



Recreational Pilot - Issue #29

June 2007



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Mountain flying - Part Three

By Willie Morton

The next morning brought better weather. On the ground at Hokitika airport we could almost see the Whitcombe Pass in the distance. There was not a cloud in the sky except that is, for some wispy stuff hanging around the very pass we wanted to use. I had previously checked terrain heights on the map and was ok about climbing the 10,000 plus feet to clear the higher reaches if we were forced to. We quietly and thoughtfully went about our pre-flight duties. Kevin as usual, did the walk around to thoroughly check out the plane, ticking off the list softly to himself as he went; fuel for



contamination, oil and water, tyres, brakes etc. I thoughtfully loaded the spritely little filly, cleaned the windscreen, double checked the fuel, kicked the tyres and lit the fire! We were cleared for takeoff to Double Hill, our final landing for the day, an airstrip on Alistair's farm at Glenarife which, by all accounts was a flat 700 metre piece of ground running east / west and nestled in the Rakaia River bed, 1500 ft above sea level.

We set up the aircraft again into the cruise / climb and settled back in anticipation. Approaching the pass we became aware that cloud had been building up but pressed on until we fully realised that the pass was clouded over. We could see right through the pass underneath the fluffy stuff but there was only about 500 ft clearance between the valley floor and the cloud base. I gave her full power and raised the nose in order to get on top. The outline of the pass was clearly visible above the thick fluffy strato cumulus. I continued the cruise / climb pressing well into the pass. The glaciers over our starboard wing were too spectacular to let go. I panned around with my camera clicking all the way. Got it! I turned and looked ahead clicking off a couple more shots when suddenly I found that we were on top of heavy cloud. I clasped the control stick more determinedly as we progressed through the pass proper. I carefully checked cloud patterns ahead and each side of our intended path for movement in order to anticipate turbulence or monsters or anything at all. The intercom was ominously silent. I monitored the GPS track that I had previously entered as I scanned the granite ahead, eyes wide open. Directly ahead of us and in our path was a wall of rock. Thankfully I had visualised the other side of the valley during the planning phase and felt OK about continuing our track toward the wall on the other side. I caught a couple of glimpses of a river below us through holes the cloud; a long, long way down. We both agreed that it was the Rakaia because it ran at right angles to our track. The cloud cover began to snake its trail to the left as the valley opened up over our port wing. I gently dipped and turned onto an easterly heading. Still visual on top I looked back to take a mental cue of our turn and asked Kevin to not to loose the entrance to the pass in case we had to turn back. I reached forward and hit the CD player, Tina Turner punched out full force into our headsets, "simply the best, better than all the rest" Kevin and I cheered up and rocked with the music, cheering each other on with high fives. The valley opened up wider and wider as we went and before long I noticed a good clear opening to a valley on our right hand side. "We could get down there Kevin" but he had other ideas. He'd spotted a larger opening further down the Rakaia river and on our intended track. "We'll be right Willie, it looks like there's a bigger hole further ahead. Double hill began manifesting itself in the murk ahead. We set her up into a powered descent to loose 6000 ft and in no time at all, directly on track we dipped over the airfield, swung her round onto finals and sauntered in with a gentle full stall landing. YES!

In the distance a four wheel drive RV came trundling toward us. The door swung open, "Hi guys, welcome to Genarife" Introductions complete we piled into Alistair's flash Auckland shopping basket Prado with plush leather seats and toddled off to the house for morning tea. Kevin and I felt completely at home in

their spacious farm mansion where Prue served us a lovely hot apple crumble, straight from the oven with freshly whipped cream on the side. I devoured my helping together with a healthy three shot flat white. Yum! We talked about our exciting trip through the mountains from the west coast and Alistair gave us the low down on the tricks of trade in mountain flying. Kevin and I settled into one of the very comfortable shearers cottages nearby and rested while we waited for the gaggle of flyers to arrive from Kaukapakapa, north west of Auckland in their Alpies. They had been delayed, grounded in Rangiora for several days due to bad weather on the east coast. I was very pleased (and ever so slightly smug) that we had earlier chosen the scenic west coast route to Westport and had taken advantage of the good weather and very pleasant conditions for flying. The radio cackled joining so we made a dash for the airstrip in time to see two Alpis land. First to touchdown was Paul Hopper with co-pilot Reese; 10/10 for the arrival. Hooning around on base leg was Rex Swenson who greased in a sweet landing to score 12/10. We all decided that after lunch we'd hit the slopes. Alistair took the lead in the briefing and co-ordinated our heights, position and strategy. He advised that we should fly closer and closer to the mountain sides until we could recognise rock ledges and the shapes and sizes of smaller boulders in order to maximise our turning circle in the valleys. A piece of advice I was later to find most useful when carefully applied to flying in the mountains.

We all took off for a short tiki tour down river then began the slow uphill grind to the snow. The weather was perfect for the sortie. Levelling off at the top of the climb, Kevin and I began exploring the nooks and crannies flying increasingly wider circuits to take us closer and closer to the snow covered slopes and glaciers. I breathed in the beauty and awesome majesty of this beautiful country. The magic of the event was ever tempered by the awareness of danger and vulnerability of puny human beings high up where no bird has ever seen, who's lives were utterly dependent on a flying machine made with bits of wood, fabric and dope. I figured that the calculated risk was high but acceptable to those of us who were inherently mad, adrenalin junkies!

The three Alpi aircraft were two thousand feet beneath us doing their own thing at 5000' cluttering the airwaves with chatter of positions, intentions and headings. I appreciated our own space to concentrate on flying the aircraft and capturing the moment without contending with other aircraft. After the passing of a few more seconds in time I broke from my tranced concentration to find that we were the only aircraft in the sky. The rest had split! We were alone up there! I looked around at the scary cliffs on both sides, walls of mountain that plunged to the valley 7000 ft below, my heart rate increased and in a semi panic state I pulled her around to the east, set the throttle at 3000 RPM with 120 Kts on the dial and descended back to base. Kevin's Merlot was looking good.

To be continued?..

New products - Toys and Tools



ZAON MRX with Audio (MRXA-A), comes with a audio cable which will allow traffic alerts to be heard through a headset. MRX displays range and relative altitude of the closest threat, with continuous monitoring of the top 10 threats within the 5 NM scalable detection window. Altitude detection is scalable up to +/- 5000 ft. MRX is smaller than a deck of cards. The unit boasts a built in solid-state altimeter for "always relative" altitude information. Information is displayed on the high-brightness LED display (dimmbable). The unit is powered by aircraft power (12-40 VDC adapter

included) or 2 "AA" Batteries (with 8+ hours of use).

For more information go to www.aviationsafety.co.nz

WELL. BLOW ME AWAY!

Pete Bradley - Geraldine Flying Group

Just got my RAAZ Recreational Pilot issue #28 and as is my habit I firstly leaf through it before going back for a more detailed read. Blow me away there's an article by Bob Wagner which tickled the memory cells from way back, and as he has done so do I. Reminiscing is obviously summat that us aviators of advancing years seem to do on wet days and Bobs article certainly sent me back a few years. As I read those names from the past it was seeing paraphrased pages from my logbook and I had to sit down and display my journalistic skills. My flying days started with Bryce Nairn in Nelson and one Lance Watson who has a lot to answer for but at least he got me solo. Shortly thereafter I moved to The Nelson Aero Club where over the next few years I became well acquainted with many of the names mentioned by Bob. I well remember Kevin Allport, hell I even worked with him at the local freezing works. I remember Rex Krammer well and various of his antics. Les McAlwee and his wife Nancy are also mentioned and I still remember their help when Jacqui Barber, Graeme Taylor, and I flew that old C206 ZK-DIB around the South Island on the shortest day of the year. The McAlwee team came down in the morning, or was it the night before, and washed and polished the old girl until she shone. I'm still convinced their efforts gained us an extra 5 knots on the day.

I have many fond memories of my days at Nelson and in hindsight should never have left. I still believe that my time there under the tutelage of Lu Gollop and Ivor Bissell taught me valuable lessons about aviating that still remain, although there were others instructors like Stan Rowell who was a flatmate, who were great.

Never mind 22 years after I left Nelson I took my eldest daughter to her high school flight day at Timaru Airport



where I met a retired 747 captain by the name of John Lindener and I got to climb in the back seat of a Rans 7, ZK-RIC. John today says that I had a religious experience that day but as we climbed out he asked me, "How long has it been?" To which I replied, "About 20 years". "You have control," said John, and that was it. I flew that wee baby which handled like nothing I had ever flown before, and John, bravely allowed me to complete my first approach and landing in a taildragger for over 25 years. It was simply one of those moments that leave you lost for words and put "spiritual" back into the art of flying.

