



The Safety Beacon is for informational purposes. Unit safety officers are encouraged to use the articles in the Beacon as topics for their monthly safety briefings and discussions. Members may also go to LMS, read the Beacon, and take a quiz to receive credit for monthly safety education.

September/October 2018

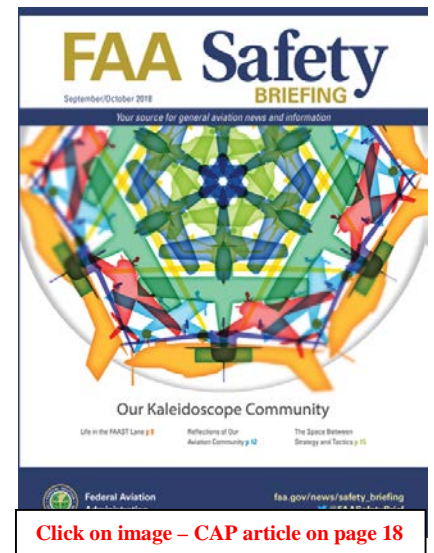
CAP Safety in the Spotlight

George Vogt, CAP/SE

Your National Safety Staff has been working hard to build a program that incorporates risk management into all our endeavors. We're very pleased that we have the strong support of our National Commander, Maj Gen Mark Smith, and the entire Command Team.

At the grass roots level, we want to provide all our CAP members with the tools and training they need to successfully use safety risk management to reduce risk and prevent mishaps. The new CAP regulation that outlines our new Safety Management System is in coordination and should be "in print" in early 2019.

At a more strategic level, our goal is to make sure the Civil Air Patrol is considered a national leader in our approach to Safety. In the months to come we'll be discussing more about our affiliations and efforts with national safety projects and working groups. This month, our efforts are highlighted in a great article in the FAA Safety Briefing Magazine. Written by our own CAP Lt Col Paul Cianciolo, the article discusses how our current initiatives put us at the safety forefront. Lt Col Cianciolo is an Assistant Editor of the FAA Safety Briefing magazine in his "day job." In CAP he is Vice Commander of the National Capitol Wing and is on the National Public Affairs Staff. Thanks for the great article, Col Cianciolo!



As you can see in this picture of Maj Gen Smith, borrowed from the back cover of the FAA Safety Briefing magazine, the CAP article is a "must read" for all CAP members!

safety@capnhq.gov

The Flight That Almost Was

Lt Col Nate Allerheiligen, CAP

A quick story on risk management and listening to your own advice...

The day was scheduled for a relocation to a small airfield, pick-up of 2 cadets for some orientation rides, and then return back to home for the night.

The long range forecast kept saying that the evening would be partly cloudy/mostly sunny--a great day to go fly. Once the TAF (Terminal Area Forecast) was published, however, the outlook began to dim. The last forecast before flight time was 2500 Overcast.

Now this area has several ridge lines, approaching 800-1000 above the base elevation of the airfield. There are some gaps, but to maintain the CAP required 1000 AGL minimum altitude AND the VFR weather minimums (500 below clouds), we pretty much need 2500 to launch.

The observation one hour before launch put the ceiling at 2500, with a small scattered scud deck at 2000. The weather to the west where the pick-up field was (80 miles away) was observed and forecast to be 3500 broken or better, so should be good to go. Right?

Well, the scud layer was getting thicker. And the forecast (TAF) was showing 1700 overcast, even though the current observation was better than that.

I thought: I can do this. I'm a proficient pilot. I've got plenty of experience (4,000 hours flying C-130s for the USAF), including hundreds of hours in actual instrument conditions. I can always pick up an IFR clearance if I had to. Right??

Then I remembered the advice that I give my junior pilots: There are very few things that can't wait for a later date. Just because you CAN doesn't mean you SHOULD. While I'm "qualified" as an IFR pilot, I'm not current. If I can't plan and fly IFR, I shouldn't rely on it as my back-up. Hey, what's that mountain goat doing up here in this cloud?

So, I called my FRO and the O-ride coordinator and cancelled the flight, put the plane to bed, and went home to enjoy dinner with my family as the misty rain began to fall and the ridges to the south became fully obscured. I just checked the observation--at the time of my planned return: 0030VC! Yikes!! I think I picked the right day to listen to my own advice.

