

# SLOW FLIGHT

## IMPORTANT TO TEACH WELL



When CAA Aviation Safety Advisor Carlton Campbell asks instructors, “Why do we teach slow flight?” he says the answer sometimes shows the instructor doesn’t really know. And if instructors don’t really know, they won’t teach it properly.

**C**arlton Campbell says skills and experience in slow flight are important for at least three crucial phases of flight.

“But sometimes, if I’m visiting a training organisation, I’ll invite myself into the briefing room, and after listening for a while, I’ve posed a question or two about slow flight.

“I’m disturbed at how often the response indicates the instructor doesn’t understand why they’re teaching it, so what messages are they delivering to the student?”

“It’s important to appreciate ‘slow flight’ in a fixed-wing is not a configuration used for operational purposes as students are sometimes led to believe. Operationally, we would use the poor visibility configuration.”

Carlton, a former CFI of Wakatipu Aero Club, says it’s important a student experiences operating the aircraft more slowly than standard speed.

“A student needs to develop confidence in slow flight, and to appreciate that small, smooth inputs will prevent inadvertently putting the aircraft into an undesired state such as stalling.”

Carlton says there are four phases of flight where the pilot is transitioning through slow flight: during take-off; flaring to land; and during a low-level go-around. The fourth is in the air during approaches to stalls in lessons (although this final one is not major, because they are done with plenty of height).

“But the three other phases are close to the ground and need the pilot’s assurance and sure handling,” says Carlton.

“In the take-off, we open the throttle and accelerate down the runway – and the period we’re calling slow flight is a relatively quick transition because we accelerate through to best rate of climb or best angle of climb speed to climb away.

“Similarly, the period during flaring to land is a comparatively short transition.

“But the go-around is a longer time in the slow flight phase, and often not anticipated. International and CAA statistics indicate there are problems with the way many pilots handle this.

“You’re flaring to land, when the runway suddenly becomes unsafe to land on – because stock are running on it, or an aircraft hasn’t cleared the runway yet – and you need to go around.

“You have full flap extended, meaning there’s a lot of drag, so you’re slow, and you need to go to full power. The slow flight transition, then, through to the best rate of climb or best angle of climb, while retracting flap, takes a bit of time.

“In that phase – because quite often we’re reacting rather than having anticipated that go-around – we can make hasty decisions, and sometimes put ourselves into

a situation of approaching an inadvertent stall while low-level.

“A slow flight lesson at altitude will build confidence and skills, so we can go through that transition phase with no reactive responses: it’s anticipated, it’s familiar. We’re confident the aircraft is going to behave as we expect it to, because we’re going to handle it appropriately.”

A-cat examiner Penny Mackay believes there’s a great deal of confusion about what ‘slow flight’ actually is.

“At times I’m being shown some pretty fast slow flight, in my opinion!

“Slow flight is usually conducted in calm conditions or light winds and – as per the Flight Training Standards Guide – 1.2Vs is calculated for the aircraft, and used.

“But varying weather conditions, wind shear and gustiness have an effect on slow flight.

“Gusts can suddenly increase the angle of attack and decrease speed. Pilots need to anticipate this possibility.”

“Some pilots seem only too happy to demonstrate slow flight without any thought of such conditions where they need to fly a little faster.

“This, of course, translates into a lack of thought about conditions in take-offs, landings and go-arounds.”

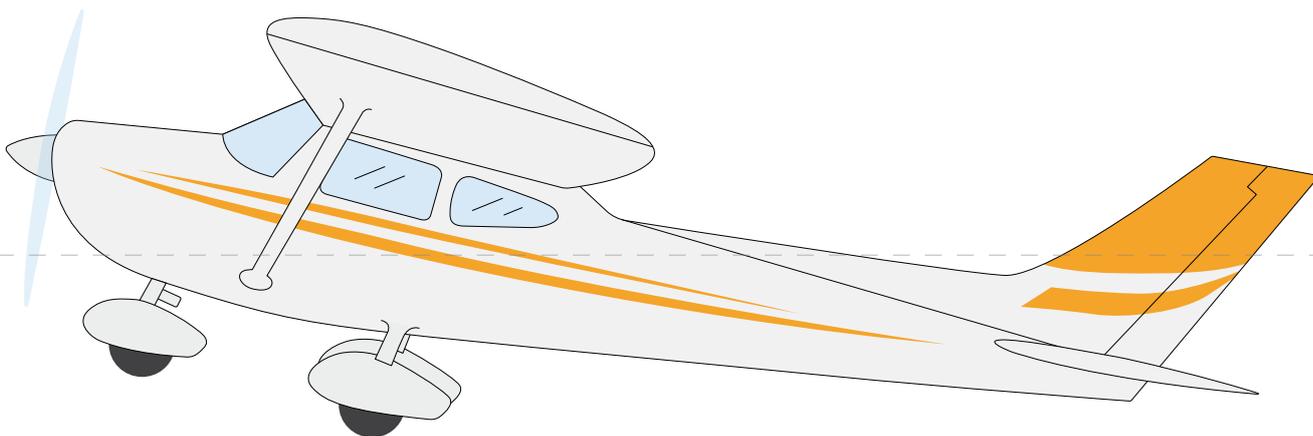
Slow flight hasn’t been in the PPL syllabus for long. It was introduced as a formal part of ab initio training after much discussion and comparison with training regimes in other countries.

“Traditionally, it had been taught by experienced instructors,” says Carlton, “but not necessarily by all instructors.

“So it was introduced only a few years ago, and I think there’s been a bit of instructional ‘creep’. We’ve had a bit of ‘clone teaching clone’, and the depth of knowledge and understanding around it has waned.

“We need to reinforce the objectives and reinforce the principles so we’re getting quality training around it.” ➤

**// Some pilots seem only too happy to demonstrate slow flight without any thought of such conditions where they need to fly a little faster. //**



// To fly level at lower than normal airspeed, a higher than normal nose attitude is required. A small increase in power is then needed to maintain the desired altitude.