In September last year, exactly 18 years and 7 days since I had last flown I passed my passenger ticket in microlights and the first love of my life has come back. Someone recently asked me what it was like and I can only describe the feeling like this.

"She is the most beautiful girl you have ever known and you have fallen deeply in love with her. More than anyone else she is the centre of your life. Then one day for many reasons she leaves, or you leave her. You are broken hearted but you get on with your life although you never ever forget her. Every time you here the sound of her voice as she passes by high over head you recall the sights and sounds and smells that are your true love.

Then one day you look up and she is standing there, just as you remember her, just as beautiful, and she says 'I've come back' and it is as though she never ever left". Today I am happily flying out of Russell and Linda Brodies place at Rangitata Island and I love it. Even venturing back into the mountains. There are times when I would love to strap myself into a 206 again for a local jaunt and who knows, maybe one day. But for now I am back in the air and loving it.

Thanks Bob for the memories and thanks to all of you who were mentioned in Bobs article and to all those who were not but who still in some way taught me everything I know about the gift of wings.

25th Anniversary Southland Microlight Club

Southland Microlight Club is 25 years old this year and we would like to warmly invite all people interested to join us for a celebration dinner at Gore's Scenic Circle Croydon Lodge On Saturday the 16th June 2007, Pre dinner get together and drinks 6pm to 8pm, Buffet dinner 8pm (\$32 per person).

So please contact anyone that you may know that would be interested in coming along all present, passed members, associates, family, friends, supporters everyone is welcome to come along to make this a great get together.

Please get back to a committee member with your names number of people attending and contact details, if you are interested in coming along by Friday the 25th May 2007. We need numbers for the dinner thanks.

Committee members

Lyall Hopcroft Phone: 03 201 6440

Email: lyall.jan@woosh.co.nz (President)

Christine Oliver Phone: 03 202 7576

Email: cmoliver@woosh.co.nz (Secretary)

Murray Hagen Phone: 03 249 9399

George Taylor Phone: 03 248 6086

Email: gmtaylor@xtra.co.nz

Rob McBride Phone: 03 248 6371

Email: JILL.MCB@xtra.co.nz

Any old photo's, stories ect would be appreciated to put together a display, please contact Murray Hagen 03 249 9399

Other activities maybe organised for the weekend depending on numbers. Any questions please contact one of the committee members thanks.

Accommodation is available at Croydon Lodge they have put together a special deal for people attending this weekend please Contact them directly and mention that you are part of this event.

Phone: 03 208 9029

Fax: 03 208 9252

Email: croydon@scenic-circle.co.nz

Executive Profile - Evan Gardiner

I caught the flying bug in 1980. My first Pteradactyl kit was purchased in 1982 and my second, a 2 seater, in 1984. A Thruster Gemini followed in 1986 and a Rans S6 Coyote in 1992. Switching to composite construction my Ban-Bi ULC took two years of building before it's first flight early in 2001.

I have flown around most of New Zealand on various missions and I have recently clocked the 1600 hour mark in microlight time. I am a foundation member of the South Canterbury Microlight Club and hold an ATO and Inspection Authority. I have served on the RAANZ council since 1996 and am currently the Operations officer.

I recently scaled back my farming business and now live with Cushla on a life style block just out of Rangiora.



Editors Choice
The whole NRFC SI Safari Team
Contributor rewards for this and last issue will be in the mail soon.

WANTED From RAANZ members.

News, Stories, Photos, News Letters, Events.

Send it to: editor@raanz.org.nz

THANKS to everyone who contributes. Your editor salutes you

Membership changes since Feb 07

New members- Novice

Colin Hahn West Coast Microlight Club
James Bell Bay Of Plenty Microlight Assn
Grant Munro South Canterbury Microlight Club
Vern Carr
Graeme Sherrard Waikato Microlight Club
Colin Stewart Canterbury Recreational Aircraft Club
John Rochfort New Zealand Autogyro Association
Jean Anderson Bay Of Plenty Microlight Assn
James Cassels Canterbury Recreational Aircraft Club
Terence Edmeades New Zealand Autogyro Association
Caroline Trevella Canterbury Recreational Aircraft Club
Colin MacDonald Canterbury Recreational Aircraft Club
Kenneth Beaver Kaitaia
Sandra Campbell Canterbury Recreational Aircraft Club
William Scarlett Canterbury Recreational Aircraft Club
Char Brown Waikato Microlight Club
Nigel Ritchie Nelson Microlight Club
Clinton Hahn West Coast Microlight Club
Alec Christey Canterbury Recreational Aircraft Club
Steven Hughes Bay Of Plenty Microlight Assn

New members- Intermediate

Jason Anderson Canterbury Recreational Aircraft Club

New members- Advanced Local

Robert Land Geraldine Flying Group
Peter O'Brien Bay of Islands Aero Club
Bobby Bailey USHGA

New members- Advanced National

Brendon Gorrige Bay Of Plenty Microlight Assn
Maurice Cronin Northland Microlight Club
Graham Clark Geraldine Flying Group
Bruce McLellan Stratford Sport Flyers Club
Andrew Pike Bay of Islands Aero Club
Brian Chesterman Bay Of Plenty Microlight Assn

Thomas Watson Northern Recreational Flying Club
Bernard Gross Geraldine Flying Group
Peter Dessart Bay Of Plenty Microlight Assn

New members- Flight Instructor

Jared Wallace South Canterbury Microlight Club
Craig Richardson Bay Of Plenty Microlight Assn

New members- Senior Flight Instructor

John Nicholls Kaitaia

Upgrade- Intermediate

Simon Paterson Canterbury Recreational Aircraft Club

Upgrade- Advanced Local

Trevor Neal Coromandel Flying Club
Dean MacDonald Canterbury Recreational Aircraft Club
Robert Payne Manawatu Microlight Club
Arthur Suttie Waikato Microlight Club
Martin Smith Northern Recreational Flying Club
Terrence Crawford Hauraki Aero Club
Ray Corbett Canterbury Recreational Aircraft Club
Leigh Mathieson New Zealand Autogyro Association
Robert Harpur Southern Recreational Aircraft Club

Upgrade- Advanced National

Brian Van Der Velden Canterbury Recreational Aircraft Club
Craig Grant Middle Districts Sports Flying Club
John Lowther Woodbourne Aviation Sports Club
Terrence Palmer Middle Districts Sports Flying Club

Upgrade- Flight Instructor

Andrew Murdoch Bay of Plenty Microlight Assn
Trevor Leighton Nelson Microlight Club



PO Box 15-016, Dinsdale, Hamilton.

Windscreens

Charles Russell

After too many days of strong winds and indifferent weather, the late afternoon was still and warm. Slipping the surly bonds of Earth, my steed and I escaped into the magic realms of a cloudless sky. As the sun slowly sank towards the ranges, we reluctantly turned for home. The view ahead was gold and silver, striated lines of fire and rainbow colours?..and bugger all else. Hell on Earth! I need to fly into the setting sun with no forward visibility through the windscreen that has slowly got from bad to worse through bad treatment from well-meaning pilots and land in the darkness on the wrong side of the hills.

A lot of us have been there. Our old club Bantam slowly degenerated to the point where everything out front was seen through a hazy yellow tinge. Releasing the seat belt and peering over the top was not a realistic option. (Well it was for that flight). Something had to be done.

Acrylics have been around for a long time. Lexan, the most recent derivative which is being used more and more in the boating and aeronautical industries because of its transparency and willingness to perform as a very thin and light material, and its strength is used for many Microlight windscreens.

Taking care of acrylics requires some thought. Rubbing the screen to clear it of fog on a cold Winter's Day while sitting in the plane and breathing all over it needs some consideration.

Hospital Quality Soft rag, gentle up and down motion, and the removal of 40 carat diamond rings are the basics. (Serious fliers cannot afford rings of that magnitude, our flying costs too much) but even extravagant copper loops to prevent arthritis attached to our appendages will scuff a screen quite badly.

What looks to be a basket case can be brought back from the local dump by a bit of effort. Lexan is very soft. It scratches easily when cleaned dry or insect remains are removed by water and vigorous scrubbing. If you have a screen that shows signs of mis-directed enthusiasm, it can be polished with Brasso. As a child, my job every Saturday morning was to polish the brass crap on the sideboard to a fantastic lustre. This stuff will do just that because of its mild abrasives in a basic solution of ammonia. Silver polish can do the same thing for a screen that does not have heavy scratches in it.

