

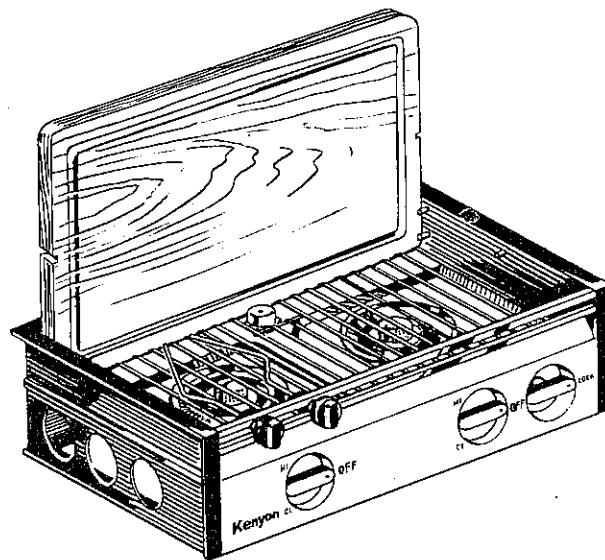
# Kenyon Marine

AN OUTDOOR SPORTS COMPANY  
GUILFORD, CONNECTICUT 06437

## MODEL 707 ALCOHOL STOVE

### OPERATING AND INSTALLATION INSTRUCTIONS

#### TWO-BURNER RECESSED ALCOHOL STOVE



#### INTRODUCTION

Kenyon Marine Homestrand stoves have been engineered exclusively for marine use. The design considerations and the materials used were dictated by the requirement for a reliable, long life and low maintenance stove, operating in a salt atmosphere.

Model 707 stoves may also be fitted with the B700 Gimbal Kit at any time for sailboat installations: refer to the supplement with this kit for gimbal operating instructions.

## FUEL

95% denatured ethyl alcohol or 91% isopropyl alcohol containing less than .003% by weight non-volatile material.

**CAUTION:** Do not use wood alcohol or rubbing alcohol because they contain large amounts of tar and oil.

## OPERATION INSTRUCTIONS

**To Fill:** Unscrew filler cap. Fill tank with stove fuel 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 is located at front of stove. Turn pump knob  $\frac{1}{4}$  turn (counter clockwise) from lock position. Pump 5 or more times to pressurize fuel tank. Push pump knob in and turn to lock position.

**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. Priming cup is small indentation in bottom of burner cup. Fill priming cup  $\frac{3}{4}$  full (about 2 tbsp.). Shut off burner (clockwise) and ignite priming alcohol. When this alcohol is fully consumed, turn control wheel toward open position and light burner.

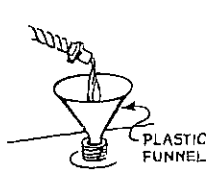
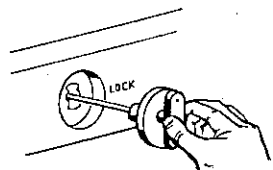
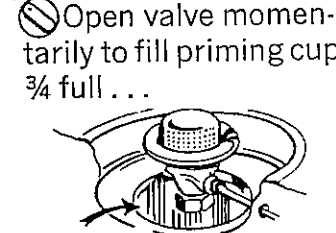
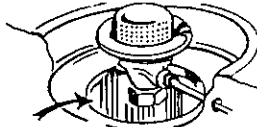
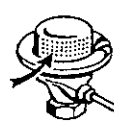
**DO NOT PUT COOKING UTENSILS ON STOVE UNTIL BURNERS ARE FUNCTIONING PROPERLY.**

**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".

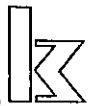
**To Shut off Burner:** Turn control knob to extreme right (clockwise). Release pressure in tank by loosening filler cap.

