



The Safety Beacon is for informational purposes. Simply reading the Beacon does not satisfy your monthly safety education requirements but unit safety officers are encouraged to use the articles in the Beacon as topics for their monthly safety briefings and discussions.

August 2015

What's in the August Beacon?

There is a lot of information packed into this month's Beacon. More and more we will be striving to make the Beacon a source for updates on the Safety program; a place where you can look for current information and guidance. A lot of changes are in the works for the CAP Safety Program so we'll try to keep you posted as things change. We'll also be asking for your inputs and ideas as we work through those changes, so keep your ideas coming.

- We'll lead off with a timely word on the very real danger of thunderstorms and lightning. There's a link to a great educational briefing that would be a perfect monthly safety topic for your unit.
- Next we've got a lot of short topics and updates. These are things we want you to know and areas where we need your feedback. Lots of quick tips and need-to-know information.
- Col Castle has written an excellent flying safety article on how to avoid midair collisions. This is also a very timely topic as more news comes out about the recent collision between an Air Force F-16 and a small general aviation aircraft.
- As usual we have our summary of mishaps and a few hazard reports to share so we can all learn from each other.

Lightning Danger!!!

BRIEFING INCLUDED!

Everyone has heard about the dangers of lightning. Lightning is one of the leading causes of weather-related death. I'd still bet that most of us don't respect its danger as much as we should.

Lately we've been seeing a lot of thunderstorms down here at CAP National Headquarters; almost a daily occurrence this summer in central Alabama. Alabama actually leads the nation in lightning deaths so far this year, with four lightning-strike deaths in June and July alone. Three of those were near the Montgomery area.

On June 13 of this year a CAP pick-up truck assigned to the Florida Wing was hit by lightning as it sat parked on the airport grounds in Sarasota. No one was injured but the electrical system of the truck was destroyed.

Similar stories are repeated all over the country this time of year.

We all need to be aware of the dangers of lightning and the precautions we need to take. Here's a link to a very informative briefing written by Dr (LtCol) Joseph Perea, Director of Safety for the New Mexico Wing.

[LIGHTNING SAFETY BRIEFING](#)

Feel free to use it for your monthly safety education in your units, and have a good discussion on what you need to do to be lightning safe. If you have any briefings you'd like to share, please let me know. We will share them with members and use them to bolster our supply of on-line monthly safety education topics.

Thank you Lt Col Perea!

SAFETY SHORTS

George Vogt, CAP/SE

Stop Doing the Shuttle Run!

Back in the April Beacon, I wrote an article about how the Shuttle Run, part of the CPFT, was actually one of the leading causes of cadet injuries. The folks in Cadet Programs have been working hard to come up with an alternative, and the time has come to **stop the Shuttle Run**. Here's a link to the latest [Cadet News](#). Check out page two to read about the Shuttle Run moratorium. I back this 100%. As of now, there is no reason any cadet should have to do the Shuttle Run.

Cadets as witnesses?

If you are a safety officer, or have been asked to review a mishap, you may be faced with a situation where several cadets are witnesses to the mishap. You'd like to get statements from them, but is there a "right" way to do that? Deputy Director for Cadet Programs at NHQ, Curt LaFond, says there is no problem interviewing the cadets but highly recommends contacting their parents first. Let the parents know why you'd like to speak to the cadet, and even invite them to listen in if they'd like. If you need to exchange e-mails with the cadet, include others like the parents, commander, or safety officer on the e-mail.

We need to hear from you!

We are looking for more briefings, discussion guides, and lesson plans to add to our website so they can be available to all members. I've asked the Region Directors of Safety to canvas their region looking for good briefings and forward them to me. If you have seen or heard good briefings from your squadron safety officer, ask them to send them to me at safety@capnhq.gov so everyone can benefit from their good work.

15 minutes of monthly safety briefings

CAPR 62-1, *CAP Safety Responsibilities and Procedures*, states that the unit safety officer "shall ensure that no less than 15 minutes per month of safety education training is delivered to the membership at a unit meeting." This implies that there should be one 15 minute safety education briefing every month. As we begin to rewrite 62-1, I'm considering changing that to allow unit safety officers to give one 15 minute safety presentation per month, **or** to give a shorter safety education presentation at every meeting. The advantage of this "every meeting" idea is that it would keep risk management in every member's mind by giving weekly lessons and examples of how risk management can be used in our missions, activities and daily lives. Do you think that's a good idea? Let me know at safety@capnhq.gov.

