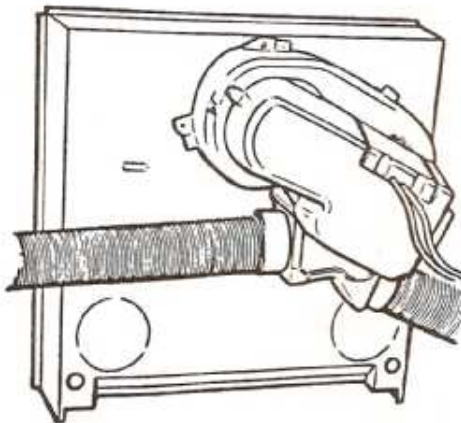


CARVER

FANMASTER WARM AIR HEATER USER'S INSTRUCTIONS



CAUTIONS

- 1) Read the operating instructions before using the Fanmaster
- 2) Read the operating instructions for the Carver gas heater before using it in conjunction with the Fanmaster
- 3) Aerosols and other flammable materials must not be stored behind or adjacent to the Fanmaster
- 4) One or more duct outlets must be open whilst the Fanmaster is in use

1. GENERAL DESCRIPTION

The Fanmaster is an automatically controlled fan designed to distribute warm air through ducts to outlets positioned around the caravan.

All the functions of the Fanmaster are controlled by a remote wall mounted controller.

The air is heated either by the Fanmaster's own integral electric elements or by the Carver gas fired heater on which the Fanmaster is mounted, but not by both at the same time.

The built in elements are automatically or manually switchable between 0, 1kW and 2kW and require a 230v AC mains supply drawing a maximum of 8 amps at 2kW. The fan requires a 12v DC supply and will take 1.5A at maximum speed.

When using electric heating the caravan temperature is regulated by the thermostat on the controller but when using gas heating the temperature is controlled by the gas heater thermostat. In summer the fan may be operated without any heat input to distribute cool air.

The duct outlets are generally of the butterfly type and may be opened or closed by rotating the serrated disc and the direction of flow controlled by twisting the butterfly in its housing. One outlet on each leg of the duct layout must be kept open.

2. CONTROLLER OPERATION



(Fig. 1)

- 2.1 The controller contains a thermostat, an On/Mode Select button, an Off button and 5 lights showing which mode is selected. (Fig. 1)

- 2.2 The Fanmaster is switched on by pressing the "On/Select" button once. The indicator light will show mode 1 selected, flash for a few seconds and then remain steady. When the light is steady the Fanmaster is working in the indicated mode. Subsequent operation of the On/Select button will sequentially change the mode from 1 to 2 to 3 to 4 to 5 and then back to 1. If the On/Select button is kept pressed then the modes will automatically change in sequence and the lights will flash whilst this happens. When the required mode is selected removal of the finger will stop the progression, the light will flash for a few seconds and then remain steady showing that the Fanmaster is operating in the selected mode.
- 2.3 The thermostat on the remote controller ONLY operates when electric heating is selected. Movement clockwise increases the selected temperature.
- 2.4 To switch the Fanmaster off press the OFF button once. All the lights will go out.

3. DESCRIPTION OF OPERATION

3.1 Gas Auto Fan. Mode 1

When this mode is selected the Fanmaster distributes the heat produced by the Carver gas heater. This heater must be turned on independently, and the caravan temperature is controlled by the gas heater thermostat.

The Fanmaster speed tracks the temperature of the air being drawn into it from the gas heater, when this is high the Fanmaster runs fast to distribute the heat around the caravan. When the caravan temperature approaches the comfort level set on the heater thermostat, the gas input to the heater is reduced and the Fanmaster slows down to avoid producing cool draughts. When the heater thermostat calls for more heat, the gas input to the heater increases, the air being drawn into the Fanmaster gets hotter and the fan speed rises to match it.

This mode may be used without a mains electric hook-up.

3.2 Gas Slow Fan. Mode 2

When this mode is selected the Fanmaster runs continuously at low speed to distribute the heat from the Carver gas fired heater, for this mode the Carver heater would normally be set at a low rate for background or overnight heating.

3.3 Fan. Mode 3

In this mode the Fanmaster runs continuously at maximum speed. It can be used to maintain maximum air circulation whilst heating on gas only, or to circulate air without heating in summer.

