

— LATEST BRIEFING —

Wrapping up 2021 - A Great Year for CJP Safety

CJP-Member Safety Streak Continues as Our New Initiatives Mature

by *Charlie Precourt, CJP Safety Committee Chairman*



As we close out 2021, and your Safety Committee's fourth year for CJP, we have much to celebrate. At our Convention in Indian Wells, we marked a full year with no accidents or incidents in our CJP members' fleet, now nearly 1,000 jets, and that streak is continuing! You can never perfectly correlate a cause and effect with safety initiatives (when accidents don't happen you can't positively point to why.) But we have to believe our initiatives like "Safe to Land" (go-around decision making) and "FOQA" (flight data monitoring) that we reviewed with the membership at the Convention will result in lower accident rates.

In this column, we'll update you on those initiatives and we'll also share some organizational changes that will further strengthen these initiatives. David Miller gives us a humorous look at "Surviving your first visit to FlightSafety," and Neil provides his insights on mastering the circling approach to ensure we stay in the incident-free column.

First, though, I want to highlight another Mustang gear-up landing (a non-CJP member) that occurred on December 1st at Lake Havasu, AZ. We often say, "there are those that have, and those that will," but we all want to stay in the latter column... Most interestingly, this is the fourth gear-up accident in a Mustang while our records show none for the 525 models, which makes you wonder if there's not something different about the Mustang from a human-factors standpoint. Two of the four accidents resulted in a post landing fire, and the recent event at Lake Havasu appears to have totaled the aircraft as the wing was nearly completely burned away. You can see the details at [Aviation Safety Network](#) and a video [here](#).



I'd like to highlight some of the great observations several of our members made on the forums relative to this accident. With the caveat that early information always lacks the detail needed to draw accurate conclusions, there remain nonetheless many learnings we can reinforce while we await the NTSB final report. From the FlightAware data, it showed the aircraft remained at high speed on approach, as much as 167 knots as late as 750 ft AGL (2.5 mile final.)

Clint Newell and Stephen Elop pointed out how our new Safe to Land gates and callouts might have helped here... Clint noted the calls at the three gates would have been:

- "1,000 ft - Configured? - NO, Gear and Flaps, Go Around... then
- "500 ft - Stable? - NO, AIRSPEED, Go Around... then
- "200 ft - Continue? - NO, LIMIT, Go Around It Works" (It = new go-around gate calls.)

And Stephen added a "key innovation of the go-around study is that it does NOT call for a go around at, say, 1000' if you are not properly configured. Rather, it has you repeat aloud the offending items until corrected, or until you get to the go around gate at 200ft. This has proven useful in circumstances, for example, when you get the "170 knots until FAF, contact tower" instruction and you may be delayed in fully configuring... In this incident, it would have been his voice chanting "Gear, Gear" if he had habitualized our new procedures..."

Howard Tobin also noted that, "(with) all this talk about go arounds, I did my first in a long, long time (recently.) Told tower I was in too tight (from the base position they put him on) and was going to head north to (setup again.) I'm not sure but perhaps this (CJP Convention) discussion put me in a better frame of mind to do that go around..."

And from Jonathan Bailey, "The go-around survey data showed a vast majority of our landings are visual, so the way we fly often does not come with the more slowly metered and regular cues of a full instrument approach. We (in the go-around study working group) tried very hard to come up with a simple framework to deal with the high-fast-late situation we often find ourselves in, esp. due to ATC instructions. Saying No (Unable) is an underused response. But we live in the real world. The gates and limits were very purposefully designed to address this, and the fact that the more we need to go-around, the less likely we are to do it. Absolutely one should break off earlier for any reason. 'Priming the Pump' is a phrase we heard a lot, and I too have found myself flying with much higher awareness/better decision making. It's amazing how little runway you use when you fly all the way from 1000' AGL at Vref!"

As Jonathan points out, the go-around decision making study we performed with Presage was designed to address runway excursions, but interestingly it could have made a difference in this gear-up incident. For those of you who attended the Convention in October and received copies of the cue cards for the new gates and callouts, we'd like to hear from you regarding your impressions of the new recommendations. I've been using the new calls for several months and have noticed that I don't always make a point to visually acquire the touchdown point limit (TPL, visual reference along the runway) when I'm on

short final, and then I notice it as I taxi by on landing roll (when it's no longer useful!)... so I'm thinking we may want to add a call when visual, and after 500 feet, that "TPL is identified." Again, thoughts from the membership are most welcome here, by sending your feedback to safety@citationjetpilots.com.

