



Newport News Composite Squadron

July 2011 Safety Briefing

12 Jul 2011





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 - Extreme Heat
 - Encampment 2011
 - Fireworks Safety
 - Pool Safety
- Extra Stuff
 - High Tech Hijinks
 - Teens' Risky Habits



Safety Education Reminders

- Active members are required to **complete safety education monthly and have it documented**. Documentation **required for participation in activities**. SAREX safety briefings **don't** count (ORM based).
- **Operational Risk Safety Briefings are mandatory**. Documentation not required.
- **All current members** must complete, *Introduction to CAP Safety for New Members, ASAP (Prior to any other CAP activity)*.
- Online Safety Education
 - Intro to CAP Safety Program for New Members, Downed Power Lines, Hurricane Preparedness and Awareness, Flooding, Winter Driving safety, Wind Chill Index, Spatial Disorientation, Fundamentals of Fire Extinguisher Training, Geotagging, Hydration, Nat Safety Officer Winter Board 2011 Briefing
- Safety Alerts, Safety Suggestions – Online
- Improvement/Hazard Reports - CAP Form 26 is being phased out
- CAP Form 78 - Online



Safety Beacon

Extreme Heat

- A heat wave is an extended period of extreme heat, and is often accompanied by high humidity.
- Conditions can be dangerous, even life threatening for humans who don't take proper precautions.
- 1. Get a Kit – Non-perishable food, water, battery-powered or hand-crank radio, extra batteries
- 2. Make a Plan - Prepare Your Family
 - Make a Family Emergency Plan
 - Places within and outside neighborhood
 - Include pets
 - Take a Community Emergency Response Team (CERT) class
- 3. Be Informed – Prepare Your Home
 - Check air conditioning
 - Cover windows that receive morning/afternoon sun
- Listen to Local Officials



Safety Beacon

Encampment 2011

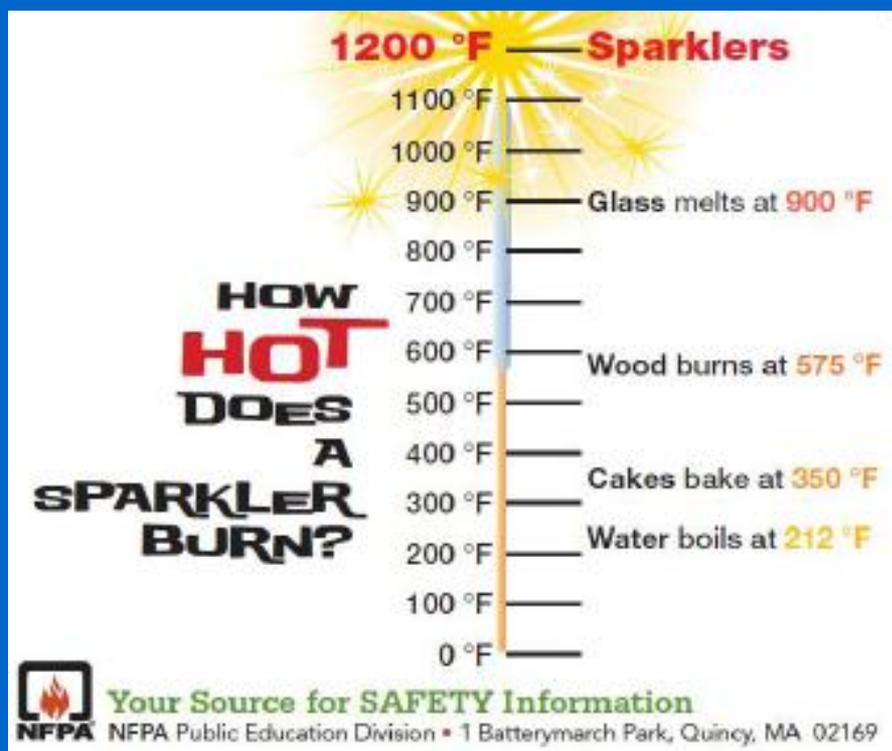
- Blisters are a major medical problem at encampments
- Parents must sign "Cadet Medical Release" if a cadet brings any medication (prescription or over-the-counter)
- Review new regulation concerning cadet medications – CAPR 160-002, Handling of Cadet Medications



