

# KiwiFlyer™



The New Zealand Aviators' Marketplace

Issue 12

August / September 2010

\$4.90 inc GST  
ISSN 1170-8018



**Sikorsky S-76 Avionics Upgrade for NEST  
Aviation Photography**

**New Spidertracks S3 and Aviator Website**

Products, Services, Accessories, Business News, Events, Training and more.



**P2008**

**P2006T**

**TECNAM**

**The Complete Flying School Package**  
**from ab-initio to multi engine IFR**  
 including full moving flight simulator

Call Tecnam on 09 298 9144 or 021 832 626  
 Or email us on [info@tecnam.co.nz](mailto:info@tecnam.co.nz) [www.tecnam.co.nz](http://www.tecnam.co.nz)

**From the Editor**

**THIS** issue of KiwiFlyer profiles the Northland Emergency Services Trust. Since their first flight in a leased Jet Ranger in November of 1988, NEST have transported just under 10,000 patients and now operate not one, but two Sikorsky S-76 helicopters from their base in Whangarei. They run an extremely lean operation, employing six pilots and one 'less than full time' administrator. Maintenance is provided by Hawker Pacific who have just completed a major upgrade of one of the S-76's, ISJ. An article on that interesting project is also included in this issue.

Other industry developments reported on in this issue include the new Spidertracks Aviator offering, and the development of a new rotor blade and composites repair facility being set up by Oceania Aviation. We also have a summary of the Aviation Industry Week Conferences held in Palmerston North at the end of July.

We welcome two new regular contributors to KiwiFlyer. Readers may recall the excellent Warbirds Over Wanaka photographs and report written by Chris Gee a couple of issues back (available on our website along with all other back issues and articles). Chris will now be contributing a regular page on aviation photography. His first article covers the basics and explains terminology which we will hear more about in the future. These articles should appeal to anyone who enjoys taking pictures of aircraft and wants to get the most from photographic opportunities when they arise.

We have also started a new page for reporting on New Zealand Trade and Enterprise developments. There is a lot of support available to industry from NZTE and over the next few issues we will explain how some of that works and profile some of the industry achievements that NZTE have been involved in to date.

These new articles and others planned for coming issues are in part due to reader feedback which we are always pleased to receive. If you have ideas for future issues and/or would like to contribute yourself, do let us know.

Ruth Presland visits Haast in this issue, Bill Beard talks about new public liability implications when operating aircraft on public conservation land and Lloyd Klee has contributed a guest comment on enhancing traffic awareness, the latter being topical at the moment for very unfortunate reasons. Our other usual contributors have also done their part to make this an interesting and varied issue. Enjoy your reading and fly safe.

*Michael Norton*  
 Editor, KiwiFlyer Magazine

**Advertise Here**

A space this size is available from only \$75+gst. Reach thousands of aviation enthusiasts including every aircraft operator and aviation business in NZ. The Oct/Nov issue deadline is 4th October

E: [editor@kiwiflyer.co.nz](mailto:editor@kiwiflyer.co.nz)  
 P: 0800 KFLYER (0800 535 937)  
[www.kiwiflyer.co.nz](http://www.kiwiflyer.co.nz)

**In this issue**



4. **The Northland Emergency Services Trust**  
 A profile on the lean and efficient NEST operations, now close to the milestone of transporting their 10,000th patient.
8. **Major avionics upgrade for ISJ**  
 Hawker Pacific recently completed a major avionics upgrade on one of NEST's S-76's.
12. **Spidertracks Aviator and S3**  
 Spidertracks have just launched a new version of their tracking hardware as well as a new website aimed at GA pilots.
15. **Rotorblade and Composites Repair**  
 We profile a project currently underway by Oceania Aviation at Ardmore.
16. **Aircraft Liability Implications**  
 Bill Beard from Avsure discusses pending changes to DOC insurance requirements.
19. **Signature Engines in the South Island**  
 A profile on Aeromotive South in Timaru.
20. **New King Air C90 GTx arrives**  
 A look at a brand new King Air C90 GTx delivered by Hawker Pacific at Ardmore.
22. **Warbirds Assoc. News and Calendar**  
 Upcoming events and a new arrival.
24. **Aircraft Photography Basics**  
 Chris Gee starts a new KiwiFlyer series on aircraft photography.
28. **The New Horizons Report**  
 Hans Frauenlob summarises the findings of the recent New Horizons Aviation Report.
30. **Places to go: Haast**  
 Ruth Presland flies in to Haast for some southern hospitality and jet boating.
33. **Glider Generations - Old and Young**  
 Jill McCaw profiles Dick Georgeson and his contributions to youth gliding.
34. **The Story of RAI**  
 We asked Jim McEwen to write about the evolution of his well known autogyro.
36. **Jet Powered Model Aircraft**  
 Janice Angus explains the basics of jet models - great fun for skilled flyers.
10. **Industry News Briefs**
16. **Accidents and Incidents**
42. **ZK Review**
45. **Classified Advertising**
46. **Guest Comment: Traffic Awareness**

**Front Cover:** The Northland Emergency Services Trust's Sikorsky S-76  
 Photograph by Michael Norton.

# The Northland Emergency Services Trust

## A history of efficiency, capability and growth

**THE NORTHLAND** Emergency Services Trust (NEST) was conceived at a public meeting in 1988 which had been called to discuss the positioning of a rescue helicopter in Northland for three months over the coming summer. This territory covers the top 42% of the North Island and of course includes many places that could not be reached by ambulance.

An option was put forward by an Auckland group to fulfil a three month contract over summer. The St John ambulance contingent present (including John Bain who would become the Trust's Chairman) felt however that for the same cost, a local effort based at the ambulance station could be sustained for 12 months. This proposal was pursued and within a month, a new Trust had been set up with trustees from the St John road ambulance service. They immediately leased a Bell JetRanger and pilot.

NEST's first job was not actually a medical rescue, but a homicide at Hokianga. Advantageously for its later growth and management, this brought Police involvement to the Trust. Today, the operation is overseen by nine trustees who include representatives from the Police, Ambulance Services, ACC, Health

Board, legal services and local business. The District Health Board is more of a partner than a customer to the service, with the Trust's management regularly meeting with medical staff to ensure a common understanding and alignment of goals. CEO and Chief Pilot, Peter Turnbull

1994. The AS350 performed well until an "unscheduled landing" on the local tidal flats and an incoming tide resulted in a total write off. Within a month, the Trust had purchased a BK117 from Japan which they operated from 1994 to 1997. Financial burdens from unexpected maintenance on this machine led to its sale and the purchase of the current Sikorsky S-76 ISJ.

The S-76 came with a particularly interesting history. Purchased from Dick Smith in Australia, it is the aircraft that Dick and his wife Pip used to make the first around-the-world helicopter trip in a westerly direction. At journey's end they had flown more than 73000km and taken some 10700



The two NEST Sikorsky S-76's, on this occasion both at Thames Hospital on the Coromandel Peninsular.

describes NEST as a boutique operation that relies heavily on goodwill and on staff that will go the extra mile to provide an EMS service second to none in New Zealand. Since their first flight on 15 November 1988, NEST has transported just under 10,000 patients.

### From JetRanger to S-76

It was not long before the Trust decided to purchase their JetRanger helicopter and its leasing company, then selling the JetRanger and ordering a brand new AS350 which was operated from 1990 to

photographs.

It was immediately obvious how much more suited the new helicopter was to NEST's EMS (Emergency Medical Services) requirements. It had a greater range, much larger cabin, could carry more equipment and could also easily accommodate parents or concerned spouses on trips to hospitals in Auckland and Northland.

As their reputation grew and workload increased, flight requirements during maintenance downtime became more regular. Leasing an aircraft during such

times started to become quite expensive for the trust and the decision was taken to purchase a second machine in 2003. A Bolkow Bo-105 was selected for the role, these being commonly in use for EMS roles at the time. This machine soon proved its value throughout the busy summer months when often both helicopters would be in the air on missions at the same time. Another advantage to the two helicopter operation was that crew training became a much more predictable process. The Bo-105 also highlighted just how good the S-76 was in its role with crew expressing a clear preference for the S-76 when it was available. Thus in 2005 the Trust decided to sell the Bo-105 and purchase a second S-76.

### Funding a Rescue Service

Helicopter operations such as NEST and the other rescue organisations are funded in part by sponsors and fundraising and in part by ACC or the Ministry of Health (via District Health Boards, Ambulance services, etc.) The latter provide a rate per hour for the aircraft's use. This rate is fixed nationally and while there are two different rates for single or twin engine machines, there is no consideration or compensation for providing additional services or technology (IFR, NVG, etc) or for employing more than one pilot in the cockpit. This rate covers little more than half the actual cost of operations per hour, with rescue services being required to seek sponsorship and fund raise for the balance.

Northland is a socio-economically depressed part of the country which doesn't make fundraising an easy task. John says the Trust has been very fortunate to have the support of NorthPower and Top Energy since their first days of operation. They are also very grateful to their other major sponsors, Pub Charity and the Oxford Sports Trust. More support and a particular surety of income is supplied from the Northland Regional Council in the form of a targeted rate on all Northland ratepayers. This rate, which John says is about 2 cents a day per ratepayer exists because the Regional Council understands the need for the service in Northland, and recognises NEST as being a particularly efficient provider. In this regard, John and Peter are proud to note that they run the two helicopter IFR service on a substantially smaller budget than some other services require to operate just one VFR helicopter in an EMS role. In the same sentence, they are quick to credit their staff with this achievement, all of whom are "supremely dedicated to the cause and often go beyond the call of duty to do the right thing".

### A Lean Team

NEST runs a very lean operation that is directly focused on delivering an efficient EMS service. Administration is handled by one (less than full time) office person and the CEO of the Trust is also the Chief Pilot, Peter Turnbull. NEST's sponsors can rightly assume they are getting very good value for their money.

Six pilots are employed on a four day on, four day off basis, including some on call time.

NEST is the only EMS organisation in NZ flying helicopters with two pilots as a matter of policy, considering that there are huge safety benefits for the type of work they are involved in. This two pilot approach has provided some great opportunities for enthusiastic low-time pilots to take on a co-pilot role with many having progressed their career during a stint at NEST before going on to fulfil greater ambitions, something that has given the Trust a worldwide reputation for developing disciplined and skilful pilots.

The Northland ICU flight team is made up of eight critical care Flight Nurses and three Doctors, all being experienced critical care



Serious vehicle accidents provide a regular requirement for helicopter support. At left ISJ attends a road accident, and at right IAL on the beach.



# SUPERIOR

## AIR PARTS NZ LTD

"To be first in the customer's mind for General Aviation products throughout Australasia"

### AUSTRALASIAN DISTRIBUTOR FOR

- McFARLANE AVIATION PRODUCTS • RAPCO • TECH TOOLS WINDOWS
- RAM - ENGINES & SPARES • ECI - FAA/PMA ENGINE SPARES
- SUPERIOR AIR PARTS - FAA/PMA ENGINE SPARES
- A P I - (OCEANIA PARTNER) • SKY-TEC - LIGHTWEIGHT STARTERS
- TEMPEST PRODUCTS • PLANE POWER - ALTERNATORS & REGULATORS
- MICHELIN • KELLY'S AEROSPACE • AVCOMM - HEADSETS & ACCESSORIES
- SUPPLIER OF • CESSNA • BEECHCRAFT • CHAMPION • LYCOMING
- M D HELICOPTERS • PIPER • SCHWEIZER • TELEDYNE CONTINENTAL

### RAM Premium Overhauled TCM Engines

Listed below options available - Just call us for a quote - The price and delivery will surprise...



- | IO-520 & IO-550   | TSIO-520                       | GTSIO-520               |
|---|--------------------------------|-------------------------|
| IO-520-III Bonanza A36/F33                                  | TSIO-520-III CT310             | GTSIO-520-H Cessna 421B |
| IO-520-CE Baron 58  | TSIO-520-NB C340/A & C414/A    | GTSIO-520-M Cessna 404  |
| IO-520-MB Cessna 310R                                       | TSIO-520-EB C402B & T310/320   | GTSIO-520-L Cessna 421  |
| IO-550-B Bonanza A36  | TSIO-520-EB C335               | GTSIO-520-N Cessna 421  |
| IO-520 to IO-550 B Conversion Upgrade STC                   | TSIO-520-VB Cessna 402C        |                         |
| Bonanza 535, V35, V35A, E33A E33C, 35-C33A, F33C, 36, & A36 | TSIO-520-M Cessna T206         |                         |
| IO-550 C Baron 58   | TSIO-520-P & -AF Cessna P210   |                         |
|   | TSIO-520-R Cessna T210         |                         |
|   | TSIO-520-UB Bonanza B36TC      |                         |
|   | TSIO-520-UB Baron 58P/TC       |                         |
|   | TSIO-520-WB Baron 58P/TC       |                         |
|   | TSIO-550A C414A (RAM V Liquid) |                         |

- NEW LYCOMING O-320 ENGINE PACKAGES**
- O-320 Cessna 372
  - O-320 Piper PA 28-140 & -151

### ECi Cylinders

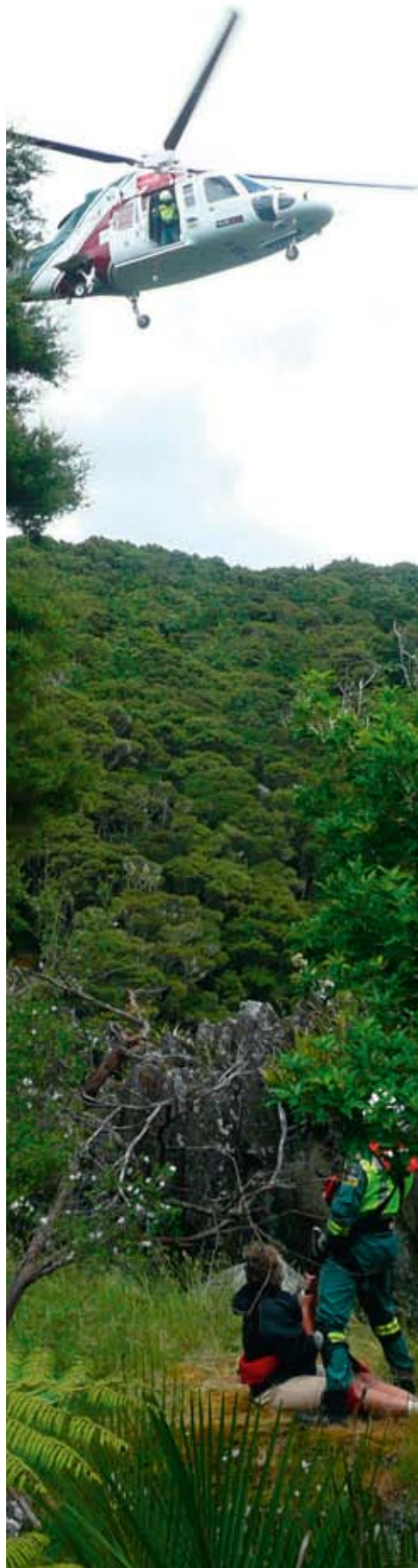
- We are proud to introduce the **ECi** cylinder range for sale. **ECi** have replacement cylinders for all major engine lines to fit piston powered aircraft.
- NEW HEAD - NEW BARREL**  
**NEW PRODUCT**  
Manufactured to Higher Standards for Extreme Durability
- Has your engine shop advised you of the very price competitive options?  
**If not you should ask why not** - as they will save you on your hard earned dollars!
- Or make contact with us for further information relating to this brand of cylinder options.

### NEW PRODUCTS from McFarlane

- For Piper**  
Fuel transmitters for PA28 series  
Stabilator trim kits for PA28, PA32, PA34
- For Cessna**  
Flap tracks coming soon  
Overhauled fuel selector valves  
Cargo tie downs for seat rails
- for Rotax 912 and 914**  
New Throttle & Choke controls

**2010 Catalogue Available Now**

**SUPERIOR AIR PARTS NZ LTD**  
5/4 Markedo Place, Papakura 2110, Auckland.  
Phone +649 298 8992 Fax +649 298 8994 Email: rob@superiorairparts.co.nz  
[www.superiorairparts.com.au](http://www.superiorairparts.com.au)



personnel who have also been trained in aviation medicine.

**Training**

10% of the Trust's flight time goes into training. For pilots, this involves everything from basic VFR and IFR recurrency, through to specific tasks such as winching, both unaided and aided (NVG) night currency, and more.

All pilots undertake a Sikorsky factory S-76 training course at West Palm Beach, Florida that is specifically tailored to EMS and IFR operations. These 5 day courses include use of a 6 axis motion simulator, allowing pilots to venture into areas of the flight envelope that they would not be able to attempt in the real aircraft.

Doctors, Nurses and Paramedics undergo annual training for safety around aircraft and the team also run an outreach programme where they travel to fire stations for example and train staff there in the correct setup of landing zones etc. The team are also always on the lookout to increase the number of helipads and designated safe landing zones in their area.

**Typical Missions**

In their first year, NEST flew less than 100 hours. They are now flying approximately 1000 hours spread over the two aircraft.

On any day, the team might be tasked onto support for road accidents, farm accidents, police searches, armed offenders squad callouts, other rescues, etc. The weekend prior to KiwiFlyer visiting, they had searched for, found and retrieved two kayakers on the West Coast who had got into trouble, initially because there was not

enough water and then after "about a foot of rain", too much. They had abandoned their kayaks and become overdue. When found, they were winched out of the bush.

NEST's S-76's are increasingly being tasked towards time-critical medical transfers throughout the North Island by hospitals with staff who appreciate the extra capacity, space, seats and speed of the aircraft. On the same day as the kayaker search, NEST's second S-76 completed two medical transfer missions, one from New Plymouth to Auckland and then another from Rotorua to Auckland.

Offshore retrievals provide extra variety for the team, sometimes in very difficult conditions. These are typically to fishing boats or cruise liners and often involve delicate calculations in order that the ship can be met as soon as possible and the helicopter can remain in safe range of returning to land. Maximum range is usually 180nm.

**IFR Operations**

Particularly with the distances they cover, weather often dictates that IFR flights are undertaken. NEST was the first New Zealand rescue service to fly IFR and they have now been doing so for 14 years.

Over the years, NEST have developed their own low level IFR network around Northland with links to ten Airways GPS approaches in the area. They have also installed their own weather stations in strategic locations. As a result, low level IFR is no longer the major obstacle that it once was.

Major customers such as the ambulance service and hospitals often don't even ask if they can fly, they simply request the service,



At left: ISJ preparing to lift an injured trampster out of the bush. At right: Offshore search and rescue can sometimes involve very difficult conditions.



ISJ and IAL at home in Whangarei and ready for work outside the Northland Emergency Services Trust base.

which John is proud to say is available 99.9% of the time.

**Maintenance and Upgrades**

NEST have essentially stayed with the same maintenance provider since their inception, first being Wing and Rotor at Ardmore and then Hawker Pacific, who bought Wing and Rotor when establishing their own presence at Ardmore in 2004. Peter describes their working relationship as being very harmonious and understanding and says that Hawker Pacific have been very tolerant of the highs and lows of the Trust's workload and cashflow demands. The two S-76's are primarily maintained remotely at Whangarei by Hawker Pacific's on-base engineer Michael Couchman. Michael has become an integral part of the NEST team and operation at Whangarei with the S-76's only returning to Ardmore for major maintenance requirements.

This latest avionics upgrade and refurbishment programme was first conceived some two years ago, with

planning happening on a near continuous basis since then. As well as design details and approvals, funding had to be secured.

Some of the helicopter's avionics now have "airline standard redundancy". It is equipped with the most up to date TAWS (Terrain Awareness) available for helicopters – something that is critical in their operational arena, has new active TCAS (Traffic Avoidance) systems, and a new digital system for all radio and intercom communications. A new interior was also fitted and has received very favourable comments from the medical people.

A few months after being taken from service, ISJ has returned to Whangarei, in Peter's words, not far different in specification from the latest model S-76. Peter says that the aircraft left the hangar and was test flown virtually without any need for remedial actions, being returned to service immediately with very pleasing results. Peter says that he can't speak highly enough of the work done by the Hawker

Pacific team, especially when he considers the state the aircraft was in half way through the project.

