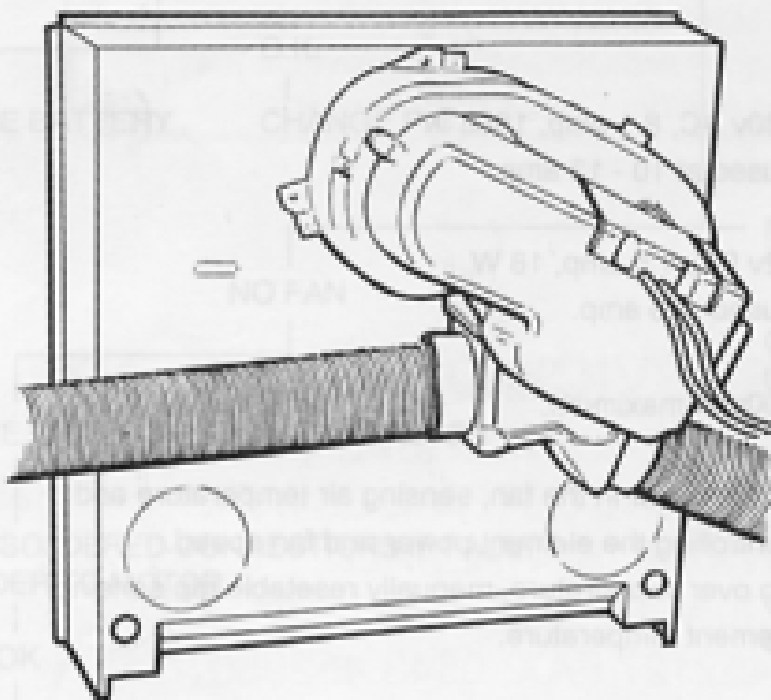


# CARVER

## FANMASTER WARM AIR FAN HEATER INSTALLATION INSTRUCTIONS



**PLEASE LEAVE THESE INSTRUCTIONS WITH THE APPLIANCE**

## 1. GENERAL DESCRIPTION

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

The Fanmaster is designed to fit on to the back of the installation box of any Carver 1800, 2000 or 3000 heater and the air may be heated either by the Carver heater or by the Fanmaster's own integral electric elements, but not by both simultaneously.

The integral elements are automatically or manually switchable between 0kW, 1kW and 2kW. They require a 230v AC mains supply and will draw approximately 8 amps at 2kW.

The fan and the electronic control require a 12v DC supply and will draw approximately 1.5A at full speed.

All functions of the Fanmaster are controlled by a remote, wall mounted, controller. This controller does not contain a thermostat sensor so it can be mounted in any convenient position.

## 2. Specification

2.1 Heating Element Supply: 230v AC, 8.1 amp, 1863 W  
Fused at 10 - 13 amp.

2.2 Fan and Control Supply: 12v DC, 1.5 amp, 18 W  
Fused at 5 amp.

2.3 Air Delivery: 100m<sup>3</sup>/h maximum.

2.4 Safety Features: A thermistor in the fan, sensing air temperature and controlling the element power and fan speed.  
An over temperature, manually resettable trip sensing element temperature.

2.5 The Fanmaster is approved to BS 3456 pt 201 (1990), EN 60335 pt 1 (1988) and manufactured to BS 5750 pt 2 (1987). It is suitable for installation in caravans complying with BS 4626 (1970).

2.6 The rating and data plate is on top of the Fanmaster body.

PLEASE LEAVE THESE INSTRUCTIONS WITH THE APPLIANCE

### 3. Warnings

- 3.1 It is recommended that the Fanmaster be installed by a competent electrician working to IEE Regulations 16th edition and these fitting instructions. Before connection to the mains supply the work must be certified by an NICEIC approved electrical contractor.
- 3.2 Any work involving gas fittings on the Carver heaters must be performed by a competent gas fitter working to the Gas and Safety (Installations and Use) Regulations 1984.
- 3.3 The Fanmaster uses 230V mains supply. This can be dangerous. Exercise extreme caution during installation.
- 3.4 Before starting work, disconnect the caravan from the mains electrical supply and isolate any on-board 12v battery.

