What the GNZ Operations Team is Talking About . . .

A summary of key items discussed at the Operations Team on-line meeting on 1 June 2021. David Moody (North), David Hirst (Central), Gavin Wills (South) and Martyn Cook (NOO).

1. Incident Reports for April - May 2021

- airbrakes popped open on takeoff - training motor glider - 9th flight of day with ATC cadets
- cyclist observed crossing winch cable in the early phase of a winch launch, launch abandoned
- cable retraction began before tyres were attached to both cables - winch cable detensioning
- 2 seat microlight glider - instructional flight - spun from a gentle stall - difficulty recovering

Commentary on Selected Incidents:

Airbrakes Popped Open on Takeoff: It was reported that either the pilot-in-command could have bumped the brake lever and caused it to open (his knee was touching the lever), or - less likely - the passenger could have contributed to the unlocking. The aircraft settled back down on the ground and bumped along until the airbrakes were closed properly. Of some interest is that the passenger was one of a group of ATC cadets on air familiarisation flights, this was the 9th such flight of the day, and the pilot had quite low hours on type to start with.

Cyclist Crossing Winch Cable: This was a near miss, but the incident and the followup was handled extremely responsibly. Actions taken included speaking to the local Council about improved signage, and publishing warnings about walking or cycling across the airport runway. There are also occasional sightings of motorcyclists, walkers, runners and dogs crossing the active grass and sealed runways. In recent years new fencing and security gates have reduced the instances of vehicles crossing runways, but walkers and cyclists continue to put their lives at risk.

Winch Cable Retraction Before Tyres Attached: Fortunately the cable that was being retracted was not being handled at the time. The Club has changed their SOP's to require positive confirmation from the cable car that the cables have been cleared for winding in. It's a reminder that winch cables should be treated as live at all times, and that if they are suddenly moved then no harm or damage will result. Make sure you grip and handle cables in a way which won't take your arm off if they are suddenly pulled tight!

Difficulty Recovering From Stall/Spin: There were a number of issues with this incident, and investigation is continuing. The aircraft is a microlight, and no aerobatic manoeuvres are permitted. But the Flight Manual describes the spin recovery inadequately - it does not stress "keep moving the stick forward until the rotation stops". The aircraft was being used in an instructional capacity to demonstrate a gentle, wings-level stall. At the stall one wing dropped aggressively and the aircraft entered an unintentional spin. Full opposite rudder and neutral stick were applied as per the FM but the aircraft continued to spin. The airbrakes were opened and the aircraft recovered, after a height loss of 800 - 1,000 feet and several rotations. The report states the flaps were in a negative position, but there is no mention of pushing the stick all the way forward.

The Flight Manual for some flapped gliders recommends that any positive flap be taken off for spin recovery, possibly to anticipate the high-speed dive after recovery which might exceed maximum speed with positive flap.

The Gliding NZ Flight Training Program (FTP) notes that *Airbrakes can have a stabilising effect on a spin, but they may make recovery more difficult. Flaps and their effects vary from glider to glider. In general, lowering the flaps (thermal or landing) makes the glider more prone to spin, whereas raising them (cruise settings) will tend to discourage it.*

The best example is the ASW 20 which is very reluctant to spin at all with neutral or negative flap, but spins like a top with landing flap and gear down. No glider gets a Certificate of Airworthiness (C of A) unless the recommended spin recovery action, as outlined above, results in recovery within one and a half turns.

The issue here is that microlight gliders do not need to meet the design requirements of CS-22, hence may not recover from a spin in the manner required by that standard. Operators of such aircraft are cautioned to pay close attention to instructions in the Flight Manual. If you are tempted to purchase a microlight glider then please make sure you research and fully understand the certification standard. Note that Tech-22 Maintenance Program is designed for certificated gliders and motor-gliders, and may not be adequate for non-certificated gliders.

2. Air Training Corps

After the last edition of "Ops Team Talking" the Ops Team was approached by senior officers from the Air Training Corps who wanted to urgently discuss the issues which had been identified. This approach was timely and appreciated. An on-line meeting was held, and both parties accepted responsibility for some short-comings in some of their activities. David Moody (Northern ROO) has taken on the task of updating the Advisory Circular AC 2-12 to set the minimum requirements.