Risk Management Checklists

I'm still looking for examples of how you perform your hazard analysis and risk management when you're planning and performing your missions, activities, and events. CAPR 62-1 directs a thorough hazard analysis and risk safety briefing before every activity. I want to see examples of how you're doing that so I can take the best examples and share throughout CAP. I will be contacting the directors and safety officers of national activities to get examples of their checklists and briefings. I'd like to see how it is done at the squadron level too. I'll be posting some of those tools, along with hints on how to use them, on our capmembers.com web page, so show me what you've got!

safety@capnhq.gov

New CAPP 217 on the way!

We're in the process of rewriting CAPP 217, *Safety Specialty Track*. The changes will make sure that you are still learning everything you need to know to advance through the Technician, Senior, and Master ratings, but we're also trying to make it easier on members to get their requirements accomplished. For example, if you are pursuing your Senior rating, it is sometimes hard to find a Senior- or Master-rated Safety Specialist to sign off an airplane inspection; in the future you'll also be able to have a CAP Instructor Pilot, Check Pilot, or Maintenance Officer do it for you. This is just an example of the type of changes we're making. In the near term, while the final changes are in coordination, we need you to do a couple things. First of all, save the documentation for all the requirements you complete, like it directs you to do in the "service requirements" section of the CAPP 217 Attachment 1 checklist; that information is not automatically kept in some "secret" part of eServices and you will need to submit it to get your rating. Secondly, the Master ratings are now being approved at the National level so Wings should pass the Attachment 1 checklist, with all documentation, to the Assistant Chief of Safety, Col Bob Castle. You can reach him at safety@capnhq.gov.

What happened??

That's the question that should be asked whenever a cadet (or anyone) has an injury, and we need to see that information in the mishap management system. This summer we've seen a shortcut of sorts taking place. At most encampments and other large cadet activities, the medical staff keeps a medical log or "injury log" to keep track of injuries and the treatments given. Safety officers have taken this information and used it to fill in the mishap description when they enter the mishap in the mishap management system. Unfortunately, the medical or injury logs don't provide the information we need for mishap prevention.

For example, a medical log might say a cadet showed up with pain in the ankle, was given an ice pack, the ankle was elevated, the cadet rested, and the ankle improved. On the other hand, a mishap description/review (even if it's only a minor injury or "First Aid Only") needs to tell us what led up to the injury so we can hope to prevent similar cases in the future. A good safety officer might write-up the exact same ankle injury by saying the cadet was performing ground search practice on uneven terrain when they became distracted by another cadet yelling their name, causing them to trip over a branch, resulting in a sprained ankle. Same event, same ankle injury, but now we can address what led up to it with better training and better briefings. Follow this simple format for all your minor mishap write-ups: "This, this, and this, **resulted in** that." The sole purpose of reporting mishaps is to prevent mishaps; we need to see the factors that might have led up to the mishap or we'll send it back to the Wing to fill in the blanks.

NHTSA Calendar

Here's a link to a great planning calendar put out by the National Highway Transportation Safety Administration. It highlights all the NHTSA safety campaigns for the year. This is a great idea for unit safety officers who want to map out all their own safety activities for the year. It's a chance to think ahead and gather briefings and topics that will be seasonal and geared toward the unique activities of your squadron. Take a look! [NHTSA Calendar](#)

Collision Avoidance

Sharing the Sky

Colonel Robert Castle, Assistant Chief of Safety

The collision between a USAF F-16 and a Cessna 150, which resulted in the deaths of the pilot and passenger on the Cessna, made headlines across the country early last month. The pilot of the F-16 was able to successfully eject and safely landed uninjured. This mishap is still under investigation, so the cause has yet to be determined. However, it highlights the responsibility of air crews to use all available means to see and avoid other aircraft.

The Federal Aviation Regulations state very simply, “No person may operate an aircraft so close to another aircraft as to create a collision hazard.” – 14 CFR 91.111 (a).

