

# HEAT BOSS

## Diesel Indirect Fired Air Forced Heater Operating Instructions and User's Manual MARS-55H



The use of gasoline is forbidden. Always use adequate ventilation when using this appliance.  
Before use of this heater, please read the USER'S MANUAL carefully. Keep this manual for future reference.

HEAT BOSS – 32 Hammersmith Drive, Christchurch, New Zealand



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## **1. GENERAL SAFETY RULES**

- **READ THE INSTRUCTIONS GIVEN IN THIS MANUAL BEFORE USING THE APPLIANCE.**

- THE ELECTRICAL SYSTEM TO WHICH THE APPLIANCE IS CONNECTED MUST COMPLY WITH ALL SAFETY REGULATIONS IN FORCE. A RESIDUAL CURRENT CIRCUIT BREAKER MUST BE PROVIDED ON THE MAIN DISTRIBUTION BOARD.

- UNPLUG THE HEATER BEFORE ATTEMPTING ANY SERVICE OR MAINTENANCE.

- ALWAYS CHECK THE POWER SUPPLY CABLE BEFORE USE. IT MUST NOT BE BENT, CRUSHED, OR ANYWAY DAMAGED.

-IF THE SUPPLY CORD IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER, ITS SERVICE AGENT OR SIMILARLY QUALIFIED PERSONS IN ORDER TO AVOID A HAZARD.

- ONLY USE AN ORIGINAL H07RN-F POWER CABLE WITH WATERPROOF PLUG.

-THIS PRODUCT IS ONLY INTENDED TO BE FILLED WITH DIESEL.

- DO NOT TOUCH THE EXHAUST GAS OUTLET. DANGER OF BURNS!

- THE HEATER IS INTENDED FOR PROFESSIONAL USE ONLY.

-THE HEATER IS DESIGNED TO BE USED ONLY WITH THE STAND ASSEMBLY PROVIDED. DO NOT USE ANY OTHER TYPE OF STAND ASSEMBLY.

- THIS APPLIANCE IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

- CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE APPLIANCE.

## **2. APPLIANCE DESCRIPTION**

- Mobile space heater with:
  - . Closed combustion chamber and gas exhaust duct (indirect-fired models)
  - . Open combustion chamber (direct-fired models)

## **3. INSTALLATION INSTRUCTIONS**

### **3.1. General instructions**

- The heater must be operated only by properly trained personnel. The manufacturer's instructions must be followed.

- The heater must be installed and operated so that people are not exposed to dangers deriving from exhaust gases, from the hot air flow and in such a way that no fire risks exist.

- It is forbidden to install the heater in the surroundings of flammable materials, combustible

products, or in places where explosion risk exist.

- When an indirect-fired heater is used in a closed room, ensure a minimum volume of 10 m<sup>3</sup>/kW power input and a continuous natural air circulation through windows and doors. For good combustion, provide at least 80 m<sup>3</sup>/h air flow from outside.

- When a direct-fired heater is used in a closed room, ensure a minimum volume of 31 m<sup>3</sup>/kW power input and a continuous natural air circulation through windows and doors. Moreover 15 hourly air exchanges based on the total room volume must be supplied. To get this, two openings, one at floor level and one at ceiling level, must be provided each with a free area of 0.01 m<sup>2</sup>/KW power input.

- If the Levels of harmful substances are within the standard limits and the O<sub>2</sub> content equals at least 17%, no health risks exist in the working areas.

- When the heater is in use, general fire safety regulations for all fields of applications must be followed. In any case the following minimum safety clearances from materials or objects in the surroundings of the heater must be ensured:

Sides: 0.60 m                      Air inlet: 0.60 m

Top: 1.50 m                        Air outlet: 3.00 m

- Floors and ceilings must be made of fireproof materials in the room where the heater is operated.

- The air inlet and outlet must never be blocked for any reason.

- Install the heater on a flat, level floor in a steady position.

- It is forbidden to connect direct-fired heaters to air ducts.

-The heater is designed to be used only with the wheel kit/stand supplied. Do not use any other type of stand assembly.

-To fix the wheel kit to the heater, firstly secure the heater support bracket to the back underside of the heater frame using the 2xM4 screws, 2xM4 nuts and washers provided. Then slide the axle into the axle sleeve at the front underside of the frame and fit one pneumatic wheel to each side. Secure the wheels in position using the two M14 washers and two split pins provided. Inflate the pneumatic wheels according to the recommended air pressure embossed on each wheel.

-Once the wheel kit has been installed, the heater can be freely moved but only when the heater is not operating. Do not move the heater position once the heater ignition sequence has commenced.

## **Maintenance and checks**

- Depending on the operational conditions, usually every year, the heater should be checked by qualified personnel.

- Prior to start-up, the user must check for any evident non-compliance with rules of use, safety and protection.

## **4. INSTRUCTIONS FOR USE**

### **4.1 Start-up**

- The heater is factory set for operation without a room thermostat.