**Looking Ahead**

The Trust is continually looking ahead on a 7-10 year timeframe and has already started setting funding aside for future aircraft upgrades and replacement. It is hoped that the same project can soon be undertaken on NEST's second S-76, IAL.

**Sikorsky S-76 Facts and Figures**

Length of fuselage	13.21m
Width of fuselage	3.05m
Width including rotors	13.41m
Height	4.41m
Maximum speed	155kts (287km/hr)
Maximum weight	4600kg
Power	650hp each of 2 engines
Fuel capacity	1054 litres
Fuel usage	168 litres/hr per engine
Endurance	3hrs 10min (standard)
Endurance (LR)	5hrs 30min (extra tank)



**Considering a career as a Helicopter Pilot?**

We provide a one year, full time CPL(H) course with approved Student Loan funding available.

Apply online at [www.hft.school.nz](http://www.hft.school.nz) and try our Pilot evaluator test

Remaining courses:  
September 6th and November 8th



**Helicopter Flight Training**

Ardmore Airport, Auckland  
Tel: 09 299 1157  
Fax: 09 299 1158  
info@hft.school.nz  
[www.hft.school.nz](http://www.hft.school.nz)



# Major Avionics Upgrade for ISJ Completed by Hawker Pacific at Ardmore

**HAWKER PACIFIC** at Ardmore has just completed a major avionics and cabin upgrade for ISJ, the Northland Emergency Services Trust (NEST) Sikorsky S-76. The work was undertaken over the last few months and also included a variety of inspections and overhauls that had become due on the aircraft.

ISJ had been flying with an avionics suite, which although extensive and fully IFR, dated in many cases back to the helicopter's original build. This equipment was starting to have reliability problems and was becoming more difficult to maintain. There were also issues with having the older equipment cooperate properly with its modern counterparts such as terrain avoidance, traffic advisory, GPS systems, as well as seven different communication systems. Replacement parts for some of the older equipment were disproportionately expensive to acquire and the dated wiring in the aircraft was also becoming a concern.

With all of this in mind, a logical decision was taken by the Trust to upgrade the aircraft's avionics in a project timed to coincide with other major maintenance requirements and the installation of a new interior.

### An STC and a team effort

After consultation between NEST, the Civil Aviation Authority and local Part 146 design organisation Techair, it was decided to create an STC (Supplementary Type Certificate) for the avionics design. The aim of this STC being to have the modification prepared and ready when the time comes to undertake the same installation in NEST's second S-76A, IAL. Acquiring the STC proved to be a project in itself, with considerable inputs to the end designs from all parties involved.

The avionics team at Hawker Pacific who completed the project consisted of Harry van der Hoeven, Ryan Toyne, Rens Molenaar, Joe Bagrie, Chris Rampling and Paul Chapman. Mechanical support was provided by Michael Couchman and Gareth McCurdy who also oversaw the other major mechanical overhauls and inspections of the project.

### Out with the old

The entire cockpit was stripped of avionics with many of the items removed



ISJ taxiing from Hawker Pacific's hangar at Ardmore for its first post installation test flight.



The old instrument panel was full of dated analogue instruments that were becoming expensive to maintain.



The new panel including EADI, EHSI, AHARS, TAS, GPS and Digital Comms. A H-TAWS is yet to be fitted.

being destined either for the spare parts shelf or disposal. From the nose avionics compartments came the old Collins VHF Communication, Navigation and Transponder systems together with the C14 Directional Gyro/Flux Valve Compass.

The cockpit lost the dated mechanical Attitude Direction Indicators (ADI), Horizontal Situation Indicators (HSI), Audio Panels, DME indicator, left hand Radio Altimeter Indicator, KLN90B GPS, ARNAV Multi Function Display, VHF

Comm and NAV control panels, cell phone and several switches/annunciators.

Removal of this chunky hardware and the obsolete wiring associated with it contributed to a net weight saving at the end of the exercise of around 50 pounds.

### In with the new

A comprehensive suite of new avionics was installed in the aircraft, all of which is ready for IFR and Night Vision operations.

Sandel Avionics supplied the Electronic Attitude Direction Indicators (EADI), Electronic Horizontal Situation Indicators (EHSI), Attitude Heading and Reference System (AHARS) and Magnetic Transducer (MT).

If required, the EHSI's can be changed to an EADI via a press on the "rev" switch.

A brand new Helicopter TAWS is also manufactured by Sandel.

A Garmin suite of products was also installed, including GNS530W, GNS430W (GPS plus Communication/Navigation) and a GTX327 Transponder.

Traffic Advisory information is supplied by the Avidyne TAS 610 and displayed on the EHSI and GNS530W.

ISJ has a total of seven communications systems installed, these being two VHF Comm's, two VHF FM's, two Police Radios and a cell phone. A new NAT Digital Audio Communication System was fitted to integrate these via a central audio management unit that collects all the audio signals and directs it to the 3 audio panels on board. The new cell phone interface is by a Nokia/Parrot combination.

The Becker Direction Finder and Honeywell Weather Radar remained in the aircraft as previously installed.

### Additional improvements

During the upgrade, a variety of additional improvements were made to the aircraft, not the least of which was a complete cabin refurbishment. This was performed in accordance with an existing Supplemental Type Certificate, along with some minor local additions such as enhanced cabin lighting.

ISJ's time in the hangar also included the completion of a substantial number of inspections and routine maintenance. These included 25, 50, 100, 150, 300, 500, and 750 hour inspections, 1500 hour zone 2 and zone 4 airframe inspections, 3, 6, 12, 24 and 36 month airframe inspections, 150 and 300 hour engine inspections, tail rotor servo overhaul, as well as the due replacement of tail rotor cables, landing gear blow down bottle and fire bottle squibs.

### Return to service

ISJ was returned to service at the end of July. Chief Pilot Peter Turnbull completed a short test flying programme with virtually no remedial action required and says that NEST are very pleased with the results achieved. Fund raising is already underway with a view to bringing NEST's second S-76, IAL, up to the same standard as soon as possible.

### For more information

For more information on this upgrade or Hawker Pacific's avionics capabilities, contact Harry van der Hoeven at Hawker Pacific Ardmore on (09) 295 0665, email: [harry.vanderhoeven@hawkerpacific.com](mailto:harry.vanderhoeven@hawkerpacific.com) For maintenance enquiries contact Peter McCarty on (09) 295 0665, or email: [peter.mccarty@hawkerpacific.com](mailto:peter.mccarty@hawkerpacific.com)



The completed circuit breaker panel, looking a lot tidier than the one it replaced.



Miles of new wiring were installed, though the aircraft was 50lb lighter once finished.



Part of the stripped cabin during work in progress.



ISJ off the coast of Whangarei following its major upgrades.



# Industry News Briefs

*KiwiFlyer welcomes items of news from companies for this section of the magazine. Send us up to 150 words and a picture about newsworthy developments in your business for inclusion in the next issue.*

## NEW: Bluetooth Phone Interface

The Angel personal flight assistant by Com Link Pro is a new take on the idea of a portable Bluetooth headset interface. It includes a full set of phone (or media player) controls, eliminating the need to fumble around with a loose phone in the cockpit, or having to plug your phone into the headset with yet another tangled lead.



Designed for aviation, the unit provides clear sound, with auto mute for radio transmissions. It has a large colour screen with menu driven functions and also includes a built in E6B flight computer. Screen dimming can be automated by a built in ambient light sensor.

In phone mode, it offers caller id, direct dial, redial and voice dial functions as well as the ability to download phonebooks. Bluetooth music can be streamed from MP3 devices, controlled by the panel on the Angel.

The unit is self powered with a rechargeable battery capacity of a claimed 15 hours use and is also capable of generating the power required to operate most ANR headsets.

It has input, output and phone jacks for wired phone or media device connections and can be supplied with the normal range

of headset connection options. A knee strap is also included, as is a comprehensive user manual.

The Angel personal flight assistant weighs 130gm and has dimensions of 185x55x27mm. It is available in New Zealand exclusively from Ryan Southam at Critical Angle Limited. Phone 027 318 7934, email: info@criticalangle.co.nz or visit www.criticalangle.co.nz Critical Angle are also NZ distributors for a range of other electronic aviation products as well as ASL CamGuard Oil Additive.

## Richard Pearse Award for Innovative Excellence

The spidertracks aircraft safety system has been chosen the inaugural winner of the Richard Pearse Award for Innovative Excellence in the New Zealand Aviation Industry.

The award recognises a specific project or ongoing initiative that exhibits innovation in the field of aerospace.

Spidertracks Marketing Manager Rachel Donald says they are rapt to be chosen as the inaugural winners; "There are so many New Zealand companies developing and producing world-leading products and we are honoured to be selected from what must have been an impressive line-up.

New Zealanders have always been pioneers in the aviation field and we'd like to think we are continuing that tradition."

Winning the award was one of four major achievements for the company in July. Rachel says that they launched spidertracks Aviator and the S3 spider at Oshkosh, incorporated a subsidiary company in the United States, and also welcomed K One W One Ltd as investors in the company. "It's a very exciting time for us".

## NEW: Kannad Integra 406 GPS ELT

Kannad have announced the launch of an all new ELT which includes an integrated internal GPS and internal 406MHz antenna.

The Integra is the only ELT available which operates on the international 406MHz satellite search and rescue system and also includes an internal GPS and 406MHz antenna.

Benefits include a fail-safe antenna system which in the event of ditching the aircraft or a crash landing resulting in considerable damage, allows the Integra (through its automatic activation) to still

have the ability to transmit and send both the unique identification and GPS position to rescuers.

The unit can also be used in a portable mode away from the aircraft, with the GPS updating the location on a regular basis.



A further benefit, due to the internal antenna is that the Integra can also be installed on certain models of aircraft without having to fit an expensive external antenna (national authorities' rules and regulations permitting) and additional external GPS interface.

Pending approvals, the Integra is expected to be available in the last quarter of 2010. Contact Lloyd Klee at Aviation Safety Supplies 09 420 6079, or email: LKlee@aviationsafety.co.nz

## PCAS for Training School

Parakai Flying School have become possibly the first flying school in the country to fit Portable Collision Avoidance units to their aircraft fleet. Basic PCAS systems are now available for less than \$1000 which is a small investment in the scale of aircraft operation. See also the Guest Comment in this issue of KiwiFlyer on page 46.

## KiwiFlyer Retail Price Change

We regularly get asked where readers can buy KiwiFlyer on retail sale. The magazine is available at hundreds of retailers throughout the country, but obviously not always the particular retailer that a KiwiFlyer enthusiast is shopping at. Encouraging more retailers to stock the magazine unfortunately requires that we raise the cover price in order to increase the retail margin on each sale. Thus from the next issue, and with apologies to existing regular purchasers, the retail price will increase to \$5.90 (also including the new gst increase). For a limited time, subscription prices will remain unchanged at \$25 inc gst.

## Tecnam P2010 Four Seat Single



Tecnam has announced the latest addition to its product range. The P2010 is a single engine, four seat aeroplane, having a carbon fibre fuselage with a metal wing and all moveable (stabilator) horizontal tail which is a trade mark of all TECNAM aeroplanes. Tecnam says that the combination of carbon fibre and metal in the design has allowed optimisation of aerodynamic quality and reliability.

The aircraft is powered by a Lycoming IO-360-M1a ('Lycoming Light') engine, providing 180HP. Performance specifications offer a 1050fpm rate of climb, a 75% cruise speed of 133kts and 6500 feet and a range of 660nm. Max take off weight is 1160kg and useful load is 450kg. The take off run is quoted as 245m.



Nose gear is free casting and consists of a tubular steel leg connected to the lower engine mount attachments, braced by a rubber shock absorber. Ground steering is by differential braking. Both analogue and digital cockpits will be available.

For more information contact Giovanni Nustrini at Tecnam NZ on 021 832 626, email: gnustrini@tecnam.co.nz or visit www.tecnam.co.nz

## CTC and NMIT train Japanese pilots

CTC and NMIT have announced a contract to train pilots from Japan's JF Oberlin University. 30 new pilots will be trained at Hamilton each year, following a global search by the Japanese University for new training partners.

## New products from McFarlane

Superior Air Parts advise that McFarlane, who they represent in New Zealand, have recently introduced a range of new Piper and Cessna products. For Piper, these include fuel transmitters for the PA28 series (eliminating expensive transmitter conversion kits that require replacement of fuel gauges and wiring) and Stabilator trim kits for the PA28, PA32 and PA34. New Cessna products include flap tracks (available soon), overhauled fuel selector valves, and cargo tie downs for seat rails. Another new release is the supply of new throttle and choke cables for Rotax 912 and 914 engines. A new (and 30% larger) McFarlane product catalog is also available. Contact Rob Fisher on 09 298 8992 or email: rob@superiorairparts.co.nz for more information.

## NEW: R44 Ground Handling Wheels



Helispecs of Taupo have developed improved Ground Handling Wheels for the Robinson R44 helicopter. The new wheels can be used without any modifications to the existing skid bracket on the aircraft. Features include:

- Dolly Configuration spreads the load evenly over four wheels.
- Assembly pivots to eliminate twisting loads on skid and attached bracket.
- Increased skid clearance from ground.
- 6 ply tyres rated to 70 psi inflation.
- Telescoping handle for ease of stowage.



An introductory price has been set at \$1100 plus GST and freight for a pair. A discount is available for maintenance providers. Contact Roger Maisey on 027 498 2812 or email: heli.specs@hotmail.com

## South Pacific Avionics



## A20™ ANR headset with Bluetooth Connectivity AVAILABLE NOW



## The new Bose A20 aviation headset is our most advanced pilot headset yet

- FEATURES:**
- Improved Noise Reduction
  - Music Input · New Ear Cushions
  - Auxiliary Audio Input
  - Smart Shutoff · Carry Case
  - 5 Year Transferable Warranty

## GARMIN



## Garmin aera Touch Screen GPS Fly or Drive

- FEATURES:**
- Pre-loaded with aviation and road maps for New Zealand and Australia.
  - 10.9cm diagonal display.
  - 270gms, up to 5hrs battery life.
  - Two models available now.
- See the Garmin aera review in the February issue of KiwiFlyer.

SOUTH PACIFIC AVIONICS LTD  
DE HAVILLAND LANE  
ARDMORE AIRFIELD, AUCKLAND  
Phone 09 298 1373  
Email: sales@avionics.co.nz  
www.avionics.co.nz

# Spidertracks Aviator and S3

**AIRCRAFT TRACKING** company spidertracks has launched their next generation of aircraft emergency location system, specifically designed for GA pilots. The company has been a leader in the use of satellite based tracking since launching their first portable tracking device in 2007, utilising the Iridium network and making tracks viewable via the internet. In 2009, an SOS alert system named spiderwatch was released, which automatically sends emergency SOS messages within minutes of an accident if the tracking device stops sending position updates. This approach greatly enhanced alert reliability due to not being reliant on hardware in the aircraft to activate the alert.

The new spidertracks Aviator is promoted as a complete safety solution that turns on automatically and tracks the aircraft from take-off to landing, with position reports sent via the Iridium satellite network to a new Aviator website. This new generation of product from spidertracks includes new software, new hardware and new pricing plans, with the whole package having been designed especially for aviators.

## New Software

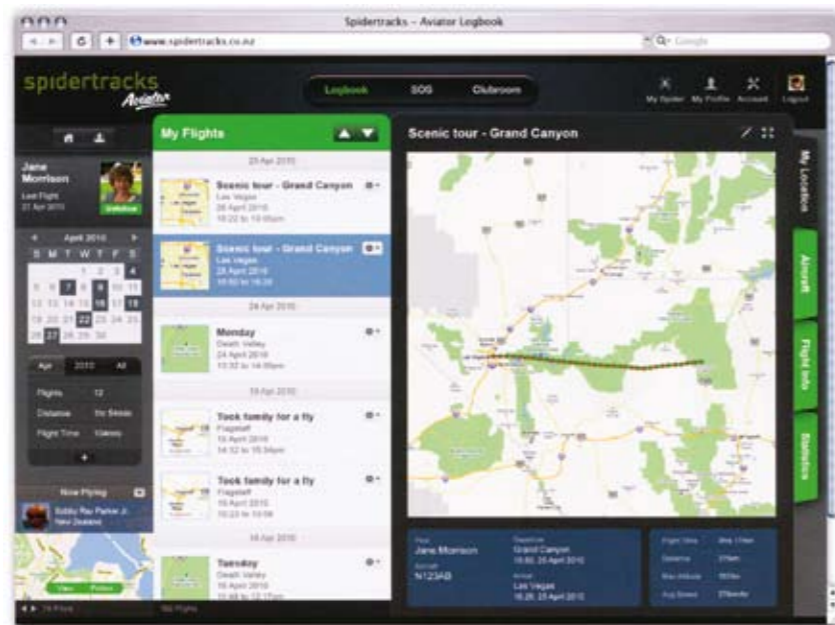
A new Aviator website has been designed on social networking principles to let pilots share selected flights and their love of flying with other aviators. This website is free and open to pilots who aren't spidertracks customers but who want to follow other pilots who have opted to share their flights.

Spidertracks General Manager Rachel Donald says that because spidertracks is software-based, it opened up opportunities to develop a whole new product. "We thought, we're gathering this information for our clients – what else can we do for them? How could they have fun with it?" On the new Aviator website pilots can record and share their flying experiences with other pilots. "We wanted pilots to be able to share their love of flying."

Aviator includes an online logbook that automatically updates how far you flew and for how long. Pilots just fill in the details

and can upload photos to add to the flight. Spidertracks keep a permanent record of every flight made that can be reviewed any time and your flights can also be followed by others in real-time, when you're flying. Pilots can opt to share their tracks with others and on other social network sites like Facebook, or "follow" pilots who have made their flights public.

A second part of the site, named Clubroom, is a forum where like-minded pilots can create or join 'groups' for discussions and to share flights and information. Rachel says that spidertracks



The new Aviator website includes pilot logbook and social networking functionality.

hope pilots will use the Clubroom as a channel to communicate with other pilots from all over the world and as a resource for their own flight planning. "For example, if I wanted to go flying somewhere new, I could search for pilots from that area, view their flights if they've made them public, and ask them questions about where to fly based on their local knowledge."

## New Hardware

Spidertracks Aviator is being launched in conjunction with a new spider tracking device, the S3, which is smaller and lighter than its predecessor. Spidertracks S3 is designed to sit on the instrument panel of a light aircraft and still be portable. It has a built-in antenna and keypad and is powered by auxiliary power. The unit looks "designed" and will integrate well with the most elegant of existing instrument panels.

The new system also offers a number of other features including automatic take-off and landing text and email notifications and



The new S3 hardware with built in antenna and keypad will compliment any instrument panel.

the ability to send four pre-programmed text or email messages from the air via satellite, providing for easy communication with the ground when outside cell or radio reception coverage.

## New Pricing Plans

The S3 hardware currently retails at USD995. New subscription pricing plans have been designed to allow pilots to select the best value package for the number of hours they fly. These include pre-paid and post-paid options, starting from as low as USD10 per month. Some of the pricing plans include discounts on

the S3 hardware price.

For example a "regular flyer", in the air for 8 hours per month could choose a one year contract at USD15 per month, receive a USD100 rebate on the S3 price, and pay no other fees except for hours tracked in excess of the included 8 per month. On this plan, each additional hour would cost approximately USD4.50 depending on the position update frequency.

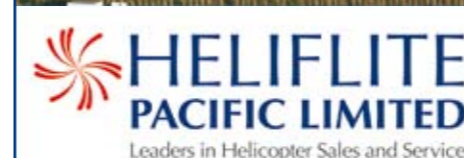
Spidertext is a separate system and has additional activation and texting fees.

## FleetPro

The existing spidertracks offering will continue to be sold under the new name of Fleetpro. Fleetpro has additional functionality making it ideal for managing aircraft fleets.

