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SAFETYWIRE

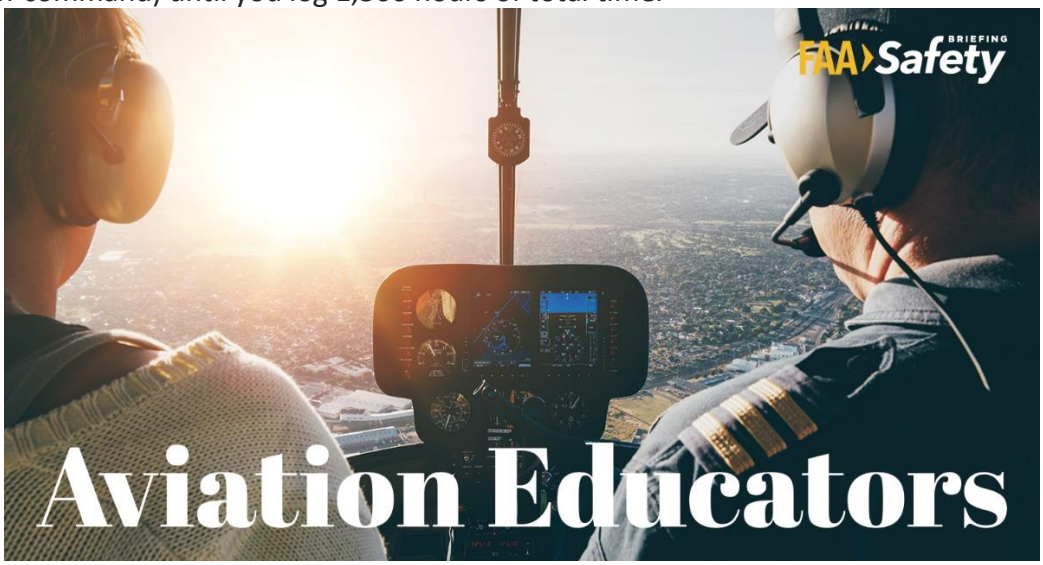
The Expectations of Experience

(Source: Karen Kalishek & Paul Preidecker; FAA Safety Briefing, June 20, 2024)

When a pilot is interested in training for another certificate, it's common to hear the question, "How much time do I need to get an airline transport pilot certificate (ATP)?" Not very many ask, "What kind of experience do I need to get an ATP?"

The time versus experience discussion has been around for as long as we have been flying. After the implementation of Public Law 111–216 in August 2013 requiring an ATP certificate to operate in the part 121 environment, much energy and debate has been devoted to this issue. It's a topic that polarizes the industry. The regulations required to support this law are often referred to as the 1,500-hour rule. It would be more accurate to call it the ATP rule. The number of hours required to be eligible for an ATP has always been 1,500. What changed was the need for an ATP certificate to work in a part 121 operation. Before the change, only the captain required an ATP; the first officer could have a commercial certificate. Now, both crewmembers need an ATP.

There are well-known pathways under Title 14, Code of Federal Regulations (14 CFR), section 61.160 that allow issuance of a restricted ATP with less than 1,500 hours. If you want details, 14 CFR section 61.160 (a-d) outlines the requirements for a restricted ATP allowing certification with 750, 1,000, and 1,250 hours based on meeting specific requirements. The "restricted" part simply means that you are not allowed to upgrade to captain (pilot-in-command) until you log 1,500 hours of total time.