Safety Beacon

Fireworks Safety

- Leave fireworks to the professionals.
- Do not use consumer fireworks (sparklers and firecrackers).
- The tip of a sparkler burns at 1,200 degrees Fahrenheit.
- Each July 4th, 1,000s of people are injured using consumer fireworks





Safety Beacon

Pool Safety

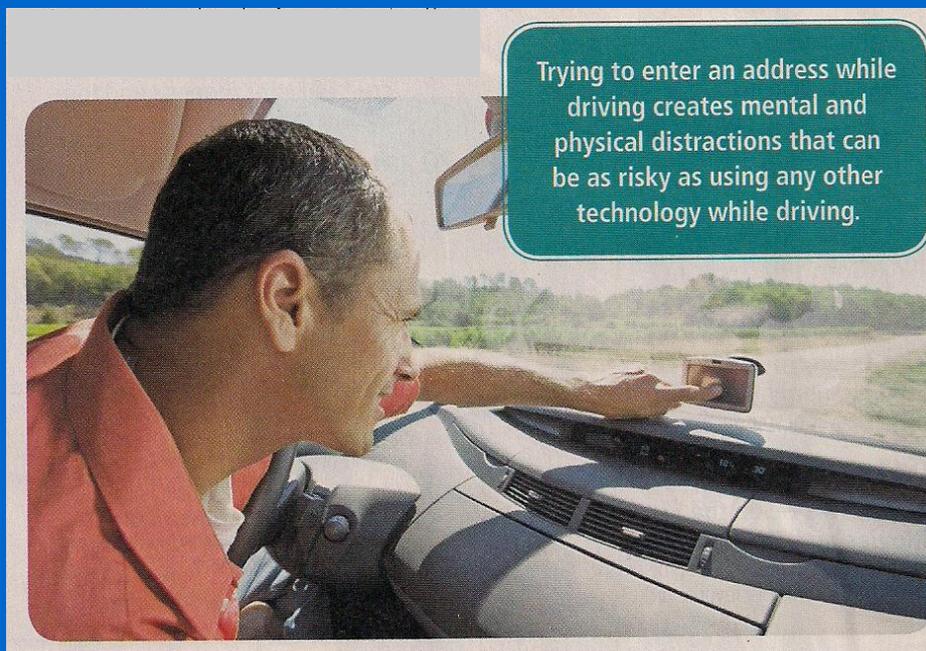
- Stay Close, Be Alert and Watch
 - Stay away from pool drains, pipes, and other openings
 - Have cell phone close by at all times
- Learn and Practice Water Safety Skills
 - Learn to swim
 - Know how to perform CPR on children and adults
 - Understand the basics of life saving so you can assist in a pool emergency
- Have the Appropriate Equipment
 - Install fence around pool
 - Use self-closing latches
 - Maintain pool and spa covers in working order
 - Have life saving equipment such as life rings or reaching poles available for use



Extra Stuff

Distracted Driving

- Using some technologies can actually diminish safety if used incorrectly
- GPS – don't try to enter address while driving
- Seniors may have trouble reading the words on the screens
- Consider systems that announce directions, warnings and status





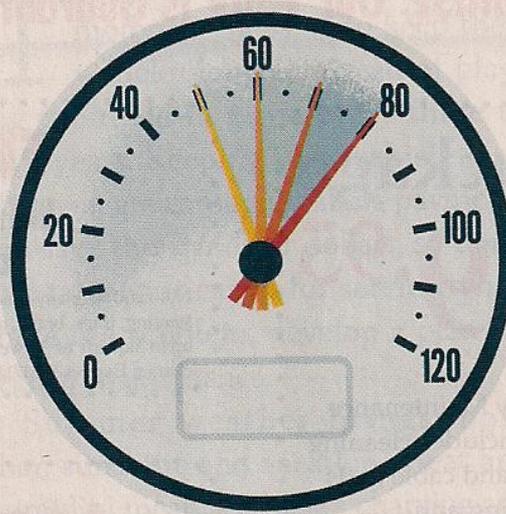
Extra Stuff

Teens' Risky Habits



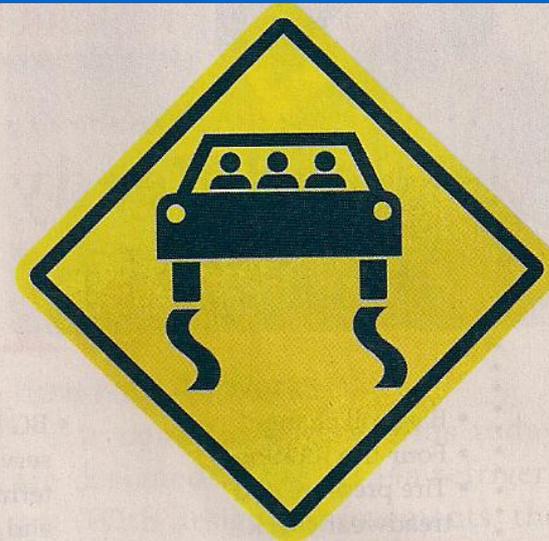
STATISTIC:

