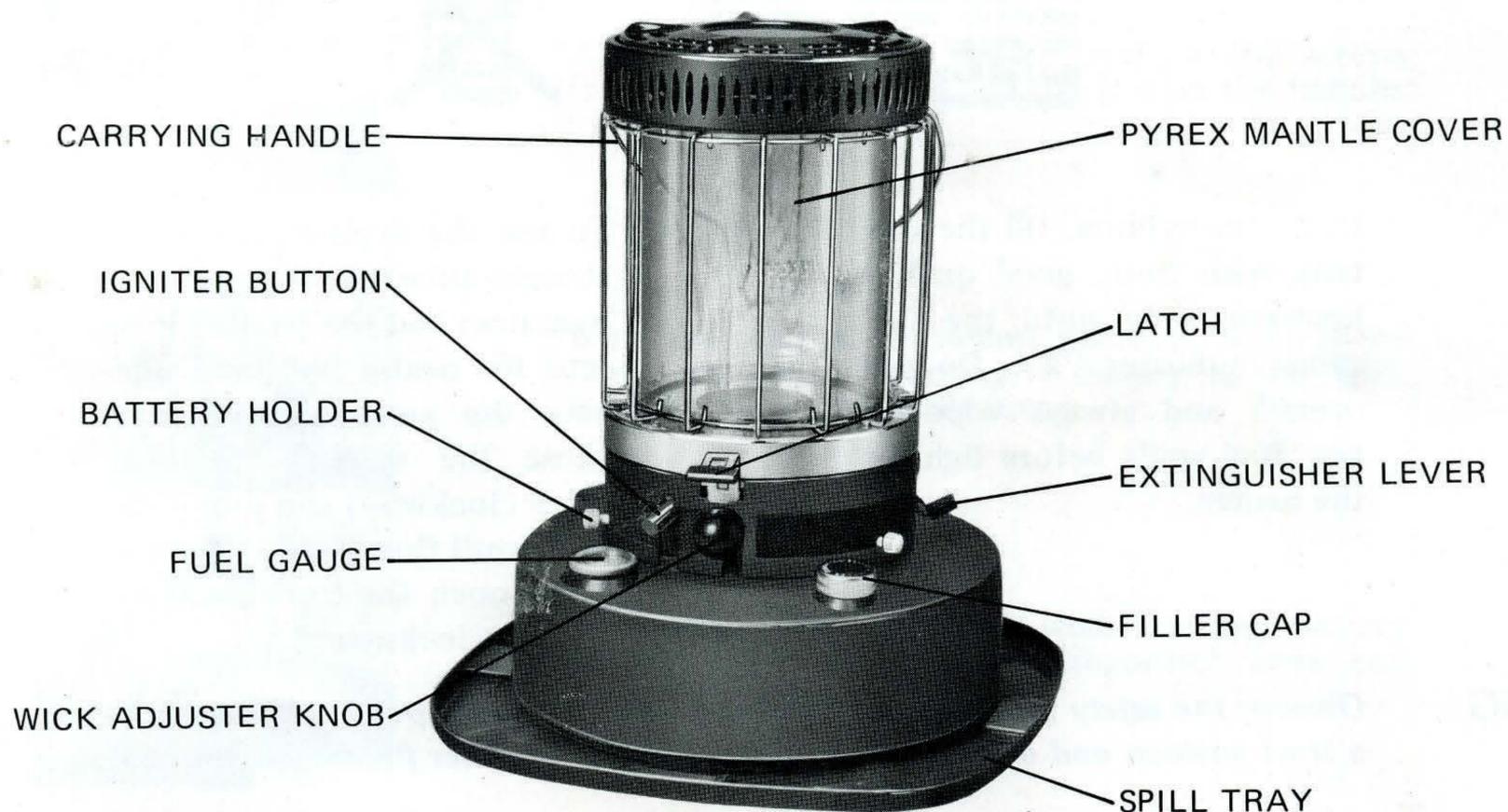




PORTABLE KEROSENE HEATERS OPERATION INSTRUCTIONS



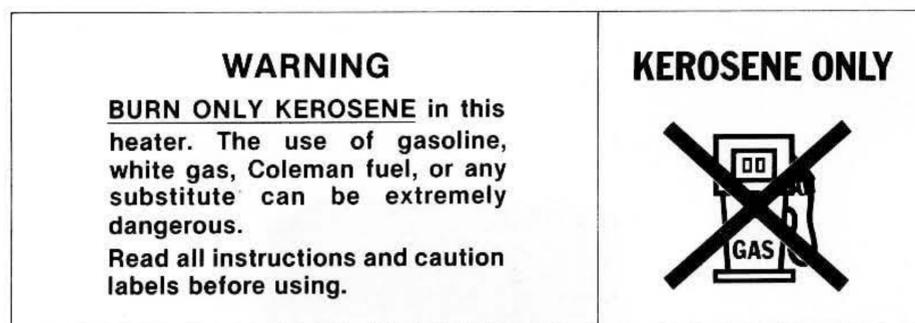
The Kero-Sun "Moonlighter" is equipped with electric lighting and automatic extinguishing features. Two D-size 1.5 volt batteries provide power for the electric lighter. The automatic extinguisher utilizes a shutter which covers the wick in the event that the heater is accidentally tipped.

The Moonlighter has an output of 9000 BTU per hour and heats continuously for 18 hours without refueling. The fuel tank capacity is 1 gallon.

INSPECTION AND ASSEMBLY

1. Remove the top protective packing and use the carrying handle to lift the heater from the carton. Be careful not to discard the two D-size batteries, wick guide (looks like a plastic bottle cap with a hole) and the fuel syphon.
2. Check that the spill tray is securely fastened. The four clips on the tray should completely cover the mounting feet on the tank. The three thumb screws around the base of the mantle cover should be finger tight.
3. Lift the latch and tilt the mantle cover backwards about 45 degrees to the stop in its open position. Remove the piece of plastic bubble packing that is over the burner unit.
4. Rotate the wick adjuster knob back and forth. The wick should move easily and smoothly.
5. Close the mantle cover.
6. Open the battery holder by sliding the cover upwards. Insert the two D-size batteries, observing polarity markings.

FUELING



Using the syphon, fill the fuel tank with fresh, good quality kerosene only until the fuel gauge indicates "F". *Do not overfill* and always wipe up any fuel spills before lighting the heater.

