

# A STABLE APPROACH

*Vector* gathered together four A-cats, with tens of thousands of landings between them, to get their advice on how to land according to best practice, rather than just 'arrive'.



**T**he number of runway excursions, overruns, and heavy landings has risen significantly in the past four years.

The rate of occurrences, by 100,000 annual hours flown nationally, has nearly doubled from 5 to almost 10 percent.

### Anticipate what's about to happen

Marc Brogan, CAA flight examiner and A-cat instructor:

"I would argue that all those problematic landings actually start some miles back, when, for some reason, the pilot begins to get behind the aircraft.

"The whole idea of a stable approach is that all the way down, the pilot knows what's going to happen next.

"But if maybe half an hour previously, they'd had to deal with an inflight issue, and at 200 feet, they're still distracted and unhappy about that, they're chasing the aircraft."

David Harrison, CAA principal flight examiner, and A-cat instructor: "Consider your work cycle down the approach to be aim point, aspect (the angle of your flightpath to the runway – ideally 3 degrees), centreline and speed. You should be monitoring these constantly.

"So you're systematically checking your aim point to make sure you're going to land where you want to. On an short strip that's *really* important. You're making sure it's consistent and not going up and down the windscreen. While doing that your aspect should remain unchanged as well.

"You're tracking your centreline with drift applied if required, and you're checking your speed is within appropriate limits.

"So that's the work cycle. And that doesn't change down the whole approach. By the time you get to the decision point and then beyond, all those items should be pretty much nailed.

"If they're not, it's time to think about going around and having another go."

Katrina Witney, CAA flight examiner and A-cat instructor: "It's really about workload management and effective decision-making. If you're behind the aircraft, you need to recognise this early: 'I'm not keeping up. I've got to get this aircraft under control'.

"But some keep flying the approach, because they hope, in some way, it's going to get better in the next 50 to 100 feet, and they can catch up.

"But they almost never do."

### Anticipate the go-around

John Parker, former CAA flight examiner and A-cat instructor: "I think in GA it's really easy to fall into the mistake of 'We're going to land, whatever happens'. Especially if it's your home runway.

"But the go-around should be seen, not as an emergency manoeuvre, but as a normal procedure for non-standard conditions. »

**// It takes practice to recognise when the picture is changing and how to adjust to regain the correct aspect. It also takes practice to recognise when to give it away and go around. //**

» “The go-around should be the *first* thing any pilot on final considers. ‘What is my go-around point? Do I go left or right? Is there rising ground. Are there trees?’

“Don’t decide on a plan for the go-around in the flare – it’s a bit late then.”

Marc: “It’s one of the bigger issues in GA at the moment – that ‘This flight will end on *this* landing’. But no landing is a given.

“The desired objective is to put the aircraft where you want it. But maybe an aeroplane taxis out from the hold point and gets in your way, or there’s unexpected wind shear – it’s never guaranteed that you’re going to land.”

Katrina: “I think the issue I see most often is a lack of focus at the decision point.

“People go through the motion of using it. They might say ‘The wind sock’s correct’ or ‘The runway’s clear’ or ‘The decision to land is yes’ ... but they’re not really seeing those things and therefore, not processing what is actually happening. They’re mechanical with their checklist. They’re not asking, ‘Am I *actually* on speed?’ Am I *really* stable?”

## IFR to VFR

David: “Many pilots don’t think about the conversion from IFR to VFR. They break out of cloud at the decision altitude, and they’re mentally unprepared for what’s in front of them.

“Nine and half times out of ten, the candidates I see tend to look up, see the runway and immediately look down on to the instruments again, because that’s what they’ve been doing for the last hour.

# // There’s no point flying a controlled crash. //

“They don’t make that transition into the normal visual approach work cycle already highlighted.

“They should have been thinking about the weather they’re about to experience and anticipating what they’ll do in those conditions. Then, once they’re visual, flying a normal VFR approach for those conditions.”

Marc: “The other thing about instrument approaches, is that high level winds can sometimes catch people out. They can get pushed in on approach. So they carry a tailwind part of the way down and that can throw them. So again they need to be thinking ahead. When they get the weather 20-30 miles back they need to be thinking about how they’re going to configure the aeroplane and anticipate the VFR landing conditions after they get visual with the runway.

“And whether you’re IFR or VFR, make that decision to go around early if you need to.

“There’s no point flying a controlled crash.” ➤

## The stable approach

**John Parker:** “The recognised approach is a 3 degree angle, although traditionally, light aircraft may use a slightly steeper approach than that.

“Light aircraft tend to aim to touch down on the runway numbers – the runway designator – or an imaginary spot on the grass past the fence.

“The aim is to keep this imaginary spot or numbers in the same place in the windscreen – both laterally and vertically.

“It takes practice to recognise when the picture is changing and how to adjust to regain the correct aspect.

It also takes practice to recognise when to give it away and go around.”

The Flight Safety Foundation *Approach and landing accident reduction toolkit* includes the following elements of a stabilised approach:

- The aircraft is on the correct flight path, requiring only small heading or pitch changes to maintain it. (Generally the aircraft is maintaining a constant flight path using the 3:1 principle – for every three nautical miles flown over the ground, the aircraft should descend 1000 feet.)
- Speed is not less than VREF (note: VREF is the calculated minimum speed at the 50 ft point for a normal landing.
- Aircraft is correctly configured for landing.
- Power setting is appropriate for configuration.
- All briefings and checklists have been completed.

The criteria may differ slightly between operators, but the basic principles are the same.