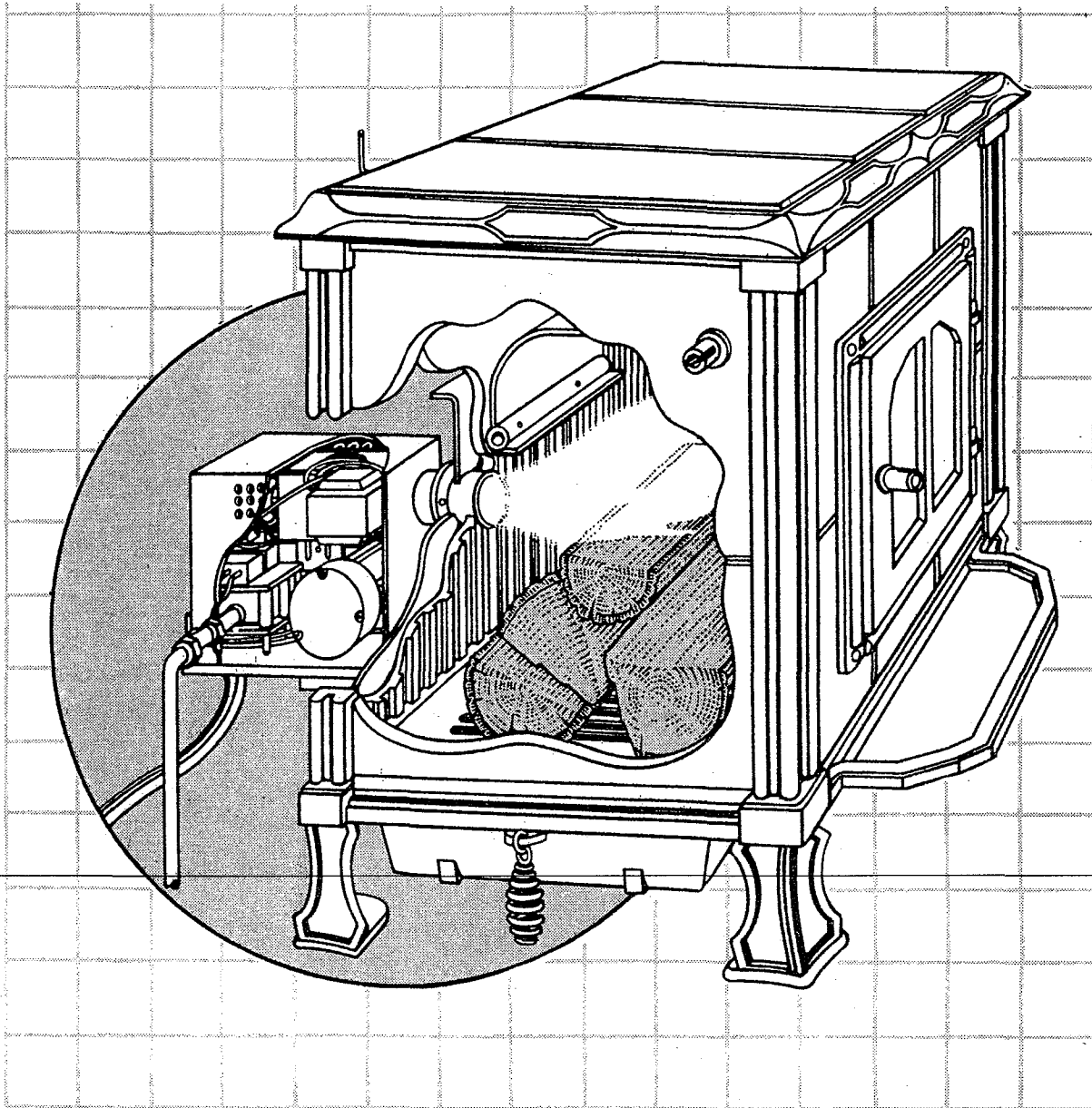


# HearthStone Alginon System

**SAFETY NOTICE: IF THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW THE INSTALLATION DIRECTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA.**



## OWNER'S MANUAL



# ALGINON SYSTEM INFORMATION

## FOR YOUR SAFETY

If you smell gas:

1. Open window
2. Don't touch electrical switches
3. Extinguish any open flames
4. Immediately call your gas supplier

## FOR YOUR SAFETY

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

Before installing and connecting the system, read the Alginon System Installation/Operating Manual and the Stove Owner's Manual completely.

# WARNING

FOR SAFETY REASONS . . .

WHEN WORKING ON THE HEARTHSTONE II ALGINON GAS POWER BURNER WITH THE FRONT DOOR OPEN FOR AN EXTENDED PERIOD OF TIME, IT IS RECOMMENDED THAT THE POWER CORD BE UNPLUGGED.

