QUADRA-FIRE

DV400S

DIRECT VENT ROOM HEATER

OWNER'S MANUAL

AND INSTALLATION INSTRUCTIONS

WARNING!

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

-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 neighbor'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 gas supplier.

WARNING!

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information, consult a qualified installer, service agency or the gas supplier.

FOR YOUR SAFETY

The appliance area must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.

This appliance may be installed in an aftermarket, permanently located, Manufactured (Mobile) Home, where not prohibited by Local Codes.

This appliance is only for use with the type of fuel indicated on the Rating Plate. This appliance is not convertible for use with other gases, unless a certified Conversion Kit is used.

This manual must be used for installation of the DV400S Direct Vent Heater and retained by the homeowner for operating and maintenance instructions. This heater may be installed with a vertical or horizontal direct vent terminator system.

ALADDIN HEARTH PRODUCTS
A Division of Hearth Technologies Inc.

Tested and Listed by O-T-L Beaverton Oregon USA
C
OMNI-Test Laboratories, Inc.

1445 North HIghway
Colville, WA 99114

#30211C March 4, 2002

aladdin@aladdinhearth.com

Congratulations

have our assurance of commitment to quality, durability, and performance.

This commitment begins with our research of the market, including 'Voice of the Customer' contacts, ensuring we make products that will satisfy your needs. Our Research and Development facility then employs the world's most advanced technology to achieve the optimum operation of our stoves, inserts and fireplaces. And yet we are old-fashioned when it comes to craftsmanship. During manufacturing each unit is meticulously fabricated and gold surfaces are hand-finished for lasting beauty and enjoyment. Our pledge to quality is completed as each model undergoes a quality control inspection. Additionally, we feel it is important to offer you several finishing options and accessories to compliment your home's décor, individualize the use of your appliance, and provide financial options in acquiring a quality hearth appliance. Ask your ***Quadra-Fire*** Dealer for information on these options. From design, to fabrication, to shipping; our guarantee of quality is more than a word, it's ***Quadra-Fire*** tradition, and we proudly back this tradition with a ***Lifetime Warranty.***

Prior to installation, we ask you to take a few moments to read this manual. It has been our experience that your overall enjoyment of your new appliance will be greatly enhanced by becoming familiar with its installation, operation and maintenance requirements. We wish you and your family many years of enjoyment in the warmth and comfort of your hearth appliance. ***Thank you*** for choosing ***Quadra-Fire.***

With warm regards,

Group Vice President

Vice President
Research & Development

Vice President
Marketing & Product Planning

Controller

General Manager

Quality / Technical
Support Manager

Manufacturing Engineer
Manager

Central Sales Manager

Eastern Sales Manager

Order Fulfillment Manager

Sr. Purchasing Agent

Human Resources &
Community Relations

OWNER'S NOTES:

Important!
Complete now for future reference.

MODELNAME DV400S

Serial Number

Located on the Ratings Label on back of unit.

Date Purchased

Dealership Where Purchased

Dealer Phone

Additional Information:

After completing your warranty card, attach your sales receipt and warranty stub here for future reference.

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PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE.

Safety Precautions

1. PLEASE READ THESE INSTALLATION INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION PROCEDURES. FAILURE TO FOLLOW THEM COULD CAUSE AN APPLIANCE MALFUNCTION RESULTING IN SERIOUS INJURY AND/OR PROPERTY DAMAGE.
2. DUE TO HIGH TEMPERATURES THE APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.
3. CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURES AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION.
4. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.
5. CLOTHING OR OTHER FLAMMABLE MATERIAL SHOULD NOT BE PLACED ON OR NEAR THE APPLIANCE.
6. ANY SAFETY SCREEN OR GUARD REMOVED FOR SERVICING AN APPLIANCE MUST BE REPLACED PRIOR TO OPERATING THE APPLIANCE.
7. WARNING: DO NOT OPERATE APPLIANCE WITH THE PANEL(S) REMOVED, CRACKED OR BROKEN. REPLACEMENT OF THE PANEL(S) SHOULD BE DONE BY A LICENSED OR QUALIFIED SERVICE PERSON.
8. INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE APPLIANCE 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. IT IS IMPERATIVE THAT CONTROL COMPARTMENTS, BURNERS AND CIRCULATING AIR PASSAGEWAYS OF THE APPLIANCE BE KEPT CLEAN.
9. ENSURE THAT THE FLOW OF COMBUSTION AND VENTILATION AIR NOT BE OBSTRUCTED.
10. ENSURE THAT ADEQUATE COMBUSTION AND VENTILATION AIR ARE PROVIDED.

NOTE: Illustrations throughout these instructions reflect typical installations and are for design purposes only. Actual installation may vary slightly due to individual design preferences. However, minimum and maximum clearances must be maintained at all times.

The illustrations and diagrams used throughout these installation instructions are not drawn to scale.

LISTING & CODE APPROVALS

U.S. CERTIFICATION

The DV400S Series Room Heater has been tested in accordance with the ANSI standard Z21.88 1998 and UL307B and has been listed by OMNI-Test Labs for installation and operation as described in these installation and operation instructions. All components are A.G.A. or UL safety certified.

Canada Certification

The DV400S Series Room Heater has been tested in accordance with CSA 2.33-M98 and has been listed by OMNI-Test Labs for installation and operation as described in these installation and operating instructions. All components are C.G. A. or C.S.A. safety certified.

This Heater is approved for installation in bedrooms and mobile homes in the United States and Canada.

Local Codes

This installatin must conform with local codes or, in the absence of local codes, with theNational Fuel Gas Code, ANSI Z223.1-latest edition, in the U.S.A. and the CAN/CGA B149-latest edition, in Canada.

Efficiency

The efficiency rating of the appliance is a product thermal efficiency rating determined under continuous operating conditions and was determined independently of any installed system.

SERIAL/RATING LABEL

Listed by C O-T-L Beaverton Oregon USA
OMNI-Test Laboratories, Inc.
Report No. / Rapport Numero
061-S-22-4

MODEL / MODELE: DV400S VENTED GAS FIREPLACE HEATER
FOURNAISE AU GAZ AVEC VENTILATION
NOT FOR USE WITH SOLID FUEL /
NE PAS UTILISER AVEC LE COMBUSTIBLE SOLIDE

SERIAL NO.

ALADDIN HEARTH PRODUCTS
A Division of Hearth Technologies Inc.
1445 North Highway Colville,
WA 99114

APPROVED FOR CANADA AND USA TO: ANSI Z21.88-1998 / CSA 2.33-M98 Vented Gas Fireplace Heaters, and applicable sections of UL307b Gas Burning Heating Appliances for Manufactured Homes and Recreational Vehicles, CAN/CGA 2.17-M91 "Gas Fired Appliances for use at High Altitudes." This appliance is manufactured for operation with Natural Gas. For conversion to propane Manufacturer's Part #844-8230 and instructions must be used. This appliance may be installed in a bedroom or bedsitting room; in Canada remote thermostat installation is required.

APPROUVÉ POUR LE CANADA ET LES ÉTATS-UNIS: ANSI Z21.88-1998 / CSA 2.33-M98 Fournaises au Gaz avec Ventilation, et les sections applicables de UL 307b Appareils de Chauffage Au Gaz pour les Maisons Mobiles et les Véhicules Motorisés, CAN/CGA 2.17-M91 "Gas Fired Appliances for use at High Altitudes". Cet appareil est manufacturé pour l'opération avec le Gaz Naturel. Pour une conversion au gaz propane les pièces du Manufacturier #844-8240 et ses instructions doivent être utilisées. Cet appareil peut être utilisé dans une chambre à coucher ou salle de séjour; au Canada, l'installation d'un thermostat à distance est exigée.

FAN TYPE VENTED CIRCULATOR / VENTILATEUR CIRCULATOIRE Opt. Blower Part #844-0150
Blower Electrical Rating / Évaluation du Ventilateur Électrique: 115 V., 1.5 Amps, 60 Hz, 150 Watts

Thermal Efficiency / Efficacité Thermique 77% NG

	For use with Natural Gas / Usage Au Gaz Naturel / 0-4500'	For use with Propane / Usage Au Gaz Propane / 0-4500'
Input Rate on "HI" (BTU/Hr) / Puissance Évaluée à "HI" (BTU/Hr)	29,500	28,500
Input Rate on "LO" (BTU/Hr) / Puissance Évaluée à "LO" (BTU/Hr)	19,500	24,000
Maximum Output (BTU/Hr) / Puissance Maximum (BTU/Hr)	22,700	22,500
Main Burner Orifice / Orifice du Brûleur Principal	.106/2.69 DIA./mm	.063/1.60 DIA./mm
Minimum Inlet Pressure (Inches W.C.) / Pression Minimum de la Valve (pouces W.C.)	4.5"	11"
Maximum Inlet Pressure (Inches W.C.) / Pression Maximum de la Valve (pouces W.C.)	7.0"	14"
Manifold Pressure on "HI" (Inches W.C.) / Pression du Collecteur d' Échappement à "HI" (pouces W.C.)	3.5"	10"

This appliance equipped for altitudes 0-2000' (0-610m) in USA; and in Canada for altitudes of 0-4500' (0-1370m). In USA for Altitudes above 2000', the vent configuration, orifice, or combination of both may need to be changed. See Owner's Manual for information on making these changes. Cet appareil est équipé pour les altitudes de 0-2000' (0-610m) aux États-Unis; et au Canada pour les altitudes de 0-4500' (0-1370m). Pour les altitudes au dessus de 2000' aux États-Unis, la configuration du ventilateur, son orifice ou les deux peuvent possiblement avoir à être changé. Voyez le manuel du propriétaire pour les informations sur ces changements.

This appliance must be installed in accordance with local codes, if any; if none, follow ANSI Z223.1 in USA, CAN 1-B149 in Canada.

This appliance is only for use with the type of gas indicated on the rating plate and may be installed in an aftermarket, permanently located, manufactured (mobile) home where not prohibited by local codes. See owner's manual for details. This appliance is not convertible for use with other gases, unless a certified kit is used. Cet appareil doit etre utilise uniquement avec le type de gaz indique sur la plaque signaletique et peut etre installe dans une maison prefabriquee (mobile) installee a demeure si les reglements locaux le permettent. Voir la notice du proprietaire pour plus de details. Cet appareil ne peut etre converti a d'autres gaz sauf si une trousse de conversion certifiee est utilisee.

This appliance must be properly connected to a venting system in accordance with the manufacturer's installation instructions. If venting is disconnected for any reason, the vent-air intake system must be properly resealed and reinstalled.

Cet appareil doit ê correctement raccordé á un système d'évacuation, conformément aux instructions du fabricant.

Keep burner and control compartment clean. See installation and operating instructions accompanying this appliance. Gardez le brûleur et le compartiment de contrôle propres. Vérifiez les instructions d'installation et d'opération qui accompagnent cet appareil. This vented gas fireplace heater is not for use with air filters. / Cet appareil de chauffage au gaz n'est pas pour l'usage avec des filtres d'air

DO NOT REMOVE THIS LABEL / NE PAS ENLEVER L'ÉTIQUETTE

Date of Manufacture / Date du Manufacturier

2001	2002	2003	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Made in U.S.A. / Fait Aux États-Unis

250-5911

DESCRIPTION OF THE HEATER SYSTEM

The DV400S is a Direct Vent Room Heater. Combustion air is supplied from outside, not from inside the house as with other types of heaters.

