old 'D' 2 Blowers
Oct '93 - New 'D' Fan - 1 Blower

When you've looked at all the others.

PLEASE SAVE THESE INSTRUCTIONS

SAFETY NOTICE

If this stove is not properly installed, a house fire may result.
For your safety, follow the installation instructions.

PACIFIC INSERT
Design - D

PACIFIC ENERGY WOODSTOVES (1986) LTD.

Mailing address: P.O. Box 29,
Cobble Hill, B.C. V0R 1L0

Factory address: 1394 Fisher Rd.,
Cobble Hill, B.C. V0R 1L0

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STUDY CAREFULLY BEFORE PROCEEDING

INSTALLATION .....Page 1
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SAFETY AND MAINTENANCE.....Page 3
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TESTED and LISTED to ULC S628/UL 1482
Meets the U.S. Environmental Protection Agency's July 1990 Particulate Emission Standards

PLEASE SAVE THESE INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE INSTALLING AND USING THIS APPLIANCE

- We strongly recommend that smoke detectors be installed.
- Consult local fire codes, national building code, etc. before proceeding.
- The services of competent installer are strongly recommended.

Your Pacific Insert is designed to be installed only in masonry fireplaces built according to the requirements of the Standards for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances, N.F.P.A. 211 or applicable local codes. Inspect your fireplace for cracks, loose mortar or other physical defects and repair before installation. The fireplace chimney must be suitable for wood burning use. Check for creosote build up or other obstructions, especially if it has not been in use for some time.

CLEARANCES: See Page 5 for clearances to surrounding combustibles (mantle, side walls, wood facing, etc.)

Your fireplace is required to have the following minimum sizes: See Page 9.

WIDTH (at front)	30-1/2"	HEIGHT	21"
WIDTH (at rear)	22-1/4"	DEPTH	18"

Chimney height 15' (minimum)

WARNING: Do not remove bricks or mortar from your existing fireplace.

Your hearth must extend 16" in front and 8" to the sides of the firedoor. If the existing hearth is to be extended, non-combustible material must be used.

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INSTALLATION

POSITIVE FLUE CONNECTION-
See Diagram #2, Page 5.

- See previous section for clearances, cautions, etc.
- The existing fireplace damper is to be locked open or removed completely.

1. Make up a cardboard template that will accurately fit the throat of your fireplace level with the underside of the lintel bar. Measure 9-3/4" back from the facing and mark this for the centre of a 6" diameter hole. Transfer these dimensions to the piece of 26 gauge steel to be used as the "throatplate". Cut out the hole with tin snips so it is a snug slip fit over the 6" connector pipe you will be using.
2. Bend flanges as suggested in Illustration #2 or simply use raw edges. (The flanges will make the job of sealing the throatplate much easier.)
3. Install throatplate into opening attaching to the underside of the lintel bar and anywhere else possible. Hang the 6" pipe in the cutout so it will clear the top of the Insert as it is installed. Seal around edges as best as possible.
4. Push the Insert body back into position until the flue outlet lines up with the 6" pipe connector. Use rear adjusting bolts to level the Insert body. Pull the 6" pipe down into the outlet to make a solid connection. If it is necessary to get access to the connector pipe through the flue outlet of the Insert, the baffle can be removed. (See Baffle Assembly Removal, Page 4.)

DIRECT FLUE CONNECTION

Consult your local Dealer about relining your fireplace chimney for direct flue connection. When the flue has been relined, refer to #4 in the Positive Flue Connection section for Insert installation.