A standard acrylic such as is built into a GA aircraft can also benefit from this treatment. Dribble some Brasso on and give it a vigorous scrub by hand with a soft and clean cloth.

If the windscreen has some very severe scratches, buy a lambskin sanding attachment for your power drill and a plastic bottle of 3M Perfect-it 111 rubbing compound. Give it hell, but do so either naked or dressed in overalls- this stuff can go a long way (distance ways).

I have just removed some massive scratches in both the door screens and windscreen of a C172 that came into NZ from the States. Those Texas belt buckles caused havoc with the sides of the windscreen as they hauled themselves up against it to refuel the aircraft. I was amazed at how well the acrylic came up. I had assumed I would need to finish off with Brasso after cutting the acrylic with the cutting compound. It was not necessary.

The bits that keep us from needing goggles also need us to look after them. Any cleaning must be done carefully with clean cloths and lots of water. Cleaning a screen before flight is not necessarily the way to go. Sitting in a hangar for a few days it will invite dust and bird droppings. Washing this stuff off could cause scratches to appear before too long. A dump of water on the screen before flight and then a careful clean when the plane is back on the ground is better insurance.

Cleaning a screen requires an up and down motion, not side to side or a spiral motion. Any marks will be vertical rather than horizontal. This will not provide you with a false horizon when you need to see what is going



on out front.



Your windscreen can be given a new lease of life, but only if it has scratches that can be dealt with. Our relentless sun burns through a screen every time we fly. The internal lines that slowly and inexorably join hands within the plastic will make it beyond repair eventually. We need to be aware of this and constantly assessing how far this degradation has gone.

It is only when we turn onto base leg for a short final as the light fades, that we become acutely aware of the failings up front.

From the boiler room- what's happening in RAANZ Admin

a.. RAANZ Trophies. With the RAANZ 2008 fly-in coming up early next year, we want to make sure we have all the RAANZ trophies collected and accounted for. If you hold a trophy, know someone who does, or suspect someone of the crime of trophy accumulation- dob them or yourself in. You have had them for long enough- someone else's turn.

b.. CMV book reprint. We have used up all the old books, now on a new print run. The format is pretty much the same, just a general tidy-up, but now with payment option checkboxes so members can indicate payment method (cheque/cash, direct credit, credit card). Instructors, please use up your current CMV books before ordering the new ones (they cost \$\$\$s), and you will get the new ones when you request replacements.

c.. RAANZ 2008 National Fly-in. 8-9 March, Waipukurau, hosted by the Hawkes Bay club. Put it on your calendar now!

d.. RAANZ calendar. I am thinking of producing a RAANZ 2008 calendar, full of members' flying pics with a calendar area to plan each month's flying. Would be good to be able to have a club featured each month. Sooo, email me your best flying pics along with relevant info, and I will see what I can do. Not long till 2008, so please send me your stuff NOW.

e.. Club membership lists. Club secretaries- if you want a listing from the RAANZ database of your members and their status, please ask. Easy to do, and may help you keep tabs on members.

f.. New members/appointments. It's always interesting to see what people are up to, and to see your own name in print, so I am resurrecting a listing in the RecPilot of new members and upgrades. I am starting from last RecPilot publication (Feb 2007), so all prior to that unfortunately miss out. we will catch you next upgrade.

g.. World Airsports.. Air Sports NZ are planning an airsports event to be held in Wanaka in December, and have invited RAANZ participation along with many other aviation organisations. The idea is to have a variety of aviation related activities, with the aircraft and participants all wired for video, resulting in a series of video programs from the event. If you have any ideas of suitable activities, competitions, demonstrations, whatever, please contact me. Remember, we have to balance interest and novelty with legality and safety, but lets see what we could do. Anyone for taking off and landing from a moving flat-bed trailer? How about wing-walking a Quicksilver?

h.. Speaking of wing-walking a Quicksilver- take a look at www.bobessellairshows.com. What a woman!

Stuart Parker, RAANZ Admin - www.raanz.org.nz



PO Box 15-016, Dinsdale, Hamilton.

AUTUMN SOUTH ISLAND SAFARI - NORTHERN RECREATIONAL FLYING CLUB

Two Aircraft - Tecnam Bravo ZK TNM and Alpi Pioneer ZK LPY crewed respectively by Club members Jack Maxwell and Gary Taylor in Bravo and Bob Foster and Bruce MacKenzie in the Alpi departed Whangarei at 0700 on Monday 16th April for a trip to the South Island and hopefully, weather permitting all the way to Stewart Island.

Our first leg was to Hawera via the West Coast beaches and Raglan (Bravo made a short stop here) then through the Stratford gap which we discovered was quickly filling with cloud and with squall fronts passing through which required some detours to allow VFR to be maintained. We ended up heading for Wanganui but came back into clear air before the coast and were only a few miles off course for Hawera so decided to head back to there for refueling (both the aircraft and ourselves). For any member who has not been to Hawera it is an excellent stop over place with a very friendly group of members at the Hawera Aero Club house where you are invited to have refreshments and receive local information and weather updates before proceeding. The field is owned by the local club and has three long grass runways (800m) - B.P. fuel and AWIB (123.45).

Our next leg was to Kaikoura, where you have the option of tracking direct to Cape Terawhiti (West Wellington) across to Cape Campbell and down the coast to Kaikoura or flying around the coast past Wanganui and Paraparaumu (in which case you would need to contact Ohakea). At Kaikoura there is intensive whale watching operations with both fixed wing and helicopters so a constant radio watch is advisable and note the MBZ areas. There is a good Café where we had lunch.

After leaving Kaikoura we headed for Rangiora and had discussed landing there and then going up the Rakaia River to "Glen Ariffe Station", however as the weather report was not good for the next day and as we wanted to get on our way to make sure we could eventually get to Stewart Island we went straight to Ashburton.

Ashburton is a very large grassed airfield which had hundreds of aircraft based there during the war and trained about 1200 pilots between 1942 and 1944. There is a choice of three runways (one over 1200m and one over 1000m long). After landing on 06 we taxied to the Mid Canterbury Aero Club and refueled up ready for the next day, and tied down the aircraft for the overnight stay. A short taxi ride to town to a very good basic Motel where the owners Lyn and Nick were very hospitable and friendly, we walked to a neighborhood Tavern where we refreshed ourselves with some very nice Speights (just like the "Southern Men") and had an excellent bistro meal.

The next morning (Tuesday 17th) was very cold and murky, however, hoping it would clear we went to the airfield but the murky sky eventually turned to pea soup and we spent the rest of the morning lounging around drinking coffee in the pleasant club rooms of the Aero Club. There is a very good Aviation Museum on the field and after contacting a member of the museum Trust we then spent the next two hours on a conducted tour of these exhibits which included a fabulous collection of aircraft and associated equipment. Their pride and joy was Harrier Jump Jet complete in all respects in a separate hanger, with a nose cone and cockpit of a Canberra Bomber. The main display in another large hanger included both military and civilian aircraft, too numerous to describe here but included a Vampire, a De Havilland Devon, a Harvard, Tiger moth, top dressing Air trucks and others. Anyone with a couple of hours to spare would enjoy visiting this place. Having now filled in most of the day and deciding we would not get airborne today we phoned the Motel again and they very kindly came out in their own car and took us on a tour of the City and surrounding countryside.

Wednesday morning dawned with a reasonable weather forecast so we were off again towards Invercargill via Dunedin and Balclutha. Jack and Gary elected to go direct over Dunedin Control Zone while Bob and Bruce flew down the Dunedin Harbour between Port Chalmers and Portabello on the Otago Peninsular, across St Kilda beach and down the coast to the Clutha river mouth, then turning right up the Balclutha river valley and over flew the airstrip at Balclutha where Bert Gregory was due on Thursday to test fly a Seaspray. We had intended to land there but once again we decided our main aim of the trip was to get to Stewart Island so we pressed on while the weather was favourable. On arrival at Invercargill, which is a full on controlled Aerodrome, we found the controller to be very helpful and friendly, (even chatting to us to ask if we were staying for the annual Oyster Festival). We fuelled up and parked on the tarmac while we obtained approval to visit Ryan's Creek Airfield at Stewart Island.

