

Carver Fanmaster 230V electric element replacement instructions

Document ref AE-D-00020 – Issue 1

1. Introduction

These instructions detail the correct procedure for installing replacement Carver Fanmaster 230V heating elements by Apuljack Engineering

Time to replace: XX minutes

1.1 Disclaimer

Gas safe



Check yours is the same/instructions may differ by exact model/fitment

1.2 Warning

Mains voltages, hot surfaces, sharp edges gas safe

1.3 Tools required

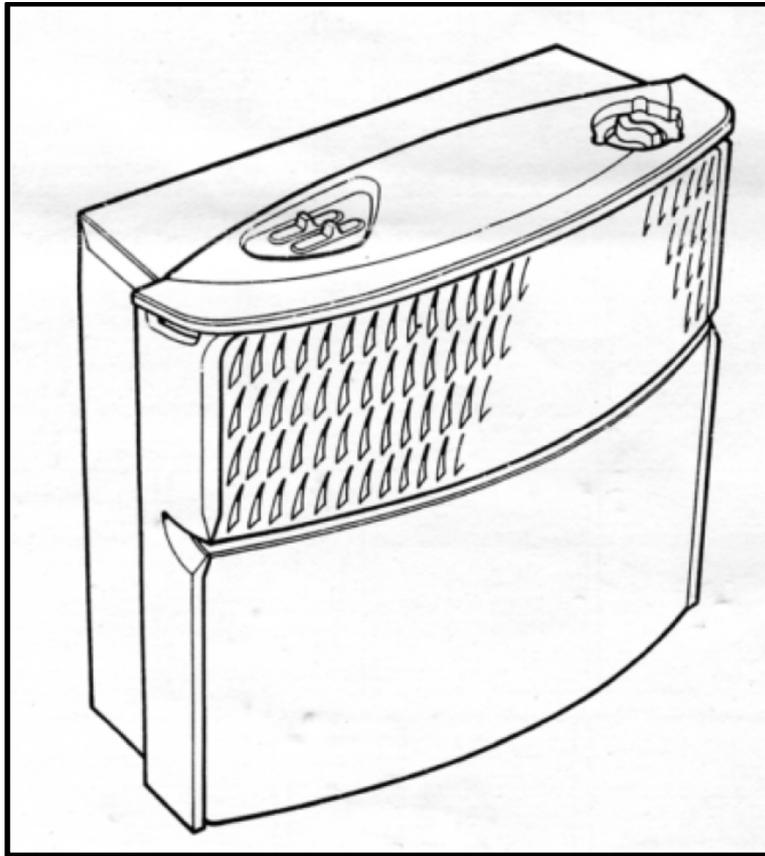
1. PZ2 screwdriver
2. 3mm drill bit and drill
3. Long nose pliers
4. 16mm open ended spanner

1.4 Materials required

1. 5off 3x6mm rivets
2. 2off replacement elements by Apuljack Engineering

2 Installation instructions

2.1 Remove front cover



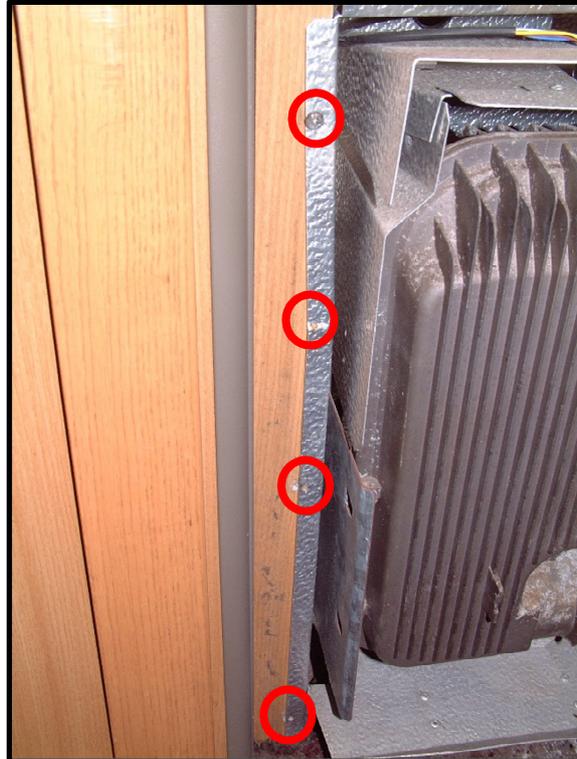
Remove front cover (be very careful as the slider control is still attached – disconnect carefully). This is achieved by pulling the bottom of the fire front away from the back and then lifting the top of the cover off the controls.