To use the syphon, insert the straight tube into the kerosene container and the flexible hose into the heater fuel tank. Elevate the kerosene container. Close the syphon top vent (turn clockwise) and pump the bulb until flow begins. To stop flow, open the top vent (turn counterclockwise).

LIGHTING

Observe the safety precautions on the last page. Always operate the heater in a level position and away from clothing, curtains or other flammable articles.

After fueling or replacing the wick, wait 15 minutes for the wick to become well saturated. Then light the heater as follows:

1. Turn the wick adjuster knob clockwise until it stops. This raises the wick to its highest position. Do not force it.
3. Gently push the red igniter button and watch the wick until flame appears; then release.

2. Press down the extinguisher lever.

The wick will first ignite on the side facing the red button. In about 40 seconds, flame will spread completely around the wick.

FLAME ADJUSTMENT

When the mantle becomes well heated (five to ten minutes) the flame may rise too high and produce black smoke. If this happens, lower the wick until the flame burns in an even ring with no smoke. The best flame is obtained when the top of the wick is about 1/4 inch (6-7 mm) above the wick adjuster.

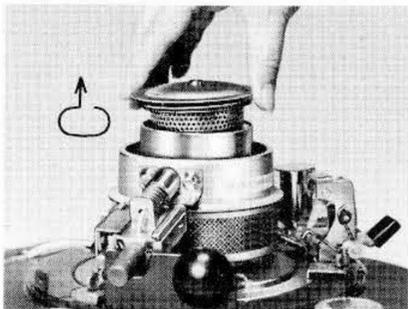
EXTINGUISHING

Turn the wick adjuster knob counterclockwise (wick all the way down) to extinguish the flame. Always inspect the burner through the window to be sure that the flame is out.

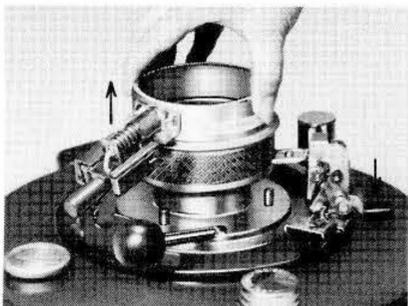
REPLACING THE WICK



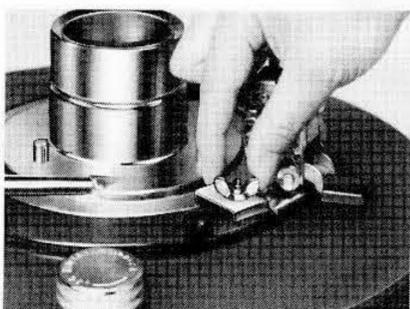
After the heater has cooled, remove the screws from the mantle cover and lift it with the handle.



