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Lakewood Stove Company Ltd.

**Lakewood**  
Stoves

OWNER'S MANUAL

- \*Installation
- \*Operation
- \*Repair Parts

THIS MANUAL COVERS:

The LAKEWOOD Cottager  
The LAKEWOOD Unicorn  
The LAKEWOOD Unicorn Catalytic

The LAKEWOOD Special I  
The LAKEWOOD Special II  
The LAKEWOOD Elan 2000  
The LAKEWOOD Lodger  
The LAKEWOOD Lodger II  
The LAKEWOOD 1500 Series

CAUTION: Read all instructions  
carefully before  
starting  
installation

Do not use  
this heater  
in mobile  
homes or trailers

SAVE THIS MANUAL FOR FUTURE REFERENCE

BURNWOOD ONLY

Manufactured and Distributed by:  
LAKEWOOD MANUFACTURING LTD.  
P.O. Box 489  
Bobcaygeon, Ontario KOM 1A0  
(705) 738-2349

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Dear Friend:

Congratulations on your purchase of a LAKEWOOD stove!

This manual has been written so as to allow good performance over a wide range of conditions. Over time, you may find that better performance may result from slight modifications in operating methods.

The LAKEWOOD stove has been designed with the following safety features:

1. The door latch is strong and positive and is designed to keep logs from falling and disengaging the door latch.
2. The chambered door with full gasket is designed to keep sparks from getting out into the room when the door is closed. If you purchased a stove with glass doors, the pyroceram<sup>TM</sup> glass has very high heat resistance and outstanding strength characteristics.
3. If you purchased a catalytic stove, the combustor will increase fuel efficiency up to 20% and reduce the creosote by as much as two thirds.

With proper use and care, this stove should provide you with years of warmth and service.

This unit should only be installed in accordance with applicable building codes. Should you require further information than is contained in this manual, please check with your local fire department.

Yours very truly,

For LAKEWOOD Manufacturing Ltd.

Gordon D. MacKay,  
President

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## INTRODUCTION

The following instructions cover all LAKEWOOD models. Carefully read and follow these instructions as they apply specifically to your model (it might be advantageous to read the whole manual).

Failure to follow these instructions could lead to improper installation and/or result in:

- heater malfunction
- property damage
- serious bodily injury or even death

Your stove is not designed as a furnace. It should not be connected to a forced air furnace ducting system. Connection can cause excessive temperatures resulting in fire.

If you have any doubts about a proper installation in your situation, contact your local building inspector, fire department or fire marshall. All installations must comply with local and national building codes, Canadian Standards Association Installation Code No. B365 and/or The National Fire Protection Association N.F.P.A. 211.

This stove is designed to burn wood only.

## YOUR STOVE

Before installing your stove, check all parts to see that you received them, that they are properly installed and/or that you can assemble them properly.

- a) All bricks in the stove should be neatly in position. Replace any that were broken during shipment (bricks are available at your local dealer).
- b) Solid iron doors should have the following items:
  - gasket material around the rim of the door(s)
  - wire knob(s) on the door handle(s)
  - cast iron air adjusters
  - cast iron baffle(s) on the inside of the door(s)
- c) Glass doors should have the following items:
  - gasket material around the rim of the door(s)
  - gasket material around the rim of the glass
  - wire knob(s) on the door handle(s)
- d) Catalytic stoves should include the following:
  - by-pass damper handle
  - by-pass damper handle wire knob
- e) Optional items which may be purchased from your dealer:
  - blower
  - flue thermometer and clip
  - ashapron (if not included with stove)
  - fire screen (not for units with glass doors)
  - brass accessories

## YOUR CHIMNEY

The chimney creates the draft necessary to operate your stove.

If you have a masonry chimney, it should be inspected to ensure that it is sound and free from cracks. If the masonry chimney is cracked, it should be repaired before installing the stove. The flue system will at times have to handle temperatures as high as 2000<sup>o</sup>F so it must be sound.

This stove may also be connected to a factory-built W.H. or U.L.C. listed solid fuel type chimney. If you install a factory-built chimney, make sure it is installed in accordance with the manufacturer's instructions and all applicable codes. Do not use Class B chimney. (In U.S.A. comply with your local building and chimney codes.)

To help ensure a good draft, the top of the chimney should be constructed at least three feet above the roof and be at least two feet higher than any point on the roof within ten feet. This will ensure that you have a minimum of downdraft problems with your chimney.

Never use single wall smoke pipe as an exterior chimney. Never use single wall smoke pipe to go through any partition walls, ceiling or floor.

If at all in doubt, you should get someone knowledgeable in installations to inspect it for you.

