

Gliding SAFETY

PROMOTING SAFETY IN GLIDING
Summer 2001



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WINCH LAUNCH FAILURES – SAFETY TIPS

During the year 2000 there were ten accidents (including five substantial) of varying type and severity resulting from winch launch failures. Those which developed whilst the glider was still on or very close to the ground illustrated, only too clearly, just how quickly a situation can change from normal routine to ‘giving the pilot a fright’ or, worse still, total disaster – possibly as little as 3-4 seconds. So what safety reminders are merited by these accidents:-

- *Ensure that you are seated comfortably in the glider, that you can easily achieve full control movement (add, to that, operation of brake, undercarriage and flap levers and the cable release knob) and that there is no soft cushion behind you which may compress during acceleration, causing unintentional control movement, particularly ‘stick back’. This can be potentially FATAL!*
- *As part of the ‘EVENTUALITIES’ pre-flight check, consider what unwanted events might occur from the moment the cable is attached, not solely after the glider has become airborne.*
- *Expect a launch failure on each and every launch and ‘guard’ the release knob/toggle as a*

matter of habit during the early stages. On some glass-fibre gliders, where the release toggle is low down, just to the left of the control column, it may be advisable to keep your left hand on the toggle until the glider is airborne.

- *If a wing drops during the ground run and does not immediately respond to corrective control movement, or if the wing-tip touches the ground, **RELEASE THE CABLE.***

Remember that climbing steeply low down increases the risk of a cable-break from which there may be insufficient height to recover safely. If a break occurs, it can take, typically, up to 5-6 seconds to lower the nose AND regain safe flying speed before the subsequent manoeuvre can be initiated.

One other item which it is good practice to include in the ‘EVENTUALITIES’ pre-flight check is the possible need for drift correction on the launch, when there is a crosswind, to prevent the cable falling on or near persons or equipment at the down-wind side of the gliding site.

If you have difficulty with this aspect of winch-launching then seek help from an Instructor.

SAFETY AWARENESS

It is an observed fact that most human beings pay far greater attention to safety awareness after being involved in or having direct knowledge of an accident and their degree of attention increases almost in direct proportion to the severity of the accident. A good example is car accidents – we have only to see a substantial car accident or its immediate consequences, without being involved, and most of us will then be more aware of speed, proximity of other vehicles and good driving practice until the memory fades after a few hours or perhaps days.

This aspect of ‘human nature’ is as true in gliding as in any other sport, profession or occupation and is one of the peripheral reasons for the attention which is paid to safety throughout the BGA. The prime reason, of course, is to try to prevent accidents!!

Almost without exception, the contents of these Safety Newsletters are based on actual accidents or incidents. When you have the opportunity to read copies of all accident reports then, believe me, you realise that every sort of accident is possible. It is almost a case of “You name it, it’s happened!”

This Newsletter is sub-titled “Promoting Safety in Gliding” and one definition of the word promote is “to urge the adoption of...” And that is what Gliding Safety both aims and hopes to do – **“Urge the adoption of Safety Awareness as a regular practice”.**

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

SOME THOUGHTS ON GLIDER ACCIDENT INJURIES

Within Dave Wright's comprehensive document "Accidents to Gliders – 2000", published earlier this year, the section devoted to 'Analysis of Injuries' shows that there were 3 fatalities and 25 cases of Serious or Minor injury. Whilst the 'finality' of any fatal accident is tragically obvious to all of us, it seems that pilots do not, sometimes, 'switch on' to the fact that the other categories of injury indicate that some other pilots have had their lives disrupted painfully, often traumatically, by being injured. Put in the simplest way possible, injuries hurt! Here are a few examples of what I mean:-

- A K7 winch launch failed disastrously when the wing-tip touched the ground, the glider took off steeply and then cart-wheeled into the ground. The P.2 received a shattered left heel, sprained right ankle, puncture wound to left shin and, need it be stated, shock!
- A 'mutual' soaring flight in a K.13 ended with a very low circuit, alternative safer options having been rejected, one wing-tip hit a tree and the glider crashed, inverted. P.1, flying the glider from the front cockpit, sustained considerable damage to his right foot and knee, together with various cuts and bruises.
- An ASW20 commenced a winch launch, rotated very steeply, stalled and then crashed disastrously. The pilot suffered a dislocated left ankle, badly torn ligaments, a sprained right ankle and cuts & bruises. Phew!!