"Just because you CAN doesn't mean you SHOULD."

About the author: CAP Lt Col Nathan "Nate" Allerheiligen, joined CAP about a year ago, and already serves as the Assistant AE Officer, Assistant Operations Officer, and the Assistant Safety Officer of Nittany Composite Squadron of the Pennsylvania Wing, in State College, PA. In his "day job" he is USAF Colonel Nate Allerheiligen, Commander of the AFROTC Detachment at Penn State University. He is a decorated AF Command Pilot with over 4,000 hours in the C-130 and more than 500 combat and combat support hours. Welcome, Col "A+12", and thanks for sharing this!



“Stop Telling Kids to Be Careful”

George Vogt, CAP/SE

There are a whole lot of blogs, and web pages, and discussion groups, and forums about Safety. Because of my job, I read quite a few of them.

Some of them have a tendency to make me angry because they don't do anything but tell people to “be safe” or “don't do that” or “don't be stupid” or they just put restrictions on what people can or can't do. I gravitate towards the authors who talk about risk management, and *teaching* people how to recognize hazards and reduce risk; *teaching them how to think*.

When I was much (much) younger, I was fortunate that my father taught me how to think. I know that sounds a little strange, but he did. If I did something that didn't turn out quite right, or ended up with me being hurt, or something breaking, he would calmly ask, “what were you thinking?” Now this wasn't the bold-faced, condescending, loud-voiced “**WHAT WERE YOU THINKING??**” It was a calm question that allowed us to review what led up to the “mishap” and how I might have avoided it. If I was planning something a little too crazy for his liking, he would “help” me think through what might go wrong, and whether or not it was “worth it” or whether there was a “smarter way” to do the same thing. He taught me, in kind and caring words, how to apply risk management. I just didn't know it at the time.

Recently one of those “safety” websites I read referred me to another blog called backwoodsmama.com. This blog is written by a Canadian mother of three, who writes about “raising outdoor kids.” In her post entitled “[Stop Telling Kids to Be Careful](#)” she writes in a style my father would have liked. Rather than telling someone what *not* to do, she teaches *how* to do it. Her article is geared towards parents with young children, but when you read it I want you to think about how you teach risk management to our cadets. Don't tell them what to do. Help them learn to reason, using a tool called “risk management.”

What to Say to Kids Instead of "Be Careful!"

Help Your Child Foster Awareness by Saying:

- **Notice how...** these rocks are slippery, that branch is strong...
- **Do you see...** the poison ivy, your friends nearby?
- **Try moving...** your feet carefully, your quickly, strongly.
- **Try using your...** hands, feet, arms, legs.
- **Can you hear...** the rushing water, the singing birds, the wind?
- **Do you feel...** stable on that rock, the heat from the fire?
- **Are you feeling...** scared, excited, tired, safe?

Help Your Child Problem Solve by Saying:

- **What's your plan...** if you climb that boulder, cross that log?
- **What can you use...** to get across, for your adventure?
- **Where will you...** put that rock, climb that tree, dig that hole?
- **How will you....** get down, go up, get across?
- **Who will...** be with you, go with you, help you if?

www.backwoodsmama.com



This free pdf is available on the website

safety@capnhq.gov

Safety Shorts

George Vogt, CAP/SE

NO SAFETY SURVEY THIS YEAR! That's right, there won't be an annual safety survey this year. Surveys can be a very valuable tool, and there will be a place for surveys in the new Safety regulation, but a survey can also seem like a needless burden if it isn't focused on a specific issue or purpose. With that in mind, there is no requirement for units to complete an annual safety survey between 1 October and 31 January.

Update on the New Safety Regulation: The new Safety Regulation is nearing completion. CAP 160-1, *Civil Air Patrol Safety Program*, has been written and it is being reviewed by all the functional and mission areas at NHQ as well as CAP leadership. We'll make a few final tweaks based on recommendations we receive, then we plan to have the regulation released and in effect in the first month or two of 2019. This regulation will implement a Safety Management System approach to safety as you've read about in previous editions of the Beacon. The most important thing we hope to accomplish is to give you tools, templates, forms, and instruction on how to do the tasks we're asking of you.

