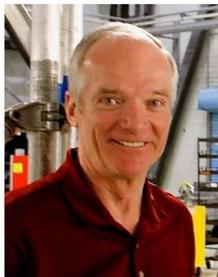


— LATEST BRIEFING —

CJP Closes Out Another Great Year for Safety

Recent Runway Excursions Highlight Importance of Being 'Safe to Land'

by Charlie Precourt, CJP Safety Committee Chairman



Hats off to our members for completing 2022 with a clean safety record! We have made great progress on our safety initiatives, in particular our Safe to Land (sm) program that we created in partnership with FlightSafety and the expert assistance of the folks at Presage.

The academic materials are now complete, as many of you saw at the convention. Since then, we have also introduced the academic materials to instructors at the Tampa FlightSafety facility as well as in Wichita and will continue this "train the trainer" process in San Antonio in early January. David Miller has a writeup in this column regarding progress we're making in the simulators to develop the scenarios our members can fly to complete the Safe to Land (sm) course. Those scenarios are nearing completion and should be ready for our members to fly them in a 2-hour simulator session in the spring to summer timeframe, depending on training facility location.

In a sobering reminder that our Safe to Land course (sm) is a worthwhile initiative, we have seen three significant runway excursions this winter that are worth your review. The most recent was a Phenom 300 that landed at Hawthorne (KHHR) in Los Angeles on December 27th. Another was a Lear 45 that overran the runway on Nov 29th in Batesville, AR (KBVX). A third, a non-CJP (thankfully!) Citation CJ1+ flown as a passenger charter into Ohio State University in early December overran the runway as well, in what CJP member Mark Hangen appropriately labeled a "gutter ball" in our CJP Forum discussions.

In all three of these, the parameters we're focused on in STL came into play. Threshold crossing height, speed on final and/or touchdown point were at issue. Use of a touchdown

point limit would have been extremely helpful in avoiding these, as all three also landed extremely long.

The Phenom 300 that went off the runway at Hawthorne has been discussed on our CJP Forum as well. Member Jason Rhode found the ADS-B data in the picture below, which shows 117 knots at 75 feet AGL near the threshold, and a touchdown halfway down the runway. Keep in mind that any ADS-B data will most likely reflect GPS groundspeed, and not the indicated speed the pilot sees, but normally on approach these will be close except with high winds or high density altitude.

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KHHR 280220Z 09003KT 7SM -RA FEW007 SCT013 OVC029 16/13 A2993 RMK AO2 RAB19 P0001  
T01560133
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Looking at my ForeFlight landing numbers (assuming a 14,500 lbs landing weight), Wet Unfactored yields 3,250 ft. However Wet Factored and 0.125 Standing Water says the Runway is 800 ft shorter than required.



If you look up the Airport Facility Directory for HHR (chart supplement, which you can find in Foreflight under Airport>Info>A/FD) you'll notice that the runway has a displaced threshold and a VASI that calls for a 26-foot threshold crossing height on a 3.5-degree glide angle. This VASI setting is due to close in obstacles on final. The 460-foot displaced threshold doesn't help matters, as the landing distance available is only 4,193 ft. If you arrive at 75 feet at the threshold on a 3-degree glide angle, your touchdown point is 1500 feet or more down the runway, and when it's wet, and not grooved, you wind up with very little margin to stop.

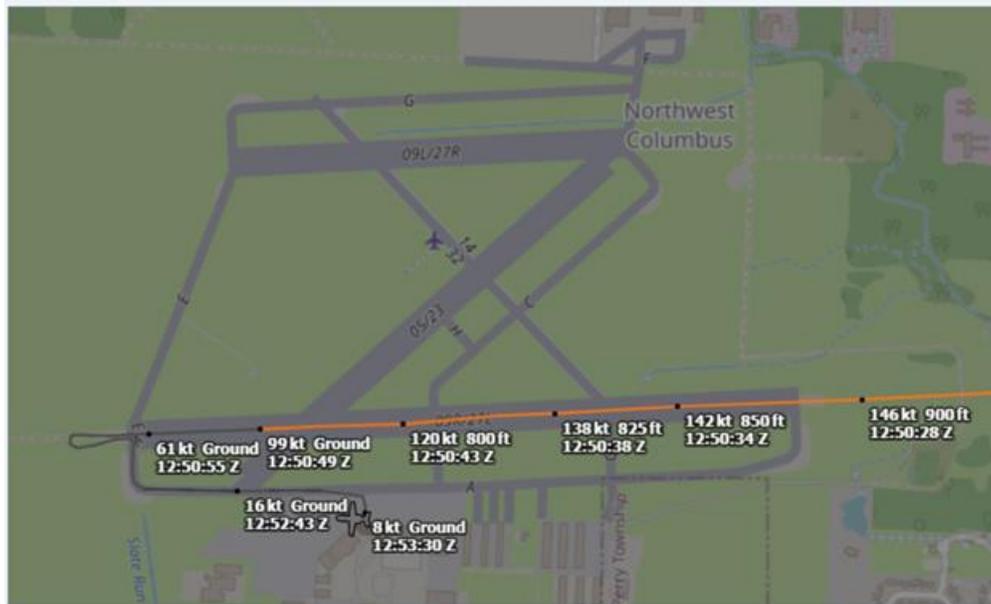
I'll leave it to you all to run a touchdown point limit calculation for your aircraft on this runway with the METAR conditions that Jason captured above... TPL is a great tool! (See the Safe to Land (sm) cue card on the [CJP Safe to Land web site](#) for a refresher on how to run the TPL calculation.) Jason, thanks for sharing the data on this one.

