Gliding SAFETY

PROMOTING SAFETY IN GLIDING
Winter 2000/2001

Late Winter/Early Spring Reminders

Although recent weather patterns make it difficult to distinguish one season from another, we are apparently well established in Winter 2000/01, it still has a few weeks to go and there are certainly some Winter and early Spring gliding traps still waiting for the unwary to fall into. A number of them were mentioned in the last newsletter but I make no apology for repeating one or two of those amongst the following:-

Reduced flying

As each Winter progresses, almost all pilots invariably fly less frequently but there are a couple of factors which contribute to some pilots becoming considerably out of practice. A number of gliding sites become so water-logged during Winter that there is no alternative but to close down the operation, perhaps for several weeks. At other Clubs, some members are so 'selective' that their flying becomes limited to turning up on the rare, really fine days for the occasional flight, until they 'burst out into full bloom' again come late March or early April. The implications of getting out of practice for these reasons are as they would be in most other sports; if you normally play golf, football, badminton or whatever and play infrequently for several months then judgement and accuracy diminish, reaction times increase and confidence suffers. Gliding is no different and the wise pilots try to combat this by taking every opportunity to fly, even on the miserable days. At these times, money spent on constructive dual flights with specific exercises in mind can pay dividends when the next soaring season arrives. For the Clubs that suffer an enforced 'close-down', I am sure that they are well versed in controlling the manner in which their pilots regain their normal skill levels.

Instructors beware

During the year ended 30 September 2000 there were nine accidents where the cause was "Instructor failed to take over in time" and this prominent cause is addressed constantly by National Coaches and Regional Examiners during courses, Rating tests, lectures, etc.. There are various reasons which can be debated such as not 'guarding' the controls, attention distracted momentarily, too much reliance on P.2's ability and also tiredness. Less frequent flying during Winter months with the consequent effects on judgement and reactions, as mentioned above, can also increase the risk of accidents.

So in some ways it is even more critical for Instructors to assess their own flying and ensure that they keep themselves in sound flying practice. That way, they are safeguarding their pupils, maintaining a high level of instruction and also giving 'value for money'.

continued overleaf

WHY SAFETY?

A few years ago, in a Safety article, Bill Scull made the succinct comment "Safety is a state of mind". In other words, you are either aware of the potential for accidents in gliding or it rarely, if ever, crosses your mind. We would like to think that all pilots fall into the former category and that this Safety Newsletter provides the stimulus for them to retain that awareness. In a nutshell, safety is all about trying to prevent the accidents and incidents which cause damage to gliders and equipment and which, in some cases, cause injury (or worse!) to pilots or members of the public.

We all learn something by our mistakes, so some of the following articles and items of information are based inevitably on actual accidents or incidents which have occurred in recent months.

Please read on - there will surely be something that makes you think "Hey! That nearly happened to me".

THINK SAFETY EVERY TIME YOU FLY...SAFETY IS NO ACCIDENT

In this issue:

Misted canopies

This early-morning and mid/late-afternoon problem will still continue for a few more weeks and the temptation to try to ignore it is greater in late Winter with the desire to make up for 'lost' flying, on what may seem like an ideal day. The advice given by Pete Stratten in the last Safety Newsletter is worth repeating. If your canopy is not clear, refuse to launch until it has been wiped clean. And if the misting persists, then it is probably time to abandon launching anyway. The risk of accident is just too great.

Flying 'At night'

The temptation to fit in just another launch or two at the end of a nice day is also greater when flying has been severely rationed by Winter weather. Remember that if you are still airborne 1/2 hour after sunset, you are flying illegally thereafter and your insurance would almost certainly be invalid in the event of an accident. Apart from that it is just plain silly! Duty Instructors have to withstand the earnest pleading for 'just another launch because XXXX has not flown', and remember that it might well be sound judgement to stop flying before the 'official' time if daylight is fading rapidly, for instance in very overcast conditions.

Take Off Accident

A K7 was being launched on the first of two winch cables, the flight being one of a series of instructional flights. During the ground run one wing dropped onto the ground, the glider veered off-line and the wing 'picked up' the adjacent cable. The glider left the ground, quite steeply nose-up, and then, still with the wing down, cart-wheeled into the ground. The winch driver saw this happen and stopped the winch. The Instructor received minor injuries but the pupil had been trapped by his legs and received severe leg injuries. Needless to say, the glider was a write-off. Subsequently, the CFI listed contributory factors as failure to respond quickly to the wing drop and release the cable and also the snagging of the low wing on the adjacent cable.

A lot of accidents are somewhat frightening but this one was particularly grim. During pre-flight checks we consider "eventualities", thinking mainly about cable breaks and power failures, but it is all too easy to forget to be prepared for an early wing drop and how to respond. The response has to be immediate and if one wing remains 'down' during the ground run (i.e. does not respond to corrective control inputs) and particularly if the wing-tip actually touches the ground, then the launch must be abandoned immediately. In the above accident, the additional factor of the adjacent cable becoming snagged on the wing only serves to illustrate the importance of ensuring that cables are well separated at and near the launch point.