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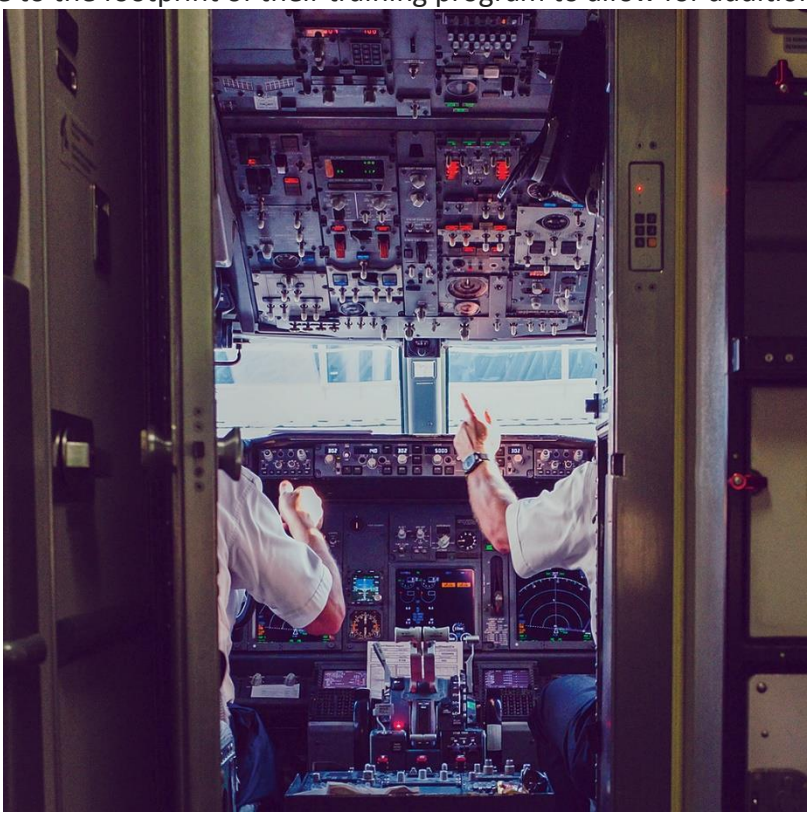
Time Flies By, But Experience Lasts

The time versus experience discussion is not binary. You cannot have experience without time. In our opinion, though, the right experiences are the keys to success in flight training. The dynamics of pilot hiring and pilot training have changed over time. There was a time when airlines were hiring pilots with 500 flight hours or less. These pilots were successful and are now in the left seat at an air carrier. No one thought they were unsafe because they "only" had 500 hours. They were safe because they came with the right experience, which was then combined with quality training. That should be the focus. In a nutshell, quality training is the bridge between time and experience.

Graduates of accelerated programs and those on the pathways to a restricted ATP must build hours to meet the current regulations if they are looking for an airline job. Opportunities to build time include flight instruction, aerial surveying, pipeline patrol, and perhaps banner towing. However, building your time in the latter three will not help your instrument scan or skills. That leaves flight instruction as a common and practical pathway.

The industry is experiencing rapid growth and turnover of pilot resources. The mainline carriers are drawing pilots from the regional airlines, and the regional airlines are drawing from the flight schools. Depending on the situation, a new flight instructor may have 300 hours of total time and teach for a year before moving on. Is that enough time to get the right experience needed for an airline training program? In many cases, no. Airlines have added time to the footprint of their training program to allow for additional skill building.



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The Consequences of a Time Focus

Experience has implications broader than the career path of an individual pilot. At the National Association of Flight Instructors (NAFI), we saw from field reports and research that there was an alarming drop in pilot exam first-attempt passing rates in 2022. We brought this trend to the attention of the General Aviation Joint Safety Committee (GAJSC). Statistics and anecdotal evidence indicate that it was not a short-term blip; rather, it has been a longer-lasting and concerning degradation. FAA designated pilot examiners (DPEs) share stories reflecting a general lack of training depth that is associated with higher rates of test failures.

While there are numerous factors involved, the appeal of entering a lucrative airline career has been combined with a mindset that seniority is extremely important in the airline world. The resulting market demand to meet airline hiring criteria as quickly as possible resulted in the rapid growth of accelerated flight training programs and general pressure throughout the flight training industry to provide training to a significant number of pilot candidates as efficiently as possible.

