BRISBANE VALLEY FLYER

August - 2021

BRISBANE VALLEY SPORT AVIATION CLUB INC

www.bvsac.com.au

Watts Bridge Memorial Airfield, Cressbrook-Caboonbah Road, Toogoolawah, Q'ld 4313.

Rob Knight (Editor) Tel: 0400 89 3632, Email kni.rob@bigpond.com

Why Were Tomahawks Crashing. *See page 12*

Contents

From the Club

Hello all,

I hope you are all well.

Due to the restriction put in place in South Queensland by the government due to Covid 19 we had to cancel the July meeting and move the Christmas in July to 7th August after next meeting. This will now be a lunch instead of dinner. All are welcome free for members $10 for none members. *For those who are planning to attend, please RSVP by the 1st of August.*

REMINDER:
All unpaid Membership fees are due.

Payment is required BEFORE the close of business on 31st July 2021. Members remaining unfinancial after that close-off date will be removed from the membership list.

Peter Ratcliffe
President BVSAC

Straight Talking – or How to Fly Faster Without Trying

By Rob Knight

It's a measure of pilot expertise (or at least it is for inexperienced ones) that to get to the destination ahead of the pack is a mark deserving of great respect. Sometimes this respect might be claimed by a pilot flying a roaring warbird that has more cylinders than rivets, but realistically then, the delusions of personal grandeur claimed will be unjustified in the pack view. More horsepower is simple a handicap issue. The real chase occurs when the aircraft concerned are more similar in performance.

To explain, let me quote such a pack chase. I was with a syndicate colleague, a co- owner with whom I had flown about 400 hours. I had grizzled at the poor bugger to such an extent that some of the bad habits that he had brought with him from his basic pilot training had fallen off. One of these habits related to his feet going AWOL almost as soon as his wheels left the ground. With his feet off-duty, the rudder went on holiday too, and we all know what happens to ships without rudders. He could handle taxiing, take-offs, and landing in the ALW GA-912, taildragger we had, but, in flight, his hands tended to be the only appendages on duty.

The resolution came one day when on a short 30-minute flight between airfields. After about 10 minutes of level enroute flight (it couldn't be called straight, I took the stick and throttle and tasked him with just keeping the nose on a point he selected on the horizon regardless of the wings being level or otherwise. Initially frustrated, he struggled for a few minutes but, without the rest of the aircraft to manage, he quickly brought his feet back into line and at last we progressed more directly towards our destination. Turbulence was light, but there was enough to cause yaw and he re-discovered that the rudder alone does, indeed, control straight flight. After several repeats of this exercise, his feet reluctantly came back on board, and soon it became a habit and, as we say, he never looked back.

Many pilots assume that all turbulence is of a vertical nature, but that is a fallacy, turbulence is also horizontal, as gusts. When a horizontal gust strikes the aircraft, it's inherent directional stability will attempt to yaw its nose into the gust. Faithfully following the further effects of controls lesson, the yaw will promote roll. If the pilot has put a higher priority on noticing roll than noticing yaw, he/she will recognise only the roll and will respond with an application of out-of-roll aileron. Unless that aileron application is balanced with appropriate rudder, the aeroplane's nose will drift even further away from the direction of its original heading. Every oscillation increases the distance that has to be travelled to the destination. Every application of any control surface creates additional drag which can reduce the airspeed. Also, to put it simply, this habit of flying a zig-zag track will increase the distance the aircraft has to travel and this will increase the flight time for that leg or sector. It might be gentle; it might not even be particularly dangerous to life and limb, but it's dangerous to one's reputation and to the credit card. No wonder it's so easy to be overtaken by a slower but better flown aeroplane.

Funnily enough, one of the fundamental causes of the problem depicted above, is a perfectly normal human development that occurs within human beings as they grow through their toddler stage of their lives. They learn that, when beginning to walk on two legs, if they lean too far forward or back (pitch), they fall over and get hurt. And, if they lean too far sideways (roll), they'll fall over and get hurt. But they can spin around and around (yaw), as fast as they are able, and that is just pure FUN. There's no apparent or functioning risk of injury or pain. As pain is a great teaching tool, nature is teaching them that pitch and roll are dangerous and will provide pain if not closely controlled. But yaw, that's just fun. Thus, the very act of developing into a biped teaches humans from a very young age that they can ignore yaw as a danger, but they must closely control pitch and roll. Alas, that concept doesn't work so well in aeroplanes.

The other fundamental issue lies with how we control cars. Yes, those funny things that scoot around the roads like demented cockroaches on roller-skates, some with spoilers, but all trying to look like aeroplanes.

The reasoning is simple. With minimal exceptions, everyone learns to drive cars before they learn to fly aeroplanes. Most cars today have automatic gearboxes and thus have just two control requirements, yaw (sideways movement of the car’s nose) to steer around corners (provided by the hands on the steering wheel as it is used to turn or drive straight), and the foot on the accelerator OR the brake to control vehicle speed. This is a very long way from the means by which a pilot must control an aeroplane so the training to be a pilot must ensure the crossover to becoming a pilot provides a clear distinction of the change in priorities and develops the control skills necessary to properly operate a vehicle with wings big enough to lift it.

In flying an aeroplane, pilots control roll, pitch, and speed with one hand on one control (stick or yoke) whilst they simultaneously control aeroplane ascent or descent (with the throttle in the other hand), and, also simultaneously, control aeroplane yaw, the sideways movement of the aeroplane’s nose, with the rudder pedals (using their feet). Reality shows that there is little to compare between cars and virtually all aeroplanes in terms of the means of controlling them and, as the beginning student pilot is already adept and programmed to controlling a car, it’s easy to see how they bring those inappropriate and alien skills with them. Good instruction demands that the students be properly re-trained to make the cross-over from car to aeroplane control correctly. Without it, the student will almost inevitably revert to their earliest trained actions and become a pilot who uses hands when he/she should use feet: their pedes[1] just left to slumber on, dead-weights in their shoes on the floor.

Nor are pilots with more advanced training exempt. About 3 years ago, I was asked to help a friend with a recently acquired Australian CPL. He was having great difficulty in flying a new type of aeroplane to him, an Airtourer T5. Ten minutes into an assessment flight his problem was both obvious and simple – he was driving a car, not an aeroplane. His hand on the control column was ever active (from side to side) as he was endeavouring (and failing) to control direction using the same control that he had used to steer his car to the airfield. Using the aileron for this purpose, ably assisted by adverse yaw from the aileron drag he was encountering, he was setting up a rolling oscillation that made it impossible to keep straight down the final approach. Even his downwind legs were varying by up to 20° on the compass.

After a few circuits, I again took the stick, throttle, and trim, gave him the flaps and the rudder pedals to play with. In just a couple of circuits he re-established his communication with his ankles and feet that his previous instructors had allowed to lapse. Using the rudder to keep straight and control yaw, he suddenly became a pilot again and the aeroplane was instantly tamed.

I subsequently wrote a piece on this flight and the ongoing problem it highlighted. The piece was published in several magazines here in Australia (including BVSAC Flyer, issue 29, September 2015 – Yaw is no Yawning matter). Later it was also published (with my permission) in the EAA Vintage Magazine in the US. Later still, it was produced as a video by the US branch of AOPA as a training aid. They have the same problem with this *sleepy-feet* syndrome over there, too.

I continue to preach the same gospel. Now, no longer an assessor, merely a friendly observer, I see this tendency in pilots I am sitting alongside more and more, to fly with consistent sideways left/right stick movements when they are trying to fly a straight line. When mentioned, it’s often met with derision, hostility, and denial, but nevertheless, it’s there, it's persistent, and it’s permanent, unless

[1] Pedes – noun - the human foot, or the corresponding terminal segment of the hindlimb of a vertebrate animal.

the pilot does something about it. It's not the pilot's fault – these actions are simply a product of inadequate training. The adage that "taildraggers make the best trainers" is often meet with ridicule but it really carries a grain of truth. However, the grain of truth actually relates to the quality of the instruction being given. Pilots who trained on taildraggers, or who have extensive taildragger experience, make the best instructors who, in turn, use their taildragger-taught skills to make the best pilots out of their students. It's pointless for non-taildragger trained or experienced instructors commenting on this point as their very inexperience in this concept limits their ability to know what I am talking about. I speak with authority on this matter because I have the real experience of being exposed to so many pilots trained by the whole gamut of instructors. I have seen these characteristics in the raw, ad nauseum , so-to-speaks.

