INSTA -FLAME

CFM INSTALLATION AND OPERATING INSTRUCTIONS

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VENTED ROOM HEATER MODEL FS 30

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.

FOR YOUR SAFETY

WHAT TO DO IF YOU SMELL GAS:

* Do not try to light any appliance.
* Do not touch any electric switch; do not use any phone in your building.
* Immediately call your gas supplier from your neighbours phone. Follow the gas suppliers instructions.
* If you cannot reach your gas supplier call the fire department.
* Open windows/Extinguish all flames.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOURS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

* Installation and service must be performed by a qualified installer, service agency or your gas supplier.

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PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE

52530
02/95

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Thank you and congratulations on your purchase of a CFM Insta-Flame Product.
Please read the installation and operating instruction before attempting to install your product.

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INSTALLATION AND OPERATING INSTRUCTIONS

This gas appliance should be installed by a qualified installer in accordance with local building codes and with current CAN / CGA-B149 (. 1 or .2) Installation codes for Gas Burning Appliances and Equipment.

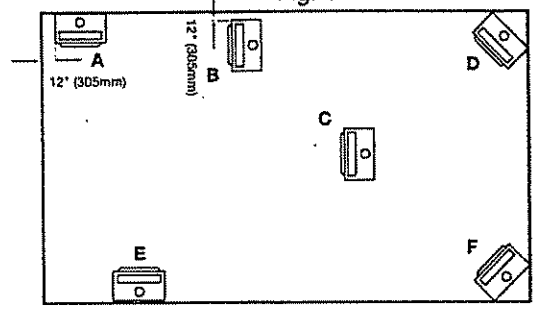
FOR U.S.A Installations follow local codes and/or the current National Fuel Gas Code. ANSI Z223.1.

FOR SAFE INSTALLATION AND OPERATION OF YOUR INSTA-FLAME VENTED ROOM HEATER PLEASE NOTE THE FOLLOWING:

1 . This appliance gives off high temperatures and should be located out of high traffic areas and away from furniture and draperies.
2. Children and adults should be alerted to the hazards of the high surface temperatures of this appliance and should stay away to avoid burns or ignition of clothing.
3. Children should be carefully supervised when they are in the same room as your appliance.
4. Under no circumstances should this appliance be modified.Parts have to be removed for servicing should be replaced prior to operating this appliance again.
5. Installation and any repairs to this appliance should be carried out by a qualified service person. A professional service person should be contacted to inspect this appliance annually.Make it a practice to have all of your gas appliances checked annually. More frequent cleaning may be required due to excess lint and dust from carpeting, bedding material, etc.
6. Control compartments, burners and air passages in this appliance should be kept clean and free of dust and lint. Make sure that the gas valve and pilot light are turned off before you attempt to clean this unit.
7. The venting system(chimney) of this appliance should be checked at least once a year and if needed your venting system should be cleaned.
8. Keep the area around your appliance clear of combustible materials, gasoline and other flammable vapour and liquids. This appliance should not be used as a drying rack for clothing,nor should Christmas stockings or decorations be hung in the area of it.
9. Under no circumstances should any solid fuels (wood,coal,paper or cardboard etc.)be used in this appliance.
10. The flow of combustion and ventilation air must not be obstructed in any way.
11. Whether the appliance is installed directly on carpeting, vinyl tile or any combustible material other than wood, the appliance must be installed on a metal or wood panel extending the full width and depth of the appliance.
12. This appliance requires adequate ventilation and combustion air to operate properly.
13. This appliance must not be connected to a chimney flue serving a separate solid fuel burning appliance.

LOCATING YOUR *INSTAFLAME* ROOM HEATER

Fig. 1



A & B = Flat on wall with perpendicular sidewall.
C = Freestanding in centre of room.
D & F = Corner installation (Note: Clearances listed below)
E = Flat on wall (Add 1" required clearance)

NOTE: A & B must maintain 12" (305mm) clearance between wall and side of appliance.

COLD CLIMATE INSTALLATIONS

When installing this room heater against a non insulated exterior wall, the wall must be insulated in accordance with current insulation codes.

CLEARANCES TO COMBUSTIBLES

Adequate clearances as listed below must be maintained for servicing and proper operation.

