



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.

September 2015

What's in the September Beacon?

The September issue of the Beacon is a bit later than we strive for this month. August was extremely busy as we all pitched in and worked through an extremely rewarding and interesting National Conference down in Orlando Florida. It was great to get a chance to renew old friendships and get to know more of our members. I was invited to speak at the Operations Pre-Conference Workshop, I addressed the refresher workshop for our newest Wing Commanders, I spoke at a seminar for members aspiring to be commanders themselves, I addressed the Command Council, and I taught two Learning Labs. As you can imagine, I will jump at any opportunity to get to know our members and spread the philosophy and excitement of our new Safety Program.

This Beacon will be a bit shorter than most as we try to get you some timely information and get back on schedule for October.

- I'll lead off with some short topics of interest. Each month we'll try to bring answers to common questions and updates on hot topics. Keep the questions coming to safety@capnhq.gov.

- Take a look at an interesting article written by our Assistant Chief of Safety, Col Bob Castle. Based on his review of all our CAP mishaps, he asks the pointed question, "Are we doing the right thing?" Or, are we taking shortcuts in our day to day approach to safety? It's a thought-provoking read and would be a great discussion starter for your unit's monthly safety topic.

- Vehicle backing mishaps continue to be a concern. Backing large vehicles like our CAP vans and SUVs needs to be done with the utmost caution. I simply don't see an excuse for backing without a spotter, and if a spotter isn't available then the driver needs to get out and do a walk-around. Period. Included in this Beacon are two handouts/posters giving some excellent advice on vehicle backing safety; one from the Texas Department of Insurance, and one from our own Maxwell AFB Safety office. Read them. Post them. Discuss them. When it comes to caring for our CAP vehicles, peer pressure goes a long way. Hold each other accountable for doing it correctly.

- There is another reprinted article...this one from the FAA Safety Magazine. Written by John Duncan, the Director of the Flight Standards Service in his "Jumpseat" column, the article gives an interesting look at the "Stabilized Approach" to flying. A play on words, he emphasizes the "Stabilized Approach" that the FAA strongly advocates (and you'll be hearing more about in CAP), and also a stabilized mental approach to flying and risk management. I like that CAP's new safety philosophy so closely mirrors the FAA's. If you're interested in this month's full issue of the FAA Safety Magazine, here's the link: [FAA Safety Sep/Oct](#)

- Finally, we have another month of mishap close-outs to look at. Discuss these and think about what you would do in the same situation.

SAFETY SHORTS

George Vogt, CAP/SE

Monthly Safety Education

We're still getting some questions about the ICL to 62-1, dated 29 June 2015. That's fine...I appreciate the questions because we want a worthwhile and easy to understand program. Let me reiterate that there is no longer a "currency" associated with monthly safety education. In other words, there is no magic date that generates a red flag and makes you ineligible to participate in a CAP event, activity or mission. Every member is required by the regulation to get safety education once in each calendar month. It is up to the commanders, with the help of their safety officers, to enforce that requirement. To help, there is a report available on the "Reports" page of the SMS. Unit commanders can pull up the Safety Education Participation Report to see whether or not their members are doing their monthly safety education. If a member received safety education during the current month, the date accomplished will show up in green. Green = good. If they have not received safety education during the current month, the date they last received it will be in red. Red = reminder. If a member hasn't gotten their safety education in a month or more I would expect the safety officer or commander to talk with them to find out why and remind them of the requirement. Every member is required to comply with the regulation and the commander should be taking measures to ensure compliance.

Minor or major, write them up!

Members are always faced with the decision of whether or not a mishap should be entered into the SMS for review. Historically, a lot of people have made that decision based on how bad the damage was or how major the injury was. WRONG. A mishap is any unplanned or undesired event or occurrence that either causes *or has the potential to cause* damage or injury. Here's an example I use. If I step out in front of a car and get hit, that needs to be entered in the system as a mishap whether I get a minor bruise on my hand, or if I suffer a broken leg. The sequence of events leading up to it, and all the causal factors that might have resulted in my actions, are what we want to learn about so I won't make the same mistake again, and others may learn from my errors.