### 4. Fanmaster Kit and Tools required.

#### 4.1 Fanmaster

- 1 off Fanmaster
- 1 off Remote Controller
- 1 off Twin wire loom
- 1 off Three wire loom
- 3 off No. 6x16mm Self tapping screws
- 1 off Connection lid
- 2 off Connection lid screws No. 4x9.5mm
- 4 off Cable clamp screws No. 4x16mm
- 2 off Screw covers for controller
- 2 off m/c screws for use with optional controller box
- 1 set of literature

#### 4.2 Tools Required

- No. 1 Posidrive driver
- No. 2 Posidrive driver with 200mm blade length
- Electrical Screwdriver
- 10mm drill
- Pad saw

#### 4.3 Material Required

- 3 core wire, PVC sheathed, Brown, Blue, Green/Yellow CSA 1.5mm<sup>2</sup> 600v grade to BS 6004 for connecting Fanmaster to mains supply.
- Double pole switched outlet with contact separation of at least 3mm on each pole fused at 10A or 13A plug (See Section 9).

**5. Fitting Fanmaster to the installation box.**

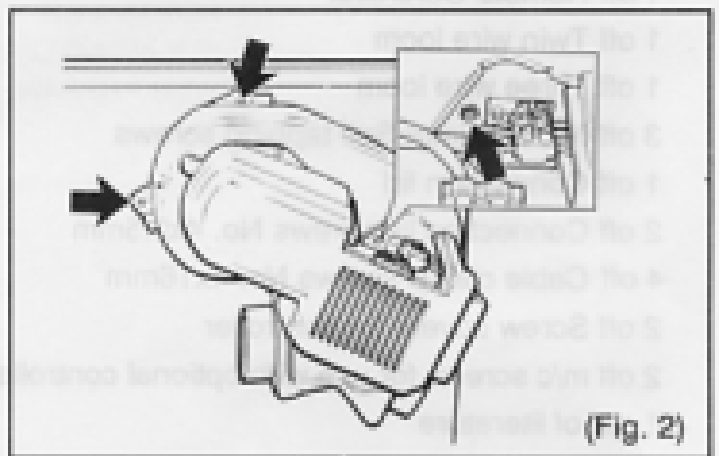
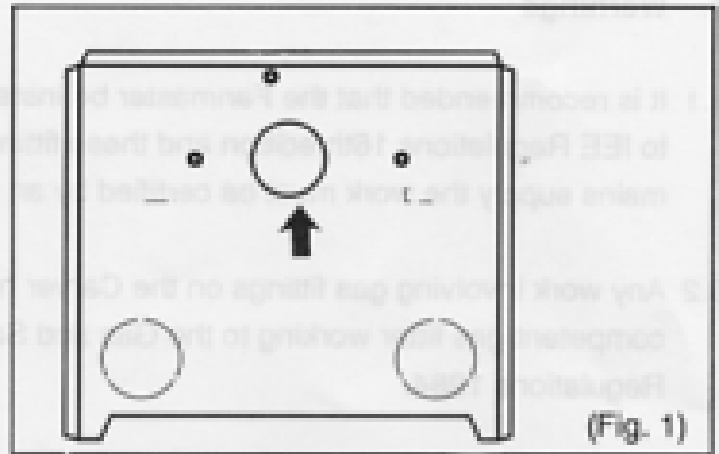
5.1 Remove the circular knock-out from the rear of the installation box. (Fig. 1).

5.2 Drop one of the 3 off No. 6x16mm self tapping screws provided down the tube located to the left of the terminal block bracket at the back of the Fanmaster inside the terminal enclosure. (Fig. 2)

Using the 200mm long No.2 Posidriver position the screw so that it projects through its hole.

