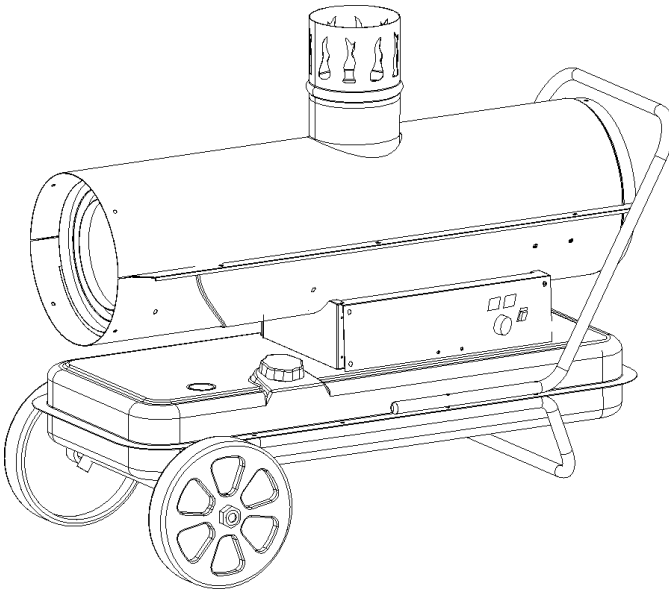


DIESEL OIL HEATERS

INSTRUCTION MANUAL



YOU SHOULD READ THE MANUAL CAREFULLY BEFORE USING, AND KEEP THE MANUAL WELL

Contents

| | |
|---|-----------|
| Precautions-safety guide..... | Page1 |
| Overview of heater design and Installation..... | Page2 |
| Dimension..... | Page3 |
| Technical parameters | Page4 |
| Prepare before using..... | Page5 |
| Operation..... | Page6-8 |
| Working principles and Maintenance..... | Page9-10 |
| Trouble shooting guide and the solution..... | Page11-12 |

【Precautions-safety guide】

Page 1

For your own and others safety please read this USER'S MANUAL and follow its instructions carefully.

▲ Danger

- 1、 The use of gasoline is strictly prohibited, it is high volatile fuel that can cause an explosion or uncontrolled flames.
- 2、 Never use the heater where flammable vapors may be present, there is danger of explosion, fire and burning.
- 3、 Always provide adequate ventilation during the use. Only use the appliance in well ventilated area, the air must be regular exchanged during the use (two times/one hour), inadequate burning caused by oxygen shortage can cause carbon monoxide poisoning.

▲ Warning

1. Don't use spray products at the location where the heater is used, the gas from the spray tin can cause danger of fire and explosion.
2. Don't use the appliance in place with combustible powder (wastepaper, wood crumbs, fiber scraps), if these powder are sucked in the heater and heated up, flake and spark may be ejected out and cause fire and burning danger.
- 3、 Never block air inlet or heating part, it can cause abnormal burning and fire.
- 4、 Never modify the heater, alteration may cause malfunction and fire, is very dangerous.
- 5、 Don't expose the appliance to rain or snow, never use it in humidity places either. Pull out the plug before the routine maintenance and examination.
- 6、 This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



- 7、 **WARNING:** In order to avoid overheating, do not cover the

heater.

