KiwiFlyer™

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We fly the Guimbal Cabri G2 - Full Report

VNC on your GPS - Airbox Product Test

Air Chathams Profile

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

From the Editor

WELCOME to our 20th KiwiFlyer Magazine and welcome to 2012. I hope readers have enjoyed the holiday season, albeit that most of it wasn't the great flying weather we might have expected for this time of year.

There have been some nice days though, and on one of those in December, we got to try out the new Guimbal Cabri G2 helicopter. It's a delightful aircraft and although many will try to compare it directly to other two seat helicopters on the market, it is actually almost in a niche of its own. Our review starts on the centre pages.

We also have a review of the new Airbox Clarity and Foresight portable GPS devices. These are award winning UK designed products loaded with NZ Visual Navigation Charts that have been designed to make positional and airspace awareness very simple indeed. They are quite reasonably priced and offer an impressive range of features.

The other feature for this issue is by Chris Gee, who writes of a trip to the Chatham Islands and of the Island's own airline, Air Chathams. It's an interesting operation that has grown considerably over the years. Also in this issue is an article from Julie Milne, whose daughter Chloe decided to exercise her fresh PPL by touring the country and landing at 21 different airfields for her 21st birthday. It's an enjoyable tale of aviation for the sake of it which many readers will relate to. If you've done some interesting flying recently and think others might enjoy hearing of it then feel free to contact us and we can work with you to put an article together.

There's a couple of reader benefits on offer in this issue too. One is a 30% discount on CorrosionX treatment and the other is free tickets to Warbirds Over Wanaka at Easter. If you would like to offer free or discounted things to KiwiFlyer readers then do contact us. We'll be happy to spread the word.

Our next issue will be out towards the end of March. Until then, enjoy your reading and fly safely.

Michael Norton
Editor, KiwiFlyer Magazine

Free Tickets to
Warbirds Over Wanaka

KiwiFlyer has four free tickets (worth $75 each) to give away for General Admission on Sunday 8th April.

Winners will be drawn and advised on 12th March.

See the News Briefs on page 7 for details of how to enter the draw.

In this issue

Front Cover: The Guimbal Cabri G2 over the Waimakariri River at Christchurch. Photograph by Michael Norton.

Flying with the new Airbox Clarity and Foresight

THE LATEST portable aviation GPS to arrive on the New Zealand market is the Airbox, with a range of touch-screen units that extend from a basic 'Aware' model with 4.3" display at $399 up to an advanced 'Foresight Superbright' model with 7" display at $2499. Airbox products take a step beyond traditional GPS operation by displaying Airways VNC charts and offering intelligent airspace warnings, as well as continuous position reporting details to the nearest airfield. Developed in the UK and originally designed to help GA pilots maintain positional awareness and avoid inadvertent entry into controlled airspace, in 2011 the product was awarded the prestigious Honeywell Bendix Trophy for Aviation Safety by the Flight Safety Foundation. KiwiFlyer recently acquired two Airbox products to test, the mid-priced Clarity (at $1124) and the top of the range Foresight Superbright ($2499). Both devices display 800x480 pixels and operate with the same features in the same way, the difference primarily being screen size (5 vs. 7") and the screen brightness, which on the Superbright, really is fully readable in bright sunlight.

The Clarity 2 screen shown full size. The warning is for the airspace highlighted in red. A line in front of the aircraft indicates 1 minute intervals. Note also the position report bottom right of screen. Menu buttons can be de-cluttered easily if required.

Getting started

The first page of the Airbox manual declares the company goal of satisfied customers and invites all users to call or email the Airbox office for help at any time. You probably won't have to though, because the manual is well written, and it is a good idea to read it through before 'playing' as there are several tips for use that are worthy of note and also several clever functions that you might not otherwise discover. If you do get stuck, the support via email is fast and friendly. A search of various internet forums that Airbox participates in also suggests the company is very sincere about caring for its customers, answering questions promptly, and developing products that are focused on being pilot friendly.

Out of the box you get the device itself and the normal range of power and adaptor cables. Basic mounting hardware is provided, though more sophisticated options are available as accessory purchases from Airbox's (very comprehensive) website. You also get a CD with Fastplan, Airbox's flight planning software for your PC. This is a very nice addition to the product that enables flight planning to be completed on your computer and then downloaded via a memory card to the GPS. More on that later. What isn't in the box though is a manual of any sort. You'll need to print your own from a pdf on the CD.

The device powers up and found a satellite fix quickly. The display which is standard across all models shows traditional (and configurable) track, speed and route information on a panel to the left. Map zoom, centre to aircraft and last or next waypoint (transparent) buttons are displayed in the lower part of the map as well as a button to clear all menus and maximise the map. Position information (coordinates and reporting) is displayed at the bottom of the screen.

The screen is a touch screen and it took a fair amount of practice at touching it to get consistent results. That was until I started using a retracted pen instead of my finger which worked perfectly. I then discovered that using a fingernail rather than a finger also did the trick perfectly too. There is in fact a note in the manual to this effect that I had initially skipped over.

The map can be moved either by dragging with your finger or by tapping a new centre location. The permanently displayed 'centre aircraft' button allows a quick return to wherever your present location is.

Using the device

It's quite intuitive but do read the manual first which will save the frustration of looking for a couple of features that you know should be there. You don't 'touch' airspace boundaries or airfields to bring up information about them, rather you 'press and hold' and wait for the "really useful further functions" (their words) menu to appear. This secondary menu contains buttons for Navigate Here, Waypoint controls, Airspace and Airfield info, as appropriate for wherever you have pressed.

Airbox maps are effectively scanned Airways VNC charts (1:250,000) supplied by Airways to Airbox. It's much more sophisticated than a moving VNC though. Airspace boundaries are digitised and highlighted so it makes more sense to view the VNC part as being the background to the device rather than the core of it, the advantage of course being that all the other reference information on VNC charts is available on the GPS screen. If there's a disadvantage to having this detail on screen, it is that button 'touches' to zoom or move the map incur a small delay which for impatient me was often just enough to cause me to press again in case it hadn't sensed my touch. Then of course I received a double zoom or move. That said, in flight the map scrolls very smoothly and the fact is the delay (which is no worse than other similar devices) just takes getting used to. A 'thinking' symbol on screen would be a nice thing to see added in a future update. Which raises a very useful feature in that updates to the software can be downloaded via your PC and onto the device very easily. On the subject of airspace updates; these are available free for the life of the product, which should sound attractive to many user s of other devices who have to pay for their updates.

An excellent demo mode is available which enables you to fully explore the device operations while reading the manual at home.

Airspace warnings

Airbox made its name by their excellent 'airspace aware' interface and the lowest model in the range is exactly this – the Airspace Aware priced at $399 which offers VNC mapping, airspace warnings and position reporting without any of the navigation functions. This system which is common to all Airbox models warns intelligently of airspace restricted at current height +/- 500'.

Airspace which is restricted at your current height will show with a green outline on the map. As you approach the airspace (within either 5 or 10 minutes depending on options selected), the outline changes from green to red and an information box appears indicating the class, restriction, name and countdown distance to the airspace. If available, a radio frequency is also displayed or this can be read from the map in the normal way. Once inside airspace, the warning notification moves to the lower part of the screen and the device warns of the next level of controlled airspace in your flight path, if any exists.

This functionality is great. The airspace you are approaching is very clear and easy to identify, as is your distance from it and time before entry.

The device can be set to offer warnings for selected airspace types including danger areas and parachute drop zones.

Position reporting

Another fine feature from Airbox is position reporting. At the bottom of the screen is a continuous report of your location relative to the nearest airfield, for example 5NM SW Thames. Which eliminates those difficult decisions (and resulting corrections) regarding am I 3 miles away or is it closer to 5?, and more commonly, which side is West - am I East or West of the field?

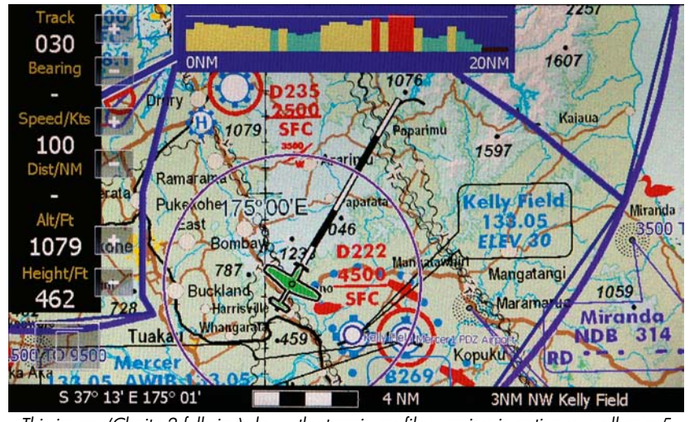
There is an option to have position reports displayed relative to either airfields or towns but when set to towns, I struggled to see the logic behind which towns had been digitised and which hadn't. It is probably population dependent, but that isn't how we report positions in New Zealand. A question to Tom Hedges, one of the Airbox founders and owners as to why designated reporting points couldn't be loaded instead of towns was met with enthusiasm for the proposal and a declaration that they really want to make the devices work well for each of their markets according to the preferences of pilots in each market. That improvement is going on the list for a future version.

Navigation and Other Functions

Standard navigation options of 'from current' and 'between two places' are easily accessed as are all the usual functions for waypoint setting and control. If you detour around a waypoint the 'waypoint + or –' buttons on the main screen allow for easy adjustment of the route being followed. Normal functions for plotting routes (and reversing them) are all provided. Charts can be displayed in Track Up or North Up modes, with North Up obviously keeping all the text on the charts reading across the screen. The devices can also display in portrait rather than landscape mode if desired. A de-clutter button is permanently displayed and will turn off either part of all of the on screen menus and displays leaving just the map.

A Terrain bar in four colours graduated between 100 and 1000 feet above terrain can either be permanently displayed or set to appear automatically when terrain is within 1000 feet.

A very nice function is the 5/10 Minute Line which can be turned on to project a line in front of the aircraft extending either 5 or 10 minutes ahead. The line is graduated at one minute intervals and is great for supporting forward planning in flight.



This image (Clarity 2 full size) shows the terrain profile warning in action as well as a 5 mile circle around the aircraft, useful for interpreting distances and map scale. The blue airspace lines show that warnings for this airspace will be activated if appropriate.

Distance rings can also be turned on to appear around the aircraft at a set distance. These can be useful for positional reporting and indicating the current chart scale.

Another useful function is Extended Runway Centrelines. If activated, these extension lines on the chart can assist with easy and accurate lining up for runways.

A flight log is also retained by the device which records place of take-off and landing, date and time, duration and distance flown.

Fastplan

Fastplan is Airbox's desktop PC planning software and is provided free to all purchasers of Clarity and Foresight devices. It's an extra $86 for Aware Plus purchasers. On Fastplan you can drag the map around much as you might on Google Earth. Data can be searched and maps with routes printed out for later use.

A route can be drawn in and then airspace for the route at your planned altitude can be checked at the click of a button. A height profile of the route complete with airspace and terrain profiles can easily be displayed.

If you want to avoid controlled airspace on your route then simply drag it out of the way (the route, not the airspace). Then once you have created the route you can save it , view it on Google Earth, and/or transfer it to your Airbox device via the supplied memory card. Being able to view routes and the arrival at your destination in Google Earth is a great tool to familiarise yourself

Left and centre: Foresight Superbright and Clarity 2 side by side. The photo was taken outdoors on a bright day in slightly shaded conditions. At right is part of a screen capture of the Airbox Fastplan software for PC based flight planning (downloadable to the device) that is free with the Clarity and Foresight.

with what to expect before you get there.

Fastplan will also construct route briefings, all the normal heading, time and fuel information, plus calculate weight and balance data for you.

Weather and Notams

An extra dimension can be added to Fastplan with an annual subscription to weather and NOTAM information ($121). Weather is sourced directly from the United States National Oceanic & Atmospheric Administration and includes TAFF and METARs, wind speed and direction (overlaid on the map), cloudbase, visibility and weather conditions. NOTAMS come direct from Eurocontrol, appearing as the data is made available. It's a novel function to have integrated into flight planning and mapping software and does save the effort of looking this all up elsewhere, though most Kiwi pilots are probably just as happy with the free Airways service. That said, NOTAM information can be downloaded to the device which will offer warnings 'on the fly', potentially a very useful service to have.

Models in the range

There are a variety of Airbox models available in New Zealand with prices (at the time of writing) as follows. The Aware (airspace warnings and VNC moving map only) comes in a 4.3" display for $399 and a 5" display for $499. Basic flight planning can be added to these models for about another $180. The Clarity and Foresight models offer full flight planning functionality as described in this article. The Clarity 2 with 5" screen is $1124, and the Foresight with 7" screen is $1574. The premium Airbox model is the Foresight Superbright offering the same 7" size but with a 'super bright' screen that is fully readable in bright sunlight, for $2499. All of the other screens are readable outdoors in moderate light, but do much better in partially or fully shaded conditions.

Also available is a large range of accessories including panel, yoke and knee mounts, remote antennae and importantly for some, remote accessory power packs. Note that you can expect less than two hours of battery life from the Clarity and none at all from the Foresight (as it doesn't have an internal battery). All models come with 'cigarette lighter' adaptors but where this isn't an option for the aircraft, a remote battery pack will be required.

The Airbox website is excellent and has very comprehensive information about all of their products, all of which can be ordered from the website online.

Conclusion

Airbox offers all you expect from a modern portable touch screen GPS and then quite a bit more as well. There are lots of "oh that's good" moments of discovery. The screen layouts and menu control are very nice, to the extent that they feel like they were designed by people who fly (they were). The Fastplan software is a great add on tool for flight planning and it is nice to be able to plan longer cross country flights on a PC and then download them to the GPS.

The basic Airbox devices are very keenly priced and it's good that airspace updates are delivered for free which will encourage owners to keep their devices up to date. And it's also good that the company aims to succeed by delivering customer satisfaction and continuous product improvement based on customer feedback.

The Airbox website is at **www.airboxaero.com/nz** or go to www.airboxaero.com and select the NZ flag at the top of the page. Everything you need to know is on the website including purchase and ordering options.

Book Review

Precious Metal: Classic Fighters in New Zealand

This magnificent book by Gavin Conroy showcases his photography of WWII era fighters that have flown in New Zealand during the last 6 years while Gavin has been pursuing air-to-air photography and quietly becoming famous for it in the process. It is hard-bound and 160 pages in length, covering 15 different aircraft which are each given a chapter of their own. Precious Metal has been superbly produced by Craig Potton Publishing.

The book is much more than just photographs, and aside from the expected text summarising the specifications and achievements of each type, there is a history of the actual aircraft pictured, and most interestingly, a commentary from a pilot of the aircraft in New Zealand today. In this way, the book captures not just the grandness of the machinery through Gavin's photography but also the essence of what it is like to fly each of these treasured and valuable historic aircraft.

Detailed and powerful images (often full page) of engines and cockpits are included, to the degree that you can sense the presence of the aircraft on the pages and also try to imagine what it is like to fly one. All pilots (licenced and armchair) will enjoy the book immensely. Equal credit is due to the photographs and to the publisher for conveying a real sense of emotion with the book. It's much more than a collection of pictures which unfortunately is all that many similar books provide. Available nationwide and from **www.craigpotton.co.nz** We think it's a bargain at RRP of $59.99

News Briefs

30% off CorrosionX Application

Aircraft Detailing NZ are offering KiwiFlyer readers a 30% discount off the normal price of a CorrosionX treatment of their aircraft before March 31st 2012. This product is used by the US and other militaries around the world. Treatment involves accessing airframe cavities via inspection panels and spraying the product which spreads everywhere that moisture goes, leaving a high dielectric film that prevents corrosion.

Contact Chris on 021 262 2272 to invest in the future of your aircraft.

30,000 KiwiFlyer Website Downloads in the last 12 months.

Once the following issue of KiwiFlyer is in the market, we upload the back issue and articles from it to our website for free download. In 2011, more than 30,000 articles and issues were downloaded (excluding traffic from search engine bots). The top 8 (out of more than 150 different) countries were NZ, USA, France, China, Australia, Japan, Germany and the UK.

We welcome our international readers and hope you enjoy what you are finding.

Warbirds Over Wanaka Free Tickets from KiwiFlyer

We have four free General Admission Day Passes for Sunday 8th April to give away. To enter the draw, send us a note telling us a) the thing you like most about KiwiFlyer, and b) one thing we could do better or that you would like to see added to the magazine. We'll draw the winners on 12th March and let you know if you are successful. Email: editor@kiwiflyer.co.nz or post to PO Box 72841, Papakura 2244. We look forward to hearing from you.

Recently opened at Wanaka is a new Warbirds and Wheels attraction showcasing an impressive collection of Warbirds including a RNZAF Skyhawk fighter jet, Strikemaster, Vampire, Hurricane, and a WW1 SE5A, 26 rare Classic Cars, Sir Tim Wallis display, and original New Zealand art works.

More Wings Graduates at Massey

Eight Bachelor of Aviation students from the Massey University School of Aviation were presented with their professional pilot licences at a ceremony on the Manawatu campus late in 2011. These were the first pilots to complete their training on Massey University's fleet of Diamond aircraft and also the first to complete scenario based training.

Receiving their Wings insignia were: Calum Burn (Auckland), Louis Chia (Singapore), Matthias Guzy (Christchurch), Jagdeep Kang (Singapore), Elisha Lim (Singapore), Kiran Parbhu (Wellington), Mitchell Watson (Auckland) and Saga Witjaksono (Indonesia).