For those who haven't had a chance yet to be briefed on the new approach criteria, we are kicking off a series of training modules (videos and handouts) that will be available in the coming months. We will also be working with FlightSafety to enable training to the new criteria as part of our simulator recurrency sessions.



For our Flight Operations Quality Assurance (FOQA flight data monitoring initiative) we will likely be ready to offer the program to the membership at large in the first half of next year. We have 12 of our members beta testing a couple of options for us. One uses the AReS recorder (for those aircraft so equipped) and sends data via Textron through L3Harris to analyze the flight data. The other option uses a new AirSync recorder system that sends data to CloudAhoy and provides a nearly instantaneous report after landing (via an e-mail and an iPhone or iPad app.) We are very pleased with how well the development of this project is progressing and will provide more details on how you can participate after the New Year.

Finally, in order to make these initiatives stronger, the Safety Committee has moved to establish three new subcommittees. The first is for the FOQA initiative and John Lockhart will join us to lead that effort. John lives in Phoenix and flies a CJ and brings prior experience in Part 135 and flying for the airlines. He also is an expert in UI/UX design which we're delighted to bring into this effort. We're also planning to stand up a subcommittee to focus on our Legacy model aircraft. Much of our content and training materials to date has been focused on ProLine 21 and the G1000/G3000 equipped aircraft in our membership. So, to ensure we tailor those products to the full membership, Endre Holen has agreed to join us to lead the Legacy Aircraft subcommittee.

The third, new subcommittee will address the further development of our go-around decision making, "Safe To Land," initiative. Jonathan Bailey, who worked with us on this effort as a member of the initial working group, has agreed to take on the lead role for that subcommittee. We're excited to have John, Endre and Jonathan join the safety committee to help us move these initiatives down the road. 2022 is bound to be another big year for us in CJP!

Fly Safe!

Charlie

(Not) Straight-In: Just Because the Minimums Are There, Doesn't Mean it's Going to Happen...

by Neil Singer, CJP Safety Consultant



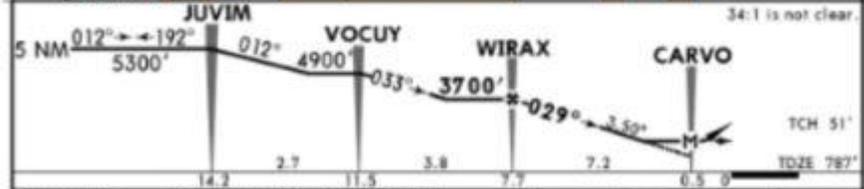
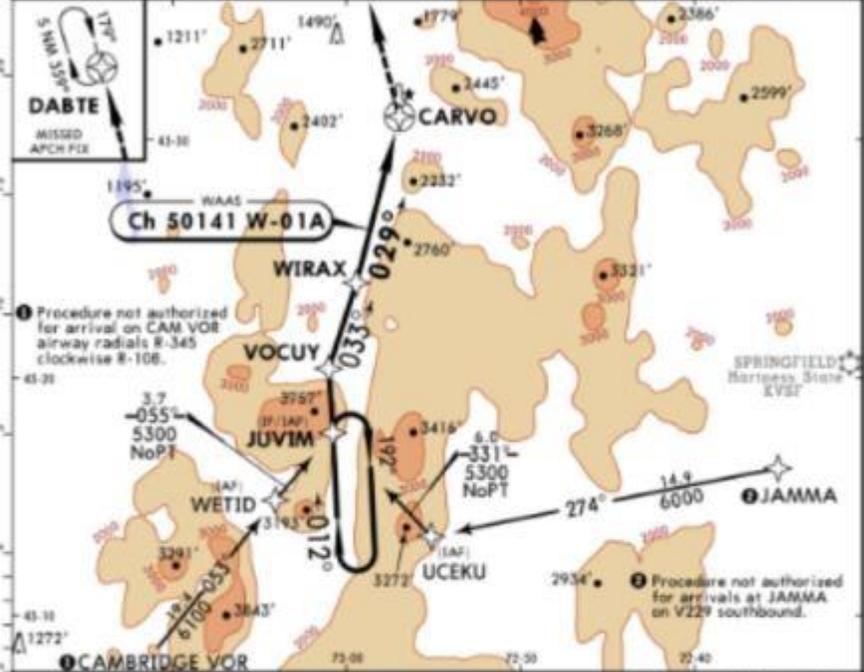
By the time they fly their first jet, most pilots are accomplished at instrument flying. They certainly understand the difference, for example, between a straight-in and circling approach. If the final aligns with the runway within thirty degrees, the approach is a straight-in, right?