The installation of this Quadra-Fire DV400S system consists of the following:

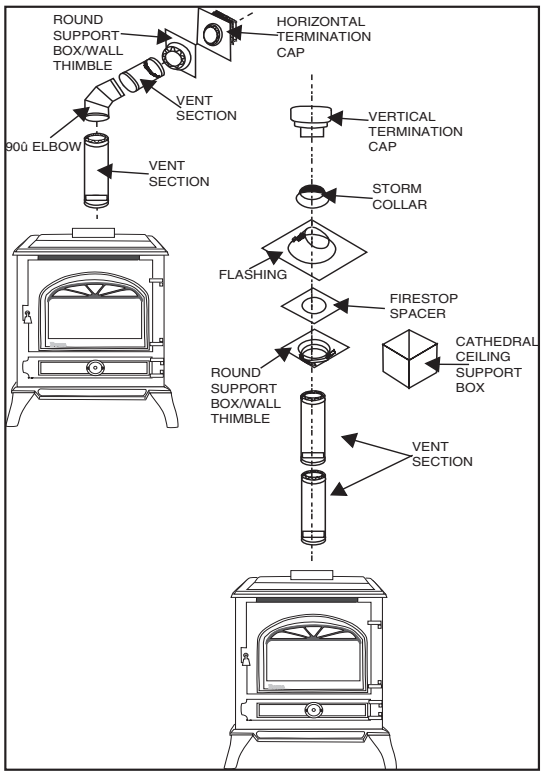
1. Appliance
2. Venting System
3. Termination

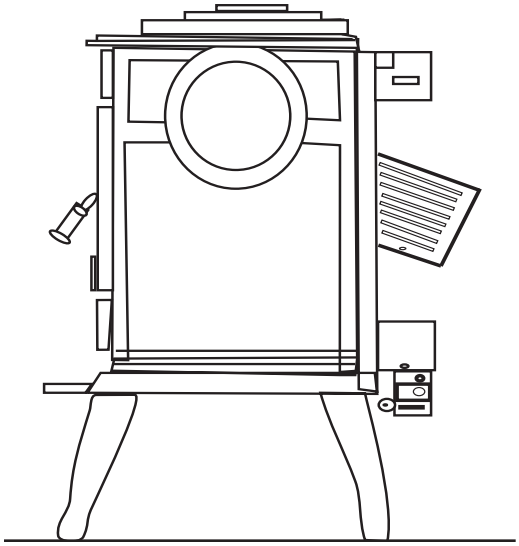
Optional Components include:

1. Blower Kit
2. Decorative Glass Accent
3. Warming Shelf
4. Remote Control

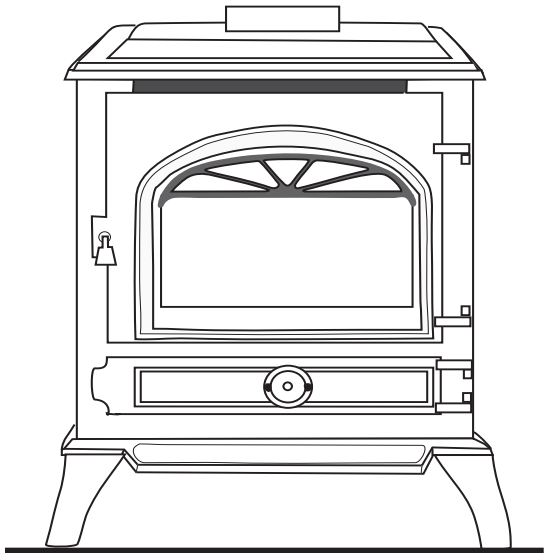
NOTE: Operation of a Direct Vent Heater may be sporadic in high wind situations.

TYPICAL ASSEMBLY





DV400S - With Optional BK95



DV400S Front View

HEATER SYSTEM COMPONENTS

839-0710	DV400S, Matte Black, NG
844-0150	Fan Kit, BK95, Var. Speed, Thermostat “ON/OFF”
844-0140	Decorative Glass accent - gold, DT6G
844-7850	Warming Shelf, Matte Black (pr.)
844-7950	Warming Shelf Bracket - w/mitten rod, Black (pr.)
844-7960	Warming Shelf Bracket - w/mitten rod, Gold (pr.)
844-8230	LP Conversion Kit, SPCK400S
844-8240	NG Conversion Kit, SNCK400S

SECURITY CHIMNEY'S SECURE VENT CHIMNEY SYSTEM

Your Quadra-Fire DV400S has been approved with Security Chimney's Secure Vent Chimney System. Please contact your local dealer and they will advise you of the required parts needed for your installation. All the required certification tests have been successfully completed with OMNI-Test Laboratories, Inc.

SIMPSON DURA-VENT PARTS LIST

Termination Caps & Snorkels:

991	High Wind Vertical Termination Cap
986	High Wind Horizontal Termination Cap
980	Vertical Termination Cap w/Wind Halo
983	Vertical Termination
984	Horizontal Termination Cap
981	Snorkel Termination (36”)
982	Snorkel Termination (14”)
950	Vinyl Siding Standoff

Flashing:

941	Cathedral Ceiling Support Box
943	Flashing, 0/12 to 6/12 Roof Pitch
943S	Flashing, 7/12 to 12/12 Roof Pitch
943F	Flashing, Flat Roof

Support Boxes/Thimbles:

940	Round Ceiling Support/ Wall Thimble Cover
941	Cathedral Ceiling Support Box

Pipe:

908	6” Pipe Length, Galv.
908B	6” Pipe Length, Black
907	9” Pipe Length, Galv
907B	9” Pipe Length, Black
906	12” Pipe Length, Galv.
906B	12” Pipe Length, Black
904	24” Pipe Length, Galv.
904B	24” Pipe Length, Black
903	36” Pipe Length, Galv.
903B	36” Pipe Length, Black
902	48” Pipe Length, Galv.
902B	48” Pipe Length, Black
911	11” -14 5/8” Pipe, Adj. Glv.
911B	11” -14 5/8” Pipe, Adj. Blk.
912	12” - 17” Pipe, Adj. Glv.
912B	12” - 17” Pipe, Adj. Blk

Pipe cont'd

917	17” -24” Pipe, Adj. Glav.
917B	17” -24” Pipe, Adj.Blk.
945	45° Elbow, Galv.
945B	45° Elbow, Black
990	90° Elbow, Galv.
990B	90° Elbow, Black

Misc.

953	Storm Collar
963	Ceiling Firestop
988	Wall Strap
9546	Attic Insulation Shield
942	Wall Thimble/Cathedral Ceiling Collar

SDV KITS

970A	Standard Termination Kit includes 1 each of:“ 990B, 940, & 985 See Note #1 below.
971HW	Standard Termination Kit includes 1 each of:“990B, 940, 985, 904B, 911B
973	Vertical Termination Kit includes 1 each of:“943, 953, 991 (support box NOT included)

Note #1: Straight pipe lenghts are needed to complete installation, the black 45° elbow is NOT included in kit.

The following venting parts are available from your Dealer:

HHW2	Horizontal High Wind Cap
HHW2K	Horizontal Kit includes 90° Black Elbow, Wall Thimble, 24" Black Pipe, 11" - 14 5/8" Adjustable Vent, HHW2 Termination Cap.

The VTA1, Vertical Termination Adapter Kit, may also be safely used with this Heater. It is composed of a Vertical Termination Cap and Cover Plate for existing vertical chimney.

DURA-VENT GS CATALOG #	VENTING SYSTEM COMPONENTS DESCRIPTION
953	Storm Collar
963	Firestop Spacer
988	Wall Strap
981	Snorkel Termination (36")
982	Snorkel Termination (14")
971	Horizontal Kit (Horizontal Termination Cap, One 90 Degree Black Elbow, Wall Thimble, 24" Black Pipe, 11" - 14 5/8" Adjustable Vent
980	Vertical Termination Cap with Wind Halo
984	Horizontal Termination Cap
909B	Retrofit Adjustable Chimney Connector Retrofit Chimney Connector Plate
950	VSS - Vinyl Siding Standoff/Shield
3951	Round Ceiling Support/Wall Thimble Trim Kit, Polished Brass
3960	Cathedral Ceiling Support Trim Kit, Polished Brass
HHW2	Horizontal High Wind Cap (recommended for optimal performance)
HHW2K	Horizontal Kit (One 90 degree Elbow, Wall Thimble, 24" Black Pipe, 11" - 14 5/8" Adjustable Vent, HHW2 Termination Cap.

CLEARANCES

The following clearances to combustibles must be maintained:

Minimum clearances to the floor - 0"

Back of unit to wall - 6”

Sides of unit to wall - 6

Base of the unit to ceiling - 72".

Minimum clearances to Venting are as follows:

Horizontal runs require a 1-1/2” minimum Air Space on the top and an 1/2” minimum Air Space on the sides and bottom of the outer Vent Section. If an Elbow is being used,in an enclosed wall, floor or ceiling, a top Air Space clearance of 3” must be maintained. Vertical rise sections require a 1” minimum Air Space completely around the Vent section. These clearances must be maintained at all times.

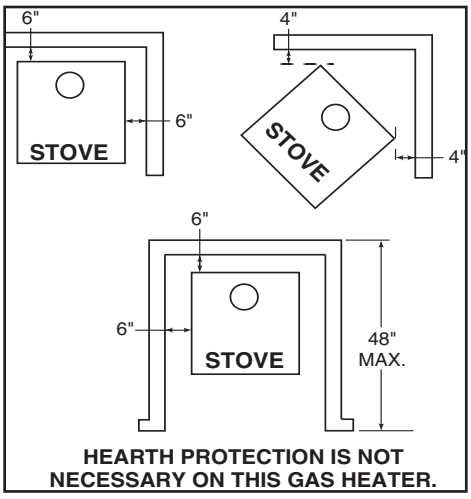
This appliance is certified for installation in a bed/sitting room in the U.S. and Canada.

Mobile Home Installations. Appliances installed in Mobile Homes must be secured to the floor in a minimum of two locations.

Positioning the Appliance.

This appliance may be placed on a combustible or non-combustible continuous, flat surface. When the appliance is installed directly on carpeting, 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 of the appliance. Slide the Heater into position and level the Heater from side-to-side and front-to-back. Shim as necessary.

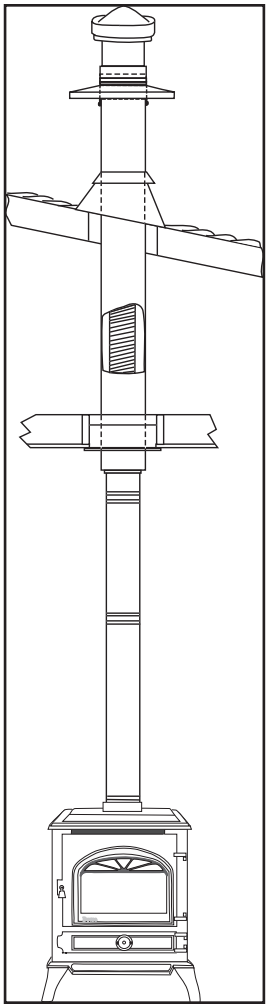
Figure 1
Minimum Clearances To Combustibles



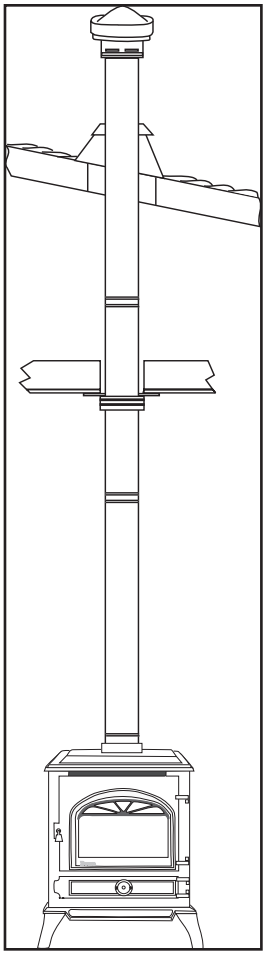
HEARTH PROTECTION IS NOT NECESSARY ON THIS GAS HEATER.

TERMINATION

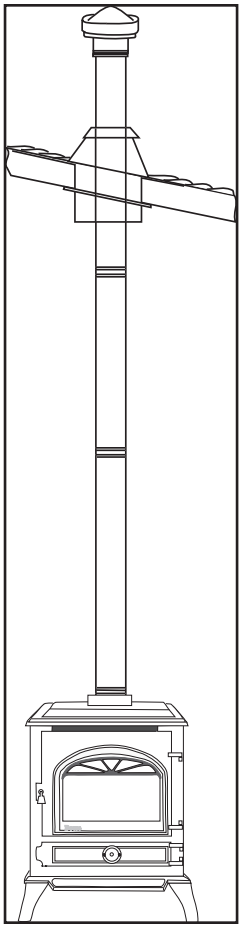
Four types of Termination are possible for this Heater: Horizontal, Vertical, Existing Masonry or Existing Class A



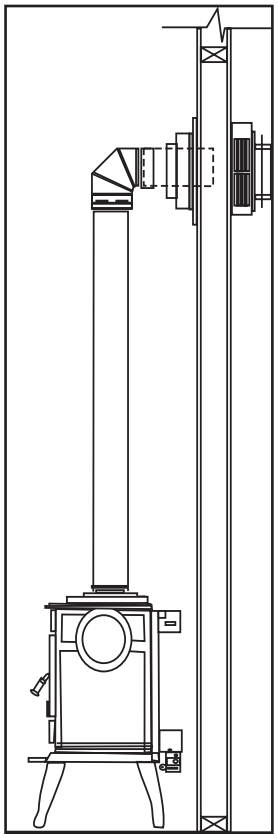
Class A Metal Chimney



Vertical Flat Ceiling



Cathedral Ceiling



Horizontal Termination

COMMON INSTALLATIONS

A. Horizontal Termination

Refer to Chart A and Figure 2 for horizontal venting recommendations. The minimum vertical rise allowed for horizontal termination is 2" from the top of the heater. The maximum horizontal run allowed for venting is 15' with a minimum 4' rise.