I Still Have Questions! Until the new regulation and all the accompanying tools and training hit the streets, there are still going to be questions about how to handle certain situations, how to do reviews, what to put in SIRS, etc. Ask us! If you ever have doubts about what we'd like to see in a review, or how we think a briefing should be conducted or how to do a risk assessment, let us know. The best option is to e-mail us with your question and we'll be able to call you with a quick answer or send an e-mail to point you in the right direction. Our address is safety@capnhq.gov. When you drop us a line, include your Wing and Region Directors of Safety. If you have the question, there are probably others in your Wing or Region that share the same question and we can make sure everyone is in the know.

When is NSOC? This is a common question. Members are interested in National Safety Officer College because it is a requirement for the Master rating in the Safety Specialty Track. It is also the highest level of training we have in the CAP Safety Program. Also, in the new regulation, being a graduate of NSOC will be a requirement to be a wing or region director of safety (this is spelled out in our agreement with the Air Force). With the new regulation outlining a totally new approach to CAP Safety, NSOC becomes a requirement for anyone who truly wants to be an expert in how the new Safety Management System will work. That means Directors of Safety who are previous NSOC graduates will still want to attend so they are well equipped to run their safety programs on behalf of their commanders.

So what's the plan? Beginning sometime in early 2019, we will begin a blended-learning approach to NSOC. Members from all over the country will sign up and take part in on-line lessons, webinars, readings, individual assignments, and group projects to provide the majority of the knowledge and course work required from NSOC. When that is complete (spread over 2-3 months), we will schedule numerous short in-residence sessions in various locations around the country. These will probably be 2 to 2 ½ days, usually over a weekend, with enough sessions that just about everyone should find one convenient for their schedules and travel. Since this course is a requirement for Wing and Region Directors of Safety, we will make every effort to offset as much of the cost as possible. Stay tuned for more information as we get closer!

What About "Annual Safety Risk Management Day?" That is the new name for the annual "Safety Day" and the requirement to discuss risk management once a year (just as a reminder, we would like you to talk about risk management at every briefing and every event). Here's what the new regulation will say about the Annual Safety Risk Management Day: *"Commanders of all active squadrons will set aside one meeting day during the months of January, February, or March to conduct an Annual Safety Risk Management Day. The sole focus of the day is a Risk Management refresher for all members, specifically geared towards the hazards and risks they face in their daily lives, their CAP activities, and their specific missions."* To jump start that program, we will provide all of you with a list of required and recommended topics, with a focus on how to actually perform risk management tasks. We'll include trend items, items of emphasis, and risk factors requiring attention. Region and Wing Commanders and Directors of Safety will be asked to supplement that list with their own emphasis areas. Let us know if there's anything special you'd like us to discuss.

Pre-flight Risk Assessment and Flight Release: The pre-flight risk assessment, and the flight release process, have proven invaluable tools at reducing risk in CAP aviation. All branches of the military use this process in one way or another. The Risk Assessment Worksheet is an example of what the FAA calls a Flight Risk Assessment Tool. Regardless of what we call it, it is used as a tool to identify risks so we can put risk controls in place. One of the most important steps in the Risk Management loop is to evaluate the effectiveness of the risk controls that have been put in place. We need to do the same thing with our Pre-flight RA and our FRO process. Are those processes working the way we think they should? With that in mind, we are going to be reviewing the Pre-flight Risk Assessment and the FRO worksheet anytime an aircraft flight or aircraft ground handling mishap occurs. All mishap reviews of any aircraft mishap should include a review of the RA/FRO products to see how effectively the risk assessment predicted the risks that were actually encountered. The ultimate goal of this, and any other part of the mishap review process, is to improve how well we are controlling the risks we face. Wing and Region Commanders have been advised that we will be checking these, so I ask that all Directors of Safety make this a part of your regular review of the mishaps in your area. We won't be closing aircraft mishaps until we see the RA and FRO products.

