

Precious cargo



Who says any landing you walk away from is a good one?

FROM A SAFE DISTANCE I surveyed the depressing scene. The Cessna 182 sat crippled in the middle of the runway – its nose unnaturally low, the propeller tips bent neatly backwards, belying the violence of their impact, moments before, with the hard dirt runway.

With a strong smell of avgas in the cockpit, I had been quick to shut down the electrics and fuel and get my passengers – three very shaken kids, two of them mine – to safety.

My first reaction had been utter disbelief. How could this have happened to me? And on this of all days? After all the safe landings I had made, why had this one gone so terribly wrong?

I got my private pilot's licence and a constant speed endorsement six months before the accident. Soon after, I set off on a wonderful journey through the Australian outback. It was a great trip and I was proud of the way I handled the Cessna 182 and the landings I executed at remote strips, some-

times in difficult conditions.

The Cessna 182 is not the easiest aircraft to land, especially for a relatively low-time pilot. It had struck me during my endorsement training that the controls became very heavy when the speed washed off in the flare, and on several occasions I found myself wondering if I'd had my Weeties that morning. From then on, the importance of trimming the aircraft correctly, and managing the airspeed and power during the approach, were always uppermost in my

PHOTOS: RANDY KATSOOLIS



"the ELT started blaring, frightening the living daylights out of my passengers and me."

Hard landing The aircraft bounced twice on landing. On the second bounce, the propeller struck the runway and the nosewheel collapsed.

mind on finals.

The day before the accident, I organised a check flight in the 182 as I had not flown it for several months. The instructor put me through my paces and I performed well, executing several nice landings.

Following the check ride, I took another pilot up to do some sightseeing over a nearby picnic race meeting. In all, I logged more than two hours, including several tidy landings.

With my confidence high, I decided to take

my kids flying the following day. This was a momentous occasion as I had done the majority of my 131 hours either on my own or with other pilots. I wanted to make sure that I was absolutely confident when I entrusted myself to fly my kids – after all, they would always be my most precious cargo.

Next day I arrived at the aerodrome with my daughter and son, and one of his friends. It was hot and gusty with the wind averaging about 12kt from the north, giving us a cross-

wind component of about 11kt on the duty runway, 06. I got everyone into their seats and started thinking about my crosswind technique.

I completed my checks, taxied out to the runway, powered up and took off. At about 70ft off the deck a gust of wind hit me from the left. The stall warning squeaked for a second and I pushed the nose down, holding it there until I had enough airspeed to fly away.

This seemed to take some time and it

WHAT WENT WRONG?

threw me a bit, as I hadn't experienced anything like it before. This event had a significant bearing on the decisions I made later in the flight.

I resumed an 80kt climb and levelled off at 3,000ft. It was turbulent and I was worried about my passengers, especially my daughter. It was clear that they were more concerned with the turbulence than the scenery ("Is everything OK, Mum?", "It's very bumpy, Mum", "What was that, Mum?"). I decided to land and reschedule the flight for a calmer day.

To lessen the likelihood of any more negative crosswind experiences I decided to land into wind on Runway 36, a 600m formerly grass strip, which the drought had reduced to dirt with occasional patches of green.

While Runway 36 was into wind, it was not without its drawbacks. Significantly, it is less than half the length of the main runway, and due to the surrounding terrain tends to generate more turbulence and windshear on final. And because final is over a downsloping hill it creates the illusion of an upslope on the other side of the bitumen cross strip. There are also a fence and trees just past the far threshold so it's not conducive to overshooting. Even so, at the time, it seemed the better option.

I made a wide circuit and joined final at 80kt, faster than usual, to reduce the effect of windshear. I arrived over the threshold fast and pulled the power back to idle. I hadn't trimmed properly and consequently the control forces were heavy.

My first "touchdown" came as a surprise. The nosewheel grazed the ground and I instinctively pulled back on the control column, causing the aircraft to leap into the air.

I attempted to control the bounce with elevator but we hit again, this time much harder. Dirt flew up in front of the windscreen and the ELT started blaring, frightening the living daylight out of my passengers and me. I knew the prop had hit the runway but I was not sure how much damage had been done.

I considered "going round" but I was concerned about the prop damage and how long it had taken to reach climb speed on takeoff. I had to clear the fence and the trees, which were coming up fast straight ahead. I could apply a small amount of power and try to smooth the aircraft back onto the runway but that would also bring me closer to the obstacles at the end of the runway.

I was now focused on keeping the aircraft straight and centred. I bounced again and the stall warning sounded. I was airborne again, but not flying.

The aircraft dropped onto the runway and begun speeding along the ground, nose low, prop still running and chewing dirt.

The nosewheel had collapsed and it was pointless (and possibly dangerous) to apply the brakes because I was unsure of the consequences of that action given the state of the aircraft.

As soon as the aircraft stopped I shut everything off and quickly got everyone to safety.

I have learnt a huge amount from this accident. Certainly, the presence of my children, and my anxiety about their safety, led

me to make decisions I would not normally make. In retrospect, I should have used the longer runway and tackled the crosswind as I had done successfully many times before.

I should have made stronger command decisions and kept my focus on flying the aircraft. Flying a higher-than-required speed on final, not trimming adequately, overcorrecting the early touchdown, and not applying power to correct the situation, were all significant contributors to this accident.

Thankfully, these lessons were learned without injury to my precious cargo.

Name withheld

ANALYSIS Stress, speed and going around

THE FRANKNESS of the author in recounting how she damaged the aircraft in a landing accident is to be commended. However, this type of landing accident is far too common.

The author faced additional but unwarranted stress because her children and one of their friends were on board the aircraft.

From her story, she was keen to terminate the flight early due to her passengers feeling uncomfortable because of turbulence, and this begs the question of why she elected to take them on a scenic flight in unsuitable weather conditions.

The pilot appears to have undergone an unsettling experience because of the stall warning system activating on takeoff.

That incident cannot be analysed with the information provided. However, the aircraft may have risen above trees sheltering the full effect of the wind, or experienced a lessening of the headwind component or even a slight downwind component.

The decision to fly a wide approach and at a higher speed than usual were both without justification and may reflect either poor training or bad habits.

While not enough data were provided, the aircraft was flying in the order of 20 to 25 knots too fast on the approach – a recipe for disaster. There is also the probability that a flat approach was also flown.

When the power was rapidly reduced above the threshold, the natural nose-down pitch

probably allowed the nose wheel to contact the runway and the bounce commenced, assisted by the pilot applying backpressure to the control column too late.

As speed reduced and altitude was gained following the initial bounce, no amount of additional "back stick" (without application of power) could prevent the nose wheel hitting the ground with sufficient force to cause damage.

Variations of this scenario occur when the pilot is "behind the aircraft", leading to the same disastrous consequences.

Many safety lessons can be gained from this accident, but space permits only two comments:

Unless directed to do otherwise (because of some design characteristic) keep the wheels off

the runway for as long as possible during the landing flare in a light aircraft. The lower the speed at which you touch down, the lower the chance of the aeroplane's bouncing. Additionally, wear and tear on the undercarriage is reduced.

Do not try to "cushion a bounce" by partial application of power, unless you have considerable recent experience on type and a long runway. If at any stage you are unhappy with the approach or landing, immediately initiate a go around/miss-landing procedure in accordance with standard procedures.

Steve Tizzard is a CASA flying operations inspector.

"If at any stage you are unhappy with the approach or landing immediately initiate a go around..."