

READ INSTRUCTIONS CAREFULLY BEFORE OPERATING UNIT.

OHC 510





NEVER USE GASOLINE OR OTHER VOLATILE FUELS

SANYO

KEROSENE HEATER

OPERATING INSTRUCTIONS

FEATURES

Designed for safety

This heater has been designed with numerous safeguards to prevent irregular or incomplete combustion, kerosene leakage and other hazards.

Newly designed "double safety" tank

The tank will stay tight even if the heater should be overturned. Kerosene cannot leak out. Simply turn the heater upright again.

Special glass wool wick

This Sanyo-developed glass wool wick permits easy ignition, clean, smokeless combustion, and quick heating. The wick burns down much slower than conventional cotton wicks, thus minimizing maintenance and increasing convenience and economy.

Two-stage afterburner device

The original design of the burner part permits high-efficient combustion. In addition, it burns very quietly.

Automatic, Battery-operated electric ignition — No matches needed!

Turn the wick control knob all the way toward HIGH, then pull the ignition knob. The heater will ignite in approximately 2-5 seconds.

SPECIFICATIONS

Dimensions	/8" high x 17-3/4" wide x 19-5/16" deep
Weight	lbs
Tank Capacity2.0	gallon
Fuel Consumption 0.13	gallon/h
Heat Generation	00 B.T.U./h
Continuous Heating Time	hours
WickInne	r diameter 4-23/32''
Thic	kness 9/64"
Suct	ion 120 %
Suct	ion speed 2 min. 40 sec.
Ignition SystemIgnit	ion Heater: 2.5 V, A Type
Batt	eries: 2 Dry Cells
Size	D, 1.5 V

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FUEL GUIDE

WARNING

USE ONLY WATER-CLEAR KEROSENE GRADE #1. NEVER use GASOLINE, NAPHTHA or SOLVENTS such as ALCOHOL, ACETONE and PETROLEUM DISTILLATES. They are HAZARD-OUS and may cause a FIRE, EXPLOSION and SERIOUS INJURY.

HOW TO SELECT AND STORE KEROSENE

Select and use only water-clear kerosene Grade #1. Do not use kerosene with visible contamination. Yellow or colored kerosene will smoke, smell and burn inefficiently.

Store kerosene properly.

- Store in a clean, tightly sealed, metal container.
- Do not store under high temperatures or in direct sunlight.
- Do not store for prolonged periods (More than one season).

DETERIORATED AND IMPURE KEROSENE

Use of inferior, deteriorated or impure, kerosene will cause tar deposits on the wick within 1 to 30 days. As a result, the flame will not be even and an unpleasant odor will be produced reducing heat output.

DETERIORATED KEROSENE

- Kerosene will deteriorate after several months if stored in a polyethylene or thermoplastic container. Use fresh kerosene only.
- Kerosene which has been subjected to direct sunlight for an extended period, that is, stored outdoors in a transparent container.
- Kerosene which has been stored in a container without a lid.
- Kerosene which has been stored in hot areas for an extended period of time.

IMPURITIES

- Kerosene which includes other oils such as machine or crude oil even in very small amounts.
- Kerosene with any water or dirt content.
- Contaminated containers that have been used to store other fuels or use of pumps that have been used for other fuels.

Always clean the interior of the old containers by rinsing with clean water-clear kerosene several times.

CORRECTIVE ACTION IF DETERIORATED OR IMPURE KEROSENE IS USED.

Replace Kerosene

Completely pump out old kerosene from fuel tank. Rinse with clean water-clear kerosene 2 or 3 times.
 If any trace of the old kerosene is left in the tank, it will contaminate fresh kerosene.

Clean the Wick

If the wick still does not function properly, replace the wick.

FUEL QUALITY TEST

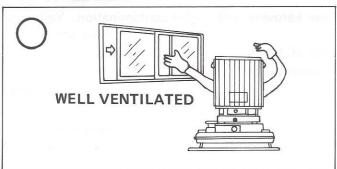
With proper selection and storage of water-clear kerosene, your Kerosene Heater will give you years of comfortable heating and trouble-free operation.

Check wick after using one tankful of fuel. If wick is soft and shows no tar deposits, fuel is satisfactory. This procedure is recommended each time new fuel is purchased.

SAFE OPERATION GUIDE

ALWAYS PROVIDE A SOURCE OF FRESH AIR.
 It may be a half-inch door opening to an adjoining room, or a window opened an inch.

