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DECEMBER 2015/JANUARY 2016

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Scholarships for AV8RS

Some people come to aviation later in life, often after they've achieved success in their careers and have the time and resources to fly. Others discover a passion long before they're old enough to earn a certificate. Often, the difference is simple—exposure.

That's why AOPA created the AV8RS program for teens aged 13 to 18. We want teenagers from all walks of life to discover aviation, become part of a community, and let their dreams take flight.

Despite their youth, many AV8RS are very clear about their goals—they want to fly, they want careers in aviation or aerospace, and they're prepared to work extremely hard to make it happen.

I'm proud that AOPA can help these dedicated young people achieve their ambitions. Not only does the program offer support in the form of information, education, and community, in 2015 with the help of the AOPA Foundation we were able to award four AV8RS scholarships together worth more than $22,000.

Eighteen-year-old Allison Adams spends Saturday mornings volunteering on aircraft maintenance projects. She's a new private pilot pursuing an Aviation/Pro-Flight degree at Eastern Kentucky University, and she'll use her scholarship for tuition.

For Nicholas Remele, learning to fly airplanes is just the beginning. He wants to design the next generation of military aircraft and is pursuing a degree in aerospace engineering at Arizona State University. His scholarship will help with tuition.

Dylan Kuchan wants to be an airline pilot and hopes to attend the University of North Dakota. But for now, the Arizona high school senior will use his scholarship for primary flight training.

For 17-year-old Jason Preston, aviation is a passion to be shared. The Pennsylvania high school junior founded an aviation club and has already soloed. He will use his scholarship to complete primary flight training.

It's satisfying to know that the next generation of aviation leaders is already taking to the skies. If you know a teen who wants to learn more about aviation, invite them to become an AOPA AV8R. Membership is free and just might set your teen on a path to the flight levels.

Mark R. Baker
President & CEO, AOPA

*For more information on the Aircraft Owners and Pilots Association and the issues that affect your flying go to **www.aopa.org** today.

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ON THE COVER: A Super Cub on wheels lands on a frozen lake in northern Minnesota. *See "Ask Pete" on page 8, and the "Iceport 2016" advertisement on page 14.*

Brad Thornberg Photo

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Aircraft Maintenance Must Be A Team Effort!

by Dave Weiman

There is no professional in aviation I admire more than the aircraft technician. I am amazed each time I do an owner-assist annual inspection as to how much they know, and how skilled they are. So much, I am literally willing to put my life in their hands.

Yet, as aircraft owners, we are ultimately responsible for the maintenance of our aircraft. That covers all of the mandatory inspections and maintenance to maintain airworthiness. The problem is, how many of us know all of the regs? Answer: Very few.

So we either go to A&P school and review technical bulletins and airworthiness directives (ADs), or we establish a "partnership" with our aircraft technician, which can benefit both of us.

Such a partnership begins with "trust." We have to depend on our aircraft technician to tell us what needs to be done now, and what should be done in the future. A *must do list,* needs to be in writing as a reminder to both of us, so we complete the tasks when due.

For instance, the biennial instrument check is due next month, or the ELT battery needs to be replaced this year at annual, or the magnetos need to be inspected in another 50 hours, possibly before the next annual. Without such lists, we are risking life and limb, needlessly. ❑

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November 1	December - January
January 1	February - March
March 1	April - May
May 1	June - July
July 1	August - September
September 1	October - November

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Index To Advertisers

EAA Volunteer, Raymond S. Scholler

April 14, 1918 - September 20, 2015

RANDOM LAKE, WIS. – Longtime member of the Experimental Aircraft Association (EAA), Ray Scholler, 97, passed away, September 20, 2015. Camp Scholler on the EAA grounds at Wittman Regional Airport, Oshkosh, Wis., was named after him and his wife, Bernice, in 1988. In addition, the Schollers' family printing company, Times Printing in Random Lake, Wis., once published all of the EAA publications, and Ray, Bernice and their daughter, Judy, have managed EAA Theater In The Woods for decades.

Ray Scholler served on the EAA Board of Directors and was International Vice President for over 40 years. He especially enjoyed working at the Reno Air Races with EAA Founder Paul Poberezny and his wife, Audrey, who the Schollers considered to be their best friends.

The Schollers were co-owners of several airplanes, but loved their own Beechcraft Debonair "Debbie" (N918T), the most.

Ray Scholler is survived by his four children: Judy (Bill) Mueller, Random Lake; Jack (Dawn) Scholler, Random Lake; Jean (Don) Vetter, Random Lake; and Jim (Brenda) Scholler, Cedar Grove; 12 grandchildren; 20 great-grandchildren; and his sister-in-law, Betty Reul, Random Lake. His wife, Bernice, his parents, and many other family members, preceded Ray Scholler in death. ❑

(L/R) Ray Scholler with EAA Founder Paul Poberezny working together on the EAA Fly-In in Rockford, Illinois in the 1960s.
EAA Photo

Ask Pete!

by Pete Schoeninger


Pete Schoeninger

Q: How deep of snow can I safely land my Bonanza in?

A: That depends on snow conditions. Snow can be powder, or wet heavy slop, or frozen on top, or other conditions. I have landed in powder snow 2-3 inches deep without a lot of problems, but after a day or two of melt/freeze, I would not think of doing so. Always best to inquire about runway conditions before landing on a runway in the winter. If there is snow on the runway, try and find out if anyone has recently used it, and if they reported braking conditions. Also, be cautious landing in drifting conditions, both for reduced visibility and snowdrifts.

Q: Is it legal to land on lakes in the winter?

A: Sometimes local – or even state – authorities will restrict or ban frozen lake landings. There may be an ordinance specifically addressing the issue, or a speed limit, which you would exceed landing or taking off. Check with local pilots, and be sure to walk the area you are going to land on if possible before proceeding. Ruts from snowmobiles or other vehicles could be a real problem for an airplane. Also, remember your brakes are nearly useless on ice, and beware of snowmobile drivers who want to race you on takeoff or landing. Winter fly-ins held on lakes can be fun, but caution should be exercised when landing, taking off and taxiing, again due to poor braking action, multiple movements on the runway and taxiways, and increased pedestrian traffic.

Q: I've read some incident reports about airplane accidents that the pilot attributed to engine failure, yet FAA maintenance personnel were unable to find a cause. Comments?

A: If the airplane has a carburetor (not fuel injected), I would bet the issue was carburetor ice. After a forced landing due to carburetor ice, the ice will melt if temps are ever above 32 degrees Fahrenheit. Sort of the perfect crime! Or.....it's possible the pilot attempted an off-airport landing and when he ended up damaging the aircraft due to his poor judgment, he blamed it on engine problems.

Q: I have found an airplane that seems to be just what I am looking for (middle-aged Cessna 182), but it is 900 miles away. My mechanic wants two days pay and travel expenses to look at it and I don't want to spend that much money on a pre-purchase inspection. The price is $10,000 less than any competitive airplane, so I am tempted to buy it immediately, anyhow. What do you think is my best course of action?

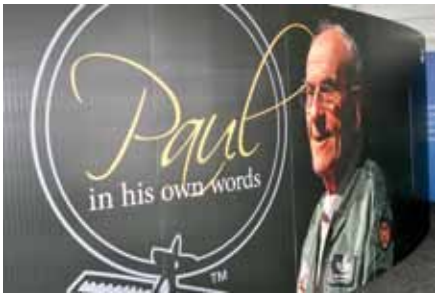
A: If that airplane is that much of a deal, someone will grab it right away. If it has been for sale for a while, the "locals" know something about it that you don't. Surely, there are many 182s for sale closer to you. To pay your mechanic for a couple of days to travel and look at an airplane on your behalf, is cheap insurance. I recommend that no one buy an airplane without a mechanic of their choice looking at it.

EDITOR'S NOTE: Pete Schoeninger is an aviation consultant and aircraft appraiser who lives in Wisconsin. He is an experienced fixed base operator, aircraft salesman and airport manager. Email your questions about all things aviation to: **Pete.Harriet@gmail.com**. For assistance with aircraft appraisals or fixed base operator and airport management consultation, call **262-533-3056**. Any answers provided in this column are the opinion of the author and not necessarily this publication, or its editor, publisher, owners and affiliates. ❑

Paulisms by Paul Poberezny

(September 14, 1921 – August 22, 2013)

Paul H. Poberezny founded the Experimental Aircraft Association (EAA) in 1953 and spent a significant part of his life promoting aviation and fighting for the freedom to fly. Paul was an aviator and aircraft designer, but more than that, he was a leader.



With the permission of EAA and the Poberezny family, we are proud to present to you one of many "Paulisms" – actual quotations from Paul that embody his beliefs, his legacy, and his impact on EAA and its members. We hope you enjoy them in remembrance of this great man, and take his comments to heart.

