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SEPTEMBER 2016 \$3.95 US

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CJ



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COVER PHOTO

CJ2 Photo Courtesy
of Textron Aviation

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Issues of
Twin & Turbine
are available for free
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Twin & Turbine (ISSN 1945-6514), USPS 24432 is published monthly by Village Press, Inc. with advertising offices located at 2779 Aero Park Drive, Traverse City, Michigan 49686. Telephone (231) 946-3712. Printed in the United States of America. All rights reserved. Copyright 2016, Village Press, Inc. Periodical Postage Paid at Traverse City, MI. SUBSCRIPTIONS: **Twin & Turbine** is distributed at no charge to all registered owners of cabin-class aircraft. The mailing list is updated monthly. All others may subscribe by writing to: **Twin & Turbine**, P.O. Box 968, Traverse City, MI 49685, or by calling 1-800-447-7367. Rates for the United States and its possessions follow: one year \$29.95; two years \$52.50. Canadian subscriptions are \$15 per year additional, including GST tax. Overseas subscriptions are \$30 per year additional, U.S. funds. Single copies \$3.95.

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POSTMASTER: Send address changes and inquiries to Twin & Turbine, Village Press, Inc., P.O. Box 968, Traverse City, MI 49685.

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Twin & Turbine (ISSN 1945-6514), USPS 24432 is published monthly by Village Press, Inc. with advertising offices located at 2779 Aero Park Drive, Traverse City, Michigan 49686. Telephone (231) 946-3712. Printed in the United States of America. All rights reserved. Copyright 2016, Village Press, Inc. Periodical Postage Paid at Traverse City, MI. SUBSCRIPTIONS: **Twin & Turbine** is distributed at no charge to all registered owners of cabin-class aircraft. The mailing list is updated monthly. All others may subscribe by writing to: **Twin & Turbine**, P.O. Box 968, Traverse City, MI 49685, or by calling 1-800-447-7367. Rates for the United States and its possessions follow: one year \$29.95; two years \$52.50. Canadian subscriptions are \$15 per year additional, including GST tax. Overseas subscriptions are \$30 per year additional, U.S. funds. Single copies \$3.95.

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Satisfaction ... Assured



Satisfactory piloting performance is a moving target; when I fly for proficiency, either on a positioning leg or a purposeful hop under supervision, I try to get as close as I can to a flawless performance.

I've yet to get there, but if I close the

gap slightly, I get to reset my parameter of satisfaction.

He who stops getting better, stops being good. And the way you get better is to strive for perfection. If the allowable altitude tolerance is +50/-0, I want the altimeter to freeze at 50 feet above the target. That way, I have the cushion I need for foibles but I also have a precise number for evaluation. Anal, perhaps, but it's a way to challenge myself.

The other day, I needed to shoot a few approaches, so I filed for the DME arc transition and, naturally, the DME refused to lock on at first. With a GPS backup, it was possible to work around the balky readout, but I missed the extra challenge of making the mileage number stay the same as we maneuvered around the arc. When we got a DME lock part-way through the approach, I felt like asking for a restart, but I went to work on the next challenge, which was more than enough.

Why bother? Because, if you don't seek the best-possible outcome, you will be satisfied with ever-less exactness. I've noted this tendency in my off-moments, when I was beaten down

by a full day of flying halfway across the country or making my first approach in a new (to me) cockpit. It's easy to open up the window of tolerance, satisfied with a safe arrival, even though you know you could have done better. "All right for now," I tell myself, "but we've got to work on that."

Does this propensity for self-flagellation lead to frustration? It can, but we have to accept the likelihood of imperfection, as a normal consequence of human frailty. My landing touchdowns, ever the arbiter of my skill level, are humbling about two times out of three. I know how to paint the tires onto the pavement, straddling the centerline, but I'll allow a bit of drift or residual sink rate to intervene and there will be that jar in my seat that I don't want. I'm not going to quit trying, however.

Therefore, we want to take satisfaction in the achieving of small triumphs, on our way to the pinnacle of perfection. In that way, we avoid the frustration of always being off the mark. Maybe I didn't nail that landing the way I wanted, but I flew the bug speed on the money. If we make the crossing altitude, our descent calculation was obviously working and we've honed a skill that will help us in another piloting task. No achievement stands alone; it is the sum of several parts, working in concert and practiced toward perfection.

For now, I'll be content to achieve satisfaction, and keep working.

LeRoy Cook

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The Birth Of **The**

Cessna CitationJet first flight, April 29, 1991.

It's hard to believe that the now-iconic Cessna CitationJet, a.k.a. the Model 525, was only a concept a bit over 25 years ago. As I've often said, time flies when you're having fun. I well recall attending the CJ's first-flight party on April 29, 1991 in Wichita, Kansas; despite an on-going downturn in general aviation's fortunes in the 1980s, business jet sales continued to be healthy, and Cessna was anxious to cement its position as the #1 purveyor of light jets. The aviation press and early CJ customers were invited to witness the first liftoff of the new generation of Citations.

So, on the chosen morning, it was with great anticipation that about 400 of Cessna's closest friends in the industry crowded around the prototype in typical late-spring weather for Wichita – meaning, it wasn't the best for flying a brand-new aircraft. CEO Russ Meyer and Senior Marketing V.P. Roy Norris addressed the gathering, extolling the virtues of the new aircraft. Meanwhile, it rained, it blew and the ceiling hung low over the Air Capital – hardly the weather P.R. director Dean Humphrey had ordered for the event.

Contingency after contingency was employed, to keep the crowd entertained while waiting on the weather. We enjoyed interminable plant tours and briefings, hastily inverted after the scheduled 9 a.m. lift-off didn't happen, and luncheon was eventually served to keep the hungry hounds of the press at bay.

Engineering vice-president Milt Sills, who had piloted the original Citation on its first flight, had wanted a 10,000-foot ceiling so the initial hop could be made entirely under VFR, but at noon we were

still waiting for a break. The wind increased to 40 mph, a mere Wichita zephyr, but beyond the established crosswind standards for a first flight.

Harking back a couple of decades, the first Citation also ran into weather delays on its initial flight. Similarly scheduled for 9 a.m., that flight finally took the air at 3:20 p.m., from the very same runway that was being used for the CitationJet's first flight, almost 22 years later.



e CJ

By **LeRoy Cook**



While waiting on the weather to clear, first-flight attendees viewed the prototype in the hangar.

A Fresh Start

The CitationJet was breaking new ground, in an old, established way. The concept was to take the proven features of the Citation 500, first flown in September, 1969, and update it with the latest aerodynamic and propulsion technology. Attending the first-flight ceremonies was Dr. Sam Williams of Williams International, whose little FJ44 fanjet engine had evolved

from Williams' earlier experience with cruise-missile powerplants to become a powerful, yet parsimonious, business-jet engine. Williams International, in fact, was to receive the first production example of the CitationJet. Officially, the FJ44 was a Williams-Rolls, developed in partnership with Rolls-Royce.

Leveraging the Williams engine's improved fuel specifics over the Pratt & Whitney JT-15D, Cessna went with a natural laminar-flow airfoil on an extended-span wing, 18 inches longer than the earlier Citation's wing. A T-tail design replaced the old high-dihedral cruciform tail. Even with 6,000-pounds less total thrust than the 500, the CJ was to cruise 30 knots faster, range 10% farther and burn 19% less fuel, partly because it weighed 850 pounds less than its predecessor.

At the time of the first flight, the FJ44 engine had accumulated nearly 400 flight test hours, much it on the left pylon of a Citation 500 test-bed airplane. Most great advances in aircraft design result from employment of new propulsion technology; the Williams engines were to prove this theorem once again. Its 3.25:1 bypass ratio, using an efficient compressor system, cut fuel flow significantly while delivering adequate thrust for the lighter CJ. It also enabled cost savings to make the aircraft price competitive at \$2,500,000 in 1988 dollars.

With careful manufacturing, the CJ's natural laminar-flow wing could maintain its NLF back to the main spar, roughly 30% chord, using a chemical milling process in its skin and spar construction. By locating the fuselage tube atop the wing, a 57-inch cabin height could be achieved with a dropped aisle, and less drag resulted with the well-faired underslung wing. And with the lowered fuel tankage there was room in the wing for trailing-link maingear, forever banishing the "gotcha" touchdown of the stiff-legged Citation. Thrust attenuation paddles, much like those on Cessna's T-37 trainer, were used to reduce the effect of residual thrust at idle, and an automatic deployment of the 35-degree landing flaps to 65 degrees after touchdown would reduce landing distance to 2,800 feet.

As with the Citation 500, the CitationJet was certificated under FAR Part 23, but was designed to the more-rigorous provisions of Part 25 transport airplane certification. At least, by the time the CJ arrived, single-pilot certification had become routine for Citations. The standard avionics package would be considered primitive 25 years later: the CJ featured Bendix/King panel-mounted equipment, including a KLN88 Loran C receiver, with a two-tube CRT EFIS.

Meanwhile, The Delays Continued

Many in the waiting assembly on first-flight day had airline connections to catch and had already surrendered their hotel rooms at the airport Marriot, having arrived the previous day in anticipation of a morning launch



N525CJ, the CitationJet prototype, waits for its first flight, with test boom attached to the nose.

for the first flight. After lunch, the ominous weather showed little sign of abating, so the crowd was reluctantly dismissed. That was, of course, the opportunity the

meteorological spirits had been waiting for; by late afternoon, the requisite breaks appeared in the overcast and the drizzle dried up. At 5:35 p.m., test pilots Bob Leonard and Bob Carnahan lifted off in N525CJ for a quick hop up to 10,000 feet, out to the Cheney test area west of Wichita, where they would check handling and trim, engine response, gear and flap extensions, speed brake effectiveness and an approach to a stall, keeping the IAS down to 180 knots. As expected, all went well; a Citation V flew chase during the flight, just in case.

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Milton Sills, Vice President of Engineering, explained the development and features of the new CitationJet.



Roy Norris, Vice President of Marketing, predicted a bright future for the Model 525.



According to my report of the post-landing proceedings, "Completing the atmosphere of déjà vu, the CitationJet received a blanket of winner's-circle roses across its nose, repeating a ceremony performed in 1969 when the Model 500 made its first hop under the name of Calumet Farm's famous Kentucky Derby winning racehorse." Obviously, I was getting paid by the word to wax eloquent. Actually, the magnificent Citation won the Triple Crown in 1948, not just the Derby.

At the CitationJet's first-flight ceremony, Roy H. Norris predicted 1,000 CJ's would be sold during the first ten years of production. He wasn't far off the mark, thanks to the introduction of the CJ2 and its follow-on brethren. Some 359 of the original CitationJets were delivered before it was replaced by the CJ1, and eventually over 700 525s were built through 2011. Today, the straight 525 lives on as the M2. The CitationJet's difficult first flight turned out to be an entry into a highly-successful production life. 



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SOP For Post-Maintenance

Business aircraft are expensive to operate, but it is important to budget enough extra funds to allow for pilot proficiency and post-maintenance test flights. It would be embarrassing to roll the airplane out of the shop, load up the company officials and have to return immediately after takeoff because the cabin won't pressurize. A return-to-service test flight may be required by regulation or operations manual, and it should be taken quite seriously.

Anytime one or more aircraft systems have been worked on, the subsequent flight needs to be conducted with jaundiced eye and attention to detail. Increase your vigilance as you complete each checklist item, more than just moving a control or confirming the absence of a light. Be sure the response occurred and was correct. Take extra time to run the checks.

"Here's Your Aircraft"

When you arrive at the maintenance facility, have a discussion with the Director of Maintenance and the lead technician who actually did the work. Find out as much as possible about what was opened up on the aircraft, what discrepancies were found and how they were taken care of. Do not be accusatory with your probing. Treat the shop personnel as part of your team; to keep the aircraft airworthy, you need their input, and they need yours.

