



The

Safety

Wire

January 2015

LET'S BEGIN...



...what I expect will be a historical year for law enforcement aviation. ALEA will be putting out some great new resources for our members in 2015 that will allow us all to take our operations and move them to unprecedented levels of performance and safety. It will be up to all of us to make the choice to take those resources and put them into action.

Before charging ahead, however, let's look back at 2014 to see where we have been. The total number of accidents in 2014 was slightly lower the annual average over the last five years. One significant change was the fatality rate in the US. Right up to New Year's Eve, we had managed to get through the year with zero fatalities. If not for the tragic loss of a helicopter on contract to the Cochise Sheriff's Office on Dec 31st, it would have been the first time we had a year with no fatalities in the U.S. since 1964. A summary of the 2014 accidents is below. If you know of any that are missing from this list, please send me the information.

United States:

- 1 Unknown - Aircraft flown by contractor following maintenance during reported IMC conditions (2 Fatalities)
- 4 Engine Failures
- 3 Loss of Control - 2 during low level maneuvering; 1 dynamic rollover on takeoff
- 2 Training - 1 simulated governor failure; 1 autorotation
- 1 Loss of Control - During ground taxi in an autogyro

- 1 Controlled Flight Into Terrain (CFIT) - IIMC
- 1 Damage by Gunfire - Rotor blades damaged during eradication flight
- 1 Mechanical Failure - Flight control failure in airplane

Europe:

- 1 Obstruction/Wire Strike - Macedonia police helicopter struck a tower/guy wires during training flight (4 Fatalities)

Africa:

- 2 Unknown - Aircraft crashed in Tanzania (4 Fatalities) and Botswana (3 Fatalities) during anti-poaching flights. Causes are still under investigation.

South America:

- 1 Training - Simulated hydraulics failure in Brazil

The summary shows that the leading causes for accidents in our industry remain relatively unchanged. ALEA will continue to address IIMC and flight training, as we have over the last few years. While a wire strike was a factor in only one accident in 2014, it lead to 4 fatalities. The total number of fatalities from wire strikes since 2008 is 10, second only the 18 lost to IIMC/CFIT. At the ALEA regional seminars in 2014/2015, we will have a new presentation on the wire strike issue. This is in addition to the numerous new classes, webinars, online training and meetings, symposiums, SMS guides, forms and documents that are coming out this year.



This is what ALEA is doing about the numbers listed above. The question you need to ask yourself is, what are *you* going to do about it? To be honest, the most important thing is to do something...anything. The simple act of somehow being involved in the industry and trying to better yourself as an aviation professional is the most important thing you can do to keep yourself safe. Make a commitment to do

something that will make you a better law

enforcement pilot, TFO, maintenance technician, crew chief, manager, instructor or head floor sweeper. The day I feel I don't have anything left to learn about this business, is the day I hope I'm smart enough to quit.

Now...let's look forward to a great year working in the best industry in the world!



One more new number for 2015...my phone number. Please be sure to update it in your contact list. I am available 24/7/365.

407-222-8644

THE WISEST MIND HAS SOMETHING YET TO LEARN

~ George Santayana

Practical **SMS**

Now is a good time to recalibrate all of your SMS components. It is also a great time of year to get your SMS started if you have not already done so. The steps for both are similar. You need some real information, not just educated guesses. What are the actual risks? Have the risk mitigations that are in place been effective? How is the health of the unit's safety culture?

Inspection – If you are just starting up your SMS, the first step is to do an inspection to see what you have already and what you need to add or change. I have a sample form you can use, in addition to several online examples. You can also use the Public Safety Aviation Accreditation Standards to do this.

If you already have set up an SMS, you should have inspection forms already in place. Now is the time to revisit them and see what has been taken care of, and what items are still in need of attention. This will be part of your safety audit. Have your efforts to satisfy outstanding items on the inspection been effective? If not, a change is needed.

Audit – For those of you who have an SMS in place, complete a safety audit to see how it is working. The audit will not only check to see if items are in place, it will also evaluate performance. The hazards your operation chose to address in 2014 had a specific risk, which should have been given a numerical score. The mitigation strategy (training, policy, procedure, equipment, etc.) should have been intended to lower that risk. Hopefully, you took the time to set a goal that could be measured (number of occurrences, percentage of time a component is utilized, etc.). During the audit, look at those numbers and determine if the strategies are working.