So what are the lessons?

PILOTS

Be prepared for possible wing drop at the start of every launch, whether winch, autotow or aerotow. 'Guard' the release knob/handle by keeping your left hand near it. Realise the need to fly the glider from the moment it starts to move and then keep the wings level; the glider will not launch itself, at least not in the conventional sense!! Some gliders (e.g. Libelles) have small wing-tip wheels - that is not an excuse for accepting the wing-tip touching the ground during the ground run. The risks posed are indefensible.

WING-TIP PERSONS

We all carry out this task routinely in helping to get gliders into the air, sometimes forgetting that it is an important part of launching each glider safely and that holding the wing-tip at the start of a launch must not be treated casually. Please hold the wing-tip so that the wings are level - if they are not then you are giving the pilot increased workload at the start of the launch. If there is a crosswind, hold the down-wind wing preferably; it helps to prevent or minimise any weathercocking of the glider. If winch-launching, do not assume that the winch will accelerate the glider briskly every time, so make sure that you always run 2-3 paces with the wing (more in the case of an aerotow) until it moves cleanly out of your hand.

INSTRUCTORS

You can help by emphasising even more the risks if these guidelines are not followed and by monitoring the training given to new members to ensure that they understand the importance of the whole take-off process, both inside and outside the cockpit.

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MID-AIR COLLISIONS - the saga continues...

During recent months, there have been two more mid-air collisions. The first involved a Phoebus and a K8 and occurred at some 3000ft. a.g.l. whilst the gliders were thermal soaring in very good conditions of lift and visibility. Both gliders sustained severe damage to the left wing but the pilots managed to retain sufficient control to descend and land off-site, with no physical injury.

The second collision was between a K8 and a Piper Cub tug aircraft. The two aircraft were on approach to land, having carried out opposing circuits, and collided at what was estimated as 250ft. a.g.l. It appears that the impact was between the glider's left wing and the tug aircraft's fin/rudder. Both aircraft crashed off-site, the pilots receiving injuries which necessitated hospital treatment.

Although we shall learn more about these accidents in due course, there are a number of features which, yet again, are of use in emphasising safe practices and airmanship :-

▪ Degree of damage

In both collisions the aircraft suffered severe damage; in fact, three were write-offs and the other might be. Gliders in mid-air collisions do not suffer merely minor damage. A useful analogy is to consider motor vehicle accidents. The majority of us have probably never been involved in a significant road accident (please bear with me if you have been) but we see enough images on television to appreciate the severity of damage. If two cars collide with an impact speed of even 20mph (that is 18 knots in glider pilot language) damage is considerable and the occupants can receive injuries, even though using seat belts. If impact speed is 60mph (53kts) the vehicles are usually written off and the occupants certainly injured, maybe fatally. With a 100mph (88kts) impact speed, the vehicles are mangled and the occupants almost certainly killed. Translate those figures to gliders, which are not steel boxes but are made of such materials as wood, tubular frames or glass fibre and plastics and it becomes obvious that collisions are almost certain to do immense damage.

▪ Pilot survival

The remarkable feature of the above collisions is that all four pilots survived. That is extremely rare and they are, without a shadow of doubt, four very, very lucky people. Interestingly, with the first collision, neither pilot was wearing a parachute so they had only one line of defence, viz. try to retain enough control to land the glider. Parachutes would have provided another option and they had sufficient height to have attempted to exercise that option. Whether one or both of them would have chosen that option we shall never know. In the second incident, the height would have precluded use of parachutes anyway. Does your Club encourage the wearing of parachutes and is there adequate guidance on their use in an emergency?

▪ Collision avoidance

One of the earliest exercises in basic training relates to effective lookout and how we should make this vital feature of our flying become automatic. Thereafter, the exercise is , or should be, promoted on every flight. One problem which sometimes becomes apparent to Instructors carrying out rating or currency checks with post-solo pilots is that human nature takes over after a period of maybe several weeks or months of uneventful flying.

The application of 'effective lookout' slips somewhat, becoming limited (occasionally) to 45 degrees left and right with no 'up' and no 'down', i.e. no meaningful scan. When the Instructor comments on this, it is sometimes almost possible to sense the P2 thinking "What is he/she rabbiting on about. I never have a problem". And yet we have all heard, at the launch point, comments such as "Blimey! XXXX wasn't half close to me in one or two of those thermals" or " YYYY flew just under me on the ridge. I'm sure he didn't see me". Do these comments ring any bells?