## For more information

Contact spidertracks by phone on 0800 461 776, by email: [info@spidertracks.co.nz](mailto:info@spidertracks.co.nz) or visit [www.spidertracks.com](http://www.spidertracks.com)



DISTRIBUTOR FOR  
**ROBINSON & AgustaWestland**  
HELICOPTERS

## ROBINSON HELICOPTERS FOR SALE

NEW R66 TURBINE ORDERS TAKEN NOW  
NEW R44 RAVEN II / CLIPPER II / RAVEN I  
NEW R22 BETA II

RANGE OF OVERHAULED AND PRE-OWNED R44s AND R22s ALWAYS IN STOCK

## AGUSTA HELICOPTERS FOR SALE

NEW AW139 MEDIUM TWIN ENGINE  
15 PASSENGERS

NEW A109S GRANDE  
TOP OF THE RANGE LIGHT TWIN

NEW 109E POWER  
LIGHT TWIN WITH FULL CAT A

NEW A119 KOALA  
1002 SHP SINGLE ENGINE

PRE-OWNED AGUSTAS AVAILABLE

Contact: Brett Sanders  
Bus: 9 299 9442  
Fax: 9 299 9458  
Mobile: 021 748 984  
Address: 168 Kittyhawk Lane,  
Ardmore Airport, Auckland

## Pilot Accommodation

- Fly-in destination
- Outback setting
- Safe and easy access
- A-Cat Instructor / Guide available
- Mountain Flying / Training

### CROMWELL

Recreational Airfield  
CENTRAL OTAGO

[smallburnfarm@xtra.co.nz](mailto:smallburnfarm@xtra.co.nz)

Neil Richardson  
phone/fax 09 2960221 • mobile 021 905 102  
[neil@reflecticon.co.nz](mailto:neil@reflecticon.co.nz)

NZ Distributor for:  
TL Elektronik - Top of the line digital instrumentation and EFIS/EMS.  
ASL Camguard - Advanced engine oil supplement rated "Top oil choice" by Aviation Consumer 2008 Gear of the year  
The Cobra by UmeVoice - The World's best noise cancelling technology  
Miracle Antenna - Power regulation and antenna technology  
Falcon Headsets - Affordable ANR and PNR

For your aviation solution and pricing contact:  
Ryan Southam on 027 318 7934 or a/h (03) 208 4567  
email: [info@criticalangle.co.nz](mailto:info@criticalangle.co.nz) [www.criticalangle.co.nz](http://www.criticalangle.co.nz)

**SUPERFLITE IS THE CURE TO A DULL FINISH**  
System I Butyrate Dope and System VI Urethane

Distributed in New Zealand by Pacific Aero Coatings Hangar AS1, Tauranga Airport  
P: 07 574 2922  
E: [info@pacificaero.coatings.com](mailto:info@pacificaero.coatings.com)  
[www.pacificaero.coatings.com](http://www.pacificaero.coatings.com)

**Supermarine Spitfire**  
This stunning all metal aircraft comes as a comprehensive kitset with these great features...

- 2 seat, dual control
- V6 or V8 engine options
- Superb performance figures
- 90% scale replica Spitfire
- Low running and service costs!
- Ideal for cross country
- Builder support
- Hassle free delivery
- And much much more...

Strap yourself into the Fighter's seat today!

Ivan and Sandy Campbell - your sole authorised N.Z. Agents  
[ivan@campbellaeoclassics.com](mailto:ivan@campbellaeoclassics.com) ph: +64 (0) 3 312 8008  
[www.campbellaeoclassics.com](http://www.campbellaeoclassics.com) © 2010 Campbell Aero Classics

**ARDMORE HANGARAGE**  
Full Service Hangarage available now at Ardmore Airport

- 20m x 5.5m Power Doors
- Large Apron
- Sealed Taxiway
- Long Term or Short Term

Corporate Jet Services Limited  
P: (09) 298 6249

**PRESERVE YOUR AIRCRAFT**  
ZOK 27 Gas Turbine Compressor Wash  
21-400 Aircraft Exterior & Interior Cleaner  
Inhibits corrosion  
Clean Screen Aviation Screen and Canopy Cleaner

**AVCLEAN**  
ph: 03 572 8964 or 021 472 533  
email: [sales@avclean.co.nz](mailto:sales@avclean.co.nz)




## X-IT Aircraft Wash

A revolutionary aerospace chemistry, powerful enough to remove carbon, grease, oil, grime, dirt and insects from rubber, plastic, metal, painted or unpainted surfaces - but safe enough for routine cleaning and maintenance. X-IT Aircraft Wash is formulated as a non-toxic non-corrosive, non-hazardous, odorless, aqueous-based cleaner/degreaser.

- \* Removes exhaust carbon deposits
- \* Leaves paint looking like new
- \* Easy to use, odorless and non-toxic
- \* Suitable for use on helicopters, aeroplanes and gliders

Maintain your investment like new




# KemTek

03 688 2160 www.kemtek.co.nz

## Lot 18 Pukaki Airfield \$159,000 + GST




- Close to ski field, lakes and mountains—ideal for holiday hanger/home
- Easy-to-find, premium position to expand or create a tourism-based business in this desirable and attractive setting of Pukaki airfield.
- Stunning & uninterrupted views of Mt Cook.
- 1935m<sup>2</sup> Title available now.

**SELLING BELOW COST**

**Devlin** Danny Nelson 0800 247 343 or 021 280 8003  
www.4property.co.nz

## Don't let a few missing parts spoil your fun

# NEED A PART ?

- SPECIALIST IN SOURCING HARD TO FIND PARTS
- HARDWARE - AN, MS, NAS and other standards
- RAW MATERIAL - Sheet, Tube, Bar, Extrusions
- MICHELIN TYRE DISTRIBUTOR
- GENERAL GA PARTS - Airframe, Engine and associated items



**AVPARTS (NZ) LTD**  
Aviation Supplies

[N] Murray Dreyer [M] 021 869 114  
[E] avparts@xtra.co.nz [P] 07 827 0233



# JNZAC

JAPAN NEW ZEALAND AVIATION COMPANY




We offer services for:

- Importing and Sourcing**
- Japanese logbook translation**
- Business Development Advice**
- Introduction and Liaison**

Contact: **Yasuo Ariyama** email: yasuo@jnzac.com www.jnzac.com  
Office Ph: +63 32 340 9314 Mobile Ph: +63 921 642 4861


## Engineering for Aviation

Airport Drive, Palmerston North Ph 64-6 357 1149, Fax 64-6 357 0886



- Airframe Maintenance & Overhaul
- Engineering Design
- Instrument Overhaul
- Electrical Overhaul
- Engine Maintenance & Overhaul
- Welding, NDT, Cable and Hose Manufacture
- Corrosion Treatment and Aircraft Painting
- Calibration - Tools & Test Equipments

CAA Part 145, 146, 148, 19F, CASA CAR 30, NZS/AS ISO 9001:2000



**FIELDAIR**  
Engineering for Aviation  
fieldair.co.nz

# New Rotorblade and Composites Repair Facility under construction at Ardmore by Oceania Aviation

AS THIS issue of KiwiFlyer goes to print, progress is well underway on Oceania Aviation's new Rotorblade and Composites repair facility being constructed near to Oceania's home base at Ardmore.

The new capabilities being established are not currently available in the NZ market and Oceania consider that the investment and commitment being made will fit well with their existing envelope of services.

### International Partnership

The new facility builds upon an existing relationship that Oceania has with Advanced Composite Structures (ACS) in Canada, who are a market leading composite repair company undertaking rotor blade work from S300 to Super Puma. They are also a major contractor in bonded panel repair and fabrication work for airlines.

Advanced Composite Structures are supplying training to their standards and have provided Oceania with authorisation to carry out repairs that embody their specifications. Training will be ongoing to ensure currency of knowledge and repair practices, with regular visits to Oceania by ACS staff and vice versa. A technical agreement is in place with ACS, such that Oceania are kept up to date with all ACS rotorblade and composite repair technology developments.

### Advantages for operators

No other companies are presently providing a local blade repair service within New Zealand and operators must rely on a process requiring their blades to be sent to Australia and further afield. There are obvious advantages to having the service performed locally, being less downtime and less risk of freight damage or worse, lost freight. There is also the significant benefit of dealing with a New Zealand company with known good practices and approachable staff.

Because the facility is being set up from new, operators can also be assured that the latest best practice and technology will be used in the care of their blades. For example, all blade balancing will be done electronically (compared to the old master blade system).

### Capability and Experience

Oceania are constructing and purchasing a considerable amount of new tooling to carry out the wide range of repairs to be catered for and expect to be able to handle virtually anything required for rotorblade

for Schweizer, AS350 series, and MD (including HTC) helicopters. Stage two is to closely follow this with service provision for Bell and other Eurocopter models.

Having knowledgeable staff on the job is a certainty as the new facility will be operated by two of the most experienced rotorblade repair people in New Zealand, Jeremy Davies and Graham Boustred (17 and 30 years experience respectively). At a time when all blade repairs had to go to the USA, Graham originally began a business to do this work locally in 1980, visiting the USA every year for currency training. Business boomed with huge numbers of Hughes 300 and 500 blade repairs being required during the venison recovery era.

Jeremy and Graham have a working relationship dating back many years, having previously worked together when Graham set up and ran a blade and composite repair company.

### Free Testing Hammers

Oceania have recently produced a batch of specially designed light weight hammers for testing voids in blades or composite structures. Nicely balanced at the handle point for sensitive use, these should be an essential part of any engineer's toolkit. Best of all, they are free (while the initial stock lasts). Graham invites all



Jeremy Davies at the Oceania Trade Stand during the launch of the new facility at Aviation Industry Week during July.

and composite structures. They are setting up with scale in mind and a view to be able to contract their new composite repair capability to much larger organisations including airlines.

Initially, the new facility is particularly aiming at the large number of AS350 and 355 operators who have no local support available. Within three months Oceania plans to be offering full main and tail rotor blade repair and refurbishment services

NZ engineers or operators to contact him and claim theirs by email: graham@ohl.co.nz Get in quick because the next batch will cost \$25 each.

### For more information

Contact Graham Boustred or Jeremy Davies at Oceania Aviation on 09 296 2644, email: graham@ohl.co.nz or jeremy@ohl.co.nz  
www.oceania-aviation.com



**FREE while stocks last.**

Oceania's new Testing Hammer is ideal for detecting voids in rotor blades and composite structures. Read the article above to see if you qualify, then contact Graham Boustred to request yours today.



# Aircraft Liability Implications

## Forest and Rural Fires Act 1977

Contributed by Bill Beard

THERE IS a proposal by the Department of Conservation (DOC) that aircraft and helicopters landing and/or operating on Public Conservation Lands are to have adequate Public Liability Insurance coverage in place, including recovery of fire fighting costs under the Forest & Rural Fires Act 1977.

If you live in a city or town, very rarely would you be required to pay the costs of putting out a fire as they are largely funded from a Fire Service Levy (FSL) you pay with your Fire and Material Damage Insurance Premiums.

In country areas however, the fire authorities are required to try to recover the fire fighting costs from the person responsible for the fire. If that does not succeed, a regime of levies applies under the Forest & Rural Fires Act. Despite that, Section 43 of the Act is unusual in that it provides for recovery of fire fighting costs and affords the same rights to any person who suffers property loss as a result of a fire. Furthermore, the law is absolute in that negligence or fault need not necessarily be proven.

The upshot of all this is that DOC is proposing to require aircraft owners to have the following minimum levels of liability insurance on all aircraft landing on DOC land.

- Aviation Legal Liability for an amount of no less than NZ\$2m including Forest & Rural Fires Act Extension with this extension having a sub-limit of no less than NZ\$1m.

- General Public Liability for an amount no less than NZ\$1m including Forest & Rural Fires Act Extension with this extension having a sub-limit of no less than NZ\$1m.

The Aviation Liability is easily arranged by simply asking your broker to increase the aircraft legal liability – Combined Single Limit to NZ\$2m including Forest & Rural Fires Act cover. If you currently only have \$500,000 liability indemnity, the additional premium will be around NZ\$350 per annum and if you are currently insured for NZ\$1m the additional premium will be in the order of NZ\$200 per annum pro rata. This will provide cover under the Forest & Rural Fires Act caused directly by

### Accident and Incident Reports

are provided courtesy of



**Type:** Piper PA-38-112 EYG  
**Location:** Hokitika **POB:** 1  
**Operation:** Training Solo **Injuries:** Nil  
**Date:** 5 June 2010  
**Report:** The aircraft struck an aerodrome wall with the left wing tip while taxiing to the runway.

**Type:** BK-117 HYO  
**Location:** Raglan **POB:** 2  
**Operation:** Other **Injuries:** Nil  
**Date:** 21 June 2010  
**Report:** The tail rotor struck an object during some aerial work in Raglan.

**Type:** Piper PA-38-112 EHY  
**Location:** Ruahine Range **POB:** 2  
**Operation:** Training Dual **Injuries:** 2  
**Date:** 12 July 2010  
**Report:** Aircraft impacted a hillside during a cross country flight.

**Type:** Robinson R44 HKD  
**Location:** Wellsford **POB:** 1  
**Operation:** Agricultural **Injuries:** Nil  
**Date:** 10 July 2010  
**Report:** Helicopter struck power lines during a turn while conducting spray ops.

**Type:** Rans S-6ES Coyote II WAL  
**Location:** Rangitata **POB:** 1  
**Operation:** Private Other **Injuries:** Nil  
**Date:** 3 July 2010  
**Report:** Aircraft stalled on takeoff from a farm strip, returning to the runway and sustaining damage.

**Type:** Cessna 172K NCA  
**Location:** Whangarei **POB:** 1  
**Operation:** Parachuting **Injuries:** Nil  
**Date:** 1 July 2010  
**Report:** Aircraft partially lost power around 4000ft, with the engine stopping completely at 200ft. Significant sink was experienced and the aircraft impacted a bank short of the runway.

**Type:** Schempp-Hirth Discus GZP  
**Location:** Lake Station **POB:** 1  
**Operation:** Private Other **Injuries:** Nil  
**Date:** 18 July 2010  
**Report:** A downdraft was encountered while ridge soaring, causing the aircraft to sink and strike the tree tops.

Please note: Accidents and Incidents are selected from the CAA website and are provided for information only. Accuracy is not guaranteed. Refer to www.caa.govt.nz for full briefs.



Avsure provides the most competitive insurance programmes available in the Aviation Industry. When considering your aircraft insurance, you definitely need the best ADVICE, EXPERIENCE and RESOURCES. At Avsure, WE DELIVER.

*Avsure - where aviation insurance isn't just a sideline, it's all we do!*

A division of Boston Marks Group Limited, P: (09) 298-8206, F: (09) 298-8218, E: insure@avsure.co.nz www.avsure.co.nz

Samples of aviation insurance we arrange. On request we can provide no obligation quotations.

**AIRCRAFT**

- Pleasure & Business Aircraft
- Charter • Aircraft Sales
- Flying Schools • Aero Clubs
- Agricultural • Helicopters

**AVIATION LIABILITY**

- Premises • Airports • Products
- Chemical • Hangarkeepers

**PROPERTY**

- Hangars and Contents

**PERSONAL**

- Pilot Personal Accident
- Passengers • Pilots term life

the aircraft, i.e. an accident resulting in a subsequent fire.

For Avsure clients we can (on request) issue a Certificate of Insurance verifying compliance with DOC requirements that you can keep in your aircraft for inspection if accosted by DOC personnel.

Individuals or private owners that have home contents insurance should be automatically insured for their personal liability including fire and Forest & Rural Fires Act. Some local companies provide Forest & Rural Fires Act 1977 cover up to NZ\$1m, and some companies only offer a NZ\$100,000 sub-limit. You will need to check your Home Contents

Insurance Policy to verify your particular insurance indemnity to ensure your particular insurance policy will meet DOC requirements. If you don't have a Home Contents Insurance Policy then its unlikely you will be covered. Similarly, rural business people should check their Public Liability Policy to ensure they have cover for them and their employees under the Forest & Rural Fires Act. If you do not have cover, contact your insurer or broker.

To discuss this topic or any other questions relating to aviation related insurance or to seek quotations, contact Bill Beard at Avsure on 0800 322 206 or email: insure@avsure.co.nz

# HELISPECS

helicopter maintenance limited

celebrating 30 years of maintaining working helicopters

## HELISPRAY by HELISPECS

the originator of the carbon fibre boom concept

### for Robinson R44

- Lightweight, 72kg with 4hp Honda
- Low mass oscillation absorbing carbon fibre booms
- All stainless / carbon fibre construction means zero corrosion
- Fast and simple installation and removal
- Single boom isolation option



### for AS350 B2, B3, and Super C

- 1000 litre capacity with room for foaming
- Belly tank incorporating simple one person installation and removal
- Forward mounted carbon fibre booms
- Optional light weight carbon fibre tank
- Single boom isolation option
- Accurate, pressure operated contents gauge in pilot's console
- Dump doors open and close from pilot's controls for fire fighting and partial load dumps
- Designed by Operators for Operators
- Competitively priced
- Buy NZ made



## R44 BAGGAGE PODS by HELISPECS

- 220 litres capacity per pod
- Light weight - each pod only weighs 14kg
- 250lb structural load per pod
- Vented for animal carriage
- Removable drain bung for cleaning
- Simple 30 second installation or removal
- Elegant design and excellent functionality



## HELIPOWER by HELISPECS

Battery Installation for Bell 206, AS350, MD369C,D,E,F,530F,600N

- Maintenance free sealed lead acid batteries
- Light weight - 15lb saving over conventional lead acid battery
- 16 amp hours (typical NiCad is only 13 amp hours)
- Improved starting
- Initial installation \$1800+gst
- Replacement batteries \$700+gst

## NEW: R44 GROUND HANDLING WHEELS

- Eliminates twisting loads
- Increased skid clearance
- Telescoping handle



Phone Roger at HELISPECS on 027 498 2812 to discuss all your helicopter requirements or email: heli.specs@hotmail.com



### Helicopter and Aeroplane Maintenance

#### Maintenance Control Services

#### Airworthiness Reviews

#### Propeller Balancing and Digital Vibration Analysis

#### Recreational Aircraft Maintenance

#### Electrical System Installs, Mods and Repairs

#### Overhauls for Magnetos, Alternators and Starters

Hangar 1, Steele Road Hamilton Airport Phone Paul on 07 843 1200 or 021 743 033 Email: paul@centralaero.co.nz www.centralaero.co.nz

# WALKERS UPHOLSTERY (2005) LIMITED

## Aircraft Interiors for Pilots by Pilots



Based in Alexandra and covering all the Southern Lakes area.

Seats and carpets for all aviation applications including Microlights, GA, Helicopters and Commercial.

All approved materials.

Steve & Margaret Whiten 89 Tarbert Street, Alexandra P: 03 448 7524 M: 021 467 379 E: walk5@paradise.net.nz www.walkersupholstery.co.nz

# SEACOM

Helipad Light Fittings using LED technology



Also available: AWIB for real time weather in voice form. Smart PAL to operate airfield lights. Illuminated wind socks. Radio ground to air equipment to your specs. P: (09) 528 5217 E: seacom@xtra.co.nz www.seacom.co.nz



## Signature Engines in the South Island

- Aviation is one of Massey's 'defining' degrees.
- Our Bachelor of Aviation is unique in its equivalency agreement with CAA-NZ.
- Our Diamond DA 40 and 42 training fleet incorporates the latest Garmin 1000 technology.
- Our aviation research contributes to aviation training and safety in NZ and beyond.
- You can study internally or by distance mode.

Bachelor of Aviation | Bachelor of Aviation Management  
 Graduate Diploma in Aviation | Master of Aviation | PhD - Aviation

### Massey University Manawatu - 'Campus Contact Day'

Saturday 25th September 2010  
 Milson Flight Systems Centre,  
 Airport Drive, Palmerston North  
 9am - 2pm

(Trial flights in a Diamond DA 40 aircraft available - Must be pre-booked)



"Aviation is proof, that given the will, we have the capacity to achieve the impossible." *Eddie Rickenbacker*

For more information contact  
 Phone: 0800 MASSEY  
<http://aviation@massey.ac.nz>

Te Kunenga  
 ki Pūrehuroa



MASSEY UNIVERSITY

**FOLLOWING** the article in the last issue of KiwiFlyer and the launch of Aeromotive's new Signature Engine range at the Aviation Industry Week Trade Expo during July, Greg Mundell at Aeromotive in Hamilton received several enquiries from South Island operators. Some of these were unaware that the company has in fact also operated a dedicated engine shop in Timaru since 1986. Headed by Terry Wilson, 'Aeromotive South' offers all engine services from minor maintenance and troubleshooting to full overhauls in accordance with Aeromotive's new Signature specification.

