CSA Z240MH Series, for gas equipped mobile homes, in Canada or ANSI Z223.1 and NFPA 54 in the United States.

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (35 mb).

The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (35 mb). When installed with a blower or fan, the junction box must be electrically connected and grounded in accordance with local codes. In the absence of local codes, use the current CSA C22.1 Canadian Electrical Code in Canada or the ANSI / NFPA 70 National Electric Code in the United States. In the case where the blower is equipped with a power cord, it must be connected into a properly grounded receptacle. The grounding prong must not be removed from the cord plug.

The following does not apply to inserts; as long as the required clearance to combustibles is maintained, the most desirable and beneficial location for an appliance is in the center of a building, thereby allowing the most efficient use of the heat created. The location of windows, doors and, the traffic flow in the room where the appliance is to be located should be considered. If possible, you should choose a location where the vent will pass through the house without cutting a floor or roof joist. If the appliance is installed directly on carpeting, vinyl tile or other combustible material other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth, unless otherwise tested.

When the appliance is installed directly on carpeting, vinyl tile or other combustible material other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth.

The appliance, when installed with a blower, must be electrically connected and grounded in accordance with local codes. In the absence of local codes, use the current CSA C22.1 Canadian Electrical Code in Canada or the ANSI/NFPA 70-1996 National Electrical Code in the United States. The blower power cord must be connected into a properly grounded receptacle. The grounding prong must not be removed from the cord plug.



We suggest that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists

1.1 rating plate information

Certified to Canadian and American National Standards: **CSA 2.22-XXXX / ANSI Z21.50-XXXX for Vented Decorative Gas Appliances**
 Certifié selon les normes Nationales Canadiennes et Américaines: **CSA 2.22-XXXX / ANSI Z21.50-XXXX pour les Appareils à gaz décoratif à évacuation**

Direct vent, vented gas fireplaces. Approved for bedroom, bathroom and bed-sitting room installation. Suitable for mobile home installation, if installed in accordance with the current standard CAN / CSA Z240MH Series gas equipped mobile homes in Canada, or, in the United States, the *Manufactured Home Construction and Safety Standard*, Title 24 CFR, Part 3280. When this US Standard is not applicable, use the *Standard for Fire Safety Criteria for Manufactured Home Installations, Sites and Communities*, ANSI / NFPA 501A. This appliance must be installed in accordance with local codes, if any; if none, follow the current ANSI Z223.1 or CSA B149. **For use with barrier WXXX-XXXX. Follow installation instructions.**
 Foyer à gaz ventilé. Homologué pour installation dans une chambre à coucher, une salle de bain et un studio. Approuvé pour installation dans une maison mobile si son installation conforme aux exigences de la norme CAN / CSA Z240MH Série de maisons mobile équipées au gaz en vigueur au Canada, ou, aux États-Unis selon la norme 24 CFR, Part 3280, *Manufactured Home Construction and Safety Standard*. Dans le cas où cette norme d'États-Unis n'est pas pertinente, utiliser la norme NFPA 501A, *Fire Safety Criteria for Manufactured Home Installations, Sites and Communities*. Installer l'appareil selon les codes ou règlements locaux ou, en l'absence de tels règlements, selon les codes d'installation ANSI Z223.1 ou CSA B149 en vigueur. **Utiliser uniquement avec l'écran WXXX-XXXX. Suivre les instructions d'installation.**

☐ 9700539 (WSL) ☐ 4001658 (NAC) ☐ 4001657 (NGZ) ☐ 4001659 (WUSA)

MODEL / MODÈLE

<input type="checkbox"/> XXXX	<input type="checkbox"/> XXXX	<input type="checkbox"/> XXXX	<input type="checkbox"/> XXXX
<input type="checkbox"/> XXXX	<input type="checkbox"/> XXXX	<input type="checkbox"/> XXXX	<input type="checkbox"/> XXXX

Altitude Input 0-XXXXft (0-XXXXm) Élévation Alimentation Réduite P4

Reduced Input P4 XX,XXX XX,XXX XX,XXX XX,XXX

Manifold Pressure: 3.5" w.c. (NG) **Manifold Pressure:** 10" w.c. (P)
Minimum Supply Pressure: 4.5" w.c. (NG) **Minimum Supply Pressure:** 11" w.c. (P)
Maximum Supply Pressure: 7" w.c. (NG) **Maximum Supply Pressure:** 13" w.c. (P)

Pression au Collecteur: 3.5" d'une colonne d'eau (GN) **Pression au Collecteur:** 10" d'une colonne d'eau (P)
Pression d'Alimentation Min.: 4.5" d'une colonne d'eau (GN) **Pression d'Alimentation Min.:** 11" d'une colonne d'eau (P)
Pression d'Alimentation Max.: 7" d'une colonne d'eau (GN) **Pression d'Alimentation Max.:** 13" d'une colonne d'eau (P)

** Maximum inlet pressure not to exceed 13". ** Pression d'alimentation maximale ne doit pas dépasser 13".

Minimum clearance to combustible materials: **Dégagements minimaux des matériaux combustibles:**
 Top, sides & back: per standoff spacers for framing and finishing materials. For non-combustible framing and finishing materials, see installation manual. Dessus, côtes et arrière: selon les espacements de dégagements pour les matériaux d'ossature selon le manuel du propriétaire pour les matériaux de finition.

Top X" Dessus X"
 Floor X" Plancher X"
 Sides X" Côtes X"
 Back X" Arrière X"
 Vent top X" Dessus du conduit d'évent X"
 Vent sides & bottom X" Côtes et dessous du conduit d'évent X"
 Recessed depth X" Profondeur d'encastrement une face X"

*** Mantel X" from appliance opening *** Tablette X" de l'ouverture de l'appareil

*** Maximum horizontal extension: *** L'extension horizontale maximale: X". See installation manual for greater extensions, minimum vent lengths and maximum vent lengths. Référez au manuel d'installation pour des extensions plus grandes, les longueurs d'évacuation minimales et maximum.

Electrical rating: 115V, 60Hz. Less than 12 amperes. Spécifications électriques: 115V, 60Hz. Moins de 12 ampères.

WOLF STEEL LTD. 24 Napoleon Road, Barrie, ON, L4M 0G8 Canada

VENTED DECORATIVE GAS APPLIANCE: NOT A SOURCE OF HEAT, NOT INTENDED FOR USE AS A HEATING APPLIANCE, NOT FOR USE WITH SOLID FUEL.
APPAREIL À GAZ DÉCORATIF À ÉVACUATION: N'EST PAS UNE SOURCE DE CHALEUR; N'EST PAS DESTINÉ À ÊTRE UTILISÉ COMME UN APPAREIL DE CHAUFFAGE; NE CONVIENT PAS AUX COMBUSTIBLES SOLIDES.

FOR USE WITH GLASS DOORS CERTIFIED WITH THIS APPLIANCE ONLY. POUR UTILISATION UNIQUEMENT AVEC LES PORTES EN VERRE CERTIFIÉES AVEC L'APPAREIL.

For natural gas when equipped with No. XX drill size orifice.
 For propane when equipped with No. XX drill size orifice.
 Convient au gaz naturel quand l'appareil est muni d'un injecteur de diamètre no. XX.
 Convient au propane quand l'appareil est muni d'un injecteur de diamètre no. XX.

WARNING: Do not add any material to the appliance which will come in contact with the flames, other than that supplied by the manufacturer with the appliance.
AVERTISSEMENT: N'ajoutez pas à cet appareil aucun matériau devant entretenir contact avec les flammes autre que celui qui est fourni avec cet appareil par le fabricant. The appliance must be vented using the appropriate Napoleon vent kits. See installation manual for venting specifications. Proper reinstallation and resealing is necessary after servicing the vent-air intake system.

L'appareil doit être ventilé à l'aide de l'ensemble d'évacuation propre à Napoleon. Référez au manuel d'installation pour les spécifications d'évacuation. Il est nécessaire de bien réinstaller et resceller l'évacuation après avoir exécuté l'entretien du système de prise d'air.

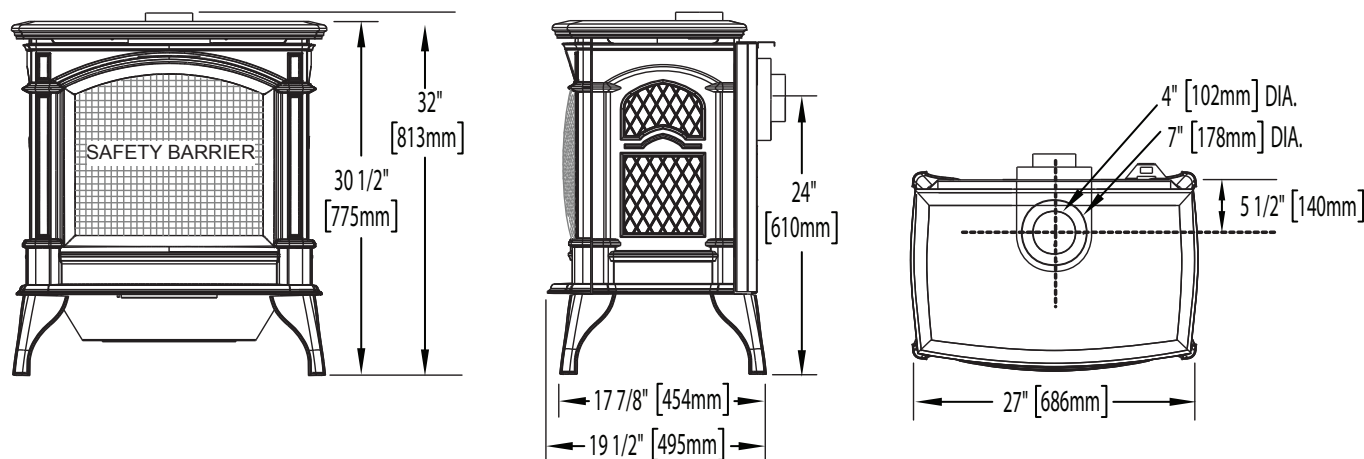
Serial Number / N° de Série: XXXX

W385-XXXX

This illustration is for reference only. Refer to the rating plate on the appliance for accurate information.

NOTE: The rating plate must remain with the appliance at all times. It must not be removed.

1.2 dimensions



general information

1.3 shipping bracket

! WARNING

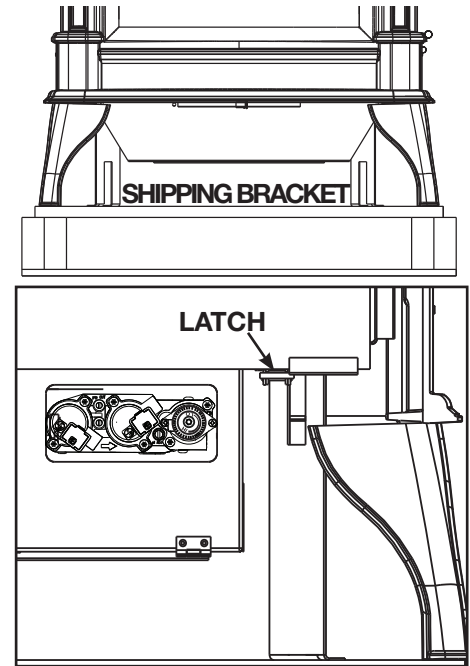
- The top casting is not fastened to the stove assembly. It simply sits on the stove as a lid. For shipping purposes, it is held in place by plastic strapping. Once the strapping is cut, the top should be lifted off carefully and stored in a safe place to avoid damage while completing the installation of the stove. To avoid the appliance being damaged during shipping, a shipping bracket has been used and must be unbolted before the appliance can be installed.

SHIPPING BRACKET REMOVAL

- A. Remove the four screws holding the shipping bracket to the bottom of the appliance.
- B. Lift the appliance off the skid and set on a flat surface.
- C. Discard the screws, brackets and skid.

GLASS DOOR REMOVAL

- A. Lift the top casting off.
- B. Open the valve control cover. Pull the latch handles forward to release. The door may now be safely removed by swinging the bottom out and lifting it off.



! WARNING

- Risk of fire. Maintain specified air space clearances to vent pipe and appliance.
- The vent system must be supported every 3'(0.9m) for both vertical and horizontal runs. Use support ring assembly W010-0067 or equivalent non-combustible strapping to maintain the minimum clearance to combustibles for both vertical and horizontal runs. Spacers are attached to the inner pipe at predetermined intervals to maintain an even air gap to the outer pipe. This gap is required for safe operation. A spacer is required at the start, middle, and end of each elbow to ensure this gap is maintained. These spaces must not be removed.

This appliance uses a 4" (102mm) exhaust / 7" (178mm) air intake vent pipe system. Refer to the section applicable to your installation.

For safe and proper operation of the appliance, follow the venting instructions exactly. Deviation from the minimum vertical vent length can create difficulty in burner start-up and/or carboning. Under extreme vent configurations, allow several minutes (5-15) for the flame to stabilize after ignition. Although not a requirement, it is recommended for vent lengths that pass through unheated spaces (attics, garages, crawl spaces) be insulated with the insulation wrapped in a protective sleeve to minimize condensation. Provide a means for visually checking the vent connection to the appliance after the appliance is installed. Use a firestop, vent pipe shield or attic insulation shield when penetrating interior walls, floor or ceiling.

The vent terminal may be painted with a high temperature paint to match exterior colours. Use an outdoor paint suitable for 400°F (200°C). Application and performance of paint is the consumer's responsibility. Spot testing is recommended.

note:

If for any reason the vent air intake system is disassembled, re-install per the instructions provided for the initial installation.

This appliance must be installed with a continuous connection of exhaust and air intake vent pipes. Utilizing alternate constructions such as a chimney as part of the vent system is not permitted.

Use only Wolf Steel, Simpson Dura-Vent, Selkirk Direct Temp, American Metal Amerivent or Metal-Fab venting components. Minimum and maximum vent lengths, for both horizontal and vertical installations, clearances from vent pipes to combustibles and air terminal locations as set out in this manual apply to all vent systems and must be adhered to. For Simpson Dura-Vent, Selkirk Direct Temp, American Metal Amerivent and Metal-Fab, follow the installation procedure provided with the venting components or on the website for your venting supplier.

A starter adaptor must be used with the following vent systems and may be purchased from the corresponding supplier:

Venting System	Starter Adapter Part Number	Supplier	Website
Duravent	GDS924N	Wolf Steel	www.duravent.com
Amerivent	4DSC-N2	American Metal	www.americanmetalproducts.com
Direct Temp	4DT-AAN	Selkirk	www.selkirkcorp.com
SureSeal	4DNA	Metal-Fab	www.mtlfab.com

For vent systems that provide seals on the inner exhaust flue, only the outer air intake joints must be sealed using a red high temperature silicone (RTV). This same sealant may be used on both the inner exhaust and outer intake vent pipe joints of all other approved vent systems except for the exhaust vent pipe connection to the appliance flue collar which must be sealed using the black high temperature sealant Mill Pac. High temperature sealant must be ordered separately.

When using Wolf Steel venting components, use only approved Wolf Steel rigid / flexible components with the following termination kits: wall terminal kit **GD-222**, **GD-222R**, or 1/12 to 7/12 pitch roof terminal kit **GD-110**, 8/12 to 12/12 roof terminal kit **GD-111**, flat roof terminal kit **GD-112** or periscope kit **GD-201** (for wall penetration below grade). With flexible venting, in conjunction with the various terminations, use either the 5 foot (1.5m) vent kit **GD-220** or the 10 foot (3.1m) vent kit **GD-330**. For stoves only: wall terminal kit **GD-175** (venting included).

For optimum flame appearance and appliance performance, keep the vent length and number of elbows to a minimum.

The air terminal must remain unobstructed at all times. Examine the air terminal at least once a year to verify that it is unobstructed and undamaged.

Rigid and flexible venting systems must not be combined. Different venting manufacturer components must not be combined.

These vent kits allow for either horizontal or vertical venting of the appliance. The maximum allowable horizontal run is 20 feet (6.1m). The maximum allowable vertical vent length is 40 feet (12.2m). The maximum number of vent connections is two horizontally or three vertically (excluding the appliance and the air terminal connections) when using flexible venting.

direct venting - model GDS60-1

Horizontal runs may have a 0" rise per foot or 0mm rise per meter however for optimum performance it is recommended that all horizontal runs have a minimum 1/4" rise per foot or 21mm rise per meter using flexible venting. For safe and proper operation of the appliance, follow the venting instructions exactly.

A terminal shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings. Local codes or regulations may require different clearances.

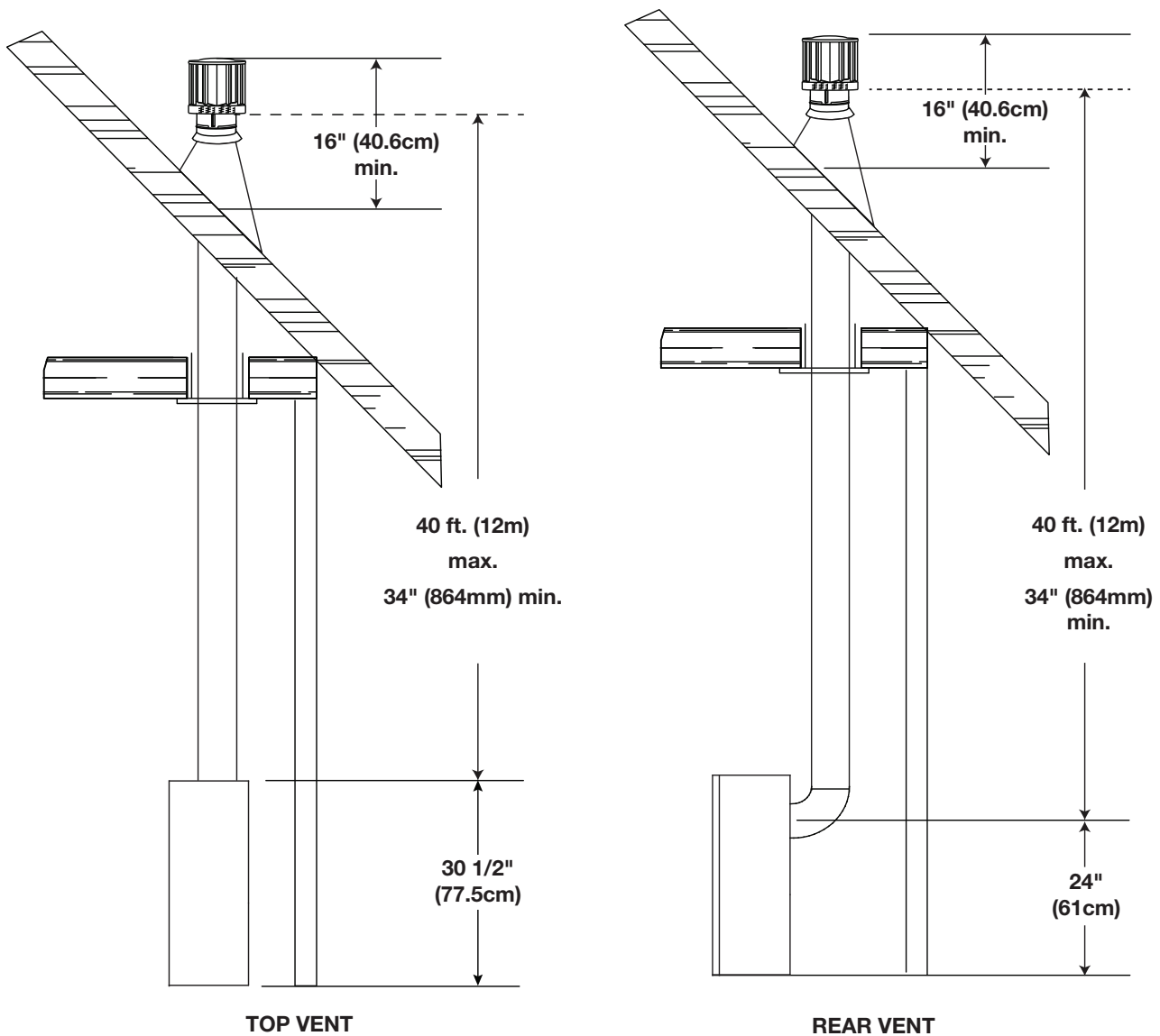
Do not allow the inside liner to bunch up on horizontal or vertical runs and elbows. Keep it pulled tight. A 1 1/4" (31.8mm) air gap all around between the inner liner and outer liner is required for safe operation.

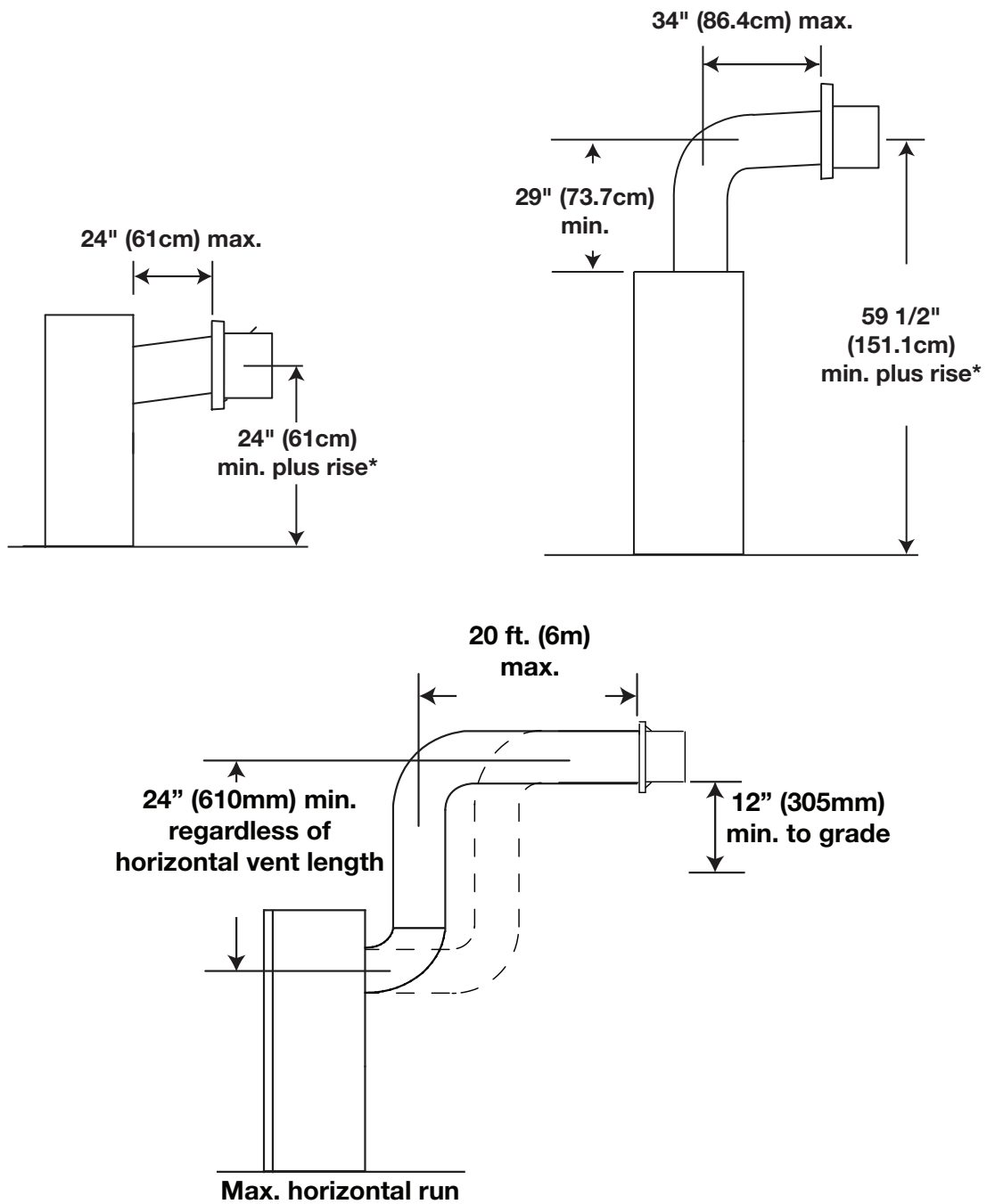
Use a firestop when penetrating interior walls, floor or ceiling.

