



Newport News Composite Squadron

April 2012 Safety Briefing
10 Apr 12





Overview

- Safety Education Reminders
- April Safety Beacon
 - Misfueling
 - American Red Cross
 - Scald Prevention
 - Dehydration
 - FAA Safety Team – Safer Skies Through Education
- Extra Stuff
 - AOPA Safety Seminar
 - Route 17 Closure
 - National Distracted Driving Awareness Month
 - ORM



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 (yet).
- **All current members** must complete, *Introduction to CAP Safety for New Members*, **ASAP (Prior to any other CAP activity)**.
- Online Safety Education
- Safety Alerts, Safety Suggestions – Online
- Improvement/Hazard Reports - CAP Form 26 is being phased out
- CAP Form 78 – Online Mishap Notification
- FAA Form 8740-5
- Pre-existing Conditions
- Cadet Medications
- **Individuals must be aware of their safety education currency.**



Safety Beacon

Misfueling

- Only 39% of pilots attend fueling of their aircraft
- Be specific – 5 gals of 100LL in both tanks
- Get fuel order read back - Observe refueling
- Visually inspect tanks for color/odor
- Jet fuel doesn't evaporate as quickly
- Misfueled engine may start and run normally
- Gas engines cannot run on jet fuel
 - No special anti-detonation properties
- Diesel engines can't run on avgas



AOPA Online safety Center - www.aopa.org/asf/safety_topics.html



Safety Beacon

American Red Cross

- Tornado Season
- Tornado season normally runs from Apr-Jun
- ARC already responded to tornados in Jan, Feb, Mar
- Expect tornados in areas not normally prone to them
- Flood Outlook
- First time in 4 years – no major flood risk
- Severity will be from rain runoff not snow melting
- Drought conditions will likely persist
- Active wildfire season – NJ, NY, FL, CA

www.redcross.org



Safety Beacon

Scald Prevention

- Test faucet water – less than 100° F/38° C
- Test water before getting in bath
- Water should feel warm not hot
- Place hot stuff near center of table
- Kid-free zone 3 feet around hot stuff
- Never heat baby bottle in microwave
- Let microwaved food to cool before eating
- Open microwaved food slowly, away from face
- Never hold a child while cooking, drinking hot liquid or carrying hot liquids/foods

Burn Rx

Treat a burn right away. Cool the burn with cool water for 3–5 minutes. Cover with a clean, dry cloth. Get medical help if needed.

FACT!

Prepackaged **microwavable soups** are a frequent cause of scald burn injuries (especially noodle soups) because they can easily tip over, pouring hot liquid (and noodles) on the person.

A red microwave oven with a digital display and control panel on the right side.



Safety Beacon

Dehydration Influences Mood, Cognition

- New study shows the even mild dehydration can influence mood, energy levels and ability to think clearly
- Does not matter whether just walked 40 minutes or sit at rest – adverse effects from mild dehydration the same
- Mild dehydration is $\sim 1.5\%$ loss in normal water volume
- Thirst does appear until $\sim 1-2\%$ dehydrated
- Symptoms – headaches, fatigue, difficulty concentrating, tension, and anxiety
- Drink eight 8-ounce glasses of water/day – 2 liters/day
- Most important for elderly, people with disabilities, and children



Safety Beacon

FAAST Safer Skies

- ATC Class Bravo excursion notification requirement
- Sign up for biweekly FAA Safety Briefing News Updates
<http://www.faasafety.gov/>

