



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.

April / May 2019

Asking “Why”

As you read through the articles in this month’s Beacon, you might detect a bit of a recurring theme. It wasn’t intentional as we were writing, but it reflects an area of emphasis in safety, as well as an area of emphasis throughout CAP. We are asking “why” things happen, so we can improve our processes, reduce our inefficiencies, and ultimately reduce risk.

Asking “why” a mishap occurred so we can prevent it from happening again is a key part of any safety program. I think you’ll all agree it is a good process for everything we do in CAP ... if something doesn’t work the way we’d like, we can ask “why” and then seek to improve it.

Excellence.

What Else is in the Beacon?

- CAP activity increases as the weather warms, and we’re beginning to pull some vehicles out of hibernation and putting them to work to support our CAP activities. Make sure you are giving those vehicles the attention they need to ready them for use. We’ll focus on a couple tire-related things you need to look at.
- Even when something goes wrong, it can be handled in a way that ensures you’re safe. Sometimes that means cancelling the mission, even when you *reaaaally* want to get home. Read about some of those “successful failures.”
- Was that mishap caused by “just a dumb mistake?” Or was that “mistake” the result of poor habit patterns and lapses in risk management?
- Check out some updates on the new regulations, National Safety Officer College, SIRS, and Safety Education. Let us know if there are any other topics you’d like us to address!
- Ever wonder about the difference between mishap “investigations” and mishap “reviews?” There’s a big difference ... read what we’re looking at when we do “mishap reviews.”

Is it “Tire Awareness” Month?

Well it SHOULD be!!

George Vogt, CAP/SE

This is the season when the snow melts, the temperatures warm up, and the operational tempo in Civil Air Patrol increases throughout the country. Near the top of our “to do” list as the tempo ramps up is to dust off, clean-up and check out the vehicles that haven’t gotten a lot of use over the winter.

PLEASE give some special attention to the tires on those vehicles. Pay special attention to the large vans and SUVs and other large vehicles that don’t get a lot of mileage but see a big increase in usage over the summer months.

Make sure these items are part of your regular checklist when it comes to your vehicle tires....

TIRE AGE ... Some of our vans and larger vehicles don’t get a lot of mileage on them, and chances are the tires will have plenty of tread left even when they are too old to be safely driven on the roads. Most tire manufacturers recommend changing tires when they are more than six years old. Rubber breaks down, inner belts can separate, they don’t flex the way they used to, and all of that can result in a blow out at highway speed. NHTSA studies show that the breakdown happens even faster in southern “sun belt” states.

DRY ROT ... This is one of the tell-tale signs of an old tire or one that has spent a few too many years in a hot dry climate. If you see cracking like the picture on the right, it needs to be taken out of service.



CHECK YOUR SPARE!! ... We had one mishap very recently where a van had a flat tire. The members safely pulled over and started to change the tire, and found the spare was badly under-inflated. A good mishap review revealed that the members in the unit were not checking the spare tire’s pressure. Transportation officers ... we need your help!

In the picture to the left, you see two *old* tires. One was on a CAP vehicle and blew out while the vehicle was at highway speed. The other tire was the spare. The driver put it on to replace the blown tire, and it also blew out 70 miles later.



Tires are the only parts of your vehicle that touch the road whenever you drive. They are easy to check, and easy to change. They also present a huge risk if not properly cared for. How well is your unit tracking tire condition and age? Are you confident this can’t happen to you and the cadets sitting in the backseat?

Successful Failures

Collin Kightlinger, Assistant Chief of Safety

So, There I was...

Every good aviation story begins with those four words, followed by a tale whose embellishment varies directly with how many pints the storyteller has put back in the pub that evening. The following cases would need a lot of embellishment to be admitted into the lexicon of heroic aviation stories as they are all tales of failures, but failures that were in their totality, successful.

