



## Winter Flying: a Plan and Reality

By R.G. Blocks

Do a bit of research, make a plan, execute the plan and make folks happy. Business and piloting are approached in that manner. Marge will go on a flying trip if the place to be visited has grandkids, relatives, friends, history, beauty, walking or biking trails and isn't too warm. We had a business in Florida for a number of years. She'd go south if it were cool. Summer? Forget it: she'd rather go north.

Let's look at our decision tree for a late February trip in the C162.

I wanted to visit my first boss at Alcoa of forty-eight years ago lives in Franklin, TN. Marge's girlfriend in Newburgh, IN., my sister and her husband and their families in Atlanta, biking buddies in Macon, GA, best friends wintering in Gulf Shores, AL. forms a nice semi-circular path.

Weather was key: we'll be flying VFR in a new airplane. We let two major storms pass overhead while we visited. All flying was done in nice VFR: thank you NOAA.

We wrote each group a couple of weeks ahead of time and told we'd like to be 'dropping in'. Three of the five stops insisted on our staying with them. Each was called and discussed a two or three day window of our probable arrival. It was then we discovered their favorite local attractions. The calls also gave us a clue regarding our auto needs.

Turned out we needed to rent cars at three of six overnight stops. We stopped at Towered airports overnight: cars, hangars, fresh fuel and they were open!

Consider your own bounds or limits. They should be well inside published limits for both the aircraft and terms of VFR. Mine are fairly simple. Less than 3000 Ft AGL; hence, I need not rigidly hold altitude nor follow East West rules. Less than 5000 Ft MSL; my lungs, while pretty good from years biking, are those of an older person.

Don't plan early morning winter flights due to lower temperature, fog potential, hoar frost and sleep habits. Two-hour maximum flight legs. Refuel at each stop.

Don't fly over water if not possible to glide back to land.

Plan to land a half-hour before sundown at latest.

Don't fly in winter rains, hail, slush or near winter warm fronts. Snow? Only enter snow if it

is very cold and appears thin or scattered. Don't blind the air filter!

Winds? Look for intersections of fronts. Avoid them if the angle approaches 90 or less degrees. Look at deep lows. Where is jet stream? TAFs; > 30 Knots think twice.

Ceilings? How low? Fly above widely scattered only if I can see ground. Need 500 feet below and plenty of ground clearance (like 2000 feet). Low ceilings and poor visibility are a common problem. If the MVR is marginal or deteriorating: don't go.

Visibility. The published minimum is three miles for a Sport Pilot. Don't go with less than 7 miles current and/or forecast. It begins to get tough seeing anything straight ahead when visibility is less than 10 miles; hence 7 miles is prudent for a personal minimum. Use exterior lights and strobes when visibility is lacking.

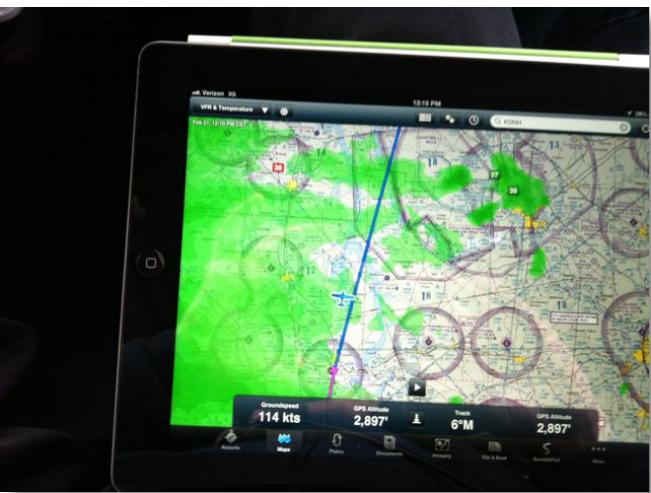
Airports seem to have arrangements with hotels and motels in their area. It's unnecessary to book rooms in advance. You'll get an AOPA, airport, or pilot discount and pickup/return service to the hotel. The caveat: buy aviation fuel at that airport.

Larger towns and city airports seem to have overnight hangar space for a price. Some hangars are heated. We were offered and took one in Terre Haute, IN.

Rental cars are available at any city with a Tower and regular airline service. We paid about 45 dollars a day for new Hertz and Enterprise Cars.

Plan a flight route to make any alternate an enjoyable stay. If weather turns bad: have one or two day layover options. AOPA, ForeFlight, AirNav or the Chamber of Commerce each provide logical starting points for places to consider.

Follow your plan but have low risk alternative destinations. As an example, we had planned to fly VFR from KJKA Jack Edwards, Gulf Shores, AL to KEVV Evansville Dress, IN. in the morning. We noted green or rain (on ForeFlight) but rain was not being reported by any AWOS: hence it was virga. See our photo: our sky was very high cirrus. KEVV's ATIS was reporting rain. Henderson KEHR or Owensboro KOWB were alternatives. We were in warm, 43 F air. Near freezing conditions were fifty miles west (winter warm-front) and north of KEVV. Red IFR showed twenty left of course; hence our window was closing. We landed at KEHR within 30 min. avoiding all moisture.

