

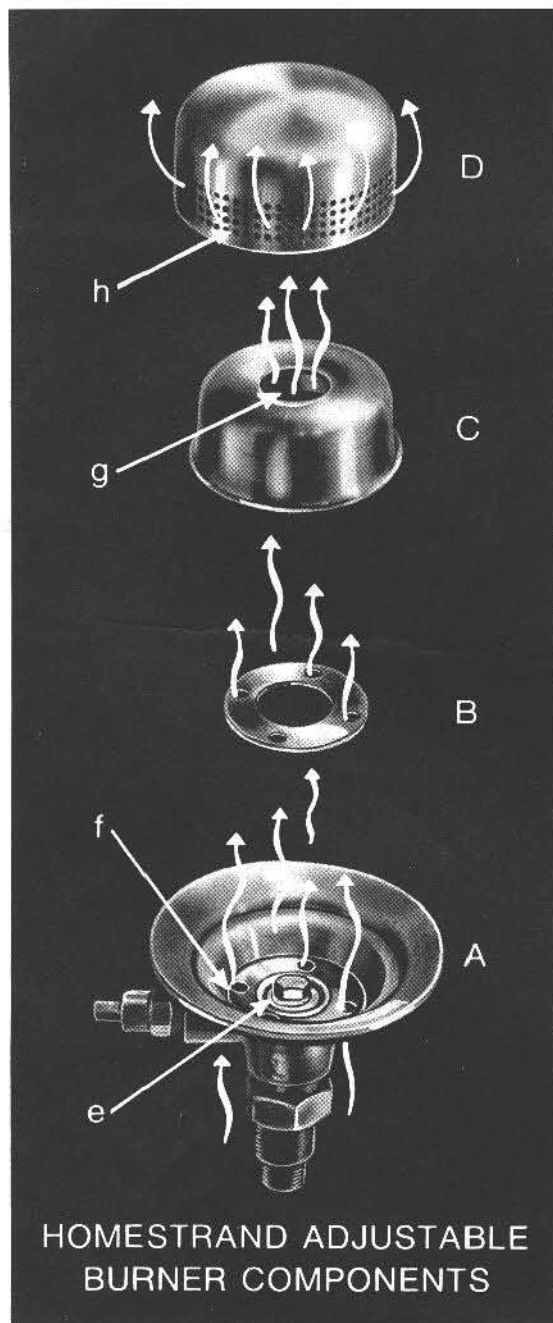


## ALCOHOL STOVE BURNERS

### Homestrand Adjustable Burner for Alcohol Stoves

High-performance burners require a correct ratio of fuel-to-air for proper combustion. Too lean mixture will make the burners go out or burn away from the outer cap; too rich mixture causes an orange flame that may occasionally appear to "puff." Since alcohols used as stove fuel vary in composition, to burn properly, different air mixtures are required.

HOMESTRAND owners will never have to worry about this problem. HOMESTRAND has developed a high-performance burner that may be adjusted quickly, in case the burner does not function properly. These burners are standard equipment on all No. 126, 205 and 206 models.



### HOW BURNER WORKS

Air enters the burner through four holes **f** in burner flange **A** and passes through corresponding holes in disc **B** into the mixing chamber inside cap **C** where it mixes with alcohol vapor injected from nozzle **e**. The mixture leaves the mixing chamber through hole **g** and flows between the caps to the perforation **h** in the outer cap **D** where it escapes and burns.

### HOW TO CALIBRATE

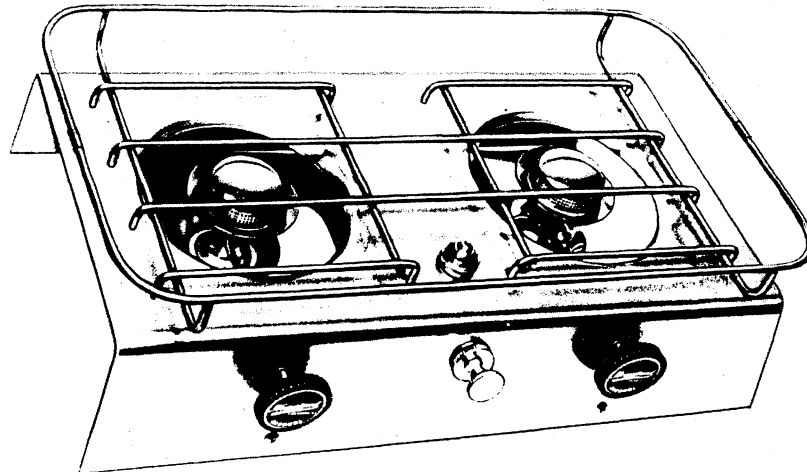
To calibrate, merely remove caps **C** and **D**, then turn disc **B** slightly in either direction, until proper combustion is obtained.