So what do I put in the mishap review?

We are working to produce an easy to follow guide for how to report, and how to review a mishap when it is entered into the mishap review system. In the meantime here are a couple guidelines:

- Just the facts? Yes, but keep in mind that means *all* the facts, including witness accounts, and all the little events that **led up to** the mishap. "Just the facts" doesn't only mean the hard evidence and the numbers. Think about any court drama you've watched on TV ... they solve the mystery of what happened, and what led up to it, by looking at hard evidence, witness statements, and interviews, and they piece together the sequence of events that led up to the "moment of truth." That's what we'd like to see in a mishap review.

- If there is a bodily injury, interview the person who was injured! What were they thinking about when it happened? What distracted them? What did they eat or drink that day (a big factor in minor cadet injuries)? If it is an aircraft mishap, ask what phase of flight they were in, what technique they normally use, what was different about this time, what could they have done differently to keep this from happening.

- Cause and effect. When it is time to write your mishap review, or even to make your initial entry in a "First Aid Only" minor mishap, you need to be thinking about cause and effect. Remember my reference to those TV court dramas? List the sequence of events that led up to the mishap. This, this, and this, *led to* that. If you are sure to use words like "resulted in" or "led to" during your write-up, you'll be helping us find the cause so we can learn from it and prevent it from happening again.

Let's Talk About Flat-Spotted Tires

George Vogt, CAP/SE

Any of us who have been flying airplanes for a while have seen flat-spotted tires on an airplane. They are a relatively common occurrence in general aviation. I've heard some questions about whether or not a flat-spotted tire needs to be entered as a mishap. The short answer is "yes." Read on.

You can learn a lot looking at the wear on an airplane tire. Sidewall scuffing is usually because someone landed in a crab; improper crosswind controls. Linear cuts in the tread are usually a result of FOD or gravel on the runway. The pattern of little chevron-shaped cuts in the tread is usually caused by braking on a grooved runway. Each of these and other "symptoms" of tire wear have their own distinct causes.

Right now I'm talking about the "flat spot" on the tread caused by the wheel not rotating while the airplane is moving on the ground. The cause of that locked wheel can be mechanical (we recently had a case of a nearly-locked wheel caused by worn internal components of the wheel) or it can be caused by locking the brakes. To quote the FAA's Aviation Maintenance Technician Handbook, "A flat spot on a tire is the result of the tire skidding on the runway surface while not rotating. This typically occurs when the brakes lock on while the aircraft is moving." The picture on the left is the one the FAA uses to illustrate the "flat spot." The picture on the right is from a CAP aircraft.



It's important to note that a flat spotted tire doesn't always need to be replaced. If the tire cord (that white fabric) is exposed, or if the tire is worn completely through, it obviously needs to be replaced. If no cord is showing, and the small flat spot doesn't cause a vibration, it does not need to be replaced.

But, the question is whether or not the "flat spot" needs to be entered as a minor mishap even if the tire isn't replaced. The answer is "yes." A flat spot on the tread, or a flat spot that reveals cord (picture on left), or a flat spot that results in a flat tire (picture on right), are all caused by the same thing. Somehow, the brakes were locked and the tire stopped rotating. We want to look into every one of those cases to determine what caused it. Feet incorrectly placed on rudder pedals? Bad braking technique? Landing with brakes already applied? Higher than anticipated ground speed when landing at high pressure altitude? Those are hazards we can address, and risks we can mitigate, and training we can develop ONLY if we can learn from each occurrence.

This is kind of like the "stepping in front of a car" example I used on the previous page. That case needed to be written up whether it resulted in a minor bruise or a broken leg. Likewise, a flat-spot on a tire, indicative of locked brakes, needs to be written up whether it is a minor flat spot, or worn all the way through.

Questions? Comments? Don't understand my logic? Drop me a line ... I always enjoy talking about our culture of "learning" and how it ties into our philosophy of mishap prevention.

safety@capnhq.gov

Are We Doing the Right Thing?