Frank Sharp paid tribute to the students' hard work to complete the training and said he was pleased that they were continuing on to complete the degrees majoring in flight instruction or aviation management.

New Tecnams

Two new variations of the Tecnam P92 are now available.

The P92 Sea-Sky Hydroplane requires a take-off run of less than 200 metres, and affords ease of operation, both on the water and in the air. The design also incorporates Tecnam's 4 wheels retractable landing gear.

The P92 Tail Dragger results from research saying that the GA community preferred tail wheel configurations, side by side seating and metal construction. The P92 Tail Dragger can be powered by Rotax or Lycoming (O-233) engines.

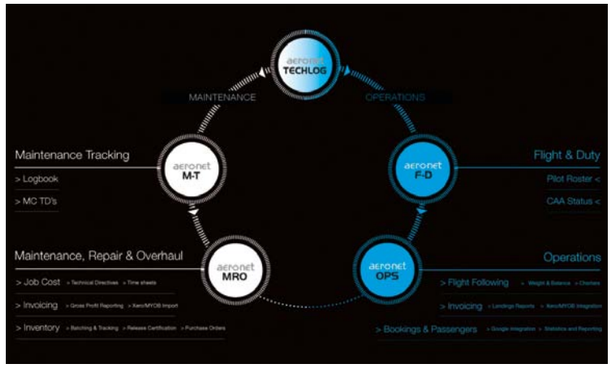
Simplifying Aviation Administration and Management

with Cloud based software from Aeronet

The latest software from Aeronet not only improves upon earlier versions of its cloud based, platform independent, real time aviation management system, it now has the potential to make aviation administration paperless.

TRADITIONAL aviation practices are prolific consumers of paper, whether this be that which is passed between operators, maintenance organisations, and CAA, or whether it is the collection of aeronautical publications, manuals and tech logs which must be carried on board the aircraft during every flight.

With the advent of mobile connectivity and an array of portable communication and tablet style devices providing instant access to whatever is stored on them or available online, there is a growing trend towards carrying an electronic flight bag loaded with all the charts, logs, and manuals that might be required for a flight. Such electronic flight bags are rapidly gaining acceptance in the industry and with regulators, and it is only a matter of time before they are the norm rather than the exception. Beyond the electronic flight bag however, are several more levels of opportunity for paperless single-entry aviation systems that will not only simplify administration, but also greatly improve communication in real time, reduce clerical errors, support quality of compliance, and enhance safety.



Created in New Zealand and now expanding overseas, Aeronet is a software application for aircraft operators and maintenance providers, big or small, that is leading the way with this technology.

Aeronet offers a completely integrated suite of modules for managing any aviation organisation to the extent where paper need only be used for regulatory compliance. If aviation eventually follows the lead taken by the banking industry in regards to electronic everything including identification, then paperless cockpits and aircraft administration should indeed become a reality.

Developed predominantly during the last couple of years, Aeronet now supports more than 20 aviation companies in NZ, some in Australia and most recently, Canada. Aeronet will be exhibiting at HAI's Heli-Expo in February and looks forward to broadening their international customer base further.

Software as a Service, in the Cloud, on any Platform

Aeronet is a 'modern' application, provided as a service. There is no software to buy, install and then have to manage or upgrade, rather you subscribe to the modules that you need at any time on a per aircraft basis and at quite low cost. The program is based in the Cloud and accessible via any internet browser. This eliminates the need to maintain a server to run the software, or to operate backup power systems, or to keep and manage data backup systems. This all happens for you via the Cloud, in a robust and secure manner.

Further, Aeronet works on any platform and because it is web enabled, your application is available for use from anywhere at any time. The software is completely platform independent and will run on a PC under Windows or Linux, or on tablet devices and smartphones regardless of their operating systems.

It all makes the process of implementing the software as easy as it could possibly be. Everything is ready to go and happening in real time from the moment your subscription is confirmed. If you want to make a log entry from your smartphone while the rotors are running down, you can. Rather than replicating administration back at the office, data can easily be entered on the job and disseminated immediately through the system avoiding any duplication of effort and the associated opportunities for errors. This on-the-job connectivity in real time also provides pilots with instant access to current maintenance records and event countdowns.

Aeronet Modules

Aeronet.TechLog: At the core of Aeronet is TechLog, an electronic copy of traditional documents providing searchable records, a history of maintenance compliance, plus pilot and engineer data entries, all of which interfaces throughout the Aeronet system to eliminate duplicate data entry. It is common for engineers to check traditional logs and have to correct mistakes made by pilots. Aeronet's TechLog does all the mathematics itself and can complete the pilot's logbook at the same time. And it interfaces to Aeronet Maintenance Tracking which can be monitored in real time by the maintenance provider. This is a safety enhancing feature and quite a contrast to a traditional system where every 100 hours the operator and maintenance provider exchange some paper, probably without any further communication until the next check is due.

Aeronet.MTrack: The Maintenance Tracking module offers the equivalent of an online maintenance database (compared to a spreadsheet or manual system), providing a complete history of all transactions while maintaining secure backups of all logbooks. Work packs can be created for interfacing to MRO and any authorised person can quickly access maintenance records in real time using a web browser.

Aeronet.MRO: The Maintenance, Repair and Overhaul module provides job costing, invoicing and inventory systems compatible with Rule Parts 145 and 148. All aspects of quoting, parts and labour cost management are easily handled.

Aeronet.F-D: Flight and Duty time management for Parts 135 and 137 compliances are easily accomplished, including pilot rostering and duty limitation reporting.

Aeronet.OPS: The Operations module takes care of passenger booking and flight planning, weight and balance calculations and records, flight monitoring, aircraft economic performance reporting, flight invoicing and data export to MYOB or Xero.

For more information

Aeronet is structured to allow operators to only purchase what they need, adding or subtracting functionality as time goes on. Subscriptions start from as little as $10 per aircraft per month. For more information, contact Aaron Shipman on 021 766 449 or email: aaron@module.net.nz. **www.aeronet.co.nz**

CAA Approved Helicopter Simultation at HFT

Helicopter Flight Training (HFT) at Ardmore has just received CAA Approval for their in-house developed Bell 206FX simulator. It's an impressive piece of work, utilising an actual Bell 206 cockpit in a dedicated room with wrap around visuals and realistic sound. Flying the sim is an immersive experience with more than a few candidates working up quite a sweat trying to deal with whatever difficult situation their Instructor has just placed them in.

PICTURE THIS: A pilot is completing the final approach to an off-shore oil rig and has just received the weather for the deck surface. The atmosphere in the cockpit is serious. Checks for wind direction and strength, available power, and a confirmation the pad was clear with lifting cranes locked and stowed away from approach and departure paths, all signalled to the pilot that he was cleared to land. Approaching the heli-deck – almost 200 feet above the ocean surface, the helicopter experienced wind buffeting off the superstructure. Control changes needed to be smooth to maintain a stable approach. Finally positioned over the deck he settled down on to the large 'H' and lowered the collective - a successful flight completed. The pilot relaxed and said to the 'back seater', "It certainly was easier this time; I could appreciate the power requirements and the constant angle approach, especially in the last part of the arrival."

In the 206FX Simulator at Helicopter Flight Training. CAA approved for 20hrs of instrument training towards an IFR qualification, the sim also provides a safe and efficient means of instilling good habits and training pilots to recover from difficult and high risk situations.

The 'back seater' was Jon Keller, HFT's lead Simulator Instructor. Jon is a B category Instructor with HFT and was a key part of the Bell 206FX simulator development programme. He led HFT's research into helicopter simulation worldwide over two years, visiting and testing several of the major European and USA manufacturers' offerings. CEO of HFT, Phill Maguire says that as they learned of the various packages available and how these could be matched to specific training roles, it did become apparent that much of the fidelity was possibly able to be improved on.

A decision was then made to develop an in-house simulator at HFT's Ardmore base, and a team started work to bring the best of the attributes they had seen on existing helicopter simulators, but with vastly improved visual and instrument reality. The Bell 206FX is the result of their endeavours and is fully IFR capable, with visual and audio environments that create 'real-time' task-driven scenarios.

The 206FX has been created to train helicopter pilots at various stages of their training. Through specially developed 'Vista-screen' technology, pilots can perfect a wide range of flying tasks and the simulator is now included in HFT's full range of training courses for PPL, CPL, Instrument ratings, Night ratings and initial Turbine Ratings. There is even a Night Vision Goggles (NVG) module.

"A simulator is perfect for developing skills and good habits." said Keller when KiwiFlyer visited. "Our international research showed that even at the PPL stage, students are able to capture critical learning events without ever leaving the ground". A host of environmental conditions can be adjusted by the Instructor to include weather, lighting variations, wind, and any combination thereof. Even the simplest of everyday occurrences adds realism to the experience, such as a fluttering windsock or a vehicle driving past the boundary fence at the Airport. "We can create thunderstorms, and when it has the thunderstorms, you can actually hear the thunder," Jon said. "You can see the lightning flashes and the approach of CBs."

Jon is a subject matter expert who actually helped in the design of the Bell 206FX simulator. Along with software from Lockheed-Martin, he has developed a photo-realistic model of HFT's base Airport, Ardmore. This entailed low level multiple high resolution photography from a helicopter that was then bundled into a visual platform. The results are impressive.

The experience goes beyond what the pilot or other crew member might see during the simulated flight. Air traffic control or Christchurch information can be simulated 'live', which raises pilot workload closer to reality. Jon says the helicopter can easily be configured to operate at max all up weight which is what trainee pilots need to experience in order to properly understand the characteristics and limitations of the aircraft.

He adds that "The simulator is good for a number of other reasons regarding safety, efficiency and flexibility. It eliminates the need to schedule an actual helicopter, saving on fuel and other operating costs, and it lessens many of the risks faced during real flights. Marginal or non-flyable weather outside does not affect the progression of training in the simulator and this can allow us to keep a pilot on track in the course without having to use blade time. The simulator allows for easy training on flights that would take much more planning and coordination otherwise."

Phill says that HFT is New Zealand's only Helicopter IFR pilot training organisation, explaining that an Instrument rating requires 40 hours instrument flying time and that HFT's simulator has CAA approval for up to 20 hours of instrument training towards the qualification.

Dan O'Reilly who is a captain with NEST on the S76 based in Whangarei, is an IFR Instructor on the Bell 206FX and created much of the syllabus and training profile 'foot-print' that is used by HFT during the instrument rating course. "This allows us to train on IFR tasks that we don't get a chance to do normally." Dan said, adding "We're able to do this more efficiently, with no ATC delays getting an Airways clearance, approach times or holding due to other traffic. We can quickly build a pilot's instrument flying scan and operating disciplines and we don't have to use blade time to do that. When compared to the costs of training in the actual helicopter, the simulator is only 20% of that".

Dan says he thinks the simulator is fantastic; "You'd be surprised how many similarities there are between this and the real helicopter. You can achieve so much over the various phases of the instrument rating and build confidence and competency with a pilot."

Night flying and the inherent risks involved for helicopter operations are well provided for in the night training program. Dan explains that "We introduce the basic instrument panel skills, then build on the importance of the various performance instruments. The night visuals are amazingly realistic - we can create various night skies and of course build in the odd passing rain shower to make things a little interesting."

HFT have made a significant investment in the 206FX and consider simulation training to be an important part of the helicopter aviation sector. It allows pilots to learn in a realistic environment, with high training values and is a cost effective solution to improving both their qualifications and their competencies. There is particular value for all pilots to experience simulated inadvertent flight into IMC and loss of visual reference. This high risk situation is one that many pilots have a poor ability to recover from should it ever happen. Simulation training is a safe way towards providing the basic skills for a pilot to carry out the correct actions and recover from the event.

Phill says that in most developed countries, use of NVG's also requires the pilot to hold an instrument rating, though NZCAA does not require this at present. Dan comments that "It would add a great deal to the capabilities of any operation where using NVG's is required to also hold the instrument rating". The 206FX provides full NVG scenario's and permits use of sophisticated terrain modules aimed at SAR, EMS and Police operations.

HFT expects that requirements for currency and associated simulator time will grow with the establishment and advancement of Safety Management Systems (SMS) and 'threat and error' protocols. The Bell 206FX certainly has the potential to contribute strongly towards the continuous improvement of training and safety standards that is expected in the emergency sector and in all training operations.

HFT welcomes any pilot considering either an Instrument rating, or wanting to simply experience a wide range of challenging helicopter scenarios as part of their career development, to contact them on 09 299 1157, email Phill directly at: gm@hft.school.nz or visit **www.hft.school.nz**

Helicopter Flight Training

Air Chathams and the Convair 580

Contributed by Chris Gee

In March 2011 our regular contributor Chris Gee accompanied singer-songwriter Anika Moa, whom he has worked with as a sound engineer for over ten years, as she performed at the Wild Food and Music Festival on the Chatham Islands. This provided a great opportunity for a KiwiFlyer article, so Chris scooped up all the information he could during his visit and put the following together for our readers. Embarking aboard one of his favourite aircraft, the Convair 580, he was lucky enough to sit in the jump seat of the cockpit with Captain Gary Down and Imia Daymond, an original Chatham Islander, as they flew ZK-CIB from Wellington to the Island with other patrons and performers.

IF YOU WERE to stand in the middle of France and dig straight down, you would eventually find yourself on a tiny archipelago in the southern Pacific Ocean called the Chatham Islands, a unique community of around 600 extremely laid back New Zealanders. Named 'Rekohu'- Misty Sun by the Moriori, and 'Wharekauri' by the Maori, the ten islands of the archipelago are scattered within a 40km radius. The largest islands, the Chatham and Pitt Islands, are the only two that are populated, and make up the bulk of the 966 square kilometres of available land. Located over 800km east of the South Island, they are first in the world to see the sunrise each day.

The venerable Convair 580 has become the backbone of the Air Chathams operation since its introduction to the airline in 1996.

The cockpit is heavily analogue, and a far cry from the 'glass' cockpits of modern airliners. It does, however, offer good visibility and is spacious and comfortable.

The Chathams Rise boasts some of the most plentiful fishing grounds in the South Pacific. Seafood and farming forms the basis of the islands' economy, but the only way to get produce to mainland New Zealand for export used to be a laborious boat journey lasting 2 to 3 days. This made it difficult to get top prices for the fresh produce, so an air bridge to the mainland has always been essential.

Scheduled services to the Chathams

Tasman Empire Air Lines (TEAL) began the first scheduled flights to the Chathams in 1950, operating Solent flying boats between Evans Bay in Wellington and Te Whanga Lagoon, but these flights ceased in 1953. From 1955 aircraft were chartered from Ansett Travel Services in Australia. The RNZAF also flew Sunderland Flying Boats to the Chathams for a short time, until they started using Bristol 170 Freighters, which would land at Hapupu airstrip. All these flights were infrequent and unreliable - usually less than once per month, until SAFE Air (Straits Air Freight Express) began a weekly service in 1968 using the Bristol 170. These utilised a unique removable passenger pod that could be loaded into the aircraft, helping to drown out the incredible noise created by the mighty Hercules engines. In 1982 a paved runway was built at Karewa Point (Tuuata Airport), allowing the use of the four engined AW.660 Argosy, boasting a far more comfortable passenger pod based on the cabin of a Boeing 737. In September 1990 SAFE Air closed its freight business, but Mount Cook Airlines continued running a Chathams charter service from Wellington and Christchurch twice a week using a Hawker Siddeley 748. While the service was profitable, the aircraft was not suited to the short runway available on the Chathams, where in certain conditions it was restricted to a reduced load.

A young pilot, Craig Emeny, had recently started flying to the Chathams and fell in love with the place, enjoying the lifestyle and strong sense of community there. After flying charters for the fisherman he saw a business opportunity in getting the superb island seafood and produce to the mainland as fast as possible. In 1984 he and his wife formed Air Chathams, utilising a single Cessna 337. This unique aircraft had two engines in a 'Push-Pull' configuration, and could carry 500kg of live or fresh seafood from Pitt Island to Chatham Island, from where it could be flown to mainland New Zealand, initially Gisborne. This saw an immediate increase in the prices received for the fresh seafood. The original Cessna suffered a mishap after a landing gear failure resulting in it being written off in 1986, so a second machine was purchased and was operational with ten days. This aircraft was pressurised and had a STOL (Short Take Off & Landing) Kit, which was perfect for its use off Pitt Island. Eventually he replaced the Pitt Island service with a single engine Cessna 206F (ZK-DOA) in 1989, which proved more suited to the route and airfield used on Pitt Island. In 1987 Air Chathams upgraded to a ten seat Beech Queen Air, which could carry nine passengers or a ton of cargo to the mainland. This had an immediate effect on the Islands' economy, raising the prices of crayfish in the winter from $7 to $50, greatly increasing the Islanders reliance on the air bridge and solidifying the community's symbiotic relationship with Air Chathams. In 1991 the Queen Air was replaced by a Beech 99 (ZK-CIB), which could carry about 1.5 tons of freight and operated scheduled flights three times a week between the Chathams, Wellington and Napier, as well as other freight and charter flights. In 1993 a large investment was made in a $3.2 million Fairchild Metroliner, increasing capacity to 19 seats, or a combination of 11 seats plus one ton of freight, or a freight-only capacity of two tons. The aircraft featured a rear-loading cargo door and an available freight capacity of 17 cubic meters. The Metroliner proved efficient and carried the product very cost effectively.

