

FUTURA

KEROSENE HEATER

AUTOMATIC LIGHTING

AUTOMATIC EXTINGUISHER

FH-11

The Duke



With Dual Tank for Extra Safety

OPERATING INSTRUCTIONS



Thank you for purchasing the FUTURA "DUKE" Heater.

This booklet contains information for the correct use, care and maintenance of your heater. Please read thoroughly and save for future reference.

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CAUTION – DO'S AND DON'TS

DO NOT USE GASOLINE, WHITE GAS, PAINT THINNER OR ANY OTHER HIGHLY VOLATILE LIQUID.

1. Use kerosene for fuel.
2. NEVER use kerosene mixed with water or dirty oil.
3. Place heater on level, stable surface.
4. DO NOT place heater near inflammable objects such as drapes or curtains.
5. Avoid direct traffic areas, doorways and drafts.
6. Always extinguish heater before refueling.
7. Always wipe off any excess kerosene if spilled.
8. Lighting should be done in sequence as recommended in this book. (pages 5 & 6).
9. Always provide ventilation while this heater is in use (minimum of 9 square inches to outside).
10. DO NOT use near inflammable gasses.
11. DO NOT hang clothes or objects above heater to dry.
12. DO NOT put inflammable objects on heater.
13. DO NOT move heater while it is in operation.
14. DO NOT leave heater on overnight without adequate ventilation to the outside.
15. Routine inspection and maintenance is necessary (page 7).
16. If you can not correct maintenance problem, contact your dealer.

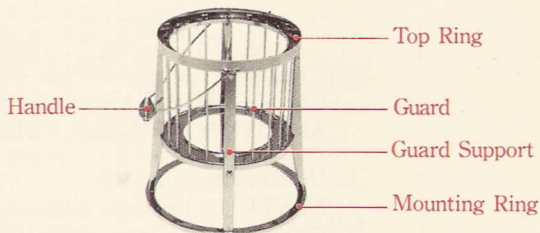


Cooker Top



Top Plate

Guard Ring



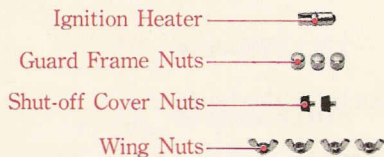
Top Ring

Guard

Guard Support

Mounting Ring

Handle



Ignition Heater

Guard Frame Nuts

Shut-off Cover Nuts

Wing Nuts

Glass Chimney Collar
Chimney Frame Knob

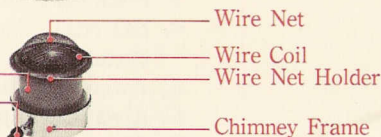
Shut-off Cover



Igniter Button

Set Lever

Knob



Wire Net

Wire Coil

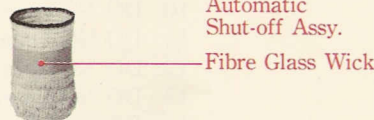
Wire Net Holder

Chimney Frame



Heatshield Plate

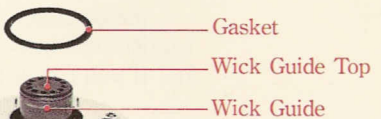
Wick Holder and
Automatic
Shut-off Assy.



Fibre Glass Wick



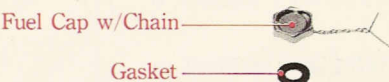
Automatic Lighting Assy.



Gasket

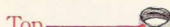
Wick Guide Top

Wick Guide



Fuel Cap w/Chain

Gasket



Top



Glass



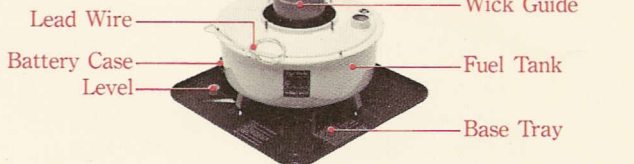
Fuel Gauge Assy.