So, there I was, taking the runway at Nashville International in the trusty T-45 Goshawk at the end of another cross-country weekend. I pushed the throttle up to full power and did a visual sweep of the cockpit gauges. Everything looked normal and I said just that to my buddy in the other seat, but just as I was about to take my feet off the brakes a little amber caution light came on. Dammit, "Rocket 69 aborting. Switching to ground to troubleshoot." We unceremoniously taxied off and discussed the light. Normally, if we had been rolling down the runway and that particular light came on, we'd continue. Taking something insignificant flying is always better than trying to stop a jet on the runway. We had already made a decision, long before we ever taxied out, on what malfunctions would require a high-speed abort, and which caution lights were better to take into the air. However, sitting there at 0 knots, the right decision was to taxi off and troubleshoot. Anytime I pushed the throttle past 85% or so, the light came back on. As much as it probably would have been no problem to take that malfunction flying and get back home, we didn't, and it was the right decision. Sure, we had to spend another night in Nashville and wait for our maintenance team to drive up from Pensacola to fix whatever was wrong, but oh well. Turns out we'd end up renting a car the following day and driving back after our maintenance team determined they didn't have the parts to fix it. Ahh, the glamorous life of Naval Aviation...

In two recent CAP flights in different wings, something very similar occurred. During one event, the crew experienced excessive engine RPM which would not resolve. The pilot observed the red overspeed light several times as well as high RPM on the tachometer, but it didn't seem like the actual engine speed reflected what the instruments were telling him. Nevertheless, the pilot elected to honor the threat and land. The crew landed at the nearest airport – not their point of intended landing – and heroically abandoned the sickly aircraft after shutting it down. They were subsequently picked up by another CAP member in the standard CAP limousine, the Econoline 350.

In the other event, the aircraft engine began running roughly while airborne. The pilot attempted to troubleshoot, but to no avail. The crew discussed the matter and decided that the best course of action was to quit their current mission and make a precautionary

landing at the nearest suitable airfield. After securing the aircraft the crew rented a car and drove home.

These three tales of abject failure have something in common other than arriving at home in something as un-sexy as a van or a rental car instead of an airplane. They are all success stories of flights that ended not as they were planned. They exhibit great decision making in the face of one of the universe's strongest forces – Get Home-itis.

***As defined by the Oxford English Dictionary:

Get Home-itis /get hōm ītis/ noun: 1) The beguiling and unrelenting drive to continue with a plan or course of action in the face of adverse information or obstacles that would undoubtedly cause damage, destruction, or death if followed without change.***

It truly is a powerful force to reckon with. In all three cases, the original plans were abandoned in favor of a risk managed approach to going forward. The lesson to take away is that when you make a plan, don't get married to it; be ready to throw it away at a moment's notice when circumstances change. It's the underlying philosophy of the cycle of Safety Risk Management to constantly reevaluate the risks and adjust accordingly, and if need be, knock it off and try again another day.

This philosophy isn't only applicable to aviation. For instance, if you're about to embark on a three-day drive in that CAP van and the brakes are paper thin or the tires 10 years old, maybe postpone the day of departure until those items are looked at. Perhaps you're about to take a group of cadets on a hike, but you check the heat index and it's 108. What's the worst that could happen if you proceed? What's the worst that could happen if you cancel? Don't stay married to that plan if it is untenable. Throw it away and live to fight another day. Your failure could very well be a huge success.

What's Wrong With This Airplane?

George Vogt, CAP/SE

I tried to fight the impulse to add something to Collin's *great* article, but alas ...

In general aviation there are too many cases of aircrews taking malfunctioning airplanes into the air or continuing a sortie after a malfunction occurs. Even one is too many. In almost all the cases, it involves a pilot who is "pretty sure" they know what is wrong, and they're almost certain it isn't anything serious. Why take that chance? The systems on our aircraft, whether powerplant or electrical, are complex enough that one seemingly small malfunction could be first indication of something more dire. You just don't know.

"System Component Failure – Power Plant" (things breaking in engines) is the third leading cause of General Aviation Accidents since 2008. If something on your airplane isn't working, don't take it airborne. If you're airborne and it breaks, follow your checklist and land.

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“It was just a dumb mistake”

George Vogt, CAP/SE

Recently, a few pilots and safety officers were discussing an aircraft mishap. Without going into detail, let's just say the pilot had a less-than-ideal landing. One comment I heard was that the pilot is really very experienced, but just made a “dumb mistake.”