FREEDOM: ***"EAA members discover the possibilities of using hand and mind to explore that great ocean of air above us."*** ❑

5TH ANNUAL

MINNESOTA AVIATION

DAY AT THE CAPITOL

On Wednesday, March 16th, 2016, the aviation community will come together at the Minnesota State Capitol to visit with their state senators and representatives to tell them how important aviation and their local airports are to their constituents and to their communities.

Anyone actively involved in aviation in Minnesota and who believes in the importance of his or her local airport is encouraged to participate.

AVIATION WORKS FOR MINNESOTA

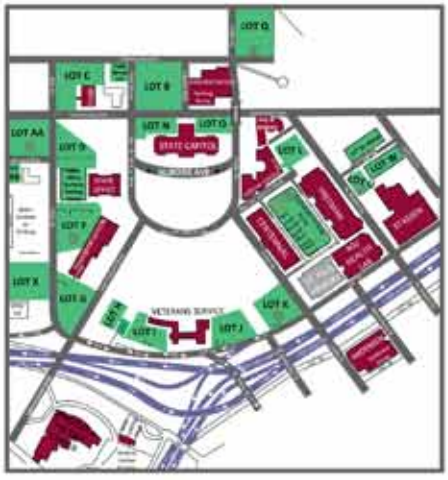
EVENT SCHEDULE

0900 KICK OFF BREAKFAST

0930-1145 LEGISLATIVE MEETINGS

1200 BOX LUNCH AT CAPITOL

1245 -1430 HOUSE TRANSPORTATION COMMITTEE MEETING



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When Is A Touch-And-Go Landing, Not A Landing?

by Gregory J. Reigel
Attorney At Law


Greg Reigel

As pilots, we all know that with every takeoff we perform, at some point after that takeoff, a landing will occur, some better than others. This is true whether we are flying to a destination or simply performing touch-and-go takeoffs and landings in the local pattern. However, the term "landing" may mean different things in different contexts.

For example, in a recent decision issued by the National Transportation Safety Board (NTSB), *Administrator v. Boylan,* the Board determined that a touch-and-go landing did not qualify as a "landing" for purposes of determining compliance with 14 C.F.R. § 91.151(a)(1). The case involved a round-trip flight in which the airman departed from his home-airport with the intention of performing touch-and-go's at two other airports before returning to his home-airport. Unfortunately, after performing the touch-and-go's at those two airports, the airman was unable to make it back to his home-airport due to fuel exhaustion and the flight terminated in an off-airport landing.

Naturally, the FAA was not pleased. The FAA initiated an enforcement action to suspend the airman's ATP certificate for a period of 120 days for the airman's alleged violation of 14 C.F.R. §§ 91.103(a) (failure to become familiar with all information regarding the proposed flight), 91.151(a)(1) (day VFR fuel minimums requiring enough fuel to fly to the "first point of intended landing" and for another 30 minutes) and 91.13(a) (careless and reckless). The airman appealed the order of suspension and after a hearing, the Administrative Law Judge ("ALJ") determined that the airman failed to adequately preflight the aircraft because he did not ensure the aircraft contained sufficient fuel for the flight. As a result, the ALJ found the airman violated §§ 91.103(a) and 91.13(a).

However, in a surprise decision, the ALJ concluded the airman did not violate § 91.151(a)(1) because his touch-and-go landing at the first airport was a landing that occurred at the airman's "first point of intended landing." As a result, the ALJ reduced the suspension of the airman's ATP certificate to 105 days. Not surprisingly, the FAA appealed the ALJ's decision to the full Board.

On appeal, the FAA argued the ALJ's determination that a touch-and-go qualified as a landing for purposes of § 91.151(a)(1) was in error. The FAA also argued the ALJ should have deferred to the FAA's interpretation of the regulation. The Board agreed with the FAA and concluded "first point of intended landing" in § 91.151(a)(1) is "the point at which the aircraft finally comes to rest."

In support of its decision, the Board stated: The Administrator could not achieve the safety purpose of reducing the risk of fuel exhaustion accidents if an operator only needed to have sufficient fuel to conduct a touch-and-go, as well as fly for an additional 30 minutes, notwithstanding the duration

of the remaining flight before the aircraft finally comes to rest.

The Board also rejected the ALJ's reliance upon 14 C.F.R. § 61.57 (recent flight experience: pilot in command) and observed that "[what constitutes a 'landing' or 'landing to a full stop' under § 61.57 does not define what would constitute the 'first point of intended landing' under § 91.151(a)." It further disagreed with the ALJ's finding that a touch-and-go landing marks the end of one flight and the beginning of a new one. Rather, the Board found such an interpretation would be illogical because a pilot performing a touch-and-go doesn't have a chance to perform a preflight checklist or visually inspect the fuel tanks before the aircraft takes off again.

Additionally, the Board observed that if the ALJ's interpretation were correct, then

§ 91.151(a)(1)'s fuel requirement would begin anew with each touch-and-go takeoff. As a result, even under the ALJ's interpretation, in the case before it the evidence still supported the airman's violation of § 91.151(a)(1) because the off-airport landing due to fuel exhaustion showed that he did not meet his fuel reserve minimums when he departed his second and third airports. Thus, the Board reversed the ALJ's decision regarding the § 91.151(a)(1) violation and reinstated the 120-day suspension of the airman's ATP certificate.

So, what can we learn from this case? Well, the obvious answer is to make sure we have enough fuel for our intended flight in compliance with the applicable regulations. The not-so-obvious answer is that a "landing" isn't always a "landing." Not particularly helpful, I know.

However, this not-so-obvious answer highlights the importance of understanding not only individual regulations, but also the distinctions between the regulations. Although it may seem reasonable to think that the language of one regulation should mean the same thing in the context of a different regulation, that isn't always the case, unfortunately. As airmen, we all need to understand the meaning of each regulation applicable to our flights in order to operate in compliance with the regulations and safely.

EDITOR'S NOTE: Greg Reigel is an attorney with Shackelford, Melton, McKinley & Norton, LLP, and represents clients throughout the country in aviation and business law matters. For assistance, call 214-780-1482, email greigel@shackelfordlaw.net or Twitter: @ReigelLaw. ❑

Utilizing Technology & Basic Pilot Skills Together

by Michael J. "Mick" Kaufman


Michael Kaufman

In the last issue of *Midwest Flyer Magazine,* I wrote about the heading indicator and magnetic compass. In this issue, I am going to write about the "attitude indicator" with further emphasis on the pitot-static system, air-data computers and flight directors.

A perfect example of technology failure and pilots not being properly trained to handle the situation, comes to light in the 2009 crash of Air France Flight 447 from Rio de Janeiro, Brazil to Paris, France. The Airbus A330 plummeted 38,000 feet into the Atlantic Ocean in just 3 minutes and 30 seconds because the pilots lost vital airspeed data and the aircraft stalled. All 228 passengers and crew onboard were killed.

I recently was privileged to see the movie "Pilot Error" at a local theater that was based on this tragedy.

From the aviation side of this motion picture, I found it to be one of the most technically correct aviation films I have ever seen. A majority of the film was produced in Wisconsin and the highlight of the performance was the opportunity to meet the technical consultant and the co-star at the conclusion of the showing. The technical consultant (Robert Hesselbein) from Madison, Wisconsin, is an airline pilot, currently flying the Airbus for Delta Airlines. Hesselbein's comments at the conclusion of the film were priceless.

This accident and several other high-profile airline and general aviation accidents have occurred because technology has failed, and the pilot did not know what to do. The Air France accident was the direct result of an iced-up pitot tube feeding an air-data computer with false information, which was displayed on the flight director. Many pilots who experience general aviation accidents have some of this equipment in their aircraft, and they have no idea how it works or how to use it.

Let's start with a typical instrument panel of a general aviation aircraft from two decades ago. The flight instrument panel consisted of airspeed, altimeter, turn coordinator, heading indicator and attitude indicator. These basic flight instruments were required for instrument flight and consisted of pitot-static instruments, gyro instruments and a magnetic compass. The pitot-static instruments were airspeed, altimeter and an optional vertical speed indicator. The pitot-static group remains basically the same as it did 20 years ago, but we have integrated some sophisticated computers to allow us the opportunity to better manage the data (air-data computer).

The gyro instruments provided us a heading reference (heading indicator) that was superior to the magnetic compass. The attitude indicator allowed us to see if the aircraft was pitched nose up or down and if the wings were level or banking. These two gyros were typically driven by an air or vacuum pump on the engine. Should the pump fail in flight, we would lose these instruments and would need to use an electric-powered turn coordinator. This was one of a pilot's worst fears while flying in IMC conditions.

As our technology changed, pilots began installing backup flight instruments for these failures, and our dreaded partial panel flying skill deteriorated to the point that most pilots cannot fly a "needle ball and airspeed approach."

I do not remember when I saw my very first flight director, but like a lot of pilots who have them today, I did not know the proper method to use one. All flight directors that I have seen are associated with an autopilot.