BACK... ..... 1"
SIDES (Glass).. ..... 12"
COMBUSTIBLE FLOOR.. ..... 0"
TOP.... ..... 36"
CORNER .....0" to back edges

Flue Pipe Clearances - 6" Single Wall, 1"B" Vent.

NOTE:
The use of wall paper adjacent to this room heater is not recommended, as the high heat given off by this appliance may adversely effect the binders in the adhesive used to apply the wallpaper.

IMPORTANT INFORMATION: PLEASE NOTE THAT IT IS QUITE NORMAL FOR APPLIANCES FABRICATED OF STEEL TO GIVE OFF SOME EXPANSION AND/OR CONTRACTION NOISES DURING THE START UP OR COOL DOWN CYCLE. SIMILAR NOISES ARE FOUND WITH YOUR FURNACE HEAT EXCHANGER OR CAR ENGINE ETC.

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GAS SPECIFICATIONS

ALTITUDE * 0 - 610 METERS
0 - 2000 FEET

MODELS EQUIPPED WITH S.I.T. 0.630 SERIES CONTROLS

MODEL FS 30 TN NATURAL GAS THERMOSTAT CONTROL

	MAX. INPUT	OUTPUT**
FAN OFF	30,000 BTUH	21,000 BTUH

MODEL FS 30 TP PROPANE GAS THERMOSTAT CONTROL

	MAX. INPUT	OUTPUT**
FAN OFF	21,000 BTUH	14,700 BTUH

ALTITUDE* 61 0 - 1 370 METERS
2000 - 4500 FEET

MODEL FS 30 TN NATURAL GAS THERMOSTAT CONTROL

	MAX. INPUT	OUTPUT**
FAN OFF	27,000 BTUH	18,900 BTUH

MODEL FS 30 TP PROPANE GAS THERMOSTAT CONTROL

	MAX. INPUT	OUTPUT**
FAN OFF	21,000 BTUH	14,700 BTUH

MANIFOLD PRESSURE - Natural Gas 3.5" W.C.
- Propane Gas 10" W.C.

GAS INLET - 3/8" N.P.T.

MINIMUM SUPPLY PRESSURE FOR PURPOSE OF INPUT AND ADJUSTMENT.
- Natural Gas 4.5" W.C.
- Propane Gas 11" W.C.

MAXIMUM INLET PRESSURE - Natural Gas 7" W.C.
- Prop. Gas 13" W.C.

Altitude conditions apply to Canadian Models only.

Output capacities apply to Canadian Models only.

OPTIONAL FS 30 FAN KIT - MODEL FK 30

For model FS 30 Room Heater. 120 volts 60 HZ. 0.75 AMPS.

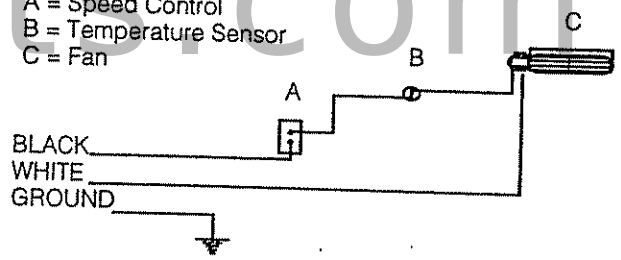
Note:this fan must be electrically connected and grounded in accordance with local code or in the absence of local code with the current CSA C22.1 Canadian Electrical Code.

For U.S.A Installations must conform with local and National Electrical Code ANSI/NFPA #70.

Caution :Should this fan require servicing the power supply must be disconnected.

Periodic cleaning of the fan compartment is definitely required to ensure long satisfactory fan performance. Vacuuming and/or wiping the area around fan should be carried out once a month during the heating season.

Fig. 7



"WARNING"

THIS APPLIANCE IS EQUIPMENT WITH A 3 PRONG (GROUNDING)PLUG FOR YOUR PROTECTION AGAINST SHOCK HAZARD AND SHOULD BE PLUGGED DIRECTLY INTO A PROPERLY GROUNDED 3 PRONG RECEPTACLE. DO NOT CUT OR REMOVE THE GROUNDING PRONG FROM THIS PLUG.

IMPORTANT NOTE:

DO NOT USE THIS HEATER IF ANY PART OF HEATER HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE HEATER AND TO REPLACE ANY PART CONTROL WHICH HAS BEEN UNDER WATER.

