The Safety Wire

April 2022

The author of his own miracle.

Antoine de Saint-Exupery wrote this of a pilot who had crashed while flying mail in the Andes Mountains in Chile during the 1930s, in the winter. The rescue teams said that even if he survived the crash, he would not live through the night. A week later, the pilot stumbled out of the wilderness, barely alive. The story that follows is an unbelievable tale of human endurance and perseverance. It is rivaled only by Saint-Exupery's own account of his survival after crashing in the North African Dessert. Amazing as the story was, I was struck by the phrase, "author of his own miracle."

The aviation industry has no shortage of what the general public views as 'miracles.' The machines and equipment we invent and maintain defy what was previously deemed possible. Flying around in public safety aircraft is a nearly impossible career to get in to, involving a significant amount of hard work and good fortune. Some of our crews are able to perform unbelievable displays of skill, like finding the little toe of a suspect peeking out from a hiding spot in the middle of the night. Successful responses to inflight emergencies are the stuff of legend, with aircrews walking away from what should have been certain death.

All these miracles have one thing in common, people authored the outcome. Whether it is studying new material or reviewing old stuff, practicing techniques, learning new skills or perfecting old ones, we are determining if our next challenge will be a miracle, or a disaster. I have caught myself letting people write the outcome of my next chapter. It is easy to use the perceived failure of others to provide training, equipment, motivation or opportunity as an excuse for personal laziness. I know, I've done it too much.

There is something we can all do right now to drive the outcome of our next encounter with fate, something that only requires our own effort and dedication. If you are not sure what you can do, I promise you APSA has a resource that you can use to write your own miracle. Take advantage of the opportunities this association has to offer. If you are not determining your own course, you are missing the opportunity to experience something incredible.

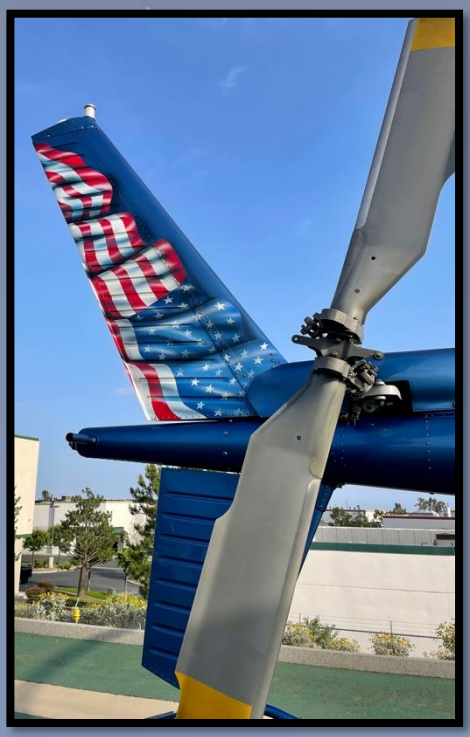
"There's a big difference between a pilot and an aviator.
One is a technician;
the other is an artist in love with flight."

~Elrey Jeppesen

ONLINE MEETINGS

APSA conducts regularly scheduled online meetings for safety officers, maintenance technicians, SAR personnel, UAS operators and natural resource personnel via a conference call you can join using your computer, mobile device or phone. Online meetings are open to any APSA member. Contract maintenance providers to APSA members are welcome to participate in the maintenance meeting as well. If you would like to join, send an email to: safety@publicsafetyaviation.org

The schedule for upcoming APSA online meetings is as follows.



UAS:
Wednesday, May 11, 2022
1:00 PM - 2:00 PM EDT (1700 UTC)

Safety Officers:
Friday, May 27, 2022
1:00 PM - 2:00 PM EDT (1700 UTC)

Maintenance:
Wednesday, June 15, 2022
1:00 PM - 2:00 PM EDT (1700 UTC)

Natural Resources:
Wednesday, June 29, 2022
1:00 PM - 2:00 PM EDT (1700 UTC)

SAR:
Wednesday, August 10, 2022
1:00 PM - 2:00 PM EDT (1700 UTC)