# PART I: INSTALLATION

**SAFETY NOTICE: IF THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW THE INSTALLATION DIRECTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA.**

**PART I: INSTALLATION**

## SECTION A: GETTING STARTED

The Alginon System is shipped from the HearthStone factory in a separate package ready to be mounted and hooked up. Gas connection *must* be done by your local gas supplier or by a certified gas appliance installer. Do not attempt to do the gas connections yourself!

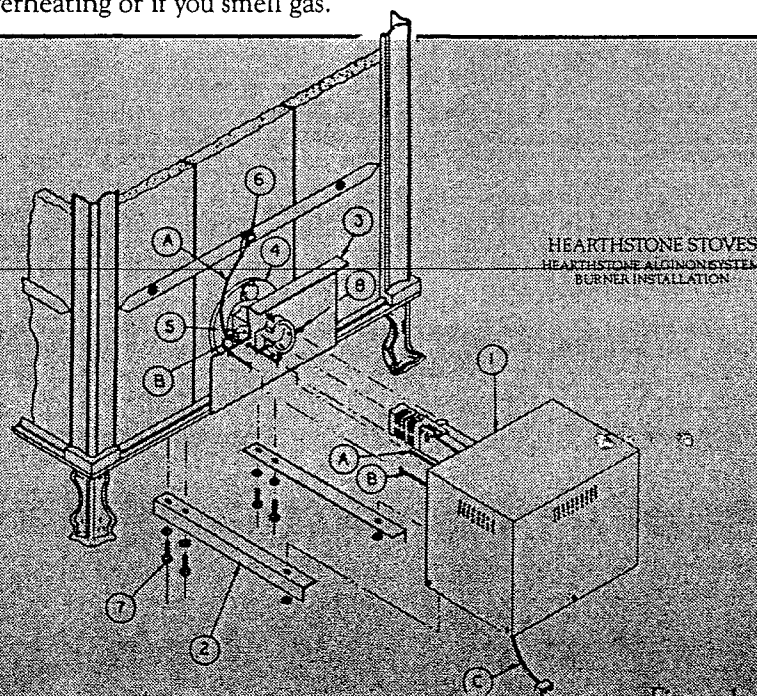
The burner must be used only with the gas specified on the name plate (either LP bottled gas or natural gas). The fuels are not interchangeable.

The Alginon System requires an electrical outlet supplying standard household current (110VAC, 15AMPS) in a grounded, three-prong outlet. Power cord supplied is 8 feet long. The outlet must be electrically grounded according to local building codes, or, in the absence of local codes, in accordance with the National Electrical Code, ANSI/NFPA 70-1984.

No thermostat or connecting wire is provided. You have the option of using a standard heating thermostat or a programmable thermostat. Either can be purchased from your HeathStone Dealer or at a store selling heating supplies, energy-saving items or hardware. The thermostat wire can be surface-mounted or concealed in the wall.

In general, the stove should be fully installed before the gas is hooked up. You may want to consult with the people doing the gas hook-up to see if they want to lead the piping to the hearth before the stove arrives. Remember to leave room for access to the burner from the back or side of the stove. If there is insufficient room, the stove will have to be moved out into the open if the burner needs servicing. The burner unit extends 11 inches from the back of the stove. At least 4 more inches are required to remove the burner for servicing without moving the stove. *Check the separate HearthStone II Stove Owner's Manual for required clearances.*

There are *no owner-serviceable parts* in the Alginon System. If the system overheats, if you smell gas, or if it makes unusual noises, close the manual gas shut-off valve and call your gas supplier for assistance. Do not unplug the power cord if the gas burner unit is overheating or if you smell gas.



ITEM	DESCRIPTION
1	ALGINON UNIT
2	ANGLE BRACKETS
3	HEAT SHIELD
4	BLAST TUBE ASSEMBLY
5	FLAME SWITCH
6	STOVE SWITCH
7	BRACKET BOLTS & LOCKWASHERS
8	ALLEN SCREWS
9	MANUAL VALVE
A	STOVE SWITCH WIRE
B	FLAME SWITCH WIRE
C	PLUG FOR WALL
D	THERMOSTAT WIRE
	POWER SUPPLY CORD

### NOTES

1. THE HOLES FOR THE BRACKET BOLTS ARE FACTORY DRILLED AND TAPPED IN THE STOVE BASE AND IN THE ALGINON UNIT.
2. THE CORNER OF THE HEAT SHIELD HAS BEEN BROKEN AWAY IN THE ILLUSTRATION FOR THE CLARITY OF THE WIRING OF THE FLAME SWITCH.

Figure 1

# PART II: ALGINON OPERATION

(For User and Gas Service Person)

## SECTION A: BREAKING IN THE STOVE

1. *Using wood:* Refer to the Woodstove Owner's Manual for proper break-in.

*Using Gas:* Refer to the operational steps 1 to 7 below before running the burner.