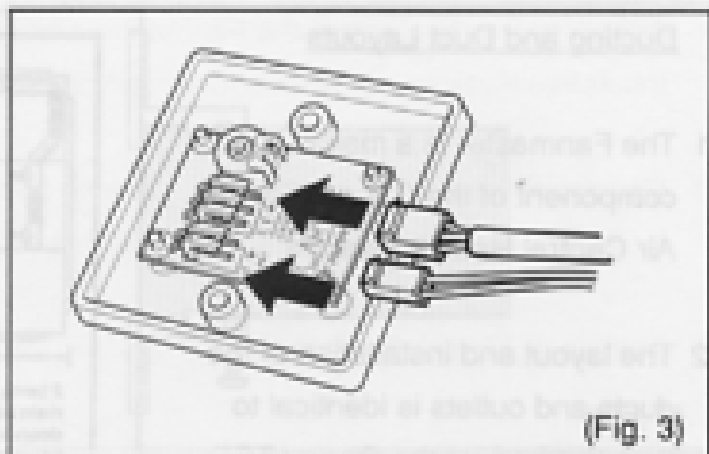
With the driver still in position locate the Fanmaster as shown in Fig. 2 with the intake aligned with the knock-out and loosely fix the screw into the lower left-hand nut (as seen from the front) (Fig. 2). Fit the other 2 screws as shown and tighten all three.

5.3 Ensure that no part of the Fanmaster touches the heater flue.



## 6. Fitting the Remote Controller

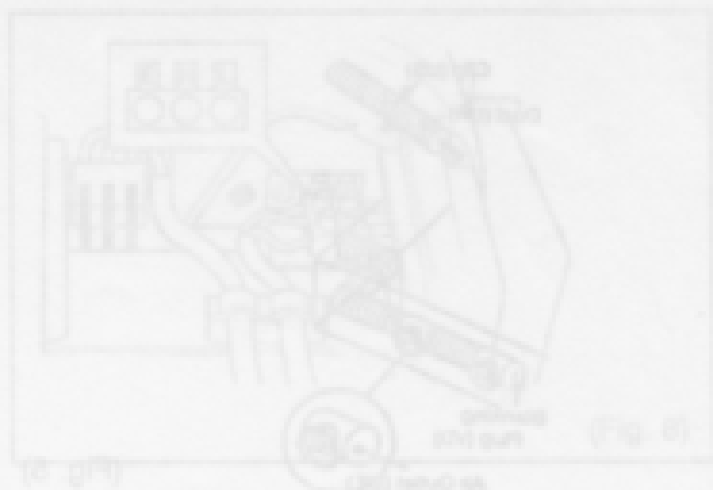
- 6.1 Select the position for the controller. This will ideally be in an accessible position on the front wall of an overhead locker or on the wardrobe side. Ensure the three core loom will reach from the controller to the Fanmaster and allow for clipping to the structure.



(Fig. 3)

Cable entry is from the rear of the controller through the cut-out in the panel.

- 6.2 The controller does not contain a temperature sensor so its position is not thermally sensitive.
- 6.3 In the selected position use the template from page 7 to make the cut-out and drill the holes. If the panel is thin it may need reinforcement to take the screws. The use of masking tape on the area to be cut will prevent splintering of wood.
- 6.4 Lead the three-core loom from the Fanmaster to the Controller and plug it into the controller at one end & into the Fanmaster at the other. The plugs will only go in the correct way round. Do not use force. Fig. 3 and Fig. 8.
- 6.5 Lead the two-core loom from the controller to the van's 12v DC supply. The white lead goes to the negative and the green via a 5 amp fuse to the positive. Fig. 3.
- 6.6 Screw the controller in position using self tapping screws or the machine screws if the optional rear protection box is used. Insert the screw covers.
- 6.7 Clip the looms to the caravan structure leaving slack to remove the controller.