A single vertical to horizontal elbow is already calculated into the allowable 15' run. Each additional elbow reduces the maximum horizontal distance by 3' feet.

Example: When using three elbows, the maximum horizontal distance has been reduced to 9' (3 - 1 = 2 elbows x 3' = 6'; 15' max. - 6' of elbows = 9' of horizontal run.) Even with only these three elbows (the equivalent of 6' additional horizontal feet) you now need a minimum of 4' of vertical rise. See Chart A.

If a vertical - to - horizontal elbow is enclosed within a wall, floor or ceiling, an air space clearance of 3" must be maintained.

Due to the many different combinations that can be used when constructing venting, the number of vent sections required can only be determined by the installer.

Horizontal venting must terminate within the shaded area shown in Fig. 2. Chart A illustrates the figures included in that shaded area. For example, if your vertical rise is the minimum two feet, venting can terminate anywhere between 20 - 1/2" (includes wall thickness and assumes 4", and venting required to termination cap) and 10' feet.

Venting termination must not be recessed into the wall or siding. Fig 3 on Page 9 illustrates termination cap location and minimum dimensions for each termination application. Or follow ANSI Z223.1, latest edition.

Note: Horizontal runs will require the use of one vent support for every 3' of vent.

VERTICAL RISE	15' MAX. HORIZONTAL RUN													
	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'
16'	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Thru	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4'	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3'	X	X	X	X	X	X	X	X	X					
2'	X	X	X	X	X	X	X	X	X					

CHART A - Venting Combinations

Note: A horizontal run of vent must have a 1/4" rise for every 1 ft. of run towards the termination. Never allow the vent to run downward. This could cause high temperatures and the possibility of a fire.

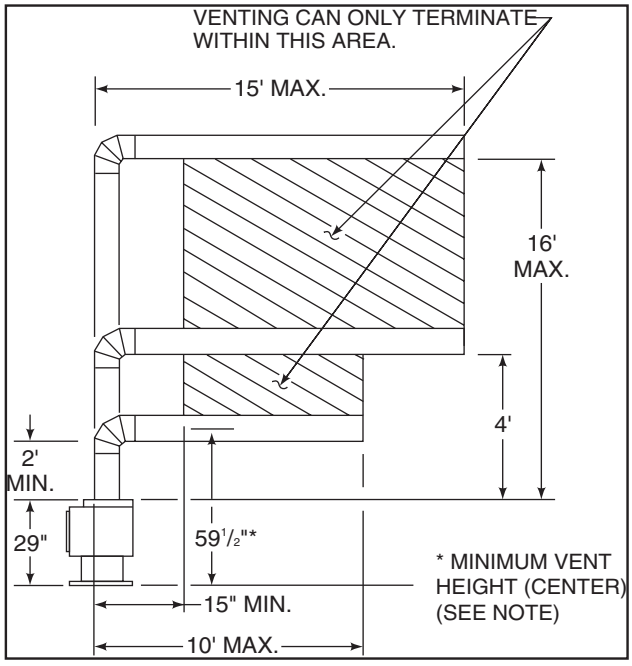


Fig. 2 - Horizontal Lenth

Fig. 3 - HORIZONTAL TERMINATION REQUIREMENTS

A. *12” (30cm) minimum: **Clearance above grade, veranda, porch, deck, or balcony.**

B. *12” (30cm) minimum: **Clearance to window or door that may be opened.**

C. 12” (30cm) minimum: **Clearance to permanently closed window** (recommended to prevent condensation on window) **or window that may be opened.**

D. 18” (46cm) minimum: **Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2’ (60cm) from the centerline of the terminal.**

E. 12” (30cm) minimum: **Clearance to unventilated soffit.**

F. **Clearance to outside corner.** Clearance in accordance with local installation codes and the requirements of the gas supplier.

G. **Clearance to inside corner.** Clearance in accordance with local installation codes and the requirements of the gas supplier.

H. ***Not to be installed above a meter/regulator (gas or electrical) assembly within 3’ (90cm) horizontally from the centerline of the meter/regulator.**

I. 3’ (91cm) USA/6' (183cm)Canada minimum: **Clearance to service regulator vent outlet.**

J. 12" (30cm) minimum: **Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance.**

K. 3’ (91cm) USA/6' (183cm)Canada minimum: **Clearance to a mechanical air supply air inlet.**

L. *+7’ (2.1m) minimum: **Clearance above paved sidewalk or a paved driveway located on public property.**

M. *#12” (30 cm) minimum: **Clearance under veranda, porch, deck, or balcony.**

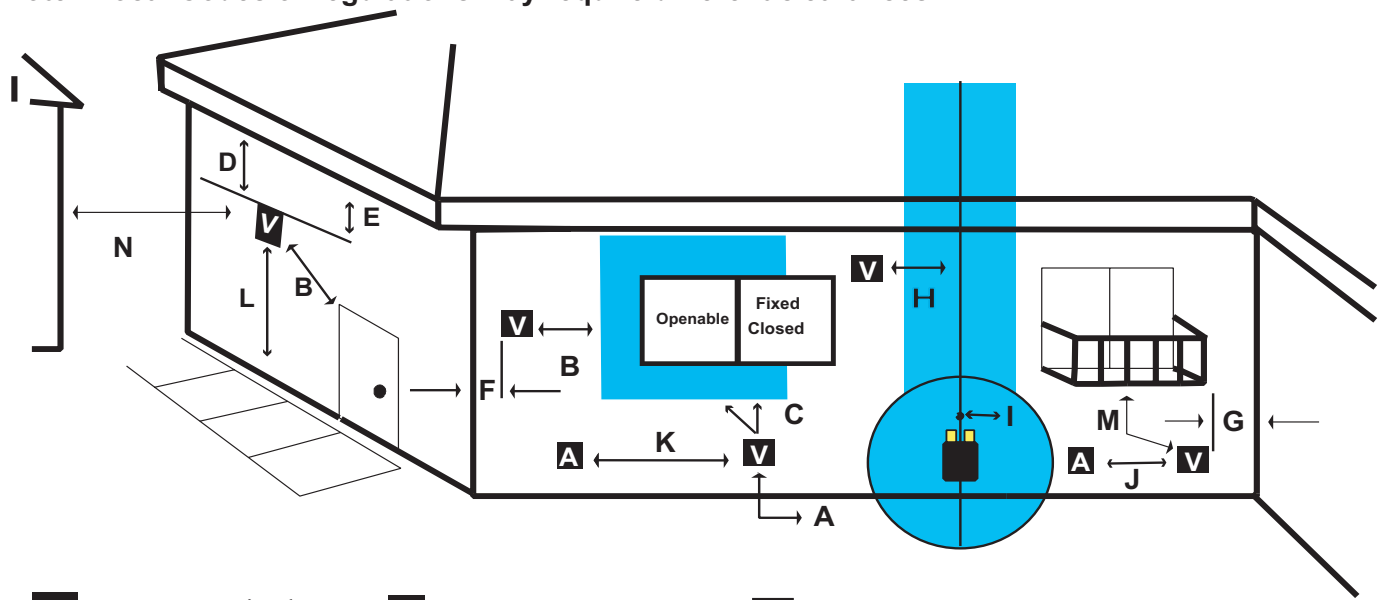
N. **Clearance to adjacent building or deck.** Clearance in accordance with local installation codes and the requirements of the gas supplier.

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

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

* As specified in *CGA B149 Installation Codes*

Note: Local Codes or regulations may require different clearances.



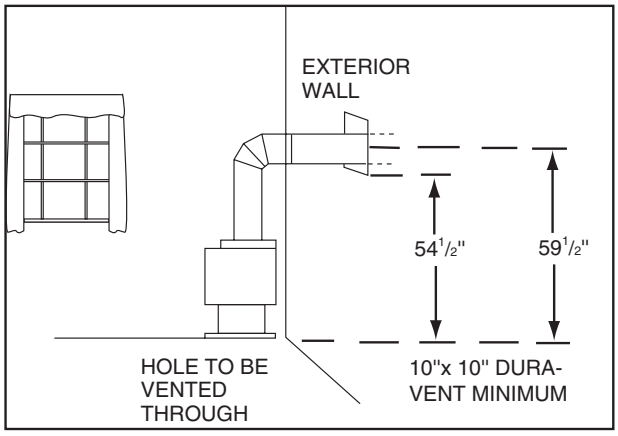
V = vent terminal A = air supply inlet = area where terminal is not permitted

1. Preparing the Wall for Horizontal Termination.

A hole measuring 10” wide and 10” high must be cut and framed in the exterior wall where venting will be terminated.

The height of the hole must be located to meet all local and national codes and not be easily blocked or obstructed. The minimum height to the center of the horizontal vent is 59 1/2" from the base of the unit. This figure will increase by the length of each vertically positioned vent section added to the venting system. See Figure 4.

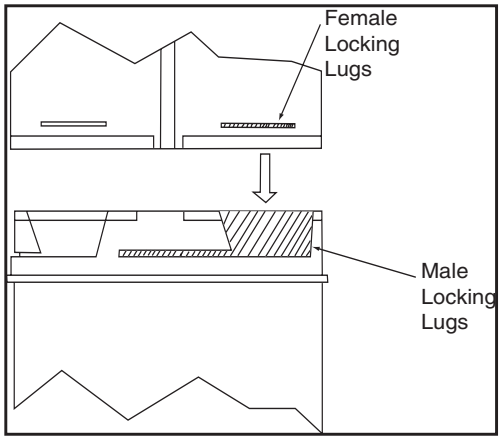
Figure 4 - Exterior Wall Hole



2. Assembling Venting Sections.

Use only vent supplied or listed for use with this Heater. To attach a straight section to the top of the Heater, female end down, slide the pipe over the outer Collar on the Heater while the inner flue will slip over the Vent Inner.

Figure 5 - Twist-lock procedure



MAINTAIN MINIMUM CLEARANCES OR GREATER AROUND THE VENT SYSTEM. Do not pack air spaces with insulation or other material.

If the wall being penetrated is constructed of non-combustible material (i.e.: masonry block or concrete) a 7 inch diameter hole is acceptable. It is recommended that for masonry walls the vent be wrapped with fiberglass insulation to prevent contact with the masonry as the contact promotes premature deterioration of the vent.

NOTE: For buildings with vinyl siding, a Vinyl Siding Standoff should be installed between the vent cap and the exterior wall. Attach the Vinyl Siding Standoff to the Horizontal Vent Termination. The Vinyl Siding Standoff prevents excessive heat from possible melting the vinyl siding material. NOTE: The HHW2 cap incorporates it's own vinyl siding standoff. See Fig. 8.

The Dura-Vent GS is unitized and twist-locks together. For the twist-lock procedure, consult Figure 5 and do the following:

(1) Four indentations, located on the female ends of pipes and fittings, are designed to slide straight onto the male ends of adjacent pipes and fittings, by orienting the four pipe indentations so they match and slide into the four entry slots on the male ends. See Figure 5. Push the pipe sections completely together, then twist-lock one section clockwise approximately one-quarter turn, until the two sections are fully locked. The female locking lugs will not be visible from the outside, on the Black Pipe or fittings. They may be located by examining the inside of the female ends.

(2) Horizontal runs of vent must be supported every three feet. Wall Straps are available for this purpose.

Before connecting the horizontal run of vent pipe to the vent termination, slide the black decorative wall thimble cover over the vent pipe.

When using the adjustable section, maintain a 1” overlap on pipe sections and secure. It is also important that the vent pipe extends a minimum of 1 1/2” into vent cap.

3. Termination Cap. Position the horizontal vent termination so that 1 1/2” clearance is maintained on top of the vent sections and 1 1/2” on sides.

Before attaching the Vent Termination to the exterior wall, run a bead of non-hardening mastic around the outside edges to make a seal between the Cap and the wall.

Attach Cap to exterior wall with four (4) wood screws, making sure that arrow on Cap is pointing up. After Cap is attached, make sure that a 1 1/2” is maintained from top of vent to combustibles.

Secure the connection between the vent pipe and the vent cap by attaching the two sheet metal strips extending from the vent cap assembly into the outer wall of the vent pipe. Use the two sheet metal screws provided to connect the strips to the pipe section. Bend any remaining portion of the sheet metal strip back towards the vent cap, so it will be concealed by the decorative wall thimble cover. See Fig.6.

Slide the Decorative Wall Thimble up the wall surface and attach with the screws provided. Apply Decorative Brass or Chrome Trim if desired. See Fig. 7.