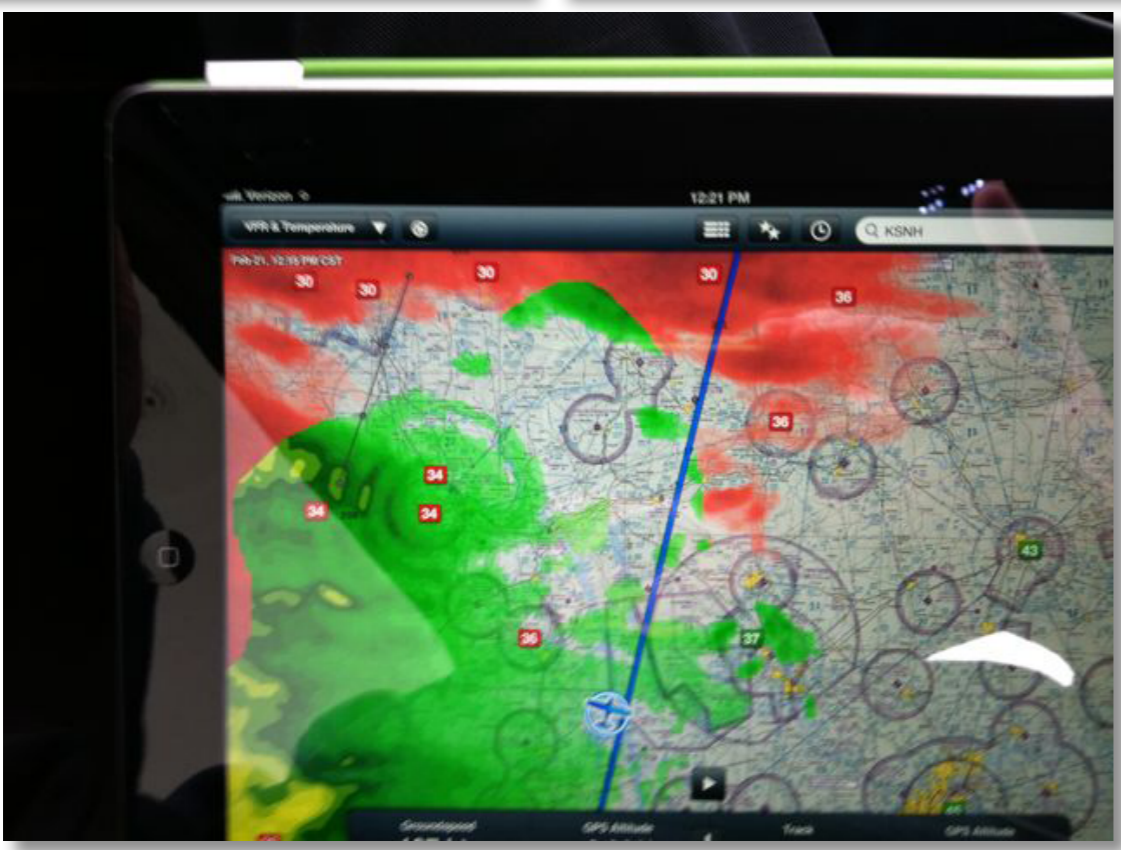


Above the chart shows us about 30 minutes out from Henderson and still on course to Evansville. The red was hail and snow pellets. Some had fallen on Henderson before we got there. An area clear of precipitation was where we remained throughout. The storm was moving to the NNE quite rapidly. The clear area gave us almost an hour to unpack the airplane, obtain and load a rental car, hangar the airplane, and contact Marge's girlfriend for a late lunch and stay dry. Then, it rained and hailed again as you might expect.

This weather encounter was a flying 'non event' due to excellent work by NOAA, Foreflight, Garmin, and a FSS Lockheed Martin Briefer who suggested VFR all the way but to be very careful at the very end since the temps would be falling rapidly and be potentially hazardous. The briefer was absolutely correct. You can see the red temperatures. All are above freezing but suggest freezing aloft (and hail or pellets). Our air was not less than 40 F at any time and we remained well away from any precipitation.

This is all about VFR flight planning with alternatives and executing the plan. Evansville, only 16 NMi further turned out to be VFR when we got to Henderson. We were not going further. Bad weather was too close for comfort.

Written by Roger G Blocks to remind himself that good endings come as a result of plans offering safe solutions when nasty situations would otherwise be possible.





Eric Wolf, EAA Chapter 838 President

On September 12, the 8th Air Force Historical Society put on a hanger dance for WWII vets in our museum. I agreed to donate our building when the president asked me because...well...who could say no to WWII vets? The dance included the Brew City Big Band (18 instruments!), catered food, and door prizes. The dance reminded me of the value of recognizing those that fought for what we have. I spent a good amount of time cleaning the museum, helping setup/take down, etc; but it was worth it. Thanks to Roy Stuart for volunteering for the event and the night before.

Last month I wrote a little about Paul Poberezny after his passing in August. At the hanger dance I met a member of the band that was also an airline pilot on furlough. He told me of a story how he and his father met Paul when he was 14 years old. Paul told his father to let his son pursue his aviation dream. Fast forward to a few years ago, he met Paul again, this time in his early 50's (and Paul nearly 90), 20,000+ flight hours, and still loving aviation. Amazingly, Paul remembered meeting him and his father that day. Paul remembered what he told his father and he remembered many details of his father such as where he worked and his military history. Paul was overwhelmed with joy that he pursued his passion and still loves aviation. I think this story illustrates what made Paul so successful and so respected. As more food for thought, I think I forgot more details of this story in the last three weeks than Paul did in 40 years.

Phil wrote a great short article this month about keeping up our facility. Since he's not one to toot his own horn, I should mention that he's been at the chapter building more than usual lately improving the place. With the help of Jim Hantschel, he has been cleaning and replacing bulbs/fixtures in the museum and workshop. Phil has also managed the replacing of the furnaces; from getting quotes to preparing for the work to installing insulation and replacing ceiling tiles. This has been a major project with many details too numerous to list.

There are many other examples of this in our chapter, but we need more people to be more active to make this a great place. Remember that we don't need a lot out of any one person if we get a little out of a lot of people.

## Who Takes Care of Our Chapter Facility?

By Phil Fountain

About three weeks ago I drove into the chapter parking lot and noticed that all the weeds in the cracks were gone, it sure looked nice. A couple days later I was very surprised to find out that 89 year old Roy Stuart decided to take them out. I do not know how much time it took Roy but I did the same thing the previous year and did it in four hours with a weed whacker, Roy did it by hand.

All chapter members need to take a lesson from Roy, if you see that something needs to be done either do it or at least let someone know what needs to be done. When ever I ask those at the Monday Shop Night to help out they are right there to assist and it is very much appreciated. But the membership needs to go a little further and take the responsibility to do the little things that need to be done, don't leave it for someone else. Also, the coat closet is for what it is called not a handy place to stash stuff, the room behind the classroom is better suited for storage if we ALL keep it organized. Organization provides more space to store stuff.

So let's not allow Roy Stuart out in the parking lot next year and the next time you see Roy and Scott Gronland, who did a great job mowing the lawn and trimming, thank them for the work they have done. It's our chapter and requires all of us to be responsible for it's up keep.

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Racine EAA Chapter 838

# Events

Meetings  
Third Thursday's 7:00 pm  
Social 6:30 pm  
  
October 2013  
Volume XXIV Issue 10  
[www.Eaa838.Org](http://www.Eaa838.Org)

## Saturday October 12, 2013

Members and Friends of all surrounding EAA Chapters are welcome

For tickets or more information contact Kristin Niemiec at 262-637-2226

Experimental Aircraft Association (EAA) Chapter 838 of Racine is once again hosting a night of friends, fun and Monopoly! The evening begins with beverages, appetizers and then a fast-start game of Monopoly. But that's not all! We have a silent auction and prizes for the top Monopoly players!

This event is the Chapter's largest fund raiser. The proceeds from this event support the Chapter's aviation education programs as well as the Southeast Wisconsin Aviation Museum.

Please plan on joining us for some old fashion board game fun! After October 1st tickets are \$50 per person or \$90 for a couple.





## Explorer Post 218 September 26<sup>th</sup> Meeting

By Christine Kujawa

At our meeting the other day we had our final election for the position of President. It came to be between Kinzie and Ryan Mevis. Kinzie won the election and is now our president. Ester Pae is our Vice President and I am the communications officer. It was great to have people interested in being involved further!

By Tyler Waiss

On September 26th, our Aviation Explorer Post convened for another one of our regular meetings; however, this one was a little different. The youth of the post conducted our yearly elections to establish the Post President, Post Vice-President, and Post Communications Officer. Kinzie Kujawa was elected to be our President, Ester Pae was voted to become our Vice-President, and Chrissy Kujawa was elected as our Communication Officer.

After the elections were completed, EAA Chapter Member Phil Fountain gave a great presentation about how he became involved in Aviation, including stories of his early childhood, service in the National Guard during the Vietnam War, as well as a few of his "flights gone wrong" stories. All the members of the Post were very happy to have him present, and we all thoroughly enjoyed what he had to offer!