South East Air, the company that controls the airfield is situated in the Invercargill terminal building and you have to get written permission from their C.F.I. or duty pilot, who will brief you on the airfield approaches, and procedure, give you an updated weather report and decide if you can go. You also have to pay \$35 landing fees for each plane, which includes transport from and to the airstrip.

We left for Ryan's Creek at 12.30 for the 20 minute flight. Heading south from Invercargill across the Bluff township with the fishing boats and coastal ships at the wharf below. The Ti Wai Point aluminium smelter can be seen out to the east across the bay, then closer to Stewart Island the Oyster boats can be seen working Foveaux Strait with the "Mutton bird" Islands in the distance. Prior to arrival we were contacted by a base person on the Island who gave us the wind speed and direction and told us the preferred runway. After landing we were picked up by a mini van and taken into the village at Oban at Half Moon Bay. While there we all had some delicious local Blue Cod and Chips from the "Kai Kart" on the side of the road by

the Bay. The local pub is at present "The Pub with no beer". They had apparently been trading without a license for some time and got caught up with by the authorities who gave them a list of conditions to comply with before they could get their license back. The bar has now been closed for about two months (so we were told). After take off from Ryan's Creek strip (after giving way to a South East Air Islander, who have right of way at all times) we headed for Te Anau. A fairly uneventful trip past Riverton and over green valleys leading up the foothills and then into the mountains.

We over flew Manapouri airfield which is under reconstruction (although the main runway is still usable) and landed on a grass runway at Te Anau where we were met by Murray Hogan.

Murray is an affable born and bred "Southern Man" who owns a deer farm on the outskirts of Lake Manapouri and is a "Gun" authority on Microlights having built, repaired, designed, flown and instructed on them for many years. Together with his wife Bev and son, they run deer and sheep on their farm as well as a delightful Bed and Breakfast accommodation which we stayed in overnight, with a hearty bacon and egg farm breakfast in the morning. It was fogged in early in the morning and we had a couple of hours to wait which was well spent looking over Murray's (5 or more) Microlights in various stages of repair, (Shadows, Bantam's etc.)

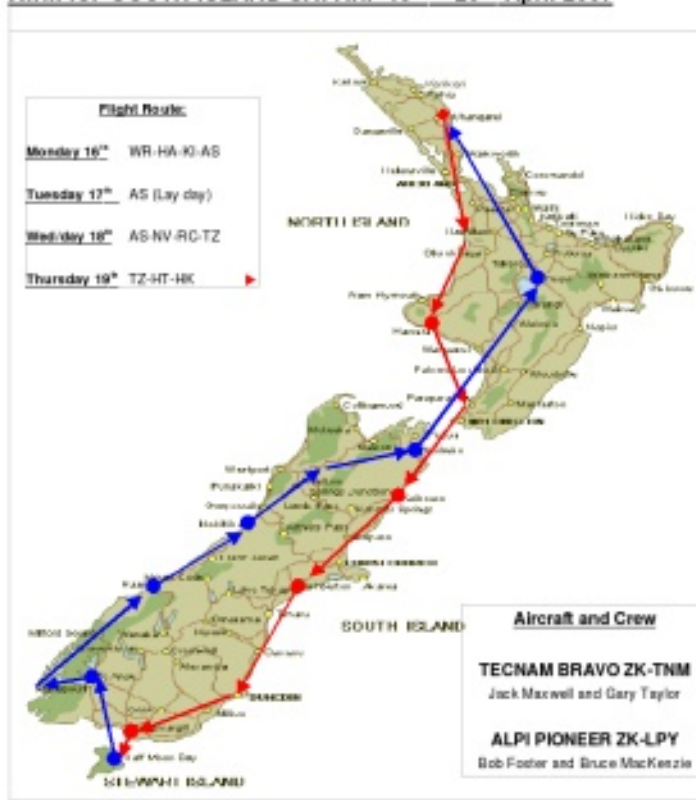
We took off at about 1300 hours and flew across Lake Manapouri towards the powerhouse and up to the Wilmot Pass before breaking through the mountains (at about 4000') at the head of Doubtful Sound. Looking out over the mountains with fluffy white clouds in the valleys with the fiords below and the open sea in the distance is a sight to behold. Turning right up the Thompson Sound and then up the coast past all the sounds, including Milford entrance with Mitre Peak visible further up. On up the coast past Jackson Bay to land at Haast and refuel. A very basic stony strip with no facilities other than a fuel pump. We climbed over the locked farm gate and down the gravel road for several hundred meters to pay our landing fees to the local service station and get a snack and cold drink. We pressed on up the South Westland coast passed Franz Joseph Glacier to Hokitika to overnight. Fuelled up and tied down for the night we phoned for a taxi to town. After enquiring about accommodation close to a café for dinner and within walking distance we were advised that "Stumpers Hotel" would be ideal as it was in the centre of town with its own Restaurant. Good basic clean rooms for \$30 each. Plenty of good Southern Ale on tap and a feed of braised lamb shanks (Bob and Jack I think) and a slab of prime beef fillet and veges that I couldn't finish because of the size of it. Then an early night to recuperate for the next day.

Friday 20th - a good weather report with some low cloud in the valley inland from Westport and Greymouth but a clear day with light breezes after that. Enroute from Hokitika to Omas (Blenheim) we varied our track slightly to follow the Grey River and the Ingnungahua junction Valley until we got clear of the low cloud. Over the top at 4500m and down the Wairau Valley to Blenheim. For those members not familiar with Blenheim, the Airfield of Omas is controlled by the Military/Civil airport of Woodburn which is only 2 miles west of Omas. It is therefore vital that pre-flight planning with a bit of homework is done before entering the area. However the procedure is quite straight forward. The Controllers were very good with their instructions if you communicate properly. After refueling at Omas we went to the Heritage building to refresh ourselves before the next leg. There is a very good Aviation Museum there but it needs a good 2-3 hours to do it justice. So we decided we will make a special trip back to Marlborough another time (and maybe stay overnight and sample the vines too). Up in the air again (with life jackets on) and heading across the Cook Strait with some cloud (900') After a while we were greeted with a delightful view of Ruapehu, Tongariro and Ngurahoe with snow caps and Lake Taupo in the background. A lot of parachutes operating in Taupo, but we were well advised of their operations on the radio so we refueled and set on our way via Matamata, Waiheke Island and across Bream Tail for a right had base join for 06 Whangarei.

We had a great time and can't wait for the next one. - Bruce MacKenzie ? See attached map of the track we followed.

Editors Note: Thanks for the cover shot of Doubtful Sound

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Technical Information:

Dimensions	H 2.7m x W 1.82m x L 4.9m
Engine	Rotax 100/115 hp
Empty weight	239 kg
Max. take-off weight	540 kg
Payload	301 kg
VNE	100 mph / 163 kph
Cruise Speed	95 mph / 150 kph
Minimum Speed	20 mph / 32 kph
Rate of climb	980 fpm / 5 mps
Take-off distance	30-230 feet / 10-70 metres
Landing distance	0-50 feet / 0-15 metres
Fuel capacity	70 litres = 3hrs +
Range	300+ miles / 450+ km



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Pipistrel NZ Demo Tour - March 2006 - Alan Clarke

Alan flew from 1967 to 1986 as a commercial pilot where he amassed over 10,000 flying hours - initially as an instructor at Canterbury Aero Club for 2 and a half years - then agricultural flying in NZ, Southern Africa, the UK and the USA. Fixed wing from 1970 to 1977 and then helicopters till 1986 when he quit flying altogether. In 2004 Alan took up gliding and in October 2006 bought a Pipistrel Sinus ZK-GPI (designated type PISI) and also took up the NZ agency

In March 2007 Donna and Alan set off on a NZ demo tour in GPI - we flew down the east coast from Kerikeri to Ardmore - what a fabulous coastline, with beach after beautiful beach. We also saw the Splash sailors practicing off Takapuna for their national regatta the following 2 days. Traffic over Auckland and in the Ardmore circuit did not seem too bad even after an 18 year lay off from controlled airspace.

Two days at the Ardmore Aviation Expo with a steady stream of visitors and lots of positive feedback from potential buyers. Late Sunday did a demo flight and then flew to Taupo gliding club - we are members there and they have excellent facilities and are very friendly - we stayed overnight in their "glidetel" and took their past CFI Tom Anderson for a fly - what a great advocate he is for gliding in NZ.