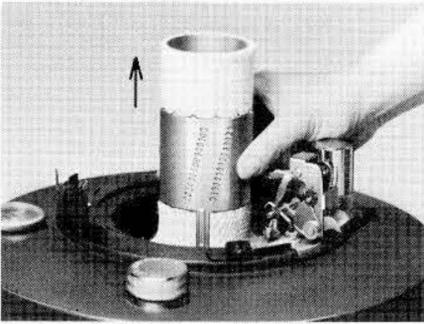
With the wick at its lowest position, remove the flame spreader by turning it slightly to the right. Remove the extinguisher ring.



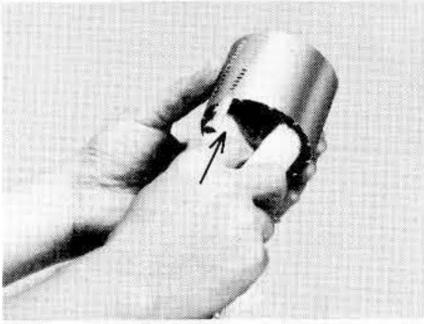
Disconnect the electrical leads at the battery holder. Press down the extinguisher lever and remove the burner cover.



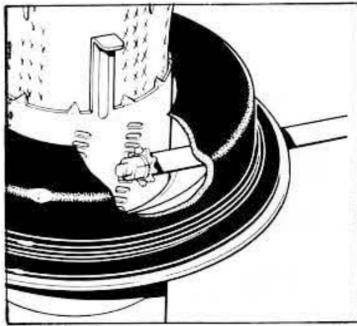
Unfasten the three wing nuts from the tank and then rotate the retainers to allow removal of the wick adjuster assembly. Lift out the wick adjuster assembly.



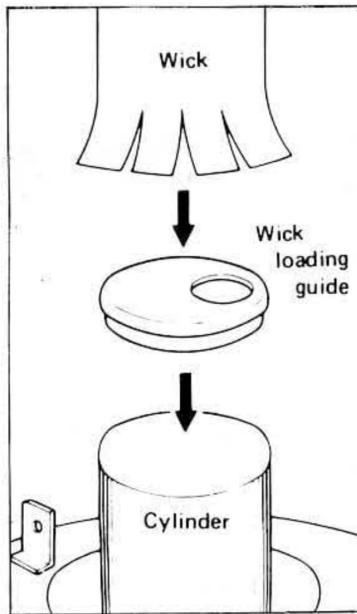
Remove the wick holder and take out the wick.



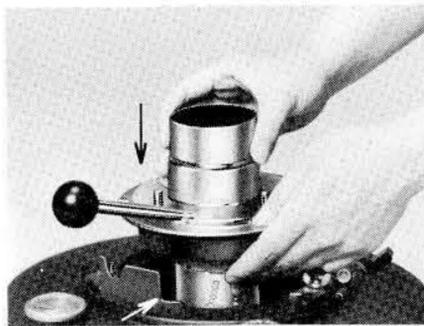
Fold the replacement wick and insert it into the wick holder. Position the wick so that the red guide line of the wick is even with the top of the wick holder. Then open the wick and press it uniformly against the inner wall of the holder.



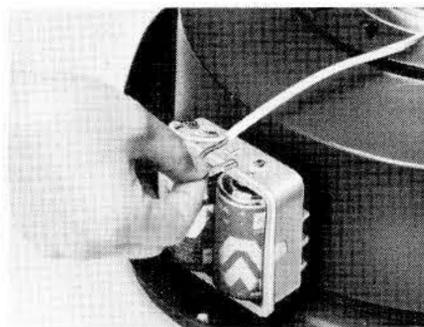
Insert the wick holder into the wick adjuster so that the gear mechanism is engaged.



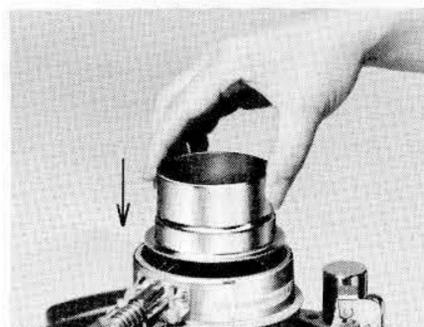
Place the wick guide onto the cylinder of the tank. Lower the wick adjuster over the cylinder.