Your curiosity is not focused on learning how to be a mechanic. You simply want to gain insight about what to watch for during the test flight. If the brake components were changed, you may look for a different response to brake application, particularly if new disks or pads have to be broken in. Extra care is taxiing may be called for, until the brake performance is verified.

By knowing the specifics of where the aircraft systems have been disturbed, you'll not just be on guard, you'll also be ready to write down parameters and flight conditions during the flight. These "test card" notes are important to the technicians and can be valuable as a benchmark if readings change during service.

Oops

Of course, it helps to know what was worked on in case a vibration or instrument indication shows up. Over the years, I've seen a lot of maintenance-induced incidents, small matters caught before they resulted in an accident. On one test hop, accompanied by the mechanic, a burning smell showed up. My companion instantly knew the source; he had left a shop rag in the heater shroud when it was buttoned up after inspection. The smell went away before our hasty landing was completed.

On another test hop, after propeller governor adjustments had been made, smoke was observed streaming from the front of a cowl. All instrument indications were normal, but a precaution recovery was initiated. The "smoke" turned out to be powdered aluminum. A deice slinger ring was out of place and rubbing against the cowl, grinding away metal. Again, because we knew where the work area was, we were able to watch for abnormalities.

Remember, people are human, and humans make mistakes. And computers are built and programmed by humans, so they can make mistakes as well. Seldom is intentional sabotage a factor. Rather, it is haste and over-familiarity that leads to maintenance-induced errors. An initial or signature may show an item was completed and inspected, but you still need to watch that area during a test flight.

Preflight Diligently

Once you've availed yourself of as much knowledge as you can about the work that was just done on the plane, conduct a preflight inspection armed with that knowledge. Check the cowlings that were opened, inspection covers that were disturbed, control surfaces that may have been re-rigged. Of course you look at these things before every flight; REALLY look at them this time.

Even an innocuous oil change can lead to disaster. A half-century ago, I picked up an airplane from the shop after an inspection, with a fresh fill of oil in the tank. As I climbed out from the airport, I scanned the instruments and noticed a low oil-pressure indication. It dropped further as I watched. I reversed course and reduced power for a descent to an immediate landing, and as the pressure dropped out of the bottom of its range I secured the engine. The landing was normal, but exiting after shutdown revealed an oil-covered engine compartment. The oil screen had been removed for cleaning and examination and its access plug was only replaced finger-tight, not torqued. Three sets of eyes failed to catch the blunder.

Once the preflight is done, consider the conditions before flying. I do not conduct post-maintenance flights into darkness or weather. I want to be unencumbered by flight tasks when I'm checking out the aircraft. Most test hops require only a half-hour of flight time, just long enough to bring up operating temperatures, climb to altitude, and cycle through the systems. But take time to stabilize and verify all parameters.

Add items to the before-takeoff checklist that may have been affected by the shop visit. Avionics, for instance, may not have been part of the squawk sheet, but settings,

ce Flights

By **LeRoy Cook**

switches and wiring could have been moved, removed or wrongly reconnected. Does everything work normally? Better to catch it on the ground than in-flight. When the engines are started, take note of the starting sequences and temperature indications, and the battery and generator indications, for any abnormalities.

The Proving Flight

As power is applied for the takeoff run, see if both engines have similar responses, with the usual amount of trim and rigging irregularity. Takeoff acceleration needs to reflect power being developed and brake freedom; you may not normally gauge time on the roll or speed achieved by distance consumed, but this takeoff would be a good time to do that.

Sounds and feels are subjective test-pilot evaluations as we unstick and climb out, even to the smells coming from the environmental ductwork. You know your aircraft, so listen to what it has to say. Gear and flaps should cycle in the usual number of seconds, climb and acceleration rates should be normal, and trim should respond as usual. Hold off on the autopilot engagement until you manually check pitch and roll stability, and verify yaw response before you turn on the yaw damper.

Is the cabin pressure and temperature holding as it should, with no extra outflow noises and vents working normally? Is power responding as usual as altitude increases, windows staying clear, all engine parameters as expected? Engage autopilot modes incrementally; first switch on yaw damping, then turn on basic roll control to see if it works before using pitch hold, then altitude preselect, and finally nav tracking.

At level off, acceleration should be in line with previous observations, given the load and ISA; noise perception should be normal, fuel flows as expected. Stay close to the maintenance base until you're satisfied that there are no glitches. Ask ATC for some maneuvering space if you need to cycle systems or check handling. Make notes of the stabilized performance and engine indications, as well as the day's air conditions.

Finally, ask yourself, does this aircraft meet my expectations for a passenger-carrying trip across hostile terrain? Am I feeling or observing anything out of the ordinary that needs further attention? A descent for a non-passenger landing is a good time to see how the navigation and flight control systems handle a fully-coupled approach, despite the visual conditions; don't waste the opportunity. Test your finely-tuned precision landing ability, apply maximum braking to see if it works, and note the fuel and engine readings at shutdown.

You are a vital part of the maintenance team. Hopefully, your report to the shop is that all went well, with no residual write-ups. But don't just say it was "A-ok"; give them some specific feedback, as they may have requested. How good did the engines run after their work, what was the time to climb, what did the environmental system do? Rather than send the plane back with complaints, give them some facts to work with.

The first flight after a maintenance visit needs to be conducted differently than a routine company trip. It's an opportunity to contribute your skills as a pilot, and to act as the final inspector for the work that was done. **T&T**



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Three Oshkosh Topics

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This year, three topics each came up multiple times in my discussions

and presentations, conducted at this year's EAA AirVenture:

First, there's frequent discussion of managing fuel by using every drop from a tank. Running a fuel tank dry, then immediately switching to a tank containing fuel, should result in the engine continuing to run. This is a time-tested technique for getting the absolute, greatest range from an airplane. But should we be pushing our fuel so close to the limit? Is causing the engine to momentarily

quit – to intentionally cause engine failure – a good idea?

If the engine would relight immediately 100% of the time, it might be. But the record shows that's not always the case. Seemingly weekly, an off-airport landing appears to be fuel starvation, when a tank ran dry and, although fuel was available on the airplane, switching to the fueled tank wasn't successful. A study I conducted of one airplane type shows running a tank dry is a common contributor to off-airport

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landings (see www.thomaspturner.net/Fuel.htm). I expect that this is common to all types of aircraft. Many pilots, however, swear by achieving maximum-range flight by running all but the last fuel tank completely dry. For those who employ this risk-management strategy, be aware that the possibility does exist that air in the fuel lines or other factors may prevent the engine from restarting after your intentional engine failure. Just because you've successfully used the dry-tank routine for years does not mean it can't happen the next time.

Let's put this discussion in the context of twin and turbine-powered airplanes. Most modern twin-engine airplanes have simpler fuel systems than many piston airplanes. And, logically, fuel starvation is unlikely to occur simultaneously to both engines in a twin – you'd expect to have time to recover from a one-engine outage before being faced with starvation in the other.

However, we still read reports of fuel starvation in multi-engine airplanes when the pilot attempts to take off, maneuver in the airport traffic pattern for landing, or begin a go-around or missed approach when auxiliary fuel tanks are selected (every aircraft auxiliary tank I've ever seen carries a limitation against use in other than level flight). So, be sure to set and check your fuel selectors properly before takeoff and again for descent and landing, to avoid inadvertently running tanks dry (or at least unporting the fuel) at a point from where there's no room to recover.

In a more normal, but range-extending, context, *intentionally* running a fuel tank dry still crops up as a piloting tactic. Pilots who advocate this strategy usually tell me they can anticipate within a few minutes when the tank will empty and the power gauges "twitch" and go dark. I respond that if the pilot can tell the tank will completely



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drain within, say, five minutes, that he or she should go ahead and switch away from that tank at that time...not waiting for the engine to quit and need to be restarted. I quip that if that extra five minutes' fuel makes the difference between completing a flight and not then the pilot has larger risk management issues to work through.

Second, Oshkosh pilots talked a lot about runway excursions caused by landing short or landing long – undershooting the runway or landing and rolling off its far end.

Each of these scenarios is a symptom of airspeed and glidepath control gone bad. In many airplanes, every additional five knots on final increases the distance to flare and land by 10% or more. Even a little below final approach speed, on the other hand, causes the rate of descent to increase, angling you short of the runway.

Your final approach check should include:

- *In configuration* (flaps, landing gear)
- *On speed*
- *On glidepath*, electronic or visual, if available, or, if not, to a touchdown point in the first third of the runway.
- *On centerline* (aligned with the runway and compensating for any crosswind)

If you're within 200 feet of the ground and **any one** of these items is not as it should be, smoothly execute

a go-around and set up the aircraft to try again. Make a conscious decision to include a check of these items on final approach or when breaking out from an instrument approach to near minimums. Don't try to "salvage" the landing at the last few seconds or that's exactly what may happen to your airplane.

Third, a related topic, is the great number of stall-related crashes in general aviation airplanes. The FAA, NTSB and industry has made much of the Loss of Control – In Flight (LOC-I) record, which is implicated in about 80% of all fatal aircraft crashes. Most LOC-I events are aerodynamic stalls, so a lot of discussion – at Oshkosh and throughout the industry – centers on angle of attack indicators and other stall-avoidance technology. In fact, EAA presented its first-ever Founder's Innovation Prize this year at AirVenture, in a contest that specifically called for technological solutions to reducing the stall/spin accident rate.

Aviation safety advocate Fred Scott makes an interesting observation about LOC-I: stall/spin crashes happen not because pilots fly their airplanes too slowly, they occur because pilots don't fly their airplanes slowly often enough. Specifically, Fred suggests the modern practice of flying long, wide traffic patterns, coupled with flying at fairly high pattern speeds and power settings, conspires against pilots when, for some reason, conditions require them to fly more slowly. For example, a close-in pattern for spacing or a high density altitude takeoff with a loaded cabin can be easily and safely flown (assuming you're within airplane limits), but to do so you must be comfortable with the visual and tactile cues and the small turning radius at these slower speeds.

If you haven't practiced flying (appropriately) slowly while close to the ground, these scenarios will be unfamiliar to you. You might not fly airspeeds and power settings as precisely as you should; you may not correctly respond to visual cues to practice the proper "flight path management" that is a new buzzword in aviation safety circles. With *or without* angle of attack indicators or other new cockpit technologies, stall avoidance requires you to be practiced in precision flying and compensation for unusual sensations that you'll only detect as being abnormal if you're very familiar with what "normal" looks and feels like.