Survey – Send out a new safety survey to your unit members. If you need a sample, I have one I can send you. It should be simple and as short as possible (one to two pages). Determine what are the top concerns of unit members and how they feel about the safety program. Also ask if they are comfortable reporting safety issues; this is a good indicator of the safety culture at your agency. Other good indicators are how often hazard reports are filed (the more, the better) and, simply, how many safety surveys are returned without arm twisting.

All of this information will help you get a clear picture of your current state, and where you need to direct your attention in the coming year.

LED LIGHTING

LED obstruction and airport lighting is an issue that poses a significant hazard for many of us. The FAA has put together a workgroup to study the issue. Please take a few moments to fill out the survey below so we can try and have this issue resolved in a manner that benefits our industry.



This questionnaire is being presented to the aviation community in conjunction with the FAA, multiple professional pilot groups, general aviation pilot groups, and air traffic controllers. The purpose of this

questionnaire is to understand your experience with Light Emitting Diode (LED) airport/heliport lighting (not LED lighting as installed on the aircraft) during approach, landing, ground movement, and take-off phases of flight and will take approximately 15 minutes of your time. Participation is completely voluntary and most appreciated.

<https://www.surveymonkey.com/s/DLPPWKB>

**THE ENGINE IS THE HEART OF AN AIRPLANE, BUT THE
PILOT IS ITS SOUL.**

~ Walter Alexander Raleigh c.1922

RESOURCES

Transport Canada Safety Newsletter:

http://www.tc.gc.ca/media/documents/ca-publications/ASL_3_2014.pdf

FAA's new Advisory Circular on Laser Airworthiness Installation

http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1025266

FAA's new Advisory Circular on SMS:

http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_120-92B.pdf

FAA's December SMS Newsletter:

http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs900/sms/media/sms_newsletter.pdf

The Advocates for Aviation Safety will host a virtual aviation safety stand down on March 21st.

<https://advocates4safety.org>

FROM THE FIELD

In December, I ran a short story about the Minnesota DNR Enforcement Aviation safety stand down. That same newsletter had an incident summary about a Cessna 185 that made an emergency landing on road following an in-flight fire (**NASA ACN# 867923**). Those NASA reports do not have any identifying information attached to them. Amazingly, that report was filed by the MN DNR pilot who sent in the information about their safety day! Jason Jensen wrote to tell me more about the incident and, at my request, give some tips.



At approximately 1230, I started to smell something burning and/or smoldering. I notified Brainerd airport on Common Traffic Advisory Frequency that I was nine miles southeast of the airport and was inbound. I then started to see wisps of smoke coming from the back of the instrument panel. I immediately shut down the master switch and started to turn off individual electronic components as to isolate any potential electrical problem.

At this point, the smoke became quite heavy from the instrument panel, and then I noticed flames near my left foot. I immediately shut off the fuel supply to the engine and increased my altitude to gain some time to search for a suitable landing spot. I activated the Emergency Locator Transmitter (ELT) on the instrument panel and found an east-west paved county road under my left wing. The road seemed free of overhead obstructions and no vehicles were noticed on the roadway. As the fuel supply ran dry to the engine, the flames died out. I pulled the mixture knob on the panel and set the plane up for a normal landing. I approached County Road 22 from the west and landed in an eastbound direction. As I touched down, the engine stopped completely and I coasted to a stop near a residence. I turned the ELT off at this time since I was not in any danger.

1. Fly the damn plane! Could not be a more true statement.

2. I had just read an article from Barry Schiff about in-flight fire and I think that article had a great impact on me. Cancel all fuel going to the fire so it can have a better chance to go out before it starts other material on fire.

3. Learn "butt flying". I know that is juvenile, but my ability to sense the airspeed via sight, sound and feel led to a successful landing while under duress. I was not interested in watching gauges since I had no power at that point in time.

4. Have good flight following because there is not a lot of time to communicate unless you have some good altitude. I did not, only 1000 AGL. If you cannot talk to your dispatch after landing, at least they should know where your last check-in was to have a good area to start the



search.

