
Operating Instructions



Kerosene Heater
Model KR9



 **KOEHRING**
ATOMASTER DIVISION
BOWLING GREEN, KENTUCKY 42101

Before operating this unit, please read these instructions completely.

SAFETY REQUIREMENTS

IMPORTANT: Read and Understand Operating Instructions Before Starting or Servicing!

1. Improper use of this heater can result in serious bodily injury due to hazards of fire, carbon monoxide poisoning, and burns.
2. Use only clean kerosene.
 - Do not use Fuel Oil or Diesel Oils.
3. Never use Gasoline, Naphtha, Paint Thinners, Alcohol or other Volatile Fuels.
4. Use only in areas free of flammable vapors or high dust content.
 - Never use heater where gasoline, paint thinner, or other flammable vapors are present.
5. Use only in well ventilated rooms.
 - Provide ventilation of at least 40 square inches for each 10,000 BTU of rating.



9. Never splash water to the chimney (glass) or deodorizing catalyzer.



6. Keep children away from heater.



10. Check combustion periodically.



7. Never leave heater without adult supervision.
 - Turn off heater when leaving the room or sleeping.



11. Always fill tanks outside building.
 - Do not pour kerosene into the tank during combustion.
 - Take precautions to prevent spilling. Always wipe off tank after refueling.
 - Close the filler cap tightly to prevent leaking of fumes which can cause an unpleasant odor and fire hazard.



8. Avoid special uses and do not modify the heater.



12. If abnormal combustion or emergency occurs, push down on the "OFF" button.



13. Always operate the heater on a level surface away from wind and drafts.



14. Locate heater at least 3 feet from furniture and other combustible materials. Keep draperies and clothing away from the top of the heater.



15. Do not move, handle, or service while hot or burning.



16. Do not use in temperatures above 85° F (30° C).
• It may cause abnormal combustion.

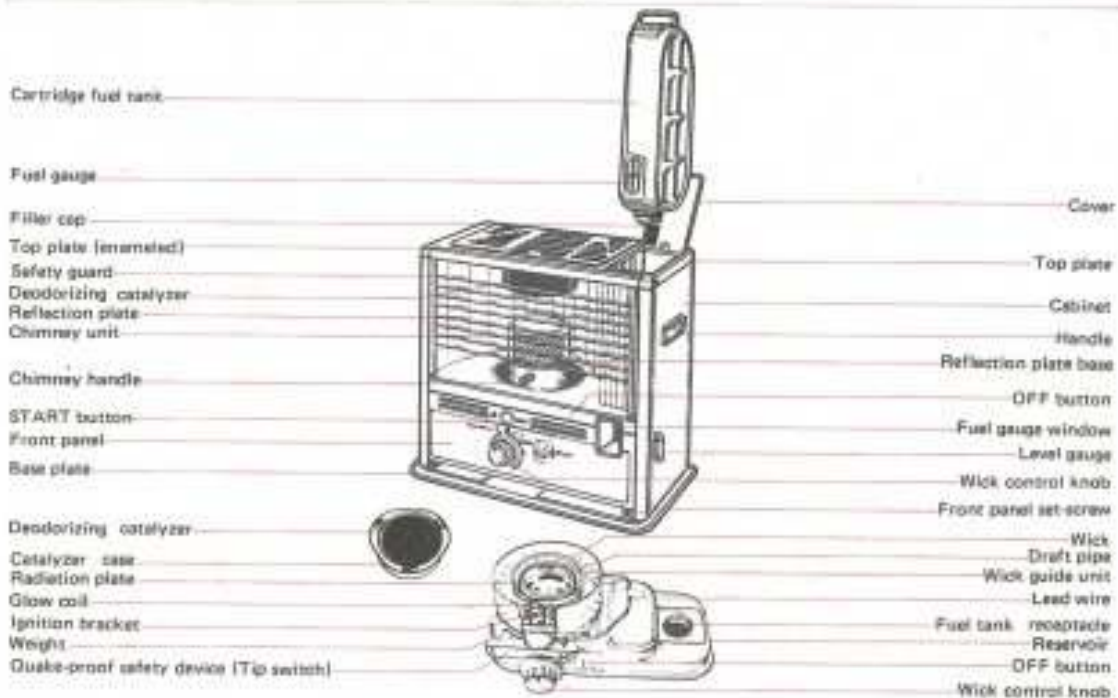


Use only in accordance with local ordinances and codes.