1. With no wood in the stove, run the burner for 3 minutes. Allow the stove to cool for at least 1 hour.

2. Run the burner for 3 minutes, then allow the stove to cool to room temperature (at least 2 hours).

3. Run the burner for 5 minutes, then allow to cool for at least 2 hours.

4. Run the burner for 5 minutes, then cool completely.

5. Cement and paint curing can cause minimal smoking during break-in.

## SECTION B: OPERATING THE ALGINON SYSTEM

### 1. Gas Operation

Set the thermostat and forget about it. The Alginon System will automatically keep the room at the desired setting.

### 2. Wood/Gas

In general, load wood in the stove, set the thermostat and relax. Alginon runs until the wood is ignited and the stove is generating heat. The gas burner then shuts off. The burning wood provides room heat until the wood is exhausted. Alginon then comes back on if the thermostat is calling for heat. The Alginon System only operates when the room thermostat is calling for heat and the wood is used up.

**CAUTION: LOAD THE STOVE WITH WOOD ONLY WHEN THE BURNER IS OFF. DO NOT** attempt to load the stove if the burner blower is operating or the burner ignitor is glowing red. These are indications that the burner is about to ignite. Follow the instructions noted below:

1. To prevent the burner from igniting, set the wall thermostat below room temperature.

2. Open the bypass damper. Open the side door slowly. *Caution: Do not open the front glass door.*

3. *Load wood from the side door only.* Place 2 pieces the length of the grate, then 2 angled across. Do not block the burner (keep wood 1 to 2 inches away from the burner tube casting). In practice you will find a method that works best for you. No kindling. No newspaper. No matches.

4. Close door, set bimetal control for desired heat output: H/high heat, L/low heat.

5. Set wall thermostat to desired room temperature. Check to be sure manual gas valve is open and power cord is plugged in.

6. Leave stove bypass damper open for about 10 minutes, then close damper.

The Alginon System now takes over. The blower comes on for 40 seconds while the ignitor pre-heats. Then the gas comes on for 7 seconds and the system automatically checks to verify burner ignition. The burner continues to operate until the wood is ignited and the stove is warm. Then a temperature sensitive switch on the rear of the stove shuts off the burner and keeps it off until the stove cools down. If the room temperature falls below the thermostat setting, the Alginon system comes back on, keeping the room at the temperature level you desire. You then have the option of running on gas or adding more wood.

7. Repeat steps 1 to 5 above when it's time to reload with wood.

**\*\*Note:** The manual gas shut-off should be closed if the stove is not going to be used for several weeks.

## SECTION C: SAFETY FEATURES (For User and Gas Service Person)

### 1. Power Loss

In the event of a power loss, the Alginon System shuts down automatically, closing off the supply of gas to the system. No reset is required when power is restored. The stove may be operated as a

conventional woodstove without electricity.

### 2. Flame Presence

After ignition, the system monitors the presence of the flame and holds the main gas valve open. If flame is lost, the system will shut off the power to the ignitor and close the main gas valves. Before going any further, find out why the system failed to ignite properly. To reset the system, unplug and replug the power cord.

### 3. Flue Blockage

Alginon will sense flue blockage in low draft situations and shut down burner operation. There should be no problems with a properly cleaned and maintained chimney system. Be sure to read the section in the Stove Owner's Manual about cleaning the chimney. If you smell gas, close the manual gas shut off valve, air out the room, and *do not switch any electric switches.* Check to see if your flue is blocked and remove the blockage. If it is not blocked, have your gas service person check out the system.

### 4. Overheat

The maximum BTU output of the Alginon System is within the acceptable operating range of your HearthStone stove. There are also two comfort features that are likely to keep the burner from running for prolonged periods: (1) the temperature sensing switch on the stove, and (2) the room thermostat. Even if the thermostat is calling for heat, the burner will cycle on and off, allowing the heat absorbed in the stone to radiate into the room.

### 5. Door Open

The flue blockage switch will also shut off the burner when either stove door is opened. For safety reasons, do not open the front door while the burner is plugged in. **\*\*Note:** The front door cannot be opened with a standard handle. See *Maintenance, Section A*, for instructions on opening the front door for cleaning or repairs.

### 6. Stove Safety

Refer to the Hearthstone II Owner's Manual for information on safe operation of a woodburning stove.

## SECTION B: BURNER INSTALLATION (For Gas Service Person)

### 1. Mounting the Brackets and the Burner See Figure 1

Tools: Screw driver, 7/16 socket, Allen wrench, and crimping/needle nose pliers.

The burner is shipped fully assembled and adjusted ready to place in the stove. Be very careful not to damage the ignitor (inside the metal cage).

2. Two mounting brackets bolt to the underside of the back of the stove, angles facing out. (Remove bolts already in the holes.) Loosely put in the four bolts (1 washer and 1 lock washer each). Pull brackets out from the back.