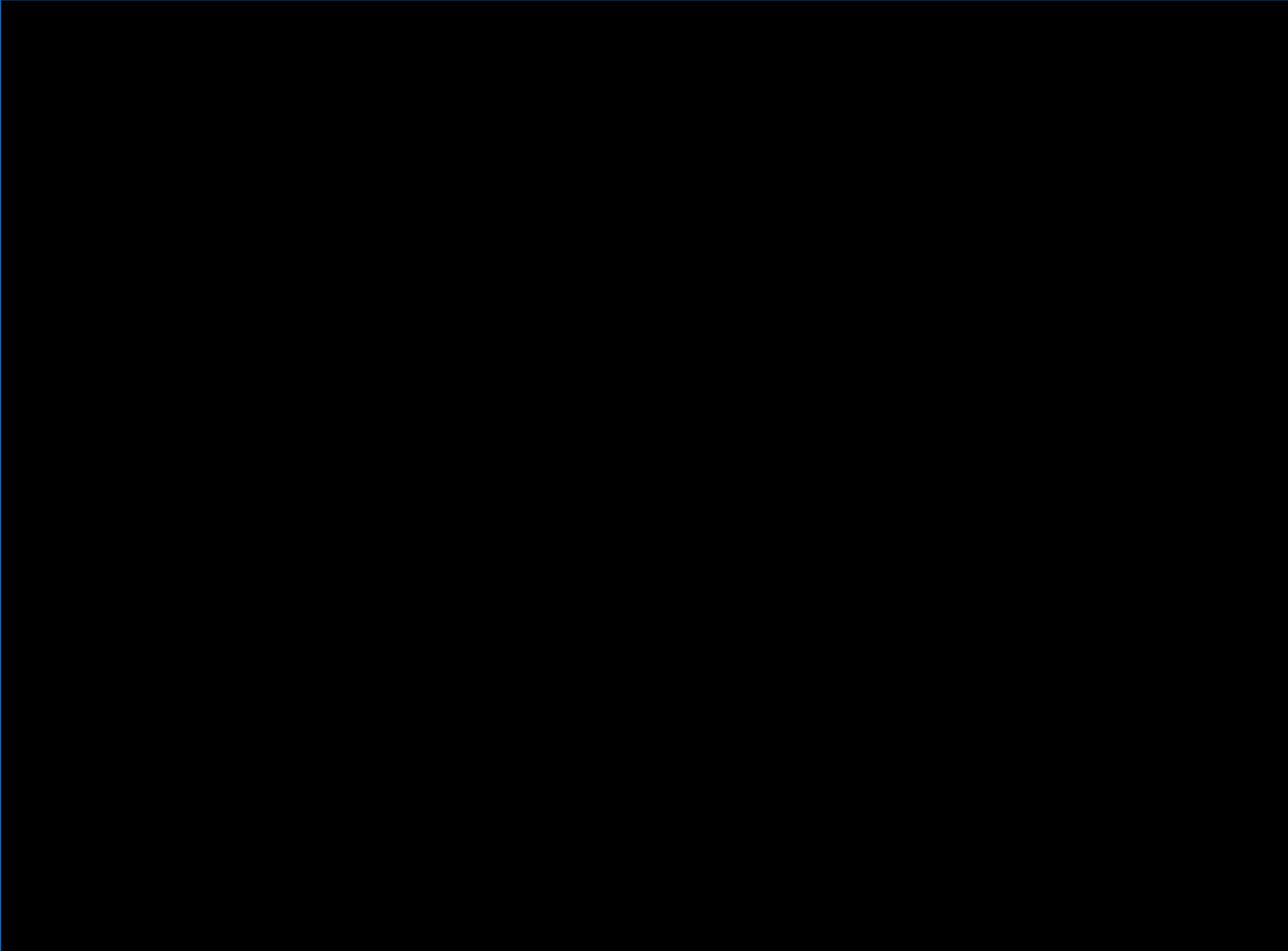


Other Stuff

- AOPA Safety Seminar
 - 30 Apr 12, 1900 – VASC, Hampton
- Route 17 Closure
 - Between Fort Eustis & Denbigh Blvds
 - 14 Apr @ 0730 -15 Apr @ 1700
- April is National Distracted Driving Awareness Month
- ORM
 - Boeing 747-8 Test



ORM



http://www.boeing.com/Features/2011/05/bca_747-8_RTO_05_04_11.html



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

April 2012

BEACON NEWSLETTER TEAM

LT COL SHARON WILLIAMS
LT COL VAN DON WILLIAMS
MAJOR JAMES RIDLEY, SR.
MAJOR MANUEL CEJA

Inside this Issue

Republished Articles

	Page
Safety Brief	1-2
Red Cross Prepares for Spring Disasters	3
Scald Prevention	4
<u>CAP Article</u>	
Dehydration Influences Mood, Cognition	5-6
Safer Skies Through Education	7
Region Safety Officers	8

Col Robert Diduch CAP/SE
safety@capnhq.gov

Col Robert Alex
Asst CAP/SE Ground
safety@capnhq.gov

Lt Col Bruce Brown
Asst CAP/SE Aircraft
safety@capnhq.gov

Lt Col Larry Matiello
Asst CAP/SEO
safety@capnhq.gov

Mr. Frank Jirik
Safety, NHQ/SE
safety@capnhq.gov

SAFETY BRIEF

Number 4

Misfueling

When we think about the risks associated with aviation fuel, the first thing that usually comes to mind is the possibility of a fuel exhaustion incident—an engine failure and subsequent forced landing. That concern is not unwarranted: An average of nearly three aircraft per week suffer damage due to fuel exhaustion or starvation. Running out of gas is not, however, the only fuel-related worry for pilots.