Colonel Robert Castle, CAP Assistant Chief of Safety

Every time someone files a mishap report or hazard notice in the online CAP Safety Management System, we on the National Safety staff receive an email notification. As you might imagine, we get quite a few reports and we look at each and every one. The majority of them are minor scrapes and bumps, or twisted ankles, but there were two mishaps filed yesterday that bothered me. Both were without major injury or damage to equipment. I should be happy, right?

In the first mishap, a senior member was injured when the other crew members started pushing the airplane back into the hangar. One of the main tires rolled over her foot and she fell backwards causing abrasions to both of her elbows. Fortunately, her foot wasn't injured. Needless to say, I wouldn't want nearly 2,000 pounds of airplane rolling over my foot. The point is: how is it that we get in such a hurry and so focused on the task at hand that we can't take a few seconds to look and make sure people and objects are not in the way before we start moving an airplane?

This complacent attitude towards what we do doesn't apply only to moving airplanes. We need to use a proactive attitude in *everything* we do in Civil Air Patrol, from teaching new cadets how to drill, to advanced search and rescue techniques. There is *nothing* we do in CAP that is so critically important that taking a few seconds to make sure we do the task correctly will affect the outcome.

"There is nothing we do in CAP that is so critically important that taking a few seconds to make sure we do the task correctly will affect the outcome."

Were there extenuating circumstances involved which led to this mishap chain? Probably. Will we find out what they were? Maybe. Was it preventable? Absolutely! A quick scan before starting to move the airplane would have highlighted the member standing at the open cabin door (you do close your doors prior to moving the airplane, right?). Waiting for the member to complete what they were doing and move out of the way would have been prudent. Asking to hear a "ready" call from each member of the crew is a great idea.

The second mishap involved a bird strike on the left side of the engine cowling. According to the report, the crew didn't see or feel the bird strike occur and there was no damage to the aircraft. Good deal, right? The bird strike was discovered by a different crew *during preflight the next day*. We see similar occurrences with minor dents, tail scrapes, and flat-spotted tires. What does that say about the mishap crew? They either did an inadequate post flight inspection or no post flight inspection at all. How long does it take to walk around the airplane after a flight and make sure that everything is as it should be? One minute? Maybe two? You've got the time.

I'm bothered by these two reports and other similar mishaps because members took shortcuts or were in a hurry and hurt a fellow member or damaged our valuable assets. Slow down and do the right thing.

Need Some Good Reasons to Close Aircraft Doors?

- A wind gust can spring the door hinges -
- It's harder to see and clear the tail when towing if the doors are open -
- It's more difficult to see a crew member standing at the door from the front of the airplane -
- Good habit pattern to close and secure the door unless you're getting into/out of the airplane -

You'll owe the flightline cadets a soda if the doors are left unsecured!!

Vehicle Backing Safety FactSheet

HS04-018B (9-07)

According to the National Safety Council, one out of four vehicle accidents can be blamed on poor backing techniques. Backing accidents cause 500 deaths and 15,000 injuries per year. The use of safe vehicle backing tips by employers and employees can help prevent accidents while on the job.

- **Get to know a vehicle's blind spots.** In a medium-sized truck, blind spots can extend up to 16 feet in front and 160 feet behind a vehicle. Drivers need to remember that mirrors can never give the whole picture while backing.
- **Think in advance.** Drivers should not put themselves into unnecessary backing situations.
- **Park defensively.** Drivers must choose easy-exit parking spaces that don't crowd neighboring vehicles and park their vehicle in the center of the parking space.
- **When parking in an alley.** If an alley doesn't permit driving all the way through or room to turn around, a driver should back into it (if local ordinances permit) so that when leaving the vehicle can pull forward into the street.
- **Do a walk-around.** Walking around a vehicle gives a driver firsthand view of the backing area and any limitations. They can check for children, soft or muddy areas, potholes, tire hazards, and other dangers.
- **Know the clearances.** When performing a walk-around, drivers can check for obstructions, low-hanging trees and wires, and any other potential clearance-related problems.
- **Every backing situation is new and different.** Sometimes a driver visits the same location several times a day and should be watchful each visit for changes and any new obstacles.
- **Use a spotter.** A driver should use another person to help them when backing. The driver and spotter should use hand signals instead of verbal ones and make sure they understand each

other's signals. Don't have the spotter walking backwards while giving instructions.