3. Carefully slide the burner tube and ignitor into the blast tube as far as it will go. The two bolts (not tight) on the underside of the chassis will drop into the bracket holes. Finger tighten nut, washer and lock washer.

4. Check burner alignment-square to the stove. Tighten bracket bolts and chassis nuts. Tighten (3) allen screws on blast tube (snug is enough).

5. Push white wires with red stripes through the heat shield grommet hole. Connect shorter lead to flue switch on blast tube and longer one to stove switch. Flue switch must be connected as part of the safety system. It also shuts off the burner when the door is opened.

## SECTION C: THERMOSTAT HOOK-UP (For User and Gas Service Person)

### 1. Placement

The thermostat should be located away from the stove in the area you spend the most time. Locate it on an inside wall at a height of about 5". If it is too close to the stove, the other end of the room may feel cold. If it is too far away from the stove, the area around the stove may be too warm. The connecting wire may either be hidden behind the walls or surface-mounted.

### 2. Installation

Thermostat wiring is the same as for a typical central heating system (see the instructions that come with the thermostat). Thermostat wire may be acquired locally in the length you require. There is no polarity, so either side may be connected to either lead. Strip off about 1/2" insulation. Connect the leads to the terminal screws in the thermostat.

The other end of the thermostat leads are connected to the crimp connectors hanging from the bottom of the burner chassis. The burner must be unplugged. Each lead should be stripped about 1/4", inserted into a quick disconnect and crimped 1/3 of the way in to lock the wire and again crimped at the edge to hold the insulation.

## SECTION D: GAS HOOK-UP (For Gas Service Person)

Again, the gas supplier or serviceperson must hook up the gas. The installation and hook-up must conform to local codes, or, in the absence of local codes, to the Standard for the Installation of Domestic Gas Conversion Burners, ANSI Z21.8-1984, and the National Fuel Gas Code, ANSI Z223.1-1984.

The appliance and the shut-off valve must be disconnected from the gas supply piping system during any pressure testing of the system at test pressures in excess of 1/2 psig. A drip leg needs to be installed at the inlet of the gas connection of the burner system. Also a 1/8" N.P.T. plugged tapping, accessible for test gauge connection, needs to be included immediately upstream of the gas supply connection to the Alginon System burner. The appliance must be isolated from the gas supply piping system by closing the burner 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.

The *manual gas shut-off valve* is located on the side of the burner housing, lower back corner. It is accessible from the outside and marked "ON" and "OFF". Combustion air for the burner enters the housing through slots in the bottom. Do not place any objects under the burner housing that restrict the flow of air. Refer to the Stove Owner's Manual to check clearances from the back of the stove to combustible objects.

# SPECIFICATIONS

	LP	Natural Gas
BTU/hr maximum and minimum	48,000	48,000
Manifold Pressure	10.0 inches	3.0 inches
Orifice Size	No. 46 DMS	No. 28 DMS
Electrical Source	110VAC	110VAC
Transformer	15 amp maximum	15 amp maximum
Air Adjustment	24VAC .5amps	24VAC.5amps
Primary Air	factory set	factory set
Secondary Air (plenum relief)	no adjustment: full open	no adjustment: full open
Manual Gas Shut-Off	closed	closed
Gas Valve	located burner housing	located burner housing
	lower side corner at gas inlet	lower side corner at gas inlet
	redundant automatic valves	redundant automatic valves
	with pressure regulator	with pressure regulator
	24VAC, 0.2 amp each valve	24VAC, 0.2 amp each valve
Electricity		
Regulator		
Range	9.5-12" W.C.	3-6" W.C.
Standard Setting	10.0" W.C.	3.0" W.C.
Inlet Pressure		
Maximum	14" W.C.	14" W.C.
Nominal	11" W.C.	7" W.C.
Temperature Range	-40 F. to 175 F.	-40 F. to 175 F.
Inlet/Outlet	3/8" x 3/8"	3/8" x 3/8"
Ignition System	factory set: not adjustable	factory set: not adjustable
Input Voltage	120 and 24 VAC, 60hz, 100mA max	120 and 24 VAC, 60hz, 100mA max
	(control only)	(control only)
Trial for Ignition	6.8 seconds	6.8 seconds
Ignitor Pre-heat	40 seconds	40 seconds
Temperature Range	-40 F. to 150 F.	-40 F. to 150 F.

## CAUTION

### Should overheating occur due to gas burner operation:

1. Close the manual gas shut-off valve.
2. Do not shut off the control switch to the burner or blower. Do NOT unplug the power cord.

### Should overheating occur due to wood burning operation:

1. Close the manual gas shut-off valve.
2. Shut off the burner and blower by unplugging the power cord.
3. Close the stove primary and secondary air intakes.
4. Be sure the ashpan door and two other doors are closed.