Misfueling

Simply put, misfueling is the introduction of an improper fuel into an aircraft's tanks. The consequences of misfueling can range from the benign (fuel system drainage) to the expensive (engine replacement) to the disastrous (engine failure shortly after take-

off). Given simple precautions, *all are easily preventable*. Although the frequency of misfuelings has declined dramatically with the widespread adoption of color-coded wing decals and standardized fuel nozzles and receptacles, the potential for trouble still exists—and, as we'll see, may increase in the coming years.

Why do misfueling incidents happen? There are many reasons, but a contributing factor in most incidents is a lack of pilot oversight. A recent survey indicated that, while 67% of pilots oversee their airplane's oil changes, and 50% are present when a tire is aired up, only 39% attend the fueling of their aircraft. While this may seem surprising at first glance, it makes sense within the context of a normal fuel purchase. Think about it: How many times have you landed, jumped out of the airplane and—in a hurry to get going—told the FBO to “just top it off”? For many of us, it's standard

operating procedure. We assume that sumping the tanks prior to departure is insurance enough against fueling errors.

That may not always be true, though. *The blending of two different fuels within the tank can mask the color and smell distinctions that would normally signify a problem.* Also mistaken is the assumption that a mis-fueled engine will fail to start, or will run poorly. In many cases, the engine may seem to run normally for quite some time—long enough to lure the pilot into a false sense of well-being.



Fueling Checklist

If you can't rely exclusively upon a preflight inspection to alert you of problems, what can you do? There are a few simple steps that you should follow every time you fuel your aircraft:

Ordering

- ✓ When ordering, specifically state the fuel grade and quantity you want—i.e., “Please top off both tanks with 100LL.”
- ✓ Get a “readback” of your fuel order from the FBO employee who took it.
- ✓ Fuel order forms are often color-coded for positive identification: Avgas = RED; Jet = BLACK.

Fueling

- ✓ Be present at *each and every* refueling of your aircraft. Confirm the specific fuel grade again with the line service professional.
- ✓ Actively observe the fueling process. If something doesn't seem right, speak up immediately.

- ✓ Match the fuel truck or fuel island color-coding with the color of the wing fueling decal. The color-coding is standardized: **Avgas = RED**; Jet = BLACK.
- ✓ Check to see that the fuel nozzle is compatible with the aircraft's fuel filler. Avgas nozzles are small and round (Figure 1), while jet fuel nozzles are larger and flattened like a duck's bill at the end (Figure 2).

**AVGAS
100LL**

**JET FUEL
ONLY**

Standardized fuel color-coding

Payment

- ✓ When paying, verify that the fuel grade and quantity on the invoice match what you ordered. Many invoices and receipts are now distinctively marked to further identify the fuel grade delivered.



Preflight

- ✓ Visually check the tanks for quantity and fuel color. Drain a sample from each tank sump. Check for water and other contaminants, and note the fuel smell and color. *100LL has a light blue tint, while jet fuel is clear or yellowish in color.*
- ✓ Jet fuel does not evaporate as quickly as avgas, and has a distinctive, heavier odor.
- ✓ If you have **any** doubts about the type of fuel in your tanks, **DO NOT DEPART**.

New Concerns

Any aircraft misfueling is potentially serious, but the greatest danger for most general aviation pilots occurs when a gasoline engine is serviced with jet fuel. It's not

desirable to do so, but most commercial turbine engines can be run on avgas within the limits listed in the POH. The inverse is not true. *Gasoline engines cannot be run on jet fuel.* Without fuel of a certain octane rating, a gasoline engine will be damaged or destroyed by detonation. Jet fuel has no special anti-detonation properties: It will, quite literally, cause a gasoline engine to self-destruct.