The Mount Cook /Air New Zealand operations were continuing, and in an attempt to retain their viability in the Chathams service they halved their rates for both passengers and freight. At this stage Air Chathams was still an almost one-man operation, so battling against the marketing might of Air New Zealand was not an easy task. The island community stayed loyal to Craig Emeny and his airline however, also coming to his assistance to help finance the new Convair 580 as well as keeping things running behind the scenes while he was occupied with the actual flying. One advantage Air Chathams had was that the Air NZ service was based on the mainland, meaning the flight would have to leave in the morning and return from the Chathams late in the afternoon. This meant that same-day connections could only be carried out in the late evening. Air Chathams however, being based on the Island, could leave in the morning and arrive on the mainland in time for patrons to reach international connections on the same day. The advantages of using the home-based service were also readily apparent to the fishermen who could ship off their catch fresh and chilled rather than frozen. Air New Zealand ended its operations to the Chathams in 1996 when their Hawker Siddley 748s were replaced with ATR-72s. The run to the Chatham Islands was no longer economic with the new aircraft which were more profitable on other higher density regional routes.

Air Chathams expansion

It soon became clear to Craig Emeny that Air Chathams was going to need a much larger aircraft, with a flight attendant and a toilet. In 1995 he prepared to purchase his first Convair 580, ZK-CIB, which became operational in July 1996 and still forms the mainstay of the Air Chathams operation. Powered by Allison Turboprops, this aircraft brought with it a vast increase in capability and comfort. Fully pressurised, it provides an extremely flexible 'combo' arrangement of passengers and freight: including 40 passengers plus one ton of freight, 31 passengers and two tons of freight, 19 passengers and four tons of freight or a maximum freight-only capacity of 6.5 tons into 56 cubic metres. A large rear loading cargo door 3.1 meters wide and a roller floor system allows the transport of large palletised cargo. The Convair has a cruising speed of 285 knots, normally operates at 22,000 feet and is crewed by two pilots and a flight attendant. Craig Emeny, CEO and still a training Captain for the airline, describes flying the aircraft; "It is a very stable aircraft, with a solid feel. It has lots of power and good speed", adding "it has very good payload and range, which is essential for operating to the Chathams. We are always required to carry enough fuel to get back to the mainland if we cannot land on the Chathams, and most aircraft cannot take very much freight if

they are forced to carry that much fuel. The Convair operates off the Chathams short runway without any hassle and is fast, rugged, roomy and reliable." This author notes that while being noisier than most modern airliners the Convair was a very smooth ride.

It became apparent around 2001 that another Convair 580 was going to be required to meet demand and to keep one in the air at all times, so in 2001 Air Chathams purchased a second one (ZK-KSA) that they had been chartering from Cairns. This aircraft also allowed Air Chathams to charter CIB to Air Freight NZ who used it in the evenings to supplement capacity on its freight runs. In 2004 a fully freight-only version (ZK-CID) with all spares and tools was bought from Bahrain.

Since 1995 it has been a CAA requirement that simulator-based training took place, so Air Chathams pilots would make regular trips for this to Canada. In 2005 Craig Emeny heard about a simulator in Alaska and enquired about purchasing it. Their reply - "If you buy our two Convair 580s and spares, we will throw the simulator in for free" - was too good an opportunity to miss, so Air Chathams acquired two more Convair 580s (ZK-CIE & ZK-CIF). The simulator achieved CAA certification in 2006, so now Convair operators from all over New Zealand travel to the Chatham Islands for their simulator training, far more economic than travelling to Canada. The Simulator is very large, virtually the entire front end of an aircraft, with all associated systems that need to be managed for training. It is located in the new Air Chathams facility, which was built in 2004.

The Convair 580 simulator based on the Chathams is huge, and takes up a good portion of floor area of the Air Chathams facility on the island.

Growing pains

The rise of Air Chathams has not been without the occasional difficulty however. On 18 March 1999, the Cessna 206 ZK-DOA had a sudden engine failure and was forced to ditch off Pitt Island. The pilot and his four passengers escaped before the aircraft sank and were able to swim to shore, a marathon effort of more than an hour in cold water. By the time they reached shore the Pitt islanders had a fire going on the beach and were brewing tea for the weary swimmers. Along with a few cuts and bruises, two of the passengers were treated for mild hypothermia.

There was also a tense time after a CAA inspection in 1996 grounded the company after questions were raised about Air Chathams pilot ratings on the Metroliner, whether the check pilot was appropriately licensed to carry out the checks, and concerns over public safety and record keeping. To avoid the negative impact on the Chathams from the loss of its air-bridge, Air Chathams chartered Airwork's Metroliner to cover the gap. The financial consequences of this seriously endangered the impending introduction of the Convairs. Metroliner operator Air Nelson was called in to test the Air Chatham pilots, who all passed to a good standard, and in a few days the airline was back in operation. Since that time Air Chathams and CAA have developed a very good working relationship which reflects the effort being committed to safety in a difficult operating environment.

The harsh climate and isolation of the Chatham Islands presents many challenges for the airline, including a short tourism season. While industry and tourism has increased on the island as facilities have improved, there is an acknowledgment that this cannot be allowed to damage the fishing resources or way of life that make the Island and its people unique. Growth in the Chathams routes will therefore always be limited.

Pacific operations begin

Since 2005 Air Chathams had been operating throughout Tonga and the Pacific under charter contracts to Reef Shipping in Tonga and later with Air Fiji, and in 2008 they were invited by the Tongan Government to start a domestic air service in Tonga. As a fully owned subsidiary of Air Chathams, today that operation is well established and incorporates a fleet of five aircraft. One Convair 580 and the Fairchild Metroliner service the Vava'u and Tongatapu routes, one Beech Queen Airs fly to Niuatoptapu and Niuafo'ou, and one Norman Britten Islander whose regular trip to 'Eua is one of the world's shortest scheduled services at only 7 or 8 minutes in the air. Lastly, and most importantly, a beautifully restored DC3 which entered service in 2009 flies to Ha'apai. The expansion of Air Chathams to include Chathams Pacific, and its immaculate DC3 is a remarkable story in its own right and worthy of its own article in the future.

Air Chathams today

From its very humble beginnings, Air Chathams has grown considerably over the years and now boasts approximately 80 staff, including its own CAA Part 145 approved engineering organisation. The airline enjoys a great deal of support from Fieldair Engineering and Hawkes Bay Aviation, as well as Air Freight NZ, who also operate Convair 580s.

Current scheduled flights are seasonal and are altered to suit demand, and can include three days a week to Wellington, weekly from Christchurch and weekly from Auckland (via Napier), as well as special charters for extra seafood shipments and events. The freighter CID is now in storage, and KSA has been sold to Pioneer Air. Usually the Chathams work is carried out with their original aircraft ZK-CIB while ZK-CIE & ZK-CIF alternate between working from the Chathams carrying out charter contracts, and working in Tonga.

While the transport of fresh seafood and general freight still make up over half of the airlines revenue, Air Chathams has become a very successful domestic passenger airline within New Zealand and the Pacific, and is relied upon by the entire Chathams community. They also fulfil a vital emergency evacuation service for the Islands, such as when a Paua fisherman on Pitt Island was attacked by a shark, receiving life-threatening wounds. The Cessna 206 flew a doctor from Chatham Island to stabilise the victim, then flew him to the Wahiawa airfield where he was loaded on the Metroliner and flown to a hospital on mainland New Zealand.

Air Chathams has operated the venerable Convair 580 for fifteen years now. The unique combination of range, payload and flexibility the 580 provides will make finding a comparable replacement a difficult task when this is eventually required. Possible candidates could be the ATR-72 or the proposed civilian 'combi' version of the EADS/CASA C295, however there are still many 580s in service throughout the world and with parts and support readily available, the company hopes to be operating them for at least the next 10 years. We wish them much continued success for the future.

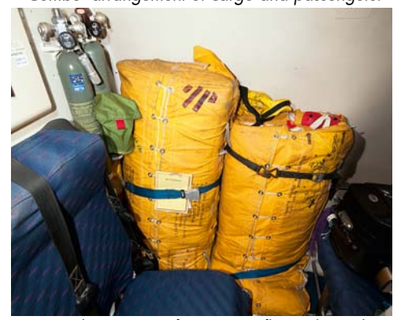
I would like to thank Craig Emeny for his time in answering our questions, as well as Steve Lowe from the Third Level New Zealand Blog (http://3rdlevelnz.blogspot.com) whose research and information proved invaluable. And of course Tiana Wills from The Wild Food & Music Festival, whose hospitality and generosity was outstanding.

Chris Gee

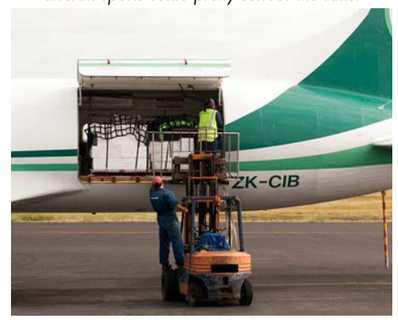
The Convair 580 can carry up to 31 passengers or 6.5 tons of freight depending on configuration.

Captain Gary Downs and Inia Daymond had the front seats for our flight to the Chathams.

The interior of the Convair 580 offers a flexible 'Combo' arrangement of cargo and passengers.



Given the amount of overwater flying done, the aircraft sports some pretty serious life rafts.



The large side cargo door and roller floor facilitate easy loading of palletised cargo.

My time on the Chathams

Contributed by Chris Gee

When Chris said he was going to the Chatham Islands and submitted his Air Chathams article, the idea of a 'Places to Go' tale about what his time on the island was like seemed too good an opportunity to miss. Chris writes:

THE Chatham Islands offers a truly unique travel experience, not just for its stunning landscapes and rare birdlife, but also its extremely friendly people and laidback lifestyle. Opportunities to get work there are rare, so I was grateful indeed when my long time client Anika Moa was asked to perform at the Chatham Islands Wild Food and Music festival in March 2011. Of all the exotic places and events across the globe I have had the honour to work at, this was, for me, one of the most exciting and highly anticipated.

After a fascinating flight in the Air Chathams Convair 580 ZK-CIB, my first impressions of the landscape were of a coastal ruggedness. The sand dunes spread far into the island until they blend into the low bush and farmland. There are very few hills, and the sparse arrangement of foliage on Chatham Island hints at the island's vulnerability to the sea that surrounds it, something we were to learn first hand in the days that followed.

Our small tour party, consisting of Anika, her wife, and me, was met by the very friendly festival organisers, who gave us one of their 4x4 cars so that we could be independent. Our accommodation was at the wonderful Hotel Chathams in Waitangi, the main port and settlement located on the southern shore of Petre Bay, on the west coast of Chatham Island. This formed the perfect base from which to explore the Island, which despite its diminutive size takes a while to get around. On the mostly unpaved roads, however, every passing vehicle comes with a smile and a wave, and each turn offers a new landscape and view.

The Chathams offer a unique landscape, rare wildlife and a beautiful community. Moriori tree carving pictured bottom right.

My first duty upon arrival was to drive around the local community of musicians to collect gear to use for the festival the next day. This harvesting of equipment resulted in an impromptu jam in a farm shed in the early hours of the morning. Unbeknown to us, a catastrophic earthquake and tsunami had hit Japan, resulting in the Pacific-wide tsunami warning. The sole policeman on the island, accompanied by the MAF Fisheries officer, drove door-to-door, including to our farm shed, to issue a Tsunami warning. Due to its location in the middle of the Pacific Ocean, the Chatham Islands are extremely exposed, and it was certainly terrifying and fascinating the next morning to watch as the tide came all the way in, then went all the way out, every half an hour or so as the effects of the Tsunami hit the Island. Although the warning was soon stood down, it led to a near disaster for me when I nearly got caught by an incoming tide that moments ago had been on its way out, photographing the birdlife in hysterics as their usual tidal habits ended up in tatters.

Virtually the entire population turned out for the Chatham Islands Wild Food and Music festival the next day, where a stage was set up on the back of a truck, and dozens of food stalls roasted sheep on spits, and barbequed Muttonbird, Black Swan and Weka (all introduced to the Island and considered pests) as they competed for the top prize, all of which tasted very good! Although Anika was the 'headline' performer on the day, the Sheep Shearing and 'Fear-Factor' contests attracted the biggest crowds. Kids got taken for rides on the Harley Davidson that is the pride and joy of the one-man bikey gang "44 Degrees South". An inflatable horizontal bungy also offered entertainment, as did, of course, the bar.

We had the next day off, and spent the time exploring the Island in the 4wd. The Basalt rock formations were certainly unique, as was the charming northern fishing town of Kaingaroa. The highlight was definitely visiting the ghostly tree carvings left behind by the Islands' original inhabitants, the Moriori. A peace loving people who had no word in their language for 'enemy', they were almost wiped out by invading Maori from Taranaki who arrived in the 1830 aboard chartered European ships. Carved into the bark of the trees in one of the Islands' few remaining forests, the designs make for some sombre viewing, as they are rapidly fading in the elements and will not last much longer.

The Islands' isolation from mainland New Zealand, itself isolated from the rest of the world, makes for an environment not found anywhere else on the planet. The combination of its own indigenous wildlife and species introduced from the mainland before they became endangered led to the Chathams becoming the final refuge for many species that have since been slowly reintroduced to the mainland. Some birds, such as the Chatham Island Taiko, are so rare that you need a permit to go anywhere near them. You can, however, book bird-watching tours that can get you very close.

I cannot recommend enough that you try and make the journey to the Chatham Islands. As a pilot or aviation enthusiast you will find the ride there in the aircraft memorable enough on its own. While you could fly yourself to the Chatham Islands, you would need to do some intense research since the Islands isolation makes for some specific safety considerations. The Chatham Islands are, of course, renowned for their seafood, and we were not going to leave empty handed… The Islands' MAF officer was waiting at the airport to give us a gift of fresh seafood, including some very large Crayfish, which apparently met the legal length across the body. I definitely wish to return with more time on my hands, and make the trip across to Pitt Island. I recommend forgetting your usual holiday destinations, and booking a flight on Air Chathams and a week at Hotel Chathams for a holiday you will never forget.

KiwiFlyer invites readers to send in contributions that will be of general interest to the NZ aviation community. Call us to discuss.

Future Flight

Flair Seminars challenge the status quo on propulsion and aerodynamics

Contributed by Graeme Porter

THERE WAS a high level of attendance at Flair seminars in October 2011, where cutting edge US general aviation experts delivered a report for the future showing that conventional ideas on aircraft propulsion systems and aerodynamic theory are able to be questioned and alternatives are within grasp.

Sid Siddiqi debated current ideas related to emerging technologies within the aviation industry. "It is important for general aviation to move away from being a craft industry and truly address volume production", he said.

The Lean Personal Aircraft

Citing examples in the Light Sport Aircraft (LSA) arena where Europe had arrived at sustainable volume production but the US was yet to achieve that goal, he said there were grounds for keeping aviation 'non elite' and developing the 'Lean Personal Aircraft' (LPA) where owners would have ease of access and affordability through shared ownership, have increasingly reliable airframes and associated systems and have an aircraft that was easy to fly.

Sid explained how technology can deliver to these requirements by making increased use of:

- Laminar flow structures on fuselages and wings
- Precision manufacturing techniques
- Transferring existing technology from the automotive industry
- Creating intuitive cockpits with technology from the computer industry

Sid noted that these base requirements to a large extent are already delivered by the New Zealand aviation industry. Aviation within New Zealand has a strong existing DNA where innovation and a green customer culture are already established with exportable technologies. Having a bi-lateral agreement with the FAA is a feather in the New Zealand cap.

While the LSA approach is attractive using either reciprocal internal combustion engines or embracing electric propulsion what about an LSA turbofan? Here enters the Lean Private Jet which Sid envisages as a two seat aircraft with cruise of 200kts plus and powered by a high bypass ratio turbofan of about 200 thermo HP offering 500 lb thrust. Currently small turbofan engines are expensive to manufacture but options exist for precision machining from aluminium alloys to lower costs and Sid says that compression moulded fibreglass techniques are cheaper still, adding that a whole range of LPJs with 2, 4 or 6 seats has the potential to be developed with the concept marketed as safe, speedy and affordable. He noted that; "General aviation grew in a depression environment and developed innovative products through great teams. It's time to rekindle that spirit."

The Synergy Aircraft: A quarter scale RC model is flying and a full scale prototype is under construction.

Sid Siddiqi presenting at Flair.

Synergy - A catalyst for efficiency in aircraft design

In a separate address John McGinnis furthered the concepts that Sid Siddiqi initiated with his seminar on the aerodynamic challenges just waiting to be explored.

To progress general aviation from its status today, incremental steps are needed. The recent NASA Green Flight Challenge result featuring electric powered aircraft, however general aviation will include more incremental steps along the path to full electric flight. The path envisaged by McGinnis follows transitions from aviation fuels to automotive fuel, diesel, hybrid and finally electric power. He says the public needs to be energised towards general aviation as they are towards their car or personal computer, and that to achieve this goal, existing technology and efficiencies need to be incorporated to produce a safe SUV style of aircraft.

"Costs must be reduced and the key is to 'productionise' the format from the start. Let's do away with direct manufacture of complicated parts." McGinnis told his audience.

