



Latest Guimbal Cabri G2 arrives in NZ

IT WAS in December of 2011 that your KiwiFlyer Editor flew one of the first Guimbal Cabri G2 Helicopters to arrive in New Zealand. Serial Numbers 24 and 25 had just been imported by Australasian Distributors Pacific Aircraft Group, one of them going to a private owner and the other as a demonstrator and part of Pacific Helicopter Training's fleet at Christchurch. Our review and flight test from that occasion is available for download from the KiwiFlyer website (look for Issue #20). It's enough to simply say that we were impressed. The helicopter takes all of the quirks of the R22 and S-300 and fixes them, with a range of significant safety features added in, very few 'lifer' components, elegant design features everywhere, and it has to also be said, a very attractive appearance.

Back then we reported that the factory was working on eliminating a pilot side vibration that tended to appear above 85kts (the Cabri will cruise at 100). They were also working on a hook option for the aircraft, plus a range of other accessory items and improvements. The only niggles we could identify were that (relatively minor) vibration and that the initial purchase price was right at the top of the market, ahead of the S-300 and well ahead of an R22. A lot of features (especially safety) were being included for that price though and when you looked at and flew the Cabri, you did feel like you were getting what you had paid for. With no requirement for 12 yearly inspections and nearly all components requiring maintenance on-condition rather than by scheduled replacement, the suggestion was that Cabri operating costs could be relatively low over the long term. With a new design and no high-time airframes to measure by, that potential saving was still to



The attachment to the right of the elastomeric damper is the new Vibration Absorbing Pendulum.

be proven and there are no doubt a good number of operators who were waiting for a) the vibration to be improved, b) a hook and perhaps some spray gear, and c) some proven maintenance history, before being willing to take the plunge on a new aircraft such as this.

All of those items have been addressed now, with success, and we are pleased to report that two further Cabri G2s are already flying in New Zealand with more on the way. One of these new helicopters is for Frontier Helicopters based at Whakatane and the other will be operated by a large South Island station.

Point (a) was the vibration which tended to occur above 85kts. It was probably more noticeable because the rest of the flight envelope was so smooth but it was there, and it took the shine off an otherwise brilliant little helicopter. That vibration is now completely eliminated by three Vibration Absorbing Pendulums (VAPs) in the rotor head. These can also be retrofitted to earlier aircraft. The Cabri is very smooth all the way to 100kts and beyond. In short, it's a delight to fly.

Point (b) was the hook, spray gear, and other 'commercial' accessories that operators who wanted to put the Cabri 'to work' were seeking. There is now an elegant hook installation, spray gear is under development here in New Zealand (with factory support), snow shoes are on the way, and a dog box is presently going through the STC process. The hook can lift 220kg and the spray tank is expected to hold around 200 litres.

Point (c) was the accumulation of some proven maintenance history. The demonstrator Cabri in Christchurch now has 600 hours on it and with Mark Law at Frontier Helicopters expecting to fly 800+ hours a year on his new Cabri, it won't be



The hook releases are nicely engineered and designed to avoid inadvertent operation.

long before we have that history on the New Zealand based aircraft. Overseas however, there are two airframes in the Cabri factory with 2200 hours on each, both aircraft having been used in flight training and running at about the 1000 hour per year mark. Certification dictated that transmissions and engine be overhauled at 2200 hours and Terry says the factory has taken the opportunity to strip the entire aircraft for the purpose of examining for wear and tear. He says there has been no appreciable or unexpected deterioration detected and that as more hours and evidence is accumulated, Guimbal will be seeking to extend the transmissions overhaul time to 4400 hours. Lycoming, who had required the O-360 engines to be run rich (from concern about cooling the shrouded engine) have now reduced that requirement, for a saving close to 10 litres per hour of fuel burn, and of course a subsequent increase in available power.

The rumored four-seat Cabri is definitely under development, with present effort centred on evaluating engine options – between the RR300 turbine, or the IO-540, or the new Lycoming diesel. Bruno Guimbal has said if he had a Euro for every 4-seater enquiry he was receiving, he would be very wealthy indeed. Its arrival on the scene will be just a matter of time.

From a steady and cautious start, worldwide interest in the Cabri has increased significantly and the factory is working hard to increase production. Pacific Aircraft have six helicopters arriving from the currently full order books, for delivery between now and the end of 2014. At present these are all that will be available (for New Zealand and Australia combined), so anyone who might be serious about acquiring one would be well advised to make contact sooner rather than later.



The hook installation. As with the rest of the helicopter, it's an elegant piece of engineering.