Fuel Gauge

Attachment



Dry Cell



Lead Wire

Battery Case

Level

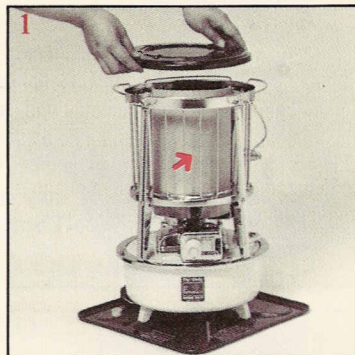
Fuel Tank

Base Tray

PREPARATION

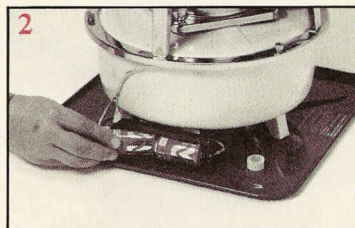
1. Unpacking:

- A. Unpack; take heater out of box and plastic wrap.
- B. Lift top plate and remove cardboard from around chimney. (Fig. 1)
- C. Save box and packing for future use.
- D. Save Instruction Book.



2. Installation of Dry Cell Batteries:

- A. Electrodes of dry cells are covered with protective tapes in order to prevent the shorting of the cell (voltage drop). Remove the tapes before setting the battery into the battery holder.
- B. Insert the batteries into the battery holder (Fig. 2). Check position of the + - mark. Easy insertion will be obtained by inserting the battery into the spring side first.



HOW TO OPERATE – FUEL

1. Fuel:

- A. NEVER use gasoline.
- B. Clean kerosene must be used.
- C. If kerosene is not clean, or mixed with vegetable oil, animal fat, or machine oil, it can produce too much carbon on the wick and the following problems can result.
 - 1) Slow flame distribution at time of ignition.
 - 2) Fumes can result which would irritate the eyes.
 - 3) Chimney screen and coil can fail to radiate heat.
 - 4) Small flame, low heat.
 - 5) Hardening of Wick (carbon) making it difficult to adjust f/height.

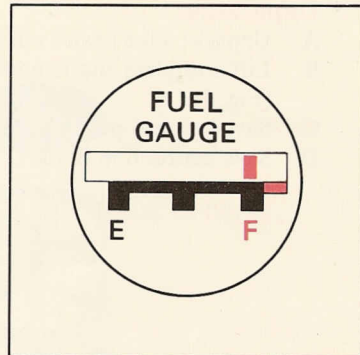
If any of the above occur, the dirty kerosene and the contaminated wick should be replaced.

- D. When buying kerosene, please use the following recommendations:
 - Buy a reliable brand.
 - When using your own container, rinse container out with clean kerosene 2 ~ 3 times before filling to remove any foreign matter.
 - Do not store kerosene in transparent or translucent plastic container for a long period of time; ultra-violet rays may change the quality of the kerosene and result in burning problems.

HOW TO OPERATE – FUEL

2. Refueling:

- Refueling must be done with heater shut off.
 - (a) remove fuel tank cap; use either a pump or funnel to fill tank; only fill until arrow on fuel gauge points to full mark. Do not overfill.
 - (b) Replace cap on fuel tank and wipe off any spilled fuel.
- Sometimes water may accumulate in bottom of kerosene can. Hold pump off bottom when refueling.



HOW TO OPERATE – PREPARATION FOR IGNITION

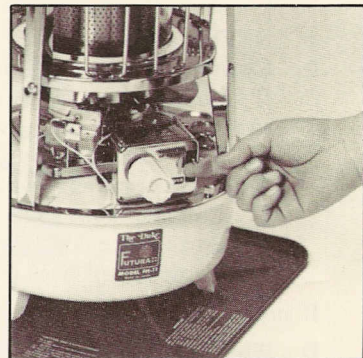
1. Leveling:

- Make sure heater is level by checking leveling device attached to heater.
- Self-extinguisher may not work if heater is not fairly level.