Align the wick adjuster spindle with the arrow as shown in the photograph and carefully slide the wick adjuster unit into position. Make sure that all the wick segments go fully into the tank and remove the wick guide. Fasten the wick adjuster unit with the retainers and wing-nuts. Turn the wick adjuster knob in both directions to check that the wick moves smoothly.



Reinstall the burner cover and connect the electrical leads (RED wire is +).



Replace the extinguisher ring with its brim positioned down. Install the flame spreader and refasten the mantle cover securely with the screws.

GENERAL HEATER MAINTENANCE:

Special attention must be given to keep all air inlet screens free of dust and debris, otherwise the heater may smoke. Once a week, inspect the dust-proof ring, mantle supporter, and burner cover (refer to Operating Instructions, pages 5 and 6) to insure that air holes are unobstructed. Remove dust or animal hair with a soft bristle brush as necessary.

SELECTION AND STORAGE OF KEROSENE:

- 1) Good quality kerosene means Illuminating Grade White Water Kerosene. If kerosene looks cloudy, yellow, or orange, do not use it. Demand clear kerosene.
- 2) Always store your fuel in a clean container marked "kerosene". Avoid storage in direct sunlight as frequent temperature changes will cause water to condense in the tank. Check for water in kerosene by syphoning fuel into a clear glass jar. If water is present it will settle in a layer on the bottom of the jar or cause the fuel to appear cloudy. Water in your fuel tank will cause the flame to flicker, get smaller and finally go out.

CLEANING THE PYREX MANTLE:

The Pyrex mantle should be cleaned once every few weeks if a carbon build-up takes place. Remove the three thumbscrews securing the mantle cover assembly and take it off. Lift off the top plate (do not attempt to remove the brown metal collar which is a permanent holder for the Pyrex) and, using a soft cloth and soapy water, wipe the inside and the outside of the mantle. Because of the special coating on the surface of the glass, never use any cleanser that is abrasive. (It is also important that the entire mantle cover assembly be removed for cleaning because otherwise there is danger that water might leak down into the wick.) After you have cleaned the Pyrex, wipe the mantle cover with a clean soft cloth to remove any moisture and then replace the cover.

The prevention of carbon build-up can be accomplished if the mantle cover is closed when you light the Moonlighter.

CLEANING THE BURNER AND WICK:

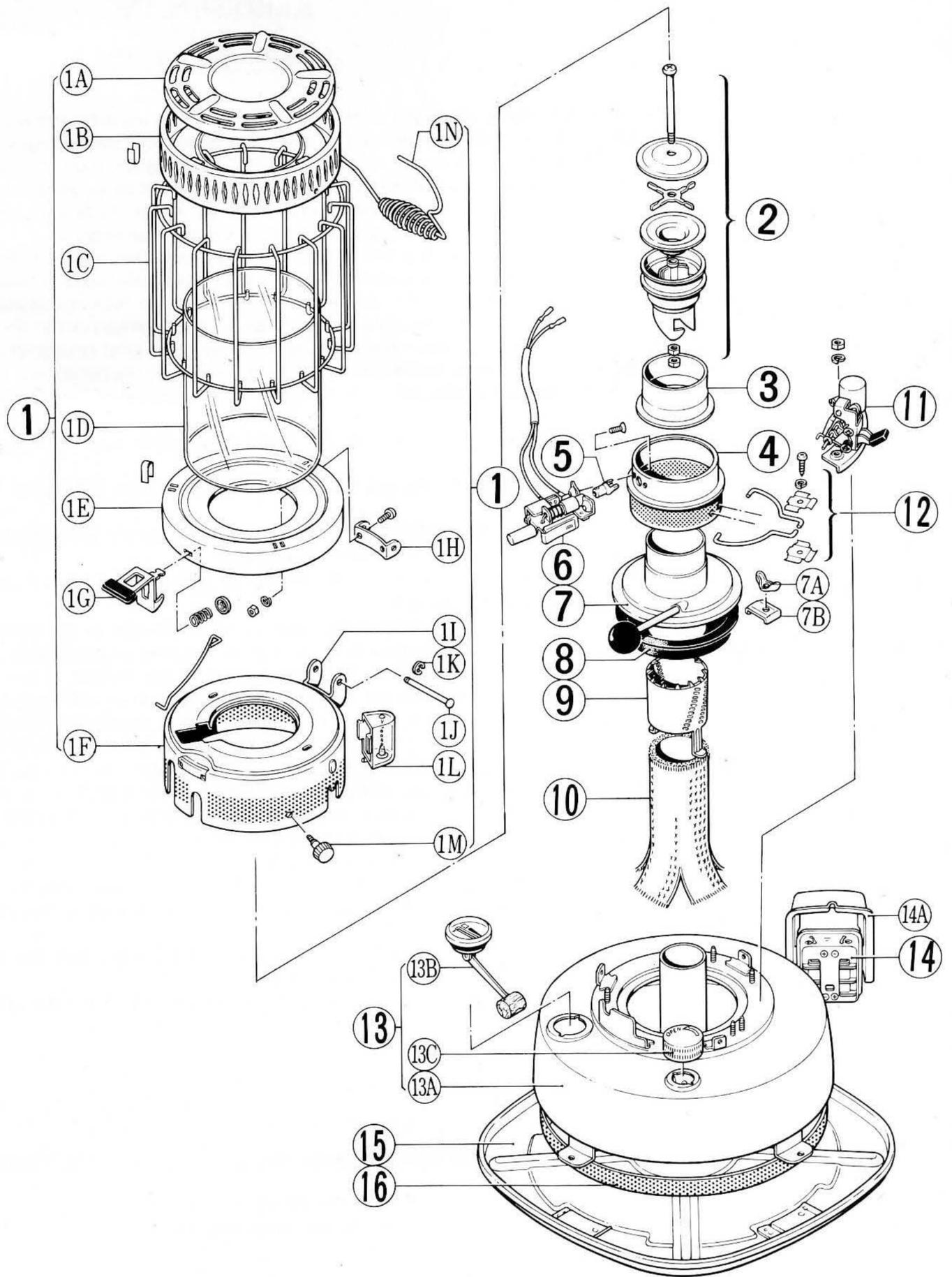
Note: Do not allow the heater to run out of fuel as this will damage the cotton wick.

