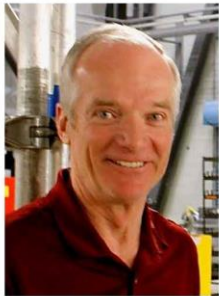




— LATEST BRIEFING —

New Year's Resolutions



by Charlie Precourt, CJP Safety Committee Chairman

The Citation Jet Pilots Association had a truly spectacular year in 2018. In particular, our convention attendance in San Antonio was way up, and we had tremendous participation at our second annual Safety Standdown. The major takeaways from our Safety Committee's work this year point to three important New Year's resolutions for 2019. The first is to strive to end runway overruns in our flying. They are the most common accident issue we see in Citation operations. Second, we need to continue to address loss of control (LOC) through training and use of the CJP Standard Operating Practices (SOPs). Sadly, as I write this, we have had two fatal

accidents in just the last two months that appear to be LOC scenarios. We certainly have more work to do in this area. And finally, we need to push continuous improvement in our simulator training programs, which will go a long way to solving both runway overruns and LOC incidents and accidents.

Resolution 1 - Runway Excursions

It is an interesting coincidence that San Antonio's arrival weather for the convention provided the perfect lead-in for a lot of the discussion in our Safety Standdown. In my case, I arrived mid-afternoon on Thursday in the CJ1+, coming out of Huntsville, Alabama. With low IFR, rain and no legal alternate within 100 nm, the arrival was full of challenges. I had declared College Station as the alternate, which was 130 nm back in the direction I was arriving from. On letdown, I was cleared the Braun Two arrival out of Lufkin. ATIS was calling rain, 400-foot ceilings and a wet runway, so I started running the landing numbers. Once we switched over to Approach control, there was also considerable chatter about aircraft entering holding.

Landing distance was manageable. I was showing 2,500 feet dry, corrected to 3,500 feet if wet, and as much as 5,000 feet if "wet" was as bad as 1/8" water on the 8,000-foot-long runway. But passing about 10,000 feet on the descent, with the prospect of holding and perhaps later diverting 130 miles, I told my wife we ought to just go get a cup of coffee at

College Station and wait it out a bit. A better plan than going round and round in a holding pattern. We put on some fuel and launched out of College Station to arrive in San Antonio about 90 minutes later than originally planned. Interestingly, when I turned final to 13R, the operations truck asked SAT tower if he could make a pass down the runway to check braking action. Tower responded, "Negative, I've got too many Citations in line to land!" As I rolled out and got ready to exit the runway, I got that telltale skidding as the anti-skid cut out below 12 knots. It was indeed wet and slick, and it would have been nice to have heard what the ops truck measured...I heard many others report the same experience. The next day we were discussing the runway condition readings the airport operations guys measure in their instrumented trucks (5-5-5 or 3-3-3, etc.) and what those values mean to our landing performance.

The reason this scenario is relevant is that our accident data show runway excursions are our biggest repeating issue. Peter Basile of Textron did a great job briefing several accidents from the previous year. There were 43 "notifications" of Citation accidents and incidents that Textron had to respond to. Of those, 14 were runway excursions and three were taxiway excursions, totaling 40 percent of the 43 notifications for the year. That's a big number!

One runway accident Peter briefed involved a CJ4 that landed and overran an icy runway in Michigan. Using the numbers in the FMS, you'd get 2,500 feet to stop (dry) on the 5,002-foot runway. If you adjust for wet ice in the Aircraft Flight Manual charts, it shows you'll need 13,625 feet to stop - nearly three times the available runway! Remember to adjust dry runway distances using the charts in Section VII of the Aircraft Flight Manual (Advisory Information for Adverse Runway Conditions). It's typical for dry runway values to double or triple in snow or ice conditions. The FMS or the CPCalc App are insufficient...you have to get into the AFM supplemental data, and the answer is usually "don't go" in snow/ice conditions.