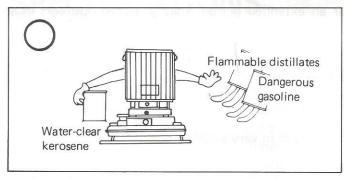
KEROSENE HEATERS USE OXYGEN and therefore may cause ASPHYXIATION if used in SMALL, CLOSED AREAS such as bathrooms and tightly closed campers.



USE WATER-CLEAR KEROSENE GRADE #1
 ONLY. NEVER use GASOLINE, NAPHTHA
 or SOLVENTS such as ALCOHOL, ACETONE and
 PETROLEUM DISTILLATES.

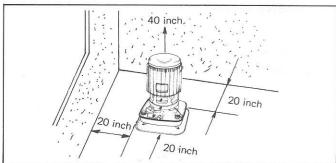
They are HAZARDOUS and may cause FIRE, EXPLOSION and SERIOUS INJURY.

Refuel outdoors when heater is cool to the touch.

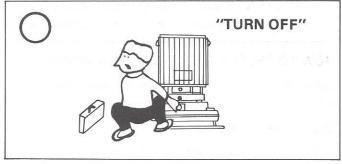


3. The minimum clearance between appliance and combustible materials are as follows:

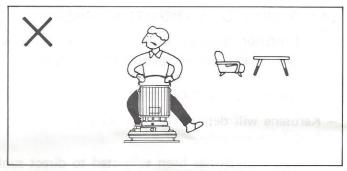
UP: 40 inch SIDES: 20 inch REAR: 20 inch FRONT: 20 inch



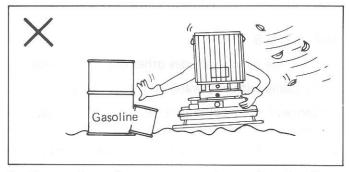
4. DO NOT OPERATE HEATER WHILE UNAT-TENDED. Turn off heater when sleeping or leaving the room.



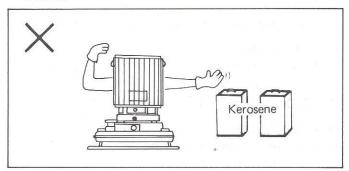
HOT WHILE IN OPERATION. DO NOT touch. Keep away from children, pets, clothing and furniture. Never move or service while hot or burning.



AVOID placing the heater near DRAFTS or easily COMBUSTIBLE ITEMS. Place the heater on a solid level surface.



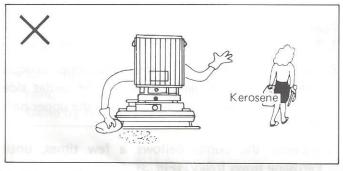
Always keep kerosene containers closed. Store containers away from heat sources and open flames.



8. Always close the fuel tank lid after filling the fuel tank.



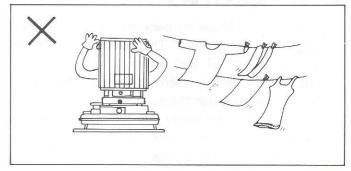
Keep the heater neat and clean. Take care to wipe off spilled kerosene, since it could ignite and cause damage.



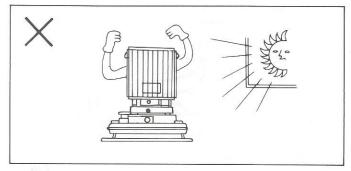
10. DO NOT use the heater in entrance-ways and other areas of constant traffic.



11. DO NOT use the heater for drying clothes.

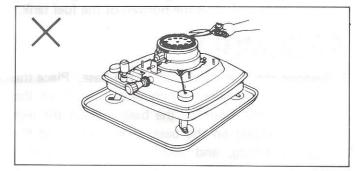


12. DO NOT place the heater in direct sunlight or in a place with temperature higher than 86°F.



13. DO NOT clean the wick with knives or scissors.

See page 8 for cleaning instructions.



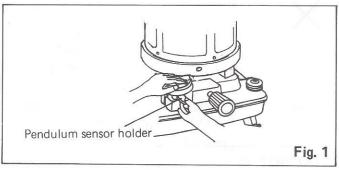
14. USE ONLY IN ACCORDANCE WITH LOCAL ORDINANCES AND CODES.