“There are no LOCAL mishaps!” Let me repeat something I've said many times before. In CAP, there are no “local” mishaps. Every mishap has national implications. What do I mean by that? Quite often, we see mishap reviews in SIRS that leave a lot of unanswered questions. They explain what happened, but don't explain why it happened, or what might have contributed to the mishap, or what changes have been put in place to control the risk that raised its angry head. Sometimes, when we get ahold of the Wing and ask a few questions, the response we get is “we knew about that but didn't add it to the review” or we hear about fixes they put in place that weren't mentioned in the corrective action. Put them in there. We need to know. The isolated mishap you might have had in your corner of the country, that you successfully handled, might be the same as five or six or seven that happened in other parts of the country. There could be a trend that we don't know about simply because someone forgot to tell us about a cause, or a hazard, or a risk, or a fix that they happened to find. Take the time to tell us the whole story so it can be a puzzle piece in the national effort.

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You're in for a Treat

I enjoy when we can share articles written by people outside of CAP that give lessons about Risk Management. I especially enjoy it when the authors are from other countries, flying different kinds of aircraft or engaged in other types of missions ... it shows that the same principles of Risk Management we talk about right here in CAP are universal.

The article beginning on the next page is a bit lengthy, but definitely worth every bit of your time. As you read through, be alert for some of those same risk management ideas we've been discussing right here in the Beacon...

- Have a plan for events you encounter – pre-briefed risk controls based on hazards you've identified
- Crew Resource Management – prioritizing tasks, the same way you trained, the same way you briefed
- “Planning. Jim had planned for a bird strike long before he ever hit the bird.”
 - Do you know the bird hazard areas on your route of flight? What would your first actions be?
- “Details matter.” “It teaches you to think of ‘what ifs.’”
 - Sound familiar? “What's the worst that can happen, and what am I doing to prevent it?”
- “... a process that gives prior consideration to events that *might* happen BEFORE they actually *do* happen.”
 - Sounds like Risk Management to me.

Turn the Page. Enjoy the article. Discuss in your squadron. Are you this prepared?

Professionalism, Planning, and Responding *Versus Reacting*

Collin Kightlinger, Assistant Chief of Safety

Below is an article written by Squadron Leader Tim Davies, Royal Air Force, Retired. He is a public speaker, aviation consultant and performance coach. The article first appeared in his Blog entitled, *Fast Jet Performance*, and is reprinted here with the author's permission. We both flew the Tornado GR4 on 12 (Bomber) Squadron for the RAF. His account below was taken from when he flew the Hawk T1 training jet as an instructor. It details how we as professional aviators must always be thinking about what can go wrong and how we plan to *respond* – not *react* – to any situation we are faced with, both in and out of the cockpit. Enjoy.

“I plan for the 6th order effect and I do it in about half a second.”

If I had heard that from anyone other than another fighter pilot, I would've laughed them out of the room but, from my buddy, Jim – I knew it was true.

I've flown with him many times before. He was the kind of guy that radios *weren't* invented for – he just didn't need to use them. I knew what he was thinking before he'd even thought it because we'd both been trained in exactly the same way. We'd gone through flying training together and even served on the same front-line squadron; his actions were fluid, predictable and, when leading other aircraft in dynamic situations, was very much appreciated by other pilots.

But, Jim was in trouble.

He was explaining to a young Air Traffic Control Officer why he had gone against their direction – a serious offence. He looked over at me – not for reassurance – he was annoyed and I understood why. If you haven't spent the last two decades flying military fast jets, you'd be forgiven for thinking that fighter pilots must have amazing reactions to do what they do. But, it's not true. My reactions are probably just as good as yours, I'm now over 40 and they might even be worse. But, that's OK as I do something that you probably don't. I know to *respond* and not to *react*. Years of instructing in flying training and exposure to situations that require critical thinking in demanding environments, have taught me that to *react*, is to die. I've seen it countless times in young, inexperienced aviators and normally it's because they haven't had a plan for the event they've encountered.



- The junior pilot who fails to monitor his fuel usage on his early combat sorties and only just makes it back on fumes.
- The young instructor who, sensing something wrong with her aircraft, puts out a “MAYDAY” call, forcing her to engage in a dialogue with air traffic and robbing her of cognitive capacity.
- Or, the student who flies into a cloud filled valley without thinking of an escape option.

