



Air Grangers



July 2010 Edition

Next Meeting 7-12-2010 at 7:00 PM

EAA Chapter 1350 officers and members

Gary Brossett	David Barrett
Harold Jarman	Gardiner Mason
Glenn Morrow	Don Neuberg
Francis O'Shea	Bill Roberts
Jimmy Robinson	Dan Serrato

Officers

Glenn Morrow	— President
David Barrett	— Vice President
Jimmy Robinson	— Secretary, Newsletter Editor
Don Neuberg	— Treasurer, Membership Coord.
Dan Serrato	— Young Eagles Coordinator

Our last meeting was a good one, another enjoyable meeting of chapter 1350 aviation enthusiasts. Don took care of the meeting with pizza. There was pizza left over so everybody had plenty.

Glenn and David were both out so Don opened up the meeting. Our future president or VP?

Gardiner talked about trouble he's been having with his plane. His engine got and melted a cylinder. Ron shared about flying the F-14 and his carrier landing experiences. Francis brought up questions about his plane with discussion following.

Gardiner brought up building a tetrahedron for the airport and Russ brought up a consideration by the airport board to move an old building and fix it up for airport use. It could be used by the chapter for meetings.

Gary passed out some FAA DVDs to everybody he had brought.

Jimmy brought up the next pancake breakfast and Don proposed the chapter consider for the airport or aviation community.

The meeting adjourned about 8:00

Upcoming Chapter Events

July 12, 2010 7:00 PM

Chapter meeting.

Our meeting will be in the airport conference room. The meeting will be at 7:00 and our meal will be served at 6:30. We are having our meals again so you get to also have supper if you come to the meeting. Glenn will be taking care of the meal so trust your stomach and make sure you come to the airport at 6:30

July 17, 2010 8:00 — 10:30 AM

Chapter Pancake Breakfast.

We will be having our monthly breakfast from 8:00 to 10:30. We need people to come at 7:30 and help set up, and also people at the end to help clean up. Invite someone to come to the breakfast and let them know what they have been missing.

We had a good breakfast on June 13th. We had some visitors fly in, including some first time visitors. Richard Mara flew in as did Bob Andrews and Ted Cowan.

Ted came in an ultralight named Greez'd Lightning. It was a nice looking aircraft and got its share of attention. We had some of our members also and it ended up being a good breakfast. It was warm in the morning and got warmer as the morning went on and with no one else coming in, we started packing up about 9:45. Just as well, it was *hot* by then.

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Chapter Meals for Upcoming Meetings.

The sign up list so far for meals at future chapter meetings is as follows:

May —	Jimmy
June —	Glenn
July —	Don
August —	Dan
September —	Francis
October —	<i>blank</i>
November —	Ross
December —	<i>Christmas Party</i>
January —	<i>blank</i>
February —	<i>blank</i>
March —	<i>blank</i>

Dues collected in March

Our chapter collected dues in March, a little late, but finally addressed. Dues were collected from six members, including a new member, Ross Hoffman, so there are still a few members that will hopefully pay their dues and remain a member of the chapter.

If you haven't taken care of your dues yet, please consider doing so at the May meeting. Your dues and participation help keep this chapter going.

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Ted Cowan's Greez'd Lightning sits on the tarmac, looking like it's ready to leap into the air.



Bob Andrews' aircraft sits on the ramp, flying in from Luthersville.



Here comes Greez'd Lightning with Wayne directing it in to park.



Richard Mara flew in from Columbus to try our breakfast.



Airplanes that flew in for the breakfast sit on the ramp of the airport.

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Duct tape on an airplane engine. Only in the south.



Bob Andrews waves goodbye as he heads back to Luthersville



There goes Bob.



Richard Mara heads is in the air, heading back to Columbus.



Ted Cowan fires up Greez'd Lightning to return to Opelika



Another airplane departs as Gary Brossett gets a picture.



Greez'd Lightning leaps into the air for its return flight.

Hand signals

You planned your solo cross-country flight in every last detail, flew it with precision, and know how to get where you're going on the ground at your destination airport. Cleared to taxi, you have the parking ramp in sight. But what's this? Someone is waving his arms to get your attention. Now he seems to be pointing with one hand and gesturing with the other. Back at your home airport there's nothing like this. You realize there was one more thing you should have reviewed before flying.

If there's a common gripe among line crewmembers, it is that many pilots do not understand the signals used during the marshalling of aircraft to parking. If you fly mostly from an airport without much traffic, this operation may be unknown to you. It's routine in busier places. At some air-



ports it may be most efficient to park transient aircraft in a designated portion of the ramp, separate from larger or based aircraft. Different fixed-base operators may control different parking areas. Their employees direct you to the right spot. How did they know you were taxiing to the ramp? By monitoring ground control or CTAF.

Hand signals are the basic language of communications between ground crew and pilots. Mark Twombly reviewed the code in the December 2005 *AOPA Flight Training* column "What it looks like." "Most hand signals are intuitive, such as the overhead crossed arms. Others are not so easily discerned. Do you know the hand signals for slow down, and the one for cut engine? You can and should study the rather rudimentary drawings for these and 10 other basic hand signals found in the *Aeronautical Information Manual*, [Chapter 4-3-25](#)," he wrote.