2. How to Set Self Extinguisher:

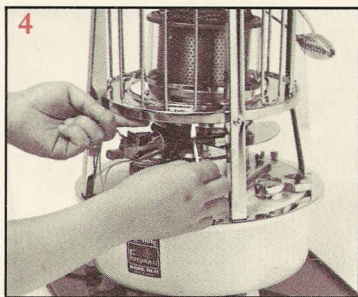
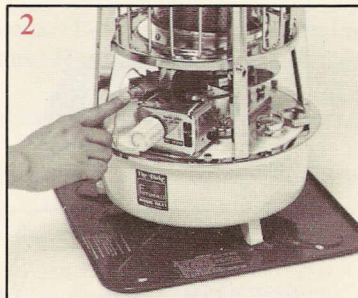
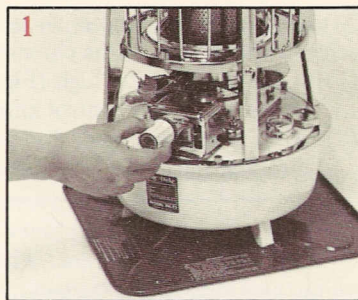
The heater will not work unless this device is set. This device is designed to extinguish the heater automatically by retracting the wick during a period of vibration or shock. . .

- It may be triggered when heater is bumped.
- It may be triggered if the surface which it is on is tilted or vibrated.
 - (a) To set Self-Extinguisher
 - Push lever upwards in direction of arrowhead.
 - (b) Cautions While Setting
 - Set lever gently.
 - (c) Resetting. Same as (a).



HOW TO OPERATE – IGNITION

- Do not carry the stove while lighted.
 - For first time using the stove, wait 15 or more minutes after fueling, to allow wick to become saturated fully before lighting. Ignition is possible after 5 minutes when refueling, but if wick is not fully saturated when lighting, heater will not burn properly and could cause odors.
- (1) This heater is equipped with an automatic extinguishing device. This must be set by raising set lever UP before trying to light heater.
 - (2) Turn wick adjustment knob in a direction of “UP” (clockwise) till it stops (Fig. 1). This fully raises the wick.
 - (3) Push ignition red button in and hold until wick is lit, about 2~5 seconds. Return the ignition red button gently after ignition of the wick. (Fig. 2). In case ignition is not obtained and white smoke goes up near ignition heater, ignition will be obtained by pushing the ignition button in again.
 - (4) Use chimney frame knob to swing the chimney frame for 2~3 times, to assure chimney is properly seated after ignition. (Fig. 3)
 - * Even a slight unseating of the chimney frame causes flame-up or smell.
 - (5) When re-ignition is performed immediately after extinguishing, crude fuel can cause an intense smell. Ignite after about the 5 minutes required for cooling the chimney frame.



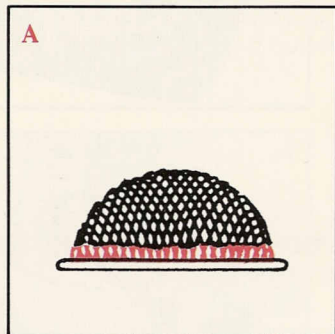
MATCH IGNITION

- Light the wick, open guard, lift up the chimney frame knob and ignite the wick with match. (Fig. 4) (In case of battery failure.)

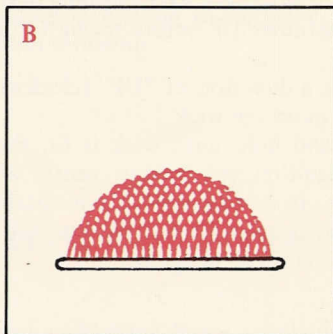
HOW TO OPERATE – FLAME CONTROL

After heater is lit, it takes about 5 minutes for the flame to heat the chimney. Adjust the flame so the screen mesh on top of the chimney is glowing red (Fig. B).

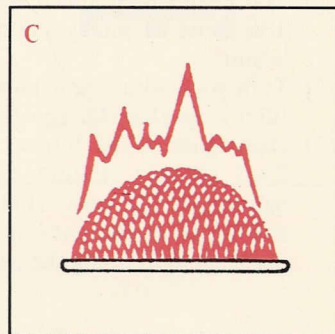
- (1) If the flame is too high (Fig. C) above the screen mesh, make sure chimney is seated properly and if it is, turn wick control knob counter-clockwise (left) until flame is below screen mesh.
- (2) After area is warmed, do not turn wick too low as it could cause carbon to form on wick, improper burning, and fumes or odor. Always set burner at correct height.



Wick too low



Correct
Screen and Chimney
Glow Red.



Wick too high – or
chimney not seated.