Unfortunately, when flying an aerodynamically-clean airplane like a jet, on some approaches the line between straight-in and circling can be blurred. In jets it is of critical importance to maintain a stabilized approach to the runway, defined in part as no more than 1000 FPM descent and airspeed within 10 knots of final landing speed. Due to this, when weather is at or near minimums there are some nominally straight-in approaches that can really only be flown as a circling approach.

These approaches typically exist in mountainous areas where terrain requires a steep descent angle between MDA and the runway. The geometry of the approach may make it impossible to fly the approach straight-in from minimums, yet straight-in minimums are published. As an example, look at the RNAV 1 approach into Rutland, VT (KRUT.) The majority of pilots to whom I show the approach don't catch the steep angle required to the runway from MDA. If I ask them, "Using LNAV mins- winds are from the north, the ceiling is 2500', visibility is 2 miles, are we likely to get in flying this approach?" most will look over the minimums and answer "yes". Most light jets fly final at about 100 knots and use Category B minimums, which for this approach are 2313' above the airport elevation and 1.5 miles.

KRUT/RUT **JEPPESEN** **RUTLAND, VT**
 - SOUTHERN VERMONT REGD 28 JUN 19 (12-1) **RNAV (GPS) Rwy 1**

AWOS-SPT 118.375	BOSTON Center 135.7	BURLINGTON Radio 122.3	RUTLAND-SOUTHERN VERMONT REGD UNICOM CTAF 122.8
WAAS Ch 50141 W-01A	Final Appch Crs 029°	Minimum Alt WIRAX 3700' (2913')	1P MDA(H) (CONDITIONAL) 2420' (1633')
MISSED APCH: Climbing LEFT turn to 5700' direct DABTE and hold.			Apt Elev 787' TDZE 787'
Alt Set: INCHES			Trans alt: 18000'



STRAIGHT-IN LANDING RWY 1		CIRCLE-TO-LAND Not Authorized East of Rwy 19 & 31	
1 LP MDA(H): 2420' (1633')	1 LNAV MDA(H): 3100' (2313')	With Local Altimeter setting MDA(H):	With Springfield Altimeter setting MDA(H):
A	1 1/4	90	3100' (2313')-1 1/4
B	1 1/2	120	3100' (2313')-1 1/2
C	3	140	3100' (2313')-3
D		160	3600' (2813')-3

But looking at the minimums more closely it becomes apparent that the stated weather will make it impossible to land straight in. As there are no approach lights for runway 1, the first piece of the airport a pilot will see is the runway itself; if visibility is 2 statute miles, they will be on a two mile final when able to descend from MDA. That MDA is 2313' feet above the runway, so to descend to touchdown would require a gradient of over 1200' per nautical mile.

As a normal ILS descends 300' per nautical mile, this is clearly going to be a pretty uncomfortable angle. Even at a low approach speed and with a very strong headwind, a

decent rate of 1400 FPM or more would be required, well outside the acceptable parameters for a stabilized approach. The only option left the pilot is to complete a full 360 degree circling procedure, entering the upwind over the runway. As long as the pilot can maintain visual terrain clearance, the descent can begin during the circling procedure, so that as the aircraft turns final it is at a more appropriate altitude relative to distance from the runway.

There are a few catches here, however. Most jets fly circling approaches at a flap setting and speed different than those used for a straight-in approach. This speed is usually fast enough to push the operation up a category relative to minimums. For an aircraft flying the RNAV 1, category C mins require visibility of 3 miles, leading to a catch-22 when the visibility is at the stated 2 miles- the pilot can't descend straight-in, but also can't conduct a circling approach. The result is that a prudent pilot wouldn't commence the approach with visibility less than 3 miles.