I like to describe a flight director as the smart part of an autopilot. So the autopilot could be considered the dumb part of the system. The autopilot part of a flight director system consists basically of the servos (muscle) and part of the electronics that tell them what to do. Other than professional pilots flying GA aircraft, I find that most GA pilots do not know that they can become the muscle and follow the command bars provided by the flight director. In the professional pilot vocabulary, we can refer to "flying autopilot," "flying flight director" or "flying raw data" – raw data being with the flight director command bars stowed or off. I will refer to raw data in numerous locations in this article.

A number of years ago, I provided instrument training for a pilot in a Bonanza who had a flight director that worked perfectly, but the servo portion was not working properly. He became one of the best flight director pilots I have ever flown with, and his muscles got a good workout each time he flew.

I mentioned earlier that many GA pilots do not know that

they do not properly understand the flight director and cannot hand fly an approach using the command bars.

As a demonstration for my students, I will cover up all of the instruments in the aircraft except the attitude indicator (flight director) and altimeter and hand fly an ILS approach. I do this once established on the glide path and localizer. Airspeed is a function of pitch, power and configuration, which we should have learned "flying by the numbers." The flight director provides both the vertical and horizontal information, so we do not need the heading indicator or HSI. The altimeter that we did not cover up provides the decision height or altitude. Many pilots who previously did not know how the flight director worked, can now appreciate how valuable it is in the cockpit.

E-6B manual flight computer.

The basic flight director does not have altitude pre-select or an air-data computer associated with it as did the one involved in the Air France accident. To better understand air-data computers and the information they provide, we need to go back to the E-6B "wiz wheel" computer of yesterday (Fig 1). I can imagine that pilots who learned to fly in this decade may have never seen one.

One of the functions of the E-6B was to be able to determine true airspeed (TAS). To find TAS, we need indicated airspeed (IAS), aircraft altitude, and outside air temperature. Using the E-6B, we plug in that information and we have true air speed. We can also find what the wind direction and velocity were at the altitude we were flying using the E-6B manual. The air-data computer provides us with an electronic and instantaneous method of finding all of that information during a flight.

When I first had the opportunity to fly the UPS Technologies CNX80, which became the Garmin 480 later on, I was amazed to watch the box perfectly fly a holding pattern in a strong crosswind when coupled to a GPSS-equipped autopilot. This was due to the fact that there was an air-data computer providing the wind direction and velocity to the

box. The Garmin 430/530 did not have this capability unless there was an air-data computer option installed. For the Air France accident, the fact that one component of the air-data computer system failed (airspeed), caused the flight director to provide invalid information, and the flight crew could not manually adjust for the problem. It was pointed out that if the pilot(s) would have gotten rid of the command bars and flown "raw data," this catastrophe may have been avoided.

The movie was called "Pilot Error," and after the cause of the accident was determined, the "iced pitot tube" scenario was incorporated in the simulator training for flight crews flying this aircraft. A majority of the flight crews reacted the same way to the erratic flight director as the Air France crew did, according to Robert Hesselbein.

If we remember from our primary training for an instrument rating, an iced-up or inoperative pitot tube will cause the airspeed indicator to behave as an altimeter. As we descend or put the aircraft into a dive, the airspeed will show a decrease due to trapped air in the instrument aneroid, compared to an increase in static pressure in the instrument case. The reverse is true in a climb. This is one lesson I learned very well, as I forgot to turn on the pitot heat during my instrument checkride, which was done in real IMC and icing conditions in the early 1970s. I figured this out on my own, as the pilot examiner grinned from the right seat.

There is a lesson that all GA pilots can learn from the movie "Pilot Error." It is important to know your aircraft systems well, whether we are flying standard round gauges (6 pack) or a sophisticated system with a flight director and an air-data computer.

In a power-point presentation I am giving on aviation accidents and safety, four points that contribute to an accident are Skill, Knowledge, Judgment and Luck or the lack of one or several of them. I will elaborate on them in a future article in *Midwest Flyer Magazine,* but Knowledge, or the lack of it, was a major factor in "Pilot Error."

Go see the movie "Pilot Error" when it plays at a theater near you, or you may go to the website and order it on DVD. The movie will entertain you and your family and get you thinking about the knowledge you have or don't have about the equipment in your aircraft.

If you are unsure about the operation of your system, get some training from an expert. You may even find a glitch in your system or an improper installation.

EDITOR'S NOTE: Michael J. "Mick" Kaufman is a Certified Instrument Flight Instructor (CFII) and the program manager of flight operations with the "Bonanza/Baron Pilot Training" organization. Kaufman conducts pilot clinics and specialized instruction throughout the U.S. in a variety of aircraft, which are equipped with a variety of avionics, although he is based in Lone Rock (KLNR) and Eagle River (KEGV), Wisconsin. Kaufman was named "FAA's Safety Team Representative of the Year" for Wisconsin in 2008. Email questions to captmick@me.com or call 817-988-0174. ❑

IMC Programs Now Available To EAA Members

OSHKOSH, WIS. – A newly formed Experimental Aircraft Association (EAA) subsidiary and IMC Club International, Inc., have entered into a license agreement that will provide IMC flight proficiency programming to EAA and its chapters around the world. The license agreement will result in IMC Club's chapter resources and offerings being created and distributed as new programs produced by the EAA subsidiary "EAA IMC, LLC" to EAA chapters and members. As a result of the agreement, IMC Club's 2,350 members will become EAA members immediately, and IMC's 126 chapters will be encouraged to merge with EAA chapters. ❑

VENUE: ICEPORT 2016 Fly-in Breakfast/Lunch
DATE/TIME: March 5th, 2016 10:00 A.M - 3:00 P.M. (Drawings @1 p.m.)
LOCATION: Twin Pines Resort www.TwinPinesMilleLacs.com
CONTACT: Mark Priglmeier (320) 200-8050 CreateLift@gmail.com

Mexico Extends 406 MHz ELT Requirement

MEXICO CITY, MEXICO – The deadline for the installation of fixed 406 Mhz ELTs on piston-powered private aircraft with a maximum takeoff weight of less than 12,566 lbs has been extended to June 30, 2018. The extension was one of the key points on the agenda presented by the Aircraft Owners & Pilots Association during a March 2015 meeting with Mexico's Directorate General of Civil Aeronautics. ❑

Traffic Patterns & Rube Goldberg

by Harold Green


Harold Green

Some of us remember when the name Rube Goldberg conjured up visions of unduly complex contraptions designed to accomplish some simple task with a level of complexity that was mind-boggling.

For example, to turn on a light switch, a ball might be started down an inclined plane, thereby falling onto a lever, which triggers a bucket of water to tip and start a waterwheel moving, which in turn drops a steel ball onto the latch of a cage containing a mouse which then runs free causing a cat, with a string attached to its tail and the light switch, to chase after it, which in turn turns on the switch. Unduly complex, yet humorous in its absurdity: At least in part because it would seem to do the job.

Well, we seem to have such a thing in aviation. It's called a traffic pattern at a pilot controlled airport. We have airplanes of many sizes and performance capabilities, arriving from all points of the compass at random intervals. In this situation, most folks realize the need for communications with their fellow pilots and generally do so. However, some call in from 10 miles out and continue to let us know every mile where they are and at what altitude and what their intentions are. Others wait until they are about to enter the pattern to make their initial announcement. Some pilots give us enough information to judge the performance of their aircraft and some do not.

The issue is made even more "Goldbergian" by the fact that the regulatory definition of a traffic pattern simply, and only, says all turns will be to the left unless otherwise specified. The Airman Information Manual (AIM) does define the portions of the pattern as Upwind, Downwind Base, and Final. (4-3-2 and 4-3-3). Pattern altitudes are currently at 1,000 feet above ground level (AGL) unless otherwise specified. (Used to be 800 feet, but that changed some years ago.) Another thing, there is no standard definition of where the pattern begins. The rules also say that the aircraft at a lower altitude has the

right of way (FAR 91.113g), except that it "shall not take advantage of this rule to cut in front of another (aircraft), which is on final approach to land or to overtake that aircraft."

Entering the pattern can also create issues. The FAA recommends entering downwind at a 45-degree angle, midway along the runway of intended landing. Sometimes this may not be the best way. At times a normal or midfield crosswind entry makes more sense. The determining factor is where the incoming aircraft is relative to existing traffic. I suggest the best way is the one, which minimizes potential conflict with other traffic, while affording the best view of other aircraft in the pattern.

What makes this even more fun is the way we usually call in. Typically, we say something like "Piper 12345, 5 miles west, landing Morey Airport." The basic problem here is that we don't know what model of Piper aircraft it is. It could be a Meridian, Tri-Pacer, Cheyenne or Cub. This makes a difference in how we respond to the flow of traffic.

