

Trans Tasman Furio

Once a decision was made to exhibit the Furio at the Avalon Airshow, the next decision required was how to get it there. With a cruise speed of at least 170kts, six hours of endurance and a comfortable cockpit, the answer seemed obvious. Fly it. The result proved the aircraft capability well beyond expectations. KiwiFlyer recently spoke to Giovanni Nustrini from Falcomposite and his story of the adventure follows.

Planning an oceanic flight

Organising the trip began a month in advance. Giovanni first consulted next door neighbour Mike Foster of Eagle Flight Training who has plenty of international and ferry flight experience, asking him to be the Ferry Pilot for the trip. Mike agreed and the project moved to the stage of dealing with bureaucracy. Step one was to organise a Permit to Fly for the Furio in Australia, required due to being an experimental aircraft. Assistance with this came from both CAA and CASA and Giovanni commends both regulators for being extremely helpful. An ASEC card for aviation security clearance in Australia was also obtained, arriving just in time for departure.

Maps, navigation details and flight planning followed, then about a week out, Giovanni started to look at (and worry about) the weather. It alternated between looking good and looking bad on a daily basis. When the day came, the weather looked about half way between good and bad (and didn't improve no matter how many different websites Giovanni consulted), with Mike making the final decision to go.

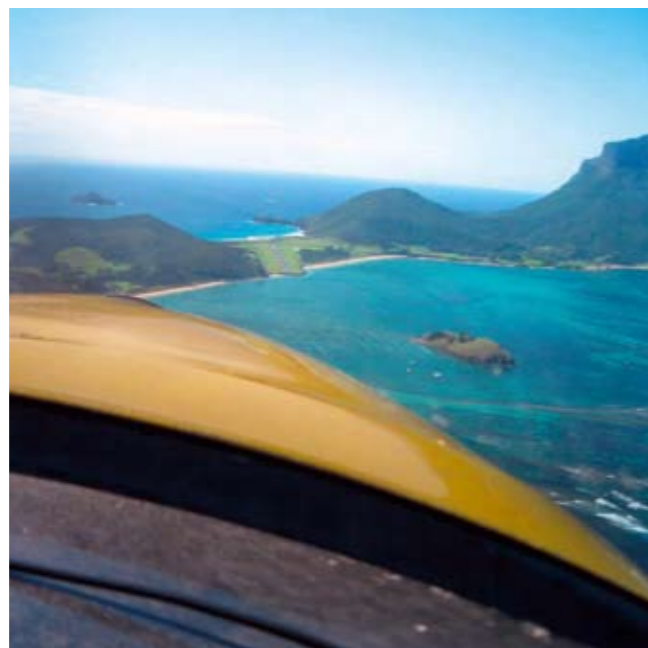
Safety and navigation equipment on board included a 2 man life raft, life jackets with 406 PLB/GPS attached, the GPS inside the EFIS on the panel, a Garmin 296, plus a Garmin Pilot 3, plus just in case, a Garmin E-Trex in Giovanni's pocket. They also carried a satellite phone, leaving with an AUW of 1040kg, 40kg below max.

On track Norfolk Island

A stop at Kerikeri to meet with Customs and then it was up to 8500 feet and on track for Norfolk Island. Being on an international flight plan without a HF radio meant requesting radio relays to Oceanic Control via passing airliners on 123.45 or 121.5. Conversations with AirNZ, Qantas and Cathay pilots resulted, with all wanting



Blue ocean, fluffy clouds, relaxed cruising.



On finals for Lord Howe Island.



A self portrait of Mike Foster and Giovanni Nustrini taken on the NZKE - YSNF leg.



A brief rest on the ground at Lord Howe Island, then off again for an afternoon flight to Australia.

to know more about the Furio beneath them.

The tale to tell from this leg relates to fuel. The Furio has separate front and back tanks and Giovanni filled both to the very top, even though they expected to use only part of the back tank on the leg to Norfolk.

Fuel was monitored every 30 minutes with operations normal all the way. Until 80nm out from Norfolk when "Doris, who is the lady living inside the EFIS that talks to you, says 'check fuel computer check fuel computer check fuel computer', so we wake

up from our daze and discover that the front tank has gone down to 40 litres." Initial blame was placed on the computer. What they discovered at Norfolk though, was that due to the tank bladder being filled to the very top (including the air vent) at Kerikeri, fuel had progressively been drawn out the air vent pipe by airflow over the fuselage. As this was happening the foam filled bladder was being vacuumed inwards (due to the air vent being blocked with fuel) and this kept the fuel level at the top of the tank (with gauges reading full). Until finally the bladder couldn't vacuum inwards any more and drew a great gulp of air back in through the vent at which point the fuel quantity was down to 40 litres remaining. The fuel cap is now vented as well.