- **When driver's spot for themselves,** they need to return to the vehicle and start backing within a few seconds after finishing the walk-around. This will allow very little time for people and/or obstacles to change behind the vehicle.

Backing without a spotter should only take place after a driver has as much information about the area as possible. A back up alarm can help warn away pedestrians and drivers of other vehicles who may try to enter the area the vehicle is backing into.

Long-Term Solutions to Safe Backing

- Installation of rear-vision camera systems in vehicles eliminates rear blind spots. Investing in a rear-vision camera system for vehicles can put drivers in full visual control of the rear of a vehicle.
- No amount of forward-driving experience can help a driver with backing a truck or other vehicles. All drivers need to practice, practice, practice in safe surroundings until they become familiar with the way the vehicle backs up compared to the direction the steering wheel is turned.
- Creation and support of a company-wide training program. The program should include a driver's course to teach and review backing techniques, as well as covering equipment usage, hand signals, dangers to avoid, and other risk-lowering topics.

This publication was produced with information from the National Safety Council and Texas Department of Insurance.

The Texas Department of Insurance,
Division of Workers' Compensation (TDI, DWC)
E-mail resourcecenter@tdi.state.tx.us
or call 1-800-687-7080 for more information.

Safety Violations Hotline
1-800-452-9595
safetyhotline@tdi.state.tx.us



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Maxwell AFB Safety Gram

VEHICLE BACKING SAFETY

About 99 percent of the time drivers are behind the wheel, they are moving forward. However it's the rest of the time -- that tiny 1 percent when they are backing up -- when a disproportionate number of collisions take place. In fact, the National Safety Council estimates that 25 percent of accidents can be blamed on poor backing techniques.

There are several reasons for the frequency of backing accidents. Most are related to inattentiveness. Drivers may fail to exercise as much caution as usual because they think that a backing accident is not likely to result in much damage or injury to themselves. After all, they will not be traveling very fast nor backing up very far. Also, drivers backing up are often in a hurry to emerge from a parking space or driveway during a brief break in traffic. More often, operators simply fail to check the area before backing, trusting the limited view from the driver's position or over-relying on mirrors.

Habits that prevent backing accidents whether a personal or government vehicle:

- Get to know your vehicle's blind spots and check them. Mirrors don't give you the whole picture.
- Do a walk-around. Inspect all around your vehicle to check for pedestrians (especially children), potholes, tire hazards, and to accurately gauge your clearance.
- **Use a spotter.** Have your passenger, or anyone nearby, guide you and ward off pedestrians or other vehicles until you have pulled away.
- Blow the horn twice to warn everyone that your are going to back up.
- Never back a vehicle when the rear window or mirrors are covered with frost, snow or other substances that keep you from visually "clearing" your path.
- Think in advance. Don't put yourself into unnecessary backing situations. If practical, look for an easy-exit space where you won't have to back out.

Technology presents numerous accessories that are designed to help you avoid backing into people or things. These include a backup light that beeps continuously while your vehicle is in reverse; an obstacle detection system that can be mounted to a fender or license plate frame; and a rear-mounted camera with front-seat monitor to show whether your path is clear.



A Stabilized Approach

As we say goodbye to the summer of 2015 and move into the autumn/winter flying season, it's a good time to turn to "all things IFR," as we do in this issue of *FAA Safety Briefing*. It is typical to focus instrument flight training and currency/proficiency practice on the physical skills and published procedures needed for the very challenging IFR flying world. That's obviously important. Let me suggest, though, that a focus on physical flying skills falls into that "necessary, but not sufficient" category. Just as important is to cultivate, maintain, and constantly refine the proper mindset.

Hitting the Mark

As you undoubtedly know from your training, the FAA strongly advocates mastery of the "stabilized approach" concept. As described in Advisory Circular 120-108:

A stabilized approach is a key feature to a safe approach and landing. ... [T]he stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point. Depart the FAF configured for landing and on the proper approach speed, power setting, and flightpath before descending below the minimum stabilized approach height; e.g., 1,000 feet above the airport elevation and at a rate of descent no greater than 1,000 feet per minute (fpm), unless specifically briefed.