You can review Peter's complete briefing on these accidents in a video on the CJP website under the "Safety" tab (www.citationjetpilots.com/safety) or go directly to YouTube (<https://youtu.be/NF4XNI8uu8o>). This is one of several tools now available to you on our Safety page. You can also download a copy of the CJP Standard Operating Practices, which we introduced at the convention. The SOPs are the best techniques we have found for the operation of your Citation. You can review videos of the SOP introduction session we held at the convention. The website Safety page also has a link to David Miller's "What Good Looks Like" video series. Hats off to David's great work on these. He has written an accompanying article for this edition of Right Seat to provide more detail (see below). Thanks, David! There will be more of these next year, particularly to address the scenarios in our New Year's resolutions.

Resolution 2 - Loss of Control

Peter also briefed three loss of control fatalities including the first ever for the Mustang, which happened in Germany when the pilot overshot the final approach course at high speed and entered a spiral dive, impacting the ground. You can review the details of all three of these LOC incidents in the video of Peter's presentation on the website, but the fact is LOC runs a close second to runway excursions in our Citation operations, and we need to put some focus on preventing them.

Looking at what the data tell us, the departure LOC has been particularly problematic. We've suffered two additional LOC incidents just since the convention, and both occurred shortly after takeoff. In the last three years, we have had four LOC fatal accidents during departure: Cedar Fork, Utah in January 2016, the CJ4 in Cleveland last year, a CJ2+ in Indiana last month, and this month a Citation V shortly after takeoff in the Atlanta area.

It is certainly too early to know what really happened in the two most recent accidents, as the NTSB has just begun the investigations. There has been discussion on the blogs about what may have happened that is obviously only speculation at this point. But connecting the dots, the speculation can be helpful in focusing our attention on the things we know can get us and make sure we train appropriately to avoid them. We know in both the Cedar Fork and Cleveland accidents that spatial disorientation was a factor. We also know in the Cleveland accident and the most recent C560 LOC in Atlanta that very high rates of climb were experienced shortly after takeoff, even though the initial level off clearances were at low altitudes. From these common threads, there are some helpful takeaways to consider even as we await the final result on these recent accidents.

One takeaway is the first rule in aviation - fly the airplane. Our Citations are capable of extremely high climb rates, so vertical speed management is very important. A pitch attitude above 15 degrees while entering the weather with over 4,000 fpm climb rate is not conducive to leveling off at 2,000 feet AGL! Neil Singer offered a great technique for managing this situation in a blog post you can find at: <https://www.citationjetpilots.com/forum/?fid=8&tid=4657>. Using pitch mode with 5-7 degrees climb attitude and power back to hold climb rates down to 1,500 fpm or less makes these scenarios a lot more manageable. You avoid spatial disorientation and you also avoid busting your altitude. Simply using CWS to lower the TO mode from 10 to 5 degrees leaves you in pitch mode and avoids unexpected pitch transients.

Another post about this month's Citation V LOC speculated the trim may have runaway or was not set properly for takeoff. Again, we won't know until the NTSB finishes its investigation, but remember it is standard on preflight to check trim position on the elevator against the tab indication in the cockpit. And if it were runaway trim, mash the red button.

All of these issues, spatial disorientation, high climb rates, and even elevator trim runaway can be addressed with good training, and they reemphasize the importance of the simulator. The CJP Safety Committee established the Gold Standard Safety Award to encourage things like upset recovery training and a broader use of the simulator. We had 43 of our members receive the award at this year's convention - a great start for the program. Congratulations again to all who made Gold this year, we hope for many more in 2019. Which brings us to...

Resolution 3 - Continuous Improvement in our Simulator Training Programs

I am now the new holder of a 510S Mustang type certificate, having just completed my training at FlightSafety in Wichita. David Miller came up to join me for a couple of days to ride right seat and give me some pointers about the airplane and the G1000. A thoroughly enjoyable machine!