So, how does such an apparently insignificant foible make such a difference. On one hand, keeping straight and "in balance" offers a better flight sensation to passengers. Pilots, by their very flight experience, can ignore yaw and skid whereas low air-time passengers feel every bit of it. The sensations unsettle them and their unease often manifests itself as air-sickness. On the other hand, it can add noticeably to the aircraft's performance in all regions states of flight.

And just how effective is this? The afore mentioned colleague, sharing a flight with me and a pack of other aeroplanes, went for lunch to another airfield about 35 nm distant. Before departure, we were ribbed about our low cruise speed in our GA Lightwing. One pilot, flying a Jabiru J230, offered to start a search party if we didn't get there before dark.

We departed immediately before this aircraft, and did not see it again until we were established downwind at the lunch airfield. At this time, he was in the flare and about to land. He had arrived just about 2 minutes ahead of us, even though his stated cruise speed was 50% higher than ours.

The flight was direct so we effectively flew the same track and the wind was calm through the altitudes we flew, if carried out at the 120-knot cruise speed advised by the other pilot should have taken him 17.5 minutes while we expected to take 28 minutes at our 75-knot cruise speed. So, WTF happened to the 10.5 minutes that he should have beaten us by?

The answer lies in the way in which his aircraft was flown compared to ours. Just the day before this same pilot in the same aircraft passed us when we were downwind. He was too close for comfort as he did so, but apparently that was our worry and not his. However, I noticed that the whole time that I could see his ailerons, they were in constant motion, flapping up and down like sheets on a clothes line. Just imagine the drag that he was creating.

So, what exactly am I suggesting?

1. Always select a reference point to keep straight on when you want to fly in a straight line.
2. Failure to follow the above will give you nothing to keep straight on, so you won't be able to fly straight - you'll just blunder around.
3. If the nose moves off the reference point, FIRST put the nose back onto that reference point WITH THE RUDDER. Only after the nose is again on the selected reference point may you sort out any remaining issue with the wings not being level with the ailerons, their application BALANCED WITH THE RUDDER. This is not "picking the wing up with rudder", as some instructors insist that it is. The process is solely to correct the further effect of the yaw that the pilot has failed to prevent or stop. Fix the inappropriate yaw and the wings return to level without input from the pilot – EXACTLY AS IT SHOULD BE.

This bad habit of using aileron at an inappropriate time also manifests itself when recovering from a wing-drop stall. In this situation the use of aileron to counter the roll is extremely dangerous as it deepens the stall condition on that wing that has resulted in the roll in the first place. Whilst misusing the aileron in normal flight is an irritation, using any aileron in a stall recovery is potentially deadly. It is the recognised cause of many fatal accidents and falls neatly into the pilot error classification. Only after the stall has broken may aileron ever be used with safety, and then with caution as the aerofoil will still have a high angle of attack until the aircraft is back in controlled flight.

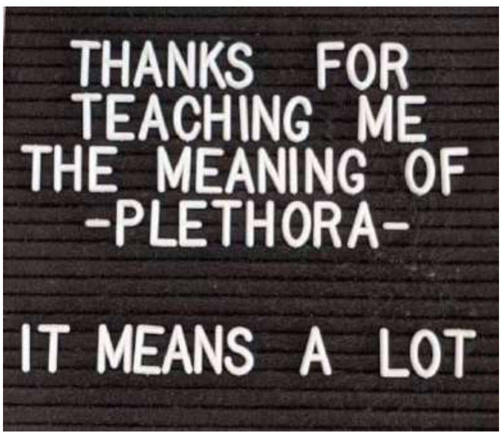
Summary.

1. In flight, yawing an aeroplane will cause the nose to move sideways from a selected reference point and about the normal (or vertical) axis. Then the aircraft will, with no further control input by the pilot, roll in the direction that it yawed.
2. In flight, rolling an aeroplane will cause one wing to descend and the other to rise, moving the aeroplane about its longitudinal axis. Then the aircraft nose will yaw in the direction of the lower wing and away from the selected reference point.
3. If, when flying a straight line, you find the wings aren't level, you've probably yawed away from your selected reference point but not noticed it. Pay more attention to your flying and in particular to your selected reference point.
4. First, to fix, get the nose back onto the selected reference point with rudder. This is not "picking a wing up with aileron' – it's correcting yaw using the control designed for this purpose.
5. Then, when the nose is back on the selected reference point, check your wings are level. If they are not, then level them with ailerons but, simultaneously ensuring that the nose remains on that selected reference point.
6. Advice - pay more attention to your selected reference point.

Note that, when flying, you don't have a white line to keep straight with. You are "off road", so to speak, and have to make your own line to keep straight on. In an aircraft that's done by selecting a reference point on the horizon and flying directly towards it using your RUDDER to keep straight

Happy Flying

------ ooOOoo ------



The Stupid Pilot Tricks – 2020

From the don't-try-this-at-home file, these bring you the latest round of silly ways to bend airplanes. Laugh at the stunts and the prose, but there are lessons here for us all.

From an article by Rick Durden, June 30, 2021 *This article originally appeared in the January 2021 issue of IFR magazine.*

TRICK #1 - WHAT'S A LITTLE SNOW?

Our first paragon of judgment was departing from a high-altitude airport in his single-engine turboprop. The weather stank—freezing fog and a 500-foot ceiling. Oh, and it was snowing. Hard. Economically, the airplane was parked outside. Determined to depart and apparently not impressed with all the guidance that lift-generating surfaces be completely free of contamination before take-off, the pilot wiped snow off of the wings "as best [h]e could."

Image – Ben Bishop

Heavy snow continued as he taxied for take-off, resulting in an additional "light accumulation of wet snow" on the wings. The pilot later reported that after pointing the airplane down the runway and moving the power lever from quiet to noisy, snow "sloughed off" the wings under acceleration. Sure, that's a clean wing.

With help from ground effect, the airplane lifted off and climbed to 150 feet. At that point the pilot said that it yawed left, so he applied right aileron *(see "Straight Talking", the preceding article)*. Having superb vision, he "could see a stall forming," so he shoved the nose down and pulled the power to idle. Moments later he and the airplane arrived, left wingtip first, back on the ramp, using 600 feet of it to slide to a stop.

TRICK #2 - IT'S NOT QUITE RIGHT, BUT IT'LL BE OK

If we open the "It's not quite right but it'll be okay" file tab, we will be impressed by the owner of the Piper Seneca with a "significant" oil leak in the left engine. He had not one, but two A&Ps look at the engine. Neither could find the source of the leak. After topping off the oil and adding some fuel, the owner apparently decided that if two technicians couldn't find the leak, it must not exist, so he continued his "long" flight with three passengers. Some 15 miles short of the destination the low-oil-pressure light for the left engine illuminated. He pressed on. Five miles out the engine lost all oil pressure and power and "the prop feathered." He pressed on.

Having only one working engine, the pilot elected to land downwind. You guessed it—high and fast. Cue single-engine go-around noises. The aviator quickly discovered that the rate of climb was abysmal. Hoping to improve matters, he shoved the throttle on the remaining engine all the way forward, ignoring that he had already brought power up to max manifold pressure.

Yes, over-boosting a turbocharged engine is not a good thing. He of the sweaty palms quickly became one of the few twin pilots to experience a double engine failure with plenty of fuel. More expertise followed; rather than glide into the trees, level, under control, he stalled it, lost control and hit the trees in a steep nose-down bank.