The mid-air collisions occurred because each pilot did not see the other aircraft, either through lack of observation or by making incorrect assumptions about where that aircraft was or what its flight path might be. In the second collision, it is highly probable that each pilot was looking only 'into ' the circuit and failed to check both 'outside' the circuit and ahead , especially when on base-leg.

Perhaps the term 'effective lookout' has in some way lost its punch and if we switch to the term "collision avoidance" that just might re-invigorate pilots' attitude to this whole vital topic of lookout. Equally, the term 'near miss' is a bit of a misnomer when what we really mean is "near hit". Remember that if you can see other gliders/powered aircraft by maintaining good lookout then your chances of avoiding collision are very high. If you don't maintain good lookout then, on some unfortunate day, it could be you who becomes a tragic accident statistic!!

▪ Opposing circuits

There are two schools of thought on this subject. One says that a Club's policy should be to have the Duty Instructor stipulate, before flying commences, the circuit pattern (left-hand or right-hand) to be used by all pilots. The other says that this is too rigid and that, whilst a preferred circuit pattern can be stated, pilots should be free to make their own decision, subject to good airmanship and (guess what?) effective lookout. There are factors which influence these conflicting views, e.g. size of gliding site, availability of radio for 'downwind' calls, whether tug aircraft are operating, how many gliders are being flown. Suffice to say, whichever view prevails locally, there is still no substitute for 'effective lookout', Oops! Sorry! I mean "collision avoidance".

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Don't forget ground operations

Although a large proportion of our attention is devoted, quite rightly, to all the facets of flying gliders, it is also wise to consider some of the safety implications of our ground operations and equipment.

A few of the reported accidents each year are caused by inattention to procedures linked to cable retrieving, winch operation, even rigging and parking gliders and we are all capable of being badly injured by some careless or poorly monitored procedure. During the past few years, in Industry and Commerce, one of the buzz phrases has been "Risk Assessment" and we should certainly apply that to 8how we operate safely on the ground in order to get gliders into the air. It is really just a smarty-pants phrase which means "have a look at your procedures and apply them so that you avoid accidents". For instance:-

Winch cable retrieving

Fairly straightforward, isn't it? Retrieve vehicle pulls two cables from winch to launch-point, cables are detached from vehicle which zips back to the winch and repeats the process. Not much to it, really! Or is there? The process is perfectly safe in the hands of an experienced and attentive Club member but is fraught with the potential for nasty accidents if carried out by someone who is inadequately trained or careless. In one recent accident a retrieve vehicle arrived at the launch-point with two cables; one was detached and the vehicle then set off between the two queues of waiting gliders and was only stopped (by someone shouting repeatedly at the driver) as it turned behind one of the queues, by which time the second cable (still attached) had dragged one glider into another, damaging both. You can let your imagination run riot and picture what might have happened if the vehicle had not stopped when it did. Utter mayhem, even if the towing weak link had eventually broken.

Experienced Club members will know that vital features of winch cable retrieve training must include, for example:-

- Driving carefully to avoid gliders, people and other vehicles (Appropriate speeds for retrieving)
- Parking behind the winch when launching is taking place.
- Knowing what to do if one or both towing weak-links break during the cable retrieve.
- Driver responsibility for ensuring cables are detached from retrieve vehicle at the launch-point.

The same safety principles, or many of them, can also be applied to retrieving cables during auto-tow launching, which is still used at a small number of Clubs.

If someone in your Club should ever be injured in a cable retrieving accident, could you, 'hand on heart', say that your Club takes adequate care with both the necessary training and subsequent monitoring of that essential activity?

Winch operations

In a majority of Clubs, their winch is truly a prime piece of equipment. It is what accounts for most launches, even when aerotows are available as an alternative, and needs to be maintained in sound, safe operating condition. It, also, is a perfectly safe piece of equipment when handled competently but potentially hazardous in the wrong hands, especially as large chunks of rotating machinery are involved. I am sure that winch drivers will agree that features of winch operation which need to be addressed constantly to avoid accidents include, for example:-

- Ensure the driving cab and transmission are adequately shielded to safeguard the driver and access to the cab is straightforward.
- Remind drivers of the importance of stopping the engine when carrying out cable repairs.
- Ensure that cable guillotines are fully functional and can be operated quickly and effectively from the cab. Remember - ihis is now mandatory.
- If appropriate, check precautions (usually a simple warning barrier) to keep inquisitive members of the public clear of the winch.

With the wealth of experience that exists on our Clubs, it is quite certain that a considerable proportion of our readers could come up with a list of many other features of ground operations where safety has to be addressed persistently if accidents are to be avoided. Rigging and de-rigging gliders, launch-point discipline, car parking and public access are a few that come to mind. All we are asking is that you remember that safety must be paramount - we all want to extract maximum enjoyment from this super sport that we take part in; carrying out our various activities safely is part of that enjoyment.

What all of this adds up to is that safety considerations begin when we drive onto the gliding site, not when we have our first launch.