## HEARTHSTONE STOVES

### HearthStone Alginon Gas Power Burner Installation

REAR EXIT ONLY  
Special Burner Heat Shield shipped  
inside stove attaches to flange on  
heat shield (#3 Figure 1.)

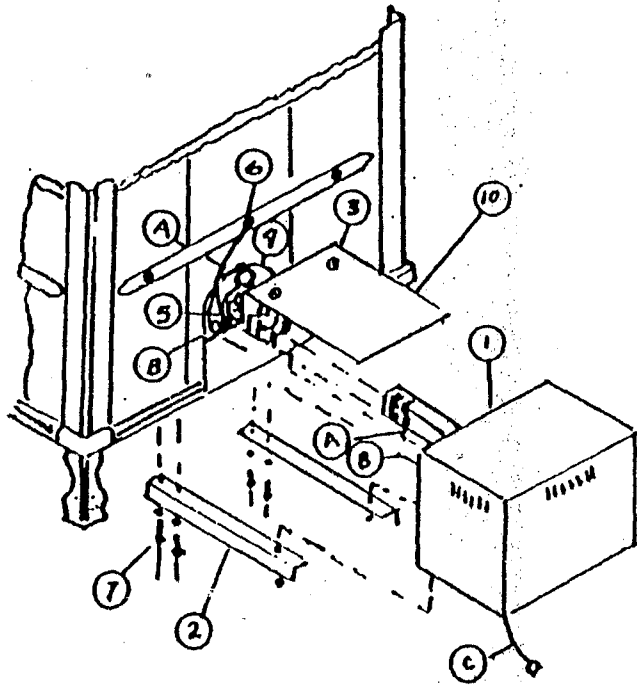


Figure 1

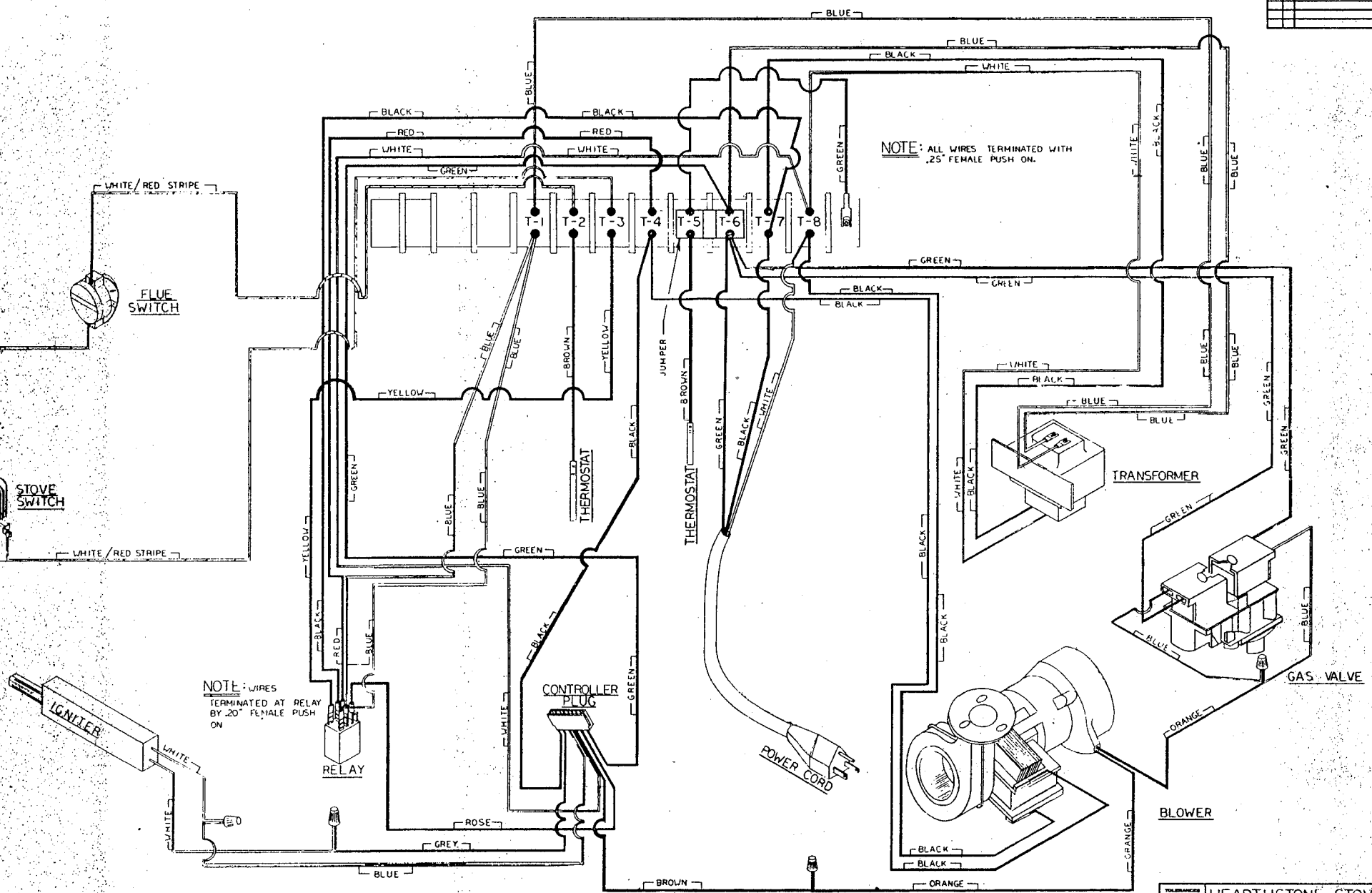
#### ITEM DESCRIPTION

1. ALGINON UNIT
2. ANGLE BRACKETS
3. HEAT SHIELD
4. BLAST TUBE ASSEMBLY
5. FLUE SWITCH
6. STOVE SWITCH
7. BRACKET BOLTS & LOCK WASHERS
9. MANUAL VALVE
- A. STOVE SWITCH WIRE
- B. FLUE SWITCH WIRE
- C. PLUG FOR WALL THERMOSTAT  
WIRE POWER SUPPLY CORD
10. SPECIAL BURNER HEATSHIELD  
(Rear Exit Only)

#### NOTES:

1. The holes for the bracket are factory drilled and tapped in the stove base and in the Alginon unit.
