



# THE CHARTERS SAFETY CHRONICLE

1st Quarter 2021

## PILOT SKILLS

*[Ed: The following article was published in the Wall Street Journal and was written by Andy Pasztor. It covers a presentation made at an aviation safety conference in Madrid.]*

A senior Airbus Group NV safety official has urged revamping pilot training world-wide, in one of the most forceful industry warnings to date about the dangers of undue reliance on aircraft automation.

Addressing an international conference of pilot-union leaders here in Madrid, Harry Nelson, a high-level company safety expert and former vice president of the European jet maker's flight test department, called for fundamental changes to improve manual-flying proficiency and other cockpit skills that have been de-emphasized over the years.

Other industry managers as well as pilot leaders have been moving gradually in the same direction by encouraging more practice of manual aircraft-handling skills in simulators, and even during some regular flights when the weather is good and the airspace isn't busy. But Mr. Nelson was unusually blunt in calling for substantially more effort in this area, while highlighting broader shortcomings of current training. He contends today's practices tend to be too boring and predictable for pilots, with rote simulator sessions often disconnected from actual flying experiences.

Perhaps most important, Mr. Nelson told roughly 600 pilots from around the globe that too many veteran aviators have come to view recurrent training sessions as an unwelcome annual or semiannual chore that can endanger their jobs if they perform poorly—rather than an opportunity to fine-tune skills, improve decision making and learn new safety concepts using increasingly realistic simulator technology.



For pilots in the middle of their careers "there is no perceived upside to the training," he said. "And that's wrong."

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## SKILLS.....cont'd

Mr. Nelson's comments amount to a striking criticism of many pilot training principles that airlines have relied on for decades, and which helped usher in the safest period in commercial aviation globally.

The speech was especially telling because Airbus, more than rival Boeing Co., has built its reputation and product line around increasingly advanced uses of automation to guard against accidents. But Mr. Nelson stressed his criticism wasn't directed at any particular airline or type of aircraft.

His views are shared by other safety experts. After learning the details of automation, pilots in the last few years have been encouraged to concentrate more on hand flying plus mastering the intricacies of switching between manual control and various levels of automation. Those are the issues "we're going to start practicing more and more, the transitioning in and out of these phases," Tim Canoll, the new president of ALPA, said in an interview during the conference.

The impetus for change, according to Joe DePete, who serves as the union's top safety official, was when "we started to see tendencies and trends" indicating erosion of basic flying skills. So in recent years many airlines started explicitly telling crews to manually fly aircraft under appropriate circumstances. "Now, we really focus on those hand-flying skills, and we encourage people to do it," he said.

All that, however, may be inadequate considering the industry's previous alleged infatuation with automation. In 2013 a U.S. government-commissioned study prepared by nearly three dozen international safety experts concluded that excessive pilot dependence on automation, combined with failures to master the latest cockpit technology, posed the greatest hazards to passengers. According to accidents and incidents analyzed by study participants, pilots frequently were reluctant to intervene to resolve automation problems, partly because "training methods, training devices and the time allotted for training" may have been inadequate. The Federal Aviation Administration has embraced many of the report's conclusions and taken steps to implement them.

But despite the airline industry's accomplishments, according to Mr. Nelson, carriers, plane makers and training organizations still have a long way to go to fully recognize the importance of training pilots to cope with extreme maneuvers or emergency scenarios intended to stretch their professional skills. Frequently, he told the audience, trainers focus too much on complying with regulatory requirements instead of teaching pilots new safety approaches and helping them become more resilient confronting one-of-a-kind emergencies.

"We do a lot of checking" of the same required maneuvers and emergency procedures each year, Mr. Nelson said, "but we don't do much teaching."

A shift in emphasis would require airlines to rewrite reigning curricula; the result could entail extra costs by extending total annual training hours per pilot.

Another issue Mr. Nelson raised could be equally thorny. As planes get ever more reliable and older generations of trainers with strong manual flying skills retire, their replacements typically lack comparable experience dealing with real-life emergencies. That is because dangerous malfunctions and close calls are much less frequent now than they were in earlier decades.

"Tomorrow's instructors will not be teaching from personal exposure" to emergencies that required pilot interventions, Mr. Nelson said. "They'll be speaking from hearsay."

As the dependability and sophistication of engines and flight-control systems continue to improve-making automation a major driver of safer skies-airline pilots spend the vast majority of their flying hours programming and monitoring onboard systems. During most trips, manual flying is relegated to barely a few minutes during takeoffs and right before touchdowns.

Now, Mr. Nelson and other experts are spending considerable time documenting some of automation's downsides, including low morale among many aviators. "It used to be cool to be a pilot," Mr. Nelson said. But these days "for a lot of pilots it's just another job," he said, adding that such attitudes provide further impediments to life-long learning.

## OUR MOST INSIDIOUS ENEMY

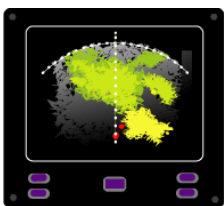
As professional Pilots, we have spent many hours learning our craft. We've become so good at the nuances for each phase of the operation, that those tasks have become second nature. Our most insidious enemy has found its way into the cockpit! COMPLACENCY!!!

When we become complacent, the potential for accidents, incidences and deviations increases. Seemingly harmless omissions combined with other factors create the chain of events leading to an accident.

The Captain sets the tone for the flight. Back each other up on checklists, be assertive when necessary. If you feel that the atmosphere of the cockpit has become complacent, SPEAK UP!

Another element of Complacency is that of not staying "in the books". A knowledgeable crewmember is a procedurally compliant crewmember. Your functional knowledge of the operation keeps complacency at bay.