2.2 Disconnect the gas pipe underneath



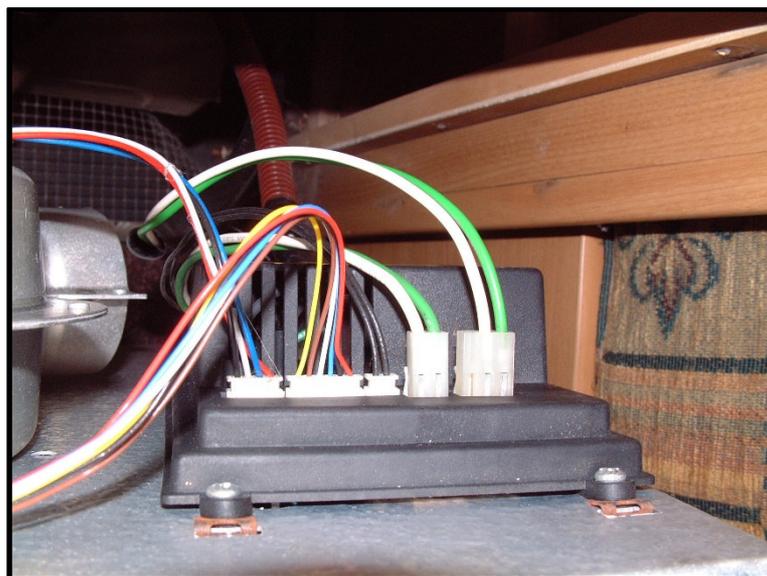
From underneath the vehicle remove the gas pipe by undoing the nut on the elbow fitting and pulling the pipe out from the elbow. The picture above shows the position of the gas pipe with the heater removed for clarity.

2.3 Remove the screws holding the unit into the cupboard



The units are usually held in by up to 4 screws on each side. Remove the screws and retain for refitting

2.4 Disconnect the external electrical wires



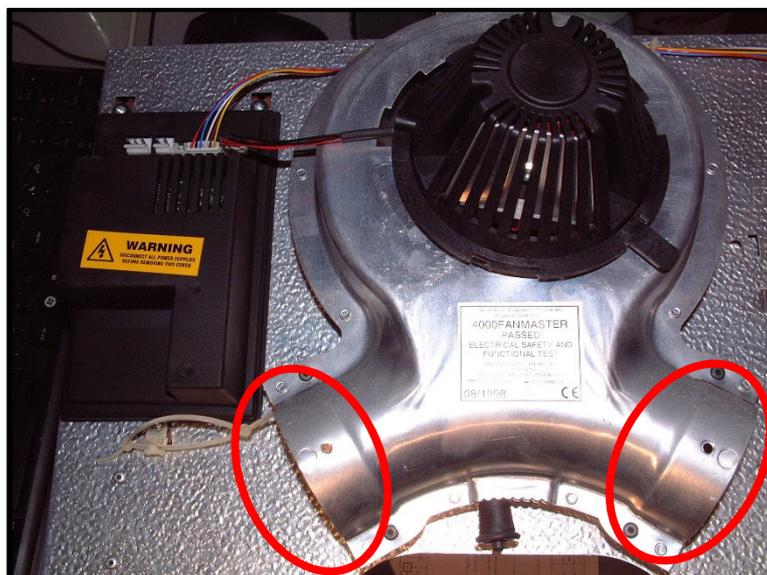
Remove the five 12V electrical connections from the main unit for ease of removing parts and to avoid damage. These are easily replaced later as they are polarised so you cannot fit the wrong one in the wrong location. You also need to remove the 'Kettle style' mains input cable from the bottom of the unit.