We train hard — and often — to sharpen the physical flying skills that allow us to consistently hit the targets that define a stabilized approach. We should train no less hard to develop the right mental flying skills that guide us to safe conduct of an IFR flight, especially one flown in actual instrument meteorological conditions (IMC).

There are lots of mental flying skills needed for safe IFR, and articles in this issue of the magazine point to some of them. For example, you need to understand your instruments, and you need a mindset to trust them instead of erroneous physiological cues that will lead you into trouble. You need a very solid mastery of instrument rules and procedures

presented in publications like the newly-revised *FAA Instrument Procedures Handbook*. But I think of these things as given — another part of that necessary, but not sufficient, foundation.

The real key to IFR mastery is a stabilized mental approach, which involves integration of instrument flying knowledge, instrument flight skill proficiency, and dedicated risk management. Let's talk about that.

Risk-based Decision-making

One of FAA Administrator Huerta's strategic initiatives is "risk-based decision-making." The idea is to build on safety management principles to proactively address emerging safety risk by using consistent, data-informed approaches to make smarter, system-level, risk-based decisions.

The official description is a mouthful, but the idea is actually very simple: gather all available information, and use it to make decisions that mitigate or manage risk and ensure safe outcomes.

The concept is very much in line with what I wrote earlier this year about using interdependence to gather information and critical thinking to analyze and use it to ensure consistently positive results.

These attributes are the foundation for risk-based decision-making in IFR flying. You need to work interdependently with weather briefers, ATC, your passengers, and your co-pilot (if you have one) to gather every scrap of information about hazards to your flight. Use critical thinking — e.g., the "what if" exercise — to evaluate the risk each hazard presents. Combine interdependence and critical thinking to brainstorm effective ways to eliminate or mitigate the hazards to your intended flight. Accept the fact that consistency does not require proceeding exactly as planned. Rather, it means making whatever adjustments are needed to assure safety in each phase of your flight.

If it sounds like a lot of effort — you're right. But cultivating the proper mental flying skills along with your physical flying skills is well worth the investment.

A focus on physical flying skills falls into that "necessary, but not sufficient" category. Just as important is to cultivate, maintain, and constantly refine the proper mindset for safety.

July Mishap Closeouts

Col Robert Castle, CAP/SEA

Encampment season has been in full swing around the country and as you might expect, many of the mishaps reported occurred during encampment activities. Wings are doing a great job of reporting, however we've noticed that many reports include only the injury and no causal factors in the narrative. A member may not feel well after a full day of strenuous activities, so it is difficult to pinpoint the specific cause. However, the more information that is included about a mishap, the easier it is for us to develop mitigations. In twenty-one cases, members reported headaches, nausea or other symptoms which may be signs of dehydration, but without additional information, they have been placed into the "pain/cramps" category.

In other news, we're still doing a "bang-up" job on our CAP vans. USE A SPOTTER WHEN BACKING!

See you next month!

Bodily Injury

There were 124 bodily injuries closed out during the month of July. As we did last month, we'll be grouping them into categories rather than list each one separately. I have included two that were noteworthy due to the circumstances.

