

TIMELY TAKE-OVER

The BGA Safety Team discusses the importance of instructors taking control promptly when risks arise, and identifying hazards before flight

Training flights account for about one seventh of the accidents reported to the BGA, and a roughly similar fraction of associated injuries and aircraft damage. With highly trained instructors placing a priority on flight safety, they should be some of the least risky flying we do. Yet, rather too often, training accidents have occurred because instructors didn't prevent them.

In days gone by, flight instruction commonly maximised the time that trainees were in control so that they could hone coordination and learn airmanship by making mistakes. This was particularly so in the early days of gliding when launches and glide angles were poor, flights were consequently very short, risk was accepted and accidents expected. Even now, instructors can be tempted to give what they see as 'value for money' by letting trainees handle the controls for longer than is sensible or useful.

This approach has proved to be both risky and counter-productive. Letting a trainee put the glider into a dangerous situation can not only end in injury and damage, but also proves to be a poor way to teach flying, as it's usually judgement, not handling skills, that takes the longer time to develop.

STRAIGHTEN
UP & FLY
RIGHT

FLIGHT TRAINING

Our approach to instruction is to start with a briefing that explains the principles to be applied, followed by a demonstration by the instructor, then attempts by the trainee to reproduce the exercise, and finally practice to explore the range of situations that may be encountered. The instructor tells the trainee when they are flying correctly, and offers prompts and guidance to correct small errors. A post-flight debriefing provides detailed feedback and reinforces the key points of the exercise.

If a trainee continues to get it wrong after being prompted, it's a sign that they have not yet the understanding, judgement or capacity

to tackle that stage of flight. Often the trainee realises this, is confused, frustrated or even scared, and does not enjoy the experience.

The instructor therefore takes control, recovers the situation and, if it's safe to do so, demonstrates the correct technique once more. This prompt intervention helps the trainee to recognise the limits of what is correct or acceptable, and prevents mistakes from becoming habits. This is as true for experienced pilots on check flights as for trainees under initial instruction.

PROMPT TAKE-OVER

If the instructor takes over control promptly before an error has been allowed to develop, the glider should stray little from its intended flightpath, and ample room should remain for the flight to be completed safely. Training accidents often result from letting a situation develop and safety margins become eroded.

An example is when a trainee does not turn in the planned direction after a simulated winch launch failure and the glider strays from the intended flightpath, ending up with a low final turn, a shallowing approach and a stalled or heavy landing. If the instructor takes over after the initial error, recovery is easy, uneventful, and an opportunity to demonstrate the technique and judgement expected. With no take-over, the options progressively diminish until an accident is unavoidable.

GIVING BACK CONTROL

Once control has been relinquished to the instructor, the trainee will commonly relax, and may retreat to their own thoughts and self-reproach. While it may be appropriate to resume training if there is enough height after the situation has been recovered, this should only be done if the trainee is receptive, after explaining the error and perhaps demonstrating the desired action anew.

Control should not be given back to the trainee if the glider is near the ground, such as during the later stages of the approach and landing.



Instructors are responsible for the safety of a flight. Shawbury CFI Ian Gallacher prepares for a flight with MES student Becky (Geoff Catling)

TAKE-OVER THRESHOLDS

The instructor's most important task is to monitor the flight and ensure that a safe ending is always within the instructor's own capability. It is crucial that the instructor takes control before this limit is reached and, for the greatest training value and safety, the instructor should ideally take over while it is still possible for the flight to proceed conventionally with a standard circuit.

There are therefore three thresholds for take-over as illustrated in the diagram, right: (1) when training value has been lost, (2) when it looks hard to finish the flight conventionally, and (3) when it will test the instructor's capability to complete the flight safely at all. These will often be quite distinct, leaving little excuse for getting into difficulty.

There are nonetheless stages of flight when the margins between these criteria can be quite small. Loss of energy on approach, failure to recover correctly from a launch failure, and loss of position on aerotow all require immediate intervention.

