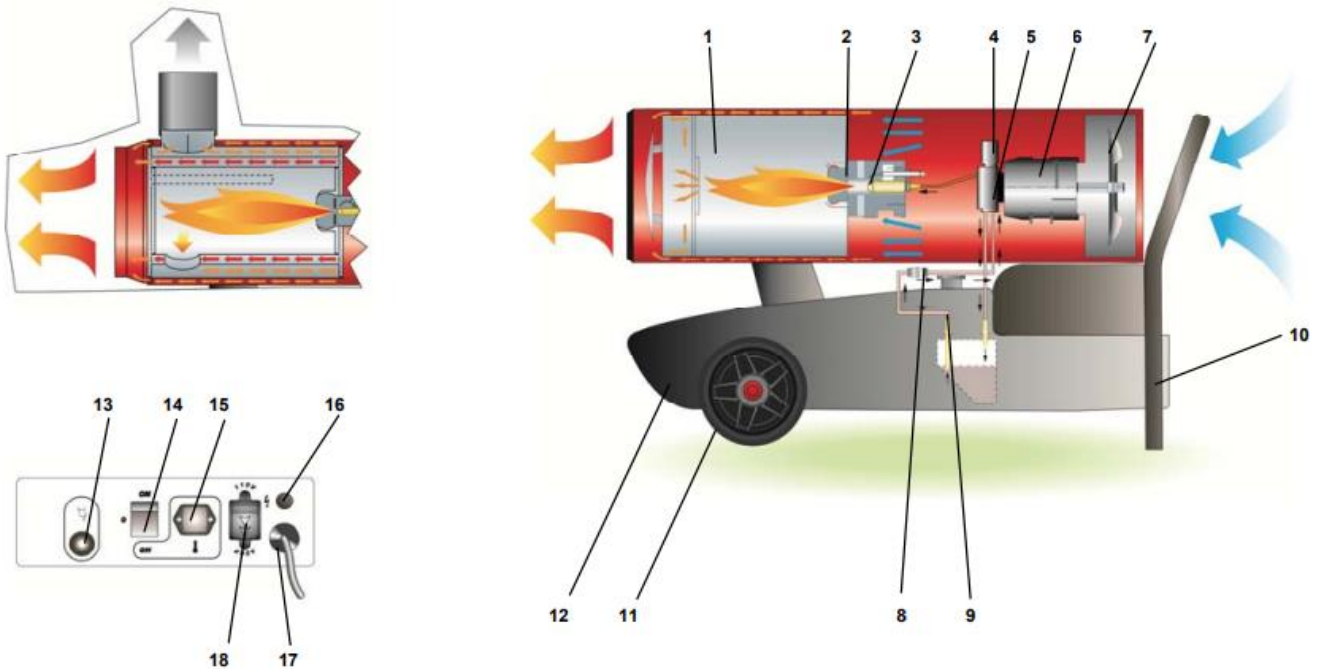


# Direct Diesel Space Heater GE36



## Operator's Manual



- |                       |                                    |
|-----------------------|------------------------------------|
| 1. Combustion Chamber | 10. Support/Handle                 |
| 2. Burner             | 11. Wheel                          |
| 3. Nozzle             | 12. Fuel Tank                      |
| 4. Solenoid Valve     | 13. Reset Button with Control Lamp |
| 5. Diesel Pump        | 14. Main Switch                    |
| 6. Motor              | 15. Room Thermostat Plug           |
| 7. Fan                | 16. Control Lamp                   |
| 8. Fuel Filter        | 17. Power Cord                     |
| 9. Fuel Circuit       | 18. Input Voltage Switch           |

This heater must only be used in accordance with the instructions herein. Only a reliable continuous power supply should be used. If the heater is switched off or unplugged without going through the cooling down procedure the ducting is likely to be burned and damaged requiring replacement and or repair to the heater. Burnt ducting and or burnt paintwork results from operator error, and or unreliable power supply and is not covered by Accidental Damage Waiver (ADW) or any hire revenue received. Damage due to negligence or operator error is charged post event from the Deferred Deposit advised on your Proforma Invoice. Please refer to the section "Stopping the heater" below for the procedure in finishing with the heater or switched off. The heater MUST go through a cooling cycle which can only occur if the Stopping the Heater is followed.

## IMPORTANT

Before using the space heater, carefully read all of the instructions and follow them scrupulously. The manufacturer cannot be held responsible for damage to persons and/or property caused by improper use of the equipment.

This instruction manual is an integral part of the equipment and must therefore be stored carefully and passed on with the unit in the event of a change of ownership.