- Burns: There were six burn mishaps which included touching hot glue guns, the hot glue itself, a rope burn on the obstacle course and working in encampment kitchens
- Cuts: Fourteen members suffered cuts during various activities. These included working with x-acto knives during Aerospace Education, and four different members receiving cuts during drill practice with rifles.
- Twisted/Rolled/Sprained Ankles: These thirteen injuries were sustained outside of Physical Training and were generally from walking on uneven ground, stepping into a pothole or during drill practice.
- Shuttle Run: Since the shuttle run has been eliminated from Cadet Physical Fitness Testing, the number of cadets injured has dropped off dramatically – three reports of trips resulting in scrapes and bruises.
- Blister/Abrasion: Two reports, both from encampments.
- Fainting: Five reports, cadets either in formation or being escorted from the formation when it appeared they were not feeling well.
- Ingrown Nail: One report.
- Slips/Trips: Eleven members reported tripping or slipping. These included a stubbed toe from a Cadet running down the hall, a Senior Member who tripped on an aircraft tie down cable and a Cadet during a formation run.
- PT: Usually this category has the most number of reports, however only thirteen mishaps related to PT were closed during July. These include cadets who felt dizzy or nauseated after completing PT, some trips that weren't included above and injuries suffered during Ultimate Frisbee and Ultimate Football.
- Collision/Contact: Six members were hurt after colliding with or striking another member during various activities.
- Shortness of Breath: Two
- Falling Objects: Two – watch out for falling canteens and wall lockers.
- Rash: Three reported cases. One was a pre-existing case of poison ivy.
- Dehydration: Thirteen members were treated for dehydration. A few of the cases were treated by encampment staff with rest and fluids, but in several instances EMTs or other emergency personnel responded and three Cadets required IVs.
- Pain/Cramps: Twenty-one reports of general pain or cramping were closed in July. These ranged from headaches, leg cramps to general chest or abdominal pain. Most were treated with over the counter pain medication and the members returned to the activity.

- Diabetic Issue: One report.
- Nausea: Eight reports, the majority of which occurred immediately after an encampment breakfast – draw your own conclusions.
- Pre-existing Condition: One report of a Cadet requiring a knee brace. Why? We don't know!
- Anxiety: One report of a Cadet stressed by the encampment experience prior to beginning daily PT.
- Insect Bite/Sting: Three instances due to ants, or wasps.

Here are a couple that require a closer look:

We had an interesting mishap, where a cadet was injured during an impromptu team building exercise.

In the mishap review process it was determined that the cadets had gone outside to drill. It was hot, so they decided on their own to do a team building exercise under the trees in the shade. Without going into great detail, the exercise involved helping each other across a simulated barrier, and in the process one of the cadets suffered a minor injury. The cadets showed some good initiative by getting out of the heat and developing their own exercise. However, this exercise was not part of the training plan, hazard analysis and risk mitigation had not taken place, and the cadets did not get a safety briefing from a senior member. In fact, a senior member saw the activity and attempted to stop it - twice.

Initiative, creativity and innovation are hallmarks of the cadet program, but we must continue to emphasize the need to harness and focus the energy through a risk management based planning process.

A cadet became dizzy and disoriented after 15 minute PT session as part of normal weekly CAP meeting plan. Symptoms remained for approximately 30 minutes, causing cadet to have to temporarily fall out of drill. Ice was applied to shoulders/neck area and cadet took on as much water as possible (slowly). Parents were contacted to come and retrieve the cadet as a precaution. Upon investigation, it was discovered the Cadet had not eaten anything since the morning, and was working outdoors for most of the day. The Cadet also reported that he consumed an iced coffee beverage just prior to drill (despite last month's safety briefing on Hydration specifically recommending against it). Cadet felt fine by end of drill, and was constantly monitored for remainder of session.

This mishap is typical of many reports of bodily injury. Poor nutrition prior to engaging in strenuous physical activity, improper hydration and ignoring information contained in safety briefings. We're human and we make mistakes. Many of our members possess a "can do" spirit and are reluctant to admit that they are not up to the task at hand which can lead to errors in judgement and contribute to a mishap. It takes self-discipline to admit that we need to back off when we're not operating at 100%. And it takes senior member supervision to ask each and every cadet if they are prepared for the activity at hand.

Aircraft

- The aircraft (C-206) experienced an alternator/regulator failure. Alternator was recycled once and went off line a second time. Aircraft returned to base.
 - A broken alternator bracket caused the malfunction on steep turns. The bracket was repaired and the aircraft returned to service.
- During the takeoff roll after its 100 Hour Inspection (C-206), the airspeed indicator appeared to be malfunctioning. It was indicating somewhat lower than expected. The pilot committed to takeoff and upon rotation the airspeed indicator went to zero (primary and backup instruments). As the aircraft climbed, the airspeed indicator increased slightly. The pilot remained in the pattern and after safely landing, turned the aircraft over to maintenance.
 - Maintenance discovered a wasp in the pitot system. The system was cleaned, recertified and the aircraft returned to service.