Frontier Helicopters' new Cabri parked at altitude with a view of the Central North Island mountains. See the following pages for a profile on their operations.

Opinion – The Deer Hunter

Readers familiar with the deer recovery industry will likely know of Bill Hales and Alpine Springs Helicopters. Bill arrived at Pacific Helicopters in his R22, to pick up his H500, on the day KiwiFlyer was there. Bill has more than 4000 R22 hours on venison work alone and still accounts for well over 1000 deer in the Canterbury region annually.

It's only very recently that Bill had his first fly of a Cabri G2. Reluctant to admit to Terry and Rob just how good he thought it was (it being more fun to say otherwise), he did tell us that he went out with Rob to the 'Waimak' a few weeks ago and "I gave it death. I actually made myself feel airsick. I flew it like a 500 and it can certainly do the business. We really threw it around and did corkscrews and some very high speed quickstops – the governor works great. It does everything a 500 does, just point it where you want to go." Bill also says he was very impressed with the low rotor rpm performance (rpm in yellow, pull collective, and climb). He says the only downside he can see is the purchase cost, but that aside, the Cabri will "spell the end of the R22", and... he just might think about buying one.

Opinion – The Instructor

Rob Hunt is the Chief Flying Instructor for Pacific Helicopter Training. He comes from a teaching background and says that after "always telling students to follow their dreams", he thought one day that he should follow his own advice. He started training in 2009 at Nelson Aviation College, then taught there for 12 months. Following a

couple of years of commercial work, he now has 1200 hours in his logbook with ratings on AS350, H500, R22, R44 and of course the Cabri G2. Rob joined Pacific Helicopter Training 6 months ago.

Rob says that after acclimatising to the Cabri's Fenestron tail and tight (new when he first flew it) controls, he really enjoyed it from his second flight on. He has since done a lot of mustering in the Cabri for one of the new owners and says its manoeuvrability and the sense of safety it imparts is outstanding. He admits that pre-VAP installation, it could be tiring after 5-6 hours, but is like a different helicopter now and that he could sit in it all day long with ease. He also says it's great to have so much room in the cabin when instructing with larger people.

The safety benefits (stability, forgiveness, margins, fenestron, crashworthiness, etc.) really come through when instructing too, says Rob; "Students can learn the basics to fly quite easily and then have a much greater safety margin available to them. It means they can enjoy learning a lot more and it also provides us with more time to cater their training to specific needs if they have them, such as mustering."

Rob has been up in some ferocious NW winds when the mountain forecast was 35-40kts. He was very impressed, saying that "the Cabri seemed to simply absorb the wind".

He also says it is exciting to be involved with something new and revolutionary. We can see his point. It's quite enjoyable just to be able to fly a Cabri once in a while and write articles such as this about it.

Opinion - Ours

It shouldn't be hard to tell from our previous flight test in KiwiFlyer, or these pages, that we think the Cabri is pretty special. If you're a potential owner and wondering whether the features do justify the price then all we can do is to encourage you to find out more and go for a fly in one. We'll be surprised if you're not impressed too.

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. Ph: 03 359 6891 or 027 433 2647, email: terry@pacificaircraft.co.nz or visit www.cabri.co.nz



Another accessory now available for the Cabri is a fold-away and rotatable iPad holder/charger.

Frontier Helicopters' new Cabri G2

Training, Lifting, Hunting, and much more...



"I'm absolutely over the moon with it..." Mark Law

Mark Law enjoying his new Guimbal Cabri G2 in Te Urewera National Park, 20 minutes flying time from Frontier Helicopters' base at Whakatane.

BASED at Whakatane, Frontier Helicopters are the first company (aside from Distributors Pacific Aircraft) to operate a Guimbal Cabri G2 commercially in New Zealand. Established in 1998 (then as Bushland Helicopters) by Mark and Anna Law, the company has grown from solely a commercial deer recovery operation, to now providing flight training, other aerial work, and air transport.

Previously operating two Robinson R44s and an R22 (the Cabri replaces the R22), Mark flew just 0.6 hours in the demonstrator Cabri at Christchurch before being "sold on the aircraft and ordering one on the spot". Obviously Mark had done some homework first, but says he could see so many advantages to the aircraft that the decision was an easy one to make. That was before the new Vibration Absorbing Pendulums had been installed, Mark saying that the rest of the benefits he saw far

outweighed the 85kt vibration niggles. With VAPs fitted, the aircraft is even better and already Frontier Helicopters are putting a strategy in place that will see them acquire another one.