During the 1970s and '80s, a rash of misfueling incidents prompted the adoption of several safety precautions, including color-coded wing and fuel truck decals and special fuel nozzles and filler openings for jet fuel. Although these steps greatly reduced the misfueling of gasoline engines with jet fuel, such incidents still need to be eliminated completely.

Figure 1:
Avgas nozzle



Figure 2: "Selective fill"
port and jet
fuel nozzle



The recent introduction of diesel engines for general aviation holds new potential for misfueling trouble. Aviation diesel engines are designed to run solely on jet fuel: Unlike most turbines, they *cannot* be run safely on avgas. This is a potentially serious problem, because avgas dispensing nozzles fit easily into the large-diameter refueling ports used in diesel aircraft. One possible solution may be the development of a new "selective fill" diesel/turbine refueling port that is incompatible with avgas nozzles (Figure 2). Until new measures are taken, however, owners of diesel-powered aircraft should be particularly cautious when refueling.

Learn more about fuel safety and other topics by visiting the AOPA Online Safety Center
www.aopa.org/asf/safety_topics.html

This Safety Brief was produced with the generous assistance of Air BP.

Copyright 2005, AOPA Air Safety Foundation
421 Aviation Way, Frederick, MD 21701 • 800-638-3101 • www.aopa.org/safetycenter • asf@aopa.org

Publisher: Bruce Landsberg • Editors: David Wright, Kevin D. Murphy • Writer: Brian D. Peterson

SB04-07/05



**American
Red Cross**

Red Cross Prepares for Spring Disasters

Early season tornadoes in 2012 after active spring in 2011

Monday, March 19, 2012 — Spring can be one of the busiest seasons for the American Red Cross, with severe weather causing tornadoes and floods that affecting communities across the country.

Last spring, in a span of only three months, the Red Cross launched 46 large-scale disaster relief operations in 31 states. And weather experts are predicting 2012 to be another busy year for storms.

Tornado Season Arrives

Tornado season has traditionally begun in April and extended throughout the month of June. But in 2012, the Red Cross has already responded to tornadoes in January, February and March. March brought particularly brutal storms with approximately 80 tornadoes affecting communities from the Midwest to the Gulf on a single day, March 2.

In the immediate aftermath of these storms, the Red Cross has opened shelters, distributed food and provided comfort and care for those affected. As of March 14, the Red Cross has opened 33 shelters, providing more than 1,000 overnight stays, and has served more than 92,500 meals and snacks to those affected by severe storms. It seems tornado season is arriving early.



Homeowner Cindy Cain of Henryville, Indiana talks with Red Cross volunteer Gerry Holmes after the tornado leveled her home as well as most of the town.

In a recent [Reuters article](#), climatologist Kevin Trenberth of the National Center for Atmospheric Research said the fact is that tornado season will begin as early as February.

Not only do scientists expect tornado season to start earlier, but the number of days when conditions are ripe for tornadoes to form will likely increase, according to atmospheric scientist Robert Trapp of Purdue University. Trapp and his colleagues also predicted that the Gulf of Mexico and Atlantic Coast, regions that do not typically experience tornadoes, will have an increase in days with tornado-making weather conditions.

Already this year, the Red Cross has responded to tornadoes in southeastern Michigan, an area that is not normally associated with tornadoes. With more days likely to produce tornado conditions and more areas likely to be affected, the Red Cross is helping communities across the country prepare for and respond to these disasters.

Spring Flood Outlook

Last spring, the Red Cross also responded to major flooding and widespread wildfires. Thankfully, for the first time in four years, there is no high risk of major flooding this spring according to [NOAA's annual Spring Outlook](#).

“We’re not forecasting a repeat of recent historic and prolonged flooding in the central and northern U.S., and that is a relief,” said Laura Furgione, deputy director, NOAA’s National Weather Service. “The severity of any flooding this year will be driven by rainfall more so than the melting of the current snowpack.” Still, spring rainfall can lead to flooding at any time and the Red Cross urges everyone to be prepared.

Forecasters say drought conditions will likely persist across much of the southern U.S. and expand in the Southwest through spring which could result in an active wildfire season. When emergencies strike, knowing where to go and what to do can help save lives. For preparedness tips for spring weather including [tornadoes](#), [flooding](#) and [wildfires](#), visit redcross.org.



Scald Prevention

Safety Tips

A scald injury can happen at any age. Children, older adults and people with disabilities are especially at risk. Hot liquids from bath water, hot coffee and even microwaved soup can cause devastating injuries. Scald burns are the second leading cause of all burn injuries.