KENYON INTERNATIONAL  
8 Heritage Park Road, Clinton, CT 06413  
Tel: (860) 664-4906 Fax: (860) 664-4907

## ALCOHOL STOVE, Model 126

### Instructions and Parts List



### OPERATION INSTRUCTIONS

**To Fill:** Unscrew filler cap. Fill tank with denatured ethyl alcohol using a funnel. Replace cap. Filler cap is equipped with a safety valve and must not be replaced by any other type cap.

**To Start:** Pump 20 or more times to pressurize fuel tank. Pump is located at front of stove.

**To Operate:** Burners must be preheated to produce vaporized alcohol. Slowly open (counter clockwise) one burner at a time to allow alcohol to flow into priming cup below the burner body. Fill priming cup 3/4 full (about 1/4 oz). Shut off burner (clockwise) and ignite priming alcohol. When this alcohol is fully consumed, turn control wheel toward open position and light burner.

**CAUTION:** FLARE-UP may occur during preheating and particularly if burner valve is opened before preheating is completed. Follow starting instructions very carefully. If flare-up occurs, shut off burner and re-start as per instructions "To Operate."

**To Shut off Burner:** Turn control wheel to extreme right. Release pressure in tank by loosening filler cap.

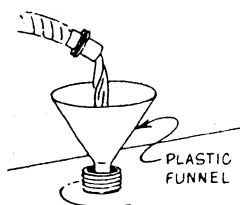
**To Clean Burner Nozzle:** Turn control wheel to extreme left position. This will automatically clean deposits from nozzle. Then return to extreme right.

**DO NOT ATTEMPT TO FILL BURNER FLANGE — PRIMING CUP IS BELOW BURNER BODY**

### HOW TO LIGHT YOUR ALCOHOL STOVE

#### 1 FILL TANK

FILL  $\frac{3}{4}$  FULL WITH ALCOHOL





PLASTIC FUNNEL

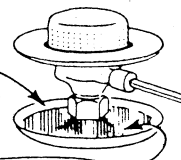
#### 2 PUMP

PUMP 15-20 TIMES TO PRESSURIZE TANK




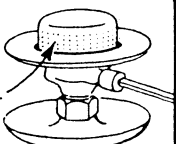
#### 3 PREHEAT BURNER

OPEN VALVE  TO FILL PRIMING CUP  $\frac{3}{4}$  FULL THEN... CLOSE VALVE  AND LIGHT ALCOHOL



#### 4 LIGHT BURNER

WHEN PRIMING ALCOHOL IS COMPLETELY CONSUMED OPEN VALVE  AND LIGHT VAPORIZED ALCOHOL



**CAUTION** Never operate a liquid fuel stove unattended. If a burner should go out, it will cool off, and liquid fuel will escape.

## EXCERPTS FROM NFPA No. 302 — 1972

### CHAPTER 4. COOKING, HEATING AND AUXILIARY APPLIANCES

40. Open flame devices are more liable to promiscuous, unskilled or ignorant operation than any other boat equipment involving fire risk. It is therefore imperative that such items be selected and installed with the aim of minimizing personal and physical hazards.

#### 41. Cooking Equipment.

411. Galley stoves shall be manufactured, approved and labeled for marine use. Printed instructions for proper installation, operation and maintenance shall be furnished by the manufacturer. A durable and permanently legible instruction sign covering safe operation and maintenance shall be provided by the manufacturer and installed on or adjacent to the consuming appliance, where it may be readily read.

(a) Stoves shall be installed in adequately ventilated areas to comply with Paragraph 113.

(b) Stoves shall be securely fastened when in use and when stored.