A few years back, Jim and I were flying a low-level navigation route and working hard on a target run when we hit a bird...

BANG

The cockpit was silent. Jim was flying, I was in the back-seat and, as the jet slowly climbed away from the ground, we could both feel it starting to shudder. When a fighter jet starts to shake, it's normally the sign of an engine that is deciding if it should stay as one big bit or become one million smaller bits, in a very short amount of time. “Looking...” he called calmly from the front-seat as he set about trying to diagnose the emergency. “Prestwick is 320/15 miles.” I replied, detailing our nearest airfield.

Sure enough, the shaking increased and pretty soon a big RED caption illuminated showing us that the engine was, indeed, trying to cook itself. It's the sort of thing it does that when a seagull attempts to fly-through the compressor blades at about 500 mph. “Surge, attempting relight.” he calmly stated, informing me that the engine was no longer producing power and that he was shutting it down.

The only one we had...

...we'd just become a 13000-pound glider.

“Roger.” I replied as I got out the Flight Reference Cards checklist in anticipation of a full Engine Relight drill. I felt the throttle slam back to the Cut-Off, starving the engine of the fuel that was promoting its unhealthy state. As Jim pitched the jet's nose high into the clear sky above, trading speed for height, I knew we were about to enter controlled airspace, unannounced. And, that's a bad thing.

“Clear the flight path and nobody's going to die,” I thought – no need to distract Jim with this right now, he has more important things to do. By now, all non-essential aircraft systems were being taken off-line as the aircraft prioritized its own survival. A smaller engine called a Gas Turbine Starter was automatically fired-up which would power the electrics and a tiny little windmill, called a Ram Air Turbine, was thrust into the airflow to drive the hydraulics which would keep us flying. Engine RPM was falling, as was our airspeed which had reduced from 450 to 180 knots in just 30 seconds.

“Let me know when you're happy, Jim.” I called.

“OK, speed stable, RPM falling – go for it, buddy!”

“Roger.”

And, with that I finally pressed the button. “MAYDAY, MAYDAY, MAYDAY, Victor Yankee Tango 61, MAYDAY.”

“MAYDAY 61, this is Guard, steer 320 for Prestwick, 12 miles, call intentions,” came the immediate reply.

“MAYDAY 61 is a Hawk T1 out of RAF Valley, 2 Persons on Board, 12 miles south-east of Prestwick at 5,000 ft IN controlled airspace, squawking emergency, inbound for any runway – engine failure, attempting relight – standby.”

Silence.

I'd asked Guard, the military UK emergency agency, to “standby” to give us time to action the remaining drill. I knew that the controller would now phone Prestwick Air Traffic Control and tell them that they had an engine-less, 13000-pound Hawk inbound with a couple of guys who were about to cancel their RSPB* memberships.

I could see that the engine RPM was stagnating below 20% and there probably wasn't time for a full relight.

“Harness – Tight and Locked, Visor – Down...” I called as I started to run through the Premeditated Ejection checklist. “RPM's slowly climbing,” said Jim as I too noted that the engine was indeed attempting to restart. If it failed, we'd be abandoning the aircraft and I could already see that Jim was turning towards an area of wasteland in anticipation.

“MAYDAY 61, all runways at Prestwick available, crash crews on standby, contact Prestwick tower on this frequency.”

“Well, that's the engine almost back,” called Jim from the front seat, “but I'm not convinced she wants to be back right now.” “OK, let's go to Prestwick for tea,” I replied, as the jet continued to vibrate its unhappiness to us both.

So, why didn't we panic when our engine swallowed a Seagull and decided to throw a compressor blade out of the exhaust? Because, we both had about 4,000 hours of military aviation between us and we knew that to *react* to the birdstrike could well have put us in a far worse state.

The first rule of any aircraft emergency is...

...DO NOTHING.

It sounds counter-intuitive but the key is just to “sit on your hands” and observe what is happening. In the Tornado GR4, a spurious caution could be the beginning of something far more serious such as a rear-fuselage fire or an un-contained engine failure – to rush in could make things far worse. What we are buying ourselves is “thinking time”.