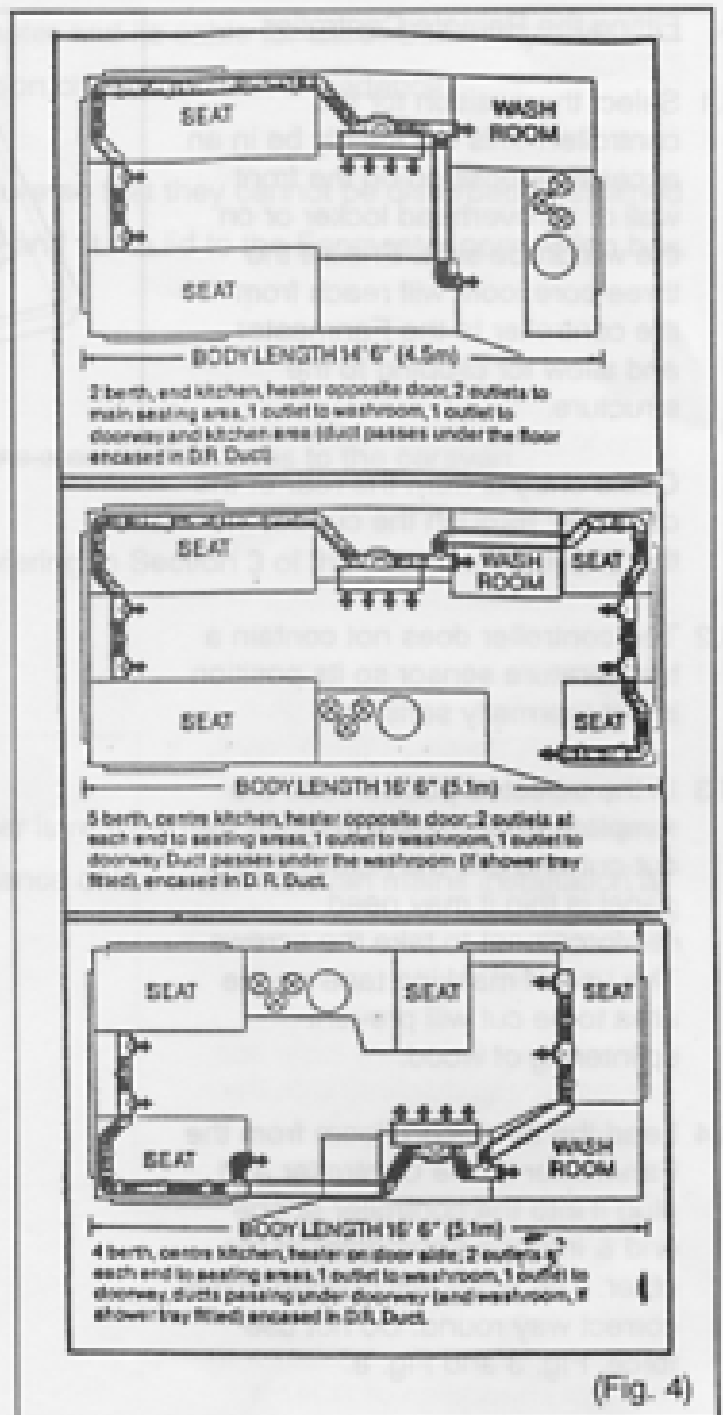
## 7. Ducting and Duct Layouts

7.1 The Fanmaster is a major component of the Carver Blown Air Central Heating System.

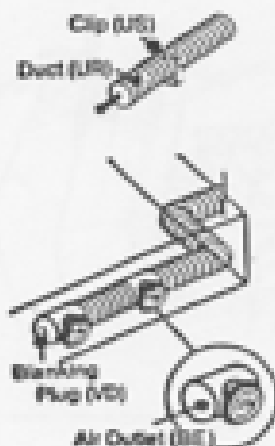
7.2 The layout and installation of the ducts and outlets is identical to that required for the Carver TEB 12v Fan.

