



The

Safety

Wire

April 2016

Issue# 50!



Thank you! Without you all, this

newsletter would be meaningless. None of the information I provide here, or elsewhere in the safety program, would serve any purpose if you all did not take the time to read it and use it in your operation. Like any modern risk management system, the safety program is not made powerful by safety officers, but by those who take the time and effort to participate.

One person cannot possibly have all the information this industry needs to maximize safety. However all of us, together, do have that information. You all provide me with materials, knowledge, stories, insight, experiences and golden safety nuggets. This newsletter has not been the source of great safety information; it has simply been the conduit for it.

Yet, safety officers sometimes struggle with the little devil on their shoulder that whispers in their ear, "You are wasting your time, you aren't changing anything." I am sometimes troubled with the

thought that I am asking so many wonderful people to help me work on all of these projects, and I am squandering their time and resources.

Thankfully, some of you take the time to let me know what is working, and what is not. Safety Assurance is a pillar of a Safety Management System. That designation sounds technical and dry, but assurance is what confirms the real, tangible effects of safety efforts on our lives. At some point, we need to move beyond assumption and KNOW if it is working. Do we need to change our plan? Change our process? Should we continue to spend time and money on this project, or that one? Input and feedback from you all is critical for the ALEA safety program's safety assurance, and the 50th issue of this newsletter seems like a good time to check up on our performance.

Fortunately, the best example of this I have ever received came in the form of an email a couple weeks ago. The pilot agreed to let me share his experience with you. Though he said it was okay to print his name, I am not going to include it here out of respect for his openness in sharing the story. Even if this is the only such 'success' of our safety program, it makes it worth all of the effort.



Thank you, thank you, thank you!

I have been to two (2) ALEA Regional Safety Seminars, one (1) ALEA Annual Expo and to two (2) HAI Heli Expos. In each session I have sat in Inadvertent IMC training classes. Last Wednesday night I was ferrying back our TH-67 after having the trunnion and TT straps replaced. I made a fuel stop and then continued along the coast around 2315. As I did I noticed some haze moving onshore from the ocean. I had absolutely no ground reference lighting as it was national wildlife refuge from there to [the next city]. I had to make a slight right turn to be on course with home. Soon, my ForeFlight indicated that I overshot the course line and was headed out to sea. I made some left input for correction, but the ForeFlight didn't indicate a change. I became fixated on the ForeFlight and suddenly I was now 90 degrees (headed towards inland) from the course line. I made a correction to the right and suddenly all hell broke loose. I began to encounter very unusual aircraft attitudes. As I was grossly overcorrecting, I called [air traffic control] Center (I had been flight following & was on a VFR flight plan) to declare an emergency, as I didn't expect there to be a favorable outcome. At one point, I remember the ship being on its right side (verified by the attitude indicator) and falling to the right. Sometime later, the next

orientation I can remember was being nose down in a 130 kt dive. I remember looking at the airspeed indicator as it quickly passed through 120. I knew that VNE was 130 for the Bell 206 and I didn't want to create a left roll from retreating blade stall. I finally got complete control at 2000' AGL and 180 degrees from the original course.

From the time between right side fall to the nose dive, I couldn't tell you anything that I did intentionally. Everything was done subconsciously. I just know I was in various attitudes at various speeds. Through it, I could only think about the Alaska SP crash, the New Mexico SP crash and the Airbus "that others may live" video with Denver. I knew my 206 was in the same positions seen in those reenactments.

Thanks to those training sessions and my Instrument and CFII training, I somehow managed to successfully recover. I lost 1500 AGL' and ended up facing 180 degrees opposite from where I started. If I had not been at 3500' to start, the outcome certainly would have been much different. I can tell you that it may have taken some time to regain control, but it all began so quickly that that's how long it takes.

Once I recovered, I advised [ATC] and advised them I would be going to get the ship on the ground. They directed me to the nearest airport and I was never so happy to be on the ground. The following morning, after sunrise, I was able to inspect the ship for any over torque induced issues as I couldn't be sure how much I pulled through it all. After not finding any issues I was able to successfully fly home. As I did, and passed over the same area, I noticed my ForeFlight get a little squirrely. I believe this was from lack of cell service and reverting to satellites for GPS. I think the night before I was chasing this inaccuracy and this induced the spatial disorientation coupled with the pure black IIMC created by the haze blocking my view of the shore line.