Oshkosh presents a unique opportunity to speak informally with a wide variety of pilots to find common areas of concern and discern techniques to make your flying more precise. Take advantage of every chance you get to learn from others' experience, and to help others learn from yours. **T&T**

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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275 BEECHJET 400A
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391 CHALLENGER 300
65 CHALLENGER 600
58 CHALLENGER 601-1A
133 CHALLENGER 601-3A
56 CHALLENGER 601-3R
279 CHALLENGER 604
5 CHALLENGER 800
169 CITATION 500
319 CITATION 525
284 CITATION BRAVO
151 CITATION CJ1
69 CITATION CJ1+
202 CITATION CJ2
160 CITATION CJ2+
390 CITATION CJ3
180 CITATION ENCORE
306 CITATION EXCEL
5 CITATION I
288 CITATION I/SP
478 CITATION II
50 CITATION II/SP
173 CITATION III
329 CITATION MUSTANG
138 CITATION S/II
257 CITATION SOVEREIGN
284 CITATION ULTRA
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104 CITATION VII
257 CITATION X
199 CITATION XLS

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82 EMBRAER PHENOM 300
123 FALCON 10
28 FALCON 100
25 FALCON 200
176 FALCON 2000
21 FALCON 2000EX
81 FALCON 20C
17 FALCON 20C-5
26 FALCON 20D
3 FALCON 20D-5
7 FALCON 20E
8 FALCON 20E-5
59 FALCON 20F
82 FALCON 20F-5
229 FALCON 50
8 FALCON 50-40
113 FALCON 50EX
135 FALCON 900
21 FALCON 900C
116 FALCON 900EX
98 GLOBAL 5000
112 GLOBAL EXPRESS
25 GULFSTREAM G-100
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27 GULFSTREAM G-400
222 GULFSTREAM G-450
7 GULFSTREAM G-500
330 GULFSTREAM G-550
42 GULFSTREAM G-I
110 GULFSTREAM G-II
31 GULFSTREAM G-IIIB
186 GULFSTREAM G-III
188 GULFSTREAM G-IV
317 GULFSTREAM G-IVSP
182 GULFSTREAM G-V

40 HAWKER 1000A
9 HAWKER 125-1A
2 HAWKER 125-1AS
1 HAWKER 125-3A/RA
2 HAWKER 125-400A
29 HAWKER 125-400AS
1 HAWKER 125-400B
4 HAWKER 125-600A
11 HAWKER 125-600AS
113 HAWKER 125-700A
50 HAWKER 4000
187 HAWKER 400XP
21 HAWKER 750
223 HAWKER 800A
2 HAWKER 800B
335 HAWKER 800XP
14 HAWKER 800XPI
67 HAWKER 850XP
131 HAWKER 900XP
4 JET COMMANDER 1121
6 JET COMMANDER 1121B
12 JETSTAR 731
11 JETSTAR II
51 JETSTREAM 31
40 JETSTREAM 32
15 JETSTREAM 41
15 LEARJET 23
26 LEARJET 24
5 LEARJET 24A
19 LEARJET 24B
53 LEARJET 24D
14 LEARJET 24E
9 LEARJET 24F
33 LEARJET 25
57 LEARJET 25B
7 LEARJET 25C
94 LEARJET 25D
6 LEARJET 28
28 LEARJET 31
172 LEARJET 31A
43 LEARJET 35
426 LEARJET 35A
21 LEARJET 36

34 LEARJET 36A
24 LEARJET 40
219 LEARJET 45
193 LEARJET 45XR
115 LEARJET 55
5 LEARJET 55B
12 LEARJET 55C
293 LEARJET 60
130 PREMIER I
16 SABRELINER 40
13 SABRELINER 40A
7 SABRELINER 40EL
3 SABRELINER 40R
24 SABRELINER 60
1 SABRELINER 60A
2 SABRELINER 60AELXM
12 SABRELINER 60ELXM
3 SABRELINER 60EX
1 SABRELINER 60SCEX
85 SABRELINER 65
1 SABRELINER 75
17 SABRELINER 80
3 SABRELINER 80SC
101 WESTWIND 1
4 WESTWIND 1123
45 WESTWIND 1124
76 WESTWIND 2

TURBO PROPS

CHIEF PILOTS & OWNERS

Aircraft Count

275 CARAVAN 208
1087 CARAVAN 208B
3 CARAVAN II
34 CHEYENNE 400
221 CHEYENNE I
14 CHEYENNE IA
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120 KING AIR A100
203 KING AIR A200
58 KING AIR A90
221 KING AIR A90-1
135 KING AIR B100
902 KING AIR B200
78 KING AIR B200C
63 KING AIR B200GT
2 KING AIR B200SE
3 KING AIR B200T
66 KING AIR B90
295 KING AIR C90
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278 KING AIR E90
160 KING AIR F90
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1 MERLIN 300
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29 MERLIN IIB
12 MERLIN IIB
20 MERLIN IIIA
49 MERLIN IIIB
14 MERLIN IIIC

5 MERLIN IV
13 MERLIN IV-A
13 MERLIN IV-C
105 MITSUBISHI MARQUISE
1 MITSUBISHI MU-2D
29 MITSUBISHI MU-2F
1 MITSUBISHI MU-2G
22 MITSUBISHI MU-2J
32 MITSUBISHI MU-2K
15 MITSUBISHI MU-2L
23 MITSUBISHI MU-2M
30 MITSUBISHI MU-2N
38 MITSUBISHI MU-2P
55 MITSUBISHI SOLITAIRE
673 PILATUS P-12
341 PILATUS PC-12 NG
549 PILATUS PC-12/45
154 PILATUS PC-12/47
492 PIPER MERIDIAN
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6 ROCKWELL 680V TURBO II
7 ROCKWELL 680W TURBO II
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129 TURBO COMMANDER 690A
113 TURBO COMMANDER 690B
58 TURBO COMMANDER 840
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23 TURBO COMMANDER 980

TWIN PISTON

OWNERS

Aircraft Count

9 ADAM A500
1550 BARON 58
479 BARON 58P
137 BARON 58TC
5 BARON A56TC
142 BARON G58
43 BEECH BARON 56 TC
2 BEECH BARON 58 PA
217 BEECH DUKE B60
193 CESSNA 340
556 CESSNA 340A
120 CESSNA 402B
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374 CESSNA 414A
CHANCELLOR
72 CESSNA 421
61 CESSNA 421A
454 CESSNA 421B
757 CESSNA 421C
66 CESSNA T303
124 PIPER 601P AEROSTAR
29 PIPER 602P AEROSTAR
18 PIPER 700P AEROSTAR
465 PIPER CHIEFTAIN
28 PIPER MOJAVE
870 PIPER NAVAJO
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33 ROCKWELL 500A SHRIKE
69 ROCKWELL 500B SHRIKE
46 ROCKWELL 500S SHRIKE

8 ROCKWELL 500U SHRIKE
28 ROCKWELL 520
COMMANDER
15 ROCKWELL 560
COMMANDER
21 ROCKWELL 560A
COMMANDER
17 ROCKWELL 560E
COMMANDER
11 ROCKWELL 560F
COMMANDER
36 ROCKWELL 680 SUPER
17 ROCKWELL 680E
19 ROCKWELL 680F
COMMANDER
22 ROCKWELL 680FL GRAND
COMMANDER
14 ROCKWELL 680FLP
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1 CESSNA T206
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focus



An Important Milestone, But Much Work Remains to Be Done

by Ed Bolen NBAA President and CEO

Earlier this year, following months of debate, Congress passed and the President signed into law a bill extending funding and programs for the Federal Aviation Administration (FAA) through Sept. 30, 2017.

That measure was passed as Congress continues to debate a full FAA reauthorization bill; while the passage of a complete reauthorization would have been ideal, this extension does provide some good news.

First, the legislation included several general aviation industry priorities: raising the bar on aviation safety, integrating unmanned aircraft into the National Airspace System and accelerating implementation of the NextGen air traffic management system. Equally important, the bill set aside controversial proposals for creating a privatized air traffic control (ATC) system funded by user fees and run by an airline-dominated board of directors.


This outcome says much about our industry's ability to make its collective voice heard. As readers of *Twin & Turbine* know, in the course of this FAA reauthorization debate, the general aviation community faced a real threat. If privatization had been implemented, there was a danger that the ATC system would have been recast to cater to the airlines, inhibiting the ability of general aviation to access airports and airspace, thereby diminishing its flexibility and efficiency. Our ability to meet that challenge was key in shaping the recently passed legislation.

Simply put, it is thanks to active engagement by readers of this magazine, and many other people in the industry, that we have reached this significant milestone.

That said, this milestone illustrates not just how far we've come, but how far we have yet to go. The FAA reauthorization debate is far from over, and much work remains to ensure the U.S. has the largest, safest, most efficient and diverse transportation system in the world.

First and foremost, we must remain fit for whenever the fight on ATC privatization reemerges – and, we know it will. That means we need to be vigilant, and ready to mobilize once again. Those supporting privatization proposals will continue to push their agenda on Capitol Hill, and we must continue to be prepared to meet that challenge.

NBAA believes that we can best move forward on the FAA's NextGen air traffic management program, expanding system capacity and efficiency, by working for a full reauthorization bill that contains targeted solutions to identified challenges, instead of getting into another distracting debate over creating a privatized ATC system funded by user fees.

As we look to the coming months, our ability to continue coming together in this debate will remain as important as ever. NBAA's work, supported by activism from throughout the GA community, has made all the difference up to this point – as the FAA reauthorization debate moves into its next phase, NBAA will make its voice heard, and I know we can count on you to do so as well. 

NBAA , NTSB Emphasize Importance of Timely, Accurate PIREPs

NBAA joined with others across the aviation community in participating in a recent forum conducted by the National Transportation Safety Board (NTSB) on the importance of pilot reports (PIREPs) in advising other pilots, as well as air traffic controllers, about real-time weather conditions.

“For pilots, the difference between life and death can come down to one question: weather... or not? We cannot control the weather, but we certainly can plan for it when we receive reports about conditions experienced by others along our intended route,” said NTSB member Robert Sumwalt, who chaired the forum, “PIREPs: Pay it Forward... Because Weather for One is Weather for None,” held June 21-22.

“PIREPs done right have enormous untapped potential to make aviation safer for pilots, passengers and people on the ground,” he continued.

Panelist John Kosak, an NBAA air traffic management specialist and the Association’s project manager for weather, noted that PIREPs assist controllers at the FAA’s national Air Traffic Control System Command Center to, “confirm or refute [forecasted] conditions such as turbulence or icing.” He specifically cited PIREPs of cloud base and ceiling tops as particularly vital when “a few hundred feet can make the difference” in ATC approach routing.

For those benefits to be fully realized, however, those on both sides of the radio must step up their game. Sumwalt recalled the harrowing experience of breaking out of clouds during a particularly tricky IFR approach, and seeing an unexpected, large block of ice on the windscreen.

“I reported it to ATC ... [and] he said yeah, we’ve been getting those [icing] reports all morning,” he continued. “Why was it not reported to me?”

Sumwalt added that the NTSB has investigated numerous accidents that indicate that the


PIREP system is failing, which led the board to place the topic on its 2014 Most Wanted List of Transportation Safety Improvements. Since 2012, NTSB has investigated 20 accidents or incidents in which issues were found with the dissemination of weather information.

“I don’t think any of us think our PIREP system is functioning optimally,” he added. “There are a lot of people who have been trying for years to get the system to work better ... That is precisely why we wanted to have this forum.”

Kosak added that one concern is that pilot weather reports are not being utilized as they once were; another is that PIREPs are often submitted with incorrect information, usually regarding the time, location and weather intensity. The PIREP system is still largely paper-based, and many reports don’t get passed along by controllers in a timely manner to pilots who could use the information. Consequently, many pilots don’t file reports.

Properly done, PIREPs can improve the efficiency of operations in the national airspace system, since they are used by various stakeholders. ATC uses the reports for traffic control management and real-time advisories; National Weather Service meteorologists use them to create pilot weather briefings, enhanced models, and more accurate forecasts; dispatchers use PIREPs to create inflight advisories, route changes and amendments.

“The reporting of unforecasted conditions remains an important and relevant tool for every pilot,” noted panelist Jim Lara, principal of Gray Stone Advisors. “We need to support the *culture* of reporting what you see, especially if it’s a surprise.”

Symposium participants also brainstormed possible ways to automate the PIREPs process, or make it easier both to file reports and to publish them in a timely manner. 



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NBAA Responding to State Tax Challenges On Both Coasts

Business aircraft owners and operators in New Jersey and Nevada have recently joined with NBAA in opposing potentially onerous proposed state tax changes that could significantly impact operators' bottom line.

