

AGC Weekly News

The weekly newsletter of the Auckland Gliding Club at Drury, Auckland

Russell Thorne - a tribute

Ross Gaddes



Having just been presented with the Angus Rose Bowl, which was awarded at the recent Gliding New Zealand AGM in Wellington, it is fitting to write a little about Russell's life in the gliding movement and the substantial contribution he has made. This award is made for contribution to the sport over many years

RT's first flight in a glider was in 1967 when at Masterton with the Air Cadets as a youth. This interest in flying aircraft led him to join the NZ Airforce in 1970 during which time he flew with the Airforce gliding clubs in Wigram and later at Hobsonville.

He left the NZ Airforce in 1975 and later joined Air New Zealand in 1979. This was not a good time as the tragic incident at Erebus had just happened and is still clearly embedded in RT's memory of the time.

Russell's interest in gliding led him to the Auckland Gliding Club in the mid-eighties when he first joined as a member. A few years later he entered a syndicate in ASW20 "NT" - a very capable cross-country sailplane.

Russell left the AGC for several years to better concentrate on his career and looking after his wife and kids who are also a huge part of his life.

The latter part of his contribution to the Auckland Gliding Club started in the late 90's when he re-joined. He also served as a tow pilot turning up on rostered days to ensure the club operation was maintained. He became Secretary of the AGC about 2005 where he served until about 2010. With his retirement looming he decided to purchase a new Schleicher ASG29e - ZK-GRT - in 2008.

Although a perfect candidate for the CFI job he steered clear for a few years because he knew, that for him at least, this would be an almost full-time job. However, with his retirement from Air NZ in 2016 he finally accepted the CFI job in 2017.

This work was further extended as the threat (now less threatening), of a main arterial route being planned right through our airfield became reality. This required a person such as Russell to attend meetings and represent AGC at local action groups all of which he did competently with his normal accuracy and diligence. This process took several years, during which uncertainty hung over us and absorbed many, many, hours of Russell's time.

If doing these tasks wasn't enough, he was, and still is a huge assistance when it came to assisting the club with its seven-day operating policy over summer. He has welcomed our visiting overseas instructors, ensuring they get a warm reception and often has had them stay with him at his house (nearby in Karaka), until they acclimatised to NZ and overcame their jet lag. Acting often as the tow pilot, or ensuring the pilots

got their ratings as tow pilots and/or instructors, has been a huge and often un-noticed part of Russell's fantastic contribution. Being able to act as the club contact for these instructors to ensure they integrate safely and socially into the complexities of club operations has been invaluable to the AGC and is still only a portion of all the things that Russell has achieved within the AGC.

Being CFI is often where the buck stops when it comes to decision making and RT has shown that he is hugely capable in that regard. These decisions may not always be popular, but he has always assessed the information as it is given and then made the best decision based in the info at hand. All done without malice or being emotional - he has steered the bus and kept the machine firmly on track. Even his work done during Covid, where rules were required that complied with the GNZ and CAA directions were not always straight forward. Many initiatives coming down from government were vague and difficult to interpret. Russel has great skills in interpreting that type of documentation, and he also has great skills and patience, reading manuals and ensuring the correct meanings are acted on.

Despite all the above, he has still been able to physically be present many days at the airfield working at the coal face, as a tow pilot, checking airfield condition, as an instructor or even just filling in for the role as duty pilot making sure the flights get entered correctly and accurately. RT is an 'A' Cat instructor trainer and a senior member of the tow pilot team, just another contribution he undertakes unselfishly.

RT also has a been able to move forward – albeit much slower than he hoped – with the building of a Carbon Cub, kit plane with tow release attached too. This project is very near completion and now with the pressure of being CFI having recently been taken off him, RT will undoubtedly have his sights firmly set on actually doing some flying for himself next season. He has just had the panel of his ASG29 fitted with new avionics and a quality flight computer, so gliding as well as the flying the new Carbon Cub will be fun for him and a well-deserved release from AGC responsibilities.