Photo courtesy of Uldis Pelna

Because of your insistence of pilots being aware of IIMC and sitting through those classes, even some that were duplicates, I can sit here and write this!!

Thank you, thank you, thank you!!!

Indeed...thank you, to all of you who have made this safety program a success. I thank the writer for sharing this story with us all. In a follow up interview, I confirmed with the pilot that there was

no negative action from FAA because he declared an emergency with ATC. His decision to let them know what was going on contributed to the positive outcome, as they were able to direct him to a nearby airport.

Without all of the ALEA staff and the Board of Directors, the information that you all provide me, and the materials I produce with it, would be wasted. Each month, a team of amazing people helps me edit newsletters and articles, set up webpage resources, collect data and conduct surveys, make social media postings, create email compatible documents, check content, and distribute. In addition to editing countless *Air Beat* articles, every month ALEA CEO Dan Schwarzbach spends far more time than I would ever want to admit editing this newsletter. Benay Osborne makes sure that my drafts are turned into files that can be emailed out to you all, which is a very time consuming task due to the various graphics and pictures I include. My *Air Beat* articles are polished, significantly, by Lisa Wright and Zack Mullikin to be worthy of inclusion in the very professional magazine you receive in the mail or online. Each month, I send these four people little pieces of coal that they somehow turn into diamonds. And, where these folks make sure my printed message gets out, ALEA Training Program Manager Don Roby makes sure I have the time and resources needed to back that message with both live and internet based educational presentations.



Yet again, without you all reading these materials, using resources on the website, and showing up to the regional seminars and annual Expo, all of this would be meaningless.

If we hope to achieve more positive results, we must continue to work together. Whether you contribute information, utilize this material or give feedback, I hope that you all will continue to join me for 50 more newsletters.

“To tell a pilot to play it safe is to tell him nothing, nobody wants to crack up; the question is: Just exactly what are the dangers, and how does one deal with them?”

*~ Wolfgang Langewiesche
Stick and Rudder - 1944*

ALEA Safety Resources

Compared to my 50 issues of this newsletter, Bryn Elliott recently released the 20th Anniversary edition of *Police Aviation News*, issue #240! Always a great source of information; you are missing out if it is not on your regular reading list:

<http://www.policeaviationnews.com/Latest.htm>

NASA Callback: http://asrs.arc.nasa.gov/publications/callback/cb_434.html

IHST/USHST Reel Safety Free Training Videos: <http://www.ihst.org/Default.aspx?tabid=3210>

Online Meetings

ALEA will be hosting online meetings for any member interested in the following topics:



Photo courtesy of Uldis Pelna

Safety Officers:
Wed, May 4, 2016
1:00 PM - 2:00 PM EDT (1700 UTC)

UAS Operators:
Mon, May 9, 2016
1:00 PM - 2:00 PM EDT (1700 UTC)

To receive meeting information and be added to the mailing list, send an email
to: safety@alea.org

“That is the whole secret to successful fighting.

Get your enemy at a disadvantage; and never, on any account, fight on equal terms.”

~ George Bernard Shaw

Safety Survey Results

Call for ‘War Stories’

A large number of survey respondents asked for more real life stories from members. I agree that the, “There I was...” type of tale makes for powerful and entertaining reading. Over the last few years, I have included a number of these stories as they became available to me. Now, I’m going to follow the lead of the survey results and ask you all for help. Please send me your favorite story of a memorable event in your aviation career. Pilots, maintenance professionals, TFOs, anyone. If you are not comfortable with your writing skills, don’t worry, we have a great editorial staff here that can help polish up any story (believe me, I keep them busy with my stuff!). I promise that I will not publish anything until you get to review it. I will remove any names or identifying information if you are concerned about that. It does not have to be only about safety, any good story is welcome.

So...what is your best ‘There I was’ story?

