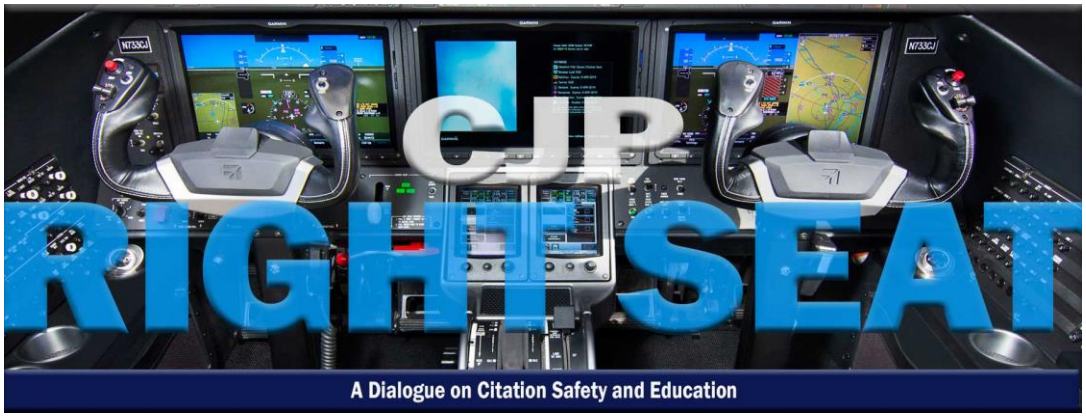
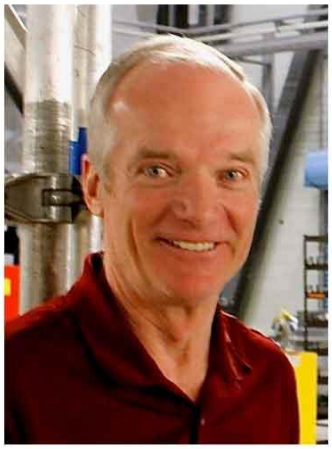
October 2018



— LATEST BRIEFING —

San Antonio, Here We Come!

by Charlie Precourt, CJP Safety Committee Chairman



This year's CJP Convention in San Antonio is shaping up to be our best yet. As part of this year's agenda, your Safety Committee is preparing another Safety Standdown, building on the success of last year's event. We've made great progress since Phoenix on a number of initiatives that we're now ready to roll out. Here's a preview. You won't want to miss it…

First is our inaugural CJP Gold Standard Safety Award, which has just bowled me over with the rate of member participation. Our goal here is to encourage continuous training, including enrichment training in a variety of knowledge and skill areas. Recall the annual criteria consists of 100 hours turbine time, a 61.58 simulator check, a second 61.58 or six hours dual in-airplane or in simulator and additional training like upset recovery, attendance at the convention or several other options of your choosing. This year, I'm proud to say we will be recognizing over 40 of our members with achieving the Gold Standard. Congratulations and thank you all, fantastic result!

I also have to acknowledge the work of the CJP Safety and Education Foundation, led by David Miller. David will be presenting on Friday to share his "Lessons Learned" from the members. His work with the Safety Foundation is bringing more ways CJP can invest in you, our members, with opportunities to enhance your flying skills and overall Citation experience. As always, David's presentation is sure to be outstanding (no pressure David!).

Throughout the conference, sessions will also be showcasing some cool briefing videos on safety that David produced with Neil Singer entitled “What Good Looks Like.”

Another major initiative this year has been our development of the CJP Standard Operating Practices (SOPs). David noted recently, “It’s not our safety committee’s job to tell you how to fly your airplane. It’s our job to give you some things to think about when you do.” I really like that philosophy. In fact, the P in SOPs refers to “practices” not “procedures.” Procedures imply things you must do, while practices represent the best techniques we can recommend to you in operating your jets.