Looking away from the road for two seconds doubles your chance of crashing. Distractions like cell phones kill some 6,000 drivers in crashes each year.



STATISTIC:

For every 10 mph over 50 mph you drive, your chance of death or serious injury doubles. One in every three traffic fatalities is speeding-related.



STATISTIC:

Having a friend riding along increases a teen's chance of crashing. Kids are up to four times more distracting than adults as passengers.



Until Next Month

- Discover, report, stop, share, listen, and learn. The things we have read about in this issue already have happened, so you are not allowed to experience these for yourself. **Remember to "Knock It Off" and slow down.** For streaming dialogues on some subjects, remember CAP Safety is on Facebook and Twitter. Have a good month.





Safety Beacon



Official Safety Newsletter Of The Civil Air Patrol

July 2011

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SAFETY BRIEF

Number 6

Pneumatic Systems

While accidents due to pneumatic system failures are rare, they are almost always fatal.

Pneumatic systems, commonly known as vacuum or pressure systems, power the heading and attitude indicators in most general aviation (GA) aircraft, and in some aircraft, also power the autopilot and de-ice systems. For pilots who regularly fly at night or in instrument meteorological conditions (IMC) these systems are essential. This ASF Safety Brief explains how the pneumatic system works, how to recognize a system failure, and system redundancy options.

Basic Operation

Pneumatic systems in GA aircraft are pretty straightforward. The heart of these systems is a pressure or vacuum-creating engine driven air pump.

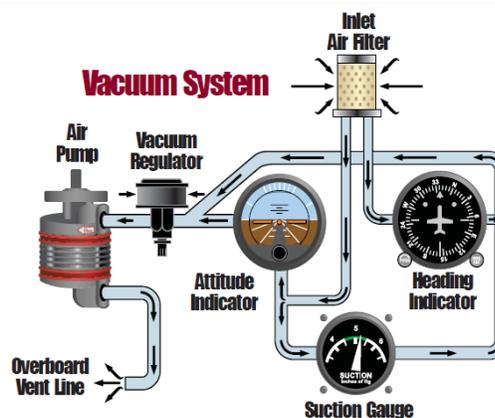
The air pump draws air into the system through a filter. The fast-moving stream of air passes over the vanes within the heading and attitude indicator gyros, causing the gyroscopes to rotate at about 10,000 RPM. In many aircraft, the same air pump powers the autopilot and de-ice systems.

There are two basic types of air pumps: wet and dry. Wet air pumps use engine oil to lubricate the inside of the pump. The more common dry air pumps have graphite vanes inside the casing which self-lubricate as they rotate.

Early Recognition of System Failure

Recognizing a pneumatic system failure early is important during any operation, but when flying IMC or night VFR it could be the difference between life and death.

To accurately and quickly recognize a pneumatic system failure, you must first understand which flight instruments are pneumatically powered. In most air-



The heading and attitude indicators in many GA aircraft are powered by the pneumatic system.

craft, these would be the heading and attitude indicators, although in some newer aircraft these flight instruments are electrically powered. Check the aircraft's pilot operating handbook (POH) for specifics.

If the autopilot is also powered by the pneumatic system, the consequences of a system failure are magnified; just when the autopilot is needed the most, it's no longer reliable.

Signs of Failure

Early recognition of pneumatic system failure is complicated because the first warning signs can be subtle. Vacuum or pressure powered flight instruments will slowly begin to give conflicting and inaccurate information, so proficiency in instrument scanning is vital. It's important to include the suction or pressure gauge as part of your scan pattern, because a low reading will often signal a failure before the gyros start giving inaccurate indications.