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### Upcoming Aviation Explorer Post 218 Meetings for 2013-2014

**Oct 10** - David Mann, Speaker, Batten Field General Manager.

**Oct 24** - Tour of Delta Hawk Engines, Inc. facilities

**Nov 07** - Addison Tower, Speaker, USAF Ret. pilot and current corporate pilot

**Nov 09** - Young Eagles Rally (arrive at 8:45)

**Nov 21** - S.C. Johnson Aviation Hangar tour

**Dec 12** - To Be Announced

**Dec 26** - No meeting

**Jan 09** - College students return to speak of their experiences and Pizza Party!

**Jan 23, Feb 13** and **Feb 27** - To Be Announced

**Mar** through **Nov** - Second Saturday assist with Young Eagles Rally

**Mar** through **June** - To Be Announced

**July 10** - Oshkosh training and get organized for Airventure

**July ??** -(Sunday) East Troy Pancake Breakfast; Help marshalling planes 6:15 start.

**July 24** - Prepare for Oshkosh

**July 28** - Aug 3; Airventure Oshkosh

**Aug 14** - Mini Golf Tournament with Chapter, if Chapter members show up

**Aug 28** - Planning meeting

## Aviation Explorer Club 2013

By Jerry Baker

The AEC program of 2013 graduated a class of seven students September 25 in the Chapter Building. Guest speaker was Carolee Barnett, an American Airline Captain, who gave the kids an entertaining and inspiring look at her career in aviation.

Guests for the evening also included Robbie Haynes and Reid Wersal from the Three Harbors Council, BSA. The BSA is monitoring the AEC program here in Racine to evaluate if such a program can be initiated elsewhere.

Also in attendance were parents, friends and a number of AEC staff.

This event climaxed a season of twelve sessions from May through September. Activities included classroom work in science, technology, engineering and math (STEM) with an



# Supported Programs

aviation "bent". Additionally, the program included Radio Controlled flying, bottle rockets, ground school and a flight with a Chapter pilot. Field trips were taken to AirVenture, Cessna Maintenance – MKE, Modine-Benstead Observatory and a tour of hangers and businesses on the South Ramp at Batten Airport.

Based on the reviews we are receiving, the program will continue and go into its 4th year next May.

Thanks to Chapter 838 for sponsoring the program and to the AEC staff for many hours of time and effort. A special thanks to those pilots who flew the kids.

I sincerely believe we are making a positive impact on the students and some will go on to make aviation a vocation or avocation.

## HALO

### Homeless Assistance Leadership Organization, Inc.

By Ken Sack

Each night hundreds of people in Racine County go to bed without a home or a soft place to lay their head. Every day, 24-hours a day, the Homeless Assistance Leadership Organization, Inc. of Racine (HALO) works tirelessly to assist that population.

HALO is launching its first signature fund raising event: **Sleep Out for HALO** on Nov. 8<sup>th</sup>.

Aimed at raising awareness for the hundreds of homeless individuals and families in Racine County the event asks participants to sleep outside on the ground, with only a cardboard box for shelter to experience what it is like to be homeless for one night.

**I must raise at least \$200 in pledges. You can pledge electronically at the Sleep Out website [www.haloinc.org/sleepout](http://www.haloinc.org/sleepout), by selecting me when you pledge. You can also pledge by cash or check to me.**

All donations submitted as part of the Sleep Out will go directly towards benefiting HALO's 120-bed emergency shelter located at 2000 DeKoven Ave. in Racine, as well as its self-sufficiency programs.

#### **Event Details**

**What:** Sleep Out for HALO

**When:** Starting Friday, Nov. 8th at 6:30 p.m. and ending Saturday, Nov. 9th at 7 a.m no matter if it rains or snows.

**How:** For information on how to participate and pledge visit the HALO website at [www.halo-inc.org/sleepout](http://www.halo-inc.org/sleepout) or call Brenda Thomas at 262-633-3235, ext. 142.

**Where:** EAA Chapter 838 grounds, 3333 North Green Bay Road, at Batten International Airport.

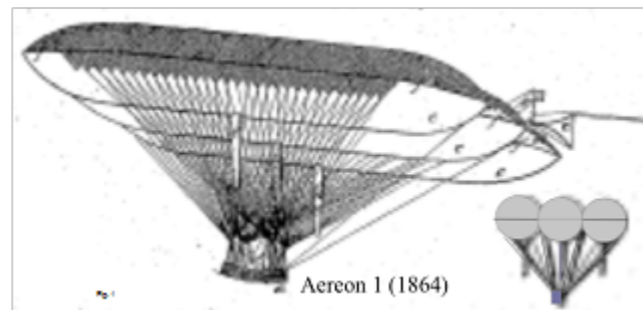
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## Aereon - 1864 to Today

By Seán G. Dwyer

Solomen Andrews (1806-72) tried twice to get Abraham Lincoln interested in his very innovative balloon. Because it was capable of flying against the wind, it would be more accurate to describe it as a "dirigible". Surprisingly, it did not have an engine of any kind. Its power was a combination of gravity and Archimedes' Principle.



When I mentioned this unusual aircraft in an article in the last Contact, I had just learned about it. I have since found more information, including two revivals of the technology more than a century later. The first Aereon (Fig. 1) had three 80' long tubes attached side by side, with seven smaller bags of hydrogen in each tube. A basket suspended underneath held the pilot who sat on a seat that could move forward and back on rollers. By shifting the center of gravity in the basket, Andrews could vary the angle of attack of the balloon. While a spherical balloon would climb vertically when ballast is dumped, a flat balloon canted at one end would move forward as it ascended. Andrews described his method of propulsion as "gravitation" and varied buoyancy by dumping either gas or ballast. He would fly forward in a series of up and down glides similar to tacking in a sail boat, although his balloon tacked vertically whereas a sail boat tacks from side to side.

To see how it worked all you need is a ball, a board, and a swimming pool. Hold the ball against the floor of the pool and then release it. It will shoot straight up, as you would expect from Archimedes' Principle. Now try the same thing with the board, but before you release it, raise one end of the board higher than the other end. What you will observe is the board zooming off in the direction of the higher end as it rises through the water. Unlike the board in water, the Aereon could also be made to descend by releasing some of the gas.

Thus, the Aereon used the buoyancy promised by Archimedes Principle to ascend, and the angle-of-attack of the raised end and air resistance from above to drive it in a forward direction. Once the Aereon had achieved its maximum altitude where buoyancy would be neutral, release of hydrogen from the gas bags would allow gravity to pull the aircraft down. Once again, wind resistance – but from below this time – would cause the Aereon to move in the direction of the lower end, even against the wind. Turns were achieved by using the rudder at the back, and 360 degree turns were demonstrated.