**To Clean Burner Nozzle:** Turn control knob to extreme left position (counter clockwise). 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**

<b>HOW TO LIGHT YOUR KENYON ALCOHOL STOVE</b>			
<b>1 FILL TANK</b>  Fill $\frac{3}{4}$ full with alcohol.	<b>2 PUMP</b>  Pump 5-10 times to pressurize tank.	<b>3 PREHEAT BURNER</b>  Open valve momentarily to fill priming cup $\frac{3}{4}$ full ...  then close valve and light alcohol.	<b>4 LIGHT BURNER</b>  When priming alcohol is completely consumed open valve and light vaporized alcohol.

**IN CASE OF FIRE  
USE WATER TO PUT OUT ALCOHOL FIRES  
Smother grease fires or use Baking Soda or a Class B Fire Extinguisher**



## INSTALLATION INSTRUCTIONS MODEL 707

**Note:** Installation should comply with applicable standards of the ABYC and/or the "Fire Protection Standards for Motor Craft, NFPA #302." Be sure to provide adequate ventilation, permanent and secure fastening of the stove and protection for all surrounding woodwork.

**Cutout:** A cutout with dimensions shown below is required.

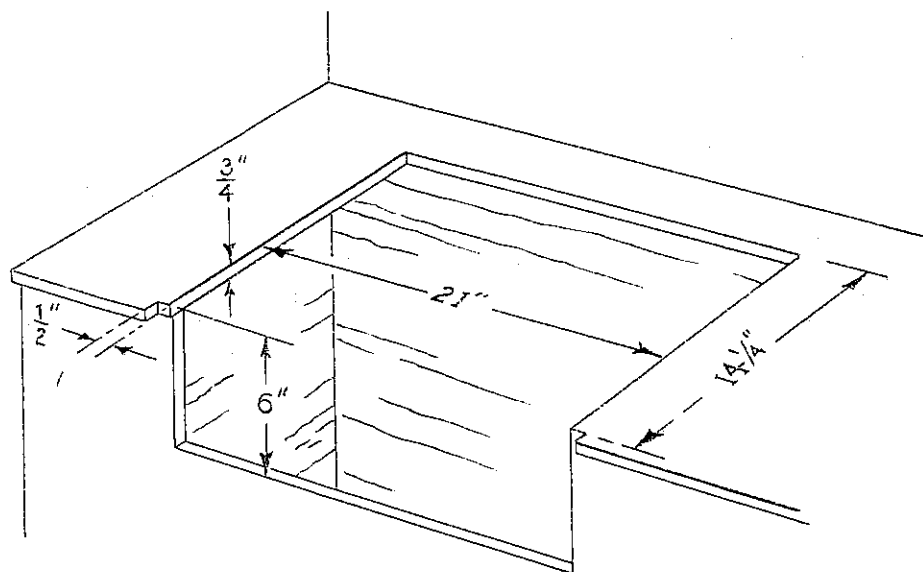
**Insulation:** Tack insulation to edge of counter in cutout. Both front and top sides, and back must be lined. Insulation is not required on the bottom of the front panel. A 5½ ft. length of insulation is supplied with the stove. Start at a lower front corner and work around the cutout. Do not cut insulation at corners, simply make a fold in the tape. Secure the middle of the tape to the upper portion of the counter and then fold the tape over to form a double thickness.

**Stove Installation:** Set top lip of stove on

counter top cutout and with front slightly elevated, slide stove back into place. Check position of stove to be sure front trim strips are tight against front of cabinet. There are three mounting holes in the stove frame; one on each side and one in the rear. Drill three 3/32 (.093) holes in edge of counter top using mounting holes as pilots. Secure stove with three #6 x ¾ oval head screws.

**Clearance:** The stove extends 6" below upper surface of counter. It is essential that the part of stove that is below counter be free of any objects that may come in contact with piping or bottom of stove since these parts are hot when stove is in operation.

Unless the construction of cabinet is such that no objects such as rags, papers or other combustible materials can come in contact with bottom of stove, a protective wire mesh basket or perforated metal enclosure must be installed. Wire mesh having adequate rigidity should be used to allow circulation of air. Solid metal should not be used.



## 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 combustibles 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.

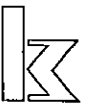
(5) Gravity tanks shall be substantially secured and should be remote from stoves. In any event, they shall be so located or shielded that under continuous operation at maximum output, the temperature of contained fuel will not be substantially raised by heat from burners.

