

The

Safety

Wire

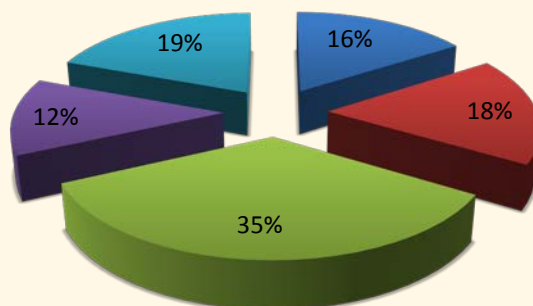
May 2017

## *You are as good as your training.*

Many factors go into determining our performance on the job, such as professionalism, dedication, passion, thoroughness, teamwork, etc. Yet, without quality training, none of these attributes will lead to success. We would never expect a person to take the controls of an aircraft as pilot in command without training. Yet, we expect people to do so many other tasks well, despite a complete lack of training. “On-the-job” training is far too common for safety officers, tactical flight officers (TFOs), maintenance personal on new systems or airframes, managers, etc. It happens so much in our industry that in the recent ALEA safety survey it was second only to IIMC on the list of top safety concerns. Other items in the top five safety issues, such as IIMC, complacency and fatigue, are closely tied to training as well.

### Top Safety Concerns - 2017 ALEA Survey

■ Complacency ■ Fatigue ■ IIMC ■ Maintenance ■ Training





In the survey, only 73% of ALEA members responded that their agency's tactical flight officers received training. That means 27% of our TFOs are trying to do what is arguably the most difficult job in law enforcement and carry out critical flight safety responsibilities as member of a flight crew, often over the most high profile situations in public safety....with no training. The safety of our aviation unit members, and millions of dollars of equipment, is only managed in a formal manner

75% of the time according the survey. And of those safety officers charged with keeping everyone and everything safe in such a critical, high profile division of the agency, over half are struggling to do it without any training (53%)!

It's not just pilots and TFOs, maintenance personnel are struggling to get the training they need to do their jobs. In the survey, 40% of respondents said that maintenance is not given continuing training. While the thought of an aircrew member getting rusty due to lack of training is scary, the idea of those folks maintaining the aircraft we **all** climb aboard not being offered training to keep their skills fresh and sharp should be horrifying to us all.

Training is not only about the knowledge we receive, or are reminded of, during the event. Studies have shown that employees who attend training are safer, more efficient, and more satisfied with their jobs even if they do not necessarily receive new information during the training session. The open focus on safe and efficient job performance during training events strengthens safety culture, which influences safety behavior. It makes people feel valued and often cures detrimental feelings of career stagnation.

The reasons for a deficiency in training are many. Sometimes we lack funding, other times we simply don't know where to go for training. Often, the administration of our agency does not understand the importance and benefits of training in our line of work. To address these challenges, ALEA offers a number of opportunities for our membership to get the training they need. If you have not been on the website lately, you are missing out. A number of courses have been made available online, including recorded presentations, webinars and other resources. More classes will be added to the website in June.

ALEA hosts three online meetings every month for safety officers, maintenance and UAS operations. The discussions and interaction are fantastic training opportunities for those new to the industry and those who have been in it for decades. See more information on these online sessions below.

My favorite way to train is in person, and ALEA has never had a shortage of these opportunities. The biggest training event in public safety aviation is ALEA EXPO,

which will be in Reno, Nevada, this July. If you can join us there, here are some safety events to consider attending:

### **Monday – Wednesday**

- Aviation SMS and Human Factors
- Aviation Safety Officer Course

### **Wednesday**

- IA Renewal Course (FREE!)

### **Thursday**

- Safety Officer's Roundtable 1300 – 1430
- Safety Symposium – Loss of Control 1500 - 1700

### **Friday, July 28th - Safety Track:**

- Aviation Accident Trends 0800 – 0930  
*Mark Colborn, Dallas Police Department Helicopter Unit/USHST*
- Safety Metrics 1000 – 1130  
*SSA Troy Smith, Federal Bureau of Investigation Aviation Department*
- Operational Risk Management in Safety Management Systems 1330 – 1500  
*Glenn Daley, New York Police Dept. Aviation Unit (Ret.)*
- A Safety Culture in Your Unit: How Do You Get There? 1530 – 1700  
*Michael Sedam, California Highway Patrol Air Operations*

### **Friday, July 28th - Aeromedical Track:**

*ALEA Aeromedical Liaison Dudley Crosson (PhD)*

- Spatial Disorientation 0830 – 1000
- Stress and Aeronautical Decision Making 1030 – 1200
- CRM for Aircrews 1330 – 1500
- Human Factors and Accidents 1530 – 1700