FACEPLATE ASSEMBLY & INSTALLATION

1. Lay part A,B and C face down on a flat non-marring surface and bolt together at points D (Page 5) using the supplied 1/4 x 3/4 bolts and nuts. Diagram #3
2. Lift the face plate assembly to the upright position and make sure the front face is flat and even at the joint.
3. Assemble the three brass trim pieces using the enclosed hardware. Slide part F into the back corners of the brass trim and tighten screws. Ensure the mitred corners fit tightly and evenly (Illustration #1).
4. Slide the assembled brass trim over the face plates from the top (Diagram #3).
5. Install 2 clips near the bottom of each side brass piece to hold bottom tight (Illustration #1)
6. On the stove, remove front gold trim by sliding it sideways. (ie left side to the left)
7. Remove the screws which were concealed by the gold trim on the front of the Insert and remove front panels.
8. Slide pre-assembled faceplate on to Insert. DO NOT LIFT THE FACEPLATE ASSEMBLY BY GRASPING THE BRASS TRIM. Tighten screws from inside through the faceplate and onto the Insert outer shell.
9. Replace the front panels and gold trim in the reverse order to their removal.
10. Push the entire assembly back until the faceplate assembly is in contact with the fireplace .

COMBUSTION AIR

- Consult local building codes.

Intake or combustion air can be supplied to the Insert in one of two ways:

1. Outside air supply: Remove cover from ash clean out in existing fireplace. Place a rodent screen in place of cover. Install the Insert as described in the installation section, making sure not to cover the opening of the air inlet. When installation is complete, seal faceplate surrounds to fireplace and anywhere else air may enter.
2. Room air supply: Install the Insert as described in the installation section. When installation is complete **do not** seal faceplate surrounds to fireplace as this will allow enough combustion air to enter the fireplace cavity and into the Insert.

- This unit is **not** designed to be operated with the firing door open. In addition to the obvious hazard of sparks landing on combustibles, an open fire door will cause the heater to draw air from the living space and possibly cause suffocation.

The living space around the heater must be well ventilated with good air circulation. Anything that may cause a negative pressure can cause gases or fumes to be pulled into the living area.

WOOD SELECTION

This heater is designed to burn natural wood only. Higher efficiency and lower emissions generally result when burning air-dried seasoned hardwoods, as compared to softwoods or to green or freshly cut hardwoods.

Wood should be properly air dried (seasoned) for six months or more. Wet or undried wood will cause the fire to smoulder and produce large amounts of creosote. Wet wood also produces very little heat and tends to go out often.

DO NOT BURN:

Salt water wood	Coal/charcoal
Treated wood	Garbage
Wet or green wood	Solvents

Do not burn anything but wood. Other fuels, eg.charcoal, can produce large amounts of carbon monoxide; a tasteless, odourless gas that can kill. Under no circumstances should you attempt to barbecue in this heater.

HOW TO TEST YOUR WOOD

Add a large piece of wood to the stove when it has a good large bed of coals. It is dry if it is burning on more than one side within one minute. It is damp if it turns black and lights within three minutes. If it sizzles, hisses and blackens without igniting in five minutes it is soaked and should not be burnt.

OPERATING

WARNING: Do not use grates or andirons to elevate the fuel. Burn directly on the fire bricks. Replace broken or missing bricks. Failure to do so may create a hazardous condition.

Your PACIFIC ENERGY heater is designed for maximum overall efficiency at a moderate firing rate. Overfiring is hazardous and a waste of fuel. Too slow a burn contributes to creosote buildup and lowers combustion efficiency.

LIGHTING A FIRE

WARNING: Never use chemicals or any other volatile liquid to start a fire.

1. Adjust air control to High position and open door.
2. Place crumpled newspaper in the centre of the heater and criss-cross with several pieces of dry kindling. Add a few small pieces of dry wood on top.
3. Ignite the paper and close the door.
4. After the fire has established itself, open the door and add a few small logs. Close door.
5. Begin normal operation after a good coal base exists and wood has charred.