(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.



## THEORY OF OPERATION

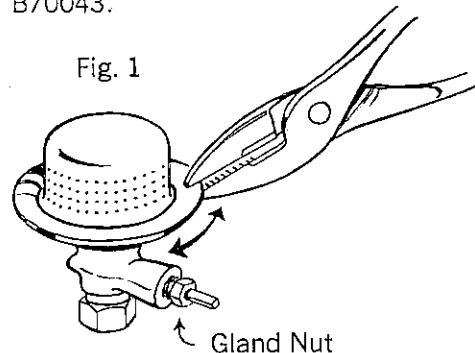
Model 700 burners use alcohol vapor for fuel. This gaseous fuel is produced by boiling liquid alcohol in the base of the burner by diverting some of the heat from the flame through the burner body.

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

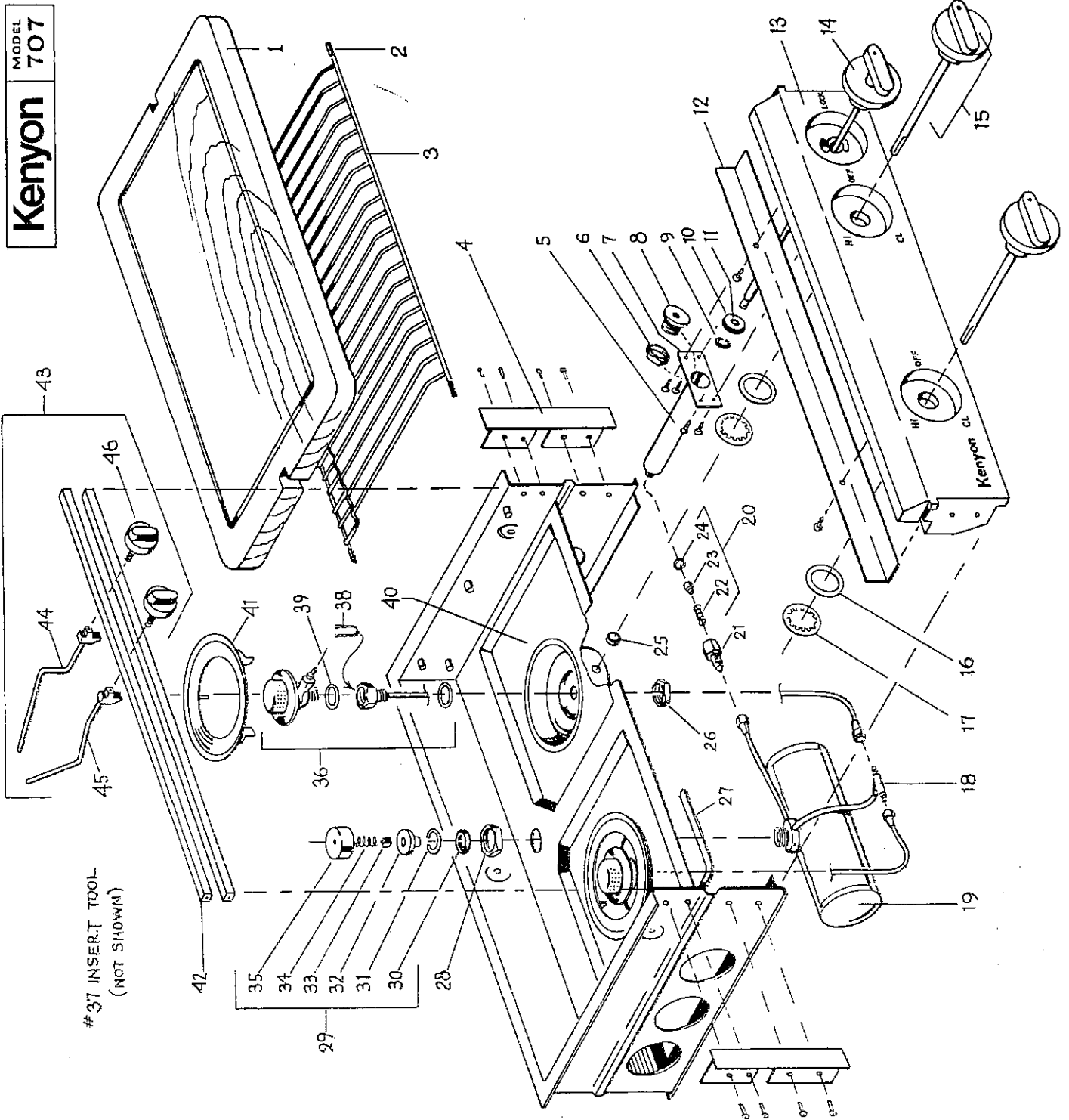
high flame around the burner before it boils away. These conditions, usually termed "flare-up" are a natural consequence of the priming process and are usually not serious. A little practice will show the correct amount of alcohol necessary to produce the required temperature. Too much alcohol will produce "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.