Scald Safety

- » Teach children that hot things can burn. Install anti-scald devices on tub faucets and shower heads.
- » Always supervise a child in or near a bathtub.
- » Test the water at the faucet. It should be less than 100° Fahrenheit (38° Celsius).
- » Before placing a child in the bath or getting in the bath yourself, test the water.
- » Test the water by moving your hand, wrist and forearm through the water. The water should feel warm, not hot, to the touch.
- » Place hot liquids and food in the center of a table or toward the back of a counter.
- » Have a "kid-free zone" of at least 3 feet around the stove and areas where hot food or drink is prepared or carried.
- » Open microwaved food slowly, away from the face.
- » Never hold a child while you are cooking, drinking a hot liquid, or carrying hot foods or liquids.
- » Never heat a baby bottle in a microwave oven. Heat baby bottles in warm water from the faucet.
- » Allow microwaved food to cool before eating.
- » Choose prepackaged soups whose containers have a wide base or, to avoid the possibility of a spill, pour the soup into a traditional bowl after heating.

Burn Rx

Treat a burn right away. Cool the burn with cool water for 3–5 minutes. Cover with a clean, dry cloth. Get medical help if needed.

FACT!

Prepackaged **microwavable soups** are a frequent cause of scald burn injuries (especially noodle soups) because they can easily tip over, pouring hot liquid (and noodles) on the person.



Greenhalgh DG, Bridges P, Coombs E, et al.
Instant cup of soup: design flaws increase risk of burns.
Journal of Burn Care and Research, July–August 2006: 27(4):476-81

www.nfpa.org/education



Dehydration Influences Mood, Cognition

Major Corey Stohlquist Illinois Wing SE

While most understand that dehydration can have medical complications, a new study shows that even mild dehydration can influence mood, energy levels and the ability to think clearly.

Regrettably, we often use thirst as an indicator for when we need to drink — a response that experts say is too late to avoid many of the detrimental effects of dehydration.

In two recent studies, researchers at the University of Connecticut's Human Performance Laboratory discovered the mental, mood and cognitive downside of even mild de-hydration.

Investigators determined that it didn't matter if a person had just walked for 40 minutes on a treadmill or was sitting at rest – the adverse effects from mild dehydration were the same.

Mild dehydration is defined as an approximately 1.5 percent loss in normal water volume in the body.

The take home message is that individuals need to stay hydrated at all times, not just during exercise, extreme heat or exertion. "Our thirst sensation doesn't really appear until we are 1 [percent] or 2 percent dehydrated. By then dehydration is already set-ting in and starting to impact how our mind and body perform," says Lawrence E. Arm-strong, one of the studies' lead scientists and an international expert on hydration.

The importance for everyone to stay hydrated is a message that needs to be promoted.

"Dehydration affects all people, and staying properly hydrated is just as important for those who work all day at a computer as it is for marathon runners, who can lose up to 8 percent of their body weight as water when they compete." In the study, separate groups of young women and men were tested. Twenty-five women with an average age of 23 took part in one study. The men's group consisted of 26 men with an average age of 20.

All of the participants were healthy, active individuals, who were neither high-performance athletes nor sedentary — typically exercising for 30 to 60 minutes per day. Each participant took part in three evaluations that were separated by 28 days. All of the participants walked on a treadmill to induce dehydration, and all of the subjects were hydrated the evening before the evaluations commenced.

As part of the evaluation, the subjects were put through a battery of cognitive tests that measured vigilance, concentration, reaction time, learning, memory, and reasoning. The results were compared against a separate series of tests when the individuals were not dehydrated.

The young women experienced mild dehydration which caused headaches, fatigue, and difficulty concentrating. They also perceived tasks as more difficult when slightly dehydrated, although there was no substantive reduction in their cognitive abilities. The research findings are published in *The Journal of Nutrition*.

In the tests involving the young men, mild dehydration caused some difficulty with mental tasks, particularly in the areas of vigilance and working memory, according to the results of the second UConn study. While the young men also experienced fatigue, tension, and anxiety when mildly dehydrated, adverse changes in mood and symptoms were "substantially greater in females than in males, both at rest and during exercise," according to the study. The men's study was published in the *British Journal of Nutrition*.