The Aeronautical Information Manual, 8-1-6, *Vision in Flight* and 8-1-8, *Judgement Aspects of Collision Avoidance*, goes into considerable detail about collision avoidance. There’s also FAA Advisory Circular AC 90-48C [Pilots' Role in Collision Avoidance](#). Let’s take a look at the AIM...

First, one of the most important aspects of collision avoidance is to see other aircraft. We should spend the majority of our time looking outside the cockpit (assuming of course, that we’re operating in visual meteorological conditions). The more time we spend looking outside, the higher the probability of spotting a potential collision threat. Studies have shown that for a visual scan to be effective, a pilot should spend no more than 4 to 5 seconds on the instrument panel for every 16 seconds looking outside.

Your eyes can observe an approximate 200 degree arc of horizon in a single glance, however only the fovea, the small center portion at the rear of the eye, is able to transmit a clear sharply focused image to the brain. Visual information outside the fovea will be of less detail. Because of this, effective scanning is best accomplished through a series of short, regularly spaced eye movements that bring successive areas of the sky into the central vision area. The FAA recommends that each movement should not exceed 10 degrees and each area should be observed for at least 1 second to enable detection. Each pilot should develop a scanning pattern that is most comfortable for them.

Keep in mind that your eyes need time to adjust when switching between close in and distant views. It takes several seconds for the eyes to refocus and this can cause your eyes to tire more quickly if switching rapidly between the instrument panel and outside. According to the AIM, “Eye fatigue can be reduced by looking from the instrument panel to the left wing past the wing tip to the center of the first scan quadrant when beginning the exterior scan. After having scanned from left to right, allow the eyes to return to the cabin along the right wing from its tip inward. Once back inside, one should automatically commence the panel scan.”



The use of an effective scan helps reduce 'empty-field myopia', a condition which occurs when flying above the clouds or in a haze layer where there is nothing specific to focus on. The eyes relax and seek a comfortable focal distance which may range from 10 to 30 feet. This is obviously a dangerous situation because you're looking without seeing.

The most effective visual scan can be rendered worthless by distractions in the cockpit. With all the great electronic gadgets at our fingertips, glass panels, portable GPS, tablets and other gee whiz pilot toys, there's a lot of information drawing your eyes away from looking outside. Familiarize yourself with the operation of any avionics or portable electronic devices *before* you take them flying. Most avionics manufacturers provide manuals online at no cost to download and review. Some GPS units also have free simulators available for download so you can learn how to program them in the comfort of your own home. Once you're comfortable in the operation of the avionics for the airplane you'll be flying, you'll spend less time inside the cockpit searching for the right button or knob and more time looking outside for traffic. Other factors also make it harder to see other traffic. Clean the dirt and bugs off the windshield after each flight. Aircraft structure gets in the way, so be sure to raise a wingtip before turning, vary your heading 10 degrees either side of your course to clear your flight path on climb out and keep items off the glare shield (charts, checklists, etc.)

Make it a habit to use external lights. A landing or taxi light makes your aircraft more visible during the daytime and pulse lights are especially effective.

Ask Air Traffic Control for radar flight following whenever possible. An extra set of eyes watching for traffic is helpful, especially when haze, dust, smoke, rain and flying towards the sun can make your task of seeing other aircraft especially difficult. Be sure to brief other crew members flying with you on their responsibilities to help you watch for and call out other traffic.

Many of the Cessna aircraft in CAP's fleet are equipped with Traffic Information Service (TIS) or similar traffic display systems. Keep in mind that TIS only works in selected terminal radar areas and has a limited service volume. TIS has a built in delay, so the azimuth and range of the actual aircraft may be different than what is displayed. TIS should never be used to avoid other traffic unless you have established visual contact first.

Having an organized cockpit with charts neatly arranged in the order of use, important frequencies noted on your kneeboard and thorough preflight planning can reduce the amount of time required to look at these items in flight and give you more time to scan outside.

It's a big sky out there, but airplanes tend to congregate in the vicinity of airports and airways (especially near nav aids and waypoints). Use proper phraseology when making position reports whether at towered or non-towered airports. That reduces congestion on the frequency and helps other pilots in the vicinity know where you are in relation to the airport.

To sum up - there are many things you can do as a pilot to reduce your chance of a mid-air collision. Maintaining a good visual scan, making yourself as conspicuous as possible to other aircraft and asking your fellow crew members and ATC to help watch for traffic are just a few. Read other sources of information on collision avoidance and discuss this topic with your fellow flyers at your next safety meeting. It could save your life!

