AIRBORNE LAW ENFORCEMENT ASSOCIATION

The Safety Wire

July 2014

"Knee-jerk reactions" give safety management a bad name. Anytime something bad happens there is a temptation to immediately jump on the problem with a swift and heavy-handed solution. Granted, the intentions are usually pure, after all, they are addressing safety. However, the process usually leads to ineffective rules and procedures that tend to only annoy those they are meant to protect and waste precious resources.

Adding to the problem is that the safety solutions created are often embellished with extra complexity in order to match the seriousness of the situation. Unfortunately, we confuse high word count and numbers of pages as signs of an effective risk control. As we all know, this lowers the likelihood of the safety solution actually being used in the cockpit. When the little red lights start illuminating on the panel and the engine gets quiet, that 15 letter acronym or three page emergency procedure checklist is the last thing that will be utilized.

We have two basic categories of decision making available to us, analytical and intuitive. Analytical decision making involves taking time to understand the individual components of a situation and how those parts interact.

Intuitive decision making uses previously established beliefs and values to make quicker decisions while focusing mainly on the whole situation and not the individual parts.

They each have appropriate applications, and we tend to use the wrong one in safety management. We should use an analytical process to understand problems and develop useful safety tools

that can be utilized effectively. Effective safety tools more often than not involve intuitive decision making, especially in the cockpit and on the maintenance floor.

In June, I had the honor of attending and giving a presentation at the annual Police Aviation Conference (PAvCon) in Belgium. As I planned my presentations, I had a number of topics in mind based on the data I had available on law enforcement aviation around the world. That data, however, was not specific to European operations. I was temped to address the same topics that I do in North America. After all, law enforcement aviation is basically the same everywhere, right?

No, we all know better than that. I started collecting some information in order to make sure I could address the right issues in the limited time I would have. It was not an easy task. There is no central accident reporting system and the national reporting systems that were in place often do not include public safety, or 'state aircraft' incidents. The collection of information that came from this process simply did not exist before. Here is why it is important, and why I would like to share it.

As you can see, the European operators have some high-risk challenges that are common to the rest of the industry, such as IIMC. The CFIT accidents in this region, however, occurred more often during the landing process than in cruise flight. Also, the high numbers of training accidents and mechanical failures seen in other parts of the world did not show up in this data set, which may be a fault of my data collection process. The reasons for these statistics, and solutions, are a whole other conversation to be had another time.

The point here is that this kind of information is what we need to fuel an SMS. If I had gone into the conference assuming that European problems were the same as everybody else's problems, I would have missed some major opportunities to have meaningful discussion on how to improve safety. Once we start out on the right foot, we can address the identified areas as 'system' problems, instead of treating each incident as an individual anomaly. Some of the SMS components that would be needed in Europe would be unique in order to address those specific hazards.

Don't shoot from the hip when it comes to safety. Take your time and use an analytical process to get things started right.

For more information on PAvCon, go to www.policeaviationnews.com

If you can't measure it, you can't fix it.

~Dr. David Eherts
Chief Safety Officer
Sikorsky Aircraft Corp.

Resources

The following video was published by Airbus. It covers an IIMC incident with some great video recreations of the flight.

The courage and humility this pilot shows is remarkable. While nobody wants to have an accident, I think he should serve as an example for what a person should do when they have learned a tough lesson that could benefit others.

http://www.ihst.org/portals/54/that%20Others%20May%20Live%20SD.mp4

Self-distrust is the quality to which many a pilot owes his protracted existence.

~Eddie Rickenbacker

Training

We continue to look for ways we can lower our training accident rate.

I would like to pose these questions: Do you conduct training *and* evaluation flights at your unit? Is there an opportunity for pilots to fly with a flight instructor and feel free to ask questions or work on maneuvers they feel 'rusty' on? How do the CFIs out there facilitate this? Separate flights? Training vs. evaluation syllabi?

I would like to know your thoughts, tricks, tips and opinions. Either contact me directly or add your input online in the safety discussion board. Thank you.

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ALEA Safety Discussion Forum:
http://www.alea.org/forum/forum.aspx?c=General+Discussions&f=Safety

Keep the airplane in such an attitude that the air pressure is always directly in the pilot's face.