- If operation with room (remote) thermostat is desired, remove the socket cover (Fig.1 n.r.1) and insert the thermostat plug into the socket.

- Fill the tank with diesel fuel.

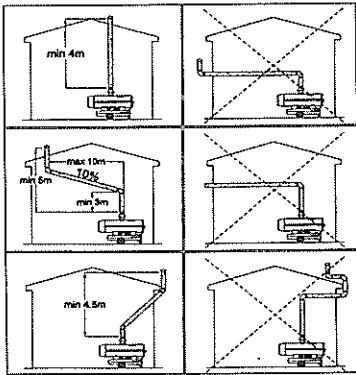
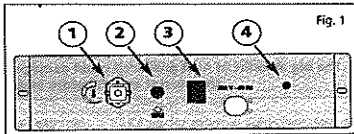
- Connect the supply plug to a 230V~50 Hz single-phase earthed socket. The green lamp indicates

that the heater is powered.

• **WARNING: THE APPLIANCE MUST BE EARTHED**

• Indirect fired heaters: connect the heater to a chimney or to an adequate heat resistant exhaust duct. To get a proper draught (at least 0.1 mbar) in the exhaust stack, the exhaust gas path must not be restricted. Avoid any elbows and bends in the first part of the exhaust ducts for at least 3M. For operation of heater in closed rooms without flue refer to the instructions for installation (part.4)

- If a room thermostat is used, set maximum temperature on it.
- Turn switch to position "ON"
- Set the desired temperature on room thermostat.



**WARNING!**

Heaters equipped with heated nozzle do not start immediately or may stop for several seconds after starting. This is normal and should not be considered a faulty condition.

**4.2. Reset after lockout and Reset of safety thermostat**

• The heater is equipped with a Reset push button. When the heater locks out, the red light on the push button (fig.1 & 2) lights up. In this case push the Reset button (see also the par. "Troubleshooting") to restart the heater.

• The heater is also equipped with a manual reset safety thermostat fixed to the combustion chamber that can be reached through the inspection cover. To reset the thermostat, unplug the heater, open the inspection cover and push the reset button on the thermostat body.

**4.3. Shut down.**

• Set switch to "OFF" to shut the flame off. The fan will continue rotating to cool the heater down. The fan motor will automatically stop at the end of the after cooling time, then the unit can be disconnected from mains.

**Never disconnect the supply plug to stop the heater while in operation**  
**The big amount of heat produced could damage the components or activate the safety thermostat and therefore make the unit not function.**

## 5. MAINTENANCE

- **Before carrying out any maintenance operation, disconnect the power plug.**
- **Maintenance must be carried out by qualified personnel (see also par.7).**
- The appliance must be thoroughly cleaned once a year to ensure good combustion and long life.
- Clean periodically the following:
  - the oil spraying nozzle and its filter
  - the oil pump filter
  - the main fuel filter cartridge
  - the ignition electrodes
  - the fan blades
  - the inside of the appliance, using compressed air
  - the flame sensor with a mild detergent
- Periodically check cables and electrical connections.
- Check the oil filter and replace if necessary

## 6. LABELLING



Hot Surface Warning Label. Indicates that the exhaust flue and area around the flue must not be touched when the heater is operating due to very hot temperatures.