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GAS LINE INSTALLATION

The gas piping can be brought into the appliance from either the rear or bottom of the unit (there is a 2" x 2" cut out located behind the gas control valve,for bottom entry).

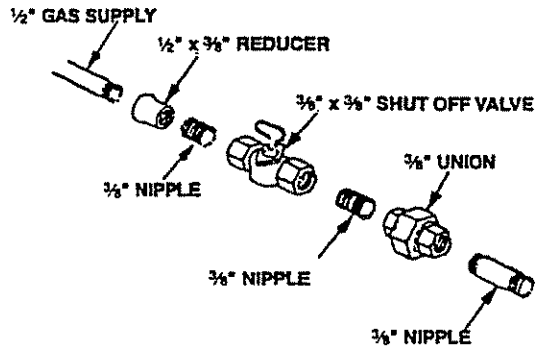
NOTE: The gas line connection can be made with either properly tinned 3/8"copper pipe, 3/8"rigid pipe or an approved flex connector. Since some municipalities have some additional local codes, it is always best to consult your local authority. and the CAN/CGA- B149 (.1 or .2) installation code.

FOR U.S.A Installations consult the current National Fuel Gas Code, ANSI Z223.1

IMPORTANT: Always check for gas leaks with a mild soap and water solution. Do not use an open flame for leak testing.

NOTE: The gas control the unit is equipped with provides a captured screw type pressure test point, therefore it is not necessary to provide a 1/8" test point up stream of the control.

Fig. 2



The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kpa).

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 pressures equal to or less than 1/ 2 psig (3.5 kpa).

On units equipped with SIT gas valves there are brass plugs in two of the holes. These plugs are not to be removed. The gas inlet hole has a plastic cap in it. Remove the plastic cap and connect your gas supply line at this point.

GENERAL GLASS INFORMATION

Only coated Neoceram or Robax ceramic glass may be used for replacement. See parts list for dimensions and specifications.

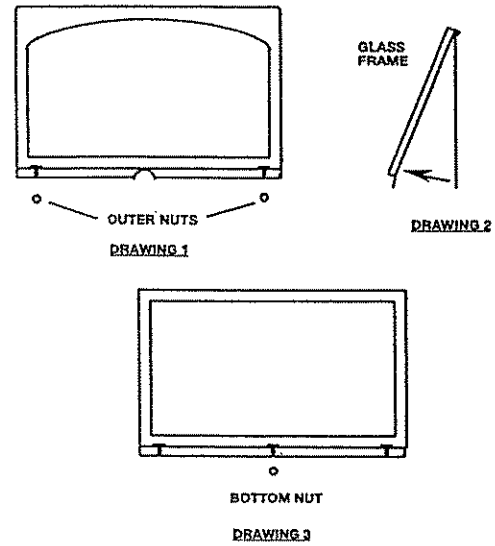
WARNING:

1. The use of substitute glass will void all product warranties.
2. Care must be taken to avoid breakage of the glass.
3. Under no circumstances should this appliance be operated without the glass front or with a broken glass front. Replacement should be done by a licenced or qualified service person.

GLASS REMOVAL

1. Remove the front louvre assembly by removing the two screws located at the front behind the louvres.
2. Remove the two 3/8" nuts holding the brass in place, then remove the brass.
3. Remove the three remaining 3/8" nuts holding on the front window. Pull the front window forward and up to remove.
4. To install the glass and frame, follow the above procedure in reverse.

Fig. 3



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GLASS CLEANING

t will be necessary to clean the glass periodically. During start-up condensation ,which is normal, forms on the inside of the glass and causes lint,dust and other air born particles to cling to the glass surface. Also initial paint curing may deposit a slight film on the glass. It is therefore recommended that the glass be cleaned two or three times with a non-abrasive household cleaner and warm water. After that the glass should be cleaned two or three time during each heating season depending on the circumstances present.

CAUTION:

DO NOT CLEAN WHEN GLASS IS HOT.

INSTALLATION OF LOGS

1 . Remove glass front window (see General Glass Information). (Note: it is not necessary to remove side glass).

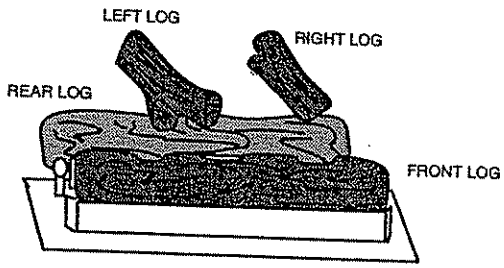
2. Remove logs from the protective bags (as with all plastic these bags are not toys and should always be kept away from children and infants).