4. **Vertical Rise on the Exterior.** For installations requiring a vertical rise on the exterior of a building, 14” and 36” tall Snorkel Terminations are available. Follow the same installation procedures that are used for the standard horizontal termination found in Step 3.

Figure 6 - Insertion of Vent Pipe

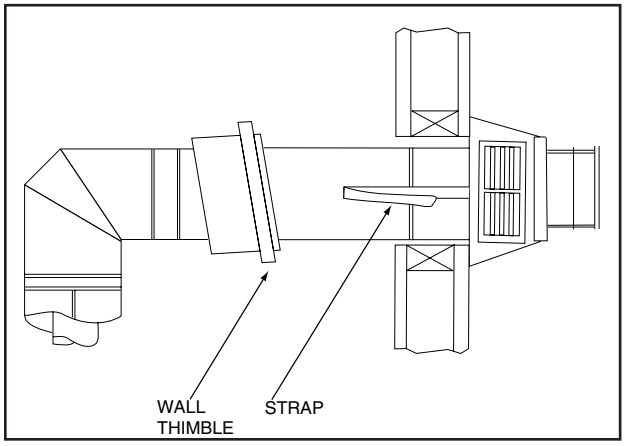


Figure 7 - Decorative Wall Thimble

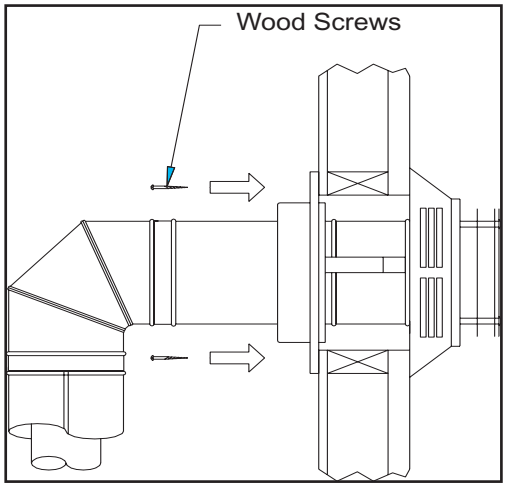
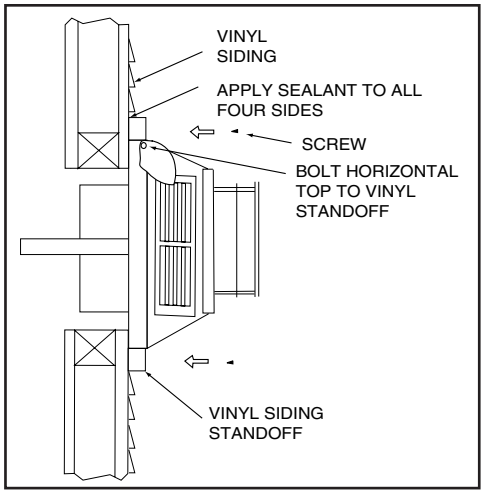


Figure 8 - Vinyl Standing Standoff



B. Vertical Termination.

The following figures are the maximum distances from the top of the unit, as well as the minimum air space clearances that must be maintained: Maximum straight unsupported rise - 25'; Maximum height - 40' from the top of the unit. Maximum horizontal unsupported run - 3'; air space clearances around vertical venting - 1" on all sides; air space clearances around horizontal venting - 1½" on top and ½" on sides and bottom. If an elbow is being used in an enclosed wall, floor, or ceiling a top air space clearance of 3" must be maintained. These clearances must be maintained at all times.

1. Position the Heater.

Position the heater in its desired location. Maintain all clearances to combustibles.

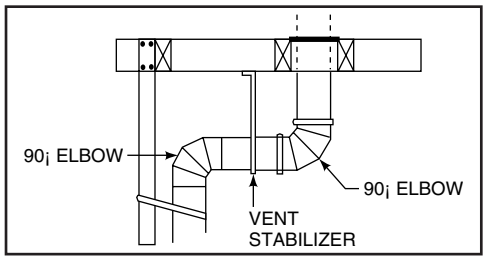
2. Preparing the Ceiling.

Drop a plumb bob down from the ceiling to the position of the heater flue exit and mark the location where the vent will penetrate the roof. Drill a small hole at this point. Next drop a plumb bob from the roof to the hole previously drilled in the ceiling and mark the spot where the vent will penetrate the roof. Determine if ceiling joists, roof rafters, or other framing will obstruct the venting system. You may wish to relocate or offset the appliance to avoid cutting load bearing members.

To bypass any overhead obstructions the vent system may be offset using a 45° elbow or a 90° elbow. Vent stabilizers have straps for securing these parts to joists or rafters. lumbers tape may be purchased locally and used in conjunction with vent stabilizers. See Fig. 9.

3. Assembling vent sections. Only use vent supplied and listed for use with this Heater.

Figure 9 - Elbows with Stabilizer



To attach a straight section to the top of the Heater, with the female end down, slide that pipe over the outer Collar on the Heater while the Vent Inner slips into the Flue of the Heater.

MAINTAIN MINIMUM 1" CLEARANCES OR GREATER AROUND THE VENT SYSTEM.

Do not pack air spaces with insulation or other material.

The Dura-Vent GS is unitized and twist-locks together. For the twist-lock procedure, consult Figure 5 and do the following:

(1) Four indentations, located on the female ends of pipes and fittings, are designed to slide straight onto the male ends of adjacent pipes and fittings, by orienting the four pipe indentations so they match and slide into the four entry slots on the male ends. (Figure 5.) Push the pipe sections completely together, then twist-lock one section clockwise approximately one-quarter turn, until the two sections are fully locked. The female locking lugs will not be visible from the outside, on the Black Pipe or fittings. They may be located by examining the inside of the female ends.

(2) Horizontal runs of vent must be supported every three feet. Wall Straps are available for this purpose.

Assemble the desired lengths of black pipe and elbows. It is necessary to reach from the Heater up through the round support box. Ensure that all pipe and elbow connections are in their fully twist lock position.

Using the mark from Step 2, drive a nail up through the roof to mark the center. Measure to either side of the nail and mark the opening required. This is measured on the horizontal; actual length may be larger depending on the pitch of the roof. Cut out and frame the opening. See chapter 25 of the Uniform Building Code for Roof Framing details. A one inch minimum air space clearance must be maintained between the vent system and the roof.

Assemble lengths of pipe and elbows necessary to reach from the ceiling support box up through the roof line. Galvanized pipe and elbows may be utilized in the attic, as well as above the roof line. The galvanized finish is desirable above the roof line due to its higher corrosion resistance.

4. Installing the Roof Flashing or Site-Produced Chase Top. Position a Roof Flashing (or construct a Chase and Chase Top) and secure in place with nails.

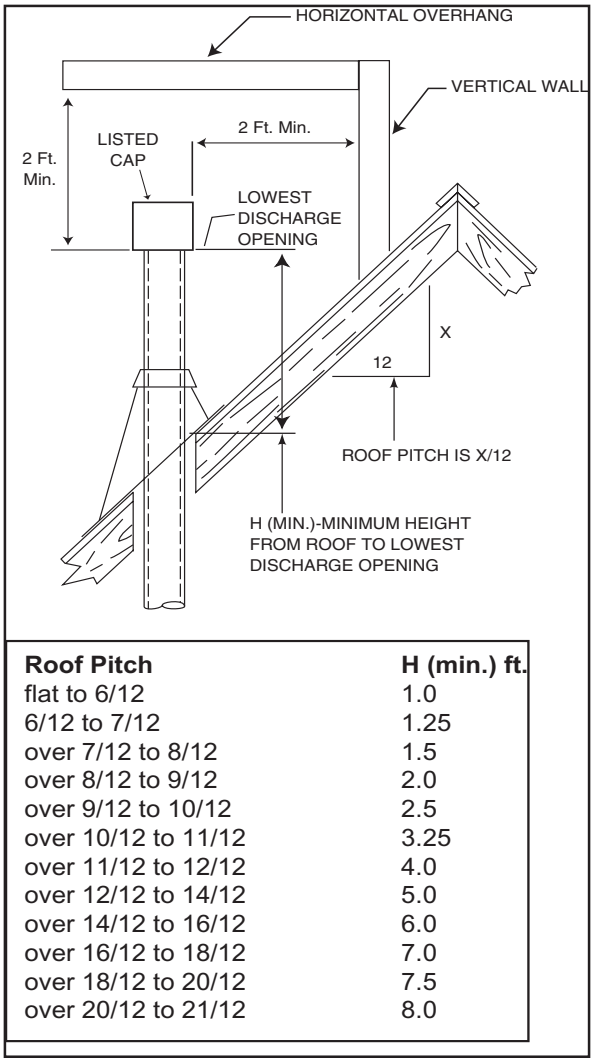
Continue to add Vent sections through the Roof Opening, maintaining at least 1” Air Space clearance. Major Building Codes specify a minimum Vent (Chimney) height above the Roof top depending on Roof Pitch. See Figure 10. Add Pipe sections until the height of the Vent Cap meets the minimum Building Code requirements described in Figure 10. Note that for steep roof Pitches, the vent height must be increased.

These Vent System heights are necessary in the interest of safety, however, they do not ensure draft-free operation. Trees, buildings, adjoining Roof lines, adverse wind conditions, etc., may create a need for a taller Vent System should down drafting occur.

5. Termination Cap. Twist lock the Vent Cap.

WARNING!

THIS APPLIANCE MAY ONLY USE THE APPROVED VENTING SYSTEMS SHOWN IN THESE INSTALLATION INSTRUCTIONS. IT MUST NOT BE CONNECTED TO CHIMNEY FLUE SERVICING A SEPARATE SOLID FUEL OR GAS FUEL BURNING APPLIANCE.



Roof Pitch	H (min.) ft.
flat to 6/12	1.0
6/12 to 7/12	1.25
over 7/12 to 8/12	1.5
over 8/12 to 9/12	2.0
over 9/12 to 10/12	2.5
over 10/12 to 11/12	3.25
over 11/12 to 12/12	4.0
over 12/12 to 14/12	5.0
over 14/12 to 16/12	6.0
over 16/12 to 18/12	7.0
over 18/12 to 20/12	7.5
over 20/12 to 21/12	8.0

Figure 10 -Vent (Chimney) Height

WARNING

WHEN VENT SECTIONS EXCEEDING 3 FEET IN LENGTH ARE INSTALLED BETWEEN AN OFFSET/RETURN, STRUCTURAL SUPPORT MUST BE PROVIDED TO REDUCE OFF-CENTER LOADING AND PREVENT VENT SECTIONS FROM SEPARATING AT THE VENT JOINTS.

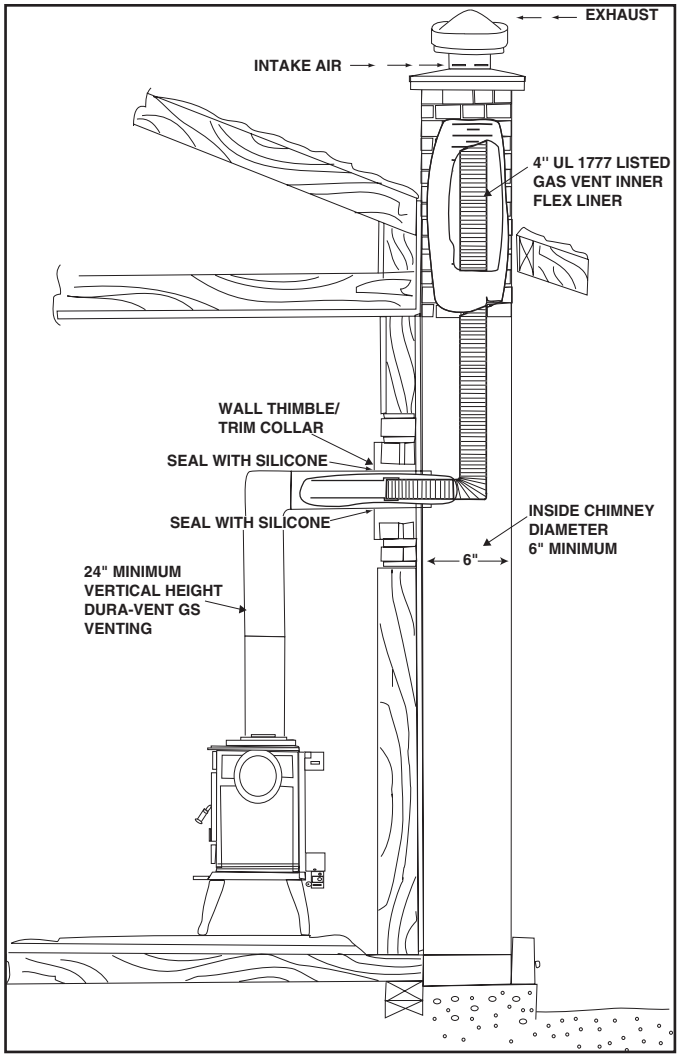


Figure 11
Adaptation to Masonry Chimney

C. Existing Masonry Chimney Installation

This installation is subject to local jurisdiction. Some codes may require the use of another liner for intake air. If so, the 4" aluminum liner should be inside a 6" UL 181 listed liner.