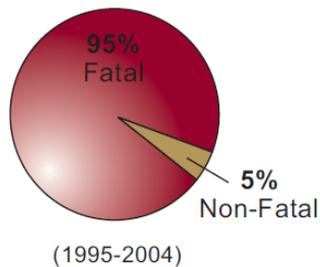
Pilots should consider installing easily visible annunciator warning lights, inoperative flags on the gyros, or flow indicators for early warning of a pneumatic systems failure.

Early recognition of a pneumatic system failure can significantly decrease the chances of spatial disorientation.



Annunciators and flags provide an early indication of a pneumatic system failure.

While pneumatic system failures alone do not cause accidents, spatial disorientation does, and tragically these accidents are almost always fatal. (See figure below.)



To help avoid spatial disorientation:

- Install a backup power supply to the pneumatic system (see the Redundancy section below)
- Keep the suction gauge in your instrument scan
- Become and stay proficient at partial panel flying
- Cover up inoperative instruments during a failure
- Make timed turns instead of using the heading indicator
- Notify ATC of the situation and declare an emergency
- If in IMC, consider flying toward the closest VMC
- Check the weather at the nearest airport with a precision instrument approach
- Ask ATC for a “no gyro approach”

Pneumatic system failures can occur at any time, regardless of the age of the system. Causes include:

- Contamination by solid particles from within the pneumatic system that can damage the pump and plug valve openings.
- Liquid contamination from oil, water, or engine cleaning solvents.
- A loose fitting or damaged hose allowing contaminants into the system past the filter.
- Worn out, misused, or incorrectly routed hoses.

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- Abrupt engine deceleration (which can be caused by the propeller hitting water or tall grass).
- Sudden engine stoppage, such as that caused by a prop strike against a solid object.

Whether you're an aircraft owner, renter, or operator defense against pneumatic system failure begins with a review of the maintenance logs and a talk with the mechanic who most recently worked on the aircraft. Study and adhere to the aircraft and component part manufacturer's recommendations regarding inspection and replacement intervals of pneumatic system component parts.

Redundancy

Redundancy in a pneumatic system can take a load of worry off your plate. While many newer aircraft come with redundant systems, older aircraft usually do not. Pilots who frequently fly in IMC or night VMC should install pneumatic system redundancy.

Redundancy comes in several forms. Options include:

- Electrically-powered backup attitude and heading indicators
- Air pump redundancy with an electric or engine driven pump
- Standby vacuum system that utilizes the pressure differential from the engine's intake manifold

Points to Remember

Here are the key points to remember about pneumatic system failures:

- Pneumatic systems fail. Expect it and be prepared.
- You can lessen the likelihood of a failure by making sure the pneumatic system has been properly maintained.
- Consider installing a backup system and a prominently placed annunciator.
- Stay current on instrument scanning techniques and partial panel flying.

With these points in mind, you can feel more at ease the next time you need to rely on your pneumatic powered flight instruments and systems.

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SB06-06/06



Extreme Heat

A heat wave is an extended period of extreme heat, and is often accompanied by high humidity. These conditions can be dangerous and even life-threatening for humans who don't take the proper precautions.

Step 1: Get a Kit

- Get an [Emergency Supply Kit](#) which includes items like non-perishable food, water, a battery-powered or hand-crank radio, extra flashlights and batteries.

Step 2: Make a Plan

Prepare Your Family

- Make a [Family Emergency Plan](#). Your family may not be together when disaster strikes, so it is important to know how you will contact one another, how you will get back together and what you will do in case of an emergency.
- Plan places where your family will meet, both within and outside of your immediate neighborhood.
- It may be easier to make a long-distance phone call than to call across town, so an out-of-town contact may be in a better position to communicate among separated family members.
- You may also want to inquire about emergency plans at places where your family spends time: work, daycare and school. If no plans exist, consider volunteering to help create one.
- Be sure to consider the specific needs of your family members
 - Notify caregivers and babysitters about your plan.
 - Make plans for your pets
- Take a Community Emergency Response Team (CERT) class from your local [Citizen Corps chapter](#). Keep your training current.

Step 3: Be Informed

Prepare Your Home

- Install window air conditioners snugly; insulate if necessary.
- Check air-conditioning ducts for proper insulation.
- Install temporary window reflectors (for use between windows and drapes), such as aluminum foil-covered cardboard, to reflect heat back outside.
- Weather-strip doors and sills to keep cool air in.
- Cover windows that receive morning or afternoon sun with drapes, shades, awnings or louvers. (Outdoor awnings or louvers can reduce the heat that enters a home by up to 80 percent.)
- Keep storm windows up all year.