If, on hearing the ‘BANG’ of the birdstrike, I’d jumped onto the radio and called for help, my world would have been immediately filled with multiple air traffic agencies offering their support. Every aircraft in the near vicinity, would also have offered to help. Now, I’m dealing with a complicated emergency and also trying to talk to a lot of people who can do NOTHING to help me. If the jet’s going to explode, it’s going to explode – there is nothing that air traffic can do that will stop that happening.

A reaction is instant. It’s driven by the beliefs and biases of the unconscious mind. When you *react* to something, that’s the unconscious mind jumping in, it doesn’t take into account long-term effects. It’s based on our necessity to survive from when we used to have to run from Sabre-Toothed Tigers and is there to keep us alive as part of our defense mechanism. A *response*, however, is more thought-out. It takes into account information from our conscious and unconscious mind, balancing it all and weighing everything up. A response considers the longer-term events or, as Jim put it, the “4th, 5th and 6th order effects”.

Jim was programmed to respond, even if it meant the loss of the aircraft in the immediacy following the birdstrike but, it wasn’t just this that had saved the aircraft – Jim had something else on his side. Planning. Jim had planned for a birdstrike long before he ever hit the bird. Jim had thought about it when we had planned the flight 3 hours before. He had then explained in the pre-flight brief what he would do around various parts of the route should he hit a bird and what airfields he would use should he lose the engine. It was something he’d practiced in the simulator hundreds of times before.

Everything that happens in jet flying is planned. Every possible scenario has a prescribed response that has been thought about in the cold light of day, away from the pressures of the cockpit – nothing is left to chance. Jim HAD A PLAN. Most people DON’T have a plan. It’s true. And, this means that when life happens to them, as it has a nasty habit of doing, people will react – often causing the situation to worsen.

Planning means to think things through before they happen – it means thinking about how you are going to do things. When a young airman goes through basic training, they will often get picked up for the smallest of things such as a button that is undone, a loose thread on their jumper or a bed that’s been poorly made. They will complain about the pettiness of it all, they will get angry at being punished and they will wonder why their instructors don’t just concentrate on the things that “really” matter, instead.

It’s only when they get into the later stages of training that they start to understand that, in order to do the more advanced things in the military, you have to have mastered the basics. Because the details matter. Paying attention to a button being undone means you’re more likely to check that the safety catch of your weapon is on when doing a forced night march in freezing cold rain at 3 in the morning.

It teaches you to think of the “what ifs”.

If my button is undone, then the staff will punish us all and I won't get to home at the weekend. If I don't check my safety catch on the range because I neglected the basics, I might fire a round off accidentally and kill one of my buddies.

It's all about the planning – this is what is being taught by the instructor's “pettiness”.

When the stoics, Seneca, Epictetus and Marcus Aurelius, used to sit around thinking about whether to watch another YouTube video or build a Spotify playlist, they also liked to involve themselves in something called the “Premeditation of evils” (or *premeditatio malorum*, if you'd prefer the Latin).

It's also called the Inversion Technique, and is a process that gives prior consideration to events that *might* happen BEFORE they actually *do* happen.

- What if my house floods, do I have anything that I'd need to save and do I have insurance?
- What if I fail to get the grades to get into my chosen university, do I have another one in mind?
- What if I lose my job, do I have enough money in reserve to live on whilst I find another?

Thinking out these questions in advance allows you to respond calmly to the event rather than react inappropriately to it. And, that's pretty much what Jim had just taught the young air traffic controller who had attempted to lecture him about not contacting them sooner and for flying into controlled airspace, unannounced.

Think about events that might cause you to *react* and plan for them.

If you don't plan your life, I guarantee someone will plan it for you!

So, now you know why you don't need quick reactions to be a fighter pilot and that to *react* will often be the wrong thing to do. Learn to plan ahead and to *respond* to life's difficulties and you'll minimize your chance of failure and maximize your chance of having a well-balanced and successful life.

“By failing to prepare, you are preparing to fail.” – Benjamin Franklin

*Royal Society for the Protection of Birds (I think I've been banned...)