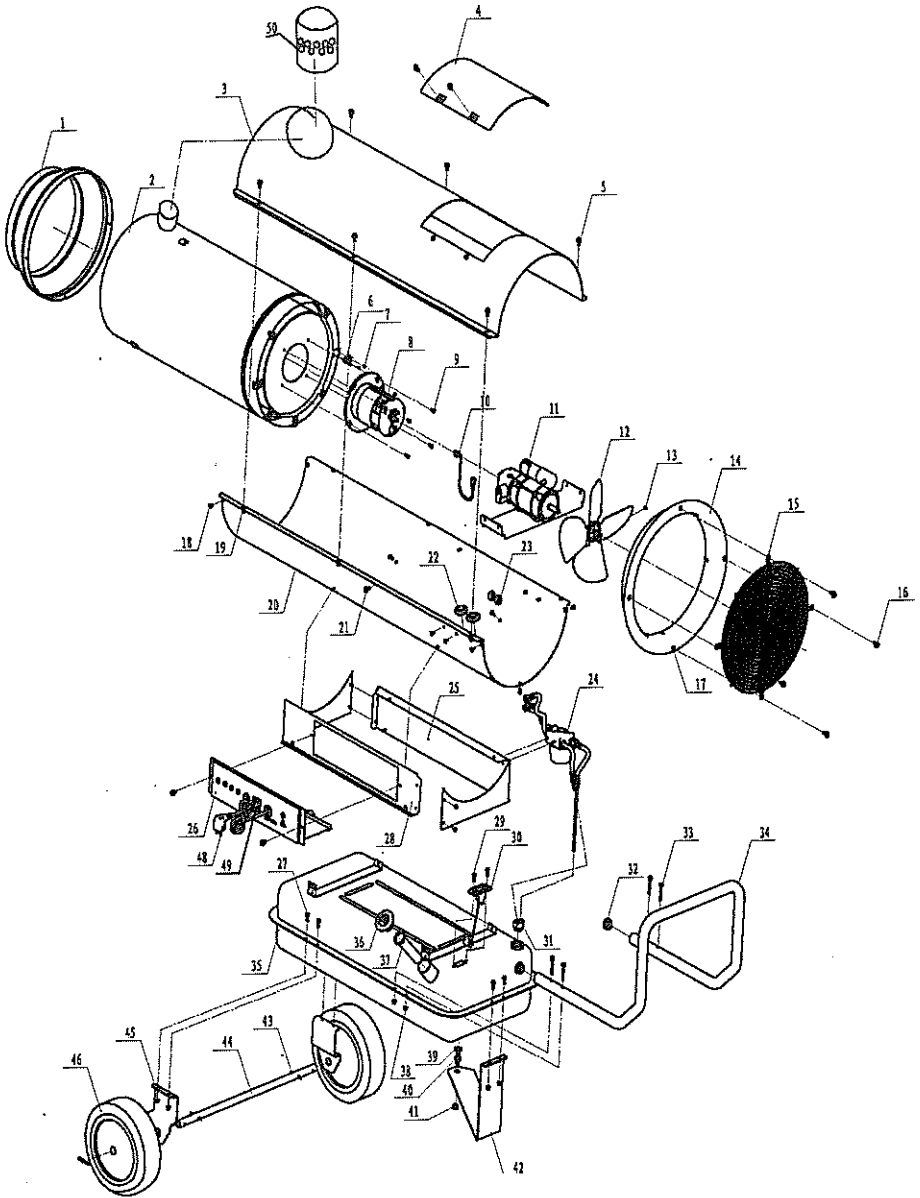


Electricity Warning Label. Located on the power access panel, indicates where the electrical components are located. This panel must only be accessed by a registered electrician.

## 7. TROUBLE SHOOTING

TROUBLE	CAUSE	SOLUTION
Heater will not start	No power	Check main distribution board and power supply line
	Faulty cable/connections	Check/have cable replaced by a qualified electrician
	Burnt fuse	Check/replace by a qualified electrician.
	Room thermostat set too low	Set room thermostat on a higher temperature
	Thermostat socket cap not inserted	Insert cap into the thermostat socket
	The safety thermostat has been activated	Reset the safety thermostat
Heater starts, flame ignites but then heater locks out	Dirty or faulty flame sensor	Clean or replace
	Faulty burner control unit	Contact service personnel
Heater starts, flame does not ignite and then heater locks out	Clogged nozzle	Clean or replace
	Flame sensor receives an external light signal during ignition sequence	Check for external lights (sun, lamps, etc.)
	Faulty burner control unit	Contact service personnel
	No fuel	Fill tank
	Ignition fault, dirty or incorrectly spaced electrodes	Clean electrodes, contact service personnel if required
Heater starts, but combustion is not good	Dirty or blocked nozzle	Clean or replace
	Clogged filters	Clean or replace
	Leaks in fuel circuit	Check and eventually replace
	Oil pump provides low pressure	Contact service personnel
	Insufficient combustion air	Contact service personnel
Heater stops due to safety thermostat	Insufficient ventilation air	Wrong air lock setting
	The appliance has overheated	Contact service personnel
	Faulty safety thermostat	Contact service personnel





**MARS-55H Spare Parts List**

NO.	NAME	Qty	NO.	NAME	Qty	NO.	NAME	Qty
1	Front shade	1	18	self-plugging Rivet	2	35	Oil tank	1
2	Tube Assembly	1	19	SCREW	10	36	Cover of oil tank	1
3	Upper cover of casing	1	20	Casing of lower cover	1	37	Strainer	1
4	Window Panel	1	21	Component of self-tapping	4	38	Screw	10
5	Hex flange screw	8	22	Protective Wire $\phi$ 25	2	39	Sealed Washer	1
6	Thermal protection	1	23	Protective Wire $\phi$ 20	2	40	Nut	1
7	Self-tapping screw	2	24	Assembly of oil filter	1	41	Internal tooth lock washer	1
8	Component of combustion	1	25	Right side panel	1	42	Supporter	1
9	Self-tapping screw	4	26	Assembly of control unit	1	43	Latch	1
10	O oil tube	1	27	Hex flange screw	6	44	Wheel Axle	1
11	Component of motor	1	28	Left side panel	1	45	Supporter of Wheel	2
12	Fan blade	1	29	Nut	1	46	Wheel	2
13	Bolt	1	30	Fuel Gauge	1	47	Ignition Wire	1
14	Air Duct	1	31	Seat of oil tube	2	48	Cable	1
15	Guard	1	32	Sleeve of oil tube	2	49	Switch	1
16	Bolt	4	33	Hex flange screw	4	50	Outer Chimney	1
17	SCREW	4	34	Supporter of handle	1			