CAUTION

SANYO ASSUMES NO LIABILITY AND DOES NOT GUARANTEE THE HEATER WHEN IT IS USED AS DESCRIBED IN EXPLANATIONS MARKED WITH AN X.

UNPACKING

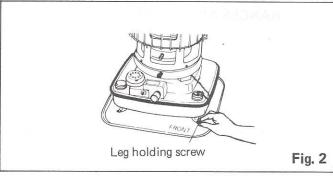
- Remove the cardboard packing materials holding the burner tube in place. This can be accomplished by taking hold of and pulling apart gently both ends of the handle where they enter the legs of the top plate through the cylinder.
 - The two ends will easily slip out only when the handle is held in a horizontal position.
- While holding the extinguisher cover and the pendulum, pull out and remove the pendulum sensor holder of the automatic extinguisher unit. (Fig. 1)



Note: Make sure that the air adjustment plate is provided on the bottom of the fuel tank.

ASSEMBLY

 Remove the screw attached to the base. Place the heater on the base, matching the front of the heater to the front of the base. Insert the legs into the fitting on the base, align the hole of the leg and fitting, and secure it with the screw. (Fig. 2)

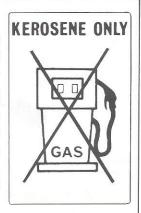


Insert two dry cell batteries size D into the battery case located on the rear side of the fuel tank with the correct polarity (+) and (-) as indicated.

FUELING

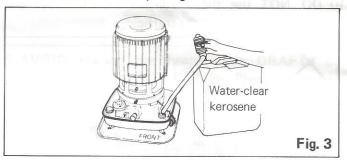
CAUTION:

USE WATER-CLEAR KEROSENE GRADE #1 ONLY. NEVER USE GASOLINE, NAPHTHA OR SOLVENTS SUCH AS ALCOHOL, ACETONE AND PETROLEUM DISTILLATES. THEY ARE HAZARDOUS AND MAY CAUSE FIRE, EXPLOSION AND SERIOUS INJURY. REFUEL OUTDOORS WHEN HEATER IS COOL TO THE TOUCH.

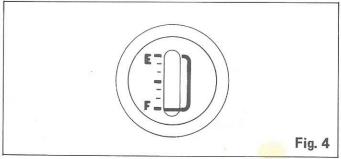


Fuel

- 1. Turn the fuel tank lid counterclockwise to open.
- Insert the intake hose of the hand pump (opaque side) into the kerosene container, the outlet side into the fuel tank. Close the lid on the upper part of the pump.
- 3. Squeeze the pump bellows a few times, until kerosene flows freely. (Fig. 3)



Watch the fuel gauge. When the indicator reaches the FULL mark, loosen the lid on the upper part of the pump by turning counterclockwise. Kerosene flow will stop. (Fig. 4)



- 4. Close the fuel tank lid. Wipe off any spilled kerosene.
 - Note: 1) Never fill the fuel tank above the FULL mark.
 - The heater will smoke if the burner tube does not rest securely on the wick casing.

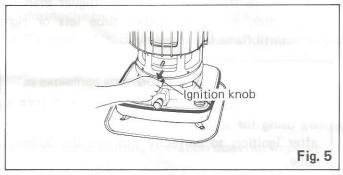
LIGHTING

CAUTION

Before lighting the heater for the first time, wait approximately 20 minutes so the wick can absorb kerosene.

Electric Ignition

- Turn the wick control knob clockwise, all the way to HIGH. Wick will protrude about 1/4" - 3/8" from wick casing.
- 2. Pull and hold the ignition knob for 2 to 5 seconds. The heater will light automatically. (Fig. 5) After the flame has been lit, slowly release your hand from the ignition knob. Then adjust the flame by turning the wick control knob as follows.

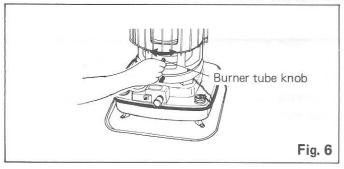


Keeping the ignition knob pulled after wick ignites will damage the ignition heater (nonwarranty).

Note: The heater may produce smoke and odor when lit for the first time. This is normal and both smoke and odor will dissipate within 10 minutes. If odor lingers more than 10 minutes, then room should be ventilated.

