

The



Wire

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**Engine restarts** are, fortunately, something that most of us will never

have to worry about in an aircraft. Unfortunately, many do not get the benefit of having



career-orientated engine restarts often enough. I'm talking about rekindling the fire in all of us that motivates professionalism on a daily basis. It is amazing how a position in the greatest industry in the world can become 'routine' at times, but it happens to us all. One of the reasons I enjoy attending ALEA events so

much is that you can almost feel the excitement and motivation in the groups of people there. It's like throwing gasoline on a fire. I constantly hear about the new program, tactic or equipment that someone plans on trying out when they get back to their agency or company. The effect is powerful, and contagious. The changes are academically referred to as social 'climate' change.

Renewed enthusiasm is only a part of the many benefits of attending a seminar, class or convention. The positive climate created by a group of people sharing ideas, experiences and knowledge about a profession also shapes the culture of that group. As we all know, culture dictates behavior in a group. The Theory of Planned Behavior (TBP) says that a person's actions result from three ingredients: norms (how 'everybody' is doing it), knowledge and psychological orientation. Often, our training focuses mainly on knowledge, i.e. how or why to do certain tasks. These training resources fail to address norms or psychological orientation and we are left wondering how experienced people make mistakes despite 'knowing' how to avoid them. Norms and psychological orientation are aspects of safety culture.

We often struggle with maintaining a healthy safety culture. Attendance at a training event with industry peers can cure all of these safety culture ills. The information offered at seminars and conventions is important for maintaining peak knowledge. Also, the interaction with the rest of the community gives us insight on best industry practices (norms) and adjusts our perspective on what professionalism means in our world (psychological orientation).

Those who attend a seminar or convention benefit from the kind of training that directly



influences our performance on the job. Group training sessions change our climate through knowledge, norms and psychological orientation, which in turn changes our culture. That healthy culture then influences how we perform on the job...and how we feel about our work. The Police Aviation Conference (PAvCon) this month in Munich, Germany proved again how important it is for us all to take the time to participate in training and networking events. It is

safe to say that none of us left that fantastic event without some new information or idea on how to take our own operation one bar up on the professionalism scale. I was personally inspired by some of the fantastic operations I saw and people I met.

Next month, our industry comes together again for the biggest annual gathering of public safety aviation professionals in the world. I am excited to spend a week soaking up the endless supply of knowledge and renewed enthusiasm shared by like-minded people who love the kind of work we are all addicted to. Sure, many of us will go home and annoy others with our ideas and excitement. To that I suggest you do not hold back...this is how we keep our culture healthy and strong.



I hope to see you in Savannah.

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*“Education is the kindling of a flame,  
not the filling of a vessel”*

*~ Socrates*

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## *ALEA Expo Safety Events*

During ALEA EXPO, please join me for the following safety events:

- Thursday**    1300 – 1430: Safety Officer’s Roundtable  
                  1500 – 1700: Safety Symposium – Human Factors
  
- Friday**        0800 – 0930: SMS for Law Enforcement
  
- Saturday**    0830 – 1000: Human Factors  
                  1030 – 1200: SMS Implementation



If your agency is working on establishing, improving or resuscitating your safety program, please do not miss these events. Additionally, from Monday to Wednesday, there will be two three-day courses covering safety program establishment and management: Aviation SMS and Human Factors Course and the Aviation Safety Officer Course. Go to the ALEA website for more information: <http://alea.org/alea-expo-2016-savannah-ga>

## *Practical SMS*

When a hazard, or occurrence is reported, jumping straight into a 'solution' as soon as possible is often our first reaction. Usually it is with good intentions, as we want to prevent any future incidents. Jumping straight into a solution, i.e. risk control, is the last thing we want to do. First we must do three things:

- 1 Collect additional information
- 2 Complete a risk assessment
- 3 Do a hazard analysis



Obviously, we need to collect as much information as possible before designing a response. We have covered risk assessments previously (if you need a refresher, check out the webinars on the ALEA website: <https://www.pathlms.com/alea/events#live-web-events-content>). So, let's talk about Hazard Analysis a bit. We want to pick apart a hazard to find the individual components at work that could create an incident. The hazard 'ingredients' are needed to brew up a disaster. Remove one, or more, ingredient and the disaster can be avoided. The popular Swiss Cheese model often shows this relationship. These small components of the problem often offer the most effective solutions to safety challenges.