Knowing the procedures speeds parking and keeps everyone safe. Complying starts with knowing where to look. "Normally the flagman will stand in front of the airplane and to its left side so as to be conspicuous in the pilot's field of view," wrote Jeff Pardo in the February 2005 *AOPA Flight Training* feature "[Traffic signals: Do you understand aviation's sign language?](#)" See his discussion of how it's done and how to avoid misunderstandings.

Knowing the signals is also a requirement for satisfactory completion of taxiing on the checkride. So be prepared to work with crewmembers at airports where you pay a visit.

Emergency Tool Kit

Brian Lee (EAA 149802)

EAA Chapter 441, Kent, WA

Recently, I found me stranded at an airport with an engine which would not start...and me without any tools. I do have an "airport" tool bag packed and ready for those times when I'm going to work on the airplane, but at 25 pounds, I don't carry it along if I'm just going on a short flight. After trying to undo safety wire with my fingernails and a pocket knife, I resolved to assemble a small number of "essential" tools which I would leave in my flight bag—so they'd always be available when I am flying. I sat down and deliberately considered what the bare essential list of "what it takes to get home" items might be, then assembled a kit. Your list might be different, and you might argue about the "essential" nature of some of it, but it works for me. Here's my list:



- 4-in-one screwdriver
- adjustable pliers
- adjustable wrench (which will open wide enough to fit spark plug caps) (mine is attached to a Leatherman tool)
- spark plug wrench (deep well socket and breaker-I chose a slider rather than a ratchet for weight considerations)
- wire cutter
- safety wire pliers
- magnifying inspection mirror
- magnetic pick-up tool
- awl/dental pick
- small file
- small flat blade screwdriver
- hex wrenches: 5/32" for avionics; 0.05" for setscrews on knobs
- assortment of #8 and #10 screws, nuts, and washers
- assortment of cotter pins
- assortment of zip ties
- safety wire
- electrical tape



(and, yes, there's part of a roll of duct tape which lives in the baggage compartment)

I dug around in the basement and found a scrap of canvas which my wife had left over from another project, spent a couple of hours with her sewing machine (you can tell I'm no tailor), and the result is a convenient if not pretty kit which fits neatly in the side pocket of my flight bag. At 3-1/4 pounds, it does add a bit of weight, but the peace of mind is worth the extra weight.

Water or a sports drink

Bartley J. Ward

Summer is here, bringing months of fun and sun. Although the warmer weather is a welcome change after winter and spring, the threat of heat comes with it. We can feel the effects of higher temperatures anywhere, from normal operations at home base to worldwide contingency operations. Counteracting heat-induced effects is essential for a military unit to sustain operations-especially flying. There is no doubt hydration is one of the keys to success in combating this danger, but what's the best way to accomplish it? In the past, the answer was easy: drink water. However, this has changed because now we have scientifically engineered sports drinks. So, the question must be asked: "What works best for hydration, water or a sports drink?"

Pilots regularly encounter heat and the effects of dehydration it causes on their bodies. The dangers of dehydration are caused by its insidious and relatively quick onset. The effects are very subtle because we are exposed to them often without realizing it, and they can occur in as little as 50 minutes of outdoor activity in a hot climate. (1) The common physiological symptoms of dehydration are thirst, fatigue, irritability and impaired mental focus. These symptoms may seem mundane because some individuals experience them every day, and the extent of impairment varies from person to person.

So, how does this directly apply to flying operations? Consider what a pilot goes through between briefing and takeoff for a mid-day sortie in July. For this general example, a step time of one hour is used. At step time, the pilot shows at the squadron ops desk dressed to fly with all his gear. The pilot then steps to the flightline after receiving the step brief from the squadron Top-3. Ten minutes after step time, the pilot arrives to the assigned aircraft's parking spot. These ten minutes can occur mainly in an air-conditioned environment and may not impact the flyer physiologically. Arriving at the aircraft, the pilot reviews the forms and performs a walk-around for 10 to 15 minutes. Upon entering the (warm) cockpit, the pilot spends 15 minutes running ground ops then taxis 15 to 20 minutes before takeoff. The cockpit will not cool to an environmentally neutral temperature until just before takeoff. An environmentally neutral temperature causes limited dehydration in a static individual through sweating (usually 65-75 degrees Fahrenheit). Taking this example into consideration, a pilot about to launch for a sortie has been exposed to a hot environment (greater than 90 degrees Fahrenheit) for close to 40 minutes. This means noticeably degraded mental and physical performance caused by dehydration could occur within the first 30 minutes of flight. Dehydration will likely occur sooner because this example assumes the pilot to have optimal hydration at step. This doesn't take into account the morning coffee (or several), and caffeinated beverages throughout the day.

Dehydration is defined in terms of percent loss in body weight of sweat (greater than three percent). Slight dehydration, one to two percent loss in body weight, is enough to cause a negative impact on human performance. The effects of dehydration are difficult to detect, and the normal human thirst mechanism is too inefficient--the focus must switch to the cause of dehydration. Since we define dehydration in terms of percent of body weight loss due to sweat, the amount of perspiration serves as a useful indicator of how quickly we are dehydrating.