3.4 Electric Auto Fan. Mode 4

In this mode the Fanmaster runs at maximum speed with the integral 2kW electric element operating. When the comfort level set on the Fanmaster control is achieved the electrical input is reduced to 1kW and the fan speed is reduced. If the temperature continues to rise the element is switched off but the fan continues to run on low speed. A drop in temperature will reverse the sequence.

This mode would be used for a quick warm-up and complete automatic control of the electric space heating where the site supply is adequate. See note 3.6.

A mains hook-up is needed for this mode and the maximum current will be approximately 8 amps.

3.5 Electric Slow Fan. Mode 5

When this mode is selected the Fanmaster runs continuously at low speed and the 1kW element is energised. When the comfort level set on the Fanmaster control is achieved the element is switched off but the fan continues to run.

This mode would be used to maintain the caravan temperature or for overnight heating and requires a mains hook-up. The maximum current will be approximately 4 amps.

3.6 NOTE:

If you suspect that your mains hook-up is inadequate to supply the 8 amps required for Electric Auto Fan (Mode 4) in addition to your existing mains load, then for the initial warm-up use the Carver gas heater on a high setting and the Fanmaster on Gas Auto Fan (Mode 1). When comfortable change to Electric Slow Fan (Mode 5) and turn the gas heater off.

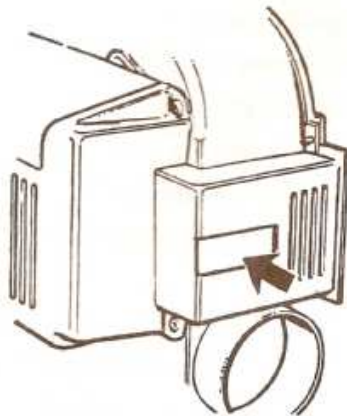
Typical mains current consumptions are:-

Carver Cascade 2 GE Water Heater	2.8A approx.
Travelling Kettle	3.2A approx.
Battery Charger	1.0A approx.
Portable Colour Television	0.3A approx.
60W Light Bulb	0.3A approx.
Fanmaster on Electric Auto Fan	8.3A approx.
Fanmaster on Electric Slow Fan	4.2A approx.

The normal mains supply to UK pitches is rated at 16A but some sites have only a 10A capability.

4. Safety

- 4.1 To prevent over heating of the electric elements at least one warm air outlet must be open at all times.
- 4.2 If all outlets are closed the over-heat trip will operate and switch off the heating elements. If this happens, open the outlets, wait for the elements to cool down and reset the trip by pressing the Fanmaster cover where shown in Fig. 2.



(Fig. 2)

- 4.3 If the Fanmaster is switched off when hot and then restarted immediately there may be a delay before heating recommences.
- 4.4 Make sure that clothing etc. is kept clear of the back of the heater.
- 4.5 Ensure that the electrical cables of the Fanmaster are not strained or damaged.
- 4.6 It is not good practice to run on Gas Slow Fan, Mode 2 with the gas heater on a high setting.
- 4.7 Because of the control method, using electric and gas heating simultaneously will not give faster warm-up time and is not recommended.

5. Servicing

- 5.1 The Fanmaster requires no routine servicing but it is recommended that, in common with the mains electric installation in the caravan, it is checked annually for earth continuity and insulation resistance.
- 5.2 In order to ensure that your Carver heater continues to operate effectively, you will need to arrange for it to be serviced at least once a year by a competent and trained service engineer.
- 5.3 Similarly, you will need to call in for service if, at any time, you experience difficulties with the heater's performance. There are a number of Dealers throughout the country who can give you this facility and they are listed in the back of this leaflet. If however, it is impractical to use them, you are recommended never to try to deal with the problem yourself but to turn off the gas to the heater, preferably at the cylinder, and to call your nearest caravan dealer for advice. He can then arrange for a competent engineer to deal with your problem.
- 5.4 The reason for this advice is that by law no one is permitted to deal with the installation and servicing of gas appliances unless he is competent to work within the Gas Safety and Use Regulations 1990. Carvers provide special training facilities for their own staff and Dealer staff to make sure that you have available at all times competent engineers to deal with your requirements.