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Pearls Along The Path



“Those who refuse to learn from their mistakes are doomed to repeat them,” states a loosely-recalled proverb. I’ve made plenty of mistakes and I’ve seen just about as many made by others, so I think I’ve accumulated a pretty good reference file at this point. The secret, of course, is to be receptive

to the lesson taught, and thereby avoid repeating the unpleasant outcome of a bad choice.

My friend Jim Stevens is fond of reinforcing his statements by saying “I’m giving you pearls here, LeRoy”. Pearls of wisdom are not to be disregarded, even if we consider them scattered pointlessly, as in casting fodder before swine. We should learn from advice, hopefully before we have to learn from the test administered by our mistakes.

Advice, of course, can be worth about what we pay for it, meaning that everyone wants to give it away, so we do have to sort the pearls from the common marbles. You probably learned that when you bought your first airplane; you were confused by conflicting opinions received from the advanced aviators in the airport hangar gallery. One pilot warned you that the opportunity you’re considered is a badly-flawed aircraft design, and you’ll be stuck in a non-productive predicament if you buy it. Another pronounced it a great airplane that will bring you unending joy. Neither of them may have actually flown one, but they know what they’ve heard.

Grading the pearls, then, requires that you avail yourself of enough knowledge to see their worth. Just because you’ve read it on-line or in a printed magazine article doesn’t make it fully reliable. If the same advice comes from multiple unrelated sources, you might consider it credible. Save yourself some headaches by doing your own analysis, and verify the source as well as the statement.

Just yesterday, I was attempting to program an approach by hacking it on my own, without bothering to consult the plate or chart. I thought I knew the initial and intermediate fixes, which always have those asinine names of obscure origin. “Pearl” wasn’t one of them. After multiple attempts that constructed courses off in unwanted directions, I finally hit upon the direct-to I was seeking, after which I pulled up the defining plate to confirm my choice. Hardly the right way to input a valuable bit of information.

Can we fly airplanes by relying totally on our acquired skill and wisdom? Probably, but just not as successfully as when we continually seek pearls cultured around the irritant of experience. We ought always to be learning more. My aged father said, “The day you stop learning is the day you start dying.”

Pearls, then, are to be found along the route leading toward perfection. There is always a better way to do something, and we’ll find it by consulting a truly knowledgeable source, or attending a training course, or looking in the manual. Guidance along the path is there; we just have to be ready to accept it.

*LeRoy Cook.
Editor*

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Flying The

by LeRoy Cook

CITATION CJ3+

Cessna Adds Improvements To Its CJ3

Cessna's hot-selling Citation CJ3 has long been a highly sought-after light jet, representing as it does one of the most-capable owner-flown airplanes on the market. Easily cruising at over 400 knots and delivering a range of 1800-2000 nautical miles, it can fill the bill for small corporate flight departments and individuals.

There are 432 CJ3s working in the fleet, and the recent introduction of the CJ3+ has already added another 15 or so. The "Plus" enhancements resulted from market studies and customer inputs, bringing a major updating of the CJ3's interior and

avionics while keeping the basic features that have made the airplane so popular.

The CJ3+ fits nicely between the short-cabin CJs and the larger CJ4, priced about \$1-million less than the CJ4 and offering a relatively-familiar step-up for already-typed CJ and CJ2 owners. Its new Garmin G3000 avionics represent the biggest change over the CJ3, which carried the Rockwell Collins ProLine 21 suite. Garmin-familiar prospects will now find the CJ3+ particularly attractive. However, there's a lot more to the CJ3+ than just a new panel.

What Makes It A CJ3+?

The cabin appointments have been given a major updating, and the cockpit received some attention for the working crew; stylish new leather-wrapped yokes adorn the control columns, and there's better access and legroom up front. An armrest-mounted push-to-talk switch now allows response to ATC without disturbing the yoke on when autopilot. A second auxiliary battery has been added, so the avionics can be powered up right away, and it also provides additional time on emergency power if both generators should go out.

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The CJ3+ offers maintenance improvements over the CJ3, such as LED lighting throughout, and Cessna's AReS system records extensive data from the last 25 hours of flight time, accessible on the ground to troubleshoot maintenance problems. A new Kollsman KAPS II pressurization controller integrates with the FMS to automatically schedule cabin pressure. The 8.9 psi maximum differential provides an 8,000-foot cabin altitude at the 45,000-foot certification limit. There's a new Clairity cabin management system and the entrance stairs now look and operate more like a business jet's entry should.

Last January, we were given the opportunity to fly the CJ3+ at Textron Aviation's sprawling west-Wichita campus on the east side of Dwight D. Eisenhower International airport (formerly Wichita Municipal/Mid Continent airport). It was a Chamber of Commerce day in the Kansas Air Capitol, with light winds and balmy CAVU conditions across the plains. Befitting the presentation of a new model, we were met with a contingent of marketing and corporate communications personnel, anxious to show off their newest product.

Demo pilots John Reimer and Alex Marks introduced me to Mike Pierce, manager of technical marketing, who filled me in on the history and development of the CJ3+. The first CitationJet 525 appeared in 1993, an efficient light jet that reprised the original Citation 500's theme created 21 years earlier. The CJ combined a new natural-laminar-flow wing section with Williams Engineering's FJ-44 engine, producing 30 knots more cruise speed on 600 pounds less total thrust. That recipe has worked well through the evolution of the CJ line, including the CJ3 that was introduced in 2004.

Preflight Inspection

Reimer then walked me around N30CJ, a well-groomed demonstrator

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aircraft that was actually the first production airplane off the line. Beginning at the vault-like 12-pin double-seal door, he showed the bleed-air inflatable seal that presses a passive seal into place; even if the active seal fails, flight can continue as high as 35,000 feet. The door has a hold-open brace that reportedly can keep it from slamming shut in winds up to 40 knots. The revamped fold-out stairs now have closed backing behind the treads and a metal threshold replaces a carpeted step-in. A snubber cylinder drops the steps smoothly into place.

Most of the CJ3+'s airframe follows the earlier pattern. Because the NLF wing requires a super-smooth fit and finish to deliver optimum performance, the leading edge is anti-iced by hot compressor bleed air, not boots, with no detectable joint between ice shield and wing skin. The 20-degree swept horizontal stabilizer is booted, but the vertical fin requires no protection. The windshield is primarily protected by hot bleed air, backed up with an alcohol spray. Engine inlets are also bleed-air heated. The fuselage sits atop what is essentially a one-piece wing, faired by carefully-tailored fillets, carrying most plumbing and wiring outside the pressure vessel,

accessible through removable side panels for maintenance.

The CJ3+'s external and internal lighting has been converted to LED illumination, including the twin landing/recognition lights in the forward edge of the under-fuselage fairing, along with wingtip nav lights and strobes. Up forward, the 400-pound capacity nose baggage bin can hold four sets of standard golf clubs or the crew's baggage (to keep it from going to the passengers' hotel). Given the lighter avionics installation on the CJ3+, normal procedure is to place baggage in the nose first, for C.G. purposes.

The radome has only two visible fasteners; for secure servicing, the other hold-downs must be reached internally, through the avionics bay. The nose compartment has inspection points for the 50-cu/ft standby oxygen bottle, back-up windshield deice alcohol, and nitrogen charge for the emergency gear extension and braking. Reimer said that he has never had to use the spray bar for the windshield, and the landing gear actually free-falls into place when initially released, with no N2 assist.

As with all CJs, the main gear utilizes a trailing-link design that

assures reasonable landings despite the pilot's ineptitude. The gear, flaps and spoilers are powered by a central hydraulic system housed in the right lower fuselage fairing. Main gear tires are 22 x 7.75-10 size, nestled into open wells under the wing, spanning 16 feet. The nose wheel carries an 18 x 44 chined tire; the rudder-pedal steering allows 20 degrees of movement, and will caster up to 84 degrees with braking, so the lanky CJ3+ can maneuver in tight quarters.

The CJ3+'s wet-wing fuel tanks hold 703 gallons, serviced through ports near the tips; the CJ4, other the other hand, features single-point pressure fueling, among its other big-plane details. Fuel heaters obviate the need for anti-icing additives in the fuel. There is no fuel management unless crossfeed is selected. The ailerons feature a flow-control fence at their inboard ends, and a trim tab is found on the left aileron. Flaps are selectable in 15 and 35-degree detents, with a 55-degree lift-dump setting only available after touchdown, at which point the spoilers also deploy out of the top and bottom of the wings. The lower speedbrakes are perforated for greater effectiveness.

A huge 600-lb, 50-cubic foot aft baggage compartment, capable of storing skis, is reached through a door on the left side of the rear fuselage. The 44-amp NiCad (or optional lead/acid) battery and electrical junction box are behind the compartment and the engine fire bottle is in the overhead.

The impressive T-tail empennage towers over 15 feet above the ramp, and the Williams FJ44-3A engine nacelles are above head height; for preflight, the oil sight gauge is easily checked through a small door and the oil filter bypass pop-out is felt for its normal position. If oil is to be added, go get a ladder. The engines have no thrust reversers or attenuator paddles; the FADEC system allows for a lower idle that

doesn't require a great deal of braking, and the anti-skid brakes and lift-dumping flaps and spoilers give plenty of stopping power.

The sumptuous interior welcomes passengers with facing club seats, plus two seats aft and a belted side-facing lavatory seat. The solid sliding doors for the lav are latched open for takeoff and landing because the overwing emergency exit is located in the right rear. The two aft seats have their own foldout worktables. Three AC power outlets are available, two in the cabin and one in the cockpit. Each seat has a USB power port and the Clairity entertainment and information system allows connectivity to personal devices. Reimer showed the aft club seat's ability to be slid back into an unoccupied rear seat's leg space, if greater stretchout room is desired with a light load. Most importantly, he pointed out that the forward refreshment center's coffeepot is now reachable from the cockpit; it can be swapped out for a side-facing bench seat if desired.

