Alternator Trouble an Article by *Christopher Oates - 2015*

Once again, accompanied by my wife I drove my 1972 Spider Veloce 2000 to Tuscany. We took in the start of the Mille Miglia in Brescia on the way down and the Friday of Grand Prix weekend at Monaco on the way back, the motoring interest of the holiday. I have written before about my trips in the car and like to bring in technical aspects, on this occasion the report is only technical.

The first hint of a problem was on the way down to Eurotunnel on the UK motorway system when the front right indicator didn't work when driving but was fine when stopped, just a dodgy connection somewhere I thought but didn't worry as the left one was more important in Europe.

On the first morning in France the car wouldn't start as the battery didn't have enough charge to turn the engine so my wife kindly pushed started us. Odd I thought as we had done 400 miles of driving the previous day, enough to charge the battery, although it was 3 years old, and had had no problems starting at the tunnel or refuelling. After about 100 miles, in a deserted agricultural part of France on a gentle incline, the engine stopped. I measured the battery voltage at about 8 volts.

After sitting in the sun for a few minutes with everything disconnected it measured 10 volts and so we ran back down the hill and bump started. Another meter reading confirmed the battery was not charging. A few miles further on we repeated the stall and bump start but were luckily close to an agricultural merchant who, once they reopened after lunch, had batteries for sale. They were quite happy to lend me one to see if it fit the space and once we had established that I didn't really feel the need to open a credit account and would rather pay cash they wished us a *bonnes vacances* and we were off again.

As anyone who has motored through France will know it is a big wide open place and many farmers and garages seem to keep all their old vehicles around the back. I was optimistic, given time that a replacement scrap alternator could be found. However as we had a long way to go through France, Switzerland and Northern Italy, and our timetable was tight, I bought a battery charger at the next supermarket. I did find a partially dismantled Alfetta saloon in a front garden in one village but no one was home.

Our second night was in Nancy and there I set the pattern for the rest of the holiday. Check in at reception, take the bags up to the room then go back to the car, remove the battery and casually wander through reception carrying it and the charger in a Morrison's carrier bag trying not to look too lop sided. I can recommend Morrison's bags, they are strong. In this way we completed the tour.

Once home I investigated and measured. To simply keep my engine running, with an after market electronic ignition, takes about 2 amps, put all the lights on and you need another 8 amps. So I could have done 2 or 3 days daylight clear weather running on a battery charge.

Useful to know for the future; dismantling the alternator showed that both wires between the slip ring and the rotor windings were snapped. This odd finding was caused by a nut that holds the diode pack internally coming loose from its stud and rattling around inside. I think I had inadvertently loosened this nut as the other end of its stud carries the main power supply cable externally. I had removed the alternator to get better access to a stuck oil filter when changing the oil pre trip and must have loosened the stud in removing and replacing the electrical connection. Soldering up the wires restored charging but I replaced the alternator anyway. So my tip is make sure you don't loosen the stud when disconnecting the alternator.