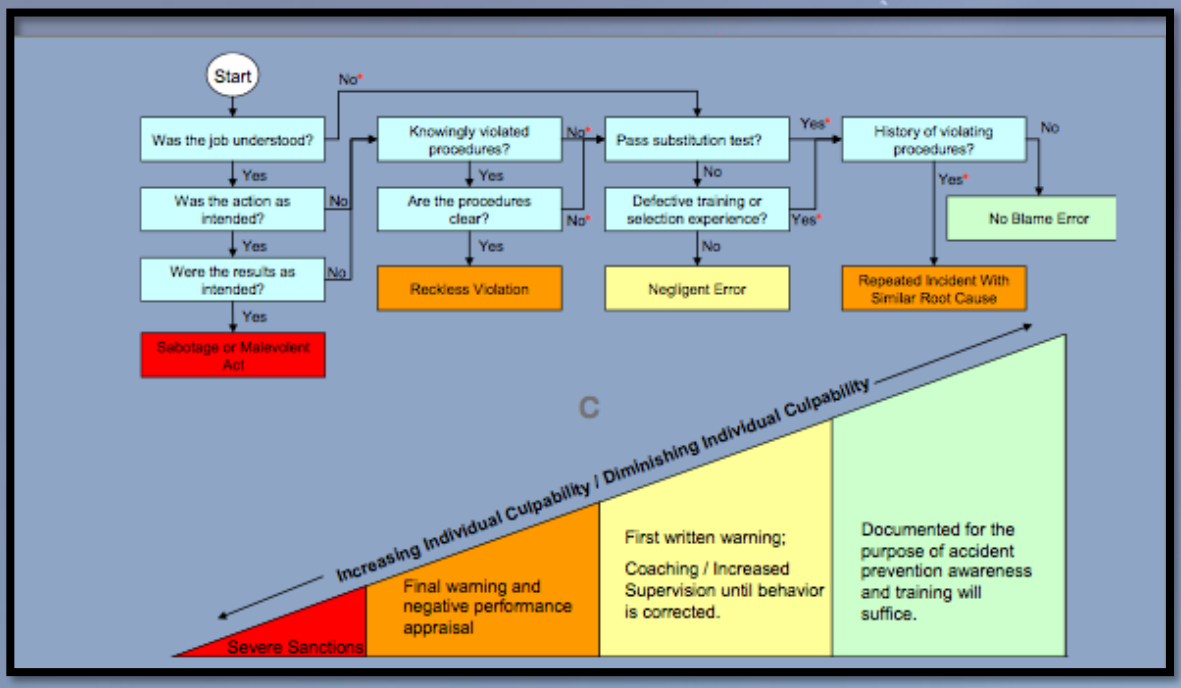
SAFETY MANAGEMENT SYSTEMS

Just Culture is a concept most have heard of. It is also a concept that can be difficult to apply to the real world. This is especially true in the discipline-heavy law enforcement culture where most employee errors are treated with public administrative floggings and executions. The general goal of Just Culture is to encourage reporting of incidents, problems and concerns so they can be dealt with before accidents happen, or repeated. It recognizes that all people are subject to human error and even good employees make honest mistakes.

Since 90% or more of errors are based on a problem with the entire operating system of the organization (policies, procedures, tactics, techniques, culture, training, etc.), there is a higher need for identifying and resolving the cause of the error than punishing everyone who makes a mistake. Just Culture does recognize, however, that sometimes, though not often, discipline is the right response when employees intentionally violate policies and procedures for no explainable reason. How to navigate this

confusing concept? A simple flow chart can get you started.

This is especially useful after an actual ‘problem’ occurs and everyone is mad and thirsty for blood. The chart below is taken from the SMS Toolkit:



“Flying is done largely with the imagination”

~ Wolfgang Langewiesche
Stick and Rudder, 1944

EMERGENCY PROCEDURE OF THE MONTH

In each monthly emergency situation, discuss what you would do, as a crew, to respond to the following emergency. If the EP does not apply to your specific aircraft, think of something similar.