TRICK #3 - BUT IT'S NOT DONE YET

This paragon to patience was determined to fly his Cessna 210. He faced a trivial problem—it was in the shop for its Annuals, sitting up in the air on jacks awaiting parts ordered but not yet received for the landing gear. The mechanic left for lunch. The pilot let the airplane down off the jacks, replaced the airframe panels that had been removed, pulled the airplane out and tried to start it. About that time the mechanic returned, ran to the airplane and confronted the pilot, again saying the annual was not complete and it couldn't be flown. The insistent pilot started the engine and left. Selecting gear down at the destination, the left main gear would not extend. After the noisier (and shorter)-than-normal landing, inspectors found that a gear saddle had failed in fatigue, precluding the left main from extending. Weren't they awaiting parts?

TRICK #4 – I WAS SOOOO CLOSE….

In this folder we can read of misplaced optimism about the degree of accuracy of portable GPS and a pilot's exaggerated sense of his precision in following their guidance. Near his destination on a "marginal-VFR" night, the pilot clicked on the runway lights, saw the runway lights, and started down. But he ran into ground fog at 300 feet—no more lights.

Undeterred, and apparently not considering the subsequent NTSB report, he continued, using the moving map and GPS altitude. While in a left turn, he hit the ground—a mile short of the runway.

TRICK #5 – I DON'T NEED TO GO-AROUND….

Closing the last folder, we now look at the one-two punch a pilot applied to his faithful Cessna 182. Attempting to land on a paved runway, he touched down more or less level just before the pavement began. Sadly, the threshold included a lip several inches high. The raised pavement removed the 182's nose gear.

It's never too late to go around. Perhaps now leery of pavement in general and forgetting that if you've got a gear problem it's wise to land on pavement because the airplane will slide, our elevated-pulse pilot chose grass for his next landing.

As you guessed, once the remaining nose gear leg touched down, it dug into the turf, flipping the airplane.

TRICK #6 - SWING THAT PROP

And you thought you'd seen all the stupid pilot tricks prop-starting an airplane. However, this pilot of a Piper J-5 found a novel way of having a non-pilot help.

Swinging the prop with a "we don't need no steenkin' chocks" attitude, the pilot had positioned his passenger in front of the horizontal stabilizer to keep the airplane from moving. Let's see: immovable human in front of aircraft structure. Yeah, that should work.

Leg up, down, swing the prop, engine starts. At high rpm. (Need more?)

Yes, the passenger proved movable. The pilot grabbed a strut but fell trying to get into the airplane. That got the airplane going in circles. In retaliation for being fired up by a stupid pilot, the airplane ran over the pilot before it threw up its metaphorical hands in despair and ran into maintenance equipment—which then needed maintenance.

TRICK #7 - A SAFE LANDING, NOW WHAT?

We generally think a precautionary landing shows good judgment. It's what the pilot does after that landing that shows whether they have the right stuff, or end up here. We noted with pride that a Stinson SR9 pilot responded to a rough-running engine by making a safe landing in a soybean field. The pilot doubled down on that good judgment because he then had an A&P examine the engine. After several run-ups, the

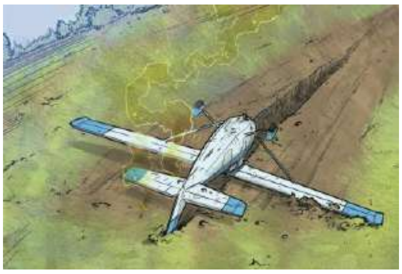


Image by Ben Bishop

technician opined that it was carb ice.

The next step was to fly the airplane out. The pilot decided to share that excitement with two passengers. The temperature, weight, wind, and runway/soybean-field condition meant that by the time the big Stinson lumbered a mere five feet into the air, it met the seven-foot stalks in the adjacent corn field. Not surprisingly, mature corn stalks are an effective speed brake. The Stinson stalled within seconds, flipping onto its back. One wonders about the subsequent conversation in the cabin.

TRICK #8 - JUST A LITTLE BELOW MINIMUMS

Going below minimums on an instrument approach is a common stupid pilot trick that surprisingly many survive. We read the report of a pilot making a night GPS approach who claimed that he saw the approach lights but was "a little right of course" and "fixated" on the instruments while attempting to correct for being off course. He said that he hit the tops of some trees — substantially damaging the airplane — pulled up and landed. The weather was a 200 ft overcast with ¾-mile visibility.

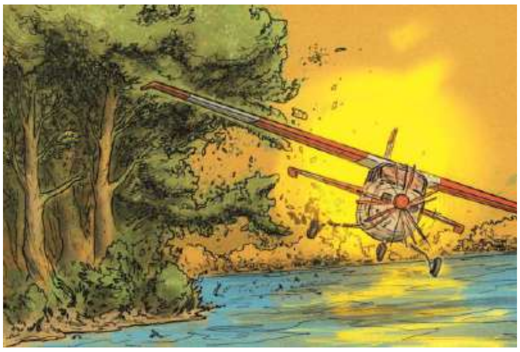


Image by Ben Bishop

But, brushing the treetops and flying away is kind of a yawner in the big world of stupid pilot tricks.

Then the sun came up and turned this into a classic for the record books. The GPS approach is over a lake that's below the runway elevation. Second, as the drawing shows, the pilot didn't brush treetops on the lake shore, he strained the right wing and fuselage through a tree, carving out a "C" shape in it. He was at or slightly below the runway elevation, some 3000 feet short of the runway. Let's see, we'll go 200 feet below DA, with the glideslope needle pegged in the "uh-oh" position, knowing that this is our home airport and there are tall trees a half-mile short of the runway Yeah, that'll work.

TRICK #9 – "IT WAS AN HONEST MISTAKE"

Then there was the ag pilot who claimed he was "testing the spray system at maximum pressure at a specified airspeed." That sounds good—a test that can be conducted at a reasonable altitude (you've got to look inside the cockpit at dispersal system instrumentation) and away from people, vehicles and buildings.

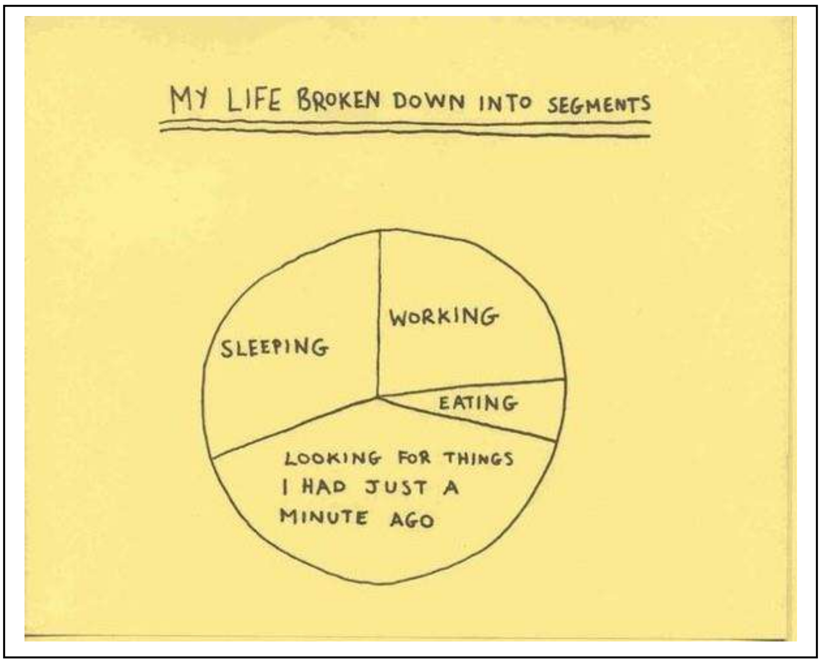
While carrying on this task, our very professional agricultural aviator "lost focus outside of the airplane" and managed to hit the only tractor in a big field. But wait! There's more. The tractor was in motion and the operator was injured when he was thrown from the tractor by the collision. But wait! There's still more. Apparently this conscientious, cautious professional pilot had previously buzzed this tractor operator and his supervisor a number of times before. He had to be good; he could hit a moving target while losing focus outside of the airplane.