"The industry needs to stay engaged in these state-level battles, because their outcomes could have significant implications for people and companies that rely on aircraft for the success of their businesses," explained said Scott O'Brien, NBAA's senior manager of tax and finance.

For example, New Jersey already imposes a 2.75 percent tax on jet fuel (equal to 4 cents per gallon), with some exemptions for certain types of operations, and state legislators recently proposed a tax hike to 7 percent as part of a larger transportation infrastructure-funding overhaul.

However, the proposal faced significant opposition from groups, including NBAA – which sent a letter to legislators detailing concerns over the bill – and an alternative bill that removes the tax increase on jet fuel and aviation gasoline recently passed the New Jersey Assembly.


"The New Jersey infrastructure proposal raised concerns about how the state hoped to use aviation fuel tax revenues," O'Brien added. "It appeared that New Jersey planned to divert aviation fuel tax revenue for public works projects unrelated to aviation. This is contrary to FAA regulations, which require aviation fuel tax revenue be used for airport or aviation-related projects."

The numbers correspond to how high on the list each state is for most expensive jet fuel tax. If the proposed tax hike went into effect, the Garden State would have jumped to third-from-top of the list.

In Nevada, a draft tax bulletin proposed a significant change to current law and administrative decisions that would have negated a key tax exemption designed to encourage aircraft owners to locate in the state. Based on current state tax code, there is a presumption that aircraft acquired outside of Nevada will not be subject to use tax if certain conditions are met.

Specifically, the aircraft must be first used in interstate or foreign commerce outside of the state, and second, for the 12 months following the first use, the aircraft must be used predominantly on flights between Nevada and other states.

The draft tax bulletin would have limited the exemption to "for hire" service only and would have required "continuous" use of the aircraft in intrastate commerce for at least 12 months, making the statute impossible to comply with and virtually meaningless.

"After hearing industry opposition, the Nevada state tax commission chose not to pursue the proposed changes to the interstate commerce exemption and released a revised bulletin," said O'Brien. "The New Jersey and Nevada proposed state tax changes are strong evidence of why the industry needs to be aware of state issues and register opposition when onerous changes are proposed." 

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NBAA Opposes FAA Proposal Regarding Expired Navigation Databases

NBAA recently submitted comments to the FAA opposing the agency's proposed revision to Master Minimum Equipment List Policy Letter-98, Navigation Databases (MMEL PL-98).

The original policy letter describes how operators may defer an expired navigation database until a time and location in which the database can be properly updated, by verifying navigational waypoints in the expired database with current aeronautical charts. The proposed revisions would rescind operators' ability to defer an expired navigation database in accordance with a minimum equipment list (MEL), as is currently permitted.


Letts had asked the FAA if he might supplement his expired navigation database with an iPad, and the agency responded that to fly with an expired navigation database, an operator must utilize an approved MEL that allows for dispatch of an aircraft with inoperative equipment.

"It is not uncommon for business aircraft operators to travel to remote destinations for more than 14 to 28 days where a reliable internet connection or other supplies may not be available to facilitate timely navigation database updates," said Jason Herman, lead captain for Latitude 33 Aviation and chairman of NBAA's Part 135 Subcommittee.



NBAA's comments, submitted June 30, highlighted that the proposed revision to MMEL PL-98 is not in agreement with the FAA chief legal counsel's interpretation addressed to Thomas Letts in November 2012 (known as the Letts interpretation.)

"Additionally, these areas may have limited or no qualified maintenance facilities to assist in performing database updates," he added. "It is important that operators have a safe, legal, and efficient means to continue their mission should a navigation database expire during a trip."

The consequences of the proposed revision remain unclear. NBAA is seeking to clarify whether operators will be able to operate VFR with an expired navigation database, as outlined in the Aeronautical Information Manual, or if they will simply not be permitted to fly until such time as the navigation database can be updated, as required by the Letts interpretation. 

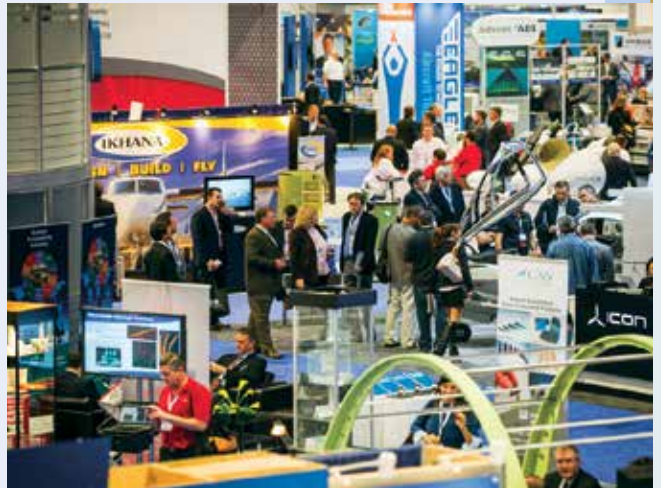
NBAA-BACE Coming to Orlando, FL, in November

The size, strength, and diversity of the business aviation community will be in the spotlight throughout the 2016 NBAA Business Aviation Convention and Exhibition (NBAA-BACE) coming to Orlando, FL, later this year. Taking place Nov. 1-3, NBAA-BACE is expected to bring together 27,000 current and prospective business aircraft owners, manufacturers, and customers at the Orange County Convention Center (OCCC).

Approximately 1,100 exhibitors will be on-hand to demonstrate their products and services to attendees, while some 100 business aircraft, ranging from single-engine piston aircraft to large intercontinental business jets, will be parked between two static display areas: one on the convention center exhibit floor, and a second, larger display at nearby Orlando Executive Airport (ORL).


Participation by key policymakers and influential speakers is a hallmark of NBAA events, and NBAA-BACE will continue this proud tradition. Confirmed speakers at the event's Opening General Session include U.S. Customs and Border Protection (CBP) Commissioner R. Gil Kerlikowske, who has consistently demonstrated his willingness to work with the business aviation community to reduce delays, streamline operations, and facilitate entry into the United States without sacrificing its mission of security.

Also speaking at Tuesday's session will be Pulitzer-prize winning author David McCullough, who will focus on "Lessons in Leadership" in a keynote address aimed at the current and future industry leaders within the business aviation community.



In light of the U.S. presidential election taking place less than a week after NBAA-BACE, political veterans James Carville and Mary Matalin will return to NBAA-BACE to provide their enlightening and entertaining perspectives about the 2016 election year landscape at the Second-Day Opening Session on Wednesday, Nov. 2. Anticipated topics range from the race for the White House, to today's most important political issues, as well as a behind-the-scenes look at Washington politics.

NBAA-BACE will also feature more than 50 education sessions addressing a wide range of regulatory and operational issues, while also providing numerous opportunities for those within the business aviation community to gather with their peers, and engage in conversations about strengthening this vital American industry.

More information about NBAA-BACE is available at www.nbaa.org/bace. 

Retire Me Not

To quit, or not to quit

More than anything else, Jonathan Livingston Seagull loved to fly. This kind of thinking, he found, is not the way to make oneself popular with other birds.

– Richard Bach



airline career, however. I hoped to fly an airplane in which I was familiar and comfortable – like a slow song on a soft couch in front of the fireplace. But, we have a new system to select the trips we fly, new FAA duty time and rest rules, new electronic kitbags, a new labor agreement, new management, lots of new people, a new uniform and now a new airplane to learn. It feels like heavy metal music on a wood bench at the DMV (Dept. of Motor Vehicles). After 45 years of flying, too many ‘news’s can become negative instead of nice. I will need to look beyond the flock, ignoring

As described in *Mad Dog* (T&T June, 2016) the MD-80 is being retired at my carrier. I just received an e-mail from the company making it official: YOU WILL BE DISPLACED FROM YOUR CURRENT BID STATUS TO ORD CA 737 DOM EFFECTIVE 01 OCT. Yes, it was an automated, computer generated message and yes, it was all in caps. Despite my head-in-the-sand optimism, I’m kicked off the MD-80 and assigned to the

737, domestic division, in Chicago. Outcast, banished from the flock – in caps.

I suppose those outside of the industry may think, still, that’s great news, right? Your position at the airline is being deleted but they are offering you a modern airplane and a Captain’s job to boot. And you’d be right; it’s nice to not be put out on the street. And it’s great to still be a captain. It’s not how I pictured the last few years of my



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the crowd of other gulls that can't wait to get out of this business.

At cruise altitude, when the conversation turns to GA and airplane ownership, some of our pilots say the last thing they want to do during their time off is to fly an airplane. So, announcing that I like flying the MD-80 and that I sometimes fly for charity or fun while off-duty is not the way to make this Duke-flying seagull popular with other birds. How could anyone not love to fly airplanes, though? That's just crazy talk. Still, many Part-121 pilots prefer to talk about activities unrelated to airplanes: sports, hunting, fishing, sailing, golf and dozens of others – and that's great. They own and operate businesses ranging from farming and real estate to restaurants, repair shops and beekeeping. Some are physicians, dentists or veterinarians. They compete in sporting events, fishing tournaments and pet shows. They travel in RV's and on snowmobiles. Some are professional investors: traders of stocks, commodities or currency. Some are pilots simply because it generates income – and it certainly does that. But, without some passion for flying, why would anyone endure life on the road, constant training, the regulatory mousetraps, family hardships, ongoing scrutiny of our flying ability and physical condition, with the mighty dollar as the only motivation?

For most gulls, it is not flying that matters, but eating.

For most pilots, money musters motivation just fine. Where's the fun in that? There's a line in the Kevin Costner film *Field of Dreams*. When discussing his love for baseball and why they put up with the hardships, Shoeless Joe Jackson (played by Ray Liotta) describes his love of the game by saying: "... hell, I'd play for free." And so it is for some pilots. In fact, most pilots are not paid to fly at all; they pay to fly. Unfortunately, the charter, check hauling, flight instructing, regional airlines, fractionals, and a multitude

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of other flying jobs, pay quite low, because of our willingness, like the average seagull, to fly for food. So, it may be difficult for those outside the industry to imagine that pilots at the top of their profession, if one considers flying an airliner or biz-jet to be at the top, would not love what they do. Flying a multi-million dollar jet, loaded with top-of-the-line avionics and furnishings, all over the planet and being paid to do it. Sounds

like a dream job. Enjoying the sights, sounds, professional fulfillment, comradery and the glamour. All this, plus the admiration of men, women, children and super-models. Picture Leonardo DiCaprio in *Catch Me if You Can*, walking arm-in-arm with an ensemble of stewardesses. From the outside looking in, this sounds like an accurate, perhaps embellished, description of the profession. From the inside looking out, however, it's quite different.

Four-Stripe Sack of Silly Putty

Closer scrutiny shows flying schedules that push pilots to exhaustion under the "new and improved" rest rules, and a controller shortage that has driven changes to the airspace structure and increased pilot workload. There's life on the road: eating chicken nuggets, living in hotels, and, for the first five seconds of every morning, not knowing where you are. Then there's apologizing to passengers and fellow

employees for things beyond your control that has become part of your everyday duties and responsibilities. In fact, demonstrating the ability to put forth a sincere apology is now part of type ratings – they're going to put it in the practical test standards. For some pilots, the passion for flying has been methodically and systematically beaten out of them by either the system or their employer. It's not the flying part that's not fun, it's everything else. The outside influences are ruthless and relentless – turning savvy, passionate pilots of granite into sad sacks of silly putty. Flying great airplanes for good pay is offset by the misery of public transportation and life on the road. Airline pilots that stopped flying in GA have lost the passion and pure pleasure of private aviation. Most haven't been to Oshkosh, a pancake breakfast or sat in the hangar on a rainy day for many years. It should come as no surprise to T&T readers that,

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despite the distractions of the other seagulls, this rebel bird still enjoys flying – and listening to rain in the hangar. And I still remember the effort needed to get to the top.