NORMAL OPERATION

1. Set air control to desired setting. If smoke pours down across the glass (waterfall effect) this indicates you have shut the control down too soon or you are using too low a setting. The wide range control panel makes finding the desired setting for your application easy. As every home's heating needs vary (ie. insulation, windows, climate, etc.) the proper setting can only be found by trial and error and should be noted for future burns.
2. To refuel, adjust air control to high, and give the fire time to brighten. Open door slowly, this will prevent backpuffing.
3. Use wood of different shape, diameter and length (up to 19"). Load your wood endwise and try to place the logs so that air can flow between them. Always use dry wood.
4. Do not load fuel to a height or in such a manner that would be hazardous when opening the door.
5. For extended or overnight burns, unsplit logs are preferred. Remember to char the wood completely on "High" setting before adjusting air control for overnight burn.

WARNING:Always keep loading door closed when burning. This heater is not designed for open door burning.

RESTARTING AFTER EXTENDED OR OVERNIGHT BURNS

1. Open door and rake hot embers towards the front of the heater. Add a couple of dry, split logs on top of embers, close door.
2. Adjust air control to "High" and in just a few minutes, logs should begin burning.
3. After wood has charred, reset air control to desired setting.
4. When burning at a slow rate for extended periods, occasionally maintain a strong fire under **supervision** for a couple of hours to relieve firebox and chimney deposits as well as any of the deposits on the glass.

WARNING: This method is not a substitute for regular chimney inspections and cleaning.

5. To achieve maximum firing rate, set control to "High". Do not use this setting other than for starting or preheating fresh fuel loads.

DO NOT OVERFIRE THIS HEATER:Attempts to achieve heat output rates that exceed heater design specifications can result in permanent damage to the heater and chimney.

WARNING: No alteration or modification of the combustion air control assembly is permitted. Any tampering will void warranty and could be very hazardous.

MORE WOOD, MORE HEAT

Seasoned wood has approximately 7500 BTU's per pound. If you put 10 pounds of wood in your stove for an eight hour burn the wood will be producing 9375 BTU's per hour. (7500 BTU x 10 lbs./8 hrs. = 9375 BTU's per hr.) If you put 20 lbs of wood in your stove for an eight hour burn you will get 18,750 BTU's per hr. (7500 BTU x 20 lbs/8hr=18,750 BTU's per hr). **This is only an example and is based on 100% efficiency. In reality, your stove should perform in the 70% efficiency range.**

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Experience will give you the right settings for proper combustion and efficient burning. Remember the air inlet setting is affected by variables such as type of wood, outside temperature, chimney size and weather conditions. With practice, you will become proficient in operating your heater and will obtain the performance for which it was designed.

PROPER DRAFT

1. Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other factors.
2. Too much draft may cause excessive temperatures in the appliance. An uncontrollable burn or a glowing red stove part or chimney indicates excessive draft.
3. Inadequate draft may cause backpuffing into room and plugging of the chimney. Smoke leaking into the room through appliance and chimney connector joints indicates inadequate draft.

ASH REMOVAL

Whenever ashes get 3 to 4 inches deep in your firebox, and when fire has burned down and cooled, remove excess ashes. Leave an ash bed approximately 1 inch deep on the firebox bottom to help maintain a hot charcoal bed.

DISPOSAL OF 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. Other waste should not be placed in this container!

CREOSOTE FORMATION AND NEED FOR REMOVAL

When wood is burned slowly, it produces tar and other organic vapours, which combine with expelled moisture to form creosote. The creosote vapours condense in the relatively cool chimney flue of a slow burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every **two months** during the heating season to determine if a creosote buildup has occurred. If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

1. Highest smoke densities occur when a large amount of wood is added to a bed of hot coals and the air inlet is closed. The heated wood generates smoke, but without ample air, the smoke cannot burn. Smoke-free, clean burning requires small fuel loads, two or three logs at a time or 1/4 to 1/2 of a fuel load and leaving the air inlet relatively wide open, especially during the first 10 to 30 minutes after each loading, when most of the smoke generating reactions are occurring. After 30 minutes or so, the air inlet can be turned down substantially without excessive smoke generation. Wood coals create very little creosote-producing smoke.
2. The cooler the surface over which wood smoke is passing, the more creosote will be condensed. Wet or green wood contributes significantly to creosote formation as the excess moisture that is boiled off cools the fire, making it difficult for the tars and gases to ignite, thus creating dense smoke and poor combustion. This moisture-laden smoke cools the chimney, compounding the problem by offering the smoke the ideal place to condense.