An additional design element was the longitudinal cavities formed above and below where two gas cylinders met. Since there were three cylinders in Aereon 1, there were two of these cavities above and below, and they acted like rails as the aircraft ascended or descended. The high pressure air forced into the cavity when ascending would travel the length of the cylinders and exit out the back, providing both focused forward boost and air over the rudders. This feature was dispensed with in Aereon 2 which had the shape of a flattened lemon, sharply pointed at both ends. Whereas Aereon 1 descended by releasing gas, Aereon 2 had a complicated system of controlling altitude by using cords and pulleys to expand and contract the hydrogen gas bags, thereby changing how much air was being displaced. Keep in mind that, unlike a child's toy balloon which you blow up, the gas in Andrews' balloon was not under pressure.

Even a direct headwind would not prevent the Aereon from rising and advancing, unless the wind speed was faster than the forward motion produced by the sloping ascent of the Aereon. Andrews made enough widely reported controlled flights around New York that we can be sure that Aereon flew. But why did history ignore this engineless dirigible? The Aereon certainly fit the definition of a 'dirigible', a directionally controllable balloon. All other dirigibles had an engine of some kind, and the first one had preceded the Aereon by more than a decade. Perhaps that is why history ignored it. Alternatively, Aereon II may have seemed too much like a perpetual motion machine because its forward motion was at least in part provided by compressing and expanding the hydrogen bag, and Aereon 1's directed travel required release of ballast and hydrogen, i.e. fuel was consumed. But that is a reality for all powered vehicles.

A newspaper account of a test flight on Sept 4, 1864 described test flights by Solomon Andrews in a balloon containing 26,000 cubic feet of hydrogen and 256 lbs of ballast at the start. Andrews made multiple ascents before finally stepping out after lashing the rudder to one side and pointing the bow up. According to the newspaper report: "She ascended at a tremendous rate of speed, computed at over 200 miles an hour at the beginning, in a spiral of say half a mile across, until lost to sight among the higher clouds". If you find this hard to believe, read it yourself at the following link:

<http://www.nytimes.com/1865/06/11/news/local-intelligence-aerial-navigation-aercon-invented-dr-andrews-new-jersey.html?pagewanted=1>

Solomon Andrews' two attempts to get Abraham Lincoln interested were blocked by the Whitehouse staff. Quite simply, they never let any of his letters reach Lincoln's in-box.



## Paradigm Paralysis

On July 5, 1864 Patent # 43,449 was issued by the US Patent Office for a balloon that was capable of directed flight and could even be flown against the wind. Solomon Andrews' ideas would resurface 100 years later (Aereon Hybrid Airship), and again 50 years after that (Aeroscraft).

### Aereon Hybrid Airship 1966

Solomon Andrews' gravitation powered balloon/dirigible in the 1860's was the obvious inspiration for Aereon III (Fig. 2) a century later. Aereon III was intended to be heavier than air and Aereon Corporation of Princeton NJ included other advances. The prototype was powered by a single propeller at the rear, and helium was to be heated in the gas cells, thereby reducing the need to vent gas to descend, and making the Aereon III a quasi-Roziere. Aereon III was damaged in a taxiing accident and the company ran into financial problems.

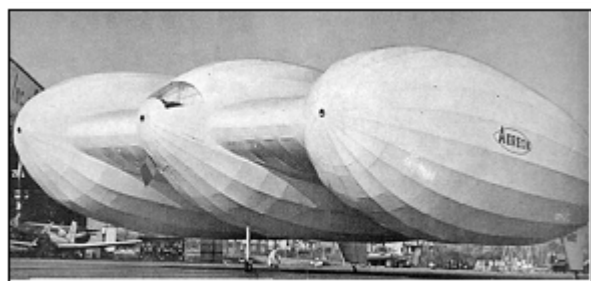


Fig. 2 Aereon III (1966)



Fig. 3 Aereon 340 Concept

The restructured company pursued the Aereon 340 design (Fig. 3) and were awarded US Patent # 3,486,719 for a hybrid of a rigid airship and an airplane. It to be 340' long with a 75' wing span and was referred to as the 'Deltoid Pumpkin Seed' in a book of the same name by John McPhee. The patent described a gas filled delta shaped wing with internal cargo space sealed from the gas space. The objective was to get some lift from its aerodynamic shape and some from the gas, thereby overcoming disadvantages of both aerostatic airships and conventional cargo airplanes. Specifically, it would not need the high take-off and landing speeds of the latter, while the ability to taxi on the ground would facilitate cargo loading and unloading.

The wheels would swivel so the aircraft would not have to be pointed straight down the runway in a crosswind similar to a Navion Ercoupe or a B-52. The height of both the forward and aft undercarriage could be varied. For stability when parked the aircraft would be in a nose-down attitude similar to a Varieze in the grazing attitude. During the take-of roll the nose

gear would be extended, thereby facilitating flight into ground effect where ground friction would be reduced and further acceleration could take place. The design never made it beyond a small test prototype which managed to fly out of ground effect without gas bags installed.

### Aeroscraft 2013

A half a century later Aeroscraft (Fig. 4) is a lighter-than-air airship that includes elements of all the earlier Aereon concepts and a submarine. It uses what its inventors call the COSH technology (Control of Static Heaviness). Like the ballast tanks in a submarine, buoyancy is controlled by compressing some of its helium gas in tanks, thereby allowing air to fill the space previously occupied by the helium. Releasing the helium back into bags that expand into the empty space displaces the air and restores buoyancy. The airship's variable-buoyancy is intended to allow it to take off and land vertically without the need to exchange ballast. The goal is a cargo aircraft that does not require an airport or need a lot of ground crew and specialized facilities, so the U.S. Department of Defense, DARPA, and NASA have all partnered with the Worldwide Aeros Corporation in the development program.

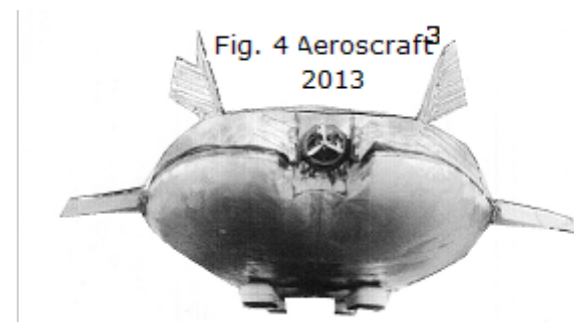


Fig. 4 Aeroscraft<sup>3</sup> 2013

For more detail on the emerging technology see <http://aeroscraft.com>.

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**Question:** What is the origin of the terms "Port" & "Starboard"? **Answer on last page.**





## Swept-blades for C-90 Family

Latest performance mod for King Airs

September 23, 2013

By Jim Moore

A swept-blade propeller that boosts performance across the board will soon be available for King Air C90 models. The propeller, developed in collaboration between Hartzell Propeller and Raisbeck Engineering, increases thrust and efficiency, allowing quieter operation, and shortening takeoff and landing rolls.



Photo courtesy Raisbeck Engineering

The swept-blade propeller is 96 inches in diameter, six inches larger than the standard propeller. The new propeller for the C90 family is swept even more than the swept-blade model developed for King Air 200-series models (featured in the July 2013 issue of AOPA Pilot) with outer radii of 30 degrees compared to 24 degrees. Increasing the sweep allows an increase in diameter while simultaneously reducing noise.