7.3 Each of the twin outlets on the Fanmaster accept "UR" flexible ducting to give a warm air supply to both ends of the caravan. Each duct run can supply 2 or 3 outlets. It is recommended that at least one outlet is of the permanently open type to prevent over temperature safety tripping of the electric elements.

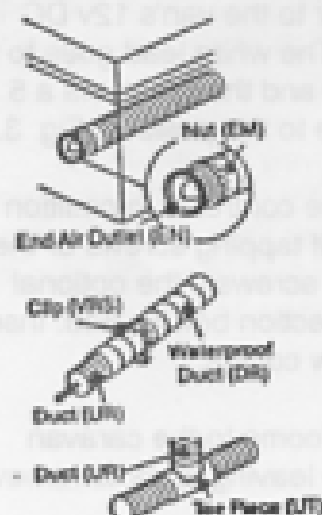
7.4 Detailed Duct installation information is available from Carver but the three layouts shown are typical. Fig. 4.



(Fig. 4)



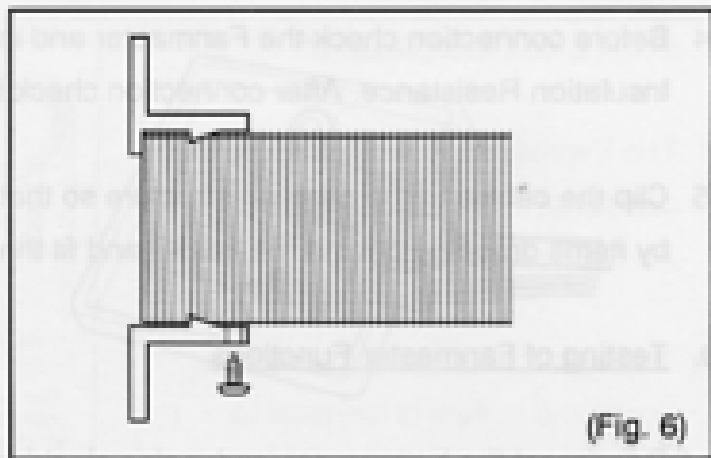
(Fig. 5)



## 8. Connection of Ducting to Fanmaster

8.1 Push the ends of the duct firmly past the retaining ridges into the Fanmaster ports up to the stops and retain with self tapping screws. Fig. 6.

8.2 In some installations care must be taken in routing the duct into the ports to avoid kinks. Fig. 7. It may be easier to fit the ducts before securing the Fanmaster.



(Fig. 6)

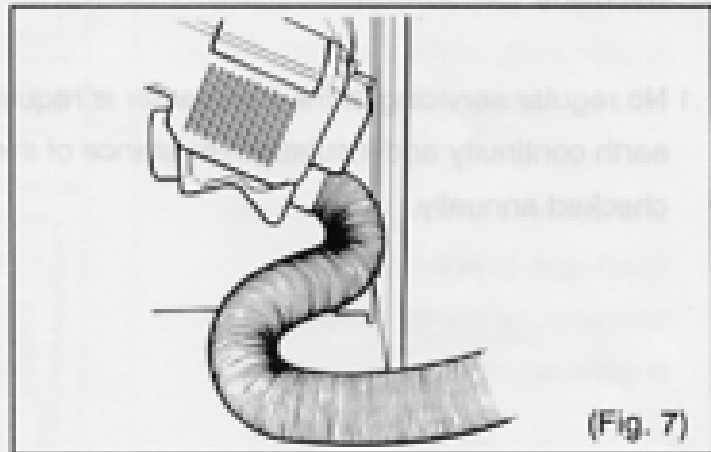
## 9. Mains Electrical Connection.

9.1 Wire the mains supply cable (PVC sheathed, 3 core, Brown, Blue and Green/Yellow, 1.5mm<sup>2</sup>/core, 600v grade to BS 6004) into the main terminal block on the Fanmaster.