- 1) Once every week, remove the flame spreader and burner cover. Brush the wick gently to remove accumulated carbon and vacuum away any soot or ash. A rough uneven wick edge indicates dry burning. Should there be any ragged edges on the top of the wick, trim carefully using scissors.
- 2) If the many small holes in the burner cover and flame spreader become clogged with dust or debris, the heater may smoke. Clean these using an old toothbrush or any similar soft brush.

SAFETY PRECAUTIONS

1. BURN ONLY KEROSENE in this heater. NEVER use gasoline, white gas, camp-stove or any other fuel. These fuels are extremely dangerous if used in kerosene heaters.
2. Store fuel far away from any heat source, in a can clearly marked KEROSENE.
3. Keep heater away from all burnable materials such as clothes, curtains, wood, etc.
4. Heater surfaces become hot. Keep children away.
5. Do not move, service, or refill heater while it is burning or hot. Extinguish flame first and let it cool.
6. Refuel heater wipe up any spills when it is cool. Use the Kero-Sun siphon to prevent any spillage.
7. Provide adequate ventilation. The heater needs oxygen just as you do. Crack a window to the outside one inch, or leave a door open to an adjacent room.
8. When turning heater off, make sure the flame is completely extinguished.
9. Keep outside of heater free of dust or of spilled kerosene. Follow maintenance instructions for optimum performance.
10. Keep heater level.
11. Avoid drafts.
12. Use only water-clear, fresh, pure kerosene. Yellow or colored kerosene will smoke, smell and not burn efficiently.

Key No.	Parts Name	Remarks
1	PYREX MANTLE COVER ASSEMBLY	
1A	Top plate	
1B	Mantle ring	
1C	Safety guard assembly	
1D	Pyrex mantle cover	
1E	Mantle supporter (Upper)	
1F	Mantle supporter (Under)	
1G	Latch	
1H	Hinge (Upper)	
1I	Hinge (Under)	
1J	Hinge pin	
1K	E ring	
1L	Leveler	
1M	Thumbscrew	3 pcs.
1N	Carrying handle	
2	FLAME SPREADER	
3	EXTINGUISHER RING	
4	BURNER COVER	
5	IGNITER COIL	
6	IGNITER UNIT	
7	WICK ADJUSTER	
7A	Wing nut	3 pcs.
7B	Retainer	3 pcs.
8	RUBBER PACKING	
9	WICK HOLDER	
10	COTTON WICK	
11	EXTINGUISHER UNIT	
12	EXTINGUISHER LEVER UNIT	
13	FUEL TANK ASSEMBLY	
13A	Fuel tank	
13B	Fuel Gauge	
13C	Fuel filler cap	
14	BATTERY HOLDER	
14A	Battery cover	
15	TRAY	
16	DUST-PROOF RING	



NOTE:

When ordering parts, use the heater model number in conjunction with the key number for the item. For example, the igniter coil is designated Moonlighter-5.