The FAA issued 134,057 pilot certificates in 2023, a 26% increase from 2022. A total of 69,503 student pilot certificates were issued in 2023 and 11,337 new flight instructor certificates. A consequence has been a growing number of flight instructors with high student loads passing through the profession for a short period. Although experience is gained incrementally through training multiple pilots, there may be little time or motivation for reflection, honing instructional skills, and further self-study. This environment lends itself to a leaky bucket in which pilots who have received marginal training become flight instructors enroute to other work. A lack of experience spreads over time to a broader group as instructors pass their ever-thinner knowledge and skills to the next generation. Pilots in training who are focused on the goal of acquiring certificates and their own rapid advancement may not recognize areas where their own training is insufficient until an examination is unsuccessful. It is not necessarily better if they pass with only marginally acceptable performance, because they move through the system to potentially become flight instructors.

Broad trends do not, of course, reflect individual circumstances. Many relatively inexperienced instructors are excellent at teaching. These instructors have a professional attitude, realizing that primary training, which is most of their work, is the foundation for every pilot and passenger's safety. They understand that they are role models for their learners and take their instructional responsibilities seriously. Although they may be active as flight instructors for a relatively short period, they approach the position with respect for its importance and do their utmost to provide the best possible outcome to those they educate.

Regrettably, our industry also includes active instructors who have somehow achieved flight instructor certification without some of the skills required of a private pilot. It includes those who, for example, have never filed a VFR flight plan and cannot use or teach VOR navigation effectively. DPE get-togethers abound with stories of candidates who indicate that an aircraft engine has one cylinder, depart in the wrong direction under pilotage, and quickly become lost, and a multitude of other failings. While there remains pressure to increase throughput in the pilot pipeline, the truth is that degraded training clogs the system with those who are under-trained back for retraining and retesting.

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Technology Matters

It's important that we, both as individuals and as an industry, leverage technology to create the path to experience. Advances in simulation technology and attractive pricing make this option more available for everyone. Even if you use a flight training device (or aviation training device) that does not count as credit toward time for a certificate or rating, you are still building skills. Flight training devices are an excellent way to practice emergency procedures that would be difficult, if not impossible, to perform in an actual aircraft safely. Flight training devices offer the chance to fly a more complicated arrival or departure procedure. They help with your scan and are a very efficient use of time compared to the actual aircraft where you might be sitting for 15 minutes or more with the engine and clock running, waiting to depart from a busy airport. Combining flight simulation technology with scenario-based training helps you add experience to your time.

Some well-known part 141 flight schools have incorporated virtual reality (VR) technology into their training programs. Currently, there is no approved time credit from the FAA for pilots who use this technology. However, as the schools have discovered, the absence of credit does not mean the absence of proficiency and safety training benefits.

Experience Is the Value of Time

We all have our reasons for becoming involved in aviation. Many opportunities are available. If you choose flight instruction as a path to another career, take that time to be the best possible instructor you can be by setting good examples of leadership, professionalism, and knowledge. You'll be encouraging those you teach to do the same. We all win with the right experience. Experience and dedication to training excellence matter.

Experience Matters

— Paul Preidecker

When I was a flight instructor at Middleton Municipal Airport (C29) near Madison, Wisc., the owner had created a nationally known instrument training program called Morey's West Coast Adventures. Hundreds of pilots took advantage of the unique training offered by this program. Two pilots arrived for each "adventure" with a minimum of 20 hours of basic attitude instrument flying. Then, in a turbo Cessna 182RG, we launched across the U.S. towards Seattle, along the coast to the Los Angeles basin, and back to Wisconsin, having crossed the Rocky Mountains twice. The trip took six days, with 40 approaches, and about 45 hours split between the two pilots. At the end, the pilots received a practical test. I was the instructor pilot on 23 of those trips in 24 months. This method of training was meant to immerse pilots in the experience of instrument flying. When I applied to a regional airline, the chief pilot looked at my resume and said that while I did not meet all the time requirements (no turbine time), I more than made up for it with experience. What kind of experience? Cross country, pilot-in-command (PIC), and instrument flying in instrument meteorological conditions (IMC). I had a class date three weeks after my initial contact with the airline and quickly moved into the airline's training department.

