January 2018

Welcome everyone to another year and another edition of Outlanding. My apologies for being a bit late with this edition as I had intentions to have it out two weeks ago. My excuse is that I had to go flying when the weather allowed and then the next thing you know I was back at work.

There are still plenty of opportunities to be had before winter sets in so make the most of the flying conditions and enjoy! Although as this newsletter hits the streets even the ducks have had enough!

If anyone would like to place an article or notice for the next edition, would you please have to me before the 20th of April 2018. Cheers Trace.

What's inside?

CFI Report *by CFI Bill Kendall*

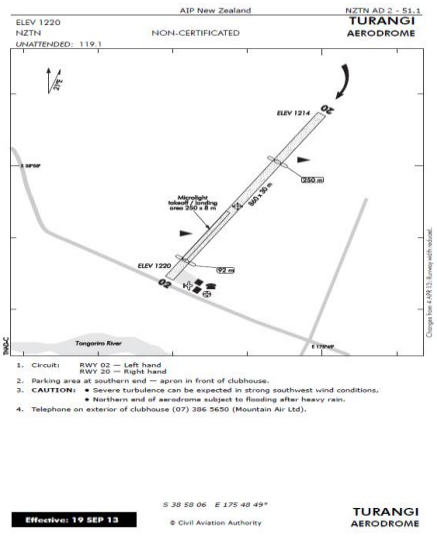
WHAT has happened to the weather? You can't win, we had all that beautiful hot weather and sunshine which led to some excellent flying conditions and now its tropical cyclone time almost like a monsoon climate, who said we didn't have climate change? (President Trump).

I would like to take this opportunity to remind people about cars around gliders as we had the wingtip of GME run over causing extensive damage see photo and I am sorry to say that I was the culprit.

The moral of the story is always turn away from parked gliders and aircraft. Never attempt to drive between them unless you are positioning to tow a glider to the other end or back to the hanger and then always have a safety person outside to guide you. That second pair of eyes. This will help eliminate costly repairs.

Trace, Hugh and myself have been trying out the little tasks available on TASK PILOT and we encourage all of our pilots to use the app; so log in and have a look, we have an Oudie available for club members to use. If you are not sure how to use one, talk to Hugh, Trace, Trevor or Brett I am sure they will only be too happy to point you in the right direction.

Just for your information TURANGI airfield is the responsibility of Taupo Airport management and any incidences on that airfield need to be reported to the Airport Managers Office and warrant's a CAA005 incident form to be filled out.



A big Congratulation to Tony Budd for achieving his 'C' cat instructors rating and welcome him to our dedicated group of instructors, please be gentle with him. In saying that Tony has many years of flying under his belt in many aircraft types and his English & French experience brings that European knowledge to our instructing teaching base. Please give him a pat on the back, he has had to put up with a lot from our New Zealand Gliding Management system.

Secondly congratulations to Akira for achieving his 'B' certificate, now all he has to do is get some flying time up moving towards his QGP. If you have some jobs for him please give him a hand to get there.

It is good to see the rapport we have established with the Air NZ Q300 team in that some of their pilots are transmitting on 134.45 with precautionary flight information when approaching Taupo. Our RED ZONE is having the right effect to heighten our pilot's awareness of other aircraft using the RNAV approach into Taupo Airport WELL DONE TEAM don't let your guard down and keep up the good work.

That's it from me from a safety stand point you are all doing a good job but please remember to keep an eye open on the safety front and fill out a OP's 10 if you have an incident if warranted or talk to our Instructor Team.

Jantar Trailer

With the Jantar up for sale the committee determined that it would sell better if it had a trailer that was serviceable so the task of sourcing a trailer began. One did became available north of Auckland which was inspected and then an offer was made and accepted.

The trailer made its way down to Taupo thanks to a team effort of members' where it was to undergo a makeover.