KERO-SUN, INC.

Limited Warranty

KERO-SUN, Inc. warrants each heater sold by it to be free from defects in material and workmanship, under normal use and service, for one year after the date of original retail purchase, subject to the terms and conditions stated below:

1. **WARRANTOR.** This Warranty is granted by KERO-SUN, Inc., Main Street, Kent, Connecticut 06757.
2. **PARTIES TO WHOM WARRANTY IS EXTENDED.** This Warranty shall be extended only to the original retail purchaser.
3. **PARTS COVERED.** All products and parts manufactured by or for KERO-SUN, Inc., except as provided for herein.
4. **PARTS NOT COVERED.** The following parts are not covered by this Warranty:

Normal wear and tear items, such as, but not limited to, wicks, batteries, igniter coils, and siphons.

5. **REMEDY.** If, within the applicable warranty period, any product or part included in this Warranty proves to be defective in material and/or workmanship, then KERO-SUN, Inc. shall, at its option, repair or replace the defective product or part.

6. **PROCEDURE FOR OBTAINING PERFORMANCE UNDER THIS WARRANTY.** In order to obtain performance of the obligations under this Warranty, the original retail purchaser must promptly [in no event later than thirty (30) days after discovery of the defect] notify any authorized KERO-SUN, Inc. service center in the United States or Canada of the defect and return the defective part or product to an authorized KERO-SUN service center. All transportation costs to and from the authorized KERO-SUN, Inc. service center will be at the expense of the original retail purchaser.

If the instrument or any part thereof is returned for any cause not covered by this Warranty, a charge will be made for testing, handling, packing and/or any repairs made.

KERO-SUN, Inc. accepts no responsibility for any damage that occurs to the product or part during transit to or from the original retail purchaser.

ANY CLAIM MADE UNDER THIS WARRANTY MUST BE ACCOMPANIED BY PROOF OF ORIGINAL PURCHASE DATE — SALES INVOICE OR CANCELLED CHECK IS SATISFACTORY EVIDENCE.

7. **SOLE REMEDY.** The remedy and liability for any breach of warranty, express or implied, set forth above is the sole and exclusive remedy and the limit of liability for any such breach.

8. **DESIGN CHANGES.** KERO-SUN, Inc. reserves the right to make changes in the design or material of the heater without incurring any obligations to incorporate such changes in any product previously manufactured or advertised.

9. **EXCLUSIONS AND IMPLIED WARRANTIES.** This Warranty does not extend to any defect due to the negligence of others, failure to operate or maintain the heater in accordance with the operating and maintenance instructions furnished with each new heater, unreasonable use, accidents, alterations, ordinary wear and tear, the use of unauthorized or non-standardized parts or accessories or the use of any fuel other than good quality kerosene. ALL IMPLIED WARRANTIES, IF ANY, ARISING UNDER STATE LAW IN CONNECTION WITH THE SALE BY KERO-SUN, Inc. OF ANY NEW INSTRUMENT ARE LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THIS WARRANTY. KERO-SUN, Inc. SHALL NOT BE RESPONSIBLE FOR LOSS OF USE OF ANY HEATER, LOSS OF TIME, INCONVENIENCE OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES WITH RESPECT TO BUSINESS OR PROPERTY, WHETHER AS A RESULT OF BREACH OF WARRANTY, NEGLIGENCE OR OTHERWISE.

NOTE: SOME STATES DO NOT ALLOW (a) LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR (b) THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

10. **NO ORAL VARIATION OF TERMS.** No person has the authority to orally vary the terms, conditions or exclusions of this Warranty or to make any express warranties other than those contained herein.

11. **LEGAL RIGHTS.** This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

If you need assistance with any service problem, send a brief letter stating the nature of the problem, name and address of your KERO-SUN dealer, and your own address and telephone number to:

*CUSTOMER SERVICE
KERO-SUN, Inc.
Kent, CT 06757*



PORTABLE HEATERS

Puts the WARM where you want it!

KERO-SUN, INC., KENT, CONN. 06757

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