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Paul Preidecker has been a flight instructor for almost 34 years. Retired from a regional airline as chief instructor, he has served on various industry committees, was co-host of FAA Safety Briefly Live, and is president of the National Association of Flight Instructors. Paul is also president of his own company, FlightDeck Insights, where he develops and promotes best practices and SOPs for the general aviation pilot.

Karen Kalishek is a flight and ground instructor, ATP, NAFI Master and FAA Gold Seal Instructor, and DPE. She is chair of the National Association of Flight Instructors, a major in the Civil Air Patrol, 2019 National FAASTeam Representative of the Year, and active in numerous FAA and industry groups. Before aviation, Kalishek was a banking executive, taught graduate school, and spent over 20 years as an international consultant.

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Accident Recovery: Running on (Almost) Empty

(Source: David Jack Kenny; ROTOR Media, June 10, 2024)

Your planned fuel stop doesn't have fuel. Now what?

Thanks to their unparalleled flexibility in where they can land, helicopters are less susceptible to accidents caused by fuel exhaustion than just about any other class of aircraft. That doesn't translate to complete immunity, though. Precisely the wrong combination of insufficient planning, ill-advised pilot decisions, inhospitable terrain, and just plain bad luck can result in the engine quitting while the aircraft is still in the air. And each such accident follows a moment or two when a different decision could have eliminated the risk of crashing.

The Flight

On Jun. 11, 2023, a pilot and an aerial photographer boarded a Bell 206B JetRanger at Dodge City (Kansas) Regional Airport (KDDC) to continue a pipeline inspection. They'd stayed in Dodge City overnight after - completing the previous day's work. Winds were gusting to 26 kt. when they met at 8:00 am but were forecast to subside, so they waited about an hour before taking off.

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The main pipeline the pilot and photographer were following ran southwest to the vicinity of Beaver in the Oklahoma panhandle, and the pilot determined that they could inspect that area and all the branches "except one really long one" en route. The pilot planned to refuel at Perryton Ochiltree County Airport (KPYX), 20 miles southwest of the end of the pipeline and just across the Oklahoma panhandle in northernmost Texas.

They landed at Perryton but found no one at the FBO. There was a self-service pump, but, to quote from the pilot's account on the NTSB's Pilot/Operator Aircraft Accident/Incident Report form (Form 6120.1):
"I began paying for the fuel and getting the grounding cable and hose pulled out for the refuel. I couldn't get the fuel pump to operate correctly. I threw every switch and pressed every button on the pump and it did not work. I called the airfield manager on the number that was left on the desk and there was no answer. Left a message asking for help with the pump. My passenger and I walked around the airfield looking in hangars to try to find someone that might be able to help and weren't able to find anyone. We still had over half a tank of fuel so we decided to depart and fly a new main line to the north and we would break off for fuel at a nearby airfield."

As they flew north past Ashland, Kansas, the pilot decided to refuel at Comanche County Airport (3K8) in Coldwater, Kansas. While planning the flight that morning, he'd identified 3K8 as offering full-service Jet A, but "upon arrival that was not the case."

The Wichita sectional chart depicts 3K8 with symbols indicating fuel is available, but the FAA's Chart Supplement (formerly the Airport/Facility Directory) lists only 100LL gasoline. The pilot surmised that he must have mistakenly pulled up the listing for Comanche County, Texas, instead.

With the fuel gauge showing 15 gallons and the nearest source of Jet A 40 nm northeast at Pratt Regional Airport (KPTT), no available options looked good. Hopes to flag down a motorist for help faded as 20 minutes went by without a single vehicle passing the airport. The pilot ultimately decided "to fly north 15 to 20 miles and find a road to land next to" as offering a better chance to flag down a passing vehicle or "even be able to get a call out from the fuel truck at KPTT."