In summary, a certain amount of creosote is inevitable and must be lived with. Regular inspection and cleaning is the solution. The use of dry, seasoned wood and ample combustion air will help to minimize the buildup.

CHIMNEY FIRES

The result of excessive creosote buildup is a chimney fire. Chimney fires are **dangerous.** Chimney inside temperatures can exceed 2000 degrees F. This causes much higher than normal temperatures in the chimney and on its exterior surfaces. Thus ignition of nearby or touching combustible material is more likely during a chimney fire. Proper clearances are critical during such a fire.

Chimney fires are easy to detect; they usually involve one or more of the following:

- Flames and sparks shooting out of the top of the chimney
- A roaring sound
- Vibration of the chimney

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IN CASE OF A CHIMNEY FIRE

1. Prepare to evacuate to ensure everyone's safety. Have a well understood plan of action for evacuation. Have a place outside where everyone is to meet.
2. Close air inlets on stove.
3. Call local fire department. Have a fire extinguisher handy. Contact your local fire authority for further information on how to handle a chimney fire. It is most important that you have a clearly understood plan on how to handle a chimney fire.
4. After the chimney fire is out, the chimney must be cleaned and checked for stress and cracking before starting another fire. Also check combustibles around chimney and the roof.

AVOIDING A CHIMNEY FIRE

There are two ways to avoid chimney fires:

1. Do not let creosote build up to a point where a big chimney fire is possible.
2. Do not have fires in the heater that may ignite chimney fires. These are hot fires, such as when burning household trash, cardboard, Christmas tree limbs, or even ordinary fuel wood; (eg with a full load on a hot bed of coals and with the air inlet wide open.)

SAFETY AND MAINTENANCE

1. Burn wood only, dry and well seasoned. The denser or heavier the wood when dry, the greater its heat value. This is why hardwoods are generally preferred. Green or wet wood will cause a rapid buildup of creosote. If you feel it is necessary to burn wet or unseasoned wood, do so only with the air inlet set open enough to maintain a good strong fire and fairly high chimney temperatures. Do not attempt to burn overnight using green or wet wood. Wet wood can cause up to 25% drop in heater

output, as well as contributing significantly to creosote buildup.

WARNING: Never use chemicals or any other volatile liquid to start a fire. Do not burn garbage, or flammable fluids such as gasoline, naptha, or engine oil. We strongly recommend that smoke detectors be installed.

2. Remove ashes frequently. Embers can roll out the door and create a fire hazard. Maintain a 1" minimum ash base.
3. If glass becomes darkened through slow burning or poor wood, it can readily be cleaned with any oven cleaner when stove is cold. Never scrape with an object that might scratch the glass. The type and amount of deposit on the glass is a good indication of flue pipe and chimney buildup. A light brown dusty deposit that is easily wiped off usually indicates good combustion and dry, well seasoned wood and therefore relatively clean pipes and chimney. On the other hand. a black, greasy deposit that is difficult to remove is a result of wet and green wood and too slow a burning rate. This heavy deposit is building up at least as quickly in the chimney.

WARNING: ONLY USE MATERIALS SUPPLIED BY MANUFACTURER WHEN DOING MAINTENANCE OR REPLACEMENTS.