3. Place rear log (marked "R")on back log support being careful to align the location points so that log will not move from side to side.

4. Place front log (marked "F") on log support bracket. Notch in front log holds log in place.

5. Place left log(with branch) on rear log. Align log with detent in front and rear log (note: branch faces towards the front of the unit). Right log installs in the same manner.

Fig. 4

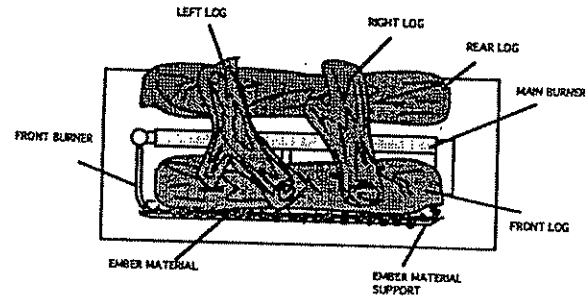


EMBER MATERIAL PLACEMENT

Separate the ember material in to small pieces roughly 1/2" diameter and place on the front burner as shown in Figure 1.

Do not pack down, leave in fluffy, loose condition for most realistic ember effect.

NOTE: Do not place ember material on main burner.



TOP VIEW

Fig. 5

GENERAL NOTES ON MAINTENANCE

PLEASE NOTE: It is normal for your Insta-flame room heater to give off some odour the first few times it is used. To minimize this effect, you must burn this unit for at least SIX(6) hours the first time it is used with the fan in the OFF position (The fan speed control knob is located inside the pedestal behind control door).

CLEANING PROCEDURE

Note take care not to vacuum ember material from front burner.

1. Turn off pilot light at gas valve.
2. Remove glass front.
3. Remove logs.
4. Vacuum burner compartment especially around orifice/primary air openings.
5. Reinstall logs.
6. Check pilot and main burner operation.
7. Reinstall glass front.
8. Recheck pilot and main burner operation.
9. Check visually the flame pattern and compare with pictorial illustration below.

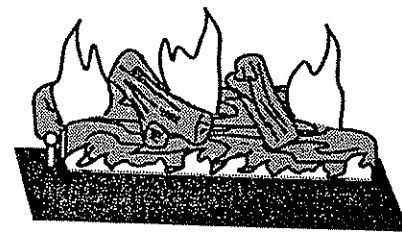


Fig. 6

*It is important to periodically perform a visual check of pilot and burner flame and to compare with picture above.

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LIGHTING AND OPERATING INSTRUCTIONS

FOR UNITS EQUIPPED WITH THE SIT 630 VALVE

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 appliance has a pilot which must be lit manually. When lighting the pilot follow these instructions exactly.

B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric 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

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, do not try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

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

LIGHTING INSTRUCTIONS

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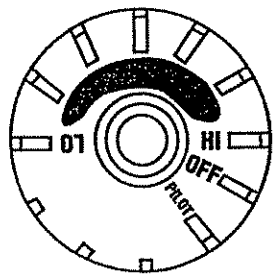
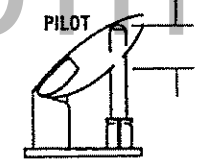
1. STOP! Read the safety information above on this label.
2. Turn off all electric power to the appliance.
3. Open control access panel.
4. Push in gas control knob slightly and turn clockwise to "OFF".



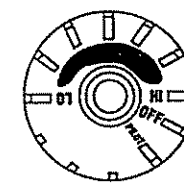
5. Wait fifteen (15) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP!. Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
6. The pilot is located by the main burner.



7. Turn knob on gas control counterclockwise to "PILOT".
8. Push in control knob all the way and hold in. Immediately light the pilot by repeatedly depressing the piezo spark igniter until a flame appears. Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release knob and it will pop back into original position. Pilot should remain lit. If it goes out, repeat steps 5 through 8.
   - If knob does not pop up when released, stop and immediately call your service technician or gas supplier.
   - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
10. Turn gas control counterclockwise to "ON", then close access door.
11. Turn on all electric power to the appliance.