We flew the LOST (Line Oriented Simulation Training) scenarios the day before my check ride, and one of the setups involved failure of the left ADC during climb out. In FLC on the Autopilot passing about 15,000 feet, we had an airspeed miscompare and I recognized the pilot side indication was bad. Rather than just swap the left PFD to ADC2 right away, I



elected to get in the checklist and go through the flow and see how that went. I left us in FLC and the left PFD airspeed continued to increase to redline while the right PFD airspeed decreased because the aircraft kept pitching up due to the erroneous pilot-side high airspeed. I got the checklist complete when the aircraft was 20 degrees nose high slowing through 130 knots. Reminiscent of what might have happened in the Cedar Fort LOC accident? Maybe. The point is, pitch mode would have dramatically slowed things down for me. All three attitude indicators were in agreement, and it would have been very easy to just go to pitch mode and maintain a shallow climb. Even more to the point, some things aren't "memory items," yet they should be, and perhaps this is one. I had the issue sorted out and could have solved it in a few seconds, but I intentionally elected to use

the checklist first, and see what would come from a slow response to this kind of malfunction. Another great example of the value of the simulator.

After my check ride was complete, David and I got together with a dozen or so of the FlightSafety sim instructors to brief them on our new CJP SOPs. CJP member and 510 forums moderator, Jeff Greenberg, joined us as well. The intent was to enable our instructors to integrate our SOPs into our simulator training going forward. The CJP SOPs are now something you can work on with your sim instructors, particularly in the scenario-based training both TRU and FSI have been developing. Before you go in for your next sim training, highlight some of the SOPs you want to focus on. You can also review an article Neil Singer provided in the June 2018 issue of Right Seat on how to best advocate for your own training needs.

Another issue we're addressing to improve our simulator training is integration of Fusion and Garmin G1000 NXi. We heard you loud and clear at the convention in our session with the

sim providers, and both your Safety Committee and the Board’s Executive Committee are already at work with the OEMs to bring these capabilities on line as soon as possible.

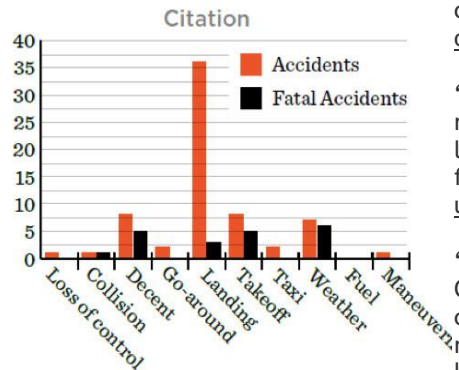
The data we have relative to our issues with runway overruns and LOC are compelling. One new source of data for us this year comes from AOPA. Their Air Safety Institute, led by Richard McSpadden, put out their first safety study on the Citation fleet. What’s encouraging is how much better our record is than other GA aircraft, but obviously, we still have room for improvement. Richard was the commander of the USAF Thunderbirds before joining AOPA so has a great perspective on safety. He believes the key to safe flight operations is: “*Knowledgeable people, well-trained, highly proficient, operating reliable equipment immersed in a culture that encourages good decision making.*” See his article below and check out the report here: AirSafetyInstitute.org/CessnaCitation. Thanks to Richard for his contribution to this edition of Right Seat! A couple of items from the AOPA report are worth highlighting:



“There are more than 4,000 N registered aircraft in the Citation group. When the data analysis occurred, there were 99 accidents and 24 fatal accidents since the inception of the Citation models...The data suggest that a smaller percentage of Citation accidents are pilot-related than in the overall GA fleet. The reasons are not easily discernible. However, a safe assumption would be the difference in the training required to operate a Citation and the experience level of the pilots operating them.”

“There are no fatal accidents attributed to mechanical issues in the Citation fleet, a significant contrast to some 15 percent of accidents in the overall GA fleet attributed to mechanical issues...While there is no definitive answer as to why the mechanical accident numbers are low, an educated guess suggests that the aircraft are on more rigorous maintenance schedules.”

Figure 7: Pilot-Related Accidents



“Pilot-related accidents account for more than half of all accidents in the Citation and comparison fleets, which stresses the importance of training and proficiency.”