At the top of the Signature offering is an 'Elite' option which includes new cylinders, rings, pistons, camshaft, cam followers and ignition harness. Every ancillary component is also nil holed regardless of what its time in service was. A Signature 'Overhaul' option offers the same basic features as the Elite but includes additional flexibility of choice for the operator in terms of whether or not to overhaul components such as the carburettor, fuel control system, magnetos, etc. All Signature engines come with an enhanced cosmetic appearance that includes powder coated induction manifolds, special paint and Signature badges. Part of the Signature Series package is the offer of a fixed price quote within 24 hours, valid for 30 days and with no hidden or surprise costs.

Terry and Aeromotive South provide engine services to an extensive range of large and small, fixed and rotary wing South Island operators, currently at the rate of 30 plus engines per annum. The business has been built on personal relationships and

when Aeromotive Hamilton salvaged Piper Cherokee DLN after it had a tailwind landing accident, then discovering that it had one of Terry's engines in it. Aeromotive retained DLN as the "company jet" and note that it is still performing well.

A mutually beneficial collaboration exists between Aeromotive South and Avtek (Aviation Teknology Ltd), who share the same hangar as well as many customers. Avtek has been owned and operated by LAME Bruce Robertson since 1987 and also has a customer base that is spread throughout the South Island. The company maintains over 100 aircraft and regularly passes engine work on to Terry, who in turn hands enquiries for general maintenance over to Bruce. Avtek holds CAA Part 19F and Part 145 certificates and currently maintains a large range of aircraft including DH82,

Austers, Piper singles and twins, Cessna singles, pressurised singles, C404, C421, C441 and Beech 200.

#### For more information

Contact Terry at Aeromotive South for all South Island engine requirements on 03 688 2828, email: [terry.wilson@aeromotive.co.nz](mailto:terry.wilson@aeromotive.co.nz) or visit [www.aeromotive.co.nz](http://www.aeromotive.co.nz)

For general maintenance enquiries in the South Island, contact Bruce at Avtek on 03 688 2189, email: [bruce@avtek.co.nz](mailto:bruce@avtek.co.nz) or visit [www.avtek.co.nz](http://www.avtek.co.nz)



Terry Wilson from Aeromotive South with a Signature engine on display at the Aviation Industry Week Trade Expo in July.

quality of service over a long period of time, greatly helped by Terry's 50 years of aviation experience in engines, propellers and instruments (he started with Aero Engine Services in 1960).

The operation at Aeromotive South is focused on engines and components and also acts as a conduit to the wider range of specialist services at Aeromotive Hamilton, particularly in regard to propellers and fuel injection systems.

An indication of the small aviation world we live in occurred a few years ago

THE NEWEST AIRPLANE WORTHY OF THE NAME PIPER

*Piper Sport*

**AEROSPORT**

Where quality meets the sky!

Australian & New Zealand Agent  
 Anton Meier  
 +64 7 829 5940  
 Mob: 0212 895 999  
[anton@aerosport.co.nz](mailto:anton@aerosport.co.nz)  
[www.aerosport.co.nz](http://www.aerosport.co.nz)

# New King Air C90 GTx delivered to NZ customer

A SIGNIFICANT arrival on the New Zealand aircraft register for July was a brand new Hawker Beechcraft King Air C90 GTx, supplied and delivered to a South Island customer by Hawker Pacific NZ at Ardmore.

The C90 GTx is an advance on the previous GTi model and offers a gross all up weight increase to 10500lb as well as improved climb rate and fuel efficiency thanks to the addition of composite winglets. Depending on configuration and conditions, direct flights to Sydney are within reach. It is certified for single pilot operation and can carry up to seven passengers and their baggage.

Configured with Executive Club seating, the interior has all the features to be expected of a luxury air travel environment, including generous space and storage, a refreshment centre, folding tables, a built in air stair, and very fine detailing.

Two PT6A-135A engines provide a total of 1100 shaft horsepower and provide for a cruise speed at ISA of 260kts true airspeed at 9,500lb and 24,000 feet.

A Collins Pro Line 21 avionics suite is the same as found in the much larger King Air 350 and consists of three 8" x 10" LCD displays having a comprehensive range of display options.

## Training and Delivery

With Hawker Pacific having secured the supply and maintenance of the aircraft, Engineering Manager Peter McCarty travelled to Wichita and the Hawker Beechcraft Maintenance Learning Centre to obtain a rating on it. Thanks to Mark Price at CAA, Peter says this was a very streamlined and easy process.

A CoA was issued for the aircraft in Wichita by David Gill from CAA and Peter at the Hawker Beechcraft Service Centre. Small issues were quickly resolved and Peter was again appreciative of CAA's support, saying that David did a great job of fitting these requirements in with other commitments.

The aircraft then had a HF oceanic radio fitted and certified and was flown



A brand new Hawker Beechcraft King Air C90 GTx ready for delivery on the apron at Hawker Pacific Ardmore.

to New Zealand by Ferry Pilot Vincent Fuschetti from Range Flyers Inc. over 8 days. This 18,000 mile delivery trip was quite uneventful, though an amusing anecdote did arise at the very end due to Vincent inadvertently pre-booking himself

to Peter who immediately flew him straight back to Auckland in a Cessna 172 allowing him to check in with moments to spare at 3:10pm. The trip back to Auckland Airport had taken 6 minutes, instead of the alternate 30 minutes by taxi.



Collins Pro Line 21 avionics suite

After removal of the HF radio and a full valet for the new aircraft, Hawker Pacific's Chief Pilot Tim Fletcher arrived from Australia on behalf of the Sales Division to check out and sign over the aircraft to its new owner. Tim also undertook several familiarisation flights with the new aircraft's pilots.

## In regular use

Planes spotters can expect to see the new C90 regularly visiting airports around the country, something that Hawker Pacific consider might be the start of a trend with more enquiries in the pipeline. Peter says that introducing the aircraft has been a very smooth process thanks to the support available through the wider Hawker Pacific network with additional expertise readily available if needed. He says the aircraft is a delight to fly in, having sampled its cabin himself on a few occasions. On one early flight into Nelson, the crew were particularly impressed with their first use of the autopilot systems which flew the entire arrival on their behalf while they



A well appointed interior seats up to seven passengers in executive comfort.

a return flight to the USA for 5:15pm on the same afternoon that he was planning to arrive. He landed in the C90 at Auckland at 1pm which left very limited time to clear Customs and deliver the aircraft to Ardmore. By the time all processes had been completed, he landed the C90 at Ardmore at 2:45pm and was very grateful

watched the "little plane on the screen" follow the Jeppesen chart exactly to the smallest detail.

The owner is also very pleased with his new aircraft. Peter commented that this was especially the case on a recent trip from Nelson to Auckland where after some good humoured banter between the pilot

and a friend lining up behind in a Q300 who suggested they should get out of the way, the C90 flew higher, faster, and stayed ahead of the Q300 all the way to Auckland.

## More Information

For more information on the C90 King Air or any of Hawker Pacific's product or service offerings, contact Steve Siddall at Hawker Pacific Ardmore on (09) 295 0665, email: [steve.siddall@hawkerpacific.com](mailto:steve.siddall@hawkerpacific.com)



Above: Wichita to Ardmore, the long way around. The delivery trip covered 18,000 miles over 74 hours of flight time. 15 stops were made during 8 days of travel. (Google Earth images).



[www.flightcell.co.nz](http://www.flightcell.co.nz)

**HEADSETS**  
**GPS**  
**HELMETS**  
**FUEL SCAN**  
**RADIOS**  
**ANR KITS**  
**CELLPHONE ADAPTORS**  
**FLIGHTSUITS**  
**TRANSPONDERS**  
**HEADSET ADAPTORS**  
**BOSE**  
**DAVID CLARK**  
**GARMIN**  
**LOWRANCE**  
**MICROAIR and more...**

**Ph 0800 354 832**  
[john@flightcell.co.nz](mailto:john@flightcell.co.nz)

**AIRSPRAY ARDMORE LTD**

**SPECIALIST AIRCRAFT PAINTERS**  
 On-site computerised paint matching system  
 Environmentally friendly chemical stripping  
 Aquamax Hydroblast stripping  
 ACF-50 Corrosion Control

Phone Paul (09) 296 8913 or 021 074 4876  
 Email: [paul@pioneerero.co.nz](mailto:paul@pioneerero.co.nz)  
 540 Corsair Lane, Ardmore Airfield

**Tanker to Aircraft Refuelling at Ardmore**  
**Avgas and Jet A1**  
**Call George Hoskins**  
**Phone 021 369 600**  
**or VHF 133.1 MHz**

**Ardmore Sky Station**  
**Ph/Fax: (09) 297 7188**  
**Email: [skystation@xtra.co.nz](mailto:skystation@xtra.co.nz)**

**Advertise Here**

This space from only \$75+gst. Reach thousands of aviation enthusiasts including every aircraft operator and aviation business in New Zealand.

Oct/Nov issue deadline is 4 October

Email: [editor@kiwiflyer.co.nz](mailto:editor@kiwiflyer.co.nz)  
 Phone: 0800 KFLYER (0800 535 937)

[www.kiwiflyer.co.nz](http://www.kiwiflyer.co.nz)

**New Kannad 406XS-4 Personal Locator Beacon**

Small, lightweight and complete with pouch this 406MHz PLB weighs a mere 150 grams and the size is only 34 x 47 x 106mm. Complies with NZ/Australian Standards and CAA Microlight / Gliding requirements.

**Only \$749 including GST**

**AVIATION SAFETY**

Phone 09 420 6079 or 027 280 6549, email: [LKlee@aviationsafety.co.nz](mailto:LKlee@aviationsafety.co.nz)  
[www.aviationsafety.co.nz](http://www.aviationsafety.co.nz)



# Warbirds Association News and Calendar

Contributed by Frank Parker

A SHORT while ago I wrote about the year that 'was'. With spring beckoning it is already the year ahead.

Planning is underway for the Annual Battle of Britain Flypast. This Flypast coincides with a Memorial Service held at the Auckland Cenotaph to commemorate that historical event. For NZWA it is regarded as the opener for the summer flying season.

It is scheduled for Sunday 19 Sep. The day will be an early start for pilots (not dairy farmer early though!) to tow aircraft and ready them before the brief at 9am and take off from 10am. As with last year, Warbirds are holding an Open Day during the afternoon with a limited flying display planned. All this is of course subject to the vagaries of the weather, and it is early Spring.

### The coming season

Current 'Events' on the Warbirds calendar for Summer after are  
 Battle of Britain: 19 September  
 Whitianga Fly-in: Late November  
 Warbirds Open Day: 5 December  
 Taupo 'Proms': 23 January  
 Wings over Wairarapa: 30 January  
 Art Deco Napier: February  
 Classic Fighters Omaka: April

### Practice Time

For participating pilots the winter holiday is over. Now it's time to crack the whip and polish the spurs; even for the BoB flypast pilots must ensure flying currency. For the Airshow events, pilots

to the shrill rasp of a colourful aerobatic aircraft being put through its paces at least twice a week. This translates to a wonderful airshow demonstration by Doug Brooker in his MX-2 performing manoeuvres that aircraft are not meant to do.



The latest addition to the Warbirds hangar at Ardmore is this DHC Chipmunk, purchased by a new syndicate.

### More to see at the hangar

On the ground, the NZWA Visitor Centre at the Ardmore Hanger continues development. The latest additions are some informative 'wall stories' (which co-incidentally are 'war stories')

and the beginning of model displays. The association has been gifted several prestigious model collections over the years but we have not had a suitable area to display them. It is with some gratitude that this situation has been addressed with the development of the Visitor Centre.

New on the 'information' front is a NZ Warbirds Facebook page. This is an adjunct to the Associations Website with the aim being to provide up to date information through this social media.  
 Stop Press News is the arrival of DHC Chipmunk ZK-SAX. This aircraft has been purchased by a newly formed syndicate to operate from the Ardmore Base. The Chipmunk's role is of an entry level, tail-wheel, aerobatic Warbird which will be a welcome addition to the fleet.

Of course any pilots in the 'Show Circuit' need to be on the top of their game before they perform. If you live in the Counties area you will be well used

have a rigorous flight training program ahead to reach a professional standard for the prestigious events at Wairarapa and Omaka.  
 For the Harvard Team (which I am involved with) this will start with formation practice leading up to formation loops before we start co-ordinating a show sequence. This will require five or more hours of flying before we reach a display standard. As the season progresses we will work on tweaks and improvements with regular practices. By the end of the season each pilot would have put in 12 plus hours of practice to achieve a 'show standard'.  
 Now, about that new kitchen dear!

Cheers FP.

Of course any pilots in the 'Show Circuit' need to be on the top of their game before they perform. If you live in the Counties area you will be well used

Cheers FP.

www.spidertracks.com

# SEARCH & RESCUE

Crashing a plane is bad enough. Not being found in time can turn a survivable accident into a tragedy.  
 It's now time to save lives. Spidertracks has been invented to find you faster. Unlike traditional emergency location systems, spidertracks works before you crash, transmitting your position via satellite from take-off to landing. The search is over; 'found technology' is here.

To find out more, visit our website or call 0800 461 776.

TIME TO SAVE LIVES | spidertracks

Are your family and assets protected?

We are PILOT LIFE INSURANCE SPECIALISTS and can guide you through the process of PROTECTING YOUR FAMILY AND BUSINESS as well as INSURING YOUR DEBTS

Contact Craig Spratt  
 Spratt Financial Services Limited  
 Phone: 021 935 788 or 09 306 7250  
 Email: craig@spratt.co.nz  
 www.spratt.co.nz

Independent brokers protecting pilots since 1992

See an aircraft you like in the USA ?



Want to buy and import to NZ ?

It is an excellent time to buy!  
 Soft market prices in the USA - Huge availability of aircraft - Strong NZ dollar

Talk to the experts about our importation service.

You find the aircraft or we will. We have 30 years of experience exporting and importing all types of aeroplanes and helicopters to and from the USA

We handle everything professionally while you relax.

Negotiation - Pre purchase inspection - Export certificate - Title search  
 FAA registration or deregistration - Secure funds transfer  
 Packing and freight or Ferry - Assembly and NZ CAA certification

Fixed quote. No surprises.



Contact Dave Macmillan Ph: 0274 324776 or 03 489 8040  
 Email: airflite.sth@xtra.co.nz www.airflitesouth.co.nz

## NEW ZEALAND WARBIRDS

Join New Zealand's most colourful aviation fraternity

Membership includes subscription to Classic Wings Magazine and the NZ Warbirds Scramble newsletter. Associate Membership \$99. Full Membership \$162.

Name .....

Address .....

Phone .....

Post to: New Zealand Warbirds Association Limited.  
 Ardmore Airfield. Phone: (09) 298 9207  
 PDC 14 Email: NZWarbirds@paradise.net.nz  
 Papakura www.nzwarbirds.org.nz

## BE PART OF THE ACTION!



# Aircraft Photography Basics

Contributed by Chris Gee

*KiwiFlyer readers who enjoyed our Warbirds Over Wanaka coverage a couple of issues back might recall that the superb photography and editorial that accompanied it was contributed by Chris Gee. Our aviation scene is full of enthusiasts with cameras and there must be more than a few who see some of our published photos and wonder just how the picture was taken and what they could do to improve their own efforts. With that in mind, it is with pleasure that we welcome Chris back as a contributor to a regular page on aviation photography.*

**I HAVE** been a keen photographer for a long time, but it was only about four years ago that I decided to point my camera in a new direction... up!

After a lifetime spent admiring photos of aircraft taken by other people, I saved up the money to attend my first big airshow as an adult. Since then I have been privileged to photograph aviation events all over world, including the world's largest airshow, the Royal International Air Tattoo at Fairford, UK in 2007, the MAKS Airshow in Moscow, Russia, also in 2007, the ILA Air Expo in Berlin, Germany, in 2008, and two visits to the Australian International Airshow at Avalon in 2007 and 2009.

In fact you don't even have to leave New Zealand to photograph a great airshow. Aviation here is world famous for its eclectic collection of aircraft and dramatic settings. The Warbirds over Wanaka Airshow in April this year was one of the best I have been to, as was the RNZAF Open day at Whenuapai in 2009.

There are also excellent airshows in Omasaka, Tauranga, Masterton, and many regional aviation events throughout the year as well. If it weren't for my day-job as an audio engineer I would be at all of them, snapping away like crazy!

I am by no means a full time or 'professional' aviation photographer, but I have learned a lot by trial and error. In the interests of avoiding reinventing the propeller, I will outline some of the problems I have encountered and the ways to overcome them during this series of articles. This first article will focus on the basic equipment and theory required to get you started. More technical and exciting aspects will follow in future issues.

## Exposure

There is one word that will become very important to you as you start to explore photography: Exposure. This refers to

the process of capturing the light through the lens and onto the camera's sensor. Photos that are over-exposed will appear too bright (highlights will appear as just bright white) and photos that are under-exposed will be too dark. While there is some 'recovery' that can be done on your computer after the fact, brightening an under-exposed image will introduce excess 'noise' or pixelation into

the image, and darkening an over-exposed image will not recover the details from the highlighted areas of the image. I think it is just as important to get the exposure 'right first time' today, as it was in the days of film.

Obtaining the correct exposure comes from a combination of three main controls on your camera, and you will need to learn to find and adjust these very quickly: Aperture, Shutter Speed and ISO Sensitivity.



Left: A wide angle lens can be useful for capturing formation shots in the air. C-130 + B757, RNZAF Open Day, Whenuapai, 2009: Nikon D200, f11, 1/320s, 30mm, ISO 200. Right: A long telephoto lens is essential for capturing aircraft in flight. The most interesting manoeuvres often occur on the other side of the airfield. Su-27 - MAKS Airshow, Russia, 2007: Nikon D200, f8, 1/640s, 320mm, ISO 200



A slower shutter speed will allow some motion, and good propeller blur, but it can be difficult to keep the fuselage sharp. P51-D, RNZAF Open Day, Whenuapai, 2009: Nikon D200, f11, 1/250, ISO 200.

## Aperture

The Aperture is the 'iris' inside your lens that widens or narrows to allow more, or less, light into the camera. This also alters the 'Depth of Field' (or DoF) of the image, which is the distance in front of and behind the subject of the photo that will be in focus. The camera's Aperture is measured in the 'f-stop'. When the aperture is larger, the f-stop is lower (eg f4), and more light is allowed into the camera. This will decrease the DoF (ie. only the part of the subject you are focusing on will be in focus, with the foreground and background blurred). As the iris becomes narrower, less

light will be allowed into the camera, and the Aperture will increase (eg f16), therefore you will get a longer DoF (ie. more of the subject in front and behind the point of focus will be sharp and in focus). Those of you already interested in landscape photography will probably be using f22 regularly. This allows your foreground and distant subjects to be in focus. A large Aperture is useful for making the background behind your subject very out of focus, thereby attracting attention to your in-focus subject. This can be used to great effect for creative shots, especially focusing on details of aircraft in the static display or for portraits of pilots.

## Shutter Speed

The Shutter Speed refers to the length of time the camera's shutter will remain open to allow light onto the sensor. Many digital cameras will make a fake 'click' sound when you push the button,



This is one of my favourite photos, Despite inclement weather and very difficult crowd conditions... Russians are crazy! Su-27's + Mig29's - MAKS Airshow, Russia, 2007: Nikon D200 - f8 - 1/800s - 340mm - ISO 400

but don't be fooled! It is only if you have a digital 'SLR' camera that there is actually a physical shutter that opens and closes. This is the main reason you want an SLR, because the shutter will open almost instantly, whereas normal digital cameras can have a delay of up to half a second before the sensor activates to actually take the photo, by which time your aircraft will have moved away, or up, a few hundred feet. The shorter the shutter speed, the less motion or blur you will get in your image, but the less light enters the camera. This is usually what you are trying to achieve with aviation photography, but if your subject is a helicopter or has a propeller, you will need to slow the shutter down enough to allow the propeller to start to blur. This will put some action in your image, instead of a stationary prop or rotor. The longer the shutter speed, the more light will enter the camera, but the more motion blur and camera-shake you may also get.