June Mishap Closeouts

Colonel Robert Castle, Assistant Chief of Safety

With cadet encampments in full swing across the country and extremely abundant reporting this month, we're using a slightly different format for the mishap closeouts this month. I've combined most of the bodily injury mishaps into select categories rather than list each one individually. General comments have been added to each category. A few mishaps that warrant additional attention are included with the actual report narrative. Note that there were several cases where the injured member delayed reporting the initial injury until their condition worsened (Hint: include the importance of notifying someone when a mishap occurs in your unit safety meetings).

See you next month!

Bodily Injury - 155 Aircraft - 8 Vehicle - 3 Other - 2

Bodily Injury

- There were 53 reports of general types of illness. These include headache, nausea, anxiety, hoarseness and pain that were not attributable to a specific activity.
- 25 reports of injury as a result of physical fitness testing or team sport activities. The types of injuries included twisted ankles, sprains, shortness of breath and nausea.
- 14 cadets reported symptoms of dehydration, several that required the administration of an IV by medical personnel. This total may actually be higher since dehydration may have been the cause of several of the reports of headache and nausea listed in the general illness category.
- There were 12 members who aggravated pre-existing injuries. These included cadets who arrived at encampment with in-grown toenails and a senior member who stepped on the sore foot of another senior member during a field exercise.
- 10 members received minor cuts from a variety of mishaps which required first aid.
- There were 8 reports of cadets fainting. These generally occurred during formation, but included a couple where the cadet reported blacking out while engaged in other activities. Again, dehydration may be a factor in these mishaps.
- Insect bites were the source of an additional 8 mishap reports.
- There were 5 reports of members tripping resulting in minor scrapes and bruises.
- 3 cadets developed blisters while at encampment.
- 1 cadet suffered an injured ankle after falling from a bunk bed.
- Some of the reports of general illness may be a result of cadets away from home for the first time, physical exertion and the stress of the encampment environment. Encampment commanders and staff should take advantage of lessons learned from this year and develop risk mitigations for next year.
- A Senior Member was found pale and unresponsive in a chair. Basic first aid applied and ambulance was called.
 - Paramedics evaluated SM and determined no immediate/additional medical care was needed.
- Cadet was exiting corporate vehicle when another cadet shut the doors catching the first Cadet's right ring finger in the door.
 - Ice applied to the affected finger and no further treatment required.

- A cadet was eating corn chips and cracked a molar tooth while participating in an aerospace education event.
 - Cadet released to parents. Additional treatment unknown.
- Cadet started vomiting. After several visits to the Health office and being given 25mg over the counter Benadryl, nausea and vomiting did not improve.
 - Cadet was taken to the ER and diagnosed with viral gastroenteritis or the stomach flu.
- Cadet inhaled dry dust during a field training exercise. The cadet did not report the incident initially. Throughout the day the cadet started to experience chest pain and wheezing. At approximately 1900 local the cadets jogged around 1/2 mile to the training area. During the run the injured cadet began wheezing heavily and having issues breathing. CAP and USAF staff assessed the cadet in the field, O2 therapy was provided while the ill cadet was evacuated to the nearest medical facility.
 - The medical staff at the urgent care facility evaluated the cadet, determined that he was having medical problems due to the irritation caused by the inhaled dust. He was provided a treatment of prescription medication by nebulizer and all symptoms subsided. No further treatment required.
- Cadet suffered rope burn on left middle finger and left index finger while rappelling.
 - Cadet had proper safety equipment that was inspected by the Rappel Masters prior to rappelling. Cadet put their own liquid band aid on it. Liquid band aid was removed by Health Services Officer and cadet instructed not to use it in the future on open wounds. Wounds cleaned, antiseptic applied and wound covered with band aid. Cadet returned to training.
- Cadet with shortness of breath unable to complete sentences. Cadet had not taken prescribed medicine in three days.
 - Cadet took medication, nebulizer treatment followed by a second treatment and then used percussion vest. Cadet's condition improved with his medication and returned to training.