These are some of the realities of Serious and Minor injuries! Even one injured glider pilot is one too many and I hope that these comments will enable you to further understand our continual quest to maintain safe gliding operations. As a friend and colleague once said to me, "It's not the fall that hurts you, it's the sudden stop when you reach the ground!".

Compliance with Air Law

Most of us, I suspect, have had that fanciful dream where the only aircraft ever in the sky are gliders. No military, commercial or light powered aircraft (except 'tugs', of course) and none of those traffic networks called controlled airspace. Now wouldn't that be delicious? And then we wake up and return to the real world where we do have to share airspace and where almost all flying is affected, to some extent, by the complex structure of Airspace rules which have evolved.

In general, most Gliding Clubs have a fair amount of freedom at the moment but controlled airspace is not going to become less and the BGA will almost certainly have to 'defend its corner' with increasing effort in the future. Carr Withall, who is Chairman of the

BGA Airspace Committee, produces, for S&G, a very professional and informative annual statement relating to UK Airspace. One of the important principles of that statement is that our requirement to comply with Air Law is MANDATORY and there are no blurred edges to that requirement. So comments such as "I had to go slightly into the Airway to get back to the site, but I was only just above the base" are TOTALLY INDEFENSIBLE.

There are no acceptable 'small' infringements of Air Law.

Although we want to retain as much freedom as possible, we can best help Carr and his team to work on our behalf by ensuring that we continue to fly responsibly, comply fully with Air Law and give no cause for complaint from other flying organisations.

HELP!

Many of the accidents which occur each year develop because the pilot does not understand, either partly or fully, the physics or aerodynamics of the situation which precedes and then leads to the accident and this sometimes applies to quite experienced pilots. Examples of this are:-

- Relationships between angle of bank, speed and rate of turn.
- Unco-ordinated controls leading to spinning.
- Poor approach control/reference point technique.
- Effects of wind gradient.

And there are many, many more examples.

The lesson to be drawn from this is that if there are any aspects of your flying which you do not clearly understand (i.e. you carry out some manoeuvres purely by rote) then please ask an Instructor to give you an explanation. Better still, on non-flying days, 'bully' an Instructor into setting up an impromptu lecture on whatever topic is bothering you. In other words, do not be embarrassed by asking the question WHY??

Thermal Soaring Protocol (Code of Behaviour)

I have been asked if we can reproduce this information and, although we are now well into this year's soaring season, what a good idea. Whilst reading it, please give some thought to the mid-air collisions of the past 2-3 years!

JOINING A THERMAL

- Gliders established in a thermal have the right-of-way.
- All gliders joining shall circle in the same direction as any other gliders already established in an area of lift.
- If there are gliders thermalling in opposite directions, the joining glider shall turn in the same direction as the nearest glider (least vertical separation).
- The entry to the turn should be planned so as to keep continual visual contact with all other gliders at or near the planned entry height.
- The entry should be flown at a tangent to the circle so that no glider already turning will be required to manoeuvre in order to avoid the joining glider.

SHARING A THERMAL

- Pilots shall adhere (keep) to the principle of "see and be seen".
- When at a similar level, never turn inside or point at or ahead of another glider unless you intend to overtake and can guarantee safe separation.
- Leave the thermal if, in your judgement, you cannot guarantee adequate separation.
- Lookout for other aircraft joining or converging in height.

LEAVING A THERMAL

- Look outside the turn and behind before straightening up.
- Do not manoeuvre sharply unless clear of all other gliders.

FIELD LANDINGS

On the basis that 'you can never have too much of a good thing', this article offers some further thoughts on field landings, particularly as field landing accidents were most prominent during the year 2000 and have gradually taken over the 'top spot' from other accident factors such as launch failures, inadequate approach control, etc.. At the time of preparing this edition of Gliding Safety we hope that the U. K.'s 'Foot & Mouth' epidemic will not curtail cross-country flying for too long and that the following comments will have sufficient relevance for at least part of this soaring season. Occasionally, even a perfectly executed field landing will result in damage – such are the risks of running over holes and rocks. But avoidable field landing accidents occur frequently and to pilots of all experience levels. It appears as if the accidents can be broken down into three problem areas, viz. selecting a field too late (usually the experienced pilots' problem), selecting an unsuitable field and flying an unsuitable circuit and approach. The first, of course, often results in the other two!!