Moving Up

Ready to go flying, we reviewed the mission profile. With 4,000 pounds of fuel and three people on board, we were at roughly 13,000 pounds for start-up, so we would be down to the 12,750 maximum-landing weight in short order. Reimer said that the CJ3+ will carry about 660 pounds of payload in the cabin with full fuel; of course, leaving out a mere 100 gallons of fuel will double that figure. He counts on using 1100-1200 pounds of fuel for the first hour of flight and an 800 PPH average fuel burn thereafter. Our flight plan was for a filed altitude of 43,000 feet to the west, over VARNR intersection, then south to Mitbee VOR in Oklahoma, east to Enid, then back to Anthony VOR and Wichita for the recovery.

Entering the restyled cockpit, we noted that the seat tracks are longer to enhance legroom and it was relatively easy to thread our

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way around the redesigned pedestal. The rudder pedals are adjustable as well. The flight controls are sturdy transport-style yokes, connected to honest no-nonsense cables; none of this fly-by-wire midget-stick stuff. There's a nice big pitch trim wheel right by your knee. No stick-pusher protection is required, only a stick-shaker for stall warning. The CJ3+'s front office feels like a real flight deck.

Modernity is abundantly found in the CJ3+'s operating features; much of the former switching and testing has been eliminated or automated. The rotary systems-test knob of earlier CJs is now incorporated into the GTC 570 controller. There is no avionics switch, because when the main battery is on, the G3000 suite is powered up. There's no anti-skid brake switch to bother with, and the anti-collision beacon activates with the first engine-start button. As much as possible, the pilot's life has been simplified. There's no noisy air-cycle machine, just heat-exchanger cooled bleed air and a vapor-cycle air conditioner for hot weather, available to precool the cabin with a GPU.

We engaged the partial-avionics dispatch switch to obtain ATIS and clearance before starting, then brought up full battery power for the fully-automated engine start, now controlled from the pedestal rather than the left side. All that's needed is pressing the "start" button and pushing a power lever up an inch or so. Although the FADEC should prevent an exceedance, we still guarded the shut-down latch in case the computer wasn't working fast enough. Temperature peaked out around 670 C. and the generator came on line as soon as the 53% idle stabilized. Although we didn't do it, the checklist shows single-engine taxiout as an option, if a lengthy hold is anticipated.

The 14.1-inch G3000 panels were now alive, showing our position on a nice taxi diagram, and we moved out of the delivery ramp with a shove on the throttles; steering is positive and light. There's a trailer-truck size to be accommodated as one swings the CJ3+ around taxi turns, but the wide range of nosegear movement makes it easy. Only occasionally did I have to resort to braking to keep speed down on long straight runs. I found little grabbing and jerking with the powered anti-skid brakes, so the passengers should be happy.

Pretakeoff checks are short; flaps were set to 15 degrees to lower the V2 number, and we did a rudder-bias test by running up each engine in turn to feel the opposing rudder pedal begin to move. Reimer warned me that I could expect an engine cut at any time, but not to get excited when it happened. V1 was 98 knots, Vr was 101 and V2 was 111. Acceleration was a rush when we pushed the levers through the FADEC detents to the five-minute takeoff power setting. We were up to Vr when the right engine went to idle, but, like Reimer said, the rudder bias kicked in and all we had to do was bank a little to port and watch the VSI settle into a 1,000 fpm single-engine climb. Powered back up, the climb rate shot up to 4,000 fpm initially; the maximum gear operating speed is 200 knots.

Sliding the levers back to the "climb" MCT detent, we climbed at 230 knots, showing 95.7% N1 and a beginning fuel flow of about 1,000 PPH. At FL180, the G3000 asked us to confirm the change to standard baro. By then, we had engaged the autopilot, with its controls in the glareshield coaming, where it allows one to keep eyes out front and watch a PNF's inputs. Out of FL200, we were climbing at 2,700 fpm at 224 knots IAS, later transitioning to .55 Mach. At FL300 the rate was still 2,700 fpm, indicating 200 knots,

and by FL400 we were still showing 1,600 fpm at 160 knots.


We reached FL430 in 19:40 minutes, well under book predictions for our weight, which computed to be 12,439 pounds at TOC. The day's conditions at altitude were ISA +7 degrees, which Reimer actually prefers operationally over straight-ISA because the cruise power setting doesn't have to be brought back to stay under the overspeed limit. Cruise N1 of 96.8% didn't reduce materially from climb power; in due course, we settled in at a TAS of 420 knots, drawing 840 PPH through the pipes. The handbook chart showed an expected cruise speed of 396 knots in our configuration; Reimer says he typically exceeds the chart's numbers significantly. Long range cruise setting would have reduced cruise speed by about 50 knots but fuel flow would have gone down to just over 600 pph.

Cleared to begin descent as we rounded the corner for home, the

overspeed klaxon came on with a slight lowering of the nose, so it was back to a clean idle for a 3,000 fpm letdown. The G3000 system features an incapacitation mode that automatically descends the aircraft to 15,000 feet if cabin altitude goes above 14,500 feet. With 8.9 psi differential on duty, we experienced no such problem.

We set up for the ILS 19L at ICT, toggled into place, G1000 style, by the touch screen controllers above the power pedestal. Pilots familiar with Garmin panels in their earlier rides will find the G3000 architecture easy to follow, with short menus and logical icons. Vref was computed as a low 106 knots; Reimer ordered me to stand on the anti-skid brakes as hard as I could after touchdown. Maneuvering level at 160 knots took about 55% N1, and we deployed 15-degree flaps, allowed below 200 knots. Additional flaps go out below 161 knots. Gear-

down at the FAF, the CJ3+ rode along the glideslope on rails with little power change. I crossed the threshold at 110 knots and found plenty of float in the broad wings, feeling for the CJ's low flare height. Touchdown was softened by the articulated gear and I did my best to accommodate Reimer's braking request as he lifted the flap lever into ground mode. Even on my first try, we made the 3,000-foot turnoff, and when I did more traffic pattern work I was getting comfortable with his target of the 2,000-foot first-turnoff. In truth, hand-flying the big CJ3+ is about like flying a C206 in the pattern.

For a single-pilot operator, the CJ3+ is a very low-workload, but very capable, airplane. It does its job without surprises, using a formula that Cessna has had 40 years to perfect. This latest CJ is going to be a strong seller for Textron Aviation. 



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Taking Poppy Home

By Kevin Ware



If you've owned a twin or turbine aircraft for some time, it's easy to take their transportation convenience and flexibility for granted. But when you have a flight or passenger experience that makes it all new again, you find that the mission itself is more rewarding than the flying.

Jeff H. and I were at Clay Lacy Aviation on Boeing Field (BFI) in the Lear 40, for our first passenger pick-up of the day. Her name was Poppy, and it was her big eyes, long eyelashes, light-green glasses, coy smile, and colorful knitted hat with protruding tussled hair that caught my attention. She was obviously all girl and definitely seemed to know it, sitting in the FBO passenger lounge next to her mother Christi and shyly beaming at all who walked by. Looking at the cute little tyke's trusting and happy face, you would never have guessed that in her short two years of life she had already made dozens of trips to Seattle Children's hospital, undergone a complete heart transplant, required tube feeding, and had shunts installed from head to chest to prevent hydrocephalus.

Seattle Children's is a 250-bed hospital with over 650 doctors, devoted entirely to the care of children with conditions that would otherwise often prove fatal. The hospital provides this kind of care for Washington, Idaho, Montana, and parts of Oregon, and has nearby temporary living facilities

for out-of-state families. This is very convenient, but they first need to get there, and then home again. Particularly in the winter, there can be real surface-transportation problems in moving children with serious medical conditions across multiple snowy mountain passes to Seattle, and even in the summer the driving time is sometimes just not feasible. If an immediate, life-threatening emergency exists, the patient's home hospital or emergency room can arrange for air ambulance services, which are normally paid for by insurance. But, for frequently-required non-emergency visits, the parents usually have to figure it out on their own.

This is where Angel Flight West steps into the picture. AFW is an organization of pilots and aircraft owners who volunteer their services to provide free transportation in general aviation and business aircraft for patients like Poppy. Very much to the company's credit, Alaska Airlines also partners with AFW in providing this service for free, which is extremely helpful. But, that still leaves parents trying to get through the inherently-hostile environment of TSA conga lines and frightening body-search machines at huge, impersonal Part-121 airports. By using airports like Boeing Field and FBOs like Clay Lacy, AFW volunteers bypass all this unpleasantness, and are frequently able to deliver the patient to an airport much closer to home. Jeff and

I have been participating members for over a decade, and often it is the most-rewarding flying we do. Our job today is to take Poppy home.

Poppy and her family live in the country, out in the middle of Montana; Bozeman (BZN) is the nearest IFR-capable airport. Our flight planning from BFI to BZN on this particular day is relatively easy. There is a high-pressure system over central British Columbia, slowly moving southward, causing our entire three-state region to be cold and CAVU. Winds aloft are from the west at 100 knots in the low-40 flight levels. The distance from BFI to BZN is 482 nm, which will give the 450-knot Lear a ground speed of about 550 knots at altitude, making it a 55-minute trip. Air traffic is relatively light in this part of the U.S. and, if requested, the assigned routing is usually direct.

But we still need to decide what altitude to file for and that is not as simple. There is a rule of thumb for high-performance turbine aircraft that says, 'climb 10,000 feet for every 10 minutes of horizontal flight'. For this trip, that rule will put us at the Lear's maximum operating altitude of FL450. But, the airplane actually slows down a bit at that altitude, and the winds aloft start to taper off to 80 or so. Given these factors, we pick FL 430 as a reasonable compromise. However, there is more to consider.

When transporting sick children in particular, careful thought must

be given to their breathing capability, and how they will respond to the lower partial-pressure of oxygen at higher altitudes. In Poppy's case, her AFW medical information sheet shows no specific altitude restriction, but still, we are pilots and passenger safety is our first responsibility. Even though I'm a physician in my other life, I find it helpful to do some practical, common-sense 'pilot' type thinking in these situations. For example, I know Poppy and her parents live some 50 miles out of Bozeman, Montana, which is at 4,500 feet. I also know it is almost impossible to drive to or from Seattle without climbing to about 7,500 feet MSL. I therefore inquire if Poppy has had any trouble breathing when making that trip by road. The answer is no. I then compare that surface-trip altitude to the anticipated cabin altitude. A Lear 40 will maintain a cabin altitude below 7,500 all the way to FL450, so we do not have a problem today. But, if it were otherwise, we would flight-plan a lower altitude.