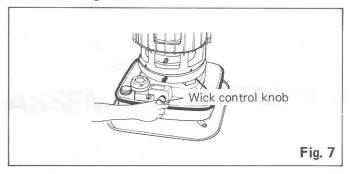
ADJUSTING THE FLAME

If the flame wavers 1 to 3 minutes after ignition, jog the burner tube 2 or 3 times, using the burner tube knob, to position burner tube correctly. (Fig. 6)

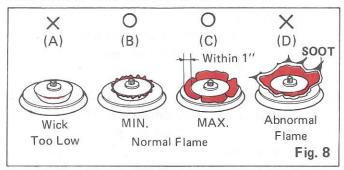


If this does not correct the problem, turn the wick control knob counterclockwise to obtain a normal flame.

Turning the wick control knob clockwise <u>increases</u> the flame, while turning it counterclockwise <u>lowers</u> the flame. (Fig. 7)



If the heater is left on HIGH for 30 minutes after ignition, the flame may flare too high outside of the burner tube, resulting in improper heating plus producing such as smoke, soot or smell. (Fig. 8) Be sure to adjust the wick control knob to prevent abnormal flame from producing. When the wick is adjusted too low, an unpleasant odor will be produced and tar will deposit on the wick causing the wick control knob to become hard to turn.



Note: If the flame flares one-side higher than the other, turn the burner tube left or right until flame burns evenly.

CAUTION

JOG THE BURNER TUBE 2 or 3 TIMES, by using the burner tube knob, 1 to 3 minutes after ignition to correctly position the burner tube.

EXTINGUISHING THE FLAME

- Turn the wick control knob counterclockwise as far as possible. The flame will go out after a few seconds. Check to see the flame is completely extinguished before leaving the room.
- In case of emergency, push down the emergency shut off lever, and please be sure the flame has been completely extinguished. (Fig. 9)



IN CASE OF EMERGENCY

- If the wick does not retract or extinguish after the emergency shut off lever was pushed down, turn the wick control knob counterclockwise.
- It is normal for the flame to flare up and produce smoke after the emergency shut off lever was pushed down. There is no need to worry.

MAINTENANCE

Cleaning the Wick

The wick is a specially developed glass wool type which will not burn without fuel, unlike conventional cotton wicks. Proper attention will result in long life and use.

- 1. Wick should be cleaned when:
 - a. Every third or fourth tankful of kerosene has been used.
 - b. The wick control knob becomes hard to turn.
 - c. "Normal Flame" is not obtained even though the wick is turned up all the way.
 - d. The wick is hard to ignite.
 - e. Unpleasant odor is produced during use.
- 2. How to clean the wick.
 - a. Operate heater until fuel gauge shows E-position (Empty).
 - b. Turn the wick control knob clockwise to raise the wick as high as possible.
 - c. Leave it until the flame goes out naturally. This cleans the wick of carbon or tar deposits. Do not add fuel, lower the wick, or lift the burner tube during the cleaning cycle. Burning a wick dry will not harm the wick material.
 - d. To avoid odor, clean-burning operation should be done in a well ventilated or outdoor area.
 - e. If you do not want to wait until the tank is empty, pump out the fuel with the supplied pump, then proceed as explained above.
 - f. When the clean-burning operation is completed, fill the tank with water-clear kerosene. Wait approximately 20 minutes to let the wick absorb kerosene, then light the heater.
 - g. When clean-burning operation does not improve performance of heater, the wick should be replaced.
- 3. Use of other than water-clear kerosene Grade #1 fuel will damage the wick (non-warranty).

Replacing the Wick

CAUTION

Do not cut, pull or soil the new wick.

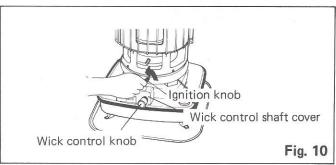
Insufficient combustion may otherwise occur. Pulling the wick causes damage, resulting in poor combustion.

How to replace the Wick

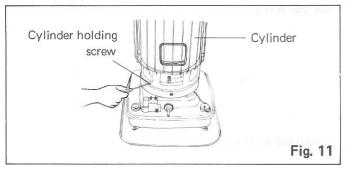
The glass wool wick possesses an almost infinite service life. If torn or ragged, it can be replaced as explained below.

(Spare wicks are available at the store where you purchased the heater or from the nearest Sanyo Service Facility.)

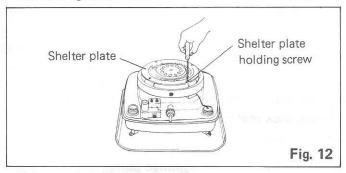
 Remove the ignition knob by turning it counterclockwise and pull out the wick control knob, then remove the wick control shaft cover.