His unveiling through a media presentation, of the Synergy proof of concept aircraft showed what he considers possible. Synergy is a double box tail aircraft designed for five to seven passengers. By harmonising six proven technologies for drag reduction at low cost, including Laminar Flow, Wake Propulsion, Open Thermodynamics, and Subsonic Area Ruling, Synergy achieves both high speed and low induced drag in a structurally robust, lightweight form. Pressurisation is also a feature from the outset.

McGinnis promoted reduced drag through laminar flow and wake immersed propulsion as key functions of Synergy. He spoke of reducing drag beyond zero and then using it as thrust, adding that stability and control could be enhanced through induced drag reduction.

The concept Synergy aircraft currently flies as a quarter scale RC model. A full scale prototype is presently under construction and the design is intended to be available as a kit. "We're going to need a lot of help in getting this concept into the hands of the new flying public. New Zealand is recognised as a leader world-wide in innovative production techniques and that's why we have brought this concept to Flair," he said.

More information is available from www.synergyaircraft.com

A next-generation Aircraft Propeller

AT FLAIR in October 2011, John McGinnis of Synergy Aircraft introduced attendees to KiwiProps, their next-generation aircraft propeller. With a view that most aircraft propellers are a legacy item with few fundamental design improvements over the last 50 years, the concept to build a fully blended aerofoil was too challenging for them to resist.

"A fully blended aerofoil is our ultimate goal," said McGinnis. "Initially KiwiProps will serve the experimental market. The popular Vans RV series of aircraft exemplify the kind of aircraft that will use these designs initially. The first model and that on display at FLAIR was designed specifically for the RV-6 and RV-7 variants with the propeller intended to be an option for this series of aircraft. We think it is clear that the performance and efficiency of next-generation props will cause rapid development across the entire spectrum of general aviation applications."

KiwiProps intends to become an advocate for future aircraft offering quieter, lightweight, multi-bladed systems that are fully optimised for their engine and airframe. McGinnis said they will be particularly well suited to the birth of electric and hybrid electric powerplants, both for tractor configurations and most notably, pushers.

"Immersing a prop blade in the wake of a body offers many unrealised opportunities and Kiwiprops will lead the way by showcasing the world's most efficient wake props on the Synergy aircraft and its derivatives", he said. "Most props fly at radically different speeds from hub to tip and do all their work in the outer one third of their length, causing high drag and noise. If a typical prop were drawn as a wing at its actual operating condition of airfoil angles and Reynolds number, few pilots would consider it flightworthy, let alone efficient. KiwiProps use a constant relationship between chord length and speed and this allows a prop blade to be designed as if it were a proper, high efficiency wing."

McGinnis says it has taken the power of computer solid modelling to set aside the geometry problem enough to focus on true aerodynamic issues. For KiwiProps, every station of each blade has an airfoil that is designed for its exact speed, Mach number, and precise, true angle of attack range. Creating a seamless, constantly changing airfoil designed for the exact environment the blade experiences at that point results in more than double the usual L/D of a propeller airfoil. High camber, low camber, rounded, sharp, thick, thin... all these conflicting attributes are found where they belong on a KiwiProp blade. A high degree of laminar flow is even maintained over most of the propeller surface. Custom spinners help maintain these advantages while reducing drag near to the blade hub.

The team behind KiwiProps. Flair Organiser Shaun Mitchell and John McGinnis are centre left and right respectively.

McGinnis believes New Zealand offers an ideal development centre for this type of high precision composite work, saying that; "As the commercial opportunity advances, more and better ways to improve processes will constantly be needed. It's clear that Kiwis think differently, and the systematic application of lean manufacturing principles drives innovation that can keep pace with the needs of a coming revolution in the aeronautical sciences. Working with NZ industry, we intend to explore a full range of manufacturing methods as we refine each line of products in a long term, four-phase deployment of advanced propeller technologies with a global audience."

John McGinnis can be contacted via: info@synergyaircraft.com

Places to Go - Mandeville

Contributed by Ruth Presland

MANDEVILLE, which is just a few miles west of Gore is one of the fields that most people have heard about - but if you have not been there, then plan to make the trip on your Summer touring holiday. Mandeville is a large green field 980m long by 60m wide. NZVL frequency is unattended 119.10 and vectors run 09/27. The field hosts the yearly 'Weekend 8' fly-in weekend, (so called as it is the 8th weekend of the year) and in 2012 this is the 18th and 19th of February. It is a great family weekend out, with many private aircraft flying in. You will find enthusiasts of all sorts and if camping under the wing is not your thing (I've done it and it is fun) then other options are the Riversdale Hotel, ten minutes up the road, ph 03 202 5841 and the Heartland Hotel Croydon about ten minutes down the road, ph 03 208 9029. Car pooling is a good way to go down here with locals happy to help out.

Weekend 8 always features great camaraderie and ground displays. These range from craft stalls, steam engines to classic cars and lots to do for both little and big kids. The Croydon Aircraft Company has its doors open so you can see the beautiful restoration products in full progress. There are flights available in different vintage aircraft during Weekend 8 and Tiger Moth rides are available all year round. Flights are $95 for 10 minutes and $160 for 20 minutes. Tiger Moth type-ratings are available. Why not tick this off your list for 2012? Speaking from first hand experience, it is an exciting feeling to be flying a Tiger around an area so rich with vintage aircraft history and restoration of such a variety of birds.

Croydon Aircraft Company was started in 1987 by Colin and Maeva Smith, and specialises in the manufacture and restoration of de Havilland and vintage aircraft. They also offer a complete fabric covering and painting service including repair of older planes and parts of planes. The company has a world renowned reputation for the manufacture of de Havilland fuel/oil tanks, cowlings and other fittings. See www.croydonaircraft.com for more information.

Mandeville is also home to the Croydon Aviation Heritage Trust which was a dream now turned to a reality for hard working couple, Colin and Maeva. If you are wondering why do all this down in Southland then a little history lesson may enlighten you. Mandeville has always been a host to biplanes, going right back to the early barnstorming days after World War I. A local identity, John Crombie, learnt to fly in England during the war and he was guiding on Mount Cook when he met Rudolph Wigley. When the then Timaru-based New Zealand Aero Transport Company (which become the present day Mount Cook Group) took to the skies, the Crombie property at Mandeville became a popular stopping point for pilots of the Avro 504K's that toured Otago and Southland from 1921 onwards.

Mandeville village and airfield viewed from the north.

A warm welcome awaits you at The Moth restaurant.

Tick your Tiger rating off this Year at NZVL.

Croydon Aircraft Company is world renowned for restoration and repair of rare aircraft.

The old pre-World War II airfield and hangar, which housed two of John Crombie's aeroplanes, still stands and is in use today. Gore had prohibition in those days but Mandeville did not so this may have had something to do with the airfield being established adjacent to the old Railway Hotel, now a licensed restaurant called The Moth. The Moth is a great place for people flying in for anything from a coffee to a lovely meal or if you are parking up for the night. It's also a great place to catch up with flying mates over a cool drink. Summer opening hours are 7 days from 10-4pm and from Wednesday to Sunday they are open at nights as well.

Colin planted the Mandeville field out in an old fashioned grass mix which was used in the war for its anti-slip properties. Their determination and hard work to bring their vision alive means a variety of fascinating attractions can be viewed at Mandeville. The Heritage trust museum contains many flying examples of vintage aircraft and is a great facility for events and weddings. The Steam train outside the museum was retrieved from the Oreti River. (This river travels initially through wind-parched high tussock land, then down into flattish farm land. Wide gravel beaches, intriguing deep water holes and good picnic spots make it popular with anglers). The train itself dates back to 1878, and the trains were dumped into the Oreti River to halt erosion. Entry into the Museum is only $5 and children are free. It is open daily from 9.30 to 4pm.

I have been to NZVL many times and to Weekend 8 most years. Each time I come away feeling humble and revived by the genuine hospitality of the locals and the great times I have there. I highly recommend a night (or two) to experience everything the field and surrounds have to offer. You will come away with new friends, feeling refreshed and planning for your next trip back.

Flight of Passage

Contributed by Julie Milne

On 28 December 2011 Chloe Milne started a ten day flying adventure around New Zealand. Piloting a Cessna 172 from Waikato Aero Club the aim was to land at 21 airstrips across the country to celebrate her 21st birthday.

THE IDEA came a year earlier when in January 2011 Chloe was watching Ewan McGregor and Charley Boorman's Long Way Round and Long Way Down motor cycle journeys. She decided right then and there to take a flying trip to celebrate her 21st. By this stage Chloe had just completed her first solo flight and so a plan was set in place to achieve her PPL by the end of the year.

Early on Chloe decided that it would be wise to take along an experienced pilot. Fortuitously, Tony Petch, an experienced charter pilot, had invited Chloe to join team WAM as photographer, in the Great Northern Air Race in late January 2011. She had a great time with Tony and Viv Webb, not least because team WAM won – hence Tony was the obvious co-pilot. En route they would decide which legs each would fly and in particular which airstrips Chloe would land at to accumulate her 21 target.

Chloe's father Graeme and her brother Ross, both with PPLs, were also keen to join the trip in Graeme's Dynamic sport aircraft, MLC. So eager was Ross that he flew back from his work in Denmark especially to take part.

By early December 2011 Chloe had gained her PPL from Waikato Aero Club along with a rating in a Cessna 172. The plane was booked, naturally it was WAM, and the departure date pencilled in.

On departure day a prolonged period of rain was forecast for the north so the team wanted to get from Hamilton to at least Christchurch and onto Dunedin the next day to beat the weather. However, it was a tense wait until 2pm when WAM and MLC finally got away after waiting for a new oil transducer to arrive and be fitted in WAM.

An hour later and the first landing, Paraparaumu, was in the bag. However, WAM's take off was aborted because the oil flap cover opened. Fixed and with WAM back in the air, MLC radioed with an alternator fault. That was also quickly remedied and the trip was back on track.

Tony had suggested they fly through the Awatere Valley on the next leg south, and it didn't disappoint with smooth air and great views. En route their departure had aired on TV One news and a quarter of an hour later Chloe made her first radio call to Christchurch International Airport – the reply "Whiskey Alpha Mike, Christchurch Tower, Good evening Chloe" was a huge thrill followed by the delight of being able to land on the 3.29 km main runway.

It was now the 29th of December so after take-off, a quick look at the Rhythm and Alps festival was compulsory albeit while climbing to 6,500 feet to overfly Mount Hutt, then onto Timaru for a quick stop, and then along the coast to the homely Taieri clubhouse, Dunedin, and the free coconut biscuits.

L to R: Tony Petch, Chloe Milne, Ross Milne (Chloe's brother) and Graeme Milne (Chloe's Dad).

WAM overhead Awatere Valley. Ross Milne photo.

Chloe and Tony at Milford Sound. Ross Milne photo.

Ryan's Creek on Stewart Island was one of two airstrips Chloe really wanted to land at. Permission to land was granted and with a one knot wind, conditions were perfect. As the team joined overhead Ryan's Creek, the pre-organised shuttle had already arrived to take them to Oban for lunch.

Given such a perfect day they circumnavigated the island going right down to the amazing Smith's Lookout and of course beyond South West Cape, the most southerly point. They refuelled at Gore, where it got seriously hot, and continued on to Mandeville for a relaxed hot chocolate in the sun.

As they touched down in picturesque Te Anau, Fiordland Aero Club President Murray Hagen, later known more affectionately as Muza, was already hurtling down the road to pick up the team and escort them to their motel. Muza, the second person in New Zealand to fly a Microlight, became a legend to the team by, among other things, lending them his car to get back to the airstrip the next day.

After a good night's sleep and the compulsory briefing it was onto Milford Sound – a major highlight and flying challenge. On short finals without the option of a go- around, and with the notoriously fickle winds and significant sink, it was full concentration until Chloe, with input from Tony, had WAM on the ground. Chloe was amazed at the scale and grandeur of Milford, to which photos couldn't do justice.

Just as the team approached Mount Aspiring cruising at 9,000 feet the alternator fault reappeared and forced MLC to fly direct to Wanaka but WAM took in the full beauty of the summit before catching up on the ground with MLC and their new friend Wayne Allanson from U-Fly Wanaka. With Wayne's help MLC was fixed, leaving the team to relax in Wanaka for New Year's Eve.

A new day and a new year saw them fly at 11,000 feet around Mount Cook and over the crystal blue Godley Lakes and then back to land at Glentanner for fish and chips, while watching the helicopters ferry tourists to the glacier. And then what better way to spend New Year's afternoon than at the Kahu Café in Omarama, with its organic fizzy drinks and fabulous pancakes, watching the gliders return to base in a very stiff afternoon easterly.

Despite much of the North Island being deluged in rain, the first hint of bad weather for the team came on 2nd January forcing a pause in Ashburton before finding a gap in the weather sufficient to fly on to Rangiora. MLC was swapped for DYN to allow MLC to get new brakes fitted and with clearing showers the next day it was off to Woodbourne for cherries.

Upon arrival in Nelson, Chloe was delighted to receive a handmade spitfire badge from Martin at The Nelson Mail. When Chloe took friends for a round trip to Adele Island, Waikato Aero Club staff watching Spidertracks assumed that bad weather had turned them back.

With the weather clearing and Tony back on board they flew up to French Pass, over the Marlborough Sounds and across Cook Strait, then through Ohakea controlled air space to Whanganui and New Plymouth. In fading light and with the odd shower to negotiate, they eventually arrived at Hamilton for a rest day.

There were only four airstrips to go. At this point they were joined by Geoff Andrew, a TV One news camera man With his three cameras including a go-pro, the team felt more like celebrities than adventurers for the final leg .

First stop was Dargaville for morning tea (did you know the Dargaville Aero Club gives free instruction for flying lessons there!?). Reaching Cape Reinga and North Cape's Surville Cliffs (the northern most point) was a milestone. They had now flown around mainland New Zealand's northern and southern most points and DYN radioed across their congratulations.

Then it was a birthday hug at the most northern public airfield, Kaitaia, the team again receiving true northern hospitality.

As Chloe's Dad had inspired her to fly it was fitting that Rockhaven, at the family home, was to be the 21st landing. It's a tricky airstrip with hills and trees to navigate and only 520 metres long, so cameraman Geoff, and luggage, were off-loaded in Hamilton, thus lightening the load and giving Geoff a chance to get the camera set up on site to record the moment of touchdown. On the first attempt Chloe made a go-around (the first go-around of the trip). The second attempt resulted in a perfect landing.

For Chloe it was an amazing adventure made possible by the inclusion of Tony and support from the Waikato Aero Club. She had wanted to inspire others to do something a little different for their 21st and Facebook messages suggest that she may just have achieved that.

The final 21 airstrips that Chloe landed at, in order, were Paraparaumu, Christchurch International Airport, Timaru, Invercargill, Ryan's Creek Stewart Island, Gore, Mandeville, Te Anau, Milford Sound, Glentanner, Omarama, Ashburton, Rangiora, Woodbourne, Nelson, Whanganui, New Plymouth, Dargaville, Kaitaia, Whangarei and Rockhaven - the home farm airstrip.

Guimbal Cabri G2 - Flight Test

IN OUR August issue of KiwiFlyer we profiled the new Guimbal Cabri G2 which was then due to arrive for NZ Distributors, Pacific Aircraft Sales in September. Two aircraft were imported, one for the first Australasian customer in Christchurch and the other as a demonstrator and for use by sister company Pacific Helicopter Training. In December, your KiwiFlyer Editor visited Pacific Helicopter Training for a test flight and in the course of a very enjoyable summer's day in Canterbury hosted by Director (and A-Cat Instructor) Terry Murdoch and Instructor Chris Hollands, also obtained a rating in the aircraft.


Cabri G2 in the Waimakariri River. There are good reasons for it looking like a small Eurocopter.

First impressions

It's difficult to approach the Cabri without some pre-conceptions, though with the aircraft still relatively new to the market (these are serial numbers 24 and 25), there isn't a great deal of informed commentary available to review in advance. The company's marketing speaks of technology and safety but how much of this would be specifications on paper and how much would come through in the feel of the aircraft and what it is like to fly? Those who choose to be critical speak of price, though inevitably this is without ever having seen or flown one. Competing aircraft are obviously the Robinson R22 and Sikorsky (was Schweizer, was Hughes) 300. So the expectation was for a modernised cross between a 300 and a 22, priced at the top end of the two seat helicopter market. What you get for your money though, is actually a lot more than you might expect. The Cabri has all the essence of a small Eurocopter built to the very latest standards, perhaps creating a new market all of its own. It's not necessarily an aircraft that is directly comparable to either the 22 or the 300 at all.

Walking up to the Cabri, you'll first notice that it is genuinely attractive and that the rotors seem low (about 13 inches less than an R22). Walking around it you'll notice that it is exceptionally nicely built and that there has been a great amount of effort put towards attention to detail. The impression is akin to that you get from closely examining a European car, versus something from well, another country. Everything looks exactly right, both from an aesthetic and an engineering point of view.

An introduction to the Cabri

We started with a guided tour of the Cabri's features by Terry. The composite rotor blades (which are not symmetrical in profile) look like they could have come straight out of the Eurocopter factory, so it's not surprising to be told they are manufactured with Eurocopter processes including their patented bonding methods for the stainless steel leading edge caps.

The Spheriflex rotor head is equivalent to those on the EC120 and Super Puma which again is not surprising given that patents for the design are held by Bruno Guimbal and Eurocopter. (Guimbal has worked both for and with Eurocopter for over 20 years and received technology development contracts from them that directly supported the Cabri project itself). Blade attachment 'forks' are integrated into the blades. The system is exceptionally strong, proven when Guimbal manufactured a blade with all possible defects then deliberately impacted it until there was a large divot at the root. They then fatigue tested it for months before inspecting it for integrity – and it was fine. They also failed a main hub and then demonstrated 200 hours of safe flight. The main rotor driveshaft is milled from a billet of stainless steel, and Terry explains that there are no cast parts anywhere on the Cabri as Guimbal was not satisfied with the ability to control quality in a casting process.