Listen to Local Officials

Learn about the emergency plans that have been established in your area by your [state and local government](#). In any emergency, always listen to the instructions given by local emergency management officials.

For further information on how to plan and prepare for extreme heat, visit: [Federal Emergency Management Agency](#), [American Red Cross](#) or [NOAA Watch](#).

ENCAMPMENT 2011



Wing encampments generally consist of long days and lots of fun activities. Arriving at the encampment in the best physical condition possible is a good thing.

If a cadet has been ill, parents should ensure that they are well enough to attend and to let the encampment staff know of any known medical condition or recent illness.

Most encampments during in-processing of the in-flight cadets will conduct a light medical screening in order to ensure any medical conditions are confidentially identified.

Cadets that have recently been exposed to any infectious disease should obviously not attend. If you have any concerns or questions, contact the Wing's Encampment Commander prior to arrival.

One of the major medical problems at encampments are blisters. If you are planning on attending an encampment, make sure that your boots fit and that they are well 'broken in' prior to arriving at the encampment. Make sure that you bring everything required. Most encampments will not only publish an established equipment list but will also list items that should not be brought or "contraband". Forbidden items typically include game boys, CD players, cell phones, food, etc. and/or illegal items (i.e., alcohol, illegal drugs, tobacco products). Forbidden items generally will be confiscated at in-processing and returned at the end of the encampment. It is better to not bring them in the first place. Any cadet found to have illegal items may be dismissed from the encampment.

If a cadet needs to bring any medications (either prescription or over the counter), it is necessary for the parent to sign a "Cadet Medication Release". Most encampments' will include this in either a welcome package or make it available for download on their website.

Each encampment communicates with parents, cadets and senior members differently. However, it is important for parents of cadets and CAP personnel attending an encampment to communicate with the staff on any issue which may pose a medical or safety issue for a cadet or themselves. This may include last minute medical updates, recent family emergencies, or educational difficulties.

Most encampment flight's consist of anywhere from 12-17 cadets on average and are led by fellow staff cadets such as a Flight Sergeant and Flight Commander. Most encampments require staff cadets who have already attended an encampment as an in-flight cadet. Encampment senior staffs generally work with the flights as TAC Officers or Flight Mentors. The number of senior member "mentors" and staff varies from encampment to encampment, and typically it is not unusual for an encampment to have 40+ senior members serving on an encampment staff.

Supervision at the Encampment



Sleeping arrangements vary from encampment to encampment and may include tents, cabins and barracks or a combination of any of these. The ultimate responsibility for the cadets and the week's events rests on the Encampment Commander.

Medications at the Encampment

Cadets can bring medications (both prescription and over-the-counter) to an encampment but if the cadet is younger than 18, most encampments will need a release signed by a parent or guardian for the cadet to self-medicate. In addition all medications must be in original containers with dosing instructions and labeled with the cadet's name. Prescription containers must contain the name of the prescribing physician, name of dispensing pharmacy, recipient name and any instructions for dosage.

Generally a Self Medication Release Form must be brought to registration at the encampment with the designated medications.

Even if a cadet is NOT bringing any medications, the encampment staff's need to have parent's sign some sort of form or release indicating whether non-prescription medicines can be dispensed as needed to a cadet under the age of 18.

Civil Air Patrol has recently issued a new regulation (CAPR 160-002 Handling of Cadet Medications). This regulation is in effect for all cadets under age 18 for ALL encampments nationwide.

It is the hope of every encampment staff that encampment attendees enjoy their experience in a safe and healthy environment and manner.