## ISO Sensitivity

The ISO Sensitivity refers to how sensitive the camera's sensor is to the incoming light. With an ISO of 200 the sensor will be half as sensitive to light than if it was set at ISO 400; an ISO of 800 will be twice as sensitive as ISO 400. The higher the ISO the more 'noise'

or pixelation will be introduced into the image, so you always want to keep your ISO as low as possible. Only when you start running out of light at the aperture or shutter speed you want should you start increasing your ISO to compensate.

To recap: the exposure is created by allowing the correct amount of light into the camera, via the three controls mentioned above.

This brings us into the main challenge of aviation photography (well, all photography really!)... Light. Is the sun behind you and lighting up the aircraft nicely? Or is it in front of you, meaning your aircraft is in shadow and the sky is bright behind it? Has the sun just gone behind a cloud? Is this aircraft a fast jet where I need a high shutter speed, or a helicopter where I need a slow shutter speed for rotor blur? More on dealing with these in future issues.

## Modes of Operation

While the 'auto' mode on your camera may get some good shots, it is important that you have access to, and learn to use the controls available. There are many times you will have to tell your camera to behave differently than it thinks it should in order to get the exposure you are after. This is done either by having your camera in 'manual' mode or by using the 'Shutter priority' or 'Aperture

Advertise Here

A space this size is available from only \$75+gst. Reach thousands of aviation enthusiasts including every aircraft operator and aviation business in NZ. The Oct/Nov issue deadline is 4th October

E: editor@kiwiflyer.co.nz  
P: 0800 KFLYER (0800 535 937)

[www.kiwiflyer.co.nz](http://www.kiwiflyer.co.nz)

SportStar

New improved LSA category SportStar MAX now available in standard or IFR configuration

For more information contact the New Zealand agent Colin Marshall at Aeroflight Aviation Phone 03 312 5402 or 0274 125 402, email: colin-m@xtra.co.nz [www.evektor.cz/sportstar/](http://www.evektor.cz/sportstar/)

**650 Flying in 42 countries - This aircraft must be good!**

priority' modes, and then using 'Exposure compensation' to under- or over-expose your image. For example, if your aircraft is a dark colour but the sky is bright, you will need to tell the camera to over-expose a few f-stops, otherwise the aircraft will be too dark. The opposite applies if the sky is dark behind the aircraft. It is important to have a camera where this control is easily accessible.

**Camera Bodies**

The two main items you will need to invest in are the camera body itself, and the lenses you put on the front of it. The first thing to point out is that you don't need the most expensive gear to take photos that you are happy with. The new entry-level DSLR cameras are now packed full of features that were once out of reach for the average amateur only a few years ago.

There has been much debate about the virtues of digital versus film. These days however, the advancement of digital technology has seen the digital camera become the mainstay of the majority of aviation photographers. The ability to see the results and adjust your exposure and composition immediately, as well as to take hundreds of photos without concern for film and processing cost, has won over even the most dedicated film user. I know of only one aviation photographer who still uses film, but after 30 years of honing his skills he will take about 50 shots a day, and nail the exposure and focus perfectly on every single one of them! He sure taught me a thing or two...

The acronym DSLR means Digital Single Lens Reflex. This means the light from the lens is reflected up into the viewfinder, so that what you see through it is exactly what the sensor sees. Basically it is the same as your trusty old film SLR, except instead of a roll of film behind the shutter, you have a digital sensor. Most modern DSLR cameras offer sensors with at least 10 megapixels in

resolution. This is quite important for aviation photography, since often the aircraft will be performing a fair distance away from you, so unless you can afford the real high-end zoom lenses of 500mm zoom or more, you will find it necessary to do some 'cropping' to fill your photo with the subject. Also if you plan on printing (and who doesn't want their aviation photos on the wall!) you will find that your images can start to lose quality once they are enlarged.

Chances are that the camera you can afford will have a 'cropped' sensor as opposed to the 'full-frame' sensors on the top of the



Left: A fast shutter speed will freeze the action, and is especially good for jets where you don't have to worry about needing propeller blur. F-111, Avalon Airshow 2009: Nikon D300, f14, 1/1250s, 175mm, ISO 400. Right: A Large Aperture (small f. number) will make the background and foreground start to blur, focusing the attention onto your subject. Kittyhawk - Warbirds over Wanaka 2010: Nikon D300, f4, 1/400, ISO 200.



line DSLR's. This can work to your advantage in aviation photography, since your zoom lens will gain some extra focal distance on the cropped sensor. For example, my main camera, the Nikon D300S, has a 'DX' sensor with a crop factor of 1.5x, therefore a 200mm zoom lens effectively becomes a 300mm. This is great considering a large 400/500mm lens is currently well out of my price range. Adding on my

1.7x converter to a 200mm lens gives me an effective 510mm. This is a compromise though, and more on that in a later issue too...

**Lens Selections**

There are two basic types of lens you will need: the first is a Telephoto Lens for in-flight action. The second is a general-purpose Wide Angle Lens for aircraft on the ground, the wider formation shots and of course, photos of pilots or your fellow aero-geek friends. Realistically you will find yourself spending as much on each lens as the camera body itself.

Lenses come in two forms: Prime and Zoom. The Prime lens is fixed at one focal length, for example 300mm, and is usually capable of a very large aperture (f4, f2.8 or even f1.8). They usually have higher quality optics, but don't allow the flexibility and ease of composition offered by a Zoom Lens, which have adjustable focal

lengths such as 70-300mm. Unless it is a top of the line zoom lens, its maximum aperture will change as you change its focal length. For the example a 70-300 zoom may be capable of f4 @ 70mm, but only f5.6 @ 300mm. But beware! There is a general rule of thumb that your shutter speed must be at least as fast as your focal length is long to avoid camera-shake and blurry images. For example, the 300mm lens on your cropped sensor has a focal length of 450mm, so with your lens at full zoom, you will need to keep your shutter speed over 1/450s to get sharp images. This can be a problem if



This image is 'under-exposed'. The camera was fooled by the brightness of the flares, and therefore the sky and aircraft fuselages are too dark. Mig 29's MAKS Airshow, Russia, 2007: Nikon D200, f8, 1/500s, ISO 200, 20mm.

it's cloudy or late in the day, since this shutter speed won't allow enough light into your camera @ f5.6 to expose properly. There are some very good affordable zoom lenses available, and I would recommend getting at least 300mm of focal length to start off with. Later on we will discuss the virtues of the 80-400 and 50-500mm lenses available, as well as some top of the line options.

The wide-angle lens is invaluable to catch the action right under your nose, whether it is a pilot next to his aircraft in the static line or a photo of yourself in front of an aircraft. The Telephoto and Zoom lenses are only capable of focusing on subjects a few metres or more away from you, so many photographers carry two camera bodies with a different lens on each to avoid missing anything while switching lens. Your wide-angle lens will also be valuable to fit a large aircraft in your viewfinder without you being so far away that a coffee cart and hundreds of people come between you and your airplane. Many cameras are offered with a 'kit' lens when you buy them, perhaps a 17-50 or 18-70mm zoom lens, and these can be excellent wide-angle lenses to start off and learn with.

**Practice makes perfect**

There will always be a battle between the equipment you want and the budget you have available, but with prior research you should be able to find a setup that will work for you. The beauty of the DSLR is that you can swap out equipment as your budget and ability grows, so think of each purchase as an investment: if you buy a nice zoom lens, you can still use it when you get a new camera, and vice versa - provided you stay with the same manufacturer. Whichever camera you get, make sure you read your manual thoroughly, and experiment systematically with its various modes and settings, noting the changes in each image as you go.

Practice makes perfect, but you don't need to wait for a big airshow to take photos of aeroplanes! Most regional airports have areas where you can get close to the action, and don't forget that your local aero clubs and rural aerodromes will always have something going on. You might also meet some other like-minded aviation photographers and make some new friends, so get out there and start snapping!



**COMPOSITES INTERNATIONAL LTD**

**Fibreglass Work**

• Pattern-Moulds - Development Work • Manufacture to your specification • Commercial work welcome

**Approved Aircraft Transparencies**

AS350 B206 H300 H500 R22

**100% New Zealand Owned**

8 Vernon Street Papakura Auckland NZ,  
Postal: PO Box 72 821 Papakura Auckland NZ,  
Phone: 09 298-5325, Fax: 09 297-7200, Email: cil@ihug.co.nz

**Aircraft Control Cables Manufactured**

**Martin Aviation Services Ltd**

19 Village Way

ARDMORE AIRPORT

PAPAKURA STH AUCKLAND

POBox 88067 Clendon Manurewa

CAA Approved - AM 36375

Part 148

For all swaged or nicopress cables from 1/16" to 3/16"

Cables and fittings in stock. Same day turnaround - Competitive prices

Hand splicing service available. Piper Cub trim cables a speciality.

Contact John Geary

Ph 09 298 6698 Fax 09 298 5225

Email: johng@slingshot.co.nz

Are you fit for flying?

**doctors**

Airline Court, 320 Remuera Road, Remuera, Free Roof Top Parking  
Hours: Monday-Friday 8am to 6pm  
Late Night Thursday by appointment  
reception@remueradoctors.co.nz

- ME - 1 (New Zealand)
- JAA (Renewals only)
- US (FAA)
- Australia (CASA)
- Canada
- Fiji

Dr Bill Daniels & Dr Anton Wiles



Book NOW for your Pilot Medical

www.remueradoctors.co.nz

**Stratomaster Infinity (2.1/4) & Velocity (3.1/8) singles**

**Features:**

- User set scales, limits, alarms
- Rotary knob menu / display selection
- Alarm LED, external alarm output
- 8-30VDC operating
- 16mA backlight off, 50mA backlight on
- Infinity series 2.1/4" cutout, 60mm deep plus connector, 120gm
- Velocity series 3.1/8" cutout, 66mm deep plus connector, 160gm



**Wide range of instruments:**

- Encoding altimeter / VSI
- ASI
- Combination ALT / ASI
- AH / compass indicator
- Primary flight instrument (ASI / ALT / fuel / CHT / EGT / oil T&P / tach / hobs)
- Battery voltage/current monitor
- Universal engine monitor
- Single/dual tank fuel computer
- Tilt compensated G-force meter
- MAP/RPM indicator
- Universal engine/rotor RPM indicator
- Real time clock / OAT indicator
- 4 channel CHT / EGT thermocouple indicator
- Universal TEMP / Pressure indicator

Contact: **Stuart Parker**  
07 825 2800  
021 076 3483  
stuart@sparxfly.co.nz

559 Rukuhia Road  
RD2  
Ohaupo 3882

**SPARXFLY**

Recreational flying avionics and accessories

www.sparxfly.co.nz



# New research sheds light on aviation industry

New Zealand Trade and Enterprise provide a substantial amount of support towards aviation industry growth in New Zealand and it is a pleasure to introduce what will become a series of articles on NZTE achievements and the opportunities for support that they have available to NZ aviation companies. This first article is written with NZTE Director of Specialised Manufacturing, Hans Frauenlob who comments on the key findings of the New Horizons Aviation Report, recently commissioned by NZTE to provide a comprehensive analysis of the wider aviation industry.



*This first article is written with NZTE Director of Specialised Manufacturing, Hans Frauenlob who comments on the key findings of the New Horizons Aviation Report, recently commissioned by NZTE to provide a comprehensive analysis of the wider aviation industry.*

**NEW ZEALAND'S** aviation industry has gone from strength to strength over recent years and is now valued at \$9.74 billion according to the New Horizons Aviation Report released in July by Associate Economic Development Minister Wayne Mapp.

This report provides an in-depth analysis of the wider aviation sector, where our strengths are and what sub-sectors are generating the most revenue. The report also identifies specific areas of opportunity based on international trends and emerging areas of expertise, and outlines some of the barriers to future potential growth. Hans explains:

“The report, which was completed by Knotridge Ltd on behalf of NZTE, was commissioned to provide a clear picture of the overall size of the industry, the recent and future growth drivers and constraints, and to assist with re-setting the five year growth challenges for the industry.

We wanted a robust analysis that took into account the entire aviation industry and where the methodology and conclusions were clear. Prior to this report being completed, there were numerous figures and projections being referred to, but none that provided a complete picture of the industry. Nor was there an analysis of potential future growth that NZTE considered to be crucial if the industry is going to continue to grow and compete internationally.”

## A holistic view of the aviation industry

The New Horizons Aviation Report provides an extensive analysis of the current industry, including revenues. It covers aircraft design and manufacture, parts and avionics suppliers, airport infrastructure, flight training and maintenance, repair and overhaul (MRO).

Key findings include:

- Of the industry's \$9.7 billion in revenue in 2009, \$3.8 billion was from exports,
- The industry is conservatively forecast to grow to \$12.6 billion by 2015
- Industry growth has been driven mostly organically through expansion of exports, creation of products from intellectual property, and addition of new products and services to existing businesses.
- More than 1000 businesses and organisations employing 23,500 workers are involved in New Zealand's aviation industry.
- Commercial passenger and cargo operators such as Air New Zealand with \$5.7 billion or 59 percent of total revenue and fuel companies with \$1.4 billion dominate the sector.
- The largest sub-sector in terms of number of organisations is the airline operator sector accounting for 38 percent or 384 firms. The majority of these are engaged in general commercial activities.

The demand for commercial services in tourism and agriculture has given rise to a large number of operators.

- Auckland with \$7 billion, Christchurch \$1.28 billion and Wellington \$592.5 million are the highest revenue generators due in part to traffic and activity at their international airports while the Waikato with its large manufacturing and training base leads the regions on \$297.6 million.

“These figures are much more significant than we expected,” says Hans. “We knew that earlier estimates were low, but the reality was that we didn't truly appreciate or understand the total contribution that this industry is making to our economy.”

## Future potential and growth

“One of the key objectives NZTE had when commissioning the New Horizons report was to identify areas within the industry that have the most significant growth potential. Through our international network we knew what the international trends were, but what we didn't have a clear picture of was what synergies there were between international opportunities and emerging niches, and New Zealand's ability to respond to these.”

The report indicates that:

- There is spare capacity for more MRO activity, particularly as several Asia-Pacific airlines are increasing their fleet sizes which could provide more regional work for New Zealand businesses.
- Growing helicopter use worldwide in oil and gas support and New Zealand's reputation for expertise and skill with rotary-wing aircraft present more opportunities while local company Rocket Lab, who are providing inexpensive and reliable access to space, which has significant growth potential in the US and other countries.
- New Zealand expertise and capabilities could be used to develop and produce more technology-based designs. For example, a new aircraft for the top-dressing industry is expected to meet domestic demand and create export opportunities, - and New Zealand has the capability to exploit the growing worldwide light sport aircraft market.
- New Zealand has the ability to produce titanium powders targeted for specific niche applications and offshore demand for our airport design and automated ground handling equipment appears to be strong.
- There is potential for a wind tunnel testing facility to be built here to satisfy large unmet global market demand as the high-quality tunnels around the world are fully booked for years ahead.

“These opportunities are very real, and highlight just how broad the aviation industry globally has become. New Zealand is well positioned to make the most of these opportunities.”

## Knowing the constraints

“Part of the rationale behind the New Horizons report was to take an independent view of some of the constraints and limitations that are holding the industry back, and that could have the potential to severely impact the ability for New Zealand's aviation industry to reach revenues of \$12 billion or \$15 billion.”

- The New Horizons report considers a number of limitations and constraints, including:
- A whole-of-government approach would benefit aviation

industry organisations which are impacted by the requirements of multiple layers of regulation. The government, financial and business environment at times constrains and does not encourage high-performing industry to stay in New Zealand.

- Investors in New Zealand are now very risk-averse with limited venture capital funds available - some of New Zealand's most innovative businesses are in danger of being lost offshore due to a lack of capital.
- The lack of a united New Zealand Inc. approach at times denies the opportunity for smaller businesses to become involved in significant export ventures while partnerships with a 'Brand New Zealand' focus with



Aviation Cluster CEO, Shaun Mitchell (l) with US entrepreneur Jim McCoy.

government agency support would enable organisations to co-operate rather than compete with each other.

- The business model and brand for the Academy New Zealand pilot training organisation concept requires definition and support from industry and government while weightless exports, using our minds not our bodies, should be the approach from the aviation industry to increase opportunities for export sales.

## Focusing on the future

Hans says that “The New Horizons Report will provide useful input into the industry's five year growth plan as it outlines a number of policy recommendations and includes an outline of shorter term milestones. Issues such as capital, are not unique to this industry and the challenge now is for the wider industry, which includes government, to work together to identify ways to address some of the constraints identified. The government, through NZTE, has invested considerably in aviation, and is committed to working with the industry to continue to maximise opportunities for international success.”

The New Horizons Aviation Report is available online at [www.nzte.govt.nz](http://www.nzte.govt.nz)

# US entrepreneur impressed by NZ's aviation capability

by Graeme Kennedy

**UNITED STATES** entrepreneur, venture capital investor, private pilot and New Zealand aviation champion Jim McCoy was in New Zealand recently for a series of seminars on industry growth and investment. He was impressed by the findings of the New Horizons Aviation Report, and believes New Zealand has the skill and capabilities to be on a global short list of industry players within five to ten years.

Mr McCoy has founded and grown multi-billion dollar US international companies and worked in a wide range of industries and technologies including computers, consumer electronics and biotech instrumentation. He began specialising in aviation business development projects eight years ago in California and was in New Zealand with the support of NZTE and the New Zealand Aviation Cluster.

“Aviation is such a big part of culture and life here yet most people do not have a sense of how big it has become – a plane here is like a car in other countries and while New Zealanders in the past were just users they are now producers and developers with the ability to compete on the global market,” Mr McCoy said.

“Designing and building small aircraft here is incredible – the Pacific Aerospace P-750 XSTOL is world-class and being sold world-wide while Stainless Design and its use of hi-tech materials for parts manufacture is among the best in the world. Airwork has orders from all over the world for re-engining the BK117 helicopter and there are 28 designs now ready or going through the CAA approval process.”

“The industry must recognise its global competitiveness and that the breadth of its technology is very impressive. These are not second-class capabilities but are at the cutting edge of international standards. Now is the time to go for it, although the industry must now raise capital to widen its horizons and aggressively move forward.”

Mr McCoy said finding funding through investment or any other means was always a challenge for any industry and New Zealand aviation was facing that process now in an environment not as healthy as it could be. “It doesn't happen overnight,” he said. “The industry must look at all possible sources to raise capital and make itself attractive to investors by having good product, markets and capable teams helping find those markets and modifying product to meet their needs.”



## TOTAL SUPPORT CENTRE

- ✈ Airframe Maintenance
- ✈ Engine Overhaul
- ✈ Propeller Overhaul
- ✈ Accessory Overhaul
- ✈ Component Overhaul
- ✈ Avionics Capability

Head Office  
Steele Road  
Hamilton Airport  
RD2 Hamilton 3282  
Phone: 07 843 3199  
Fax: 07 843 6116  
[www.aeromotive.co.nz](http://www.aeromotive.co.nz)



# Places to Go: Haast

Contributed by Ruth Presland

**FLYING FROM** the North Island to the Southern Lakes area or Southland can be executed several ways; East coast, down the middle or West coast. I really enjoy the West coast for its scenery and for its low level routes. These are a great training ground in nice weather and a good way to keep up with skills when the weather is not so nice. One of the best things I like about the West coast route is the Haast Pass and Haast itself.

It is the gate-way to the South and the hospitality will have you returning again and again.

The airstrip was built during the Second World War for access (as was Port Jackson), to Australia if the Japanese had invaded. Traces of the two retired vectors can still be seen when you fly over. The circuit is straight forward on 119.10. Note power lines at the North West end. When landing to the North West, it pays to set up early as the sea breeze is very buoyant and can give lift on finals. The surface is hard gravel and was resurfaced in recent times resulting in a good parking area as well, up by the Mobil pump at the Northern end.