How to do it? There are many hazard analysis models and techniques out there. Some are extremely complicated and, honestly, a bit of overkill for the majority of the issues we want

to address. The simple 5-Whys system is a great hazard analysis model that I have discussed many times. This month at PAvCon in Germany, Bill Probets introduced us to a version of the 5 Whys model that was outlined in a Transport Canada Advisory Circular. Bill led the class in an exercise that broke up the 'Why' columns into specific categories covering: Supervision, Organizational Factors, Environment, and Human Factors. I found it to be a great way of utilizing this hazard analysis process and recommend safety officers read the document. As an alternative to the four categories suggested above, you could also use the P.A.V.E. model: Person, Aircraft, Environment, and External Factors.

Link to the Transport Canada AC: [https://www.tc.gc.ca/eng/civilaviation/opssvs/managementservices-referencecentre-ac-s-sur-2171.html#appendix\\_e](https://www.tc.gc.ca/eng/civilaviation/opssvs/managementservices-referencecentre-ac-s-sur-2171.html#appendix_e)

*"Opportunity is missed by most people because it is dressed in overalls and looks like work."*

*~ Thomas Edison*

## *Mental Health Project*

Are you a musician? Going to 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:** Cessna 182  
**Injuries:** 5 Fatal  
**NTSB#:** WPR16FA116

[http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev\\_id=20160523X75309&key=1](http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev_id=20160523X75309&key=1)

On May 23, 2016 about 0922 Hawaiian standard time, a Cessna 182H, was destroyed when it impacted terrain shortly after departure. The pilot and four passengers were fatally injured. The airplane was operated as a part of the skydiving flight operation. Visual meteorological conditions prevailed for the flight, and no flight plan filed. The local flight originated from PAK at about 0921.

Multiple witnesses reported that shortly after takeoff, about 150 feet above ground level, the airplane made a sudden right turn, descended, and impacted terrain. A post crash fire ensued.

Additional Information:

<http://www.avweb.com/avwebflash/news/Skydive-Plane-Crash-Kills-Five-226297-1.html>

<http://www.hawaiinewsnow.com/story/32057464/former-skydive-kauai-pilots-say-they-had-safety-concerns-about-crashed-plane>

<https://aviation-safety.net/wikibase/wiki.php?id=187561>

**Aircraft:**        **Airbus H130**  
**Injuries:**       **3 Uninjured**  
**NTSB#:**          **ERA16LA098**

[http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev\\_id=20160201X64621&key=1](http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev_id=20160201X64621&key=1)

On January 29, 2016, at 1303 eastern standard time, an EC130 B4, operated by Air Methods Corporation, was substantially damaged when the left rear entry door departed the airframe while airborne. The commercial pilot and two medical flight crewmembers were not injured. Visual meteorological conditions prevailed.

In cruise flight, about 5 minutes after takeoff, the pilot felt and heard an increase of wind in the cockpit. He scanned both front windows to see if they were ajar and, as he faced straight ahead, he heard and felt a rush of air, thinking that the left rear sliding door had opened. As the pilot turned to look, he heard a "whoosh" and saw what he thought was a clipboard depart the helicopter and angle away from the tail (about the 7 o'clock position).

At that point, the pilot slowed the helicopter and instructed the specialty nurse to try and close the door. She seemed to be having some difficulty, so the pilot suggested that the door may have "locked back" and to use the lock release so she could slide the door forward to the closed position. After a few seconds, the specialty nurse announced that the door was missing, and that's when the pilot realized that the clipboard he saw was in fact the door.

With no abnormal flight characteristics, the pilot then diverted the helicopter to nearby Tri-State Airport (HTS), Huntington, West Virginia, and landed uneventfully. After shutdown, a visual inspection revealed damage to the left transmission hatch, one rotor blade, and the plastic sliding door guide on the left side baggage door.

The flight nurse also noted that she observed the specialty nurse slide and latch the door before takeoff. During the flight, when she heard a loud wind noise, she looked left to see that the door was open. After the specialty nurse received instructions from the pilot about unlocking the door ("when it opens, it locks for safety") the specialty nurse looked back and stated, "it's gone."



According to a maintenance log notation, on September 20, 2015, maintenance was completed in response to, "left rear sliding door would not open."