BTW, those who have not kept up with their radio phraseology should be advised that the FAA does NOT like the phrase *"Any traffic in the area, please advise."* (Reference AIM Par. 4-1-9g.)

A classic incident happened a few years ago as I was on midfield downwind when a pilot announced: "North American, 7 west on downwind for 28." North American made quite a few airplanes including a Navion, two versions of four-place airplanes of their own design, T-6s, and T-28s. I expected to rule out F-86, B-25, B-45 and X-15. I also figured it was probably not a P-51. As the aircraft slid by me 50 to 100 feet below, I saw that it was a high-performance trainer. (The guy in the backseat was wearing white socks.)

Some pilots have taken to identifying their aircraft by color, make, model and N number (Red and White Cessna Skylane N950XX). This actually makes sense to me. I know how fast and the color helps me spot it. Some folks at our airport have taken to referring to their airplane as Yellow Cub.

Prior to entering the pattern, wouldn't it make more sense to state how long until arriving, rather than how far away we are? Maybe we could do both. At my airport, it takes about 6 minutes to do a touch and go cycle in a Cessna 172. Thus, if I know that "Super Wing Five" is 10 minutes out, I could plan my pattern accordingly.

Then comes the question of who has "priority." The pilot who states "On a 7-mile final" poses a priority question. Is this pilot claiming priority in the pattern or simply stating position? According to the FAA, the "aircraft at the lower altitude has priority." If there appears to be the possibility of two aircraft occupying the same airspace at the same time, it is appropriate to avoid that possibility by any of several means.

If on downwind, you could just extend the downwind until Super Wing passes on final or you could just leave the pattern until things settle down. Often you find yourself on downwind, or just about to turn downwind, when someone you never heard from before announces that they are on downwind for the same runway as you. It is entirely appropriate to say, "Aircraft on downwind, please state your position." Obviously, since you always announce your departure and turn to downwind, this person has not been listening to the common traffic advisory frequency. What you do then depends on the details of what you learn from your query.

Whenever there is a question of possible conflict, it is wise to run from the situation.

As you run from possible conflict, remember that you may not be able to see everyone. The best thing, after telling everyone your intentions, is to make sure the air you are going to use is clear before changing heading and/or altitude. The basic theory is: You cannot control what the other person does, but you can control what you do. Therefore, get out of the danger area until the situation resolves itself.

Remember to tell the traffic in your area what you are doing so they can look for you. The question of who has the right of way is best discussed over a cup of airport coffee, rather than in the air or on the radio.

Then there are those pilots who start announcing their position 10 miles out as suggested by the FAA, but then keep reminding you every mile as they come closer. While their enthusiasm is to be appreciated, this does tend to distract from other communications unless there is a traffic-related reason for frequent updates.

Another instance of concern is when shooting an approach into a pilot-controlled airport. Stating that you are at the final approach fix for runway XY conveys absolutely no information to the novice pilot in the pattern, even if you give the name of the fix. It makes much more sense to state where you are and what your intentions are relative to

the traffic, which may be around the airport.

Then there is the question of exactly where the pattern is located. We have agreed that it is probably 1,000 feet above the airport elevation unless otherwise defined, but how far out does it extend? Obviously the pattern track is wider for a Citation than for a Cub. But how far away from the airport does the pattern extend? After not finding a definitive answer, I turned to the folks at our local Flight Standards District Office. They, too, were at a loss for a definitive answer, but we were able to conclude that 2 miles on final was about as far as it needed to go.

Obviously, there is another amorphous definition, which needs to be interpreted in the light of the actual situation. The higher the performance of your aircraft, the wider the pattern needs to be. This of course ignores the desire of some folks to execute a 180 or 360-degree overhead approach, a la military, which are really fun and, if practiced with due awareness of other traffic, are perfectly safe.

Communication skills are very important here. That does not mean just the ability to utilize the formal jargon of radio talk. The formal stuff makes communication efficient and understandable, however, equally important is the content of the communication and the clarity of expression.

Things can become quite informal by some standards, but the use of standard terminology, clarity of speech and rapidity of delivery are at least equally important.

Everyone understands Upwind, Crosswind, Downwind, Base and Final. Those position reports, along with altitudes and distances, are very helpful. One of the most important things, though, is speaking clearly, concisely and with normal rapidity. This is as important as proper formal phraseology. Clear communication makes a tremendous improvement in traffic awareness in the pattern. Neither a drawler nor a rapid speaker be!

Now please don't interpret this little tirade as being a plea for more regulations. First, while we sometimes encounter frustration with operations in the pattern, the frustrations are caused by the situation – never by each of us, of course. Second, attempting to regulate this situation would be virtually impossible, as regulators would attempt to define and address each and every situation that might arise. We are far better off with a set of general rules and a good, strong application of common courtesy. Like Rube's inventions, the current situation for the most part works very well, even if at times it is very complex.

EDITOR'S NOTE: Harold Green is a Certificated Instrument Flight Instructor (CFII) at Morey Airplane Company in Middleton, Wisconsin (C29). Readers can email questions and comments to: harlgren@aol.com or call 608-836-1711 (www.MoreyAirplane.com).

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Emery Air Celebrates 55 Years of Beechcraft Support

ROCKFORD, ILL. – President Kennedy hadn't taken office yet, and the Beatles were still a small band in Liverpool when Hartzog Aviation (now Emery Air) inked its first deal with Beechcraft as a sales and service center. The company has evolved, and Emery Air, located at Chicago-Rockford International Airport, is now celebrating its 55th anniversary being affiliated with Beechcraft.

Emery Air is the region's authorized Beechcraft service facility for Barons and Bonanzas. Emery also provides service for King Air, Beechjet, Hawker, Premier and Beech 1900 aircraft, and is certified to work on the Citation 500, Challenger 600 and Lear 40/45.

In 1985, Hartzog Aviation was sold to Beech Holdings (Raytheon Aircraft Corporation). In 2003, Emery Air Charter (which was part of the original Hartzog operation, now owned by Steve and Tina Thomas) acquired the Raytheon facility and the name changed to Emery Air, Inc. The Thomas family continues to operate the company today, and also owns Poplar Grove Airmotive (www.emeryair.net). ❑

In The Zone At Oshkosh

by Dr. John Beasley, MD


John Beasley

I fly because it releases my mind from the tyranny of petty things . . . — Antoine de Saint-Exupéry

We've all been "in the zone" – that rewarding and energizing experience of being totally immersed in some experience. Interestingly, there is not a lot written on this, but it is an important concept in practically every aspect of life.

Think back to a time when you were making that final approach… you were totally focused on what's going on with the airplane and your environment. You might also be in the zone when you are singing or playing an instrument, reading an engrossing book, or in uninterrupted interaction with another person. There are limitless examples, and I'm sure you can come up with your personal ones. The "zone" is also known as "flow." For a good overview, see: https://en.wikipedia.org/wiki/Flow_(psychology)

A related concept, for those old enough to remember the '60s and '70s (somebody said, "If you remember those years, you weren't really there"), you will recall the phrase "being in the groove." This phrase had its origins in the world of music, but the meaning really extends well beyond that – it's the "…Sensory-motor coupling or integration of the sensory system and motor system. [It] is not a static process." See https://en.wikipedia.org/wiki/Groove_(music). Being in the zone and having flow are much the same phenomena – the total, rewarding, energizing focus on some activity.

In my medical world, I can be in the zone when I'm interacting with a patient and engaging in dialogue, or doing some procedure. Delivering babies is one of the most in-the-zone activities I can think of, and like aviation, could have its moments of stark terror as well. But too much of a good thing can be a problem, too. One can, especially in times of high stress ("Gosh, where did all that ice come from?"), have excessive focus or "hyperfocus," which our industrial engineer colleagues call "tunneling." This is a situation where we focus just on one set of cues to the exclusion of others. The sad fate of Air France 447 is one example.

Many things can disrupt flow as well. In my medical world, many physicians find that the need to switch attention from the patient to the computer is quite disruptive, causing "break in task" as can happen when a call comes in or a pager goes off. In aviation, it might be a nervous passenger or a warning light.

Recently, while flying to Wausau, Wisconsin, a low fuel pressure light came on. No big problem when I sorted it out, but it sure didn't help me stay in the zone.

So what does this have to do with EAA AirVenture Oshkosh, which many of us attended this past July? Most of us who love aviation and airplanes find the total immersion in the world and dreams of aviation at Oshkosh a fine way to get into the zone. Sometimes when I'm there, I just look at the people: old grizzled veterans getting misty-eyed looking at a warbird, young entrepreneurs engrossed in explaining their latest and greatest whiz-bang thing, and the rest of us ordinary folks walking and taking it all in. I hope you enjoyed the zone at Oshkosh as much as I did. ***"I am energized.***

My soul is in the sky." — William Shakespeare, A Midsummer Night's Dream, Act V. Scene I(More excellent quotes from http://www.skygod.com/quotes/quotes.html) ❑

B-29 "Doc" Exceeds Kickstarter Goal To Fund Flight Testing

WICHITA, KAN. – Following a 30-day Kickstarter campaign, "Doc," the historic warbird that will soon become the second operational B-29 Superfortress, has achieved the additional funding needed to support its flight-test phase. On Oct. 30, 2015, Doc's Friends concluded the campaign with 1,007 backers, who pledged a total of $159,151.