### **Saturday, July 29th - Safety Track:**

*Bryan Smith, ALEA Safety Program Manager*

- Human Factors – Real Life Applications to Safety 0830 – 1000
- Implementing SMS for Law Enforcement 1030 - 1200

This is just a very small sampling of the many classes available during ALEA Expo this July. For a full listing, go to <http://alea.org/alea-expo-2017-reno-nv/>

*“Argue for your limitations and you get to keep them.”*

*~ Richard Bach*



## ***Practical SMS***

Delivering safety training can be challenging. According to the latest ALEA safety survey, only 50% of aviation units are giving members annual safety program training 50% of the time. When providing information to the people in your unit, here are some tips to remember.

1. Small bites – Safety is not as naturally intriguing to the general public as it is to those of us drawn to safety knowledge. After an hour or two, you will start to lose them. Also, we are looking to maintain a culture, behavior and safety system that should be continually in play. Spreading out safety training throughout the year in more easily consumable servings will help maintain a continuous high level of performance than a single grand event once a year.
2. Help them identify risks too – Sometimes, we focus on how to manage known risk through policies, procedures, techniques, etc. We can't manage what we don't identify. Due to training and experience, safety

officers tend to be good at identifying hazards, making it easy to forget that it is not an intuitive skill, but one requiring training.

3. Make it interesting – Do not go longer than 10 minutes during a safety presentation without some break, or highlight. Funny or visually interesting videos or pictures are always helpful in refreshing the groups' attention. It does not necessarily need to be related to the topic. Be careful not to make safety presentations too much doom and gloom. Remember the goal is to have a more effective unit that produces more positive results. Minimizing accidents is just a factor in accomplishing that goal. Nobody gets tired of watching K9 'apprehend' criminals, no matter what the topic is!

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## *Resources*

NASA Callback - Maintenance centered issue:

[https://asrs.arc.nasa.gov/publications/callback/cb\\_448.html](https://asrs.arc.nasa.gov/publications/callback/cb_448.html)

Police Aviation News:

<http://www.policeaviationnews.com/Acrobat/253May2017PANews.pdf>

NTSB Helicopter Accident Investigation Course:

[https://ntsb.gov/Training\\_Center/Pages/AS103\\_2017.aspx](https://ntsb.gov/Training_Center/Pages/AS103_2017.aspx)

US Army Aviation Safety Public Resources:

<https://safety.army.mil/ON-DUTY/Aviation.aspx>

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## *ALEA Online Meetings*

The schedule for upcoming ALEA online meetings is as follows.

If you would like to join, send an email to: [safety@alea.org](mailto:safety@alea.org)



### **UAS:**

Wednesday, June 14, 2017

1:00 PM - 2:00 PM EDT (1800 UTC)

### **Safety Officers:**

Monday, June 19, 2017

1:00 PM - 2:00 PM EDT (1700 UTC)

### **Maintenance:**

Wednesday, June 28, 2017

1:00 PM - 2:00 PM EDT (1700 UTC)

*“Let the refining and improving of your own life keep you so busy  
that you have little time to criticize others “*

*~ H. Jackson Brown*

## **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.

<b>Aircraft:</b>	<b>MD 369E</b>
<b>Injuries:</b>	<b>2 Serious</b>
<b>NTSB#:</b>	<b>ERA13TA341</b>

<https://app.nts.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20130729X84808&AKey=1&RTtype=Final&IType=TA>

A McDonnell Douglas Helicopter 369E, operated by the United States Drug Enforcement Administration as a public use flight, was destroyed when it impacted terrain, following a collision with a utility wire in cruise flight. The commercial pilot and passenger were seriously injured.

The operator reported that four utility wires had run between two ridges to support a mine, which had long been closed. Over time, three of the four wires deteriorated and fell due to the natural elements. One wire remained, about 500 feet above the valley floor, and was the wire that the helicopter contacted.

According to a Federal Aviation Administration (FAA) inspector, the wire between the ridges was unmarked and uncharted. As the mine was closed, there was nobody to report the wire to the FAA for addition on the appropriate sectional chart. The helicopter had been flying between the ridges and contacted the wire. The helicopter subsequently descended into a valley and a postcrash fire consumed the wreckage. The inspector added that the helicopter was equipped with two wire cutters, one near the bottom of the fuselage and one near the top of the fuselage; however, the wire contact was with the rotorhead, which was located above the top wire cutter.

The helicopter was flying at approximately 500AGL, and appeared to be level with the distant higher ridges on either side of the flight path. Suddenly, the pilot realized the helicopter was caught in something, likely a wire. The helicopter's forward movement slowed without control inputs by the pilot.