A short walk will take you to the Haast garage; Johnston Motors 03 750 0846, where you can pay the small landing fee. If you are lucky you may strike the garage owner, Amon who has a resident Cessna 180. Amon is a great host and will entertain with flying stories and keep you up to date with the strip conditions - for example if stock are expected to be moved on. And he'll know what the local weather is likely to do.

The Haast World Heritage Hotel is just across the road from the garage. It has a phone box outside as there is no mobile phone reception in Haast. Their rooms are tidy and welcoming, prices are reasonable and you can enjoy a good meal of West coast blue cod in the bar while you gaze out to your plane parked across the road.

For another excellent meal in the Haast township, a couple of km's down the road there is the Hard Antler Bar and restaurant. Phone 03 750 0034. It is the local's choice and the food there is outstanding and great value. Accommodation in Haast village ranges from a backpacker to a list of good motels.

If you have decided to spend some extra time in this stunning area of South Westland, then have a look down the coast. Follow the road to Jackson Bay and you will come across little townships such as Okuru and Hannah's Clearing which are like stepping back in time. These are mostly holiday houses and are right on the beach.

At Hannah's Clearing there is a brand new B&B called Hannah's Homestead. [www.hannahshomestead.co.nz](http://www.hannahshomestead.co.nz) Call your host Susan, on 0800 538 723. It is affordable luxury with the most extraordinary view, two storied with a motel unit below including fully equipped kitchen and two bedrooms upstairs. It is an ideal base in which to overnight, as there is no better place to sit on the balcony and watch

the sun dip into the sea whilst sipping a nice G&T and grazing on the local seafood.

While you are there a Must Do is the Waiatoto River Safari. [www.riversafaris.co.nz](http://www.riversafaris.co.nz). This jet boat trip is like no other and comes highly recommended by the Author. The Waiatoto River flowing



Waiatoto River Safari: Highly recommended.



Haast Airfield and township.

out of the Southern Alps is simply breath taking and the history of the river, as you will learn during the trip, is fascinating. An excellent book has been recently published on the area called 'River of Blood'.

After that, you are most likely in need of another meal of seafood. The Cray pot is a unique little restaurant in a perfect location at Jacksons Bay; fish & chips, meals, take-aways. Phone 03 750 0877. It is well worth the short drive to the end of the road.

Over all you find the West coast hospitality unlike anywhere else in NZ. Everyone is welcoming and will invite you in as if you are a local.

Once you are airborne and on your way again, the Haast pass provides spectacular and interesting flying. Remember to keep to one side of the valley, keep a good look out and seek some training in the mountains if you are unsure. The Haast pass is great on a good day and can be rather dismal when the cloud comes down. Do be aware that a sea breeze can make its way right through the valley systems, so in choppy conditions keep to your aircraft's VA.

The pass itself is 1800 feet but narrow, so use 3500 feet as minimum height to cross just to be comfortable.

Enjoy the flight and be sure to call in and see us once you get to Wanaka!

Ruth can be contacted via Mountain Flying New Zealand on 03 443 4005, email: [fly@mountainflyingnewzealand.com](mailto:fly@mountainflyingnewzealand.com)

Named Headset of the Year by Aviation Consumer Magazine



LIGHTSPEED

Zulu

The world's quietest ANR headset

Very light

Very comfortable

Superb stereo sound

Bluetooth compatible  
Cellphone interface

Excellent price

SPECIAL FX  
SUPPLIES LTD

Check out the full  
LightSpeed range at  
[www.specialfx.co.nz](http://www.specialfx.co.nz)

Phone NZ's Lightspeed Preferred Dealer  
Phil Jones on 0800 116 741

# Black Sands 2010

The Waikato Thames Valley Chapter  
of the Sport Aircraft Association of NZ  
invites all recreational aviators to attend the annual  
"Black Sands Fly - In"

Raglan Airfield  
November 6<sup>th</sup> and 7<sup>th</sup>

An Informal, fun get - together for flyers of all types  
Barbeque lunches both days  
Flying Activities - Including the popular  
"Beach Flying" workshop (Saturday Afternoon)  
Plenty of fun for families and non - aviators  
Accommodation on Site  
Plenty of great dinner options  
Some of New Zealand's best flying scenery  
What more could you want?...

More Information will be posted on the SAA web page [www.saa.org.nz](http://www.saa.org.nz)  
from late August.  
Contact Bruce Cooke,  
[bmcooke@waikato.ac.nz](mailto:bmcooke@waikato.ac.nz),  
Ph 021 1122364.  
Book your accommodation now at  
[www.raglanholidaypark.co.nz](http://www.raglanholidaypark.co.nz)  
(please support our hosts)

SAA

\*\*\*remember to hold them you are abandoning the fly - in\*\*\*  
Please read the information before flying in - important safety notices are included

## Pacific Aero Coatings

Supplying FAA Approved

- Aircraft Paints and Primers
- Fabric, Tapes and Accessories
- Instructional Training and Workshops

Asia Pacific Distributors for



Award Winning Fabric  
Covering and Finish System

AIRCRAFT PAINTING AND RESTORATION SPECIALISTS

WE OFFER YOU EXPERIENCE TO DO IT  
THE RIGHT WAY - THE EASY WAY - THE FIRST TIME

Hangar AS1, Tauranga Airport, Ph: 07 574 2922  
[info@PacificAeroCoatings.com](mailto:info@PacificAeroCoatings.com)  
[www.pacificaero.coatings.com](http://www.pacificaero.coatings.com)



- Comprehensive stocks of Aircraft AN, MS, NAS Hardware
- US Industrial Tooling • Skytec Starters
- Aircraft Spruce (NZ) distributor  
(weekly delivery from USA)



Aircraft Spruce (NZ)

Contact: Lianne Bergin Phone: 09 476 0984 Fax: 09 476 0985  
Email: [sales@aparts.co.nz](mailto:sales@aparts.co.nz) [www.aviationandperformance.co.nz](http://www.aviationandperformance.co.nz)

# FURIO



EIGHTEEN KITS ALREADY DELIVERED. BOOK YOUR PRODUCTION SLOT NOW!

THE FURIO IS A STATE-OF-THE-ART, HIGH-PERFORMANCE AIRCRAFT THAT ENABLES A NEW GENERATION OF PILOTS TO EXPERIENCE THE SATISFACTION OF BUILDING AND FLYING THEIR OWN AIRCRAFT. AVAILABLE NOW.

WWW.FALCOMPOSITE.COM TEL 64 9 296 7966 FAX 64 9 298 9148  
140 DE HAVILLAND LANE, ARDMORE AIRPORT, PAKAPURA, AUCKLAND, NEW ZEALAND



**ASL CamGuard**  
ADVANCED OIL SUPPLEMENT

ASL Camguard is a high performance additive that addresses the problems of corrosion, wear, deposits and seal degradation in piston engines. Approved for use in all Lycoming, Continental and Franklin horizontally opposed engines (turbocharged engine acceptance pending). Rated "Top Oil Choice" by Aviation Consumer 2008 Gear Of The Year. Phone or email us for more information and pricing.

- Fights Corrosion
- Reduces Cam & Lifter Wear
- Increases Engine Life

Contact Ryan Southam on 027 318 7934 or a/h (03) 208 4567  
email: info@criticalangle.co.nz  
www.criticalangle.co.nz

*Classic Models*  
**Custom Made Aviation Replicas**

- Any Aircraft
- Any colour scheme
- Hand customised to your exact requirements
- The perfect gift or presentation

Ardmore Airport, Private Bag 14  
Papakura, Auckland, New Zealand  
Telephone: 021 864 141  
Facsimile: +64 9 298 8218  
Email: info@classicmodels.co.nz

**www.classicmodels.co.nz**

**Advertise Here**

This space from only \$75+gst. Reach thousands of aviation enthusiasts including every aircraft operator and aviation business in New Zealand.

Oct/Nov issue deadline is 4 October

Email: editor@kiwiflyer.co.nz  
Phone: 0800 KFLYER (0800 535 937)

**www.kiwiflyer.co.nz**

**For your Aviation Insurance**  
Contact your broker for a quote or phone us today

**Aviation Co-operating**  
UNDERWRITERS PACIFIC LIMITED

P: (04) 473-5593 F: (04) 472-6774 E: admin@aviationcoop.co.nz  
69-71 Boulcott Street, PO Box 10-027, Wellington www.aviationcoop.co.nz

an authorized **Rolls-Royce** maintenance center

**APA**  
ASIA PACIFIC AEROSPACE

Safety Skill Service  
Maintenance Repair Overhaul

Asia Pacific Aerospace specialises in the maintenance, repair and overhaul of small to medium gas turbine engines.

- APA - Rolls-Royce Authorised Maintenance Centre.
- APA - Approved Maintenance Organisation (AMO) supporting the Australian Defence Force.

**FACILITIES**

Asia Pacific Aerospace has two computer controlled correlated engine test cells which support a range of engines including:

- Rolls-Royce Model 250 Series Engine
- Honeywell LTS 101 Series Engine
- General Electric T700 Series Engine

CONTACT MAURICE GORDON  
PHONE 06 350 0011 FAX 06 353 3990 MOBILE 021 845 651  
EMAIL: MAURICE.GORDON@APAERO.COM.AU

**www.apaero.com.au**

The most modern, technologically advanced gas turbine engine facilities in Australia.

# Glider Generations - The old and the young

Contributed by Jill McCaw

**DICK GEORGESON** is the grand old man of New Zealand gliding. Dick was the pioneer pilot who discovered the potential of the Mackenzie Country mountain wave system. The first pilot who tried flying the awesome waves of air that can take a glider to 10,000 metres, Dick learned and mapped out the characteristics of the system. Dick set a world height record on 16th December 1960 of 10,484 m (34,396 ft) in his wooden Skylark 3F glider, ZK-GCE.

A further world record followed for Dick and the Skylark known as Charlie Fox, an out and return of 543.74km from Omarama to Hanmer Springs in January 1962. Dick went on to set more New Zealand and world records for another twenty years. The little wooden Skylark was retired, superseded by fibreglass ships with greater wingspans and higher glide ratios.

**A creative upbringing**

Dick had grown up at Irishman Stream in the Mackenzie basin, the long lenticular clouds overhead a familiar part of his childhood. One of the Hamilton clan of Hamilton jet boat fame he and his cousin Jon Hamilton built, invented and played in the well equipped workshop of the isolated station as they were growing up. They also turned their enquiring minds to the sky. Both took up the sport of gliding and both went to work for Hamiltons. Jon was to later take the business over from his father Bill. The utilitarian jet boat designed to navigate shallow rivers grew into the speedy racers and leisure boats we see today. The primary gliders the boys had lusted over in picture books evolved into sleek craft like Dick's Skylark. No one could have imagined the heights or distances that Dick would take that glider to. Modern gliding owes a great deal to Dick Georgeson while Dick himself is in awe of modern distance records of over 2000 km set by his friend Terry Delore.

**Supporting Youth Gliding**

Dick Georgeson thinks he owes something to gliding. The old Skylark has been restored and Charlie Fox is again flying in the Mackenzie Country skies. Dick has made his glider available to young pilots through the Youth Glide organisations and Young Vintage Kiwi.

development squad for New Zealand youth pilots. The camp is to be held in December, is open to all New Zealand glider pilots under 25 and Dick, through the Gliding New Zealand Dick Georgeson Trust is a major sponsor of the event.

Many of these young pilots have already shown their mettle. Toby Read was the

recipient of the Inaugural Steve Fossett Memorial Trophy in 2008. Alex McCaw is possibly the youngest pilot ever to complete a Diamond 500k goal flight. Toby has also flown a 500km Diamond Flight. Abbey Delore has flown long distance flights with her father and is a credible cross country pilot in her own right. Nicholas Oakley flies not just gliders; he is New Zealand's youngest holder of a balloon pilot's license. They all have ambition and they want to be world champions.

In the meantime, playing in Charlie Fox is good training for them. Gliders were much more basic and harder to fly back in its day. After flying it Alex McCaw commented, "I don't know how he set records in it. I lost two thousand feet in two kilometres. I couldn't make it turn." Dick laughs, "It's just what you're used to."

Dick is challenging the young people to better any of his records flying this glider. He is gifting money alongside the glider to be used as incentive. Logistics are still being worked through but possibly the most meritorious flight in the glider

each year will receive a prize. Charlie Fox is providing a completely different gliding experience for the Youth Glide pilots and reminding them of their gliding heritage while showing them how skilled the pioneers of their sport really were.

**More Information**

For more information on gliding, the Youth Development Squad Camp (which is looking for more sponsors) or on Youth Glide organisations around the country see the Gliding New Zealand website. For subscriptions to SoaringNZ, New Zealand's premier soaring magazine email: soaringnz@mccawmedia.co.nz



A fully restored old warrior pulls out in front of its modern counterparts.



Dick Georgeson (at right) is pleased to pass the use of his vintage record breaking glider on to the younger generation such as Alex McCaw (standing) and Toby Read (seated). Roger Read is in the cockpit preparing for a test flight.

Another group of young people have grown up under the wide skies and lenticular clouds of the Mackenzie. They are predominantly children of Canterbury Gliding Club members and have holidayed in the area all their lives while their parents have flown. Picking up the mantle of those who have come before them Abbey Delore, Alex McCaw, Nicholas Oakley, Paul Tillman, Toby Read, Matt Aldridge and others are determined to make their mark on the sport and Dick is right behind them.

Abbey and Alex, with the support of Gavin Wills of Glide Omarama and Roger Read of Youth Glide Canterbury are organising a training camp and



# The Story of RAI (doing it the old fashioned way)

Contributed by Jim McEwen

Romeo Alpha India is a familiar sight at gyro events in the North Island and keen gyro observers will know it has evolved from the first version that owner Jim McEwen created from plans some years back. RAI is a great example of 'doing it the old fashioned way', from a time before the availability of turn-key aircraft, when if you wanted a gyro, you made your choices and built one. If you're so inclined, there's no reason not to build the same thing from plans today.

**EDITOR** Michael Norton asked me if I'd write about my gyroplane Romeo Alpha India. As he's a persuasive chap and a strong supporter of the gyroplane community I found myself sitting down and writing this.

Most modern gyroplanes owe a lot to pioneer Igor Bensen's designs, which used McCulloch target drone engines with small pusher props. This kept the mast height low and the thrust line very close to the vertical centre of gravity. McCulloch engines were legendary for two things, the noise they made and their unreliability – after all, they were only designed to be shot down! Gyro designers had few powerplant options until light, reliable Rotax engines arrived complete with reduction drives which enabled larger, more efficient props. The downside was that people bolted them onto Bensen-style airframes, raising the engine and extending the mast for prop clearance.

Accident statistics began to climb. Florida builder and engineer Chuck Beaty realised that thrust lines had become significantly higher than centres of gravity and began writing about "powered pushover". The only thing holding these gyros the right way up in flight was the drag of the rotor right at the top of the mast. In a sudden downdraft the rotor could momentarily unload causing the prop thrust to rotate the machine forward about its centre of gravity. Beaty calculated it could go through 180 degrees in 3 tenths of a second, way faster than any pilot could react.

I could see what Beaty was on about and bought a set of plans from designer Ernie Boyette in Florida. His Dominator design was the first serious attempt to eliminate powered pushover. With its high seat and long landing gear it looked pretty strange, but I decided it was more important to stay alive than look good. Life got in the way and it took me five years to build RAI.

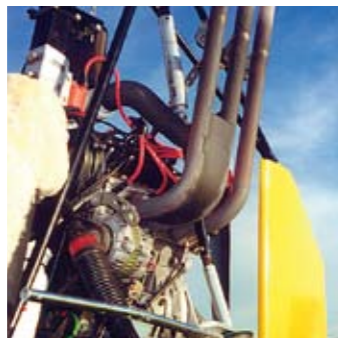
Early on I decided to use a 1 litre 3-cylinder Suzuki Swift engine instead of the Rotax. This meant building a reduction drive and redesigning the landing gear. Finally it was (nearly) ready to fly. NZ Autogyro Association magazine readers had to put up with a series of progress reports as I found it didn't have enough power to get far off the ground. I improved it by changing to ever-larger rotors until settling on 25' Dragon Wings. Weight reduction eliminated the super-soft suspension. The engine went from being a smooth, whisper-quiet lovely, to a harsh, high compression, cammy beast with a horrendous 3-cylinder vibration between 4 and 5,000rpm. But it flew, and I began to enjoy my time in the sky. As the theory claimed, it proved extremely stable in flight, eminently more so than the side-by-side two-seater I used to porpoise my way around the circuit in whilst learning to fly.

RAI became a fixture at Tauranga. Its looks generated a lot of laughter and even the tower called it "the flying hospital bed"! It wasn't over-powerful and I remember wondering if I'd clear the power lines on Hewletts Road on hot summer days when taking off from runway 34. Another day a coil failure resulted in a forced landing on the beach at Matakana Island – just after crossing the harbour and doodling around over the forest! After Rob Sanders gave me a lift in his Rotorway helicopter back to the hangar for another coil, things got interesting. The engine started instantly but the tide was well in and I only had a couple of metres of sloping beach to take off on. I engaged the pre-rotator to spin up the rotor but the inertia combined with the slope to turn the gyro 90 degrees and it ran into the waves, wrecking the prop in the process. By the time we'd caught barges to trailer it from the island my half-hour Saturday morning tiki-tour had turned into an 8-hour odyssey.

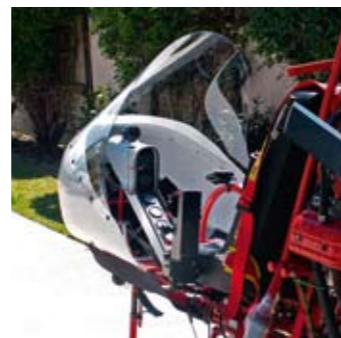
Sometimes I enjoy working on RAI as much as flying. The engine finally had to go and I chose an EA81 Subaru coupled to a Rotax C box with a larger 66" prop. It was a good move. Quieter (a bit!), smoother, more powerful and no heavier, flying was a lot more relaxing. During the transplant I'd fitted a larger radiator in the traditional place below the engine. Unfortunately it masked the rudder so badly it was almost useless with power off. I'd heard that front-mounting the radiator "improved the handling no end" so I gave it a go. It certainly transformed the rudder authority but



RAI in 2009, resplendent in new red and white livery after a rebuild instigated by a mishap on the road while being trailed.



Left: The original RAI, with 3 cylinder Suzuki Swift engine. Right: At Pauanui in 2004 with front mounted radiator complete with electric fan.



Left: RAI at Tokoroa in 2006. Right: The new 'office', post rebuild.

required an electric fan to get air through it when taxiing or "hovering" – one of the fun things you can do in a gyro. It was always a bit disconcerting to feel my right foot heat up when the fan in front of it cut in though! Worry about getting scalded from a leak finally saw me selecting a more compact radiator and fitting it back below the engine.

RAI had a major refurbishment a couple of years ago after I was towing it home on the trailer. I forgot I had it on the back and whipped around the corner as usual only to realise what I'd done as I saw it tip over in the mirror. I'm reminded every time I come home and see the groove the rotor head made in the road... Still, it needed a spruce-up. Damaged parts were replaced, everything was stripped and powder coated and I even found an old pod to keep me warm(er) on frosty mornings. Black and yellow was replaced by red and white and a complete re-wiring job was topped off with a klaxon. This always gets a wave from farmers' wives if I toot when flying overhead - must land and meet some of them one day...

In the last 13 years there have been a lot of adventures, plenty of frustration and loads of laughs. One day an Airforce Iroquois pilot asked the tower if I was "a model helicopter or something" approaching from the south, and I can't count the number of people who've told me I "must be nuts to fly that thing". RAI might look like a psychiatric hospital bedstead, but ask the editor – it's a gyro and that means it can be a helluva lot of fun!