Another consideration is the possibility of the child or the parent having some kind of difficulty or need while aloft. These folks do not commonly fly in general aviation aircraft and even a minor thing like mild turbulence can be very disconcerting. For this reason, AFW

advises the flight should always have a 'mission assistant' on board. If the child is very young and accompanied by the mother (usually the case), I have found it most helpful for the 'mission assistant' to be another woman, preferably someone who has a calm and confident demeanor who's also personally experienced with all the concerns common to motherhood. On this particular trip, that volunteer is my very-capable wife Kari. It amazes me that, in circumstances like this, when two women who are otherwise strangers come together to help a small sick child, there is almost always a certain instant trust, emotional bonding, and easing of mind, which in turn makes the child/passenger visibly more relaxed. This is a very good thing from a pilot's perspective, because it leaves us free to just fly the airplane.

Flight planning finished, Jeff and I pick up Poppy and Christi's bags and carry them out to Clay Lacy's ramp. Pushing Poppy's stroller, Christi follows somewhat hesitantly, fearing that an armed, hostile TSA official is going to start making a noisy fuss. We assure her that she has nothing to worry about in this location. Kari loads Poppy and her car seat into a rear-facing passenger seat in the Lear and then sits Christi in the forward-facing seat aft of that. This has Poppy and her mother facing

each other with continuous eye and physical contact, which is very reassuring for a small child with a long and traumatic medical history. Jeff checks the fuel load, and I try to break down a very-complex baby stroller to fit it into the outside aft baggage compartment. I give up after several clumsy attempts, but Christi comes out and, with one push of some magic hidden button, the whole contraption immediately breaks down to a small package. I sheepishly mumble something about being type-rated in jets but obviously not qualified in strollers.

The ease of starting the Allied Signal TFE 731 FADEC-equipped engines in the Lear 40 is a delight, much simpler than stowing a baby stroller. We copy our clearance, are assigned the Kent 6 departure, and taxi out to runway 13. Arriving at the end, we are cleared for takeoff and blast down 13R, quickly passing V1 and rotating at Vr. The Lear is

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lightly loaded and climbs like a 30-06 bullet. We promptly have to throttle back to stay within the SID's initial altitude of 2,000 feet. After a westbound vector, the departure controller assigns us a bumpy 9,000 feet and then a left turn, direct to the WITRO intersection.

They work us up through airline traffic inbound to SEA from the east, and things get smooth above FL240. Upon reaching FL430, we pick up the expected 100-knot tailwind, and level off with a ground speed of nearly 550 knots, less than 45 minutes to go. Because of the decreased air density, the ambient noise level in turbine aircraft drops dramatically in the high flight levels, and from the cockpit I can hear Kari and Christi chatting away in the back of the airplane. Christi's husband is a special education teacher in the small rural town where they live, and they also have a 3-year old son. Christi is a hairdresser, but hasn't been able to work for the past

year because of the time required to take care of Poppy.

When flying jets, you try to stay as high as possible, as long as possible, and so we set the VNAV program on the Universal FMS to keep us up at FL430 until we reach a top-of-descent or TOD, where we will need at least a 3,000-fpm rate of descent to bring us down to pattern altitude about five miles from the airport. Even so, we start descending while still some 100 miles out. The day is as clear as a bell, and the airport, its paved and plowed runway surrounded by open fields lightly covered with snow, is visible from 30 miles away. We cancel



Kevin Ware is an ATP who also holds CFI, MEII and helicopter ratings, and is typed in several business jets. He has been flying for a living on and off since he was 20, and currently works as a contract pilot for several corporations in the Seattle area. When not working as a pilot, he is employed part-time as an emergency and urgent care physician for a large clinic in the Seattle area.

IFR, are switched to the tower, and make a smooth landing on a slightly-icy runway 12.

As we unload baggage onto a frozen ramp, we are surrounded by a crowd of happy, cheering FBO employees and family members, many of whom are in tears. In Montana, even complete strangers seem to know and care about each other. Poppy is home for Thanksgiving, and for them that really counts.

Even for long-time pilots like Jeff and myself, it sometimes happens that the mission is more rewarding than the flight itself. **T&T**



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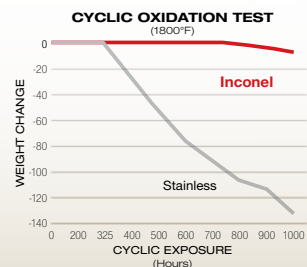


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From The Flight Deck

by Kevin R. Dingman

Head Bumping

Instead of waiting for the jump seat on a succession of full regional jets, I sometimes drive part way to O'Hare, then ride a charter-type bus to ORD. It makes the trip a lot longer, but knowing that I'll get there for sure, instead of waiting for the next available seat – often as much as five hours – or even not getting a seat at all, is a nice respite from the agony of commuting. While on the bus I can nap, eat, read or work on stories. Occasionally, I watch folks bump heads.

Every now-and-then, the bus driver will apply the brakes a bit more than normal and passengers will lean into the aisle and bump heads with the person across the aisle who's doing the same thing. They all look toward the front, rubbing their heads as they try to figure out what's going on. It's the reaction to a sudden deceleration, turning force or jolting, because, even as a passenger, if we don't do something quickly, we will hit something...or so we think. Sometimes we look around for the culprit, reach for controls like the brakes or steering wheel, or we may just grab onto something and squeeze. For the cabin crew or passengers on our airplanes, the ability to see out the front, hit the brakes or grab something may not exist.

Chastised

"Spots" are literally big round painted circles on the ramp; with a number inside. We use them at the major airports to coordinate arriving and departing airliners. After engine start, ramp control had instructed us to use either of spots 6, 7 or 9...at my discretion. I taxied the polished MD-80 to spot 9, short of taxiway Kilo, came to a smooth stop, and set

the parking brake. Normal procedure is to switch to ground control when approaching the assigned spot and wait. You don't call them, they call you – lest you be chastised and made to wait longer; radome and main landing gear dangling from the medieval stocks for all the village to see. Ground soon called with the query: "Spot 10?" There are 50-some spots on this side of the field alone, all of them spaced just 40 yards apart. We were at spot 9 and there was no one at spot 10 but it's common for ground control to get the spot number wrong by one spot. My FO responded with "319 is spot 9 with India." Ground responded: "Roger 319. Taxi to 17R via Kilo-Echo-Golf. India is current." My FO read back "17R, Kilo-Echo-Golf, we have India. 319."

About the time our fuselage was one-half airplane length over the ramp line out onto taxiway Kilo, ground came over the radio with the query: "Spot 9?" – which was me. I felt an unpleasant scenario unfolding, as the "incursion" word flashed through my mind, and it caught me by surprise. Even if ground had made the mistake, if we pull in front of another taxiing airplane, ground vehicle or other equipment, it's ultimately the PIC's responsibility – and that's me again. I instinctively tapped the brakes; not enough to stop, but it was jarring.



I knew my flight attendants were up and about in the cabin and I pictured the passengers doing the head-bumping thing, like on the bus. I looked for traffic and vehicles; there was nothing from either direction and I wondered what I had missed.

No Soup For You!

My FO was verbally reviewing the takeoff data so I took the radio via boom mike and said "Spot 9 was 319 – You gave us the Keg route." Ground replied: "Ok, sorry. I confused you with another flight number – no problem." I responded with – "Ok, thanks, but I need to pick my Flight Attendants up off the floor." Ground replied: "Sorry about that." My thoughts went from concern of having made a mistake, to being relieved, but mad at myself for tapping the brakes. I expected a punitive call on the intercom from my jostled FA's, perhaps revoking my crew meal for that leg, but it never came.

About 55 minutes into the flight, as an aside to another conversation I was having with my number one flight attendant, he mentioned "by the way, 'that little brake thing' back there on the ramp injured the wrist

of the #4 FA as she reached for a passenger seat for stabilization." I explained the above chain of events to both of them and recommended we all file the appropriate paperwork for her IOD (injury on duty), so as to document the event for the managers, health insurance company and bean-counters. She applied an ice pack for some of the flight and apparently, all is well since that day.

There used to be a sentence in the AIM that said: "...shall taxi no faster than a man can walk." Probably a hold-over from when we used wing-walkers regularly and it was a method of regulating taxiing airplanes to a reasonable pace for our pedestrian assistants. A few years ago, that line in the AIM was removed. Except at fly-ins, no one uses wing walkers anyway, and no one taxis that slowly, so the guideline lost most of its relevance in today's mostly paved-surface aviation world. It's still a good idea however, to taxi within the speed limit of your brain,

ground conditions including day/night/weather considerations, traffic and familiarity with the airport.

Write It Down

Don't let airfield familiarity bite you, though. Sometimes we hear what we expect to hear and not what was actually said. We become accustomed to taxiing the same old route to and from certain places and that may not be the clearance we were issued – this time. It's standard procedure for me to write down taxi instructions because I can't remember more than three or four pieces of information at a time and I certainly don't want to get it wrong. I started using this technique at the big airports because the list of taxiways, hold shorts, and the "do this when you get to here and there", can be extensive. Now, everywhere I go, even smaller GA airports, I jot down the taxi clearance, just as I do the enroute clearance. When I forget to write it, I get bitten.

Hold Short

The airport diagram, and sometimes an approach chart, will often seem like one of those picture-puzzles where you look for a hidden object that doesn't belong, like a tennis racket growing from the flower garden. Almost every airport diagram depicts at least one or two "Hot Spots." They show up as a red circle or an oblong circle around areas in which we pilots have repeatedly done something we shouldn't have. Typically, they're at the intersection of a taxiway and a runway where, for whatever reason, we get confused or distracted and make a wrong turn or don't stop at the hold-short line. It's not always our fault, though. On the way to the hangar, ground once cleared me to cross the approach end of a runway. My jotted-down note said "clr to X-5" (cleared to cross runway 05). At the hold short line I told ground that I was going to stop here for a second. My habit is to

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look, and verbally (even when solo) confirm that “final is clear.” When he had cleared me to cross, there was an airplane on ¼ mile final to

this runway. Ground figured it out and said thanks. And sometimes, two taxiing airplanes may not be able to fit on adjacent taxiways at the same time because of wingtip clearances – even though both were cleared to taxi. Often the note that mentions this fact is a small “ball note” cleverly concealed somewhere on the airport diagram page, usually near that tennis racket. This is also true for hidden notes that say: ‘Stop here before proceeding’, ‘Contact

tower right here’, and the one that says ‘Your zipper is down’ – I hate that one.