### GENERAL RECOMMENDATIONS

The space heaters run on diesel fuel. Direct combustion versions send hot air and combustion products into the room, while indirect combustion versions are fitted with a flue to discharge the fumes through the chimney.

Always follow local ordinances and codes when using this heater:

- Follow the instructions in this booklet very carefully;
- Use only in places free of flammable vapours or high dust content;
- Keep inflammable material at a safe distance from the heater (minimum 3 metres);
- Make sure fire fighting equipment is readily available;
- Ensure that the machine resting surface or ground is not made of flammable material;
- Make sure sufficient fresh outside air is provided according to the heater requirements. Direct combustion heaters should only be used in well vented areas in order to avoid carbon monoxide poisoning;
- the indirect combustion heater is installed near a chimney to take away the fumes (see the paragraph "FUMES FLUE POSITIONING DIAGRAM") and connected to an electrical switchboard;
- nothing is obstructing the aspiration and expulsion of air; movement of air may be obstructed in various ways including placing covers or other objects on the heater or positioning the heater too near a wall or other large object;
- In case of very low temperatures add kerosene to the heating oil;
- Make sure heater is always under surveillance and keep children and animals away from it;
- Before starting the heater always check free rotation of ventilator;
- Unplug heater when not in use.

### SAFETY DEVICES

The heater is fit with an electronic device that controls the flame and the maximum safe temperature by means of a photocell and an overheat thermostat.

The electronic device controls start/stop times and trips the safety in case of malfunctions. It has reset button (13) that can assume different colours (Function Light) depending on the function mode:

- off: heater is in idle mode or in "stand-by" mode, waiting for heating request;
- steady green: heater functioning normally;
- steady red: heater in safety stop;
- flashing orange: heating interrupted due to excessive variations in voltage supply ( $T < 175V$  or  $T > 265V$ ); heating will resume automatically when voltage returns in range from 190 V and 250 V.

#### Warning



To restart heating after a safety stop, push reset button (13) for 2 seconds.

#### Warning



NEVER do more than two restarts in a row: uncombusted diesel fuel may accumulate in the

combustion chamber and suddenly flare up at the next restart.

If the safety stop persists, you have to find and eliminate the cause of the stop before you restart the heater. Push button (13) for at least 5 seconds to launch a self-diagnosis programme, after which the button will assume different colours (Self-diagnosis light) depending on the type of safety that tripped:

- flashing orange: false flame detected during restart cycle.
- flashing red: no flame during restart cycle.
- flashing red/green: no flame during work cycle.
- steady orange: internal error of electronic device.

#### Warning



See "TROUBLESHOOTING" to identify the cause of the malfunction.

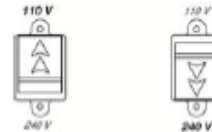
### OPERATION

Before switching on the heater and, therefore, before plugging it into the electrical power supply, check that the power supply specifications are the same as those stated on the identification plate.

#### Warning



For models "DV" check that the arrows on the voltage supply selector key cover are pointing to the voltage value required.



#### If necessary:

- remove the cover;
- press deflector (18) to the position required;
- replace the protective cover.

#### Warning



- The power line must be earthed and fitted with a residual current circuit breaker.
- The heater plug must be inserted into a socket equipped with a mains switch.


The heater must be placed on a flat, stable, and levelled surface in order to prevent it from overturning and/or diesel leaks from the tank filler cap.

You can run the generator in manual by setting switch (14) to ON.

The generator can only work automatically when a control device, such as for example a thermostat or a timer, is connected to the heater.

Connection to the heater is made by removing the socket cover (15) and inserting the thermostat plug.

To start the machine you must:

- if connected to the thermostat, turn the switch to (ON + );
- if not connected to the thermostat, turn the switch to (ON);

**Warning**

At the end of the start cycle, the electronic control device causes button (13) to flash briefly to confirm completion of the heater start cycle.

When unit is started for the first time or is started after the oil tank has been totally emptied, the diesel flow to the burner may be impaired by air in the circuit. In this case the control box will cut out the heater and it might be necessary to renew the starting procedure once by depressing the reset button (13).

If the heater does not function, the first things to do are:

1. Check that the tank still contains some diesel;
2. Push reset button (13);
3. If the heater still does not function, see TROUBLESHOOTING to identify the cause of the malfunction.

**Warning**

Never stop the machine by unplugging the electrical plug: this could cause overheating.

**STOPPING THE HEATER**

Set main switch (14) on "0" position or turn thermostat or other control device on lowest setting.

The flame goes out and the fan continues to work for approximately 90 sec. cooling the combustion chamber.

**TRANSPORT****Warning**

Before moving the heater:

- Stop the heater as indicated in the "STOP" paragraph;
- Cut electrical power by removing the plug from the electrical socket;
- Wait until the heater cools.