We cannot over-emphasize the importance of a sound, safe installation. Your smoke pipe and flue system will be handling hot gases of between 200<sup>o</sup>F and 1000<sup>o</sup>F on a continuous basis. If you have a flue fire, the system will have to endure temperatures as high as 2000<sup>o</sup>F for a short time. Make the system safe and tight.

If you have any doubts, see your local dealer or fire department. (For diagram on chimney heights above roof and clearances, see Appendix 7).

#### PRELIMINARY PREPARATIONS

##### LOCATION OF STOVE

Do not place your stove near exits or other heavily travelled areas of the room. Avoid placing the stove in front of utility outlets.

If you have to install a new chimney, keep in mind that there may be rafters or other structures in your way. Plan ahead and choose your location carefully.

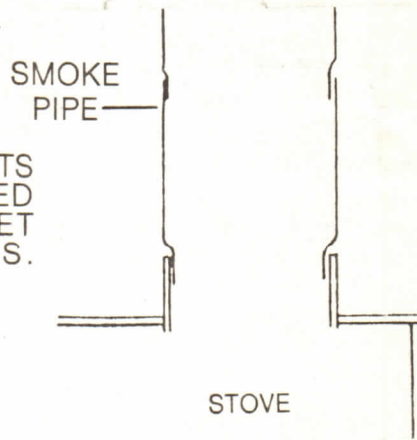
##### FLOOR PROTECTION

When installing heaters on a combustible floor, a floor protector consisting of a layer of non-combustible material at least 3/8" thick (or 1/4" thick covered with sheet metal) is required to cover the area under the heater, extending at least 18" beyond the front and 8" beyond the sides and back of the heater.

##### STOVE PIPES

All Lakewood stoves are manufactured to accept standard smoke pipe with the crimped end inserted inside the flue collar. All flue pipe should be installed with the crimped (male) end down. Each joint should be secured by three sheet metal screws. See diagram

NOTE: ALL JOINTS  
MUST BE FASTENED  
WITH 3 SHEET  
METAL SCREWS.



Be sure to maintain at least 18" clearance between the smoke pipe and all combustible materials. Avoid using more than two elbows. Do not reduce the diameter of the smoke pipe to less than the diameter of the flue collar.

#### CLEARANCES

Safety should be your prime consideration in making the installation of this unit. Large amounts of heat are radiated from the surfaces of a wood stove. This radiated heat is enough to cause spontaneous ignition of nearby combustible materials. Combustible materials include wood, vinyl, paper, etc. Wood covered by plaster or dry wall is also considered combustible. Usually only solid masonry construction is considered to be non-combustible. For actual clearances as required per listing report for your stove, please refer to the label on your stove or Appendix 1.

NOTE: Ensure that the blower cord (if you are using the stove with a blower) cannot touch hot surfaces of the heater and is not obstructing passages.

#### INSTALLATION INSTRUCTIONS FOR FREE STANDING STOVES

1. Select a proper location for your stove and cover a large enough area with non-combustible floor protection (see paragraph on floor protection and location).
2. Put your stove in place, making sure to comply with minimum clearance requirements (see Appendix 1 for clearances).
3. Prepare the necessary sections of flue pipe. Measure carefully, allowing for overlap (see paragraph on stove pipes for proper assembly and clearances).

#### STOVE OPERATION

##### GENERAL

BURN WOOD ONLY. DO NOT BURN COAL, CHARCOAL, SYNTHETIC LOGS OR OTHER FUELS. DO NOT USE FLAMMABLE LIQUIDS OR STARTING AIDS.

DO NOT OVERFIRE. DO NOT STORE COMBUSTIBLE MATERIAL WITHIN THE SPECIFIED CLEARANCES.

ALWAYS USE AN ACCURATE FLUE THERMOMETER. IF USING A THERMOMETER OTHER THAN A PROBE TYPE, DEDUCT 150°F FROM ALL TEMPERATURES STATED IN THIS MANUAL!

## NON-CATALYTIC STOVES

### Building a Fire:

1. Place a small amount of crumpled paper in the stove (not this manual).
2. Cover paper with small amount of kindling and a few small pieces of wood.
3. Ignite the paper.
4. Once a draft has been created in the flue, larger pieces of wood can be added.
5. When the kindling is burning, close the door and turn the handle until it locks firmly.
6. Open the two air adjusting valves between 1/4 to 1/2"
7. Add wood as the fire progresses, being careful not to "smother" the fire.
8. Maintain 350°-550° F flue temperature.

NOTE: Contact with radiant surface during operation can cause severe burns.  
CAUTION: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater.