## Nelson Gyro Training



**Introductory Flights**

**Theory Assistance**

Learn to Fly a Gyro in the sunshine capital of Nelson

Contact **Lloyd Heslop**  
on 027 442 4500  
or email:  
jaberhart@heslops.co.nz

Join the NZ Autogyro Association for just \$35 per annum: [www.autogyro.org.nz](http://www.autogyro.org.nz)

# FLY A Gyro!

[www.gyrate.co.nz](http://www.gyrate.co.nz)



## Call now 0800 FLY A GYRO

[www.gyrate.co.nz](http://www.gyrate.co.nz)

### Autoflight

**Geared Reduction Drives**

Subaru EA & EJ engines  
Universal geared drive unit for airmotive engines up to 160hp  
Choice of ratios  
Offset up or down



**Dominator Autogyros**

Single and Tandem Autogyros  
Centreline thrust  
Dragon Wings Rotors  
Autoflight engine options  
Nose or instrument pods



Contact **Neil Hintz** Ph./ Fax (07) 824 1978 email: nckm@wave.co.nz  
Mob: 027 271 0602 [www.autoflight.co.nz](http://www.autoflight.co.nz)

World Leading Magni Gyros are available to order in New Zealand. They arrive fully assembled and test flown by the factory in Italy. Choose Italian Style, Speed, and the Proven Reputation of many hundreds flying worldwide.



Spare Parts and Flight Training also available



Contact: **Garry Belton**  
Phone: (06) 327 8778  
Email: gyrogarry@infogen.net.nz

# Jet Powered Model Aircraft

Contributed by Janice Angus

**DUE TO** their speed and performance, jet powered models are definitely not for the novice flyer. If you are not a competent pilot of such a fast and manoeuvrable model, it can all end up as matchsticks within seconds. These types of aircraft are unforgiving and you have to be an advanced flyer to enjoy this ultimate modelling adrenaline rush which isn't for the faint hearted.

Early model jets were limited due to the fact that they had to be powered by a conventional gas powered or electric engine, with a propeller. Though they did generally perform quite well, requiring a prop meant they did not have the classic sleek, aerodynamic lines of a true jet aircraft.

In the last ten years, jet powered models have enjoyed a quantum leap in technology with the development of small genuine gas turbine engines. They have it all, the heady smell of kerosene, the awesome thrust and distinctive engine roar. However, this authenticity also comes at a price. The cost of a gas turbine engine runs into the thousands, not hundreds as with glow fuel types of model engines. Then, of course, add the cost of the model itself and the electronics. Almost enough for a second mortgage on the house – better not tell the wife!

Due to the awesome power to weight ratio, a very large scale, authentic aircraft can be flown with a turbine engine. Imagine owning an F14 Tomcat to re-enact your own 'Top Gun' fantasy, creating your own Tom Cruise scenarios but avoiding the crash and burn, hopefully.

There is a less costly option with ducted fan powered aircraft. Being either electric, or gas driven, this type of engine provides a good introduction to jet flying. There are more and more composite EPP built (tough polystyrene-like material) almost-ready-to-fly kits available for this type of jet. Ducted fans generate a lot of thrust and as a result, are very fast. Ducted fans however, do not have an authentic sound (perhaps more like an electric hair dryer on steroids). Though, being electric, they can be up and running after a recharge with no messy refuelling to worry about.



Scenes from the Jet Meet at Tokoroa earlier this year. The lower picture is of an entry level ARF kit with 14 lb of thrust. All photographs by Sean Dick from Evoke photography. [www.evokestudio.co.nz](http://www.evokestudio.co.nz)

## Space and Skills

Due to the speed at which they travel, a jet powered model needs a large space to execute turns and manoeuvres. As a result, the aircraft is generally flown at a fair distance from the pilot and this can easily lead to problems with orientation and direction. A skilled pilot needs quick reflexes and the ability to anticipate their manoeuvres so they are always ahead of the aircraft and able to make corrections before a situation turns to custard. This is crucial to ensure a longer lifespan for your (expensive) jet model.

A long, smooth airstrip (preferably tarmac) with good, clear approach and overshoot areas is also essential. No slow descent for these boys – they hit the ground at speed and need a lot of runway to slow down on.

A popular destination for model jet flyers in the upper North Island is at the South Waikato Model Aero Club based at Tokoroa Aerodrome. This club is in the envious position of having the use of 850m of sealed runway, only occasionally having to share with full sized aircraft. Tokoroa is also the base for

the NZ Jet Modellers Association ([www.nzjma.com](http://www.nzjma.com)) and once a year they host the ANZAC Jet met where flyers from Australia compete with local jet flyers over a three day period in February or March. This is always a crowd pleaser and a good opportunity to view and experience a wide range of immaculate model jets and highly skilled pilots all in one place.

If you consider a jet model to be an unattainable dream there is always the option of flying one on a flight simulator. "Real Flight" and "Reflex" are two readily available examples that include jets in the aircraft options. The beauty of this approach is that you can get to experience the flying characteristics of a variety of jets and airstrips to fly from. No worries with crashes of course, just restart and you are up in the air again within seconds. These can provide a great way to sharpen your flying skills on a wet, windy and cold winter's afternoon. Although a flight sim can never fully replicate flying a real model jet, it certainly gives you a feel for the challenge and reflexes required for a successful flight. Have a go and see if you have what it takes.

# AIA Conference Week in Summary

Contributed by Bob Feasey

**THE** 60th anniversary conference was the largest ever hosted by the AIA and if you weren't at Conference Week you really missed out on what is fast becoming The commercial aviation industry Event of the NZ calendar year.

Over 600 members, customers, stakeholders and aviation industry supporters gathered during the week. This included participation from members of GAPAN, RAeS and the Air Force.

Some statistics:

- Over 300 delegates can claim fame for breaking into Tui's and joining the Tui's ladies and "Bruce's" on two frantic nights of great fun, music, food, and refreshments - this was the largest break in ever staged at Tui's and for some it also included breaking out when security forgot there was 150 Ag boys and girls in the brewery. How could they!!!!

- Over 240 delegates enjoyed visiting Ohakea Air Force base - does the Air Force make a mean cheese cake and chocolate desserts? Too right.

- Over 70 invited speakers spoke throughout the week on a wide range of topics.

- 40% growth over last year in the trades area with over 68 trade stands during the week.

Conference week is also a time to recognise industry leaders in safety, training, and overall contribution to the industry. This year's recipients were:

The Director's awards - Skyline Aviation and Bob Guard of Air Nelson – incidentally Bob is retiring shortly and we wish him well.

The ATTTO Ambassador awards - Mary Anne Sievers, Airways Corporation; Dean Hill, Safe Air Ltd; Wattie Solomon, Hawkes Bay Aviation.

The AIA awards - Company of the year, Airwork Limited. Individual, Bob Guard - no this was not in any way a

collusion between ourselves and CAA, but recognition of the incredible contribution Bob has made to pilot training and the airline industry in New Zealand.

The AEANZ awards - to Peter Lacy (the longest serving LAME in NZ). Peter also received his new CAA license denoting him as LAME No.1.

Peter has practiced for 54 years in this industry.

The Richard Pearse Trophy for Innovative Excellence in the NZ Aviation Industry to Spidertracks presented by a descendant of Richard's.

NZAAA Awards - Paul Wiseman of Rural Aviation and Alan Beck of Beck Helicopters.

Trades display Awards - awarded for best display. AIA, Airwork Limited and NZAAA, Oceania Aviation Ltd.

As with any conference a number of key issues were raised that the AIA will follow up on in the next 12 months:

- The industry remains unconvinced that CAA has and/or promotes an appropriate safety culture. Fears remain that information provided and/or data will be used for punitive purposes particularly directed at the smaller companies with less "wear with all" to fight a major prosecution.

- The government is not serious when it comes to the big issues facing aviation seriously - in fact there's a view that the Emperor simply has new clothes and an impressive ability to slide away from the real issues.

- Doing nothing is not an option. Some sectors in industry remain under intolerable financial pressures and government policy settings are unsustainable e.g. overlapping environmental compliance costs, transfer of business risk from government to SME's eg. flight training and AA/AR.

- We are not looking for hand-outs but we do need government and industry to have much greater strategic and commercial alignment in terms of the big ticket items e.g. Defence off-set programmes, CAA a



The Trade Expo was very well supported and included over 68 stands during the week.

commercial focus.

- Free loading off the activities of the industry association must stop - government agencies, customers and suppliers must buy in and endorse voluntary compliance regimes otherwise the pressures on this industry will be unsustainable.

This year also saw retirement of John Sinclair as President of the AIA. John is taking up the role of Executive Officer with the New Zealand Helicopter Association starting 1 September so for all you helicopter people out there, commercial or private who are not members, John will be on your case.

John Sinclair is replaced by John Jones as President and will be ably assisted by Dale Webb and Ken MacKenzie as Vice-Presidents and John Funnell (Past President) as the Executive of AIA. There were also a number of changes to the Council.

Planning for next year is well underway - with it being election year (a chilling thought) we will be conference 'weeking' in Wellington at the Duxton Hotel, 25-29 July. Now there's a date to put in your diary.



**We offer a complete line of Revolutionary Aircraft Coatings for:**

**Fabric • Metal  
Composite • Wood**

- STC Approved for all Dacron and Polyester Fabrics
- Also approved for repairs over all other systems
- Our High Performance Catalysed Coatings are **Waterborne**
- Our Aircraft Fabric Covering process is **People-Safe**
- Our Safe-to-use products are EPA compliant, Non-hazardous and Non-flammable

Contact Mark Rollinson at  
**Stewart Systems New Zealand**  
 45 Gunns Rd, RD8, Waimate 7978  
 Phone: 03 689 1121  
 Email: [sales@stewartsystems.co.nz](mailto:sales@stewartsystems.co.nz)  
[www.stewartsystems.co.nz](http://www.stewartsystems.co.nz)



## Event Guide

September 11th

### Tail Dragger 2010 Fly-in

At Bridge Pa, Hastings. BBQ lunch with wild food theme, competitions, prizes, dinner. Reserve day Sunday. Contact Stephanie Eilers 021 769 963 or Bruce Govenlock 021 769 913 email: stephanie@stm.net.nz

October 2nd-3rd

### Tiger Moth Club Fly-in

At Taumarunui, celebrating Taumarunui's centenary. Contact Robin Campbell 09 534 5387, email: beechburn@orcon.net.nz

October 23rd-25th

### Lawson Field Reunion

At Gisborne to celebrate Lawson Field's achievements and Fieldair's contribution to the district. Aircraft displays, scenic flights, formal dinner. Contact Graeme Mills E:kiwibeavers@bigpond.com or Neville Worsley 07 345 5776

October 25th

### Te Kowhai Fly-in

Informal get together and bbq lunch. Contact Neroli Henwood 07 829 7579 or neroli@supercub.co.nz

November 6th-7th

### Black Sands Fly-in

At Raglan. BBQ lunches both days. Beach flying workshop, Plenty of fun, accommodation on site. See page 31 this issue for more details.

## Book Review: Silver Wings

Contributed by Bernice Hintz

**ORIGINALLY** published in 1989, and now updated and expanded in 2010, Silver Wings records the fascinating story of New Zealand women in the air. With many humorous tales full of adversity and adventure, this book tells the story of New Zealand's women flyers, from the pioneer era of the 1920s, when a woman's place was deemed to be on the ground, until the present day, when women fly every type of aircraft and are involved in aviation sport of all kinds.

After 22 December 1925, when Gladys Sandford became the first woman in New Zealand to obtain a pilot licence, more and more women followed her example, despite some prejudice from male colleagues, from the aviation industry and from friends. Among the courageous early flyers of the 1930s was Jean Batten who became a household name, and during World War II several New Zealand women flew with the Air Transport Auxiliary in England. In the 1950s and 1960s women flew recreationally and were also active in the sports of gliding and parachuting. Some paved the way into professional positions as flying instructors and topdressing pilots. By the late 1970s women were accepted as airline pilots and air traffic controllers and the first women engineering apprentices started training in 1980. The first woman pilot to graduate in the RNZAF did so in 1988.

In 2010, aviatrixes can be found in every category of aviation. Here are some of my favourites from the book.

Aerobatics: When June took up her first

passenger, a friend's brother, she climbed high up the Whanganui River and proudly did all the aerobatic manoeuvres she knew. Back on the ground her passenger, a fair lad who, she said, was now even fairer, asked. 'June, was I supposed to be strapped in?'

Hang gliders: I remember one time I landed in a farmer's paddock, and he came out to look as I was packing up my glider – he kept asking where the pilot was!

Airlines: It was company policy back then to invite the (mainly tourist) passengers onto the flight-deck for a better view of the mountain scenery. Christina recalls one woman commenting to her husband on how cute it was that the captain let the 'air hostess' fly the aeroplane.

GA: In 1975, Ena bought a Cherokee 140, ZK-DJI, in which she spent many hours 'fun flying' over the next 13 years. Famous New Zealand pilot Fred Ladd christened the plane Cherie and when repainted (including a garter on the undercarriage leg) and fitted with cerise curtains and sheepskin seat covers, it earned the nickname, 'the flying boudoir'.

Want to read more? Buy the book. Be inspired by our very own home grown heroines of the air, our aviatrixes extraordinaire. Learn about their discoveries and their place as essential elements in New Zealand's aviation history.

Silver Wings is a substantial and handsome book (288 pages including 280 photographs) and is available from the publishers for \$49 plus \$5 postage. To purchase, email: silverwings@nzawa.org.nz or visit www.nzawa.org.nz

## 50 Years of Fun, Flying and Friendship

Contributed by Judy Costello

**WHEN** fifteen of the twenty five Foundation Members of the N.Z. Airwomen's Association gathered in Wellington 50 years ago we probably never envisaged that such a small beginning of women aviators would still be gathering 50 years later. But, at Tauranga over Queen's Birthday weekend 2010 we met with as much enthusiasm as had been evident in April 1960 and seven of the Foundation Members were present.

After the AGM on the Friday afternoon we gathered at Classic Flyers for the North Island book launch of "Silver Wings", a revised and extended history of New Zealand women pilots, glider pilots, parachutists, engineers, air traffic controllers and others involved in aviation from 1925 to 2010.

Saturday was a full day of flying competitions with events for all to participate in. A spit roast dinner was arranged for the evening at the Aero Club and memories were shared particularly from the Foundation members of their early days in aviation.

On Sunday the weather was not for flying but this did not matter as a

programme of interesting speakers had been planned. We were entertained by Jim Rankin on Air Force careers; Ann Barbarich, a 747 Captain with Air NZ; Phillipa Buckton, a 737 Captain with Jet



L to R: Thelma Bradshaw, Judy Costello, Desiree McCaskill current President, Rhona Fraser - Founder & Patron, Anne Brodie, Ena Monk. All except Desiree are Foundation Members.

Connect; Shirley Upton-Morris on her hilarious exploits parachuting in the early days; Michelle Drummond, Regional Services Manager in Air Traffic Control and Jenny Scott on the history of RNZAF 6 Squadron. Sunday night was party time with presentation of trophies to winners of the flying competitions.

Over the intervening years our

membership has gone up to a high of just on 400 in the 1970's to current membership of around 200. In 1998 we had a slight change in name to New Zealand Association of Women in Aviation but this did not change our image. The early aims of the Association were to foster friendship amongst women interested in aviation and to encourage them to extend their knowledge and experience in their chosen sport or profession.

Throughout each year, many areas are active and hold fly-ins, social functions and visits to aviation places of interest. Next year at Queen's Birthday weekend we shall be holding our Annual Rally and competitions at Feilding. Sadly, in the mid-air collision there recently, we have lost two of our very valued and active members; Jess Neeson and Pat Smallman.

Feedback from our Tauranga rally has been very positive with many comments as to what a fun and friendly bunch of ladies we are. It is hoped that over the next 50 years we continue to hold on to those values and encourage many more young women to follow their dreams and enjoy whatever facet of aviation they so desire.

## Subscribe to KiwiFlyer Magazine today !

KiwiFlyer is published every two months and delivered free to every aircraft operator and aviation document holding business in New Zealand. Other persons are welcome to subscribe for only \$25 incl gst (6 issues).

Make your cheque out to Kiwi Flyer Limited and post with this coupon to Kiwi Flyer Subscriptions, PO Box 72-841, Papakura 2244.

Or fax with your VISA or Mastercard details to (09) 929 3079. KiwiFlyer uses Paymate to process credit card transactions. Please note that your payment will appear on your credit card statement as a payment to "Paymate".

Or subscribe online: [www.kiwiflyer.co.nz](http://www.kiwiflyer.co.nz)

Thanks for your support of our publication !

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Post Code: \_\_\_\_\_ Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Please charge \$25 to my VISA or M/C:

Name on Card: \_\_\_\_\_ Expires:   /

**LH 050/250**  
**Helmets**

Comfort, Protection, Lightness and Ergonomic

**Specifications**

- Sizes from 52 to 63 cm.
- Weight under 1 Kg.
- Protection against impacts and penetration is ensured by a shell in carbon fibres and aramid, and by an high density expanded polystyrene impact cap.
- Retention system is developed for optimal security & fit.
- High level of passive noise protection.
- UV400 visors with high optical quality: clear, solar (green or grey with infrared protection) or for low visibility (yellow).
- Easy maintenance thanks to a personalisation kit of pads which can be entirely disassembled.
- Center of gravity assured natural stability.
- Exceptional head mobility.
- Excellent field of vision.

**Flight Helmets Australia**

+61 7 4696 9994  
[www.fliighthelmets.com.au](http://www.fliighthelmets.com.au)

Exclusive Australia & New Zealand Distributor for MSA Gallet Aeronautic Products



**flighthauraki**

**Got a special project or need an aircraft for short term hire or long term lease?**

- Air Transport, Air taxi
- Charter, Photography
- Aircraft hire for hour building
- Friendly and professional services

**Lease / Charter Fleet**

- Cessna 207, 6 passenger
- Cessna 172n/180hp fully IFR certified
- Cessna 152 trainer

Our main operating base is at North Shore Airfield.  
Rental activities and Great Barrier Ops are based at Parakai Airfield.

Visit our website to find out about our scenic tours and charter services.

**0508 2 FLYNZ (0508 2 35969)**  
[www.flighthauraki.co.nz](http://www.flighthauraki.co.nz)

**About KiwiFlyer**

KiwiFlyer is the reference publication for the New Zealand aviation marketplace.

KiwiFlyer is published every two months and delivered FREE to every aircraft operator and aviation document holding business in NZ. Retail and other targeted distribution assures advertisers of the widest market coverage.

KiwiFlyer offers businesses promotional opportunities from informative commentary on products and services.

KiwiFlyer is the most cost competitive way for any aviation business to tell everyone in the NZ aviation market about their products, services, or recent achievements.

KiwiFlyer will help prepare your advertisement or write editorial on your business or new developments.

**0800 KFLYER (0800 535 937)**  
email: [editor@kiwiflyer.co.nz](mailto:editor@kiwiflyer.co.nz)  
[www.kiwiflyer.co.nz](http://www.kiwiflyer.co.nz)

**KiwiFlyer** is published bi-monthly by Kiwi Flyer Ltd. PO Box 72-841, Papakura, Auckland 2244.

**Editor:** Michael Norton

**Subscription rates:** KiwiFlyer is delivered free to every NZ aircraft operator and aviation document holding business. Subscriptions cost \$25 (6 issues).

**All correspondence or enquiries to:**  
Kiwi Flyer Limited  
PO Box 72-841, Papakura, Auckland 2244.  
Phone: 0800 KFLYER (0800 535 937)  
Fax: (09) 929 3079  
Email: [editor@kiwiflyer.co.nz](mailto:editor@kiwiflyer.co.nz)  
Web: [www.kiwiflyer.co.nz](http://www.kiwiflyer.co.nz)

**Advertising deadline** for the October / November issue is 4th October. A rate card is available from [www.kiwiflyer.co.nz](http://www.kiwiflyer.co.nz)

Unsolicited manuscripts and photographs are very welcome on an exclusive basis but none can be acknowledged or returned unless accompanied by a stamped, self addressed envelope. No responsibility can be accepted for loss or damage to unsolicited material. We recommend contacting the Editor first if you wish to contribute.

Opinions expressed in this publication are not necessarily those of Kiwi Flyer Limited or the Editor. All rights reserved. The contents of KiwiFlyer are copyright and may not be reproduced in any form without written permission from the Editor.