To wrap up – I think Russell's contribution towards the AGC, and therefore the gliding movement, has been nothing short of remarkable. He has often managed to steer our club back on track when the road gets murky and the situation complex. He has always had a clear focus on the XC element of our sport as well as ensuring the appropriate skills are being imparted to make our members as safe as possible, at all levels. RT does not do this to achieve accolades or even a pat on the back. I suppose he enjoys doing all these things, otherwise he simply would not do it – but I think that he just sees where he can be of value and sets about making things happen and this really takes time. We are truly lucky and fortunate, at the AGC, to benefit from Russell's work and input, and his efforts are therefore hugely beneficial to our NZ Gliding movement as well.

And the good thing is that this is not a memorial or obituary – RT is still very much with us and will still be contributing for some time, yet. But the best thing will be for him to get some quality flying for himself.

2023 DX South Island Safari

The annual trip to South Island with our Duo Discus has become something of a highlight on the annual calendar and already all the spaces have been filled. However, if you would like to go but have been too slow with your application, just let Ross Gaddes know and he will make a note of your name and advise you if a cancellation should occur along the way.

A word of advice to those who have not yet flown in the southern mountains: a read of G Dale's Soaring Engine volume that deals with ridge and wave flying. Reading this will help immeasurably towards your understanding of the sometimes complex behaviour of the air in this unique and challenging part of NZ.





From the CFI

Last Saturday's Mid-Winter prize giving dinner was a well-attended affair with about 30 members and partners present.

Marion put on a wonderful dinner of roast pork, with apple crumble for dessert, always a favourite. *(As editor I must mention here that Anton himself was very much part of the feast preparation, also Ross Gaddes and Keith Macy. So, thanks to all of you! PW).*

Some light entertainment provided by the many-talented Murray Wardell with assistance from his wife Diane. Also, we enjoyed an informative presentation by Tim Bromhead on the topic of improving your cross country flying, complete with some of his own gliding footage. Most members know Tim as the member from Piako who produces the superb "Pureglide" series on YouTube.

With all the work that goes into running the club so we can practice the sport we love, it's very hard to pick those from the many who deserve special mention.

Generally, if you've won the Green Air Trophy, you've gone above and beyond what is ever expected. But we must thank the other members who have contributed over the last year to make the club the great place it is. These people need special mention:

James Butterworth - Painter and water blaster extraordinaire;

Hugh Warren - Mowing and general grounds keeper;

Matt Kerrigan - Paint Supplier and applicator;

Russell Thorn - For services as CFI for six years beyond the Call of Duty;

Keith Macy - Treasurer, Website Developer, Bar Manager and so on, all well beyond the job description.

And I'm also thanking all the other members who've helped with building works, committee evenings, instructing, duty piloting etc, - far too

many to name them all, but without whom the club wouldn't function.

The recipients of the awards and trophies were:

1st Solo Certificates

Lance Feldwicke
Angelie Madsen
Nigel Caigou
Kevin Johnson
A.J. Dudley
Caleb Rosvall

Green Air Trophy

Keith Macy (Awarded for general services to the club in a non-flying role.)

Zeeman Vase

John Robertson (awarded to the pilot of the highest placed Club Glider in The 2023 Auckland Task Week).

Banton Trophy

Tim Bromhead (awarded to the winner of the 2023 Task Week held January 2023).

Liddell Trophy

Angelie Madsen (this trophy is awarded to the most meritorious flight by a pilot with less than 70 hours in their logbook - 2hrs 44 in a PW-5).

Neil Grant Trophy

Nigel Caigou (awarded to the Most Promising student pilot)

Bent Stick Trophy

David Moody (for taking longer to drive in and out than the drive back to Taupo).

Ardmore Shield

John Robertson (highest OLC/Weglide scoring flight).