Frontier Helicopters History

Mark says his original purpose for the company was to shoot deer commercially. He bought an R22 and shot until 2003 when the market slowed. He's shot (and captured) deer all over New Zealand, developing an international reputation in the process which saw him spend three seasons capturing wild animals in the USA. This was mostly across the Central Western US, including forays into Mexico and Canada. He says they captured almost every kind of big game animal in the States, mostly on behalf of Parks Departments. Some of the work was for the purpose of relocating animals and some was for

population surveys and disease studies. They would often capture, then sample blood, saliva, hair, etc. either in the field or after slinging the animal back to a staging area. Mark has also undertaken contracts to capture wild game in Kenya.

After completing an Instructor Rating, Mark spent a year in Wanaka shooting and flight training, then it was back to Whakatane where he saw the opportunity to set up business. In 2009 Mark and Anna bought another local helicopter company and added Part 135 Air Transport Op's into their business, operating to White Island, plus DOC work, charters, and flight training. Mark says that Frontier currently undertakes "everything but ag. work".

Frontier originally provided flight training in an R22, but wanted to "move ahead in regard to the overhaul regime and two bladed systems", changing to a S-300 CBI. After 1400 hours in the CBI, it



was sold to fund an R44 for White Island scenic trips and they returned to using a (leased) R22 for flight training. When the Cabri came on to the scene, Mark saw it as an opportunity to again replace the R22, this time with a modern design and as an "investment in the future".

Choosing a Cabri

Mark says there were plenty of reasons to make the Cabri an attractive proposition. When he first flew the aircraft he says; "I became excited about flying a light helicopter again. I was so impressed with its robustness and 'point and shoot' flying. There was no lag in turns and it felt just like a small '500'. It imparts a sense of trust in turbulence and put a real spark back in my flying. It's very responsive and nothing feels flimsy or bendy. The only thing that took some getting used to was the pedal movements – you need to lead with pedal for the best result. The vibration has been completely addressed. The only thing you can feel now is the engine."

Particularly in regard to flight training, Mark considers he has a lot of responsibility as an Instructor, and owner, to be doing everything as right as he possibly can, such that if the student does make a mistake, they could still safely get on the ground. He says the Cabri offered so many safety improvements that he saw the advantage straight away. Subsequently he (and other Instructors) feels much better when sending students out on their first solo. The Cabri is the first helicopter to carry EASA (European Aviation Safety Agency) certification. Seats for example are designed such that a 2000 fpm vertical impact is deemed to be survivable, and the fuel bladder has been designed to F1 safety standards.

Mark also emphasises the benefit of training with a glass cockpit and the technology that is built into the Cabri; "it's all great for students and is the way of the future."

Another benefit when operating in the coastal environment of Whakatane is the composite fuselage, which is of course immune to corrosion. And Mark says also liked the concept of having nearly all components running on-condition, without the requirement of a big budget overhaul every 2200 hours / 12 years.

Frontier's Cabri went on line at the start of April and already has 300 hours on the hobbs. Mark expects to put at least 800 hours on the aircraft in its first year of operation. A lot of commercial work has



Mark Law pilots the Cabri in pursuit of wild Urewera deer. This is the first Cabri to be put to work on deer recovery. Frontier will also use it with a grapple to long-line logs and with a small fire bucket for training.

been done with it already. Since the hook was fitted, about 40 hours of long-lining have been logged. The hook is capable of lifting 220kg and according to Mark was easy to install and functions well. They also have a grapple and a small fire bucket for training purposes.

TV watchers may have seen Frontier's Cabri on Campbell Live a few weeks ago when they completed a contract to shoot swans over the Manukau Harbour at Auckland Airport. 800 were accounted for in a short space of time. That video is available online, as are several others including deer recovery and mountain flying in the Cabri. See them at: www.frontierhelicopters.co.nz

Training at Frontier Helicopters

Frontier presently have two CPL students training on the Cabri, with four more scheduled to start in November. Both are enjoying the experience of training in a commercial environment with experienced Instructors. Mark himself has 3000 hours of instructing time now and also undertakes check rides for one of the major tuna boat helicopter operators.

Mark says that the Cabri is allowing their students to focus on doing well rather than simply staying in control - and allows them to move to advanced training much more quickly. An example is the amount of sling work that Frontier incorporates into the 150 hour commercial syllabus. Commercial students complete 20-30 hours of long-lining. Mark explains; "We start on 100 feet which gets great results as students soon learn patience in a high hover. Then we go up to 150 feet and then all the way back down to 5 feet. Then we work with 200-250 foot long-lines to finish off. Grapple





Frontier Helicopters' new Guimbal Cabri G2 on a winter's day. Photo: Frontier Helicopters.