Fireworks Safety

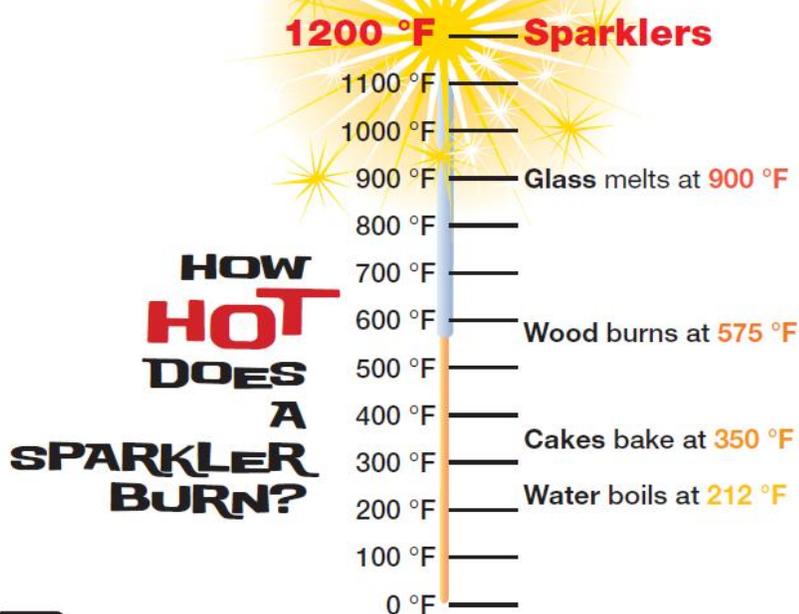
Fireworks during the Fourth of July are as American as apple-pie, but did you know that more fires are reported on that day than on any other day of the year in the United States? Nearly half of these fires are caused by fireworks. The good news is you can enjoy your holiday and the fireworks, with just a few simple safety tips:

PROCEED WITH CAUTION!

- »» Leave fireworks to the professionals. Do not use consumer fireworks.
- »» The safest way to enjoy fireworks is to attend a public display conducted by trained professionals.
- »» After the firework display, children should never pick up fireworks that may be left over, they may still be active.

CONSUMER FIREWORKS

include sparklers and firecrackers. The tip of a sparkler burns at a temperature of more than **1,200 degrees Fahrenheit**, which is hot enough to cause third-degree burns.



FACTS

- ! Each July Fourth, thousands of people, most often children and teens, are injured while using consumer fireworks.
- ! The risk of fireworks injury is more than twice as high for children ages 10–14 as for the general population.



Your Source for SAFETY Information

NFPA Public Education Division • 1 Batterymarch Park, Quincy, MA 02169

www.nfpa.org/education

Pool simple steps save lives

SAFELY

Simple Water Safety Steps Can Save Lives



Your greatest water safety assurance comes from adopting and practicing as many safety steps as possible. Adding an extra safety step around the water can make all the difference.

You can never know which safety step will save a life — until it does.

Stay Close, Be Alert and Watch

- Always watch your children and never leave them unattended
- Keep children away from pool drains, pipes and other openings
- Have a phone close by at all times
- If a child is missing, check the pool first
- Share safety instructions with family, friends and neighbors

Learn and Practice Water Safety Skills

- Learn to swim
- Know how to perform CPR on children and adults
- Understand the basics of life saving so that you can assist in a pool emergency

Have the Appropriate Equipment

- Install a fence around the perimeter of the pool and spa of at least four feet in height
- Use self-closing and self-latching gates
- Ensure all pools and spas have compliant drain covers
- Install a door alarm from the house to the pool area
- Maintain pool and spa covers in working order
- Have life-saving equipment such as life rings or reaching poles available for use





Pool Safely is a national public education campaign to reduce child drownings, non-fatal submersions and entrapments in public swimming pools and spas. The campaign was developed by the U.S. Consumer Product Safety Commission (CPSC) to carry out the requirements of the *Virginia Graeme Baker Pool and Spa Safety Act (P&SS Act)*, federal legislation mandating new requirements for public pools and spas, including a public education campaign.

CPSC is working to ensure drowning and entrapment prevention become important public safety priorities by raising awareness, promoting industry compliance and improving safety at pools and spas. The *Pool Safely* campaign gives emphasis to an important and simple message: just adding an extra safety step in and around the water can make all the difference.

CPSC estimates that each year nearly 300 children younger than five drown in swimming pools and spas and more than 3,200 children that age go to hospital emergency rooms due to submersion injuries in pools and spas.

You and your family can *Pool Safely* by adopting extra safety steps:

- Practice supervision
- Install barriers
- Avoid entrapment
- Know life-saving skills

For more information and resources for pool and spa safety and the Pool and Spa Safety Act, visit:

www.PoolSafely.gov

Follow us on Twitter @poolsafely

See us @ www.flickr.com/photos/poolsafely/

Watch us @ www.youtube.com/poolsafely

*A public education campaign from the
U.S. Consumer Product Safety Commission*



**The Official Safety
Newsletter of the Civil Air
Patrol—April 2011**

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WWW.GOCIVILAIRPATROL.COM

Discover, report, stop, share, listen, and learn. The things we have read about in this issue already have happened, so you are not allowed to experience these for yourself.

