

OUTLANDING

The Taupo Gliding Club's Newsletter



February 2024

Welcome all to another edition of Outlanding. I hope you have all enjoyed the summer. We have seen some excellent flying weather of late and there have been some extraordinary flights, locally and afar.

With really only another month of the official soaring season left make sure you get the most out of it. Come out and fly.

If anyone has an article or notification to be included into the next newsletter, please have it to Trace by 20 March 2024.

Fly well and have fun! Cheers, Trace

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DI's and signing the Tech log *by CFI Colin McGrath*



Since the last newsletter when I grumbled about failures to fill in and sign the DI in the Tech log, we have continued to have occurrences of this failure, myself included.

After thinking long and hard about how I managed to get myself into the statistics, I believe that there is a psychological trap built into the process. In that you finish the inspection and then sign the book. So, if distracted in any way when you have finished the inspection subconsciously in your mind you have finished. And can move onto the next thing.

So, we need to put a simple system in place to prevent this happening. A bit like our pre taken off and landing checks. I believe a good one which I plan to use in the future is; I start by checking the blue pages and the major & minor defects before I start the DI, as there is no point in doing a DI if the aircraft is not cleared to fly. But instead of putting the book away which is what I've done in the past, I'm going to leave it on the pilot in command seat so it's obviously in the way until it is signed and returned to its pocket as a very simple and obvious reminder that it has not yet been signed.

Talking to others this is a common method used by a lot of pilots but I don't remember being taught or told about doing this. It's simple and should be effective.

I believe that if we all use this method, in conjunction with checking the DI entry when we first do our ABCDE for our first flight, we should be able to get on top of these incidents going forward.



Reporting Incidents *by Trace*

I thought that I would point out the importance of reporting incidents, and in particular reporting of ground loops and heavy landings. With any type of incident we must fill in a GNZ OPS10 Report. The OPS10 is used as a tool to identify problems or traits associated with a number of things within Gliding New Zealand. The Ops Team look at all the reports and assess whether the incident is related to pilot error, training issues maintenance etc. This is a no blame report and only takes around 10 minutes to complete. In a nutshell, we learn from mistakes made by others and we try to eliminate these mistakes from being made in the future.

For the purpose of this article let's begin with ground loops.

What is a ground loop?

A ground loop is when the tail of the glider loses directional stability and rotates about the horizontal axis of the glider. In other words, the back chases the front and you are no longer facing the direction you were travelling. It occurs when the wing strikes the ground and snags whilst there is still forward motion. The snagged wing basically stops and the outer wing continues. This quick rotation puts extraordinary forces on the glider's structure and in most cases, a severe ground loop will snap the glider in two. You do not have to be travelling at great speed to have a ground loop and lots occur towards the end of the ground roll.



Now for heavy landings. What is a heavy landing?

A heavy or hard landing is when a glider touches down on the runway, or paddock, with a greater impact than what is considered normal. They can be caused by various factors such as weather, pilot error etc. Once again, extraordinary forces can be placed on the glider's structure and wing tips can strike the ground without you even realising.

In either incident, if there has been, or even suspected of having been, a ground loop or heavy landing then an inspection of the glider *is required*. Gliding New Zealand Engineers follow a set inspection schedule using the GNZ Tech 22 Section Six – Abnormal Load Inspection to inspect for any damage caused by ground loops and/or heavy landings.

In the end - it is up to individuals, the pilots and observers, to notify someone if they have seen or suspect a ground loop or heavy landing. It can be seen as a pain to have to complete the paperwork and have the sailplane stripped for an inspection to be carried out, BUT, it could be far more painful if it is not completed, so please err on the side of caution, **Report It and have It Inspected**.

What is a Variometer

A fast response rate of climb instrument usually scaled to match typical glider rates of climb and descent (+/-10 knots). The variometer makes soaring possible by displaying the glider rate of climb to the pilot in near real time, enabling the pilot to manoeuvre the glider so as to remain in rising air. Variometers come in many types, some sense the airflow from a capacity bottle or flask (as the outside pressure increases or decreases due to altitude changes, air flows in or out of the flask to equalise the pressure) either mechanically or electrically, others measure the air pressure directly using silicon pressure transducers and compute rate of climb electronically from the changes measured. All instruments suffer from lag and vario's can have around 1 to 3 seconds of lag.

Mechanical Vario

Mechanical vario's do not require electrical power to operate. Mechanical vario's don't have all of the fancy features that most electric versions do, but because they don't rely on electricity to power them they are, at the very least, a good back up in case of a power failure.



Electric vario

As the name applies, an electric vario requires power to operate but in doing so gives the pilot some other features.

Audio – To allow better lookout, electric vario's can give out an audio tone that changes as the lift increases or decreases.

Averager – Some electric vario's can give an average climb rate over a 20 or 30 second time period. This will give the pilot a more accurate actual climb rate as it is averaged over about one thermal turn. Some instruments will also give a bottom to top average (from when the glider starts turning to when it exits). Most basic electric vario's will show the average climb rate on the dial when holding down a button while the audio remains as a standard TE (Total Energy) vario. Higher end vario's will have a separate LCD screen showing the average climb rate.