Neil Singer and I just completed final drafts of the first edition of the SOPs, which will be published and distributed at the convention. The document is concise, divided into a generic section that is relevant to all Citations, and a model-specific section which distinguishes between ProLine 21, Garmin G1000 and Garmin G3000 operating practices. Neil and I will present the content of the SOPs during the convention on Thursday afternoon as part of the Safety Standdown. We’ll use a Jeopardy Game format and cover the meat of what’s in the SOPs so everyone is familiar with them when you leave the convention. This will be a LIVING DOCUMENT, and we hope you’ll use it during the coming year and give us input for continuous improvements. A big thanks to many who have reviewed this first edition, including the members of the Safety Committee and Safety Foundation, as well as Shawn Mack, Marc Dulude, Dave Bennett and instructors at both TRU and FlightSafety.

During the Safety Standdown, we’ll also hear from Peter Basille (Textron), who will review accidents and incidents they have investigated. Peter was a big hit last year and we look forward his insights once again. Sean Tucker will provide us a keynote address on “Luck Comes to Those Best Prepared,” on Friday morning. On Saturday morning, we will hear from instructors at TRU and FlightSafety as well as Dr. David Strahle on NEXRAD and former NTSB accident investigator Greg Feith. These are all huge value added discussions so please plan to stay with us through Saturday!

Partnering with me for this month’s *Right Seat* issue are three great articles from Andrew Broom, Jack Long and Neil Singer. Andrew reports on Gold Standard training we completed for members at Rockwell Collins, Embry-Riddle Aeronautical University and Garmin. Interestingly, Jack’s article comes to us via his role as president of the Pilatus Owners and Pilots Association, and he shares his experiences with upset training at FlightSafety. Neil has some great insights into single pilot operations called “Fill the Holes.” Enjoy, and we’ll see you in San Antonio.

Fly safe!

Charlie

CJP Gold Standard Safety Award Training Events

By Andrew Broom

In 2016, the newly formed CJP Safety Committee met and charted a course for our association to make a deeper commitment to promoting Citation safety. One of the initiatives included the CJP Gold Standard Safety Award that encouraged training above what is required by regulation or insurance. The committee wanted to ensure that CJP members had enrichment opportunities in addition to the traditional simulator and in-aircraft recurrent training.

The CJP Safety Committee is comprised of:

- Charlie Precourt – Chairman

- David Miller – Chairman of the CJP Safety and Education Foundation, CJP Director
- Kirk Samuelson – CJP Chairman, Director
- Joe Fisher – CJP Secretary, Director
- Stuart Fred – CJP Founding Director
- Andrew Broom – CJP CEO and CJP Safety and Education Foundation CEO

The Committee decided to engage current CJP partners, and find additional providers, in an effort to create training events focused on a few key areas: upset recovery, avionics, physiology and scenario-based simulator instruction. Looking back, this was a huge task for CJP and our partners.

Earlier this year, we highlighted a few different training events and new programs facilitated by our partners. Flight Research hosted a Citation-specific upset recovery course. FlightSafety International and TRU Simulation + Training added new simulator courses for members to meet the award criteria. More recently and highlighted below, CJP worked with Embry-Riddle Aeronautical University (ERAU), Rockwell Collins and Garmin.

Rockwell Collins Pro Line 21 and Fusion Training in Cedar Rapids, IA

In August, CJP Platinum partner Rockwell Collins hosted a group of members at their headquarters for an avionics training event. The event included a welcome dinner, presentation from Rockwell Collins COO Kent Statler, educational sessions, hands-on training, focus group discussions and a tour of the facility.

Embry-Riddle Aeronautical University Training in Daytona Beach, FL

The CJP Safety and Education Foundation partnered with ERAU to offer and deliver physiology training in their High Altitude Lab (HAL) earlier this month. The event also included a presentation by ERAU's President Dr. Barry Butler, a tour of the amazing campus, education sessions on weather and UAS, and a dinner that included the CJP scholars. The biggest hit was the HAL experience, with all participants learning their individual signs of hypoxia at an altitude of 30,000 feet.

Garmin GTN, G1000 and G3000 Training in Olathe, KS

Also in September, Garmin hosted a group of CJP members at their headquarters. This included a welcome dinner at the famous Joe's Kansas City Bar-B-Que, education sessions on future upgrades, hands-on avionics training, a tour of the new facilities and a radar course.

We are extremely proud of the tremendous efforts members and partners have made this year. The CJP Safety Committee will be evaluating additional events for 2019, so make sure to watch for announcements in the coming months.