TO TURN OFF GAS TO APPLIANCE

1. Turn off all electrical power to the appliance if service is to be perofrmed.
2. Open control access panel.
3. Push in gas control knob slightly and turn clockwise to "OFF". Do not force.
4. Close control access panel.



TROUBLE SHOOTING THE GAS CONTROL SYSTEM

SIT 630 GAS VALVE

Note: Before trouble shooting the gas control system, be sure external gas shut off is in the "On" position.

WARNING: BEFORE DOING ANY GAS CONTROL SERVICE WORK, REMOVE GLASS FRONT.

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. Spark ignitor will not light	A. Defective or misaligned electrode at pilot.	Using a match, light pilot. If pilot lights, turn off pilot and push the red button again. If pilot will not light - check gap at electrode and pilot-should be 1/8" to have a strong spark.
	B. Defective ignitor (Push Button)	Push Piezo Ignitor Button. Check for spark at electrode and pilot. If no spark to pilot, and electrode wire is properly connected, replace ignitor.
. Pilot will not stay lit after carefully following lighting instructions.	A. Defective pilot generator thermocouple.	1. Check pilot flame. Must impinge on thermocouple. Clean and or adjust pilot for maximum flame impingement on thermocouple.
	B. Defective automatic valve operator.	Turn valve knob to "Pilot". Maintain flow to pilot; millivolt meter should read greater than 10 mV. If the reading is okay and the pilot does not stay on, replace the gas valve. Note: An interrupter block (not supplied) must be used to conduct this test.
. Pilot burning, no gas to burner, Valve knob "ON".	A. Sensing bulb not in proper location.	Make sure sensing bulb is located in bracket on the lower right hand side of unit.
	B. Temperature sensing bulb damaged or tubing to bulb kinked	Carefully examine sensing bulb and capillery tube for damage. If tubing is kinked, replace gas valve.
Frequent pilot outage problem.	A. Pilot flame may be too low or blowing (high) causing the pilot safety to drop out.	Clean and/or adjust pilot flame for maximum flame impingement on thermocouple.
	B. Possible blockage of the vent terminal.	Check the vent terminal for blockage.
	C. Loose connections to/from the vent safety switch	Check wires on the vent safety switch at the draft hood relief opening and at the junction block where the thermocouple meets the gas valve.

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VENTING INSTRUCTIONS

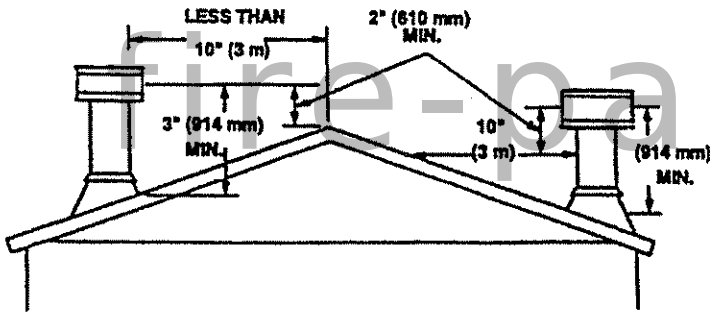
ANADIAN INSTALLATIONS:
The venting system must be installed in accordance with the current CAN/CGA-B149 (.1 or.2) installation code, and the authority having jurisdiction.

U.S.A. INSTALLATIONS:
The venting system must be installed in accordance with the current National Fuel Gas Code, ANSI Z223.1.

Minimum clearances to combustible materials is 1 inch (25 mm).

The minimum height of the vent is 2 feet (610 mm) above any part of the roof within a 10 foot radius.

Fig. 8



VENTING OF THE FS 30 FREESTANDING ROOM HEATER

Note: Please refer to installation instructions supplied by chimney manufacturer prior to commencing installation.

The FS30 may be installed using 4" diameter single wall vent into an existing masonry chimney. This vent should then be connected to a 4" liner running the full height of the chimney, as it is mandatory in most jurisdictions that the chimney be lined. Another option is 4" "B" vent directly off the unit.