Behind hinged cowls on either side (held open by pneumatic struts) is the venerable Lycoming O-360 engine (derated from 180 to 145hp). It's a stark contrast to the modern technology employed everywhere else by Guimbal, though the electrical system does exchange the magneto for an electronic ignition unit on one side. Access is delightfully easy without any bending required and the oil filler is right there in front of you and free of obstructions – which is just one example of how all the little niggles that R22 or S-300 pilots are familiar with have been addressed. The cowls are latched and include a safety lock that permits safe flight if the latches have not been closed properly. Also worthy of note are the engine baffles which can be removed in half an hour if maintenance happens to be required, which is quite a contrast to Robinson's arrangement.


The two NZ Cabris outside Pacific Aircraft Sales' hangar at Christchurch.

Spheriflex rotor head. Note the blade attachment forks integrated into the composite blades.


Engine access is very easy. Note the unobstructed oil filler and 4 into 1 inconel exhaust system.

Also in contrast to Robinson and Sikorsky, the engine pivots to engage the clutch and the main gear box takes the belt tension, leaving the drive train in permanent alignment.

The fuel bladder (designed to F1 safety standards) has a capacity of 170l for up to a 5 hour endurance.

A 4 into 1 free-flow tuned exhaust made of inconel (commonly used in gas turbine blades and in formula one exhaust systems) exits through the top of the tailboom to help reduce the aircraft's noise signature which is already very low thanks to the Fenestron tail rotor.

Which brings us to the tail. Guimbal shares the patent for the Fenestron system with Eurocopter, Guimbal holding rights for use on aircraft below 1200kg and Eurocopter for heavier aircraft. The Cabri's system utilises low cost fail-safe injected plastic blades with high tensile stainless steel spars. There are no life limits on the blades and flight has been demonstrated with one blade deliberately broken in half along its chord. Of course the shrouding of the tail rotor also provides for significant bystander safety and greatly reduces the risk of tail rotor strikes in confined areas or during mis-judged approaches and landings. The shape profile of the shroud has also been designed to avoid tail rotor vortex issues.

A rubber mounted undercarriage pivots like the EC120, intended in part to reduce the likelihood of ground resonance. As well, these two NZ aircraft are the first Cabris to be set up for hook attachment.

The doors which are held open by pneumatic struts, have positive and elegant latches and are dual pinned to ensure flush closing and a good seal. Locking is by a remote key. Access is easy and there is plenty of headroom for tall pilots wearing helmets. Wide people are easily accommodated too, with the cabin having plenty of shoulder room (6" wider than an R22). Seats are comfortable and there are 4-point shoulder harnesses that are easily latched in one operation. Of particular note is that the seats have substantial crash protection, such that a 2000fpm vertical impact is deemed to be survivable. Guimbal estimates that half of helicopter crash fatalities could be prevented by the crash protection features built into the Cabri. Needless to say it meets the very latest EASA safety standards.

Something else to delight R22 and S-300 pilots is the 200 litre boot (with a 40kg capacity), accessible from a panel on the right side of the fuselage and also from inside the aircraft, meaning that a camera or AIP, etc. can easily be stowed and accessed in flight. There is also a small compartment in front of the instrument console for storage of dual controls.

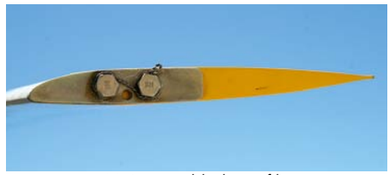
There is a normal suite of standard instruments, except for RPM and engine monitoring which are all cared for by the Electronic Pilot Monitor (EPM). This is a digital display panel that most interestingly also includes a Multiple Limit Indicator which combines several critical performance indicators (engine speed and power setting, fuel flow, oil temperature and ambient air pressure) into one instrument for the pilot to monitor. Automatic calculations drive a dual indicator to show how much throttle is remaining and how much more power (in %) is available at any time. A read out of % of throttle turned on start-up is given, helping to reduce the likelihood of an over-speed on start. And the EPM also displays fuel and flight time remaining as well as carburettor temperature (which is monitored and controlled automatically). It is also a flight logger. Should the EPM fail, there is an independent backup system for rotor rpm management which consists of 3 lights to show low, normal and high speeds.

The controls are all nicely engineered and fall to hand as you would expect. A trim hat is incorporated on the cyclic. Mixture and magneto switches are located in an overhead console. Pilot side pedals have an elegant two position adjustment available. There's also a cup or i-pod holder, an auxiliary music input and a 12V accessory outlet.

Pre-Flight

There's nothing especially unusual or difficult about the pre-flight, though you will need a torch if you want to check the


What looks right, often is, and the Cabri does.


Main rotor blade profile.

The Electronic Pilot Monitor with automatic display of power available and throttle position, plus fuel burn and flight time remaining.

Bruno Guimbal shares the Fenestron tail design patents with Eurocopter.

main rotor gearbox oil level. A LED such as on the R66 wouldn't be a bad thing here, but if the oil wasn't in the gearbox, you would probably see it everywhere else anyway. Fenestron blade pitch range and alignment is easily checked according to markings on the tail shroud.

Start-up

Start-up is a straight forward process. So straight forward in fact that if you begin with a warm engine, you can have the clutch fully engaged and be off the ground in 15 seconds. There are the normal checks for mags, carb heat, clutch, and rotor horn, plus observation that the backup rotor rpm warning lights operate correctly, then gauges green, caution lights off, power limit checks (displayed automatically on the MLI), and ready for take-off on what is a hot clear day in Christchurch with a about 15kts of wind on the ground.

Take-off and demonstrations

Having completed the start-up and checks together, Terry talks me through the take-off. With a few hundred hours in helicopters with rotors that turn anti-clockwise and about one in a Squirrel, I'm very conscious I'd better be adding right pedal with power and not left (the Cabri rotors turn clockwise). The technique in the Cabri seems to be to add in the amount of pedal you might expect, and then a good inch more. We hover in relative control as I adjust to the new aircraft for the first time and Terry arranges clearance for departure. There does seem to be a substantial pedals offset required (that said the Cabri tail has full authority in 35kts for all directions at sea level), and I'm not used to hovering right foot down but it all comes together soon enough and with clearance received, we're off and headed in the direction of the local low flying area. Naturally I'm being cautious and conservative but it all seems pretty effortless so far.

Having descended to the river for some fun (i.e. low flying demonstrations), Terry takes over to show how "it will do just about anything you ask it to". And it does. The Cabri is marvellously agile and a very great deal of fun to fly. You can flick it from one very steep bank to the other with no effort at all, climb and push over the top if you want to, and generally have a ball without feeling at all like you are approaching any limits of the aircraft. When I take the controls back and try a range of less docile manoeuvres, the impression is very much that you can point this helicopter wherever you want it to go, and if you happen to be not all that coordinated about it, doesn't matter - the Cabri feels very (almost disconcertingly) forgiving. I'm used to flying R22s and S-300s with a degree of respect for the limitations of the aircraft and this is different in a way that is difficult to describe. It feels very robust and very friendly, and not remotely like it's just waiting for an opportunity to get the better of you, which is probably how I expected my first hour in it to be. Terry was right when he said "you'll be confident enough to fly it home (to Ardmore) in less than an hour".

Fenestron control is by cable.

6 inches wider than an R22.

200 litres of luggage space accessible from the cockpit.

4 point harnesses connect with one easy click.

Being able to look outside past your feet was certainly nice, something you can't do in the R22 or S-300. Something you can do in both of those aircraft though, is open a decent vent to let some air in. This is noticeably lacking in the Cabri except for a small vent in the door that doesn't work especially well and it can get very hot inside if you're in the sun without much airspeed. This is an acknowledged problem and one that will no doubt be rectified soon (Guimbal have already supplied a door latch mechanism that allows the Cabri to be flown with doors ajar). And in the meantime, air conditioning is a purchase option.

The other possible niggle is a vibration that is predominantly prevalent on the pilot side of the aircraft at around the 85kt mark. Time will tell if this diminishes once various systems wear themselves in, as HCS only had 50 hours on it when we flew. Terry pointed the vibration out to me in the first place and it is easy enough (at least for R22 or S-300 pilots) to forget about if you stop thinking of it. And it might be fair to say it is more noticeable because the prior part of the flight envelope was so smooth.

The rating

What better excuse to fly for a couple of hours than to get a rating. So that's what we did (thanks Terry).

Following our low level exercises in the river and that realisation of just how agile and forgiving the Cabri appears to be, we headed to nearby paddocks for some out of wind slope landings. I picked a spot and landed only to discover that the slope didn't seem so much at all until Terry pointed out that the Cabri pivots on the rubber mounted undercarriage so that the cabin wasn't leaning to the same degree as the skids.

Straight in and 180 degree autorotations to a power recovery required initial concentration as to which pedal was required, but were easy to execute without any drama. You do need to be quick with the yaw control on recovery though as the Cabri governor tends to snap the throttle open with a good deal of aggression – certainly more than the R22 version does. We only had a light fuel load but the high inertia rotors and wide rotor rpm range (yellow extends from 450 to over 600rpm) meant that there were no particular requirements for careful pitch adjustments to manage the rpm throughout the descent or flare.

After some quick-stops and running take-offs/landings Terry suggested we try hover engine off landings to which I agreed with a slight degree of discomfort – they've never been my favourite exercise. That said, they turned into a non-event requiring no more than correcting the yaw, letting it settle, and then adding collective to cushion the landing. Admittedly we had some breeze in our favour but there seemed to be no chance of running out of collective to pull and it was very easy to hold the Cabri just off the ground before a gentle touchdown.

We returned to the airport for lunch, then in the afternoon and now with 20+ kts of wind, we headed out again with the Cabri and an R22 for some more

flying and our photo shoot. Chris Hollands and I flew the Cabri and once at the river I got into the 22 with Terry to take pictures. It was a good contrast to experience and I still really do like the R22 a great deal, but it felt smaller, older and more vulnerable to be in, by a fair margin.

Photos taken, Chris and I flew back in the Cabri again, after a low level play and some confined area approaches. From one, Chris demonstrated a vertical climbout at 2000fpm to 1000 feet, then with the fuel countdown on the EPM showing 30 minutes remaining, we headed back to the airport.

Drawing Comparisons

If you took all the desirable characteristics of the R22 and S-300, eliminated the niggles, and then added latest technology and safety measures as well as the look and feel of a Eurocopter, then the Cabri is the result. It sits somewhere between the two in terms of size and useful load, has the spacious cabin of the 300, and exceeds the cruise performance and Vne of the 22.

Using claimed empty weight figures, the 22 offers a 519lb useable load and the Cabri 597lbs, meaning you can carry a good deal more fuel with you in the Cabri than the short hops that a 22 allows for with two average people on board. The 22 however, wins the competition for IGE hover performance. With that 519lb on board, the 22 offers 9400 feet and the Cabri offers 6000 feet at ISA. At 20 degrees C, the 22 is down to 8000 and the Cabri to 5000 feet.

Of course the Cabri wins massively in any comparison for technology and safety features, though these do come at a cost. The Cabri is priced about US$100k higher than an R22 putting it at about the NZ$500k mark and pretty much on par with an R44 Raven I which of course has 4 seats and a faster cruise speed. However, Robinson helicopters require full overhauls at a very substantial cost every 2200 hours and the Cabri does not.

The Cabri in fact has no fatigue life limited components, with all components including blades and flight controls being maintained on condition. The engine and two gearboxes have 2200hr TBO lives specified and the fuel bladder has a 15 year finite life limit. Whilst that isn't to suggest the Cabri is likely to be maintenance free, it does also mean that there is no '12 yearly' full strip and inspection required as with Robinsons which also means that there should be negligable devaluation of the aircraft taking place as time passes, regardless of whether it is used or not. This has to be a huge advantage for private owners who aren't likely to fly according to the Robinson formula of 2200hours every 12 years, diligently saving $90+ an hour to fund the pending overhaul. The disadvantage though is that there will never be 'cheap' Cabris on the market such as there are for entry level R22 owners buying nearly timed out machines.

Further to the R44 price comparison, if you don't really need the extra two seats then you probably don't want the extra fuel burn and hourly cost that the bigger aircraft requires.

It all adds up to make direct comparisons difficult to construct in a meaningful way unless they are very application specific. It's fair to say that the Cabri isn't likely to be produced in Robinson volumes but this is not Guimbal's intention. Their present output is in the order of two aircraft per month with a plan to grow that to four or five per month over the next two years.

For owners who are willing to spend more to get more, who place fair value on the technology and safety that the Cabri offers, and who want to avoid a traditional maintenance cost regime, the Cabri is likely to find a new market niche all of its own.

Other Opinions

Terry gave us a list of some of the people who have flown the Cabri in New Zealand and we spoke to a few of them as well as David Cooney, who is the first Australasian purchaser. We asked each person to describe their experience in, and opinion of the aircraft and made the following notes about what they said.

Regan Graham:

Regan is a utility pilot with HeliPro and has amassed near to 6000 hours over 17 years of flying. He is rated on 12 different types from the R22 to Dauphin.

He describes the Cabri as a blend of the 300's stability and R22's speed, with a modern feel. Regan's first comment was that "it just seemed to want to fly". He says that it was very smooth and stable and that he liked the wide rpm range and ability to recover from low rpm quite easily. Regan says he thinks the aircraft is very well thought out and that it answers the need for a desirable cross between the 300 and 22. From a training point of view he says that "you could send students solo with a lot of confidence", and he thinks that the Cabri is a fantastic private owners machine, particularly in regards to safety, speed and endurance. Regan says that the controls felt very like a H500 or BK-117, that the aircraft was "very responsive" and that "wherever you point it, it goes". He says it was very stable on slope landings and that he was having a great time in it after just half an hour at the controls.

Bottom left: Toby Wallis took the Cabri into the mountains west of Christchurch.
Bottom right: New Zealand's first Cabri owner, David Cooney with his family.

David Cooney:

David Cooney is a PPL holder with about 200 hours in his logbook. He owned an R22 before signing up to buy one of the first two Cabri's imported into New Zealand. David says that there were several reasons behind his purchase. The first was to do with safety. He says he still thinks the R22 is a magnificent aircraft, but was always very conscious of his inexperience and (lack of) currency, and wondered whether, if he got behind the aircraft, he would be able to safely recover from that. He feels better that the margins for error and recovery are much wider in the Cabri than they were in his 22 and he says that in a world where cash in the bank isn't earning much, the decision to spend the extra money wasn't too difficult. David says that he takes his two and a half year old flying and feels very comfortable. He also liked the maintenance regime of the Cabri and as a private R22 owner flying a small number of hours, says he could 'feel' the calendar time ticking away on his 22 every time he walked past it in the hangar. David says that the adults he has taken for a ride in the Cabri have all been very at ease whereas he used to get comments from some about the apparent smallness and perceived fragility of his R22.

We asked David why he didn't buy an R44 Raven I instead. He says that he was happy to trade the extra two seats for the features and operating economy of the Cabri, pointing to research and his own experience of just how infrequently those extra two seats are used. He says that 25% of the time, it would be just him and his wife going somewhere, 25% of the time he might be taking friends for ride – and they can go one at a time – and 50% of the time it would be just him in the aircraft, flying for the fun of it. And on the rare occasion that he did need the extra seats, he was better off to hire a 44 than to operate one all the time himself.

It's hard to argue against any of those sentiments and we at KiwiFlyer congratulate David on his purchase.

Hon David Carter:

While in Christchurch we spoke to the Hon David Carter who is an R44 owner. He flew a Cabri for an hour and loved it, saying that it was akin to "driving a sports car instead of a sedan", being "quick and easy to fly, and entirely different to his R44; more responsive and nimble".

Toby Wallis:

Toby Wallis owns and operates Alpine Helicopters in Wanaka, a company needing no introduction in New Zealand, having been started by Toby's father Sir Tim Wallis in 1972 and now specialising in commercial and recreational charter work. Toby has more than 11 years of experience in a range of aircraft including R22, H500, and AS350 and holds both fixed wing and helicopter commercial pilot licences.

Toby flew the Cabri up the Waimakariri River into the mountains west of Christchurch, so gained some experience in rougher conditions at altitudes above 5000 feet. He says he was very impressed with the Cabri's stability, noting that "it felt like a very solid machine to fly" that he would "take it anywhere he would take the 500", that "the manoeuvrability was fantastic", and that "wind and turbulence just weren't a problem". He says that with a passenger outside and "leaning way out on the skid, you could trim it and take your hand off the cyclic". He was also particularly impressed with its rpm range and low rpm performance, and mentions an exercise he and Chris performed in a full throttle out of ground effect hover at altitude, whereby as they deliberately reduced rpm from 530 towards 510, the Cabri actually climbed. He says the Cabri can easily be recovered from a low rpm situation and that its operating margins allow plenty of time to do so at low risk, a trait that is ideal for low time pilots.

Toby mentions that the cabin easily accommodates two 100kg, 6 foot plus occupants and says that the Cabri should be ideal for taking the abuse of commercial work, being robust and having an "over engineered" appearance where it matters. It is his intention to replace the R22 used on their Station with a Cabri once the 22's hours are run down further, saying that the "extras offered (by the Cabri) are worth every cent". He's also looking forward to seeing what it can carry on a hook.