4. DOOR GASKET-The gasket used by Pacific Energy requires only light pressure to seal. This will prolong seal life. It is important that the door seal be maintained in good condition. Periodically inspect seals and replace if necessary. Follow instructions included in the 29D kit obtainable from your nearest Pacific Energy dealer.
5. DOOR GLASS-Do not slam loading door or otherwise impact glass. When closing door, make sure that no logs protrude to impact the glass. If the glass gets cracked or broken, **it must be replaced before using the stove.** Replacement glass can be obtained from your dealer. The size required is 9-1/8 x 12-5/8 x 5mm Robax. Ceramic glass must be used. **Do not substitute with any other type.**

** To remove broken glass, undo the four retaining screws and remove the frame noting position for re-assembly. Remove **all** particles of glass. Be careful as they are very sharp. Install new glass complete with gasket. Replace frame and screws. **Tighten screws very carefully, do not overtighten.**

WARNING: -do not over tighten, tighten screws very carefully.

- do not clean glass when hot
- do not use abrasive cleaners on glass

6. The area where boost combustion air enters the firebox must be kept clear of excessive ash buildup which will block air flow. This area is at the front of the firebox.
7. Do not store wood within heater installation clearances, or within the space required for fuel loading and ash removal. Keep the area around the heater clean and free of all loose combustibles, furniture, newspapers, etc.
8. If gold door requires cleaning, use mild soap and water only. Use of abrasive cleaners will void warranty.
9. Establish a routine for the fuel, woodburning and firing technique. Check daily for creosote buildup until experience shows how often you need to be cleaning to be safe.
10. Be aware that the hotter the fire, the less creosote is deposited. Weekly cleanings may be necessary in mild weather, even though monthly cleaning is usually enough in the coldest months when burning rates are higher.
11. Instruct all members of your family on the safe operation of the heater. Ensure they have enough knowledge of the entire system if they are expected to operate it. Stress the section on chimney fires and the importance of following the steps outlined in **"In Case of Chimney Fire".**

REMOVING AND RE-INSTALLING BAFFLE

The Insert and pipe should be removed from the fireplace to clean and inspect. Only if this is not possible should you remove baffle assembly.

DO NOT OPERATE WITH BAFFLE ASSEMBLY OR INSULATION REMOVED.

Baffle Assembly Removal

Remove retaining pin at the back top of the firebox, just under the baffle. Lift baffle up and pull forward to disconnect from the supply tube. Tilt baffle sideways to drop down and remove from firebox. Remove insulation to access flue outlet.

Inspect gasket between baffle and supply tube. If necessary, replace with gasket #1395 available from your nearest Pacific Energy Dealer.

Re-install baffle assembly and insulation by reversing order.

BLOWER OPTION-F35

The Pacific Energy blower #F-35 can be factory or user installed.

1. Remove front gold trim from stove (Diagram #4, Page 6) by sliding it sideways (ie left side to the left).
2. Remove the two screws which were concealed by the gold trim on the front of the stove. This will allow front panels to be removed.
3. Attach fan assembly to front panels (Illustration #3) using holes and screws provided. The fan with the power cord may be installed on either side.
4. Re-install front panel complete with fan assembly attached by reversing above procedure.
5. Route the wires connecting the two fans through the channel on the underside of the ashlip.

BLOWER OPERATION

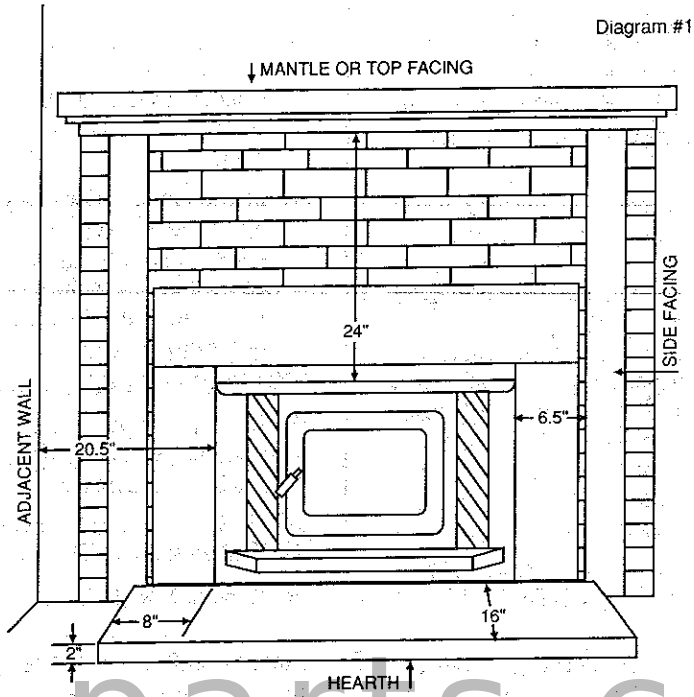
When your Pacific Energy blower has been properly installed, operate as follows:

- Air control setting of 2 or less, operate optional blower speed control on"Low".
- Air control greater than 2, operate optional blower speed control at desired setting.

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CLEARANCES TO COMBUSTIBLES

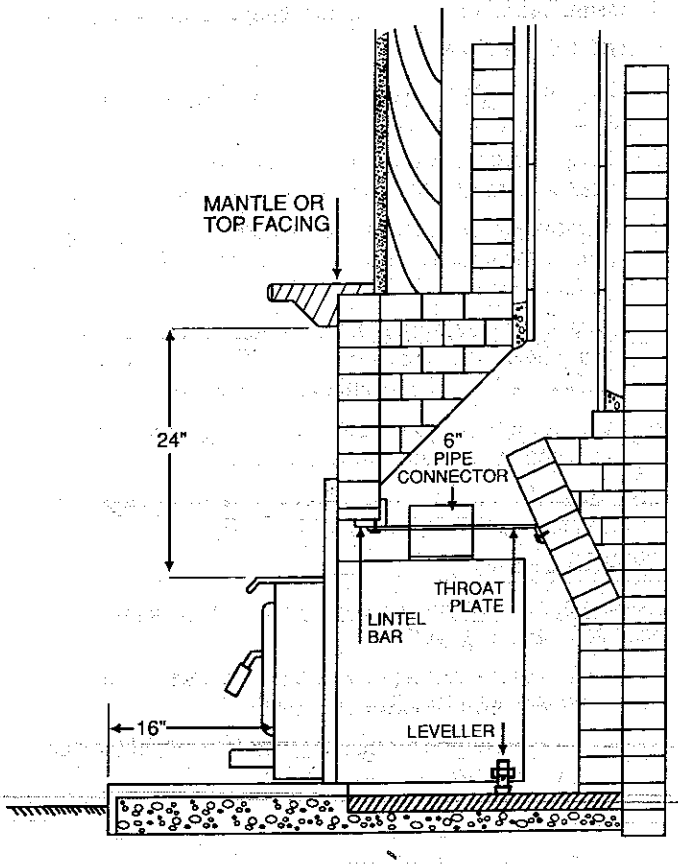
Diagram #1



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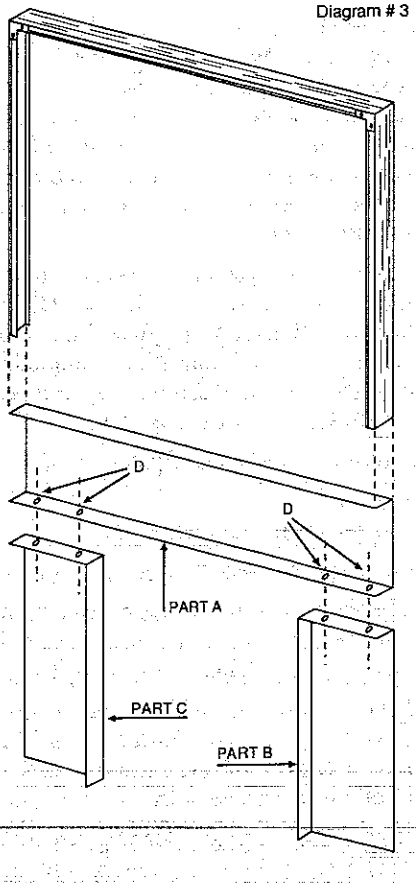
POSITIVE FLUE CONNECTION