The Kickstarter effort was the first attempt at crowdfunding by Doc's Friends, the nonprofit organization restoring the B-29. The group had 30 days to reach their goal of $137,500. With one week to spare, the goal was met after a sudden surge in pledges.

Doc's Friends is a 501(c)(3) nonprofit board managing the restoration of the Boeing B-29 Superfortress known as Doc (www.b-29doc.com). ❑

Unsung Heroes

by Mark R. Baker, President & CEO
Aircraft Owners & Pilots Association


Mark Baker

Being a flight instructor is not a glamorous job. You'll never get rich as a CFI. And, once in a while, it can be downright scary. But you can't beat the view from your office window and you can't beat the satisfaction that comes from knowing you've helped someone make their dreams come true.

The very best flight instructors, and the very best flight schools, do more than simply teach people to safely handle an aircraft. They educate, inspire, and invite their students to cultivate a lifelong passion for flying and for the aviation community.

These are the unsung heroes of general aviation. Without them there would be no new pilots and no opportunity for licensed pilots to grow their skills or expand their ratings.

At AOPA we believe that CFIs and flight schools should be recognized for all they do. That's why we created the Flight Training Excellence Awards to celebrate the flight training professionals who do so much to sustain and nurture the GA community. And the Flight Training Excellence Awards serve another purpose, too—spotlighting best practices and encouraging schools to share their experiences of what really works.

To discover how schools and instructors are doing, we invite students to tell us about their training experiences—the good and the bad. For 2015, we received more than 7,100 responses to our flight training poll, and we used those responses to identify some of the very best schools and CFIs around.

Based on the poll results, we selected Aeroventure Institute of Southbridge, Mass., as the 2015 Best Flight School, and Todd Shellnutt of Atlanta as the 2015 Best Flight Instructor. Another 10 schools and 10 instructors were recognized as "Outstanding" and a further 23 flight schools and 45 flight instructors made it to our Honor Roll.

The poll numbers tell an important story, but it's not the only story worth telling. Each year I get to select a school that has made significant, innovative contributions to the flight training community to receive the President's Choice Award. For 2015, it went to Paragon Flight, in Fort Meyers, Fla. Enthusiasm counts for something, too. That's why each year we also recognize the school that receives the highest number of positive nominations from its students—for the fourth year in a row, that distinction went to Aviation Adventures in Manassas, Va.

All these award winners are making real contributions to the future of general aviation, and I'm glad that, at least for a moment, we can shine a light on the good work they do every single day. ❑

2016 AOPA Fly-Ins:

May 21	Michael J. Smith Field (MRH) in Beaufort, North Carolina
Aug. 20	Bremerton National Airport (PWT) in Bremerton, Washington
Sept. 17	WK Kellogg Airport (BTL) in Battle Creek, Michigan
Oct. 1	Earnest A. Love Field (PRC) in Prescott, Arizona

***Mark your calendar!* Registration opens in January.**

www.aopa.org/Community-and-Events/AOPA-Fly-In/2016

AOPA Great Lakes Regional Report

Deluge of Drones

News & Information You'll Want To Know In Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, North Dakota & South Dakota

by Bryan Budds
Manager, AOPA Great Lakes Region


Bryan Budds

After meeting with many airport managers, state aviation officials, and pilots recently, "drones" as ambiguous and potentially troublesome as the term remains, have been at the forefront of the aviation mindset across the region. I am sure many of you are aware of the progress – or lack thereof – by the Federal Aviation Administration (FAA) on integrating Unmanned Aircraft Systems (UAS) into the National Airspace System. This appropriate and safe integration of UAS into the airspace is a key issue for AOPA's team in Washington, D.C., and they continue to make great progress to this goal.

However, the FAA's lengthy rulemaking process and recent reports that more than 1 million drones will show up under the Christmas trees this year alone, has led to a new threat – your friendly state and local legislative body.

In nearly every state in the region, lawmakers have passed or are considering state laws to regulate UAS. In years past, state lawmakers have taken actions to limit "what" you could do with a drone – things like outlawing eavesdropping on your neighbor and harassing animals during a hunt. Now, however, states are attempting to regulate "where" you can operate a drone, and this presents a major concern for AOPA members.

We have seen bills in multiple states that prevent drone access to airspace above correctional institutions, near bridges, and in the vicinity of state capitols.

You may ask why an AOPA member should care if state policymakers delve into airspace regulations and I cannot help but look back to my Political Science 101 class from years ago and the chapter on what is known as policy or mission creep in the legislative business. If state lawmakers feel drones should not fly over prisons because they can (and have) been dropping contraband to inmates and pass laws restricting airspace, what is to keep the same lawmakers from saying no aircraft – manned or unmanned – should fly near a prison?

How would this information, in an airspace system governed by a federal agency, be passed on to pilots to ensure compliance?

Would an infraction be handled through the FAA as the agency overseeing pilot certification, or would you be arrested on felony charges as some current legislation would require?

These are all questions I hope we never have to answer and that is why AOPA has begun bolstering its outreach to state and local lawmakers who attempt to regulate the nation's airspace, and so far we have been successful in urging lawmakers to regulate the activity – such as dropping contraband into a prison – rather than the airspace above such facilities.

I would love to hear your thoughts! Please let me know at twitter.com/aopagreatlakes or at bryan.budds@aopa.org ❑

Contact bryan.budds@aopa.org or twitter.com/aopagreatlakes

AOPA Central Regional Report

The 2015 #FlyKansas Air Tour

News & Information You'll Want To Know In Kansas, Missouri, Nebraska & Iowa

by Yasmina Platt
Manager, AOPA Central Southwest Region


Yasmina Platt

What does 530, 145, 172, 9.8, 10, 10, 4, 35, 30, 800 mean? How does…

- flying about 530 nautical miles
- which, in a 145 hp Cessna 172, equated to about 9.8 Hobbs hours to
- 10 airports in 10 different cities around Kansas
- in 4 consecutive days
- in formation (at times) with 35 other pilots and 30 aircraft
- all in a goldfish pattern while
- increasing aviation activity across the state,
- showcasing and learning about different general aviation entities in the state,
- creating great camaraderie among the participants,

Start of the 2015 #FlyKansas Air Tour in Wellington, Kansas.

Yasmina Platt teaching "principles of flight" to 4th graders in Concordia, Kansas

• showing the local community the importance and economic impact of their airport,

• reaching out to AOPA members and Airport Support Network (ASN) Volunteers, and

• reaching out to over 800 potential future aviators… sound?

Yup, that was the 2015 #FlyKansas Air Tour. What a busy, but fun time for Jim Pinegar, AOPA's Vice President of AOPA's Insurance Services, and myself!

This year's tour started on Tuesday, September 29 and ended on Thursday, October 1, 2015. As a bonus, a brunch at the historic Beaumont Hotel (07S) was added for Friday, October 2, and EAA Chapter 88 scheduled their annual Newton (KEWK) fly-in for Saturday, October 3.

We started in Wellington (KEGT), as we did last year. The City of Wellington puts a great deal of effort into the start-up with several of the elected officials (including Mayor Hansel, an airport supporter herself), the high school band, lots of local kids, several sponsors, etc.

The city has started offering aviation/flying as an elective to their high school students this semester. We got a chance to meet all nine of the students and both Jim and I were really impressed with their knowledge, especially since they have only been in the program since mid-August. The plan is for them to take the private pilot written exam in December before the semester is over!

From Wellington, we were off to KPTT – Pratt. Most of us were surprised and pleased to visit the All Veterans Memorial Complex and learn the history of the airfield as an Army B-29 base during World War II.

We connected and shared our passion for general aviation with hundreds of students of all ages in Dodge City (KDDC) and the final destination for Tuesday was Liberal (KLBL) where we visited the Mid-America Air Museum. We could have spent hours going through their rich aviation collection and we also visited the cool FedEx B727 they have turned into a classroom/conference room where they are going to be starting STEM-based aviation classes for kids.

While we were able to "get the heck out of Dodge," we got stuck in Liberal (KLBL) on Wednesday. Low IMC that lasted until about 1:30 pm prevented us from visiting Garden City (KGCK) and Shalz Field in Colby (KCBK).

After circumnavigating Dodge City on the way from Liberal to Hays (KHYS) due to continued low ceilings, we made it to Hays where we visited the RANS aircraft factory. It is impressive to go through a factory where you can see innovation and engineering in the making. Randy (founder, entrepreneur, owner, president, and designer) has sold a combination of about 5,000 airplanes and airplane kits to all corners of the world and he is still working on a few more designs. Keep an eye out for a four-seater in the near future!