When Te Urewera is your playground



There's plenty of interesting places to fly and confined areas to land in when Te Urewera National Park is on your back doorstep. Flying time from Whakatane to the Ureweras is little more than 20 minutes. Frontier Helicopters operate commercially in the park with DOC concessions, where the Cabri's very low noise signature (thanks to the Fenestron tail and upwards pointing exhaust) is ideal for 'flying friendly'.

training is usually on 100 foot lines and for the bucket we use 50.

After the long-line training, students complete the night flying syllabus. Type ratings then follow for the R44 and MD369 series including NOTAR.

A lot of low level flying training is conducted, especially including safe techniques and low level autorotations.

Mark says that all their students end up in work, in large part because all of them are motivated by having spent their own money to train rather than the taxpayers. Frontier always take on their own students for the company's Part 135 operations.

Frontier's training environment is integrated into a strict commercial regime. Students live the working lifestyle and all pilots and students are expected at the hangar before dawn, ready for lift off at first light. As Mark says, it's the best time for flying. In fact the night syllabus training is often conducted in the early morning. PPL students are frequently flying 3 hours a day which Mark says creates great continuity with their training and provides for very efficient and fast learning.

Frontier are working on obtaining Part 141 certification and are then intending to start marketing their flight training services. Presently, all their students arrive by word of mouth references.

Future Plans at Frontier

Frontier Helicopters are well underway with various opportunities that will lead to expansion of the business. One of these is for a heliport and White Island Visitor Centre to be based in Whakatane township. Mark says that the concept has been well received so far with several key players considering it to be good for the district.

They are currently exploring the idea of providing NVG training in the Cabri and in regards to aircraft, the R44s may well soon turn into an AS350. Mark says their plans are about operating as a niche player where it's "easier to differentiate the business and charge the rates needed to maintain good gear and a safe operation."

KiwiFlyer wishes them every success.

For more information

To find out more about Frontier Helicopters and the services they offer, visit their website which is regularly updated and includes several video clips of company operations.

Phone 0800 804 354

Email: info@frontierhelicopters.co.nz

www.frontierhelicopters.co.nz



Note the (standard equipment) glass display in the bottom photograph, the excellent visibility past your feet, and also the adjustable pedals (the top bar rotates forward if required).



Training in the Cabri G2 with Frontier Helicopters

Chris Easton: Chris says he was always into hunting and fishing and grew up around helicopters and deer recovery. With his sights on flying commercially he saved money by working in Australian mines as he didn't want to borrow. He came to Frontier on the recommendation of other pilots and was nearly solo in an R22 when the Cabri arrived. He says it was tricky to adjust to the clockwise rotor system and there were plenty of good laughs for bystanders. However the Cabri is "a lot more stable, roomy, and nicer to fly". Chris self studied for his PPL and is off to Nelson Aviation College soon to complete their CPL theory block course so he can concentrate on the rest of his CPL flying.



Chris Easton

Sam Stewart: Sam started flying after high school, completing a fixed wing PPL in Taupo but decided he wanted something more exciting. Frontier were recommended by family members. and within a month he completed his PPL(H). Sam lives in Havelock and stays at Frontier for a week at a time, in the flat above their hangar. He typically flies 15 hours a week over 5 or 6 days and with 145 now in his logbook, is completing final revision for his flight test. Sam has flown S-300s as well as the Cabri and R22. He has also just completed a NOTAR rating but says out of all those types, the Cabri is the easiest to fly, feeling safe and stable and needing little effort to fly well. He has often flown between Havelock and Whakatane in poor weather and needed to divert to the coast, saying he has felt much more comfortable in the Cabri when conditions deteriorated. Sam says that using 'lots' more pedal than in the 22 took a little time to get used to and reading the glass screen instead of traditional instruments was also a learning curve. He notes how good visibility from the Cabri cockpit is with no centre bar in the screen and the view available beneath your feet, and also says the luggage capability is great.



Sam Stewart

Sam says that the environment at Frontier is relaxed but very professional. There's no time wasted at Whakatane airfield because it's always quiet there, but controlled airspace is only 25 minutes away and the hills are only 20. Low flying and sling practice areas are very close. He says it's great to be able to absorb teachings from Mark's commercial experience and to be able to participate in commercial operations at the company. He says that Mark is easy to learn from, being relaxed and informative, "letting you learn without feeling pressured and keeping training moving along too".