Raisbeck announced Sept. 23 that the new propeller will be ready for deliveries beginning in January 2014, and sold either as a stand-alone modification

or packaged with other mods. Raisbeck offers an "EPIC Performance Package" including dual aft-body strakes and a 400-pound gross weight increase. Combined with the aft-body strakes, the propellers increase performance across the board, reducing takeoff clearance over a 50-foot obstacle to 2,150 feet with flaps up, a reduction of 850 feet from the stock model. Landing distance over a 50-foot obstacle is reduced by 360 feet, down to 2,120 feet at maximum landing weight without propeller reverse. Reversing propellers cuts that to 1,580 feet.

"We are especially pleased with the overall improvements these propellers will offer operators of the C90GTx and other PT6A-135A powered C90s who takeoff, climb, and cruise at 1900 RPM," said Raisbeck Engineering Propeller Program Manager Davud Kasparov, in a news release. Kasparov has worked closely with engineers at Hartzell over the last four years on the swept-blade program.

Raisbeck CEO James Raisbeck, who has developed many modifications for the King Air family,

said the new propeller marks both a performance and aesthetic milestone.

"Of all the improvements our company has made to the King Air Family over the last 31 years, this one is clearly the most visible and impressive," Raisbeck said in a press release.

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## Super-Vision

By Robert P. Mark



The bane of new instrument pilots, especially during initial training, is an attention-deficit-disorder-like feeling that their eyes are moving—or should be moving—all the time. To be honest, the eyes of the best instrument pilots probably are moving all the time. The real trick is to know what instruments to scan and when, a task made more difficult when a pilot's head is looking down at the panel when he should be looking out the window, and vice versa. The exercise is repeated many times until either the runway lights appear through the mist, or the altimeter hits the decision height—signaling a missed approach.

The military realized long ago that landing and taking off are visual events and require considerable pilot attention. Pilots of a single-seat fighter were especially vulnerable to head gyrations, which turned out to be even more dangerous close to the ground at 140 knots on final. Tie those safety concerns together with some NASA research, mix in a handful of Department of Defense money, and voila! you have the head-up display or generically, the HUD. HUDs—created by companies such as Honeywell, Rockwell Collins, and Thales—have fostered technologies to make flying safer, especially for single-pilot aircraft, while improving situational awareness. HUDs concentrate all the important flight and navigation information for pilots to view in one location, which reduces neck aches to a minimum. Alaska Airlines began using early HUDs in 1987, units built by Flight Dynamics—which trademarked the name Head-Up Guidance System (HGS) for its version. The Alaska installations also proved pilots could fly aircraft safely to lower IFR ap-



## Racine EAA Chapter 838

# AOPA

Meetings

Third Thursday's 7:00 pm

Social 6:30 pm

October 2013

Volume XXIV Issue 10

[www.Eaa838.Org](http://www.Eaa838.Org)

approach minimums. Southwest Airlines ordered hundreds of Rockwell Collins HGS units for its new Boeing 737s and as a retrofit for some models flying the line today.

The HUD/HGS concept is really simple. Place a piece of clear glass (called a combiner) about 12 to 18 inches in front of the flying pilot as he stares out the cockpit window, and his eyes will quickly forget that the glass is even there. Now, while pilots are staring out the front window—looking for really important items such as the runway or other airplanes—the HGS also projects critical flight and navigation numbers, and other information gathered from the traditional instruments. This means pilots can now see heading, airspeed, altitude, and navigation information without alternating between head up and head down. Mean times between failures for the equipment are almost nonissues when the computers monitor themselves hundreds of times each second.

Now also imagine that in addition to being able to see the most basic of IFR information, a Head-Up Guidance System such as Rockwell Collins' smallest, the HGS-3500, also provides the pilot with flight-path cues that show precisely where the airplane is tracking, not heading, based on current speed and power setting. Wonder where you'll touch down on the runway with your current power setting? The flight path cue will show you precisely—not close, but smack dab on the spot. Thanks to a link to the aircraft's inertial reference system, visual cues also include acceleration/deceleration markers that visually demonstrate airspeed trend information if power and pitch conditions remain the same, a handy item when trying to peg an airspeed on final approach. The HGS can be a tremendous help in VFR conditions, too. Want to know for sure whether your aircraft will clear that line of hills 10 miles ahead at your current altitude? The flight path cue tells all, even confirming which engine just died during a power failure in a twin.

Just when your eyes are already growing wide at the sheer mention of these fabulous feats of HGS flying comes one more: An HGS can reduce IFR landing minimums, which is one of the truly important reasons both airlines and business jet operators are installing the units. Imagine almost no more missed approaches. Category II minimums—100-foot ceilings and 1,200-foot runway visual range (RVR; think six runway lights) become a piece of cake.

Low-visibility takeoffs are easier and safer with the precise runway guidance an HGS delivers. On those risky nighttime nonprecision approaches, an HGS can precisely pinpoint the aircraft's flight path and touchdown spot in total darkness at a small airport in the mountains, with few lights for reference. TCAS and wind shear advisories also are displayed on the HGS combiner screen. Imagine breaking out of a 200-foot ceiling at night in the rain—the visual effects can be both blinding and confusing. The HGS assists the pilot by announcing the precise place to flare for a near-perfect arrival every time. The HGS also provides accurate rollout guidance; even unusual-attitude recovery cues and synthetic vision are available head up.

Head-up display technology is still immersed in some growing pains, despite its operational debut a decade or two back. The projector that displays all the nifty flight and navigational technology on the combiner is still rather bulky and normally found attached to the cockpit ceiling, which means aircraft with limited headroom probably aren't HUD candidates—yet.

Rockwell Collins and other avionics manufacturers offer units for various Boeing, Bombardier, Embraer, Dassault, Gulfstream, and Cessna models, as well as a number of military transports. The smallest aircraft that will accept the HGS-3500 is a Beech King Air or a Cessna Citation Mustang, so pilots of singles such as TBMs, Cirrus, and Meridians are going to need to wait. I remember when cellphones weighed five pounds and required a shoulder strap—can a Cirrus with a HUD be far behind?

For pilots hankering for a closer look at the Rockwell Collins HGS, only an iPad is required. Aviators so equipped can download the company's "HGS Flight" app from the App Store for free.

**Follow up comments:** This AOPA article is a very interesting peek into the new technology available in advanced aircraft that will some day be available at a reasonable cost to the small aircraft owner.

In the mean time there is a technique that I have taught over the years to company pilots that small airplane pilots still fly analog instruments can use. The process does not place all data in one place as the HUD equipment does but makes instrument flying much easier for the average pilot flying with today's instrumentation.

When we think of a scan most pilots think of eye movement from instrument to instrument, which over time, will wear a pilot out and may lead to errors. The fundamental process that I have taught is to focus on the primary instrument and practice seeing supported information like airspeed or decent rate through peripheral vision which is more of a practiced thought process than physical eye movement.

You will shortly learn for the flight configuration that for a given power setting and pitch attitude that you would expect, through peripheral vision, an airspeed and descent or climb rate, or speed for level flight.