2. The corner of the heat shield has been broken away in the illustration for clarity of the wiring of the flue switch.





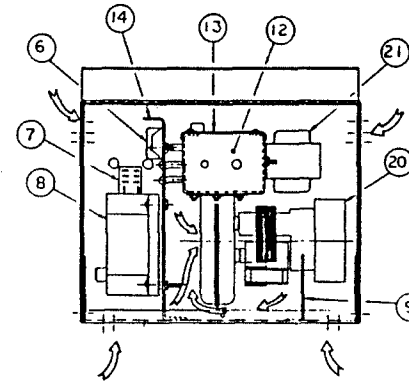
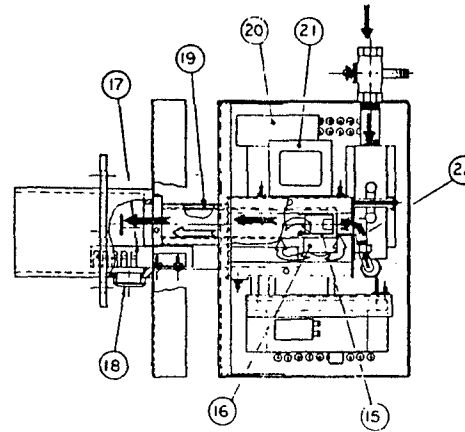
NOTE: WIRES TERMINATED AT RELAY BY .20" FEMALE PUSH ON

NOTE: ALL WIRES TERMINATED WITH .25" FEMALE PUSH ON.

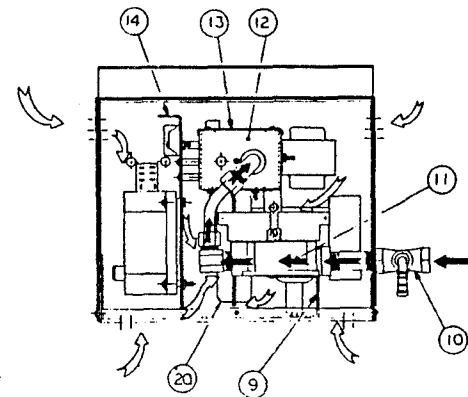
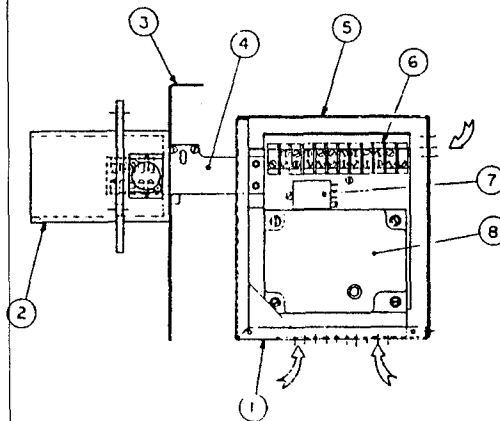
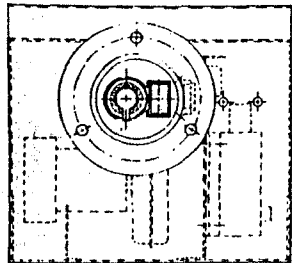
TOLERANCES UNLESS OTHERWISE SPECIFIED		HEARTHSTONE STOVES	
FRACTIONAL	1/32"	NEW ORANGE, BLUE, GREEN	NONE
DECIMAL	0.001"	DAFF ORANGE, VC ORANGE	
FRACTIONAL	1/8"	ALGINON WIRING	
DATE	9-15-84	REVISED	D-86-026