The duo overnighted at Norfolk then in the morning breathed in deep and paid \$4.50 per litre for 100 litres of fuel to fill up for the leg to Australia.

YSNF to YLHI to Australia

The 540nm leg to Lord Howe Island was uneventful in perfect weather, again only using the back fuel tank. After a light breakfast on Norfolk, their plan was to consume a packaged lunch later on the way to Australia. However, Lord Howe Island is an Australian port of entry and checking through Customs resulted in the confiscation of all the food they had on board (including the sealed muesli bars with 'Made in Australia' on the wrapping). That left Giovanni and Mike battling hunger for the next two hours to Australia.

Weather played a role on this leg as well. Checking with the Met Office before departure revealed a 150nm thick front 60nm out from Australia and the decision was made to fly low if needed through the rain. The front actually never appeared and



Furio in cruise mode: 2310rpm, 20.8", 175ktsGS, 166ktsTAS at 9530' using just over 30lph.

they found out later that it had split into two around them.

Coolongatta Control cleared the Furio through to Southport with a descent at 200kts through "not very good" weather conditions and they then left the plane as planned in the care of the Southport Flying Club. With the Furio safely in Australia, Giovanni and Mike returned to NZ, with Giovanni planning to go back and fly the Furio to Avalon in a couple of weeks time.

That trip and the exhibition were a great success (see side article at right).

Returning to New Zealand

On March 16th, exactly a month after departing NZ, the return trip began. This time it was Giovanni and partner Mary Patterson sharing the flying leg-for-leg. Delayed by weather for a night at Port MacQuarrie, they left in perfect conditions for Lord Howe Island, cruising at 9500 feet on a flightplan with Brisbane Oceanic.



78kg of luggage made the trip back home. The Furio swallowed it effortlessly.



Departing the Australian coast, on track YLHI.

Exhibiting at Avalon

The trip from Southport to Avalon began on March 6th. Flying via Port MacQuarrie, Tamworth, Temora, Wagga Wagga, Moorabbin, and then to Avalon on the 9th. After arriving at Avalon with little more than vinyl lettering and brochures, the first task was to set up the stand. A road trip to Mitre 10 for signage supplies, chairs, tables, and more followed. The result of this was very well worth the effort because the Furio display was awarded Best Outside Stand, ahead of Lear Jet, Pilatus, and many others. The Furio wasn't alone representing New

Zealand, with exhibitors also including members of the Hamilton Aviation Cluster and NZ Trade and Enterprise.

Giovanni describes visitor traffic to the stand as non-stop and the show itself as an absolute success. "There were lots of people, lots of sun, dust, rain, and Australians". Interest for the Furio was expressed from many quarters, most notably though, from some large companies looking seriously toward developing the Furio as an ab-initio military trainer. The future could possibly be very bright indeed.



On display at Avalon. Giovanni explains the capabilities of Furio to one of many visitors to the stand.

60nm out from Lord Howe, a 500fpm descent was commenced at 200kts. On arrival, they were met again by Andrew, the resident Police, Customs and MAF Officer who proceeded to stamp their passports straight away and complete the Australian departure forms (the plan being to leave immediately for Norfolk Island). Refueled and ready to go, Giovanni and Mary paused to reflect on the weather and what a beautiful place Lord Howe is, then decided after checking the forecast ahead to stay for one day. This required Andrew to then unstamp their passports. Calls had to also be made to Norfolk and NZ Customs at Kerikeri to postpone arrivals which fortunately no-one seemed to mind.

Accommodation was found and then a relaxing afternoon of walking, bike riding and snorkeling ensued, followed by a departure to Norfolk Island in the morning.

Approaching the TEKEP waypoint which defines the change from Brisbane to Auckland Oceanic, Giovanni made the now familiar radio call asking for a relay, receiving a reply from an Air New Zealand flight. Once the relay and instructions

were completed, ZK-LLG received an unexpected call from Qantas 83 asking what level they were at. Communication followed with the Qantas flight noting that they themselves were at 33000 feet and that if Giovanni and Mary looked up, they would see them. The return call was made "Qantas 83 we have you in sight" (twenty something thousand feet above). Half an hour passed and then LLG was called again by Qantas 83 "... are you still there?"



Giovanni and Mary prior to making the trip back home, which they extended due to good weather.