(c) Any burner system that may affect safety by reason of motion of the boat shall not be used.

(d) All woodwork or other combustible materials above stove tops and all woodwork or combustibles immediately surrounding stoves shall be effectively insulated with noncombustible materials or sheathing.

#### 413. Alcohol, Fuel Oil and Kerosene Stoves.

(a) Either pressure or gravity fed burners are permissible.

(b) Fuel supply tanks shall be constructed of corrosion resistant metal with welded or brazed joints and fittings.

(1) Pressure tanks integrally installed with stoves shall withstand a test pressure of at least 200 pounds per square inch gage.

(2) Pressure tanks integrally installed with stoves shall be effectively protected from the heat of the burners.

(3) Pressure tanks for remote installation shall be approved and be able to withstand a test pressure of at least 100 pounds per square inch gage.

(4) Pressure tanks remotely installed shall be rigidly secured in an accessible location permitting convenient filling and pump operation.

(5) Gravity tanks shall be substantially secured and should be remote from stoves. In any event, they shall be so located or shielded that under continuous operation at maximum output, the temperature of contained fuel will not be substantially raised by heat from burners.

(6) No gravity tank shall have a capacity exceeding 2 gallons. Tanks of larger capacity shall be in accordance with Section 31.

(7) Gravity tanks should have provision for filling and venting outside galley space.

(c) When fuel tanks are remotely located, as is preferred for gravity feed systems, approved stop valves shall be installed close to tanks and fuel lines shall be installed with as few fittings as practicable between valves and stove connections.

(d) If solidified fuel is used, the containers shall be properly secured on a fixed base to prevent sliding or overturning in a sudden roll of the vessel.

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## THEORY OF OPERATION

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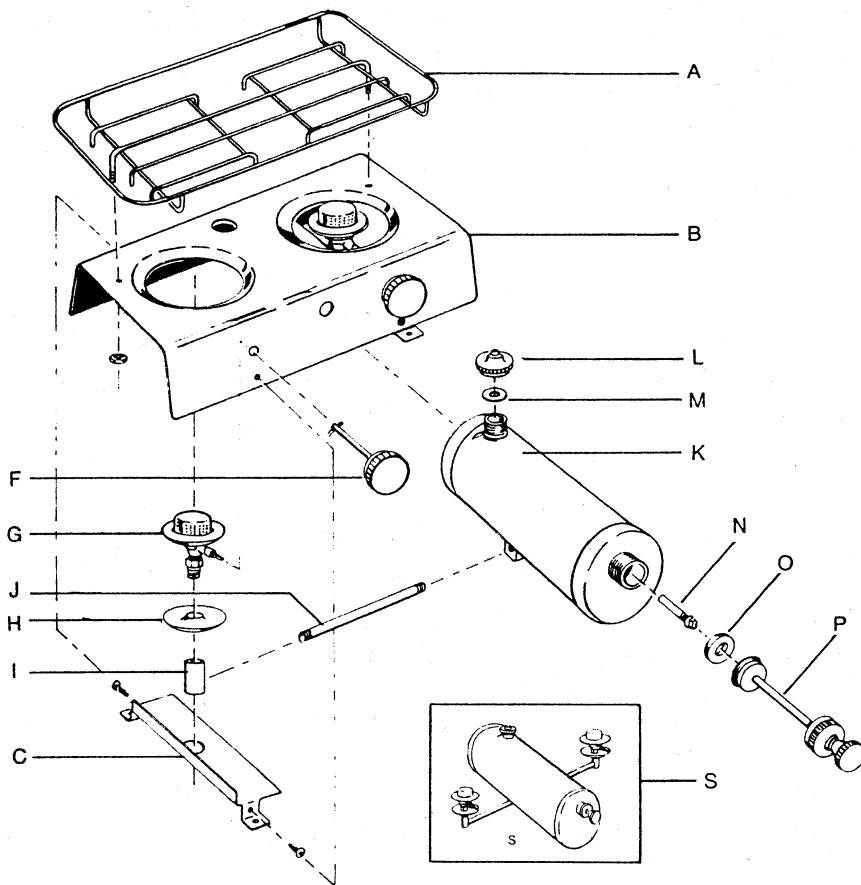
The burners use alcohol vapor for fuel. This gaseous fuel is produced by boiling liquid alcohol in the base of the burner by diverting some of the heat from the flame through the burner body.