We left about 1.30 pm for the South Island - with a little detour to fly over Donna's family farm just north of Wanganui. Then to Paraparaumu for a comfort stop - no trouble getting a clearance from Ohakea along the beach at 1,000 ft. What a dream to have a GPS - a novel gadget to a pilot who had never before used one - these new boys have it so easy !! Hardly used a chart at all. Mind you so far the visibility had been 25 nm + and very little low cloud - occasional moderate turbulence - so easy so far. Paraparaumu to Omaka again clear skies but a head wind at 20 kts and moderate turbulence and 20 kts on the ground at Omaka too - but the Pipsqueak seemed to handle it all in her stride. Overheard at Omaka that it was calm at Kaikoura so off we went down the coast at 500 ft - beautiful; - arrived Kaikoura at 6.30 pm - wandered down the road 300 meters to a campground with cabins, beer and food - very comfortable night.

Tuesday dawned beautiful (again) as so off to Christchurch at 500 ft down the coast (I thought) but no - a Canterbury norwester around 20 kts was creating typical uncomfortable rotor turbulence which Donna didn't like much - bumped all the way to Rangiora and then it smoothed out a bit. I had forgotten to tell her the Pipsqueak has been tested to +9G without any trouble and that she could take a lot more than her passengers could. That reassured her and so onto Ashburton for a comfort stop and a phone call to Omarama for a wind check. Omarama had no wind and a hanger for us too, so onwards. Smooth till Burkes Pass and then the old Norwester again and 20 kts at Omarama on the ground - not a problem though and so into the hanger and the pilot and crew into the hotel on the airfield - great views of the Sth Alps, great food, nice staff and all at \$80 per night for glider pilots

Next day rain so off by car to Wanaka for a the day via the Lindis Pass - always a beautiful trip even in the rain. Thursday - Alan's 60th birthday !!!

Chris from the Omarama Soaring Centre offers a some local instruction for a free flite so off we go for 2 hrs searching for wave - not much around but learnt heaps about the local area and spent most of the flight with engine off at 8,000 to 9,000 ft - thanks Chris

Friday - Gavin Wills from Glide Omarama wants a trip - not much happening in lift but a beautiful day (again) so Gavin (10,000 hrs in the Southern Alps) decides to take me on ridge hopping tour at around 8,000 ft for over an hour to the top of the Landsborough river and back - what a fabulous flight - thanks Gavin.

Friday night - party with family and friends to celebrate Alan's 60th birthday - great fun and great food at the Wrinkly Ram, Omarama.

Saturday - lots of family flights and one with old mate Geoff Kitto - 20,000 hrs ag pilot (retired) Geoff points the Pipsqueak at a steep ridge at 100 ft and she out climbs it all the way from 1000 to 4500 ft - he thought she was a R22 helicopter !!

Then a solo thermal flight of the top of "magic mountain" with engine off - height gain of 2,500 ft and nearly 1.5 hrs - could have been more but a bit weary from the previous night !! Overall Omarama was very friendly and most enjoyable.

Sunday - more demo flights and then a quiet flight to Timaru where Alan learnt to fly back in 1964 - Sunday night dinner with brother Peter and dad age 97

Monday to Rangitata Island and a real bunch of microlight builders and enthusiasts ably assisted and encouraged by Russell and Linda Brodie. Another great set up (like Taupo) with comfortable accommodation in a restored 80 year old farm house and great hospitality.

Monday afternoon to Graeme and Valerie Mains at Rolleston just south of Christchurch but not to be - a small strip and a 15 - 20 kt crosswind. Discretion being the better part of valour back to Rangitata for the night - shelter too from a wild SW front that came through during the night



Tuesday lots of talking at Brodies and then finally the weather clears - off again to Rolleston - and into the hanger beside Graeme's Sky Ranger.

So how did the Pipsqueak perform ??
All takeoffs were around 100 meters
Climb almost always at 1000 fpm!!
Cruise about 110 kts indicated but the GPS said about 105 kts - might need to put the wheel pants back on

Rode turbulence about the same as a Cessna 172 - slow down to about 90 kts obviously helps

Several gliding flites at 30:1

Very comfortable and quiet

Fuel miser at 11 liters per hour or 40 mpg!!! Nothing to beat her in this class !!

Even room for enough baggage

So flew home Air NZ and will go back at the end of March and fly her home via Classic Fighters Air Show at Blenheim.

Executive profile - Peter Kernohan

Hello everybody, my name is Peter Kernohan. My involvement with RAANZ began when I started flying microlights 24yrs ago; this was when the organization was first known as MAANZ.

We farm in a place called Koputaroa, just north of Levin. There is an Airstrip on the property & you are welcome to call & see us anytime. (I understand the Airfield will be included in the next Vol.4)

Over the years I've had a lot of fun flying within the RAANZ framework & now would like to become more involved within organisation.

It's all about retaining the privileges our microlighting forebearers have gained for us & improving things where we can.

Fly safely & have fun!! - Cheers, PK

200 Gyro Flying Hours in Six Months (Filling a Gap)

Tony Unwin

I was told that there was a need for full-time gyro instruction in New Zealand but the take up has been more than I imagined! When planning to set up in Tauranga I anticipated sharing facilities with Chris Wade at Aerosport and then suddenly found myself with a large hangar, classrooms and several gyroplanes. This scaled up operation required students and sales to be viable and thanks to the growing gyro fraternity we have been active whenever the sun has shone and often when it hasn't. I have had great personal satisfaction from the relationships established with students converting to fly gyroplanes and particularly when training those who have never been airborne before. It is a great privilege to share the moment of a first solo (do you remember your first time) and though it is often nerve wracking for an instructor it is so, so rewarding. Tauranga has proved to be a first class base, sure the radio can get a bit intense at times but with Matamata and Waihi Beach within half an hour's flying, escaping peak periods is easy. The grass runway 04/22 used by Tauranga gliding club is also now established as the practice ground for wheel balancing and low hops. We have developed an arrangement that allows students to be coached on a 'private' frequency while the instructor gives appropriate calls to ATC, this even extends to early circuit flying when the airfield is quiet. The facility of a gyro dedicated hangar/classroom, three grass and one long sealed runway together with an ATC unit that fits the demands of all into an easy operation is just fantastic.



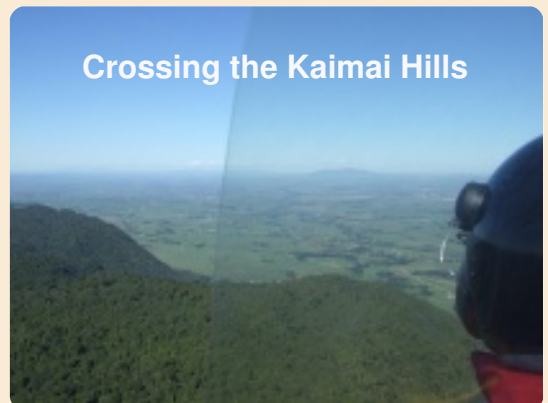
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Terry Edmeades at Matamata

To highlight let me introduce you to Terry Edmeades, a mature non flyer, who bought a single seat Dominator at the AGM at Dannevirke. Terry phoned up from Auckland wanting to do some full-time training to be able to fly his new machine. I explained that it was likely to be between 10 and 20 hours of dual flying before he would be ready to operate his own aircraft and so he decided to get a medical without delay and come down the following week. Well I have had students camp out in the spare classroom but fortunately Terry had accommodation available nearby. With some good weather and by giving a high priority to his flying he has achieved. It is now just

about a month later and Terry has flown solo circuits at Matamata, Tauranga and Waihi Beach and (in formation with me) has flown his own machine between all three. The aircraft involved is not the easiest to handle on the ground so there is a need for some caution and respect for conditions but the satisfaction factor is currently running very high. Trips across the Kaimai Hills to Matamata have become fairly routine although respect for the conditions is a must for the terrain, low cloud and turbulence can make this route challenging on a bad day.



Crossing the Kaimai Hills

The airfield at Matamata is large area of smooth grass and although used by both a gliding club and skydivers it is often quiet and very suitable for early solo work. Cross countries have recently been flown from here to Tokaroa and Collins Road, Hamilton by a loose formation of one Eagle and two single seat Dominators. As well as a beneficial training exercise the presence of three machines created a significant impression of a growing sport with the other aviators.



Cross country formation flyers

May I finish this update by thanking the gyro fraternity for their support, from the CFI Gary Belton to the aspiring novice, your input and encouragement is much appreciated and without it Gyrate training would not be available for very long.

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"I learned from this!" - A flight into cloud.