In the case of a botched round-out, the instructor's reaction time means that a decision to take over is required as soon as the need for it is suspected. Delayed take-over leads to a steady trickle of accident reports, where the round-out has either not occurred or been brusque enough to cause a reinforced stall into the ground. Trainees should be taught to round out smoothly at an appropriate height. The instructor's best protection against mishandling these critical situations is plenty of practice (perhaps on a simulator).

TAKE-OVER SCENARIOS

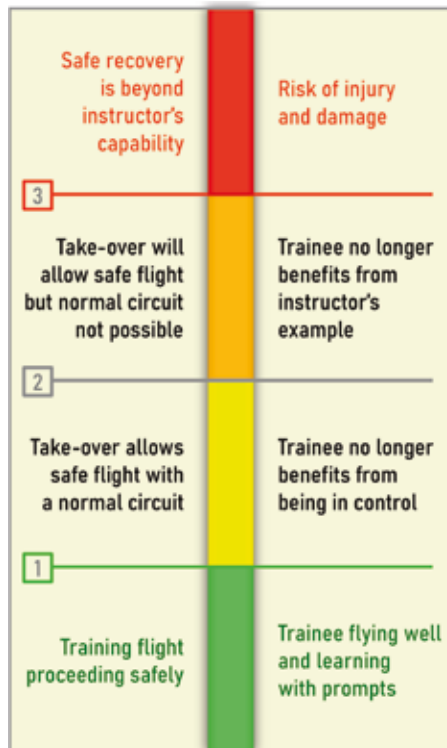
The BGA offers specific guidance on taking over control, as follows [1]:

- Take over **IMMEDIATELY**, even if you are a very experienced instructor, if your trainee makes a potentially dangerous error.
- Demonstrate safe handling/manoeuvring
- If near the ground, do not give control back to the trainee.

On a simulated or real winch launch failure, dangerous errors include:

- not lowering the nose to the appropriate attitude
- allowing the speed to fall below the minimum approach speed
- starting to turn before the nominated recovery speed has been reached
- turning in the wrong direction
- opening airbrakes before establishing adequate speed.

Some other examples are:



- not releasing on a launch with wing drop
- low final turn
- shallowing approach
- not rounding out at an appropriate height
- taking spin recovery action in a spiral dive.

This is not an exhaustive list, and local conditions may present particular risks.

PRIOR PREPARATION

There's a high workload in flying and teaching at the same time, which is why instructors are thoroughly trained and assessed. Nonetheless, they're only human, and are still susceptible to distraction, forgetfulness and disorientation.

Threat and Error Management (TEM) [2], despite the ungainly phrase, is one method of mitigation. This essentially means that when planning the flight, and particularly before the critical phases, the instructor should consider the risks involved, what might go wrong, what to look out for and what to do to keep out of danger. Some of these aspects will be communicated to the trainee during the pre-flight briefing, which might include an outline of the situations in which the instructor will prompt and take over control. This should be when the training value has ceased, and while it is straightforward to complete the flight in a conventional manner – certainly well before a safe recovery will test the instructor's own flying skills.

INSTRUCTORS' RESPONSIBILITY

Instructors are responsible for the safety of the flight, and have an extra duty of care when trainees lack the knowledge and experience to assess the risks involved. Our aim must be to eliminate serious instructing accidents, and getting rid of late take-over accidents will be a major contribution.

Early aviators could only learn from their errors; it was a slow and costly process, and risk was expected. We do things differently now.

Tim Freegarde and the BGA safety team

■ The BGA's late take-over guidance [1] may be read alongside its advice on specific hazards in Managing Flying Risk [3].

[1] BGA, Take-over guidelines (2016)

<https://tinyurl.com/flyright2616>

[2] BGA Instructor Manual, chapter 2 (2025)

<https://tinyurl.com/flyright2617>

[3] BGA, Managing Flying Risk

<https://tinyurl.com/flyright2618>

■ All previous 'Fly Right' articles are available from the S&G website.

See: www.sailplaneandgliding.co.uk/

safety-articles

These articles may be accessed using the QR link right.