“Even mild dehydration that can occur during the course of our ordinary daily activities can degrade how we are feeling – especially for women, who appear to be more susceptible to the adverse effects of low levels of dehydration than men,” says Harris Lieberman, one of the studies’ co-authors.

“In both sexes these adverse mood changes may limit the motivation required to engage in even moderate aerobic exercise. Mild dehydration may also interfere with other daily activities, even when there is no physical demand component present.”

Investigators are uncertain why women and men are so adversely affected by mild dehydration. One possibility is that neurons in the brain detect dehydration. These neurons may then signal parts of the brain regulating mood.

This process could be part of an ancient warning system protecting humans from more dire consequences, and alerting them to the need for water to survive.

In order to stay properly hydrated, experts like Armstrong recommend that individuals drink eight, 8-ounce glasses of water a day, which is approximately equivalent to about 2 liters of water.

People can check their hydration status by monitoring the color of their urine. Urine should be a very pale yellow in individuals who are properly hydrated.

Urine that is dark yellow or tan in color indicates greater dehydration. Proper hydration is particularly important for high-risk groups, such as the elderly, people with diabetes, and children.

FAA Safety Team | Safer Skies Through Education

INFORMATIONAL BULLETIN - ATC Class Bravo Excursion Notification Requirement

Notice Number: NOTC3571

ATC Class Bravo Excursion Notification Requirement

FAA Order JO 7110.65, Subject: Air Traffic Control includes the requirement for controllers to “Vector aircraft to remain in Class B airspace after entry. Inform the aircraft when leaving and reentering the Class B airspace if it becomes necessary to extend the flight path outside Class B airspace for spacing”.

Aircraft on an IFR Flight Plan will be informed when leaving Class B airspace and when reentering Class B airspace. An example of phraseology the crew may expect is, “aircraft ID, fly heading 120, descend and maintain 4000 feet, leaving Class B airspace” and “aircraft ID, fly heading 180, entering Class B airspace”.

IFR Pilots are reminded of the requirement in **14 CFR 91.131 Operations in Class B airspace**.

(a) Operating rules. No person may operate an aircraft within a Class B airspace area except in compliance with §91.129 and the following rules:

(1) The operator must receive an ATC clearance from the ATC facility having jurisdiction for that area before operating an aircraft in that area.

(2) Unless otherwise authorized by ATC, each person operating a large turbine engine-powered airplane to or from a primary airport for which a Class B airspace area is designated must operate at or above the designated floors of the Class B airspace area while within the lateral limits of that area.

As an example, a large turbine powered aircraft landing at airports with Class B airspace, e.g., Cleveland, Minneapolis, or New Orleans Louis Armstrong International, should, unless directed by ATC, operate at an altitude that will allow them to remain in the protected airspace.

Normally, the glide slope angle and altitude for a given runway provides maximum safety from other aircraft operating just outside of Class B airspace. A visual approach clearance does not relieve pilots operating large turbine engine-powered aircraft of their responsibility to remain within the Class B airspace area.

If you have any questions, please contact:

Walter Tweedy, Team Manager
FAA, ATO Central Service Center
Operations Support Group, AJV-C21
Phone: 817-321-7711

**The Official Safety
Newsletter of the Civil Air
Patrol-March 2012**

VISIT US ON THE WEB
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.

SAFETY OFFICER COLLEGE 2012

The dates of the Safety Officer College (CAPSOC) are June 11-15, 2012 with travel days on the June 10th and 16th at Kirtland AFB, New Mexico.

Applications will be received and students will be selected by each Wing Commander, and for staff officers assigned to the region HQ, Region Commander.

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



<p><i>Col Charles Greenwood</i> GLR/SE cgreenwo@bsu.edu</p>	<p><i>Col Robert Castle</i> SWR/SE rcastle@cox.net</p>	<p><i>Lt Col Bill Woody</i> SER/SE wawoody@att.net</p>
<p><i>Col Charles Glass</i> MER/SE csglass@juno.com</p>	<p><i>Lt Col Paul Mondoux</i> NER/SE paul@nhplm.org</p>	<p><i>Maj Alex Kay</i> PCR/SE bcat417@aol.com</p>
<p><i>Col Harold D. Brown</i> NCR/SE hbrown9425@aol.com</p>	<p><i>Lt Col Donald Johanson</i> RMR/SE johansonon@msn.com</p>	