Looking at all the things that led up the mishap, something else stood out to me. It seems the pilot didn't fully consider the hazards presented by the weather conditions. He probably didn't fully assess the risks associated with selecting a very short runway on a day with high density altitude, and a longer than normal landing distance. For some reason (distraction? fatigue? proficiency?) his airspeed control in the pattern wasn't as good as he'd like. Then, he decided against a go-around, and elected to put it on the runway.

“Mistake?” Unfortunately, when we look at a mishap and say it was caused by a “mistake,” we have stopped the mishap review process. In effect, when we say a mishap was “just a mistake,” we have blamed the person and we have decided not to look at “why” that “mistake” happened. We need to look further for what we can do to help the pilot, and to help our organization, improve.

My first impulse after every mishap is to ask “why.” Why did these things occur? What are the factors that led up to this mishap? What put the pilot in this situation and what guided his decisions? Was it a “mistake” or was this a situation where the pilot did things the same way he does every day and lost sight of the need for active risk management (what the FAA refers to as aeronautical decision making).

There is a very important point to be made here. I am not, and I never will, look at a member's actions to determine if they were to “blame” for a mishap. I don't look for “fault.” I look for “factors.” When I ask the question “why,” it is to determine what factors or conditions led up to the member being in that situation and making those decisions. Ultimately, that will help us figure out how we can keep others from finding themselves in the same situation.

Perhaps we'll discover we need to provide better training in take-off and landing data. Maybe we can re-emphasize hot weather and how it can affect aircraft performance, true airspeed, and take-off and landing distances. Maybe we can emphasize that every trip across the runway threshold should include a conscious decision of “should I land, or should I go around?” THAT is the way we should be looking at mishaps ... every mishap is a chance to look in the mirror and determine how WE can get better.

After every “mistake” we ask “why” so we can determine how to help that pilot improve. Involving him in that process is part of cultivating aircrew professionalism and a commitment to self-improvement. I also ask “why” to see how I can help his unit, his wing, his region and his Civil Air Patrol get better at giving our aircrews everything they need to excel in an organization that rewards excellence. Please join me in asking “why.”

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Safety Shorts

George Vogt, CAP/SE

Update on the New Safety Regulations:

We've been talking about them for a while and I want to provide you with an update on the new safety regulations, and when you can expect to see them.

- **CAPR 160-1, *Civil Air Patrol Safety Program***. This is the main safety program regulation that replaces CAPR 62-1. It has been in coordination for a while and is now entering the approval process; close to being complete. We are aiming for an "in effect" date of mid-September and hope to have it online for everyone's review and familiarity at least a month prior to that.

- **CAPR 160-2, *Safety Reporting and Review***. This will take the place of CAPR 62-2 and give some good guidance on what needs to be reported, and how reviews are supposed to be done. It is in coordination now and should be released at the same time as CAPR 160-1.

- **CAPP 160, *Deliberate Risk Assessment Worksheet***. This standardized form will take the place of the no-name risk forms and "ORM" worksheets on the website. This will become the standard for CAP risk assessments. The form will become official when the new regulations go into effect.

- **CAPP 163, *Safety Assurance & Continuous Improvement***. This pamphlet will expand on the safety assurance chapter of CAPR 160-1, providing some tools, tips and techniques to help ensure your risk controls and safety programs are working the way you want, and to help you work through process improvements and problem solving in your units. It will be released at the same time as the rest of the regulations.

- **Tools and Training**. While the regulations are being finalized, we'll continue to develop the templates, guides, checklists, and instructional material that will help you accomplish all the tasks outlined in the new regulations. All of this will be available on the gocivilairpatrol.com website as soon as we post the regulations for review.