It's A Gusher

While not as common in GA, at the airlines we bump, and are bumped by, vehicles, ground equipment and other aircraft more occasionally than you might think. The ramps and taxiways often look like the sidewalks of Manhattan during lunch hour: catering and fuel trucks, baggage carts, tow tugs, FedEx, UPS, USPS and Brinks trucks alongside multiple automobiles – all competing for space on the field. They're all in a big hurry, they're all texting while driving and they're all moving faster than a man can walk. If something hard like these vehicles or objects hits your airplane, even if it's a gentle bump, you may not leak fuel or other fluids, but reports to the FAA may be required and money will gush from the impact area. Review the airport diagram picture-puzzle before you begin movement on the field or you may not see a hot spot or that tennis racket in the flower bed, or you may get caught with your zipper down. If any of these things happen, you will instinctively tap the brakes and head bumping will ensue. 



Kevin Dingman has been flying for 40 years. He's an ATP typed in the B737 and DC9 with 20,000 hours. A retired Air Force Major, he flew the F-16 then performed as a USAF Civil Air Patrol Liaison Officer. He flies volunteer missions for the Christian organization Wings of Mercy, is employed by a major airline, and owns and operates a Beechcraft Duke. Contact Kevin at Dinger10d@gmail.com.

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Twin Proficiency:

Promote Yourself to Captain

by Thomas P. Turner

our professional aircrews to get us where we've paid to be. But, even more importantly, we want them to be supremely proficient, and make safety-of-flight decisions without the distractions of considering the individual pressures and schedules passengers face. We expect nothing less of a professional flight crew, especially the person identified as the all-responsible *captain*.

In the Twin

No matter what you fly, when you act as pilot-in-command, you are the captain of your aircraft.

Your passengers, your family, your co-workers don't know there's a difference...they expect you to be as skilled, proficient and wise as the pilots who sit at the pointy end of an airliner. Prove them right.

At some point, as the time of your flight approaches, you stop being a spouse or a parent or a businessperson or a friend. You become the captain, with all responsibilities that go with it. Put on your virtual captain's hat and wings and act like it. Your decisions must be made on the basis of safely arriving at your destination or, if the situation turns, making certain you and your passengers safely arrive at *some* destination – even if it's back where you came from.

If, as a personal and business pilot, you choose to take on the mantle of Pilot-in-Command, you must commit to:

Training, done seriously, on the basics as well as advanced flying skills. Train at least as frequently as a commercial pilot – no less than every six months.

A self-driven course of continuing education, constantly reviewing the basics and the book work. Read and participate in online discussions. If you're the most experienced pilot you know, get new friends – its good to pass along what you've learned, but it's even more important to be learning new things all of the time.

Taking advantage of mentorship opportunities – fly with a variety of instructor pilots, not the same instructor all the time, to glean from a wide range of experiences and abilities. Take hops with more experienced pilots and airline/military types who are familiar with your type of aircraft and operation.

Using the boundaries of the regulations as a minimum standard of safety, never to be violated. The limitations of your pilot certificates, ratings and currency, and the limitations of the aircraft you fly, are a personal Operations Specifications manual akin to that used by airline pilots. Strive to do "better than book" with your skills and professionalism.

Know what the airplane is...and isn't. The airplane you're flying may have extraordinary avionics and equipment, but it is *not* an airliner. It is a recreational and business tool. It has not been designed, tested, certificated or maintained to the same level as an air carrier aircraft. It doesn't have the performance or redundancy of an airliner. It doesn't have the support of a fulltime maintenance staff, or dispatchers, or professional handlers. Yet, it is very safe and very capable...*if* it's flown within its limitations.

Know what you are...and aren't. You are probably not an airline pilot.


Even if you are, or have been at one time or another, your air-carrier experience does not fully prepare you for the workload of single-pilot operations in a less-capable airplane. You almost certainly do not get the level of initial and recurrent training in light airplane single-pilot operations that an airline pilot routinely receives. You won't be able to do everything that you could do as part of a jet airliner crew. This is doubly true if you are a retired airline pilot, because like it or not, age takes its toll on endurance, reaction time and cognitive ability. Honestly assess your abilities and accept the constructive criticism of others. Learn your strengths, your "opportunities for improvement," and the skills and attitudes necessary to achieve a safety record on par with your airline counterparts.

Know and evaluate the environment. By far, the most common reason for airline delays is adverse weather. Your airplane is less capable

to handle adverse weather than an air carrier airplane. Consequently, you will need to delay, divert or cancel flights more frequently than the airlines. I flew Beech Barons 250-300 hours a year for several years in the U.S. Southeast, and I *routinely* diverted around weather, landed at an alternate to sit out the weather, missed approaches "for real," parked myself in holding patterns for showers to move on or fog to finish clearing, and canceled a trip and drove a rental car home because of long-lasting weather hazards. It's not "if", it's "when." The more you fly, the more you'll delay, re-route or cancel because of the weather.

Fulfill your roles. You are pilot-in-command – the Captain of your aircraft. You are also Dispatcher and the Director of Maintenance. And, you are the aviation medical examiner, responsible for self-certification before and during flight. Plan each flight consciously thinking about the responsibility of

all four of these roles. Flying a cross-country IFR aircraft is a profession, whether it's your compensated profession or not. It requires the time and study and practice of a second, professional job.

So, promote yourself to captain, from the time you begin flight planning through the after-shutdown postflight chores. Make your decisions so you uphold the motto of the Airline Pilots Association: "Schedule, with safety." Act like the leader of a professional flight crew, the captain of your personal airliner...because as far as your passengers, family and business associates know, you are. 

Thomas P. Turner is an ATP CFII/MEI, holds a Masters Degree in Aviation Safety, and was the 2010 National FAA Safety Team Representative of the Year. Subscribe to Tom's free FLYING LESSONS Weekly e-newsletter at www.mastery-flight-training.com.

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L-3 Aviation Products recently unveiled its Lynx MultiLink Surveillance System (MSS) line of ADS-B products. The company also announced that it has applied for Technical Standard Order (TSO) authorization for the Lynx NGT-9000. “The Cat is officially out of the bag,” said Larry Riddle, L-3 Aviation Products’ vice president of Marketing & Sales for Business, Regional and General Aviation, referring to the set of lynx cat eyes that were part of L-3’s full page teaser advertisements in 2014.

Twin & Turbine columnist Kevin Dingman met with Chief Pilot Todd Scholten and Marketing Manager Steve Rutheford for a desk-top simulation of the new products, followed by a flight in the company’s Bonanza, equipped with L-3’s Lynx NGT-9000 series panel-mount ADS-B, demonstrating the use and capabilities of the system. “In the process of learning about ADS-B, so as to make a decision for my Duke, like a lot of owners, I’ve been reading advertisements, attending product demonstrations and waiting to see what L-3 came up with – it was worth the wait,” said Captain Dingman.

“The vast majority of aircraft operators have exercised a wait-and-see approach to ADS-B equipage,” Riddle said. “Lynx is unlike anything the marketplace is currently offering. We believe unique benefits of the Lynx lineup, such as single-box solution, straightforward installation and reasonable costs,

make it a great product for GA pilots as their single-source ADS-B solution.”


“The Lynx family includes four models, including an ADS-B In/Out model with WiFi output to personal electronic devices, such as tablets, as well as ADS-B information to both the Lynx display itself and, if desired, dedicated cockpit MFD’s. The Lynx NGT-9000 is the most notable of these, with a touch screen display that is nearly a slide-in replacement for existing transponders. According to L-3, the NGT-9000 offers an extensive features list and is the most logical choice for pilots looking to take full advantage of both the in and out options of the ADS-B NextGen flight environment.

“I liked that all of the Lynx choices have their own internal WAAS GPS,” said T&T’s Dingman. “The touch-screen display of the 9000 is transponder-sized, and you need to support your hand when you make changes to the transponder code or other functions – like when using a tablet-type device. And I’ve heard we will have to keep our old transponder and continue the two-year IFR certifications on them, even after we install new ADS-B devices. Not so with certain models of the 9000. You can get a model that “listens” to your old transponder and uses that signal if you want, but there are models that are stand-alone transponders. We could remove and replace our old transponder with a 9000, and

by Kevin Dingman

be done. All of their models offer a remote-mount option, but because of the transponder-sized nearly plug-and-play panel versions, I see a lot of old transponders showing up on the used avionics market.”

A free app is available that simulates the Lynx touch screen on iPad and Android tablets. “The Lynx app lets pilots interact with the system as if they are flying the real product, providing them with an overview of its rich feature set and intuitive operation,” Riddle said. “The Lynx system provides a tremendous amount of information for a fraction of the cost when compared to other systems and older technologies.” The *L-3Lynx.com* website has links to the Apple and Android app, as well as an interactive demo for those accessing the site through a PC.

Headquartered in New York City, L-3 Aviation Products is a leading provider of commercial and military avionics and is a prime contractor in aerospace systems and national security solutions, including electronic systems and products used on military and commercial platforms. For information, visit the company’s website at www.L-3.com.com/aviationproducts. 



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EN ROUTE

Swept-Blade Technology Drives Raisbeck's 2014 Sales To New Heights



It has been another busy year for Raisbeck Engineering; 2014 ended as one of the top three sales years in company history. The year started with the introduction of the new Raisbeck/Hartzell Swept Blade Propellers for the King Air 90 series, followed by FAA certification of the Lear 60 Aft Fuselage Locker, and concluded with the Raisbeck EPIC Performance Systems being added to the Beechcraft C90GTx production line.

Raisbeck Swept-Blade Technology was the driving force in sales

this year, with 26 shipsets of the 90-series Swept Blade Propellers delivered since their introduction in January, and 54 shipsets of the 200 series propellers delivered since their introduction in March of 2013. The new Raisbeck/Hartzell Propellers are known for their quietness, performance and impressive ramp presence.