This Heater can be vented through an existing Masonry Chimney but the chimney must be lined with one UL 1777 listed 4" aluminum flexible gas vent liner for exhaust. The existing Flue will be used to supply the air intake to the galvanized steel Flue system. See Figure 11.

Before installing the liner system, the chimney passageway should be cleaned and examined to verify it is unobstructed and in good structural condition.

Measure and record the chimney dimensions to determine total flexible liner requirements.

Follow the liner manufacturer's instructions for installing the liner in the chimney. Attach a flexible liner puller to the liner and secure a rope to the puller. One person should feed the liner through the chimney, and another person should pull the liner from the bottom, with the rope, guiding the liner down the chimney. After feeding the liner down the chimney, form a 90˚ angle and bring the liner through the hole in the chimney wall. (If running two liners, run the 6" liner first and then the 4" inside of it.) Extend the liner through the wall of the chimney and attach it to the venting system extending from the top of the Heater.

Construct a metal flashing large enough and strong enough to cover the chimney opening and support the Heater Vertical Termination Cap.

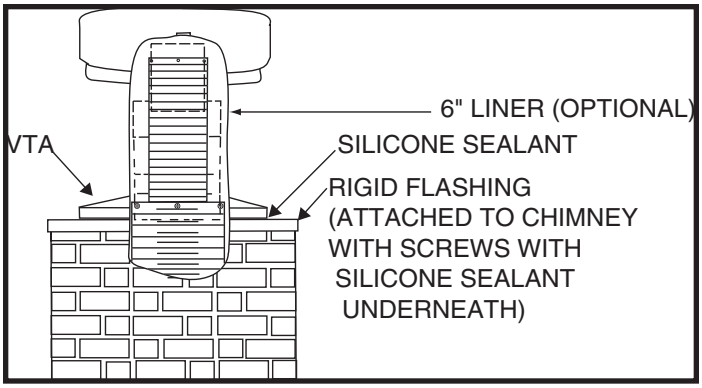


Figure 12
Masonry Termination

The flashing needs to fold down over and around the outside of the masonry chimney so that it can be secured to the chimney by 4 screws. See Figure 12. The flashing will require a hole at least 6 1/2" in diameter. (If using a 6" liner, extend the 6" flexible liner through the flashing and attach it to the VTA (Vertical Termination Adapter) with screws provided.) Secure the VTA to the flashing with the screws provided and seal the VTA/Flashing joint with a silicone sealant to prevent moisture from running down the liner into the chimney.

Attach the 4" gas vent liner to the Vertical Termination Cap with screws provided, then attach the Termination Cap to the VTA with screws provided. See Figure 12.

D. Existing Class A Metal Chimney Termination

In many cases where a Quadra-fire DV400S is replacing a woodstove, much of the existing Class A Metal Chimney can be incorporated into the direct vent system.

The existing chimney must comply with NFPA-211 codes and any local code requirements.

The chimney should be cleaned and examined to verify it is unobstructed and in good structural condition. Any structural weaknesses such as cracks, leaky joints, corroded or warped surfaces can have an adverse effect on the performance of this Heater and should be replaced or repaired.

Whenever an existing Class A Metal Chimney is on an outside wall, removal of the chimney and the use of the minimum horizontal direct vent termination kit may be less expensive.

When using an existing Class A Metal Chimney the following requirements are necessary:

Minimum size diameter is 6 inches.

Minimum height from the base of the stove to the top of termination cap is 9 feet.

The vent from the top of the Heater to the Chimney must be rigid vent sections. A 4" UL 1777 listed gas vent aluminum flexible liner can be used inside the chimney. The flexible liner must be secured to the last rigid section with three (3) sheet metal screws. A minimum 3 inch overlap is required. Remove and discard the existing chimney termination cap.

Determine the length of the 4" UL 1777 listed gas vent flex liner required to meet the vent sections at the top of the Heater.

Follow the liner manufacturer's instructions for installing the liner in the chimney. Attach a flexible liner puller to the liner and secure a rope to the puller. One person should feed the liner through the chimney, and another person should pull the liner from the bottom, with the rope, guiding the liner down the chimney. Extend and run the 4" gas vent liner down the chimney leaving 10" extending from the top of the chimney stack.

Install and secure the VTA (Vertical Termination Adapter) onto the chimney with the brackets provided.

Place and secure the Termination Cap on the VTA with the screws provided. See Figure 13.

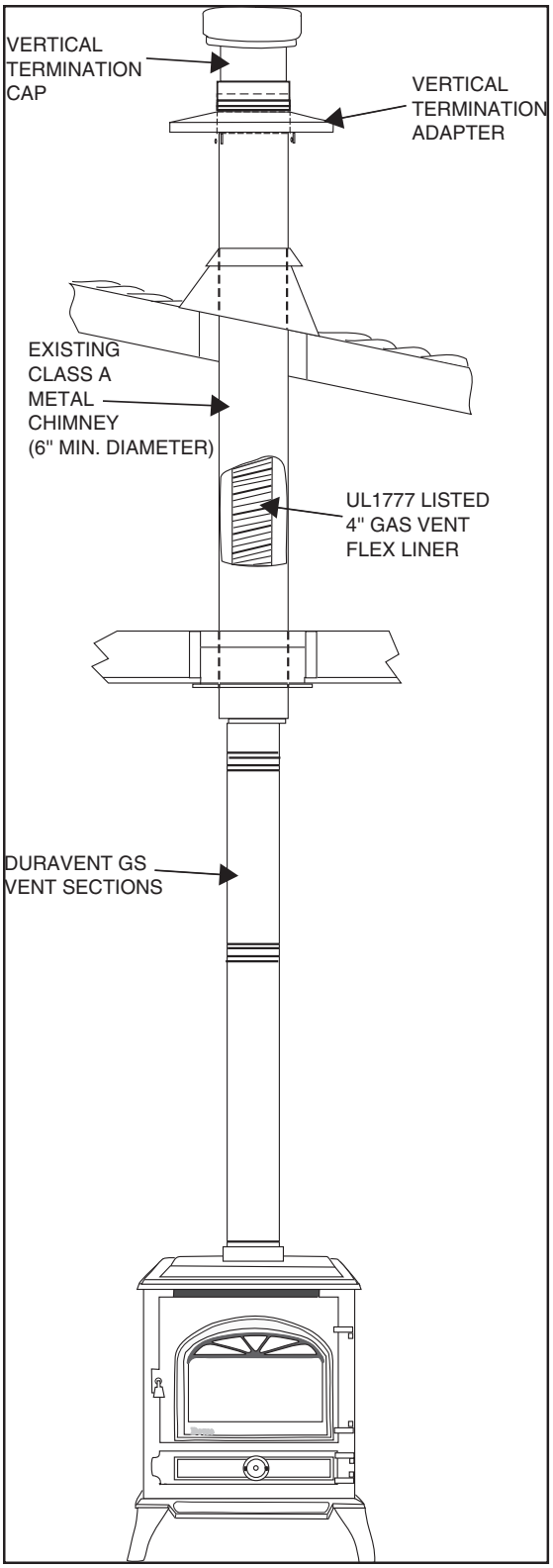


Figure 13
Retro-Fit to Metal Chimney

PRE-INSTALLATION PREPARATION

GAS LINE INSTALLATION

The valve is located near the lower right rear corner of the appliance. (See Figure 14.) Install the gas supply line to the valve. For ease of installation of the unit to the supply line, a flexible connector and manual shut - off valve are supplied. The manual shut - off valve should be installed onto the supply line, ahead of the flex. All connections must be checked for leaks with a soap and water solution or gas sniffer.

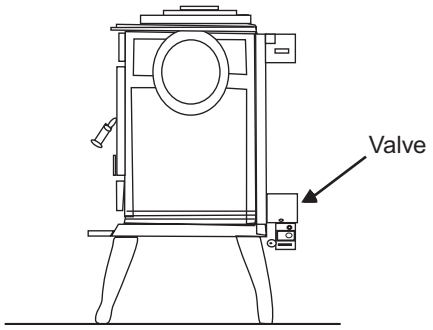


Figure 14 - Access to Valve

GAS PRESSURE

For natural gas, the minimum inlet gas supply pressure is 4.5 inches water column, and the maximum inlet gas pressure is 7.0 inches water column, for the purpose of input adjustment. Input rate is 29,500 Btu/hr. For propane gas, the inlet gas supply pressure must be at least 11.0 inches water column and a maximum 14.0 inches water column. Input rate is 28,500 Btu/hr.

Manifold pressure for this heater is 1.6 - 3.5 inches water column for natural gas and 6.3 - 10.0 inches water column for propane gas. This heater has a variable adjust manifold.Pressure taps are located on the front of the valve for both inlet and outlet pressure.

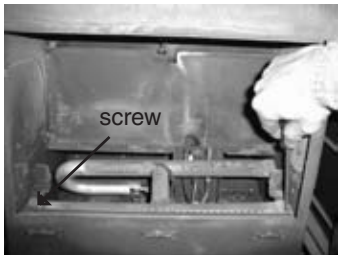


Figure A

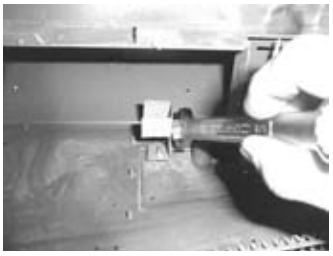


Figure B

FUEL CONVERSION

For conversion of the DV400S unit, use Kit # 844-8240 to convert from Natural Gas to LP. or the Kit #844-8230 to convert from LP to Natural Gas.

A. Gas and Power Supply.

1. Shut off the gas supply to the unit.
2. Unplug the blower cord from the power supply (if installed).
3. Carefully remove the logs and burner from the firebox. See Figure A for burner removal.

B. Burner Orifice.

Adjust air shutter adjustment screw as necessary to allow removal of the burner orifice.

1. Loosen and remove the retaining nut on the burner orifice with a 5/8" wrench. See Figure B.
2. Replace the Burner Orifice with the .063 LP Main Burner Orifice supplied in the LP kit. (.106 for NG). Reposition the air shutter onto the burner orifice. Refer to Page 20, on the following page, for High Altitude Installation.

C. Pilot Orifice.

1. Remove top of pilot hood. See Figure C.
2. Use a 5/32 allen wrench to remove the pilot injector orifice and install pilot orifice supplied. (.35 LP) (.62 NG). See Figure D.
3. Replace the pilot hood ensuring that it is seated and aligned.

D. Re-Assembly

1. Replace burner into the unit, making sure burner end is over orifice.
2. Install logs, replace glass front, plug in blower (if installed) and turn on gas supply.

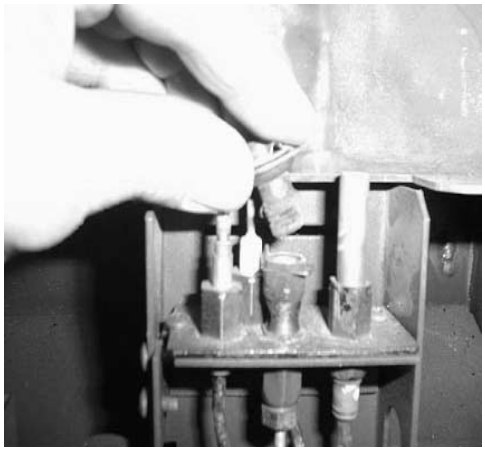


Figure C

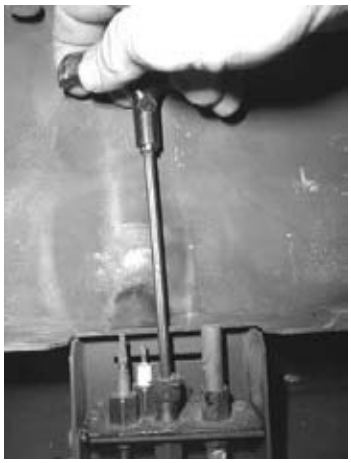


Figure D

E. Valve - Adjustable Regulator.

1. Gain access to the Valve Regulator Head by lifting up on the Valve Cover and removing the Tabs from the Slots on the Back Shield.

2. Follow Steps 1 - 3 in the Instructions included with the Regulator. Save the Label included in the Kit for later attachment to the unit.