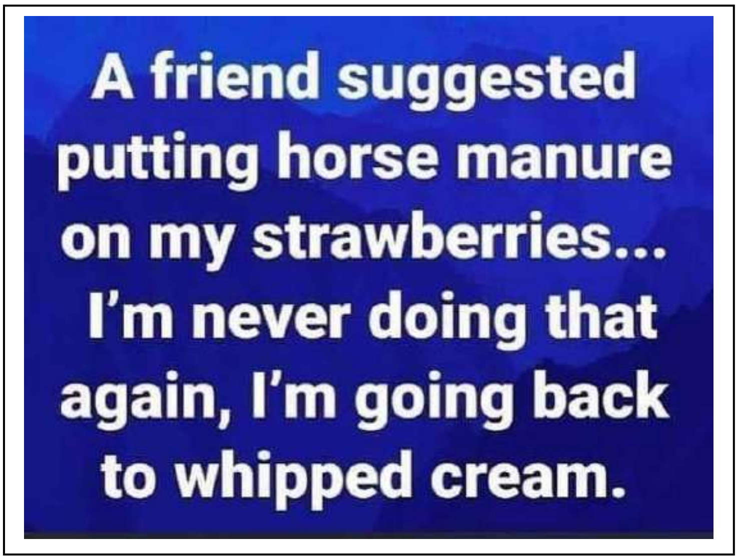
TRICK #10 – "OH, GIVE ME A HOME, WHERE THE…"

Having a home on an airstrip is the dream of countless pilots. If that airstrip is long enough for the family airplane it's even better. One pilot sought to launch into the delirious burning blue from his home grass strip in the family Cherokee. He rose into the air briefly, then descended and "touched down hard." Wash, rinse, repeat—he continued to lift off, only to subsequently touch down a number of times until he determined that he would not make it over the trees at the end of the runway. Apparently, the pilot's take-off Plan C was to abort the take-off and stop before running off the end of the airstrip, because he implemented his Plan B. That involved making a left turn and motoring across two adjacent fields, through a ditch and using a barn as tackling dummy. It worked—the barn successfully stopped the airplane. The pilot was unhurt. No information was provided about the long-term viability of barns as EMAS. We'll close with an accident report that gave us faith that stupid tricks around airplanes are not all performed by pilots—and that even though a pilot does everything right, there's a chance that some idiot will mess things up. The pilot of a Beech twin made all of the appropriate radio calls as he approached and landed at a nontowered airport. Shortly after touchdown, with braking underway, the pilot saw a truck—pulling a loaded flatbed trailer—approaching the runway. The truck slowed briefly, but then accelerated onto the runway, crossing it.

The pilot swerved hard and almost made it—unfortunately, the aircraft's wing and the trailer tried to simultaneously occupy the same space. After everything was brought to a stop, the truck driver apologized to the pilot saying, "I thought I could beat you across the runway." The report does not indicate whether a dope slap was administered. Because the accident occurred in Texas, rumour has it that it is possible the pilot could have carried out such an admonition under the State's "He had it comin'" common law "reaction to stupid" doctrine.

------ ooOOoo ------





Mysteries Of Flight: Why Were Tomahawks Crashing?

From an article by W. David Pond published December 10, 2020

PA38-112, ZK-PAH at Paraparaumu on the Kapity Coast near Wellington, NZ

Why was the PA38-112 Piper Tomahawk suffering so many loss-of-control crashes? After an FAA/NTSB investigation and recertification, if you'd think the answer would be clear, you'd be quite wrong.

What was going on with the Piper PA-38 Tomahawk? Investigators wanted to know. It wasn't first the time they had asked that question about an entire model line. And there were concerns about the Tomahawk.

When a type of aircraft suffers a pattern of what could be design-related mishaps, the NTSB might recommend to the FAA that the regulatory agency do something about it. The NTSB, as you might know, doesn't have regulatory powers, so if it sees a problem, which it so often does, it has to recommend to the FAA that it do something about it. Due to cost concerns or philosophical differences between the organizations, those recommendations don't always get acted upon, but in the case of some aircraft, including the Mitsubishi Mu-2 turboprop twin and the Robinson R22 two-seat utility helicopter, for example, they result in the FAA looking anew at the issues surrounding the aircraft in question. And in the end, they invariably come up with some kind of remedy based on the investigation, which often comes in the form of increased training requirements or operating recommendations.

Early on in the Piper Tomahawk's production life, it seemed likely that there was some problem. The planes were experiencing stall-spin accidents, fatal ones, at an alarming rate. For those of you not familiar with it, the Tomahawk was a two-seat, side-by-side low-wing, Tee-tail trainer that Piper introduced in the mid-'70s to compete against Cessna's ubiquitous C-150/C-152 high-wing trainers. The Tomahawk was, like the Cessna 152, a side-by-side two-seat trainer. It was even powered by the same Lycoming four-cylinder IO-235 engine. But apart from that, it was a whole new ballgame. The bubble canopy-like enclosure and the T-tail were cool and very modern, and the plane handled very snappily (no pun intended) as well.

According to an Air Safety Foundation story, that was the whole idea. The author of that story, Bruce Landsberg, who's now an NTSB board member, wrote that Piper designed the plane in part through input from instructors, which makes sense, right? And a lot of them wanted a trainer that spun more easily than the 152. Well, in a classic case of be careful what you ask for, that's what they got.

It tended to be like this. The plane, if flown just so—that is, just the wrong way—would enter a spin quickly, and, once in the spin, it would rotate very quickly—a big departure from the 152. When this happened at low altitude, as it did with nearly all such accidents, there wasn't enough altitude to recover, and the results were fatal for those aboard, which was usually a student pilot and an instructor.

In the early '80s, the NTSB and FAA stepped in and recommended a fix, adding stall strips to change how the stall progressed along the chord line, from root to tip, and the problem was…solved?

But there were two big mysteries. The first was, why was the Piper Tomahawk experiencing more stall spins than other trainers? The NTSB compared it with the Cessna 150/152, the Beech Skipper and the Grumman American AA1, though the Cessna two-seat trainers represented an enormous share of the training market at the time, and found that the Tomahawk really was more prone to fatal stall spins by a factor of greater than five. Was it an inherently poor design? The Tomahawk was using a different aerofoil than previous, famously docile Pipers. Or was there some problem with the way Piper was building the planes?

"In the early '80s, the NTSB and FAA stepped in and recommended a fix, adding stall strips to change how the stall progressed along the chord line, from root to tip, and the problem was…solved?"

But was it the Piper design, the Piper manufacture, or pilot/instructor ineptitude causing the stall-spin mishaps?

As it turned out, the answer was yes to all. The manufacturing part had to do with changes that Piper had made, not to the design but to the structure, reducing the number of main ribs and lightening the spar. These changes were apparently done only after the FAA had flown the spin series that resulted, investigators found, in the wing being quite flexible, so much so that it stalled in unpredictable ways. Others went so far as to say that each Tomahawk flew quite differently from the next one and differently from the one before that.

In addressing the problem, the FAA came up with a very low-tech, low-cost solution: stall strips. By adding these strategically to the leading edge of the Tomahawk wing, the snappy stall characteristics were tamed. The Tomahawk now enjoys one of the best safety records in its class. PP

My logbooks indicate that I have accumulated 3,417 hours on the Piper PA38-112 aircraft. I see sixteen PA38s registrations listed, and of this tally, fourteen were Tomahawk Is with a single flow strip, and just two were designated as Tomahawk IIs with the inboard flow strips also fitted.

As all aerobatic ratings (endorsements) require spin training, Waitemata Aero Club, my then employer, used a Cessna 152 Aerobat (a Texas Taildragger conversion) and, periodically, a PAC CT4, for the upside-down bits, and one of the four flight-line Tomahawks for the roundy-roundy bits – the spin training. As I was fortunate enough to do most of the club aerobatic training at that time, I became very familiar with spinning the PA38. As I also taught spinning in the pilot conversions to the C152 and the CT4, I am able to provide a good comparison of the characteristics of the individual aircraft types.