**Aircraft: MD 369E**  
**Injuries: 1 Minor**  
**NTSB#: GAA15LA217**

[http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev\\_id=20150806X82855&key=1](http://www.nts.gov/layouts/nts.aviation/brief.aspx?ev_id=20150806X82855&key=1)

The pilot reported that he was hovering over a lake at night while practicing water bucket operations. He was using the helicopter's landing light and newly installed movable searchlight positioned to shine underneath and toward the left side of the helicopter for illumination. He reported that he was able to see the shoreline, horizon, and the texture on the water during these operations. He reported that, during the third load, he transitioned his sight "forward and inside to the instrument panel" and that, while he was scanning the instrument panel, he "noticed the rotor disk dipping toward the water." The main rotor blades then struck the water, followed by the helicopter impacting the water. The cockpit filled with water as the helicopter rolled upside\_down and began to sink.

The pilot reported that, while he was egressing from the cockpit underwater, he felt his "helmet tug backwards and...realized the communications cord was still attached to the helicopter." The pilot removed his helmet, surfaced, and swam to the shore without further incident. The helicopter was recovered from the lake, and an examination of the helicopter revealed substantial damage to the fuselage, the main rotor system, and the tail boom. The pilot reported that there were no preimpact mechanical failures or malfunctions with the airframe or engine that would have precluded normal operation.

The pilot reported that he had prior formal external load training, but no formal over water external load training. He reported that he had never had formal underwater egress training. He also reported that he was not wearing a flotation device or carrying a self-contained breathing device during the over water flight.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows: The pilot's failure to maintain altitude and a level attitude while hovering over water at night during an external load operation, which resulted in the helicopter's main rotor contacting the surface of the water.

**Aircraft: Bell 206L-3**  
**Injuries: 1 Minor**  
**New Zealand TAIC#: 11-001**

<http://www.taic.org.nz/ReportsandSafetyRecs/AviationReports/tabid/78/ctl/Detail/mid/482/InvNumber/2011-001/Page/2/language/en->

On 20 January 2011, the pilot of a Bell 206L-3 LongRanger helicopter ditched the helicopter after experiencing a significant engine power reduction while in the cruise. The pilot did not have time to make an emergency radio call, but the accident was witnessed by people on shore. The pilot was not wearing a life jacket and spent more than 2 hours in the water before he was rescued. He suffered minor injuries only.

The pilot said that he flared normally to reduce the rate of descent before applying full collective pitch to cushion the water entry. He said the landing was “firm”. The pilot then rolled the helicopter to the right to allow the main rotor blades to strike the water and stop turning. He said the rotor striking the water had a harder impact. The forward windscreens and chin windows then broke and the cabin filled with water as the helicopter rolled inverted. The helicopter was not equipped with emergency flotation gear, but initially floated just below the sea surface. The pilot had had no training in escaping from a submerged helicopter and he experienced some disorientation before he managed to escape from the cabin. He clung to the landing skids for less than 15 minutes before the helicopter began to sink. He was not wearing a life jacket and had none on board. He began to swim towards the shore, using his helmet and pieces of main rotor blade for flotation, and was aware of swimming through floating fuel. A number of witnesses on or near Waipu Beach saw the crash and reported this to Police at about 1217. A large arrow pointing towards the impact point was drawn in the sand to guide search aircraft, but the reported distance offshore was overestimated. An Air Force Orion maritime patrol aeroplane that was operating in the Hauraki Gulf was diverted to the search. The witnesses passed advice through Police to guide the Orion towards the accident site. Witnesses and search personnel said there was an on-shore easterly wind with white caps on the sea. In spite of the sea condition, the pilot was found by the Orion crew at 1422, approximately 1500 metres (m) offshore, and a rescue helicopter from Whangarei rescued him soon afterwards. He suffered mild hypothermia and minor bruising, as well as fuel burns to exposed skin.




The helicopter was not able to be recovered from the sea for about one week. The cause of the reported engine power reduction was not determined.

The pilot did not take appropriate survival precautions for a flight that was intended to be operated over water. His rescue was greatly assisted by the accident being witnessed and by a favourable on-shore wind.

The following key lessons were noted:

- 1** Pilots should have a flight-following arrangement or submit a flight plan for every flight to ensure that a search is started without delay should the flight become overdue.
- 2** The occupants of single-engine aircraft operating at low level over water should wear, not just carry, life jackets when they plan to fly beyond gliding range of a suitable landing place.
- 3** When a forced landing appears likely, pilots should activate the emergency locator transmitter as soon as possible and make an emergency radio call.
- 4** Helicopter pilots who frequently operate over water should undertake helicopter underwater escape training.





*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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