CAUTION

- Do not leave wick too high.
- Ventilate while heater is on.
(Allow 1 square inch for each 1000 BTU – 9 square inch ventilation should be provided.)

HOW TO OPERATE – EXTINGUISHING

Turn burner height control knob to “OFF”. Make sure heater is completely off.

- Always turn stove off before going out and at bedtime.
- Never abuse self-extinguisher by kicking heater or shaking it to extinguish flame. Constant abuse could result in damage to the extinguisher.

DAILY INSPECTION AND MAINTENANCE

Keep area around heater clear; clean heater often. Lack of maintenance could shorten life of heater and possibly cause an accident.

1. Inspect Fuel Tank.

- Check often for rust or leaks.

2. Care and Inspection of Wick.

It is possible for carbon to accumulate on wick and this can cause difficulty in wick height control and a low flame. When this happens, clean heater by following instructions below:

- Do cleaning outside when it is not windy or inside with good ventilation.
- (a) Leave heater burn after fuel gauge shows empty (0); do not refill tank.
- (b) When screen mesh starts to lose its red glow, turn wick up to highest point; continue burning until wick extinguishes itself.
- (c) After wick burns itself out, this will also burn off any accumulated carbon that has formed on the wick. Brush ash off wick, refuel heater, then wait 15 minutes for wick to become saturated; then heater is ready to be used again.
- This cleaning should be done about every other month, or as required by condition (purity) of fuel being used.
- Wicks which have accumulated too much carbon to remove (after 2~3 seasons) should be replaced.
- Always use the proper replacement wick; purchase FUTURA duke wicks from your FUTURA dealer.

(It is necessary to use clean kerosene to assure high performance of heater. When kerosene is contaminated, it could result in permanent damage to wick where control knob is difficult to operate and inefficient burning and heat radiation is evident.)

When contaminated kerosene is used, it is necessary to change wick and also discard all contaminated fuel.

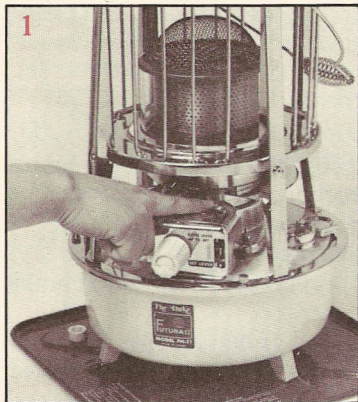
3. Chimney screen mesh should be kept free of carbon.

4. Screen Mesh and Coil

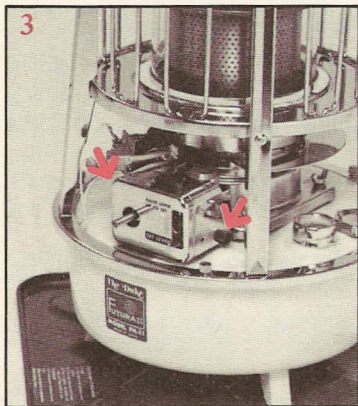
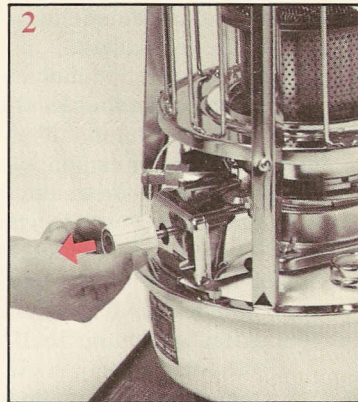
- (a) Screen Mesh — Brush off any accumulation of soot or carbon.
Check for correct shape (dome shape). If it is misshapen, reshape by hand.
- (b) Coil — Check for even loops; if loops are uneven, correct by hand; if coil is broken, replace.

CAUTION: Do not take apart self-extinguisher unit.