KiwiFlyer is printed by GEON and distributed by Gordon & Gotch. ISSN 1170-8018

**PRIVATE & PROFESSIONAL PILOT TRAINING PROGRAMMES**

Training Professional Pilots since 1961

**Ardmore Flying School**

[www.ardmore.co.nz](http://www.ardmore.co.nz)

**Waypoints AVIATION**

*Is your career taking off?*

**PROFESSIONAL AVIATION GROUND COURSES AND SELF STUDY MATERIALS**

Enquiries and Enrolments being taken for the following upcoming courses

- ATPL Instruments and Nav Aids**  
23-25 October
- Basic Gas Turbine Knowledge**  
17-18 November
- ATPL Systems and Performance**  
25-28 November

Also available: Text Book for BGT, Self Study Guide for ATPL Air Law

See our website for full information  
[www.waypoints.co.nz](http://www.waypoints.co.nz)

Contact: Mark Woodhouse  
021 620 267  
[waypoints@clear.net.nz](mailto:waypoints@clear.net.nz)

**TE NGAE MEDICAL CENTRE**

Dr Andrew McMenamin & Dr Neil Poskitt Aviation Medical Examiners (ME-1)

Serving Rotorua Lakes, Bay of Plenty, East Cape and the Waikato

5 Owhata Road, Rotorua. Only 5 minutes from the airport by bus or taxi.  
Phone: 07 345 6627 or Email: [andrew.mcmenamin@rgpgg.co.nz](mailto:andrew.mcmenamin@rgpgg.co.nz)

**Shoreline Helicopters Ltd**

Based in sunny Hawkes Bay

**Flight Training**  
**Hughes 300**  
**Part 141**  
**Flight Testing**  
**Agriculture Ratings**  
**Part 135 and 137 Checks**

Servicing the North and South Islands

Contact: Rick Graham Ph/Fax 06 836 6798 Mobile 027 443 3537  
email: [shlineheli@xtra.co.nz](mailto:shlineheli@xtra.co.nz) [www.shorelinehelicopters.co.nz](http://www.shorelinehelicopters.co.nz)

**The Dargaville Aero Club Free Flying School**

Open to all students, NZ wide, who are genuinely interested in learning to fly for recreation or an aviation career.

- Free of charge PPL theory and practical tuition
- Free of charge Basic live-in accommodation

For further details contact Club Chief Flying Instructor, Murray Foster on 027 478 4308 anytime  
[www.gofflying.co.nz](http://www.gofflying.co.nz)

**ARDMORE HELICOPTERS**

Ph/Fax: 09 298 1899 or 0508 CHOPPER  
E: [info@chopper.co.nz](mailto:info@chopper.co.nz)  
[www.chopper.co.nz](http://www.chopper.co.nz)

**Personalised FLIGHT TRAINING · THEORY · RATINGS**  
**CHARTER · SCENICS · BANNERS · H300 · R44 · B206**

**MOUNTAIN FLYING NEW ZEALAND**

**Bush Flying at its Best**

[www.mountainflyingnewzealand.com](http://www.mountainflyingnewzealand.com)

**Multi Engine Flight Training**

Train for an Airline With an Airline

Multi Engine Twin Hour Building from only \$100/hr

- + Get up to date industry training
- + Get increased job opportunities
- + Get operational airline experience

- > MULTI ENGINE COMMAND CONSOLIDATION PACKAGES
- > MULTI ENGINE INSTRUMENT RATINGS
- > TYPE RATINGS

**Sunair AVIATION (2006) LTD**

**0800 SUNAIR or [ops@sunair.co.nz](mailto:ops@sunair.co.nz)**  
[sunair.co.nz](http://sunair.co.nz)

**REDBIRD Full Motion FLIGHT SIMULATION**

Now available at Ardmore and approved for use in training pilots under Part 61 and Part 141 for the following purposes:

- Accumulating instrument ground time for Licence or Rating issue.
- Maintaining instrument rating currency.
- Maintaining instrument approach currency.
- Completion of an instrument rating annual competency demonstration.
- Completion of the demonstration required for an additional make and model of GNSS navigation aid.

Available for hire to Pilots and Flight Training Organisations.  
Panels for C172/G1000 or standard, Beech Baron with G430, G530 and auto-pilot.

For more information contact Mike Foster  
Phone: 09 296 1839 or 021 321 417  
Email: [michaelfoster@msn.com](mailto:michaelfoster@msn.com)

Contributed by Penny Belworthy

**ZK-RPB Rans S-7S Courier**



**RODNEY** Bamford's smart new red and white Rans S7 first flew from Taieri airfield recently and has now 23 hours of flying behind it. The aircraft was built by Craig Miller of Custom Aviation in about 500 hours over 3 months and is his fifth S7 aircraft. Craig also flew off the 10 hours of test flying required.

The Rans S7 Courier is a high wing, tail dragger in a two seat tandem configuration. It is constructed of fabric covered steel tubing and has a roomy cockpit with conventional instrument panel. RPB is powered with a 100HP ULS Rotax engine driving a three blade propeller.

Rodney chose the Rans S7 because of its suitability for operating off short strips - being able to take off in 30-35 metres and needing only 100 metres for landing. He describes the flying characteristics as being like flying a modern day Piper Cub or bush plane with a better climb out.

**ZK-HEH Ultrasport 555T**

**THREE** Ultrasport 555T helicopters are currently being built by Ultrasport Helicopters NZ Ltd in Manaia, Taranaki. One will stay in New Zealand and the other two have already been sold for

export to Europe. Dick Sybrandy from Ultrasport says the 555T will be the first two seat helicopter in New Zealand to operate in the microlight class and says he has been impressed by the aircraft's well engineered construction, features and flying characteristics.

The airframe is constructed of carbon fibre and there is a strong tail rotor surround which makes the tail rotor more visible and helps to prevent ground strikes. Plenty of power is available due to the option of a retrofit turbine powerplant produced by LAE Helicopters in Cyprus. Their version of the Solar T62 Turbine is rated at 160 continuous hp, giving the Ultrasport 555T a great power to weight ratio. The interior includes an extended instrument panel, spacious seating with plenty of head room, retractable seatbelts and removable doors. A governor controls the throttle.



A big advantage of having a two seat helicopter that fits into the microlight class is that pilots only require a microlight medical to fly it. Further, if a pilot wants to carry on their training to a private or commercial level then some of the microlight hours can be cross credited.

Dick plans to be demonstrating his new helicopter around New Zealand soon.

**ZK-ELL Rockwell Commander 114B**

A RECENT arrival to New Zealand is this Rockwell Commander 114B, imported by Gwailo Investments Ltd of Hastings. ELL will be dry leased to the Hawkes Bay Aero Club for cross country and IFR pilot training. David Elliot from Gwailo Investments says that the aircraft was originally the poster plane for the Commander Aircraft Company of America following an upgrade which included the installation of a glass cockpit.



ELL should be an ideal trainer with a spacious cabin, good cockpit lay out and a retractable undercarriage. It is well suited for family trips too as although primarily a four seat aircraft, if the wide leather arm rest is lifted there is space and belts for a middle seat in the back for a child. ELL is powered by a 260hp fuel injected Lycoming IO-540 driving a three blade constant speed propeller, giving a cruise speed of 160kts.

**ZK-RIT Dominator Gyro**

**DONALD** Franklin's new Dominator Autogyro was built by Neil Hintz of Autoflight, who manufactures autogyros, geared reduction drives and other components in Hamilton.

Dominator gyros are fitted with bonded aluminium Dragon Wings *cont'd over page*

**ARRIVALS - June/July 2010**

- DCA Cessna 210G
- DYN Aerospool Dynamic WT9
- ELL Rockwell 114
- GZH Rolladen-Schneider LS 1-f
- HDM Robinson R44
- HEH Ultrasport 555T
- HFH Aerospaiale AS 350B
- HGF Aerospaiale AS 350B
- HQA Robinson R44
- HVJ Robinson R22 Mariner
- HXG Robinson R22 Beta
- HYC Schweizer 269C-1
- HYT MBB BO 105 CBS-4
- ICS Eurocopter EC 130 B4
- IDF Eurocopter AS 350 B3
- ITK Ultrasport 555T
- ITL Ultrasport 555T
- JNG Tecnam P2002 Sierra
- JQA Cessna 172S
- KBB Pacific Aerospace 750XL
- KBC Pacific Aerospace 750XL
- LSA Czech Aircraft Works Sportcruiser
- MMM Hawker Beechcraft C90GTi
- NBR Cessna 501
- RIT Neil Hintz Tandem Dominator
- RPB Rans S-7S Courier
- RQA Cessna 172S
- RVA Vans RV 6A
- SPG Alpha R2160
- TTW Tecnam P2006T
- TZY Tecnam P2006T

**TRANSFERS - June/July 2010**

- AWH Auster J1B
- BOY Piper PA-18A-150
- CAB Rans S-7 Courier
- CDL Tecnam P92 Echo Super
- CTQ Alpha R2160
- CTR Alpha R2160
- CTS Alpha R2160
- CTT Alpha R2160
- CTV Alpha R2160
- CTX Alpha R2160
- CTX Alpha R2160
- CTY Alpha R2160
- CTY Alpha R2160
- CWS Piper PA-28-160
- DAD Cessna A152
- DPG Cessna A185F
- DTC Micro Aviation Bantam B22S
- DTQ Cessna 150H
- DXJ Cessna 172M
- EDA Evans Volksplane VP-1 UL
- ELX Piper PA-28-151
- ETK Cessna 172N
- FBE Kavanagh E-120
- FDS Ultralight Mirage Mk.II
- FLH Cessna A152
- FTR Piper PA-28-161
- FXV Alpha R2160
- GDF Schleicher ASW 20L
- GFL Schleicher AS-K 13
- GKN LET L-13 Blanik
- GYV Schempp-Hirth Duo Discus
- HFU Robinson R22 Beta
- HGK Robinson R44 II
- HHP Hughes 269C
- HHS Robinson R44 II
- HIE Robinson R22 Beta
- HJJ Robinson R22 Beta
- HKP Robinson R44 II
- HKV Eurocopter EC 130 B4
- HRF Hughes 369D
- HSE Aerospaiale AS 350B
- HUA Robinson R22 Beta
- HUB Rotorway Exec
- HUM Robinson R44 II
- HVQ Robinson R44
- HWX Hughes 369HS
- HXR Robinson R44 II
- HZA Robinson R22 Beta
- HZF Schweizer 269C
- IBN Eagle R & D Helicycle
- IFM Robinson R22 Beta
- IFS Hughes 369E
- IFU Robinson R22 Beta
- IGD Robinson R22 Beta
- IOS Innovator Mosquito XE
- IWX Hughes 369D
- IZG Eurocopter EC 120 B
- JEH Piper PA-38-112
- JJI Micro Aviation B22 Bantam 700E
- JMA Micro Aviation Bantam B22J
- JML Pilatus PC-6/B1-H2
- JQP Sonex Ltd Sonex
- JRE Cessna 172S
- JRT Zenair CH701 STOL
- JSD Cessna 172S
- KID Cessna A152
- LCA Cessna 510
- MAT Cessna 172N
- MDF Cessna 152
- MET Aerostar S-77A
- MJC Thunder and Colt AX7-77
- MMK Rand Kar Xair
- MOA Micro Aviation B22 Bantam
- MUM Cessna A152
- MXG Eipper Quicksilver MX II

- Whangarei Aeroplane
- Rangiora Microlight Class 2
- Hastings Aeroplane
- Tuakau Glider
- Christchurch Helicopter
- Taranaki Microlight Class 2
- Porirua Helicopter
- Porirua Helicopter
- Wanaka Helicopter
- Christchurch Helicopter
- Christchurch Helicopter
- Timaru Helicopter
- Papakura Helicopter
- Auckland Helicopter
- Queenstown Helicopter
- Manaia Microlight Class 2
- Manaia Microlight Class 2
- Thames Microlight Class 2
- Whangarei Aeroplane
- Hamilton Aeroplane
- Hamilton Microlight Class 2
- Cambridge Aeroplane
- Nelson Aeroplane
- Manukau Microlight Class 2
- Dannevirke Microlight Class 2
- Balclutha Microlight Class 2
- Whangarei Aeroplane
- Matamata Amateur Built Aeroplane
- Hamilton Aeroplane
- Papakura Aeroplane
- Taupo Aeroplane



DIAMOND DA20



DIAMOND DA42



BELL 407



BELL 429



BEECHCRAFT BARON G58



KING AIR 350

**HAWKER PACIFIC**  
Hawker Pacific NZ Ltd

---

**NZ's one-stop Rotary and Fixed Wing maintenance facility all under one roof**

---

**Buying an aircraft? - We can bring it up to your requirements**  
See us for Assessments, Cosmetics, Avionics, Modifications, and Ongoing Maintenance Programmes to Suit Your Needs.

---

**Selling an aircraft? - We can complete your preparations for sale**  
See us for Checks, Corrosion Control, Cosmetics, CoA, and more.

---

Avionics, Airframe, Engines, Hydraulics, Components... Genuine Beech, Cessna, Piper, and Helicopter Parts in stock.

---

Contact Peter McCarty P: 09 295 0665 E: peter.mccarty@hawkerpacific.com Visit us at Harvard Lane, Ardmore. www.hawkerpacific.co.nz

**NEW AIRCRAFT | USED AIRCRAFT | ROTARY AND FIXED WING MAINTENANCE**  
Hawker Pacific are New Zealand's one-stop rotary and fixed wing maintenance facility under one roof at Ardmore.  
Contact Peter McCarty on 09 295 0665, email: peter.mccarty@hawkerpacific.com

**HAWKER PACIFIC**  
www.hawkerpacific.com



# Enhancing Traffic Awareness

contributed by Lloyd Klee

*There would be few regular pilots who haven't had a traffic surprise at some time during their flying experiences as the sky can be a much smaller place to share than we sometimes assume. Devices that assist with traffic awareness must not be a substitute for traditional observation practices but they can be very useful to tell you where to focus extra attention for the moment. These devices have become much more available and affordable over the last couple of years. With the very recent tragedy at Feilding bringing the subject close to the front of many pilots' minds, KiwiFlyer asked Lloyd Klee from Aviation Safety Supplies Limited to outline current options and considerations for assisted traffic awareness.*

**BETWEEN** the portable and panel mounts, there are at least seven systems available ranging in cost from under US\$500 to nearly US\$20,000. Are the portables worth the investment? I think the answer is YES. Even the most expensive portable alerter - the Zaon XRX is still a modest investment and although it will not see all traffic, it will see enough to make the investment worthwhile.

## Zaon XRX-A

Under the Zaon brand, probably the most popular worldwide, the company has the premium priced XRX-A model at US\$1500 and the bargain MRX-A, at only US\$549. These prices are ex USA but they are available ex stock Auckland from Aviation Safety Supplies Ltd @ NZ\$2180 and NZ\$795 + GST.

Zaon call these devices PCAS, an acronym for Portable Collision Avoidance Systems. The XRX provides new capability to the field with its unique ability to detect not just range of a threat, but also azimuth. It does this through a signal amplitude / phase cancellation antenna mounted on the top the receiver. The Zaon models also have their own altimeters, so if the host aircraft transponder fails or does not function correctly, the device can still display relative altitudes to tracked aircraft. It is also capable of showing aircraft heading through a built-in electronic compass.

The XRX can detect and display up to three target aircraft, providing the range, bearing (with pointer arrows), the relative altitude and the trend. This data appears on a single, smallish LCD screen although this can be difficult to read in bright sunlight.

If you really want azimuth, the best investment is to integrate with one of the XRX's remote display options, such as the Garmin GPS map 396/496 / Aera etc. Performance wise, the XRX shows targets in 45-degree quadrants and it handles multiple aircraft. The XRX is sensitive to panel placement and needs to be as level as possible. It should be clear of a magnetic compass or window post. The excellent ZAON operational manuals explain all this in detail.

## Zaon MRX

The ZAON MRX-A is an excellent investment if you want to

be aware of any traffic. The MRX is very small, measuring only 66 x 110 x 19 mm high and weighs less than 200 grams including the 2 AA batteries. It will also operate on aircraft power. A small antenna screws into the left side of the device and there is a jack for the audio alerts that are tones only. The bright red LED display is highly visible and the single control knob is easy to use.

The range is up to 5 miles and like the XRX; it shows relative altitude of targets, with trends. It also has a built-in altimeter to fill in for an errant transponder and although it will track multiple targets, it does not have the azimuth capability. The MRX will issue advisories for distant traffic and alerts for closer threats, depending on distance and relative altitude. It displays data for what it calculates to be the most immediate threat, but if another target comes into view, it flashes "new," then gives the new target data.

According to many published articles available on line, the MRX performance is excellent. Like many of the other products that that have been tested over the years, it occasionally missed traffic, but generally, it locked on quickly and gave practical if not perfectly accurate range numbers. The audio alerts are logical and easy to interpret. Without question, the MRX was best at tracking traffic approaching from the rear.

## Passive versus Active

The XRX and the MRX are stand-alone, passive systems. Passive systems are different from active systems such as TCAS, Skywatch®, etc. Active systems can be found in commercial airliners, corporate jets, and higher-end general aviation aircraft. They actively interrogate aircraft transponders within a specific range. Passive systems like your XRX listen for the replies to these interrogations, as well as ground-based RADAR interrogations.

## Relative position information on the XRX

The key to displaying smooth, understandable traffic information is relativity. The XRX contains a range of instruments including built in compass and altimeter to make relativity calculations on your behalf as traffic is detected. If the information is always relative to your aircraft, you are your own point of reference. Range is relative to your location, as is the relative altitude (i.e. +600 feet above your altitude) and relative bearing (i.e. to your right). Thus looking for detected aircraft is a simple matter that does not require additional pilot interpretation in the heat of the moment.

## For more information

There is very good information on [www.zaon.aero](http://www.zaon.aero) with blogs, forums reviews and testimonials or contact Lloyd Klee of Aviation Safety Supplies Limited on 09 420 6079.



The Zaon XRX, detecting traffic ahead and below (on the runway) and also in the circuit (at left).



The XRX can interface to a variety of portable GPS units, showing easy to interpret relative traffic positions.

country-wide aviation support



**Ardmore**  
Auckland, New Zealand  
Phone (+64 9) 296 2644  
Facsimile (+64 9) 296 2645  
Email [oceania@ohl.co.nz](mailto:oceania@ohl.co.nz)

**Queenstown**  
Queenstown, New Zealand  
Phone (+64 3) 442 2045  
Fax (+64 3) 442 2047  
Email [queenstown@ohl.co.nz](mailto:queenstown@ohl.co.nz)

- Auckland and Queenstown MD and Schweizer Service Centres
- Eurocopter, Schweizer, MD and Bell
- Rolls Royce 250 and Honeywell
- Lycoming and Continental range
- Schweizer, Bell and MD Helicopters AS350 servos and masts
- Schweizer, Bell, Eurocopter and MD Helicopters
- Schweizer Aircraft and Heli Lynx FX conversions
- Part 145 Maintenance and Avionics
- Blade Repair Facility
- Turbine Engines
- Piston Engines
- Component Overhaul
- Extensive parts stock
- Agents for



## The 407. Air Supremacy.

Welcome to the evolution of the 4 Series. No matter what your mission, the 4 series offers everything you need. Proven reliability and dependability plus the lowest maintenance and operating costs in the industry. Whatever your mission, the versatility and responsiveness of the 4 series get you there and back without batting an eye. No other manufacturer can offer the most trusted products in the industry and follow it up with the best customer support available. Welcome to the evolution of the 4 series.

## The 429. Inspired By You.

Bell  
**4** SERIES

## HAWKER PACIFIC - INNOVATION IN AVIATION

New & Used Helicopter Sales • Product Support

For more information,  
please contact our Hawker Pacific  
Sales Representative today.



**Peter Crook** - Bell Helicopter Sales  
Tel: +61 2 9708 8610  
Mobile: +61 407 638 811

[aircraftsales@hawkerpacific.com](mailto:aircraftsales@hawkerpacific.com)

[www.hawkerpacific.com](http://www.hawkerpacific.com)

**New Zealand Office:** Lot 22 Harvard Lane Ardmore Aerodrome, Papakura, Auckland 2582  
Telephone: +64 9 295 0665 Email: [steve.siddall@hawkerpacific.com](mailto:steve.siddall@hawkerpacific.com)