### OPERATION OF NON-CATALYTIC STOVES:

This modern airtight stove is the product of modern manufacturing techniques. About 100 years ago when folks last burned wood seriously, most stoves were loosely built either of cast iron or sheet metal. Air was free to filter in and support combustion regardless of how one adjusted the air intakes. Your airtight stove will only admit air through the air intake(s) on the stove. You will be in total control of the fire.

When wood burns, it passes through three stages:

1. DRYING - Moisture is driven off during this phase.
2. BURNING - This is where you see the fire actually burning. Gases and creosote are created in this stage.
3. COAL AND EMBER STAGE - This is the phase that generates the most usable heat and little or no creosote.

It is important to understand that you need a good deal of air when the wood is passing through the first and second stage, so your valves should be opened adequately during these first two stages.

Having each of the spinners open 1/4", or the slider open 1", should be enough to supply sufficient air for the first and second stage of burning. For the third stage, set the air adjusters to a minimum. This setting will depend on the draft in your chimney and will, therefore, vary with every installation.

## CATALYTIC STOVES

### Theory of Catalytic Stoves:

A catalyst is a material that can accelerate a chemical process without actually becoming a part of that process.

It is generally estimated that an excess of 30% of the combustible make-up of wood escapes up a chimney. This wasted fuel consists of hydrogen, carbon monoxide, methane, acetic acid, formaldehyde, and other hydrocarbons. This

mixture of gases and vapors is generally referred to as wood gas. While it is combustible, it requires temperatures of 1000° - 1500° F along with a proper mixture of oxygen and enough time in that environment for combustion to take place. Because wood gas burns so slowly, it is drawn through the high temperature areas and out the flue of most woodstoves before it has time to react and burn off. This is not the case with your catalytic woodstove.

The presence of the catalyst lowers the ignition point of the wood gas to approximately 500° F. The cellular structure of the 2600° F rated ceramic provides the time, temperature, and turbulence (mixing of fuel and air) to further enhance the reaction.

As a result, shortly after a fire is started in the woodstove and the flue gas temperature at the convertor has reached 500° F, the wood gas will be converted by an accelerated chemical reaction into usable heat. The result is a substantial decrease in pollutants and build up of creosote in the flue system.

If the convertor is provided with enough fuel (wood gas), heat generated from the chemical reaction taking place within its cellular structure may increase its temperature to 1600° F. At this point the catalytic convertor will be glowing bright red. Because most of the wood gas is driven off during the first third of the burning cycle, this is the period during which you would expect to see the catalytic convertor glowing brightest when viewed through the Efficiency Monitoring Port. As smaller amounts of gases are driven off and the wood in the primary firebox enters the charcoal stage of combustion, the convertor will begin to lose its red glow as its temperature drops. This does not mean that the catalytic convertor has stopped working, but rather that its fuel supply has been reduced to the point that there is not enough combustible material flowing through it to maintain "RED HOT" temperatures.

Whether the catalytic convertor is glowing or not, it will be functioning as long as the flue gas temperatures at the convertor are in excess of 500° F.

#### Building a Fire:

1. Place a small amount of crumpled paper in the stove (not this manual). Make sure you do not use paper with a metallic content.
2. Cover paper with a small amount of kindling and a few small pieces of wood.
3. Ensure that your stove by-pass damper is in the full open position.
4. Using a small amount of rolled paper, ignite and hold beneath the by-pass damper to warm the flue and create a proper draft.
5. Ignite the fire.
6. As the draft increases and the fire burns stronger, add larger pieces of wood.
7. When the fire has established a sufficient burning rate, close the door(s) and lock the handle(s).
8. Open the air adjusters  $\frac{1}{4}$  to  $\frac{1}{2}$ " (spinners), slider 2" - 3".
9. Add wood as the fire progresses, being careful not to smother the fire.
10. Once you have arrived at a hot burning, well established fire (the flue thermometer should read 500° F or more) close the by-pass damper.
11. The temperature reading on your flue thermometer will drop slightly. After stabilizing, the temperature will begin to slowly increase. This indicates that the combustor is commencing operation.



12. Allow the temperature to rise to 550°F - 700°F.
13. Reduce air intake to stabilize at 550°F. - 700°F. Do not operate a catalytic stove at temperatures higher than stated. If your stove has spin-type air adjusters, ensure that both are open equally.

#### Operation of Your Catalytic Stove:

This modern airtight catalytic stove is the product of modern manufacturing techniques and new technological advancement in woodburning. Please ensure that you understand the principles involved in catalytic woodburning as brought out in the "Theory" section. This unit is designed to operate much slower than a conventional airtight yet produce more heat.