Diagram # 2



FACEPLATE ASSEMBLY

Diagram # 3



BRASS TRIM

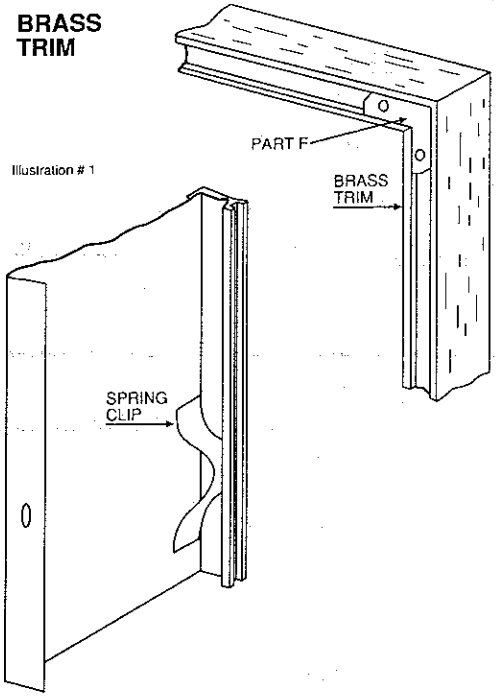
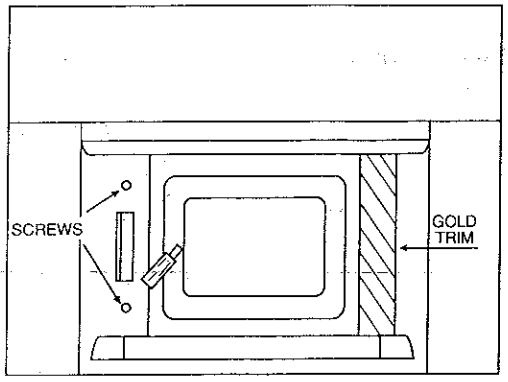


Illustration # 1

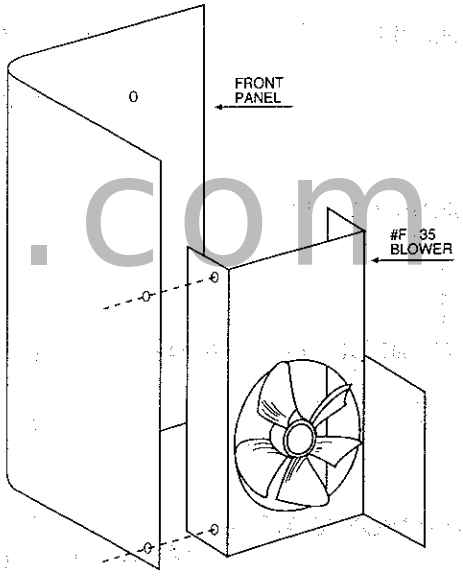
BLOWER OPTION # F - 35

Diagram # 4



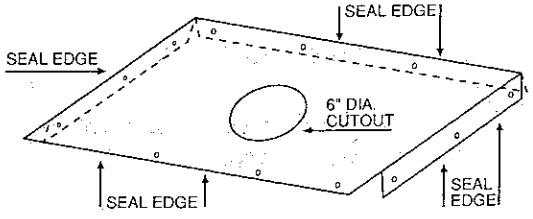
REAR VIEW

Illustration # 3



THROAT PLATE

Illustration # 2



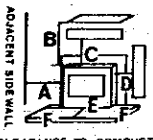
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Warnock Hersey LISTED FACTORY BUILT FIREPLACE ACCESSORY INSERT
CERTIFIED FOR USE IN CANADA AND U.S.A. WH-
MODEL: PACIFIC INSERT - D
TESTED TO: ULCS628 / UL1482 REPORT NO. 5223 (MAY 1989)

INSTALL AND USE ONLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS. INSTALL AND USE ONLY IN MASONRY FIREPLACE. DO NOT REMOVE BRICKS OR MORTAR FROM MASONRY FIREPLACE.