A total of 242 King Airs received at least one Raisbeck System in 2014, including 126 in-service airplanes that went through one of the 100+ Raisbeck Authorized Sales and Installation locations worldwide. Additionally, 116 new Beechcraft King Air C90GTxs, 250s and 350s came off the Beechcraft production line in Wichita with one or more Raisbeck Performance Systems installed. These included Swept Blade Propellers, Dual Aft Body Strakes, Crown Wing Lockers and Ram Air Recovery System. The year 2014 also marked the second decade that Raisbeck Lockers and Strakes have been standard in the Beechcraft 350 production line, as well as seeing the 100th production-line installation of the Raisbeck Ram Air Recovery System on the King Air 250.

New for 2015

After positive customer and industry feedback on plans to bring Swept Blade Technology to the King Air 350 family, Raisbeck Engineering is in continued development of King Air 350 propellers and expects to have a product that meets its high standards for operational benefits and value in 2015.

Currently, two options are under evaluation and testing: a five-blade composite design and four-blade aluminum design. In line with the Raisbeck/Hartzell Swept Prop designs for the 90 and 200 models,

EN ROUTE

either option for the 350 will deliver performance gains and noise reduction. 2015 also marks the re-introduction of special combination pricing and a new credit program for individual Raisbeck Performance Systems. When purchased in combination, the new Systems pricing can save customers upwards of \$26,500. Combination pricing includes all Raisbeck systems: Swept Blade Propellers, Ram Air Recovery, Dual Aft Body Strakes, Enhanced Performance Leading Edges, High Flotation Gear Doors, and both Nacelle Wing Lockers and Crown Wing Lockers.

Having strong partnerships with industry leaders like Hartzell Propeller, Textron-Beechcraft and others allows for continued customer satisfaction and overall company success. "I am particularly pleased with the continued joint effort between Raisbeck and Beechcraft for several reasons, the most important being that it gives proper credence to the Raisbeck Systems and gives our customers simply more of what they bought their King Air for," commented James Raisbeck, company Founder and CEO. "All three production King Air models now have at least one of our systems as part of their makeup. And we look forward to the Beechcraft/Raisbeck partnership continuing to grow in 2015."

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EN ROUTE

Honda Aircraft President Receives Industry Leader Of the Year Award

Honda Aircraft Company has announced that President and CEO Michimasa Fujino has been honored with Kiddie Hawk Air Academy's Aviation Industry Leader of the Year Award for the development, production, marketing and sales of the innovative HondaJet.

The award recognizes dedication to the aviation industry and is presented each year by the Kiddie Hawk Air Academy. Fujino was honored on Friday, January 16, 2015 as part of Kiddie Hawk's 12th annual "Living Legends of Aviation Awards" event in Beverly Hills, California.

"We are pleased to grant Michimasa Fujino this award for his contributions to the advancement of business aviation with his original concept design, the HondaJet," said Kiddie Hawk volunteer Paul Lips. "With this award, we recognize his efforts and vision to create new technology with the HondaJet Over-The-Wing Engine Mount configuration."

In accepting the award, Fujino shared the significance of the honor to Honda. "I am grateful to the 'Living Legends of Aviation' and Kiddie Hawk Air Academy for this extraordinary award," said Fujino. "To have Honda recognized as a leader in aviation with the HondaJet is a true honor. Honda Motor Company's founder, Soichiro Honda, had a strong passion for many forms of human mobility, including aviation. With the HondaJet, I want to keep alive his challenging spirit."

The "Living Legends of Aviation" is a group of people of extraordinary accomplishment in aviation, including entrepreneurs, innovators, industry leaders, record breakers, astronauts, pilots and celebrities. The Legends meet annually to recognize and honor individuals who have made significant contributions in aviation.

Kiddie Hawk Air Academy is a Colorado nonprofit dedicated to both honoring individuals who have made significant contributions in aviation and fostering youth interest in aviation.

For more information, visit www.hondaJet.com or <http://kiddiehawkairacademy.org>



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High Anxiety

By Adam Alpert

It was a particularly unpleasant winter morning in New York City. The wind howled out of the east, with blowing, drifting snow. After a pause at the hold point for JFK's runway 4L, we were cleared to line up and wait.

It was 400 overcast, ½ mile, temperature and dewpoint -1° C. Light-to-moderate icing was forecast. Though the weather was frightful, the Citationjet 525 had bleed air heat for wings, inlets, and windscreen, and boots for the horizontal stabilizer.

It was my turn to fly; Chief pilot KK Harvey assumed the copilot spot. Clearance was the Bette 3 Departure, right turn to 100 degrees after takeoff, maintain 5,000 feet.

With a final check of the annunciators, I applied full power. KK called out "airspeed alive" and "70 knots crosscheck", "V1", "V-rotate", and then "positive rate" as I lifted the gear handle. Poof, into

clouds we flew. Then, suddenly: BANG! A tremendous noise from the tail. The annunciator panel flashed red and yellow while the mechanized voice screamed, "Right engine fire! Right engine fire!" "Holy crap, we're on fire!" I yelled.

The airplane listed to the right as airspeed decreased. "Fly V2!" KK yelled. I lowered the nose. Deterioration slowed, but not enough. Meanwhile, the turn was increasing, despite full left rudder. "Get that nose down!" KK insisted. I lowered the nose further. At 89 knots, the stick-shaker activated. We were just short of stalling, descending in a steep right turn, our options rapidly diminishing. With only 400 feet left, pointing the nose down more to gain speed would leave no margin to recover. "Terrain, pull up! Terrain, pull up!" screeched the voice, piling urgency atop the machine and human-generated imperatives. I couldn't, *wouldn't* give up. Trying to recover from an

unrecoverable situation, I wrestled the controls and watched altitude deteriorate.

Then, suddenly, mercifully: Silence.

Ok, we didn't actually crash. But we would have, if CAE Simuflite Instructor Bill McDowell hadn't ended the scenario. "Adam," he said, "that didn't go very well. Shall we try it again?"

It was Simulator Day #2, my first in-flight emergency, just one of many humblings as I pursued a Type Rating in the CE 525.

Pursuing The Rating

Months earlier, to create a flight department for our company, we selected Cessna's CitationJet for its comfort, reliable performance and relatively low operating costs. Because it's certified for single-pilot and crew operation, we planned to have one professional full-time pilot and me. The key to a great single-pilot flight department is finding a



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great pilot. Furthermore, the key to passing “Initial” is having a great co-pilot. We got all of that and more when we hired KK Harvey.

Simuflite’s CE 525 PIC Initial training requires 50 hours ground school and 28 hours simulator training. It’s a fully-packed 15 days with one day off to catch up on studying (and laundry). A typical day might cover powerplant, fire protection, fuel systems, flight controls, hydraulics, landing gear, brakes, pressurization, oxygen system, and ice/rain protection. The next day might cover emergency operations for all these systems.

One only had to look around to feel inadequate. During introductions, the first pilot retired from Delta after with 25,000 hours, keeping his hand in as a freelance charter pilot. The next had 6,000 hours flying F-16s and planned to fly for a Part 135 operation. Then there was the A&P mechanic who already had an SIC rating – he could fly *and fix* the airplane. I was feeling green with 500 Aztec hours and another 1,500 in a mix of light aircraft.

Simuflite maintains a superb set of computer-generated simulation models that demonstrate the airplane’s behavior during normal, abnormal and emergency conditions.



An animated diagram of the affected system is presented on one screen and the view from the cockpit on another; especially effective.

Despite the amount of material, relatively few memory items are needed to fly the 525, most associated with emergencies. Simuflite publishes a handbook with checklists for the three conditions. On the cover, yellow annunciators indicate an abnormal condition while reds indicate an emergency, like fire. Each light has a page number where the proper procedure can be found. This all works smoothly during classroom rehearsal. In the simulator, things get a lot more interesting.

The Level D simulator is painstakingly realistic. The landscapes, weather, airports, buildings and other aircraft are only slightly stylized. The IFR world is completely authentic.

Eight Sessions To Complete

The simulator training consists of eight sessions, including the final checkride. Sessions 1-7 are all about getting ready for number 8, with no time to spare. As a crew, each pilot serves two hours per session as PIC and two as SIC. Fortunately, as the simulator can edit for critical phases of flight while layering in emergency scenarios, a vast amount of material can be covered. And four hours of approaches to minimums with multiple failures and fires certainly *feels* like forever.

Simulator Day #3 turned out even worse than #2; I seriously considered quitting. But, we didn’t crash. During an engine-failure scenario, I became disoriented on a difficult JFK ILS 4L approach, circle to land 31R. The ceiling was only 40 feet above MDA, with visibility of ½ mile. The plan was to break out and turn right to 90 degrees, hoping to see 31R’s lead-in lights. I never saw them, and while bumbling around I caused a TCAS alert with another aircraft before executing the miss.

Afterwards, instructor Norwood Band said “You’re going to have to do better than that!” Norwood is a

former Marine carrier pilot, and, boy, did it show. “Come back tomorrow rested and ready to do better.”

Attaining one’s first type rating is truly a test of character. It takes more than aptitude, endurance, and assimilating information quickly. Unlike slower-paced flight training, in type-rating school the compressed calendar and voluminous subject matter make it nearly impossible to achieve satisfactory performance before the checkride. Gaining proficiency and passing depends on the client’s ability to comprehend and correct deficiencies communicated during debriefings. There isn’t enough simulator time to perfect every maneuver.

Day Five

Simulator Day #5 was exceedingly difficult. Most of the flying involved a hot-and-heavy profile with engine fires and other failures degrading performance; mistakes yielded a fatal outcome. The worst emergencies started with two failed generators (the airplane only has two), IFR at 41,000 feet. In the CE 525, multiple systems depend on electrical power. When both of the C.J.’s generators fail, all that’s left is the battery, leaving about ten minutes of power unless immediate action is taken.

If neither generator resets (and they never do in the simulator), you flip the switch from “Batt” to “Emer-power” to decrease the load. The challenge is to get to an airport with the 30 minutes of endurance of Emer-power. In the simulator, of course, the available airport is always low IFR.