A terminal shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings. Local codes or regulations may require different clearances.

Use only Wolf Steel, Simpson Dura-Vent, Selkirk Direct Temp or American Metal Amerivent venting components. Minimum and maximum vent lengths, for both horizontal and vertical installations, and air terminal locations for either systems are set out in this manual and must be adhered to.

2.1 typical vent installations





* See "venting" section.

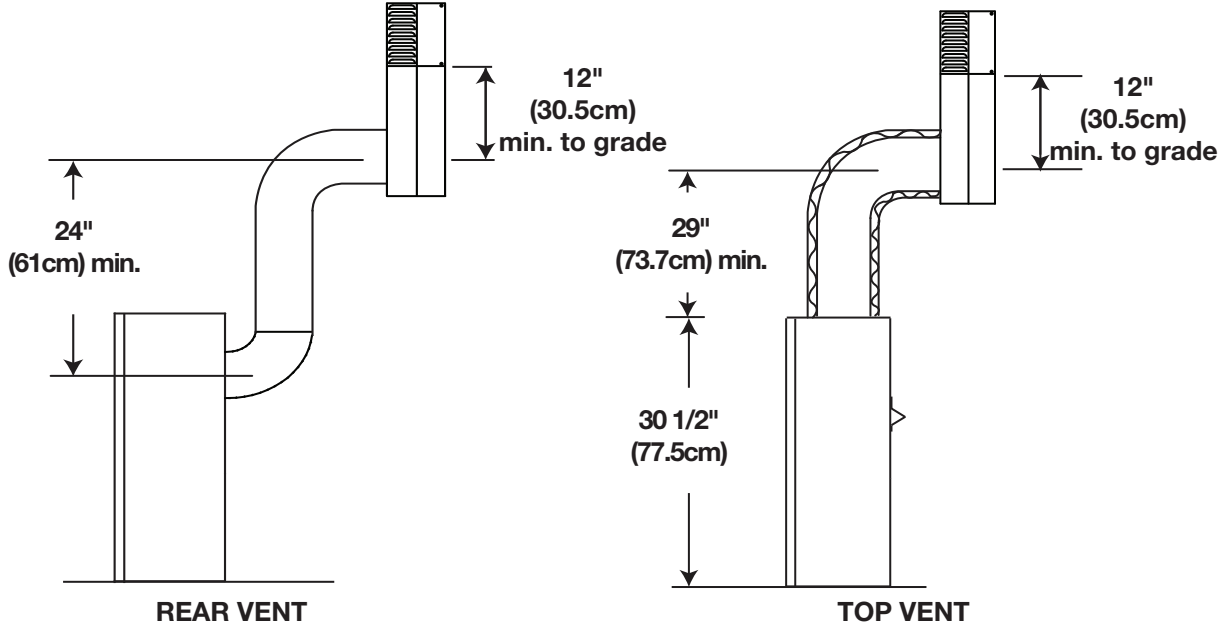
direct venting - model GDS60-1

2.2 special vent installations

2.2.1 periscope termination

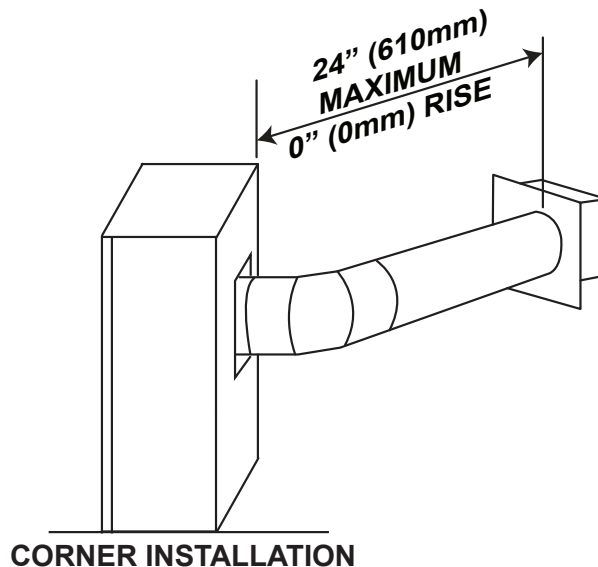
Use the periscope kit to locate the air termination above grade. The periscope must be installed so that when final grading is completed, the bottom air slot is located a minimum 12" (305mm) above grade. The maximum allowable vent length (including both rise and run) is 10' (3m) for a fireplace and 8' (2m) for a stove. An insulation sleeve is illustrated in the top vent image below, use only when supplied with the appliance.

(The insulation sleeve is not required with a stove appliance)

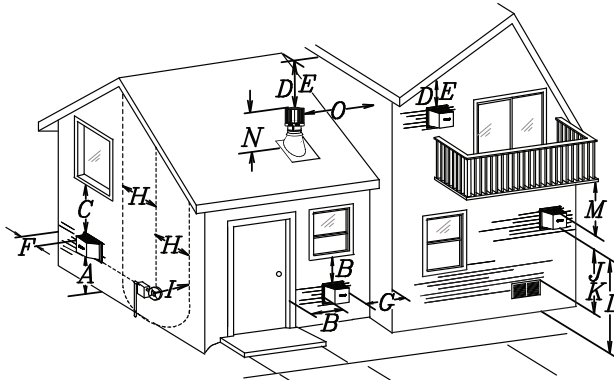


2.2.2 corner termination

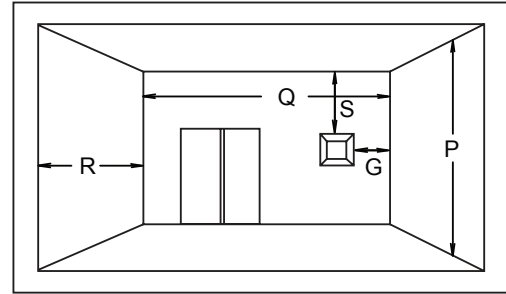
The maximum vent length for a corner installation is 24" (61cm).



2.3 vent terminal clearances



Covered balcony applications ††*



$Q_{\text{MIN}} = 3 \text{ feet}$ (0.9m)	$R_{\text{MAX}} = 2 \times Q_{\text{ACTUAL}}$	$R_{\text{MAX}} \leq 15 \text{ feet}$ (4.6m)
---	---	---

note:

Wall terminals are for illustration purposes only. Size and shapes may vary.

	INSTALLATIONS		
	CANADA	U.S.A.	
A	12" (30.5cm)	12" (30.5cm)	Clearance above grade, veranda porch, deck or balcony.
B	12" (30.5cm) ^Δ	9" (229mm) ^Δ	Clearance to windows or doors that open.
C	12" (30.5cm)*	12" (30.5cm)*	Clearance to permanently closed windows.
D	18" (45.7cm)**	18" (45.7cm)**	Vertical clearance to ventilated soffits located above the terminal within a horizontal distance of 2' (0.6m) from the center line of the terminal.
E	12" (30.5cm)**	12" (30.5cm)**	Clearance to unventilated soffit.
F	0" (0mm)	0" (0mm)	Clearance to an outside corner wall.
G	0" (0mm)***	0" (0mm)***	Clearance to an inside non -combustible corner wall or protruding non -combustible obstructions (chimney, etc.).
	2" (51mm)***	2" (51mm)***	Clearance to an inside combustible corner wall or protruding combustible obstructions (vent chase, etc.).
H	3' (0.9m)	3' (0.9m)****	Clearance to each side of the center line extended above the meter / regulator assembly to a maximum vertical distance of 15' (4.6m).
I	3' (0.9m)	3' (0.9m)****	Clearance to a service regulator vent outlet.
J	12" (30.5cm)	9" (229mm)	Clearance to a non-mechanical air supply inlet to the building or a combustion air inlet to any other appliance.
K	6' (1.8m)	3' (0.9m) †	Clearance to a mechanical air supply inlet.
L	7' (2.1m) ‡	7' (2.1m) ****	Clearance above a paved sidewalk or paved driveway located on public property.
M	12" (30.5cm)††	12" (30.5cm)****	Clearance under a veranda, porch or deck.
N	16" (40.6cm)	16" (40.6cm)	Clearance above the roof.
O	2' (0.6m)†*	2' (0.6m) †*	Clearance from an adjacent wall including neighbouring buildings.
P	8' (2.4m)	8' (2.4m)	Roof must be non -combustible without openings.
Q	3' (0.9m)	3' (0.9m)	See chart for wider wall dimensions.
R	6' (1.8m)	6' (1.8m)	See chart for deeper wall dimensions. The terminal shall not be installed on any wall that has an opening between the terminal and the open side of the structure.
S	12" (30.5cm)	12" (30.5cm)	Clearance under a covered balcony

Δ The terminal shall not be located less than 6 feet under a window that opens on a horizontal plane in a structure with three walls and a roof.

* Recommended to prevent condensation on windows and thermal breakage

** It is recommended to use a heat shield and to maximize the distance to vinyl clad soffits.

*** The periscope requires a minimum 18 inches clearance from an inside corner.

**** This is a recommended distance. For additional requirements, check local codes.

† 3 feet above if within 10 feet horizontally.

‡ A vent shall not terminate where it may cause hazardous frost or ice accumulations on adjacent property surfaces.

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

†* Recommended to prevent recirculation of exhaust products. For additional requirements, check local codes.

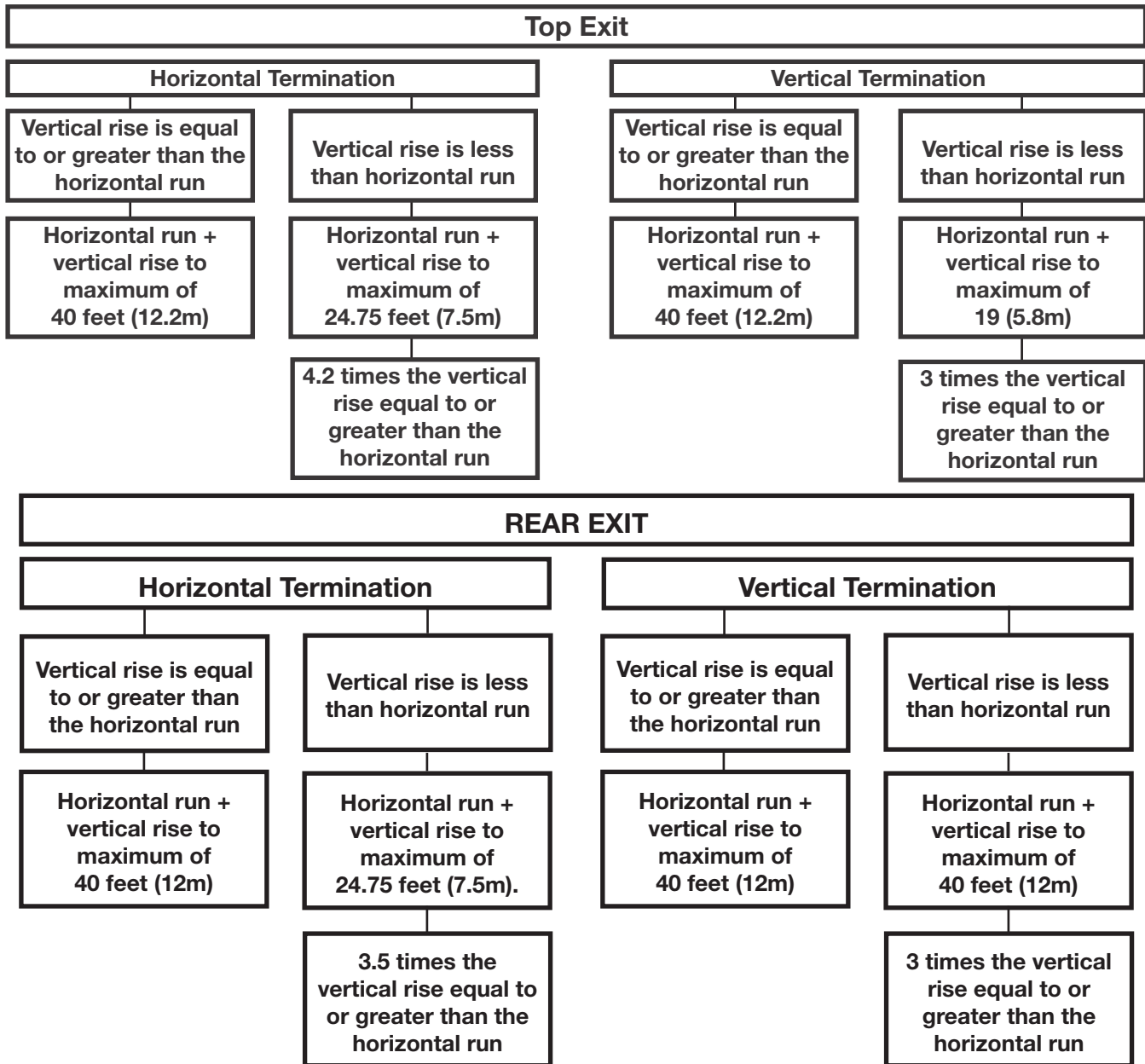
††* Permitted only if the balcony is fully open on a minimum of one side.

note:

Clearances are to be in accordance with local installation codes and the requirements of the gas supplier. In their absence, clearances are to be as listed above and are based on national codes.

direct venting - model GDS60-1

2.4 venting application flow chart



2.5 definitions

For the following symbols used in the venting calculations and examples are:

> - greater than

≥ - equal to or greater than

< - less than

≤ - equal to or less than

H_T - total of both horizontal vent lengths (H_r) and offsets (H_o) in feet

H_R - combined horizontal vent lengths in feet

H_O - offset factor: .03 (total degrees of offset - 90°*) in feet

H_O - offset factor: .03 (total degrees of offset - 135°*) in feet

V_T - combined vertical vent lengths in feet

2.6 elbow vent length values

	Feet	Inches	Millimeters
1°	0.03	0.5	12.7
15°	0.45	6.0	152.4
30°	0.9	11.0	279.4
45°	1.35	16.0	406.4
90°*	2.7	32.0	812.8

* The first 90° offset has a zero value and is shown in the formula as - 90°

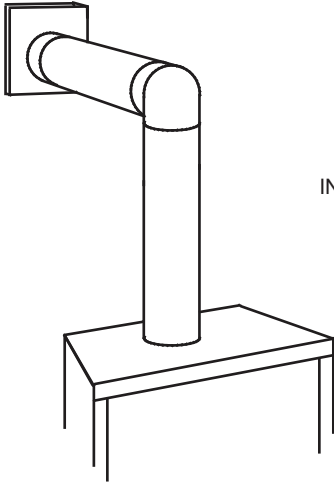
* The first 45° and° offset have a zero value and is shown in the formula as -45° and -90° respectively or -135° when combined **(for 45° exit only)**.

direct venting - model GDS60-1

2.7 top exit horizontal termination

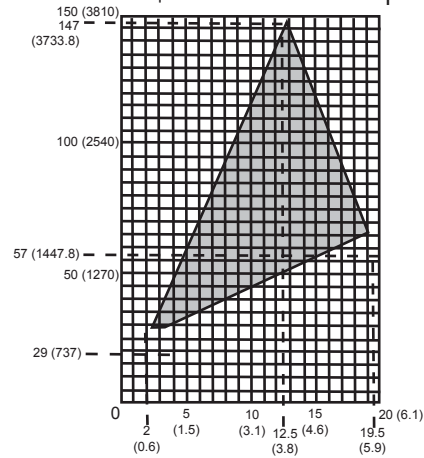
$$(H_T) > (V_T)$$

Simple venting configuration (only one 90° elbow)



REQUIRED
VERTICAL RISE IN
INCHES (MILLIMETERS) V_T

See graph to determine the required vertical rise V_T for the required horizontal run H_T .



HORIZONTAL VENT RUN PLUS OFFSET IN FEET (METERS) H_T

The shaded area within the lines represents acceptable values for H_T and V_T

For vent configurations requiring more than one 90° elbow, the following formulas apply:

Formula 1: $H_T \leq 4.2 V_T$

Formula 2: $H_T + V_T \leq 24.75$ feet (7.5m)

Example:

$$V_1 = V_T = 6 \text{ FT (1.8m)}$$

$$H_1 = 3 \text{ FT (0.9m)}$$

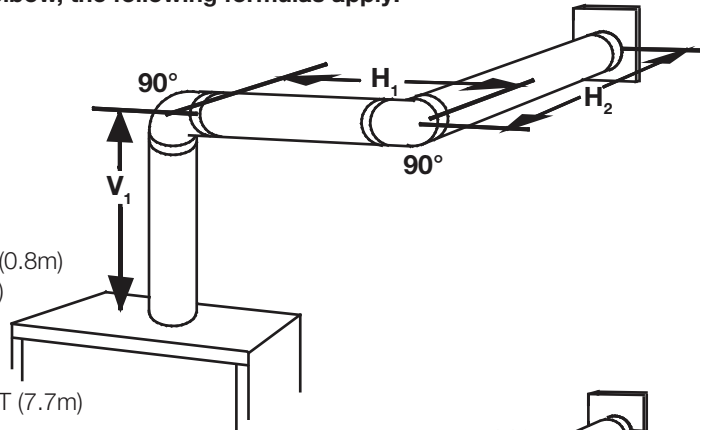
$$H_2 = 5 \text{ FT (1.5m)}$$

$$H_R = H_1 + H_2 = 3 \text{ FT (0.9m)} + 5 \text{ FT (1.5m)} = 8 \text{ FT (2.4m)}$$

$$H_O = .03 (\text{two } 90^\circ \text{ elbows} - 90^\circ) = .03 (180^\circ - 90^\circ) = 2.7 \text{ FT (0.8m)}$$

$$H_T = H_R + H_O = 8 \text{ FT (2.4m)} + 2.7 \text{ FT (0.8m)} = 10.7 \text{ FT (3.3m)}$$

$$H_T + V_T = 10.7 \text{ FT (3.3m)} + 6 \text{ FT (1.8m)} = 16.7 \text{ FT (5.1m)}$$



Formula 1: $H_T \leq 4.2 V_T$

$$4.2 V_T = 4.2 \text{ FT (1.3m)} \times 6 \text{ FT (1.8m)} = 25.2 \text{ FT (7.7m)}$$

$$10.7 \text{ FT (3.3m)} \leq 25.2 \text{ FT (7.7m)}$$

Formula 2: $H_T + V_T \leq 24.75 \text{ FT (7.5m)}$

$$16.7 \text{ FT (5.1m)} \leq 24.75 \text{ FT (7.5m)}$$

Since both formulas are met, this vent configuration is acceptable.

Example:

$$V_1 = 4 \text{ FT (1.2m)}$$

$$V_2 = 1.5 \text{ FT (0.5m)}$$

$$V_T = V_1 + V_2 = 4 \text{ FT (1.2m)} + 1.5 \text{ FT (0.5m)} = 5.5 \text{ FT (1.7m)}$$

$$H_1 = 2 \text{ FT (0.6m)}$$

$$H_2 = 1 \text{ FT (0.3m)}$$

$$H_3 = 1 \text{ FT (0.3m)}$$

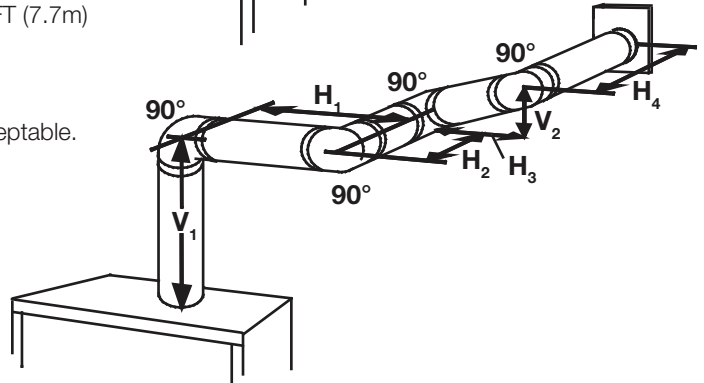
$$H_4 = 1.5 \text{ FT (0.5m)}$$

$$H_R = H_1 + H_2 + H_3 + H_4 = 2 \text{ FT (0.6m)} + 1 \text{ FT (0.3m)} + 1 \text{ FT (0.3m)} + 1.5 \text{ FT (0.5m)} = 5.5 \text{ FT (1.7m)}$$

$$H_O = .03 (\text{four } 90^\circ \text{ elbows} - 90^\circ) = .03 (360^\circ - 90^\circ) = 8.1 \text{ FT (2.5m)}$$

$$H_T = H_R + H_O = 5.5 \text{ FT (1.7m)} + 8.1 \text{ FT (2.5m)} = 13.6 \text{ FT (4.2m)}$$

$$H_T + V_T = 13.6 \text{ FT (4.2m)} + 5.5 \text{ FT (1.7m)} = 19.1 \text{ FT (5.8m)}$$



Formula 1: $H_T \leq 4.2 V_T$

$$4.2 V_T = 4.2 \text{ FT (1.3m)} \times 5.5 \text{ FT (1.7m)} = 23.1 \text{ FT (7m)}$$

$$13.6 \text{ FT (4.2m)} \leq 23.1 \text{ FT (7m)}$$

Formula 2: $H_T + V_T \leq 24.75 \text{ FT (7.5m)}$

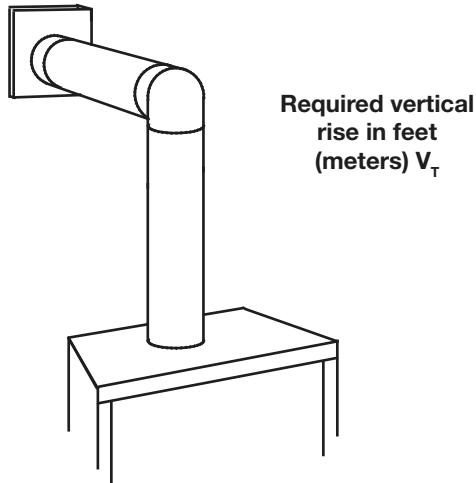
$$19.1 \text{ FT (5.8m)} \leq 24.75 \text{ FT (7.5m)}$$

Since both formulas are met, this vent configuration is acceptable.

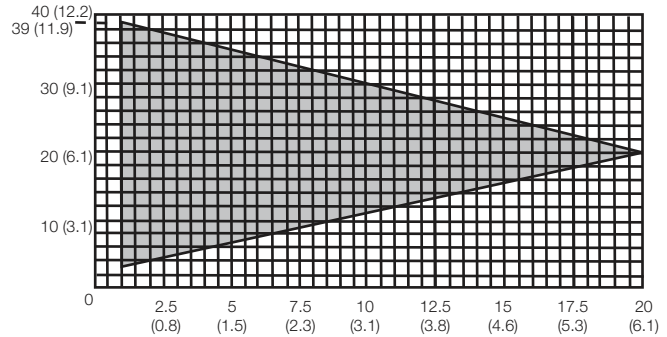
2.8 top exit horizontal termination

$$(H_T) \leq (V_T)$$

Simple venting configuration (only one 90° elbow)



See graph to determine the required vertical rise V_T for the required horizontal run H_T .