Texas taildragger, C152 Aerobat, ZK-EJZ

The C152 (ZK-EJZ), in its tail-wheel configuration, was different in performance to the standard C152 nose-wheeled version. EJZ, or Erky, Jerky, Zonk, as it was affectionately known, regularly climbed at over 1000 FPM with two up and half tanks, and cruised at around 108 knots at 2400 RPM. Its rates of roll and pitch were considerably improved with no nose wheel acting as a weighted keel, and the rudder was more effective for that same reason.

The CT4 (ZK-DGY), was, aerobatically, in a class of its own as its primary function was for military training and had a more realistic power plant installed. Although both the airframe and configuration were loosely based on Airtourer design, originally manufactured by Victa, in Australia, it was a completely different aircraft to fly and no way would an Airtourer endorsement equip someone to jump in and take the CT4 away unless they had considerable experience.

Both EJZ and DGY suffered the same limitation (in my opinion) when used as a platform for an aerobatic rating (endorsement). Neither of these aircraft would remain in a spin after entry. EJZ would fall out into a spiral dive As would DGY, unless a full application of back stick and full into spin rudder control were continuously held. Relaxation of the stick (stick forward), or reducing the rudder application, would see both these aircraft types fall ungainly out of a spin and into an ungainly spiral dive. The PA38 was totally different, and herein lies part of my love for this aircraft type.

Tomahawk general performance was lower than that of this C152, because of the removal of its offending nosewheel. There is no serious comparison possible between the general performance of PA38 and the CT4.

The mechanics of the spin entry procedure for the Tomahawk I, with the single, outboard flow strip ahead of the aileron on each wing, was identical to the 152:

1. *Carburettor heat ON,*
2. *Power OFF,*
3. *Maintain height with the ball in the middle until the ASI read 65 knots.*
4. *Briskly draw the yoke back to its full aft position and*
5. *Simultaneously apply full rudder in the direction of the intended spin.*

The difference between the PA38 and the C152/CT4 begins right here.

The Cessna, nose high, rolled briskly in the direction of the applied yaw. The nose fell to near vertical and the windshield was filled with landscape which began whirling around as the aircraft rotated.

After about two rotations, the 152 began to accelerate as the spin turned into a spiral dive. At any time, any, relaxing of the fully back yoke or releasing of the rudder, and the autorotation became a spiral dive with increasing airspeed and a rapidly increasing rate of descent.

For the entry the only procedure difference for the CT4 was the ensuring that the pitch was set to fully fine. Its behaviour was similar to the C152 although it lost considerably more height getting into its near-vertical nose attitude and begin to rotate. However, it differed in that, as long as the stick and rudder controls were held in the full pro-spin positions, the aircraft continued spinning, retaining a constant low airspeed with a high rotation rate and descent velocity. Recovery could be either the correct spin recovery as depicted below, or relaxing either or both elevator /rudder as worked for the 152.

PAC CT4, ZK-DGY

The PA38 spin-entry and stabilised spin characteristics were on another planet. The same entry procedure as mention above was used, but the aircraft behaviour after the application of full back yoke and full rudder was entirely different. At the application of the back-yoke and rudder, the nose pitched up very high, and then the wing dropped. The roll could continue past the inverted and as the roll-out began the nose pitched up a second time – usually to a point just above the horizon. At any point during this gyration, relaxing either back yoke or rudder (or both) would see the same characteristic as the 152 or the CT4, the aircraft would fall out of the spin and enter a spiral dive. However, if the pro-spin controls were retained until the nose fell away a second time, you'd better know how to recover because the aircraft would stabilise and *the world would go round and round until you either left a big hole in the ground OR you followed the correct spin recovery as listed below.*

There were some that had trained on other aircraft types and were adamant that I was wrong, that ALL aircraft had to recover on release of the control for their certification. On one occasion, when dealing with an argumentative and cocky student, in ZK-PAH, we entered a spin to the right at 6500 feet. After the spin stabilised, I took control and folded my arms and drew my feet back from the pedals. With no interruption, the aircraft continued to spin with no-one's hands on the yoke or pedals until, at 1800 feet indicated, I instigated a recovery using the correct technique. The aircraft recovered absolutely normally and almost immediately. For anyone critical of my 1800-foot recovery instigation, I was an approved low-level aerobatic pilot and had carried out thousands of spins so I knew what I was doing AND it was legal.

It took this extensive and conclusive demonstration that the aircraft would not stop spinning on release of the controls to correct his flawed view of certification requirements and spin recovery methods. And he wasn't the only pilot that I encountered that was thus afflicted, by any means.

Then same spin recovery was taught in all three types. It was:

1. *Throttle FULLY closed,*
2. *Full rudder applied against the direction of the spin, and*
3. *Full forward stick, which was held until the spin stopped and the aircraft entered a steep dive. Note that The C152 and the CT4 aircraft tended to recover as soon as step 2 was undertaken.*

Once established in a stabilised spin, recovery in a PA38 using any method bar the one specified above was doomed, as were the occupants, and I believe this is what lead to the fatal accidents that marred the early days of the PA38's operation.

Over the nearly 3 decades that I was instructing I flew with ab initio students in most light aircraft. Specifically, these included the PA38, PA28, PA22 Colt, C150-152-172, Victas and Airtourers 100 and 115, T3 and T5, the Grumman Lynx AA1 trainer, the Bolkow Bo 208 Junior, and Moraine Saulnier MS880B Rallye. Of these I believe that the PA38 Tomahawk I was the best overall trainer.

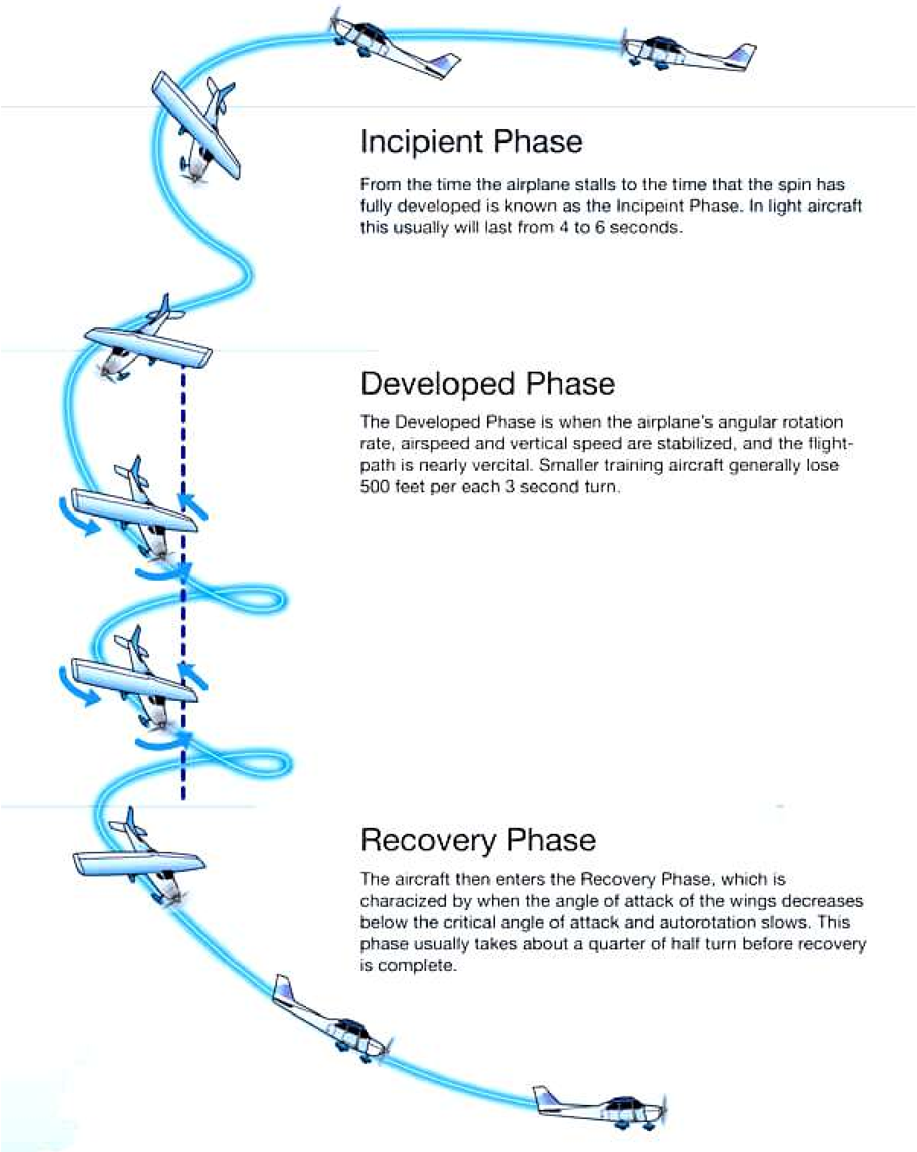
I found the aircraft to be easily controlled when flown correctly. To me, the aircraft was always predictable unless one flew it into a slow speed situation with the controls crossed. Under these circumstances, the aircraft probably wouldn't spin, but it would certainly act out the pre-stabilised incipient spin entry gyrations. If this occurred at low altitude, the results would most likely be very unhealthy. I don't think that this made it a poor aircraft or a poor trainer, just a very honest one that would bite if flown wrong. How honest is that – you always knew where you stood.