It takes an awfully long time to get down, more challenging with spoilers in-op. At 3,500 ft/min, it took ten minutes to reach Reno’s IAF altitude. That left twenty minutes to set up, shoot the approach, and land. Plus, the steam-gauge emergency instruments are scattered across the panel. Available instrument

approaches are limited to the VOR and ILS, all hand-flown, since there’s no autopilot.

Astonishingly, the approach and landing were successful, even though I nearly crashed when I looked down to switch to “Batt” for gear and flaps. Returning to level flight effectively centered us on the localizer, a lucky break. Breaking out, the panel flicked to black; emergency braking ensued.

During debriefing, I asked Norwood if the dual-gen failure might come up during the test. He replied, “Everything we do is fair game.” I muttered something about being doomed.

I began to suspect that Simuflite instructors viewed owner-pilots less than positively. It wasn’t so much about the stereotypical Type-A pilot writing out a personal check for the airplane, but the experience



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of such owners compared to their professional counterparts. Most pros rise through the ranks, flying a variety of piston, turboprop, and jet aircraft, operating Part 135 or 121, where teamwork is paramount to safety, comfort, and efficiency. CRM is well-understood and long-practiced.

But, for the owner-pilot who likely has little or no turbine experience, stepping up to a jet can be daunting. Not only are the airplane and systems unfamiliar, most owner-pilots fly single-pilot, no CRM. Further, unless the owner has logged current instrument time in terminal areas, he or she will be just hanging on. Simulator scenarios are typically conducted IFR in terminal environments in terrible weather; landing at the destination airport is the exception, not the rule.

Session #7

As we advanced, I only collected points for maintaining a good attitude. Session #7, rehearsal for the test, went okay with only one checkride-busting mistake – after breaking out for the circle-to-land at Kennedy, I prematurely disengaged the AP, causing a balloon back into the clouds.

Each client must receive the chief instructor's blessing to proceed to the test. While failure at this point is dreadful for the client, the credibility of the school is also on the line. Failing is bad for all parties. To this

end, there can be some extra training to focus on clients' weak areas.

KK and I went to seek our blessings. KK's performance was ranked in the top 5% of the class. My grade was not discussed. However, KK stated that we were good to go, and the chief instructor agreed. Although I appreciated KK's enthusiasm, I fretted that I might take her out while serving as copilot.

Passing Finals

As with the previous sessions, the checkride begins with an oral test and preflight briefing. The examiner expects each candidate to know all the speeds by heart and asks many systems questions. The examiner describes the weather and the scenarios to be expected. Simuflite forbids the creation of more than one emergency or abnormal event at a time during the checkride; it's up to the client to create the others (ha). KK and I both passed the oral test; off to the simulator.

I'd been sleeping poorly throughout the training. Thank goodness it was Free Donut Day at Simuflite. Food is banned in and around the simulator, but I ate one before entering and smuggled two into the cab.

We decided that I would fly first, with KK as copilot. Ironically, the examiner had us departing out of Kennedy, using the same runway that had taken us out in session #2, in similar weather.

Amazingly, the engine failure on takeoff ended well; we leveled off at 2,000 feet, declared an emergency, and pulled out the checklist. KK read off the steps and I executed them. We were able to restart the engine and continue our journey.

Next came steep turns and unusual attitudes, handled smoothly. I didn't even need to sneak a donut.

Following multiple abnormal and emergency approaches at JFK, we headed to Nevada and experienced an explosive decompression at 35,000 feet. Well-rehearsed, we dive for the ground at redline, knowing the passenger masks only work below 25,000 feet.

The examiner kept the simulator running; we were still in the game. I couldn't believe that everything had come together so well. I even managed to survive the violent wind shear event at SFO. Two more hours of flying, and we were DONE.

During the debriefing, the examiner reviewed what went well, and what didn't. "During those steep turns I was pretty sure you would bust. But the computer says you were within the 100-foot maximum deviation so I have to pass you on that" and "When you were holding at JFK I was pretty sure you would stall, but you didn't, so I have to pass you. That was one of the worst checkrides ever. Congratulations, you passed."

I left the debriefing deflated, but still, I passed! KK suggested the examiner must be having a bad day, but I was dubious. I hoped it was that he didn't like owner-pilots.

A few days later, our freshly-minted ratings in hand, we picked up our new-to-us CitationJet. The real airplane was a pleasure to fly, with no failures or fires. And, well, should my terrifying, anxiety-producing memories begin to fade, there's always next year's recurrent training to look forward to. ☺



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Why Pilots

by LeRoy Cook

A runway excursion accident, particularly one that occurs at very near flying speed, is an extremely hazardous affair. High performance airplanes are normally designed for level, prepared and evenly-paved surfaces. They do not comport themselves well when caused to operate on footings other than runways, and the accompanying structural failures often result in fires, injuries and deaths. So, why do pilots of otherwise perfectly-functioning aircraft run off runways?

One prime ingredient of these off-runway excursions is lack of consideration for the surface wind. We have all seen the videos of airliners wallowing back and forth across the runway centerline in extreme wind conditions. However, such situations are rare, and pilots will usually rise to the occasion with consummate skill. It's often the less-aggressive wind that catches pilots unprepared, because it was disregarded as a factor.

However, even a mild tailwind skews the landing and takeoff-distance charts by a major increment, and a substantial tailwind component, such as 10-15 knots, creates a huge difference. From the King Air F90 takeoff charts, for instance, a 10-knot headwind would reduce ground roll by about 150 feet, while a 10-knot tailwind increases the ground roll by 350 feet. Even more disparity becomes evident when figuring the distance to climb over an obstacle. Landing distances are similarly affected.

There are other implications to operating in a tailwind. A slick runway, combined with a following wind, brings the potential for hydroplaning at a much slower airspeed than normally expected.

Rudder control becomes zero as a tailwind matches aircraft speed, leaving only braking as a means of steering unless the nosegear is solidly planted.

Forcing The Issue

In January, 2014, a Challenger 601 crashed during an attempted landing at Aspen, Colorado. While not technically a runway excursion, since the accident took place on the runway, it certainly involved loss of control with a 25-knot tailwind's influence. Touchdown occurred some 3,500 feet beyond the landing threshold, a forced arrival that resulted in a bounce, followed by a fiery inverted crash. It was the crew's second attempt, after a 33-knot tailwind had prompted a go-around on the first try.

Which brings us to a significant ingredient of runway excursion accidents while attempting to land; it's termed "landing expectancy". When the pilot is fixated on the goal of touching down, there's a tendency to ignore signals that an alternative course of action should be taken. We want to get the aircraft on the ground; we do not want to give up short of the objective. Because we expect to land, we make that the only acceptable outcome. The passengers, after all, want to arrive on time, at the intended destination.

Leaving The Runway Before Liftoff

A takeoff, pursued beyond the point of practicality, is also subject to expectancy. While performance calculations predicate a continued roll to liftoff and climbout once V1 speed is attained, that doesn't mean one should totally ignore signs of sluggish acceleration, or loss of directional control early-on due to adverse winds. Along with devotion to the balanced-field concept,

Run Off Runways



there must be interpretation of the aircraft's control and speed. Abandoning a takeoff is not to be taken lightly, but if done early, it's a sensible course of action. Takeoffs, after all, become more and more hazardous as kinetic energy builds during the maneuver, while the opposite is true of a landing rollout.

The late-May 2014 crash of a 2000-model Gulfstream IV at Bedford, Massachusetts bears tragic witness to the kinetic energy of an airplane running off the runway at takeoff speed. In the 50 seconds leading up to the crash, the G-IV had attained 165 knots, with preliminary indications showing that braking and thrust reverse had been initiated. It was too late, however. The aircraft impacted a localizer antenna and fence after running past the runway end, coming to rest 1,850 feet from the runway; everyone perished in the ensuing fire. Sadly, there's some FDR evidence that the controls gustlock may have remained engaged.

Other Factors

Distractions like obstructions or an unfamiliar airport layout can cause pilots to forget about the precise job of control they must do if they are to stay on the runway, let alone maintain the centerline. A visual approach over obstructions leads pilots to "pad" their threshold-crossing height, which results in a touchdown taking place farther than normal downfield. Another

distraction is an airstrip of unfamiliar dimensions; if one is accustomed to a 75-foot runway width, but is landing on a 150-foot-wide runway, there's a tendency to flare early, in an attempt to keep the familiar perspective of the runway during landing. Conversely, a narrow runway tempts pilots into flaring late, or not at all, while waiting for the runway to grow to its normal size.

Downward-sloping runways are guaranteed to catch your airplane at the far end of the runway, if you aren't alert enough to go around. The primary danger is not the extra slope's effect on braking, but rather the illusion of being low on the approach, which made you go high over the threshold. A normal glideslope angle to a downhill runway produces a view of a short, wide airport, as if you are coming in low. Barring obstructions, concentrate on placing your non-moving aiming spot at the target zone and ignore the perspective.

The emphasis at many airports today is on a decelerating approach, for traffic considerations, arriving in queue with plenty of speed and a requirement to add final flaps for an airbrake late in the arrival. That's fine, if you're good with your timing and have some extra runway to cover your mistakes. It's far better to plan on being stabilized no later than 500 feet AGL and probably two or three miles out. In any case, go around if the airplane is not on

target for a touchdown at, or just past, the fixed-distance runway markers, and adjust your approach for the next attempt.

Using CRM and briefing the takeoff and approach are critical to avoiding a hurried, slap-dash procedure. The pilot flying should say "this will be a flaps-10 normal takeoff, you are to call out V1, Vr and V2, and observe the distance to go markers." Once cleared for an approach, brief the arrival; "we are flying the RNAV 16, initial minimum altitude is 2,100 feet, landing minimum is 515 feet, the missed approach is straight ahead to 2,000 feet, right turn to the holding fix. Call out altitudes to go, Vref deviation and runway in sight." Even if you are flying as a single-pilot, make such takeoff and landing briefings verbally to yourself, reinforcing your dedication to following procedures.

The prevention for running off a runway is to swallow your pride and take a wave-off from an unworkable landing, or abort the takeoff early. These are maneuvers in their own right that need to be practiced regularly in simulator training. Think about what caused you to abandon the landing or takeoff, and change something for the next try, so you don't fall into the same trap. Insanity, it's been said, is defined as doing the same thing as before but expecting different results. Let's not give the tower controller an excuse to quip "Speed permitting, exit at the end."