The path to an airline career is demanding. While a passion for

flying is helpful, many run out of ambition, ability or money before reaching the goal. In 1990, in order to apply with Southwest, you needed a 737 type rating, military jet time and three letters of recommendation from current Southwest pilots. Delta expected the same military experience but also required that you have 20/20 vision. UPS was unique in that they wanted a “hand-writing sample”. For American, Northwest and United, your application needed an ATP and FE (Flight Engineer) written. All of the airlines required a simulator evaluation – 737, 707 and for UPS a piston-twin Frasca. The interview at AA then involved a three-part physical over several weeks – including sending the company “samples” from home. This was followed by the actual sit-down interview and then, for non-military applicants, a psychological evaluation: “If you could only save one, who would you rescue from a

burning house, your mom or your dad?” Most applicants from the military were offered jobs from several carriers. Many civilian pilots also got offers – except, I imagine, the ones that answered the burning house question wrong, or failed to properly seal the “samples” from home. I remember the jubilation of being offered jobs at the airlines. Contemplating retirement feels like minimizing that process and giving up on the flock.

Reality

In the military and at the airlines, the past and future of your career path is visible through a very predictable seniority system. You can either reminisce or forecast through the careers of others. For all retirees, the transition involves major challenges. Not the least of which is that you are older and your mind and body reflects that reality. The following excerpt is from the operating manual of a zero-turn-

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radius lawn mower. It causes one to consider the parallels to airplanes:

Operators, age 60 and above: Data indicates that operators, age 60 and above, are involved in a large percentage of machine-related injuries. These operators must evaluate their ability to operate the machinesafely enough to protect themselves and others from serious injury.



But way off alone, out by himself beyond boat and shore, Jonathan Livingston Seagull was practicing.

If you love the flying you do, and if you have a choice, don't change a thing – enjoy what you have. And, since my mind and body seem to be holding up pretty well – able to remember my own name and all – and having not run over anyone or lost any body parts to the lawn mower, I should free my mind, like Jonathan Livingston, of the flock's fly-to-eat mentality and keep practicing, learning and enduring the wood bench at the DMV. I should embrace yet another change and move to the next-gen airliner. That's what James T. Kirk would do. There's fun in that, right? After all, why retire and give up the admiration of men, women, children and super-models? Well, at age 60, three out of four ain't bad. **T&T**



Kevin Dingman has been flying for over 40 years. He's an ATP typed in the B737 and DC9 with 21,000 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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Embraer Introduces A New Evolution Of The Phenom 100

On July 27, 2016, Embraer Executive Jets launched an evolution of its entry-level Phenom 100 business jet, the Phenom 100 EV. Featuring a new Prodigy Touch flight deck, based on the Garmin G3000, and modified Pratt & Whitney Canada PW617F1-E engines that offer more speed with superior hot-and-high performance, the Phenom 100 EV will enter the market in the first half of 2017.

The aircraft will enjoy dual launch customers, each with unique operating requirements. Mexico's Across, a premium business aviation services provider, will benefit from the aircraft's hot-and-high performance out of its base at Toluca International Airport (TLC). Emirates Flight Training Academy, the new world-class training facility set up by Emirates Airlines to address the industry's growing demand for pilots, and due to open later this year, recently upgraded its earlier order for five Phenom 100E to the Phenom 100EV, becoming the first flight training organization in the world to train cadet pilots using this platform.


"The Phenom 100 revolutionized the entry-level segment when it set new standards for comfort, performance, and operating costs," said Marco Tulio Pellegrini, President & CEO, Embraer Executive Jets. "The new Phenom 100 EV will deliver even greater performance and operational capability while preserving its low operating and maintenance costs."

The Phenom 100 EV features modified Pratt & Whitney Canada PW617F1-E engines, with 1,730 pounds of thrust, reaching a 405 ktas high speed cruise and up to 15% more thrust at hot-and-high airports, which equates to more range and a faster time to climb. The aircraft has a four-occupant range of 1,178 nautical miles, with NBAA IFR reserves.

The pilot-friendly cockpit enables single-pilot operation, with situational awareness enhanced by the advanced man-machine interface of the touchscreen-controlled Prodigy Touch flight deck, based on the Garmin G3000, featuring larger HD displays, split screen capability, and a new weather radar.

The Phenom 100 EV is the evolution of the roomiest aircraft in its class, bringing interior enhancements, such as a new floor sill that features a straight line design to increase the aisle area, and relocated power outlets with USB chargers. The aircraft offers eleven interior design collections, abundant natural light from large windows, even in the private rear lavatory, a feature typically only seen in larger aircraft, which is also the

case of the refreshment center, the integrated air stair, and the largest baggage compartment in its class.

As of today, close to 350 Phenom 100 jets are operating in 37 countries. For further information, visit www.embraerexecutivejets.com. 

Textron Aviation Debuts Cessna Deanli Single Engine Turboprop

Just one year after announcing it would bring a clean-sheet design single engine turboprop (SETP) to market, Textron Aviation Inc., a Textron Inc. unveiled the Cessna Deanli. A mockup of the aircraft's cabin was displayed alongside a mockup of GE Aviation's all new advanced turboprop engine on July 25, during EAA AirVenture Oshkosh.

"The Cessna Deanli will enter the market as the superior aircraft in its segment," said Kriya Shortt, senior vice president, Sales and Marketing, Textron Aviation. "The Deanli is already garnering interest and commitments because of its winning combination of features, including class-leading performance and ownership costs, as well as the widest and most comfortable cabin in its segment, all backed by an unrivaled global factory-direct service network."

The Cessna Deanli name captures the rugged, yet refined qualities of the high-performance single engine turboprop aircraft. The program is targeted to achieve first flight in 2018; letters of intent are being accepted.

"The Deanli will balance great handling characteristics with the enhanced capability of a high performance turboprop, making it a great step up airplane for piston owners who are ready for more performance," said Shortt.

A high-performance, clean-sheet design

The clean-sheet Cessna Deanli is being designed to outperform its competition in capability, pilot interface and ownership costs. Engineered to achieve cruise speeds of 285 knots and full-fuel payload of 1,100 pounds, the Deanli will have a range of 1,600 nautical miles at high speed cruise with one pilot and four passengers and will be able to fly from Los Angeles to Chicago, New York to Miami, or London to Moscow.

"Simply put, no aircraft in this class even comes close to the Cessna Deanli. We are confident the Deanli will quickly rise as the leader in the high-performance single engine turboprop market," said Shortt.

The Deanli will be powered by GE's new advanced turboprop engine. The FADEC-equipped, 1,240 shp-rated turboprop engine will ease pilot workload with its single-lever power and propeller control. The airplane




will be equipped with McCauley's new 105-inch diameter composite, 5-blade, constant speed propeller, which is full feathering with reversible pitch and ice protection. The engine is designed to provide an initial 4,000-hour time between overhaul and offer class-leading performance retention for an outstanding hot/high capability.

The Denali will feature the Garmin G3000 intuitive touchscreen avionics suite and will include high-resolution multifunction displays and split-screen capability. The G3000 flight deck will include weather radar, advanced Terrain Awareness Warning Systems (TAWS), and automatic dependent surveillance-broadcast (ADS-B) capabilities, which will make it compliant with a significant aspect of future Next Generation air traffic control requirements.

Leading the passenger experience

The Cessna Denali's flat floor cabin is designed to be the largest in its segment and will offer the versatility to easily convert between passenger and cargo configurations. The aircraft will feature a class-leading 53-inch wide by 59-inch high aft cargo door, perfect for loading large cargo and ideal for use in many special mission applications.

The Denali's cabin will feature a standard seating configuration of six individual reclining seats and will offer a nine-place high density seating option. The aircraft will boast a digital pressurization system maintaining a 6,130 foot cabin altitude at a service ceiling of 31,000 feet. First in this class of aircraft, the Denali will offer customers an optional externally-serviceable belted lavatory with pocket door enclosure that is located in the back of the cabin. Denali customers will also enjoy the large cabin windows, interior LED lighting, a forward refreshment cabinet and an in-flight accessible baggage compartment.


Along with a five-year limited warranty covering the airframe, engine and avionics, Denali customers can enroll in Textron Aviation's industry leading ProAdvantage programs that have been designed to provide customers lower, predictable ownership costs, while enhancing aircraft values through comprehensive factory-direct maintenance. Information: www.txtav.com 

Daher Launches "Elite Privacy" TBM Lavatory Enclosure

On July 26, 2016, Daher announced a major new enhancement for its TBM very fast turboprop, offering the quick-change option of a lavatory compartment to be available for new-production aircraft from 2017. The "Elite Privacy" configuration integrates a lavatory area into the TBM's aft fuselage. It serves as a non-belted bench-type seat with a low divider wall when not in use, and converts to a fully private toilet compartment at the simple touch of a button.

Two electric motors drive a deployable multi-segment partition with an anti-lock door to ensure privacy, and the compartment includes a large courtesy mirror that illuminates automatically. Built using lightweight, resistant composite materials and cabin soundproofing, the "Elite Privacy" compartment weighs only 90 pounds and can be installed/removed by a mechanic in 30 minutes – converting the TBM cabin's standard six-seat layout to a four-passenger configuration.

"This latest evolution offers our operators a private, fully functional toilet compartment, which will be appreciated by pilot/owners who use the TBM's long-range capabilities, and by the increasing number of charter operators that are performing commercial flights with the aircraft," explained Nicolas Chabbert, Senior Vice President of the Daher Airplane Business Unit. Chabbert said the TBM Elite Privacy arrangement results from a year-plus-long project involving the Daher Airplane Business Unit's engineering and style-design teams. "It is an excellent demonstration of Daher's commitment to continue evolving the TBM family in response to our customers' operational requirements."

The Elite Privacy installation's 29-inch-long bench seat section is aligned along the aft fuselage's right wall. When not being used in the lavatory configuration, its compact design enables easy passenger circulation from the forward seats to the rear luggage zone. To ensure style continuity within the cabin, Elite Privacy installations will match the customers' interior color selection, with its leather finish complemented by stitching and carbon trim for the bottom fittings. The closure's door is made of ultralightweight carbon fiber, and an area carpet tailored for the compartment's use as a lavatory is also provided. For information, visit www.tbm.aero 



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Spring Training

By Kevin Ware

Professional baseball players have required annual training, which is commonly completed in the spring in a warm, sunny location, on green grass and with attractive onlookers staring admiringly through the fence. Jet pilots also have required annual training, but it almost always scheduled in some frozen, dark mid-western state in the middle of winter, or a blisteringly hot and sweaty desert one in the middle of summer. And, rather than training out in the open with a nice breeze blowing, the practice field is most often an aircraft “simulator”, which is a 6x6-foot black box, with some ugly curmudgeon sitting in the back chewing gum and making the occasional comment about your lack of professional flying skills.

All of us having endured this very expensive, FAR Part 142 type black-box unpleasantness more often than we wish to remember, when a CJ2 came into the fleet this spring, the small group of professional pilots I fly with decided to run our own “in house” annual training program in the actual airplane. We also decided to do this in the sunny, spring month of May right at our home airport, thus not only avoiding the dreaded “black box”, but also the inevitable stay at one of those infamous chain hotels with the “free” powdered scrambled egg breakfasts.