Barry Nolan

Three of us were determined to attend the 1994 Opotiki Fly In (I think it was) and we fondly imagined that we'd done a good planning job when the day finally arrived. Our most experienced pilot was flying his Trike, I was piloting a Maxair Drifter and had 98 hours as PIC under my belt whilst the third member of the party was flying his newly acquired Challenger. He had about 80 hours in his logbook. The forecast wasn't too promising for the Central North Island, so we agreed to land at Waiouru for an update before tackling the Desert Road.

Looking north from Waiouru, we could see patchy drizzle around the summit of the Desert Road, but reasoned that we should continue our journey and see if we could find a 'clear path.' Mistake number one! 'Trike' warned 'Challenger' and me that if we did lose our horizon, we should never use the road as a reference because it followed the contour of the land and would inevitably lead us into a gully that we'd be unable to fly out of. He said that the best course of action in this circumstance would be to follow the power lines which were always routed above other obstructions. I thought it excellent advice and it filled me with hope that we'd be in Turangi before long. So off we went at about 500ft AGL with Trike in the lead, me in the middle and Challenger bringing up the rear.

It was soon obvious that we'd struggle to find a clear path through the murk and I noted that Trike was flying lower so as to keep the power lines in sight but I wasn't too concerned at this point. However, within a minute of this realisation, I completely lost sight of Trike and, worse still, lost the power lines, too. I was too frightened to descend further as I thought I could potentially hit a pylon. The ground was just a black mass below me and I couldn't make out any features that would help me escape this situation and I was fearful of doing a 180 turn because I didn't know where Challenger was. I noticed that the mist above me was very bright as though it was just a thin veil shrouding the sun, so I climbed for what seemed an eternity, but only got deeper into trouble. I'd read about the effects of spatial disorientation which led to stall & spin



within a minute and remember thinking "I'm going to die today," but resolved to do what I could to prevent my early demise.

What followed was a true nightmare. I could hear the noise of the motor and feel the wind on my face, but didn't have any sensation of movement or orientation. On many, many occasions the feel of the controls told me that I was approaching a stall so full power and forward stick only to note that I was close to VNE a few seconds later as I over compensated. Perhaps the scariest part of this porpoising happened two or three times when I was in stall recovery mode with stick full forward and full power setting, but the airspeed refused to increase for what seemed an eternity. I still struggle to image what attitude the aircraft was in during those episodes. When flying the Drifter, I used to carry a 350mm long lead weight in my pocket to assist with trimming the aircraft. During the cloud flight, I imagined I could feel this shifting as I banked the aircraft at impossible angles so I compensated accordingly. However, on reflection, I think this may have been fanciful thinking or clutching at straws.

I resolved to do a 180 degree right turn and try to head back to Waiouru, but having no compass, couldn't tell when I'd achieved this and worried that I may have turned 120 degrees and be heading for the slopes of Ruapehu. I also made up my mind to go into a shallow decent and try to sight the ground before I crashed into it. My plan involved stalling the aircraft into the tussock as soon as I detected the dark outline of the approaching ground and after what seemed an eternity the mist below me changed to a darker hue. Just as I was about to execute my stall in plan, I popped out of the cloud into a pleasant, bush covered valley with a stream meandering along the bottom. The far side of the valley was clouded in so I followed the stream as I reasoned it must eventually lead to the sea. After following this path for a while, I noticed a 'Vee' of cloud free sky between the hills on the Waiouru side of the valley and flew through this. I emerged to find myself flying over an army maneuver with tanks, armoured cars and hoards of soldiers pretending to kill each other. They were frantically waving me away from their exercise, so I followed the tank trails and eventually came in sight of Waiouru again. On the way, I'd unwittingly flown directly over Challenger who'd turned back as soon as he saw me & Trike disappear and landed on the first available bit of grass, badly shaken and wondering what to say to our widows, but glad to be back on earth. When we met up later, he told me that I'd been in the cloud for about 15 - 20 minutes but it seemed like an eternity. Strangely enough, Trike made it through to Turangi and maintained that he'd only experienced a few moments of poor visibility.

What went wrong? In hindsight, I'd say "most things." We should never have taken off from Waiouru into worsening conditions. Given that we did, we should at least have planned an exit strategy to avoid banging into each other if the conditions suddenly deteriorated. This would have allowed me and Trike to turn back safely when we got into strife. I should have never contemplated 'climbing out of trouble', as this was almost certainly impossible. Oddly enough, during my training I always visualised cloud as white and fluffy, so warnings against entering cloud always conjured up this image. When I was confronted by mist and drizzle, it didn't really register

as cloud, so I wasn't fully alert to the danger I was facing. I was extremely lucky to survive my ordeal and attribute my survival to the flying characteristics of the Drifter. It's almost impossible to put the aircraft into an uncontrollable situation and its stall characteristics involve a slight nose drop and gentle self - recovery as the airspeed increases. I'm truly a lucky man to be able to write this account and hope it raises awareness of the perils of poor visibility for my fellow pilots.

Comment from Ops:

This shocking "I learned from this" contribution from Barry Nolan is a most chilling reminder to all VFR pilots - that attempting flight in IMC weather is akin to russian roulette in an aircraft. Except that russian roulette with a pistol, on the ground, probably has better odds!



It would be easy to pontificate about all the bad decisions made during this fateful flight but Barry sums these up very well, and honestly, in his article. Barry will never make the same bad decisions again. He knows that tales like his are more often told as a summary from a coroner's court hearing.

By sharing his nightmare flight with us it is hoped that we too will be reminded of our own vulnerability and renew our commitment to good decision making. The rules regarding minimum visibility for VFR flight are primarily set to protect our lives. We really need to respect that.

From an 18 wheeler to a Tricycle.

I can't remember when I actually got the flying bug but I have always wanted to fly since I was a kid.

I've always been involved in machines of transport mainly big ones like Long haul trucks such as Kenworths, Macks and the new European ones as well. What these trucks can do in the right hands is nothing but miraculous. As a professional truck driver I've just about seen all of Australia by road but how much more fun it would be from the air instead of roaring down the road in a noisy 18 wheeler rig. After a long career in trucking I was approaching retirement age and so I had made up my mind to get a sports plane, but what plane?



I already knew I wanted a plane that I could look after myself, a plane that was easy on the eye, was low maintenance and reliable. Although price and affordability was important, I wasn't prepared to save a few dollars and have the maintenance headaches later on, trucks have taught me to look for quality first. I wanted my new plane to be registrable with the RAA so for many months I read every aviation magazine I could get my hands on. I asked many friends that had aeroplanes and gauged from them what to look for and I set to test fly as many of the types available as I could.

To help my decision I decided to start taking lessons at my local aero club in Shepparton. There I had started flying the Gazelle. I liked the Gazelle but it wasn't the sort of machine I wanted to buy, I was looking for something more robust, roomy and something that could cruise along at a reasonable speed and yet fly slowly for when we wanted to do some sightseeing.

After months of test flying and comparing specifications I had accumulated two banana boxes of info and a huge phone bill. My decision now rested with the following criteria, durability, ease of maintenance, visibility, pilot comfort, safety features, after sales service and price. I had narrowed my choice down to just one machine the Fly Synthesis Storch. At the time there was only one FS Storch in Australia and it was located at Caboolture QLD.

I wasn't bothered by having to head up to Caboolture and test fly the Storch since if your serious about purchasing the right aircraft first time you need to make the informed choice.

I rang the Importer who organised and arranged for me to be picked from Brisbane. Rod Tyson of Free flying was the QLD FS dealer so he was going to demonstrate the Storch for me. This particular day was stinking hot so I was keen to see the Storch's climb rate and overall handling in such hot conditions.

Rod's also a CFI so he briefed me on the Storch's features and asked me to refuel the plane while we did the aircraft ground checks together. Now if your used to refuelling your typical high wing, the Storch is a welcome change, you basically

insert the suction hose into the fuel jerry and switch the onboard electric fuel pump, that's it! No ladder, no spillage, the fuel is pumped directly to the two wing tanks. Now if your tanks are empty it can take 10 minutes to fill them up although I'm told an extra pump is available for quicker refuelling, personally I haven't felt it necessary.

Now its time for the real test, flying the aircraft. Rod asked me to sit in the Pilots seat so I could get the right feel. Adjusting the seat forward took all of 10 seconds and we were now ready to go.

Rod explained what he wanted me to do, full power, a little right rudder, slight backpressure and slow rotation at 45 knots that's it. Ok sounds easy and off we went.

