

TB 10-400-2

WAR DEPARTMENT TECHNICAL BULLETIN

OUTFIT, COOKING, SMALL DETACHMENT

Ref.: TM 10-400, Stoves, Ovens, Ranges,
and Cooking Outfits.

War Department, Washington 25, D. C.

2 September 1944.

Operation and Maintenance.

1. DESCRIPTION.—*a.* The outfit, cooking, small detachment, can serve isolated units of from fifteen to forty men, depending upon the type of rations served. It is compact and light, and can easily be carried by motor transport or be backpacked. Each of its two sections forms one packboard load, as described in paragraph 3. The unit is primarily for use outdoors. However, if used indoors, *the stack must lead outdoors* to avoid danger of carbon monoxide and lead poisoning.

b. The lower stove section is insulated on all sides and on the bottom. (When using the stove on a wooden floor, however, place it on stones, if possible, or a bed of sand or dirt.) The top half consists of a windshield, with detachable cover which can be locked on. One side of the windshield may be folded down for easier access when frying, and the stove may be assembled with the opening side on either the burner or stack side.

c. Making full use of the windshield will increase the efficiency of the stove, particularly in cold or windy weather. Placing the cover over the windshield will further reduce heat loss, and will speed up cooking. When doing so, be sure to raise pot handles before placing pots on the stove, so that the cover will sit loosely on top of them.

d. The burner has been selected for its simplicity of construction, operation, and maintenance. It will burn leaded or unleaded gasoline, kerosene, light diesel oil, and, in emergencies, crankcase drippings diluted with gasoline. It uses about one third of a gallon of fuel an hour and, with either gasoline or kerosene, should burn *completely smoke-free*. The gasoline hose is a simple slip-on type, similar to old-fashioned gas hoses.

2. OPERATING INSTRUCTIONS.—*a.* Fill 5-gallon gasoline fuel can with gasoline, kerosene or light diesel oil.

b. Screw special fuel feed adapter into can, leaving center clamp loose and holding it to prevent rotation while screwing in adapter.



Figure 1

Adapter washer and can lip must be dry before the adapter is screwed into the can to prevent the washer from squeezing out of place. When adapter is tight, lock center clamp down. (Note: Adapter is constructed with air vent tube. When full can of fuel is inverted for use, this tube will drain out, causing some spillage.)

c. Assemble burner with nipple and flame shield to control valve and screw the brass slip-on fittings permanently onto the gas can adapter and the control valve.



Figure 2

d. Close the control valve and slip on the hose between the valve fittings and the adapter fitting. Be certain that hose is securely fastened. It may be desirable to fasten the hose with wire if clamp is to be permanent.

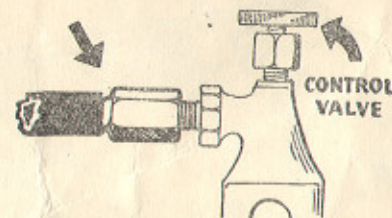


Figure 3

e. Place fuel can on narrow side, opening downward, with rear end slightly elevated to assure complete drainage. Can should be about 18" to 24" above level of burner.

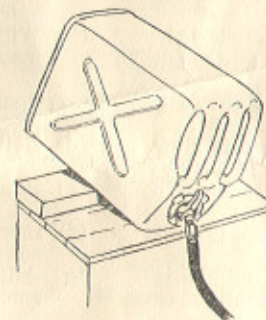


Figure 4

f. Assemble and erect smoke stack.



Figure 5

g. Place pots or frypans on stove, with handles up, being sure they are well seated so as to cover all openings. All pots must be well seated to avoid air leaks which prevent burner from functioning properly. Straighten pot seats occasionally to assure airtightness.

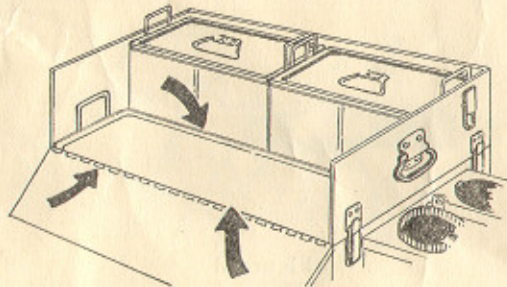


Figure 6

h. To light burner:

- | | |
|---|---|
| (1) WHEN BURNER IS COLD | (2) WHEN BURNER IS HOT |
| (a) Place burner (a) in burner opening. | (a) Remove burner (a) from hole. |
| (b) Open valve (b) slightly until fuel appears around burner. | (b) Wipe up any gasoline that may have dripped. |
| (c) Shut off valve and light fuel. | (c) Open drip valve (b) very slightly. |
| (d) Open valve to obtain slow drip. | (d) Relight burner. |
| (e) Allow burner two to five minutes to warm up. | (e) Replace burner in hole. |
| (f) Increase flow to an almost solid stream. | (f) Increase flow to an almost solid stream. |
| (g) Adjust flow to eliminate smoke. (With gasoline or kerosene, smoke means wasted fuel.) | (g) Adjust flow to eliminate smoke. (With gasoline or kerosene, smoke means wasted fuel.) |