To apply this, use the example of the pilot above. During level-off, the pilot notices a higher than normal sweat rate. Let's assume he is a moderate sweater-one liter per hour. In order to return to an optimal hydration or at least his hydration level before stepping, the pilot would have to drink one liter of fluid. The best fluid replacement technique requires consumption in evenly-spaced intervals. Therefore, the pilot would drink eight ounces of fluid every 15 minutes to achieve the desired effect. Unfortunately, for most pilots, taking a drink break every

15 minutes is not always possible. However, rehydration is still achievable if the pilot uses the resources made available in life support. By using two green flasks, the pilot would have approximately 24 ounces of fluid (1 liter) for rehydration. With one flask in each G-suit pocket, the pilot could drink one on departure and the other after completing range work. This replaces the fluid lost in the hour of sweating before getting airborne, but it does not take into account the sweat lost during the sortie, which would require more fluids. It also raises another issue, not all sorties are limited to one hour, and cockpits only have so much room to accommodate flasks and water bottles.

Hydration with water will combat dehydration. The water intake must equal the fluid lost sweating during any activity. Unfortunately, water does have a few drawbacks. First, water is an excellent thirst quencher despite being tasteless. At first look, this appears to be good, but if drinking only a small amount of water makes an individual stop hydration, that person will have to rely on willpower alone to continue drinking. This creates a problem if an individual needs to drink large amounts of water. Second, water does not replenish electrolytes, which directly relate to muscle fatigue. According to Chris Carmichael, Lance Armstrong's training coach, this is not a problem for short duration physical activity (i.e., a one hour sortie). (2) However, this does become a factor in longer duration sorties, say a pit-and-go day. In order to stay hydrated for a multi-sortie day, the pilot now has a cockpit full of water bottles with little space to store all of them (not to mention the piddle packs this might cause). There must be a better solution.

The best solution for combating dehydration relies upon the use of sports drinks. Scientifically engineered sports drinks are designed to improve physical performance by encouraging fluid intake and promoting rapid rehydration. (2) Sports drinks have a balance of taste, electrolytes and nutrients that enable an individual to rebound faster and better from the effects of dehydration than by just using plain water. Sports drinks encourage fluid intake by being slightly sweetened with the presence of sodium. (1) This combination is designed to taste best to a hot, sweaty and thirsty individual. The electrolytes and nutrients in the sports drinks help reduce and prevent fatigue. In addition, sports drinks can achieve hydration status with less than 100 percent of fluid replacement. According to Carmichael in his book, Food for Fitness, performance will not improve any more by consuming more than 80 percent of fluids lost, as long as 50 to 60 percent of replacement fluids are sports drinks. He also states this is only true for sports drinks that include electrolytes and carbohydrates. This means that instead of carrying two 12-ounce flasks, one 20-ounce bottle would suffice in the above example. The ability to use less than a one-to-one ratio of fluid lost allows pilots to stay hydrated longer on less fluid quantity, and helps with limited cockpit space.

Dehydration is common for pilots and directly impacts the ability to perform operations, especially under stressful situations. We've depended on water for years, but improved products are available. Other hydration options may prove more valuable. A hydration plan including sports drinks creates an effective way to keep pilots performing at their best.

References:

(1) Murray, Bob, PhD, FACSM. Preventing Dehydration: Sports Drinks or Water. Gatorade Sports Science Institute. HYPERLINK "<http://www.gssiweb.com>" <http://www.gssiweb.com> 6/03/05.

(2) Carmichael, C, et al. Food for Fitness, 1st edition. New York: Berkley Books, 2004.

CAPTAIN BARTLEY J. WARD

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The article above courtesy of Flying Safety magazine June 2007.



We'll be having our meal-before-the-meeting this month, May. 10th, at 6:30. Glenn will be taking care of the meal-before-the-meeting this month. He might be bringing this or may be bringing that, or maybe even something else. What he's going to fix will be a surprise so the only way you'll find out will be will be to come to the meeting.



The meal and the meeting will take place at the FBO, where we will be having our meeting. Bring your presence and your appetite and get there in time for some good eating. And, Glenn promises to send you away from the meeting alive and well. There are still some spots to be filled for future meetings so reserve your spot at the meeting so everybody will have a chance to show off their cooking skills.

Upcoming Events

July 12 – EAA Chapter 1350 monthly meeting 7:00 at the FBO

July 17 – EAA Chapter 1350 pancake breakfast 8:00 – 10:30 at LaGrange Callaway Airport. Volunteers and eaters needed!

July 26 – Aug 1 – EAA AirVenture Oshkosh 2010, OSH Wittman Regional Airport, Oshkosh, Wisconsin

What are members have been up to, where they've been flying, what they have built



NEXT MEETING WILL BE JULY 12, 2010 AT 7:00 P.M.



**TREAT SOMEONE TO
DINNER AND INVITE
THEM TO THE MEETING!**