About 20 miles northeast of 3K8, the helicopter crossed a sizable wind farm, one of many in the area. After clearing the turbines, "we [were] pushing 25 to 30 miles and I was looking for a good spot next to a road." He identified a landing site and set up the approach, but at about 100 ft. agl and 40 to 50 kt. the engine flamed out due to lack of fuel. The pilot entered autorotation but touched down hard. "The nose pitched down and the tail came over the top, and the aircraft came to rest on the left-hand side," he reported.

The skids separated, the main rotor severed the tail boom, and the helicopter rolled onto its left side. Its owner described the main and tail rotors as "completely destroyed." The pilot and photographer escaped through the shattered windows. While the National Transportation Safety Board (NTSB) officially classified their injuries as "minor," the pilot described the photographer as "bleeding badly in a few places," which he helped dress. After finding his phone in the wreckage, he was able to call 911.

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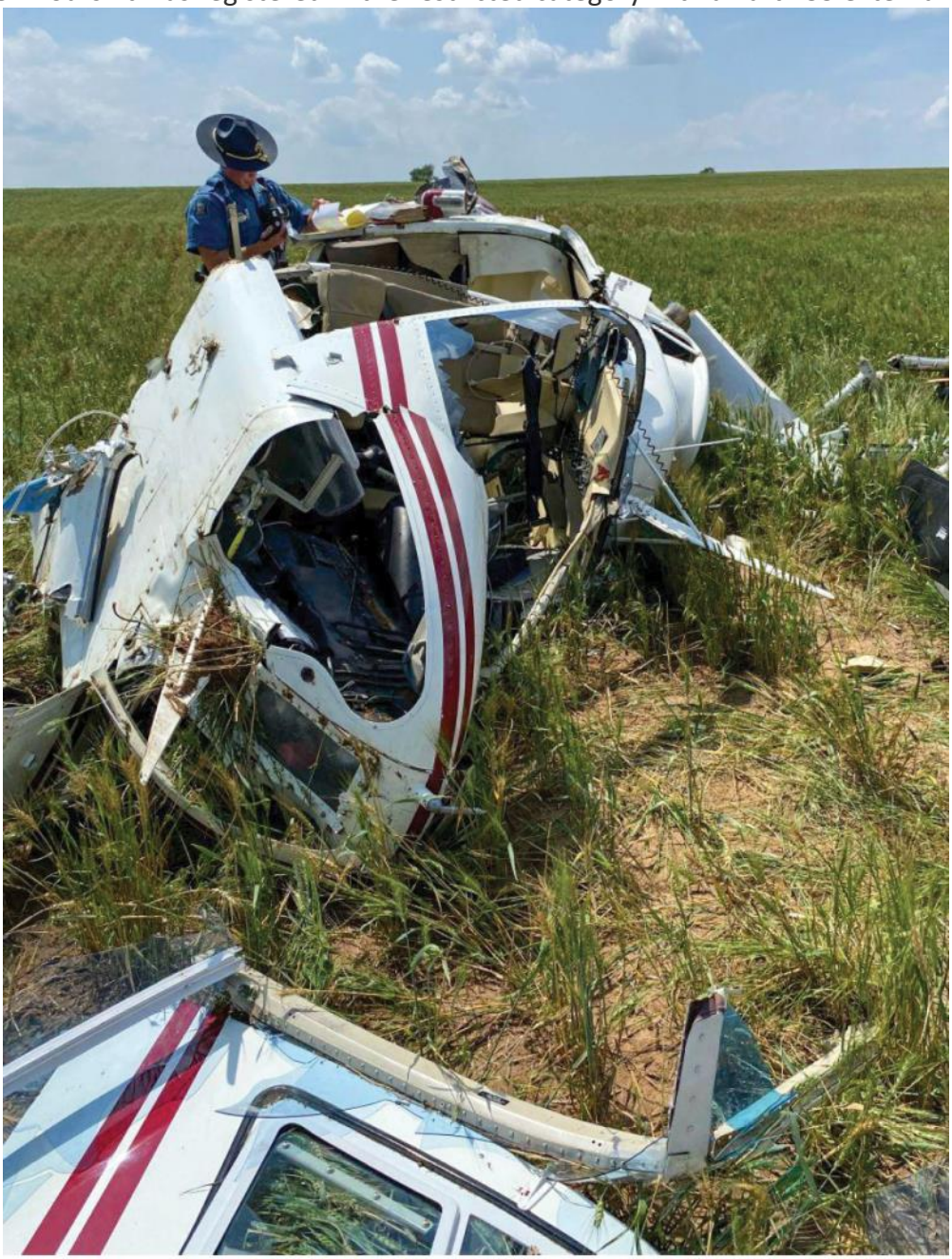
The Aircraft