- While taxiing from runway to parking right main tire (C-182) went flat. Flat occurred on taxiway approximately 100 feet from the tie down location.
 - Maintenance discovered a hole in the inner tube (tire still serviceable). The tube was replaced and the aircraft returned to service.

- Hard landing (C-182T) during a training flight in preparation for an initial Form 5 in the Cessna 182 (pilot trainee and Instructor Pilot).
 - The crew set up for a full-flap landing on a short, narrow, uphill sloping runway which can present optical illusions for a pilot. The trainee attempted the landing, but according to the IP, he did not sufficiently flare, causing a hard landing. The IP took control and after takeoff noticed rudder trim issues so they returned to their home airport for a soft field landing and full stop by the IP. During taxi after landing, the IP noted abnormal rudder pressure. An inspection by mechanic confirmed damage to the lower landing gear bracket in the engine compartment.

- On departure, a small bird struck the windshield of the aircraft (C-182R). No damage to aircraft or crew.

- The nose tire went flat (C-182T) while waiting for clearance for takeoff.
 - Maintenance found that the inner tube had failed. Tire and tube replaced and aircraft returned to service.

- On takeoff for a CAP cadet orientation flight, the aircraft (C-182R) hit a small bird just at lift off.
 - The bird appeared to impact the propeller and then impacted the wind screen in front of the left seat pilot. The pilot returned for a safe landing. A mechanic inspected the aircraft and determined that there was no damage and cleared the aircraft for flight.

- Upon returning from a Cadet training flight, a small dent was found on the leading edge of the left horizontal stabilizer (C-172P) indicating some type of impact had occurred. According to the CFI pilot in command, this damage was not present during the pre-flight inspection.
 - The damage was inspected by maintenance and determined to not affect the flying characteristics of the aircraft. Aircraft returned to service.

- Near miss. While flying cadet orientation rides at a tower controlled airport, a departing CAP aircraft (C-206) had a near miss with another CAP aircraft (C-182) that was approaching to land. No damage, no injuries. The pilot of the C-206 was directed by the tower to turn west after taking off from runway 17R. A few minutes earlier, the pilot of the C-182, who was approaching the airport from the southwest, was given instructions by Approach Control to enter the downwind pattern for runway 17R and contact the tower. However, the C-182 pilot was unable to establish communications with the tower after repeated attempts. The failure to establish communication was exacerbated by a high volume of radio traffic; numerous aircraft using three runways (17L, 17R, 13) were being controlled by the tower on a single frequency. Usually, two separate frequencies are used for the primary runways, 17L and 17R. Both pilots were following valid instructions from ATC. The C-182 pilot would be expected to continue inbound even without a specific clearance from the tower. Both pilots were scanning for aircraft, and both took proper evasive action after seeing each other. The primary link in the near-miss chain of events was the inability of the C-182 pilot to establish contact with the tower because of a high volume of radio traffic, thus precluding the tower from issuing advisories to the two pilots before an air traffic alert condition occurred.

- Upon aircraft run up in run up area before takeoff the pilot noticed when placing the magneto switch in the right position there was no decrease in engine RPM (C-182R).
 - Inspection showed loose wiring at ignition switch. Reconnected wiring, ops check normal, returned to service.

- During landing rollout, right main brake (Cessna T-182T) momentarily locked up causing a wear mark down to tire cord. No injuries or other damages. Safely continued taxi to designated hangar location.
 - Significant play in rudder noticed - not typical for C-182 aircraft. Wheel brakes continued engaging during taxiing back to hangar. Verified parking brake was not engaged and the pilot confirmed using only the bottom portion of rudder pedals. The inadvertent locking of left brake resulted in flat-spotted tire. Maintenance inspection found worn parts in nose wheel steering linkage, not discovered during the most recent 100 hour inspection. Parts replaced with command and LG channels investigating why worn parts not discovered.