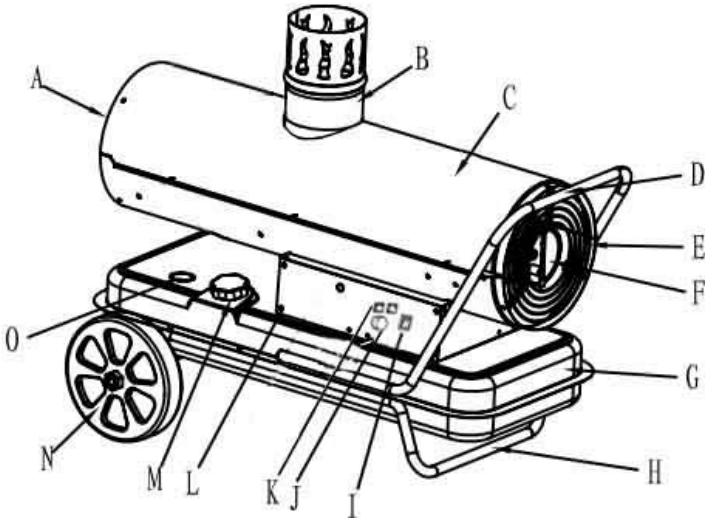
Page 2

- 8、 Children of less than 3 years should be kept away unless continuously supervised.
- 9、 Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children aged from 3 years and less than 8 years shall not plug in, regulate and clean the appliance or perform user maintenance.
- 10、 CAUTION-some parts of this product can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.

▲ Pay Attention

- 1、 In order to prevent fire while in operation, please don't place articles neat the heater. Keep all combustible materials away from heater. Minimum clearances: Outlet(front) 3M,air inlet(rear)2M,top 2M,side 2M.
- 2、 While in operation,make sure that the ground surface does not overheat,overheating may cause fire.
- 3、 Do not fill fuel tank while heater is in operation, make sure the heater stops and the flame is out. Filling while in operation may result causing fire
- 4、 Before use the appliance, make sure that the voltage and frequency on site is in accordance with the ones shown on rating plate.

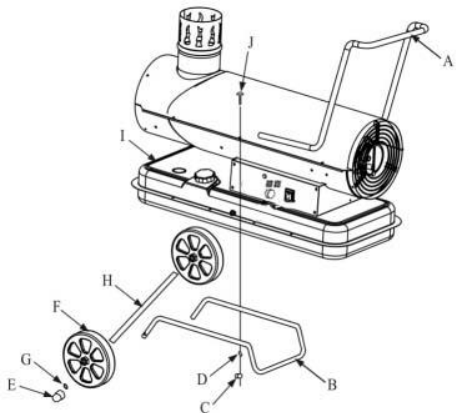
【Overview of heater design】



A . Hot air outlet B. Waste air outlet C.Upper shell D. handle E.Back grill
F. Motor G.fuel tank H.Feet tube frame I.Power switch J.Thermostat knob
K. Display window L.Control panel M.Fuel cap N.Wheel O. Fuel gauge

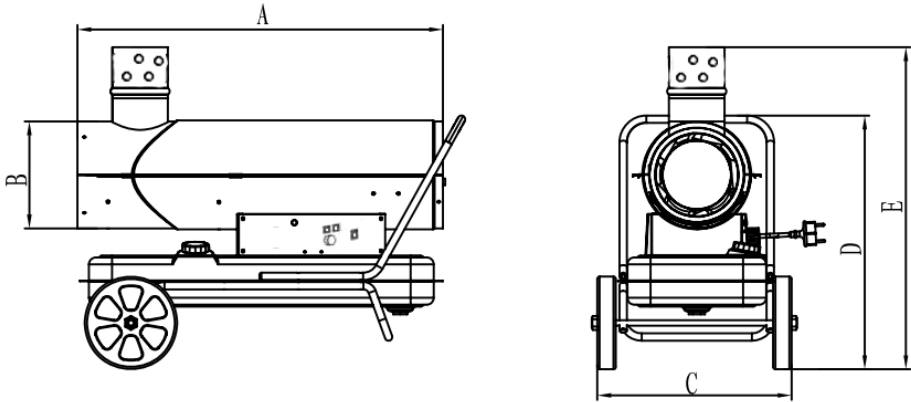
【Assembling wheels and tube frame】

- 1、insert the wheel axle to the corresponding hole of lower tube frame, set bushing G at the two ends, slide the wheel F over the wheel axle H, put on wheel cap E.
- 2、Put the heater body on the lower tube frame B, make sure the 4 holes of handle frame point towards the corresponding 4 holes on the lower tube frame respectively.
- 3、Insert screws J in the holes, place flat washers D under the lower frame B and tighten the hexangular screw C.
- 4、Insert other screws in the holes respectively and use a screw driver to tighten them by the same way.