You will also learn when not to trust an instrument if it is not giving you what is expected. It will then be your job to find other cockpit indications to validate what actually is invalid.

Phil Fountain

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## NTSB / FAA / NBAA / TSA

### FAA Safety Team

#### “Are You Taking Slow Pills Before You Fly?”

Many common medications are known to slow the thinking process and slow reaction times. When combined with bad weather, an unfamiliar area or unexpected flight events, this slowness caused by the medication may be the final factor that causes an accident.

Pilots should preflight themselves before they preflight the aircraft.

- Use the IM SAFE checklist - <http://en.wikipedia.org/wiki/IMSAFE>
- If taking medications:
  - o Never fly after taking a medication for the first time.
  - o Read and understand medicine labels & warnings
  - o Consult a physician if necessary to evaluate your fitness to fly
  - o For medications with a sedating effect, do not fly for 5 maximal dosing intervals after stopping the medication

Want to learn more?

- FAA Letter to pilots on drug use  
[http://www.faa.gov/news/updates/media/Letter\\_Pilots\\_Impairing\\_Medications.pdf](http://www.faa.gov/news/updates/media/Letter_Pilots_Impairing_Medications.pdf)
- FAA Aeronautical Information Manual (AIM) – Chapter 8. Medical Facts

for Pilots, Section 1. Fitness for flight

[http://www.faa.gov/air\\_traffic/publications/ATpubs/AIM/aim.pdf](http://www.faa.gov/air_traffic/publications/ATpubs/AIM/aim.pdf)

- Medications and Flying Brochure - FAA Publication OK05-0005 (rev.6/10)

[http://www.faa.gov/pilots/safety/pilotsafetybrochures/media/Meds\\_brochure.pdf](http://www.faa.gov/pilots/safety/pilotsafetybrochures/media/Meds_brochure.pdf)

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#### New Rule Eliminates Restriction for CFI Flight Review Requirement

The FAA issued a new direct final rule, published September 16, 2013, that permits an airman who passes a practical test for issuance of a flight instructor certificate, a practical test for the addition of a rating to a flight instructor certificate, a practical test for renewal of a flight instructor certificate, or a practical test for the reinstatement of a flight instructor certificate, to meet the 24-calendar month flight review requirements. The rule overturns a previous legal interpretation from 2008 which concluded that a CFI practical test is not a pilot proficiency check and therefore not eligible to meet the 24 calendar month flight review requirements.

The rule was published as a direct final rule without prior notice and prior public comment since it alleviates unnecessary burdens by expanding the exceptions to flight reviews. It will go into effect on November 15, 2013, unless an adverse comment is received during a 30-day comment period ending October 16, 2013. To view the rule or submit a comment, go to <http://www.regulations.gov/and reference docket number FAA-2013-0780>.

#### When “Rash” or “Brash” Leads to “Crash”

“We were at the airport when this guy did a low pass over the hangar — nearly rattled the doors off!”

Sound familiar? Sadly, a significant number of stories like this end up in NTSB accident reports. Take a closer look at some of the ways an aviator’s rash decision could lead to a crash in the current issue of FAA Safety Briefing online at [www.faa.gov/news/safety\\_briefing](http://www.faa.gov/news/safety_briefing).



## Safety Alert for Operators (SAFO) on Using Runways as Taxiways

A new SAFO has provided information on reducing the risk of runway incursions when taxiing on intersecting or active runways. It is a common practice for ATC at many airports to use active or inactive runways as a taxiway, however, due to runways typically being wider than taxiways, signs located on the edge of the runway may be more difficult for the pilot to see and identify. In addition, many of the visual cues typically present on taxiways such as signs, markings, and lighting, are frequently missed.

The FAA strongly urges directors of operations, safety, training and maintenance, as well as chief pilots, collaborate to: minimize distractions, promote awareness, distribute runway incursion prevention information, and ensure all training events and programs include realistic runway incursion prevention.

Click on [http://www.faa.gov/airports/runway\\_safety/](http://www.faa.gov/airports/runway_safety/) for more information.

## New Sept/Oct FAA Safety Briefing Highlights Aviation Citizenship

The September/October 2013 issue of FAA Safety Briefing focuses on aviation citizenship. Articles take a look at how a personal SMS (Safety Management system) can help make you a good aviation citizen and cover the importance of good citizenship in aviation maintenance. Among the featured articles in this issue are: "Be Your Fellow Pilot's Keeper" — an insight into how to develop safety intervention strategies (p. 14), "A Heading Set for Success" — a Q&A session with FAA Administrator Michael Huerta (p. 20), and a look at how the FAA makes use of social media to stay engaged with the aviation community in "Citizen Engagement" (p. 6). The department Vertically Speaking highlights the new Moral Courage Safety Award, and Jumpseat discusses the fundamentals of the Aviators Model Code of Conduct.

The link to the online edition is [www.faa.gov/news/safety\\_briefing](http://www.faa.gov/news/safety_briefing).

## What's Going on in the Chicago Airspace

Many of you are not aware of what has been going on at O'Hare and the Chicago airspace over the last number of years. O'Hare is being expanded north and south and even moved a cemetery which took years and a lot of money. They are building two control towers one on the north side with the second on the south side of the airport. These control towers will handle

four east west runways which will be the primary handlers of the airports traffic. O'Hare is becoming more of a transit hub like Atlanta.

Because of the new runway profile and the expected air traffic in the Chicago area there is a new SID (Standard Instrument Departure) being implemented. I thought you would be interested in a glimpse of what the pilots going into and out of the Chicago area airport will have to deal with.

Phil Fountain

## West and South Departures (SID's) to be implemented on Oct. 17th 2013

To follow along with the discussion refer to the graphics at the end of this document.

**West Departures** – The original intent was to have these departures to be SID's but because of climb gradient issues (no ORD VOR DME to reference) they for now will be point to point departures (except for KARR, KDPA and KLOT) which means you will have to put each fix in your FMS manually or in you flight plan that you download. I will go through the usage of these departures from the satellites starting from the North.

**MDW/GYY** – These two airports will only utilize the PEKUE entrance fix and transition to the other departure routes further down. These departures will be flown at 13,000'.

**ARR/DPA/LOT** – These airports will utilize the OBENE1 SID. They will enter at OREOS and transition to all the other routes past OREOS and will be flown at 10,000' ALL Airports – the ALO transition must be used when going to KMSB. The PIGGG intersection is only used for the ROEZZ transition not for the ELYNA so make sure you flight plan properly.