Additionally, the autopilot modes used for a level off at MDA may be different than used for a straight in. And most importantly, the pilot must have mentally briefed and prepared for a circling operation. All the above differences in approach execution require prior briefing- arriving at MDA is no time to turn a straight-in approach into a hasty circle.

(Neil is a Master Instructor, corporate Bombardier Challenger captain and designated examiner in the Phenom 100/300 and Citation 525 series. He is also a regular contributor to the "Turbine" section of AOPA Pilot magazine.)

A Pilot's Guide to Advanced Simulator Training

by David Miller, Director, CJP Programs and Safety Education



Completing your first jet type rating can be a humbling experience. Learning new systems, memorizing emergency procedures, and passing a real check ride to ATP standards can challenge just about everyone. Help is on the way! From my experiences at multiple simulator centers, I have compiled a list of the ten most important things you need to know as you prepare for your first day at school.

JOINING THE FRATERNITY

Most of the pilots you meet will be professionals. They are much smarter and more handsome than you are. You will want to be in this group. Hang around them in the break room. When you approach them, slap one on the shoulder and say, "great to see you." The others will assume you are one of the group and accept you. If a pro describes a dual engine flame out at FL 410 in icing conditions, say things like, "yep" or "absolutely." Do not say, "been there done that." Otherwise, numerous questions will follow.

TRAINING WITH THE PROS

The training companies have a slogan, "train like the pros....fly like the pros." I would add one. "Sleep with the pros." They all stay at the same hotels, usually walking distance to the simulator. In Wichita, it's the Marriott. If you sit close to them at the bar they might let you join the discussion. Unless you have embarrassed yourself saying, "been there done that." Currently, I am not allowed at the Marriott. I find it best to stay at the Holiday Inn in Topeka and commute.

FILLING OUT FORMS

The first task on Day One will be to fill out numerous forms and questionnaires asking about all your time in every aircraft you have ever flown. I think this is a timed test. Do not make any mistakes on this test. If you do, they will seat you in a "special section" of the classroom. This is my least favorite part of the training.

VENDING MACHINE ETIQUETTE

Between filling out the forms and trying to join the fraternity, there will be little time to eat. Learn how to use the vending machine. Be able to slap it around and perform minor maintenance. Push the same food buttons the pros push. Buy a round of chips for the entire class. Stay away from the questionable roast beef sandwich. It is updated on the same schedule as your Jepp charts.



THE UNWIELDY SIM

Simulators are designed to deflate your ego at just the moment you need it most. On your first take off, the airplane will veer uncontrollably left and right of centerline and come to a bouncing stop somewhere in the grass near the tower. Your sim instructor will say, "don't worry, it happens to everyone." The pro pilots will tell you that sim instructors lie a lot. I totally believe my sim instructor.

EXPLOSIVE DECOMPRESSION

One evening during your first week they will show you a video of this Russian-looking guy who volunteered to experience a rapid decompression at 45,000 feet. Make a note of how his head appears to explode. My instructor says, "don't worry, this happens to everyone." Now I am worried.

24 / 7 / 365

Simulators operate all day and all night. That's how they make money. You may be unlucky enough to get a "bad" sim time. These are usually between the hours of midnight and 6 AM. Training facilities lock their doors during these hours and the only way in is through a door with a secret code. You may find yourself in the middle of the night unable to remember your secret code and forced to sleep on a bench next to the door. Cold and wet, you may have a professional pilot remind you that the secret code is written on the back of your name badge. I do not want to talk any more about this.

CHECK RIDE INTELLIGENCE

Spend every spare minute of your waking moments gathering information about your check ride examiner. Learn his favorite food, children's names, hobbies, etc. At the end of the week you will find that this information is totally worthless but it will take your mind off flunking the check ride.

YOUR PERMANENT RECORD

The myth is that your performance on every training event will be minutely evaluated and thoroughly recorded for decades to come. I have discovered what is actually recorded is how

well you do on the forms, your hotel selection and your vending machine choices. I am attempting to have my permanent record expunged.

THE CHECKRIDE

Do not offer to tip the examiner.

Someday I hope to fly like a pro. Until then I will pack my bag and head to Wichita every six months. I love it.

Fly safe.

(This bit of holiday cheer from 'Capt. Dave' is an excerpt from his Pulitzer-submitted... yet curiously returned, postage due... book, [Confessions of a Very Private Pilot: A Jet Pilot's Humorous Life Story.](#))

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.