The old fittings were removed from the existing Jantar trailer and those that could be used were installed into the new trailer along with some additional modifications and a successful outcome. In the near future we may see the trailer and the Jantar head off to a new home.

A huge THANK YOU to those of you that assisted with all the delivery and working bee to make it all happen.

Dehydration – *by Dr Ken Wishaw M.B,B.S. F.A.N.Z.C.A.*

Dehydration is an often forgotten factor in safety and performance in our sport.

As a medical specialist (anaesthetist), fluid physiology and fluid management is a central part of my practice every day.

Commonly I hear people only using water to counteract their fluid loss from sweating on hot days, obviously not realising that strict adherence to water only may in fact degrade performance to the point of being hazardous.

A few facts needed to be understood as to why this is so. If basic arithmetic and technical details turn you off, skip to the recommendations!

Our blood and body fluids normally contain 135-150 millimoles (mmols) of sodium and 100 mmols of chloride per litre.

We probably sweat at around ½ to 1 litre per hour on a hot day while gliding. Additionally we lose water at high altitude from breathing air that has a low water content.

What we lose in sweat depends partly on our genetic makeup, but more importantly on whether we are acclimatised. The more acclimatised we are the less sodium and the more potassium we lose in our sweat. Sodium losses for a person that is well acclimatised is of the order of 5-30 mmols per litre. For someone who is not acclimatised (say an office worker who flies one or two days a week) sodium losses in sweat may be of the order of 40-100 mmols/litre.

(As a crude way of gaining an appreciation of these figures, one level teaspoon of table salt, which is just sodium chloride, dissolved in a litre of water equals approximately 100 millimoles per litre).

We do possess a very sophisticated sodium control system in our bodies that works well providing we are sufficiently hydrated to produce reasonable amounts of urine. Most of us readily excrete excess sodium in our urine. Conversely we also have a specific salt appetite. Glider pilots with low sodium levels often love salty foods at the end of the day!

Ingestion of water to replace sweat losses will decrease the sodium concentration in our blood, as we are not replacing the sodium that we are losing. Severe acute decreases in blood sodium (say 10%) may cause headaches, lethargy, apathy and confusion. Severe acute decreases (over 15%) may cause convulsions. While this is extremely unlikely to occur in our sport, cases of convulsions occurring in top athletes who only use water replacement are documented. Suffice to say even the mild symptoms are highly undesirable for a pilot!

Potassium losses may cause low blood pressure and weakness.

Small amounts of sodium and potassium in rehydration fluids increases the rate at which the gut can absorb the fluid. Drinking only water, apart from leaving you still dehydrated (because you haven't absorbed the fluid) can make you feel bloated and nauseous.

Pure water ingestion tends to shut off the thirst reflex, even when we are dehydrated.

Taste is a critical factor on whether athletes drink adequately during exercise. Some people love pure water, others loathe it.

High carbohydrate drinks such as energy drinks, fizzy drinks and fruit juice contain 10%-30% carbohydrate. Levels of carbohydrate over 8% inhibit intestinal absorption of the fluid. None of these are appropriate for rehydration during flight.

Sports drinks are not excessively high in sodium. At recommended strengths they contain 10-25 mmols/litre. They are also designed to replace potassium losses. They do contain carbohydrate but this is of the order of 6% which will not impede absorption or cause large fluctuations in blood sugar levels.

Recommendations

Guiding principles (on the basis that you are essentially fit and healthy) should therefore be