### "TERRAIN, TERRAIN - Pull Up!"



A Minimum Safe Altitude (MSA) is defined by 14 CFR Part 91.119(a) as "an altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface."

The minimum altitudes depicted on approach charts provide at least 1,000 feet of obstacle clearance for emergency use within a specified distance from the navigation facility upon which a procedure is based. As a First Officer discovered, a night approach into an airport located in mountainous terrain requires good crew coordination and compliance with charted altitude minimums:

*Approach Control cleared us for visual approach approximately 30 nm northwest of the field. We were descending to 6,500 feet on the [STAR] when we received clearance for visual... The Approach controller directed us to "contact Tower 11 miles northwest." I looked down, set in the*

*localizer frequency for the ILS and Tower frequency in VHF#1 [radio], but did not select Tower While I was looking down, the Captain selected 4,500 feet in the altitude alerter, and I did not notice that this was well below the MSA of 5800 feet...*

*Around 15 nm...I selected Tower. Shortly thereafter we received an EGPWS alert for terrain. I noticed the black shapes of terrain approximately 3 miles right of us and the Captain started a climb out of 5,200 feet to 5,500 feet. Tower contacted us...when Approach Control notified them that he had a low altitude alert on us.*

*I failed to provide proper back-up by not noticing the new altitude in the alerter, or noting that it was below MSA. I also switched the VHF to Tower prior to 11 miles, which prevented us from hearing Approach Control's warning, Further, while I saw the mountains on the right, I failed to verbalize anything to the Captain because I assumed he was lining up on the runway and we would pass well left of them. These mountains rise to 4,687 feet and have no light or beacon on top. At night, with good visibility, it is hard to judge their position.*



# The Case of the Unstable Approach

AA Order 8400.10 defines a stabilized approach as "maintaining a stable speed, descent rate, vertical flight path, and configuration during the final stages of an approach." Significant speed and configuration changes during an approach can complicate tasks associated with aircraft control and increase the difficulty of evaluating an approach as it progresses. The evidence presented in these recent ASRS reports demonstrates that instability is no defense when an approach goes bad.

## The Hold Up

*Approach assigned us Runway 32L for landing and then held us up high and fast (210 kts/6000 feet). Finally, we received approach clearance for a visual with a turn inside the marker. We told Approach that we were unable to accept because we could not make it down and meet company requirements for a stabilized approach. We asked for an extended The downwind but then were told (after a handoff) that we were now cleared for a visual to Runway 32R.... We were high and fast all the way and landed long on Runway 32R (but on speed).... It was uncomfortable being in a situation that didn't meet our company standards for a stabilized approach below 1,000 feet AGL....*

*Lessons learned: 1) We should have gone around and not accepted the set-up. 2) Approach facilities need to be educated about the capabilities of [various aircraft]. Some can't get down and slow up as quickly as others.... You have to plan ahead. 3) Recognize the importance of a stabilized approach. [Final approach] is not the time to be changing runways, working the FMC, configuring the aircraft, etc.*

*[We] called Approach Control after landing, voiced [our] concerns about how we were handled...and re-emphasized the importance of a stabilized approach.*

**The Kalitta Charters Safety Chronicle is published every quarter by the Safety Department. Please feel free to contact us with questions, comments and suggestions at:**

**Kalitta Charters  
RONALD FANSLER - Dir. of Safety  
Willow Run Airport**



# THE CHARTERS SAFETY CHRONICLE

2nd Quarter 2021

## SEE and AVOID

The number of midair collisions in the United States has averaged 30 per year since 1978.<sup>1</sup> These accidents primarily involve General Aviation aircraft, but Air Carrier, Corporate and other operators are by no means immune from potentially serious airborne conflicts.

In the preceding 12 month period, over 4,000 in-flight traffic conflicts were reported to NASA ASRS. Of these, 235 met the ASRS criteria (within 500 feet) for a Near Midair Collision (NMAC). Nearly half of these NMAC's involved Air Carrier, Corporate and Air Taxi operations.

Technological advances such as the Traffic Collision Avoidance System (TCAS) and Conflict Alert (CA) have enhanced the ability of pilots and controllers respectively to resolve airborne conflicts before they become critical, but the following ASRS reports show that the "see and avoid" principle remains a crucial aspect of collision avoidance in visual conditions.

You may be following all the rules, but there is no guarantee that everyone else is. This SF340 flight crew had an all-too-close encounter when a crop duster approached out of the sun, at the wrong altitude and apparently not watching out for traffic.

While level at 8,000 feet, we experienced a near collision with a turboprop crop duster. The other aircraft was coming from our 11 o'clock position and traveling northwest to southeast.

It passed 300-500 feet in front of our aircraft and less than 100 feet above our altitude. The duster was so close that we could feel its wake turbulence as it went by. Our TCAS was operating and showed no other aircraft. Center and Approach Control gave no traffic warnings. No evasive action was taken as the encounter was over before we could take any.

We were doing everything correctly at the time of the incident. All of our checklists were complete and there was very little distraction inside our cockpit. We had followed all ATC instructions and our aircraft was in the correct location for our flight plan and ATC guidance. It is possible that the crop duster was blocked by my sun visor and possibly the window pillar, as this creates a blind spot in the direction of the other aircraft. That aircraft was also coming at us from the sun and at the wrong altitude for the direction of flight. Although we had all of our exterior lights on and were following instructions and standard operating procedures, it's always necessary to watch out for "the other guy." Even if TCAS is installed and you're under ATC direction, "see and avoid" is still every pilot's responsibility.

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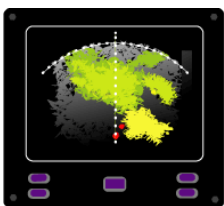
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