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By Rob Finfrock

More than 350 Cessna Citation business jet owners, pilots, and enthusiasts attended the 2014 Citation Jet Pilots Owners/Pilots Association (CJP) convention last September, held at the historic Greenbrier resort in White Sulphur Springs, West Virginia. The three-day convention, which also hosted more than 100 Citations at nearby Greenbrier Valley Airport (LWB) in Lewisburg, marked CJP's most successful annual owner event since the organization's first gathering in 2009.

Informative Presentations and Interesting Speakers

CJP events traditionally host a wide range of dynamic speakers, and this year's Convention was no exception. At the beginning of the event's second day, Textron CEO Scott Donnelly told attendees that he welcomed the opportunity to meet with CJP members, and he shared his perspectives on both the state of Cessna's parent company and the numerous markets in which it competes.

"Hopefully what you've seen over the last few years is a significant commitment to this industry and business in terms of where we're going with new product programs," he said during his September 19 keynote address. "It has been a tough cycle, but one where we've committed to being in better shape coming out of it."

Following his presentation, Donnelly took several questions from the audience. He also polled attendees about what they would most like to see in future generations of Citation aircraft, with greater range the most popular response.

Other speakers throughout

the convention included former NASA astronaut Charlie Precourt, Jacksonville Center controller and NATCA representative Luke Alcorn, Radar Training International founder and president Erik Eliel; aviation attorney John Yodice; and aeromedical professional Dr. Quay Snyder.

On the show's third and final day, USAF Col. Mark Tillman gave a rousing, well-attended presentation on "Flying Air Force One," including anecdotes about being on the flight deck of the storied U.S. presidential aircraft in the hours following the 9/11 attacks.

Safety in Focus

Another hallmark of all CJP owner events is an emphasis on safety. Day Two focused on "Operating Your Citation," with a host of seminars dedicated to the very latest operating tips and procedures for both legacy and newer-model aircraft, as well as the engines and avionics systems used throughout the Citation line. Educational sessions devoted to addressing operational concerns, learning more about aircraft avionics and systems, and analyzing pilot performance, provided open and honest forums for members to discuss matters affecting their flight operations.

First-time attendee Rick Schwartz, who purchased his first Citation (an M2) in January 2014, noted that

these sessions represented "a great time to ask all the questions that you may be afraid to ask, and you'll get great, frank answers."

This year's event also marked the first "Show Me Your Citation" interactive event at LWB, with approximately a half-dozen Citation owners displaying their aircraft and answering questions from current and prospective Citation owners.

Russ Meyer Citation Library Update

Without question, the largest single initiative currently underway by CJP is the creation of the Russ Meyer Citation Library (RMCL), an innovative, one-stop online resource for CJP Members wanting to learn about the safe operation and maintenance of their aircraft. Convention attendees heard an enthusiastic and informative update about the program's progress, including the announcement of a partnership between CJP and the Prescott, Arizona campus of Embry Riddle Aeronautical University to speed the library's development.

ERAU faculty member Randy Rehbach, who will oversee the project on the university side, said this cooperation offers his students "a couple of really good synergies," including introduction of a business aviation perspective. "The Russ Meyer Citation Library will be about sharing information and gaining knowledge, and that's also what Embry Riddle is about," he added.

"This Room Moves the Market"

Continuing a tradition that began in 2009, CJP Regional Director and jetAVIVA CEO Cyrus Sigari provided attendees with an overview on the state of the

marketplace for Citation aircraft, and sales trends throughout the globe, during an informative session that also demonstrated the buying power that Citation owners represent around the world.

"We have a substantial number of airplanes represented just by the folks here in this room, from about \$350 million to upwards of a half-billion dollars' worth of planes," Sigari told attendees. "This room moves the market. The decisions you make have an impact on all the other guys out there."

Opportunities to Relax and Enjoy Time with Friends

Ahead of the show's start on September 17, attendees had the opportunity to enjoy one of the Greenbrier's five championship courses at the CJP Golf Tournament. Attendees also enjoyed many fine-dining options and member events, including a Welcome Reception, hosted by ProFlight, and the first-day Member Dinner, sponsored by Cessna at nearby Kate's Mountain Lodge. Throughout the show, attendees and their guests were able to partake in tours of the Greenbrier



A Time to Learn, Relax, and Have Fun

property – including the historic "Bunker" under the resort, created to protect government officials in the event of a national crisis – as well as wine tastings, cooking lessons, and a variety of sporting activities.

On the event's second day, attendees enjoyed a "New York Wine Experience" provided by acclaimed Napa vintner Chuck Wagner, of the Wagner Family of Wine, followed by dinner and the opportunity to bid on a diverse range of fine items in a silent auction. Proceeds from the auction benefited CJP programs and initiatives.

Palmer Inducted to CJP Hall of Honor

The convention came to a close

on September 20 with a gala dinner, featuring the induction of golfing legend and accomplished aviator Arnold Palmer to the Citation Jet Pilots Association Hall of Honor. Palmer joined Cessna Chairman Emeritus Russell W. Meyer Jr. and veteran Cessna engineer Bruce Peterman in the esteemed ranks of aviators receiving the highest distinction bestowed by CJP.

"Without aviation, I probably never would have had the success I've enjoyed over the years," Palmer said before the induction ceremony. "To be able to tell all these pilots – who are far better than I am in flying [Citations] – how much fun I've had, and what it has all meant to me, is a wonderful honor."

For 2015, CJP will bring its annual convention to The Broadmoor in Colorado Springs, Colorado on September 9-13. Visit www.citationjetpilots.com and email contact@citationjetpilots.com for more information. ↴

Freelance aviation writer and sport pilot Rob Finfrock serves as the Editor of CJP's bimonthly newsletter, "Flight Levels."



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By Kevin R. Dingman

Virtual Distractions



My laptop had been complaining for several months that it didn't feel well. The appearance of a black screen with white letters was announcing a critical failure, and its withdrawal into safe mode was the reoccurring grievance. The electronic workhorse travels in my truck, the cockpit of the MD-80 and aboard the Duke, in a well-padded aluminum briefcase.

It receives no exceptional handling though: TSA scans and searches, hotel van loading and unloading, jarring, dropping and wide variations in temperature and humidity are its lot in life...well, they were its lot in life; its virtual existence has faded to an eternal black screen. A forensic investigation exposed the smoking gun: a combination of cold temperature start-ups (due to the minuscule clearance inside the hard drive) and a malicious virus had both conspired against the unsupported Windows XP operating system, destroying both the mind and body of the hard-working hard drive.

Measured and Mature

The operating system, programs, pictures, music and documents were all lost. SAFE MODE was apparently not so safe after all. The apocalyptic event called for a measured and mature response. An unbridled OMG, and the whimpering appeal "There's No Place Like Home", which had worked in the past, both failed to help. Next, a Geek-Wizard from the Emerald City computer fix-it store was desperately sought for consultation. But neither the whimpering appeal nor the Wizard were able to return me, or the hard drive, to Kansas. The alternative response was to order a new laptop – but not from Kansas.

Come hither and behold for all to see! The Dell Inspiron 5000 running Windows 8, the newest Internet Explorer and the latest torturous iteration of MS Word, version one-gazillion. Never approach a steer from the front, a horse from the rear or, from any direction, a person over fifty with a new PC; especially one who neglected to back up their old data. Certainly you've had a comparable level of been-there-done-that. Not since getting my first smartphone have I struggled so desperately to not throw it into the air and blast it with a couple rounds from my 12 gauge. I obviously needed assistance...and counseling.

Using a kerosene heater to pre-heat the hard drive would produce too much carbon monoxide, and the TSA

is hesitant to let one through security. After three hours with a computer guy during the set-up procedure of the new traveling companion, we agreed on several TSA, EPA and APA (American Psychiatric Association) approved backup systems. The strategy would be this: allow some warm-up time before boot-up, use a flash drive and an external hard drive, e-mail important documents to myself, and something new: rental space in "The Cloud" – a virtual safety deposit box for data, on an internet server. No kerosene, no wizard and no shotgun.

Head In The Clouds

It's coincidental that the term Cloud is used to describe the internet server "place" in which our data is stored. The electronic revolution has created a generational paradigm shift in where our attention is directed. To say that the expression "Head In The Clouds" is accurate would be, well, not only accurate...but ironic. I'm sure you've seen people, many of them in fact, with their heads hung low, staring at an electronic device as they walk or drive. My carrier and others are hiring new crewmembers by the bushel, mostly young, and mostly flight attendants. You didn't know they came by the bushel? I say young because of generational differences. A difference in work ethic, colloquial language, manners and attention span, as well as their incessant use of electronics. But it's not just the younger generation that's distracted by electronics. I guess because we are a bit slower in learning and using new tech, electronics distract us older folks just as much, or more, than the tech-savvy youth.

Electronic distractions come from the usual suspects: social media, music, e-readers, e-mail, and texting. Often their use is at an inappropriate time – like when I'm trying to conduct a pre-departure crew briefing (a mandatory event in the part-121 world). And, occasionally, it's during the gate-arrival phase, when we're supposed to be disarming the inflatable slide function of the passenger exits. We've even "blown a slide" or two because they weren't disarmed in time. I'm certain it's happening at all the airlines and it's not just the newbies making mistakes; it's all crew members that are allowing themselves to be rushed or distracted, often by electronics.

Insidious and Overwhelming

Unfortunately, we pilots have the ability to stick our head in this new societal, and metaphoric, cloud just as

much as anyone. The data available in the cockpit is more and more often coming from other than ground-based VHF, UHF and navigational signals – and the majority of it is not aviation related. Today's electronic content comes from geosynchronous and orbiting satellites for weather and GPS, and the internet, radio and cell/Sat phones for everything else. While these new sources of information and entertainment are transformational in their usefulness, they can be habit-forming and an insidious and overwhelming distraction.