Alan Core and Seth, a grandpa and grandson team from Iowa, flew the air tour and Seth wanted to leave with an airplane kit as a "good science project." I say the young man will not only be a pilot, but also an aircraft builder when he grows up. *We need more like him!*

Thursday started pretty chilly, but the 4th graders at Blosser Municipal Airport (KCNK) in Concordia warmed all of our hearts quickly. They were beyond excited the entire time we were there. Selfishly, I felt like we had just as much fun with the kids, as the kids did with us.

Steve Richard, AOPA's ASN Volunteer for KCNK, organized a terrific stop for everybody. He and I taught "principles of flight" to the kids before taking them out to the airplanes where they put their new knowledge to work. I went over the four forces of flight, parts of an airplane, etc., and then Steve pulled a couple of interactive ideas from AOPA's Parents and Teachers Handbook (PATH) to demonstrate aerodynamics. The kids loved it! Funny enough, I think some of the pilots went home after the tour and practiced those experiments themselves.

It felt like "Helicopter Day!" at Freeman Field (K3JC) in Junction City. The Fort Riley 1st Infantry Division Brigade brought several helicopters and the local EMS operator had their air ambulance helicopter out on display as well.

And, the bittersweet moment came… we made it to our last stop: Emporia (KEMP).

The "Cook Boys" (Greg Thomas and Jason Wojteczko from K50 – Cook Airfield) won the aviator golf (flour bombing) contest and we were off to some real golf as a networking activity. No luck getting the ball from the tee box to the hole, but laughs were flowing!

No official word on whether or not there will be an air tour in 2016, but keep your eyes open and your ears tuned because I hope you can join us.

Until then, fly safe and fly often!

@AOPACentralSW, yasmina.platt@aopa.org ❑

Contact yasmina.platt@aopa.org or @AOPACentralSW

Beluga Whales, White Fox & Polar Bears.... Destination Churchill, Manitoba

Churchill, Manitoba
Russ Klingaman Photo

by Herb & Mary Zimmers

We are not sure how Churchill, Manitoba on the Hudson Bay, got on our bucket list; maybe we have been reading too many *National Geographic* magazines. At any rate, once on the list, Churchill had to be checked off and checked off it was!

We started researching the trip and buying aeronautical charts about 5 years ago. Originally, we were going to go alone, however, given the distance and remoteness of Churchill, we really wanted to go with another airplane. When Dave Weiman of *Midwest Flyer Magazine* showed interest, we picked the dates to correspond with the annual *"Canadian Fishing Fly-Out"* to Miminiska Lodge, Ontario, and come August 4, 2015, it was wheels up.

Six planes and six couples signed up for the trip – three Cessna 182 Skylanes, a Cherokee Six, a Piper PA-28 Archer, and our Mooney Ovation.

Not having fuel available at Churchill was not an issue for our Mooney Ovation with a 6-hour, 900-mile range, but it was critical for several of the other aircraft. With the Ovation, we were more concerned about having at least one paved 3000-foot runway at each fuel stop.

Our first leg was from Milwaukee Timmerman Airport (KMWC) to Winnipeg, Manitoba (CYWG) to meet up with the other couples. We flew this leg VFR in 3.5 hours under sunny skies. Once we checked in at the Sandman Hotel near the airport, we went out to dinner with the others who had arrived. One of the other couples joined us later. Unfortunately, Dave and Peggy Weiman lost their right magneto following a fuel stop in Longville, Minnesota (KXVG), enroute to Winnipeg, and had to cancel the Churchill portion of their trip. Better in Longville than in Churchill. We were all glad they were safe and sound.

The following morning, weather was IFR in Winnipeg with low ceilings and rain, and all but one of the couples took off as planned. The couple that stayed behind could not file IFR out of Winnipeg, so while they waited for better weather, they enjoyed the sights of Winnipeg. Unfortunately, better weather did not arrive in time for them to make the trip. Remember, this was to be a VFR trip all the way, but our instrument ratings did come in handy.

It was 354 nm from Winnipeg to Thompson (CYTH) where we got fuel, and another 215 nm to Churchill (CYYQ), where there was no fuel. We knew when we took off from Winnipeg the weather was improving towards the north. Thompson was reporting 3000 broken and clear below, so we pushed on.

Had conditions worsened, our only alternate airport

between Winnipeg and Thompson was Norway House (CYNE) with a 3902 X 100 ft. asphalt runway, but that airport did not have fuel. Our only other option would have been to return to Winnipeg, while the others could have diverted to Gillam (CYGX), east of Thompson, which has a 5034 X 151 ft. gravel runway and fuel. Fortunately, we were able to land at Thompson, and then depart for Churchill as planned.

By the time we arrived at Churchill, conditions were 1000 broken and 10 miles visibility. Churchill has two runways – one paved (Rwy 15/33 at 9,195 X 160 feet), and one gravel (Rwy 7/25 at 4,000 X 100 feet) – but only Jet A, which we knew in advance and planned accordingly.

Polar Bears relaxing in the sun.
Gary Black Photo

When we taxied to the ramp, we had to scramble to find something to tie our planes down, since there were no permanent tiedowns. Some of us used large concrete tubs that had to be moved into place with a dolly to secure our aircraft; others used huge logs.

We stayed at the best place in town, the "Lazy Bear Lodge," located 5 miles from the airport with complementary airport shuttle-service. The "Lazy Bear Lodge" is very rustic and has a very good dining room, and I highly recommend it for not only its accommodations, but also for its superb staff and trip planning. The staff made all of our sightseeing arrangements in advance, so that was nice.

The next day was very busy, starting with a tour of the town. Churchill is small and has 800 year-round residents and 1200 residents during the summer. There's a splendid school, community center and hospital, all built adjacent and connected to the other buildings, no doubt because of the severe winter weather and the occasional polar bear that will roam the streets.

Churchill has an ocean port for grain grown in the prairie provinces of Alberta and Saskatchewan. Some 20 ocean-going grain vessels arrive each summer, but none had arrived yet this season because there was still ice in the Hudson Strait blocking the path from the Arctic Ocean.

We visited Prince of Wales Fort on Eskimo Point across the Churchill River from Cape Merry. The fort was originally built by England in 1731 to protect their interests and the Hudson Bay Company trading post from France. We saw several polar bears near the point, which was quite unusual, since the bears are usually not in this area until the ice arrives


Beluga whales can be seen above and below the surface of the water.

Russ Klingaman Photos

in November. A polar bear's diet is almost exclusively seals and their pups.

There was an armed Canadian Ranger present just in case a polar bear was around. We didn't see any bears at Cape Merry, but ended up seeing a total of five bears during our four-day stay. White fox also abound.

In the afternoon, we took a beluga whale boat trip out into the river and bay and saw hundreds of whales. One couple rented dry suits and went snorkeling to see the whales below the surface of the water. You can also kayak with the whales, but none of us chose to do so on this trip.

The next day we took a 7-hour tundra tour in a huge vehicle that was about 15 feet to the top of the cab and was propelled with an all-wheel drive diesel engine with huge tundra tires, 7 feet in diameter. We saw a lot of bird wildlife and numerous plants and bushes that survive on the tundra.

The following day was just for relaxing and gave us time to explore the Eskimo Museum, which features a collection of Inuit artifacts and carvings that are among the oldest in the world, ranging from 1700 BC to modern times. The Pre-Dorset and Dorset people made the area around Churchill their home during the period from 3000 to 1000 BC. The museum has a gift shop where visitors can purchase Inuit art, books and other local items.

The morning of Monday, August 10, 2015, we were ready to depart Churchill – some for the trip to Miminiska Lodge, Ontario, and others were heading home. The clouds were 1500 broken with tops at 3000. Temperature-wise, even though Churchill is at the 58th parallel north, it was sunny and in the 60s.

Our group of four planes joined up with a group of 12 aircraft from the Cirrus Owners & Pilots Association and one Lancair Evolution. The entire group, minus two aircraft that departed the day before, began departing Churchill at 8:00 a.m. We all filed IFR to either Gillam, Red Lake, or back to Thompson for fuel before heading further south. Two Cirrus aircraft flew to Lynn Lake, Manitoba for fuel on their way back to Calgary, Alberta.

It took 5 hours for everyone to depart Churchill because Winnipeg Flight Service Station (FSS), which was understaffed and remotely managing the traffic without radar, separated each departure by 20 minutes. Regardless of the delay, the FSS specialist did a great job and we all made it to our fuel stops without a hitch. Knowing what we know now, it is advisable to bring a portable transceiver to use while waiting for an instrument clearance, so you do not have to keep the engine running, especially when trying to conserve on fuel.

