What the GNZ Operations Team is Talking About . . .
A summary of some key items discussed at the Operations Team on-line meeting on 2 July 2024.
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Guests: Norman Duke (Piako) and Roy Innes (Auckland).

1. Incident Reports for May - June 2024
- brakes not fully locked on take-off after applying wheel brake to prevent cable over-run
- pilot flew above 14,000 ft without oxygen, then failed to complete pre-landing checks
- glider landed heavily, bounced without proper recovery, broken canopy and gear doors
- tow plane carried on with launch after signalled to stop, glider released, bat not used

Further Details on Selected Incidents (extracted from the original OPS-10 reports)

1.1 Air brakes not fully locked on take-off: The tow cable was attached to the belly hook (only option) and the tow pilot moved forward to pay out the cable - with too much speed. This caused the glider to be bumped forwards, over-running the cable and causing it to back-release. This happened a second time. On the third time the ground assistant suggested applying the wheel brake to prevent another over-run. The wheel brake was activated by the airbrake lever.

Use of the wheel brake in this way prevented an over-run. When rolling the pilot closed the airbrakes but did not fully lock them. As the glider lifted off the pilot noticed the airbrakes slowly being sucked open. Promptly closing the airbrakes gave extra lift, resulting in the glider being high on tow. After recovering to the normal tow position the launch proceeded without further incident.

The submitter noted that he had not needed to do this on previous flights. With a lot happening during launch the failure to ensure the airbrakes were fully locked was understandable. Further investigation noted that the tow pilot was new to the job and perhaps hadn't developed the technique of 'feeling when the rope becomes taut' without jerking the glider forward.

1.2 Pilot flew above 14,000 ft without oxygen: The pilot arrived at the airfield anticipating a wave flight. While preparing the glider he noticed that the battery in his EDS oxygen controller was low on charge. He could not find a replacement so decided he would stay below 12,000, and then only for a short period, rather than delay his launch. This was because he was intending to be coached by following another glider which was ready to launch.

The incident pilot initially exercised some discipline by allowing the glider to climb to 14,000 feet in the secondary wave, and then descended back to 10,000 feet after 'about 15 minutes'. Later in the flight, after crossing to the primary wave, the other pilot (with a functioning oxygen system) obtained a clearance to 16,000 feet, which the incident pilot realised would be too high for him. However, he was excited at the prospect of flying further afield than he had previously done, so he climbed back above 12,000 ft to maintain visual contact with the other glider, and carried on.

The incident report notes that *"even though I was above 12,000 ft I had lost sense of how long I had been at that altitude. I recall checking for physical symptoms like reduced peripheral vision, headaches and tingling sensations, but I had none of these. I recall being very relaxed and enjoying a novel flight."*

At the end of the flight, as the pilot turned onto final approach in the strong wind conditions, another pilot on the ground called on the radio to ask *"whether I had the wheel down"*. He didn't. The pilot reported that he always lowers his wheel as soon as he decides it is time to land. His failure to do so on this occasion was attributed to mild hypoxia. The wheel was promptly lowered.

On further investigation it was revealed that the two pilots initially colluded to 'not tell anyone'. However, the secret was too hot to stay hidden, and the club CFI eventually came to hear of it. Afterwards both pilots expressed remorse over their intention to conceal the event.

The incident pilot then did some serious reflection, realising that his judgement was almost certainly impaired at several points during the flight. For example, he continued to carry on flying at high altitude as he came closer to his home airfield, rather than descending at the earliest safe opportunity. He has vowed never to fly above 10,000 feet again without supplemental oxygen.

The incident report includes the following quote from a military article on hypoxia:

> *Between 10,000 ft and 15,000 ft brain function is mildly impaired and hypoxic symptoms are common, although both are often difficult to quantify. This may partly be due to the effects of hypocapnia (reduced CO_2 in the blood). Above 15,000 feet brain function exponentially deteriorates with increasing altitude until loss of consciousness.*

Gliding NZ has published Advisory Circular AC 3-07 *Carriage and Use of Oxygen*, which contains further information on the insidiousness of hypoxia, some prudent guidelines for flying with and without oxygen, and how euphoria - a common effect of hypoxia - can lure the unsuspecting pilot into a dangerously-false sense of well-being. You can also use oxygen at altitudes much lower than 10,000 feet - and some pilots do!

1.3 Tow plane carried on with launch after signalled to stop: The wing runner, who was controlling the aerotow launch, had signalled to take up slack. The tow plane was then signalled to stop because another light aircraft had landed further down the runway and was holding at the side.

The tow pilot saw the arm go up after take-up-slack but due to sun-strike looked away and started the launch, assuming it was all go. Meanwhile, assuming the tow plane would stop, the wing tip of the glider was placed on the ground, and the wing runner stepped in front of the wing - and was subsequently tripped up by it as the glider was pulled forward. The release was pulled by the instructor in the glider. The tow plane continued to launch and complete a circuit.

The corrective action recommended in the incident report was to use a second person forward of the tow plane when sun strike is an issue, or to issue winch launch commands by radio from the PiC.

The Ops Team discussed the ongoing issue of improved rear vision from tow planes, especially at the point when the throttle is opened and the mirror starts to vibrate. At this critical moment the wing-tip signal cannot be seen clearly - made worse in this case by a bat not being used.

Piako's new Bristell tow plane has a rear view camera fitted beside the tow hook. This is a wide-angle automotive reversing camera and the field of view is too wide to be satisfactory. A mirror is to be fitted while camera refinements are explored.

The observation was also offered that training people 'how to run wings' is often not done well. At some clubs the wing runner also functions as the launch point controller, which is a serious responsibility for a person who might be the least qualified to carry it.

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