The PowerPoint presentation of the awards is available from the following link, you may need to log in first. <https://glidingauckland.co.nz/agc-2023-annual-prizegiving/>

Airfield condition

The grass at the strip is now extremely soft from the recent rain. The area around the trailer park is particularly bad, with two instances of driving on this area having left very deep impressions in the ground. DO NOT drive on any part of the grass with your car. If you need to get a trailer out you might need to use the land boss and the winch to pull it out onto the driveway, or else push.

This Saturday Jonathan Cross will be taking the Human Factors lecture and David Moody taking Technical on the 8th July.

Weather

We have a depression forming to the east of the North Island over the next couple of days, leaving a fresh and moist Southwest flow covering the country on Saturday and Sunday.

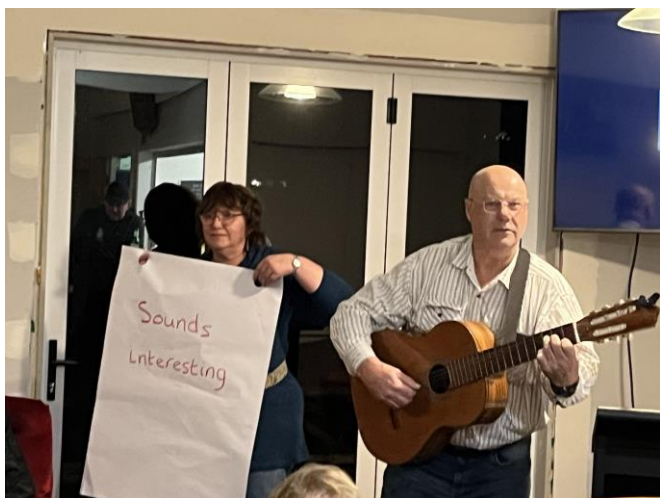
This would normally be great for flying the Kaimai's but I think the associated rain may not be conducive to this.

Keep an eye on the developing situation, it might end up being OK.

Anton Lawrence
CFI Auckland Gliding Club
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Pictures from the Mid-Winter Prizegiving

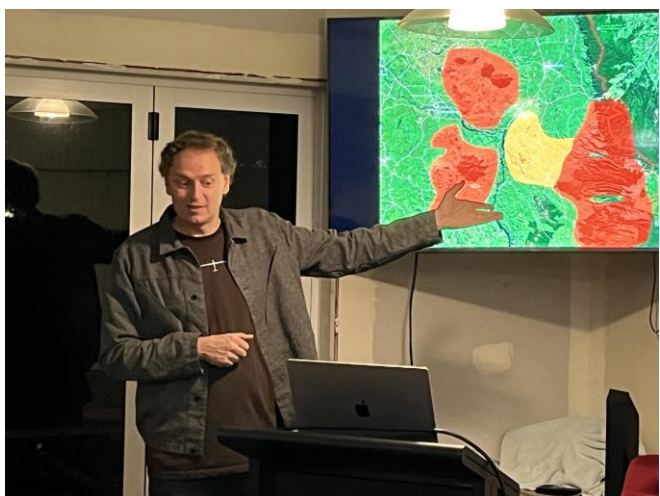
James Butterworth



Murray and Diane entertaining the company



Russell holding the Rose Bowl



The irrepresible Tim explaining how to do it



That highly gifted soaring pilot, John Robertson

Soaring with Water Ballast

Roy Bourgeois
Courtesy Wings & Wheels, USA



There is surprisingly little written about the use of water ballast in gliders, and this is true of the flight manuals produced with many gliders and which explain the manufacturer's systems in detail but say very little about when and how to use the systems. Most of the knowledge in the sport seems to be handed down with the sale of used gliders as old owners impart their experiences to the new purchaser or are learned around the clubhouse or at contests. And it is not uncommon for an owner of a glider with water ballast capability to have never used the system at all. In New England where I lived for most of my years, I would go entire seasons without using water ballast except at contests. In South Africa where I also fly each year, we use ballast every day.

Why Ballast?