PhD Research Request

Fellow Helicopter Crewmember,

This is a request for you to participate in a research study for my doctoral degree. The purpose is to study the relationship between safety management systems, incidents and accidents, and company performance for small

helicopter companies with less than 5 aircraft and in the last 10 years. This research is in conjunction with safety efforts by the US Helicopter Safety Team and the Helicopter Association International.

There are series of questions regarding safety management systems, incidents and accidents, and company performance. To participate, you must be between age 21 to 60, had some aircrew experience with a small civil helicopter organization (less than 5 aircraft) and in the United States in last 10 years. Current helicopter student pilots can participate.

Please follow the link below and fill but if you start, please finish the survey. It will only take about 12 minutes to complete.

The survey does not include any identifiable data about the crewmember, places of employment, or OEM.

<https://www.surveymonkey.com/r/5VPCZZ5>

Thank you very much for your participation!

Principal Investigator
Scott Burgess

Mental Health Project

Are you a musician? Going to the ALEA EXPO in Savannah this summer? Please send me an email or call. Any skill level, beginner to pro. We are working on a “mental health” project that you might be interested in.



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 OH-58
Injuries: None
NTSB#: WPR14TA149

http://www.nts.gov/ layouts/ntsb.aviation/brief.aspx?ev_id=20140327X35539&key=1&queryId=893c2fe0-7b76-4ec7-af2e-b2e6e61540a1&pgno=1&pgsize=100

The intent of the public aircraft flight was to transport an injured dog from the Sheriff Department's K-9 division to an urgent care facility after it had been shot while on duty. After arriving at the Sheriff's Air Support Unit headquarters about 0100, the pilot discussed the weather conditions with the on-duty command pilot and confirmed that visual meteorological conditions prevailed at both the departure and arrival airports. He was aware that a weather front was moving through the area and that he would likely encounter instrument meteorological conditions while en route. Therefore, he planned to use an airport about halfway along the route as a backup landing site if the weather conditions deteriorated. The pilot's decision to attempt the flight with known deteriorating weather conditions was likely due to self-induced pressure to complete the flight because of the dog's injury.

The departure was uneventful, but, as the helicopter approached the alternate airport, it encountered light rain, strong wind, low clouds, and fog. The pilot decided to proceed and see if the helicopter could traverse a pass east of the airport. However, once the flight got beyond the lights of the city, the pilot lost all visual reference after flying into clouds; the helicopter was about 500ft above ground level at this time. He decided to slow the helicopter and initiate a gradual descent to exit the clouds. Unknown to the pilot, the windshield had misted up due to a water leak, which limited the effectiveness of the night vision goggles (NVG) that he and the tactical flight officer (TFO) were using for the flight. During the descent, the TFO realized that the windshield had fogged up because he could still see out of the side window, and the pilot turned on the de-mister. Shortly after, a highway came into view, and the helicopter struck its surface about 5 miles past the alternate airport. The helicopter bounced and then rotated about 180 degrees.

It appeared to be handling normally, so the pilot chose to return to the alternate airport. Upon landing, he discovered that the helicopter had sustained substantial damage. The weather conditions at the alternate airport were below the ASU minimums both before takeoff and during the flight. However, the ASU did not have formal risk assessment procedures in effect. The weather conditions at night and the misted windshield would have been conducive to the pilot's experiencing spatial disorientation.

Although the helicopter was equipped with a radar altimeter, its audible and visual alert functions were turned off at the time of the accident. If the pilot had used the radar altimeter, it would have given him an opportunity to react when the helicopter reached or descended below a predetermined altitude. The pilot, who was also the ASU's chief flight instructor, admitted that the typical effectiveness of the NVGs likely led to complacency on his part. The pilot had been working the day leading up to the accident and had been awake for about 16 hours. He reported that he was about 2 hours into restful sleep when he was woken to perform the mission. Therefore, he attained minimal rest for the mission, which was performed during a time when he would otherwise be asleep and likely degraded his performance and decision-making ability.