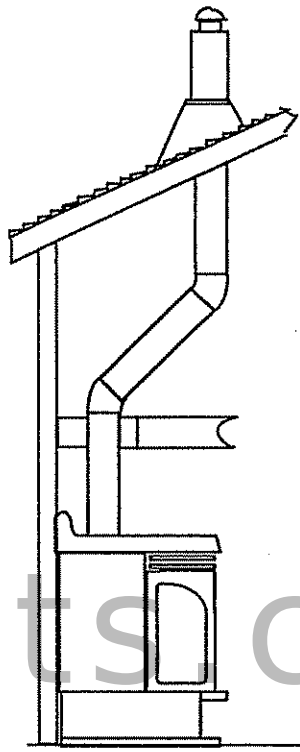
Common Flue Installations

In some areas it is possible to vent more than one gas appliance into the same flue. You must ensure that the being shared has the proper capacity to handle both pliances.

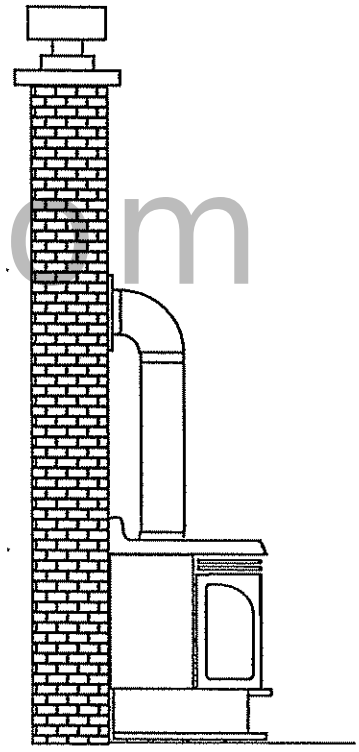
As always it is best to check with the authority having jurisdiction prior to commencement of the installation.

UNDER NO CIRCUMSTANCES SHOULD THIS OR ANY OTHER GAS APPLIANCE BE INSTALLED SHARING A FLUE WITH AN OIL, WOOD OR ANY SOLID FUEL BURNING APPLIANCE.

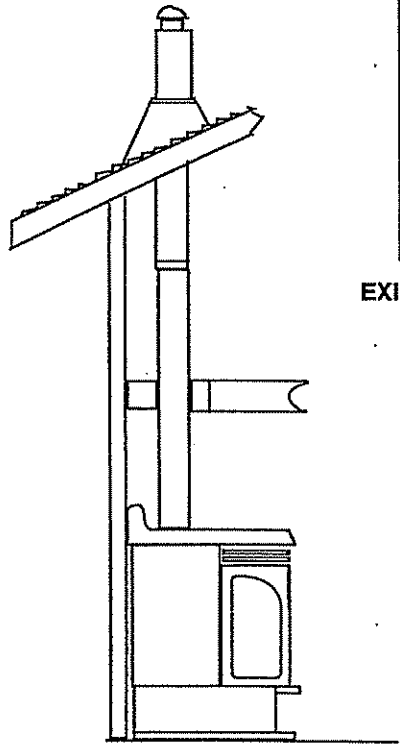
Fig. 9



OFFSET B VENT CHIMNEY



EXISTING MASONRY CHIMNEY



STRAIGHT B VENT CHIMNEY

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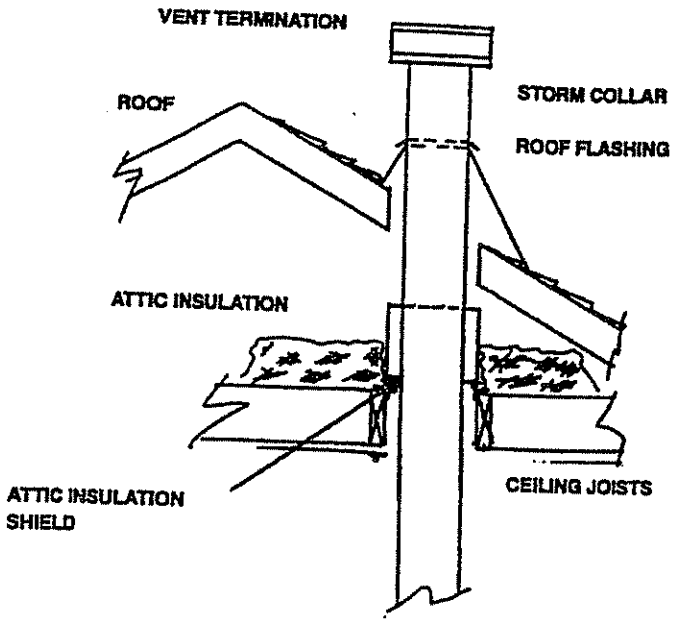
Fig. 10



Retrofitting To An Existing Brick Chimney

The FS 30 may be installed into an existing brick chimney. CFM Inc. strongly recommends that when attempting this type of installation that an approved chimney liner be incorporated as to ensure proper draft d lessen the effects of slow chimney startup.

