

CARAVAN WORKSHOP

REPLACING THE BATTERY CHARGER

When our technical editor Andy McPhee returned to the office after a trip to Scotland he complained that despite the fact his Sprite has a battery charger, the battery had gone flat. So, we checked it out to see if the problem was simple or something more serious.

The first thing we discovered was that the charger was part of the battery compartment installation rather than a

separate unit fitted under one of the front seats, as is usually the case. This meant that even if it was totally defunct, we were probably going to have to leave it *in situ*. The second thing we found was that the instructions stated that none of the internal parts were replaceable. We therefore had to work on the basis that if the problem was, in fact, terminal we would have to fit a new charger.



1 We spent some time checking the existing charger, wiring and fuses (*above*). Despite the mains being switched on, the test meter showed no power reaching the battery, which was totally discharged. The fuses in the van's circuits were in working order so the problem had to be in the charger itself.



2 The CEC Plug-In-Systems Inter-Power electronic charger (*above*) is a single unit designed to be fitted adjacent to the battery. Its mains lead has a fail-safe plug at one end, the other being designed for connection to the van's mains supply. The 12v leads are fitted using spade connectors.



3 I needed a hand lamp to check which MCB (micro-circuit breaker) had the existing charger connected to it (*above*). As we suspected, it was the 6A MCB. I already knew from my original checks that both MCBs were working satisfactorily and current was getting to the original charger.

4 Having disconnected the mains power, we undid the screw at the bottom of the 6A MCB (*below*) and inserted and secured the brown (live) lead of the Inter-Power charger cable. The blue (return) cable was similarly connected to the return terminal and the earth cable to the earth terminal.



5 The next job was to fit shrouded spade terminals to the live and return leads from the charger to the battery terminals. Whenever possible, use a purpose-designed stripping tool which removes the insulation without damaging or cutting the individual copper strands (*below*).



6 Luckily, the seat fronts in the Sprite are double skinned so we could fit the charger without the screws protruding through the front (*below*). We then secured the mains cable and ran the 12v leads into the battery compartment via an existing cable entry, which we then filled with silicone sealant.



7 The live lead required a 20A fuse. On this occasion a glass fuseholder was used to avoid confusion with the blade fuse of the Truma Sonatic unit which I had previously connected directly to the battery. The fuseholder was crimped to the live lead using two tube connectors (*above*).



8 We reconnected the mains and checked that power was reaching the battery from the charger. Our digital multimeter had failed and we hadn't been able to buy another, so we used a Rapitest (*above*)—not as good as a digital but it could still confirm the installation was working satisfactorily.

INFORMATION

Warning This project involves both 230v mains and 12v DC electricity. You should only attempt this type of work if you are fully competent. If not, you should seek expert help. In any event the installation should be checked out by a competent electrician before use.

Tools Test meter, screwdrivers, wire cutter or stripper, crimping tool, torch or hand lamp, hammer, silicone sealant gun.

Materials 12v DC 20A cable, three-core 6A mains cable, cable clips, adhesive-backed plastic cable saddles, Tywraps, silicone sealant, 12v fuse holder, 20A fuse.

The CEC Plug-In-Systems Inter-Power 12A electronic battery charger (code CTELBA MP)

Our thanks to CEC Plug-In-Systems for its help. Contact the firm at Grange Park Lane, Willerby, Hull HU10 6EQ. Tel 01482 650635

9 The final proof that the battery was being charged was the battery indicator (*below*): during our initial tests it registered zero output. It continued to register zero until the Inter-Power charger was switched on, when the needle immediately moved into the green. Andy should have no more problems.

