

ELECTRICAL WIRING: Some Advice

(**Thank You** to Ian Weal, our illustrious Club treasurer and Coromal fanatic, for the following advice on electrical wiring)

When purchasing a caravan you'll need to add an electric brake controller to your vehicle. Nearly all dealers will advise you of this. One thing that is not clearly advised to all purchasers is you'll also need to run an active 12v wire to run your fridge on 12v and charge your van's house battery whilst driving to and from your destinations. The wiring to the fridge needs to go through a VSR (Voltage Sensitive Relay). These can be obtained thru Camec and reputable Caravan Distributors/Repair Centres. A VSR simply cuts the 12v line to your fridge when the vehicle's motor is not running; hence the alternator is not producing power. It activates the 12v line again after the vehicle is started and the alternator reaches an output of 13.85 volts, again powering your fridge. Voila!!!. Leaving your fridge on will no longer flatten the vehicle battery.

Who ever installs your electric brake controller can also install the active 12v wiring, VSR and negative return, a simple but necessary addition. Please, insist upon a minimum of 6mm wiring being utilised for both the 12v active and negative return. Anything less does not cope. (How many people have you heard complain the fridge is useless on 12v?) The answer is inadequate wiring. Some auto electricians install a 4mm wire as they have no idea a thermal fridge draws the current it does; hence the fridge doesn't work well. To achieve maximum benefit of your alternator charging the van battery and running the fridge, a 9mm wiring is better again, however you'll need to update to a 12 pin connector on both the van & vehicle to utilise 9mm wire as they have larger terminals.

Some vans will have a 12 pin connector already. Should your van have a 12 pin connector standard, the chances are the fridge and battery wiring are independent of each other, so in this case insist on independent 6mm wiring for the 12v active to the battery, fridge and negative return, 3 x 6mm wires. In this scenario only the fridge wire goes via VSR.

Fuses: All 12v active wires should be fused as close as possible to the vehicle battery and should be 20 amps on 6mm wire. 9mm wire requires 30 amps to gain the benefit of the larger wire.

With the above configurations your fridge will work and the house battery will charge. The heavier the wiring, the less resistance, and so the better the operation.

Footnote: Your Thermal Fridge does not and should not draw power from the van's house battery. There should be a diode in the line to avoid this occurring. Most auto electricians wouldn't be aware of this, so do not allow them to mess with your van's wiring trying to achieve this. Your Thermal Fridge should only draw current from your vehicle's battery via a VSR.