Strip Flying – First, Get Some Proper Training

Following our 2017 article on strip flying, the message from two long-time airstrip pilots is "get some quality training".

"I can't emphasise enough the importance of getting training before flying into airstrips".

That was Carlton Campbell, CAA Aviation Safety Adviser, in the article "Strip Flying", published in the March/April 2017 issue of *Vector*.

Here, Ross Crawford – with both agricultural experience and 50 years instructing under his belt – and Andrew Hogarth – E-cat instructor, agricultural Flight Examiner, and 150,000 takeoffs and landings at airstrips – urge pilots to follow that advice and get some *specialist* training before embarking on their first flight to an airstrip.

"Some pilots," says Ross, "think that the flying they've done around forgiving airfield runways qualifies them to also fly in and out of small, rural airstrips.

"Some pilots think they can teach themselves airstrip skills. You sometimes see them dragging in low and slow to an airstrip and high on power. It's not a technique I'd recommend – there are no margins for safety. Consequently, many self-taught pilots feature in occurrence statistics."

Ross says most such pilots are poor judges of their own ability to negotiate all the possible complications of airstrip flying.

"They don't know what they don't know. They need to train with someone with good strip experience, or an E-cat because of their considerable training background in this environment."

Andrew Hogarth agrees, saying Raglan airstrip is a classic example of a seemingly straightforward destination that catches out unwitting pilots.[1]

"The pilot has a plane at home, and only heads out in the summer. They haven't got upskilled and they're not current. But it's a lovely day and the family wants to fly to Raglan.

"Today, they're in luck and land okay, it's all calm, and everyone heads into town for a coffee. But by the time they want to go home, the day has warmed up, and the sea breeze is starting to push in. Before they open the throttle to take off, their threat and error management is non-existent. They take off in warmer conditions and possibly with a tailwind – both of which could mean poor climb performance and fewer safe options in an emergency. All this with a planeload of passengers."

Andrew says even before airstrip training begins, a pilot must show themselves capable of accuracy and precision.

"A pilot must be able to repeatedly and successfully fly a stable approach – stable speed and profile, and aircraft configured to land – and a three degree approach angle to a nominated touchdown point on the runway at their home aerodrome.

"They need to have selected a decision point on the approach, be able to identify a non-stable approach, and carry out a go-around before that decision point, if needed."

Ross Crawford agrees, saying that a pilot needs to start on a runway that gives some latitude.

"Working up to the more demanding airstrips, with variations in slope, and limited go-around is the way to develop accuracy and skill."

Learning to Know

So what would a pilot learn from proper airstrip training that they don't know that they don't know about?

Here are a few things.

Approach

Andrew says that not all strips require a steep approach.

"Steep approaches just above the stall may win you bush flying competitions, and do have their place in certain airstrip operations, but executing a stable three degree approach to a nominated touch point is sufficient.

"An agricultural pilot – who can do up to 100 landings in a day – is always flying a stable three degree approach. The only thing that is different is they intercept the glideslope closer to the touchdown point. If you're having to get 'creative' with your approach, consider not landing at all."

Ross agrees, saying that if extreme measures are needed to get into a strip – such as an ultra slow approach speed aiming to touch down at the very threshold – the pilot should not even be flirting with the idea of landing.

Landing Decision Point (DP)

Ross says that at DP, you must be on profile, on speed, and confident of touchdown at your aiming point.

"The simplest way to establish a DP is the point at which the aircraft descends below the highest obstacle in the missed approach.

"With many country airstrips, there's higher terrain beyond the strip, and on a missed approach, the climb path is taking the aircraft towards that. So there are places that people talk about as 'no go-around' strips – what they're saying is that when the pilot descends below that terrain they're committed.

"If the aircraft has passed the nominated decision point," says Andrew, "but isn't configured correctly, the pilot must remain committed to the landing.

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1 Approximately one reported occurrence every six weeks at Raglan since 1 January 2015.

A grass runway can be deceptive. If the grass is wet, a pilot can lose control of the landing on the slick surface.

If the grass is long, the takeoff roll is longer because of drag on the wheels. In addition, long grass can hide rabbit holes and ruts. Always fly over first to assess the condition of the runway surface.

Photo: iStock.com/banksphotos

"They must make the best of a bad situation. At that stage the aircraft becomes a tool that should be used to kill inertia to ensure the pilot and passengers survive and, if possible, are unharmed."

Aiming Point

Ross says this is a critical part of strip training.

"On some strips the aiming point may not be at, or close to the threshold. It's dependent on strip length, wind conditions, slope and variations in slope. The surface conditions may be factors as well – dew, frost, grass length, for instance. Where there's a relatively steep slope, flare technique and eye-focus also need consideration."

Go-around

Andrew says the correct technique is not power up, pitch up.

"It's power up, use all available room to gather airspeed to best AOC (angle of climb) speed, reduce drag in conjunction with the first two, then climb or turn away.

Ross: "History does not record the names of pilots who go around."

Landing

"The fact is," says Ross, "that if the aircraft is suitable, and the strip is adequate, the landing should be a normal one – as long as you apply precision and accuracy, and that includes landing on and maintaining the centre of the strip.

"A well-planned and executed strip landing means braking isn't needed on the landing roll, until parking at the top of the strip.

Wind

Ross says a pilot must always know where the wind is, and learn to anticipate its effects. "Appropriate training will mean a pilot can make correct speed adjustments for different conditions."

Takeoff Decision Point

Andrew says the takeoff DP depends on the performance of the aircraft (weight and balance, P-chart), the airstrip conditions (size, slope, surface), the given conditions on the day (wind, temp, pressure alt), and pilot experience and currency.

"But one rule of thumb is 50 per cent of the airstrip at 50 kts, and a conscious decision to abort the takeoff if not at 50/50.

"Persisting with the takeoff roll past this point will be detrimental to all on board."

Short Takeoff Technique

Ross says PPL and CPL holders are taught that for a short takeoff they should apply full power with the brakes on, check RPM, oil pressure and temperature, and fuel pressure or flow, then release the brakes.

"But on an airstrip, particularly in a tricycle undercarriage aircraft, that creates an eddy under the propeller, sucking up small stones and other debris with the risk of prop damage.

"So a rolling takeoff is preferable and I always say, 'if that adds two or three metres to your takeoff roll and that's critical, you shouldn't have been there in the first place'."

So Now You're Convinced…

Ask around locally for someone who has cred in strip training.

"Generally the seasoned instructors at flight training organisations are a good start point," says Carlton Campbell.

"Getting referred by someone is generally the best indicator, because not all instructors have appropriate experience.

"Asking around really is the best advice."

Email info@caa.govt.nz for a free copy of the GAP booklets, *Takeoff and Landing Performance* and *Weight and Balance*. ■

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