Horizontal vent run plus offset in feet (meters) H_T

The shaded area within the lines represents acceptable values for H_T and V_T

For vent configurations requiring more than one 90° elbow, the following formulas apply:

Formula 1: $H_T \leq V_T$

Formula 2: $H_T + V_T \leq 40$ feet (12.2m)

Example:

$$V_1 = 3 \text{ ft (0.9m)}$$

$$V_2 = 8 \text{ ft (2.4m)}$$

$$V_T = V_1 + V_2 = 3 \text{ ft (0.9m)} + 8 \text{ ft (2.4m)} = 11 \text{ ft (3.4m)}$$

$$H_1 = 2.5 \text{ ft (0.8m)}$$

$$H_2 = 2 \text{ ft (0.6m)}$$

$$H_R = H_1 + H_2 = 2.5 \text{ ft (0.8m)} + 2 \text{ ft (0.6m)} = 4.5 \text{ ft (1.4m)}$$

$$H_O = .03 \text{ (two } 90^\circ \text{ elbows - } 90^\circ) = .03 \text{ (180}^\circ - 90^\circ) = 5.4 \text{ ft (1.7m)}$$

$$H_T = H_R + H_O = 4.5 \text{ ft (1.4m)} + 5.4 \text{ ft (1.6m)} = 9.9 \text{ ft (3m)}$$

$$H_T + V_T = 9.9 \text{ ft (3m)} + 11 \text{ ft (3.4m)} = 20.9 \text{ ft (6.4m)}$$

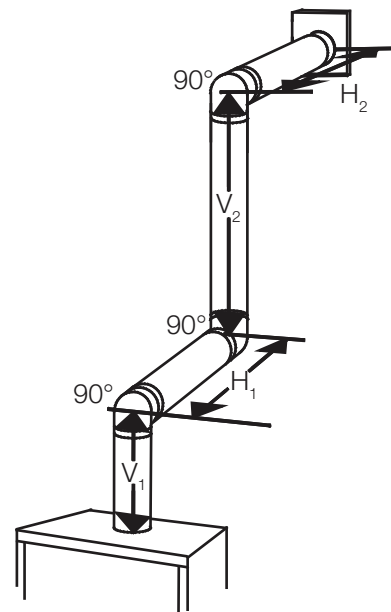
Formula 1: $H_T \leq V_T$

$$9.9 \text{ ft (3m)} \leq 11 \text{ ft (3.4m)}$$

Formula 2: $H_T + V_T \leq 40$ feet (12.2m)

$$20.9 \text{ ft (6.4m)} \leq 40 \text{ ft (12.2m)}$$

Since both formulas are met, this vent configuration is acceptable.

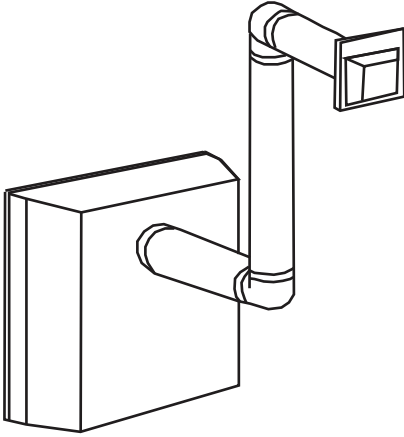


direct venting - model GDS60-1

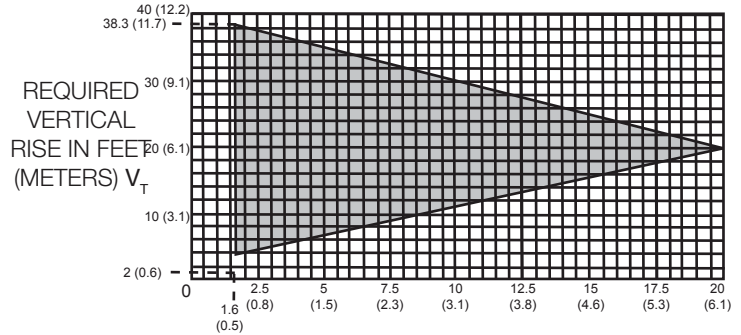
2.9 rear exit horizontal termination

$$(H_T) \leq (V_T)$$

Simple venting configuration
(only two 90° elbows)



See graph to determine the required vertical rise V_T for the required horizontal run H_T .



HORIZONTAL VENT RUN PLUS OFFSET IN FEET (METERS) H_T

The shaded area within the lines represents acceptable values for H_T and V_T

For vent configurations requiring more than two 90° elbows, the following formulas apply:

Formula 1: $H_T \leq V_T$

Formula 2: $H_T + V_T \leq 40 \text{ feet (12.2m)}$

Example:

$$V_1 = 9 \text{ FT (2.7m)}$$

$$V_2 = 6 \text{ FT (1.8m)}$$

$$V_T = V_1 + V_2 = 9 \text{ FT (2.7m)} + 6 \text{ FT (1.8m)} = 15 \text{ FT (4.6m)}$$

$$H_1 = 3 \text{ FT (0.9m)}$$

$$H_2 = 2 \text{ FT (0.6m)}$$

$$H_3 = 1.5 \text{ FT (0.5m)}$$

$$H_R = H_1 + H_2 + H_3 = 3 \text{ FT (0.9m)} + 2 \text{ FT (0.6m)} + 1.5 \text{ FT (0.5m)} = 6.5 \text{ FT (2m)}$$

$$H_O = .03 (\text{four } 90^\circ \text{ elbows} - 90^\circ) = .03 (360^\circ - 90^\circ) = 8.1 \text{ FT (2.5m)}$$

$$H_T = H_R + H_O = 6.5 \text{ FT (2m)} + 8.1 \text{ FT (2.5m)} = 14.6 \text{ FT (4.5m)}$$

$$H_T + V_T = 14.6 \text{ FT (4.5m)} + 15 \text{ FT (4.6m)} = 29.6 \text{ FT (9m)}$$

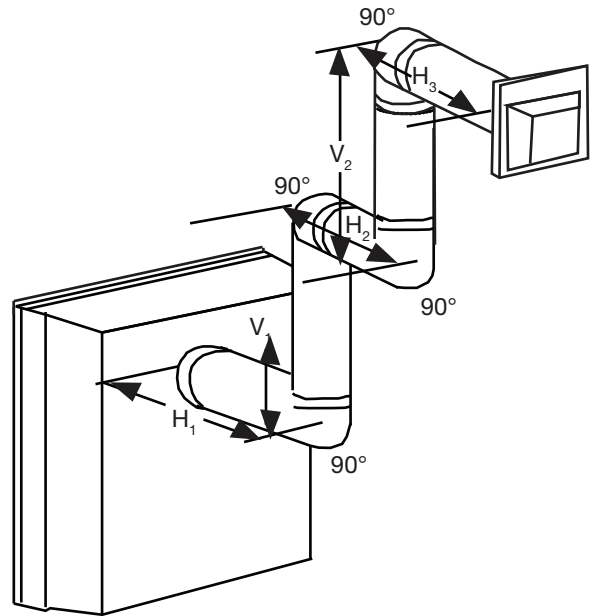
Formula 1: $H_T \leq V_T$

$$14.6 \text{ FT (4.5m)} \leq 15 \text{ FT (4.6m)}$$

Formula 2: $H_T + V_T \leq 40 \text{ FT (12.2m)}$

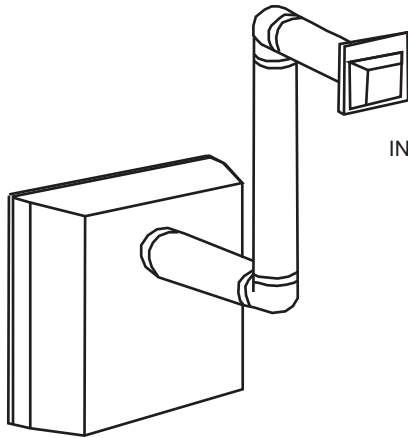
$$29.6 \text{ FT (9m)} \leq 40 \text{ FT (12.2m)}$$

Since both formulas are met, this vent configuration is acceptable.



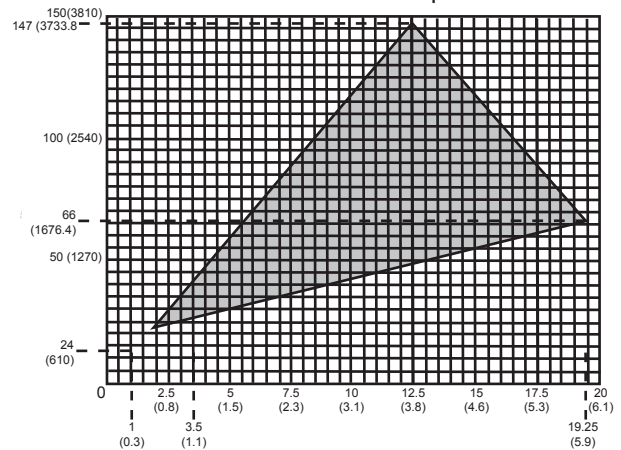
$$(H_T) > (V_T)$$

Simple venting configuration (only two 90° elbows)



REQUIRED
VERTICAL RISE IN
INCHES (MILLIMETERS) V_T

See graph to determine the required vertical rise V_T for the required horizontal run H_T .



HORIZONTAL VENT RUN PLUS OFFSET IN FEET (METERS) H_T

The shaded area within the lines represents acceptable values for H_T and V_T

For vent configurations requiring more than two 90° elbows, the following formulas apply:

Formula 1: $H_T \leq 3.5V_T$

Formula 2: $H_T + V_T \leq 24.75 \text{ feet (7.5m)}$

Example:

$$V_1 = 4 \text{ FT (1.2m)}$$

$$V_2 = 1.5 \text{ FT (0.5m)}$$

$$V_T = V_1 + V_2 = 4\text{FT (1.2m)} + 1.5\text{FT (0.5m)} = 5.5 \text{ FT (1.7m)}$$

$$H_1 = 2 \text{ FT (0.6m)}$$

$$H_2 = 1 \text{ FT (0.3m)}$$

$$H_3 = 1 \text{ FT (0.3m)}$$

$$H_4 = 1.5 \text{ FT (0.5m)}$$

$$H_R = H_1 + H_2 + H_3 + H_4 = 2\text{FT (0.6m)} + 1\text{FT (0.3m)} + 1\text{FT (0.3m)} + 1.5\text{FT (0.5m)} = 5.5 \text{ FT (1.7m)}$$

$$H_O = .03 \text{ (four } 90^\circ \text{ elbows + one } 45^\circ \text{ elbow - } 90^\circ)$$

$$= .03 (90 + 90 + 90 + 90 + 45 - 90) = 9.45 \text{ FT (2.9m)}$$

$$H_T = H_R + H_O = 5.5\text{FT (1.7m)} + 9.45\text{FT (2.9m)} = 14.95\text{FT (4.6m)}$$

$$H_T + V_T = 14.95\text{FT (4.6m)} + 5.5\text{FT (1.7m)} = 20.45\text{FT (6.2m)}$$

Formula 1: $H_T \leq 3.5V_T$

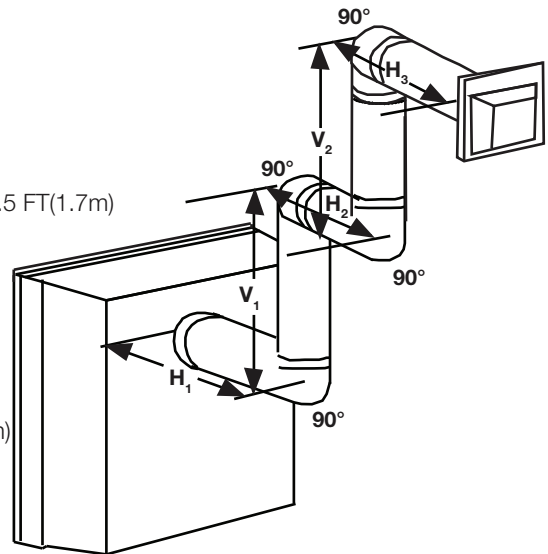
$$3.5V_T = 3.5\text{FT (1.1m)} \times 5.5\text{FT (1.7m)} = 19.25\text{FT (5.9m)}$$

$$14.95 \text{ FT (4.6m)} \leq 19.25 \text{ FT (5.9m)}$$

Formula 2: $H_T + V_T \leq 24.75 \text{ FT (7.5m)}$

$$20.45 \text{ FT (6.2m)} \leq 24.75 \text{ FT (7.5m)}$$

Since both formulas are met, this vent configuration is acceptable.

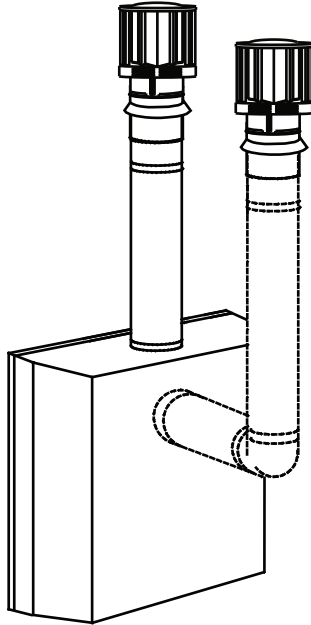


direct venting - model GDS60-1

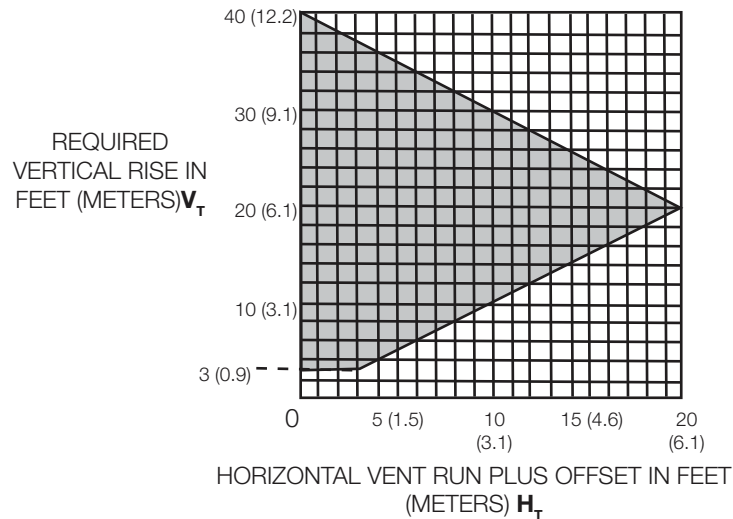
2.10 top or rear exit vertical termination

$$(H_T) \leq (V_T)$$

Simple venting configurations.



See graph to determine the required vertical rise V_T for the required horizontal run H_T .



The shaded area within the lines represents acceptable values for H_T and V_T .

For vent configurations requiring one or more 90° elbows (top exit) or one or more 90° elbows (rear exit), the following formulas apply:

Formula 1: $H_T \leq V_T$

Formula 2: $H_T + V_T \leq 40 \text{ feet (12.2m)}$

Example:

$$V_1 = 5 \text{ FT (1.5m)}$$

$$V_2 = 6 \text{ FT (1.8m)}$$

$$V_3 = 10 \text{ FT (3.1m)}$$

$$V_T = V_1 + V_2 + V_3 = 5\text{FT (1.5m)} + 6\text{FT (1.8m)} + 10\text{FT (3.1m)} = 21 \text{ FT (6.4m)}$$

$$H_1 = 8 \text{ FT (2.4m)}$$

$$H_2 = 2.5 \text{ FT (0.8m)}$$

$$H_R = H_1 + H_2 = 8\text{FT (2.4m)} + 2.5\text{FT (0.8m)} = 10.5\text{FT (3.2m)}$$

$$H_O = .03 \text{ (four } 90^\circ \text{ elbows} - 90^\circ)$$

$$= .03 (360^\circ - 90^\circ) = 8.1 \text{ FT (2.5m)}$$

$$H_T = H_R + H_O = 10.5\text{FT (3.2m)} + 8.1\text{FT (2.5m)} = 18.6\text{FT (5.7m)}$$

$$H_T + V_T = 18.6\text{FT (5.7m)} + 21\text{FT (6.4m)} = 39.6\text{FT (12.1m)}$$

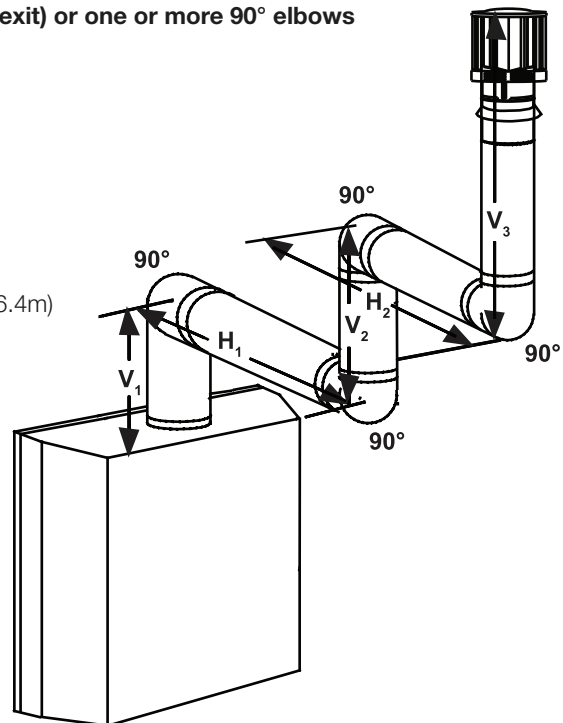
Formula 1: $H_T \leq 3.5V_T$

$$18.6 \text{ FT (5.7m)} \leq 21 \text{ FT (6.4m)}$$

Formula 2: $H_T + V_T \leq 40 \text{ FT (12.2m)}$

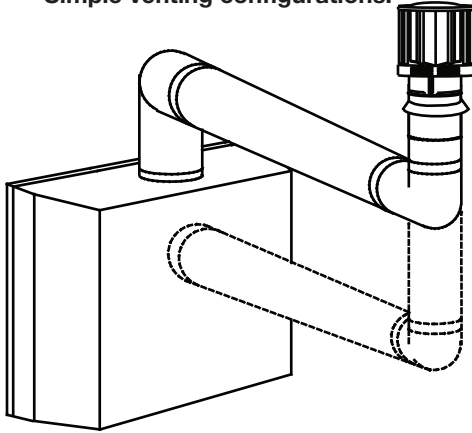
$$39.6\text{FT (12.1m)} \leq 40 \text{ FT (12.2m)}$$

Since both formulas are met, this vent configuration is acceptable.

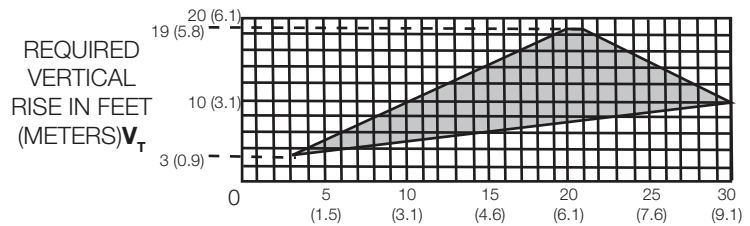


$$(H_T) > (V_T)$$

Simple venting configurations.



See graph to determine the required vertical rise V_T for the required horizontal run H_T .



HORIZONTAL VENT RUN PLUS OFFSET IN FEET (METERS) H_T

The shaded area within the lines represents acceptable values for H_T and V_T

For vent configurations requiring more than two 90° elbows (top exit) or one 90° elbow (rear exit), the following formulas apply:

Formula 1: $H_T \leq 3 V_T$

Formula 2: $H_T + V_T \leq 40 \text{ feet (12.2m)}$

Example:

$$V_1 = 2 \text{ FT (0.6m)}$$

$$V_2 = 1 \text{ FT (0.3m)}$$

$$V_3 = 1.5 \text{ FT (0.5m)}$$

$$V_T = V_1 + V_2 + V_3 = 2 \text{ FT (0.6m)} + 1 \text{ FT (0.3m)} + 1.5 \text{ FT (0.5m)} = 4.5 \text{ FT (1.4m)}$$

$$H_1 = 6 \text{ FT (1.8m)}$$

$$H_2 = 2 \text{ FT (0.6m)}$$

$$H_R = H_1 + H_2 = 6 \text{ FT (1.8m)} + 2 \text{ FT (0.6m)} = 8 \text{ FT (2.4m)}$$

$$H_O = .03 \text{ (four } 90^\circ \text{ elbows} - 90^\circ)$$

$$= .03 (360^\circ - 90^\circ) = 8.1 \text{ FT (2.5m)}$$

$$H_T = H_R + H_O = 8 \text{ FT (2.4m)} + 8.1 \text{ FT (2.5m)} = 16.1 \text{ FT (4.9m)}$$

$$H_T + V_T = 16.1 \text{ FT (4.9m)} + 4.5 \text{ FT (1.4m)} = 20.6 \text{ FT (6.3m)}$$

Formula 1: $H_T \leq 3.5 V_T$

$$3.5 V_T = 3 \text{ FT (0.9m)} \times 4.5 \text{ FT (1.4m)} = 13.5 \text{ FT (4.1m)}$$

$$16.1 \text{ FT (4.9m)} \leq 13.5 \text{ FT (4.1m)}$$

Since this formula is not met, this vent configuration is **unacceptable**.

Formula 2: $H_T + V_T \leq 40 \text{ FT (12.2m)}$

$$16.1 \text{ FT (4.9m)} \leq 13.5 \text{ FT (4.1m)}$$

Since only formula 2 is met, this vent configuration is unacceptable and a new fireplace location or vent configuration will need to be established to satisfy both formulas.

Example:

$$V_1 = 1.5 \text{ FT (0.5m)}$$

$$V_2 = 5 \text{ FT (1.5m)}$$

$$V_T = V_1 + V_2 = 1.5 \text{ FT (0.5m)} + 5 \text{ FT (1.5m)} = 6.5 \text{ FT (2m)}$$

$$H_1 = 1 \text{ FT (0.3m)}$$

$$H_2 = 1 \text{ FT (0.3m)}$$

$$H_3 = 10.75 \text{ FT (3.3m)}$$

$$H_R = H_1 + H_2 + H_3 = 1 \text{ FT (0.3m)} + 1 \text{ FT (0.3m)} + 10.75 \text{ FT (3.3m)} = 12.75 \text{ FT (3.9m)}$$

$$H_O = .03 \text{ (four } 90^\circ \text{ elbows} + \text{ one } 45^\circ \text{ elbow} - 90^\circ)$$

$$= .03 (360^\circ + 45^\circ - 90^\circ) = 6.75 \text{ FT (2.1m)}$$

$$H_T = H_R + H_O = 12.75 \text{ FT (3.9m)} + 6.75 \text{ FT (2.1m)} = 19.5 \text{ FT (5.9m)}$$

$$H_T + V_T = 19.5 \text{ FT (5.9m)} + 6.5 \text{ FT (2m)} = 26 \text{ FT (7.9m)}$$

Formula 1:

$$H_T \leq 3 V_T$$

$$3 V_T = 3 \text{ FT (0.9m)} \times 6.5 \text{ FT (2m)} = 19.5 \text{ FT (5.9m)}$$

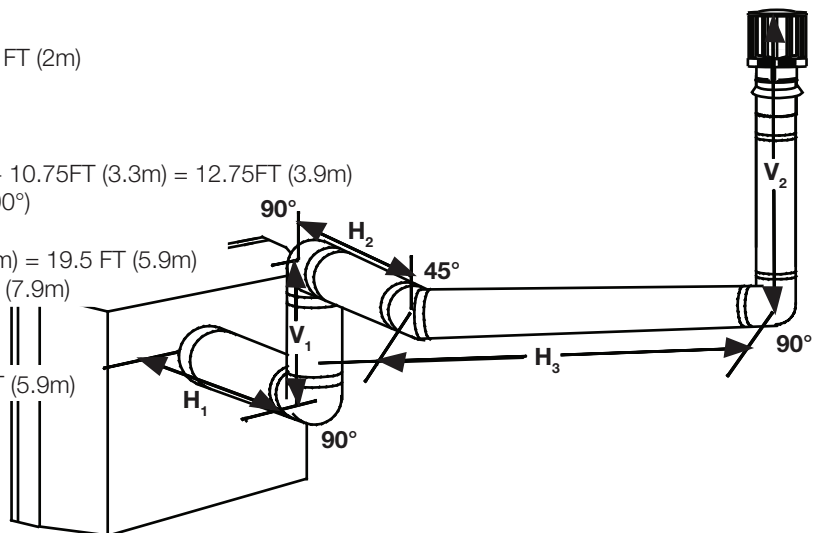
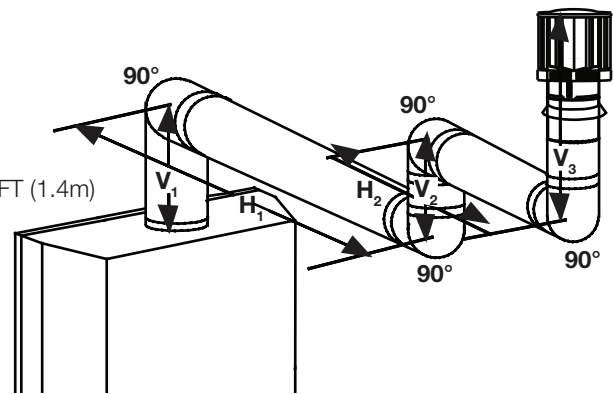
$$19.5 \text{ FT (5.9m)} = 19.5 \text{ FT (5.9m)}$$

Formula 2:

$$H_T + V_T \leq 40 \text{ FT (12.2m)}$$

$$26 \text{ FT (7.9m)} \leq 40 \text{ FT (12.2m)}$$

Since both formulas are met, this vent configuration is acceptable.