# ALGINON SYSTEM AIR and GAS FLOW

ITEM	QTY.	DESCRIPTION
1	1	HOUSING
2	1	BLAST TUBE ASSEMBLY
3	1	HEAT SHIELD
4	1	IGNITER BRACKET
5	1	COVER
6	1	TERMINAL BOARD
7	1	RELAY
8	1	ELECTRONIC CONTROLLER
9	1	BLOWER BRACKET
10	1	MANUAL SHUT-OFF VALVE
11	1	GAS VALVE
12	1	MIXING PLENUM
13	1	PLENUM COVER
14	1	MOUNTING BRACKET
15	1	ROTATING AIR SHUTTER (NON ADJUSTABLE)
16	1	AIR DEFLECTOR
17	1	IGNITER
18	1	FLUE BLOCKAGE SWITCH
19	1	INSHOT BURNER
20	1	BLOWER, MOTOR & CENTRIFUGAL SWITCH
21	1	TRANSFORMER
22	1	ORFICE (NON ADJUSTABLE)



VIEW WITHOUT GAS VALVE  
FOR AIR FLOW CLARITY



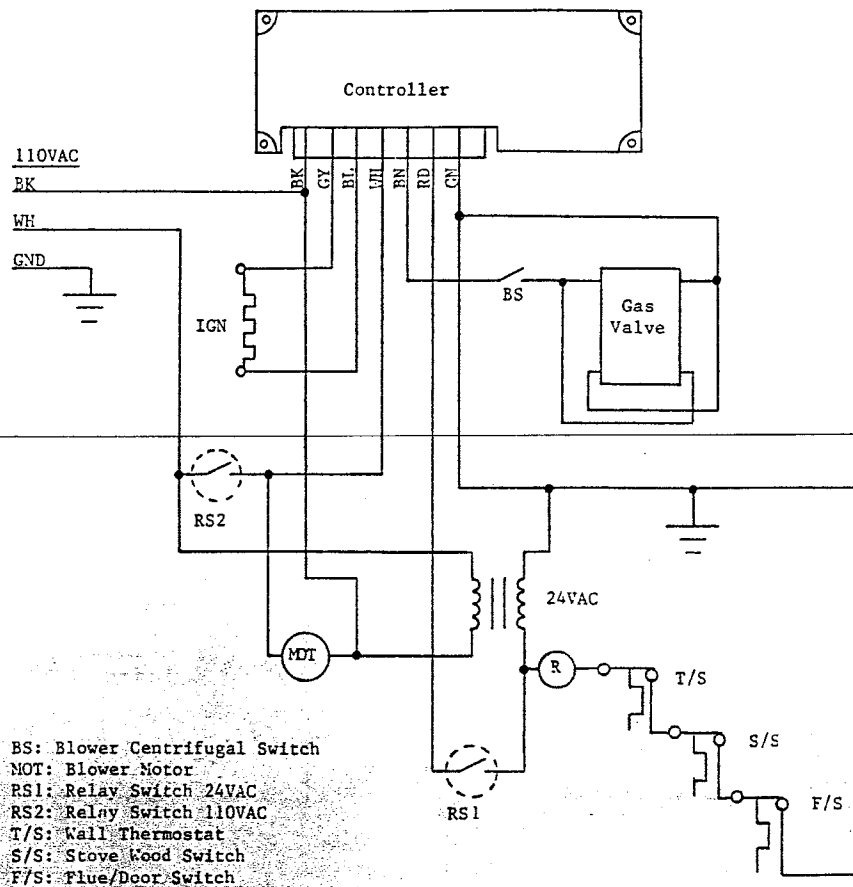
KEY  
 GAS  
 AIR

D-86-005

NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
C-1	INTAKE	C-28	WOOD GRATE	S-20	STONE 5" X 13"	S-30	STONE 8" X 15"
C-2	TOP	C-29	D-HANDEL	S-21	STONE 4" X 13"	S-31	STONE 8" X 15" (REAR EXIT)
C-3	BOTTOM	C-30	CAMLOCK	S-22	STONE 4" X 13"	S-32	STONE 8" X 9" (TOP EXIT)
C-4	BOTTOM INSERT	C-31	T-HANDEL	S-23	STONE 4" X 13"		
C-5	ASH DOOR	C-32	LATCH	S-24	STONE 5" X 9"		
C-6	FRONT DOOR	C-33	BAFFLE	S-25	STONE 5" X 9"		
C-7	FRONT DOOR FRAME	C-34	COLLAR JOINT	S-26	STONE 8" X 9"	G-1	1/2" FIBERGLASS ROPE GASKET
C-8	SIDE DOOR	C-35	COLLAR SHAFT	S-27	STONE 8" X 9"	G-2	3/4" FIBERGLASS ROPE GASKET
C-9	SIDE DOOR FRAME	C-36	DAMPER FRAME	S-28	STONE 8" X 9" (TOP EXIT)	G-3	GLASS GASKET
C-10	RIGHT SIDE LEG	C-37	DAMPER	S-29	STONE 8" X 11" (REAR EXIT)	G-4	ADHESIVE GASKET
C-11	LEFT REAR LEG	C-38	BAFFLE HOLE COVER	S-30	STONE 6" X 9"		
C-12	REAR FLUE (OR C-14)	C-39	D.S. HANDLE	S-31	STONE 6" X 9"		
C-13	REAR FLUE PLATE			S-32	STONE 6" X 9"		
C-14	TOP FLUE (OR C-12)						
C-15	SECONDARY AIR TUBE COVER						
C-16	BOTTOM LEG (LEFT)						
C-17	LEFT FRONT LEG						
C-18	WINDOW FRAME						
C-19	BACK PLATE						
C-20	SIDE PLATE						

NO.	DESCRIPTION	NO.	DESCRIPTION
A	1/2" X 1" SPIRAL PIN	C-C	1/2" X 3 1/2" SL FL HD MS
B	1/2" SPLIT KEY RING	D-D	1/2" X 1" HD HEX HD MS