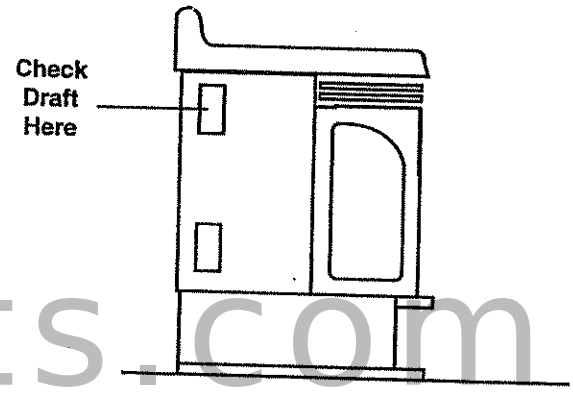
This is important because many homes (including older renovated ones) have become much tighter with respect to air exchange (a home breathing). An overly tight home will create conditions that will effect proper vent performance.

t may be necessary to install some form of makeup air o the lowest extremities of the home. This will help to ensure the above noted condition will not effect the proper operation of this or any other combustion appliance within the dwelling.

NOTE: This room heater is equipped with a vent safety shutdown switch. This is a safety feature. The switch is activated by heat and will turn the heater OFF. Please check draft to ensure proper performance.

PROPER VENT PERFORMANCE:

Fig. 11



A spillage test must be performed prior to leaving the appliance with the customer. Carry this test out in the following manner.

1) Close all windows and doors in the room; start all exhaust fans in the house.

2) Light the unit and place in operation on high fire.

3) After several minutes, test with smoke match that there is adequate "pull" at the draft hood opening (located on the sides of the unit near back. See Figure 11)

   If the flue is blocked or has a reverse flow (match being blown back into room) the Vent Safety Switch will automatically shut down the heater.

4) Should the heater turn off, wait approximately 10-15 minutes to allow for the switch to reset. Check draft again. If the smoke is not drawn into the draft hood turn the unit off and check the cause of lack of draft, consult your dealer for expert advice.

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REPLACEMENT PARTS LIST - FS30

All repair parts will be available from your local dealer. When ordering, always give the following information.

a) Item **b) Part Number** **c) Description** **d) Serial Number**

ITEM	PART	DESCRIPTION
1	52012	Log Front
2	50423	Log Rear
3	06498	Log Left
4	17429	Log Right
5	52003	Log Set Complete
6a	52383-3	Burner TNB HA Assembly
6b	52383-1	Burner TNB Assembly
6c	52383-2	Burner TPB Assembly
7	50403	Front Burner Hood Assembly
8	52122	Ceramic Burner Set
9	52862	Main Burner c/w Ceramics
10	52113	Front Burner
11a	50993	Orifice - Main Burner Nat. #43
11b	50998	Orifice - Main Burner LP #55
11c	50994	Orifice - Main Burner Nat. HA #44
12a	51930	Orifice - Front Burner Nat. #53
12b	51702	Orifice - Front Burner LP #71
13a	52686	Valve - SIT 630 LP
13b	52685	Valve - SIT 630 Nat.
14	51851	Cover, Valve c/w Piezo Ignitor
15a	52683	Pilot c/w Pilot Orifice SIT Nat.
15b	52682	Pilot c/w Pilot Orifice SIT LP
16	52684	Thermocouple SIT
17a	52465	Ignitor Electrode SIT
17b	53194	Electrode Cable SIT
18	53211	Pilot Supply Line SIT
19	52057	Control Door Latch
20	52035	Front Glass and Gasket
21	52032	Side Glass and Gasket
22	52949-4	Front Glass Gasket
23	52949-1	Side Glass Gasket
24	51738	Fan Speed Control
25	51882	Fan Control Knob
26	51704	Temperature Sensor (Fan) Elmwood 8189-19F120
27	51865	Electrical Code HPN 18/3 Wire - 6 ft.
28	51915	Ember Material
29	52549	Wiring Harness for Spill Switch
30	51866	Sensor for Spill Switch Elmwood 2455RC-L275
31	52264	Spill Switch Bracket
33	52027-PB	Trim, Arch Door
34	52031-PB	Trim, Handle Access Door
35	52048	Frame, Window Front
36a	52860	Frame, Window Right
36b	52145	Frame, Window Left