3.0 installation preparation - model GDS60-1

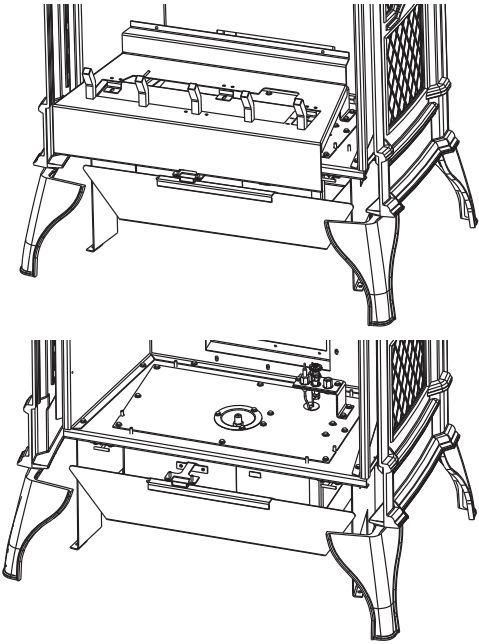
3.1 orifice replacement

REAR VENT TERMINATION:

Rear exit installations which terminate horizontally and have no vertical vent runs must have the BTU input reduced to 21,000 BTU/hr by changing the orifice (supplied).

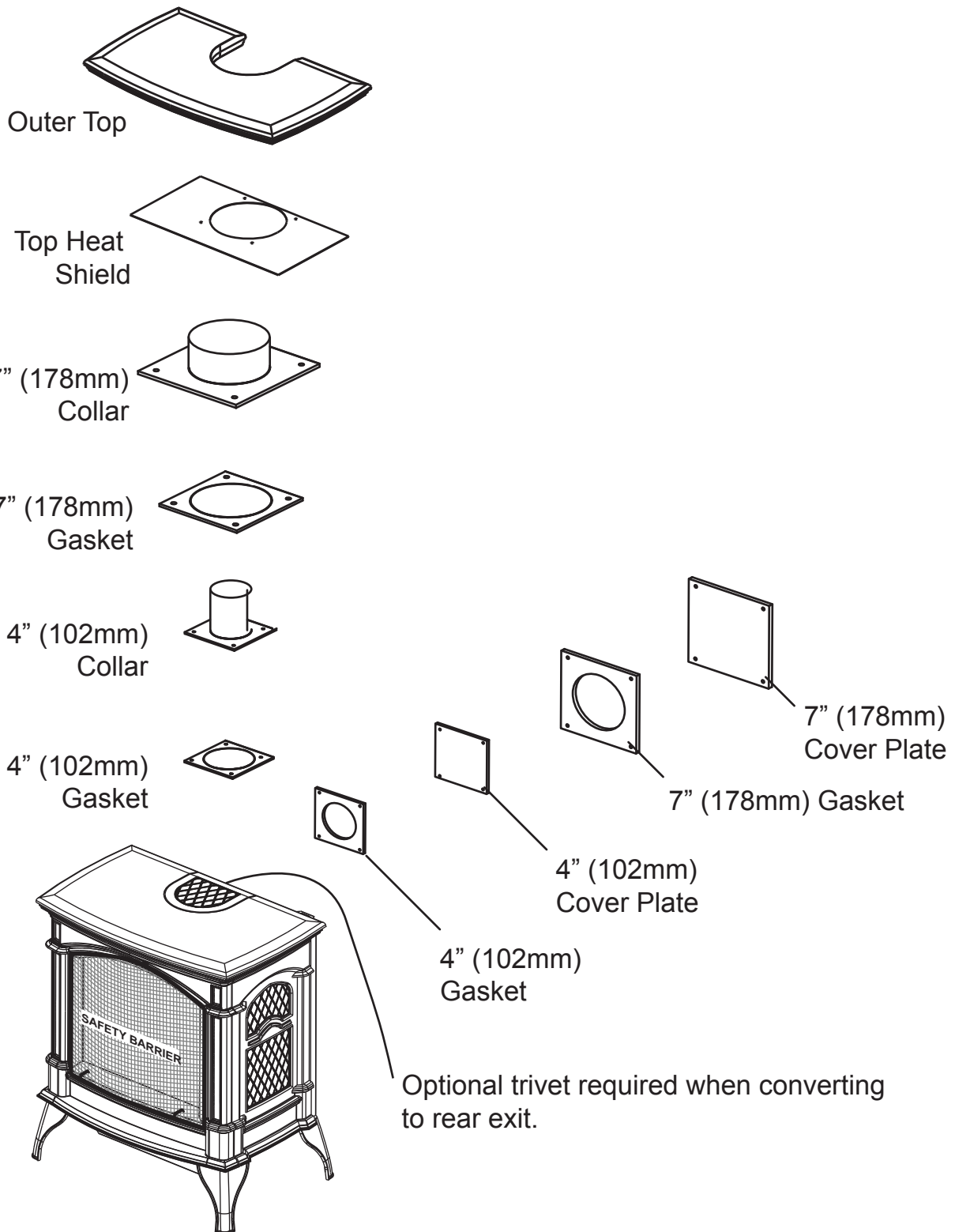
In order to access the orifice, the log support secured by two screws, must be removed.

Care should be taken not to damage the manifold gas pipe. When removing the orifice, using a socket wrench, a back-up wrench must be used on the manifold, located below the housing, to ensure that the aluminum tubing does not twist or kink.



3.2 changing a top vent to a rear vent

In order to convert the venting configuration from a top exit to a rear exit, remove components as illustrated. When reinstalling in the alternate position: Check gaskets for tears, replace if necessary to ensure a proper seal.



4.0 installation

! WARNING

- Ensure to unpack all loose materials from inside the firebox prior to connecting the gas and electrical supply
- **If your appliance is supplied with a remote, ensure the remote receiver is in the "OFF" position prior to connecting the gas and electrical supply to the appliance.**
- For safe and proper operation of the appliance, follow the venting instructions exactly.
- **The appliance exhaust flue collar must be sealed using Mill Pac.** All exhaust and intake vent pipe joints must be sealed using red RTV high temp silicone sealant (W573-0002) (not supplied) or black high temp Mill Pac (W573-0007) (not supplied).
- If using pipe clamps to connect rigid vent components, a minimum of 3 screws must also be used to ensure the connection cannot slip off.
- Do not clamp the flexible vent pipe.
- Risk of fire, explosion, or asphyxiation. Improper support of the entire venting system may allow vent to sag and separate. Use vent run supports and connect vent sections per installation instructions.
- Risk of fire, do not allow loose materials or insulation to touch the vent pipe. Remove insulation to allow for the installation of the attic shield and to maintain clearances to combustibles.
- Do not fill the space between the vent pipe and enclosure with any type of material. Do not pack insulation or combustibles between ceiling firestops. Always maintain specified clearances around venting and firestop systems. Install wall shields and firestops as specified. Failure to keep insulation or other materials away from vent pipe may cause fire.
- **For gas stoves only:** If the appliance is installed directly on carpeting, vinyl tile, or other combustible material other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth, unless otherwise tested.

For optimum performance, it is recommended that all horizontal runs have a minimum 1/4" (6mm) rise per foot when venting. For safe and proper operation of the appliance, follow the venting instructions exactly.

4.1 minimum clearance to combustibles

GDS60-1:

HORIZONTAL VENT SECTIONS: A minimum clearance of 2" (51mm) at the top and 1" (25mm) at the bottom and sides of the vent pipe on all horizontal runs is required.

VERTICAL VENT SECTIONS: A minimum of 1" (25mm) all around the vent pipe on all vertical runs to combustibles is required.

GS60-1:

A minimum of 1" (25mm) all around the B vent pipe on both horizontal and vertical runs to combustibles is required.

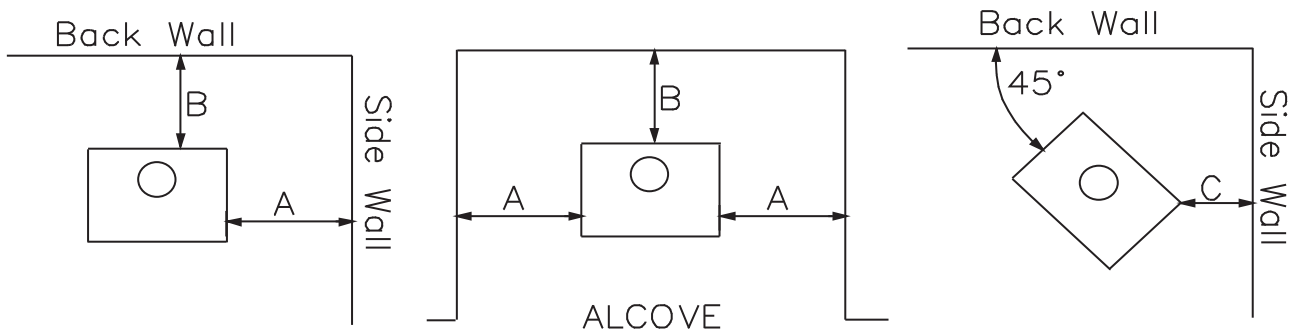
MAINTAIN THESE MINIMUM CLEARANCES TO COMBUSTIBLES:

A. 6" (152mm) **B.** 6" (152mm) **C.** 2" (51mm)*

Minimum 20" (508mm) from appliance top to ceiling.

6" (152.4mm) to single wall connector.

*At a distance of 2" (51mm) from the wall, access to the blower switch, on-off switch or the blower power cord may not be practical.



4.1.1 horizontal installation

! WARNING

- The firestop assembly must be installed with the vent shield to the top.
- Terminals must not be recessed into a wall or siding more than the depth of the return flange of the mounting plate.

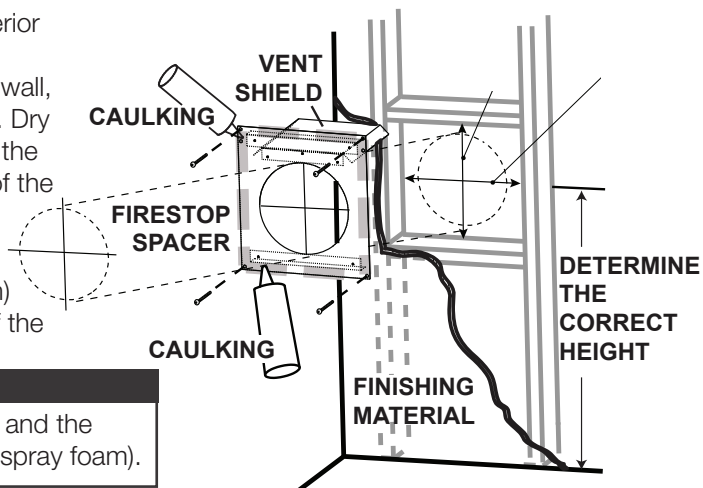
This application occurs when venting through an exterior wall. Having determined the correct height for the air terminal location, cut and frame a hole in the exterior wall, as illustrated, to accommodate the firestop assembly. Dry fit the firestop assembly before proceeding to ensure the brackets on the rear surface fit to the inside surface of the horizontal framing.

The length of the vent shield may be cut shorter for combustible walls that are less than 8 1/2" (215.9mm) thick but the vent shield must extend the full depth of the combustible wall.

note:

Do not fill the air space between the firestop spacer and the exterior wall with any type of insulating material (i.e. spray foam).

- Apply a bead of caulking (not supplied) around the outer edge of the hole of the firestop assembly, fit the firestop assembly to the hole and secure using 4 screws.
- Once the vent pipe is installed in its final position, apply red RTV silicone (W573-0002) (not supplied) between the pipe and the firestop.



note:

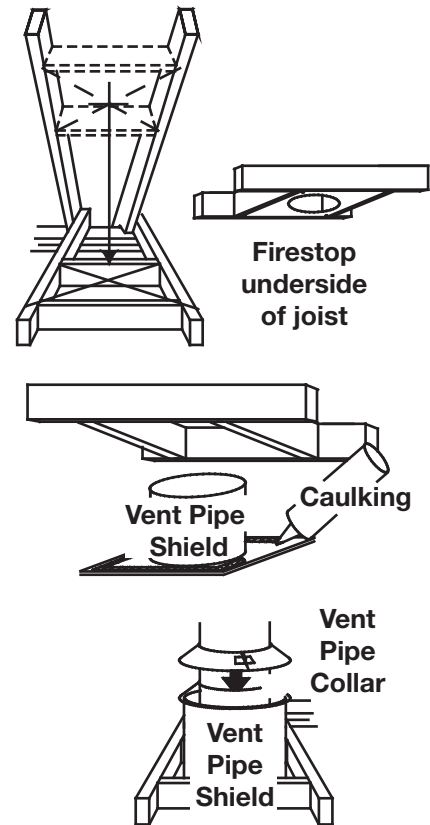
The above is for illustration purposes only. Vents do not always pass through center of frame.

installation

4.1.2 vertical installation

This application occurs when venting through a roof. Installation kits for various roof pitches are available from your authorized dealer / distributor. See the “accessories” section to order specific kits required.

- A. Determine the air terminal location, cut and frame a square opening, as illustrated, in the ceiling and the roof to provide the minimum 1" (25mm) clearance between the vent pipe and any combustible material. Try to center the vent pipe location midway between two joists to prevent having to cut them. Use a plumb bob to line up the center of the openings. A vent pipe shield will prevent any materials such as insulation, from filling up the 1" (25mm) air space around the pipe. Nail headers between the joist for extra support.
- B. Apply a bead of caulking (not supplied) to the framework or to the Wolf Steel vent pipe shield plate or equivalent (in the case of a finished ceiling), and secure over the opening in the ceiling. A firestop must be placed on the bottom of each framed opening in a roof or ceiling that the venting system passes through. Apply a bead of caulking all around and place a firestop spacer over the vent shield to restrict cold air from being drawn into the room or around the fireplace. Ensure that both spacer and shield maintain the required clearance to combustibles. Once the vent pipe is installed in its final position, apply red RTV silicone (W573-0002) (not supplied) between the pipe and the firestop assembly.
- C. In the attic, slide the vent pipe collar down to cover up the open end of the shield and tighten. This will prevent any materials, such as insulation, from filling up the 1" (25mm) air space around the pipe.

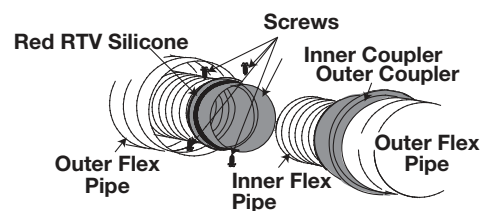
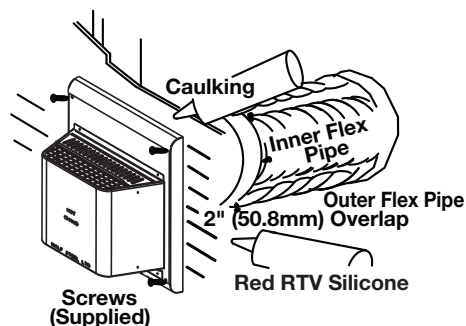


4.1.3 horizontal air terminal installation - model GDS60-1

! WARNING

- Terminals must not be recessed into a wall or siding more than the depth of the return flange of the mounting plate.

- Stretch the inner flex pipe to the required length taking into account the additional length needed for the finished wall surface. Apply a heavy bead of the red RTV silicone (W573-0002) (not supplied) to the inner sleeve of the air terminal. Slip the vent pipe a minimum of 2" (50.8mm) over the inner sleeve of the air terminal and secure with a minimum of 3 screws.
- Using the outer flex pipe, slide over the outer combustion air sleeve of the air terminal and secure with a minimum of 3 screws. Seal using red RTV silicone (W573-0002) (not supplied).
- Insert the vent pipes through the firestop maintaining the required clearance to combustibles. Holding the air terminal (lettering in an upright, readable position), secure to the exterior wall and make weather tight by sealing with caulking (not supplied).
- If more vent pipe needs to be used to reach the fireplace, couple them together, as illustrated. The vent system must be supported approximately every 3 feet (0.9m) for both vertical and horizontal runs. Use non-combustible strapping to maintain the minimum clearance to combustibles.
- Stove Appliances Only:** From inside the house, using Red RTV Silicone (W573-0002) (not supplied), seal between the vent pipe and the firestop. Then slide the black trim collar over the vent pipe up to the firestop.



The air terminal mounting plate may be recessed into the exterior wall or siding no greater than the depth of its return flange.

installation

4.1.4 vertical air terminal installation - model GDS60-1

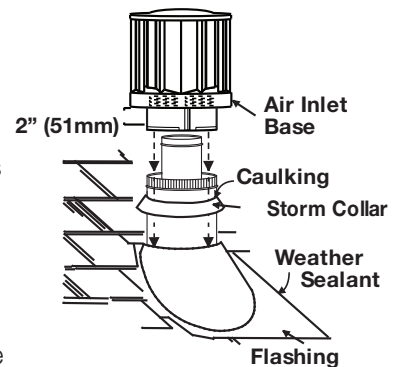
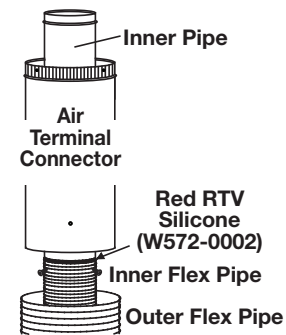
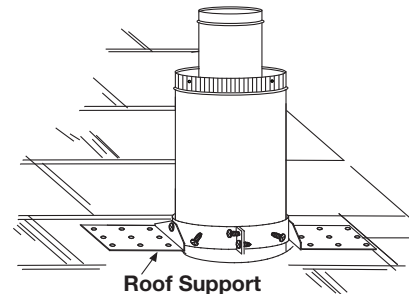
WARNING

- Maintain a minimum 2" (51mm) space between the air inlet base and the storm collar.

note:

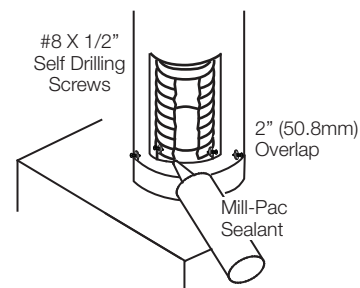
Fastening hardware provided with appropriate roof terminal and liner kits.

- Fasten the roof support to the roof using 6 screws. The roof support is optional. In this case, the venting is to be adequately supported using either an alternate method suitable to the authority having jurisdiction or the optional roof support.
- Stretch the inner flex pipe to the required length. Slip the inner flex pipe a minimum of 2" (51mm) over the inner pipe of the air terminal connector and secure with a minimum of three screws, when 4/7, 5/8 and 3/5 venting is used and a minimum of six screws when using 8/10 or 8/11 venting. Seal using a heavy bead of red RTV silicone sealant (W573-0002) (not supplied).
- Repeat using the outer flex pipe, using a heavy bead of red RTV silicone sealant (W573-0002) (not supplied) and a minimum of three screws, when 4/7, 5/8 and 3/5 venting is used and a minimum of six screws when using 8/10 or 8/11 venting.
- Thread the air terminal connector / vent pipe assembly down through the roof. The air terminal must be positioned vertically and plumb. Attach the air terminal connector to the roof support, ensuring that the top of the air terminal is 16" (40.6cm) above the highest point that it penetrates the roof.
- Remove nails from the shingles, above and to the sides of the air terminal connector. Place the flashing over the air terminal connector leaving a min. 3/4" (19mm) of the air terminal connector showing above the top of the flashing. Slide the flashing underneath the sides and upper edge of the shingles. Ensure that the air terminal connector is properly centered within the flashing, giving a 3/4" (19mm) margin all around. Fasten to the roof. Do not nail through the lower portion of the flashing. Make weather-tight by sealing with caulking. Where possible, cover the sides and top edges of the flashing with roofing material.
- Aligning the seams of the terminal and air terminal connector, place the terminal over the air terminal connector making sure the vent pipe goes into the hole in the terminal. Secure with a minimum of three screws, when 4/7, 5/8 and 3/5 venting is used and a minimum of six screws when using 8/10 or 8/11 venting.
- Apply a heavy bead of weatherproof caulking 2" (51mm) above the flashing. Install the storm collar around the air terminal and slide down to the caulking. Tighten to ensure that a weather-tight seal between the air terminal and the collar is achieved.
- If more vent pipe needs to be used to reach the appliance, see "**horizontal air terminal installation**" section.



4.2 appliance vent connection - model GDS60-1

- A. Attach the adjustable pipe to the last section of rigid pipe. Secure with screws and seal.
- B. Install the inner flex pipe to the appliance. Secure with a minimum of three screws and flat washers when installing 3"/5", 4"/7" or 5"/8" venting, or six screws and flat washers when installing 8"/10" or 8"/11" venting. Seal the joint and screw holes using Mill Pac sealant (W573-0007) (not supplied).
- C. Run a bead of high temperature red RTV silicone sealant (W573-0002) (not supplied) around the inside of the air intake collar. Pull the adjustable pipe a minimum 2" (50.8mm) into the air intake collar.



note:

Always finish vent system installation with the appliance vent connection. Ensure that the sealant is not visible on the exterior pipes once installation is completed. An optional decorative black band may be available with this appliance. In the event that the venting must be disassembled, care must be taken to reseal the venting.

installation

4.3 vertical through existing chimney

! WARNING

- Risk of fire.
- Co-axial to co-linear venting configurations must only be used in a non-combustible chimney or enclosure. Installation in a combustible enclosure could result in a fire.

This appliance is designed to be attached to a 3" (76.2mm) co-linear aluminum flex vent system running the full length of a masonry chimney.

The flex liners accommodate any contours of a masonry chimney, however, it is necessary to keep the flexible liners as straight as possible. The inlet air collar of the termination cap must be connected to the air intake flex liner and the exhaust collar must be connected to the exhaust flexible liner.