The Bell 206 has a semi-rigid, teetering, two-bladed main rotor and a conventional two-bladed tail rotor driven by a single Rolls-Royce (formerly Allison) M250 turbine engine rated for 420 shp. Standard fuel capacity is 91 gallons. At its last 100-hour inspection 15 days before the accident, the 1972-model helicopter had logged 22,057 hours. It was registered in the restricted category with a Part 133 external-load certificate.



The Bell 206's main rotor and tail rotor were completely destroyed as a result of the accident. (National Transportation Safety Board/Local Authority Photo)

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The Alternatives

The two obvious decision points during the flight were the departures from Perryton and Comanche County. (On the ground with the engine shut down, the risk of an accident is just about zero.) However, opportunities to avoid the accident were available before the pilot and photographer left Dodge City. Small airports in rural areas don't get a lot of traffic and consequently may not pay for continuous staffing. An advance call to Perryton advising of an ETA might have improved the prospects of someone being there to help—and if no one answered, flagged that airport as unreliable for fuel-planning purposes.

Several more options were open after they landed at Perryton. Perhaps the simplest and potentially most useful was to phone back to base, asking for help identifying fueling stops that aligned at least somewhat with their inspection schedule. (The helicopter's operator is a substantial firm specializing in power-line and pipeline inspections by both airplanes and helicopters, so it seems likely someone would have been there to answer the phone and would have had the resources to perform the search.) If that conversation wasn't helpful, the fairly busy Liberal (Kansas) Mid-America Regional Airport (KLBL) was less than 40 nm to the north-northwest—not the direction of the patrol route but well within their existing fuel supply.
The published reports don't state whether the pilot communicated his plan to refuel at Comanche County back to his employers, but that information would surely have helped them decide how to manage the situation.

Finally, whereas gasoline engines can't burn jet fuel—misfueling has caused detonation progressing to several catastrophic engine failures—turbine engines have some ability to burn gas. The operations manual for the Rolls-Royce M250 engine lists MIL-G-5572E, essentially aviation gasoline of whatever octane rating, as an emergency fuel to be burned with the boost pump on for no more than six hours per turbine overhaul cycle. The Bell 206B flight manual doesn't seem to mention this option, however, so we can't fault the pilot for not knowing that pumping 15 or 20 gallons of avgas at Comanche County would have gotten them to Pratt.

The Takeaway

Even in the densely populated regions that boast multiple full-service FBOs within any 50-mile radius, availability of fuel is never guaranteed. Whether due to mechanical problems with the truck (where there's no self-service), the self-service pump (where there's no truck), or the only staffer taking an off-airport lunch break on a slow day, situations arise in which a planned fuel stop suddenly isn't one. The question is, what do you do then?

Numerous factors figure into the answer. How much fuel do you have left? Do you know where the nearest alternative source might be? Can you reach someone to help you figure that out if you don't have the answer at your fingertips?

It's already given that the day's plans are going to need some readjustment, so don't be afraid to step back and focus on the bigger picture: the aircraft isn't going to fly long after the fuel runs out, and the consequences of an unplanned landing are almost never better than those of a flight that concludes as planned.

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Far-flung rural airports—often unattended, perhaps with self-serve equipment of unpredictable reliability—compound those concerns, and their operators aren't necessarily energetic about filing NOTAMs advising of outages. This places a still heavier burden on the pilot or dispatch office to confirm fuel supplies before taking to the air.