It turns out that devising your own initial or re-current annual jet aircraft training program, acceptable to both the insurance company and the FAA, is just not that simple. The insurance companies usually want to see several days of formal ground school in which the airplane’s systems and operational limitations are reviewed, plus some flight training in the airplane (or simulator) leading to the satisfactory completion of an FAR 61.58 check ride. The FAA itself just requires completion of the FAR 61.58 check ride, but that is no easy thing either. A “61.58 ride” basically involves satisfactorily completing the entire ATP checkride, while being observed by a Designated Pilot Examiner (DPE) approved and current in the aircraft...an exceedingly rare species...or an actual FAA inspector...a species now almost extinct.

The formal ground school problem we resolved by putting together an audio-visual program which included the airplane’s Pilot Operating Handbook, plus various diagrams, and memory item checklists we had collectively accumulated over time. The three of us then reviewed this material in a class-room type setting over a period of several days, at the end of which we self-administered a 14-page list of checkride-type questions one of us had acquired from a friend in that business.

At the end of all this, we felt pretty well prepared for the oral portion of the check ride.

For the flying part, we were lucky to have Mike Freeman (*thedeltapilot@gmail.com*) a friend, local fellow CFI, and retired airline pilot who does a lot of insurance-approved light jet training, volunteer to be the flight instructor. Mike in turn was acquainted with Kevin Rothfus (*kevin@rothfus.com*), a DPE based out of Chino, California (CNO), and one of the very few on the West Coast authorized and current to give checkrides in a CJ. Because a DPE is generally required to administer checkrides only in his region, we needed to fly the CJ down to California from Washington State, but Mike somehow managed to get all of the required checkrides scheduled with Rothfus on a Saturday and Sunday, which made the logistics much easier.

And so with all this well organized, on a nice sunny spring morning, I take off in the CJ out of Bellingham, climb through 50 feet, call out “positive rate” and pull up the landing gear, and then hear one of the CJ2’s Williams F44 engines in the back start to spool down. The airplane feels like someone just applied the brakes and at the same time, it starts a right turn, all on its own. My conscious brain is urgently trying to figure out what happened when my left thigh muscles tighten spontaneously, pushing my foot on the left rudder down to the floor (it’s called a “neuromotor reflex”, and is



one of the goals of good training). Finally, after what seems like an hour, my brain kicks in with the brilliant cognitive observation “dead foot, dead engine”, and I think, “aha, it must be the right engine that instructor Freeman just pulled back”, and glance at the N2 gauges then the throttle quadrant to confirm this epiphany. Yep, I am right. Now all I have to do is maintain about a 10 degree nose up attitude, and airspeed at V2 until reaching 400 feet, which is where I can add 10 knots and pull up the flaps, then at 1,500 feet I can turn on the autopilot and relax a little.



But, after passing 400 feet, I decide to use rudder trim not only to relieve some of the load on my aching leg, but also demonstrate just how truly sophisticated I am at this stuff. Big mistake! When reaching for the aft-facing rudder trim on the back of the center console, my brain does one of those mirror image things, which results in my right hand turning the knob in the opposite direction from that required; this not only increases the rudder pressure, but also puts the airplane even more out of trim than it was before. As this happens, I hear loud cat calls and raucous laughter from Tim and Roger, my two fellow-pilot, training-victim/buddies in the back seat who were clearly having way too much fun.

Finally, after several days of mutual airborne embarrassment, we all satisfactorily complete the flight training to Freeman’s satisfaction and on Friday evening fly the CJ down to CNO. At 0800 the next morning we are standing around the airplane on the ramp in the hot Chino sun when Rothfus shows up and in a very friendly fashion, introduces himself all around.

He and Mike Freeman quite obviously know each other, and have a pleasant conversation reminiscing about old times, airline flying, and strangely enough, antique John Deere farm tractors.

Initial social niceties over, we go into an air-conditioned classroom in the back of the hangar where Rothfus begins working his way through a very tedious and long FAA computer program before being able to start the official proceedings. It soon becomes apparent that because I completed and sent in the IACRA form first, and also planned to add the 'single pilot' additional qualification to my existing CJ rating, I am the lucky guy to go first. Finally, at 08:40, all the FAA computer preliminaries are filled out, and Rothfus formally puts me on notice that "the test has begun".


He then returns to his laptop, pulls up the ATP Practical Test Standard (PTS), and begins to methodically ask about all the



checkride in an older Cessna 414, with its six power control levers, cowl flaps, lack of a flight director, and randomly-scattered switches. The CJ, by comparison, was actually designed with solo pilot operations in mind, so everything is within easy reach and clearly labeled. You can leave the two lonely power levers set at about 65% for most of the ride, and use about 100 and 110 knots as reference speeds, and it will generally work out just fine. Use of the autopilot is also encouraged, with the lack of one being a grounding item for single pilot operations.

Returning from completing all the airborne items required by the PTS in very crowded, hot and bumpy Southern California airspace, Rothfus seems to conclude I had not scared him too badly and announces that I had indeed passed.

The next day when all our checkrides were over, Rothfus invites us over to his house for the evening. We arrive to find he does indeed have a garage full of perfectly-restored antique John Deere farm tractors. Having apparently already drawn some conclusions about our competence, he has us crank them all up and sally out in caravan fashion, waving like parade participants to envious onlookers in the neighborhood. Upon return, between telling flying stories of dubious veracity, we finish off a keg of cold beer, an extensive BBQ, and fresh strawberries and ice cream, nicely put together by his attractive wife.

In the morning, black box nightmares now a distant memory and FAR 61.58 fully qualified in the CJ for another year, we fly the airplane home in spring weather so clear you could almost see the Canadian border from California. Ground-bound baseball players just don't get to do things like this... maybe jet pilot annual training isn't that bad after all. 

"elements" and "tasks" outlined in that document. Although I knew most of the answers from our earlier ground school, the computer-based format and test terminology were somewhat of a new experience for me. When we finished with this, he hands me the "Airport and Runway Markings" test currently in vogue with the FAA, which, having just renewed my CFI, I do reasonably well on. All this "oral exam" portion of the checkride takes until nearly noon, by which time I have gone through two bottles of water, and definitely need a trip to the head before being ready to fly.

The flight portion of the CJ single-pilot ATP check ride is somewhat more challenging than the two-pilot version, but, nevertheless, I think much simpler than taking the same



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Six Things You Simply M

by David Miller

It's not Christmas yet, but I've been thinking about the kind of presents every pilot should have in his/her cockpit. Things that dramatically improve our ability to safely operate our flying machines. Most of the items on my list didn't even exist twenty years ago. Here we go:

1 FADEC

This one and something every turbine operator should have. Having a virtually fool-proof "second pilot" to set the proper power setting without exceeding engine limitations is extremely helpful. And although we are still ultimately responsible for engine operation, FADEC allows us to focus more attention outside the cockpit, especially on takeoff. I can still remember pulling out the laminated performance charts every 10,000 feet to check temperature and set power. So eighties! Once you experience FADEC you will likely never go back.

2 EFIS

Some of you have never flown a non-EFIS airplane. This makes me feel very sad. And very old. Prior to the flat screen display, I spent so

many hours wondering which side of the course I was on, it would make your gyro spin. Today, the phrase, "where the heck am I?" is seldom heard in a full EFIS-equipped airplane. Twenty years ago, that was usually the first thing I said after takeoff. It went something like this. "Power set, airspeed alive, rotate, gear up, where the heck am I?" From a safety standpoint, the reliability of these non-vacuum pump systems has increased safety immensely. I can't imagine flying without EFIS.

3 SIRIUS XM/NEXRAD WEATHER

When was the last time you called Flight Service from your airplane? Are they still in business? We used to take off with outdated weather and land with the latest outdated weather. No news was good news. Until it wasn't. Today, I have virtually unlimited access to METARS, TAF's, PIREPS, SIGMETS, AIRMETS, even Patty's grocery list. It's mind boggling. I can study the composite radar picture a thousand miles from my destination while still on the ground, and make strategic route decisions from my cell phone in the FBO bathroom. Don't tell me you haven't done this.

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Must Have in Your Airplane

4 VNAV

Get more comfortable using this one. It could be your “stay out of jail card.” Flying in airspace around major hubs is getting more challenging every day. “November 921 X-ray Tango, descend via the JFRYE 3 arrival except cross GREGS at one-one thousand.” On RNAV arrivals there are mandatory speeds, altitudes, block altitudes and more that can overload your “personal computer” and ruin your day. Add weather and any abnormality and you can easily make a mistake. The kind of mistake that gets you a “call this number “ from the controller. With the software capabilities of VNAV however, it’s a matter of programming the FMS and monitoring the autopilot’s performance, dramatically reducing the chances of a “close encounter” with the FAA. Plus, using VNAV allows you more “head out of cockpit” time.

5 TCAS

Aren’t you amazed at how much traffic you never see? Twenty years ago, my traffic avoidance system was normally Patty saying, “Did you see that guy, he was really close!” Today, I get a more formal warning, “Traffic, Traffic” with a growing yellow ball depicting the airplane and his relative altitude. And for about \$100,000 extra (in the case of the Citation M2) you can buy the ultimate: TCAS2. This system analyzes the relative position and speed of each transponder-equipped airplane and actually commands you to climb, descend, or monitor your present altitude until the conflict is resolved.

Don’t think it’s worth a hundred grand? I didn’t until recently. Descending into Mesquite, TX (KHQZ) in visual conditions at 3,000 feet, Regional Approach called out traffic 500 feet below. I saw it on the display at 400 feet, closing, and not in radio contact with the controller. First, came the “TRAFFIC, TRAFFIC” call. Now, less than a mile away, it was time to do something. Simultaneously with the controller’s order to climb 1,000 feet, my PFD lit up with red command bars showing an immediate climb and the loud instruction, “CLIMB, CLIMB.”

Climb we did as the traffic passed several hundred feet below. Would we have collided without the RA (resolution advisory)? I will never know, but I was really glad to have the extra computer on board that day. And my passengers were too.

6 GEO-REFERENCED CHARTS

I used to draw my little airplane on the charts. It was fun but never accurate. And I had trouble finding a magenta crayon. Today, I clearly see my little airplane everywhere. For me, this is most helpful during taxiing, when the ground controller (while pissed off and eating potato chips) says, “November 921 X-ray Tango, right on Alpha, left on Charlie, Delta, Romeo, cross 22 Left, hold short of the right.” All I have to do is quickly write this down, scroll in the range on MFD map, and follow my little magenta airplane.

All while eating potato chips.

Did I miss anything?

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It'll Be Hot on Bourbon Street

CJP Brings its Annual Convention to New Orleans

By Rob Finrock

From its first gathering in 2009, the Citation Jet Pilots Owner/Pilot Association (CJP) has always strived to bring its members the most impressive, entertaining and educational annual conventions in the owner-flown aviation community. For the 2016 convention, more than 400 Citation owners, operators and pilots will gather at the fabled Roosevelt Waldorf Astoria Hotel in New Orleans, Louisiana from October 19-23, marking three full days of excitement, information, and – above all – fun!

Originally opened in 1893, the Roosevelt is a landmark hotel that is close to New Orleans nightlife, dining and culture, providing an elegant sanctuary in a vibrant Mardi Gras town. The Roosevelt reopened in 2009, following an extensive restoration in the aftermath of Hurricane Katrina, and today serves as a hallmark of its city's resurgent spirit, with furnishings and grandeur recalling the hotel's heyday in the 1920s and 1930s.

Experiencing an equally impressive comeback from Katrina's devastation is New Orleans Lakefront Airport (KNEW), home to this year's host FBO, FlightLine Services. As in years past, CJP has negotiated the waiving of landing, ramp or overnight fees for Convention attendees, in addition to a special CJP rate for Jet-A.

"CJP is excited to bring our annual gathering to 'The Big Easy,' where our members will share in the excitement of the French Quarter and Bourbon Street with their fellow Citation owners and pilots, all

while experiencing a diverse mix of educational and entertainment opportunities," noted CJP Chairman David Miller.