Building Furio #2

...from previous page

Answer "yes we can hear you", followed by "my Captain wants to know more about your plane". Thus followed a Furio sales pitch between the two aircraft half an hour and 20000 feet apart over the Tasman.

The remainder of the trip from Lord Howe to Norfolk Island was uneventful, except perhaps for forgetting the time difference and arriving too late to get fuel. The next day Giovanni and Mary returned to the airport at 8am, expecting to refuel and leave in time to make the scheduled Customs appointment at Kerikeri. However, the fuel person was busy filling Norfolk Island's sole Boeing 737, leaving the Furio to wait patiently in the fuel queue until after 9am.

Finally leaving Norfolk and after organising another new appointment for the Customs rendezvous, time passed slowly during the now familiar oceanic flight. Arriving at Kerekeri, the Furio was sprayed for bugs. Then after waiting for the bugs to die, Giovanni and Mary stepped out onto New Zealand soil again. After a thorough bag inspection, they were soon on their way back home to Ardmore and the Falcomposite hangar.

Summarising the Furio Experience

It is worth reminding oneself that this trip was made in a fully aerobatic, playful aircraft with complete precision of control. Yet the range is high, cruise is fast, fuel consumption is low and cockpit is roomy and comfortable. It is a very unique package, currently priced at NZ\$149000+gst as a kit, only excluding fuel bladders, engine, instruments, propeller, and a few other small items.

Recommendations for oceanic beginners

Giovanni notes that the complicated part isn't the flight itself. Providing there is good weather, you just have to follow the magenta line on your GPS and monitor everything else along the way. Preparing well is the key. The difficult part for typical aviators will be arranging safety gear and dealing with bureaucracy, documentation, customs clearances, etc. Though once you know what you have to do, "flying like this really is the best kept secret".

Giovanni says they would do it all again tomorrow and will happily head to Norfolk or Lord Howe Island for a weekend away.

Credits due

Furio was born from the financial support of Kevin Grant and the



Neil (centre) and Lapo in the Furio fuselage setting up the alignment of rudder cable fittings.



The strength of carbon fibre allows for much more open space in the fuselage than most kit aircraft.



To Neil's delight, the air duct came as an off the shelf part, saving many hours work.

engineering prowess of Lapo Nustrini. Giovanni credits Lapo for designing an amazing machine thanks to the time he spends in his drawing office every day innovating the aircraft and making sure everything fits and works perfectly.

The focus now

Attention is currently directed towards completing new kit deliveries, preparing for Oshkosh (where a soon to be completed USA kit will be exhibited), and working closely with a major aerospace company on the Furio's potential as a military trainer. A bright future seems assured.

Eight Furio kits have now been sold and more are soon to be delivered. Of these, Neil Sutherland's is the most advanced. Neil purchased kit #1 and is assembling it in the Falcomposite hangar at Ardmore under the watchful eye and guidance of Furio Design Engineer, Lapo Nustrini. KiwiFlyer spoke to Neil about his choice of project and building experiences thus far.

NEIL HAS a commercial aviation background, with a career that has included piloting float and ski planes for Mount Cook Airlines then moving on to Dash8 and 737s for Ansett. Neil says he was always keen on owning a Falco, though neither the enormous build time involved nor the idea of working with wood were particularly appealing. When he saw the development of the Furio taking place, he immediately realised the opportunity to take on a project that offered the looks, performance and modern construction he desired, as well as a very acceptable build time. Neil appreciated the very good visibility afforded by the design which achieves 10 degrees over the nose due to a relatively lower placement of the engine. He mentions also being impressed with the strength of the aircraft. "We had some of the parts in the test jig loaded to 11g and they didn't even creak". Neil happily became customer number one.

Neil's choice of power is an IO390 which will add some 30hp over the IO360 in Furio #1. Two larger 270 litre fuel tanks which are now standard on all kits will provide for an extended 8 hour endurance.

This is Neil's first aircraft building experience, with effort currently standing at 750 hours and 6 months (including pondering). He is at about the two thirds mark and expects the project to take 1000 to 1200 hours in total. Help is regularly received from Lapo and a few other friends with LAME and kit building backgrounds. To assist builders, Neil and Lapo are photographing each step in the process for the enhancement of future construction manuals.

Neil says the stand out observation of the build thus far is accuracy. Everything was computer designed and Neil comments that "You don't want to think you have a better idea, believe me!"

Neil looks forward to enjoying the broad spectrum of aerobatic and touring performance that his Furio will offer.

He can be contacted by email on neil@njs.co.nz

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