DETERIORATED AND IMPURE KEROSENE

- Use of inferior (deteriorated or impure) kerosene will cause tar to accumulate on the wick within 1 to 30 days. As a result, the flame will be insufficient, and unpleasant odor will be produced, and the wick will not lower properly.
- How to determine kerosene is deteriorated or impure.
 - Deterioration
 - Extremely deteriorated kerosene appears yellow and smells extremely sour.
 - Kerosene which has been stored in a polyethylene container for several months will deteriorate. (Even if stored in another type container, the kerosene may be deteriorated. It is best to use fresh kerosene only.)
 - Kerosene which has been subjected to direct sunlight for an extended period (e.g., stored out-door).
 - Kerosene which has been stored in a container without a lid.
 - Kerosene which has been stored in hot areas for an extended period.
 - Impurities
 - Kerosene which includes other oils (such as machine or crude oil) even in a very small amount.
 - Kerosene with even a small water or dirt content.
 - Containers which have been used to store other fuels or use of pumps which has been used for other fuels will contaminate kerosene. Always clean the interior of the old containers by rinsing with clean kerosene several times.
- Corrective action if deteriorated or impure kerosene is used.
 - Replace kerosene
Completely drain old kerosene from fuel tank and pump from reservoir with clean kerosene 2 or 3 times. (If any of the old kerosene is left in the tank, the trouble may reoccur.)
 - Clean the wick.
 - If the wick still does not function properly, clean or replace the wick.

PARTS IDENTIFICATIONS



CORRECT USE

1. ASSEMBLY

Remove inner packing materials from heater.

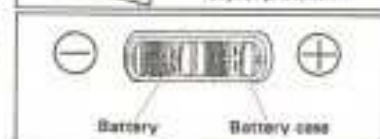
- Handle the deodorizing catalyzer and the glass chimney with special care because they are liable to break.
- Styrol protection is provided under the deodorizing catalyzer. Remove the protection before installing the catalyzer.
- Two dry cells batteries are provided in the packing material under the chimney unit.
- Remove the protections used for the tip switch safety device and for the tank.

Install the batteries (two dry cells).

- Put the dry cells (D size) into the battery case at the back bottom of the cabinet in correct polarity with the minus (-) side first.

Check the chimney unit.

- Open the safety guard by lifting it upward and pulling it toward you.
- The wick is then lowered by depressing the OFF button. [If the chimney unit is inclined or unstable, combustion will be imperfect causing uneven flames and excessive soot.]
- Finally, set the safety guard in the original position.



2. FILLING

Precautions for Fuel Used

- Be sure to use top-quality lighting kerosene (ASTM D 3800) for the best results.

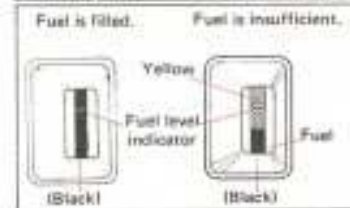
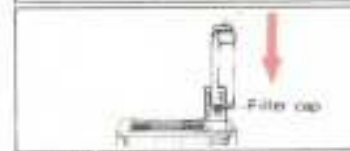
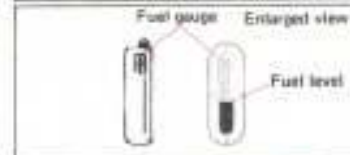
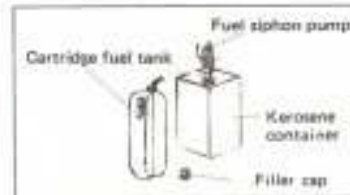
How to Fill the Tank

1. Turn off the heater.
2. Take out the cartridge fuel tank and remove the filler cap by turning it counterclockwise.
3. Fill the tank (outside) with kerosene by using a fuel siphon pump.
 - Fill the fuel up to the upper end of the fuel gauge.
 - Wipe off all spilt kerosene on the tank while filling.
4. Screw the filler cap on tightly after filling.
5. Holding the tank with the filler cap down (with the fuel gauge toward the front), slowly place it into the cabinet:

Full Level Indicator

When the fuel level in the cartridge tank is low, the fuel gauge shows yellow.

- Approximately 2 hours of fuel remains once the "yellow" is visible.
- When removing the tank, be sure to turn off the heater.



3. CHECKS BEFORE LIGHTING

If the wick control knob does not stop at selected position when using the heater.

- Check to see if the weight in the level gauge is within the red circle.
- Shift the OFF button up.

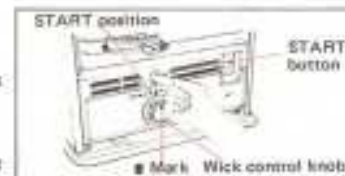


4. LIGHTING AND FLAME ADJUSTMENT

When lighting the heater for the first time, cleaning the wick or replacement wick, allow 15 minutes before lighting.

Electric Ignition

- ① Turn the wick control knob fully clockwise to START position.
 - Although the wick control knob sometimes gets hard to turn when it is being turned clockwise, keep turning it to START position.
- ② Fully push the START button.
 - Make sure the heater is perfectly ignited and then slowly release the START button.
 - Stop pushing the START button as soon as the flame appears in the chimney unit.