Netto Vario

A Total Energy (standard) variometer as described above can be further improved as the standard vario will, in still air, not take into account the sink rate of glider at the speed being flown. As a glider increases airspeed, its sink rate also increases and this will show up on a standard vario as sink. A netto vario knows the polar curve (sink rate at various speeds) of the glider and is plumbed up to sense the airspeed. The end result is that the gliders sink rate is removed from the vario reading at all speeds. What this does is to help the pilot to pick the best path through the air in cruise (which is the path with the most and fastest rising air and **OR** the least and slowest sinking air). It also helps a pilot to decide whether or not to turn in lift while in a fast cruise as a standard TE vario won't show the full strength of the lift. For example, 8 knots of lift may only show up as 3 knots due to the gliders sink rate at high speed.

Relative Netto Vario (or Super Netto)

There is one disadvantage with a netto vario and that is if we fly through our thermal rising at 8 knots we see 8 knots on the netto vario regardless of the airspeed we are flying at. This is fine until we begin to turn and thermal as a netto vario is only set for straight line flight and by turning, the gliders sink rate has increased for the same airspeed. A relative netto vario will compensate for the circling sink rate of the glider. What this means is that in "still air" while cruising, the vario will read about 2 knots down at all speeds. Not perfect for cruising but will still work fine if the pilot takes it into account. The up side is that the vario will show what the climb rate will be if the pilot decides to turn in lift.

Static Ports/Pitot Tube/T.E. Probe

A pitot tube collects airflow for instruments such as the ASI and measures forward airspeed. They are usually situated either in the nose or half way up the tail fin. Do not close your lips around a Pitot tube and blow as instrument damage will occur. Blockage can occur from insects or mud wasps building nests inside and the pitot should always be covered when the glider is being stored.

A static port is basically a small hole in the side of the fuselage that measures static air pressure. These ports can be on both sides of the nose around the canopy and/or half way down the tail boom. Static ports should always be clear of blockage.

The TE probe is used by the vario and measures lift. The back of the tube will have two small holes that measure the air pressure and should always be clear of blockage. Do not close your lips around the TE probe and suck or blow as instrument damage will occur.

David Smith – Final Glide

Some of you will remember David when he spent time in Taupo during his early training some 10 or so years ago. David has written a number of articles for the newsletter over the years and enjoyed following what was happening around the club. Unfortunately, David passed away recently in a gliding accident on the South Island. RIP David.

Eric's Farewell

How time fly's. No sooner than he has arrived here in Taupo he's flown the coup back to Germany. At least this year Eric has managed to do some flying. In fact, in his first three days here this season Eric had more flying time than he did all of last season. Thank you Eric for your contribution to the club. Your time and effort has been much appreciated and of course, we look forward to seeing you next season. Enjoy your European summer. A couple of pics from the farewell BBQ



Achievements

- **CONGRATULATIONS** to Peter Bergman (Pilot Pete) for Re-Soloing. Well Done!
- **CONGRATULATIONS** to Colin McGrath for attaining his A Cat Instructor Rating – Well Done!

Upcoming Events

Just a quick reminder about the following events.

- Grand Prix – Matamata 2- 10 March
- *taskPilot* 2023/24 season completes – 31 March

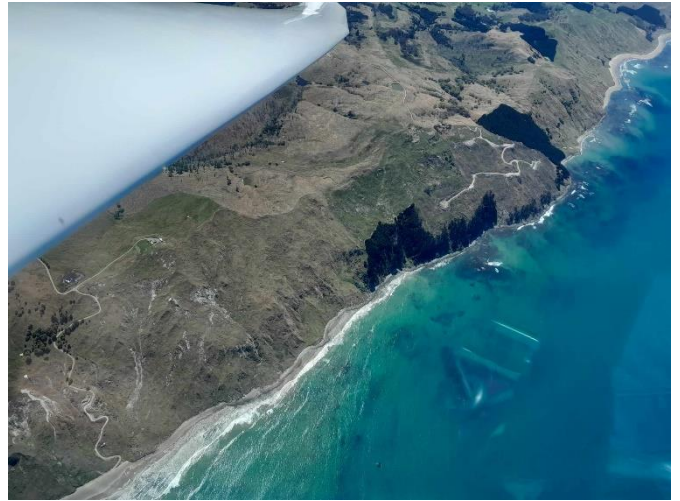
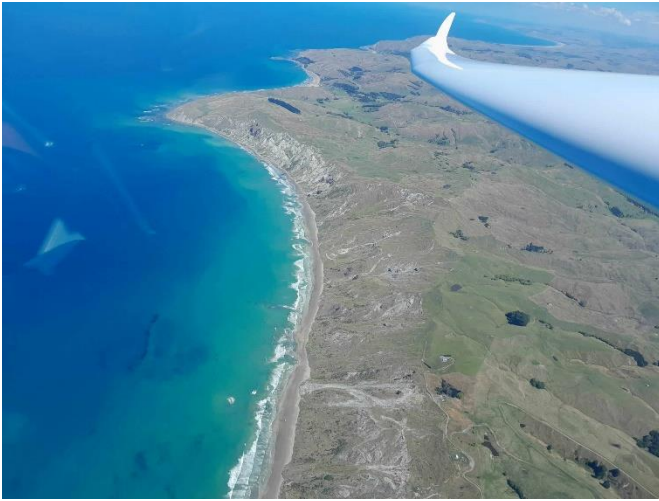
Final Knees Up For Season @ Taupo

Easter Weekend 29th March Thru 1st April



Trev and Suzanne in Waipukurau

A few pics from Trevor and Suzanne's flight before the contest.



Humour