Aircraft: Cessna 172P

Injuries: None

NTSB#: CEN12TA122

http://www.nts.gov/ layouts/ntsb.aviation/brief.aspx?ev_id=20120104X92439&key=1&queryId=53744846-9095-4079-b3b9-4dd5221bfe98&pgsize=200

The pilot of a Cessna 172P made a forced landing on a street after the engine lost power. The pilot, the sole occupant on board, was not injured. The public use airplane was substantially damaged. The airplane was registered to and operated by the Civil Air Patrol (CAP). Dark night visual meteorological conditions (VMC) prevailed at the time of the accident, and a company flight plan had been filed. According to the pilot's statement, engine power was set at 2300 rpm and the airplane was at 1,600 feet msl. When the airplane was about 6 miles from the destination airport, the pilot heard a loud "boom" and the engine lost all power. The pilot did not have sufficient altitude to glide to the airport and landed on a highway. When the airplane was on final approach, it collided with power lines. The pilot was able to land the airplane, but was forced to swerve to the right to avoid oncoming traffic. The airplane struck a curb and spun around. The right wing struck a utility pole, resulting in substantial damage.

The engine was disassembled and examined under the direction of a Federal Aviation Administration (FAA). When the crankshaft was turned, no movement of the intake or exhaust valves or magneto gears was observed. Upon removal of the rear accessory case, it was discovered that the rear crank gear bolt was loose and the gear dowel pin (part number STD 1065) was sheared. According to the FAA inspector, there was a line on the dowel pin, similar to a pre-existing crack. According to the attending mechanic's report, the sheared dowel pin would cause the camshaft and rear accessory gears to stop turning. According their (NTSB) report, the dowel pin was fractured from the aft end of the crankshaft approximately in plane with the aft face of the crankshaft where it mated to the crankshaft gear.

Aircraft: Bell 206A

Injuries: 1 Fatal

NTSB#: CEN11GA020

http://www.nts.gov/ layouts/ntsb.aviation/brief.aspx?ev_id=20101015X73141&key=1

During the flight that preceded the accident flight, the pilot stated to one of the two officers aboard the helicopter that he would not be able to fly for as long as normal because he needed to obtain fuel. Upon completion of the observation flight, the pilot returned to the

police department and shut down the helicopter to allow the two officers to exit. The pilot then restarted the helicopter and departed en route to an airport where he could refuel the helicopter. A witness near the accident site stated that he heard the helicopter's engine sputter and stop and saw the main rotor separate from the helicopter. The helicopter entered an uncontrolled descent and impacted terrain. Postaccident examination of the helicopter revealed that there was no usable fuel on board and that the main rotor mast separated as a result of overload due to mast bumping. No preimpact mechanical anomalies that would have precluded normal operation of the helicopter were noted. Mast bumping typically results from a low-G flight condition caused by the pilot pushing the cyclic control forward abruptly from either straight-and-level flight or after a climb. Pushing the cyclic forward abruptly is contrary to the appropriate actions for entering an autorotation, which are lowering the collective pitch control to the full down position, adding antitorque pedal as needed to maintain heading, and applying cyclic as needed to maintain proper airspeed. Review of the pilot's medical records indicated that he had a history of depression, anxiety, and obstructive sleep apnea. Each of these conditions had been documented and treated since 2007, and none were reported to the Federal Aviation Administration (FAA) on the pilot's airman medical application in 2010 or earlier. Any of these conditions may have disqualified the pilot from obtaining an airman's medical certificate. Postmortem toxicological testing indicated that the pilot was taking alprazolam, an anti-anxiety medication, and venlafaxine, an anti-depressant. Alprazolam is one of a class of drugs which may worsen obstructive sleep apnea, and venlafaxine can cause fatigue and dizziness. The fact that the blood level of venlafaxine found was higher than normal therapeutic levels makes it more likely that the side effect of dizziness occurred and impaired the pilot's performance.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows:

The total loss of engine power due to fuel exhaustion, which resulted from the pilot's inadequate preflight planning and decision-making, and his improper control inputs following the loss of engine power, which resulted in mast bumping and separation of the main rotor. Contributing to the accident was the pilot's improper judgment in acting as a pilot with disqualifying medical conditions.

There are no new ways to crash an aircraft...

...but there are new ways to keep them from crashing.

Safe hunting,

Bryan 'MuGu' Smith

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