### Helpful Hints for Operation and Maintenance of Your Model 707 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% iso-propyl 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 at the base of the pump (20) is defective and should be replaced. Order Part No. B70030.
6. If you pump, and get little or no pressure in the tank, the pump U-cup needs to be replaced. Order Part No. B-93012.
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 (30) or relief valve ass'y. (33 & 34). Order Part No. B70035.
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. The filter in your new Kenyon burner is very large and will operate many hours even with contaminated alcohol. This burner is designed to facilitate replacement of the filter in the field. Order Part No. B70043.



## PARTS LIST FOR KENYON ALCOHOL STOVE



#37 INSERT TOOL  
(NOT SHOWN)

PARTS LIST FOR KENYON ALCOHOL STOVE

Item No.	Description	Part No.	Quantity	Item No.	Description	Part No.	Quantity
1	Cutting Board	B-70015	1	27	Gasket Edging	077-501	Approx. 6 Feet
2	Rubber BUMPER	B-70020	4	28	Tank Fitting Nut	041-005	1
3	Top Grate	B-70025	1	29	Fill Cap Assy.	B-70035	1 (1)
4	End Cap	042-006	2	30	"O" Ring	043-005	1
5	Pump Barrel Assy.	247-021	1	31	Grip Ring	063-002	1
6	Nut	041-005	1	32	Relief Valve Housing	041-001	1 (1)
7	Bracket	042-007	1	33	Relief Valve	141-004	1 (1)
8	Pump Shaft Guide	041-009	1	34	Relief Valve Spr.	141-003	1 (1)
9	"E" Ring	063-001	1	35	Fill Cap	041-002	1
10	Gland	B-93012	1	36	Burner Assy.	B-70040	2
11	<u>Piston</u>	041-018	1	37	Inserting Tool	041-029	1 (3)
12	Heat Shield	042-013	1	38	Filter	041-028	1 (3)
13	Front Panel	042-025-10	1	39	Seal Ring	B-93006	2 (3)
14	Pump Shaft Assy.	247-022	1	40	Top Pan Assy.	247-030	1
15	Control Assy. & Knob Handle	247-010	2	41	Air Baffle Assy.	B-70045	2
16	Washer	041-025	2	42	Pot Holder Guide Bar	041-022	2
17	Push On Grip Ring	043-006	2	43	Pot Holder Set	B-70010	1
18	Tee Fitting	063-004	2	44	Pot Holder Assy. L.H.	247-081	1
19	Tank Assy.	041-012	1	45	Pot Holder Assy. R.H.	247-082	1
20	Check Valve Kit	247-060	1	46	Pot Holder Knob	041-026	2
				Consist of			
		141-002	1	(1) Included in Fill Cap Maintenance Kit B70037			
		141-005	1	(2) Included in Check Valve Maintenance Kit B70030			
		043-004	1	(3) Included in Filter Replacement Kit B70043			
		041-020	1				
		043-001	2				
		141-015	2				

(2)  
(2)  
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Consist of  
22 — Check Valve Spr.  
23 — Check Valve  
24 — "O" Ring

B92029 + 2