Remember to "Knock It Off" and slow down. For streaming dialogues on some subjects, remember CAP Safety is on Facebook and Twitter.

SUMMARY

CAP's safety awareness and program management has significantly improved with the addition of NHQ safety staff working in conjunction with the National Safety Team (NST). The NST is comprised of the National Safety Officer and volunteer assistants assigned as subject matter experts for flight and ground safety. Region and Wing Commanders are moving away from a punitive safety program towards a behavior-based safety program that has shown significant improvement in using safety mishaps as an educational opportunity to raise awareness and prevent risk exposure.

Got a great safety article that you would like to see in a future Beacon newsletter? Please send it to Lt Col Sharon Williams at safetybeacon@capnhq.gov.

Region Safety Officers



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High Tech Hijinks

In-car technology, while helpful, can be misused and abused by drivers

By Carol H. Ormond

Have you had a talk with your car recently? It is not a silly question anymore. From voice-command GPS services to onboard links to emergency services, today's vehicles are becoming interactive in ways that make them seem almost alive. Cars today have the capacity to respond, advise and warn human drivers about hundreds of issues.

We human drivers could start to feel irrelevant behind the wheel of cars that park themselves, adjust following distance, and "sense" people, animals and objects in blind spots. But before you start to think of the driver's seat as a recliner with a view, keep in mind that in-car technologies cannot replace the action and wisdom of alert, trained human drivers. In fact, new technologies put new demands on drivers.

In a study of interactions between drivers and in-car technologies, the AAA Foundation for Traffic Safety found that using some technologies can actually diminish safety if used incorrectly.



Take GPS systems, for example. They are a great tool for helping us find our way through unfamiliar neighborhoods and avoid heavy traffic. But they are also complicated tools that can create distractions as drivers try to program them on the fly. Trying to enter an address

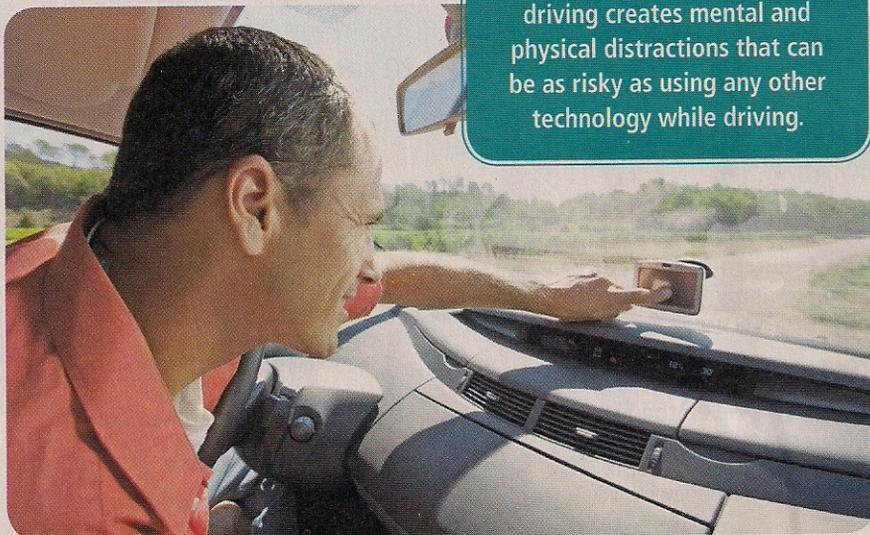
while driving creates mental and physical distractions that can be as risky as using any other technology while driving.

Other technologies can be a good fit for some drivers in some conditions, but a risky choice for other drivers.

In-car video systems give drivers a view behind their vehicles that can make it easier to avoid collisions. But those who might benefit most from this technology, such as seniors who have difficulty turning around to check blind spots, tend to be the same people who have difficulty reading words on video screens.

That means drivers need to bring active, sound judgment to operating

Trying to enter an address while driving creates mental and physical distractions that can be as risky as using any other technology while driving.



You can ensure **in-car technologies** will serve you well by **learning how they work** before you get behind the wheel.

their vehicles and assessing the appropriate way to use technologies. In this case, choosing not to use the back-up video system—and opting to look over your shoulders and in your mirrors instead—may be a much better choice.