【Dimensions】

Page 4



| No. | TSD-20C | TSD-30C | TSD-50C |
|-----|---------|---------|---------|
| A | 695mm | 950mm | 1070mm |
| B | 230mm | 260mm | 340mm |
| C | 465mm | 490mm | 585mm |
| D | 580mm | 690mm | 735mm |
| E | 625mm | 780mm | 851mm |

【Technical parameters】

| Description/ model | TSD-20C | TSD-30C | TSD-50C |
|-----------------------------|------------------|---------|---------|
| Fuel | Diesel, kerosene | | |
| Power, KW | 20 | 30 | 50 |
| Air flow, m ³ /h | 600 | 720 | 1100 |
| Electric consumption, W | 0,25 | 0,34 | 0,34 |
| Voltage | 230V~50Hz | | |
| Fuel consumption, | 1.7 | 2.5 | 4.7 |

| | | | |
|--------------------|-----|-----|-----|
| L/h | | | |
| Fuel tank volume,L | 36 | 56 | 68 |
| Wheels | YES | YES | YES |

【preparation before the operation】

Page 5

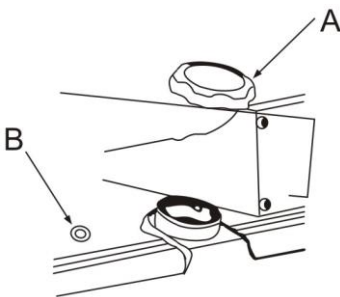
- 1、 Never use high volatile fuel such as gasoline etc;
- 2、 Only fill the fuel tank when the heater stops running and the flame goes out;
- 3、 Please use No JIS1 kerosene or frostbite-prevent light diesel, never use degenerative, impure kerosene or diesel;
- 4、 When you fill the fuel tank, the tank filter must be installed;
- 5、 When kerosene or diesel touches human body please wash with soap immediately, to prevent potential skin inflammation;
- 6、 The burner surface is very hot just after flame out, so never touch it with hand or let oil pump come in touch with the burner, to prevent scalding or some other injure.

◆ When there is no fuel (kerosene or diesel) in the tank:

How to fill the tank :

1. Make sure the power plug is removed from the power source and the power switch is in OFF position“0”;
2. Place the appliance on a stable and level ground, remove the fuel cap and fill the fuel tank with fuel filter installed. Do not overfill your heater, see the full level position as shown in under figure;
3. Check if there is water or waste in the fuel tank, clean the tank if it is dirty;
4. Fill kerosene or diesel in fuel tank with oil pump only when the fuel filter is proper installed, after the filling turn the cap clockwise and tighten it.

Figure (fill the fuel tank)



A. Fuel tank cap B. Fuel gauge

◆ When there is some fuel (kerosene or diesel) in the tank

Attention

1. Only check the appliance after flame out and removal of the power plug from power source;

2. Before the ignition make sure there is no oil leakage, when oil leaks please don't use the appliance and contact your dealer;
3. please check the fuel tank interior, clean the tank if there is water and waste in the tank.

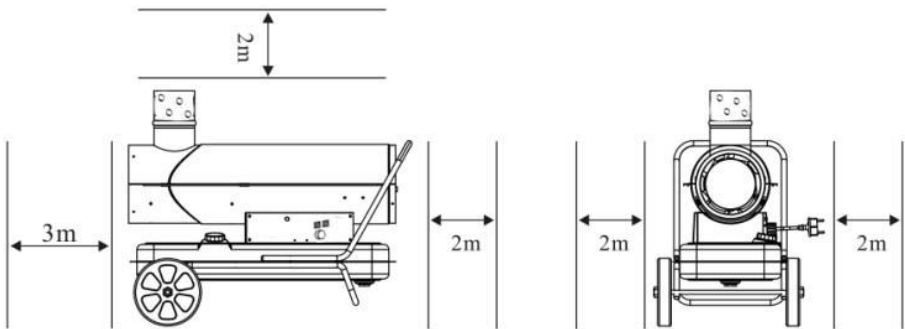
【Operation】

Page 6

Warning by ignition :

1. check the fuel tank and make sure there is enough fuel in it;
2. do not close your face near the heating part after the ignition, keep the safe distance, min. 3 meter front from hot air outlet, top 2 meter, left and right side more than 2 meter. (see under figure)
3. stop using the appliance when there is smoke or strange odor omitted;
4. make sure the heater is ignited before you leave it.