The Lear 45 was a similar story. The full NTSB preliminary report follows this article, but it was pretty obvious what happened.

From the NTSB: "The airplane crossed the final approach fix at 265 knots ADS-B groundspeed and the Runway 8 threshold at 190 knots ADS-B groundspeed. The airplane landed about 2,000 ft past the threshold of the 6,022 ft runway, which was wet due to earlier precipitation. Tire marks consistent with intermittent braking application started about 3,021 ft from the end of the runway. Tire marks consistent with continuous anti-skid braking application began about 2,069 ft from the end of the runway and continued until the end of the runway."

It goes without saying that 190 knots at the threshold doesn't work too well.

The Citation CJ1+ overrun falls into the category of "you can't make this stuff up." Mark Hangen's label of "Gutter Ball" for this one is just about perfect. You can look up the discussion on this one in the CJP Forum as well... Mike Ciholas found the ADS-B track for us, which shows the aircraft was at 146 knots just prior to the threshold. Vref would have been pretty close to 100 knots, so 45 knots fast. A quick calculation shows that his landing distance would have been over twice the AFM calculated distance for a Vref at 50 feet stable approach! [You can also see more summary info here.](#)



CJ1+ Excursion at Ohio State University airport, KOSU

To further refine the story, the weather was below minimums for the approach. The LPV to Rwy 27L has a 250-foot decision altitude, and 1 mile visibility minimum. The weather at the time of the incident was 200-foot vertical visibility, 1/4 mile in fog! Combine that with a highly unstable approach and there is no question what the outcome will be.

The even more astounding piece is the ground track continues in the ADS-B plot after the overrun to show they were able to turn around in the grass (apparently after hitting the approach lights) and taxi back to the ramp! The "word on the street" is they were unloading passengers at the ramp and preparing to load another group of passengers when ground personnel spotted mud and grass on the gear and the airport manager had to go out and inspect the damage at the end of the runway!

All three of these incidents emphasize the importance of our Safe to Land (sm) stable approach and go around criteria. We hope you all can take advantage of the course and simulator scenarios at FlightSafety during 2023... Happy New Year all and thanks for making CJP a really safe flying organization!



Aviation Investigation Preliminary Report

Location:	Batesville, AR	Accident Number:	CEN23LA056
Date & Time:	November 29, 2022, 19:10 Local	Registration:	N988MC
Aircraft:	LEARJET INC 45	Injuries:	2 Minor, 6 None
Flight Conducted Under:	Part 91: General aviation - Business		

On November 29, 2022, about 1910 central standard time, a Learjet 45 airplane, N988MC, was substantially damaged when it was involved in an accident at Batesville Regional Airport (BVX), Batesville, Arkansas. The two pilots sustained minor injuries and the six passengers were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 business flight.

A review of automatic dependent surveillance-broadcast (ADS-B) data revealed that the airplane departed Waterloo Regional Airport (ACO), Waterloo, Iowa, about 1757 on an instrument flight rules (IFR) flight plan and climbed to cruise at flight level (FL) 410.

During the arrival to BVX, a non-towered airport, the air traffic controller cleared the airplane for the RNAV (GPS) Rwy 8 approach and the crew cancelled IFR after visually acquiring the runway environment. The airplane crossed the final approach fix at 265 knots ADS-B groundspeed and the Runway 8 threshold at 190 knots ADS-B groundspeed.

The airplane landed about 2,000 ft past the threshold of the 6,022 ft runway, which was wet due to earlier precipitation. Tire marks consistent with intermittent braking application started about 3,021 ft from the end of the runway. Tire marks consistent with continuous anti-skid braking application began about 2,069 ft from the end of the runway and continued until the end of the runway.

The airplane exited the runway at an airspeed of about 100 knots ADS-B groundspeed, then continued forward and struck a ditch and the airport perimeter fence. During the collision with the fence the forward fuselage sustained substantial damage.

