



SAFETY

Flying's easy. Landing's the problem

That's where it can all go horribly wrong. Here's our safety supremo **Chloe Eriksen** on how not to become a statistic

OF the 29 AAIB investigation reports into microlight accidents and incidents in 2023, many of them recorded issues on landing.

This trend was the same the previous year, and I would guess the year before that too.

As I've said before, it's no coincidence that we see these sorts of stats, as landing is clearly one of the most perilous stages of flight. It's crucial, therefore, that we become more proficient in this area of our flying in an attempt to both reduce the number of accidents and principally, of course, to return to earth safely.

It's impossible for me to ascertain the exact circumstances of each of the AAIB-recorded accidents, but we could possibly surmise that lack of recency played a part. The conditions on the day, both weather and field, are also high on the list of contributory factors.

I would also hazard a guess that there were many more landing issues last year than ever made it to the pages of the AAIB monthly bulletins. So I thought we could all do with a quick refresh on landing considerations, what can go wrong and what to do about it.

It's all in the set-up

Fly an accurate circuit and a good approach, and you're more likely to have a good landing.

If you've made a late downwind call, had to turn steeply or aren't nicely lined up on the centre line on roundout, then you're making it much harder for yourself and increasing the probability that the landing will be a struggle.

Practice makes perfect, and the more we practise these essential skills, the better we will get.

One option to improve ourselves in this area is to perform a circuit at your departure airfield before setting off cross-country.

I believe that a gradual progression in

improving your skill level, and practising in a more comfortable and familiar setting, increases the chances of success, serves to build confidence and is one more landing under your belt.

Wind appreciation on final

The *Air Pilot's Manual* from Trevor Thom tells us that landing into wind is desirable due to the relative low groundspeed it affords, the reduction in runway distance required, and the lesser chance of drift.

However, life is never that simple, and runway direction rarely lines up perfectly with wind direction, which means that we are almost always dealing with some kind of crosswind component.



A good approach usually means a good landing

Furthermore, we need to consider wind shear due to friction, turbulence from the flow of wind over nearby objects, and gusts, all of which can cause airspeed descent rate fluctuations on final. It's a wonder any of us manage to get back on the ground safely!

Thom further advises that if you find yourself landing in turbulent conditions, it's worth considering a slightly higher-speed powered approach, as this can minimise the effect of a strong wind gradient while also ensuring sufficient energy and control authority to cope with any sudden sink.

Look well ahead

Ground rush is that slightly panicky feeling when you are so close to the ground that you can see each blade of grass or grain of concrete.

When I was an Army helicopter pilot who mostly came to land in a hover, I used to struggle immensely with the Mk 9 variant of the Lynx where we had wheels and had to perform running landings and takeoffs.

It's bread and butter to everyone at the BMAA, but I always used to feel as though it was all a bit too fast. I have heard other pilots speak of this phenomenon, and it can be hard not to get fixated on both the ground and the sensation of high speed.

Good advice suggests that just before we pass the aiming point, and start to flare, look up. This can be an effective way to combat the ground rush and stop yourself from subconsciously trying to arrest the speed.

Look up, look long. As microlights get bigger and subsequently faster, this will be an increasingly important consideration.

Boing, boing, boing, splat

Most of us will have experienced ballooning and bouncing at one point in our flying life, and it's very common when first learning to fly.

If you find yourself ballooning away from the runway right before touchdown, this can be corrected by relaxing some back pressure and re-setting for the flare. This will be more achievable the more experience you have, and most crucially, you must have enough runway.

If we round out and hold off too high, this can result in a heavier than desired landing and possible damage to the undercarriage. I see this kind of damage in AAIB reports time and time again.

This could possibly be caused by not



Mmm. Perhaps I should have gone around. Now I'll have to phone Special Branch to get me down

looking far enough into the distance (see earlier comment on ground rush) or on a second attempt following a balloon or bounce. If in doubt, go around!

Site recce

In my previous career, whenever we conducted field landings it was a requirement to carry out a full recce by sight during daylight hours.

Microlights operate from a wide variety of landing sites, some of which may not receive the same care and attention enjoyed by a busy airfield.

This means that conditions can be unpredictable. The conditions of the field can completely alter your landing technique and chances of success. Has the field been recently mowed? Is it wet? Both are important factors in calculating the type of approach to conduct.

My advice would be to ring ahead if possible, and always consult the aircraft handbook to amend landing distances as required.

Preparation is key. An aircraft with a nearly full tank and a passenger on board will have different characteristics to an aircraft landing solo at the end of a long day of flying with a nearly empty tank. Consider these elements before committing aviation.

Go and get some practice

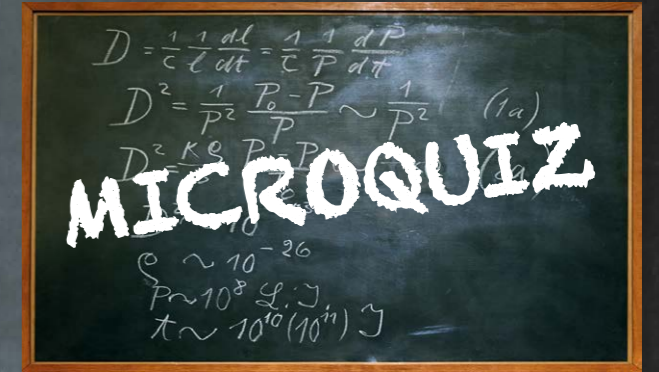
This article only touches the tip of the iceberg on the topic of landings, so there may well be a Part Two.

For example, I haven't covered the glide versus powered approach, emergencies on final or advanced landing techniques.

So if you feel a little rusty and haven't considered any of these areas for a while, hit the books or go for a revision flight with an instructor to brush up on these skills.

Ultimately it comes down to one piece of advice: practise, practise, practise every chance you get: making mistakes is how we improve and learn.

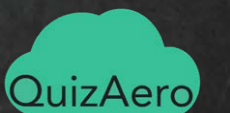
Having said that, no one person is so experienced that they are immune to getting caught out, so appreciation and understanding of the conditions on the day, and making sure you are prepared for the unexpected, are both requirements for a successful landing and a safe return home. □



- The sea breeze effect is an:
 - onshore breeze
 - offshore breeze
 - effect that occurs out to sea
- An aircraft has a true heading of 280° and Variation is 5°W. What is the magnetic heading?
 - 285°
 - 280°
 - 275°
- Which of the following could be the magnetic heading of a runway with the numbers 12 painted on the threshold?
 - 012°
 - 128°
 - 116°
- Why do pitch attitude changes occur when changing the power setting?
 - Propellor torque causes the aircraft to pitch down.
 - The thrust and drag lines are not aligned.
 - There is less drag from the propellor.
- Which statement about induced drag during horizontal cruising flight is correct?
 - Induced drag increases with increasing airspeed.
 - Induced drag decreases with increasing airspeed.
 - Induced drag has a minimum at a certain speed and increases at higher as well as lower speeds.

MF's quizmaster Lawrence Bell is the developer of QuizAero, the online groundschool for microlight student pilots, quizaero.co.uk.

Answers overleaf



GASCo, the General Aviation Safety Council, is a charity whose members are aviation organisations. Its aim is to make aviation safer through education. It presents the CAA safety evenings, runs seminars and provides safety information through its magazine and website, gasco.org.uk.



CHIRP, the Confidential Human Incident Reporting Programme, reviews and analyses reports from pilots, then publishes them so others can learn. Get the app at chirp.co.uk.