Bird strike - glass breaks and hits pilot in face

REALITY CHECK

Note: *The following reports are taken directly from the reporting source and edited for length. The grammatical format and writing style of the reporting source has been retained. My comments are added in red where appropriate. The goal of publishing these reports is to learn from these tragic events and not to pass judgment on the persons involved.*

Aircraft: Bell 206L-1
Injuries: 3 Fatal
NTSB#: CEN10FA509

https://data.ntsb.gov/carol-repgen/api/Aviation/ReportMain/GenerateNewestReport/77134/pdf

The air ambulance positioning flight was enroute to a landing zone to pick up a patient for transfer. One witness in the accident area described a helicopter circling overhead, and another witness reported that they heard the sound of crashing metal or the impact of the helicopter with the ground.

Radar and global positioning system data depicted the accident helicopter reversing course multiple times just prior to the accident. The flight path of the helicopter prior to the accident was consistent with spatial disorientation and subsequent loss of control due to an inadvertent encounter with instrument meteorological conditions.

The wreckage was located in forested terrain approximately 3.5 miles south of the intended destination. The wreckage distribution was consistent with an in-flight separation of the main rotor and tail boom. An examination of the helicopter airframe, engine, and related systems revealed no pre-impact anomalies. Both the main rotor assembly and tail boom separated in overload. The main rotor tie down strap found wrapped around the blade was a result of the accident sequence and did not contribute to the accident. Weather information indicated a moist stable environment from the surface to approximately 2,500 feet, which supported low clouds and stratus below 2,500 feet. In addition, an AIRMET had been issued for instrument meteorological conditions (IMC) due to low ceilings and poor visibility. The Area Forecast advised of marginal visual meteorological conditions in the state of Arkansas. Witnesses in the area described the weather as hazy or foggy, with overcast skies. One witness stated that it was very dark and no moon could be seen.

The investigation was unable to determine what information the pilot had or method he used to obtain weather information prior to the flight. The pilot held a commercial pilot certificate and an instrument rating. He had received instrument training, including inadvertent flight into IMC; however, the company did not operate in IMC. The pilot was trained and had recent experience in the use of night vision goggles. The investigation was unable to determine if the pilot was using the night vision goggles at the time of the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of aircraft control, due to spatial disorientation, resulting in the in-flight separation of the main rotor and tail boom.

Aircraft: **Cessna 182G**
Injuries: **None**
ATSB#: **AO-2019-002**

https://www.atsb.gov.au/media/5777307/ao-2019-002_final.pdf

The pilot conducted the take-off at about 1045, as the aircraft passed over the end of the runway, he raised the flaps and continued to climb. The pilot reported that, at about 400 ft above ground level, there was a sudden loss of power and aircraft climb performance, and he observed the propeller was windmilling without sound. He later described the power loss as being similar to the mixture control being pulled back. A witness at Tooradin Airfield recalled that the power loss sounded like a sudden closing of the throttle and there was no rough running.

The pilot lowered the aircraft nose and identified a suitable area to make a forced landing which required a heading change of about 45º to the west. He checked the engine controls and fuel selector were correctly configured and had not been disturbed by parachutists entering the aircraft.

The pilot recalled that he conducted a flapless approach at about 70 kt to the identified landing area. During the descent, he instructed the passengers to prepare for a forced landing.

The aircraft touched down in a relatively flat, open paddock. It initially bounced on the unprepared surface before settling on the ground and passing through two boundary fences. The pilot attempted to slow the aircraft and maneuver to avoid trees. As the aircraft passed through a gap in the trees, the left wing strut collided with a tree, which resulted in the left wing folding over on top of the right wing and fuel leaking from it onto the fuselage. The aircraft further collided with a third fence, crossed a private road, and collided with a fourth fence, which collapsed the nose landing gear.

The pilot ordered the passengers to evacuate. Both doors were displaced open during the accident sequence and an interior panel from the rear of the cabin had propelled forward onto the parachutists. The panel obstructed emergency egress and was removed by the pilot.

The carburetor fitted to VH-DGF contained aluminum oxide corrosion deposits. These were of sufficient size such that, when loosened, they probably blocked fuel flow within the carburetor, resulting in the aircraft engine suddenly losing power shortly after take-off. As the carburetor bowl is on the 'downstream' side of the defenses to prevent contamination, there are maintenance and storage processes to ensure its serviceability. The corrosion was probably able to form in the carburetor bowl during periods of inactivity. However, it was not possible to determine exactly when the corrosion started and propagated.