Fill the Holes

By Neil Singer, CJP Safety Consultant

One of my more well-worn statements to would-be jet pilots starting the preparations for their type rating is, "Remember that the job of the big sim schools isn't to turn a pilot into a jet pilot, it's to turn a jet pilot into a typed pilot." The simple fact is that the two largest training organizations have disproportionately more professional pilots training for their "Nth" type rating pass through their doors than they do owner-pilots proudly (and anxiously) stepping out of their propeller background into their first jet. Thus, over several decades, a standard track has developed for type rating courses that dives deeply into the specifics of operating a particular jet, while touching only lightly (if at all) on more broad topics equally critical to safe operations.

I've lost track of how many pilots say, "I've never heard that mentioned even briefly at (fill in the large sim school of their training)." I always remind them of my above bon mot, and tell them it's simply not practical, or even possible, for a sim school to make a type course filled with all the general jet operational knowledge a transitioning pilot needs. Indeed, the vast majority of its clients have already had such background knowledge imparted through either a formal indoctrination ground school, or through years of on the job training flying with experienced captains.

While there is a wealth of online and live courses designed to prepare pilots for transitioning to the world of flying jets, many pilots don't avail themselves of the opportunities, or else do but end up with a wide but shallow immersion into the general operational lore. However they get there, it's far more common than not that a new jet pilot, particularly owner operators, ends up very knowledgeable about their specific aircraft, but with some dangerous "unknown unknowns" about jet flying in general.

This state of affairs can go on for quite some time before the pilot slowly acquires, in bits and pieces, the disparate knowledge he really needed from the beginning. The good news is that the truth is out there, and it's not too hard to "fill the holes" in a deliberate and efficient manner sooner rather than later. Here are some of the general operational subject gaps I find most often in newish jet pilots, and suggestions on how to get busy filling them.

On-board Weather Radar Use

If radar is discussed at all in a type rating course, it will often be a rapid overview of buttons, modes, and display possibilities. Typically, no discussion occurs regarding the theory behind radar operation, most importantly as it relates to tilt management during the various phases of flight. Likewise, general thunderstorm theory often isn't covered.
A recommendation here takes no thought at all: Erik Eliel of Radar Training International is the spiritual successor to the near legendary Archie Trammell, and provides an unparalleled immersion into the essentials of radar and thunderstorms. This is information no pilot should fly a jet without- wherever in the world you fly you will encounter thunderstorms at some time, and too many pilots simply don't know even the most basic elements of operating their radar properly.

Ground Deicing

Jets provide unmatched weather capability, including the possibility of operating into and out of icing conditions safely that many propeller airplanes can't handle. The first step before a safe flight in icing conditions can occur is a safe takeoff, and if icing conditions exist on the ground this will generally require a de-icing procedure. Ground de-icing is a fairly intricate topic, with seemingly infinite permutations of fluid type, precipitation variety, and outside temperature cooking up a stew of confusion for many pilots.
Like many other things in aviation, what is bewildering to the uninitiated resolves into a logical and straightforward process with a little study. Here too, a study source is easy to recommend, and best of all it's completely free. NASA has produced a superb online training course entitled "A Pilot's Guide to Ground Icing." Using animations and accident reports, NASA has done an excellent job breaking the subject down into manageable bits, and throws in some excellent reference documents, to boot.

Takeoff and Landing Performance

While initial type courses often spend the better part of a day poring through tomes of performance data, little time is dedicated to what those numbers really mean, or to the big picture of the performance requirements jet aircraft must meet. There's a lot more to V1, VR, and V2 than meets the eye, and no jet pilot should fly without a thorough understanding of what's "behind the curtain" of performance computations. Likewise, landing performance, particularly regarding contamination and safety factoring is often poorly understood.
A good primer on the topics above was recently released online by a joint FAA/industry working group. Enter "TAPP working group" into a search engine and the top returns will link to the four videos created. The material is weighty, and may require several viewings, but it is comprehensive, and features excellent graphics.

International Procedures

The final topic of my "big four", international procedures study is often given short shrift by pilots. The very purpose of jet aircraft is to go far, quickly, so it's inevitable that sooner or later borders will be crossed. Many pilots aren't aware of how different IFR procedures can be outside the US, nor of the myriad customs, immigrations, and permitting requirements. Pilots can be lucky until they're not in this area- operating OK for a while not knowing what they don't know, until the lack of knowledge bites them in the form of a violation.