The Storch did exactly that, lift off was around 60-70 meters in nil wind, and wow this little beast really goes and climbed around 800 ft/min. I was keen to see how the Storch performed in a STOL scenario so Rod and I did circuits. Rod could stop the Storch in 50 meters every time. I liked the control of the Storch, as they didn't feel heavy or sloppy. Visibility was fantastic and cruise speed on this day was just under 100 knots. I'm planning to do long distance trips so having a cruise speed of 100 knots was important to me.

I had pretty much made up my mind that day this aircraft was for me. The flight that day left me grinning, all I had to do was persuade my wife Leeona that I was going ahead. No problem really, Leeona knew I had done the research and having bought trucks in the past she knew what I was looking for.



Having placed my order for the Storch S with folding wings it was a patient wait for it to arrive. I took a break from my flying lessons, since I was going to get my Pilot Certificate in my very own plane.

Eventually the Storch had arrived, albeit with two other Texans. It was to be put together at Penfield near Sunbury. With three aircraft to assemble Caz the importer was busy organising everyone's aircraft and registrations. I decided I was going to stay at Penfield during assembly and test flying.

I own a mobile home so parking my temporary home next to the hangar was really convenient. The people at Penfield were really friendly and I met some pilots that were helpful, in particular Brian Stevens a Texan owner helped Caz and I with the wing installation. Thanks Brian.

The Storch came together really quickly and once inspected and registered was ready to test fly. All of the FS aircraft come already test flown by the factory; my baby had 5 hours on the clock.

Terry Otway is one of the Instructors at Airports flying school and he and I were to do some flying lessons together before we flew the Storch to its new home at Shepparton airfield. Terry is a very experienced pilot and flew RPT for Ansett until he retired only a few years ago. I learnt a lot from Terry and he loved the Storch too, an easy going Instructor with a common sense approach to training. Terry is an advocate for the RAA and the safe and varied aeroplanes that make up the RAA pool.

After a weeks training with Terry my Storch was ready to go home. Unfortunately I had to drive my mobile home, so I had one of the Goulbourn Aero club Instructors fly the Storch home. I've completed my Pilots certificate in my Storch as well as NAV training including a trip to Emerald QLD and back. I have notched up 315 hours on it now and can honestly say my Storch S, has proven to be every bit as good as I predicted and still smiling.



Flight Instructor Seminar

For the wider aviation community microlight, helicopter, aeroplane, glider. 2007 Back to the Future - Back to basic instruction for future instruction. The CAA, with the help of sponsors, are conducting Flight Instructor Seminars at three venues in August 2007. They are specifically targeted at Part 149 Instructors and Part 61 B and C-Cat Instructors. The Seminar will be two days, and held in Hamilton, Masterton, and Ashburton. Colin Cox, Education and Training Specialist will participate in the seminars. The emphasis will be on instructional techniques. Learning will continue through the informal parts of the day and evenings, and to achieve this all participants will be staying at the venues for the seminars. A nominal registration fee will be charged, and includes all accommodation (share twin) and meals. If you're an Instructor for a Part 149 organisation, or a Part 61 Instructor, register now for the CAA Flight Instructor Seminar. Numbers are limited, and close of registrations has been extended to 14 July 2007 - but no further registrations will be accepted after this date.

See www.caa.govt.nz -> Whats New -> Flight Instructor Seminars



DYNAMIC PROPELLER BALANCING

What is dynamic propeller balancing?

Dynamic propeller balancing is the process whereby an electronic balancer is used to measure vibration produced by the aircraft power plant. Small trim balance weights are added to the propeller / crankshaft assembly to correct for errors in mass distribution and to reduce propeller vibration due to mass imbalance to the lowest level practical.



How is it done?

The engine/propeller combination is balanced on the aircraft in a flight ready state, where the vibration sensor is attached to the engine in a location where vibration imbalance is at a maximum. The engine is operated and the vibration displacement and location are measured by the balancing equipment.

The balancer indicates a vibration level (magnitude) which corresponds to the amount of imbalance which exists. The balancer also provides a "phase angle" which corresponds to a location of the mass imbalance on the propeller disk. The vibration level and phase angle are used to compute a balance solution (weight amount and location). The balance solution is added to the propeller and the measurement is repeated until the vibration level is found to be acceptable.

My aircraft runs fine. Why should I have my prop dynamically balanced?

It is still strongly recommended to have your propeller balance checked. The average airplane which has not had a Dynamic Propeller Balance has a vibration level due to propeller/crankshaft mass imbalance of about .45 inches per second (IPS) velocity. This level is more than double than what is considered to be an acceptable vibration level for propellers and represents a significantly higher level of fatigue on engine components and accessories. This average level is usually noticeable to the pilot and occupants, however many pilots are unaware that the vibration levels experienced are abnormal until they have their propeller balanced. Yours may be higher or lower than the average but only a mechanical vibration analyzer can tell for sure. On the average 19 out of 20 fixed-wing aircraft can need Dynamic Prop Balancing yet many will never have it done.

My engine and propeller were overhauled recently. Should I have my propeller dynamically balanced?

Both new and used components need to be dynamically balanced. In fact, the best time to dynamically balance a propeller/ engine combination is right after overhaul when components are fresh. In general no appreciable difference is found between the vibration levels of overhauled and longer time propeller/ engine combinations. Even brand new aircraft with new engines and propellers need to be dynamically balanced.

A general aviation aircraft is normally flown with the propeller speed somewhere around 2300 rpm. This RPM is higher in frequency than that of a typical helicopter main rotor and is not conducted or sensed well by the human body. It is however typical of a helicopter tail rotor and these are balanced dynamically on a routine basis.

Normally by the time the body can start to feel the effects of a vibration at this RPM, the damage has long since started to take its toll on the engine and airframe.

Do all types of propellers need balancing?

It does not matter what type of propeller you have installed, nor does it matter the engine type to which it is installed. Alloy, Wooden, composite, 2 blade or multi blade, piston or turbine, they all suffer from exactly the same dynamic imbalance problems, and all should be dynamically balanced to ensure you get the best from your aircraft and to avoid unnecessary maintenance costs.

What level of propeller vibration is acceptable?

The industry standard for an acceptable level of vibration is a maximum of .2 IPS (Inches per second); most engineers familiar with the use of balancing equipment are capable of balancing down to a level below .1 IPS. Experience has shown that an average vibration level for propellers which have not been dynamically balanced is .45IPS and it is not uncommon to discover vibration levels closer to 1.0IPS!

But won't having my propeller dynamically balanced "mask" other engine problems?

No! An engine with an internal problem which results in unusual vibration will not respond to balancing in the same way that an engine which only suffers from a mass balance problem will. An experienced engineer will use all of the information available from the balancing equipment to make a judgment about your engine and the vibration response to correction. In fact the engineer can often fault find your engine vibration problem and identify from frequency readings the part of your engine or gearbox/ reduction drive which may be at fault.

A bonus is the automatic check calibration of your RPM indicator to a very fine tolerance every time your propeller is dynamically balanced.

But my propeller has been statically balanced by the overhaul shop, isn't this just as good?

No, your propeller may have been balanced PERFECTLY by the overhaul shop, there is no problem there, but you need to be aware that there are TWO types of imbalance that may be present in a propeller.

1. Mass imbalance.
2. Aerodynamic imbalance.

A mass imbalance is nothing more than an unequal distribution of weight that is located away from the centre of a rotating mass. The further this is from the centre of rotation or the greater the value of unequal distribution, the greater the imbalance and its destructive forces.

Aerodynamic imbalance, happens when individual propeller blade performance is unequal during the rotational cycle. This can be caused by many different factors depending on the type of propeller and installation, ranging from pitch change link wear, mechanical damage such as wear and tear, through to each blade being like people, no two is quite the same, even if the propeller may have been made in one piece! The result is that if one blade is producing more thrust than any of the other blades, it generates an imbalance in one location of the rotating mass resulting in vibration. This can occur even though any mass imbalance may have already been corrected by static balancing.