The Plan for NSOC:

The plan for National Safety Officer College is coming into better focus. According to our agreement with the Air Force the course must cover, among other things, the new CAP Safety Management System (SMS). Since the new regulations outline the SMS, we need to get those regulations in place, and then NSOC will follow shortly thereafter. The agreement with the AF also says that all wing directors of safety must attend, and that requirement will also be extended to region directors of safety, as well as all candidates for the master rating in the Safety Specialty Track. I would also encourage wing commanders and region commanders to take part if their schedules allow (the last region commander to attend NSOC is now your National Commander, Maj Gen Mark Smith).

With that large of an audience it would be impractical, inconvenient, and prohibitively expensive to have a week-long in-residence NSOC course. Our current goal is to run the course like an online university program offering readings, personal assignments, webinars, group sessions, projects, and problem solving in the context of our Safety Management System and risk management approach to safety in CAP. Some of it will be self-paced, with a targeted date to complete course requirements. Stay tuned for more information; we're looking forward to the school kicking off shortly after the National Conference.

As the members who will hold the key to the success of the new safety program, all directors of safety will be expected to attend the first session unless there are extenuating circumstances that prevent their enrollment.

Common “errors” in SIRS:

I just wanted to offer a few reminders to members who use SIRS regularly....

- Member names. There is a tab in the SIRS mishap pages to add peoples’ names to the mishap. In bodily injury mishaps, you must enter the name of the injured member, and any witnesses or members involved in the mishap scenario. In a vehicle mishap, the names of the driver and all passengers need to be entered as well as the names of witnesses. In aircraft mishaps, the pilot and ALL crewmembers must be entered, as well as anyone else who might have witnessed the mishap, or any members involved during a ground mishap. Entering the names in the system allows members to make statements in SIRS, and it allows the review officer to interview or contact them as needed. After every mishap, the review is a bit like solving a mystery, to find out what happened and why. We need everyone’s help solving that mystery.

- First Aid. Just a reminder... the “First Aid” button should NOT be clicked by the member reporting the mishap. “First Aid” should ONLY be selected by the wing director of safety or above, and ONLY after they determine there is enough information entered to let them know what happened, and why it happened. What were the factors that led up to the mishap? Once you have that, the director of safety can click “First Aid” and then the CAP/SE staff will give the mishap a once-over before closing it. That ensures we get the info we need, without making wing and region commanders look at every minor injury.

- WHY! As you can see in another short article in this edition, the whole purpose of the mishap review is to find out “why” a mishap happened. Often, there is a lot of info in SIRS, hidden in statements, notes, attachments, and “additional information” that may not make it into the review officer’s short summary. Wing and region directors of safety, and the wing and region commanders, are asked to look at ALL this information before drawing conclusions and making final comments.

Safety Education “Rates”:

A few years have passed since the days when CAP members had to be “current” in their monthly safety education to participate in CAP activities. Regardless of how the member did it, the safety education square had to be filled or the member was barred from participation.

It is still a regulatory requirement that every unit must provide, and log, a monthly safety education session for their members. It is also a requirement that each member receive safety education each month, either by attending the monthly safety briefing or by other approved methods.

I recently had a nice conversation with a dedicated wing director of safety. She wanted to know what is considered an acceptable “rate” for safety education. How will she know if she is doing well? Great question.

Some wing and region commanders place appropriately strong emphasis on the requirement for units to give, and log, a monthly safety presentation. This shows the commander’s emphasis on the program. My goal for those monthly presentations would be 100%. If it is anything less, we have a safety officer and commander who aren’t giving the program the emphasis it deserves.

The actual participation rates for individual members may not be quite as high, and that is understandable. Actively participating members get their monthly education from meetings or other online means. But members who don’t regularly participate in meetings or activities probably aren’t actively participating in safety education. Among senior members, retention is somewhere above 70% and climbing, but that means there are some members who are “active” in the books but aren’t participating and might not renew their membership. Because of all that, safety education participation rates can vary.

I encourage each unit to watch your own participation rates. Set a goal to improve them, whatever they are. If you see an active member has missed a couple months, reach out and ask them why ... it will keep them involved and will help you improve your safety education delivery. Let me know how you’re doing!

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Mishap “Investigations” or Reviews

What’s the Difference?