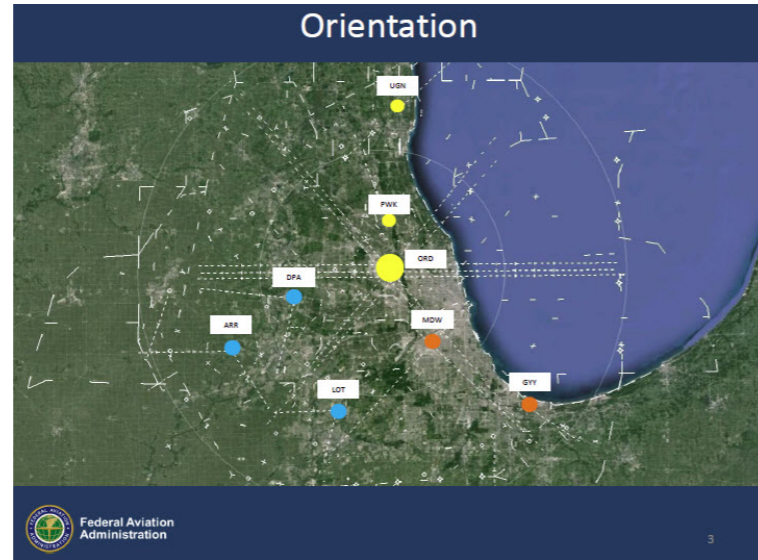


# Racine EAA Chapter 838

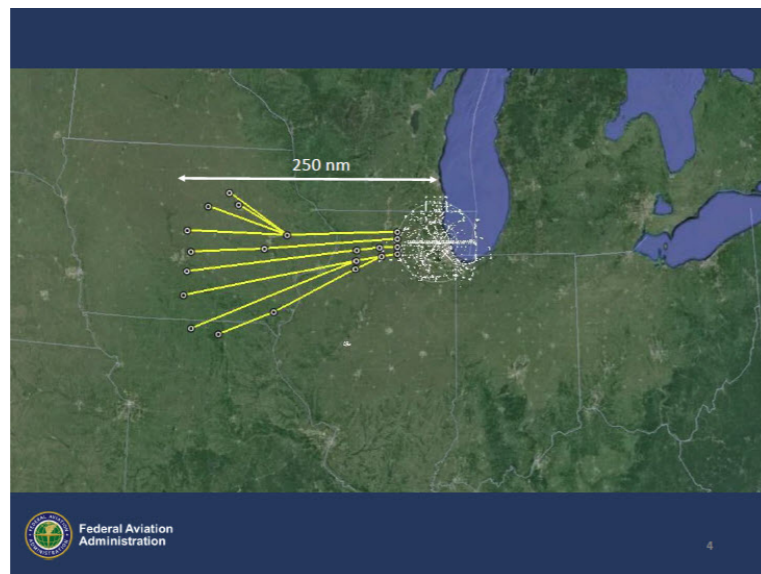
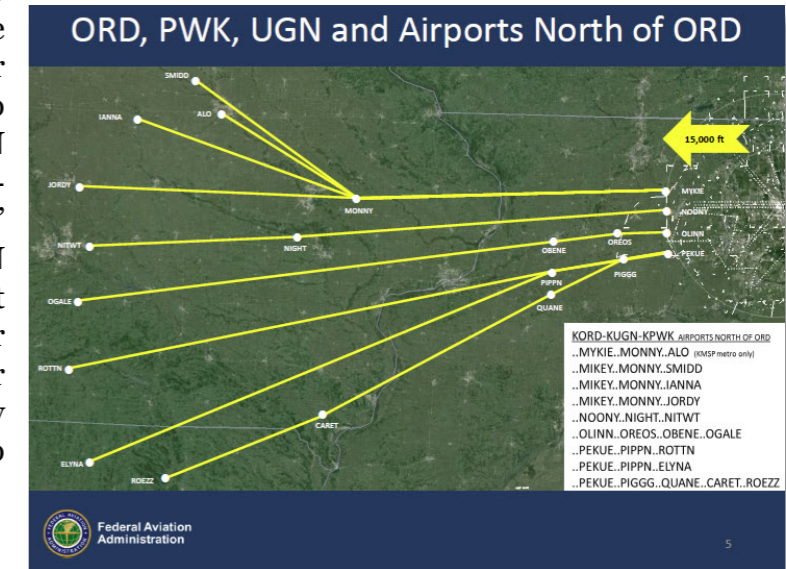
# NOTAMS

Meetings  
 Third Thursday's 7:00 pm  
 Social 6:30 pm  
 October 2013  
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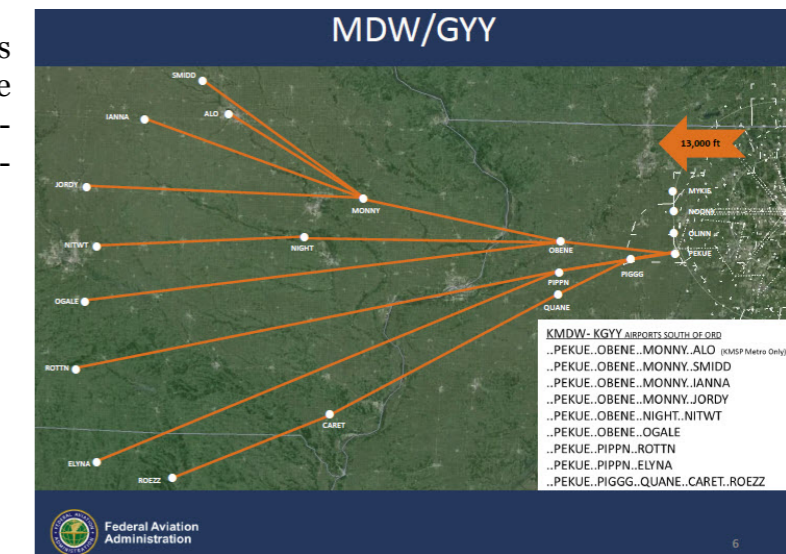
**ARR/DPA/LOT** – These airports will utilize the OBENE1 SID. They will enter at OREOS and transition to all the other routes past OREOS and will be flown at 10,000' ALL Airports – the ALO transition must be used when going to KMSF. The PIGGG intersection is only used for the ROEZZ transition not for the ELYNA so make sure you flight plan properly.



may cause the destination airport to be dropped from your route. Once airborne, if filed over the MYKIE or NOONY routes you will be sent to those fixes. If utilizing the OLINN or PEKUE routes you will be vectored on a 270 heading at 15,000' until passing NOONY and OLINN and then sent on course to the next fix. ATC will not change whatever route you file except for weather or an emergency so prepare carefully and plan to be on the departure to the end.



**MDW/GYY** – These two airports will only utilize the PEKUE entrance fix and transition to the other departure routes further down. These departures will be flown at 13,000'.



**KPWK, KUGN** – These two airports will use the MYKIE, NOONY, OLINN and PEKUE routes. You are allowed to file any route to any destination for wind or weather advantage. When filing the departure you want to fly, file ALL of the fixes on the route chosen to the end or it will be kicked out of the system and the destination airport will be lost. Do not file any unnecessary remarks in your flight plan as it



**South Departures** – The JORJO and MONKZ SID's will be published for KPWK and KUGN. The PWK2 departure will hardly be used but the CABAA Visual is still available. Also if you are departing on 16 and can cross ORD at 5,000 to maintain 6,000 you can still ask for this. It will depend on the configuration at ORD.

