

Electrifying

MATT STUBBS fits an external mains socket and a 12V DC socket to our Thomson Glenelg

As our Thomson Glenelg was mains fitted before we bought it, neither Rob McCabe nor I thought we would be modernising the caravan too much if we fitted an external mains socket. Rob could then have a small electric heater or mains light in the awning during colder evenings early and late in the season.

The socket I fitted is a fairly new design from W4 called the Dual Power Outlet. In addition to the 13 amp mains socket it has a 12V DC cigarette type socket so Rob will be able to run a radio or TV in the awning.

I had no problem in deciding where to fit the socket because the position chose itself. The Glenelg has a centre nearside kitchen with a twin 13 amp socket mounted on the wall above the worktop. The supply to this is fed through one of

the cupboards so it was logical for me to fit a junction box on the floor of the cupboard so I could connect the new socket to the existing wiring.

As far as the 12V DC socket was concerned I didn't have any option but to connect it to the light circuit, since this was the only 12V circuit in the caravan. Some time ago I fitted a light in the toilet compartment next to the kitchen so all I needed to do was connect the live and return wires to the light and then run the cables through the partition between the toilet and kitchen and from there to the new socket.

There was plenty of wall space at the back of the cupboard to fit the socket. I drilled a 3mm pilot hole through the wall from the inside to use as a reference.

My next job was to mark the cutting line on the

outside wall. I'm a great believer in using templates so cut a piece of cardboard to the size of the socket housing, placed it in position and drew round it. I masked the area and drilled a 10mm hole at each corner and used my power jigsaw to cut the hole.

Great care needs to be taken here because it's all too easy for the soleplate of the jigsaw to damage the paintwork. I try to hold the jigsaw slightly clear of the side and as a result the hole in the internal wallboard usually ends up undersize. Interestingly, the Glenelg was built in the days before sandwich construction so not only is the aluminium much thicker than that used on today's vans but the insulation between it and the wallboard is rockwool.

After cutting the hole I opened it up with powerfile until the socket housing fitted snugly. Finally I used a hand file to remove the burrs on the aluminium. Next I cut two lengths of 25mm square timber and after applying adhesive to their rear faces, temporarily

information

Cost: The W4 Dual Power Outlet is £13.98 including VAT.

Allow £20 to cover the following: 13 amp three core cable, a four-way 20 amp junction box, 12V DC 7 amp cable, 12V DC 5 amp fuse holder and fuse, 12V tube connectors, length of miniature ducting, cable clips, cable ties, No. 6 x 5/8in wood self-tapping screws, W4 mastic sealing strip, 25mm square planed all round timber; wood adhesive, masking tape, Turps Substitute

Tools: screwdrivers ■ cordless drill ■ 3mm pilot and 6mm and 10mm drills ■ wire cutter/stripper ■ crimping tool ■ hammer ■ quick action cramps (sic) ■ power jigsaw or equivalent ■ powerfile or equivalent ■ hand file ■ bradawl ■ W4 circuit testing plug ■ 12V test light

clamped them to the wallboard while I secured them with three no. 6 x 5/8in long screws. I used some of the discarded rockwool to fill the voids.

After cleaning the aluminium around the hole with Turps Substitute, I applied mastic tape to the flanges of the socket housing. As mastic tape tends to twist when the screws are driven through it, I used bradawl to pierce holes through the mastic. The socket housing was then fitted permanently with four no. 6 x 5/8 in long stainless steel screws, after which I removed the excess mastic.

Next I connected a length of 13 amp three core cable to the socket and pushed the cable into the caravan through the entry hole in the housing. Supplied with the kit was a double sided adhesive pad to secure the socket to the back wall of the housing.

Inside the van I screwed the junction box to the cupboard floor and cut the existing 13 amp cable and the new cable so they could be fitted to the junction box

Warning This project involves mains and 12V DC electricity. If you are not competent to undertake this work, restrict yourself to the non-electrical part of the job and seek expert assistance. Ensure both the mains and 12V supplies are disconnected before commencing work.

step-by-step



1 I marked the cutting line and masked the area before drilling a 10mm dia. hole at each corner



2 I used my powerfile to open the hole to size. Note the use of rockwool insulation



3 I used 25mm square timber to provide a firm base for the socket housing and clamped it in place



4 Mastic sealing strip was applied to the rear of the housing flange and I used bradawl to pierce holes



5 No. 6 x 5/8in long stainless steel screws were used to secure the socket housing in position



6 After removing the excess mastic I connected a length of 13 amp three core cable to the socket



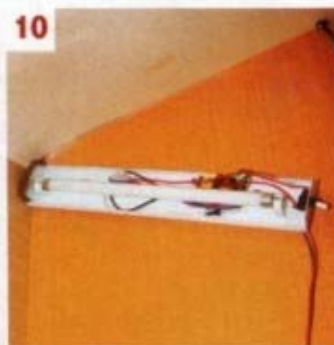
7 The cable was pushed through into the van and the socket secured to the rear of the housing



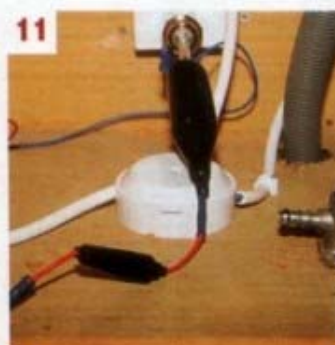
8 Inside the van I cut the existing supply cable and then reconnected it together with the new cable



9 Having reconnected the mains, I tested the circuit with a test plug. Neons lights meant all was OK



10 I picked up and fed the 12V DC cigarette type socket through the light in the toilet compartment



11 I crimped tube connectors to the live feed, the fuse holder and to the short length of cable



12 The mains cables were secured with cable clips and the 12V cables with cable ties

terminals. All three brown cables (live) were connected to one terminal; the three blue cables (return) were connected to the second terminal; and the three earth cables (green/yellow) to the third terminal.

I then connected the caravan to the mains and used my test plug in the external socket to confirm the wiring was correct. All three neons lit to confirm this. I disconnected the mains again before dealing with the 12V socket.

This was a simple job. I removed the diffuser in the

fluorescent toilet light so I could connect a 12V red (live) cable and a blue (return) cable to the light's terminal block. The cables were run down the wall and through a 6mm hole which I drilled in the partition between the toilet and the kitchen. Next I fitted a fuse holder and 5 amp fuse to the end of the live cable crimping the cables together in a tube connector. Having fitted the plastic sleeve over the short length of red cable with a push terminal on its end, I crimped the cable to the other end of the fuse

using a second tube connector. The cable was then pushed on to the central (live) terminal on the back of the cigarette socket.

Next, I crimped a shrouded female spade terminal on to the end of the blue cable and then pushed it on to the male spade terminal on the circumference of the socket. After connecting the 12V system, I used a test light to confirm power was reaching the socket. The 12V system was then disconnected while I finished the installations. Our thanks to W4 Ltd and Fenland Caravan Park.



13 Inside the toilet I ran the cables in miniature ducting and secured it to the partition with self-adhesive backing