Toby also mentioned the points we have raised regarding poor cabin ventilation, pilot side vibrations above 80 kts and the slightly unfamiliar feel (for some) of pedals attached to a Fenestron tail, as well as a concern for low time pilots who don't have any experience of clockwise turning rotors having to retrain their feet. In the same sentence though, he says that these negatives don't even come close to matching all the positives that the aircraft offers, especially for training. In his opinion, "even with the bit of extra cost there might be when you're learning to fly, choosing the Cabri should be a no-brainer".

He pointed out that all the technologies used have already been proven on other aircraft and said that having flown the aircraft at altitude, he thinks that the Cabri performance charts are "simply being honest". Toby was also impressed by the glass cockpit and said how good it was to be flying at altitude and to know exactly what percentage of throttle was in use and how much power was still available.

Our Conclusion

If you're in the market for a new two seat helicopter or even a four seat helicopter but you know you'll hardly ever use the extra two seats, go and try the Cabri. It's sure to be more than you expect. It is more expensive to acquire, but there's a lot more to helicopter operation than just the initial purchase price. And the safety and technology features aren't just specifications on paper, you feel and experience them when you're flying. We hope to see more on the New Zealand register soon.

For more information

To find out more about the Cabri or to arrange a demonstration flight, or for enquiries regarding training in a Cabri, contact Terry Murdoch at Pacific Aircraft Sales in Christchurch.
Phone 03 359 6891 or 027 433 2647,
email: terry@pacificaircraft.co.nz or visit **www.cabri.co.nz**

Aviation Interiors Profile

THERE are a lot of proud aircraft owners in New Zealand who want the very best for their pride and joy while at the same time keeping costs well under control. Whenever upholstery work is required, Shayne and Kim Forkert at Aviation Interiors offer a good deal more than traditional repair and re-trimming services.

Shayne and Kim head up a small team operating from modern premises in Frankton, near to Hamilton Airport and Te Kowhai. Shayne has 25 years of experience in the upholstery industry and as well as aircraft, he specialises in boats, vintage and classic cars. He is very used to dealing with owners who love their vehicle, want to be involved in the detail and want the very best outcome for their pride and joy. Kim is a trained Interior Designer and in her career has specialised in luxury boats and executive homes.

Shayne and Kim Forkert from Aviation Interiors

Some of Kim's clients own aircraft and it was requests from a few of these clients to undertake work on their personal aircraft that led Shayne and Kim to establish Aviation Interiors a few years ago.

During that time, the couple have developed strong working relationships with local aircraft engineers and others around the country. They are often called on to turn around repair jobs very quickly, something which is not a problem and all part of the service that is on offer. Shayne says they are happy to work directly with aircraft owners or their engineers and can arrange removal or transport of aircraft components as required. They can also easily arrange engineering services if required as part of other interior refurbishment work.

Aviation Interiors breadth of service is wide. Starting with advice on interior (and exterior) colour schemes, they can assist with all aspects of upholstery and upholstery detailing including seats, carpets, panel linings, exterior covers, propeller covers, and more. They have comprehensive access to material suppliers and all work is undertaken to CAA regulations. A number of template sets are held, notably for Robinson R22 and R44 interiors which can be manufactured and despatched anywhere.

Their partnership gives aircraft owners the opportunity to work directly with an interior designer and the master upholsterer together in modern premises, with Kim and Shayne's aim being to offer "the perfect job at no additional cost". Whether the project involves a new interior for a proudly built microlight, repairs to a working helicopter or refurbishment of a corporate jet, Kim and Shayne are happy to help. For everything from small repairs, to complete interior design and installations (perhaps to match a new paint scheme or to include corporate colours), give them a call on (07) 847 8049 or e: info@aviationinteriors.co.nz

Flying with all 5 senses

Contributed by Jill McCaw

A WRITER friend of mine challenged me to write about a glider flight using all five of my senses, with descriptions good and bad. I've accepted the challenge and I hope that some of what I mention won't put you off the idea of trying gliding. Some of the good aspects may in fact hopefully tempt you to try it out.

We'll start before the flight. It was hot on the ground, very hot. Wrapped in my hospital grade adult nappy, I was even more uncomfortable than usual. (That's one of those details that don't usually get mentioned.) I didn't actually use the thing but knowing I had it gave me the freedom to enjoy a long flight without worrying about in-flight lack of bathrooms. It's important to stay hydrated and that fluid has to go somewhere.

I wrestled with my parachute and settled into the cockpit of the single Astir glider getting even more hot and bothered. My water bottle went under my left armpit while apple and muesli bar, cell phone and map fitted into the pockets beside me. It's quite a job getting everything fitted in where you can reach it and where it can't move and get in the way of the controls. A jacket, in case of landouts got shoved into the fuselage behind my head. The glider smelt of someone's forgotten salami sandwich that I discovered in the pocket. I smelt of sunscreen.

I always have a feeling of anticipation as I run through my checks and wait for the towplane. The sky was showing signs of wave clouds, that magical elevator that can lift gliders high into the sky. I had oxygen ready and was hoping I would need it, the mask sitting just behind my shoulder where I could get at it. Getting into wave was my goal for the flight.

The ground roll briefly bounces the glider before we lift off and I hold the glider down waiting for the tow plane to get off the ground too. I settle into the tow but a buzzing noise gives me a jolt. I'm only worried for a moment before I realise it's caused by a loose end of a piece of tape used to seal the wings. I wish I'd noticed it before take-off but it was too late now. The sound faded from my consciousness once I realised it was not a threat.

At 2,000 feet AGL I pull the release knob. It gives a satisfying clunk and I turn to follow the ridge line and the air rising up it.

There are plenty of sounds to hear in a glider. There is the radio to start with, often with a lot of chatter and "Ops Normal" from other pilots. I change to 133.55 and ask those nearby where they're finding the wave. The airframe can creak and groan and the air rushing past gets louder and changes pitch with speed. With practice, listening to the air gives the pilot a fair indication of how fast they are going without looking at their instruments. We use a variometer to indicate if the glider is in rising or falling air. It comes with sound, the beep beep becoming shriller and faster for rising air and slower (and depressingly) deeper for falling air. Flying with your head out of the cockpit is important after all and glider pilots need to find the rising air. There is another sense that's involved in finding lift. It's a feeling of pressure on the seat of your pants. I can feel a thermal before the instruments register it and I'm not a particularly skilled pilot.

On this flight I climb in the ridge lift until I'm high enough to attempt to push forward into wave. The air pressure decreases and my ears pop. There's another side effect of that pressure drop and even though I'm trying to describe this flight using all my senses, I'll leave you to imagine how that might smell. Some pilots suffer more from this gas expansion than others.

After a bit of struggle and probably a lot of luck I'm at 12,000 feet, oxygen mask clamped tight to my face and all I can smell now is rubber. The oxygen is dry and my mouth is already dry and tacky but I don't mind - I feel very happy. A lenticular rises above me. The cloud is massive and looks solid, reaching high into the stratosphere. Lake Ohau shrinks below me like I'm in an elevator. How high can I go? It's cold up here and going to get colder, but I'm flying in the sun and it's fine for now. There are some small cracks on the canopy catching the light. My yaw string is straight and my speed is steady, around 70 knots. I'm going up well and not getting pushed back into that huge cloud. My parachute harness is cutting into my thighs but I'm otherwise comfortable, my body cradled in the seat. I'm exhilarated - this is so much fun.

Above: Lake Pukaki from 15,000 feet. Below: Brakes out to descend.

I'm suddenly concerned. Am I too happy? I check my oxygen system. Yes, it's all working fine. I'm just happy for the right reasons. I got into wave, on my own.

15,000 feet is high enough for me. It's the highest I've ever been alone. After half an hour of soaking in the view: mountains, lakes and clear air from coast to coast; I point my nose for home. I need to open my airbrakes to come down and the change in temperature is welcome as I descend. I hadn't realised just how cold I had been.

Pulling my speed back to 50 knots for landing is quite difficult. I check the wind sock and surprisingly there is hardly any wind on the ground. I change the radio back to 119.10 for my downwind call, run through my checks and settle myself down as I get my circuit sorted. There's a glider landing ahead of me so I call number two and that I'll go long. Omarama is a huge airfield and there is plenty of room. I change my aiming point, turn finals and close my brakes slightly to float over the landing glider, open them again, check my speed, watch my angle, more brake, ease off on the brake… hold and… flare. My wheel touches; I hold the wings steady, pull back fully on the brake to engage the wheel brake while taxing to the side of the strip. The glider slows, the wing finally drops and we stop.

I sit for a moment, just enjoying the feeling of a successful flight. Then I pop the canopy, undo my straps, turn off the master and climb out. Back to the real world. Where did I leave my car?

I'm Jill McCaw and I'm editor and publisher of SoaringNZ, the official journal of Gliding NZ. For subscriptions and details on your local gliding club see the GNZ website **www.gliding.co.nz**

Exploring the Autogyro Register

THE NEW Zealand aircraft register is a mixed bag when it comes to autogyros. More recently, owners are registering them in the Gyroplane category, whereas historically they were designated as either Class 1 (single seat) or Class 2 (two seat) Microlights. This means there are a few more around than many expect, especially if they see the Gyroplane category and assume that is where they all sit.

For the purpose of statistics, combining all Class 1 and 2 Microlights with Gyroplanes on the register yields about 1040 aircraft. How many people would have guessed that 1 in every 13 of these is an autogyro? There are 80 on the register now, ranging from the most basic 1970's era homebuilt that might make 45kts and 200fpm on a good day, to the latest composite, fully enclosed, fully instrumented 100kt tourer costing the thick end of $200k. There's a good deal more stored in sheds around the country too. So it's not the fringe sport of slightly eccentric aviators that it once was (some of us will just have to find a new hobby). What happened?

In the 1950s and 60s 'gyrocopters' were popularised by Igor Bensen's kitset designs and do-it-yourself learn to fly manuals. The NZ Rotorcraft Association was formed in 1960 and there are in fact still 7 Bensen gyros on the NZ register today.

For the next 20 years, most all the gyros available in NZ were built from plans or basic kitsets, or indeed by copying someone elses and probably adding 'improvements' along the way. There's at least 20 on the register that still fall into this category. There are plan or kit built examples such as the Wasp Air Buggy (3), or Air Command Commander (2) and others are pure homebuilts, often named after their proud creator, for example the Rex Telfer Rex-1 or the Bruce Naish Gyro 1 place.

Top: Magni M16. Centre: Dominator. Bottom: Autogyro Europe Calidus

The only commercially produced gyro during this time was the McCulloch J-2 which offered a limited jump take off capability using the equivalent of a Hughes 300 rotor head. There is one on the NZ register, located at New Plymouth.

In the early 90s, a radical new design appeared on the scene. This was the Rotor Flight Dynamics Dominator. Initially ridiculed for its gangly looks and strange tall tail, this gyro was in fact designed with principles of flight foremost in mind, something that had not been well attended to by most other manufacturers of the time. The Dominator is a dynamically stable rotorcraft and over time has amassed a devoted group of followers who think it looks very beautiful (declaration of interest, the KiwiFlyer Editor owns one). Indeed it still 'dominates' the NZ register, albeit by a small margin. There are 9 two seaters and 4 single seat Dominators listed. Dominator gyro parts are made under licence in NZ by Autoflight at Hamilton.

The other popular design of the 90s was the RAF2000. These are a fully enclosed design and were available almost ready to fly away thanks to NZ Distributor Rob Sanders who was based in Tauranga. There are 7 RAF2000 gyros still on the register. Rob designed the original RAF2000 horizontal stabiliser during his time with the aircraft, a significant safety modification that greatly improved the stability of the design.

Wholly designed and produced in New Zealand is the UFO Helithruster, of which there are presently 3 on the register and the Aero Sport Kahu (1).

In the last 5 years, gyro development and accessibility has improved dramatically with several manufacturers around the world taking advantage of a surge in popularity for the aircraft. Many of these 'new' designs are derived to a degree from the Italian Magni Gyro, of which we have 3 on our register.

Gyrate at Tauranga are the NZ distributors for Autogyro Europe who offer MTO-3 Eagle, Calidus and Cavalon models. There are 6 MTO-3s, 2 Calidus' and there is a Cavalon on the way to NZ presently. Gyrate have also brought in 3 Xenon two seat side by side gyros as well as a variety of second hand machines over the last few years.

We also have two Italian Brako gyros on the register, also available new from local distributors.

There are still the same opportunities to build your own if you want to, but the great majority of new registrations are for fly-away models, almost always two seat, and usually capable of cross country touring at 90+ kts. Gyros have become much more acceptable to the masses, are regularly demonstrated at airshows around the country and last year participated in the Around New Zealand Air Safari, earning the respect of many other participants in the process.

If you would like to get involved in this very enjoyable and growing sport, contact any of the advertisers listed.

Clinton Kraidy's MIG25

Contributed by Janice Angus

THOSE WHO attended the Pearl Harbour commemoration day at Ardmore recently were treated to an impressive flying display by Clinton Kraidy with his large MIG 25 Foxbat.

A well-executed model flight is great to watch. With Clinton flying his MIG25 it is more impressive when you consider that this 19 year old actually designed and built the massive 2.8m wingspan twin jet turbine model himself!

Clinton has been flying radio controlled models for about 9 years. As a 10 year old, he started flying basic 2 channel gliders from Mt Wellington under the tuition of his dad, Daroish. He then graduated to 4 channel powered gliders off Bastion Point. Learning to fly on the old type analogue transmitters, there was no buddy system as a student pilot. Daroish would stand behind Clinton and take over the controls if he got into difficulty. Clinton is now a well accomplished model pilot, flying with confidence and a very high level of skill.

Taxiing at Ardmore.

At Tokoroa. Compare the size to the smaller jets parked behind.

Needing a project for his school NCEA Level 3 Technical class in February 2010, Clinton chose to design and build a large twin turbine model aircraft. A build of this size and type would be daunting for a well experienced modeler but that didn't faze Clinton. Initially the intention was to build a 5m long version but this would prove too big for the engine thrust capacity. Further calculations showed that the 1:5.2m scale version would be more practical and 4m became the chosen length.

There were no plans available for a MIG25 model of this size. Apart from a series of photos, and based around a 1:72 scale static model, the whole project was designed by Clinton from the ground up. The challenge was then to build it to scale as much as possible. This was largely achieved, though due to practical restrictions the landing gear and wing thickness are not to exact scale. However these factors do not detract from the sleek lines of the aircraft. Clinton estimates he spent around 300 hours building the model over a period of 11 months. This included building moulds to form the fibreglass fuselage.

The maiden flight was made at Tokoroa in February 2011 and proved the success of the design and build. The centre of gravity was spot on and minimal trim alteration was required to achieve stable flight. Clinton says he was very pleased with how well it flew as there were no nasty surprises at all. The aircraft is very easy to fly, being responsive on the elevator with aileron rolls quite slow.

Surprisingly for a jet, Clinton stated it actually has the characteristics of a trainer. The landing speed is a respectable 70km per hour. That is not to say it isn't a speedy beast. When the turbines are wound up this jet has been clocked at 220km per hour with its' onboard telemetry system. It is powered by two ATJ 170 turbines, each generating around 17kg of thrust.

Clinton is the only one who has flown the model. Being such a large aircraft, both in size and weight (42Kg) he needed to become certified as the sole pilot to operate this "pilot less aircraft" through the CAA.

The MIG is still a 'work in progress' with the final finishing and detail to be completed. Clinton has thoroughly enjoyed all aspects of the design and build of this aircraft. He relishes the sense of achievement and challenge of putting together such a large model and particularly the power of jet turbine engines. Already, he is looking towards his next big build project, a 4m Arado 234 twin jet turbine bomber. This aircraft was the first operational jet-powered German built bomber but saw only limited service in the closing stages of WW II. Clinton is intending to produce a rugged model that will be suitable for flying at a wide range of model flying sites.

The MIG, being such a large model, is limited to flying at selected model flying sites, with long sealed runways. He regularly travels down to Tokoroa for their jet flying days and Springhill, just out of Wellsford, is another great large jet flying site.

If you get the opportunity to see Clinton flying his MIG 25 Foxbat you will be amazed. The sheer size of the model dwarfs most other jet turbines that are regularly seen on the model flying circuit. The fact it is flown with such expertise and skill by such a young pilot is all the more impressive.

It is great to see such a young man with a passion for the sport of model flying. And as to be expected, he got excellent NCEA marks for the project.

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Contributed by Penny Belworthy

ZK-WBW Falcomposite Furio LN27 RG

WOODY Rouse's Furio is the third Falcomposite Furio kit to be completed in NZ. The Furio is a low wing, two seat, carbonfibre aircraft with a retractable tricycle undercarriage. The prototype ZK-LLG has become a familiar sight here, having first flown in 2008 and was joined

on the register in 2010 by ZK-NJS, Neil Sutherlands number 2 build at Ardmore. I asked Woody what it was about this aircraft that he particularly liked. He said that firstly it looked fantastic, then also that it is very strong (fully aerobatic to +6, -4 G's) and that it is a fast and comfortable cross country aircraft with a cruise speed of 160 – 170kts.

Bill Barber, designer and builder of the Barber Snark, has completed most of the assembly work on Woody's aircraft which should have been inspected and flown by the time this issue prints.