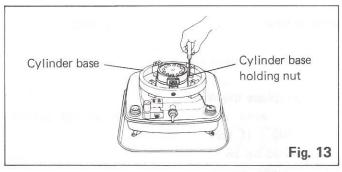
2. Loosen the four cylinder holding screws and remove the cylinder from the fuel tank. It will come off with the burner tube. (Fig. 11)



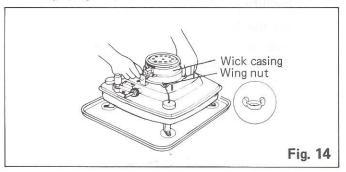
3. Loosen the four shelter plate holding screws and remove the shelter plate from the cylinder base. (Fig. 12)



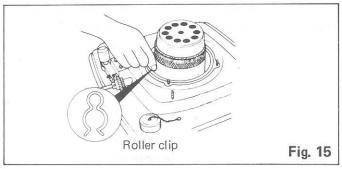
 Loosen the four cylinder base holding nuts and remove the cylinder base from the fuel tank. (Fig. 13)



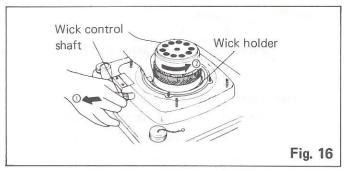
Loosen the four wing nuts and lift out the wick casing. (Fig. 14)



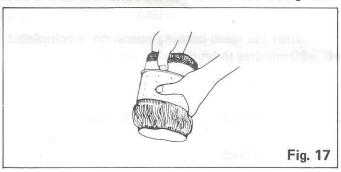
6. Remove the wick casing packing and take out the small clip that holds the roller in place. (Fig. 15)



 While pulling out and holding the wick control shaft, turn the wick holder counterclockwise and lift it free from the fuel tank. (Fig. 16)

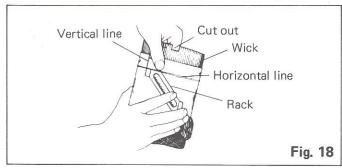


8. Pull the old wick out of the wick holder. (Fig. 17)



9. Insert the new wick into the wick holder. Adjust it so that its horizontal tape line is even with the upper edge of the wick holder and the vertical tape line aligns with the left end of the rack.

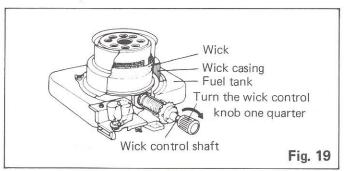
Then push the wick from the inside so that it is flush against the wick holder and the hooks of the wick holder have firmly caught hold. (Fig. 18)



10. Insert the new wick into the fuel tank, making sure that the wick is fully suspended. As shown in Fig. 19 below, turn the wick control shaft clockwise one quarter of a turn to secure it to the upper end of the wick holder rack.

Then replace the clip that holds the roller.

Be sure that the wick moves up and down by using wick control knob and emergency shut off lever.



11. When attaching the wick casing, make sure that the auxiliary wick is fully suspended into the fuel tank and take care not to bend the wick edge. Tighten the four wing nuts (of the wick casing) clockwise. Then reassemble the wick control knob, adjusting for smooth movement.

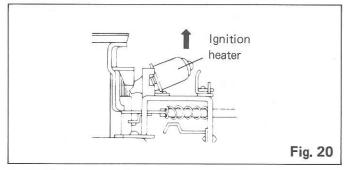
Note: When turning the wick control knob clockwise until it stops, make sure that the wick protrudes about 1/4" - 3/8" from wick casing.

CAUTION

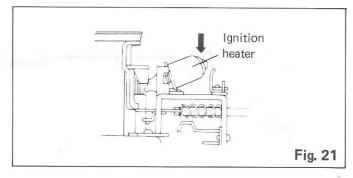
- Be sure that the wick edge is even and level.
 Wait approximately twenty minutes before
 lighting the heater for the first time to let the
 wick absorb sufficient fuel.
- 2. When reassembling the shelter plate, make sure of matching its "FRONT" marking to the front of the cylinder base.