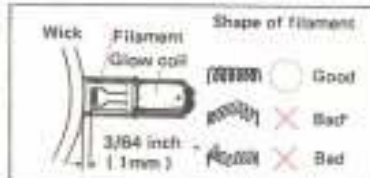


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Clearance Between Wick and Glow Coil

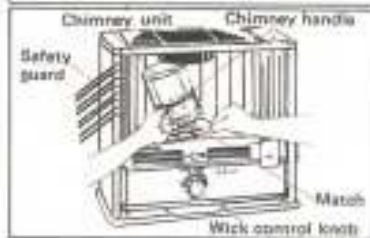
The optimum clearance between the wick and the filament of glow coil is about 3/64 inch or 1mm.

- Insufficient clearance causes white smoke to be created, excessive clearance causes difficult ignition.
- When adjusting the clearance, remove the chimney and slightly adjust the filament position.



Lighting with a Match

1. Open the safety guard by lifting it upward and pulling it toward you.
2. Turn the wick control knob clockwise to START position.
3. Hold the chimney handle up and ignite the wick with a match.
4. Lower the chimney unit.
At that time, make sure the chimney is correctly in place by jogging 2 or 3 times.
5. Close the safety guard.



Flame Adjustment



If flame is sporadic 3 to 5 minutes after ignition, jog the chimney unit 2 or 3 times. If it doesn't stop, turn the wick counterclockwise in the HEAT RANGE to obtain normal combustion.

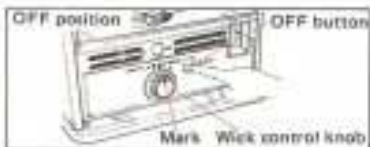
Turning the wick control knob clockwise will increase the flame, while turning it counterclockwise will darken the radiation net.

- If the heater is left as it is for about 15 minutes after ignition, the flame will become excessive. Therefore, be sure to adjust the flame to obtain normal condition.
- When the radiation net is dark as seen in "wick is too low" illustration, tar will be deposited on the wick causing the wick control knob to become hard to turn. Therefore, keep the combustion normal at all times.

5. TURNING OFF

③ Depress the OFF button.

- Then the wick control knob should automatically return to the OFF position.
- Make sure the wick is completely extinguished.
- It cannot be extinguished by the wick control knob.
- Do not try to extinguish the heater by pushing or shaking.
- If the marked ■ has not returned to the OFF position, do as follows:
 - (1) Keeping the OFF button depressed, turn the wick control knob counterclockwise to set the marked ■ to the OFF position.
 - (2) Clean the wick.
(For details, please refer to page 7)



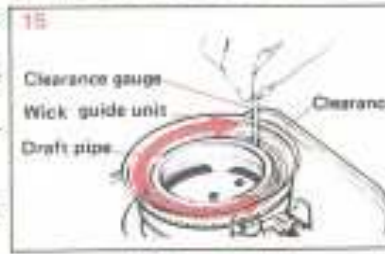
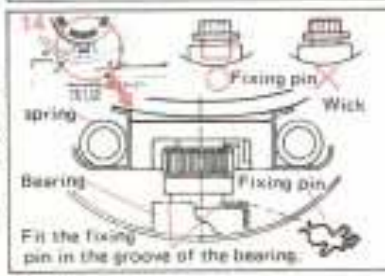
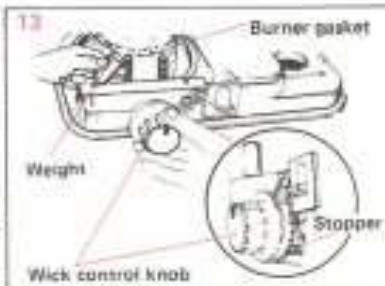
- The heater sometimes produces an odor when it is turned off. This doesn't indicate any trouble but comes from the quick shut off mechanism.

When fire is not extinguished.

It is mostly due to tar deposited on the wick. This trouble occurs when the wick control knob is not shifted back to the OFF position. In that case follow the instructions in "Cleaning the wick" (Refer to page 7).



13. Shifting the weight down to the right, push in the knob with the mark up and the stopper down.
 - Turn the knob to the right and left to slip it in.
 - Make sure that the wick smoothly moves up and down, then lower the wick.
14. Fit the fixing pin in the original position.
 - Shifting the weight down to the right, pull the wick control knob to make sure that it is not removed.
 - The fixing pin must be installed in the correct position, otherwise it will rotate along with the wick control knob.
15. Reverse follow the procedure 2~7 to assemble the parts.
 - Remember to attach the burner gasket (Fig. 13) and the fixing pin.
 - When installing the wick guide unit, take care not to fold the wick end.
 - Evenly tighten the 4 set-screws so that the clearance between the wick guide unit is uniform, while checking it with a clearance gauge, and finally tighten up the set-screws.
(If the clearance is not uniform, the combustion will be defective or the wick fails to lower.)
 - Completely tighten the set-screws
If the set-screws are loose or missing, it may cause serious accidents.
 - The wick control knob can be set to the START position.
It turns within the heat range. With the OFF button depressed, the mark is set back to the OFF position.
Check the above operation twice, and if the operations are not satisfactory, make the adjustments from the beginning.
 - Re-filling
After filling the kerosene into the cartridge fuel tank, set it in the cabinet and wait for about 15 minutes before lighting the heater.