The problem turned out to be a short in the fuel relay system. I'd like to thank Jason for sharing more about his experiences. Once again, great job!

SAFETY OFFICER MUTUAL AID

The next ALEA safety online meeting will be on March 12th at 10:00 am EST. I am going to try varying the time for the meetings to accommodate people in different time zones. Please send me an email if you are not on the mailing list and would like to attend. The minutes from previous meetings are also available.

safety@alea.org

March 12th, 2015
10:00am EST (1500UTC)

MOTHER DOESN'T NEED TO BE AFRAID THAT CONTINUAL FLYING WILL AFFECT OUR NERVES. THE VERY OPPOSITE IS MORE PROBABLE. WE GET MOST IMPATIENT IF WE ARE KEPT IDLE A FEW DAYS BECAUSE OF POOR WEATHER. WE STAND AROUND LOOKING OUT OF THE WINDOW TO SEE IF IT ISN'T CLEARING UP.

*~ Oswald Bolc
WWIA
Author of the timeless 'Dicta Boelcke' air combat rul*

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: Piper PA 18-150

Injuries: None

NTSB Identification: CEN14CA137

http://www.nts.gov/_layouts/ntsb.aviation/brief.aspx?ev_id=20140213X95839&key=1&queryId=78ddcfc4-5b30-439d-8785-0530e78b62c5&pgno=1&pgsize=50

In a statement provided by the pilot, the fuel calculations for the accident flight were based on the fuel burn from the flight the day before. On the day of the accident flight, the pilot used a clock timer from the time of engine start to estimate the longevity of the fuel supply. He and his passenger departed on a low altitude wildlife control flight. When the timer read 4 hours and 22 minutes, the engine experienced a partial loss of power two consecutive times. The pilot restored the power both times by applying carburetor heat. When the engine experienced a loss of power the third time, he attempted to restore the power by leaning the mixture control and adjusting the fuel selector. Finally, the engine experienced a total loss of power and the pilot landed on the highway to the north with a gusty quartering tailwind from the southwest. During the landing roll, a gust of wind pushed the airplane to the right. The airplane exited the road, struck a fence, and a wooden pole, which resulted in substantial damage to the right wing and fuselage. The responding Federal Aviation Administration inspector determined that the airplane's usable fuel supply had been exhausted. In a statement provided by the operator's representative, the pilot stated that his fuel calculations were not correct and the fuel supply had been exhausted.

Aircraft: Airbus AS350 B3

Injuries: 1 serious, 2 minor

NTSB Identification: CEN14GA109

http://www.nts.gov/_layouts/ntsb.aviation/brief2.aspx?ev_id=20140110X63030&ntsbno=CEN14GA109&akey=1

According to the pilot, the crew was conducting a law enforcement patrol flight to assist other agents on the ground. He flew the helicopter in a left orbit at 800 feet above ground level (AGL). Eventually he descended to 150 feet AGL and hovered on a southerly heading. The helicopter began to drift to the southeast so the pilot repositioned by making a left climbing turn. During the turn, he "felt the wind catch the tail and a slight shimmy" before the helicopter spun rapidly to the left. He applied full right pedal and attempted to accelerate as he believed that he regained control. The helicopter continued the left spin and impacted trees and terrain. Prior to impact with the trees and ground the pilot heard a sound which he recognized as the "low rotor RPM" horn. He reported that there were no preaccident mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

According to the two crew members, the wind was strong and gusting during the flight, and was significantly stronger as their altitude increased. The pilot expressed that he was concerned about the wind while maneuvering the helicopter. While the pilot was maneuvering the helicopter in the left-turn pattern about 50-125 feet AGL and felt the helicopter shudder. The helicopter made a quick left rotation and then descended to the ground. They reported the helicopter seemed to be operating normally at the time of the accident and no anomalies were noted. One crew member stated that after impact he secured the fuel cutoff, activated the rotor brake and turned off the electrical master switch. He exited the aircraft and noticed smoke coming from the engine compartment.

A witness reported observing the helicopter 50-100 feet above the ground and about 25 feet above the tree tops. The helicopter made an abrupt maneuver and descended into the trees. The helicopter impacted trees and terrain and came to rest on its right side.