The engine selected for WBW is a 210hp Lycoming with Hartzell constant speed propeller. Woody has gone with a simple but effective white with a 2 tone blue stripe colour scheme that goes well with sleekness of this design. He has a long history with aviation and flying, owning the farm where the Southland Gliding Club was based and piloting their tow planes. Woody is of course greatly looking forward to piloting his new aircraft as soon as the test period is completed.

ZK-CNA Nesmith Cougar

A 20 YEAR project for Rod Davis is nearly finished. All that is needed to be completed are final inspections and paperwork, then his Nesmith Cougar will be ready to fly.

Designed in the 1950s by Robert Nesmith in the USA as a low cost aircraft for homebuilders, Rod's Nesmith Cougar is the only one of its type in Australasia. A two seat side by side high wing monoplane, the type won an EAA design competition in 1963. It was influenced by Steve Wittman's Tailwind, featuring wide short wings (20' 6") and a one-piece steel tube landing gear. The fuselage is welded steel tube covered with dacron fabric and the wings are constructed from spruce with a 1/16th birch ply covering. Rod is using an O235 Lycoming engine with a Brent Thompson wooden propeller.

This is the second aircraft Rod has built, his first being ZK-ROD, a T18 that now lives in Nelson. Rod has over 20 years of Ag flying experience but let his licence lapse in the 1990s. He plans to get it back soon so that he can fly his new aircraft.

ZK-TCH Taylor JT-2 Titch

IT IS great to see that John Best's very smart Taylor Titch flew for the first time recently from Omaka after a lengthy build time. The Titch was designed by John Taylor in the 1960s as a high performance single seater, with the prototype first flying in January 1967. It was named after the test pilot who first flew the Taylor Monoplane, 'Titch' Holmes.

John Best built his Titch mainly from

spruce with a birch ply covering finished with ceconite fabric. The low one piece wing has modified tips to improve the dihedral effect and flaps have been added. He blew the one-piece acrylic canopy himself which he says was a huge learning curve - quite a few practice canopies were discarded before the right shape was achieved. Because this canopy is one-piece, John has a very clever opening device enabling it to open upwards then back behind the pilots head. The engine cowl, wheel spats and wing fairings are all epoxy fibreglass. John has used a Jabiru 2200A 80hp 4 cylinder engine combined with a 60" x 42" wooden propeller.

When we spoke to John, the aircraft had completed just over an hour of flying in the capable hands of a local experienced pilot, Alistair Haigh with everything going well so far.

ARRIVALS - October/November 2011

BRW	Cessna 180	R S And A J Craig Contracting	Balclutha	Aeroplane
CBZ	Cessna 172M	CBC Aviation Ltd	Whitianga	Aeroplane
CCD	Jodel D.150X	Mr C F Kenny	Balclutha	Amat Built Aeroplane
CNA	Nesmith Cougar	Mr R J Davis	Blenheim	Amat Built Aeroplane
CVG	Aviate Raptor 582	Mr R B W Seymour- Wright	North Shore City	Microlight Class 2
ERX	Murphy Rebel	Mr Breetvelt	Auckland	Amat Built Aeroplane
FES	Fokker D.VIII Replica	The Vintage Aviator Limited	Masterton	Aeroplane
FEV	Fokker D.VIII Replica	The Vintage Aviator Limited	Masterton	Aeroplane
HBF	Westland Westland Bell 47G-4A	R M Aviation	Christchurch	Helicopter
HCS	Guimbal Cabri G2	CHL Investments Ltd	Christchurch	Helicopter
HKQ	Bell 206B	Rotor Flite N.Z. Limited	Clevedon	Helicopter
HLA	Robinson R44 II	Kaikoura Helicopters Ltd	Kaikoura	Helicopter
IAS	Robinson R44 II	Skysales Aviation (NZ) Ltd	Christchurch	Helicopter
IDC	Guimbal Cabri G2	Mahi Helicopters Limited	Christchurch	Helicopter
IGB	Robinson R22 Beta	Heli-Ag Enterprises Limited	Tokoroa	Helicopter
IHL	Eurocopter AS 350 B3	Garden City Helicopters Ltd	Christchurch	Helicopter
IJF	McDonnell Douglas 500N	Faram Aviation Group Limited	Hastings	Helicopter
ILS	Robinson R44 II	Skysales Aviation (NZ) Ltd	Christchurch	Helicopter
IPH	Hughes 369D	Te Anau Deer Limited	Te Anau	Helicopter
JAY	Best Off Skyranger Swift	Dr P Brydon	Hamilton	Microlight Class 2
KBO	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Aeroplane
KBR	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Aeroplane
KBS	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Aeroplane
KBT	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Aeroplane
LVE	Rans S-6ES Coyote II	Mr V L Eade	Cheviot	Microlight Class 2
LXY	Alpha R2160	Alpha Aviation Manufacturing Ltd	Cambridge	Aeroplane
MTW	Tecnam P2006T	Middle Earth Flying Schoolltd	Otorohanga	Aeroplane
NII	Classic Aircraft Nieuport N 11	Classic Aircraft Sales Limited	Blenheim	Amat Built Aeroplane
NLD	Micro Aviation Bantam B22UL	Micro Aviation NZ Ltd	Hamilton	Microlight Class 2
OJR	Airbus A320-232	Air New Zealand Ltd	Auckland	Aeroplane
OKP	Boeing 777-319ER	Air New Zealand Ltd	Auckland	Aeroplane
RXY	Alpha R2160	Alpha Aviation Manufacturing Ltd	Cambridge	Aeroplane
TBN	Cessna 172S	CHL Investments Ltd	Christchurch	Aeroplane
TVC	The Vintage Aviator RE8-1	The Vintage Aviator Limited	Masterton	Aeroplane
TVD	The Vintage Aviator Albatros DVa-1	The Vintage Aviator Limited	Masterton	Aeroplane
WBW	Falcomposite Furio LN27 RG	Mr W A Rouse	Queenstown	Amat Built Aeroplane
WES	Aeroprakt A-22	Mr W Ruijne	Manukau	Microlight Class 2
YZM	Butterfly Aircraft Monarch Butterfly	Mr W P Terry	Queenstown	Microlight Class 1
ZOD	Zenith Zenith CH 601- UL	Mr I Sowman	Napier	Microlight Class 2

TRANSFERS - October/November 2011

AYU	Auster J1B	Mr C E Draper	Darfield	Aeroplane
BSU	Cessna 172	Property Shop Ltd	Wellington	Aeroplane
BSW	Taylorcraft BC12-D	Mr J N Atkinson	Nelson	Aeroplane
BTM	Piper PA-18	Air Milford 2000 Ltd	Queenstown	Aeroplane
BTU	Piper PA-18	Mr A O Turner	Christchurch	Aeroplane
BWZ	Cessna 172A	Mr J L Vanderlem	Christchurch	Aeroplane
CKT	Cessna 185D	Aviation Power Supply 1991 Ltd	Papakura	Aeroplane
CVX	Druine Turbulent Ultra Light	Mr A C Reid	Fairlie	Microlight Class 1
CXH	Cessna 150H	Mr B O Muench	Featherston	Aeroplane
DAY	Cessna 172L	St Patricks Farms Limited	Balfour	Aeroplane
DED	Piper PA-28-140	Playne Air Limited	North Shore City	Aeroplane
DEP	Cessna 172K	David W & Margaret R Brown	Takanini	Aeroplane
DIH	Cessna 177B	Mr I D Whitmore	Westland	Aeroplane
DJC	Alpi Aviation Pioneer 200	Mr G S Madsen	Hamilton	Microlight Class 2
DKH	Cessna 172M	Glenn Monk Contracting Limited	Hokitika	Aeroplane
DNA	Cessna 162	Auckland Aero Club (Inc)	Papakura	Aeroplane
DOC	Cessna A185F	Miss T P Wilkins	Balfour	Aeroplane
ECV	Jurca M.J.5 Sirocco	Mr J R Davies	Auckland	Amat Built Aeroplane
EIC	Piper PA-28-140	D E Mitchell Family Trust	Invercargill	Aeroplane
ETS	Cessna A152	Wellington Aero Club (Inc)	Wellington	Aeroplane
EVC	Piper PA-38-112	Marlborough Aero Club (Inc)	Blenheim	Aeroplane
FCQ	Cessna 152	Mr C Mitchell-Anyon	Wanganui	Aeroplane
FCW	Cessna 172H	Sweet As Air Limited	Whitianga	Aeroplane
FMH	Thruster Aircraft Thruster Gemini	Mr A T Sim	Alexandra	Microlight Class 2
FRH	Micro Aviation B22 Bantam	Mr L J Jacobs	Mount Maunganui	Microlight Class 2
FRL	Piper PA-28-161	Mr P A Budd	Manaia	Aeroplane
FSG	CFM Shadow Series B-D	J & C Dale	Papakura	Microlight Class 2
FWA	Sequoia Falco F.8L	Mr W I Thompson	Dunedin	Amat Built Aeroplane
FYA	Cessna O-1G	Spy Valley Trust	Auckland	Aeroplane
GMF	Rolladen-Schneider LS 3-a	Doug McIntyre & James Foreman	Auckland	Glider
HAG	Robinson R66	Outgro Aviation Ltd	Dannevirke	Helicopter
HCO	Robinson R44 II	Air Safaris & Services (NZ) Ltd	Lake Tekapo	Helicopter
HCV	Robinson R44 II	Paramount Trust	Whangarei	Helicopter
HEK	Eurocopter EC 120 B	Helicopter Corporation Ltd	Hamilton	Helicopter
HEK	Eurocopter EC 120 B	Over The Top Ltd	Queenstown	Helicopter
HFE	Bell 206B	Heli A1 Limited	Otorohanga	Helicopter
HGL	Robinson R44	Amuri Helicopters Ltd	Hanmer Springs	Helicopter
HGO	Aerospatiale AS 350BA	Heli-Works Queenstown Helicopters	Queenstown	Helicopter
HHI	Robinson R44	Mr B D Sarginson	Cromwell	Helicopter
HID	Schweizer 269C	Southern Air Services Limited	Pukekohe	Helicopter
HJP	Aerospatiale AS 350BA	Heli-Works Queenstown Helicopters	Queenstown	Helicopter
HKL	Robinson R22 Beta	W R Cook Helicopters Limited	Cromwell	Helicopter
HMM	Aerospatiale AS 350B2	Heli-Works Queenstown Helicopters	Queenstown	Helicopter
HMS	Bell 206B	Heli South Ltd	Balclutha	Helicopter
HNA	Hughes 369E	Milford Helicopters Limited	Te Anau	Helicopter
HOH	Robinson R44 II	James Patrick Scott	Glacier	Helicopter
HRD	Robinson R22 Beta	Broadlands Holdings Limited	Taupo	Helicopter
HSH	Hughes 369D	Infinity Heliline Limited	Wanaka	Helicopter
HSL	Bell 206B	Heli South Ltd	Balclutha	Helicopter
HTE	Robinson R22 Beta	Marchburn Helicopters Ltd	Blenheim	Helicopter
HTI	Hughes 369HS	Dark Horse Helicopters Limited	Queenstown	Helicopter
HVH	Robinson R22 Beta	Nelson Aviation College Ltd	Motueka	Helicopter
HVJ	Robinson R22 Beta	Nelson Aviation College Ltd	Motueka	Helicopter
HWA	Robinson R22 Beta	Mr P L Manoy	Kumeu	Helicopter
HXI	Robinson R44	Helipark Ltd	Tuatapere	Helicopter
HXP	Bell 206B	Heli South Ltd	Balclutha	Helicopter
HYS	Aerospatiale AS 350B2	Heli-Works Queenstown Helicopters	Queenstown	Helicopter
ICV	Bell 206L	Workstore NZ Limited	Papakura	Helicopter
IDF	Eurocopter AS 350 B3	Heli-Works Queenstown Helicopters	Queenstown	Helicopter
IDO	Robinson R44 II	The Wellington Helicopter Company	Wellington	Helicopter
IGG	Robinson R22 Beta	Heliops Ltd	Kerikeri	Helicopter
IGT	Robinson R22 Beta	C4 Aviation Limited	Queenstown	Helicopter
IJK	Eurocopter EC 120 B	Over The Top Ltd	Queenstown	Helicopter
IMF	Robinson R44 II	35 South Limited	Tauranga	Helicopter
ION	Robinson R22 Beta	Nelson Aviation College Ltd	Motueka	Helicopter
ISM	Bell 206B	Heli South Ltd	Balclutha	Helicopter
ITP	Agusta A119	Heliflite Pacific Limited	Papakura	Helicopter
ITT	Robinson R44 II	Heli-Works Queenstown Helicopters	Queenstown	Helicopter
JGQ	Todhunter Blue Wren	Mr G D Ellery	Taupo	Microlight Class 1
JIB	Cessna 172M	Ballistic Blondes Limited	Whangarei	Aeroplane
JST	Taylor Coot Model One-A	Mr P J Hall	Auckland	Amat Built Aeroplane
KIG	Solo Wings Windlass Aquilla	Mr R J Northcroft	Woodend	Microlight Class 2

continued on next page...

ZK-LVE Rans S-6ES

LES Eade of Cheviot had a very special experience on 11th December when he watched his Rans S6ES aircraft take to the air for the first time in the capable hands of the test pilot Evan Belworthy. A few tears were shed when Les and his wife Ann watched the tail come up and then in a very

short distance their aircraft was airborne.

Les bought his Rans kit though Russell Brodie of East Canterbury Aviation Ltd who has been the NZ RANS aircraft representative for 20 years. Rans aircraft are designed by Randy Schlitter and manufactured by Rans Inc in USA.

The S-6ES went into production in 1990 and is a two seat side by side tail dragger design. ES denotes 'extended wingspan'. The S-6 achieved a significant advance in quick-build kit planes, with the S-6ES using nearly all pre-finished parts and pre-sewn skins offering an average build time of around 375 hours. Les' aircraft is fitted with the new sports wing and he has used a Rotax 582 64hp 2-stroke engine which is the first in NZ for this type of aircraft. Most of the construction was completed in Les and Ann's shed, then was finished off with help from Paul Woodley of Woodley Aircraft Services. LVE sports a very striking colour scheme so keep an eye out for it in the skies around Canterbury.

...continued from previous page

KJA	Piper PA-24	Mr J R H Turner	Christchurch	Aeroplane
KMF	Cessna 210-5A	Mr L W Sutherland	Levin	Aeroplane
LDL	Gardan GY-20 Minicab	Mr H W Bradley	Turangi	Amat Built Aeroplane
MBS	Socata TB 10	Wellington Aero Club (Inc)	Wellington	Aeroplane
MOR	AutoGyro Europe MT03 eagle	Mr M T O'Rourke	Tauranga	Microlight Class 2
MPD	CGS CGS Hawk II	Mr M V Reed	Tuakau	Microlight Class 2
MPR	Micro Aviation B22 Bantam	Mrs F M Rees	Waiuku	Microlight Class 2
MXP	Cessna R172K	Auckland Airlines Limited	Papakura	Aeroplane
NTV	Piper PA-30	Mr M J Pope	Takanini	Aeroplane
NZS	NZ Aerospace FU24-950	Skydive Glenorchy Limited	Queenstown	Aeroplane
PGT	Thunder and Colt AX7-77	Mr P J Dutneall	Australia	Balloon
PKB	Pacific Aerospace Cresco 08-600	Wanganui Aero Work (2004) Ltd	Wanganui	Aeroplane
PND	Rutan Varieze	Mrs P M Kilbourne	Waihi Beach	Amat Built Aeroplane
RML	IAI 1124A	Airwork Flight Operations Limited	Manukau	Aeroplane
TBA	Socata TB 9	Mr R M McLean	Whangarei	Aeroplane
VMW	Micro Aviation B22 Bantam	Mr S P Duncan	Christchurch	Microlight Class 2
VOK	John Black Skyline Cruiser	Mr R A Jowsey	North Shore City	Microlight Class 2
WRB	Piper PA-38-112	Mr A J Charlesworth	Ngaruawahia	Aeroplane
WVL	Micro Aviation B22 Bantam	Waikato Microlight Club (Inc)	Hamilton	Microlight Class 2
WWH	Cessna U206G	Adventure Aviation (NZ) Limited	Mount Maunganui	Aeroplane