This is marked:

"E" Earth	Green/Yellow wire
"N" Neutral	Blue wire
"L" Live	Brown wire

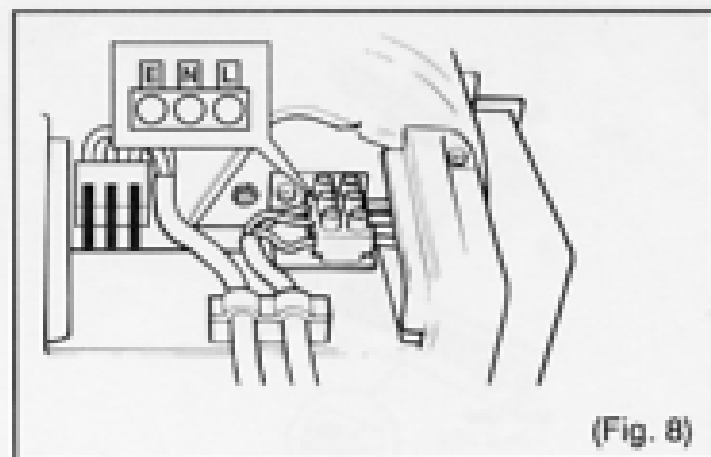
Secure the 12v 3 core loom and the mains supply cable with the cable clamp. Fig. 8.



(Fig. 7)

9.2 To supply mains current to the Fanmaster by means of fixed wiring, lead the mains cable from the Fanmaster to an accessible double pole switched outlet with contact separation of at least 3mm on each pole fused at 10A which is supplied from the output of the MCB which serves the 13A sockets.

9.3 Alternatively to retro-fit the Fanmaster to an existing mains installation the Fanmaster may be supplied through a 13A plug from an existing 13A socket.



(Fig. 8)

9.4 Before connection check the Fanmaster and its cable for Earth Continuity and Insulation Resistance. After connection check for Earth Impedance.

9.5 Clip the cables to the caravan structure so that they cannot be disturbed or strained by items dropping behind the heater and fit the lid to the Fanmaster connection box.