When wood burns, it passes through three stages:

1. DRYING - Moisture is driven off during this phase.
2. BURNING - This is where you see the fire actually burning. Large amounts of gases are produced in the above two stages.
3. COAL AND EMBER STAGE - This is the phase that generates the most usable heat and little or no creosote.

It is important to understand that you need a good deal of air to start your fire or re-kindle your fire to reach firebox temperatures of 500°F to 600°F. After this, the air can be reduced, as long as the firebox temperature remains above 500°F; the catalytic convertor, depending on your chimney draft, will continue to operate even if not bright red.

When setting your stove for long burn cycles, i.e. overnight, or all day, unattended, make sure that the air adjusters are set open enough for continued catalytic combustion. If this setting is too low, then your firebox temperature will fall beyond the point of catalytic ignition. When that occurs, the fire is left in a smouldering state producing creosote to condense on the cool pipes and flue. In such a case, you will have to:

- clean the convertor
- clean the flue system of creosote

Unless you have been continually creosoting your system, both the above problems can be solved by rekindling your fire, opening both by-pass damper and flue damper and running the unit at a flue temperature of 700° to 900°F for a period of 10 to 20 minutes. Make absolutely certain that your flue system is not heavily creosoted or you could cause a serious flue fire. Then close the by-pass damper and burn the combustor at these high temperatures. This should clear the convertor and help burn and flake off any creosote formed.

Check your chimney for serious creosote build-ups. It may be necessary to have the flue and pipes cleaner.

#### BURNING WOOD

##### Creosote and Flue Temperature:

Creosote is always formed when burning wood. Creosote consists basically of long chain carbon molecules which are produced and enter the flue system when incomplete combustion is occurring in the firebox. The hotter the fire burns the less creosote will be produced.

Creosote will condense on cold surfaces (under 300°F). Once the creosote has condensed on the inside of the stove and/or the flue system, it constitutes a fire hazard since it is highly combustible. Flue fires are nothing more than the burning of the accumulated creosote in a flue system.

One of the quickest ways to generate creosote is to close both air valves when a stove is burning in the first and second stage of combustion. With a reduced air supply during the first and second stage, the fire will smoulder; therefore, combustion will be incomplete and the flue temperature will be low. With low flue temperature, creosote will form on the chimney walls.

The amount of creosote deposited in your chimney depends on your flue temperature (measured near your stove). The problem is simply this:

High Flue Temperature  
Low Creosote Production  
High Heat Loss Up the Flue

Low Flue Temperature  
High Creosote Production  
Low Heat Loss Up the Flue

This relationship applies only in the first two stages of woodburning, (1) drying and (2) burning. The third stage, coal or ember, does not produce creosote.

Place a flue thermometer in the smoke pipe 18 - 24" above the stove and then use it as a guide. See your Lakewood dealer; he can help you find the proper thermometer.

Maintaining an adequate flue temperature is even more important if you are burning green wood. Green wood has a high moisture content and, therefore, it will take longer to get a load of wood through the first and second stage. If possible, burn seasoned wood only.

Any airtight stove can cause creosote formation and at some point in a 24-hour burning period, you are likely to generate some creosote, but proper operation can keep it within limits.

#### BUYING WOOD

All dried woods contain approximately the same heat value on a per pound basis. Therefore, if possible, purchase wood with high density (more pounds per cubic foot). The high density woods are the hardwoods such as hard maple, oak, ash, hickory.

Weight of a full cord (4'x4'x8') of most hardwoods, air dried, is approximately 4,000/4,500 lbs. A cord of green wood will weigh at least 5,000/6,000 lbs. Beware of a cord delivered in a one-half ton pick-up. It is usually difficult to purchase wood sufficiently dry for burning purposes. For maximum heat value, wood should contain 20 to 25% moisture. This is obtained by air drying your wood for a minimum of 6 to 8 months. If you are just starting into woodburning, purchase two years' supply so you will have dry wood for the second year. Logs should be split at least once to provide more drying surface and should be stacked for proper air movement around the wood. When sufficiently dry, the pieces will be noticeably lighter in weight and the exposed ends should have a severely cracked appearance.

If you purchase wood, be sure the dealer and you are talking about the same wood volume measurement. A full cord is a stack 4 feet high, 8 feet long and 4 feet wide. The width is very important as many fuelwood dealers sell by the

face cord. This means a pile of wood 4 feet high, 8 feet long, and the pieces cut anywhere from 12" to 24" long, in other words, a face cord could be less than 1/3 of a full cord. Prices on wood will vary depending on species of hardwood, green or dry, length of pieces and volume purchased.