George Vogt, CAP/SE

You’ve probably noticed that we refer to “mishap reviews” in CAP, and we don’t use the term “investigation” when we are talking about our mishaps. Have you ever wondered why? Some of it has to do with the subtle differences in meaning, but mostly it has to do with the purpose of our mishap reviews.

First, let’s look at the term “investigation” so we can see the differences between that process and what we try to do in the CAP safety program. The term “investigation” carries a bit of a stigma with it. When people hear “investigation” they think of a legal inquiry of some sort, by a formally trained and certified investigator, and a very “official” finding of who is at fault.

In that context, most people think of traffic accidents, and the “accident investigations” and “police reports” accomplished by highly trained law enforcement officers who painstakingly reconstruct what happened in a traffic accident. At the risk of over-simplifying what they do, these investigators look at all the evidence and all the facts to determine exactly what happened and how it happened. They determine if any traffic laws were violated. They look at other factors like visibility, pavement conditions, traffic flow, and weather to see if any of those conditions affected who was at fault. Then, based on all that evidence, they will state their highly educated opinion on the “cause” of the accident, who is at fault, which ultimately determines who is liable for the damages. After some complex accidents you’ll often see that insurance companies and lawyers will also commission their own investigations to see if they agree as to the cause and the liable parties. Those accident “investigations” are primarily aimed at determining fault and liability.

CAP doesn’t “investigate.” We “review” mishaps. There is some similarity, in that we try to determine what happened and how it happened, but that is just the starting point for us. Our review process then goes in a different direction and serves a different purpose. Once we have a pretty good idea of what happened and how it happened, we turn our focus on *why* it happened. If we can determine “why” something happened, we can begin the noble work of trying to fix the “why,” so we can avoid similar mishaps in the future. We don’t look at a person as the “cause” to determine who is at fault. We look at all the contributing factors and conditions that put our member in the situation where a mishap occurred, so we can fix those “factors” and avoid those situations. We even look at other things related to the mishap (regulations, processes, checklists, training, etc.) to discover what else could possibly create a situation where a similar mishap could occur. We look for weaknesses in our processes, and we fix them if we find them. For us, it is all about learning how to avoid future mishaps.

Here in CAP Safety we are developing tools to help our mishap review officers put the pieces together to get a good idea about what happened, and how it happened, so they can begin to ask “why” it happened. There will be training, checklists and templates that will take them through the process of determining why things happen and how we can improve. Our wing and region directors of safety will receive training on helping to guide that process, and our National Safety Staff will also help guide that continuous improvement process.

We realize there is a lot of experience among our CAP members on determining “what” happened, and we rely on that experience. We also have an expert right here at NHQ. Your Assistant Chief of Safety, Collin Kightlinger is a retired Naval Flight Officer, graduate of the Naval School of Aviation Safety, and he is a highly experienced aviation accident investigator. Even with all that expertise, we keep in mind that finding out “what” happened and “how” it happened are just the precursors. We look at “why” it happened as the first step in an improvement process, and our mishap reviews focus on that improvement process.

Most of you are aware that when CAP experiences an aircraft accident, the “investigation” is conducted by the NTSB, just as it is with any other general aviation accident. We cooperate, but they do the investigation and they determine the “cause.” As the NTSB is finishing their “investigation” I oversee a CAP “review” of the accident. We look at what happened, but our focus is on *why* it might have happened and what we can do to improve our processes or strengthen our risk controls. Rather than look at the “cause” or who is “at fault,” it is much more important for us to look at all the factors that contributed to that mishap or might contribute to other mishaps. When I complete that review, I tack on a caveat that applies to all the reviews we do in CAP:

“This mishap review is for the internal use of the Civil Air Patrol for process improvement and mishap prevention. Any opinions or summaries offered by the reviewing officer(s) are for these purposes only and are not intended to be factual evidence in any civil or criminal proceeding, or potential CAP disciplinary action, or in the determination of liability.”

Mishaps reveal risks, and the review is our chance to see how well we are doing at controlling those risks. Thank you all for being part of that process.

“We look at what happened, but our focus is on why it might have happened and what we can do to improve our processes or strengthen our risk controls.”

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