Replacing the Ignition Heater

- Remove the ignition knob by turning it counterclockwise and pull out the wick control knob, then remove the wick control shaft cover. (Fig. 10)
- Loosen the four cylinder holding screws and remove the cylinder from the fuel tank. It will come off with the burner tube. (Fig. 11)
- Loosen the four shelter plate holding screws and remove the shelter plate from the cylinder base. (Fig. 12)
- 4. Remove the old ignition heater. (Fig. 20)

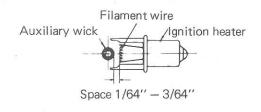


Insert the tip of the new ignition heater into the guide hook of the ignition heater holder and push it down. (Fig. 21)



CAUTION

Be careful not to bend the filament wire of the ignition heater. The space between the filament wire and the auxiliary wick should be about 1/64'' - 3/64''.



Replacing the Batteries

When the heater glows, but its temperature is too low to ignite the auxiliary wick, this is a sign that the batteries should be replaced.

TROUBLE SHOOTING GUIDE

Trouble Possible Problem	Soot	Wick difficult to ignite	Flame does not go out	Flame is too low	Odor	Flame uneven	Wick control knob hard to turn	Flame does not move quickly around wick	Remedy
Wick too high	0	0	0	i amilio iese	0	361	,	The silent?	Lower wick.
Wick too low		7	i se di se	0	0			0	Raise wick.
Wick uneven	0		0	\circ		0	0		Adjust or replace wick.
Burner tube does not rest securely	0			0		0			Reset burner tube.
No fuel		0			0	- n x		0	Add fuel.
Bad fuel	0	0	0	0	0		0	0	Use better fuel.
Water in fuel		0	olo mg	0	0	0	0	0	Drain fuel, replace wick.
Wick incorrectly attached	0	0			0	0	0	on en	Disassemble, attach wick correctly.
Carbon deposits etc. on wick	0	0		0	0	0	0	0	Clean wick (dry burning)

IN CASE OF AN ACCIDENT

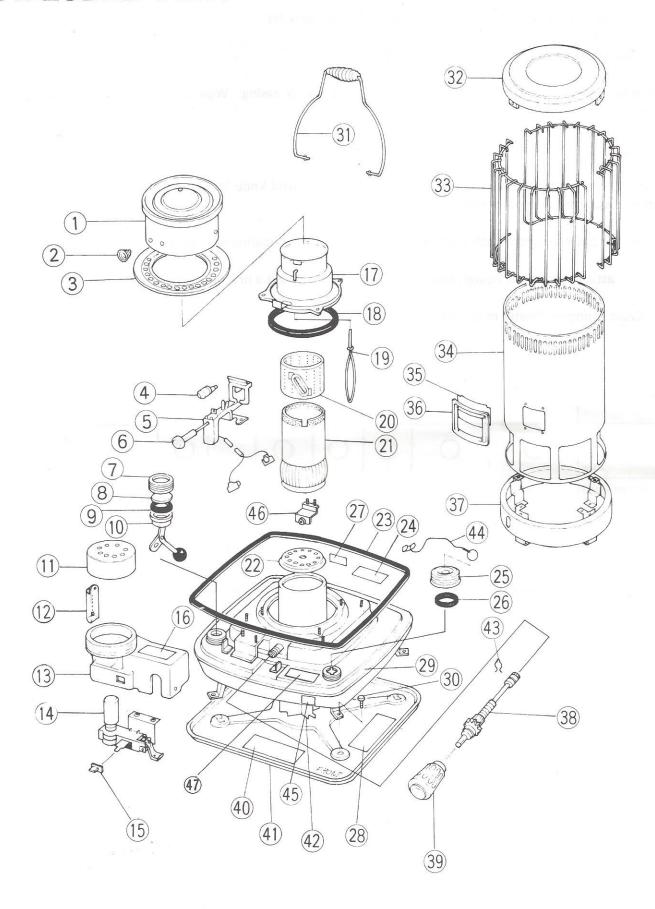
- If the heater is tipped over... automatic wick snuffer activates.
 Set the heater upright. Then turn the wick control knob counterclockwise all the way. The double safety tank prevents fuel from leaking out.
- If the flame burns very high and with incomplete combustion...
 Turn the wick control knob counterclockwise to retract the wick. Safeguard easily flammable items near the heater.
- 3. If the whole heater is enveloped in flames. . .
 If possible smother flames with a fire extinguisher or sand. Otherwise, smother with blankets, then throw water on the blankets. Do not throw water directly on the heater.