Have you been running a flight plan and been interrupted by a phone call, e-mail or text and had to start over? How about when you were driving to the airport, while pre-flighting the plane, or boarding your pax? Did you forget to duck while texting and hit your head on the tail? Did you forget to remove a protective cover or the chocks because you were distracted? Forget to close or lock the hangar door? Maybe one of your pax took a call, answered an e-mail or text while you were giving them a briefing on the doors, environmental system or how to communicate in flight. Our new information sources can be real attention grabbers – we must learn how, and when, it's appropriate to ignore them.

Sterile Period

At the airlines it's a well-defined point: when we begin required duties or run the first checklist. And if that fails, the sterile period is a line in the sand (the time at which all communication is strictly related to the operation of the jet – engine start to 10k). In GA, the beginning of the before-starting-engines checklist is a good point to turn off the phone, reader and tablets; you may even add "non-essential electronics off" to your on-screen checklist or write it on your old-fashioned paper version. At my carrier, it's on the before-starting-engines checklist and is listed as PED's...Set and Off – personal electronic devices set in airplane mode, or off.

Before flight isn't the only time that our electronics may beckon to us. In the middle of the cruise segment, particularly if the flight is longer than a couple of hours, our minds will drift or we may indulge in non-flying activities. Call it boredom, day-dreaming or complacency. But, whatever it is, your head is in the clouds and you're not paying attention. You may catch yourself, ATC may ask you if you copy center, or they might call you on guard. This is your heads-up, your black screen with white letters telling you that you've been placed in safe mode. Remember, safe mode isn't so safe after all.

Do you have a plan if your GPS, GFMS or electronic kitbag becomes corrupted? They are not as sensitive as a hard working hard drive but they are electronic machines after all, and machines malfunction. The method in which we typically bring ourselves back to reality is to simulate the failure of a system, in this case,

the loss of our virtual world of electronic data. The less often we perform this exercise, the more uncomfortable it becomes to lose the virtual world. Perhaps at some point during every flight we should tune out some, or all, of the virtual world, and tune in more of the real world – excepting required use of the autopilot during certain single-pilot operations. Plus, loss of some of this electronic magic may remind you of why you got into airplanes in the first place: it's fun to be fully engaged and fly the things.

Angry Birds

The information available and presented to us through cockpit-installed hardware, our tablets, readers and cell/Sat phones, is very useful, but it's creating an unforeseen level of distraction, and, sometimes, dependence. We deal with real things while at the controls of our vehicles, particularly our aerospace vehicles, real things that remain the most important. From your airplane's perspective, it's still a matter of up-down-left-right, and faster-and-slower; gravity is still there – and the ground is still there. Our electronics will supply data or entertainment to a final point when the first brings us into contact with the second. If your head is in the "Cloud", this contact may occur at a time and manner other than your choosing. Don't blow a slide, hit your head or let a house fall on you while reading an e-mail, texting or attempting the next level of Angry Birds. ☞

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Cessna rolls out first production Citation Latitude

On January 29, 2015, Cessna Aircraft Company, a subsidiary of Textron Aviation Inc., celebrated the rollout of the first production Citation Latitude, just three years since announcing the aircraft. The Latitude's assembly features a variety of technological advancements, including the use of new automated robotics and ergonomically-friendly tooling stations. Today's event is the latest in the aircraft's progression toward type certification by the Federal Aviation Administration (FAA), which is expected in the second quarter of this year.

"Our product investments extend beyond the design and performance features of the aircraft with innovations in our manufacturing processes," said Scott Ernest, president and CEO. "The Citation Latitude team has redefined what customers should expect from a business aircraft in this segment, while also redefining the aircraft build process."

The Citation Latitude certification program, which includes four flying aircraft, has accumulated 500 flights and 1,200 hours to date. The first fully-configured aircraft made its public debut at last fall's National Business

Aviation Association (NBAA) Convention & Exhibition in Orlando, Florida and has since been touring the country for customer demonstration flights.

The Citation Latitude features an all-new fuselage, creating the most open, spacious, bright and refined cabin environment in the midsize category. With a flat cabin floor and six feet of cabin height, the Latitude has the widest fuselage of any Citation jet. Cessna's Clarity™ cabin-technology system ties into the Latitude's advanced avionics center to provide connectivity and entertainment to each passenger through their personal electronic devices. The Citation Latitude accommodates up to nine passengers, can reach a flight level of 43,000 feet in just 24 minutes, and has a range of up to 2,700 nautical miles. It incorporates a powerful new environmental system, a pressurization system providing a 6,000-foot cabin altitude at the aircraft's maximum operating altitude of 45,000 feet, an electrically-operated cabin door, standard auto-throttles, Garmin G5000 avionics, and Pratt & Whitney Canada PW306D1 engines. For more information on the Citation Latitude, visit Cessna.com.

Citation Latitude Engine Certified By Transport Canada

The recent Transport Canada (TC) Type Certification of Pratt & Whitney Canada's PW306D1 turbofan engine sets the stage for the entry into service of Cessna's newest business jet, the Citation Latitude. The PW306D1, flat-rated at 5,907 pounds of thrust, received the TC Type Certificate shortly before Christmas, and Federal Aviation Administration certification is expected in the first quarter of 2015.

Cessna, a long-standing customer of P&WC, announced the selection of the PW306D1 for the Citation Latitude at the 2011 National Business Aviation Association annual meeting and convention in Las Vegas, Nevada. The aircraft made its public debut in October 2014 at the NBAA convention in Orlando, Florida, and at the time was one of four jets flying in Cessna's certification flight test program.

The Citation Latitude features an all-new fuselage, the widest of any Citation jet, a flat cabin floor, six feet of cabin height and Garmin G5000 avionics. Its two FADEC-equipped PW306D1 engines offer full integration with the aircraft avionics, including auto-throttle capability.

The PW300 family of engines powers more mid-sized jets than any other turbofan in the world. It comprises four engine series and nine models, ranging from 4,700 to 8,000 pounds of thrust, with the more than 4,072 engines produced having accumulated over 12.15 million flight hours.

Pacific Coast Avionics Announces Avionics Upgrade For Cessna Citation Series

Avionics upgrade gives Citation II operator LPV/LNAV/GPS approach capabilities as well as active weather radar, traffic and ADS-B conformity.

On January 28, 2015, Dewey Conroy, Vice President and COO of Pacific Coast Avionics announced that the company recently completed a touchscreen GPS/NAV/COM and digital weather radar upgrade on a Cessna Citation II business jet. The aircraft is owned and operated by an extruded plastics products manufacturer with multiple U.S. locations.

"The aircraft's legacy NAV/COM/DME, ADF, transponder and radar had been in the panel for 30-plus-years and they were not only becoming unreliable, but they lacked the capabilities the owner needed to meet his growing business travel needs," Conroy said. "The new Garmin touchscreen radios, ADS-B, active traffic and BendixKing vertical-profile radar give the pilots advanced operational and situational

awareness capabilities at a true fraction of the cost of a newer aircraft."

The Citation II's panel upgrade included:

- Dual Garmin GTN 750 touchscreen GPS/NAV/COMs
- Garmin GMA 35 Remote Audio Control System
- Garmin GDL 88D ADS-B Transceiver
- Garmin GTS 825 Air Traffic Surveillance and Collision Avoidance System
- BendixKing RDR 2000 Digital Vertical Profile Weather Radar

"This is the fourth Citation II we've upgraded with a similar system, so the entire project was rather straightforward," Conroy explained. "It's always a challenge to integrate new digital technology into older aircraft systems. The biggest parts of the upgrade were fabricating the new wiring harnesses and interfaces, along with the new panel center section to accommodate the Garmin GTN 750s."

For more information, visit www.PCA.aero.

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ON FINAL

by David Miller

Addiction

I am ready to publicly admit that I have a problem. With speed. Not the over-the-counter kind. Instead, my addiction is an overwhelming need to go as fast as possible in an airplane. Oh, I have been to counseling. I went to JPA (Jet Pilots' Anonymous) meetings. I even bought a King Air. But, nothing helped. Soon, I found myself behind the yoke of a jet. It all started with my first one in the 1980's. I couldn't afford the "modern" technology of the Citation I. And they called it the "Slowtation" to boot. I needed my speed. So, we bought a 1960's Sabreliner. At .78 Mach and about 440 knots up high, it was a thrill. I conveniently don't recall the fuel burn or maintenance costs. I only remember the speed.

But I needed to go faster.

We bought a Falcon 10. The sweetest flying aircraft ever. Mach .84 in cruise and 480 knots, if you could afford the fuel. My therapist said I had a sub-conscious belief that the world would end with "Y2K" and that I just wanted to go out with a bang. But, alas, we all made it through that horrific event and I had to return to reality. He said, "You buy faster airplanes and log less hours in your logbook. Do you want to brag about your speed or how many hours you have?"

I fired the therapist.

After I sold my business, all the airplane expense had to come out of MY pocket. Or Patty's pocket. She quickly helped me find a solution. The Citation Mustang. An awesome bang for the buck. But, at 340 knots, it was 140 knots slower than the swept-wing beauty from France. "But," she said, "you can fly it single pilot."

Sold.

In the past few years, I have relapsed into the addiction. My CJ1+ is 40 knots faster than the Mustang. Not fast enough. I look for cruise



With 5,000-plus hours in his logbook, David Miller has been flying for business and pleasure for more than 40 years. Having owned and flown a variety of aircraft types, from turboprops to midsize jets, Miller, along with his wife Patty, now own and fly a Citation CJ1+. You can contact David at davidmiller1@sbcglobal.net.

altitudes that have ISA-minus temperatures, just to squeeze out a few extra knots. I make new friends who own faster airplanes like the CJ3. It is 40 knots faster than the 1+. I have even called airplane manufacturers to convince them that I am a wonderful prospect for their faster airplanes. This actually worked with the Premier 1. Beech let me fly it. Its wings glistened in the morning sunlight, and it had to be restrained during taxi as we galloped down the asphalt.

I called Embraer and told them the same story. They said, "Aren't you married to Patty? Nice try, fella." So I wore a disguise and actually got to fly the Phenom 300. The earth moves by so much faster at 440 knots.

I know what you are going to say. "You ungrateful _____. Most of us are just slogging around at 250 knots or less in all sorts of weather and you are complaining about 40 knots?"

Like I said, this is an addiction. It doesn't have to make sense.

Fly safe.

Photo courtesy of Beechcraft



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