Before moving the heater, make sure the oil tank cap is securely attached.

**Warning**

Diesel may leak during handling and transport: the fuel tank cap is not sealed. This allows air to enter and allows the tank to be emptied while the heater is running.

The heater can be supplied in a mobile version (with wheels) or wall version mounted on a support structure with anchors for fastening by means of ropes or chains. To move the mobile version, just grip the heater by the support handle and roll it on

the wheels. The second version must be lifted by using a lift truck or similar equipment.

In this case, make sure that the ropes and/or chains are securely attached and that they are in perfect condition before you start to move the heater.

**MAINTENANCE**

To ensure correct heater function, you have to clean the combustion chamber, burner, and fan at regular intervals.

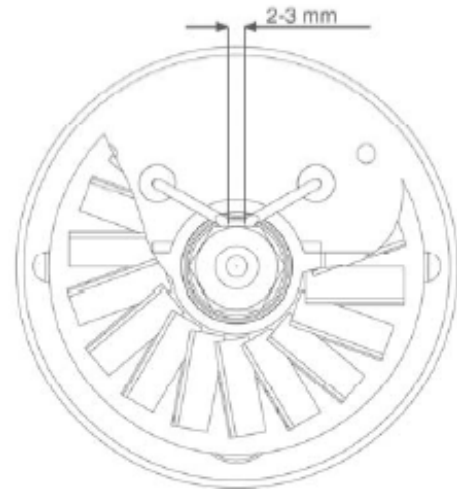
**Warning**

Before starting any maintenance procedure, ALWAYS:

- Stop the heater as indicated in the "STOP" paragraph;
- Cut electrical power by removing the plug from the electrical socket;
- Wait until the heater cools.

Every 50 hours of operation:

- Disassemble the filter cartridge, remove it, and clean it with clean diesel fuel;
- Disassemble the external cylindrical fairing and clean the inside and the fan blades;
- Check the condition of the leads and of the high-voltage connections to the electrodes;
- Disassemble the burner and clean all of its parts. Clean the electrodes and set the gap to the value specified in the paragraph "SETTING THE ELECTRODES".



PROBLEM	RESET BUTTON (13)		CAUSE	REMEDY	
Motor does not start, no ignition	OFF	-	Wrong setting of room thermostat or other control	Check correct setting of heater control. If thermostat, make sure selected temperature is higher than room temperature	
			Defective thermostat or other control	Replace control device	
Fan does not start or stops during start-up or heating	Flashing orange	-	No electrical current	Check mains Check proper positioning and function of switch Check fuse	
			Voltage below 175V	Check supply voltage: heater will restart automatically when voltage exceeds 190V	
			Voltage above 265V	Check supply voltage: heater will restart automatically when voltage is below 250V	
Fan stops during start up or heating	FUNCTION LIGHT	SELF DIAGNOSIS LIGHT	Flashing orange	Presence of flame before transformer ignites	Clean and eliminate diesel residue in combustion chamber
				Defective photocell	Replace photocell
			Flashing red or flashing red/green	Defective electrical motor	Replace electrical motor
				Defective electrical motor bearings	Replace electrical motor bearings
				Burned out condenser	Replace condenser
				Defective electric ignitor	Check connection of H.T. wires to electrodes and transformer
					Check electrodes setting (see scheme *SETTING THE ELECTRODES*)
					Check electrodes for cleanliness
					Replace H.T. transformer
				Defective flame control box	Replace control box
				Defective photocell	Clean or replace photocell
				Insufficient or no fuel at burner	Check state of motor-pump plastic coupling
			Check for any air infiltrations in the fuel line by checking the air tightness of the pipes and of the filter seal		
			Clean or replace oil nozzle		
Defective solenoid Defective electric ignitor	Check electrical connection				
	Check thermostat LI Clean solenoid valve and replace it if necessary				
Flashing orange	Internal error of electronic device	Reset the device and attempt at least two starts. If the problem persists, replace the device			
Fan starts and flame lights, generating fumes	Steady green	-	Insufficient combustion air	Make sure air inlet and outlet are free	
				Check the position of the air regulation ring	
				Clean burner disc	
			Excess combustion air	Check the position of the air regulation ring	
			Fuel contaminated or contains water	Drain fuel in tank and load with clean fuel	
				Clean oil filter	
Air leaks in fuel circuit	Check the seals on the ducts and the diesel filter				
Insufficient fuel at burner	Check pump pressure				
Excess fuel at burner	Replace nozzle				
Heater does not stop	Steady green	-	Defective solenoid seal	Replace complete solenoid	

If the heater is still not working properly, please contact your nearest authorised dealer.