In both situations, however, one fact remains constant: Landing because you don't have enough fuel is wise. Taking off for the same reason isn't.

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Advisory Circular Issued on New SMS Rules

(Source: AIN, Gordon Gilbert, July 24, 2024)

The FAA recently published Advisory Circular AC 120-92D to help operators comply with new rules that require certain operators to develop safety management systems (SMS) under FAR Part 5. The new requirements apply to Part 135 on-demand operators, air tour operators, Part 21 design or production certificate holders, and certain Part 91 operators approved to conduct air tours.

The 130-page document also updates a 2015 AC and applies to operators previously required to have an SMS under Part 5, such as Part 121 and 135 airlines. This revised circular also might assist aviation organizations interested in receiving “FAA acknowledgment” of their voluntary development and implementation of an SMS. Additionally, the AC provides organizations with a method to meet ICAO Annex 19, which addresses “safety management framework for an SMS acceptable to the state.”

Because operators range widely in complexity and size, the circular states that SMS policies, methods, and procedures can be tailored as needed. However, this scalability “does not allow the aviation organization to set aside any sections of Part 5.” The AC provides some examples of how an organization may integrate “new practical, economical, and effective SMS methods and procedures that complement their existing operations and processes while leveraging the policies, procedures, or methods already in place that comply with Part 5.”

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SAFETY MANAGER'S CORNER

What is a Company Risk Profile

The company risk profile helps to form the aviation organization's focus of formal risk management. Described as a "map that charts the contours of higher risk," a risk profile should heighten awareness, direct resource allocation, and improve SMS focus. From a high level view, think of it as a risk report card, used to track the examination of prominent risk characteristics of an aviation operation.

Just as an operation is dynamic, the risks faced are dynamic as well. Identifying hazards and relevant risk is essential, but how can this be standardized and consistently applied? That's how a risk profile can help. If we use a definition of profile as "a representation of something in outline" we can begin to notionally define its construction. Activities and processes that result in the ongoing identification of risk are necessary precursors; SMS components such as the internal evaluation program, safety hazard reporting, employee meetings, and management brainstorming all act as tributaries feeding into the risk profile.

How is the Risk Profile Created?

The purpose of any form is to simply store the information in a standard and usable manner. Select or develop a form or template that can accomplish this function for your operation. Every risk profile form must contain an examination of the risk exposure associated with prominent organizational and operational areas, and a listing of specific details of how that risk is assessed by the company. If utilized correctly, a Company Risk Profile form accumulates previously scattered information and places it in a single location to facilitate awareness, decision making, and action. Individual risks should be separated into common functional areas like aircraft operations, aircraft maintenance, human factors, and facilities. These are just typical examples; you may determine more or others that apply to your risk profile. Using information collection tools like those mentioned above, the profile is populated with summary statements describing ongoing risks. For example, safety hazard reports collected over the previous two years indicate pilot induced FMS errors have occurred consistently. This safety data point can now apply to risks in several different areas of a profile. Entries in the risk profile areas of aircraft operations (departure and arrival) and human factors (fatigue and air crew performance) are appropriate and now hone manager's focus, keeping the relevant risks in view.
Ongoing Activities

The risk profile must be reviewed consistently if it is to be effective. Things are always changing and it's important to identify that change and capture the linked risk. Don't let the risk profile become just another form that only sees the light of day when an audit is around the corner. Let it be the tool it is designed to be, helping your operation manage risk effectively.