Educational Opportunities Abound

CJP events always feature a robust mix of engaging and educational presentations. This year's roster of speakers includes a mix of popular returning presenters – including CFII Neil Singer, CJ3 instructor and ProFlight Part 135 Compliance Manager Chuck Hosmer, and Boeing 747-400 captain Dann Runik, who recently served as executive director for advanced training at FlightSafety – along with former 20-year NTSB investigator Greg Feith, who will provide an overview of Citation accident and safety data.

Another featured speaker for CJP 2016 will be Jessica Cox, who has overcome the challenge of being born without arms to earn a college degree and a Taekwondo black belt, as well as learning to operate a car – and, in 2008, earning her pilot's license – by using her feet.

Following extremely positive reception at the 2014 and 2015 CJP Conventions, for 2016 CJP has further expanded the roster of opportunities for attendees to share experiences with their fellow CJP members. These include roundtable discussions focused on operator issues, as well as specific Citation airframes and avionics. In addition, more than 40 vendor displays will highlight the latest products and services available to the Citation owner community.

The annual CJP Live Auction supports many charitable activities, including the CJP Bob Hoover Presidential Scholarship that is presented annually to two Embry-Riddle Aeronautical University students. Proceeds also go towards other CJP programs, such as the Russ Meyer Citation Library (RMCL), a unique online resource that will provide unparalleled operational, maintenance, and safety information for CJP Members, and CJP's support for various youth and veterans' initiatives.

"We are always looking for innovative ways to enhance the experience for everyone attending the CJP Annual Convention," explained CJP President Russell Boyd. "What we have planned for 2016 is so amazing that the event even has its own app. Attendees will have access to real-time schedule updates, speaker information, photos, and activities about all-things CJP, right on their mobile device."

Expanded Focus on Companion Activities in 2016

CJP has also ensured that non-flying spouses and partners, or Companions, have plenty of interesting and exciting activities during their stay. "Our aim is to build on our experience from previous years, and develop a program that makes the CJP Annual Convention the aviation meeting that Companions look forward to most each year," Boyd added. "Our industry partners

have really stepped up to help us take the Companion experience to the next level this year. CJP sincerely appreciates their support, and we can't wait for everyone to experience what the team has put together."

Returning for 2016 after an extremely well-regarded introduction at last year's Convention is the Jet Design Experience, offering the opportunity to let your creativity soar as you specify your own custom aircraft interior and exterior paint scheme, under the guidance of the industry-leading Textron Aviation Design team.


For the second year in a row, Textron Aviation will bring acclaimed chef, restaurateur, author, and television host Guy Fieri to CJP, where he will host an exciting and thoroughly enjoyable interactive cooking experience, introducing Companions to a variety of bayou favorites in an exciting opportunity to work alongside one of today's most prolific and well-regarded chefs.

Fieri's cuisine will also be featured at the Friday Night Hangar Party at KNEW, hosted by Textron Aviation, spotlighting the aircraft product line against the backdrop of tastes and sounds that can only be found in New Orleans.

In what has become a CJP Annual Convention tradition, jetAVIVA CEO Cyrus Sigari will return to teach his 2-hour Companion Ground School, and jetAVIVA instructor pilots will also be on hand for the Companion Flying Training Course. These courses are designed to enable Companions to be more comfortable in the flying environment, refresh the principles of the pinch hitter course, and increase Companion safety and knowledge of their model of aircraft.

Saturday evening, CJP attendees and their Companions will experience an exclusive private tour of the National WWII Museum, showcasing why the war was fought, how it was won, and why it matters today. Opened on June 6, 2006 as the National D-Day Museum and founded by author and historian Stephen Ambrose, the museum was officially designated by Congress as the National WWII Museum and aims to ensure that all generations will understand the price of freedom and be inspired.

"Every year, CJP looks to build upon our previous successes to bring our Members the most interesting, entertaining, and informative annual Convention of any owner/pilot group," Miller concluded. "We fully expect that the 2016 CJP annual Convention will be THE premier aircraft owner meeting this year, and we encourage anyone who's been on the fence about joining our association to sign up now and experience these and other impressive benefits of being part of CJP."

For more information and to register for CJP 2016 in New Orleans, visit www.citationjetpilots.com/cjp-2016-annual-convention-october-19-23. 



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Hold That Thought

When you can't land – Teardrop, Direct or Parallel

Air Force instrument training was old-school: manual systems, old avionics and an all-in-one HSI/RMI. The entry position at my airline was as a Flight Engineer on the B-727. In those days, new-hire hazing – I mean, training--was administered by old-school flight engineers in an aircraft with exclusively antique systems and avionics. While the teaching etiquette of the MD-80 instructors was more politically correct, the focus remained on antique avionics. The need for an understanding, or at least an appreciation, of those antique navigational instruments is now fading away, but it's not gone yet. We were recently given an old-school clearance from ATC and some of that old-school knowledge proved useful.

Snow plowing, extreme weather and incidents such as a blown tire or a VIP event are the most common reasons for a short-notice airport closure. But, I've also encountered unusual reasons like earthquakes, forest fires and social unrest. Closures due to extreme weather are not only common, but happen every day. ATC knows that we don't like to hold (and we're sometimes not very good at it) and it's more work for them to construct multiple patterns, so they normally issue speed assignments and radar vectors to avoid holding. But, inevitably, a few aircraft will need to hold for a closure. During our arrival into RDU, a T-storm overhead closed the field. The rain shower and resultant low visibility were not necessarily a show stopper, but the announcement of microbursts was. We have corporate guidance relative to windshear and

microbursts at my carrier. At the captain's discretion, windshear is a "proceed with caution" event, if the report is not referenced to the landing runway. A microburst alert at any location on the field requires an immediate go-around, hold or a diversion to an alternate.

Straight out of a simulator exercise

The holding clearance we received was old-school: Hold east, on the RDU 095 degree radial, 35 mile fix, left turns, ten mile legs, EFC 2140. The approach controller had used his picture of the weather and our location to build a pattern outside of the rain showers – he was doing us a favor and he got it right. But, the clearance to make this happen was straight out of a simulator exercise. Nowadays, holding is almost exclusively issued at a published fix that has a published holding pattern. "Cleared direct to OCRAP, hold as published, EFC 2140." If not to a

fix with a published pattern, then to a published fix with a follow-on description of the desired pattern at the fix. Very seldom is the pattern defined using an antique and inaccurate reference such as a VOR, NDB, marker beacon or Grandma Mollie's clothes-line pole.

Sorry, but you have to memorize four components to get the holding problem right: speed, direction of turns in the hold, entry procedures, and timing (or leg lengths). In the U.S., the **maximum** speeds (you can hold slower if you want) are: 200 kts below 6k, 230 kts 6,001 to 14,000 and 265 kts from 14,001 and up. Timing is one minute inbound below 14k, and 1-1/2 minutes above 14k. If not issued a holding leg length they expect you to use time. I will always ask for a distance instead of a time because it's easier. And because holding isn't confusing enough already, ICAO (Mexico uses ICAO), Canada, and military holding speeds are different from each other and the U.S. So, look them up before you leave the country and put a sticky note on your forehead. The big thing that will help with holding is to remember there is a "protected" side which is on the holding side of the





radial, and an unprotected side. If you fumble around on the protected side it's mostly okay. Fumbling around on the unprotected side is bad. Holding speeds, direction of turns, timing or distance and entry techniques are all designed to keep you in the chunk of airspace that is protected on the holding side.

T-D-P

Figuring out how to enter a holding pattern was my nemesis for years. There are many manuals, study guides and instructor techniques that explain how to enter a holding pattern. I've heard most of them and tried to find one that I could remember ... and failed


miserably. With hopeful optimism and humility I offer the one that finally made sense and stuck with me: T-D-P. Tear-drop-Direct-Parallel. I bought an HPC-2 from ASA (yes, the airline pilot needed a visual aid). It's a hand-held card depicting left and right holding patterns with a clear rotating compass card. Remember the letters T-D-P in that order and that standard turns are to the right and non-standard to the left. For standard, right turn holding, picture an HSI divided in half with the line starting 70 degrees RIGHT from your heading. If your heading is 360, the line starts at 070 and slices over to 250.

You put the T in the 70-degree wedge, you put the D below it in the bigger 180-degree wedge and finally, the P in the remaining small wedge. Now, put the holding radial on the HSI and see which wedge it is in. For non-standard, LEFT turns, the line dividing the HSI in half starts at 70 degrees LEFT of your heading. Which, if headed 360, is 290 and slices over to 110. The T goes in the 70-degree wedge again, the D below it in the bigger 180-degree wedge again and finally, the P in the remaining small wedge. Put in the holding radial and, voilà! Don't forget to slow down if needed and report entering the hold. I know, it's painful. I hate holding problems too.

Loading a holding fix and pattern into the MD-80's GFMS takes about ten seconds if the hold is at a published fix and, because of proficiency, it takes


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about thirty years if it's a radial/DME fix holding pattern. If ATC gives you a short-notice hold, one that is close, you may wish you were flying something slow. But flying your jet at 250 kts ground, or faster, makes things happen fast. When we were issued the nearby holding fix by RDU approach, I quickly recognized our time-crunch dilemma and instinctively fell back to the old-school, tried-and-true method. I switched my NAV from GPS to VOR, set in the radial and checked the DME. I did a quick fix-to-fix calculation the way they taught us in the Air Force, using DME and the VOR bearing pointer on the RMI (Radio Magnetic Indicator). The holding pattern was close: twenty degrees to the right and four miles away – too close to load the GFMS.

We were at 6,000 feet and 250 kts, so I called for slats, pulled the throttles to idle, slowed to about 200

kts and turned a bit to the right. I pictured the hold using T-D-P on the HSI, and at 35 DME, entered the hold via a parallel entry and watched the DME increase. My FO created a GPS waypoint at the radial/DME clearance fix, used that point as the holding fix, and built the holding pattern in the GFMS. At 45 DME I turned right onto the protected side of the radial and headed back to the radial at a 40-degree intercept. I tracked the radial inbound and at 35 DME turned left into the hold – just the way the picture appeared on the NAV display a couple seconds later. Whew, we got it right. After just two turns in the hold, and after the autopilot failed during the approach, I hand-flew the ILS through the rain, wipers at medium speed to a 400/2 landing. Once parked at the gate we looked at each other and chuckled as we had a moment of “holy cow” about the holding pattern and the ILS. It was work ... but fun!

Another Sticky Note

Holding is a part of instrument procedures, just as much as an approach, but the frequency of a holding event is extremely low. And lack of frequency causes lack of proficiency. The same is true of non-ILS approaches: RNAV, GPS, VOR, ADF and LOC BC. In the Part-121 world, we fly an ILS 99% of the time and we are very proficient. A non-ILS, not so much. And we are issued holding perhaps two or three times per year and are probably not so proficient at that either – especially if referenced to a VOR, NDB or clothes-line pole. I'm moving from the MD-80 to the 737 soon with all of its modern avionics, a HUD and other magical approach and holding capabilities. But, I bet it doesn't have an RMI – guess there'll be another sticky note on my forehead. **CJ**



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CJP Appoints Andrew Broom as Executive Director

The Citation Jet Pilots Owner Pilot Association (CJP) Board of Directors is pleased to announce the appointment of Andrew Broom as the organization's Executive Director. Broom's appointment was approved during a board meeting on July 27th at EAA AirVenture in Oshkosh, Wisconsin.