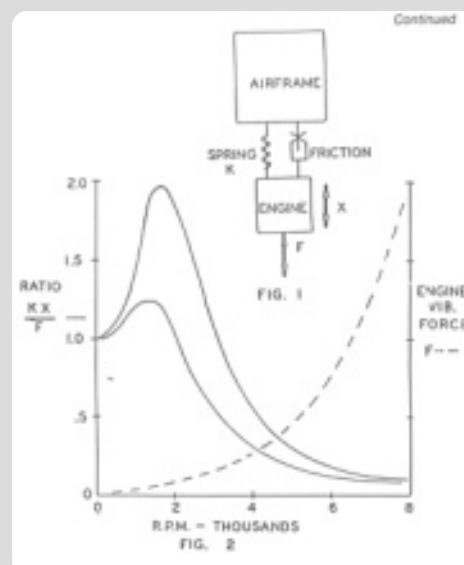
What are the advantages of dynamic propeller balancing?

1. Increased safety.
2. Improved comfort.
3. Improved aircraft reliability.
4. Reduced maintenance costs.

Increased safety Out of balance propellers/ drive trains cause vibration. Vibration increases crew fatigue which ultimately affects judgement and the ability for the pilot/ crew to "feel" how the aircraft is performing. A clear example of this is one of our clients telling us that since he had his propeller balanced he found doing short field approaches much easier because there was no vibration in the airframe or controls and he could "feel what the aircraft was doing". Vibration also leads to accelerated failure rates of instruments and electronics, both are detrimental to flight safety.

Improved comfort Fatigue affects the body in many different ways.

As aviators we want to enjoy our flying, and not have our feet go to sleep from pedal vibration while watching those instrument needles tremble. Passengers will notice the difference between an aircraft which vibrates and one which doesn't; this affects their comfort and perhaps their choices as to which operator they will use in future.



Improved aircraft reliability Out of balance propeller/ drive train vibration damages a wide range of aircraft systems.

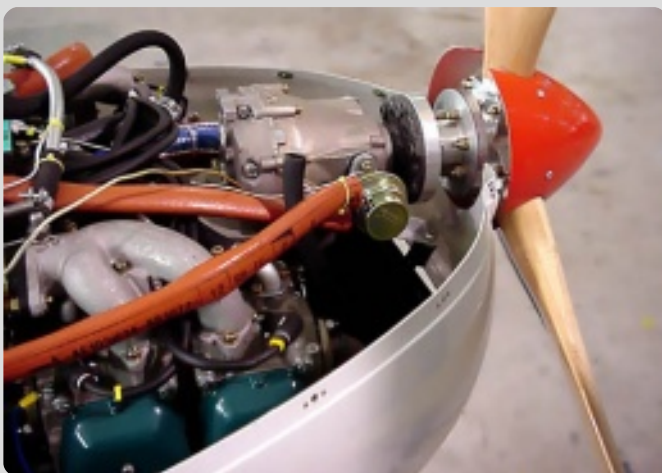
- a) Avionics; radio system and instrument failure.
- b) Alternator or generator failure, broken/ loose mounts brackets.
- c) Vacuum pump failure.
- d) Wiring harness failure, chaffing, terminal end work hardening failure.
- e) Fuel control failure, sunken carburettor floats, broken injector and priming lines.
- f) Oil leaks, cracked welds and cracked oil lines.
- g) Cracked and broken exhaust system components.
- h) Cracked and broken intake air boxes.
- i) Baffle/ cowl cracking and wear.
- j) Increased fuel consumption.

Reduced maintenance costs Smoother operating systems mean less undue vibration with less component fatigue. This means fewer repairs and replacement parts translate into lower maintenance and operating costs. How much have you spent on broken engine baffles and alternator mounts alone?

IPS means "inches per second" and is the standard imperial way of expressing vibration displacement.

What this means in real blokes terms is this, If one was to swing a conker (remember those.... cestnut on a string...) around ones head or wherever, we can feel the imbalance trying to pull the string from the fingers. If we then let the conker go, it will travel away in a straight line at a given velocity. The speed (velocity) at which it travels is expressed in "Inches Per Second". If our conker has a displacement of 0.6 ips, when released it would travel in a straight line at 0.6 inches per second. (a bit slow for a conker but you get the message) So.. if we look at our prop imbalance figure of say 0.6 "IPS" this means that if the imbalance present in our prop was able to escape and travel in a straight line like our conker, it would travel at 0.6 inches per second. For a prop this figure would be quite high.

The old industry standard of maximum acceptable displacement was 0.2 IPS. I am finding props at over 1.0 ips on a regular basis and have found a few way over 2.0 IPS. We are easily balancing down to figures like 0.05 with our digital gear, and pilots can feel the difference between 0.1 ips and 0.05.



Recently a pilot bought his Jabiru Bantam in; he got an extra 100 rpm back and the pleasure of knowing the difference between a good prop and a bad one. He will get to keep his muffler for a heck of a lot longer too.

Trust the above makes things clearer. Give us a call, speak to: Paul Waterhouse Ph 021 743 033 OR Norm Kensington Ph 021 418 677 and have your propeller balanced NOW.

Tech Note : The engine referred to above was one of the engines which had been inspected and found to have evidence of fretting corrosion between the vac drive and

the timing gear. An out of balance prop on an extension is going to help precipitate problems all over your engine not the least the flywheel connection. With proper balancing and bolt tightening it should be reasonable to expect your engine to reach its TBO without further worries.

And as a side note AD's are compulsory and must be completed as they are written unless you apply for an alternative means of compliance (AMOC).

WHEN THE NEST JUST ISN'T BIG ENOUGH, BUILD A BIGGER ONE!

When Fly Synthesis first began manufacturing their first composite sport planes, one has to wonder if they ever imagined they would find themselves in their current position. Of course every aircraft manufacturer strives to grow and be successful so after 22 years of manufacturing in their old Gonars factory it was time to move into bigger and better premises.

Sonia Felice the 45 year old owner of Fly Synthesis has brought the company a long way in recent years. When Sonia took over the reins of Fly Synthesis the company was mainly selling to Italy, France and neighbouring European countries. While European sales were constant, Sonia realised FS was in need of a focussed direction and strategies that would see the company go from strength to strength.

The limited space at the Gonars factory not only limited the amount of aircraft they could build at any one time, but also delivery times were longer. Built amongst homes the Gonars factory and airstrip is surrounded by cornfields at either side and a soccer pitch at the other end, test flying from the 200-meter strip was interesting to say the least! Although it made the STOL characteristics of their planes more appreciable.

With new designs in the horizon and forecast LSA export orders FS decided to build their factory at Mortegliano, next to the famous Risano WW2 airfield. The Risano airstrip has historic importance and was the same strip General Eisenhower landed on when Italy joined the allies, Eisenhower later went on to become Americas 34th President. Only 15 minutes drive from Gonars, Risano was an ideal site as it had a 2000-meter airstrip and plenty of room to build the new factory.



Old air strip

During the 2-year construction of the factory, orders have increased considerably and exports now make up 80% of their total production. Australia and New Zealand now the furthest FS has exported to. Australian Importer Caz Monteleone says “we are delighted with our sales so far, in particularly our customers feedback and overall satisfaction with our planes.” Sales to Australia and New Zealand now number 25 with more orders eminent.

At the invitation of Sonia I decided to go to Italy and see the new factory myself and found I was impressed with what I'd seen. The new factory is 4000 square meters (it's big!) it boasts a huge assembly area and modern composite section. What impressed me most was the R&D section, basically a design studio fitted out with the latest cad design equipment. I was allowed to see a new design and prototype they're working on but I can't say too much now until it's officially released, so stay tuned for more on this one. If that wasn't enough they even had their own Control tower!



New factory

At the time of my arrival only the LSA Texans were being made at the new plant and the Storch's were still being made at Gonars as new equipment was still being installed in the new factory. The two-factory transition allowed maximum output with minimum downtime. The new Factory can output 2 aircraft a week so kits and ready to fly planes now being available sooner than ever.

For further info please contact FLY SYNTHESIS AUST Caz Monteleone 0404 897452 or visit www.flysynthesis.com.au



Avio 582 South Westland - Nic Kagan



The **BIGGEST** Range

ULTRALIGHT RANGE



P2002 Echo



P2002 Echo S



P2002 Echo Super



P2002 Seasky



P2002 Golf



P2000 RG



P2002 Sierra

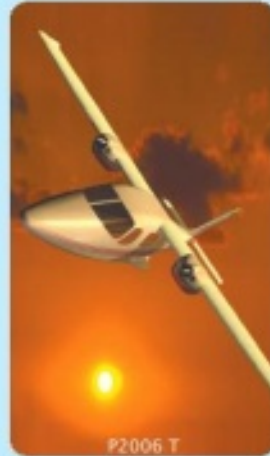


P2002 Sierra RG



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