Late field selection is a psychological problem; surely it is obvious to most pilots that they are getting a bit low and ought to pick a field. But it is perhaps less obvious why we are tempted to keep trying to 'get away', even when down to a few hundred feet, when we know the risks associated with a last-minute field selection. However, it happens quite a lot! Selecting an unsuitable field or flying an unsuitable circuit and approach is something that can

be addressed through training, usually in a motor glider. There is probably no substitute for flying across a whole range of fields and varying topography, putting our briefings into practice. Ideally the training should be separated into 'field selection' (the difficult bit) and then 'getting into the field', resulting in confidence in achieving both, at least up to the point of turning finals. Many experienced pilots find that starting the season with a 20-minute field landing session in a motor glider gets them focussed on some of the potential problems, as well as giving them a little more confidence to venture off cross-country. Even when partly into the soaring season, as we are now, such exercises can offer good 'value for money'.

But what about this temptation to 'get away' low down? It is very easy to say "don't do it" and that has to be the best advice, but applying some planning and self-discipline might help. If you get down to field selection height (some point during a flowing decision-making process) your priority has to be that you are in a position to fly a circuit into a suitable field. Having satisfied yourself that is the case, then it may be feasible to 'local soar' near that field, applying the same methods that you do at your home airfield, i.e. always ensuring that you can get back to the field with enough height to fly a circuit. If you 'get away', then great – you might complete your cross-country! If you don't climb away, force yourself to accept it, reinforce that decision by lowering the landing gear and get on with the field landing; the easy bit if you've had some training!

OOPS! There goes the radio...

During a wave-soaring flight, the pilot of a Std. Cirrus encountered turbulence whilst flying at 90 knots, heard a loud bang and, after landing, discovered a hole in the canopy and his hand-held radio was missing!! What an expensive and potentially dangerous way to learn not to have unsecured articles in the cockpit.

DOLLIES FOR GLIDER PILOTS ?

No, not the "Cabbage-patch" or "Barbie" variety but the tail-dollies which can be fitted to a large range of gliders these days, certainly all glass-fibre types. Incidents continue to occur each year where pilots come close to launching with the tail-dolly still attached. The risks are considerable; as well as the problems associated with lack of longitudinal stability and 'unusual' trim characteristics if the glider becomes airborne, it is possible that some gliders may not become airborne due to reduced angle of attack (the tail is kept 6-8 inches higher than normal). That in itself can present serious control problems for the pilot by the time he/she finally pulls the cable release – the speed could be quite exciting by then!!

Some pilots (and perhaps some Clubs) include 'tail-dolly removed' as part of their pre-flight checks and that is good, sound practice. Certainly you can remove much of the risk by establishing the habit which, I hope, many already practice – remove the tail-dolly as soon as your glider is positioned in a launch queue, irrespective of how many other gliders are ahead of it. This can save much embarrassment, or worse, and prevents the Duty Instructor from having apoplexy!!

APPLYING THE GLIDER FIRMLY TO THE GROUND

What am I referring to? Heavy landings and the need to report such incidents and have the glider/s inspected. In a recent reported incident, damage to the undercarriage/fuselage of a K21 came to light only when the glider was de-rigged ready for C. of A. The damage proved to be extensive enough to warrant an insurance claim and was assessed to have occurred as the result of a heavy landing whilst flying with significant drift. The pilot must have been aware of his/her abnormal landing but had not reported the matter.

BGA 'Laws & Rules', Section 6, para. 6.15 states 'Pilots must report any suspected defects or heavy landings to the Instructor in charge before the aircraft is flown again'. This is not to enable a 'guilty pilot to be punished'; it is to safeguard pilots who fly the glider subsequently. So if you do suffer a heavy landing please report the matter immediately and certainly before that glider is flown again. The next pilot might otherwise 'suffer' more than you do!!

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