All in all, it was a great trip, although I don't think I was totally comfortable with the remoteness and lack of airport services at Churchill. If the airplane is working perfectly and the weather is reasonably good, the trip works out well. However, mechanical issues and poor weather are always a possibility. Churchill also caters to freight haulers and turboprops, but not small piston aircraft.

There are no roads to Churchill. The only way is by air or train, which runs every other day on a good day, we were told. There are also no grass fields in northern Manitoba that one could use in an emergency – only tundra with permafrost one foot below the surface and lots of lakes.

For additional information on Churchill, Manitoba, visit http://www.travelmanitoba.com/place-to-go/Cities/churchill/.

For additional information on Lazy Bear Lodge, and excursions and activities at Churchill, visit www.lazybearlodge.com, or call 866-687-2327. ❑

Canadian Fishing Fly-Out Attracts Top Gun Pilot

View of the airstrip from the approach end of Runway 27, Miminiska Lodge, Ontario (CPS5)

by Dave Weiman

What pilot can honestly say that as they push in the throttle of their Cessna, Piper, Beechcraft or Cirrus, and roll down the runway, that they have never thought of the theme music for "Top Gun" (Kenny Loggins' "Danger Zone")? Whatever he was thinking, former F-14 Tomcat and Top Gun-qualified pilot, Gary Black of Cirrus Aircraft, Duluth, Minnesota, pushed in the throttle of an SR22 and became the first pilot to fly a Cirrus to Miminiska Lodge, Ontario, this year for the annual ***"Canadian Fishing Fly-Out."***

For years, I have encouraged Gary to join us, telling him that we have attracted nearly every single-engine aircraft ever built and even some light twins to the annual event, *but never a "Cirrus!* So this year, Gary accepted the challenge in a roundabout way, as I will explain in the paragraphs to follow, and eagerly joined our group for some fine fishing and pilot camaraderie.

This year's trip started at EAA's Wright Brothers Memorial Banquet on December 12, 2014, when I was approached by Dr. Herb Zimmers of Milwaukee to help organize and promote a trip to Churchill, Manitoba to see polar bears and beluga whales. Herb had been after me for years to do this trip, ever since he joined us on a couple of our Canadian fishing trips,

(L/R) Dave Weiman of *Midwest Flyer Magazine* congratulates Gary Black of Cirrus Aircraft for being the first Cirrus to make the trip.

Looking down Runway 9.

so I agreed to promote the trip if he organized it. Herb agreed and led the troops!

We decided that our group would meet up and stay overnight in Winnipeg (CYWG), then fly the 354 nm to Thompson (CYTH) for fuel before flying the remaining 215 nm to Churchill (CYYQ). We selected the ***"Lazy Bear Lodge"*** at Churchill for accommodations (www.lazybearlodge.com).

Unbeknown to us at the time, Gary Black, Great Plains Regional Director at Cirrus Aircraft in Duluth, Minn., was organizing a Cirrus Owners & Pilots Association (www.cirruspilots.org) trip to Churchill on the same dates, August 6-10, 2015, and was also staying at the Lazy Bear Lodge. When I found this out, I contacted Gary and invited him to join us at Miminiska Lodge immediately following the trip to Churchill, since it was on his way home to Duluth. He accepted.

Our group to Churchill turned out to be six couples, flying three Cessna 182s, a Mooney Ovation, a Piper Archer, and a Cherokee Six. Everyone made it as far as Winnipeg on Wednesday, August 5, 2015, except for Peggy and me. When we stopped in Longville, Minnesota (KXVG), just north of Brainerd for fuel, we discovered a bad right magneto on run-up and immediately returned to the ramp.

Fortunately for us, this happened in the United States and not over the tundra of northern Manitoba. We were also fortunate to be in Longville, where the entire airport community came to our aid, along with the folks at ***Airmotive Enterprises*** in Brainerd, and ***Bolduc Aviation*** at Anoka County – Blaine Airport in the Twin Cities.

Airmotive Enterprises flew an aircraft technician to Longville that day and attempted to overhaul the mags, but he determined that it would be more cost effective to replace them. Fortunately, Bolduc Aviation had just gotten an extra set of mags shipped to them by mistake and overnighted them to Brainerd via ***United Parcel Service.***

Special thanks to Joe Graw of Longville, Minn. for the use of his hangar; aircraft technician, David Ahlers, and director of maintenance, Mike Donovan, of Airmotive Enterprises in Brainerd, Minn. for making the repairs; Darrell Bolduc and Kevin Dunrud of Bolduc Aviation for their assistance; and our friends at UPS for their prompt and dependable delivery service!

By the way, my advice to any pilot planning a trip like this is to make sure you have your mags inspected at least every 500 hours as per FAA's mandatory service bulletin. My mags had been inspected 437 hours earlier and still failed.

Despite everyone's cooperation and efforts, by the time we got our new mags installed, we had already used up three of five days planned for our trip to Churchill, so we opted instead to fly to Winnipeg before flying on to Miminiska Lodge. Winnipeg is worth a trip in itself with lots of beautiful architecture, wonderful restaurants, and glorious hotels (http://www.tourismwinnipeg.com/upcoming-events).

While in Longville, we stayed at Camp O' My Dreams, located within walking distance of the airport (218-363-2507), and spent some time with Peggy's cousin, who happens to own a farm in the area.

Downtown Longville is one block from the airport and features a couple of restaurants including Patrick's Fine Dining (218-363-2995). If the airport courtesy car is available, you can drive a few miles east of Longville and enjoy a meal at the Anchorage Inn (218-363-2236). Common Grounds of Longville is a coffee shop (218-363-2292), and Frosty's is the place to go for pizza and ice cream (218-363-2299). Ridgewood Golf Course also has a restaurant (218-363-2444), and there's a casino 25 miles away in Walker.

Breakfast made to order at Miminiska Lodge.

Rick and Rosie Zahasky of Decorah, Iowa, standing in front of their cabin at Miminiska Lodge.

I urge anyone flying to Longville to call ahead to check on days and hours of each restaurant, which can vary depending on the day of the week and season. All I know is that when we arrived on Wednesday, we just missed the weekly turtle race downtown. The Longville community is ideal for outdoor recreation, especially water sports (www.longville.com).

Longville Municipal Airport has a 3549 X 75 ft. paved runway, dozens of individual hangars, and an airport terminal building with a pilot lounge, kitchen, bath and shower. The airport hosts a fly-in pancake breakfast each year on the first Sunday in August, with all proceeds going back into the community through the Longville Chamber of Commerce. For additional information on the airport, call Steve Shallbetter at 218-821-0779 or email steveshallbetter@msn.com.

On To Miminiska Lodge

We departed Winnipeg for Miminiska Lodge on Sunday morning and stopped for fuel at Pickle Lake, Ontario (CYPL) – 62 nm west of the lodge.

Two of the aircraft, including Gary Black's Cirrus SR-22, which was escorted by Phil Peterson of Oregon, Wis. in his Piper Archer PA-28, joined up with us at Miminiska Lodge on Monday, along with aircraft that cleared Canada Customs in Thunder Bay (CYQT). So we had planes arriving from Churchill, Winnipeg, and Thunder Bay – a first in the history of

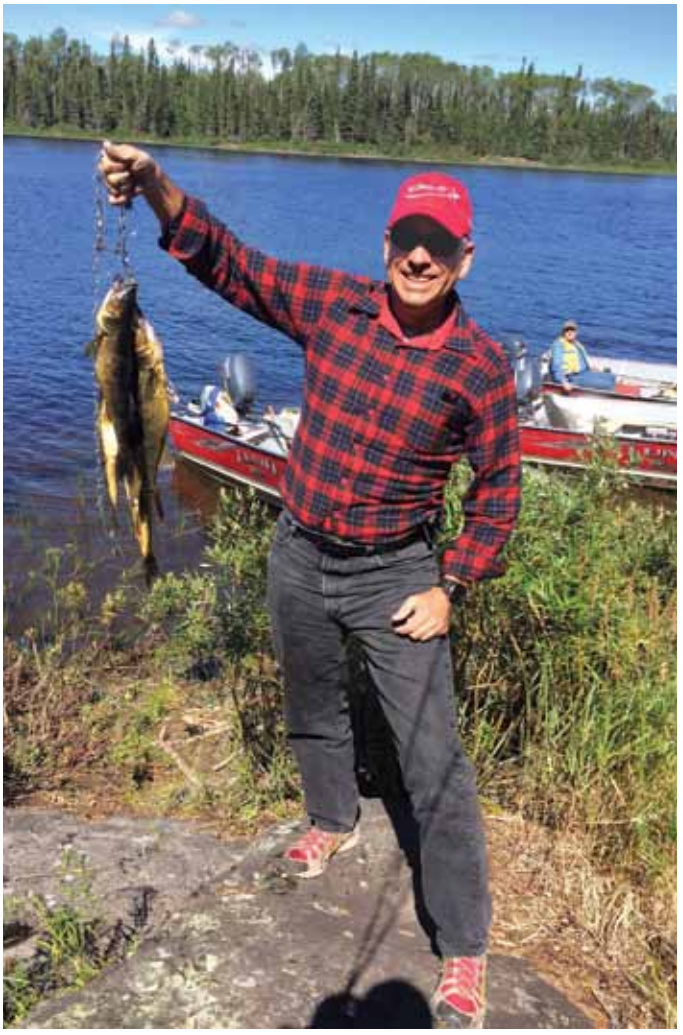
Greg Stratz of Fond du Lac, Wis., caught this 42-inch Northern Pike.

this trip, but it made the trip more interesting.