Safety distance



1. Open the box, remove the product, check voltage and frequency of the product are consistent with the power of the use, If meet above request, we can use. On the contrary, we can not be used.
2. Environment of the product : ventilation conditions are good, which it is not in a sealed state or the oxygen of absence use; do not use in the office, bedroom, living room, etc.
3. Open the fuel tank cap and pour the fuel (kerosene or diesel) to tank , but can not use raw materials which is easy to evaporate. such as, gasoline, alcohol fuel and so on. Please pay attention to fuel oil table pointer, when the fuel gauge pointer on the table. "F "side, which means that the oil tank is full, Please stop refueling. if not, oil will

overflow. Then close the fuel tank cap.

4. Around the product can not have combustibles within 2 meters. Minors or mentally handicapped persons can not use in the absence of adult.

Page 7

5. Plug in the power, power indicate work, turn on the power switch, then set the rotate thermostat knob. When the set thermostat exceeds the environment temperature, the product can work; when set temperature is lower than the environment temperature, the products stop working.

6. If you find any flames sprang products in use, Firstly, open the motor assembly behind the white adjustment screw cap, Adjusting screw counterclockwise using a flathead screwdriver until the flame do not sprang products. Then, cover white adjusting screw cap; if the product is lack of heat in use or oil products stop when having oil, turn on the adjustment screw motor assembly behind the white cap, using screwdriver adjustment screw clockwise until the product can use, and then cover white adjustment screw cover. The indicator lights when the product works: the indicator flashes when the product had problem.

7. Pay more attention, do not block the air inlet in use, do not contact hot parts.

8. When shutdown, Please adjust temperature control knob to the minimum, and then turn off the power switch, lastly, unplug the power cord . If the product need to be packed, it must completely cool before packing.

Attention: while the heater is operating, never let the floor ground overheats to prevent causing fire.

◆ Flame out

Pay attention

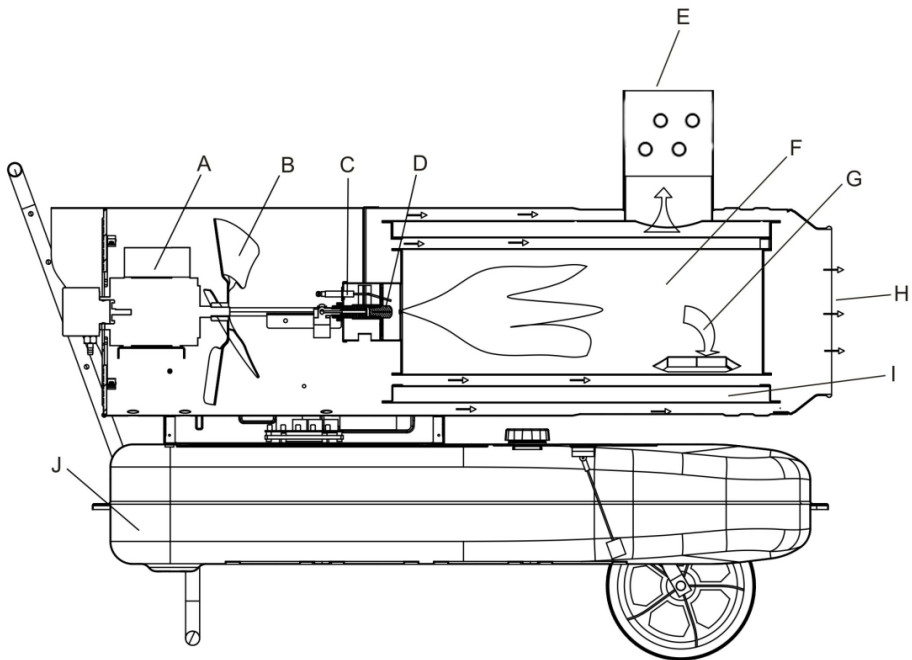
1. when you shut off the heater, make sure the flame is out before you left the appliance.
2. Put the power switch to position "0" waiting fan stop working and the indicator extinguishes, then remove the plug from the socket.