Both Simpson Duravent and Selkirk co-linear to co-axial adaptors have been approved on this appliance

note:

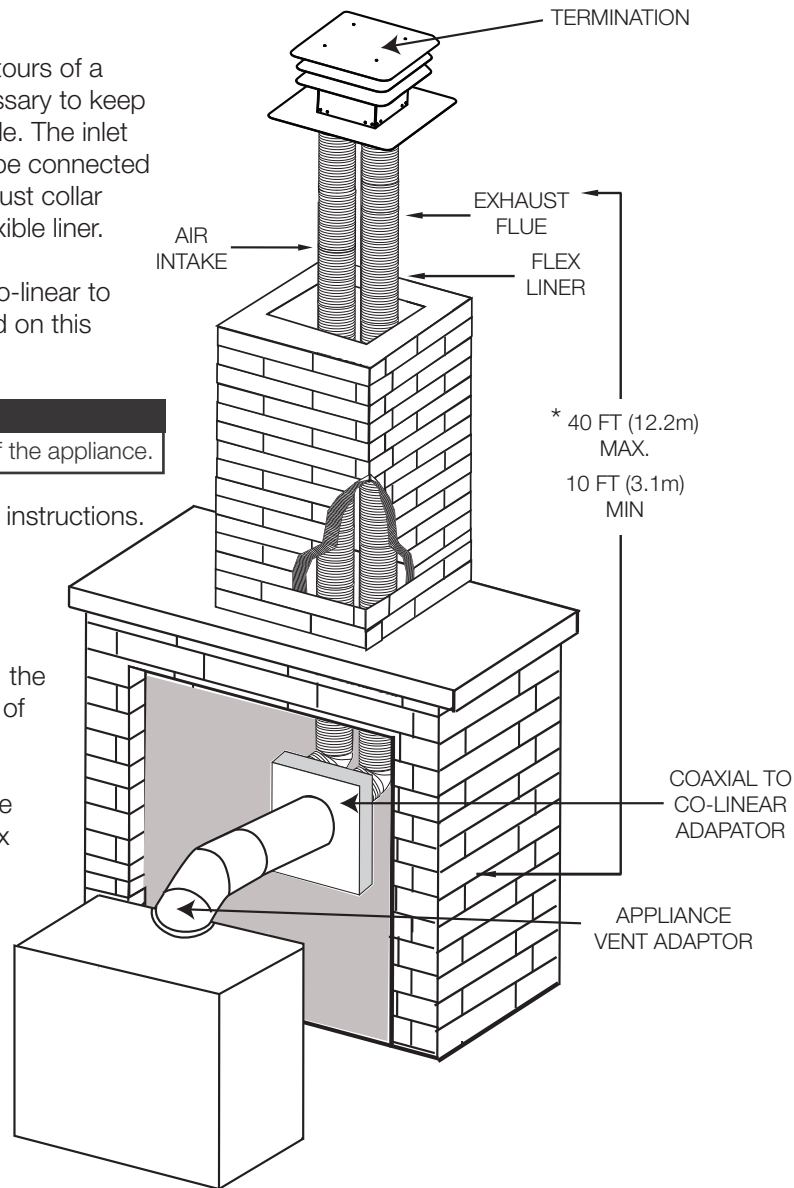
A vent adaptor will be required directly off the appliance.

Follow vent manufacturer's installation instructions.

Different manufacturer's venting components must not be combined. Once the preferred manufacturer's appliance adaptor has been attached, the remainder of the system must be that of the same manufacturer.

The only exception to this rule is to use Wolf Steel's approved 3" (76.2mm) flex liner and co-linear termination.

* Measured from appliance flue collar to termination flue collar



4.4 mobile home installation - model GDS60-1

In Canada, mobile home installation may be vented horizontally or vertically. In the United States, it may only be installed vertically. See "vertical venting" or "horizontal air terminal installation" section for installation.

For mobile home installations, the appliance must be fastened in place. It is recommended that the appliance be secured in all installations. Use the levelling / securing kit, GDSLL-KT for this purpose.

4.5 gas installation

WARNING

- Risk of fire, explosion, or asphyxiation. Ensure there are no ignition sources such as sparks or open flames.
- Support gas control when attaching gas supply pipe to prevent damaging gas line.
- Always light the pilot whether for the first time or if the gas supply has run out with the glass door opened or removed. Purging of the gas supply line should be performed by a qualified service technician. Ensure that a continuous gas flow is at the burner before closing the door. Ensure adequate ventilation. For gas and electrical locations, see "dimensions" section.
- All gas connections must be contained within the appliance when complete (**gas fireplaces only**).
- High pressure will damage valve. Disconnect gas supply piping before testing gas line at test pressures above 1/2 PSIG.
- Valve settings have been factory set, do not change.

Installation and servicing to be done by a qualified installer.

- Move the appliance into position and secure.
- If equipped with a flex connector, the appliance is designed to accept a 1/2" (13mm) gas supply. Without the connector, it is designed to accept a 3/8" (9.5mm) gas supply. The appliance is equipped with a manual shut off valve to turn off the gas supply to the appliance.
- Connect the gas supply in accordance to local codes. In the absence of local codes, install to the current CAN/CSA-B149.1 Installation Code in Canada or to the current National Fuel Gas Code, ANSI Z223.1 / NFPA 54 in the United States.
- When flexing any gas line, support the gas valve so that the lines are not bent or kinked.
- The gas line flex-connector should be installed to provide sufficient movement for shifting the burner assembly on its side to aid with servicing components.
- Check for gas leaks by brushing on a soap and water solution. **Do not use open flame.**

4.6 optional wall switch

For ease of accessibility, an optional remote wall switch may be installed in a convenient location. Route 2 strand solid core millivolt wire from the gas appliance to the wall switch. The recommended maximum lead length depends on the wire size:

WIRE SIZE	MAX. LENGTH
14 gauge	100 feet (30m)
16 gauge	60 feet (18m)
18 gauge	40 feet (12m)

DIRECT VENT MODEL GDS60-1: Disconnect one of the wire leads to the on/off switch then connect the wire leads from the optional wall switch / remote. See "wiring diagram" section.

B-VENT MODEL GS60-1: Disconnect one of the wire leads to the on/off switch then connect the wire leads from the optional wall switch / remote / spill switch to "B" vent adaptor. See "WIRING DIAGRAM" section.

installation

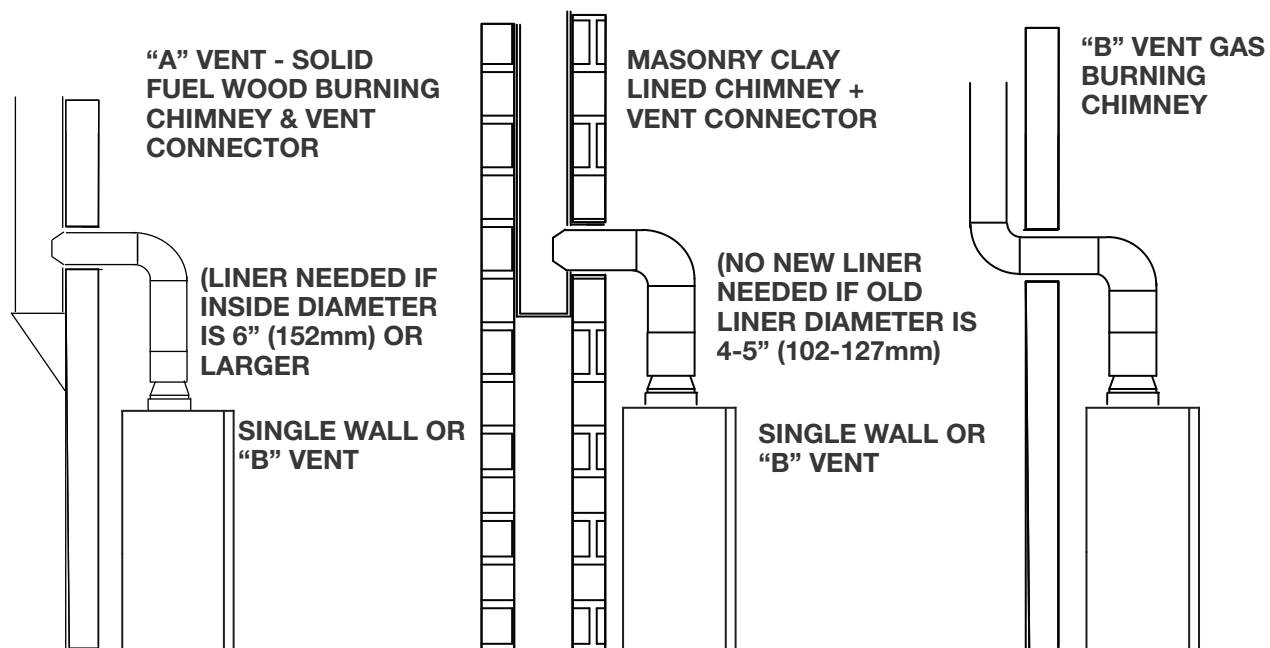
4.7 natural vent specifics - model GS60-1

4.7.1 chimney installation

! WARNING

- A chimney venting this appliance shall not vent any solid fuel burning appliance.

Three types of chimney systems may be used with this appliance.



All horizontal runs must have a 1/4" (6.4mm) rise per foot (0.3m)

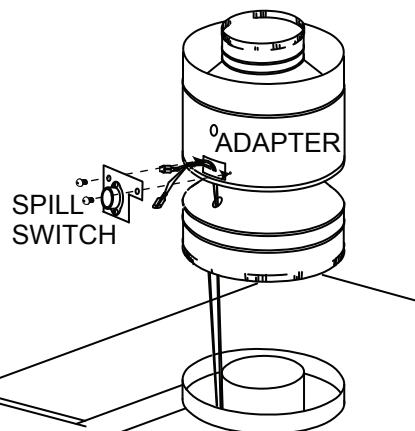
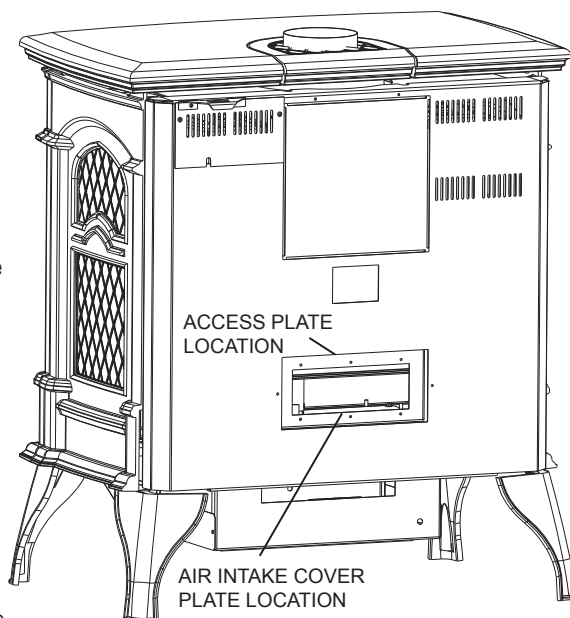
4.7.2 installing natural vent

Follow the instructions of the "B" vent manufacturer for chimney installation.

- A. Remove the access plate. Remove and discard the air intake cover plate located directly behind the access plate.
- B. Feed the 2 wires, supplied, through the 7" (178mm) collar at the top of the unit, bring them out the air intake opening but behind the rear panel as shown.

NOTE: Ensure that 2 female ends remain at the top. Re-secure the access plate.

- C. Remove the spill switch bracket from the rear of the adapter. Unscrew the spill switch and discard the bracket. Attach the spill switch to the bracket supplied with the appliance and secure onto the adapter.
- D. Bring the wires through the lower hole in the adapter. To pass the wires through the hole more easily, temporarily tape the two terminals together.
- E. With the spill switch opening aligned to the back of the appliance, take hold of the adapter base and push the crimped edge into the appliance flue collar.
- F. Connect the upper wire terminals to the spill switch.
- G. Disconnect the wire leads to on/off switch, see "wiring diagram" section and reconnect to the ends of the spill switch wires. Leave all excess wire in an orderly manner.



For aesthetics, the adapter has been designed to accept a standard matte black 7" (178mm) appliance pipe and the Napoleon® decorative brass band (standard with the GS-150KT). Both are available from your local authorized dealer / distributor.

4.7.3 natural vent

Attach the natural vent label, shown, in the control area of the appliance.

ATTACH THIS LABEL IN THE CONTROL AREA OF THE APPLIANCE.
THIS APPLIANCE HAS BEEN CONVERTED TO A NATURAL VENT MODEL.

ATTACHEZ CET ÉTIQUETTE DANS LA RÉGION DE CONTRÔLE DU FOYER.
CET APPAREIL A ÉTÉ CONVERTI À UN MODÈLE À TIRAGE NATUREL.

W385-0160 / B

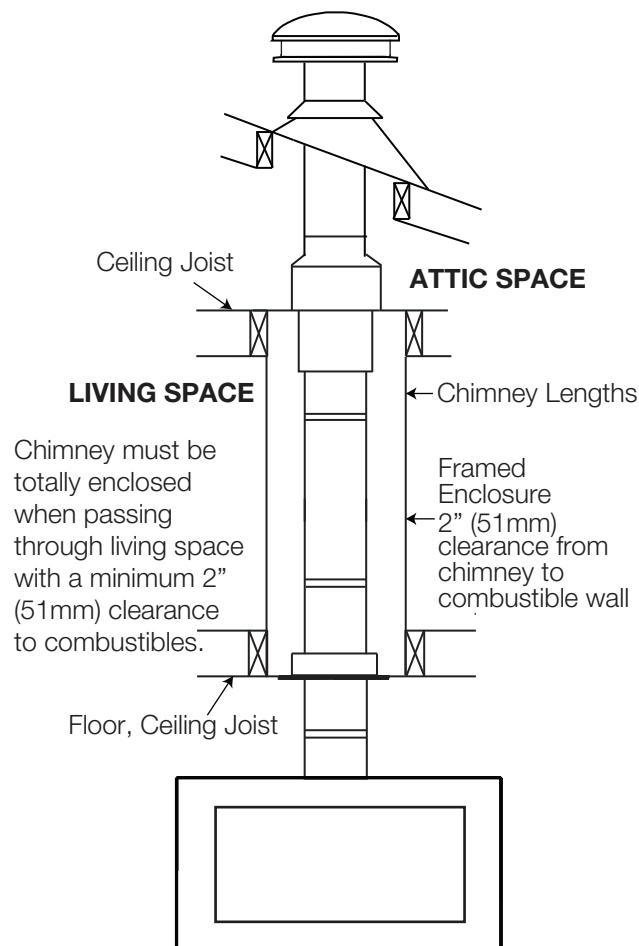
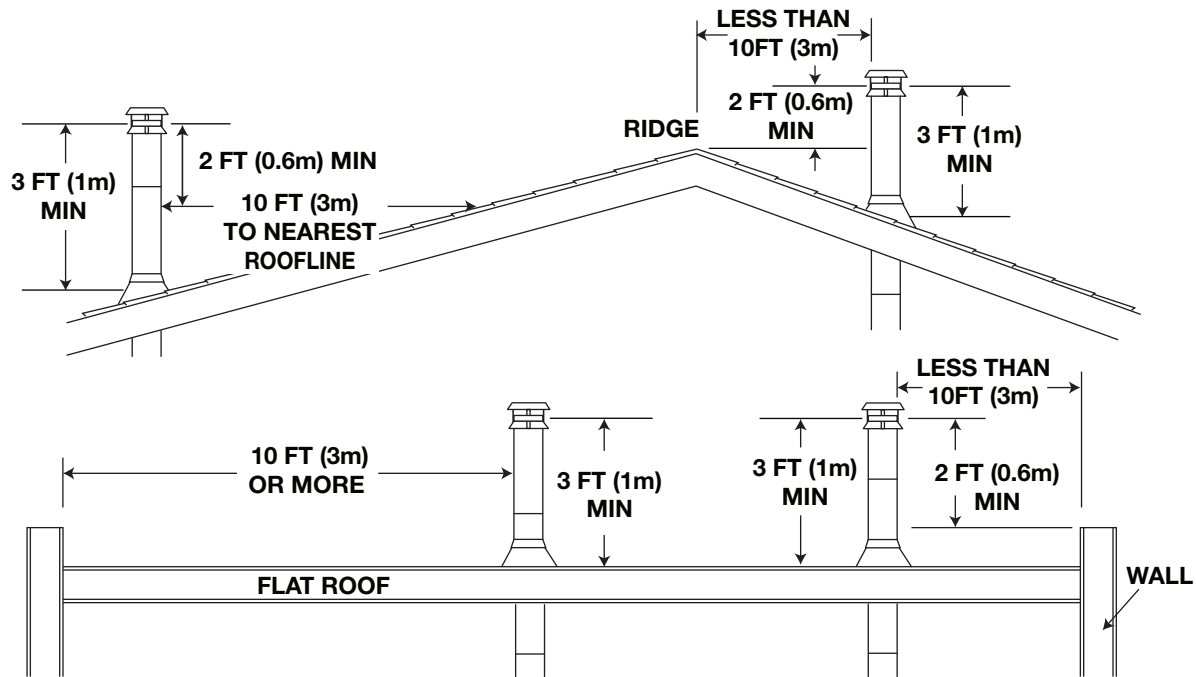
4.7.4 combustion air

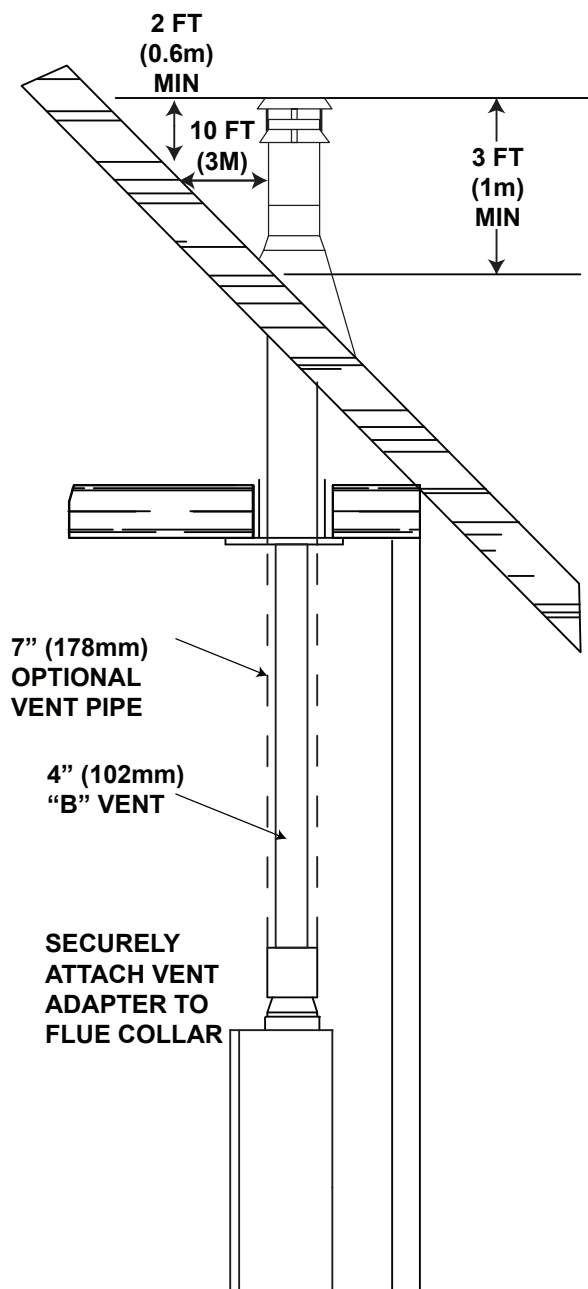
This appliance needs air for safe operation and must be installed in such a way that adequate combustion air is available.

installation

4.7.5 adding vent sections

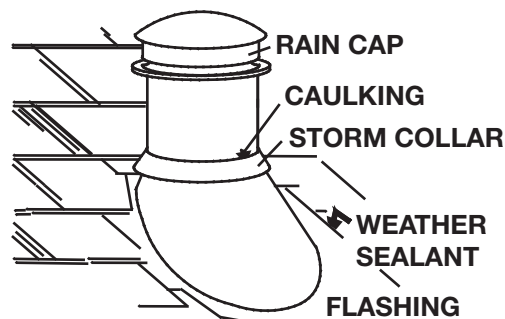
Add chimney sections, according to the manufacturer's installation instructions. If the chimney system passes through an attic space, a rafter radiation shield or attic insulation shield is required. The chimney must extend at least 3ft (0.9m) above its point of contact with the roof and at least 2ft (0.6m) higher than any wall, roof or building within 10ft (3.1m). If the chimney extends more than 5ft (1.5m) above the roof, it must be secured using a roof brace or guide wires. A raincap must be installed to avoid internal damage and corrosion.





4.7.6 installing flashing and storm collar

The following are generic installation instructions for installing the flashing around a chimney. Installation of all types of factory-built chimney systems is to be in accordance with the chimney manufacturer's installation instructions. Remove the nails from the shingles above and to the sides of the chimney. Place the flashing over the chimney pipe and slide underneath the sides and upper edge of the shingles. Ensure that the chimney pipe is properly centered within the flashing, giving a 3/4" (19.1mm) margin all around. Fasten to the roof on the top and sides. **DO NOT NAIL** through the lower portion of the flashing. Make weather-tight by sealing with caulking. Where possible, cover the sides and top edges of the flashing with roofing material. Apply waterproof caulking, provided with the flashing, around the chimney, 1" (25.4mm) above the top of the flashing and push the storm collar down into the caulking. Insert a rain cap onto the top of the last chimney section.



5.0 finishing

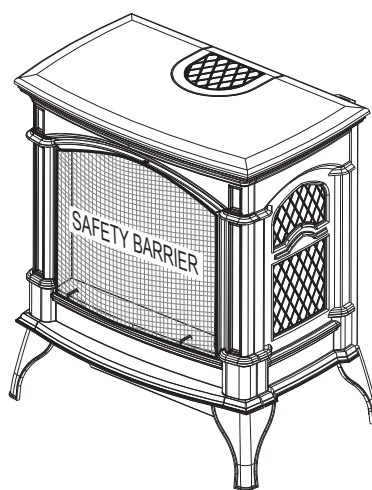
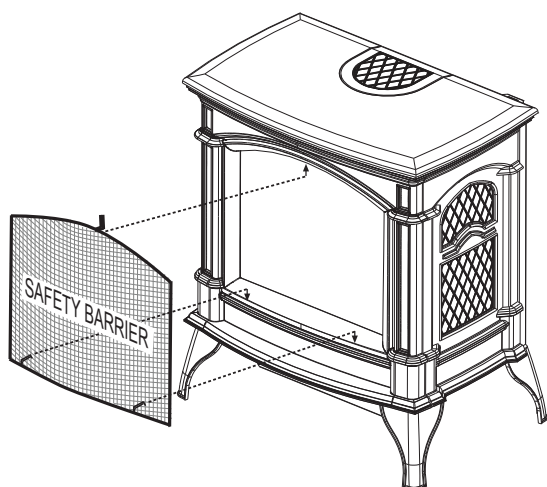
5.1 front cast removal

- A. Lift the cast top off the unit.
- B. Loosen the securing bolts on the cast front (located at either side on the top). Lift up and out.
- C. To install the front, repeat in reverse order.

5.2 safety barrier installation and removal

A barrier designed to reduce the risk of burns from the hot viewing glass, is provided with the appliance and shall be installed.

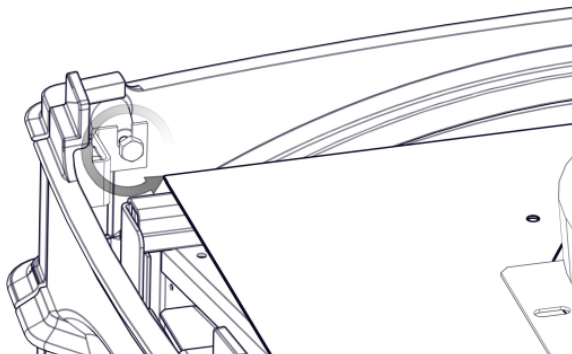
- A. Remove the safety barrier by lifting up slightly, swing out bottom then lower screen. Remove and discard plastic wrap.
- B. Tilt the top of the safety barrier toward the appliance and hook under the top arch of the cast front.
- C. Swing the bottom of the safety barrier into position and lower, allowing the bottom clips to rest on the bottom opening. Careful not to scratch the cast bottom.