2.5 Disconnect the flue



Remove the pipe clip and gently pull the pipe back through the hole shown above

2.6 Disconnect the air outlet pipes



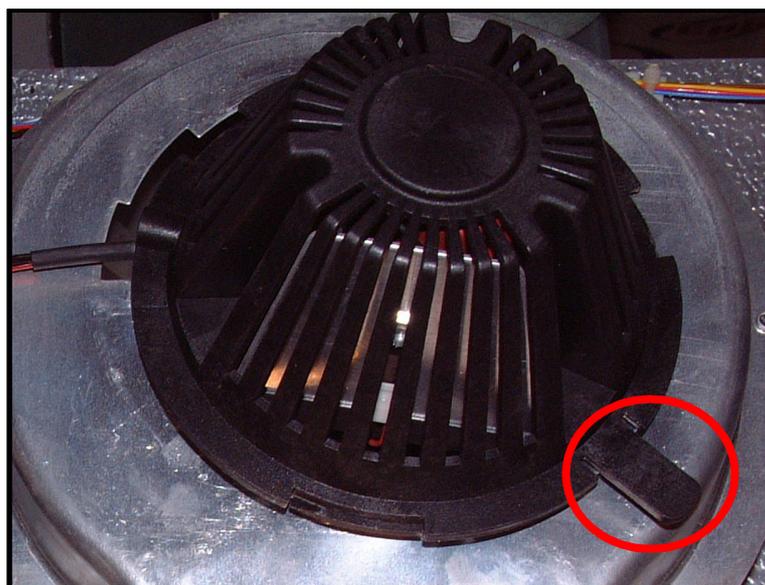
Remove the two outlet ducts from the motor housing, as shown above, by removing the two screws and pulling out.

2.7 Remove the unit from the van



All the external connections and wiring should now be removed from the unit. **WARNING – heavy.** This should allow complete removal of the unit from the vehicle. Remove the unit and initially lay front down on a suitable workbench.

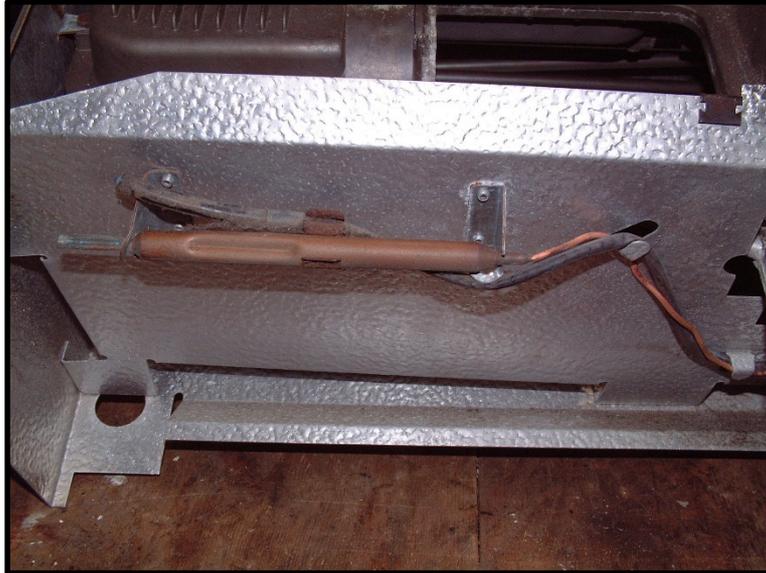
2.8 Prepare the unit



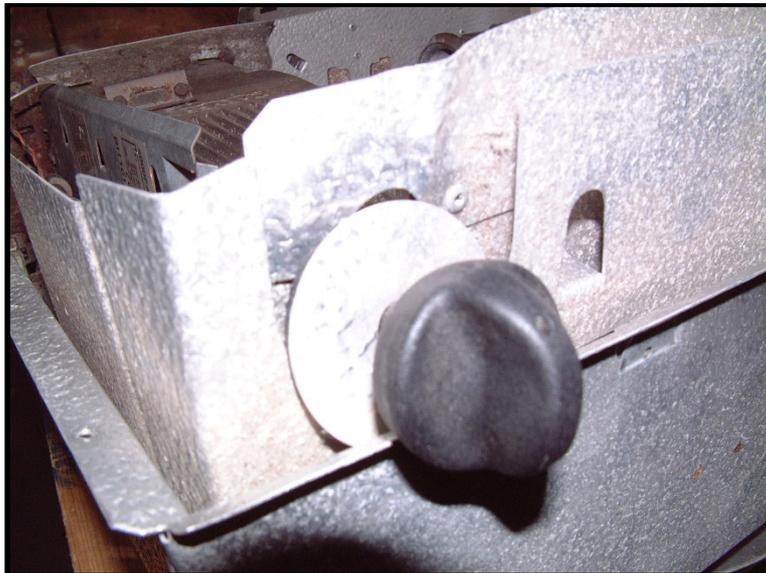
You need to work on the unit with the front upwards. However the back of the unit it not very flat. In order to avoid damage and a stable heater, first remove the fan unit by lifting the black tab, rotating the unit anti-clockwise and then withdrawing the motor and fan as a complete unit. Now is a good time to clean/vacuum the fan, motor and fan chamber to remove dust/dirt.