DEPARTURES - October/November 2011

CEC	Reims/Cessna F406	Air Charter East Coast Limited	Gisborne	Aeroplane	Exp
DIV	Piper PA-32-260	South East Air Ltd	Invercargill	Aeroplane	Dest
FWB	Light Miniature LM-1	Mr P A Svendsen	Feilding	Microlight C1	W/d
GCU	Schempp-Hirth Standard Cirrus B	Mr D J Day	Wellington	Glider	Dest
GIO	LET L-13 Blanik	Mr D L McIntyre	Auckland	Glider	W/d
GMK	LET L-13 Blanik	RNZAF Aviation Sports Club	Waitakere	Glider	W/d
HDA	Bell 412	Helicopters (NZ) Limited	Nelson	Helicopter	Exp
HDO	Aerospatiale AS 350B2	Helicopters (NZ) Limited	Nelson	Helicopter	Exp
HDR	Aerospatiale AS 350B2	Helicopters (NZ) Limited	Nelson	Helicopter	Exp
HJV	Aerospatiale AS 350B2	Helicopters (NZ) Limited	Nelson	Helicopter	Rev
HLL	Robinson R44	Western Pacific Helicopters Limited	Wanaka	Helicopter	Dest
HNI	Bell 412	Helicopters (NZ) Limited	Nelson	Helicopter	Exp
HOU	Kawasaki BK117 B-2	Helilink Limited	Auckland	Helicopter	W/d
HPD	Kawasaki BK117	North Shore Helicopters Limited	Albany	Helicopter	Exp
HQI	Kawasaki BK117 B-2	Helilink Limited	Auckland	Helicopter	Exp
HSS	Eurocopter AS 350 B3	Skywork Helicopters Ltd	Warkworth	Helicopter	Exp
IBP	Aerospatiale AS 350B2	Heli Support New Zealand Limited	Wanaka	Helicopter	Exp
IBZ	Aerospatiale AS 355 F1	Helilink Limited	Auckland	Helicopter	Exp
ITP	Agusta A119	Helilite Pacific Limited	Papakura	Helicopter	Exp
IVP	Robinson R44	Highland Hunters Ltd	Auckland	Helicopter	Dest
JFI	Cessna 172N	Mr I D Sloan	Mount Maunganui	Aeroplane	Dest
JMP	Pilatus PC-6/B1-H2	Mercer Skydiving Centre Limited	Pokeno	Aeroplane	Exp
JOO	Gordon Bedson Resurgam	Mr C E Taylor	Rotorua	Microlight C1	W/d
JTP	Boeing 737-476	Jetconnect Limited	Manukau	Aeroplane	Exp
KBD	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Aeroplane	Exp
KFP	Tecnam P92 Echo	Pekamu Trust	Australia	Microlight C2	Exp
MXL	Eipper Quicksilver MX	Smith D J & S G	Waimauku	Microlight C1	W/d
NBW	Boeing 747-419	Air New Zealand Ltd	Auckland	Aeroplane	Exp
RAV	M. Gillespie Helithruster	Mr G W Price	Whitford	Gyroplane	W/d
RCL	M. Gillespie Helithruster	Mr G W Price	Whitford	Gyroplane	Exp
RDP	M. Gillespie Helithruster	Mr G W Price	Whitford	Gyroplane	Exp
RMI	Quad City Challenger	Mr H Zedler-Hall	Onerahi	Microlight C1	W/d
WTZ	Cessna 182T	New Zealand Galvanising Limited	Wellington	Aeroplane	Exp
XIK	Micro Aviation B20 Bantam	Mr P A Svendsen	Feilding	Microlight C1	W/d

KiwiFlyer Event Guide

January 28th-29th
Classics of the Sky - Tauranga City Airshow
Including a large range of warbirds, RNZAF, jets, aerobatics, helicopters, sport aircraft and more.
www.taurangacityairshow.co.nz

February 4th-5th
NZ Autogyro Assn. Fly-in and AGM
At Dannevirke. A wide range of aircraft are expected to attend. Intro flights will be available. www.autogyro.org.nz

February 12th
Lost Aircraft Anniversary
For the 50th anniversary of the disappearance of DH90 Dragonfly ZK-AFB, its pilot Brian Chadwick and four tourist passengers on a charter flight from Christchurch to Milford Sound, a special event is planned at West Melton Airfield on Sunday 12 February. Dragonfly ZK-AYR, one of only two surviving in the world, will be the focus of events providing short flights. Speakers will talk about recent search initiatives and at the Canterbury Aero Club dinner, Rev Dr Richard Waugh will give an illustrated talk about the mystery. Pilots with vintage aircraft are especially welcome to fly into West Melton. Contact: Richard Waugh Ph: 09 5339400 E: rjw@ecw.org.nz

February 12th
Taieri Wings and Wheels
Hosted by Otage Aero Club at Taieri Airfield. Gates open 10.30am. Display flying and aerobatic displays from a huge range of different aircraft. Joy rides and scenic flights. An equal emphasis on motoring with a concourse event and club parades of selected vehicles. Plenty of entertainment for kids too. $5 per adult or $15 per car. Contact Al 027 229 8110 (wings) or Mark 027 435 2517 (wheels).

February 17th-19th
Slipper Island Fly-in
Cessna 180/185 Group.
Contact Gordon Spence 021 707 490

February 19th
Turangi Aero Club Open Day
Vintage Cars, Visiting Aircraft, BBQ Lunch, Everyone welcome. Contact Tony 0274 533 740.

March 3rd-4th
Tiger Moth Club Fly-in and AGM
At Stratford. Contact Paul Doherty.
email: paul_doherty2002@yahoo.com.au

March 4th
Matamata Airshow and Carnival
A biennial event organised by local flying enthusiasts. Including parachute stacking and flag jump, Tiger Moth aerobatics, Bantam display, glider aerobatics with double-tow and water ballast run. Displays by Polaris, Mosquito and Hughes 300 helicopters, FK9, Gyrocopter, Kitfox, Yak, RV3, Pitt Special, Cessna and Fletcher top dressing. Ag Cat and Boeing Stearman with other bi-planes and vintage aircraft to see. Carnival festivities will be provided by the local Irish Dance Company, Matamata College Fashion Show, Wearable Arts, Matamata Primary School Popsicle Band and the Dutch Society. Displays of military vehicles, war scene re-enactments and military memorabilia for sale. Food and refreshments available. $10 per adult, under 16s free. Free parking. % of proceeds to local hospitals. Contact Peter 027 494 2537 or matamata-airshow.co.nz

March 4th-5th
Warbirds over Whitianga
Titan T-51 fly-in at Whitianga. Evening social with guest speaker John Williams, CEO of Titan Aircraft. Competitions. Rain date March 11-12. Contact Peter Walton, email: peter.walton@xtra.co.nz

March 10th
Thames Airfield Open Day
Supporting Thames Heritage Week. Flying displays and competitions. Rain day 11th. Contact Geoff Furkert 021 833 044 or email: geoff.furkert@xtra.co.nz

March 18th and April 15th
Turangi Aero Club monthly fly-in
Every 3rd Sunday of the month. Come and join us for a BBQ lunch. Everyone is welcome. Contact Tony 0274 533 740.

April 6th-8th
Warbirds Over Wanaka
Major biennial NZ airshow during Easter at Wanaka. Expect the usual outstanding turnout of aircraft, plus stalls, wine & food, children's facilities and entertainment. warbirdsoverwanaka.com or 0800 224 224.

KiwiFlyer Advertising Index

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Alternately, fax details to (09) 929 3079 or email: editor@kiwiflyer.co.nz. Credit cards or bank transfer payments are welcome but can only be accepted by internet payment. Please contact us for details by email or phone 0800 KFLYER (0800 535 937).

Classified deadline for the next issue is 9th March.
Don't forget to include all of your contact details in your advertisement.

1978 Bell JetRanger II

s/n 1659. TT-8083hrs. 17/01/2012. Dual controls, Range Extender, Rotor Brake, Heater, VIP leather interior (recently refurbished). Excellent component times remaining: NZ$ 395,000. Contact: Larry or Tony 09 426 8287 or Larry Mob 021 929 964, Tony Mob 021 460 846.

For Sale: A complete set of NZ Wings and more recent issues of Pacific Wings for the period 1972-2006.

The years 1975 - 2005 are professionally bound. Other years are complete but will not be separated from the collection. Commercial binding costs run at around $95 per yearly volume. Overall purchase cost is less than $35 per volume. Here is an opportunity to own a complete record of NZ aviation activity in a format which will sit proudly on a bookshelf for future reference and offer a foil to your partner's request to 'get rid of those old magazines'. **Summer offer $800.** Contact Graeme Porter, Phone 07 889 7928

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NEW CESSNA 162 SKYCATCHER. Receiving fantastic reviews for its outstanding comfort and performance, the much anticipated Cessna 162 Skycatcher demonstrator is here. Call now for information on this brilliant aircraft.

NEW CESSNA 182T. Garmin G1000 avionics with GFC700 Auto Pilot, Traffic Awareness, Synthetic Vision Technology, Amsafe Seat Restraints, Leather Seats. Call now for information on new and used Cessna 182 Skylanes.

1974 MOONEY M20-F EXECUTIVE. Fast and well maintained aircraft. Approx 2500Hrs TTAF, engine recently overhauled. POA.

ATTENTION R44 OWNERS.
Sapphire Premium Overhauled Engines for sale. Exchange O-540-F1B5 (RT) from $45,995+GST, Exchange IO-540-AE1A5 from $49,995+GST. For more information visit www.flightline.co.nz or phone Tony van Tiel on 021 637 606 or Alan Hockey on 03 486 2754

CONTACT FLIGHTLINE
P: 0800 CESSNA E: info@flightline.co.nz
Chris Barry: 021 844 490
E: chris.barry@flightline.co.nz

Skysales AVIATION

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NEW ROBINSON R66 TURBINE. Skysales Aviation are distributors for the new Robinson R66 Turbine Helicopter. For information on this exceptional aircraft contact us now.
Demonstrator aircraft available for sale!

NEW ROBINSON R44 RAVEN II.
Limited 2012 delivery positions available, get in fast to pick your specification. Call now for more information on new and used Robinson helicopters.

1998 R22 BETA II. Zero Time Rebuild by Helimech UK, Airframe 1980Hrs, TSO 19Hrs, Garmin GNC-250XL GPS/Com, Bendix SkyMap III, Always Hangared. $230,000 + GST.

CONTACT SKYSALES
P: 0800 ROBINSON E: info@skysales.co.nz
Chris Barry: 021 844 490 Alex Rodger: 021 372 740

NEW Robinson R22 Beta II

New Robinson R22 Beta II. POA.
Contact Brett, Heliflite Pacific (NZ) Ltd,
Ph: (09) 2999 442, Email: brett@heliflitepacific.com

NEW Robinson R44 Raven I and II

New Robinson R44 Raven I and II. POA.
Contact Brett, Heliflite Pacific (NZ) Ltd,
Ph: (09) 2999 442, Email: brett@heliflitepacific.com

NEW Robinson R66 Turbine

4 PAX + Pilot, Cruise Speed 120 kts, 927 lb usable at max fuel. Contact Brett, Heliflite Pacific (NZ) Ltd,
Ph: (09) 2999 442, Email: brett@heliflitepacific.com

IBIS for sale

Ibis aircraft on the Microlight register with 12 hours TT at this time. This aircraft was imported from Australia and is as new. Ready to fly away today.

Includes type-rating and 15 hour Mountain Flying package included in the price to value of $5385.

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Rotax 912 ULS with Bolly 3 Blade ground adjustable propeller.
Large 140 litre fuel capacity. Long range tanks at 16 litres an hour.

$115,000 +GST
For further details phone 03 443 4005
or email: info@u-flywanaka.co.nz

2000 Custom built Microlight

Single, open cockpit, Rotax 447, 3 blade Warp Drive, 9 litres per hour, cruise 70mph, detachable wings, own transport trailer. A reluctant sale. $15,000 ono.
Contact Bruce. Phone 07 544 1883

1981 Cessna Citation I SP For Immediate Sale!! 4650 Hrs Since New. Original factory engines 1144 hrs since P&W Gold o/h. Thrust Reversers. 3 owners from new. Freon air with cool sticks. Impeccable records. Cescom. Multiple interior configurations. Priced at US$595,000 +GST if sold in NZ. Serious offer invited.

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Only 264.7 Hrs Since New. 6 Seat cabin.
Latest technology.
Cruise 340 kts up to 41,000 ft in quiet comfort.
Superb for only US$2,255,000 +GST if sold in NZ.

1977 Piper Lance ZK-EIB Only 2696 Hrs Since New. Engine 939 Hrs Since O/H. 3 blade prop. Long range fuel. 6 seats. Full IFR. HF COM. Bendix-King avionics with MFD, GPS, many extras. NZ$159,500 incl. GST (if any)

2006 Cessna 172-S Skyhawk
ZK-XPS 1282 TTSFN. G-1000 equipped 172.
NZ$259,500 +GST if sold in NZ.

1979 Cessna 172-N Superhawk
180 HP Conversion. Engine 1429 Hrs SFN. 571 Hrs to TBO/2018. Prop: 1429 Hrs SN. King avionics Dual VHF NZ$110,000 incl. of GST (if any).

1992 Socata Tobago TB-10, 2960 Hrs SN, 180 HP engine, 740 Hrs Since O/H, 1260 to run, Prop: 1026 TSO, NZ$115,000 +GST if sold in NZ. Offers & Trade-in Considered!

1980 Cessna Cutlass, 7986 Hrs Since New. Lycoming O-360 HP engine. 90 Hrs since factory reman. Autopilot. Cessna IFR. DME. GPS. Very tidy example with fresh engine to latest Lycoming specs! Asking: NZ$115,000+GST if sold in NZ.

1986 Rutan Long Ez Exotic 2 seat sports aircraft. Reduced to only NZ$55,000 no GST.

2000 Eagle 150 205 Hours SN. Bendix-King avionics with GPS / Moving map. NZ$115,000 +GST if sold in NZ.

1980 Cessna 404 Titan ZK-NDY US$499,900.
Classic Tiger Moth NZ$139,900 no GST.

Contact Dennis: P. 09 298 6249 | M. 0294 923 160 | E. dennis@dtiaircraftsales.com
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Personal Insurance for Pilots

Obtaining life insurance when you are a pilot shouldn't be fraught with exclusions and special conditions. Bill Beard from Avsure offers the following information relating to Pilot Term Life Insurance.

THE MAJORITY OF aircraft owners and commercial operators are meticulous regarding insurance on their aeroplanes or helicopters, however more often than not, don't consider personal insurance for either themselves or employees.

If you have ever tried to obtain life insurance as a pilot, you will know why. Often you only have two options - either the choice of paying higher premiums because you fly, or accepting an Aviation Exclusion Clause or restrictions as to the type of flying you do and the number of hours you fly in any particular period. The reason for this is that most life insurance companies and agents don't understand the actual risks involved in aviation and are therefore unable to find the most cost effective coverage for pilot insurance.

Avsure have in association with a leading life insurance brokerage, developed an underwriting criteria that allows us to obtain pilot life insurance coverage at preferential rates not generally available. Our policy will provide needed protection for private and commercial pilots of both fixed wing and helicopters. We can include cover for critical illness, trauma, medical cover and also income protection in the event of an accident or illness.

Avsure Principles have some 25 years of successful insurance history and this together with my 40 years of aviation experience has enabled us to formulate a personal life insurance programme designed specifically for pilots.

Contributed by Bill Beard

Individual pilots can go to our website and from the sub menu click on "Quote Forms", then print a copy, complete and fax back to us the "Pilot Term Life Insurance Questionnaire". This will provide us with the basic information and our life insurance consultant will get directly in touch with you to discuss your requirements in more detail.

We can also provide Employee Group Schemes for commercial operators including employee term life and medical insurance, income protection, and shareholder/partnership business protection and key person insurance.

To discuss this topic or any other aviation insurance questions, contact Bill Beard at Avsure on 0800 322 206. Full policy wordings are listed on our website at **www.avsure.co.nz**

Accident and Incident Reports

are provided to KiwiFlyer readers courtesy of Avsure

Type: NZ Aerospace FU24-950 JQB
Location: East Cambridge **POB:** 0
Operation: Agricultural **Injuries:** Nil
Date: 16 November 2011
Report: Aircraft was on feather and running while pilot was taking covers off fertiliser. The aircraft flicked out of feather and took off, going through a fence. There were no persons on board the aircraft at the time of the accident.

Type: Schempp-Hirth Discus-2c GXG
Location: North Omarama **POB:** 1
Operation: Private Other **Injuries:** Nil
Date: 18 November 2011
Report: The glider lost height and speed close to a hillside. The glider ended up landing short of the intended landing site on a paddock.

Type: Bell 206B HTX
Location: Geraldine **POB:** 1
Operation: Agricultural **Injuries:** Nil
Date: 14 December 2011
Report: After loading the chemical into the helicopter and refuelling it, the loader signalled to the pilot that all was set for takeoff by giving the thumps up. The pilot lifted off unaware that a hose was still connected to the helicopter resulting in a rollover.

Type: Aerospatiale AS350B2 HIG
Location: Viaduct Basin **POB:** 1
Operation: Other **Injuries:** Nil
Date: 22 November 2011
Report: Helicopter's rotor blades struck a support wire while installing a Christmas tree on the Auckland waterfront.

Type: Cessna 172K ELO
Location: Maraekakaho **POB:** 4
Operation: Private Other **Injuries:** Nil
Date: 27 November 2011
Report: Conducting a go-around on approach to a farm strip, the aircraft stalled and impacted the ground in an adjacent paddock. The landing gear collapsed and both wing tips struck the ground.

Type: Bell 206B HBJ
Location: Tikokino **POB:** 1
Operation: Other **Injuries:** Nil
Date: 13 December 2011
Report: Helicopter struck wires during a slow descent to land. The main rotor pitch links were snapped off causing the helicopter to impact the ground heavily.

Type: Aerospatiale AS350B2 HIG
Location: Viaduct Basin **POB:** 1
Operation: Other **Injuries:** Nil
Date: 22 November 2011
Report: Helicopter's rotor blades struck a support wire while installing a Christmas tree on the Auckland waterfront.

Type: Puffer Cozy COZ
Location: Tauranga **POB:** 1
Operation: Test **Injuries:** Nil
Date: 22 December 2011
Report: Aircraft's canopy came off shortly after takeoff during a post maintenance test flight. The aircraft landed heavily on the remaining runway, sustaining damage, but with no injuries to the pilot.

Please note: These reports are selected from www.caa.govt.nz and are provided for information only. Accuracy is not guaranteed.

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