◆ **safety device**

Flame-out protection :Utilizes a photocell to monitor the flame in burn chamber during normal operation.The photosensitive resistor will become infinite big , cut off Electrovalve Assy ,will stop offer oil automatic, the fan will working 90s then cut off the power .

Electrical power breakdown protection: when the power breaks down the heater stops working without the plug being removed from the socket . When the power is recovered, the indicator will light but the heater will not work. Please press the power switch to start up the heater.

【working principles】



A. Motor B. Fan blade C. Spark plug D. Oil nozzle E. Waste air chimney

F. Combustion chamber G. Waste air outlet H. Heating outlet I. Distribution chamber

【Maintenance】

Page 9

- Notice**
1. Before the maintenance shut off the heater and pull out the plug;
 2. Never maintain the heater with fuel in tank.

◆ check the fuel tank

When there is waste and water in the tank, clean and drain the fuel tank.

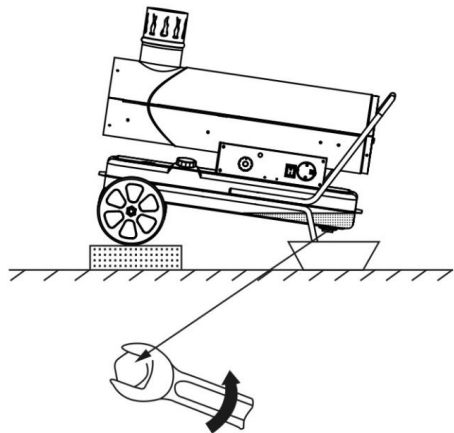
How to drain the fuel tank (see below figure)

- 1、 put the heater on the working table and place an oil container under the fuel tank;
- 2、 use a spanner to loose the drain screw und release the water and waste inside the tank;
- 3、 after draining tighten the drain screw again and wipe clean the left water and oil.

drain the fuel tank

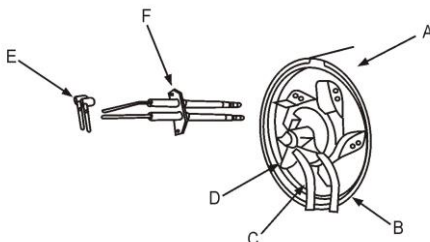
The maintenance intervals recommended in this manual refer to machine operation of 8-10 hours/day.

- Every month: clean the ignition electrodes and the flame tube.
- Every 6 month: clean the fuel tank.



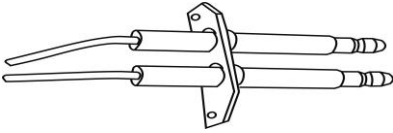
【Introduction of the construction】

◆ burner head



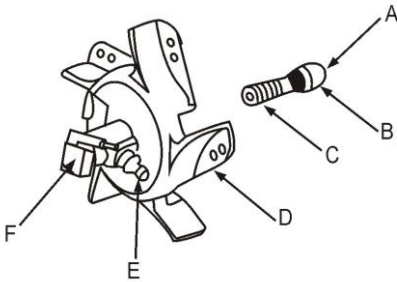
- A. Burner assembly
- B. Air inlet pipe
- C. oil inlet pipe
- D. flame steady plate
- E. high voltage line
- F. spark plug

- ◆ **spark plug** the distance between the electrode should be in scope of 4-5 mm, to get the best ignition result.