3. Replace the Valve Cover after the Valve has been checked for leaks.

F. Leak Check.

1. Turn on the Gas Supply to the unit to check for gas leaks with soap and water.

2. Turn the Gas Control Knob to the “Pilot” position.

Push the Knob in all the way and hold. At the same time, push in the Red Ignitor button repeatedly until the Pilot lights. Never hold the Gas Control Knob for more than [10] seconds if the Pilot does not light. Once the Pilot lights, continue to hold the Control Knob in for 15 seconds. Release the Gas Control Knob and it will pop back out. Test for leaks at the Pilot Assembly using a soap and water solution or a a Gas Sniffer. Turn the Gas Control Knob to the “ON” position and turn the Switch On. Check for leaks around the Valve and the Burner Orifice.

3. Plug in blower (if installed).

WARNING!
THE INSTALLATION OF THIS CONVERSION KIT MUST ONLY BE UNDERTAKEN BY A QUALIFIED AND CERTIFIED GAS APPLIANCE INSTALLER.

NOTE: This Heater DOES NOT require a 110VAC supply for operation.

HIGH ALTITUDE INSTALLATION

For U.S. installation, units are tested and approved for elevations from 0-2000 feet.

When installing this unit at an elevation above 2000 feet, it may be necessary to decrease the input rating by changing the existing Burner Orifice to a smaller size. Input should be reduced 4 percent for each 1000 feet above sea level. Check with the local gas utility for proper Orifice size identification. This unit is shipped with a .106 in./2.67 mm Main Burner Orifice size for Natural Gas and a .063 in./1.60 mm orifice size on Propane Gas versions.

For Canadian installation, units are certified for elevations from 0-4500 feet. When installing this unit at an elevation between 0-4500 feet in Canada, the input rating does not need to be reduced.

When installing this unit at an elevation above 4500 feet in Canada, check with local authorities.

Consult your local gas company for assistance in determining the proper Orifice for your location or refer to ANSI Z223.1-latest edition, Appendix F.

NOTE: This Heater must be electrically wired and grounded in accordance with Local Codes or, in the absence of Local Codes, with the National Electric Code ANSI/NFPA 70-latest edition, or the Canadian Electrical Code, CSA C22.1.

NOTE: This appliance and its individual Shut - Off 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 psi (3.5kPa). The appliance must be isolated from the Gas Supply Piping System by closing its individual Manual Shut - Off Valve during any Pressure testing of the Gas Supply Piping System at test levels equal or less than 1/2 psi (3.5 kPa).

WARNING !
This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer’s instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, a fire, explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life. The qualified service agency is responsible for the proper installatin of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer’s instructions supplied with the kit.

OPTIONAL ACCESSORIES

Optional accessories may be added now or at a later date.

A. Optional Fan

The Optional Fan Kit (844-0150) requires a 110VAC supply.

Blower Installation:

1. Remove the Knockout Plate from the Backshield of the DV400S by prying out on the plate and clip or break the tabs that hold it in place. See Figure 1 below.

2. Remove the tape from the back of the strip of Gasket Material included with the blower kit, and position the Gasket over the edge of the opening of the Backshield. See Figure 2 below. (This will eliminate vibration.)

3. Install the Blower into the Backshield by hooking the bottom of the Blower Housing into the opening and rock the top of the Blower forward. Fasten the blower in place with the screws included in the Fastener Pack. See Figure 4 on this page.

4. Attach the On/Off Switch Box for blower to the Backshield with the screws provided. See Figure 3, this page.

5. Plug the Connector on the wiring assembly into the Receptacle on the top of the Blower Housing. See Figure 4 this page.

Figure 3
Attach On/Off Switch Box for blower

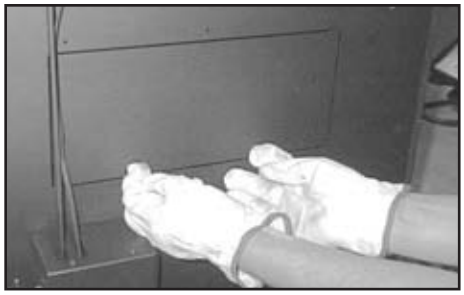


Figure 1
Removal of Knockout Plate

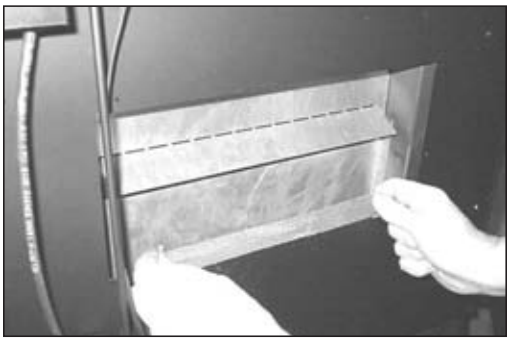


Figure 2
Placing Blower Gasket on Back Shield

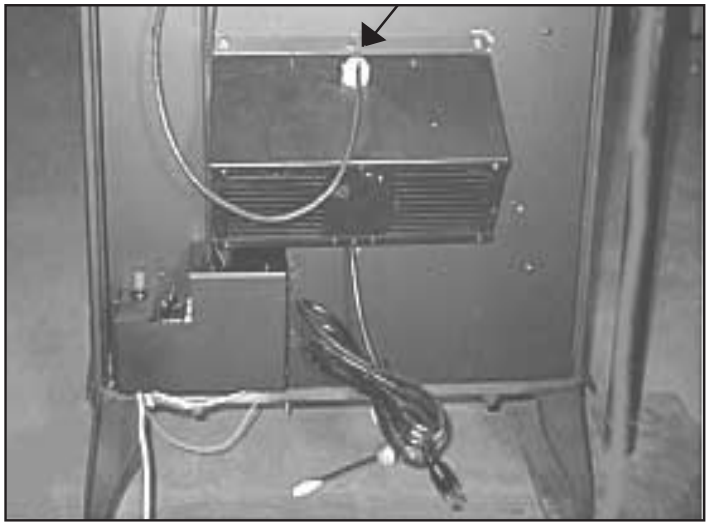
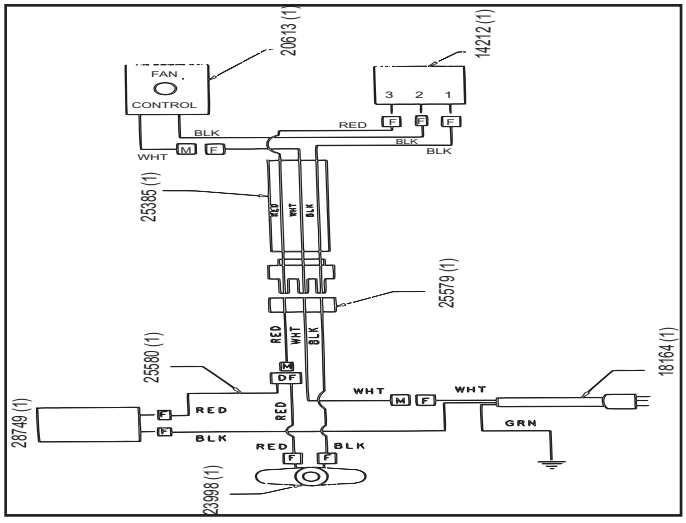


Figure 4
Fan Installation on Backshield also showing blower Receptacle

WARNING!

Electrical Grounding Instructions

This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.



Blower Wiring Diagram

B. Optional Wall Thermostat

The use of a millivolt Thermostat is allowed. It must be located within 20 feet of the appliance. **In order for the Thermostat to work, the "ON/OFF" Switch must be in the "ON" position.**

Figure 15 shows how to connect a millivolt Thermostat without the "ON/OFF" Switch in the Circuit. Disconnect the "ON/OFF" Switch from the Valve and wire the millivolt Thermostat as indicated.

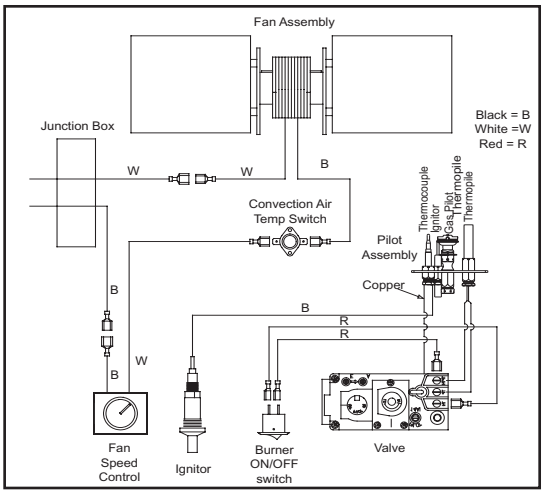


Figure 15 - Wiring Diagram

C. Remote Control

A remote control thermostat may be installed on this stove. Contact your dealer for the correct model.

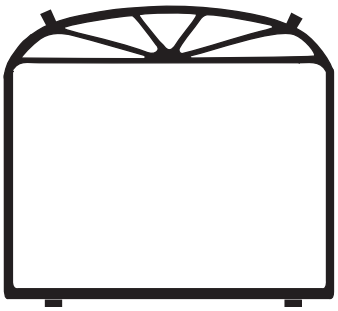
D. Warming Shelves/Brackets

Please see the Installation Instructions included with the Shelves. Refer to page 7, Heater System Components, for ordering purposes.

Warming Shelf and Bracket

E. Door Trim

Part # 844-0140. Please read the Installation Instructions included with the Door Trim.



Decorative Glass Accent

Firebox Entry

A. Removing the Front Face.

1. Loosen the thumb screw from the bottom of the unit that holds the front face in position. See Figure 16.

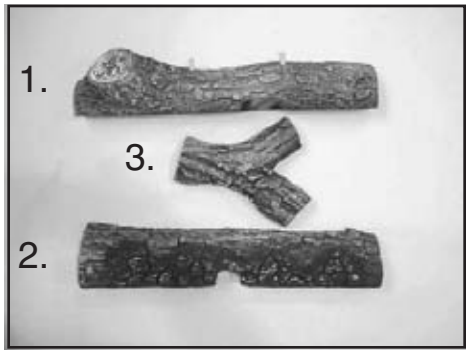
2. Carefully lift the front face up and pull the bottom forward. Place it in a safe place.

Figure 16 - Bottom Thumb Screw

B. Removing the Glass.

3. Remove the glass frame assembly by pulling the latch releases forward and upward. See Figure 17. Lift the glass frame assembly up, sliding the [3] tabs at the bottom out of the slots.

Figure 17 - Removal of Sealed Glass



1. Rear Log
2. Front Log
3. Top Log

Figure 18 - Log Identification

C. Log Placement.

The logs are shipped in separate packaging. Refer to Fig. 18 for identification, and Fig 19, 20, and 21 for the installation process.

Fig. 19
Rear Log Placement

Fig. 20
Front Log Placement

Fig. 21
Top Log Placement

D. Creating the Coal Bed Look.

Ember Chunks.

Randomly place the ember chunks on the burner tube between and in line with the two front logs, creating a small wall of embers. Do not allow the chunks to cover the burner ports or air holes in the burner tube as this may restrict air and/or gas flow, creating a less than satisfactory performance. Too much restriction can cause improper combustion and sooting (especially with an appliance using propane gas).

Mineral wool may be bridged over the chunks for greater enhancement.

E. Adjustable Flue Restrictor

The DV400S has an adjustable flue restrictor for maximum performance for vertical installations. The unit is shipped with the restrictor in the open position and should be left open with any horizontal installation.

To access the adjustable flue restrictor bolt you must take the following steps:

1. Remove the front face of the unit.
2. Remove the glass and set in a safe place.

The adjustable bolt can be accessed by reaching through the firebox to the back of the unit. See Figure 22.

The amount to close the restrictor will depend on the vent height. If the vertical height is 20 feet or more, the restrictor can be closed all the way. Anything less will require some setting less than closed. The setting will vary depending on the installation.

Any offsets in a vertical installation will restrict the system and the flue restrictor will not need to be closed as much.

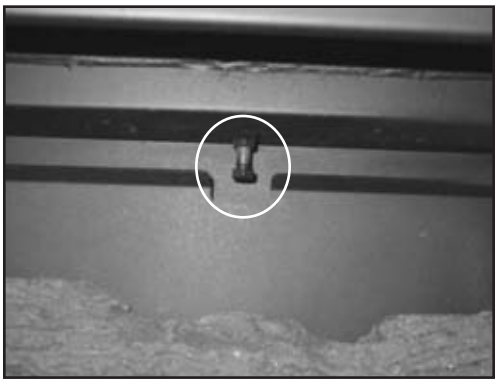


Figure 22 - Adjustable Flue Restrictor

F. Clean the Glass

To clean the glass, use a non-abrasive, mild cleaning solution. (For example, a glass cleaner or for stubborn film, an oven cleaner.) Apply an adequate amount to the glass and wipe off with a damp cloth. Be sure all cleaner is thoroughly rinsed from the glass.