- Aircraft (C-182T) was being pushed into hangar when elevator stuck interior wall. The mishap crew made three unsuccessful attempts to position the mishap aircraft (MA). (Photos above)
 - The mishap occurred after the fourth attempt to place the MA in the hangar. The hangar is 43 feet wide by 30 feet deep. There is an office situated inside which protrudes outward from the rear wall about 10 feet. The lateral wall comes within 3 feet of the right wheel alignment marks. The mishap observer (MO) was positioned on the right wing strut facing the tail. The mishap pilot (MP) was positioned in front of the nose actuating the nose strut tow bar. The nose strut tow bar slipped off the left lug during the fourth and final attempt to get the aircraft into the hangar. This caused the aircraft to rotate the tail toward the office wall. As the MP attempted to pull on the partially attached tow bar, the situation worsened resulting in a total loss of control of the aircraft and the right horizontal stabilizer impacted the interior office wall damaging the elevator trailing edge.
 - Several factors contributed to this mishap. 1) The crew decided that it was necessary to hangar the MA to prevent damage from impending severe weather. 2) The tow bar was inadequate and malfunctioned. The tow bar's spring does not provide enough compression force to counter torsion on the bar that is exerted by the nose wheel strut. 3) The local CAP unit uses makeshift ramps which require momentum to get the aircraft over the hangar door rails. Force must be immediately exerted in the opposite direction to slow travel on the downward slope. 4) Failure of the tow bar prevented the MP from adequately arresting the momentum and contributed to the loss of control in the direction of travel. This resulted in the aircraft's right rear control surfaces striking the hangar interior structure.

Vehicle

- A member attempted to take the CAP van onto a parade field that was muddy due to the large amounts of recent rainfall to pick up an injured cadet. The vehicle became stuck in the field. The member contacted a tow company who attempted to tow the van out and it too became stuck. A second tow truck arrived and successfully extricated both the van and the tow truck.
 - There was no damage to the van and it has returned to service. No one was injured during the incident.

- The driver of a CAP van backed up without a spotter and struck a parked vehicle that was not within a marked parking space. The police were already on scene for the event but did not file a report was filed since the incident took place on private property.
 - Minor damage to the CAP van included, scratches to the rear bumper on the driver's side. Damage to the other vehicle was a broken the passenger side headlight. No injuries.

- A wasp flew in the driver's side window while the CAP minivan was traveling about 40 MPH, striking the driver in the forehead. The driver swerved to the right hitting a mailbox with the passenger side mirror.
 - Broken side mirror - no other damage including the mailbox.

- A CAP minivan with a driver and three passengers was returning to base on a freeway. As the vehicle exited and slowed to city street speed (40 mph), a severe shimmy developed in the steering. After stopping, a quick inspection revealed no apparent problem and the journey of about 3 miles was completed with caution.
 - Maintenance inspected the vehicle and determined the left front tire had suffered a belt separation. The tire was replaced and the vehicle returned to service.

- A CAP van backed into non-CAP vehicle while parking at event. Slight damage to right back door of CAP van. No damage to non-CAP vehicle.
 - Passenger was available as a spotter, but was not used! No injuries.

- Mobile Operations Center trailer left side tire blew out while on Interstate at 65 MPH. The fender was taken off by the blow out of the tire.
 - The driver of the truck inspected the trailer tires prior to driving and determined that the left tire required replacement. The trailer was taken to local service facility to switch left tire of MOC with the spare tire. The "old" tire appeared low in psi and cracked in places. The spare tire was tested at 20 psi, so service personnel inflated to proper psi. After swapping tires the vehicle was traveling about 65 miles per hour (speed limit 75 mph) when a loud popping sound was heard. Truck and trailer were pulled to side of the Interstate. The fender of trailer was missing and the tire tread was completely pulled off. Driver changed tire on the side of the highway. No other damage or injuries.

- CAP vehicle struck a small to medium size animal resulting in minimal damage (cracked plastic) to the front bumper/grill assembly. Vehicle was on transport sortie enroute to actual AFAM. No other damage or injuries.



Do you or your squadron mates have any questions or comments about any of these mishaps? Any suggestions on how to avoid them or anything you would have done differently? Send us your thoughts at safety@capnhq.gov and we'll keep the discussion going in the next Beacon.