Initial examination of the airplane revealed normal flight control continuity. The spoilers were found in the deployed position, which matched the cockpit spoiler handle position (extend).

The cockpit flap handle was at the 20° position, which matched the position of the left and right flap surfaces. The airplane was retained for further examination.

Aircraft and Owner/Operator Information

Aircraft Make:	LEARJET INC	Registration:	N988MC
Model/Series:	45	Aircraft Category:	Airplane
Amateur Built:			
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Designator Code:			

Meteorological Information and Flight Plan

Conditions at Accident Site:	IMC	Condition of Light:	Night
Observation Facility, Elevation:	KBVX,463 ft msl	Observation Time:	19:10 Local
Distance from Accident Site:	0 Nautical Miles	Temperature/Dew Point:	17°C /16°C
Lowest Cloud Condition:		Wind Speed/Gusts, Direction:	5 knots / , 240°
Lowest Ceiling:	Overcast / 1000 ft AGL	Visibility:	10 miles
Altimeter Setting:	29.68 inches Hg	Type of Flight Plan Filed:	IFR
Departure Point:	Waterloo, IA (ALO)	Destination:	Batesville, AR (BVX)

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	6 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 Minor, 6 None	Latitude, Longitude:	35.726222,-91.647444 (est)

Administrative Information

Investigator In Charge (IIC):	Folkerts, Michael
Additional Participating Persons:	Andrew Finne; Flight Standards District Office; Little Rock, AR Michael LeMay; Bombardier Aviation; Wichita, KS Dana Metz; Honeywell Aerospace; Phoenix, AZ
Note:	The NTSB did not travel to the scene of this accident.

Fly Safe!

Charlie

Safe to Land^(sm) Simulator Work Continues with FlightSafety

by David Miller, CJP Director of Programs and Safety Education

Since the CJP convention, Charlie Precourt and I have spent many hours in the Citation Mustang simulator in Wichita, KS assisting the FlightSafety team, including lead instructor Dax Beal, Director of Training; CJP Safety Committee member Jack Tessman; and Brian Moore, CEO for FlightSafety Textron Aviation Training (FSTAT), in the development of new software for CJP's Safe to Land (sm) simulator course.



Miller (L) and Jonathan Bailey, STL Subcommittee Lead

The industry's first-of-its-kind training, includes programming the Mustang simulator to replicate floating, drifting, and excessive airspeed during both instrument and visual approaches, which will cause our members to execute go-around decisions. Software performance specialists from FSI's Broken Arrow simulator facility in Oklahoma, were remotely connected to the simulator during our work in real time as we tested how changing weather conditions affect the pilot's decision-making process.

The STL program's goal is to consistently replicate approach instabilities in all of FSI's single pilot Citation simulators and to incorporate CJP's new STL "cue card" callouts during every approach. Using these callouts creates enhanced situational awareness and provides the pilot with a repeatable method to fly a stabilized approach.

Hands-On Experience

Member Larry King volunteered recently to fly to Wichita to assist in the STL M2/CJ3+ simulator course development. A pre-brief with FlightSafety's Jack Tessmann was followed by a 2-hour simulator session. Larry flew multiple approaches while software technicians adjusted environmental conditions to simulate various instabilities.



Larry commented, "This is a great way to experience the potential unknowns and surprises before they are real split-second decisions. The ability to practice and try 10-12 different potential scenarios in a 2-hour period is a very efficient way to address these real possibilities as well as how to improve your own decision making as part of the Safe to Land procedures. When this training package is finalized, this should be part of every pilots training, not just Citation jets."



The simulator portion of the STL program is expected to be available in the Mustang simulator in Q1 2023 followed by additional single pilot Citations across FSI's Learning Centers thereafter.

CJP's Precourt Receives Bombardier Standdown Award

CJP Safety Committee Chair Charlie Precourt recently received the 2022 Bombardier Safety Standdown Award in recognition of his lifelong commitment to safety.



While the award recognized Precourt's safety leadership throughout his career as a four-time space shuttle astronaut, U.S. Air Force test pilot and aviation executive, he noted the award also represents, "validation of the importance of CJP's Safe to Land (sm) and CJP FOQA initiatives, in particular.

"I'm thankful this award reflects so well on the great work CJP is doing to advance safety," Precourt continued. "The fact our work is being recognized by other professional flying organizations is quite gratifying."

Precourt was nominated by the Safety Standdown Advisory Council for the award, which was presented Nov. 10 on the final day of the annual industry safety gathering in Wichita, KS.

In addition to his work with CJP, Precourt also serves as vice chairman of the Experimental Aircraft Association (EAA) and is a member of the board of directors at the National Business Aviation Association (NBAA).

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.