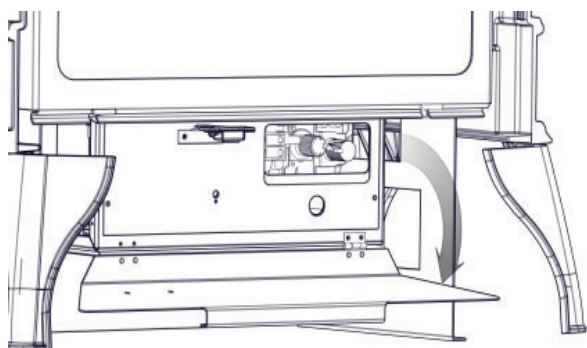
5.3 glass door installation and removal

Care must be taken when removing and installing door to ensure that the gasket at the top of the door does not bunch. When removing the glass door, a simple procedure must be followed in order to not damage the components.

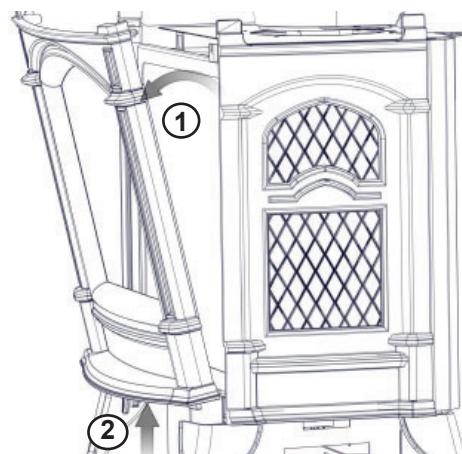
A. Lift the cast top off the appliance.



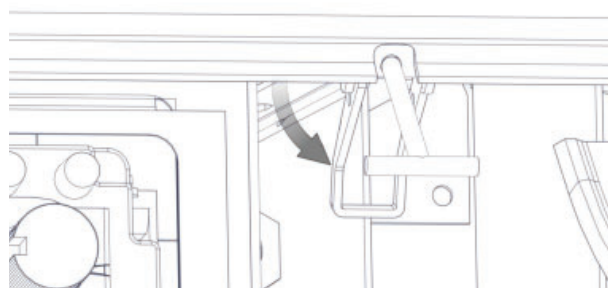
B. Remove securing bolts on cast front (located behind either side on the top) using a 10mm wrench (not supplied).



D. Open valve control door.



C. Tilt top of cast front forward and lift out.

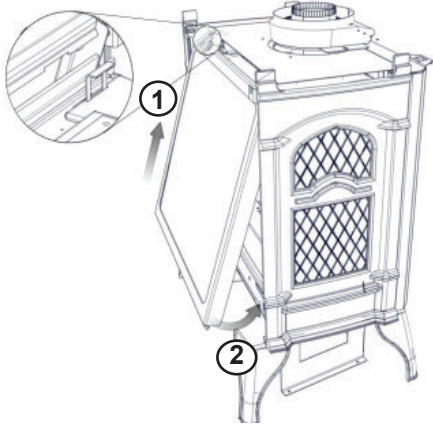


E. Pull quick release handles (located on bottom of either side) forward and release 'T' latches. 'T' latch is threaded and can be loosened or tightened to adjust for an effective door seal.

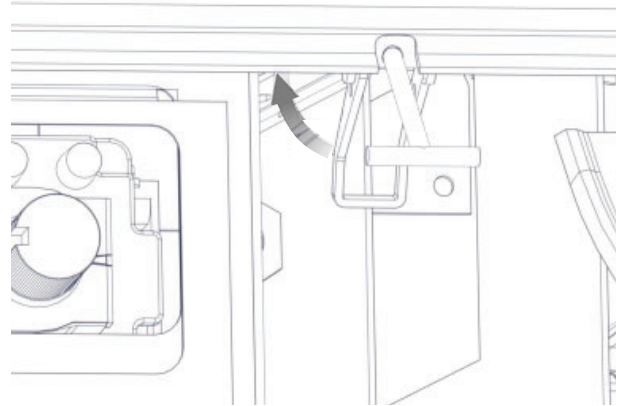
finishing

F. Lift glass door up and off edge of firebox top and slide it under top retainers to remove.

NOTE: When removing the glass door, a simple procedure must be followed in order to not damage the components.

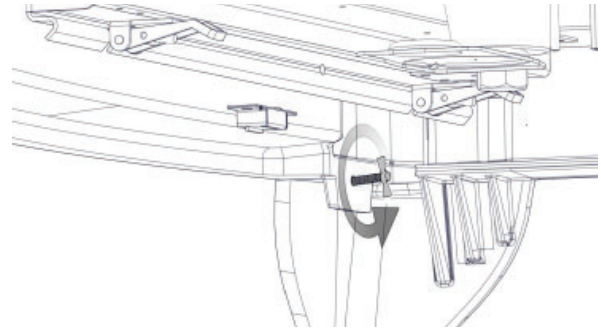


G. Slide glass door under top retainers and rest on edge of firebox. Swing bottom inwards.



H. Slide 'T' latches into grooves at bottom of glass and fasten release handles.

I. Set cast front over legs and reinstall bolts removed at step B until secure.



J. Place cast top on top of appliance.

NOTE: If gap adjustment is required between cast front and side, tighten or loosen wing nut screws (located behind either side on the bottom).

5.4 battery housing installation

! WARNING

- Ensure the gas and electrical power to the appliance is turned off.
- Appliance may be hot. Do not service until the appliance has cooled.

- Insert 4 AA batteries (not supplied) into the battery housing supplied, note the polarity of the batteries and insert as indicated on the cover (+/-). (To open the battery housing slide the back piece upwards and off of the battery housing).
- Attach the wires from the wiring harness of the appliance to the battery housing.
- Place the battery housing into the valve compartment below the burner, ensure that the battery housing is placed in a clean and easily accessible location.
- Turn the gas and electrical power back on to begin operating the appliance.

5.5 glass / door replacement

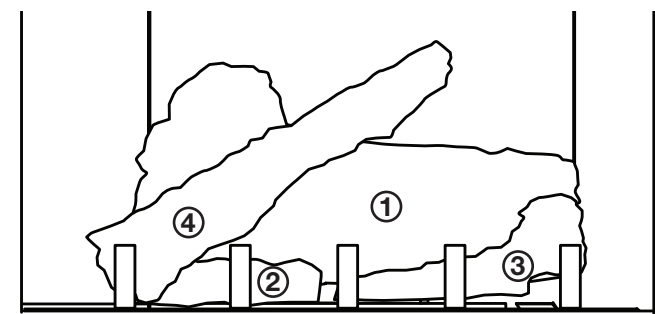
! WARNING

- Do not use substitute materials.
- Glass may be hot. Do not touch glass until cooled.
- Care must be taken when removing and disposing of any broken door glass or damaged components. Be sure to vacuum up any broken glass from inside appliance before operation.
- Do not strike, slam, or scratch. Do not operate appliance with glass removed, cracked, broken, or scratched.

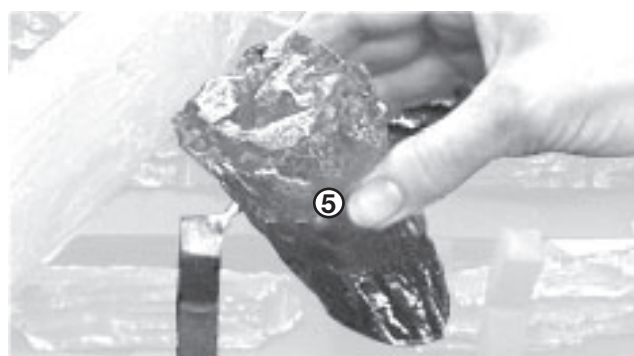
Replacement glass/frame assembly shall be replaced as a complete unit as supplied by the appliance manufacturer.

5.6 log placement

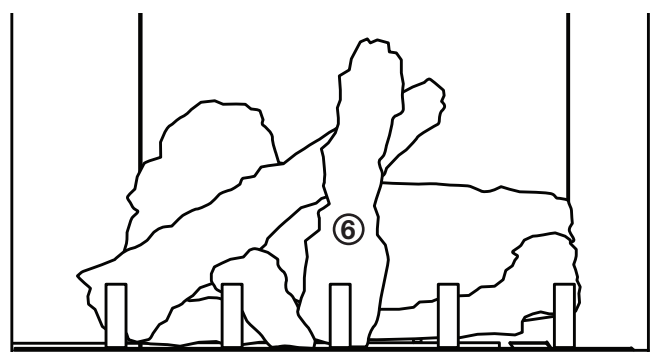
Blocked burner ports can cause an incorrect flame pattern, carbon deposits and delayed ignition. Phazer™ logs glow when exposed to direct flame and provide a unique and realistic glowing effect. Use only certified phazer™ logs available from your Napoleon® dealer.



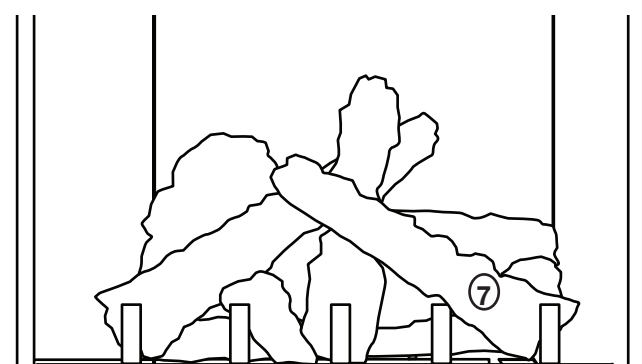
Place log #1 onto the burner, centering it onto the burner tray and pushing it as close to the rear wall of the firebox as possible. Move logs # 2 and 3 into position, lining up the studs located on the burner with the holes on the bottom of the logs. Sit the notch at the bottom of log #4 against the left outermost grate post and position the top of the log into the pocket provided on the rear log (#1).



The notch in log #5 should be pressed down onto the skewering pin located at the end of the grate as shown to prevent it from rocking.



Position the notch located in log #6 against the grate post.



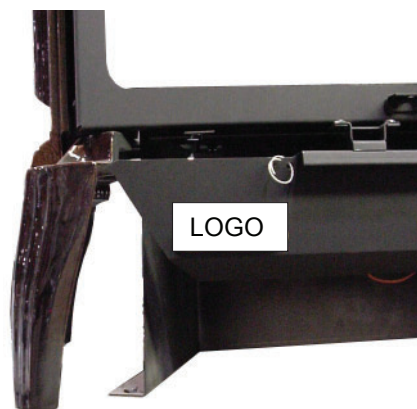
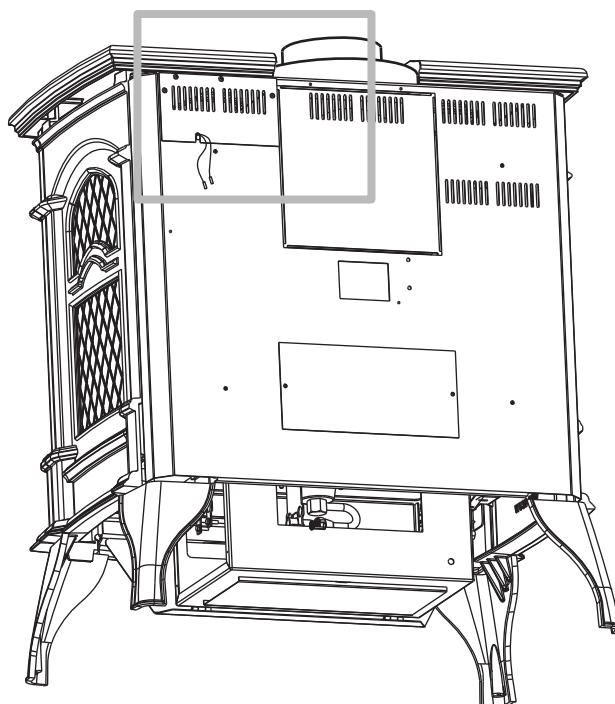
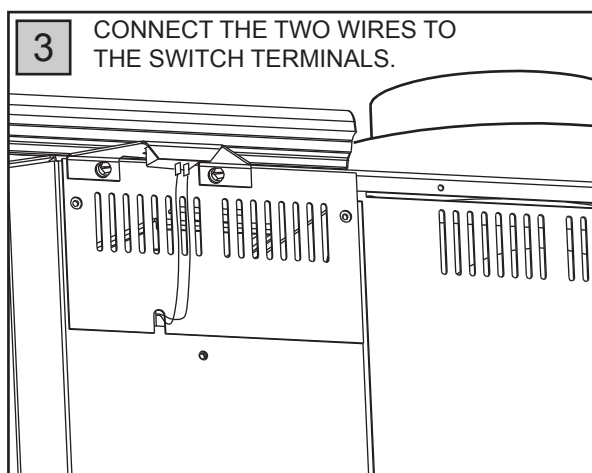
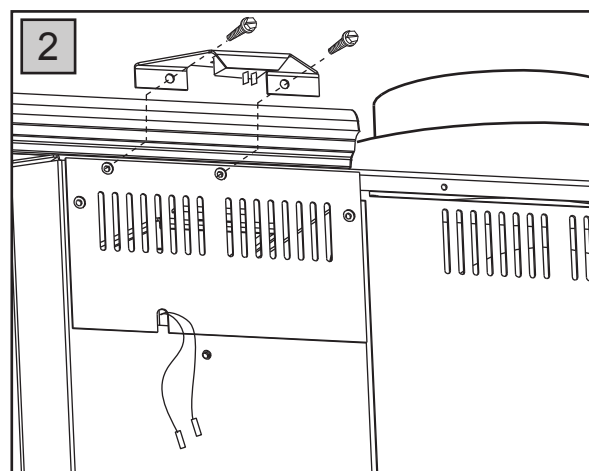
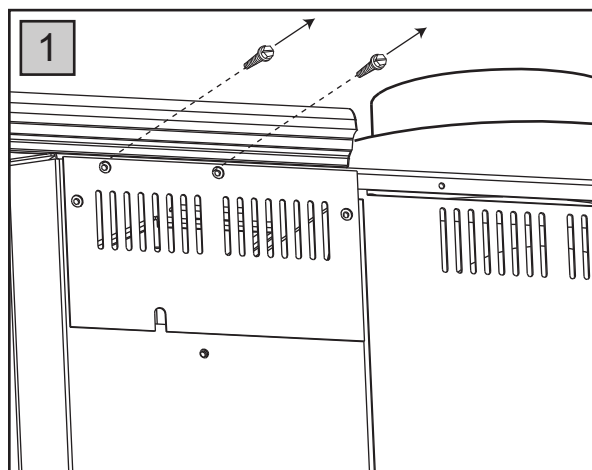
Place the bottom of log #7 against the right outermost grate post and the top into the pocket provided on the center log (#6). Bend up the tab in the log support to cradle log #7. Tear the glowing embers into pieces and place onto the front of the burner. Care should be taken to shred the embers into thin, small irregular pieces as only the exposed edges of the fibre hairs will glow when exposed to direct flame; however care should be taken to not block the burner ports. Blocked ports can cause an incorrect flame pattern, carbon deposits and delayed ignition.

Log colours may vary. During the initial use of the appliance, the colours will become more uniform as colour pigments burn in during the heat activated curing process.

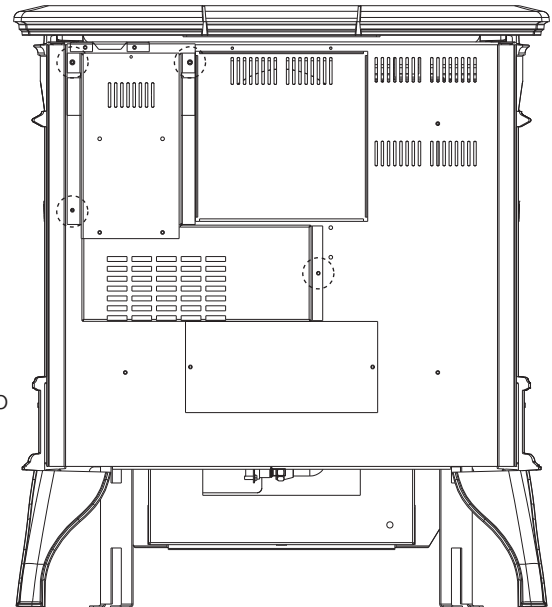
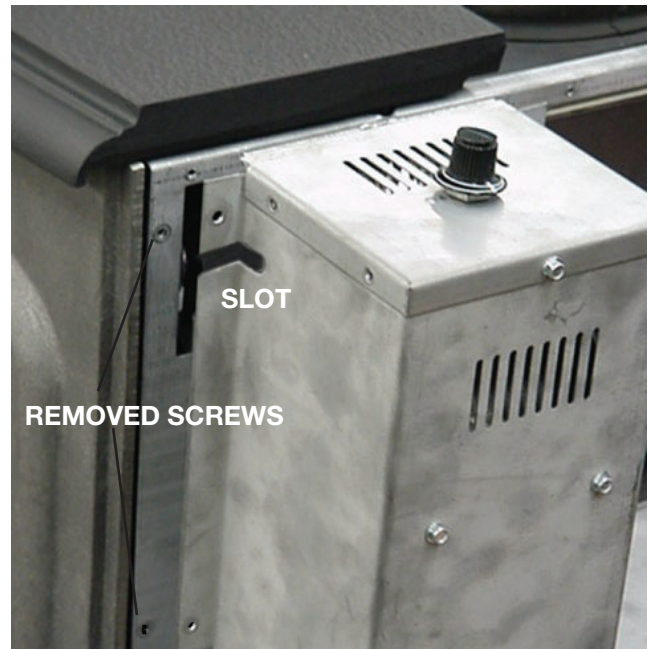
POSITIONING THE LOGS IMPROPERLY WILL CAUSE FLAME IMPINGEMENT AND CARBONING.

5.7 logo placement

Remove the backing of the logo supplied and place, as illustrated.

**5.8 switch and bracket installation**

- A.** Ensure that the access cover plate has been installed. For location, see "switch and bracket installation" section.
- B.** Remove the on/off switch bracket and the cover plate below it. The switch spacers and cover plate may now be discarded.
- C.** Decide which side of the blower housing you prefer the on/off switch to be located on.
- D.** Remove the top 2 screws from the left outer edge of the rear appliance panel.
- E.** Mount and secure the blower housing using 4 screws (two of which were removed in previous step). Ensure that the on/off switch wires pass through the appropriate slot located on either side of the blower housing.
- F.** Remove the 2 screws from the side of the blower housing that you want the switch to be located on and re-secure the on/off switch.



Because the blower is thermally activated, when turned on, it will automatically start approximately 15-30 minutes after lighting the appliance and will run for approximately 30-45 minutes after the appliance has been turned off. Use of the fan increases the output of heat.

Drywall dust will penetrate into blower bearings causing irreparable damage and must be prevented from coming into contact with the blower or its compartment.

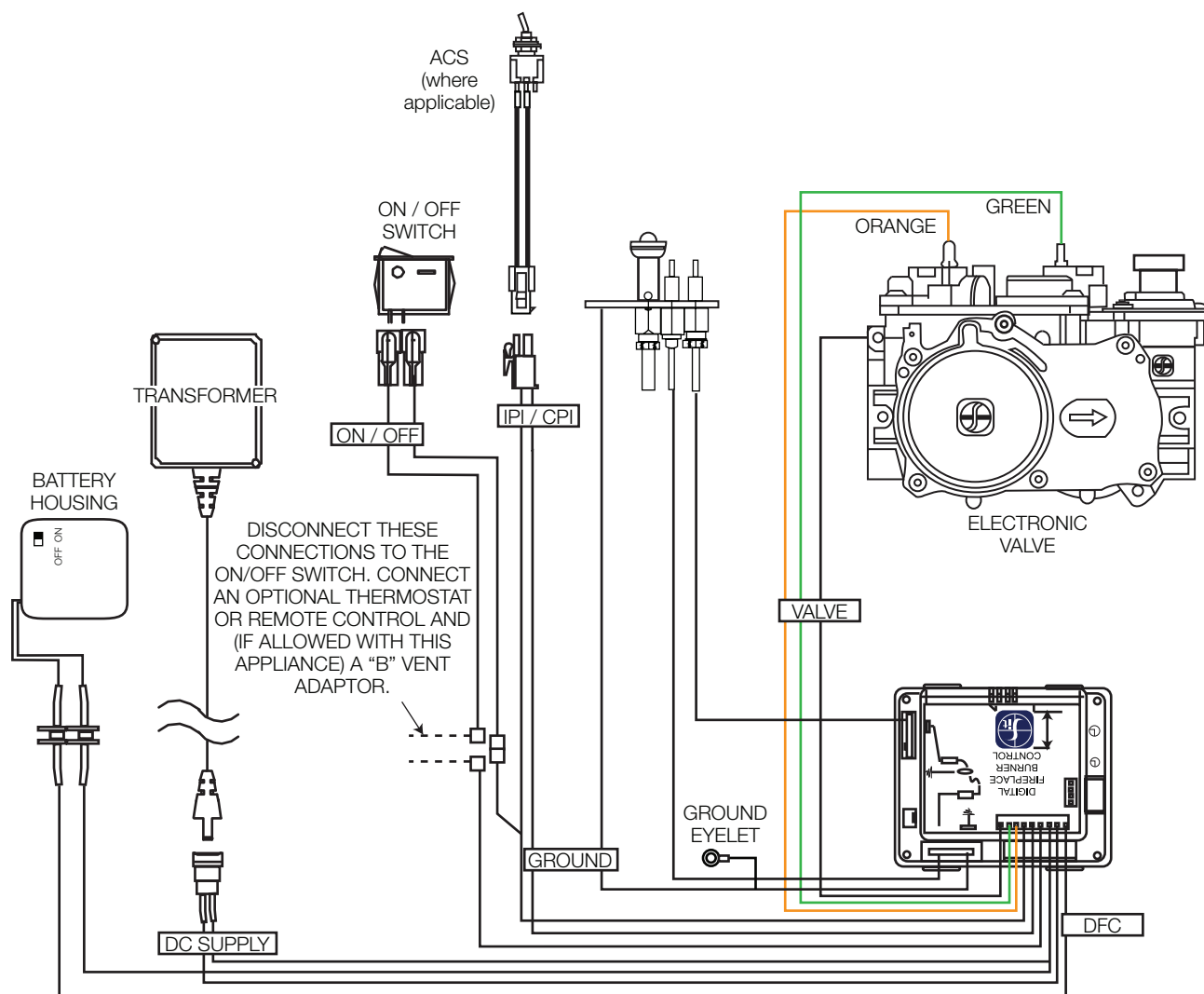
Any damage resulting from this condition is not covered by the warranty policy.



7.0 wiring diagram

⚠ WARNING

- Do not wire 110 volts to the valve or wall switch.



WHERE APPLICABLE, APPLIANCES WITH "B" VENT ADAPTORS MUST HAVE THE SPILL SWITCH WIRED IN SERIES WITH EITHER THE EXISTING SWITCH OR OPTIONAL WALL SWITCH, THERMOSTAT OR REMOTE.

note:

This appliance comes equipped with a battery back-up. If this backup is used, install 4 'AA' batteries (not supplied) into the holder and connect to the wire harness. Connect the battery holder to the wire harness before using the appliance. Place near the DFC board. If the backup is used, it must be connect to this 6 volt battery pack (supplied).

Legend	
DFC	Digital Fireplace Control
DC	Direct Current
IPI	Intermittent Pilot Ignition
CPI	Continuous Pilot Ignition (with 7-day timer)
ACS	Anti-Condensation Switch (IPI / CPI)

WARNING

- If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.
- Always light the pilot whether for the first time or if the gas supply has ran out with the glass door opened or removed.
- Tampering with the spill switch can result in carbon monoxide (CO) poisoning and possible death (GS60-1N only).