- Do not take off already dehydrated. Remember ground preparation is sweaty stuff.
- On short flights whether we drink water or an electrolyte replacement is not critical.
- On longer flights (say over two hours) we should be aiming to replace what we are losing. Sports drinks are appropriate for this. As we are a "light physical activity in a hot environment", some dilution from the recommended concentration can be used if this makes it more palatable. Which one is not as critical as what tastes good to you.
- The carbohydrate (sugar) content is not harmful. Carbohydrate ingestion could only lead to a problem if a large carbohydrate load is taken at widely separated intervals, with the risk of insulin over secretion and low sugar levels occurring some hours later.
- Never take high sodium loads such as salt tablets.
- Food will help contribute to electrolyte intake
- Heavy coffee and tea drinkers are prone to severe headaches on acute withdrawal. Recent studies have shown that caffeine is not deleterious to sport performance and a small amount on the long flying day before or after the flight is OK.
- For the technically minded or undertaking long flying you should meet these three criteria at the end of the flight. Body weight loss should be less than 5%, urine colour should be pale (drugs and B vitamins can alter this) and urine volume should have exceeded 0.5 (ideally1.0) mls per kilo per hour.

By way of example I undertook two seven hour mutual flights on successive days in a Super Dimona motor glider. Both days were hot and dry, and the tasks were identical.

On the first day I stuck to a water regime. By the end of the day I was nauseous, bloated had a severe headache, and mild dizziness. I opted to let the other pilot (and aircraft owner!) to do the landing. My urine output was very poor.

The following day was identical except that I used a half strength sport drink. At the end of the day I had none of the effects of the previous day (and a far healthier urine output). We flew and landed safely under my control!

For further reading on this subject there are excellent fact sheets at

www.sportsdietitions.com

Flight Management Decision Making *by Trace*

What follows is based primarily around local flying as opposed to cross country flying, although it is pertinent to both.

On every glider flight the pilot is required to make a series of decisions in relation to flight management. The complexity of these decisions will vary depending on the nature of the flight, the prevailing conditions and the instrumentation available.

Simply, a successfully managed flight is where the glider enters the circuit joining area at an appropriate height and on a downwind heading, without having violated any airspace requirements along the way.

To achieve this outcome a glider pilot must be consciously and continually making operational decisions. These decisions can be divided into two categories – flight performance and flight management:

> **Flight performance** decisions relate to such matters as speed to fly and identifying and using sources of lift.
>
> **Flight management** decisions are concerned with ensuring that a normal circuit and landing can be conducted at the end of the flight, and that all relevant airspace requirements are observed.

While performance decisions are important in relation to flight duration/distance, flight management decisions are critical in terms of safety.

For example, a pilot makes all the right operational decisions in terms of thermalling techniques and can be achieving the best possible rate of climb for the current conditions, but ends up in an emergency situation through failing to realise that they have drifted away from the field and that the overall situation is worsening and not improving even though height is being gained.

It is essential that the flight management decision making process be ongoing throughout every flight. The importance of the various flight management considerations will vary from flight to flight and will frequently change as the flight progresses. Some of the more important factors that must be taken into account are wind direction and strength, glide angle to the intended circuit joining area, visibility, airspace height restrictions and the objective of the flight.

It is all too easy to become engrossed with prolonging a flight, or going to a particular location and then realise all too late that the glide angle back to the field is awfully shallow. The best way to improve performance in this area is to critically review each flight from an overall management point of view, no matter how routine the flight may have been. To quote from an article on risk management in a copy of Flight Safety:

> "Honest and forthright self-examination is one of the most powerful and cost-effective risk-management tools available and should be performed regularly."

This means undertaking a deliberate post flight self-appraisal to establish whether appropriate consideration was given to management aspects and whether correct decisions were made at all stages of the flight. If you are unsure as to what you should have done in a particular situation, then discuss the matter with one of the instructors.

The Bottom-Line. The outcome of successful flight management is to fly a normal circuit and thus reduce pilot workload for the approach and landing. Poor flight management can at best be the requirement to fly a modified circuit or landout and at worst can be fatal! And, remember two things in gliding that will kill you; Failing to LOOKOUT and failing to MAINTAIN SAFE SPEED NEAR GROUND!

Upcoming Events

Just a quick reminder about the following events.

- Central Districts Gliding Championships – This year it will be held at Waipukurau

Humour