All of these departures look very intimidating but you must remember that an airplane departs from only one airport and flies only one route when departing the Chicago area. The purpose of SID's is to handle all runway departures in the airports in the Chicago metropolitan area, in actuality it reduces communications, improves safety, and reduces ATC and crew workloads. The most difficult piece of the puzzle is taxiing out to the runway at O'Hare, you better have pencil and paper ready before requesting to taxi.

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**PWK added to JORJO & MONKZ SIDs**

PWK 2 SID: Usage should be seldom.

JORJO/MONKZ SID's: Departures may be put on the procedure south of "JILYN" and "ZYDEK" at times.

Federal Aviation Administration 10

**Arrivals**

Federal Aviation Administration 12

## Cockpit Concepts Aviation Citizenship

By Bob Jenny

When we first start flying our focus is on the personal challenge. We concentrate on achieving milestones and strive to obtain ratings. During the process there are triumphs and occasional downers, but we persevere and become reasonably competent at what we do. It is an occasionally humbling but satisfying journey.

Along the way we develop a greater appreciation of aviation and the meaning Pilot in Command. It's no longer a test question. From the FARs, "The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." A simple but powerful statement. While we may be granted the authority, we also come to realize the attendant obligations. The underlying thought, "I am accountable," is always with us. We prepare ourselves for the realities of flight and continue to learn through our own experiences and our interactions with mentors and peers. We value and protect our integrity and accept responsibility for our actions. We gain confidence and have the courage to do what we know is right. In other words, as PIC we willingly accept the authority granted us.

As aviation citizens, we are grateful for the personal freedoms and privileges that aviation provides. The most recent FAA Safety Briefing (September/October 2013) expands on this concept of aviation citizenship and can be read at [http://www.faa.gov/news/safety\\_briefing](http://www.faa.gov/news/safety_briefing). Let me encourage a thorough reading of these articles. My favorite, of course, is "Guarding the Privilege" by our colleague Bruce Mayes who provides illustrations and practical advice to all who fly.

### Improve and Share

By Bob Jenny

In an NBAA Air Mail posting, contract pilot Nat Iyengar summarized his philosophy as an professional aviator as follows:

"What is required of you as an aviation professional is that you improve yourself every day, strive to be a better aviator, and everything that you learn, share it openly with the other aviation professionals in the business aviation community. Improve and share!"

AND:



Racine EAA Chapter 838

# NOTAMS

Meetings

Third Thursday's 7:00 pm

Social 6:30 pm

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[www.Eaa838.Org](http://www.Eaa838.Org)

“Don't worry about proving yourself just improve yourself! You can get better results a lot faster by focusing on improving rather than proving. You'll learn more by sharing than by hoarding. The quickest way to learn is to trust and share rather than compete.”

Nat bases these statements on the career of Dewitt Jones, a professional in a different field, but a career that requires similar dedication to continual improvement and excellence. Nat continues:

“Dewitt Jones a National Geographic (NG) photographer and a keynote speaker was given a gift of advice by his new boss when he first began shooting for the magazine. He was told that if you work here, you're part of a team of photographers that are the best in the world. You don't have to prove yourself, not to me or to the other photographers. What is required of you Dewitt is that you improve yourself every day, strive to be a better photographer, a better visual storyteller and everything that you learn, share it openly with the other photographers at the NG. Improve and share; if you do that, you'll do fine. If not, you won't work here long.

“Throughout Dewitt's career with the NG, Dewitt kept reminding himself; don't worry about proving yourself just improve yourself! He discovered that he got better results a lot faster by focusing on improving rather than proving. He learned more by sharing than by hoarding. The quickest way to learn is to trust and share rather than compete. Good advice. Pass it along.

“I encourage you to visit Dewitt Jones' website (<http://www.celebratewhatsright.com/film>) to become inspired by his motivational message to see the extraordinary from the ordinary in life. Are you looking at life through the right lens? Click on 'Celebrate What's Right With The World – The Film.' You will not be disappointed.”

Many thanks for sharing, Nat. You have done us all a service by introducing Mr. Jones' leadership principles and by further applying these concepts to the cockpit.

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# Racine EAA Chapter 838

# The People

Meetings  
Third Thursday's 7:00 pm  
Social 6:30 pm

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## Welcome

### New Chapter Members

Rebecca Schmitt	September 2013
Bill Myers	June 2013
Bill Schalk	June 2013
Michael Ratchford	May 2013
Merritt Adams	Feb 2013
Michael Arts	Feb 2013

### EAA Chapter Distribution

Chapter 18	Milwaukee
Chapter 217	Kenosha
Chapter 414	Waukegan
Chapter 572	Fond Du Lac
Explorer Post 218	Racine
Steve Hedges	AOPA

### Sean's Answer

Early boats that were pulled ashore at night through surf did not have a rudder at the stern. The "steering board" (or 'starboard' with the right accent) was near the stern on the right side. However, when docked alongside a pier, the steering board would always be on the side away from the pier. Hence the left side was known as the "Port" side.

## Monthly Meetings

Boards Meetings	Second Thursdays	7:00 pm
Chapter Meetings	Third Thursdays	
	Social	6:30 pm
	Meeting	7:00 pm
Shop Night	Every Monday	7:00 pm
Explorer Post 218	Second Thursdays	7:00 pm
	Fourth Thursdays	7:00 pm
Young Eagles	Second Saturday	9:00 am
	(March - November)	

## Upcoming Meetings & Speakers

Oct 12 <sup>th</sup>	Chapter Event	<u>Monopoly Night</u>
Oct 17 <sup>th</sup>	Rob Madson & Bill Coolbaugh	<u>Helicopter Flying</u>
Nov 21 <sup>st</sup>	Eric Whyte	<u>History of The AirVenture Cup Races</u>
Dec 6 <sup>th</sup>		<u>Christmas Party</u>
Jan 17 <sup>th</sup>		
Feb 21 <sup>st</sup>		
Mar 21 <sup>st</sup>		
Apr 17 <sup>th</sup>		
May 15 <sup>th</sup>		
Jun 19 <sup>th</sup>		
Jul 17 <sup>th</sup>		
Aug 14 <sup>th</sup>		
Sep 18 <sup>th</sup>		
Oct 16 <sup>th</sup>		
Nov 20 <sup>th</sup>		
Dec		

## Officers

President	Eric Wolf	262-989-9653
Vice President	Daryl Lueck	414-333-4228
Secretary	Tracy Miller	847-420-5098
Treasurer	Steve Jenkins	262-681-2491
Foundation	Steve Myers	262-681-2528

## Directors

Jim Hantschel	262-637-3376
Phillip Fountain	M 414-803-5357
Ken Sack	262-554-9714
Roy Stuart	262-884-0371
Jim Senft	262-758-2189
Tony LoCurto	262-412-0019

## Committee Chairpersons

Programs	Rick Goebel	M 262-886-4171
Monday Shop	Jerry Bovitz	262-639-8583
Librarian	Eddy Huffman	262-639-8301
Membership	Ken Sack	262-554-9714
Newsletter		
Publisher	Phil Fountain	M 414-803-5357
Young Eagles	Tracy Miller	847-420-5098
	Chapter Building	262-634-7575