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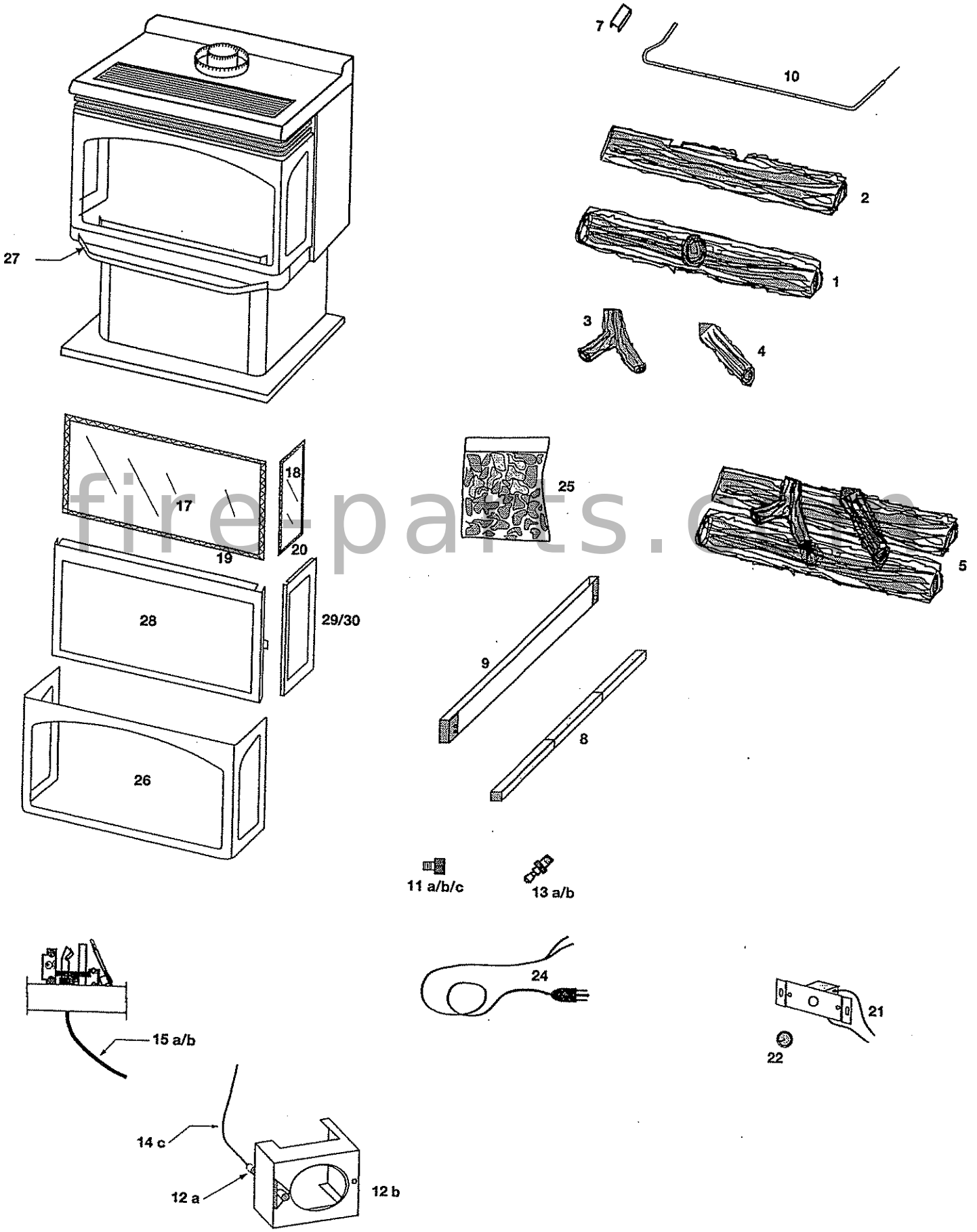
FS30 - REPLACEMENT PARTS



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