In summary it was agreed that when "groups of persons" are being given glider flights there needs to be two full-time controllers on the ground: one from the gliding club (directing ground and flying operations), and one from the guest group (keeping the visitors under control). This rule should apply to groups of all types: a week-long ATC camp or a single day of air experience flights. The attendees could be ATC cadets, air scouts or even a group from a workplace having a day out. Some clubs already do follow this protocol - but it seems that some have not in the past.

One of the things the gliding controller needs to look after are the instructors, who - in their desire to give all their visitors a great flight experience - can drive themselves to exhaustion in order to get through the flying list. That's where the risk of an incident increases. The ground controller needs to enforce reasonable rest breaks for instructors, winch drivers and tow pilots.

3. Instructor Training

On 1 June 2021 the draft of the Instructor Training Program (as published in training.gliding.co.nz) was submitted to CAA for acceptance. Under the terms of Part 149 any change to "the procedures for personnel assessment and certification" require prior notification to and acceptance by the Director (Part 149.103 paragraph (d) (6)). Applications for instructor ratings or upgrades from this date are on hold until acceptance has been achieved.

The aim with the material in training.gliding.co.nz is for an end-to-end program, covering the training of pilots, instructors, tow pilots, winch drivers. After that is in place further refinements and improvements can be considered.

The use of new technology to improve both pilot and instructor training was discussed. Of particular interest is the use of video cameras in different roles:
1. Just to see the face of the trainee (camera in front seat looking back, screen in back seat)
2. Make a short record of a lesson (camera at shoulder of instructor or trainee looking forward)

The first idea is to improve the quality of communication between trainee pilot and instructor. The instructor would be able to see where the pilot's attention was being directed. They might not hear a new instruction or prompt if their attention is directed elsewhere, or attending to a different task.

The second idea is as a training resource so new instructors can see exactly what good instructing looks like! This has been tried in the past. Some instructors have been reticent about being filmed, but this issue could be solved by the use of "actors" to illustrate certain key aspects of the fine art of instructing. It was acknowledged that even short videos of good quality require a lot of thought and effort to make. Some videos could even be made in a simulator. If you know of a good video could we please have it for the training program?

4. Training in Oxygen Use and Exposure to Hypoxia

Back in the 1980's glider pilots were able to access the hypobaric chamber at what was then Hobsonville Air Base. Pilots were seated in groups of 20, and the chamber was partially evacuated of air to simulate the state of the atmosphere at altitudes up to 30,000 feet. One by one pilots were asked to remove their oxygen mask and work at a simple task, like some simple arithmetic. Those still on oxygen could gaze on in horror as the victims of hypoxia confidently continued with their actions despite severely degraded performance.

These people "took the word back to their clubs" and a good awareness developed around the need to handle oxygen with great respect, and be aware of the serious and deceptive nature of hypoxia. In view of the great opportunities to fly in wave in NZ, the Ops Team is keen to see this training continue in some form. After recent discussions with Air Force officers at Whenuapai there is now a possibility of oxygen training, but unfortunately not in the hypobaric chamber. The favoured equipment is the Reduced Oxygen Breathing Device (ROBD) which simulates the decreased amount of oxygen available to the wearer, but at ground level total pressure.

The current idea is to run a course for up to 15 persons at a time, say from 10:00am to 2:00pm on a suitable day. There would be an initial briefing and some case studies presented, and then pilots would be seated at a PC flight simulator (X-Plane 11) and asked to fly a task while oxygen is gradually reduced. There are three such desks, and each attendee would have a 15-20 minute session on the rig. The exposure profile could be something like 2 minutes at 10,000 feet followed by 5 minutes at 25,000 feet. Trained medical personnel would be in attendance. There would be no cost to participants.

All we need now is someone to organise and promote such an event. Please contact your ROO if you would be willing to do this.

5. Club Culture

There was discussion about club culture, and how easy it is to become "sloppy" in some key areas. The next stage produces incidents and accidents. A recent example of "sloppiness" was poor use of radio in a congested circuit with mixed power and glider traffic, which contributed to a near miss.

Another observation was that in some clubs minor incidents are "brushed aside" rather than documented, reported on and thought about. We all make minor slip-ups. The real question is whether we pay attention to them and explore their implications . . . or take the attitude that "it can't happen to me". There can also be an underlying apprehension: "I might look stupid, get a black mark or even be prosecuted by CAA". The adoption of "just culture" by CAA now means that it is seen as safer to discuss incidents without attributing blame . . . than it is to hide the facts. If you feel "the push" then please talk about it with someone!

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