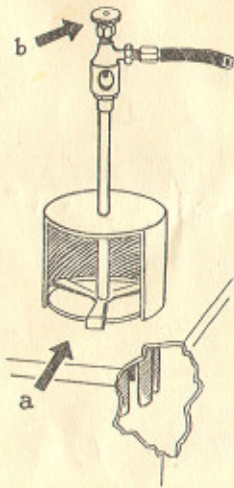


Figure 7

i. When shifting pots, lift baffle between burner and stack, and reduce flow of fuel to very slow drip.

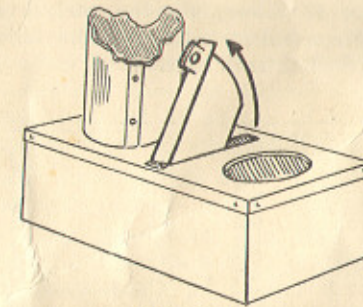


Figure 8

j. It may be found desirable to have piece of sheet metal under the pots on the burner side of the stove to reduce effect of heat and to increase uniformity of heating.

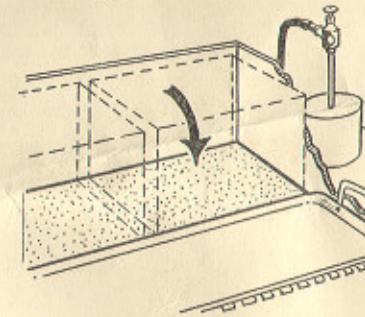


Figure 9

k. To conserve heat and speed cooking, keep windshield cover over pots.

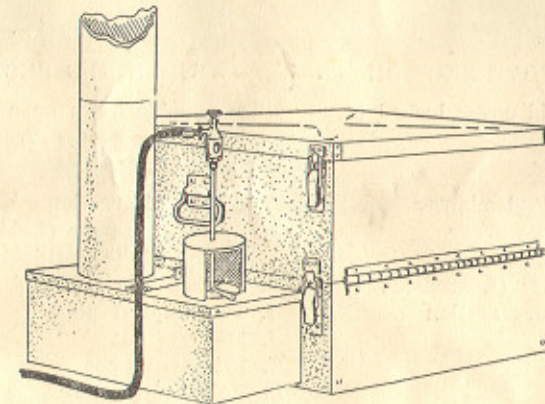


Figure 10

l. When lighting the stove, KEEP YOUR FACE AWAY.

3. BACK-PACKING.—The outfit, cooking, small detachment, has been carefully designed so that, when disassembled, it can be carried in *two* packboard loads. Figure 11 shows how the various components can be best arranged, and, for convenient reference, the following list is given of the articles to be packed in each section:

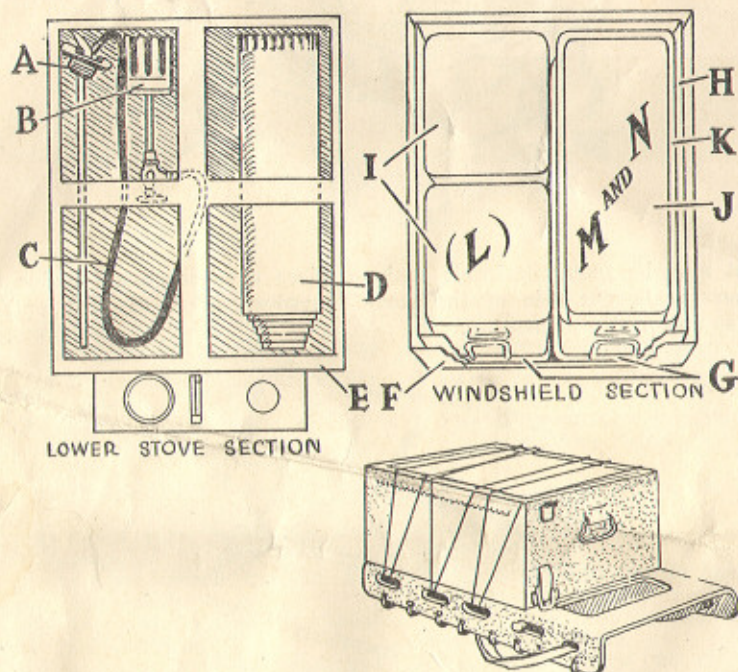


Figure 11

LOWER STOVE SECTION

(With windshield cover locked over it.)