In order to start a cold burner, it must first be heated above 180°F in order to produce the required vapor. This is usually done by burning a small amount (about ¼ oz.) of liquid alcohol in a special priming cup under the base of the burner. As the burner heats up, the liquid alcohol trapped in the burner boils, causing a flame to appear at the burner cap. If the priming cup is too full, the rising temperature also causes the priming alcohol to boil which produces a relatively high flame around the burner before it boils away. These conditions, usually termed "flare-up" are a natural consequence of the priming process and are usually not serious. A little practice will show the correct

amount of alcohol necessary to produce the required temperature. Too much alcohol will produce "flare-up" and too little will not bring the burner to a high enough temperature. A hot burner will produce a hissing sound when turned on. A cold burner will be silent or produce a squirting sound, and liquid alcohol will flow down into the priming cup. After priming, the burner must be lit before it cools off, or re-priming will be necessary.

Fuel: The burners are designed to use 95% **denatured ethyl alcohol**, which is commercially available as stove fuel or denatured alcohol shellac thinner. Satisfactory operation is also obtained with 91% isopropyl alcohol containing less than .003% by weight non-volatile material. Caution: Do not use wood alcohol (methanol) or rubbing alcohol as they will not burn satisfactorily and burners will become clogged.

# Kenyon Model 126



ITEM	PART NO.	DESCRIPTION
A	H-1665	Grate
B	H-1664	Frame
S	H-2457	Tank Burner Assembly
L	H-1333	Fill Cap
M	H-1221	Packing (Fill Cap)
N	H-1332	Check Valve
O	H-1233	"U" Cup
P	H-1231	Pump Comp. w/"U" Cup
K	240-126	Tank
F	H-1658	Control Knob w/Stem
J	H-1667	Feed Pipe
G	H-1324	Burner
H	H-1673	Priming Cup
I	H-1282	Burner Fitting
C	H-1595	Leg

### H-1324 Burner

Assemble burner in numerical sequence by item number.

ITEM	PART NO.	PART NAME
1	1415	Burner Body Assembly
2	1123	Valve w/Washer, Packing & Nut
3	240-149	Cleaning Needle
4	1117	Nozzle
5	1128	Inner Cap
6	1127	Outer Cap
7	141-107	Filter
8	2307	Copper Washer

H2300 BURNER RENEWAL KIT  
CONSISTS OF ITEMS 2 - 8

## HELPFUL HINTS FOR OPERATION AND MAINTENANCE OF YOUR MODEL 126 ALCOHOL STOVE

1. To obtain maximum performance from your new stove, it is extremely important that you use a quality grade denatured (ethyl) alcohol free from impurities or 91% isopropyl alcohol stove fuel (not rubbing alcohol) containing less than .003% by weight non-volatile matter. The majority of stoves returned to us for burner service are clogged from impure alcohol.
2. A properly operating burner will have a blue flame, with several rows of little flame tips. There should not be a yellow tip on the flame. The air-fuel ratio of the burner may be adjusted for most efficient operation. With burners lit, hold burner flange with a pair of pliers and rotate flange until the yellow flame tip is eliminated, see Figure 1.
3. A burner operating properly will boil two cups of water in a 2½ qt. (6½ inch), uncovered saucepan in seven to nine minutes.
4. If you notice a small flame where the control stem enters the burner, tighten the gland nut slightly until the flame no longer appears. This adjustment may have to be made after a few hours of burner operation, but then should require very little attention, see Figure 1.
5. If the pump bounces back when you try to pump, or if the pump handle is pushed all the way back out after a pump stroke, the check valve (N) at the base of the pump is defective and should be replaced. (A special H-525 wrench is required to replace check valve.)
6. If you pump, and get little or no pressure in the tank, the pump U-cap (O) needs to be replaced.
7. If the burner lights properly, but goes out after a short time, you did not pump enough, or your filler cap leaks. Replace rubber gasket or relief valve assembly (M).
8. If no alcohol comes thru the burner when you attempt to prime, you have no pressure in the tank, or a filter clogged by dirty alcohol.