I believe that the tragic series of PA38 crashes when spinning were all examples of the student that wouldn't believe that the PA38 would not recover on control release in a stabilised spin. I recall that two crashes of the type in the UK were commanded by non-spin rated and no aerobatic rated pilots. I read at the time that three fatal crashes in the USA were piloted by the same, pilots with inadequate or no spin training. Only under extreme provocation could I ever get a PA38 to directly enter a stabilised spin. To achieve this, I had to enter the spin from a maximum rate turn (full power applied) and use aileron when the wing dropped in the turn when it stalled. And not every PA38 aircraft would even do this.

Yes, the Tomahawk Is, with the single outboard flow strip on each wing would bite, suddenly and viscously. But if the controls were immediately relaxed, the aircraft would instantly return to normal flight and perfect safety. Waitemata Aero Club owned four PA38s and trained hundreds of ab initio pilots in these aircraft without issue. I also used them for all student PPL, CPL, and *instructor training when I was the CFI at the Wellington Aero Club, also without any untoward incident.*

Note please that I am only referring to upright spinning. The only aircraft listed that could carry out inverted spinning was the CT4 as neither the C152 nor the PA38 had sufficient elevator authority to exceed the stalling angle when inverted. Also, the PA38 was not approved for general aerobatics, only spinning.

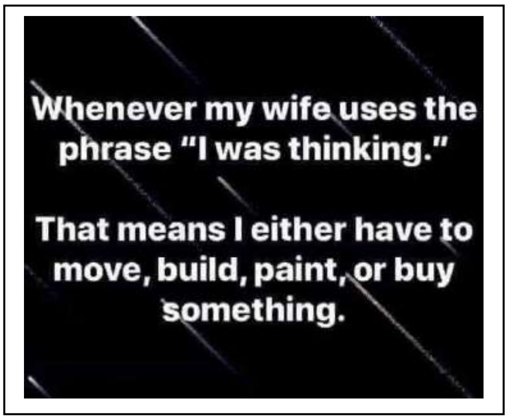
Rob Knight

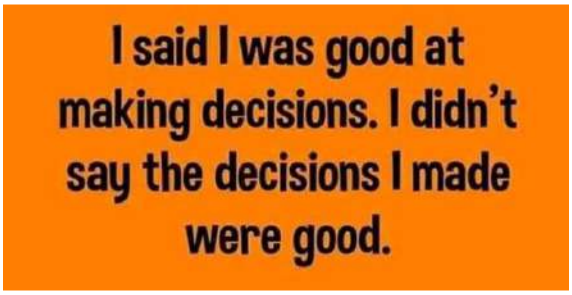


Flight path in a spin. Note that, the Developed Phase in this sketch, I have referred to as the Stabilised Stage, the term used at the time. (Image from AOPA magazine)

FLY-INS Looming

08 August 2021	Murgon (Angelfield) (ALA)	Burnett Flyers Breakfast Fly-in
10 October 2021	Murgon (Angelfield) (ALA)	Burnett Flyers Breakfast Fly-in
16th – 17th October 2021	Brisbane Airshow	Watts Bridge Memorial Airfield





"You don't look anything like the long haired, skinny kid I married 25 years ago. I need a DNA sample to make sure it's still you."

Did you know:

"Innuendo", is Italian for suppository

Commencing January 1920

REGULATIONS
For Operation of
AIRCRAFT.

1. Don’t take the machine into the air unless you are satisfied that it will fly.
2. Never leave the ground with the motor leaking.
3. Don’t turn sharply when taxing. Instead of turning sharp, have someone lift the tail around.
4. In taking off, look at the ground and the air.
5. Never get out of a machine with the motor running until the pilot relieving you can reach the engine controls.
6. Pilot’s should carry hankies in a handy position to wipe off goggles.
7. Riding on the steps, wings, or tail of a machine is prohibited.
8. In case the engine fails on takeoff, land straight ahead regardless of obstacles.
9. No machine must taxi faster than a man can walk.
10. Never run motor so that blast will blow on other machines.
11. Learn to gauge altitude, especially on landing
12. If you see another machine near you, get out of the way.
13. No two cadets should ever ride in the same machine.
14. Do not trust altitude instruments.
15. Before you start a landing glide, see that no machines are under you.
16. No spins on back or tail slides will be indulged in as they unnecessarily strain the machines.
17. Hedge hopping will not be tolerated
18. If flying against the wind and you wish to fly with the wind, don’t make a sharp turn near the ground. You may crash.
19. Motors have been known to stop during a long glide. If pilot wishes to use motor for landing, he should open throttle.
20. Don’t attempt to force machine onto ground with more than flying speed. The result is bouncing and ricocheting.
21. Pilots will not wear spurs when flying.
22. Do not use aeronauticle gasoline in cars or motorcycles.
23. You must not take off or land closer than 50 feet to the hangar.
24. Never take a machine into the air until you are familiar with its controls and instruments
25. If an emergency occurs when flying, land as soon as possible.

Thanks to Peter Wilkinson for this time capsule Report

Two Churnin' and Two Burnin' – who's the PIC?

By J. D. Lodato, (Air Facts Journal)

It was *not* a dark and stormy night—rather a dreary, overcast day, late morning; call it ceiling 1200 ft. and 5 miles viz with a temperature-dewpoint spread of two degrees. It could easily burn off in an hour or go down to 200 and 1/2 in fog. Typical January in Fairfield, CA, at Travis AFB (SUU). January 1976 actually. I was the Instructor Pilot (IP) for the 301st Military Airlift Squadron (AF Reserve) on this transition (approach and landing practice) local flight. Each pilot was required to make two approaches and two landings (2&2) every 30 days to maintain landing currency in the C-5A. We were flying 69-00012 which today rests in area 22 in the boneyard at Davis-Monthan AFB in Tucson, AZ. I plan to visit her one of these days.

The C-5 can fly with an engine out—but how about two?

On our fourth ILS approach to runway 21L, we completed our fourth touch and go landing and were climbing out to prepare for a pilot change and more approaches and landings. We retracted gear and flaps and just before entering the overcast we slammed into a flight of Canada Geese, in classic "V" formation I assume—we never saw them. We sucked several of the large, 12–15-pound birds into the engines. Number one fire handle illuminated red. Numbers two and three engines began vibrating violently with rpm fluctuating 500-1000 revolutions.

Butch Hollins was in the left seat, having just completed his two-and-two for the month. Butch was a 10,000-hour furloughed Pan Am First Officer. Most of our Air Force Reserve Squadron pilots were furloughed, highly-experienced airline pilots. "That's not good," said Butch, reaching for the fire handle and waiting for my nod to pull it and discharge the extinguishing agent. "Shall we pull back two and three?"