Aircraft

- There were six instances of aircraft tires deflating either after landing or while taxiing for takeoff. This has been a national trend during the fiscal year. Proper tire inflation is important for both tire and tube life. An under-inflated tube can shift slightly inside the tire during taxi or the landing phase causing small creases, cuts or splits in the tube. The only way to properly check inflation is with the use of a good tire pressure gauge. A simple visual inspection using the TLAR method (That Looks About Right) isn't sufficient.



- Mower operated by a member of the National Guard struck a corporate aircraft (C-172). Airplane was parked outside of operations and the operator of the mower was mowing the premises when he thought he could go under the outside edge of the wing to mow the grass. He forgot the height of the mower roll cage. No one was hurt and no damage to anything but the plane.



- During level-off for cruise, the #5 Cylinder Heat Temperature (CHT) gauge rose above the red-line, even though the pilot reduced power, richened the mixture, opened the cowl flaps, and entered a slight dive. All other engine instruments, including the other five CHT's, were normal. The aircrew elected to return to base and landed uneventfully.

-- An A&P mechanic determined that the #5 CHT lead from the sensor was touching the exhaust manifold and showed slight signs of heat damage. When the lead was repositioned away from the manifold, the CHT was normal for all six cylinders. The mechanic returned the airplane to service.

Vehicles

- Van was hit by a flying object and passenger window on driver side rear shattered.

-- No injuries or other damage.

- Corporate van transporting cadets to encampment struck deer resulting in damage to grill, left front fender and left headlight. No one injured and vehicle initially remained drivable. Vehicle rapidly became completely disabled during effort to drive to a safer stopping place.

-- Law enforcement was notified and responded to scene.



Other

- While working vehicle parking/traffic control at a community event a cadet was nearly hit by a car. This was a result of several unrelated events all coming together at the same time. While working traffic control and parking for a community event, there were two cadets stationed in the center of the street on the yellow line directing traffic. At one point, a vehicle approached from a side street and stopped to talk to the cadets working that station. The driver advised that she wasn't attending the event and was turning left. She was given the go ahead. The driver cut the left hand turn extremely sharp and that took her vehicle right towards the cadet that was stationed there. The cadet jumped out of the way unharmed and the driver immediately stopped and apologized stating that she never saw the cadet. When we reviewed the incident with everyone who was standing there at the time, it was discovered that the second cadet that was stationed on the yellow line, had moved from his position leaving just the single cadet standing there. The cadet involved had squatted down to "relieve back strain" further reducing her visibility. (ed. note: Whew!)

- While providing support to an airshow, personnel were riding in the back, box section, of a John Deere Gator-type utility vehicle. When the safety officer notified the personnel and driver that it was a safety violation, the driver said, "Well, we are doing it," and drove off. There are always two sides to every story, but I'm sure you can probably think of several ways this situation could have been handled differently by both members. Send your suggestions to safety@capnhq.gov and we'll print the best ones next month!

CAP Hazard Reports

As we mentioned last month, we're going to be publishing some of the hazard reports and suggestions we receive. Generally we'll wait until they are closed out so members throughout CAP can learn how the situation was handled. We publish the names of those reporting hazards as our way of saying thank-you for being a part of our safety system and spreading safety awareness.

Many of the situations we see reported in the Hazard Reports are situations that can be handled on the spot, or solved quickly by talking to your Safety Officer or Commander. That should be done when possible, but there is nothing wrong with putting in a Hazard Report at the same time so the correction can be documented and we can all learn from it.

Anonymous submission:

- At our Squadron meeting this week, the cadets were taken away from our safe PT exercise area and to a public road to perform the mile run. There were no proper protections in place and as cadets ran as far over on the 3 foot shoulder as they could, cars were flying past. It was conducted by new senior members without the squadron commander's consent.

- Closed - Wing Director of Safety discussed event with the Squadron Safety Officer and actions were taken to prevent this in the future.
- Editor note: remember that if an event appears to be unsafe, any member can call "knock it off" to stop the activity until safety concerns are addressed.

Submitted by 1Lt David E Stucker, GLR-IN-123

- Hazard: Insufficient lighting in the facility parking lot.
- Closed - Unit adjusted time to allow for activity completion prior to the need for outdoor lighting. Safety vests and flashlights are used when needed.

Have a safe August, and we hope to see you at the
National Conference in Orlando!



safety@capnhq.gov