



# Personalised Electrical Care and Repair

*Hamilton based Central Aero Electrical Limited overhauls and maintains many types of electrical aircraft equipment for a range of operators and maintenance organisations.*

**FORMED IN** July 2008 and gaining a Part 145 certification in December 2008, the company aims to provide a cost effective servicing and supply facility for aircraft electrical and ignition components. On the eve of its first anniversary, KiwiFlyer

spoke with founder Martin Ross on the achievements to date and where the company is headed in concert with its neighbour and partner, Central Aero Engineering Limited.

The jewels in the crown for Central Aero Electrical is that it holds CAA Part 145 certification and can draw on many years of expertise in general aviation electrical components. Martin would be one of very few sole traders with this level of certification

and skill base. Martin isn't entirely on his own though, with the team at Central Aero Engineering able to assist when circumstances dictate. Experienced aircraft avionics engineer Mike Smith is also on call and specialises in electronic components such as voltage regulators and strobes.

Quality assurance is key to the operation with Martin noting that "We are building our reputation on the production of quality overhauled components that can often be turned around in a very tight timeframe. Central Aero Electrical values its customers and endeavours to satisfy, retain, and encourage other companies and individuals to use our services."

### Available facilities

The comprehensive yet compact workshop has a large component test bench. This test bench has in fact served many years at other locations in New Zealand and with four three phase motors within its belly, a 14600 rpm and 500 amp loading is within its capabilities.

Allied to the test bench is a magneto rig. Designed for dual magnetos it will handle up to a 12 cylinder magneto although 4 and

6 cylinder versions are more common fare.

A late model capacity tester brings the ability to test current leakage with an increasing range of minor diagnostic and hand tooling completing the set up.

For Martin the opportunity to start out on his own was largely possibly through the test bench becoming available. This plus the factor of offering a personalised service appealed to Martin, particularly because he could bring personal interest to any

problem or overhaul that was presented.

### Service capabilities

Martin explains that; "A factor with the operation of a small business is that anything is likely to roll up to the door and this means that not only does expertise need to be maintained for the traditional GA range of products, but also the latest solid state systems found in today's light sport aircraft need to be addressed. Central Aero Engineering is becoming something of

a magnet in attracting the next generation of light aircraft so interesting challenges abound."

While the usual fare of piston engine starter/ generator, control unit rectification and overhaul work along with the 500 hour requirement for magnetos makes up a fair proportion of daily work, a steadily growing amount of turbine electrical components are also passing through the shop. This is confirmed by recent rectification of generator control units fitted to the Pratt & Whitney PT6 series found in PAC Cresco and XL750 aircraft along with those common to the Walter turbine engine and RR250 power-plants within the Bell 206 series of helicopters.

Other areas of expertise include the installation, servicing and repair of the range of Whelen strobe lights plus the bedding in of brushes on starter/generator units by 'motoring in' at 12v 40amp in 'starter' mode. This procedure enables a one day turnaround whereas a similar process in 'generator' mode can take up to three days. Central Aero Electrical also stocks and supplies other aircraft parts for re-sale including starters, batteries, alternators, strobe units, starter generators, GCU's, voltage regulators, ignition switches, and HT ignition harnesses.

As with any certified maintenance organisation, having the correct manual for the job required is paramount. There are times however when a manual is not available. The best information in these cases is invariably a circuit diagram and parts list. It is times like this when specialised knowledge and experience coupled with accurate fault diagnosis is required. Then a procedure is developed, documented and followed. Many an Eastern European sourced component has been rescued in this way by Martin.

Central Aero Electrical may be a small repair organisation but it has dedicated service coupled with allied organisations under the same roof that enable it to participate far beyond its perceived size.

### For more information

Contact Martin Ross at Central Aero Electrical on 07 843 2936, email: [centralaero@clear.net.nz](mailto:centralaero@clear.net.nz) or visit [www.centralaero.co.nz](http://www.centralaero.co.nz)



Martin Ross at work on the Central Aero Electrical test bench.

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