By finding suitable blocks/supports for the corners you should now be able to turn the unit front upwards whilst keeping the unit stable/steady.

2.9 Remove the thermostats



2.10 Release the gas controls

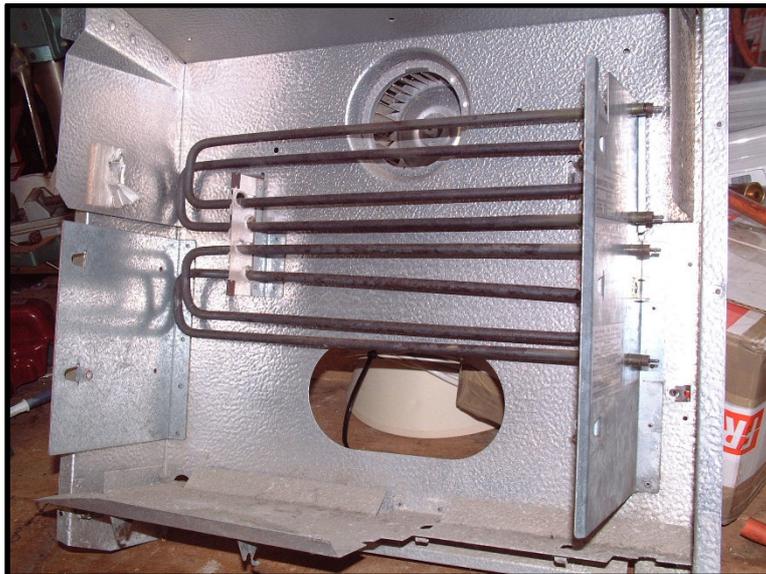


2.11 Remove the gas heat exchanger



Remove the 5/8 screws holding the large cast gas heat exchanger (the elements are behind)

2.12 You should now see the two coiled elements

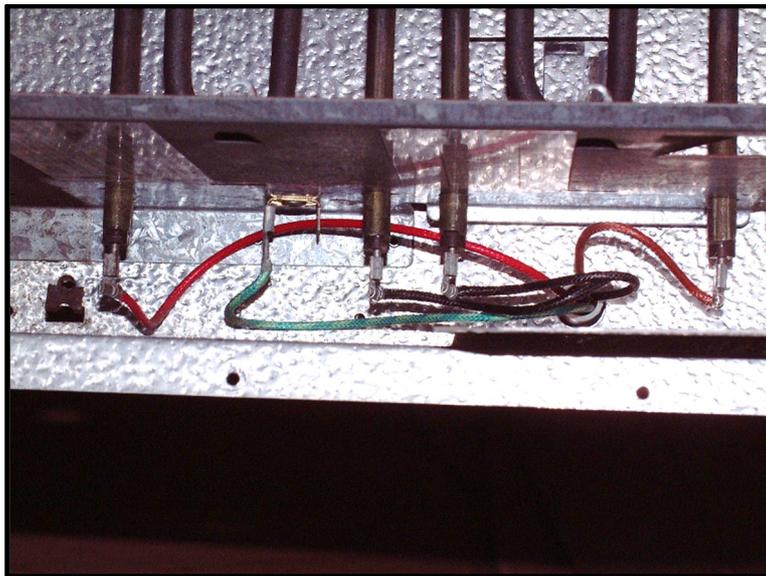


2.13 Remove the electrical cover



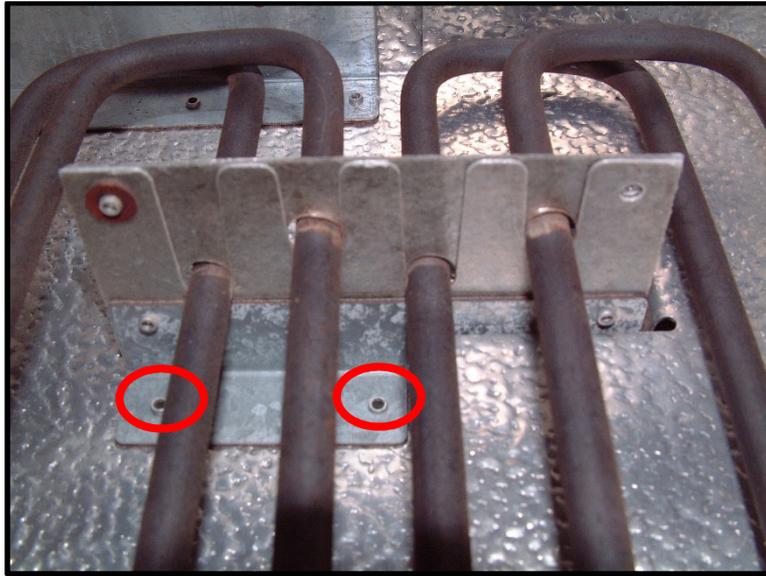
You can now see the elements as shown above. Removing the single screw at the bottom and sliding the cover up and across