Adding water ballast increases the wing loading of the aircraft (the ratio of weight to wing area) and this increase shifts the glider polar toward the high-speed end of the polar graph. Stated simply, flying a heavier glider helps the high-speed

performance of the machine at a sacrifice to low speed and circling/climb performance. By way of illustration, a glider that has a best L/D speed of 56 mph might see the same L/D occurring at 64 mph with ballast. The sink rate one would expect dry at 80 mph will occur with ballast at around 88 mph. But the stall speed increases correspondingly and the circling performance at our usual thermalling speeds is poorer. Thus, ballast is helpful during the strong parts of the day and a hindrance when lift is weak. Ballast is particularly problematic on weak days when thermals are narrow and steep angles of bank must be used.

Water ballast also negatively impacts the handling of the glider. The additional weight in the wings increases what designers call the "roll moment of inertia" making the wings heavier, more stable, and more reluctant to bank. Think of a tightrope walker who carries a long heavy pole - because he wants maximum stability in the roll axis. The added weight in the wings functions the same as

that heavy pole. While I have done no testing to prove it, my sense of the effect of increased weight on handling is that it is nonlinear and that the last 75 lb / 35 kg of ballast has a larger adverse effect on handling than the earlier loading - perhaps because this last weight sits further out toward the wing tips. Because of this, I rarely fly my gliders at the maximum allowed weight - even in the strongest conditions. The small performance increase I get above 95% of maximum weight is not worth the significant penalty of poor handling at maximum weight. Others may disagree.

When Ballast?

So, other things being equal, we would want the glider heavy when we are flying mostly in the best part of the day, in a race where other competitors are using it, or in a speed record attempt. We would also want ballast on extended ridge flying where stability, turbulence absorption, and high-speed performance are desired. We do not want water ballast on a high-wave flight with the risk of valves and other components freezing. We would not necessarily want ballast (and certainly not a lot of it) on a long thermal cross country where we will spend the initial hours struggling with weak thermals before we get to the good part of the day. For a long-distance flight, if the absence of ballast means we can start a full hour earlier in the day, we may well pick up more distance in that "extra" first hour than we will gain in 4 hours of higher speed ballasted flight later in the day. The ability to start early in weak conditions versus the weight to go fast later in the day is a tradeoff that the pilot needs to think through while factoring in the issue of water ballast and its adverse effect on climb and maneuverability. You can't do both.

The first generation of fiberglass gliders did not incorporate any provisions for ballast - but some of those gliders were later fitted with ballast bags in their wings by owners who wanted to fly heavier. The bags were made of a material like that used in life rafts or were modified from rubber fuel bladders that were put to this use. Gradually manufacturers themselves began adding ballast bags of increasing capacity and some owners added even more capacity post-manufacture (contest weight rules were a lot looser back then). Most bags had the disadvantage of being unbaffled and when a wing dropped on takeoff, water would rush to the tip end of the bag keeping the wing down and causing a ground loop. Eventually, manufacturers went to integral wing tanks with internal baffles or "fences" to keep the water from sloshing quickly spanwise. The most recent iteration of ballast systems was a

trimmable tail tank that offsets the forward CG of the water in the tanks ahead of the wing spar. Tail tanks are interconnected to the wing dump valves and open when the wing ballast is being dumped.

Evolution of Ballast Systems

Some larger-span, 4-piece wing gliders use tanks in both the outer and inner panels. Frequently the manufacturer requires that the outer tanks be filled first for structural strength reasons. The same is true of gliders that have both wing and fuselage tanks. Some pilots chose to ignore these directives because loading the water inboard helps improve the roll rate - but this also reduces the design structural safety margins. Also, some gliders that can be flown in variable span versions (e.g., 15m and 18m) have an oversize ballast capacity when flown in the short wing configuration. This allows for the glider to be flown at ballasted weights in excess of the manufacturer's designated maximum weight when in the shorter wing configuration. Such a practice is both dangerous and unsportsmanlike and it is for this reason that competition gliders are weighed at contests and all FAI speed record applications require a signed pilot certification that the aircraft was flown consistent with the manufacturer's directives and limitations.