MODEL GS60-1 ONLY: SPILL SWITCH

This is a thermally activated switch, attached to the back of the chimney adaptor, which senses the change in temperature and shuts down the gas valve in the event of a blocked or disconnected vent. It acts as a safety shut-off to prevent a build up of carbon monoxide or an explosion of unburned gases during start up. If the flue is blocked or has no "draw", the spill switch will automatically shut off the supply of gas within about 5-10 minutes.

MODEL GS60-1 ONLY: VENTING ACTION CHECK

A CHECK FOR CORRECT VENTING ACTION MUST BE MADE BEFORE THE INSTALLED APPLIANCE IS LEFT WITH THE CUSTOMER. Test in the following manner:

- Close all doors and windows in the room / start exhaust fans in the home / turn appliance blower off (if equipped).
- Set controls to "high" and light the unit.
- Wait 5 minutes. Light a match and extend it 1" (51mm) into the hole located above the spill switch bracket on the adaptor.
- Venting action is satisfactory if the flame stays lit. Venting action is unsatisfactory if the flame extinguishes.
- If venting action is unsatisfactory, turn the unit off, wait 10 minutes and try again. If the match does not stay lit, turn the unit off and check for vent blockage or restriction. If necessary, consult with a qualified inspector.

8.1 operating instructions

The on-off switch is located on the back of the unit at the top left corner on models GDS60-1 and GS60-1.

NOTE: The upper firebox baffle of your new cast appliance has intentionally been left unpainted. Its shiny appearance will quickly transform to a dull black finish during the curing process.

When lit for the first time, the appliance will emit a slight odour for a few hours. This is a normal temporary condition caused by the "burn-in" of internal paints and lubricants used in the manufacturing process and will not occur again. Simply open a window to sufficiently ventilate the room. After extended periods of non-operation such as following a vacation or a warm weather season, the appliance may emit a slight odour for a few hours. This is caused by dust particles in the heat exchanger burning off. Open a window to sufficiently ventilate the room.

operation

8.2 pilot-on-demand

This appliance is equipped with an “On Demand” intermittent pilot ignition system (IPI) which also includes a continuous pilot ignition (CPI) mode with an integrated seven day timer. This system minimizes your appliance’s carbon footprint as well as reducing its annual fuel consumption and operating costs.

In IPI mode, the pilot will ignite prior to the main burner, when the appliance is turned on using a switch, remote or from a call for heat with the thermostat (if equipped). Once the appliance is turned off (or the call for heat is satisfied), the main burner and pilot flame will shut down.

The continuous (CPI) mode is intended to enhance the performance of the appliance during the startup phase in colder climates and extreme weather by keeping the system warm when the main burner is not in use. However, the timer feature provides the convenience that the appliance automatically switches off the pilot when the appliance has not been used for seven days to save unnecessary fuel consumption.

When the CPI function is turned on, the pilot will remain on after the main burner is turned off. A timer will then begin the countdown for approximately seven days before shutting off the pilot if the appliance is not used. This countdown will reset anytime the appliance main burner is used. Therefore, if the appliance is regularly used day to day, the pilot will remain on. However, this system does not require the user to remember to turn the pilot off as summer approaches and avoids unnecessary fuel consumption while still readily turned back on when the cold weather returns.

Your appliance may be equipped with an ACS or remote control device which enables you to select IPI or CPI modes.

If your appliance is equipped with an ACS switch, it has the option to change modes. If installed with the blue wire facing up, flipping the switch UP turns on the continuous pilot with timer and flipping the switch DOWN turns on the intermittent pilot ignition. If installed with the white wire facing up, the opposite is true.

If your appliance is equipped with a remote control device capable of selecting IPI / CPI modes, refer to remote operating instructions.

In order to start your pilot, turning the main burner on with the switch, remote or thermostat and then turning it off will reactivate the continuous pilot mode and reset the seven day timer.



8.3 operating instructions - for your safety read before operating

OPERATING INSTRUCTIONS / INSTRUCTIONS D'OPÉRATION
FOR YOUR SAFETY READ BEFORE OPERATING / POUR VOTRE SÉCURITÉ LIRE AVANT DE FAIRE FONCTIONNER

WARNING: DO NOT TURN ON IF CHILDREN OR OTHER AT RISK INDIVIDUALS ARE NEAR THE APPLIANCE. IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE. INITIAL LIGHTING OF THE PILOT AND MAIN BURNERS MUST BE DONE WITH THE GLASS DOOR OFF. DO NOT CONNECT VALVE OR WALL SWITCH TO ELECTRICITY. SEE INSTALLATION INSTRUCTIONS.

A. THIS APPLIANCE IS EQUIPPED WITH AN IGNITION DEVICE WHICH AUTOMATICALLY LIGHTS THE PILOT. DO NOT TRY TO LIGHT BY HAND.
 B. BEFORE OPERATING, SMELL ALL AROUND THE APPLIANCE AREA FOR GAS AND NEXT TO THE FLOOR BECAUSE SOME GAS IS HEAVIER THAN AIR AND WILL SETTLE ON THE FLOOR.

WHAT TO DO IF YOU SMELL GAS:

- TURN OFF ALL GAS TO THE APPLIANCE.
- OPEN WINDOWS.
- DO NOT TRY TO LIGHT ANY APPLIANCE.
- DO NOT TOUCH ANY ELECTRICAL SWITCH; DO NOT USE ANY PHONE IN YOUR BUILDING.
- IMMEDIATELY CALL YOUR GAS SUPPLIER FROM A NEIGHBOUR'S PHONE. FOLLOW THE GAS SUPPLIER'S INSTRUCTIONS.
- IF YOU CANNOT REACH YOUR GAS SUPPLIER, CALL THE FIRE DEPARTMENT.

C. DO NOT TRY TO REPAIR ANY PART OF THIS ASSEMBLY. CALL A QUALIFIED SERVICE TECHNICIAN. FORCE OR ATTEMPTED REPAIR MAY RESULT IN A FIRE OR EXPLOSION.
 D. 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.

ATTENTION: NE PAS ALLUMER SI DES ENFANTS OU D'AUTRES INDIVIDUS À RISQUE SONT À PROXIMITÉ DU FOYER. QUICONQUE NE RESPECTE PAS À LA LETTRE LES INSTRUCTIONS DANS LA PRÉSENTE NOTICE, RISQUE DE DÉCLANCHER UN INCENDIE OU UN EXPLOSION ENTRAÎNANT DES DOMMAGES, DES BLESSURES OU LA MORT. L'ALLUMAGE INITIAL DE LA VEILLEUSE ET DU BRÛLEUR PRINCIPAL DOIT SE FAIRE AVEC LA PORTE VITRÉE ENLEVÉE. NE RACCORDEZ PAS LA SOUPAPE OU L'INTERRUPTEUR MURAL À L'ÉLECTRICITÉ. CONSULTEZ LES INSTRUCTIONS D'INSTALLATION.

A. CET APPAREIL EST MUNI D'UN DISPOSITIF D'ALLUMAGE QUI ALLUME AUTOMATIQUEMENT LA VEILLEUSE. NE TENTEZ PAS D'ALLUMER LA VEILLEUSE MANUELLEMENT.
 B. AVANT DE FAIRE FONCTIONNER, RENIFLEZ TOUT AUTOUR DE L'APPAREIL POUR DÉCELER UN ODEUR DE GAZ. RENIFLEZ PRÈS DU PLANCHER, CAR CERTAINS GAZ SONT PLUS LOURDS QUE L'AIR ET PEUVENT S'ACCUMULER AU NIVEAU DU SOL.

QUE FAIRE SI VOUS DÉTECTEZ UNE ODEUR DE GAZ:

- COUPEZ L'ALIMENTATION DE GAZ PRINCIPALE.
- OUVREZ LES FENÊTRES.
- NE PAS TENTER D'ALLUMER D'APPAREIL.
- NE TOUCHEZ À AUCUN INTERRUPTEUR; NE PAS VOUS SERVIR DES TÉLÉPHONES SE TROUVANT DANS LE BÂTIMENT.
- APPELÉZ IMMÉDIATEMENT VOTRE FOURNISSEUR DE GAZ DEPUIS UN VOISIN. SUIVEZ LES INSTRUCTIONS DU FOURNISSEUR.
- SI VOUS NE POUVEZ REJOINDRE LE FOURNISSEUR APPELÉZ LE SERVICE DES INCENDIES.

C. N'ESSAYEZ PAS DE RÉPARER AUCUNE PIÈCE DE CET ASSEMBLAGE. APPELÉZ UN TECHNICIEN QUALIFIÉ. FORCER OU TENTER DE RÉPARER L'ASSEMBLAGE POURRAIT CAUSER UN FEU OU UNE EXPLOSION.
 D. N'UTILISEZ PAS CET APPAREIL S'IL A ÉTÉ PLONGÉ DANS L'EAU, MÊME PARTIELLEMENT. FAITES INSPECTER L'APPAREIL PAR UN TECHNICIEN QUALIFIÉ ET REMPLACEZ TOUTE PARTIE DU SYSTÈME DE CONTRÔLE ET TOUTE COMMANDE QUI ONT ÉTÉ PLONGÉS DANS L'EAU.

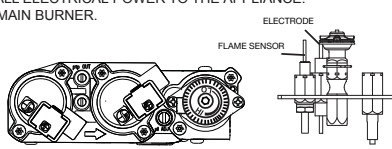
W385-0460 / E

8.4 lighting instructions

LIGHTING INSTRUCTIONS / INSTRUCTIONS D'ALLUMAGE

- STOP!** READ ALL INFORMATION OF OPERATING AND LIGHTING INSTRUCTIONS BEFORE PROCEEDING.
- TURN OFF ELECTRICAL POWER TO THE APPLIANCE.
- THIS APPLIANCE IS EQUIPPED WITH AN IGNITION DEVICE WHICH AUTOMATICALLY LIGHTS THE PILOT. DO NOT TRY TO LIGHT THE PILOT BY HAND.
- OPEN THE GLASS DOOR.
- TURN MANUAL SHUTOFF VALVE CLOCKWISE TO OFF.
- WAIT FIVE (5) MINUTES TO CLEAR OUT ANY GAS. IF YOU SMELL GAS, INCLUDING NEAR THE FLOOR, **STOP!** FOLLOW "B" OF THE OPERATING INSTRUCTIONS. IF YOU DON'T SMELL GAS, GO TO THE NEXT STEP.
- TURN MANUAL SHUTOFF VALVE COUNTER-CLOCKWISE TO ON.
- CLOSE THE GLASS DOOR.
- TURN ON ALL ELECTRICAL POWER TO THE APPLIANCE.
- TURN ON MAIN BURNER.

- ARRÊTEZ!** LISEZ TOUTES LES INSTRUCTIONS DE FONCTIONNEMENT ET D'ALLUMAGE AVANT DE CONTINUER.
- COUPEZ L'ALIMENTATION ÉLECTRIQUE À L'APPAREIL.
- CET APPAREIL EST MUNI D'UN DISPOSITIF D'ALLUMAGE QUI ALLUME LA VEILLEUSE AUTOMATIQUEMENT, N'ESSEYÉZ PAS D'ALLUMER LA VEILLEUSE MANUELLEMENT.
- OUVREZ LA PORTE VITRÉE.
- TOURNEZ LA SOUPAPE DE SECTIONNEMENT MANUELLE VERS LA DROITE À « OFF ».
- ATTENDEZ CINQ (5) MINUTES POUR QUE LE GAZ PUISSE S'ÉCHAPPER. SI VOUS DÉTECTEZ UNE ODEUR DE GAZ, **ARRÊTEZ!** SUIVEZ « B » DANS LES INSTRUCTIONS DE FONCTIONNEMENT. S'IL N'Y A PAS D'ODEUR DE GAZ, PASSEZ À L'ÉTAPE SUIVANTE.
- TOURNEZ LA SOUPAPE DE SECTIONNEMENT MANUELLE VERS LA GAUCHE À « ON ».
- FERMEZ LA PORTE VITRÉE.
- RÉTABLISSEZ L'ALIMENTATION ÉLECTRIQUE AU FOYER.
- ALLUMEZ LE BRÛLEUR PRINCIPAL.



TO TURN OFF GAS / INSTRUCTIONS POUR COUPER LE GAZ

- TURN OFF ALL ELECTRICAL POWER TO THE APPLIANCE IF SERVICE IS TO BE PERFORMED.
- TURN MANUAL SHUTOFF VALVE CLOCKWISE TO OFF. DO NOT FORCE.

- COUPEZ L'ALIMENTATION ÉLECTRIQUE AU FOYER SI UN TRAVAIL D'ENTRETIEN DOIT SE FAIRE.
- TOURNEZ LA SOUPAPE D'ARRÊT MANUELLE VERS LA DROITE À « OFF ». NE FORCEZ PAS.

W385-0460 / E

9.0 adjustment

9.1 pilot burner adjustment

Adjust the pilot screw to provide properly sized flame. Turn in a clockwise direction to reduce the gas flow.

Check Pressure Readings:

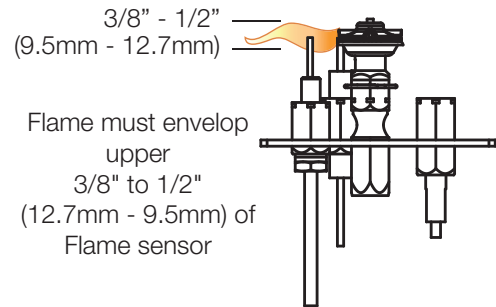
Inlet pressure can be checked by turning screw (A) counter-clockwise 2 or 3 turns and then placing pressure gauge tubing over the test point. Gauge should read as described on the chart below. Check pressure with main burner operating on "HI".

Outlet pressure can be checked the same as above using screw (B). Gauge should read as described on the chart below. Check pressure with main burner operating on "HI".

After taking pressure readings, be sure to turn screws clockwise firmly to reseal. Do not overtorque.

Leak test with a soap and water solution.

Prior to pilot adjustment, ensure that the pilot assembly has not been painted. If overspray or painting of the pilot assembly has occurred remove the paint from the pilot assembly, or replace. Fine emery cloth or a synthetic scrub pad (such as Scotch-Brite™) can be used to remove the paint from the pilot hood, electrode and flame sensor.



Pressure	Natural Gas (inches)	Natural Gas (millibars)	Propane (inches)	Propane (millibars)
Inlet	*7" (minimum 4.5")	17.4mb (minimum 11.2mb)	13" (minimum 11")	32.4mb (minimum 27.4mb)
Outlet	3.5"	8.7mb	10"	24.9mb

***Maximum inlet pressure not to exceed 13"**

9.2 venturi adjustment

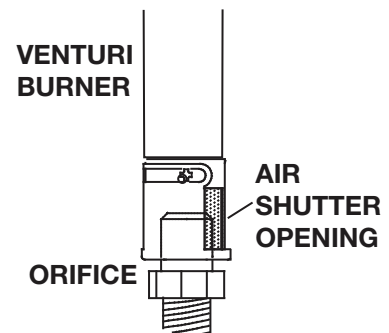
This appliance has an air shutter that has been factory set open according to the chart below:

Regardless of venturi orientation, closing the air shutter will cause a more yellow flame, but can lead to carbonization. Opening the air shutter will cause a more blue flame, but can cause flame lifting from the burner ports. The flame may not appear yellow immediately; allow 15 to 30 minutes for the final flame colour to be established.

AIR SHUTTER ADJUSTMENT MUST ONLY BE DONE BY A QUALIFIED INSTALLER.

note:

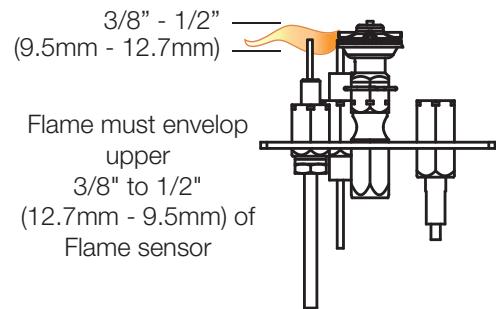
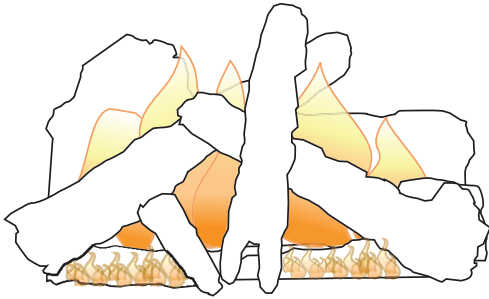
It is important that the orifice is securely inserted into the venturi.



GDS60-1	
NG	3/8" (9.5mm)
P	5/16" (7.9mm)

9.3 flame characteristics

It's important to periodically perform a visual check of the pilot and burner flames. Compare them to the illustration provided. If any flames appear abnormal, call a service person.



9.4 restricting vertical vents - model GDS60-1

Vertical installations may display a very active flame. If this appearance is not desirable, the vent exit must be restricted using a restrictor vent kit. Refer to the "**replacement parts**" section of the owner's manual for the appropriate kit. This will reduce the velocity of the exhaust gases, slowing down the flame pattern and creating a more traditional gentle flame appearance. Specific instructions are included with the kit.

10.0 maintenance

WARNING

- Turn off the gas and electrical power before servicing the appliance.
- Appliance may be hot. Do not service until appliance has cooled.
- Do not use abrasive cleaners on glass.
- Do not paint the pilot assembly.

This appliance and its venting system should be inspected before use and at least annually by a qualified service person. The following suggested checks should be performed by a qualified technician. The appliance area must be kept clear and free of combustible materials, gasoline, or other flammable vapors and liquids. The flow of combustion and ventilation air must not be obstructed.

note:

Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

1. In order to properly clean the burner and pilot assembly, remove the logs, rocks and/or glass to expose both assemblies.
2. Keep the control compartment, media, burner, air shutter opening and the area surrounding the appliance clean by vacuuming or brushing, at least once a year.
3. Check to see that all burner ports are burning. Clean out any of the ports which may not be burning or are not burning properly.
4. Check to see that the pilot flame is large enough to engulf the flame sensor and/or thermocouple / thermopile as well as it reaches the burner.
5. If your appliance is equipped with a safety barrier, cleaning may be necessary due to excessive lint / dust from carpeting, pets, etc. simply vacuum using the brush attachment.
6. If your appliance is equipped with relief doors, ensure the system performs effectively. Check that the gasket is not worn or damaged. Replace if necessary.
7. Replace the cleaned logs, rocks or glass. Failure to properly position the media may cause carboning which can be distributed in the surrounding living area, inside the firebox and on exterior surfaces surrounding vent termination.
8. Check to see that the main burner ignites completely on all ports when turned on. A 5 to 10 second total light-up period is satisfactory. If ignition takes longer, consult your local authorized dealer / distributor.
9. Visually inspect the appliance for carbon build up. Using a small whisk or brush, brush off the carbon and vacuum up or sweep into garbage.
10. **This step is not applicable for Vent Free appliances:** Check to see that the appliance is venting correctly. Ensure chimney system is safe and unobstructed. (If for any reason the vent air intake system is disassembled, re-install and re-seal per the instructions provided for the initial installation).

10.1 annual maintenance

WARNING

- Annual maintenance should be performed by a qualified service technician
- The firebox becomes very hot during operation. Let the appliance cool completely or wear heat resistant gloves before conducting service.
- Never vacuum hot embers.
- Do not paint the pilot assembly

- This appliance will require maintenance which should be planned on an annual basis.
- Service should include cleaning, battery replacement, venting inspection and inspection of the burner, media, and firebox. Refer to the door removal section and remove the door as instructed.
- Carefully remove media if necessary (logs, glass, brick panels, etc.).
- Using a vacuum with soft brush attachment, gently remove any dirt, debris, or carbon build up from the logs, firebox, and burner. For glass media, follow the installation instructions for pre-cleaning.
- Gently remove any build-up on the pilot assembly including thermopile, thermocouple, flame sensor, and igniter (if equipped).

note:

Clean flame sensor using a fine emery cloth or a synthetic scrub pad (such as Scotch-Brite™) to remove any oxides. Clean the pilot assembly using a vacuum with a soft brush attachment. It is important that the pilot assembly is not painted.

- Inspect all accessible gaskets and replace as required.
- If equipped with a blower, access the blower and clean using a soft brush and vacuum.
- Re-assemble the various components in reverse order.
- Inspect the relief system. The appliance relieves through the main glass door or through the flaps on the firebox top. Ensure they open freely, and close sealed.
- Check the gas control valve pilot and Hi / Lo knobs move freely, if equipped. Replace if any stiffness in movement is experienced.
- Check for gas leaks on all gas connections up and downstream from the gas valve including pilot tube connections.

10.2 care of glass

WARNING

- Do not clean glass when hot! Do not use abrasive cleaners to clean glass.

Buff lightly with a clean dry soft cloth to remove accumulated dust or fingerprints. Clean both sides of the glass after the first 10 hours of operation with an ammonia-free glass cleaner.

note:

Vinegar-based glass cleaners have demonstrated an ability to provide a clean, streak free glass surface.

Thereafter, clean as required. If the glass is not kept clean permanent discoloration and / or blemishes may result. Contact you local authorized dealer / distributor for complete cleaning instructions.

Razor blades, steel wool, or other metallic objects must not be used on both surfaces of the glass. Doing so can remove a thin layer of metal from the razor blades, steel wool, or other metallic objects that may then be deposited onto the coating. This can result in a discoloured stain or scratch-like mark. More importantly, this can scratch the glass surface, thereby reducing its strength.

Do not operate the appliance with broken glass, as leakage of flue gases may result.

Contact your local authorized dealer / distributor for complete cleaning instructions.

If the glass should ever crack or break while the fire is burning, do not open the door until the fire is out. Do not operate the appliance until the glass has been replaced. Contact you local authorized dealer / distributor for replacement parts. **DO NOT SUBSTITUTE MATERIALS.**

This appliance is factory equipped with 5mm ceramic glass. Use only replacement parts as supplied by the appliance manufacturer. **DO NOT SUBSTITUTE MATERIALS.**

11.0 replacement parts

WARNING

- Failure to position the parts in accordance with this manual or failure to use only parts specifically approved with this appliance may result in property damage or personal injury.

Contact your dealer for questions concerning prices and policies on replacement parts. Normally, all parts can be ordered through your Authorized dealer / distributor.

For warranty replacement parts, a photocopy of the original invoice will be required to honour the claim.