- A. Gravity feed adapter
- B. Downdraft burner
- C. Gasoline hose
- D. Stove pipes (5 sections)
- E. Lower stove section

WINDSHIELD SECTION

(Place upside down on a packboard to keep pot covers from getting lost.)

- F. Windshield section
- G. Two frying pans (Laid on the bottom of the sterilization pan)
- H. Sterilization pan
- I. Two 6-quart pots
- J. 11-quart pot
- K. 13½-quart pot
- L. Maintenance Bag
- M. Cutlery bag
- N. Cutlery roll

(Letters refer to component parts as illustrated.)

4. MAINTENANCE INSTRUCTIONS.—*a.* The burner should be kept clean both inside and out to assure good combustion. When gasoline is used, it should only be necessary to clean inside once every 25 to 45 hours of operation. With other fuels more frequent cleaning is needed. Take burner completely apart and clean out all soot and dirt between the two parts. Soot and other material on prongs of burner should be scraped off. The inside of burner box and stack should also be kept clean.

b. If for any reason the fuel feed adapter leaks or gets out of order, siphon fuel from any type of can.

c. As the inside stove parts have been made of light-gauge chrome steel to minimize weight, there will be some bending and warping of metal. This should be corrected by careful re-straightening to insure good seating of the pots.

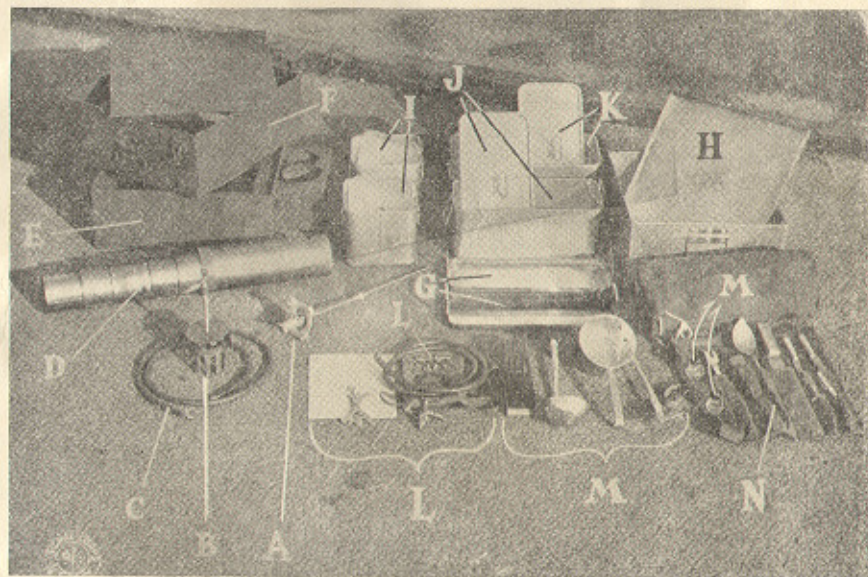


Figure 12

5. COMPONENT PARTS:

LETTER	COMPONENTS	QUANTITY
A.	Adapter, gravity feed, 5-gallon gasoline can	1
B.	Burner, downdraft (With valve, drip, nipple and flame shield)	1
C.	Hose, gasoline, slip-on type	1
D.	Pipe, stove, tapered, nested (5 sections)	1
E.	Lower stove section	1
F.	Windshield section	1
G.	Pan, frying	2
H.	Pan, sterilizing	1
I.	Pots, cooking with covers 6-quart	2
J.	Pot, cooking, with cover, 11-quart	1

LETTER	COMPONENTS	QUANTITY
K.	<i>Pot</i> , cooking, with cover, 13½-quart	1
L.	<i>Bag</i> , canvas, (Containing tools and maintenance parts for stove and cooking-outfits, operating maintenance instructions)	1
M.	<i>Bag</i> , cutlery, canvas, containing:	
	<i>Brush</i> , scrubbing, floor, hand	1
	<i>Dipper</i> , 1-quart	1
	<i>Ladle</i>	1
	<i>Shaker</i> , pepper, cook's	1
	<i>Shaker</i> , salt, cook's	1
	<i>Turner</i> , cake	1
N.	<i>Roll</i> , cutlery, canvas, containing:	
	<i>Fork</i> , cook, flesh	1
	<i>Knife</i> , butcher	1
	<i>Knife</i> , paring	2
	<i>Opener</i> , can, hand	2
	<i>Spoon</i> , basting	1
	<i>Stone</i> , sharpening, pocket	1

(A. G. 300.5 (25 August 1944.)

By Order of the Secretary of War:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:

J. A. ULIO,
Major General,
The Adjutant General.

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