"Yes," I said. "You stay in the seat and keep flying. Declare an emergency with approach control. Ask for vectors for another ILS with no left turns! I'll deal with the engines. Jump Seat (third seat occupant), you call the Command Post. Tell them we're shutting down engines one and two after a bird strike and landing ASAP. Tell them we're IMC. Give them souls on board and three hours fuel!"

I pulled both number two and three engines back close to idle until the vibration stopped, or almost stopped. Then I pushed number two back up slowly until the vibrations started again. Back to idle. Number three came up to nearly 40 percent before serious vibration was evident. I left it there. Engines number four and three would be our source of thrust. The Jump Seat said, "The Command Post is calling Lockheed and wants us to fly an extended pattern 'til they get back to us!" That didn't sound very likely to me.

I had never pulled Command Post duty but a close friend had while recovering from eye surgery. He described it as hours of near catatonic boredom interspersed with brief moments of stark terror—a lot like overwater flying. He said there were times when they were talking with Ramstein (Germany), Lod (Israel), Yokota (Japan), and Diego Garcia (Indian Ocean) all at the same time about the same issue. The duty he described sounded like a series of career make-or-break decision challenges. Someone had to make tough decisions to keep the cargo moving and departures and arrivals happening on time.

When you got it right your OER (Officer Efficiency Report) had you walking on water. When you got it wrong, well… you didn't. There was a huge responsibility when handling in-flight emergencies even though final authority rested with the PIC. You didn't want to be the Command Post weenie who told the Aircraft Commander to take off with a failed hydraulic pump if it later proved crucial to the mission.

Butch was flying the Galaxy well. He had solved the asymmetric thrust problem with the rudder trim and a touch of aileron trim and the airplane was actually quite stable flying in the very slightest of skids. Engine number four was likely undamaged, lucky for us, and number three at 40 percent was helping, too. We were fortunate to be at a gross weight of less than 450,000 pounds, pretty standard for the local training flights. It would be an entirely different story at 650,000 or even 700,000 pounds—more typical mission gross weights. The Flight Engineer placed wing/engine watchers on both sides of the airplane to report smoke, fire, debris—whatever—coming out of the engines. The flight controls all felt normal.

As fate would have it I had just completed required annual simulator training a month prior. We finished early and the instructor said, "Anything you want to try? It's your nickel!"

"How about two engines out on one side?" I suggested. "Is the simulator set up for that?"

"You bet! How about Clark Air Base in the Philippines, ceiling 200 ft., viz 1/2. Numbers one and two engines shut down for fire?"

"Bring it on!" I said, anticipating the enormous right rudder input required to fly straight with numbers one and two engines both caged. I was shocked. The Galaxy's good manners were nowhere more in evidence than with engine(s) out. At medium power settings the rudder pressure could be almost totally trimmed out. "That's Lockheed," said the simulator IP. "There's a reason the rudder is as big as Nevada. It's a pilot's airplane." The simulator approach to minimums, hand flown, was totally anticlimactic. The ensuing missed approach was more exciting with lots of rudder needed to compensate for no left wing thrust but the rudder was there, even at near full power on three and four. The memory was still vivid and I knew we could easily bring 00012 back around, land and walk away from it.

The guys on the ground can give advice, but it's up to the PIC to make the right call.

"Command Post wants to talk to the IP," said the jump seat. "They are getting Lockheed on the line!" At precisely that moment we slipped into a break in the clouds—one, two, three seconds in clear skies. Straight down I could see the intersection northeast of the base with the duck club turnoff, the water tank, the little corral—unmistakable! I had driven that road 50 times. As we slipped below the clouds I had a brief second of clarity—rare for me—but never more welcome. *I see the ground. I know exactly where I am. I am PIC and know beyond the faintest shadow of a doubt that we can land safely on runway 21 right.*

"I have the airplane—co-pilot has the airplane," I said, shaking the yoke gently and beginning a gentle descent. I corrected my verbiage for the Cockpit Voice Recorder. "Butch—I know exactly where we are. Cancel IFR with approach, call the Tower, declare the emergency, and tell them we are VFR turning a two-mile final for 21 right, two engines out, 12 souls, three hours fuel. Run the Before Landing Checklist—hold the gear until we start down!"

"Roger," said Butch. "Co-pilot has the airplane, checklist working. Command Post on two wants to talk to the IP. I told them we'd catch up with them shortly—really busy right now."

"Excellent. Give me flaps twenty. Loadmaster, ensure everybody's strapped in and prepped for quick exit if necessary. We'll clear the runway and turn it over to maintenance on the ramp. Butch—pilot—it's your airplane on rollout at 50 knots. Check brakes but keep momentum up for the right turn off the runway—we have no thrust on the left side to help you turn." (Only the pilot has nosewheel steering on the C-5A so taxiing is a left seat activity.)

The landing, rollout, and exit to the ramp were routine. Fire trucks and maintenance were waiting with a marshaller and tug just at the ramp's edge. We shut down per checklists and exited the airplane with the maintenance book. The crew was checking out the feathers and blood smeared on the TF-39 engine inlets, each big enough to house a Volkswagen Beetle. Maintenance would eventually change three engines and return 00012 to service. She retired to sunny Tucson in 2014 after 45 years hauling cargo worldwide.

The takeaways? Obviously, I had a well-trained crew of professionals operating a machine that performed as advertised in every parameter. There were certainly no heroics by any of us. Tension in our voices? Certainly! Concern that the engine fire could spread? Of course. But the hammered-home procedures in our various checklists covered it all.

As for the PIC aspects, there is perhaps a tendency to seek help when lives are at stake, that maybe someone, somewhere out there is going to have been there before. They'll have the brilliant idea that solves the problem instantly. I admit to hoping that a Command Post call would generate a, "Hey! I just had that same damn thing happen to me last week! Here's what I did…" Total fantasy. It's always good to have outside help and advice—especially *experienced* help and advice. But in the end the Pilot In Command is the one ultimately responsible for getting the guys (and now lots of gals!) home safely. It's worth reminding one's PIC-self while strapping in on every flight: "I gotta get these folks back home safe!"

Keeping up with the Play (Test yourself – how good are you, really?)

1. An aeroplane is experiencing a wing-drop stall. The nose has yawed severely to port and the left wing has dropped past the vertical and the aircraft has pitched 60° nose down. Which of the flight controls has the highest priority in instigating the recovery with minimum height loss?
   A. Elevator pulled back the pull the nose up to limit the height loss.
   B. Right aileron to lift the dropped left wing.
   C. Right rudder to stop the yaw.
   D. Stick back and right aileron simultaneously applied.

2. To extend a glide in still air, would there be any advantage in tossing out luggage to reduce the aeroplane's weight, whilst maintaining the airspeed for the best L/D ratio?
   A. Yes, a lighter aeroplane will glide further.
   B. No, as long as the best L/D ratio airspeed for the weight is maintained, the glide distance will remain the same.
   C. Yes. A lighter aircraft must always glide further than a heavy one.
   D. No, the glide distance is constant, regardless of the weight.

3. Why does the stall speed of an aeroplane increase in a level turn?
   A. The loading increases.
   B. The wings are not level.
   C. Because the lift when turning is required to both support the aircraft AND to turn it?
   D. A and C are both correct.

4. Which of the following statements most correctly depicts precipitation in the atmosphere?
   A. Cloud, rain, showers, snow.
   B. Snow, hail, sleet, virga.
   C. Fog, mist, cloud, showers.
   D. Sleet, rain, drizzle, hail.
   E. B and D are correct

5. Unstalled, the centre-of-pressure moves aft along the aerofoil cord line in a level turn. This movement is directly the result of which of the following?
   A. The increased angle of attack required to carry out a level turn.
   B. The increased loading experienced in a turn.
   C. Because of the need for aileron to hold the aeroplane in the turn.
   D. Because of the yaw as the nose sweeps across the horizon.

See answers and explanations overleaf

If you have any problems with these questions, See Notes below or call me (in the evening) and let's discuss them. Rob Knight: 0400 89 3632 (International +64 400893632), or email me at kni.rob@bigpond.com.

