What the Ops Team is Talking About . . .

Memo to Club CFI's and other interested parties - Jan 2020 - *please forward to your instructors.*
A summary of the key items discussed at the Ops Team on-line meeting on 21 January 2019.
David Moody (North), David Hirst (Central), Graham Erikson (South) and Martyn Cook (NOO).

1. Summary of Incident Reports for Dec 2019 - Jan 2020

- undercarriage damage after heavy landing, poor circuit with steep final turn at low level, too slow
- first flight in flapped single, fast approach, failed to flare, flap set at zero, damage + minor injury
- tow plane on glide approach, heavy sink on short final, slow to react, heavy landing, collapsed u/c
- heavy landing - speed allowed to wash off too early during the round out, pilot not current
- aerotow aborted due to perceived low climb rate, no airbrake, glider ran out of runway, crashed

- first flight on type, sink on final, airbrake not closed, speed allowed to decrease, heavy landing
- pilot-induced oscillation on landing, 3 bounces, potential for damage to aircraft
- ground loop after landing fast downwind, nose wheel not held off, wings kept level, no damage
- loss of control as glider slowed after landing with unexpected tailwind, narrowly missed obstacle

- non-standard 'stop launch' command not received by tow pilot due to poor radio in tug
- close to a mid-air collision, 2 gliders joining circuit, incomplete report, under investigation
- battery broke loose in flight after demo recovery from winch launch failure, bungee retention
- first use of EDS oxygen, tubing not connected securely, alarm sounded, no oxygen flow in flight

- during DI one wing was much heavier, still held water ballast, not emptied from previous day
- wave flight, rudder could not be moved for 10-20 seconds, attributed to water leak from tail tank
- airbrakes popped open on takeoff, checks done but may not have locked the airbrakes closed
- aerotow weak link failed at 400 ft, very strong wind, bow in rope, PIC slow to take control

Commentary:

There were 17 incident reports filed, 9 of these pertained to landings, with damage incurred 5 times. Thanks to all who submitted. Not maintaining adequate speed right down to the ground resulted in three heavy landings. The required response is to close the airbrake (or open the throttle in the case of the tow plane) as soon as sink is encountered, not pull back on the stick.

Two incidents involved first flight on type. In one case the speed was allowed to wash off on final, resulting in a heavy landing and ground loop, but no damage. In the other the glider was landed with zero flap setting and with plenty of speed, which means the nose would need to have been quite high to achieve a proper flare. There were other distractions in the landing area which may have overloaded the pilot. A glider with flaps really needs to be flown with one or two notches of positive flap to emulate the behaviour of an unflapped aerofoil - the zero setting on a flapped glider is a cruise mode and would not normally be used for launching, thermalling or landing.

A lead-acid battery on the parcel shelf was dislodged during a demo pushover, due to failure of the restraining bungee. The electrical wires broke loose and the glider had to land without radio. A bungee cord is not robust enough to retain a battery, and deteriorates over time. All existing battery installations of this type should be modified to something more suitable.

The use of tail ballast in wave flight when temperatures are below freezing is discouraged in most flight manuals. The addition of a benign anti-freeze agent (such as propylene glycol) will lower the freezing point a useful amount, but a close watch on outside air temperature is still required whenever water ballast is carried. The rubber boot between tail tank and valve could also be damaged by repeated freezing, and water could then leak around the lower rudder hinge and freeze.

A number of reports illustrate the "swiss cheese" model in which a sequence of individually benign events funnel into a more serious incident. For example, the tow pilot is having radio problems and can't hear calls clearly. A hand-held radio is being used by the wingtip runner to control the launch. A person runs in front of the glider to speak to the glider pilot while the tug is taking up slack. The tow pilot hears a further transmission and assumes this is "All Out" but in fact is "Hold Position". The tow pilot applies full power with a person standing in front of the wing and the glider rolls forward, forcing the bystander to dive under the wing. No "Stop" signal or command was given.

A mid-air collision is always a serious event - the flight files showed the two gliders within 60m of each other, with one glider on the downwind leg. The second glider was flying in the opposite direction to the circuit. A circuit is always going to be busy - rather like a thermal gaggle - and joining should be done with caution to make sure all traffic has been identified. Manoeuvring in a predictable manner helps, which is why we have standard circuit directions and joining procedures. Radio calls are almost totally ineffective on their own, as the accident record will attest. The Flarm in one of the gliders was not working properly, so the Flarm warning arrived too late to help.

At a more subtle level, two further trends were speculated on. The first one was "over-briefing" in which so much detail was given to the pilot just before flight that they became confused and failed to take even basic actions. For example, in the crash after the aborted takeoff the video evidence is that the airbrake and wheel brake were not deployed at all to get the glider back on the ground and stopped, despite airspeed of 60 kts at about 10 feet, with 400m of runway ahead. This suggests that early launch failure (= land straight ahead) needs to be rehearsed for aerotow just as it is for winch launch. This action is listed in the suggested "eventualities" check list for every aerotow launch.

The second trend pertains to a certain personality type which is prone to "over-thinking". This shows as inflexibility in response to unfolding events, where slight changes in a situation cannot be processed quickly. These pilots may be intelligent and personable, and are often very successful in the realms of academia or information technology, but the unique demands of the gliding environment are a serious challenge to their habitual ways of thinking and processing information.

2. Unauthorised Beat-ups

An issue arose when a visiting pilot performed a series of beat-ups, including passing directly over the clubhouse, in direct contravention of that club's rules regarding such manoeuvres. The pilot claimed he had not been informed about any local rules. There was qualified support within the Ops Team for retaining some kind of display finish under specific conditions. These would include no other circuit traffic, no flight over people or buildings, maintaining an acceptable height and clearly announcing intentions by radio well in advance. Individual clubs could make rules that were more stringent than these, and such manoeuvres may not be permitted at all at certain airfields.

3. Moodle Training Program Update

Awaiting formal 'acceptance' by CAA. No correspondence or progress update has been received.

4. Club Audit Program

The Club audit program remains up to date. The status of ATC in Auckland has been clarified as an annual group member so will require an audit.

5. Circuit Size

A brief discussion on consistency when demonstrating a proper circuit size. One suggested reference was 1,000 m offset on downwind, and the final turn completed by 300 ft AGL with 1,000 metres to run. Another view is that the final leg should take 30 seconds, which at 60 knots is 3,000 feet. Note that these altitudes and distances are for instructor use, so that at a particular site all instructors can demonstrate the same 'standard' circuit for local conditions and topography.