Again, be careful of what volume you are purchasing. In some areas, generally urban areas, a face cord is represented as a cord of wood.

#### REMOVING ASHES

Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

Note: The best time to remove ashes is before reloading. Remove the ash only at the front of the stove. Do not attempt to remove all the ash at one time. If you try and remove all the ash, you will find unburned charcoal or glowing embers in the ash toward the back of the stove. Throwing away charcoal is the same as throwing away heat.

When the ash has been removed from the front of the stove, pull the coals forward with a poker and reload.

#### SYSTEM INSPECTION AND MAINTENANCE

A woodburning stove, smoke pipe and flue require continuing maintenance.

Frequent inspection will prevent excessive and dangerous build-ups of creosote and soot in the smoke pipe and flue system.

During the first weeks of operation of your new stove, the smoke pipe should be disconnected from the flue every week and checked for accumulations of creosote. A creosote deposit any thicker than 1/16" will indicate that you are not maintaining high enough a flue temperature. In the future, you should burn the stove more vigorously to prevent creosote accumulations. At the same time the smoke pipe is disassembled, inspect the chimney for creosote deposits.

At least once a year, the entire system should be disassembled and cleaned. You should do the following things:

- a) Remove all ashes from the stove and clean the interior thoroughly. Replace any cracked side or rear bricks that may have been damaged during the previous operating season.
- b) Disassemble the smoke pipe connecting the stove to the chimney. Under normal operation, thin-walled smoke pipe has a life expectancy of one to two years. Replace old smoke pipe with new pipe. Smoke pipe is very inexpensive, and its replacement is a very inexpensive safety measure.
- c) Have the chimney professionally cleaned by a certified chimneysweep. Chimneysweeps are not listed in the yellow pages of the phone book. If you cannot find a chimneysweep in your area, contact the dealer where you purchased the stove and he will put you in touch with someone qualified to clean chimneys.

Finally, re-assemble the entire system by connecting the smoke pipe to the

chimney and the stove. Remember, all LAKEWOOD stoves are designed to accept the male end (crimped end) into the flue collar. All smoke pipe should be assembled with the male end down. Once assembled, all joints should be strengthened with three sheet metal screws.

Your wood stove system has now been completely refurbished and is ready for the coming heating season.

#### HEAT DISTRIBUTION

Wood heat is a slow, steady heat coming from one point. Unlike a conventional forced-air furnace, a wood stove does not have any means of distributing its heat throughout your home.

The heat from a woodstove will move through your house by natural convection. Natural convection is simply another name for the fact that warm air rises and cold air falls. For the best heat distribution in your house, it is necessary therefore, to open various paths through your house through which the warm air can rise and the cold air can fall.

The blower that is optional on many LAKEWOOD stoves is not designed as a total distribution system but rather to be an aid to natural convection. The blower will help turn the air in your house to give you more even heat distribution.

Achieving proper distribution of heat in your home is basically a trial and error situation but your dealer will be able to advise you on the best strategy. Consult him; he will be more than happy to help.

#### REPAIR PARTS

All repair parts for LAKEWOOD Stoves will be available at the dealer where you purchased your stove. The most common items that need replacement over a period of time are as follows:

- a) High temperature refractory fire brick (standard fire split  $4\frac{1}{4} \times 9 \times 1\frac{1}{2}$ "). This is a standard size of fire brick than can be obtained at most building supply stores and from your dealer.
- b) Door gasket material. Once every two or three years you should replace the door gasket material to ensure that you get an air-tight seal around your door. Your dealer will be able to obtain replacement material.
- c) Touch up paint. After prolonged use of stove, the high temperature paint finish will inevitably get nicked and scratched. Wear will be much heavier if you use the top surface of the stove for cooking. Touch up paint in spray cans is available from your dealer for refinishing your stove.

#### FIRE SAFETY

To provide reasonable fire safety, the following should be given serious consideration:

1. The installation of smoke detectors.
2. A conveniently located Class A fire extinguisher to contend with small fires resulting from burning embers.
3. A practiced evacuation plan.

4. A plan to deal with a chimney fire as follows:
- a) Notify the fire department
  - b) Prepare occupants for immediate evacuation
  - c) Close all openings into the stove
  - d) While awaiting fire department, watch for ignition of adjacent combustibles from overhead stove pipe or hot embers or sparks from the chimney.

Further information:

For further information on using your heater safely, obtain a copy of the National Fire Protection Association publication "Using Coal and Wood Stoves Safely", NFPA No. HS 8-1974. The address of the NFPA is 470 Atlantic Avenue, BOSTON, MS 02210.