C	SPRING HANDLE	E-E	1/2" X 1" HD HD RIVETS
D	1/2" X 2 1/4" HEX CAPS	F-F	1/2" LOCKWASHER STN. STL.
E	1/2" X 1" SHOULDER BOLT	G-G	FLATWASHER - 1" X .625 X .030 ZINC
F	1/2" X 1" SHOULDER BOLT	H-H	1/2" X 1" VPOUGH WASHER
G	1/2" X 1" HEX. HD. MS	J-J	INTERIOR RIGHT SIDE STEEL
H	1/2" X 20 X 1" MX. HD.	K-K	CAMLOCK TABS
J	1/2" X 20 X 1" MX. HD.	L-L	BAFFLE SUPPORT STEEL
K	1/2" X 2 1/2" COTTER PIN	M-M	EXTERIOR TRIM RIGHT SIDE
L	1/2" X 20 X 1 1/2" HEX. HD. MS-SS	N-N	EXTERIOR TRIM REAR
M	1/2" X 20 X 1" TY. I THD CUT SCREW	P-P	SPLINE 1/2" X 1/2" X 15
N	8-32 X 1 1/2" RD HD MS-SS	Q-Q	SPLINE 1/2" X 1/2" X 3 1/2
O	8-32 X 2 1/2" SL RD HD MS	R-R	SPLINE 1/2" X 1/2" X 5
P	1/2" X 20 X 1 1/2" SL FL HDMS BLK OX	S-S	SPLINE 1/2" X 1/2" X 3 1/2
Q	1/2" X 24 X 1/2" SELF THD MS	T-T	SPLINE 1/2" X 1/2" X 5 1/2
R	1/2" X 20 X 2 1/2" SL FL HD MS BLK OXY	U-U	SPLINE 1/2" X 1/2" X 7
S	1/2" X 24 X 1/2" SELF THD MS	V-V	SPLINE 1/2" X 1/2" X 19
T	1/2" X 20 X 1/2" PLATHEAD SELV. STN. STL.	W-W	SPLINE 1/2" X 1/2" X 7 1/2
U	1/2" X 20 X 1/2" PLATHEAD SELV. STN. STL.	X-X	TABS ON BAFFLE STEEL
V	BRASS NUTS, WASHERS, NIPPLE	Y-Y	SECONDARY AIR TUBE
W	1/2" X 1" HDP SPIRAL PIN	AAA	THERMOSTAT ASSEMBLY
X	TENSION WASHER	BBB	TEMPERATURE PROBE (CATALYTIC ONLY)
Y	1/2" X 20 X 1/2" PLATHEAD SELV. STN. STL.	CCC	INTERIOR GLASS
Z	WASHER - .750 OD X .625 ID X .030	DDD	EXTERIOR GLASS
AA	12-24 X 1/2" SELF THD TY LMS D		

## HEARTHSTONE ALGINON SYSTEM SCHEMATIC





**OWNER INFORMATION**

Date Purchased \_\_\_\_\_

Dealer Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Stove Serial# \_\_\_\_\_

(Hand scribed on back of stove in stone near builder's signature)

Burner Serial # \_\_\_\_\_

Local Gas Service Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

NOTES:

**NHC, INC.**

P.O. BOX 1069, MORRISVILLE, VT. 05661  
(802) 888-5232 FAX (802) 888-7249



**HearthStone® Stoves**

**Hergom**