"A methodical search process and two months of interviews concluded in Oshkosh with a unanimous vote by the CJP Board of Directors to offer the position of Executive Director to Andrew Broom," said CJP's Chairman of the Board David Miller. "Andrew is an accomplished aviation leader with executive experience at both aircraft manufacturers and associations, and we are thrilled that he will be helping us strengthen the world's premier Citation owner-pilot organization."

He joins CJP after most recently launching the HondaJet for Honda Aircraft Company, where he led all marketing and communications efforts globally since 2012. Prior to Honda, he was Vice President of Communications and Outreach at the Aircraft Owners and Pilots Association (AOPA) and had responsibilities

that included advocacy programs, efforts to grow the pilot population, and the annual AOPA Aviation Summit. Broom has also worked at Hawker Beechcraft, Eclipse Aviation, the General Aviation Manufacturers Association (GAMA), and Embry-Riddle Aeronautical University. He earned both a BS in Aeronautical Science and an MBA from Embry-Riddle, and completed his Certified Flight Instructor and Instrument Instructor ratings.

"I am excited to apply my aviation experience and passion to help CJP continue to deliver the best value proposition for our members," said Broom. "This is an amazing group of Citation owner pilots and I am committed to building personal relationships with our board, each member, and our partners to successfully deliver CJP's mission and goals."

"CJP continues forward in our mission to provide advocacy for our membership while enhancing the safety and value of Citation ownership," said CJP's President Dr. Russell Boyd. "Andrew brings industry experience, business insight, and an incredible amount of energy and enthusiasm to the position of Executive Director," concluded Boyd. For more information visit www.citationjetpilots.com. 

Send Solutions, LLC Receives FAA Supplemental Type Certificate (STC)


Airtext™ solves the problem of staying connected electronically without the high cost of a traditional internet option.

Send Solutions, LLC announced on June 24, 2016 the receipt of STC approval for the installation of the "Airtext" passenger Iridium Texting Systems on Textron Aviation Inc.'s Cessna 750 (Citation X).

Airtext allows up to 16 passengers the ability to send and receive SMS messages, as well as emoji's, whether in flight or on the ground, anywhere in the world for essentially five cents a message. Using the iridium

satellite network, Airtext has designed a product that allows connectivity through your cell phone while on the airplane. Messages are quick and delivered to the appropriate device. Using new technology BLE (Bluetooth Low Energy) found in modern phones, the passengers open a free application loaded on their phone giving them access to Airtext.

The hardware consists of a small "paperback" sized box weighing 1.1 pounds that is installed on the airplane and connects to the existing iridium phone antenna found on most airplanes. Then, utilizing a simple switch, the operator can change from voice mode to data mode for messaging. Hardware cost is \$9,750 plus install, data costs vary depending upon usage and three packages (small, medium or large) are available, based on five cents per message.

Airtext is available for immediate shipment through authorized Avionics Dealers. The free Airtext app is available for iOS and Android devices and can be downloaded from the respective app stores. Visit www.airtext.aero for additional information. 



Executive AirShare Moving Into New Wichita Facility

Growth in the air is leading to growth on the ground for Executive AirShare at its original base of operations. The nation's third-largest fractional aircraft provider has broken ground on a new facility at Wichita's Col. James Jabara Airport (AAO). It will provide greater efficiency for the company and its shareowners.

Executive AirShare, founded in Wichita in 2000, earlier this year signed a seven-year lease with Midwest Corporate Aviation for more than 27,000 square feet of hangar space at Jabara, on the city's east side. In addition to hangar renovations, EAS is constructing a new 7,000-square-foot office adjacent to the hangars for its Wichita staff. When the office opens this fall, Executive AirShare will transfer all of its team members, maintenance control and support staff from Wichita Dwight D. Eisenhower National Airport (ICT) to Jabara.

"With 95 percent of our flight activity going in and out of Jabara, this move takes advantage of



proximity efficiencies, streamlining the shareowners' experience," says Harry Mitchel, Executive AirShare's chief operating officer. "All of our Wichita logistics – maintenance work, fleet inspection, scheduling and recordkeeping – will become more effective at Jabara. It just makes sense to have everything in one place and that's at the home of Wichita's primary executive and business aviation destination."

The Jabara facility offers 35 percent more hangar space than its current facility at Eisenhower National Airport,

located on the city's southwest side. The Wichita move follows a facility upgrade at Executive AirShare's base at Fort Worth Meacham International Airport in 2015 and the company's move to its new headquarters in Lenexa, Kansas, in April.

"Wichita's upgrade keeps our company's trajectory upward," says Keith Plumb, Executive AirShare president and CEO. "It strengthens our commitment to provide the



*Keith Plumb
Executive CEO*



*Harry Mitchel
Executive COO*

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Executive AirShare currently serves the Central U.S. and Great Lakes regions, operating a fleet of Bombardier Learjet 45XR, Embraer Phenom 300 and Phenom 100, Cessna Citation CJ2+, and Beechcraft King Air 350i aircraft. Executive AirShare also offers aircraft management and charter services through its subsidiary, Executive Flight Services. For more information about Executive AirShare and its services, please visit www.execairshare.com. 


Honda Aircraft Company Receives FAA Production Certificate

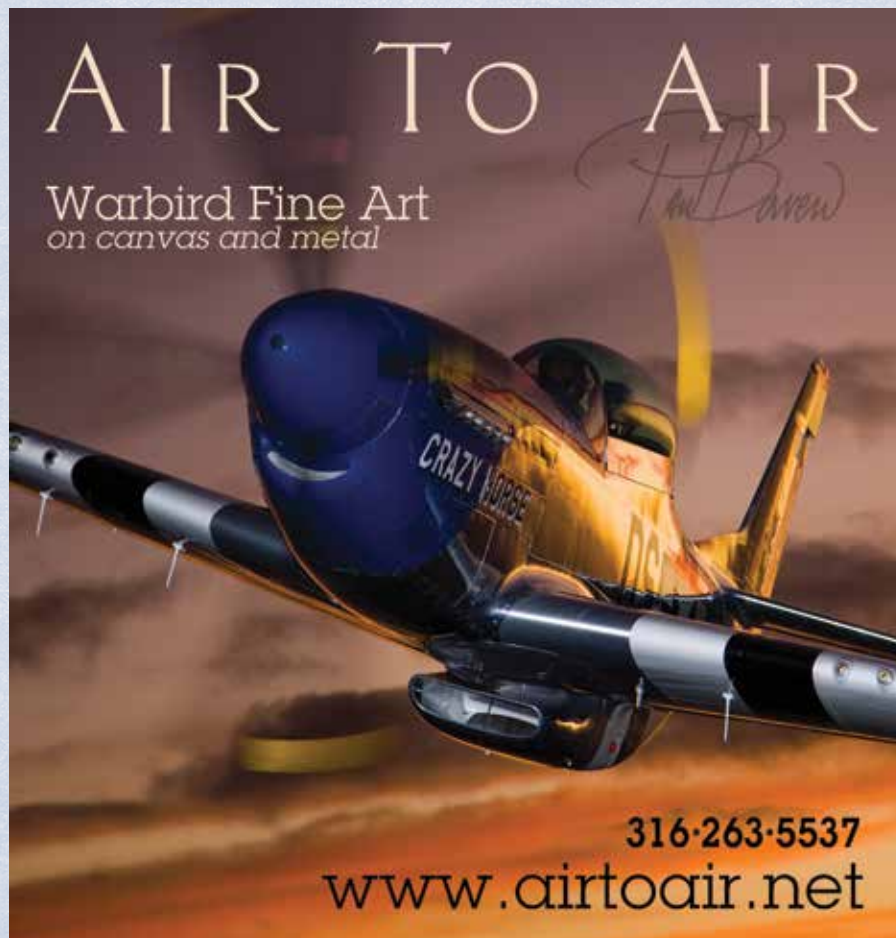
On July 11, 2016, Honda Aircraft Company announced that it has earned a Production Certificate from the United States Federal Aviation Administration (FAA). Honda Aircraft Company is building the HA-420 HondaJet, an advanced light jet, at its world headquarters in Greensboro, North Carolina.

Melvin Johnson, FAA Small Aircraft Directorate Manager for the Central Region, presented the Production Certificate to Honda Aircraft Company during a special celebration with its associates and FAA officials on Friday, July 8.

“This is a great achievement for our company as an aircraft manufacturer, and it is a very important milestone for ramping up production. Honda Aircraft has demonstrated our commitment to build aircraft of the highest quality and that meet stringent safety requirements,” said Honda Aircraft Company President and CEO Michimasa Fujino. “We also want to recognize the strong collaboration with the FAA during this rigorous approval process.”

The Production Certificate grants Honda Aircraft the authorization to produce, flight test and issue airworthiness certificates for the HondaJet for customer deliveries. “Honda’s commitment of time, resources and people, and with the adherence to FAA regulations and guidance has provided Honda Aircraft Company the privilege to be awarded a Production Certificate for the HA-420 HondaJet,” said Greg Benson, Manager of the FAA’s Manufacturing Inspection District Office in Atlanta. “Honda Aircraft Company’s continued commitment to quality and safety will solidify its place within the aviation industry. This is certainly a commemorative moment for both Honda Aircraft and the FAA.”

Honda Aircraft has been steadily ramping up production since receiving FAA type certification for the HondaJet last year. For more information about the HondaJet, visit www.HondaJet.com. 



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by David Miller

Just A Normal Flight

“November one eight six five Charlie, you are cleared to the India CharlieTango airport, after departure turn left zero five zero, radar vectors Texoma Four departure. Climb and maintain two thousand, expect flight level three two zero, ten minutes after departure. Departure control one two four point three, squawk three seven eight four.”

My passenger, Curt, showed up right on time. The weather on both ends was clear and perfect.

KADS 15008 13SM SCT250 21/05 30.05 KICT 19018G26 CLR 19/00 29.97

We started engines, ran the checklist, flashed the landing lights to Hanna the ramp marshal, and slowly moved forward toward the taxiway. It was a completely normal start to a completely routine flight.

Except it wasn't. It was my last flight in N1865 Charlie. I was selling my airplane.

Ten years ago, I sold my business. Patty and I celebrated. I bought a 2002 C90 King Air. Then in 2007 a brand new Mustang.

We even survived the stock market crash of 2008. In 2012, I upgraded airplanes to a CJ1+. We kept our money invested in the stock market. Surely things wouldn't get that bad again. But the several trillion dollar decline late last year finally got my attention.

As we lifted off runway 15 at KADS (Addison, TX) on the way to the Cessna service center, it began to sink in. Owning 100% of a private jet didn't make sense. I know I have been very fortunate. Those of us lucky enough to own an airplane, no matter what type, are in a rare group. We get to see the world from an incredible perch. We ride our magic carpets all over the world. Sometimes we give back by flying wounded warriors or endangered animals or Special Olympics athletes. It's a pretty cool lifestyle. And we get very used to it.

That's why it hurts so much.



With 6,000-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, Patty and David currently fly a Citation M2. You can contact David at davidmiller1@sbcglobal.net.

As we made the turn off runway 19L at Wichita Midcontinent, now Eisenhower National, I listened closely to every sound 65 Charlie made. I wanted to remember this flight forever as if it might be my last.

Since the purchase of the B model Baron, thirty-seven years ago, I have been able to get in an airplane just about anytime I wanted, and fly. I have experienced the rare freedom that only we, as pilots understand. I wish it could last forever. But, philosophically, as I approach age 65, I know that I'm in the transition years.

I am not ready to give up just yet. I have a plan. My good Dallas friend Larry will gladly let me fly his new Citation M2 while I look for another ownership experience. Perhaps I can find a partner looking to share the expense of another Citation. Maybe all I need to do is win the lottery.

Stay tuned for more of this story. I promise you will have a front row seat for my journey.

Fly safe.

Photo courtesy of Pilatus



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