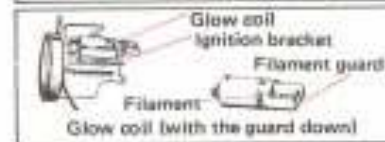


How to Replace the Glow coil

1. Push and turn the START button counterclockwise until it stops, and then pull the START button towards you.
2. Install the new glow coil.

Remove the old glow coil and install the new one.

 - Take care not deform the filament of the glow coil.
 - Be sure to install the glow coil with the filament guard down.
3. Assemble the parts by reversing the procedure.
 - Make sure that the notch of START button clockwise until it stops.
 - The optimum clearance between wick and the filament of glow coil is about 3/64 inch (1mm). (Refer to page 6.)
 - Be sure to a Glow coil (SH-4) for KR9.



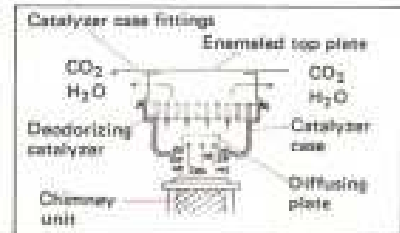
STORAGE

1. Completely drain the kerosene from the fuel tank.
2. Clean the wick.
3. Remove the dry cells in order to prevent corrosion or cause of fire.
4. Lower the wick.
5. Store the heater in a dry place.

Deodorizing Catalyzer

The deodorizing catalyzer completely burns and deodorizes unburnt substances produced from the chimney.

- Replace cracked or exhausted catalyzer with new one.
- Replace every 2 years.



CLEANING THE WICK

1. Wick should be cleaned when:

- 1) The marked **■** of wick control knob doesn't return to the OFF position.
- 2) Normal combustion cannot be obtained even though the wick is raised as high as possible.
- 3) The wick control knob is hard to turn.
- 4) The wick will not light completely or is hard to ignite.
- 5) Unpleasant odor is produced during use.

2. How to clean the wick

- 1) Completely burn the fuel in the tank. Continue using the heater without adding fuel.
- 2) When the radiation net becomes dark, turn the wick control knob clockwise as far as it goes to raise the wick as high as possible.
- 3) Let it stand as it is until the fire goes out naturally (about 60 minutes after the radiation net starts to darken).
 - Let the fire go out completely.
 - Do not add fuel, lower the wick, or lift the chimney during cleaning.

4) When the wick is clean,

- Push the OFF button to return the marked **■** to the OFF position. Fill with fuel and let it stand for about 15 minutes to moisten the wick before lighting the heater.



REPLACEMENT OF PARTS

How to Replace the Wick

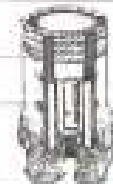
Purchase replacement wicks from the Dealer where you purchased the heater.

Cautions

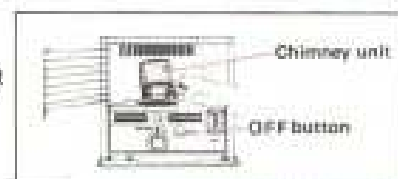
1. When buying a wick, state that it is for a KR9.
2. Do not cut, pull or soil the wick. Insufficient combustion may otherwise occur. Pulling the wick causes damage, resulting in poor combustion.

Wick

- a. Fibre-glass
- b. Cotton



1. Make sure the unit is "OFF" and cool.
2. Remove the batteries.
3. Remove the fuel tank and chimney unit. Open the safety guard holding it on the right and remove the chimney unit.



SPECIFICATIONS

Model	KR9	Dimensions	18.5"(H) x 21.5"(W) x 11"(D)
Type	Reflection and wick up-down system	Weight	23 lbs. (empty)
Fuel	Top quality lighting kerosene (ASTM D 3899)	Wick Type	Common cylinder wick
Thermal output	9300 BTU/h	Wick Size	φ85 mm x t 3.0 mm
Fuel capacity	Approx. 1.1 gal.	Safety device	Tip switch
Duration	Over 15 hours	Ignition device System	Battery ignition system
		Ignition device Glow coil	SH-4
		Accessories	Battery (2 "D" cells)

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