When ordering replacement parts always give the following information:

- Model & Serial Number of appliance
- Installation date of appliance
- Part number
- Description of part
- Finish

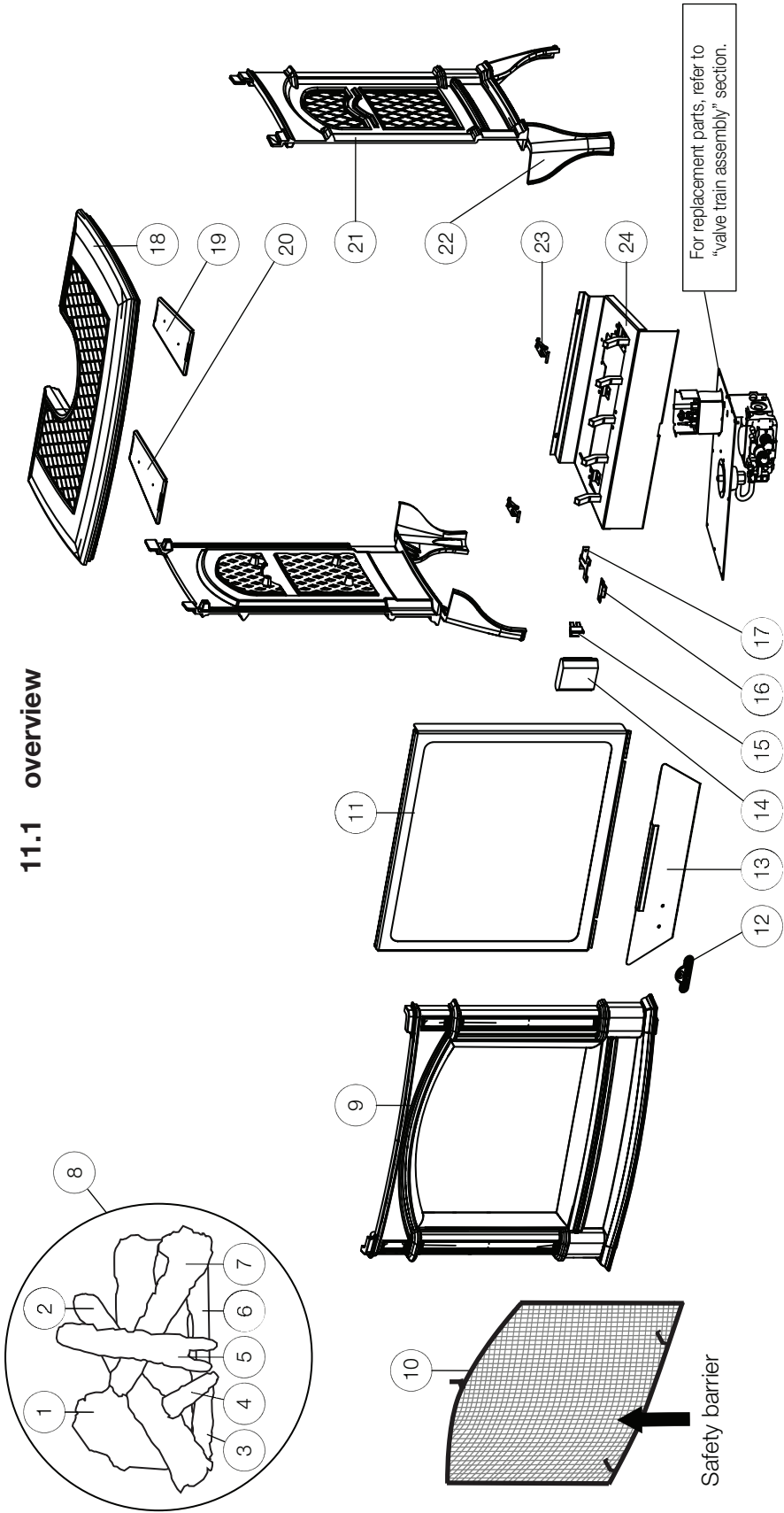
Parts, part numbers, and availability are subject to change without notice.

Parts identified as stocked will be delivered within 2 to 5 business days for most delivery destinations.

Parts not identified as stocked will be delivered within a 2 to 4 week period, for most cases.

Parts identified as 'SO' are special order and can take up to 90 days for delivery.

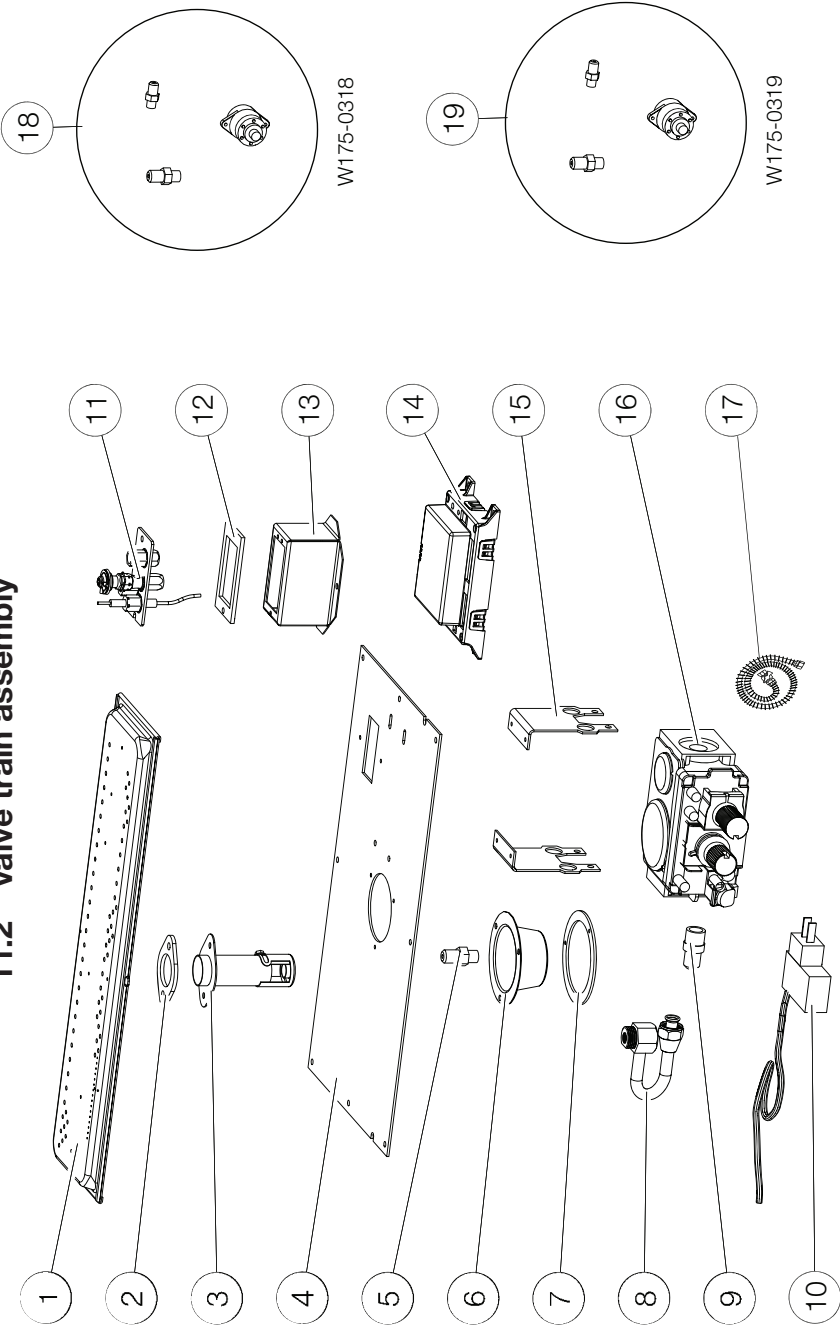
11.1 overview



Items may not appear exactly as illustrated.

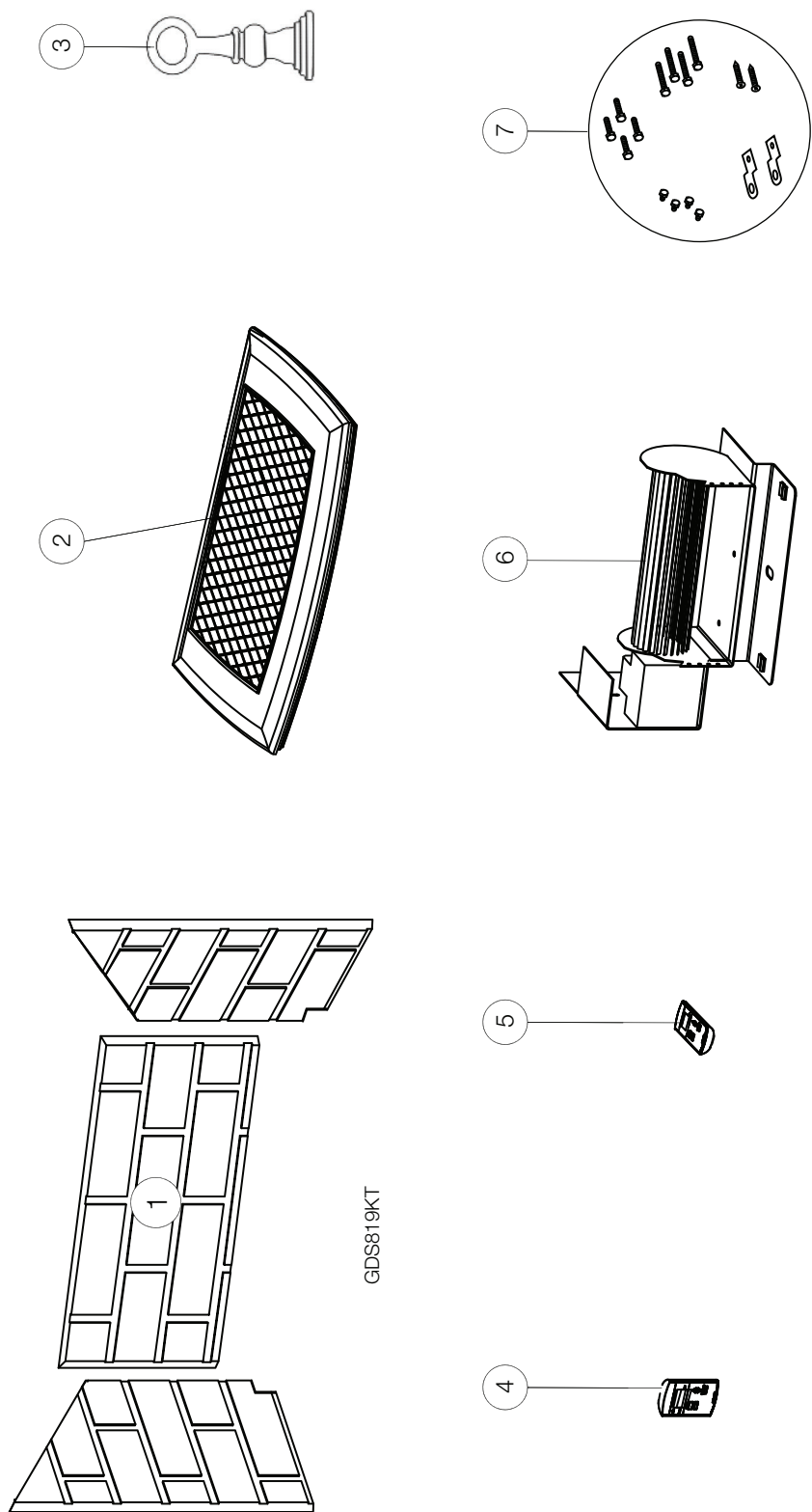
Ref. No.	Part number	Description	Stocked
1	W135-0209	Rear log (GL-646)	Yes
2	W135-0210	Left crossover log (GL-646)	Yes
3	W135-0082	Left charcoal log (GL-646)	Yes
4	W135-0211	Small right log (GL-646)	Yes
5	W135-0212	Middle crossover log (GL-646)	Yes
6	W135-0182	Right charcoal log (GL-646)	Yes
7	W135-0213	Right crossover log (GL-646)	Yes
8	GL-646	Log set	Yes
9	W135-0803	Front casting (Metallic Black)	
9	W135-0803N	Front casting (Majolica Brown)	
10	W010-3296	Safety barrier assembly	
11	W010-2112	Door assembly (c/w glass and gasket)	Yes
12	N385-0307	Napoleon logo	Yes
13	W010-2114	Control panel assembly	
14	W350-0342	Battery housing	Yes
15	W660-0009	On / Off switch	Yes
16	W430-0013	Door catch magnet assembly	
17	W080-1009	Magnet bracket	Yes
18	W135-0802	Top casting (Metallic Black)	Yes
18	W135-0802N	Top casting (Majolica Brown)	Yes
19	W010-1596	(RS) Relief door assembly	
20	W010-1607	(LS) Relief door assembly	
21	W135-0804	Side casting (X2) (Metallic Black)	Yes
21	W135-0804N	Side casting (X2) (Majolica Brown)	Yes
22	W135-0805	Feet casting (Metallic Black)	Yes
22	W135-0805N	Feet casting (Majolica Brown)	Yes
23	W390-0001	Door latches (X2)	
24	W010-3074	Log support assembly	

11.2 valve train assembly



Ref. No.	Part number	Description	Stocked
11	W010-2763	Pilot assembly	Yes
12	W290-0029	Pilot gasket	Yes
13	W350-0227	Pilot housing	Yes
14	W190-0175	Control board	Yes
15	W080-1004	Valve bracket (X2)	Yes
16	W725-0062	Gas valve	Yes
17	W175-0217	Flex connector	Yes
18	W175-0318	Conversion kit (NG-P)	Yes
19	W175-0319	Conversion kit (P-NG)	Yes

Ref. No.	Part number	Description	Stocked
1	W100-0071	Burner assembly	Yes
2	W290-0018	Venturi gasket	Yes
3	W720-0069	Venturi	Yes
4	W035-0289	Burner base	Yes
5	W456-0035	Burner orifice #35	Yes
6	W350-0417	Venturi housing	Yes
7	W290-0127	Venturi housing gasket	Yes
8	W432-0062	3/8" manifold	Yes
9	W445-0038	3/8" connector	Yes
10	W707-0010	Transformer	Yes



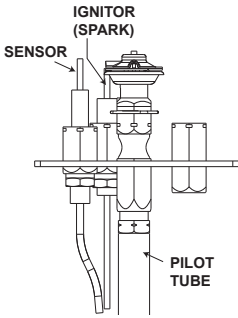
Items may not appear exactly as illustrated.

Ref. No.	Part number	Description	Stocked
1	GDS819KT	Decorative Brick Panels Sandstone	
2	GS831K	Trivet (black)	
3	ANI-K	Cast iron andirons (X2)	
4	W660-0081	Wall mounted thermostat	
Ref. No.	Part number	Description	Stocked
5	F45 / F60	Handheld remote control	
6	GS-64KT	Blower kit	
7	GDSLL-KT	Leg levelling / securing kit	

13.0 troubleshooting

! WARNING

- Always light the pilot whether for the first time or if the gas supply has run out, with the glass door open or removed.
- Turn off gas and electrical power before servicing the appliance.
- Appliance may be hot. Do not service until appliance has cooled.
- Do not use abrasive cleaners

symptom	problem	test solution
 <p>Pilot will not light. Makes noise with no spark at pilot burner.</p>	Wiring.	- Verify the wire for the sensor and the wire for the ignitor are connected to the correct terminals. (not reversed) on the module. NOTE: Sensor has 3/16" (4.8mm) connection and ignitor has 1/8" (3.2mm) connection.
	Loose connection.	- Verify no loose connections, electrical shorts in the wiring or ground out to any metal object.
	Module.	Turn the ON / OFF switch to the "OFF" position. Remove the ignitor wire from the module. Place the ON / OFF switch to the "ON" position. Hold a grounded wire about 3/16" (4.8mm) away from the ignitor (spark) terminal on the module. If no spark, the ignitor terminal module must be replaced. If there is a spark, the ignitor terminal is fine. Inspect pilot assembly for a shorted wire or cracked insulator around the electrode.
	Ignitor spark gap is incorrect.	- Spark gap the ignitor to the pilot should be 1/8" (3.2mm).
	Transformer.	- Verify the transformer is installed and plugged into the module. Check voltage of the transformer under load at the spade connections on the module with the ON / OFF switch in the "ON" position. Acceptable readings of a good transformer are between 6.2 and 7.0 volts A.C.
	Battery backup (if power is off).	- Check batteries.
	A shorted or loose connection.	- Remove and reinstall the wiring harness that plugs into the module. Remove and verify continuity of each wire in wiring harness.
	Improper switch wiring.	- Troubleshoot the system with the simplest ON / OFF switch.
Pilot sparks but will not light.	Module is not grounded.	- Verify the valve and pilot assemblies are properly grounded to the metal chassis of the appliance or log set.
	Gas supply.	- Verify that the incoming gas line and ball valve is "Open". Verify that the inlet pressure reading is within the acceptable limits. Inlet pressures must not exceed 14" w.c. (34mb).
Carbon is being deposited on glass, logs, rocks, media or combustion chamber surfaces.	Out of propane gas.	- Fill the tank.
	Air shutter has become blocked.	- Ensure air shutter opening is free of lint or other obstructions.
Continues to spark and pilot lights, but main burner will not light.	Flame is impinging on the glass, logs, rocks, media or combustion chamber.	- Check that the glass, logs, rocks or media are correctly positioned. - Too much glass around the burner can cause carboning. - Open air shutter to increase primary air. - Check the input rate: check the manifold pressure and orifice size as specified by the rating plate values. - Check that the door gasketing is not broken or missing and that the seal is tight. - Check that both vent liners are free of holes and well sealed at all joints. - Check that the minimum rise per foot has been adhered to for any horizontal venting.
	Short or loose connection in sensor rod.	- Verify all connections. Verify the connections from the pilot assembly are tight; also verify these connections are not grounding out to any metal.
	Poor flame rectification or contaminated sensor rod.	- Verify the flame is engulfing the sensor rod. This will increase the flame rectification. Verify correct pilot orifice is installed and inlet gas specifications to manual. (Remember, the flame carries the rectification current, not the gas. If the flame lifts from the pilot hood, the circuit is broken. A wrong orifice or too high of an inlet pressure can cause the pilot flame to lift). The sensor rod may need cleaning.
	Poor grounding between pilot assembly and gas valve.	- Verify that the wire harness is firmly connected to the module. Verify that the ceramic insulator around the sensor rod is not cracked, damaged, or loose. Verify the connection from the sensor rod to the sensor wire.
	Damaged pilot or dirty sensor rod.	- Clean sensor rod with a fine steel wool to remove any contamination that may have accumulated on the sensor rod. Verify continuity with multimeter with ohms set at the lowest range.

symptom	problem	test solution
Pilot lights Stops sparking / pilot remains lit but burner will not turn on.	Wiring / connection.	- Inspect all wires, ensure good tight connections. Verify that all wiring is installed exactly as specified.
	Wiring harness.	- Inspect the wiring harness and verify the harness is tightly connected to the module. Verify that all wires are connected in the right order. see "wiring diagram" section.
Exhaust fumes smelled in room, headaches.	Appliance is spilling	Check all seals. Check if exhaust is re-entering through an open door or window.
White / grey film forms.	Sulphur from fuel is being deposited on glass, logs or combustion chamber surfaces.	- Clean the glass, see "care of glass" section. - DO NOT CLEAN GLASS WHEN HOT. - If deposits are not cleaned off regularly, the glass may become permanently marked.
Flames are very aggressive GDS60-1 ONLY	Door is ajar.	- Tighten door clamps (if applicable).
	Venting action is too great.	- Restrict vent exit with restrictor plate. See "restricting vents" section (if applicable).
Main burner flame is a blue, lazy, transparent flame. GDS60-1 ONLY	Blockage in vent.	- Remove blockage. In extreme conditions, ice buildup may occur on the terminal and should be removed. To minimize this from happening again, it is recommended that the vent lengths that pass through unheated spaces (attics, garages, crawl spaces) should be wrapped with an insulated mylar sleeve. Prevent sleeve from sagging. Contact your local authorized dealer for more information.
	Compromised venting.	- Check venting system parameters (seal, length, rise, etc.).
Main burner goes out; pilot goes out.	Vent recirculation.	- Check joint seals and installation.
Main burner and pilot cycles on and off. GS60-1 ONLY	Venting is spilling.	- Test with spill switch bypassed. Replace if defective.
		- Check for vent blockage.

14.0 warranty

Napoleon products are manufactured under the strict Standard of the world recognized ISO 9001 : 2015 Quality Management System.

Napoleon products are designed with superior components and materials assembled by trained craftsmen who take great pride in their work. The burner and valve assembly are leak and test-fired at a quality test station. The complete appliance is again thoroughly inspected by a qualified technician before packaging to ensure that you, the customer, receive the quality product that you expect from Napoleon.

Napoleon Gas Appliance President's Lifetime Limited Warranty

The following materials and workmanship in your new Napoleon gas appliance are warranted against defects for as long as you own the appliance. This covers: combustion chamber, heat exchanger, stainless / steel burner, Phazer™ logs and embers, rocks, ceramic glass (thermal breakage only), gold plated parts against tarnishing, porcelainized enameled components and aluminum extrusion trims.*

Electrical (110V and millivolt) components and wearable parts are covered and Napoleon will provide replacement parts free of charge during the first year of the limited warranty. This covers: blowers, gas valves, thermal switches, switches, wiring, remote controls, ignitors, gaskets and pilot assemblies.*

Labour related to warranty repair is covered free of charge during the first year (labour warranty is not applicable for the Gas Log Sets). Repair work, however, requires the prior approval of an authorized company official. Labour costs to the account of Napoleon are based on a predetermined rate schedule and any repair work must be done through an authorized Napoleon dealer.

* Construction of models vary. Warranty applies only to components included with your specific appliance.

Conditions and Limitations

Napoleon warrants its products against manufacturing defects to the original purchaser only. Registering your warranty is not necessary. Simply provide your proof of purchase along with the model and serial number to make a warranty claim. Napoleon reserves the right to have its representative inspect any product or part thereof prior to honouring any warranty claim. Provided that the purchase was made through an authorized Napoleon dealer your appliance is subject to the following conditions and limitations:

Warranty coverage begins on the date of original installation. This factory warranty is non-transferable and may not be extended whatsoever by any of our representatives. The gas appliance must be installed by a licensed, authorized service technician or contractor qualified and authorized installer, service agency or supplier. Installation must be done in accordance with the installation instructions included with the product and all local and national building and fire codes. This limited warranty does not cover damages caused by misuse, lack of maintenance, accident, alterations, abuse or neglect, and parts installed from other manufacturers will nullify this warranty. This limited warranty further does not cover any scratches, dents, corrosion or discoloring caused by excessive heat, abrasive and chemical cleaners nor chipping on porcelain enamel parts, mechanical breakage of Phazer™ logs and embers. This warranty extends to the repair or replacement of warranted parts which are defective in material or workmanship provided that the product has been operated in accordance with the operation instructions and under normal conditions. After the first year, with respect to this President's Lifetime Limited Warranty, Napoleon may, at its discretion, fully discharge all obligations with respect to this warranty by refunding to the original warranted purchaser the wholesale price of any warranted but defective part(s).

After the first year, Napoleon will not be responsible for installation, labour, or any other expenses related to the reinstallation of a warranted part and such expenses are not covered by this warranty. Notwithstanding any provisions contained in the President's Lifetime Limited Warranty, Napoleon's responsibility under this warranty is defined as above and it shall not in any event extend to any incidental, consequential or indirect damages. This warranty defines the obligations and liability of Napoleon with respect to the Napoleon gas appliance and any other warranties expressed or implied with respect to this product, its components or accessories are excluded. Napoleon neither assumes, nor authorizes any third party to assume, on its behalf, any other liabilities with respect to the sale of this product. Napoleon will not be responsible for: over-firing, downdrafts, spillage caused by environmental conditions such as rooftops, buildings, nearby trees, hills, mountains, inadequate vents or ventilation, excessive venting configurations, insufficient makeup air, or negative air pressures which may or may not be caused by mechanical systems such as exhaust fans, furnaces, clothes dryers, etc. Any damages to the appliance, combustion chamber, heat exchanger, plated trim or other components due to water, weather damage, long periods of dampness, condensation, damaging chemicals or cleaners will not be the responsibility of Napoleon.

During the first 10 years Napoleon will replace or repair the defective parts covered by the lifetime warranty at our discretion free of charge. From 10 years to life, Napoleon will provide replacement parts at 50% of the current retail price. The manufacturer may require that defective parts or products be returned or that digital pictures be provided to support the claim. Returned products are to be shipped prepaid to the manufacturer for investigation. If a product is found to be defective, the manufacturer will repair or replace such defect. Before shipping your appliance or defective components, your dealer must obtain an authorization number. Any merchandise shipped without authorization will be refused and returned to sender. Shipping costs are not covered under this warranty. Additional service fees may apply if you are seeking warranty service from a dealer. Warranty labour allowance is only for the replacement of the warranted part. Travel, diagnostic tests, shipping and other related charges are not covered by this warranty.

NAPOLEON CELEBRATING OVER 40 YEARS OF HOME COMFORT PRODUCTS



7200, Route Transcanadienne, Montréal, Québec H4T 1A3
24 Napoleon Road, Barrie, Ontario, Canada L4M 0G8
214 Bayview Drive, Barrie, Ontario, Canada L4N 4Y8
103 Miller Drive, Crittenden, Kentucky, USA 41030

Phone: 1-866-820-8686
napoleon.com