STORING THE HEATER

- 1. Pump out fuel in the fuel tank and tightly secure the fuel tank lid.
- 2. Clean the wick by dry-burning as explained. (Page 8)
- 3. Also wipe fuel and carbon off the burner tube and the wick casing. Wipe metallic parts with a damp cloth, polish with a dry cloth.
- 4. Dust the fuel tank carefully.
- 5. Check all nuts, screws and packings for tightness, and the control knob for easy movement. Make necessary repairs before storing the heater.
- 6. Remove the batteries and detach the heater from the base when storing the heater.
- 7. Put the plastic cover on the heater, then store it in its box. Select a dry, well ventilated place.

Note: Avoid tilting the heater or laying on its side.

EXPLODED VIEW



PARTS LIST

Key No.	Part No.	Description	Q'ty
1	731-0-4401-14900	Burner Tube	1
2	731-2-4402-10800	Burner Tube Knob	1
3	731-2-1404-11500	Shelter Plate	1
4	4-2459-44102	Ignition Heater, A Type	1
5	731-0-5601-14201	Ignition Mechanism	1
6	731-2-5606-10300	Ignition Knob	1
7	731-2-6202-10216	Cap, Fuel Gauge	1
8	731-2-6210-10100	Glass, Fuel Gauge	1
9	731-2-6211-10200	Packing, Fuel Gauge	1
10	731-0-6201-13803	Fuel Gauge	1
11	731-2-6531-10300	Extinguisher Cover	1
12	731-0-1301-11100	Level	1
13	731-2-6136-11211	Wick Control Shaft Cover	1
14	731-0-6501-13100	Extinguisher Unit	1
15	731-2-6502-10400	Emergency Shut Off Lever	1
16	731-2-5301-14312	Cover Plate	1
17	731-0-4504-14801	Wick Casing	1
18	731-2-4512-10300	Wick Casing Packing	1
19	731-2-5607-10100	Auxiliary Wick	1
20	731-0-4503-12500	Wick Holder	1
21	731-2-4501-16002	Wick	1
22	731-0-4416-10300	Wick Tube Cap	1
23	731-2-6306-11001	Protecting Ring	1
24	731-6-4549-11600	Name Plate	1
25	731-0-6402-11011	Fuel Tank Lid	1

Key No.	Part No.	Description	Q'ty
26	731-2-6114-10400	Packing	1
27	731-6-4419-10700	Battery Case Label	1
28	731-6-4749-10300	Lighting Instruction Label	1
29	731-0-6101-26003	Fuel Tank	1
30	731-2-1327-10200	Leg Holding Screw	1
31	731-0-4306-10900	Handle	1
32	731-0-1105-11702	Top Plate	1
33	731-2-1501-26200	Guard	2
34	731-0-1118-10102	Cylinder	1
35	731-2-4301-10200	Mica	2
36	731-2-4302-11600	Mica Fixture	2
37	731-0-1119-10102	Cylinder Base	1
38	731-0-4501-13801	Wick Control Shaft	1
39	731-0-4505-11505	Wick Control Knob	1
40	731-6-4729-96100	Caution Label, Front	1
41	731-0-1203-14700	Base	1
42	731-2-6304-10900	Air Adjustment Plate	1
43	731-2-6507-10900	Clip	1
44	731-0-1116-10300	Chain Ass'y	1
45	731-6-4729-77600	Caution Label	1
46	731-0-4516-10100	Guide Roller	1
47	731-6-4419-12700	Caution Label, Burner	1

NON-WARRANTY CONDITIONS

If the heater is used under the conditions listed below, Sanyo assumes no liability and does not guarantee the heater even during the warranty period.

Sanyo will repair or replace the heater at the proper cost if the consumer so desires.

The non-warranty conditions are as follows.

- 1. Instructions printed on the label or on the heater itself are ignored.
- 2. Heater is not operated or maintained according to the directions listed in the instruction manual supplied with the heater.
- 3. Damage occurs as a result of improper or unauthorized service, repair or modifications.
- 4. Damage occurs as a result of improper handling or dropping after purchase.
- 5. Damage occurs as a result of the use of deteriorated kerosene, impure kerosene (kerosene mixed with another oil), or kerosene containing water or chemicals.
- 6. Parts subject to wear (wick, ignition heater, dry cells, burner tube) need to be replaced.

SANYO ELECTRIC CO., LTD.

OSAKA JAPAN

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