APPENDIX 1

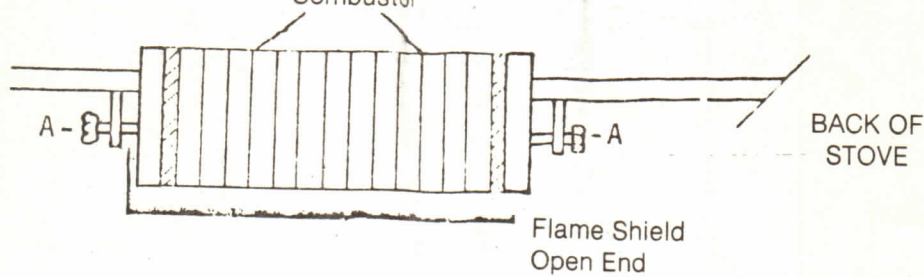
Clearances to Combustibles

Type of Stove	Above	Front	Sides	Back	Corner
Unicorn	57 (145)	48 (122)	30 (76)	20 (51)	
Unicorn Catalytic	57 (145)	48 (122)	36 (92)	30 (76)	
Cottager	57 (145)	48 (122)	36 (92)	18 (46)	
Special I		48 (122)	36 (92)	24 (61)	
Lodger		48 (122)	36 (92)	24 (61)	
1500 Series, Special II and Elan 2000		48 (122)	36 (92)	24 (61)	
Hearth Stove Pedestal		48 (122)	24 (61)	24 (61)	19 (48)

Note: Numbers indicate clearances in inches  
Numbers in brackets indicate clearances in centimetres.

Clearance to Flue: Clearance of single wall flue pipe must always be at least 18" from combustibles

If reduced clearances are desired consult your local fire department or building inspector.



1. Let stove cool to room temperature.
2. With one hand supporting combustor, loosen bolts (A) and lower combustor out of stove.
3. In the reverse manner, install new combustor with flame shield open end to the back of the stove.
4. Tighten bolts (A) snugly.

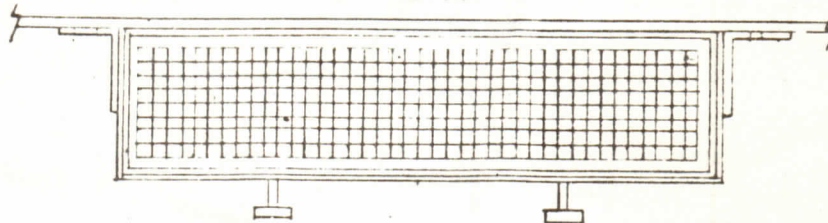
Special I, II and Elan 2000

1. Let stove cool to room temperature.
2. Remove the inspection plate on the top front of the stove.
3. With a 7/16" wrench, loosen the two cap screws on either side of the combustor unit and remove it straight up and out of the stove.
4. Replace with new combustor unit and tighten screws snugly.

Hearthstove

1. Let stove cool to room temperature.
2. Disconnect pipe, and remove flue collar plate.
3. Disconnect bypass rod and lift out combustor.

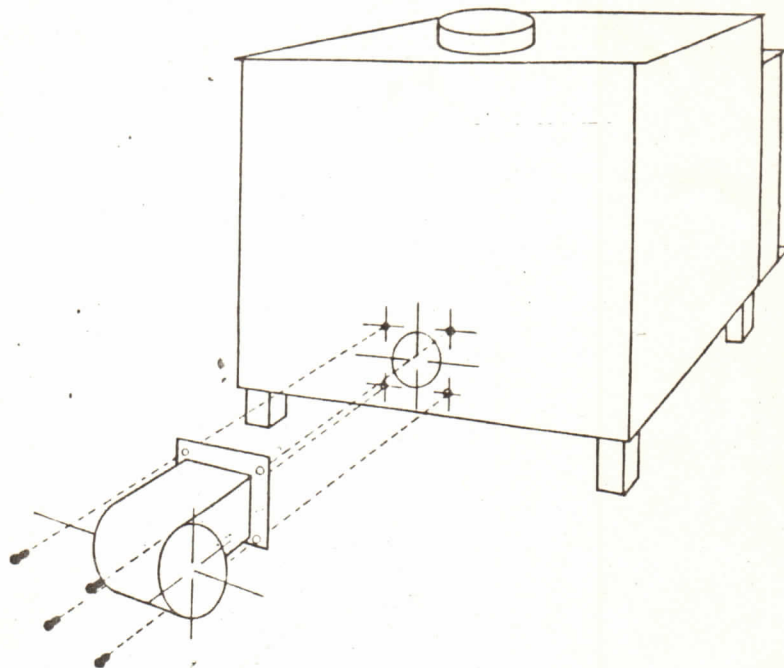
1500 Series



1. Cease firing the stove and allow it to cool completely.
2. The catalytic element is held in the damper box above the firebox of your stove. Loosen the two stainless steel bolts at the front of the damper box until the combustor unit is free to slide out forward.
3. Remove the unit and replace.
4. Tighten the bolts snugly ensuring that the combustor unit is properly seated in the box.