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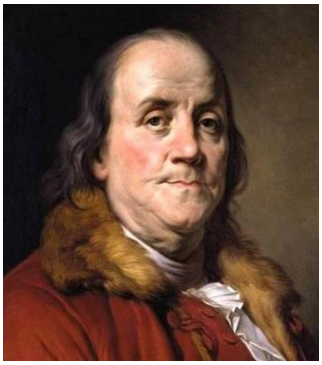
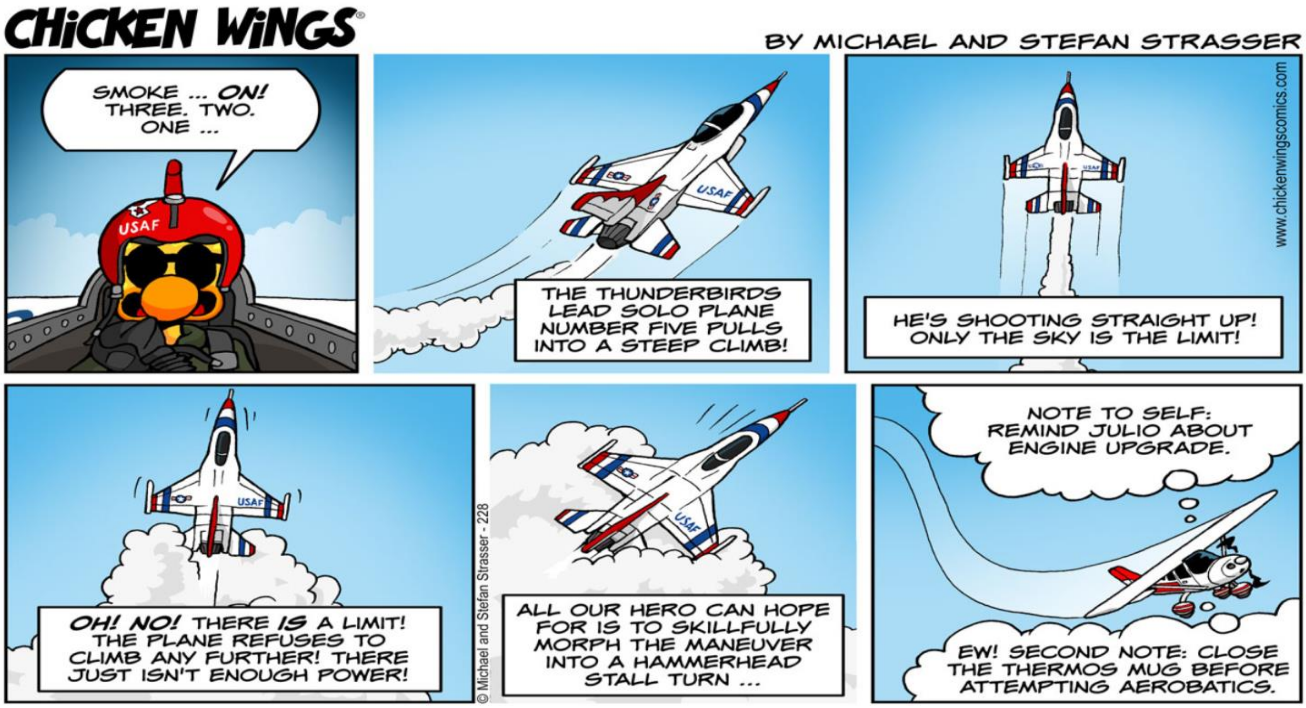
Quote of the Month

Well done is better than well said.

BY: Benjamin Franklin



Building your SMS strategy requires first understanding the context in which SMS was formulated. It is the culmination of many years of trial and error in safety management that resulted in a framework of inter-related activities formally named SMS. These activities are designed to be tailored to your organization, so you need to have a strategy for how to implement and maintain them. You will probably not get it right from the very be- ginning but the worst thing you can do is settle for something incomplete —or worse, something that people do not relate to. So, form your SMS strategy, examine it regularly, and keep an open mind about recognizing its shortfalls and making adjustments.



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Denver, CO

September 12, 2024—PROS

Course **Risk-Based IOSA**

Training

Virtual

September 24 to September 26, 2024—PRISM Course

Safety Management System (SMS)

Denver, CO

November 7, 2024—PROS

Course **Risk-Based IOSA**

Training

Virtual

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ALAT Training

Denver, CO

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