MINIMUM CLEARANCE TO COMBUSTIBLES (MEASURED FROM INSERT BODY):

A)	ADJACENT SIDEWALL:	520 MM / 20.5 IN.
B)	MANTLE:	610 MM / 24 IN.
C)	TOP FACING:	610 MM / 24 IN.
D)	SIDE FACING:	165 MM / 6.5 IN.



CLEARANCE TO COMBUSTIBLE CONSTRUCTION

INSTALL ONLY ON A NON-COMBUSTIBLE HEARTH RAISED 50 MM / 2 IN. ABOVE AN ADJACENT COMBUSTIBLE FLOOR. COMBUSTIBLE FLOOR BEYOND HEARTH MUST BE PROTECTED BY NON-COMBUSTIBLE MATERIAL EXTENDING 405 MM / 16 IN. TO THE FIRING SIDE (E) AND 200 MM / 8 IN. TO THE OTHER SIDES (F) OF THE UNIT.
COMPONENTS REQUIRED FOR INSTALLATION: POSITIVE OR DIRECT FLUE CONNECTION ASSEMBLY
OPTIONAL COMPONENTS: FAN KIT, ELECTRICAL RATING 115V, 60HZ, 1 AMP
ROUTE CORD AWAY FROM UNIT.
FOR USE WITH SOLID WOOD FUEL ONLY DO NOT USE GRATE OR ELEVATE FIRE - BUILD WOOD FIRE DIRECTLY ON HEARTH. OPERATE WITH FEED DOOR CLOSED. REPLACE GLASS ONLY WITH CERAMIC GLASS. INSPECT AND CLEAN CHIMNEY FREQUENTLY. UNDER CERTAIN CONDITIONS OF USE, CREOSOTE BUILDUP MAY OCCUR RAPIDLY.

MADE IN CANADA
Pacific ENERGY
MANUFACTURED BY:
PACIFIC ENERGY
WOODSTOVES LTD
P.O. BOX 29,
COBBLE HILL, B.C.
V0R 1L0

U.S. ENVIRONMENTAL PROTECTION AGENCY
CERTIFIED TO COMPLY WITH JULY, 1990,
PARTICULATE EMISSION STANDARDS

DATE OF MANUFACTURE

J	F	M	A	M	J	J	A	S	O	N	D
1989		1990		1991		1992		1993		1994	

MADE IN CANADA

TROUBLESHOOTING

PROBLEM	CAUSE	CURE
EXCESSIVE CREOSOTE BUILDUP	1. Wood is too wet.	- Use dry wood.
	2. Turning down air control to soon.	- Do not turn down until: a) there is a good bed of coals b) the wood is charred.
	3. Draft too low.	- Improper chimney height and/or diameter. - Chimney plugged or restricted, check flue. - Provide outside air for combustion.
GLASS IS DIRTY	1. See 1, 2, 3 above.	
	2. Door gasket leakage.	- Replace gasket. - Check latch.
LOW HEAT OUTPUT	1. Wood is wet.	- Use dry wood.
	2. Fire too small.	- Build a larger fire.
WON'T BURN OVERNIGHT	1. Air control set too high.	- Set control lower.
	2. Not enough wood.	- Unsplit wood is prefered for overnight burns.
STOVE WON'T BURN	1. Combustion air supply is blocked.	- check outside air supply for obstructions (see Combustion Air section).
	2. Draft too low.	- chimney plugged or restricted – Inspect & clean. - chimney oversized or otherwise unsuitable – consult Dealer

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