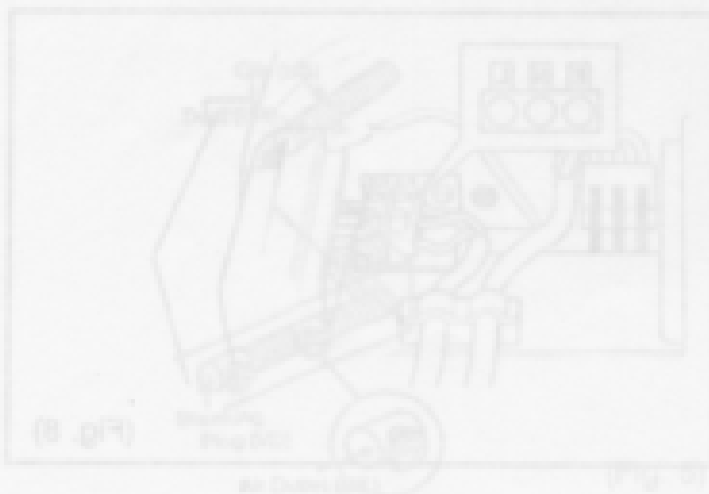
## 10. Testing of Fanmaster Functions

10.1 Reconnect the battery, gas and mains electrical supplies to the caravan.

10.2 Test the functions mode by mode referring to Section 3 of the Fanmaster User's Instructions.

## 11. Servicing

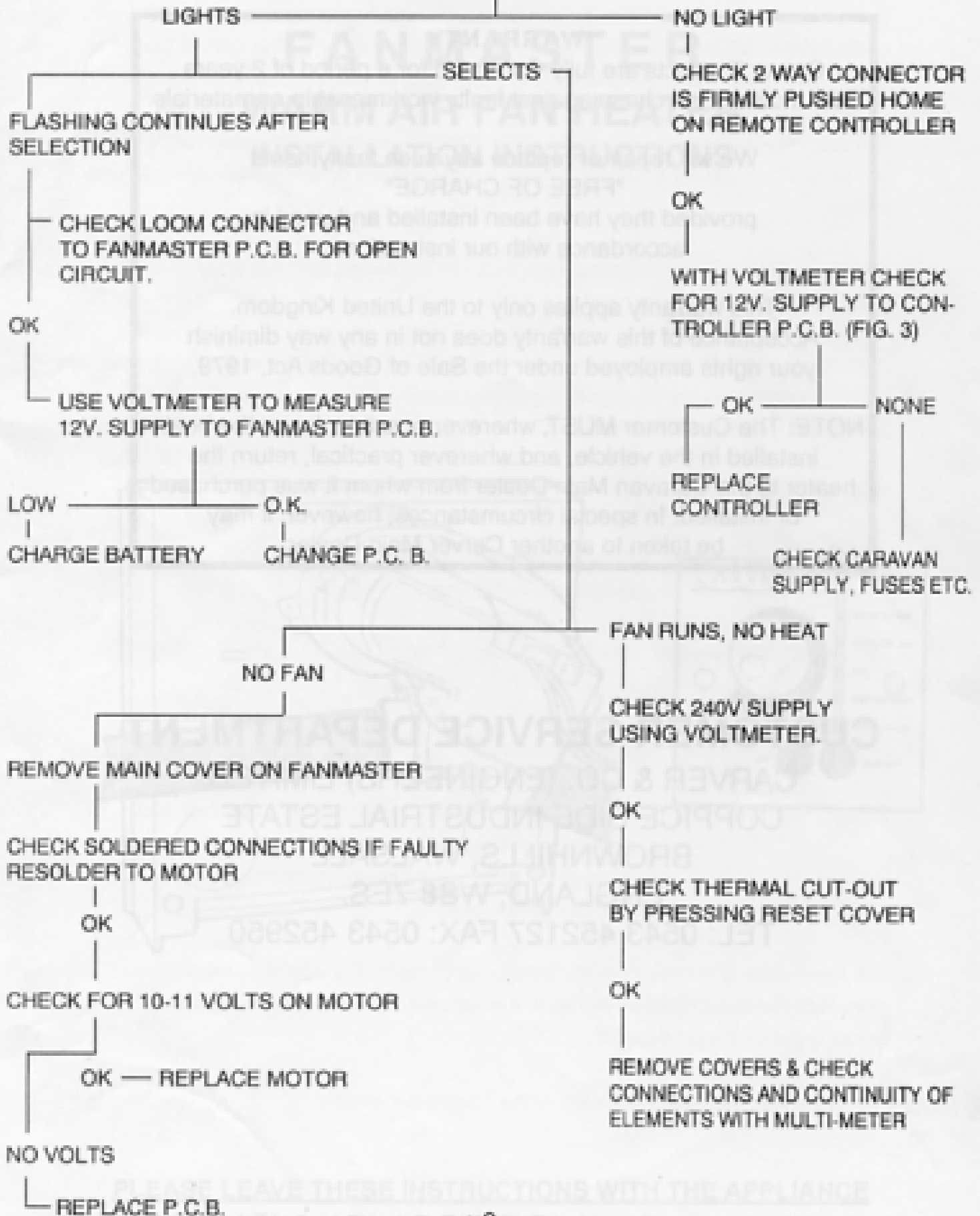
11.1 No regular servicing of the Fanmaster is required but it is recommended that the earth continuity and insulation resistance of the entire caravan mains installation is checked annually.