As of the accident date, the pilot had accumulated 111 hours in the helicopter make

and model; 100 hours were as pilot in command. Further review of the pilots training records revealed that he had not received additional formal mission training from the local branch. He received informal on-the-job training and completed 15 hours of enforcement mission time in a helicopter prior to assignment.

Aircraft: Cessna 182S

Injuries: None

NTSB Identification: CEN15IA076

http://www.nts.gov/_layouts/ntsb.aviation/brief.aspx?ev_id=20141211X21259&key=1

On December 10, 2014, about 1430 central standard time, a Cessna 182S airplane experienced a flight control anomaly. The commercial pilots were not injured and the airplane had minor damage. The airplane was registered to and operated by state police as a public use airplane flight.

According to initial information, while maneuvering in a practice area, the pilot retracted the flap. During the flap retraction, a malfunction occurred which caused the flap to contact the inboard portion of the right aileron. The pilots were able to land without incident. Examination of the airplane revealed that the flap and aileron were damaged during the malfunction. The airplane was retained for further examination.

Aircraft: AS350 B2

Injuries: 1 serious

NTSB Identification: WPR15TA027

http://www.nts.gov/_layouts/ntsb.aviation/brief.aspx?ev_id=20141028X14929&key=1&queryId=2d8e8f8d-ffe0-4841-af00-069a9a82cfcc&pgno=7&pgsize=50

A Eurocopter AS350 B2, experienced a sudden loss of engine power while maneuvering. The certified flight instructor, **the sole occupant**, was seriously injured.

In a written statement, the pilot reported that he was maneuvering the helicopter up a small valley in an effort to aid agents on the ground. As he completed a second pass, with **the helicopter maneuvering about 25 feet above ground level (agl)**, the pilot could audibly detect that the engine was shutting down. He immediately decided on the best suitable landing site and began an autorotation toward that location. The helicopter touched down hard and the tail then impacted the ground separating from the airframe

Aircraft: Cessna 210E

Injuries: 1 fatal

NTSB Identification: CEN14GA135

http://www.nts.gov/_layouts/ntsb.aviation/brief.aspx?ev_id=20140211X41001&key=1&queryId=977003af-70e7-4e23-b10b-856d56658b20&pgno=5&pgsize=50

On January 31, 2014, about 1317 central standard time, a Cessna 210E was destroyed when it impacted terrain during a fire detection flight. The commercial pilot, the sole occupant, received fatal injuries. **Instrument meteorological conditions prevailed in the area near the accident site at the time of the accident. The pilot filed a company visual flight rules flight plan.**

The pilot originally scheduled for the flight needed to cancel due to sickness. The accident pilot was contacted on the morning of the accident and was asked if he

wanted to take the flight. He agreed to take the flight, and he arrived at the airport at 1200 to check weather and preflight the airplane.

The pilot departed M78 at 1240 to conduct a fire detection flight of Fire District 2 (D-2) using a predetermined flight route. The pilot reported his flight progress to the dispatch center which provided flight following. At 1303, the pilot reported to the dispatch center that he was 20 nm from checkpoint one and he was turning back due to low ceilings. At 1311, the pilot reported that he was 3 nm west of Oden, Arkansas, which is about 16 nm southwest of his last reported position on a magnetic bearing of 244 degrees. There were no further radio transmissions from the pilot. The accident site was located about 13 nm from the last reported position.

The airplane impacted trees on a ridgeline, which had an elevation of 1,473 feet. The outboard section of the left wing was found on top of the ridge line. The main wreckage was located 0.3 mile south of the ridgeline at an elevation of 686 feet on a 175 degree magnetic bearing.

There were no witnesses to the accident. When the pilot did not check in with the dispatch center after 30 minutes from his last communication, the dispatch center attempted to contact the pilot. At 1431, the Federal Aviation Administration's Flight Service Station was contacted about the overdue airplane and the Air Force Rescue Coordination Center was notified. Ground and aerial searches were made for the missing airplane, but **weather conditions over the next 11 days hampered the search effort.** The airplane wreckage was located on February 11, 2014.

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

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

Safe hunting,

Bryan 'Muga' Smith

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407-222-8644