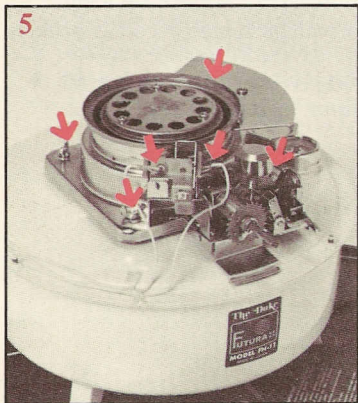
HOW TO CHANGE PARTS



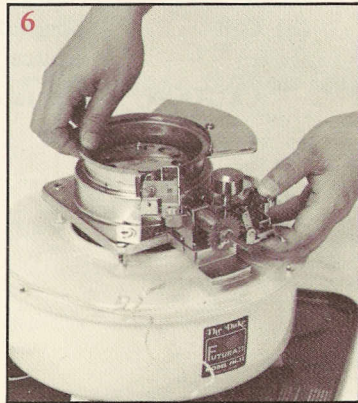
- Changing Wicks:**
- (1) Pull down pendulum of self-extinguisher.
 - (2) Extract the wick control knob.



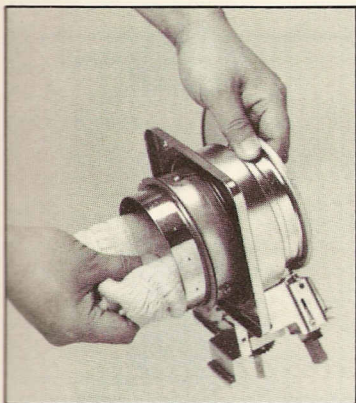
- (3) Remove 2 shut-off cover nuts and remove shut-off cover.
- (4) Remove 3 guard frame nuts from mounting ring and remove guard frame.



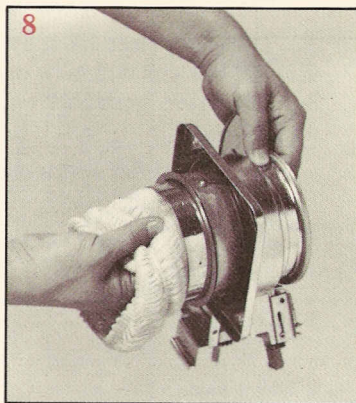
- (5) Remove 4 wing nuts of wick holder and remove lead wire from automatic lighting assembly.
- (6) Lift wick holder and automatic shut-off assembly.



HOW TO CHANGE PARTS



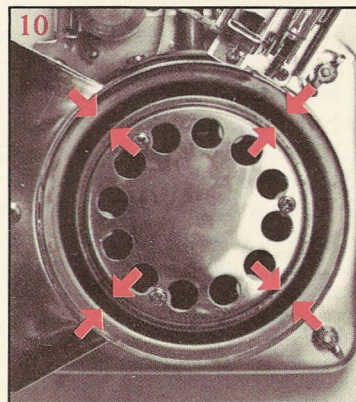
- (7) Take Wick out of Holder
- (8) Insert new Wick into holder and shape around Wick holder attaching to catches on inside of holder.



- (9) Place Holder with new Wick over burner top plate; have control knob pointed to front.
 - Be sure Wick moves smoothly up and down. If it doesn't, remove and reshape Wick to holder.



- (10) Replace the 4 wing nuts making sure the spacing between wick holder and burner cover is even.
- (11) Reverse instructions 1-2-3 to re-assemble the remainder of the heater. Refuel; wait 15 minutes for new Wick to absorb fuel, then light.



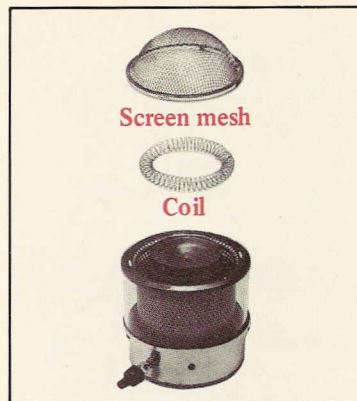
HOW TO CHANGE PARTS

2. Chimney Parts:

1. Unfasten screen mesh by turning left.
2. Replace coil with new one.
3. Put screen mesh back on, turning right.

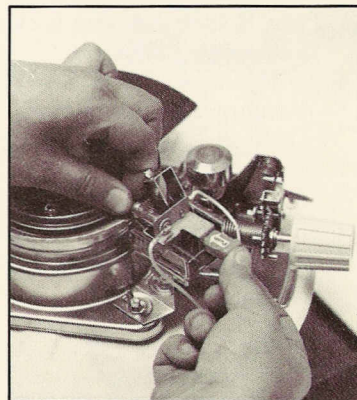
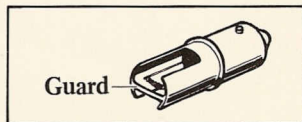
CAUTION:

Do not deform screen mesh



3. Ignition Heater:

- (1) Remove the body according to the points (1)~(4) of the exchange of the wick.
- (2) As shown in right Figure, take out the glow plug by moving the ignition lever with right hand with left hand, turn glow plug to left with slightly pushing in and remove it.
- (3) As shown in right Figure, insert the new glow plug in a manner so that the guard of the glow plug is at the lower side.



STORAGE OF HEATER (between seasons)

If heater is to be stored for a long period of time, follow these directions to assure longer life.

- (1) Drain any fuel from tank.
- (2) Ignite heater to burn carbon off wick (see page 7.)
- (3) After cleaning wick (see Instructions 1-6, page 8) remove wick holder and dry fuel tank thoroughly. This will remove any rust or water accumulated.
- (4) Clean any carbon or spilled kerosene off wick holder, chimney, tray or body.
- (5) Re-assemble wick holder to heater.
- (6) Release self-extinguisher and set wick to "Off."
- (7) Put heater in plastic bag, replace in box and store in dry place with good ventilation.

HOW TO DIAGNOSE AND REPAIR PROBLEMS

If problem cannot be repaired by following instructions on Chart, have local Dealer check heater.

PROBLEM CAUSES	Fails to Light.	Low Flame.	Soot	Fails to Extinguish.	Self-Extinguish will Not Set.	Fumes	Uneven Flame.	Cannot set. Wick too low.	Chimney will Not Glow Red.	Cannot Control Wick Height.	Slow Heating.	Weak Flame.	Uneven Flame. Too high or low	Unsettled Flame	PROBLEM REPAIR
Wick too low	●	●							●		●				Adjust Wick Height
Water in Fuel		●				●			●	●	●				Changing Fuel & Dry Wick
Contaminated Fuel	●	●				●			●	●	●				Change Fuel & Wick
Carbon on Wick									●	●	●				Burn off Carbon.
Out of Fuel		●							●		●				Refill Tank.
Wick too high			●												Lower Wick.
Wick Control Malfunction				●				●							Have Dealer repair or Replace.
Wick not Fitted Right										●					Re-fit Wick in Holder.
Fuel Spilled						●									Wipe off excess.
Chimney Not Seated			●			●								●	Re-seat Chimney by Moving Handle.
Water on Wick	●	●				●			●	●	●	●			Remove Wick & Dry.
Screen Mesh Dented									●						Remove & Reshape.
Heater Not Level				●		●							●		Level Heater.
Wick Not Adjusted	●	●	●	●		●			●		●				Adjust Wick.
Lack of Air			●			●									Ventilate.
Wick has not Absorbed Fuel												●			Wait 15 minutes for Fuel to saturate.
Wind or Draft						●									Remove from Draft.

DESCRIPTION

Model:	FH11 – THE DUKE
Type:	Wick Control and Glass Chimney
Ignition Method:	Battery Ignition – Glow Plug
Fuel Type:	Illuminating Kerosene – Clear White
Output:	9,600 BTU/Hr
Fuel Consumption:	0.077 Gal./Hr (0.29ℓ/Hr)
Tank Capacity:	0.82 Gal. (3.1ℓ)
Continuous Application:	10.6 Hours at full output
Dimension including Base Plan:	Height, 19" (48 cm); Width, 14.3" (36 cm); Depth, 14.3" (36 cm)
Weight:	12.6 lb. (5.7kg)
Wick:	Conventional Fibre Glass/Cotton cylindrical wick
Power Supply:	2 D Size Batteries
Self Extinguisher:	Automatic Wick Drop

NOTICE : USE ONLY BEST QUALITY KEROSENE

CAUTION : Due to high surface temperatures, especially on top,
keep children, clothing and furniture away from heater.

Imported by:

**FUTURE PRODUCTS, INC.
SEATTLE, WASHINGTON 98109**