“Figure 7 shows the breakdown of the major pilot-related categories. Following larger GA trends, landing accidents make up the majority for both fleets. Most landing accidents resulted from unstabilized approaches.”

“A typical accident in this category involved a Citation 500 in 1998. The accident airplane—carrying excessive speed on an ILS approach in rain and fog—landed long and touched down with little runway remaining. The aircraft exited the runway and came to rest near a mobile home park. Thirteen such accidents had airspeed management issues.”

Which brings me back to New Year’s Resolution Number 1...Our Park City regional event is in a few short weeks. I’ll be there on Friday and Saturday mornings to hold discussions on, you guessed it, runway excursions and overruns on landing. Hope you can join us!

Here’s to wishing all our CJP members a great holiday season and Happy New Year.

Fly safe!

Charlie

Safety Video Series "What Good Looks Like" Debuts at Annual Convention

By David Miller

Almost 500 attendees were on hand in San Antonio for the premiere of the first ever series of Citation-specific safety videos produced by our Safety Foundation. This initial five-part offering, available to any Citation pilot, places you right in the cockpit to experience challenges faced every day in the single-pilot jet environment.

CJP Safety Consultant Neil Singer, Charlie Precourt and I take you through events in the simulator such as taxiing from a major airport, approach and departure procedures, preflight inspections and more. You have the opportunity to watch the challenges of each segment of flight grow into possible serious situations.

Engine failure from an uncontrolled airport? We cover it. Inadvertent IMC encounter on approach? Watch and learn. Tips for copying taxi clearances? Done. Neil Singer examines each topic in depth and real time right in the simulator. And he provides tips from the pros to make your operation smoother and safer. Then Charlie Precourt ties it all together with "takeaways" that you can use on every flight. So, grab some popcorn and click here to watch. Go to: www.citationjetpilots.com/safety and look under "Safety Videos."



AOPA Safety Highlights: Cessna Citation

By Richard McSpadden

In November of this year, the AOPA Air Safety Institute released its first ever safety report on a business jet class of airplane, the Cessna Citation (AirSafetyInstitute.org/CessnaCitation). The report proved challenging to develop because fortunately, the number of fatal accidents since the venerable Citation line was introduced in the 1970s is remarkably low. The report did reveal that, for Citation owners and pilots, the fourth safety pillar - *reliable equipment* - is exceptionally strong. The remainder of the safety model is completely within the hands of Citation pilots and owners to make equally as robust.

Knowledgeable people, *well-trained*, highly *proficient*, operating *reliable equipment* immersed in a *culture* that encourages good decision making. That's the key to safe operations, in aviation, and for that matter, in any activity. I learned the power of this model while leading the United States Air Force Thunderbirds through hundreds of low-altitude formation aerobatic flights, and flying Super King Air 300s in remote, uncharted areas in the Philippines. Both challenging environments with phenomenal safety records due to a focus on those five safety principles.

Cessna, Williams, Pratt & Whitney Canada, Collins Aerospace and Garmin have all done their parts to design and manufacture a remarkably reliable Citation platform. The other four elements of the safety model depend entirely upon you. Will you take the time to keep your knowledge of the aircraft, systems, and aviation procedures sharp? Do you consider training an opportunity to advance your skills and shore up weak areas, or do you just go through the

motions and check the box for the insurance requirement? Do you work on currency (to be legal) or true proficiency (to be safe and skilled)? Finally, what are you doing to surround yourself with a culture that promotes good decision-making and sound, candid assessment of your decisions and your skills?

I hold a 525(S) type rating and thoroughly enjoy flying this extraordinary airplane. The question I frequently ask myself is, will I be as good as the airplane? This report indicates that is quite a challenge!

The Air Safety Institute is funded through donations to the AOPA Foundation. Thank you for considering a donation so that we may continue work such as the Citation Report to drive continued safety improvements across General Aviation. (www.aopafoundation.org/donate)

Citation Jet Pilots is the world's premier Cessna Citation aircraft owner-pilot organization. If you are a Citation owner-pilot who wants to operate your aircraft more safely, professionally, and economically, this is the place to be.