In this arena there are several training providers. Every large sim organization also offers supplemental international procedures training courses, as do dedicated international training specialists. There are pros and cons to many of the courses offered- some are quite dry, and many focus heavily on the procedures used by the largest of large business jets leaping oceans in a single bound while omitting topics critical to pilots of short range light jets. Yet this is a case where some knowledge is better than none, so even less than perfect is a good place to start in this area. Perform a web search for "international procedures training", and get cracking.

POPA Experience with New FlightSafety Upset Recovery Training

by Jack Long, President of Pilatus Owners and Pilots Association (POPA)

Background

Several years ago, Gulfstream approached FlightSafety (FSI) concerned that Gulfstream pilots were taking Upset Prevention and Recovery Training (UPRT) in smaller aircraft (L39, Extra-300, etc.) thinking such training would help them recover a Gulfstream. The Gulfstream flight test team thought this was a dangerous scenario that could result in "negative learning" in the sense that the techniques required to recover a L39 or Extra-300 from an "upset" (extreme unusual attitude) were very different than recovering a Gulfstream from a similar event.

Gulfstream offered all their flight test data - including the extreme (think inverted) scenarios - to FSI if they would program it into their sims (which are typically limited to accurate simulation only in a normal range of pitch and roll attitudes). FSI said "yes" and developed a curriculum around UPRT for Gulfstream models. Much to their surprise, the training became a big hit.

Based on the success of the training in the Gulfstream birds, FSI has been expanding the UPRT program to other models including the PC-12 most recently.

I recently completed the PC-12 UPRT course (one day).

(Image from FlightSafety International)

Let me just say that hour-for-hour the UPRT training was by far the most valuable flight training I have ever received. I am now a true believer in doing this sort of training in a properly qualified sim rather than an aircraft unrelated to the one you fly normally. It felt very realistic.

Here is my PIREP on the training. I have not gone into a great deal of detail regarding the specific sim scenarios in order to retain the surprise value for folks that decide to take the course. But, I will say the sim scenarios were very challenging, realistic, and extremely valuable.

The Training

Here is the run-down of the one-day course (not even a full day, really)...

- Three hours of advanced aerodynamics ground school and two hours in the sim per pilot (two pilots max).

- The basic recovery mantra for all scenarios is simple: PUSH, ROLL, PULL, and POWER. Doesn't matter if you are upside down, right-side up, nose high, nose low, or at any angle of bank...PUSH (unload the wing) is always the first response. This is very unnatural when you are already 70 degrees nose down or 500 FT from the deck, but you need to learn to overcome your instincts and PUSH.

• The sim software load for the UPRT training is different than the normal load. Takes them about 20 minutes to load the UPRT software prior to the sim session and then another 20 minutes to reload the standard software afterwards. My instructor said because the UPRT software load allows the sim to operate more aggressively than the standard load, they are seeing a bit more repair work on the sim now that they are doing UPRT training. Some of the sim scenarios are quite violent and I can how that could increase wear-and-tear on the sim.

• To warm-up in the sim, they have you "get violent" with the plane in roll using all your strength to roll from one aileron stop to the other, back-and-forth. That is a bit physically taxing, but worth it to get the muscle memory of what is takes to truly be aggressive enough to save your life.

• Then you do the "upside down" stuff, or at least it feels upside down. They monitor your performance in terms of "push" Gs, getting the ailerons "violently" to the stops for roll, and "pull" Gs. There is no time to think, you just need to develop the muscle memory for how hard to PUSH and PULL to get about -1.3 Gs on the PUSH and about +3.0 Gs on the PULL. They have you repeat it as many times as needed to let you learn the force needed from instinct. This is where doing it in a well modeled sim is so much better than a small aerobatic aircraft. The force needed to achieve the correct Gs on the PUSH and PULL would be very different in a smaller aerobatic aircraft and might result in negative learning.

• Once you got the upside-down stuff under your belt, you pull the pusher CB and do a series of natural stalls including one where you intentionally do a very "deep" secondary stall. Deep stalls suck, let me tell you.