G. Install the Glass

After cleaning the glass, carefully place the Glass Frame Assembly onto the unit by positioning the tabs at the bottom of the frame into the slots. Pull the latch releases forward and hook over the glass frame.

H. Optional Door Trim Kit Installation

The decorative trim can be installed at this time.

1. Lay the front face on a flat surface being careful not to damage it.

2. Remove the lower shield by removing the (3) screws.

3. Lay the door trim onto the front face and put the shield back in position and attach with the screws provided and those removed earlier.

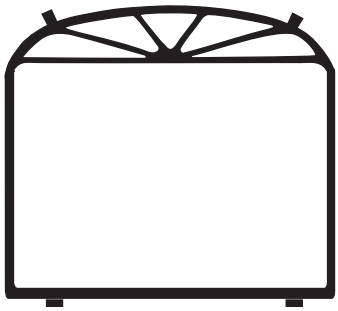


Figure 23- Decorative Door Trim

The screws are thread cutters and a power screwdriver is necessary to drive the screws into position. See Figure 23.

I. Replacing the Front Face

Carefully lift the front face into position and replace the thumb screw to hold it in position.

WARNING!

NEVER OPERATE THIS APPLIANCE WITH THE DOOR AND/OR GLASS REMOVED OR NOT SEALED.

WARNING!

DO NOT OPERATE APPLIANCE WITH THE PANEL(S) REMOVED, CRACKED OR BROKEN. REPLACEMENT OF THE PANEL(S) SHOULD BE DONE BY A LICENSED OR QUALIFIED SERVICE PERSON.

Pre-Use Check List

Before operating this heater, please review the safety precautions given on page 4 as well as the items listed below:

1. Check to make sure the logs are securely in place and the rock wool, and Ember Chunks have all been placed correctly. (Refer to Page 23.)
2. Check to see that all wiring is correct and enclosed to prevent possible shock.
3. Check to ensure there are no gas leaks. This may be done with a soap and water solution.
4. Make sure the glass is sealed and in its proper position. Never operate this heater with the face removed or glass removed or not sealed.
5. Verify that all venting and caps are unobstructed. Exhaust gases are extremely hot. Check for obstructions from trees, bushes, snow drifts, etc.
6. Read and understand these Instructions thoroughly before attempting to operate this heater.

LIGHTING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING! If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This gas appliance has a manual ignition device that lights the pilot. When lighting the pilot, follow these instructions exactly.

B. STOP! BEFORE READING FURTHER, smell around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle to the floor.

WHAT TO DO IF YOU SMELL GAS:

*Do not try to light the appliance.
*Do not touch any electric switch; do not use any telephone in your building.
*Immediately call your gas supplier from a neighbor's telephone. Follow the instructions of your utility.
*If you cannot reach your utility, call the fire department.

C. IF THE PILOT LIGHT AND BURNER WENT OUT DURING USE, YOU MUST TAKE THE GLASS OFF THE APPLIANCE AND WAIT TO CLEAR OUT ANY GAS. FOLLOW THE LIGHTING INSTRUCTIONS BELOW.

D. Use only your hand to push in or turn the gas control knob to light the pilot. Never use tools. If the knob will not push in or turn by hand, do not try to repair it; call a qualified service technician. Using a tool or attempting repairs may result in a fire or explosion.

E. 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 that has been under water.

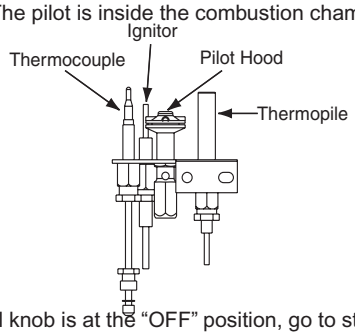
LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above.

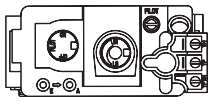
2. Turn off all electric power to the appliance. If your appliance has a thermostat, set to lowest setting.

3. Open control access panel.

4. Find the pilot. The pilot is inside the combustion chamber next to the main burner.



5. If the gas control knob is at the "OFF" position, go to step 7. If the gas control knob is at the "ON" position, go to step 6.



6. If the pilot light went out during normal use with the gas control knob at the "ON" position, turn the gas control knob to the "OFF" position. REMOVE THE FIXED GLASS PANEL. Wait ten (10) minutes to clear out any gas.

7. Smell for gas, including near the floor. If you don't smell gas, go to the next step. If you smell gas, wait another five (5) minutes or until the gas odor is no longer present before continuing. If the odor of gas does not disappear after fifteen (15) minutes, STOP! Follow "B" in the safety information above.

8. Replace glass panel.

9. Turn gas control knob counterclockwise to the "PILOT" position.

10. Push the gas control knob in all the way and hold. At the same time, push in red ignition button repeatedly until the pilot lights. Never hold the gas control knob in for more than ten (10) seconds if the pilot does not light. Once the pilot lights, continue to hold the gas control knob in for 15 seconds. Release the gas control knob and it will pop back up. If pilot does not remain lit, repeat steps 6 through 9.

*If gas control knob does not pop back up when released, turn the knob to "OFF" and call your service technician or gas supplier.

*If the pilot will not stay on after two attempts, turn the gas control knob to "OFF" and call your service technician or gas supplier.

11. Turn gas control knob counterclockwise to the "ON" position. The knob can be turned to the "ON" position only if it is popped out.

12. Close the access panel.

13. Turn on electrical power to the appliance. If equipped with a thermostat, set to the desired setting.

TO TURN OFF GAS TO APPLIANCE

1. Turn rocker switch to OFF or the wall thermostat to lowest setting if your unit is so equipped.

2. Turn off all electric power to the appliance if service is to be performed.

3. Turn gas control clockwise to "OFF".

Upon completing the gas line connection, a small amount of air will be in the lines. When first lighting the pilot light, it will take a few minutes for the lines to purge themselves of this air. Once the purging is complete, the pilot and burner will light and operate.

Subsequent lightings of the appliance will not require such purging. When lit for the first time, the appliance will emit a slight odor for an hour or two. This is due to paint and lubricants used in the manufacturing process. Additionally, for the first few minutes after each lighting, vapor may condense and fog the glass and the flames may be blue. After a few minutes, this moisture will disappear and within 15-30 minutes the flames should become yellow.

CAUTION: During the initial purging and subsequent lightings, NEVER allow the gas valve control knob to remain depressed in the "pilot" position without pushing the red ignitor button at least once every second.

ON/OFF SWITCH FOR THE BURNER

The on/off switch for the burner is located at the rear of the unit. See Figure 24.

Figure 24 On/Off Switch

AIR SHUTTER ADJUSTMENT

The air shutter adjusts the amount of air that mixes with the gas as it enters the burner pan. It is used to fine tune the flame as necessary for differences in altitude and vent configuration. The shutter is shipped in the open position.

It can be adjusted by removing the front face and turning the adjustment screw. See Figure 25.

Turning the screw in will close the shutter; turning the screw out will open the shutter.

The shutter can be adjusted while the unit is in operation. However, the unit should be shut off and allowed to cool **before** removing the front face.

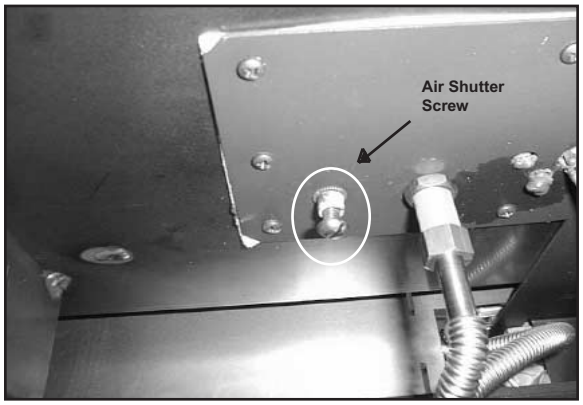


Figure 25

Air Shutter Adjustment

Note:

Allow the unit to cool before replacing the front face.

Allow the unit to operate about 15-20 minutes. This will give the flame time to reach its height and color before making adjustments to the air shutter. As the shutter is closed, the flame should get taller and darker.

The appliance may produce a noise, caused from metal expansion and contraction as it heats up and cools down. This noise is similar to one that a furnace or heat duct may produce and does not affect the operation or longevity of the the unit.

Keep the control compartment, logs, and burner area surrounding the logs clean by vacuuming or brushing at least twice a year.

CAUTION: The Logs can get very hot - handle only when cool.

SEASONAL SHUTDOWN

Turning the valve to off at the end of the season will prevent gas from running to the appliance while not in use in the off season. However, leaving the pilot on does not consume a large amount of gas and the pilot will help keep the moisture and insects out of the system.

OPERATION PROCEDURE DURING REGULAR USE

Simply turn the switch/thermostat to the ON position. This will ignite the main burner.

SHUTDOWN DURING REGULAR USE

Simply turn the switch/thermostat to OFF. This will disengage the burner and the flames will extinguish.

MAINTENANCE INSTRUCTIONS

Cleaning the burner and control compartment

Keep the burner compartment clean. Brush this area with a clean, dry paint brush and vacuum at least once a year. Always turn off the gas valve and ON/OFF switch before cleaning.

Checking flame patterns

Visually check the flame of the burner periodically, making sure the flames are steady; not lifting or floating. The flame color should be blue with yellow tips. The thermopile tip should be covered with flame. See Figure 26

NOTE: If the air shutter is open all the way and the flames remain sooty, shut off gas to the appliance and contact a qualified gas service technician.

If the vent configuration is installed incorrectly, the vent may cause the flames inside the appliance to lift or "ghost" - a dangerous situation. Inspect the flames after installation to ensure proper performance. If the vent configuration is correct, yet the flames are lifting or ghosting, shut off gas to the appliance and contact a qualified service technician. (See Fig. 27)

Venting system inspection

The heater and venting system should be inspected before use each season, and at least annually, by a qualified field service person, to ensure that the flow of combustion and ventilation air is not obstructed.

Cleaning the glass

It is recommended to wear gloves while handling or removing the glass. **DO NOT REMOVE THE GLASS WHEN HOT.**

Note: When cleaning the glass, NEVER use abrasive materials. NEVER clean glass when hot.

To clean the glass, use a non-abrasive, mild cleaning solution. (For example, a glass cleaner for stubborn film, or an oven cleaner.) Apply an adequate amount to the glass and wipe off with a damp cloth. Be sure all cleaner is thoroughly rinsed from the glass.

Never operate this heater without the glass properly secured in place or if the glass is broken.

In the event of glass breakage, follow door removal instructions. This will allow the removal of all glass fragments and sheet metal edge protection strips. Vacuum all remaining glass pieces with a shop vac. (DO NOT VACUUM IF PIECES ARE HOT.) Replacement glass can be ordered through your local dealer or distributor. Never use substitute material. Only ceramic glass may be used on this heater.

Log cleaning

Carbon build-up can be removed with a vacuum cleaner.

WARNING!

Do not use this heater if any part has been under water. Immediately call a qualified service technician to inspect the heater and to replace any part of the control system and any gas control which has been under water.

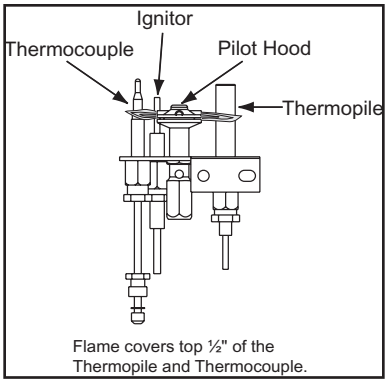


Figure 26 - Standing Pilot

Note: Operation of a Direct Vent Heater may be sporadic in high wind situations.

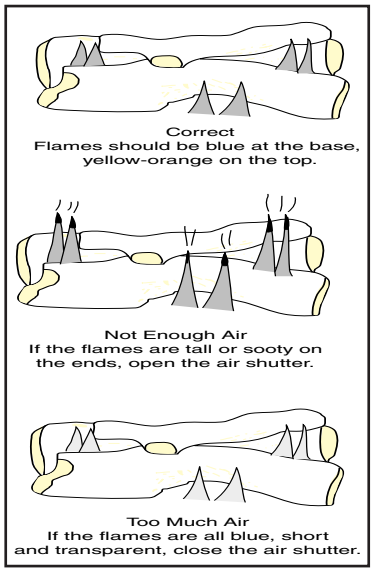


Figure 27 - Flame Patterns

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

TROUBLE SHOOTING

Pilot Will Not Light

1. Is a gas shut-off valve turned on?
2. Is the valve control knob turned to "PILOT" (See Lighting Instructions, #6, Pg. 25.
3. Is the valve control knob pushed in? (See Lighting instructions, Pg. 25 #6
4. Does the electronic ignitor have a good battery?