12. Fault Diagnosis Flow diagram

PRESS SELECT BUTTON



### 3 Warnings

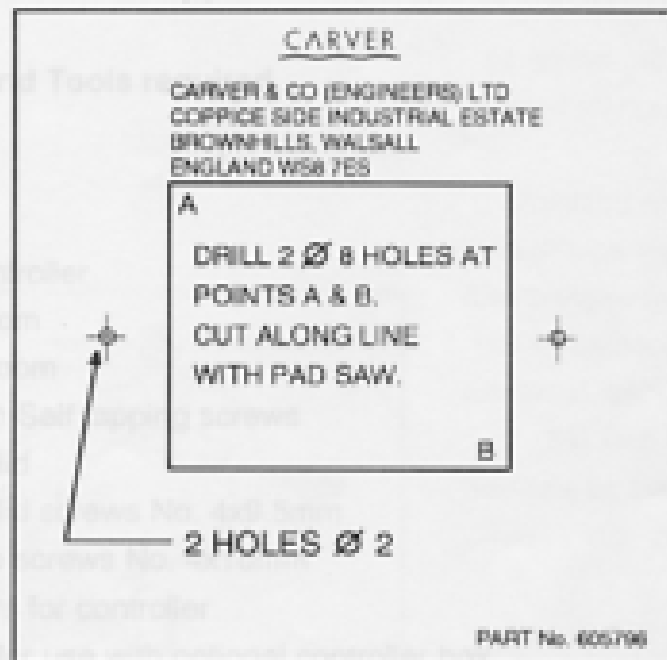
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3.2 Any work involving gas fittings on the Carver heaters must be performed by a competent gas fitter working to the Gas and Safety (Installations and Use) Regulations 1984.

3.3 The Fanmaster uses 230V mains supply. This can be dangerous. Exercise extreme caution during installation.

3.4 Before starting work, disconnect the caravan from the mains electrical supply and isolate any on-board 12V battery.

TRIM TEMPLATE TO THIS LINE



### 4. Fanmaster Kit and Tools

#### 4.1 Contents

- 1 of Fanmaster
- 1 of Remote Controller
- 1 of Twin wire lock
- 1 of Three wire lock
- 3 of No. 6x40mm Self-tapping screws
- 1 of Connection cable
- 2 of Connection cables No. 4x0.5mm
- 4 of Cable clamp screws no. 4
- 2 of Screw cover for controller
- 2 of Inlet screws
- 1 set of literature

#### 4.2 Tools Required

- No. 1 Posidrive driver
- No. 2 Posidrive driver with 200mm blade length
- Electrical Screwdriver
- 10mm drill
- Pad saw

#### 4.3 Material Required

- 35m of 1.5mm<sup>2</sup> PVC sheathed, Brown, Blue, Green/Yellow CSA 1.5mm<sup>2</sup> 600v grade to BS 6004 for connecting Fanmaster to mains supply.
- Double pole switched outlet with contact separation of at least 3mm on each pole fused at 10A or 13A plug (See Section 9)

# CARVER

## AMENDMENT FOR FANMASTER INSTALLATION AND USER INSTRUCTIONS

The over-heat thermal cut out trip on your Fanmaster appliance is not resettable by the user and must be replaced by a competent electrician working to IEE Regulations 16th edition and your instructions.

### WARNINGS

The Fanmaster uses 230V mains supply. This can be dangerous. Exercise extreme caution during servicing.

Before starting any work, disconnect the caravan from the mains electrical supply and isolate any on board 12V battery.

### INSTALLATION INSTRUCTIONS AMENDMENT

Fault diagnosis flow diagram in fault line fan runs, no heat alters to check thermal cut-out using a multimeter by checking across thermal cut-out for continuity if non found replace thermal cut-out.

### USER INSTRUCTION AMENDMENT

Section 4. Safety alters to if outlets are closed or blocked the over heat trip will operate and switch off the heating element. If this happens, your thermal cut-off will operate, this is a single operation device and will be required to be replaced by a competent person (see installation instructions).

### ABBREVIATED FANMASTER OPERATING INSTRUCTIONS AMENDMENT

Cautions section 5 alters to read if the over-heat trip operates (no heating on "Elec Slow Fan"), the single operation thermal cut -out will need to be replaced by a competent person (see installation).

**FOR SPARES OR REPAIR  
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