Subsequent control responses ranged from very sluggish to no response, especially with the cyclic. The pilot felt the aircraft shudder, then heard a loud 'bang, boom, pop'. The pilot reduced collective for emergency descent in an attempt to land in a clearing below the aircraft. The pilot stated he had no cyclic control.

The helicopter began to descend and the pilot reduced the throttle (but not to idle) to help increase descent rate as other control inputs had little effect. At approximately 80-100 feet AGL, the pilot increased throttle to full, had his intended clear point of landing in sight, and told the observer they were "going to make it (the clear landing spot)." At that point, something violent happened and the pilot suddenly found himself sitting in the seat and having difficulty releasing the seatbelt assembly. He also immediately realized the aircraft was engulfed in flames and could not see out of his left door opening because of the intense fire. The pilot used both hands to force the seat belt loose and unlatched and then he rolled left through the flames, out of the helicopter, and onto the ground. The pilot and observer were met by ground crew/witnesses and given first aid and initial care for their injuries.



Operator safety recommendations include:

1. The study of this accident for underlying causes of the failure of the crew to observe the wire, even though the crew was actively engaged in seeking such wires.
2. Re-current training of crews participating in this type of law enforcement operation, emphasizing the lessons learned from this accident.
3. Cross over application to other types of aircraft operations, including fixed wing operations, emergency procedures reviews, etc.
4. Use and effectiveness of safety equipment and clothing, such as Nomex flight suits, gloves, flight-rated boots and protective helmets, and the proper wearing and utilization of same. Also, training and reminders on the type of clothing never to be worn to reduce heat related injuries.
5. Review/training in first aid applications, including possible need for self-directed first aid, and accessibility to personal medical kits.

**Aircraft:**  
**Injuries:**  
**NTSB#:**

**Cirrus SR22**  
**1 Fatal**  
**WPR15FA082**

The noninstrument-rated pilot departed during the late afternoon and flew over the southern portion of the Great Salt Lake. According to data recovered from the airplane's avionics system, which did not capture altitude, the duration of the flight was about 9 minutes. During the final minute of the flight, the airplane conducted a gradual left turn at an engine power setting of about 2,200 rpm. Shortly thereafter, the airplane impacted the lake. Postaccident examination of the airplane revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

Local meteorological observations indicated that restricted visibility and fog were forecast throughout the area about the time of the accident. It is likely that the pilot encountered these conditions inflight and lost visual reference to the ground and/or horizon. Given the pilot's lack of an instrument rating and of recent instrument flight experience, the loss of visual reference likely resulted in spatial disorientation.

Toxicological testing on the pilot revealed the presence of bupropion, an antidepressant; hydrocodone, an opioid analgesic; and diphenhydramine, a sedating antihistamine. The investigation was unable to determine if the use of bupropion or the cognitive effects of any underlying depression contributed to the accident. Because the hydrocodone was found in the urine but not the blood, it no longer caused systemic effects and played no role in the accident. However, it is likely that the effects of diphenhydramine impaired the pilot's cognitive and psychomotor performance at the time of the accident, and contributed to his spatial disorientation.

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The non-instrument rated pilot's decision to depart into low visibility conditions, which resulted in spatial disorientation and a loss of control. Contributing to the accident was the pilot's impaired performance due to his use of the sedating antihistamine, diphenhydramine.

<b>Aircraft:</b>	<b>Bell UH-1H</b>
<b>Injuries:</b>	<b>None</b>
<b>NTSB#:</b>	<b>WPR16LA142</b>

A Bell UH-1H helicopter impacted mountainous terrain while maneuvering near a landing zone located at an elevation of about 7,800 feet. Two pilots, four crewmembers and two passengers were not injured; however, the helicopter sustained substantial damage. The helicopter was supporting a Search and Rescue (SAR) mission at the time of the accident. Visual meteorological conditions prevailed at the time of the accident.



The pilot reported that after refueling, he departed to transport two SAR personnel to retrieve an injured hiker. While en route, a sensor unit on the helicopter indicated 5 knots of wind. As they approached the hiker from the north, the pilot used too much left pedal and decided to abort the approach. He attempted a second approach from the south, but the helicopter yawed to the right, which the pilot attributed



to a loss of tail rotor effectiveness (LTE). In an attempt to recover, the pilot reduced the collective and applied forward cyclic. The helicopter spun about 540 degrees, impacted the ground, and then departed the mountain. The pilot did not observe any indications of a malfunction with the rotor or the drive system on the helicopter. In his subsequent report, he reported that there were no mechanical malfunctions or anomalies that could have precluded normal operation.

*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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