2.14 Remove electrical connections



Pull off the 4 electrical connections from the ends of the elements noting the position each is connected to. There is no need to remove the green earth connection.

2.15 Detach element bracket



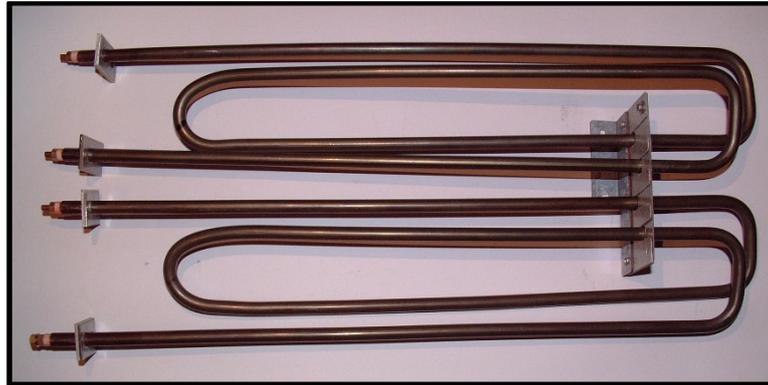
Drill out the two pop rivets in the metal L bracket holding it to the back (DO NOT remove the silvery mica spacers at this stage)

2.16 Remove elements from bulkhead



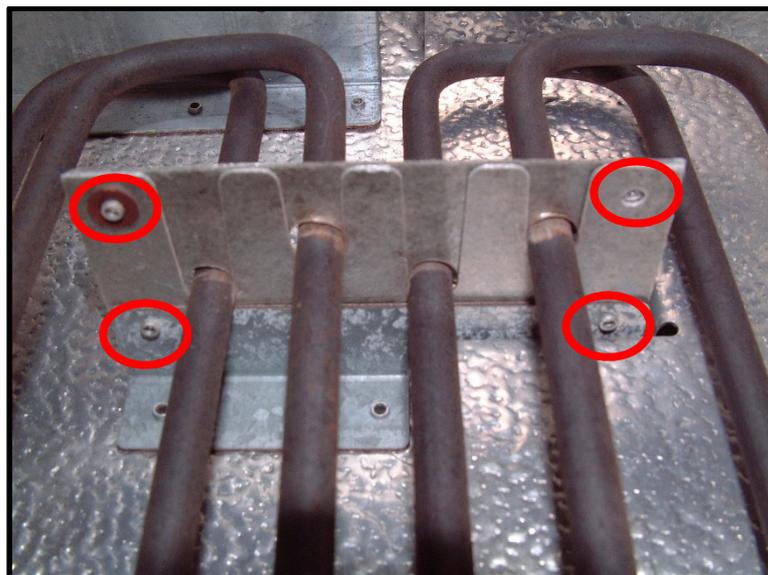
Remove the 4 screws attaching the element ends to the bulkhead

2.17 Extract elements from main unit



Remove the PAIR of elements together with the mica/metal spacer assembly

2.18 Remove the support bracket



Drill out the rivets/remove the clip from the two mica spacers to separate/free the two elements (USE EXTREME CAUTION as the mica is brittle!). Retain the clips and/or washer from the Mica for use in reassembly

2.19 Replace elements



Position the new elements (either way round – they are identical) into the mica supports and temporarily hold with bulldog clips or similar if required. Assemble the Mica supports and elements with the metal mounting bracket as shown. Using 3x6mm pop rivets reattach the Mica supports and metal bracket not forgetting the washer on the upper pop rivet. Refit the clip to the Mica support if fitted.

1. Refitting is essentially the reverse of removal – note the spacer must be fitted to the elements before fitting the elements to the fire back due to access restrictions.

Testing & commissioning

Smell/smoke when first turned on

Turn on each element in turn

Measure current

Help and assistance

Contact us at www.apuljackengineering.co.uk

If you have any errors or amendments to these instructions please contact us at enquiries@apuljackengineering.co.uk