Or think about in-car systems that announce directions, warnings and vehicle status through audio updates. They would seem to be a great solution for people who want to keep their eyes on the road and avoid distractions from warning lights and video messages.

But too often, the people most interested in these technologies are seniors, who tend to have the most difficulty hearing, especially with background engine and road noise.

Age is not the only factor that requires drivers to use good judgment. For example, directionally adaptive headlamps—those that turn and adjust relative to a car's speed and direction—can help illuminate the road ahead even more than traditional headlights. That may give some drivers a false sense of security and encourage them to drive too fast on dark roads. Using such devices safely requires driver engagement to understand the appropriate speed for the road.

You can ensure in-car technologies serve you well by learning how technologies can assist you—and how they work—before you get behind the wheel. By knowing what these devices can and cannot do, you will be able to use them as tools that supplement—but never replace—your skills as a human driver. **GP**

For additional information about how you can use technologies and good practices to improve your driving safety, please visit www.AAAFoundation.org.

Teens' **RISKY** Habits

Teens drive safer when they appreciate the risks—and consequences, says Peter Kissinger, president of the AAA Foundation for Traffic Safety. Use the information below to help teens avoid the risky driving habits that can cause crashes.



STATISTIC:

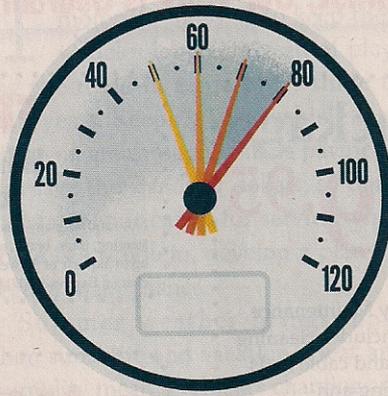
Looking away from the road for two seconds doubles your chance of crashing. Distractions like cell phones kill some 6,000 drivers in crashes each year.

MAKE THE STATS REAL:

Have your teen imagine closing her eyes for two seconds while walking down a crowded school hallway without having a collision.

WHAT YOU CAN DO:

- Have an "ignition on/phone off" policy for your teen.
- Consider using new devices that can jam cell-phone signals while the car is on.
- Show your teen the "COW" video produced in Gwent, England, warning of the dangers of texting while driving. To see the video, visit AAA.com/TrafficSafety.



STATISTIC:

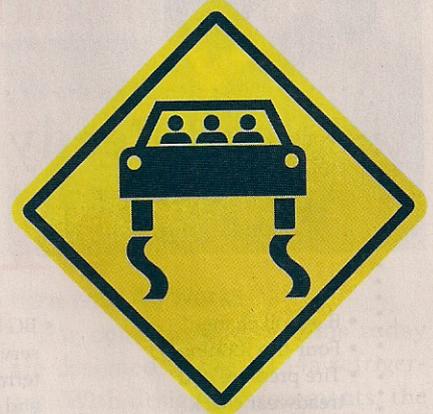
For every 10 mph over 50 mph you drive, your chance of death or serious injury doubles. One in every three traffic fatalities is speeding-related.

MAKE THE STATS REAL:

Tell your teen that if his time in high school doubled, he wouldn't graduate until he was 22 years old.

WHAT YOU CAN DO:

- Consider cell phone services with speed monitors that text parents when their kids exceed certain limits.
- Model good behavior. Always drive the speed limit, especially when your teen is in the car.
- Remind your teen that just one speeding ticket may cost him a hefty fine, higher insurance rates and possible license suspension.



STATISTIC:

Having a friend riding along increases a teen's chance of crashing. Kids are up to four times more distracting than adults as passengers.

MAKE THE STATS REAL:

Turn on four audio devices at once—iPod, stereo, CD player, TV—and ask your teen to try to focus on just one.

WHAT YOU CAN DO:

- Although allowing teens to drive others in car pools may be convenient, don't allow it.
- Know where your teen is going, who she is going with, and when she'll be home.
- Use the AAA Parent-Teen Driving Contract to set and enforce limits on how many non-adults your teen can have in the car. Find many other great tips on keeping your teens safe on the road at TeenDriving.AAA.com.



The AAA Foundation for Traffic Safety has funded more than 200 research projects on traffic safety, including studies on teen drivers and distracted driving. To get more information and tools to help improve your teen driver's understanding of risk, visit TeenDriving.AAA.com.