I hope that you find some of this helpful.

Stay safe. Have fun. Get better.

Roy Bourgeois

Banner Photo by Mika Ganszaug



Roy Bourgeois is a well-known US and South African glider pilot who served many years as the Chief Pilot for the Greater Boston Soaring Club and now lives and flies in Arizona. He has held several US national records, competed in many US and Canadian Nationals, and has flown over 300,000 XC kilometers in his 4400 hours of gliding. He can be reached at royb@bw.legal

The Long Ride North

Our club President, noticeably absent from the recent Mid-Winter festivities at the club, has not abandoned his post. He is merely taking a well-deserved break, and is at present overseas riding his e-bike from Gibraltar in southern Spain up to Nordkapp in northern Norway. In Gerard's own words:

Endless sunlight and terrifying tunnels.

Jane and I are now heading south from Nordkapp, having reached the northernmost point of Europe.

The trip south involved several tunnels, the longest being 7km and 212m below sea level. The temperature in the tunnel was only 9C.

We'd left the campground at 06h15 (it hadn't got dark, after all) and reached the southern side of the long tunnel by 08h00. Our pleasure was immediately tempered by a 10kt headwind, making life difficult as we traversed high moors resembling central Otago and dipping down to sea level.

The sun travels an elliptical path, staying low above the northern horizon overnight. We wear eye masks to try to retain our circadian rhythm as we won't see darkness for a few hundred kilometres yet.

The tunnels which don't have a segregated cycle path are frightening. The noise made by any vehicle (including motorcycles) is loud and gets very loud by the time they pass. We went through one tunnel which had a narrow footpath, with a

chamfered edge down to the road. With that and the noise, we got off and walked.

We're now far enough south to be able to catch the small double ended ferries, which can trim off 100km of riding around the edge of the fjord in a 30-minute trip. Ferries are free for Norwegian registered cars and cyclists.

Norway is clearly a wealthy country which has spent a lot of money on infrastructure. The usual observation is that Norway is expensive. We think it's broadly on a par with New Zealand, which doesn't bear thinking about.

People are more welcoming than I'd been expecting in a Scandinavian country; especially when they find we're so far from home. We're still at a latitude of 70 degrees, which would put us in the Antarctic in the southern hemisphere.

The weather is unseasonably warm; great for cyclists.

Well done you guys on the Mid-Winter feast. I'm sorry not to have been there (packing and riding every day can get a little tiresome). But then again, it is a bit hot in Tromso today; the bike is getting a new rear tyre as it's worn and has a slow leak.

I've been in touch with Arnulf, from a few seasons ago, and may see him in Oslo in a week or two.

More next week,

Gerard



Winged turbines in France



Some sinister roll cloud there



Fjord ferry



Reindeer?

Member's Ads



Free firewood currently in trailer garage No 2 (South) hangar. Please pick up before 9th July. Andy Campbell. .P.S: Gliders KF and KO not included!



LS3-A for sale (ZK-GLL). Has been refinished and is in excellent condition. Recent upgrades include LXNav S100 plus remote stick, Trig ADSB, new front panel, Flarm mouse, new galvanized tilting open trailer that I

am in the process of making a full cover for. Glider fits in the trailer the same as a cobra trailer with the fuselage and wing trolley's being visually similar to what the expensive trailers use. After several landouts the trailer proves to be successful and easy to use. Comes with tail dolly, wing walker tow-out bar, oxygen bottle and EDS system (I have never used this so cannot vouch for its functioning) Annuals recently completed. A great performing 15m flapped glider. \$45,000

Contact Keith Macy keith.macy@outlook.com



PW5 KF. Current Annual until Dec 2022. Ready to fly. Approx 800 hours flying. Radio, altimeter, airspeed indicator, electric and mechanical variors. Includes open trailer. Priced to sell at \$8,000. Ideal for single ownership or cheap syndicate. Reason for sale is that glider is surplus to requirements. Phone Murray on 0275 875 438

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