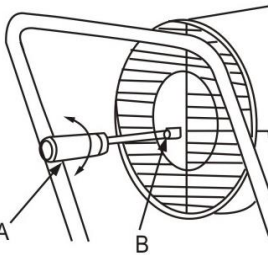
Gap between the electrode: 4-5mm

- ◆ **assembling the oil nozzle**



- A. oil nozzle
- B. nozzle core
- C. seal ring
- D. flame steady plate
- E. air pipe fitting
- F. Electrovalve Assy

- ◆ **Pressure adjustment**

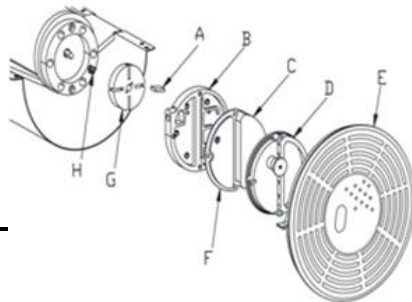


- A. Minus screw driver
- B. Pressure adjustment screw

- ◆ **Air pump**

By maintenance the air pump must be proper assembled, to prevent low air pressure or air leakage.

- A. Pump blade
- B. Pump cover
- C. Air intake filter
- D. Pressure cover
- E. Air inlet guard



F. Air outlet filter

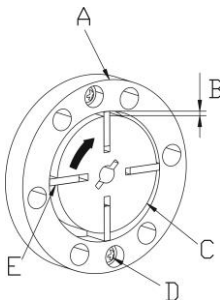
G. Pump core

H. Connecting part

◆ the match between the pump body and pump core

page11

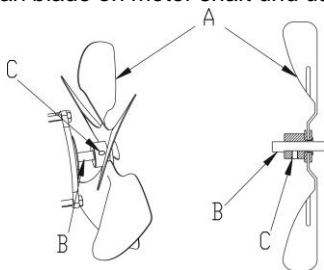
The four pump blades were set in the four grooves of the pump core, which move centrifugally clockwise in the pump, the cooperation gap between the pump enclosure and the pump core should be kept in 0.06~0.08mm, to ensure that the air pump can produce sufficient pressure.



- A. pump body
- B. gap 0.06~0.08mm
- C. pump core
- D. screw
- E. pump blade

◆ fixation of the fan blades

Install fan blade on motor shaft and use set screw to tighten them firmly



- A. fan blade
- B. motor shaft
- C. set screw

【Trouble analysis】

Before you send out the heater for repair please check the following points first, they are not faults:

| Problem | reason |
|---|---|
| Odor, smoke or spark omitted by the first use | It is normal. Because at the beginning there are air and dust mixed in the burning. Wait for some time they will disappear. |
| Ignite when he first use or when the fuel was used out, strange sounds, odor, white smoke | Air is mixed in the pipe, the phenomenon will disappear when the air in the pipe was pressed out. |

| | |
|--|--|
| Strange sound while igniting or flameout | The metal parts of the heater expand and contract cause the noises. normal |
| Fire appears out of the outlet while igniting. Sparkle | Fuel and air of last time were left in the oil pipe of the nozzle, so the air and fuel are not proper mixed, the burning isn't continuous. Sparkle is caused by the left carbon powder, is also normal |

【trouble shooting guide--reason and solution】

| Problem | Possible reason | Solution |
|---------------------------------------|---|--|
| Heater do not work | 1、 No power | Use standard power and ensure well connect to the heater |
| | 2、 Power switch is OFF | Switch ON |
| | 3、 Thermostat is not ON | Adjust the thermostat to right setting to start |
| Heater stop working after running | 1、 Voltage used is not stable | Use on standard and stable voltage |
| | 2、 Environment temperature heats up to Thermostat setting | Adjust the thermostat to high setting |
| | 3、 Fuel is not enough | Fill the same fuel |
| Power indicator light blinks fast | 1、 Strong light into the inner of heater | Forbid strong light into inner of heater, if use outside, stop sun light into the heater, must block the light |
| | 2、 Out casing is not open | Cover the casing |
| | 3、 Photocell is damaged | Replace photocell |
| Power indicator light blinks in twice | 1、 Fuel tank no fuel | Fill the required standard fuel |
| | 2、 Fuel freeze d or too sticky | Replace liquid and fluid fuel |
| | 3、 Fuel pipe broken、 connector is loose | Check if the fuel pipe, air pipe broken, if leakage from connectors, if yes, replace new parts |