~Horatio Barber, 1916
Early British aviation pioneer

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.*

Update on Ornge Helicopter crash. Especially interesting for safety officers and managers:

http://www.thestar.com/news/canada/2014/05/30/ornge_charged_after_fatal_crash_in_moosonee.html

Aircraft: AS 350B2
Injuries: 3 minor
NTSB Identification: CEN11FA359

http://www.ntsb.gov/aviationquery/brief.aspx?ev_id=20110531X94036

An AS 350 B2 helicopter impacted terrain while on approach to land. The private rated pilot, flight instructor, and passenger received minor injuries. The helicopter was substantially damaged during the accident and a postcrash fire ensued. The pilot had recently purchased the helicopter. The certified flight instructor (CFI), who was employed by the helicopter's previous owner, was to help ferry the helicopter and then provide the new owners with flight instruction in the helicopter.

The CFI reported that he was giving the pilot instruction with normal and emergencies procedures in the helicopter. During the last traffic pattern, the hydraulic system was turned off, to simulate a hydraulic system failure. The CFI added that the ground controller reported that they were on the wrong radio frequency, so he moved to correct the radio frequency. During the approach, the helicopter slowed and started a left yaw. The CFI stated that he tried to regain control by adding right pedal, looking for forward airspeed, and reducing power. The helicopter did not respond to the CFI control inputs, descended and impacted terrain.

The CFI reportedly had approximately 3,466 total flight hours, and about 789 hours in a Eurocopter AS 350.

According to the Eurocopter AS 350 B2 Flight Manual (Emergency Procedures) and Flight Manual Supplement, Hydraulic Pressure Failure Training Procedures:

The simulation of a hydraulic failure is the same as a real failure with the exception that the main rotor load compensator is depressurized and tail rotor pedal control feedback forces are higher than normal when pushing on the right pedal.

Note: The instructor must ensure that the “HYD TEST” pushbutton on center console is selected OFF (upper position) before the collective hydraulic cut-off switch is selected OFF to ensure that the tail rotor compensator is pressurized, and to enable the pilot to restore the hydraulic power system by re-setting the hydraulic cut-off switch to ON during the training exercise should it become necessary.

The manual also notes that the hydraulic failure safety speed is 40 to 60 knots.

The manual also states: “Caution: Do not attempt to carry out hover flight or any low speed maneuver without hydraulic pressure assistance. The intensity and direction of the control feedback forces will change rapidly. This will result in excessive pilot workload, poor aircraft control, and possible loss of control."

Aircraft: Cessna 172H
Injuries: 1 Fatal
Swedish Accident Investigation Board report: RL 2009:03e
http://www.havkom.se/virtupload/reports/RL2010_03ea.pdf

The pilot intended from the air to search for deer in the vicinity of the airfield. The pilot took off and turned left round the hill that lies to the east of the airfield, thereafter flying in a westerly direction at low speed and at a low height along the side of the brook. When the aircraft was about 400 m north-east of runway 21, witnesses observed that the engine speed increased and the aircraft began to climb. Immediately afterwards the aircraft was seen to turn to the left and continued in a descending turn, after which it impacted at a steep angle with the ground at the edge of the brook.

The pilot was severely injured in the accident. Ambulance personnel arrived at the accident site 16 minutes after the alarm had been given, and the rescue services arrived four minutes later. The ambulance personnel immediately started cardiopulmonary resuscitation, but despite this and expert treatment in hospital the pilot died the same day.

Inspection of the controls and circuit breakers in the cabin showed that the wing flaps were fully down and the indicator on the instrument panel showed 40 degrees down.

The most likely situation was that the pilot had ceased to search for the roe deer and intended to land on runway 21. The witness observations indicate that the aircraft altitude, just before the start of the descending turn, was greater than usual for an aircraft intending to land on runway 21. The intention of the pilot when setting full flap could therefor have been to increase drag so as to achieve a greater rate of descent and come down to a normal approach angle to the airfield, without the speed being unacceptably high.

In connection with lowering the flaps and climbing, however, the speed reduced so far as to come below stalling speed, whereupon the aircraft dropped its left wing and entered a spin. During this turn the aircraft was influenced by an increasing tailwind, which exacerbated the situation.

SHK (Swedish Transport Agency) thereby considers it likely that the aircraft entered an inadvertent spin and that the height available for recovery from this critical flight situation was insufficient.

SHK's investigation indicates that the pilot was not correctly strapped in with both the lap strap and shoulder strap during the accident flight, having only the lap strap fastened. The skull injuries to the pilot probably came about as the result of a violent impact with the controls on the instrument panel during the collision with the ground. It was assessed that these injuries would have been limited if the pilot had used the shoulder strap.