• Next they duplicate an airline upset accident involving conflicting instrument indications. I'll not go into more details so some of the surprise element is maintained if you take the course, but I will say it was an eye-opening experience. Even if you resolve the instrumentation conflict properly, the instructor will have you continue the scenario as if you had not.

• At some point you will experience a wake turbulence encounter without warning. Again, I will be vague with the details, but I will say the encounter was far more violent than I expected. The whole world goes topsy-turvy in what seems like an instant. But, the basic recovery mantra of PUSH, ROLL, PULL, POWER works. After the first surprise encounter, the instructor may offer the "opportunity" to do it again but with an even more powerful wake. I took that opportunity and it was incredibility violent and while the basic recovery process worked, it was more difficult than the first time.

• You will also do mach buffet demo which is briefed in advance. The idea here is to take the plane well past Mmo in order to experience how the controls feel and the plane behaves when the wing is in the transonic realm. The theory behind this is covered in the ground school, but there is nothing like feeling it in the controls.

• At some point in the sim session you will experience a variety of flight control malfunctions that prior to taking this course I would have assumed were unrecoverable. Bad luck. Everyone has to die sometime? Well, not exactly. In the ground school you brief each of these malfunctions and then do them in the sim without notice. They are difficult and you might crash one or two times before getting it right. But, they will not give you any scenarios that are impossible or require super-human piloting skills. If you crash, no problem, do it as many times as is needed to result in a survivable landing. In each case the combination of the PUSH, ROLL, PULL, POWER procedure along with the knowledge gained in ground school can save the day.

• At some point you will intentionally (after being briefed by the sim instructor) do the dreaded base-to-final stall scenario. Again, before this training I would have thought a base-to-final stall at around 500 AGL would not be survivable especially with any time built in for real world reaction. After being briefed on what to do by the instructor, I muttered under my breath "we are going to die." I sensed a lot of red pixels in my future. The instructor said to have faith in the training and "just do it." Well, he was right. We did not have a lot of margin with the buildings we were headed toward, but we made it.

After finishing the UPRT sim, I needed a couple of approaches for IFR currency and we did those, but they were uneventful except the first one LOC only (glideslope was inop, of course) was below mins to a missed and the second was barely landing at 1800 RVR. Sometimes you just never get a break. But, that is a good thing in this case.

If I really find myself in the wake of a large jet at 80 degrees bank and 70 degrees nose-down will I be able to recover? I don't know, but I stand a much better chance now than yesterday.

FlightSafety international

PROFESSIONAL AVIATION TRAINING

Cessna Citation Advanced Upset Prevention & Recovery Training

2018 Course Information

Advanced Upset Prevention & Recovery Training presents compelling scenarios that allow pilots to safely experience and recover from historically accurate, fatal, in-flight upset events in a way that would be far too dangerous to experience in an actual aircraft.

During this course, pilots are able to recognize, experience, and recover from inflight loss of control in the safe and controlled environment of a simulator. The course also helps increase knowledge of aerodynamics and develops new skills that are critical to safe operations.

The academic portion of this course consists of four hours of advanced topics including low/high speed aerodynamics, stability and control, aircraft performance, and upset recovery technique. The simulator portion of this course consists of allowing pilots to recognize, experience, and recover from full aerodynamic stall and speeds in excess of VMO/MMO. The Advanced Upset Prevention and Recovery Course presents compelling scenarios based on actual aircraft accidents that allow pilots to safely experience and recover from in-flight loss of control and extreme high-speed events in a way that would be far too dangerous in an actual aircraft.

Course Curriculum

Course Module	**1 Day**
Ground School/Academics	4.0 hours
Simulator (Pilot Flying)	2.0 hours
Simulator (Pilot Monitoring)	2.0 hours
Debriefing	0.5 hours

Citation CJ3

Training available for the following aircraft:
Citation CJ3 – Wichita Cessna Learning Center

Prerequisite: Pilots must train in the same make and model that they have currently trained on within the past 12 months with FlightSafety.

Training Locations & Contact Information

Wichita Cessna, Kansas • 800-488-3214 • 316-220-3100 • fax 316-220-3134 • cessna@flightsafety.com

flightsafety.com • A Berkshire Hathaway company

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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.