Main Burners Will Not Start

1. Has the pilot light gone out? (See Lighting Instructions, Pg. 25).
2. Is the gas control valve turned to "PILOT" or "OFF"? (See Lighting Instructions, page 25).
3. Is the ON/OFF switch in the "OFF" position? (Turn to "ON")
4. Is the remote control working correctly? (See instruction manual for the remote control).
5. Is the thermostat disconnected or set too low?
6. If LP, is the tank empty or supply valve off?

Remote Control Does Not Turn Unit On / Off

1. Has the pilot light gone out? (See Lighting Instructions, Pg. 25).
2. Is the gas control valve turned to "PILOT" or "OFF? (See Lighting Instructions, Pg 25).
3. Is the ON/OFF switch turned to "OFF"? (Turn the switch to "OFF") If the switch is on, unit will remain on.
4. Is the remote too far away from the fireplace? (Use remote closer to fireplace)
5. Is the remote control receiver turned "OFF"? (See instruction manual for the remote control).
6. Are the remote control batteries dead? (See instruction manual for the remote control).

Thermostat Does Not Work

1. Has the pilot light gone out? (See Lighting Instructions, Pg. 25).
2. Is the gas control valve turned to "PILOT" or "OFF"? (See Lighting Instructions).
3. Is the thermostat set too low?
4. Is the ON/OFF switch turned to "OFF? If switch is on, unit will remain on. (The switch overrides the thermostat.)
5. Has proper wire gauge been used for distance?

Stove Will Not Distribute Heat (Fan won't run)

1. Is the stove getting electricity? (Check the breaker switch)
2. Is the stove up to temperature? Blower will not turn on until stove is up to temperature.
3. Is Blower operational?

Pilot Goes Out Once a Month or More

1. Has the gas supply been shut off? (Keep gas supply turned on)
2. Build-up on pilot assembly
3. Correct pressure supply.

Flames Are Too Blue

1. Has the stove just been started? Wait for 20 minutes.
2. Contact qualified Installer or Dealer to service air shutter and adjust flue restrictor (Page 24 & 26).

Flames Are Too Short (Under 6")

1. The flame height may be turned too low. (Turn the flame height to "HI".
2. Air Shutter may require adj - Contact qualified installer or service dealer.
3. Flue Restrictor may require adj - Contact qualified installer or service dealer.

Thin Layer of Soot Covers the Glass

1. Are the logs or embers placed incorrectly? (Page 23)
2. Air Shutter may require adj. - Contact qualified installer ro service dealer.
3. Flue Restrictor may require adj - Contact qualified installer or service dealer.

Stove Design

Many of the components within this gas stove are designed specifically for safety purposes. It is therefore imperative that only certified gas service technicians should service this appliance.

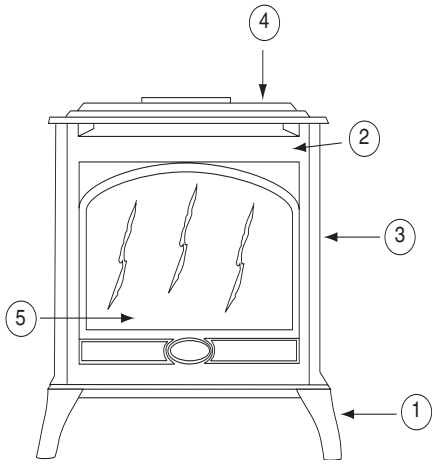
Burner Operation

A millivolt system controls the operation of this stove. The thermopile and thermocouple generate electricity when heated by the pilot flame. This electricity is used to operate the gas valve. Without enough electricity, the gas valve will not turn on. That is why, when starting the pilot, the gas control knob has to be pressed in long enough for the thermocouple to heat up and generate enough electricity. The thermopile provides power for the ON/OFF switch, remote control, or thermostat. Because the thermopile generates the electricity needed to turn the fireplace on and off, this stove can be operated when the power is out (although the blower will not run).

Gas Build Up Prevention Feature

This appliance's utilization of a high-technology gas valve in conjunction with a pilot flame ensures that no gas builds up inside the firebox.

The thermocouple (next to the pilot) senses when the pilot flame is lit. If the pilot flames goes out, this thermocouple no longer generates electricity, causing the gas valve to automatically shut off all gas to the heater, preventing the pilot from spilling gas into the firebox.

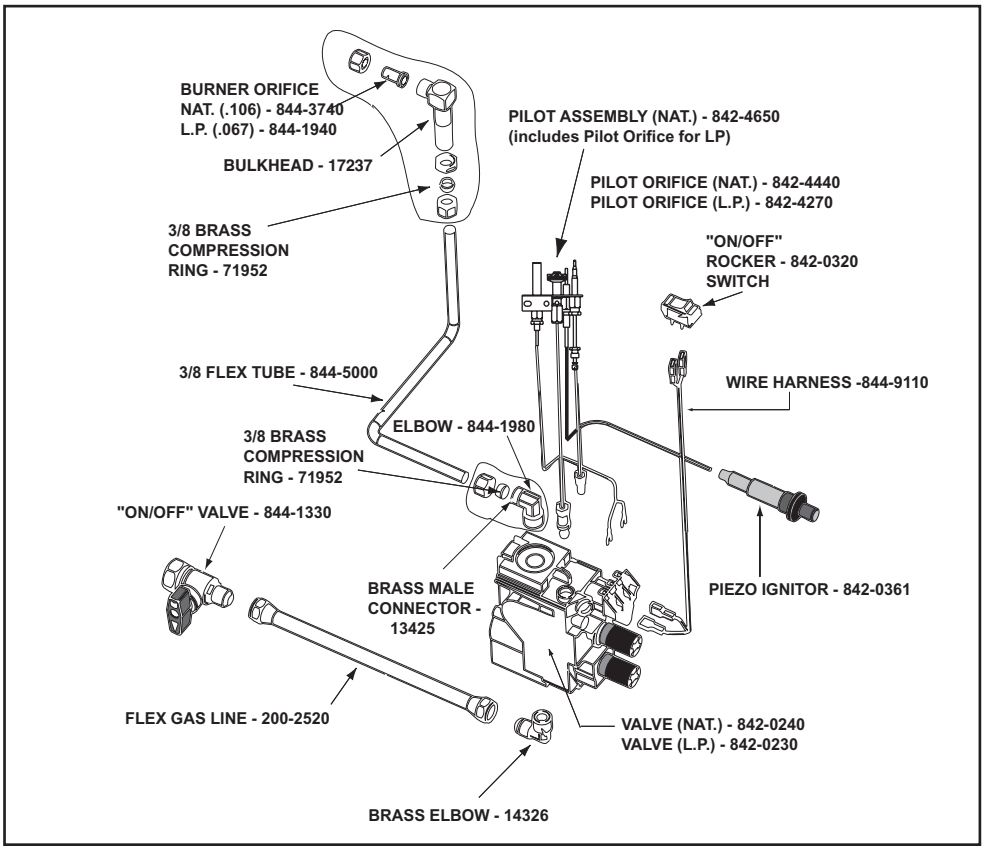


DV400S Replacement Parts

DV400S Gas Log Assembly

REPLACEMENT PARTS

ITEM	PART#	DESCRIPTION
1	20922	Leg - Matte Black
2	29078	Front Face - Matte Black
3	25389	Side Plate - Matte Black
4	29077	Top Plate - Matte Black
	29076	Bottom Plate
5	844-8580	Glass Assy w/gasket
	29040	Glass Frame only
	29054	Backshield
	29745	Gold Hinge Pin
	29290	Latch Assembly
	844-7490	Gold Handle only 30631 (used on DV400 with one piece fronts)
	844-5740	Handle Assy DV400 (Pre 2198)
	844-9070	Handle Assy Gold DV400s (Post 2198) includes the following: gold handle (29074); Wooden Piece (24380B); Bolt (24381A); and Teflon Washer (25491).
	844-8510	Log Set (3 Piece)
	844-9430	Log Rack
	844-1060	Mineral Wool



ITEM	PART#	DESCRIPTION
	844-8150	Burner Assembly
	844-4250	EZ Thermocouple
	842-0250	Thermopile
	842-0370	Speed Control
	842-0320	“ON/OFF” Rocker Switch
	842-0361	Push Button Ignitor
	844-9110	Wire Harness
	842-4650	Pilot Assembly - Natural Gas
		includes LP Pilot orifice for LP
	842-0240	Valve Assembly - Natural Gas
	842-0230	Valve Assembly - Propane
	844-8550	Regulator only NG
	844-8560	Regulator only LP
	844-3740	Burner Orifice - Natural Gas
	844-1940	Burner Orifice - Propane

** If any of the original wiring as supplied with the heater must be replaced, it must be replaced with Type 18 ga., 105C wire, or its equivalent.

Lifetime Warranty

LIFETIME WARRANTY

The Aladdin Hearth Products limited Lifetime Warranty guarantees that the following components will work as designed for the lifetime of the stove or Aladdin Hearth Products will repair or replace them. These items include, but are not limited to, steel and cast iron components, all gas burners, gas logs, combustion chambers, heat exchanger systems, stainless steel firebox components, gold plating, doors, glass damaged by thermal breakage, baffles and manifold tubes. Labor is covered for the first five years.

THREE-YEAR WARRANTY

Our EZ Clean firepots are covered under Aladdin Hearth Products three-year warranty program. Labor is covered for 3 years.

ONE-YEAR WARRANTY

All electrical components such as, but not limited to, blowers, wiring, vacuum switches, speed controls, control boxes, thermodisc switches, pilot assemblies, gas valves, thermostats and remotes are covered under Aladdin Hearth Products one-year warranty program. Carburetors, burner rings and catalysts are covered under Aladdin's one-year warranty program. Porcelain finishes are warranted against manufacturer defects for one year. Labor to repair or replace these parts is covered for one year and reimbursed per our warranty service fee schedule. The igniter is not covered by any warranty, expressed or implied.

CONDITIONS

This warranty is non-transferable and is made to the original retail purchaser only provided that the purchase was made through an authorized dealer of Aladdin Hearth Products. It must be installed and operated at all times in accordance with the Installation and Operating Instructions furnished with this product, as well as any applicable local and national codes. Any alteration, willful abuse, accident, or misuse of the product shall nullify this warranty.

Labor to repair or replace items covered under the limited Lifetime Warranty will be covered for the first five years per our warranty service fee reimbursement schedule. Parts covered under the limited Lifetime Warranty will be covered for the lifetime of the appliance up to a maximum of five years after Aladdin Hearth Products discontinues the model. Adjustments, regular maintenance, cleaning and temporary repairs do not qualify for a service call fee and will not be covered. The replacement of consumer replaceable items and installation of upgraded component parts do not quality for a service call fee, and will not be covered.

This limited Lifetime Warranty does not extend to or include surface finish on the appliance, logs for oil or pellet stoves, door gasketing, glass gasketing, thermocouple covers, firebrick, kaowool or other ceramic insulating materials. It does not cover installation or operational-related problems such as the use of corrosive driftwood, downdrafts or spillage caused by environmental conditions, nearby trees, buildings, hilltops, mountains, inadequate venting or ventilation, excessive offsets, or negative air pressures caused by mechanical systems such as furnaces, fans, clothes dryers, etc.

Any installation, construction, transportation, or other related costs or expenses arising from defective part(s), repair, replacement, etc., will not be covered by this warranty, nor will Aladdin Hearth Products assume responsibility for them. Further, Aladdin Hearth Products will not be responsible for any incidental, indirect, or consequential damages, except as results in damage to the interior or exterior of the building in which this appliance is installed. This limited Lifetime Warranty does not apply to the venting components, hearth components or other accessories used in conjunction with the installation of this product not manufactured by Aladdin Hearth Products.

This warranty is void if the stove has been overfired or operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals; the stove is subjected to prolonged periods of dampness or condensation; or there is any damage to the stove or other components due to water or weather damage which is the result of, but not limited to, improper chimney or venting installation. Aladdin Hearth Products may, at its discretion, fully discharge all obligations with respect to this warranty by either repairing or replacing the unit, or refunding the wholesale price of the defective part(s).

This limited Lifetime Warranty is effective on all Dovre and Affinity appliances sold after July 1, 1998 and all Quadra-Fire appliances sold after September 1, 1996, and supersedes any and all warranties currently in existence.

REV A

Attention

INSTALLER

Please return these Operating & Installation Instructions to the Consumer