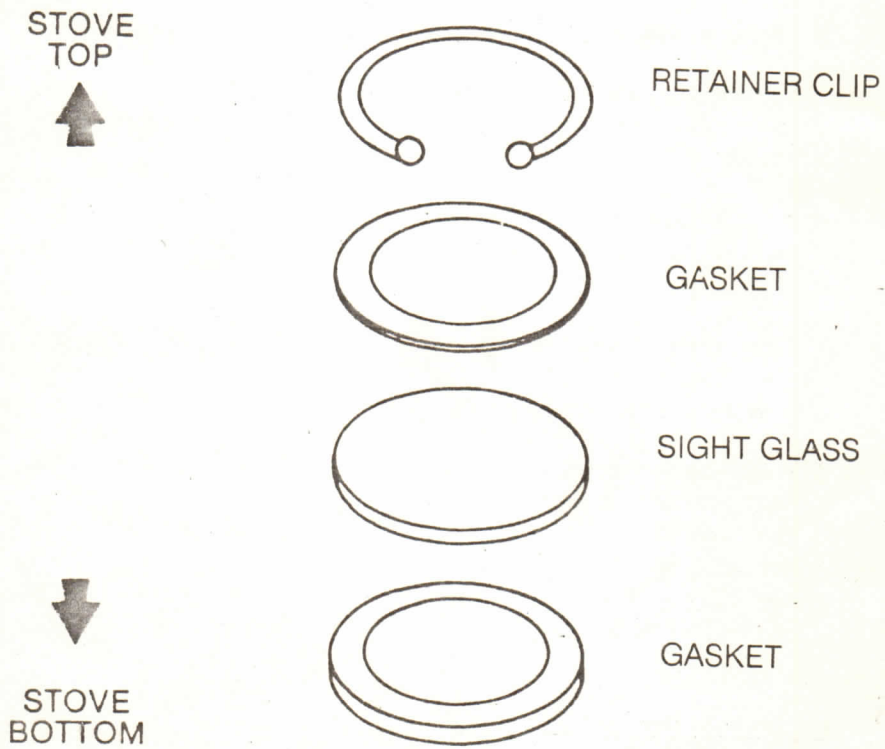
APPENDIX 3

INSTALLATION OF OPTIONAL BLOWER (Not Applicable to Lodger or Hearthstove)



APPENDIX 4

Unicorn Catalytic  
MONITORING PORT REPLACEMENT ASSEMBLY



## APPENDIX 5

### Proper Use and Care of Glass Doored Units

Although your "Pyroceram"<sup>TM\*</sup> glass doors have well established and recognized heat resistance and strength characteristics, they may be broken through improper use. To achieve their maximum utility and safety, Corning Glass Works advises that users observe the following use and safety tips.

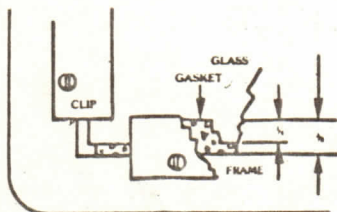
1. Inspect the glass regularly for cracks or breaks. If you detect a crack or break, extinguish the fire immediately and return the door to your stove dealer for glass replacement before further use.
2. Do not slam doors or otherwise impact the glass. When closing doors, make sure that logs or other objects do not protrude to impact against the glass.
3. Do not clean glass with materials which may scratch (or otherwise damage the glass). Scratches on the glass can develop into cracks or breaks.
4. Never attempt to clean the glass while a fire is in the unit. If the deposit is not very heavy, normal glass cleaners are adequate. Clean only when glass is completely cooled!
5. Never put substances which can ignite explosively - since even small explosions in confined areas can blow out the glass. NOTE: When "Pyroceram"<sup>TM\*</sup> brand glass is used, the heat of a large woodburning fire will burn much of the heaviest of deposits. The remaining deposits can be removed with a glass cleaner or soap and water. Do not use harsh, or abrasive cleaners.