1. C is correct.
   The first action in a wing drop stall recovery is always be to stop the yaw with rudder. Until the wings are unstalled (have their angles of attack reduced to less than their stalling angles), any application of aileron will only deepen the stall on the down-going wing because the aileron on that wing will go down and increase the angle of attack further. A complete control reversal can occur and the aeroplane roll rate may, instead, increase, and the aeroplane roll inverted whilst the nose enters a vertical position.
   See: https://www.aviation.govt.nz/licensing-and-certification/pilots/flight-training/flight-instructor-guide/wing-drop-stalling/

2. B is correct. Provided the airspeed for the best lift/drag ration for the aeroplane at that weight is maintained, the glide distance will remain exactly the same. For any given aeroplane weight, there is only one airspeed for the best L/D ratio.
   See: https://www.skybrary.aero/index.php/AP4ATCO_-_Lift/Drag_Ratio,_Forces_Interaction_and_Use

3. D is correct. In a level turn, more lift is required than that required for wings level straight flight. This is because the lift must increase in the turn so it can still support the weight, as well as provide the force to turn the aircraft.
   See http://avstop.com/ac/flighttrainghandbook/forcesinturns.html

4. D is correct.
   Precipitation is condensed water vapour in the atmosphere, that is falling. If it's not falling, it's not precipitation. Therefore, clouds, fog and mist are not precipitation but virga is, even though it doesn't get to the ground before it evaporates.
   See: https://en.wikipedia.org/wiki/Precipitation

5. A is correct. As the angle of attack of an aerofoil increases, the centre of pressure (CoP) moves aft, towards the trailing edge of the aerofoil.
   See https://en.wikipedia.org/wiki/Flap_(aeronautics)

   Or: The centre of pressure (CP) does not remain in a constant location. On an unstalled wing, as the angle of attack changes, the local pressure at every point on the aerofoil also changes. This, in turn, causes a change in the location of the center of pressure. If the unstalled angle of attack increases, the CP moves rearward. If the unstalled angle of attack reduces, the CP moves forward. This provides the nose pitch down at the stall in most light aeroplanes.

------ ooOOoo ------

Aircraft Books, Parts, and Tools etc.

Parts and Tools

Item	Condition	Price
VDO Volt Readout instrument	Brand New	**$70.00**
Altimeter. Simple – single hand	As new	**$50.00**
Oil Pressure indicator, (gauge and sender)	New – still in box	**$80.00**
Flight bag. 3 section (2 x zips and 1 x locking flap)	Used but good	**$100.00**

Tow Bars

Tailwheel tow bars. Three available	Good condition	**$50.00 EA**

Headsets

AvCom headset. Functions perfectly	Excellent	**$150.00**

Propeller Parts

Assorted sized propeller spacers, all to fit Rotax 912 UL/ULS propeller flange	Excellent	**$100.00 each**
Spinner and propeller backing plate to suit a Kiev, 3 blade propeller, on a Rotax 912 engine flange.	Excellent	**100.00**

Contact Rob Knight via either kni.rob@bigpond.com, or **0400 89 3632**.

Altimeter for Sale

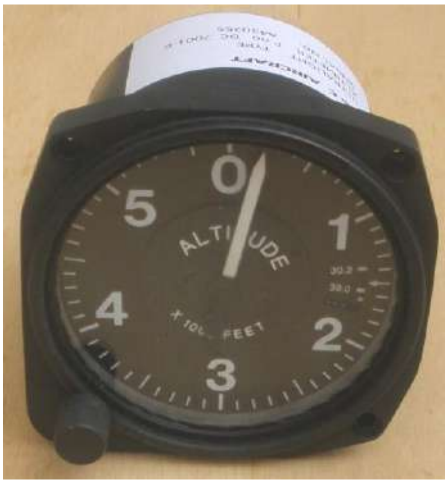
This simple altimeter I purchased at Oshkosh is now surplus to my requirements and I am seeking a new home for it.

Its face is absolutely clear, it has never been used, and the subscale is provided in "HG.

It is in as-new condition and certificated. For a copy of the certificate, and/or further details, contact

Colin Thorpe. Tel: LL **(07) 3200 1442**, or

Mob: **0419 758 125**



$120.00

Aircraft for Sale

¾ scale replica Spitfire

$55,000 neg

This aircraft is airworthy, flown regularly, and always hangared. Registered 19-1993, it is powered by a 6-cylinder Jabiru engine (number 33a-23) with 300 hours TTIS. The airframe has logged a mere 320 hours TTIS. This delightful aircraft has recently been fitted with new mounting rubber, a new alternator and regulator, a new fuel pump, and jack stands

It handles superbly and is available for immediate collection or delivery by arrangement.

Kept at Kentville in the Lockyer Valley, interested parties should contact either:

Kev Walters on Tel. **0488540011** or

William Watson on Tel., **0447 186 336**

Aircraft for Sale

$ Make Me an Offer$

Cobham Cobra

An opportunity to buy a unique aircraft.

I now have a Foxbat, and can't to afford to keep 2 aircraft. The Cobra was advertised for about a year in Sport Pilot, with many enquiries, but no resulting sale. Rather than continuing to spend on hangarage and advertising I decided to de-register it, remove the wings, and trailer it home to my shed. I don't intend to ever fly it again so, make me an offer. It provides very cheap and enjoyable flying.

It is a one-off design, a single seater with a fully enclosed cockpit. It has a 24-foot wing-span, and is powered by a VW engine that provides sporty performance and superb handling. The airframe has logged 653 hours and the engine 553 since installation. It is easy to start, but requires hand-propping.

To see it in action, go to
https://www.youtube.com/watch?v=V5Qx4csNw_A&list=PLpBv2A6hk66Tg9DiCsjEtt4o4o8ygcTju&index=1&t=22s

It cruises at around 80 knots at 11-12 litres/hr. The tanks hold 48 litres so it has a very reasonable range. For my approaches I use 50 knots on my initial approach down to 40 knots on short final. You will want a fair bit of tailwheel time.

For further details contact Tony Meggs on (02) 66891009 or tonymeggs@fastmail.fm

------ ooOOoo ------

Slipstream Genesis for Sale **$14,000.00**

Imported and built 2001. Two seats side by side, powered by 80 hp 912UL Rotax, driving a Warp Drive 3 bladed prop. Cruise 70-75 knots. Empty weight 304kg, MTOW 544 kg, Payload 240 kg. Fuel tanks hold 78 litres. With fuel burn averaging 16 litres/hr, still air endurance (nil reserve) is theoretically 5 hours, or 350 nm. Aircraft always hangared. It has been set up for stock control/ mustering or photography, and is not fitted with doors. Registered until 13 October 2021, currently flying, and ready to fly away.

Total Hours Airframe: 144.6. Current, up-to-date, logbook.

Total Hours Engine: 1673.9. Annuals/100 hourly inspection done 01/09/20. Sprag clutch replaced January 2020, gearbox overhauled January 2020.Just undergone ignition system overhaul. One CDI Ignition unit replaced PLUS brand-new spare unit included in sale. Easy aircraft to maintain - everything is in the open. Comes with spare main undercarriage legs, spare main wheel, and nosewheel with other assorted spare parts included.

Fabric good, seats are good, interior is tidy. Fitted with XCOM radio/intercom. Basic VFR panel with appropriate engine instruments, and compass.

An article on this aircraft was published in Sport Pilot, June 2019 issue. See front cover and pilot report within.

Must sell: two aeroplanes are one too many. Quick sale - Fly it away for $14,000.

Contact **Rob Knight tel. 0400 89 3632**, **or email** kni.rob@bigpond.com for details and POH.

Aircraft Engine for Sale

ROTAX 582 motor. Ex flying school, TTIS 600 hours, and running faultlessly when removed from aircraft for compulsory replacement.

No gearbox, but one may be negotiated by separate sale if required.

Interested parties should call…..

Kev Walters on Tel. **0488540011**

------ ooOOoo ------