### Replacement of Damaged Glass

Be sure that glass is sufficiently cooled prior to removal, and handle glass with care to avoid possible splinters. Follow the procedures recommended in diagrams (a), (b), and (c). You may obtain replacement glass, glass gasket tape, etc. from your local dealer, or you may return the door to your dealer for replacement. Should you prefer to do your own replacement, simply call your dealer and he will order replacement glass for you. Your dealer will help you with any questions you may have, or you may contact Lakewood directly for assistance.

\*"Pyroceram" is a trademark of the Corning Glass Works.

Diagram A



1. Remove screws and clips. Be sure you have newspaper under the door to catch any splinters. Remove glass gasketing.
2. Your replacement glass (Pyroceram) and glass gasket tape can be obtained from your dealer



Diagram B

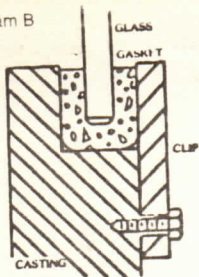
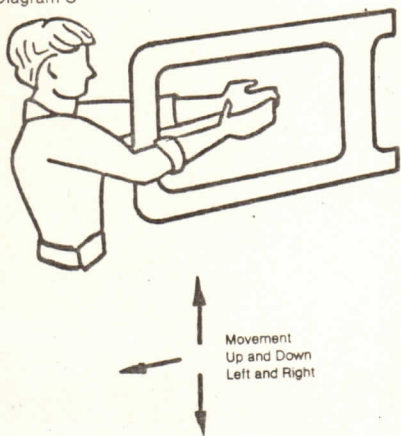


Diagram C



3. Replace as per diagram (A) and (B).
4. Be sure not to tighten the clips so much that you are exerting pressure upon the glass. There should be at least  $\frac{1}{4}$ " of play on all sides of the glass to allow for expansion and contraction due to temperature exposure. See diagram (C).
5. Should you have any questions, do not hesitate to contact your local dealer.

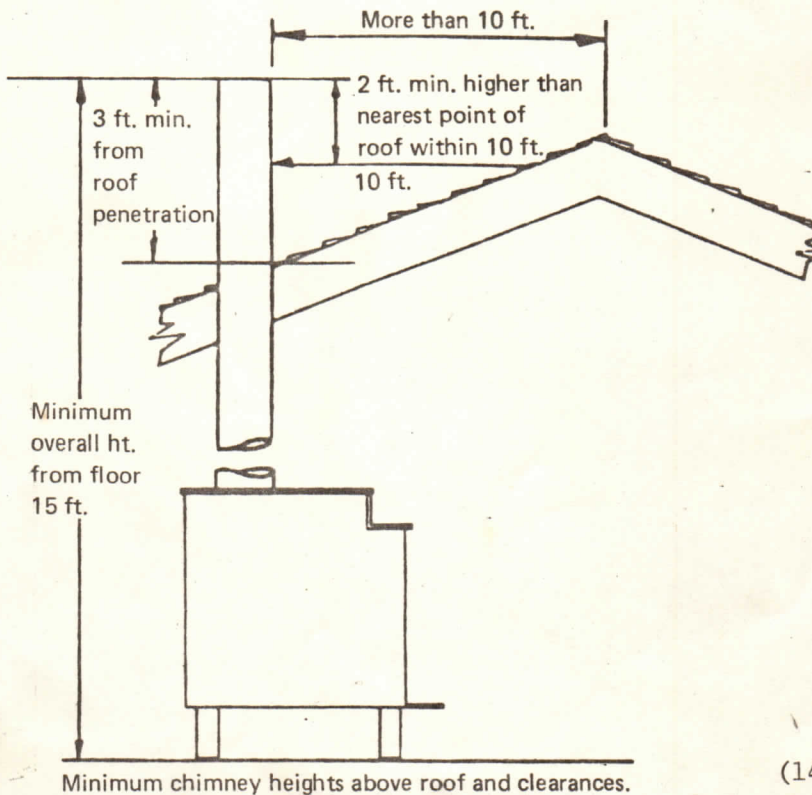
**WARNING: DO NOT ATTEMPT TO REPLACE YOUR "PYROCERAM" WITH ANY OTHER TYPE OF GLASS. TO DO SO COULD RESULT IN DAMAGES AND SERIOUS PERSONAL INJURY!**

APPENDIX 6

CARE OF BRASS DOORS

- clean doors thoroughly before first firing to eliminate hand oils or other impurities collected on the surface during shipping and installation.
- the doors are solid brass so there is no risk of over cleaning. We recommend any quality brass cleaner such as Flitz or Brasso. Care should be taken to remove all cleaner from the doors prior to refiring the unit.

APPENDIX 7



Minimum chimney heights above roof and clearances.