As much as possible, we encourage pilots to fly in a group of two or more aircraft, adequately spaced with the fastest planes in the lead. We also stay in radio contact with one another on 122.75 Mhz as an added safeguard, and monitor 126.7 Mhz for pilot reports, and the emergency frequency 121.5 Mhz.

Any pilot flying 25 nm beyond their departure point is required by Transport Canada to file a "flight plan," unless a "flight itinerary" is filed with a "responsible person" who has agreed to notify air traffic control and search and rescue if their aircraft is overdue. Refer to Canadian Aviation Regulation 602.75 (2) for additional information.

Most pilots in our group called the Wilderness North office in Thunder Bay and filed a flight itinerary with management just prior to takeoff from either Thunder Bay or Pickle Lake. Upon our arrivals, the lodge manager – Karl Hodge, a ship skipper and owner from Newfoundland,



Gary Black of Cirrus Aircraft. This was Gary's first time fishing in Canada.

Canada – contacted the Wilderness North office and informed them that we had safely arrived. Karl and his staff eagerly met us at our aircraft and hauled our gear to our cabins.

Each year that we go on this trip, we learn something that we can apply to future trips.

For instance, rather than fly direct from Thunder Bay to Miminiska Lodge, next year I plan to fly from Thunder Bay to Pickle Lake, top off with fuel, then fly the scant 62 nm on to Miminiska. That way I will have adequate fuel to fly to Duluth to clear U.S. Customs on my return flight and if necessary, I can file IFR out of Miminiska. Also by flying from Thunder Bay to Pickle Lake, I can file either a VFR or IFR flight plan, and cancel in the air or on the ground with Thunder Bay Radio at Pickle Lake. From Pickle Lake, I will file a flight itinerary either through the Wilderness North office in Thunder Bay, or direct with Miminiska Lodge, depending on the availability of a satellite phone at the lodge. Due to the lack of good radar coverage and air traffic control, this trip is intended to be flown VFR.

Miminiska Lodge is located 196 nm northeast of Thunder Bay. Lake Nipigon serves as a prominent landmark along much of the route from Thunder Bay to Miminiska. The only airport we fly directly over on that route is Armstrong (CJF6),

located 83 nm south of Miminiska. Coming from Winnipeg, the last airport we flew over was Pickle Lake (CYPL). There is a road between Thunder Bay and Armstrong, then short mining roads here and there between Armstrong and Miminiska, but it is pretty desolate country. We urge all participants to identify airports along their route of flight in the event they must make an emergency detour.

While everyone on the trip has at least a portable GPS, we also encourage everyone to keep track of their positions with aeronautical charts, and have either a 406 Mhz Emergency Location Transmitter (ELT) installed in the aircraft, or a portable 406 Mhz Personal Location Beacon (PLB). Most of us who were flying to Churchill also carried a rifle or shotgun for personal protection against wildlife in the event we had to make an emergency landing somewhere. To transport a firearm to Canada, you pay a $25.00 fee for a permit through the Canadian Firearms Program (www.rcmp-grc.gc.ca/cfp).

All pilots are encouraged to bring with them survival equipment, such as a first aid kit, food rations, tent, sleeping bag, knife, saw, waterproof matches, space blanket, whistle, compass, and a CD to use as a reflector. The hole in the CD is used to look through and spot a search plane, then by moving the CD back and forth in the sunlight, there may be a greater chance of attracting the attention of the pilot.

Miminiska Lodge is 196 nm northeast of Thunder Bay, Ontario.

Miminiska Lodge, Ontario

Miminiska is Wilderness North's premier American plan lodge and one of Ontario, Canada's most respected full-service fishing destinations.

Located on the Albany River in northwest Ontario, and miles away from the nearest road, Miminiska Lodge offers guests the opportunity to experience the raw beauty of pristine boreal wilderness. Northern Pike and Walleye were caught in abundance.

Congratulations go to Greg Stratz of Fond du Lac, Wisconsin, who caught the biggest fish in our group this year – a 42-inch Northern Pike. Most fish caught are released to help preserve the fishing quality of the fishery. Fly-outs on a turbo Otter with floats were available to anyone who wanted to fish for Brook Trout.

Occasionally, we catch something unusual, which adds to the fun!

A few years ago, Rosie Zahasky of Decorah, Iowa, caught an old boot, and this year I caught Phil Peterson's fishing rod and reel.

No, Phil did not cast his rod and reel into the water. Supposedly, the rod and reel was pulled from his boat by either a big fish (or so he claims), or he snagged some weeds while he was busy rigging his wife's (Carol) fishing line.

The all-inclusive package at Miminiska Lodge included one of six clean, spacious cabins with room for four to 12 guests, or private accommodations located adjacent to the main lodge – perfect for two people.

Miminiska Lodge has 16 ft. Lund boats with 25 hp Yamaha

4-stroke, electric start motors and fish finders. The main lodge has a big screen television, free WI-FI Internet, full bar, sauna, billiards, and satellite television. And for those brave enough to go swimming in the brisk, cold waters, I say go ahead!

Meals are professionally prepared and were superb!

We woke up each morning with a tap on our cabin door and a fresh pot of coffee delivered to us. Daily shore lunches or box lunches were provided, although we opted to have the staff prepare shore lunches for the group on popular "Shore Lunch Island." Evening receptions were complimentary!

Miminiska Lodge features a 2400 X 50 ft. grass runway with a clear approach over the lake to Runway 27, and low trees on the approach end to Runway 9 (CPS5). For additional information, refer to the Canada Flight Supplement published by Nav Canada.

Miminiska Lodge obtained a new windsock and frame from Neil Glazer at **PilotMall.com** (863-226-1106), which is now displayed on the sand point in front of the lodge. Neil is an avid pilot and aircraft owner himself, and has expressed interest in flying to Miminiska from his home in Florida.

Participants for the 2015 fly-out came from Wisconsin and Iowa. In past years, we have had pilots from Minnesota, Michigan, Florida, California and Arizona.

While the airstrip at Miminiska Lodge may not have been ideal for a Cirrus driver, and should only be used by experienced pilots who respect their weight and balance, Gary Black of Cirrus Aircraft told me later that he felt a rush as he roared down the runway when he departed for home. I bet he was thinking of that Kenny Loggins song!

Canada Fishing Fly-Out 2016

For 2016, pilots and their passengers will have their choice between a 3-Night/2-Day Trip, August 8 - 11, 2016, **or a** 5-Night/4-Day Trip, August 8 - 13, 2016, **or a** 3-Night/2-Day Trip, August 11 - 14, 2016.

Guests who arrive by 2:00 p.m. on the date of arrival can enjoy an extra 1/2-day of fishing a no additional charge! Guests depart immediately following breakfast on the last day of their trip.

For trip details and special group rates, email **info@MidwestFlyer.com.** For reservations, contact Krista Cheeseman at Wilderness North toll free: **1-888-465-3474** (www.wildernessnorth.com).

"Whether on wheels or floats, this Canadian fishing trip is for you!"

Waiver of Liability & Disclaimer: The Canadian Fishing Fly-Out To Miminiska Lodge is a service of Wilderness North. Dave Weiman is acting only as a fellow participant, and neither he nor *Midwest Flyer Magazine,* Flyer Publications, Inc., nor their staffs and owners, or anyone else affiliated with the magazine, assume any responsibility or liability for the participation of others on the trips or for the trips themselves, and do not assume any responsibility for the reliance upon the information contained herein or elsewhere. It is the responsibility of each participating pilot to verify all information prior to departure, including, but not limited to rates, regulations, airports, fuel, navigation and customs, and to seek information from a variety of sources including, but not limited to AOPA, EAA, Nav Canada, Transport Canada, Federal Aviation Administration, and U.S. and Canada Customs. ❑

AOPA Announces 2015 Flight Training Award Recipients

FREDERICK, MD – The Aircraft Owners and Pilots Association (AOPA) has selected its fourth annual Flight Training Excellence Award recipients including top flight schools and flight instructors ranked by more than 7,100 flight students in AOPA's Flight Training Excellence Poll.

Among the recipients was Blue Skies Flying Services & Pilot Shop at Chicago/Lake In The Hills Airport in Illinois, which received the Outstanding Flight Schools Award.

Jim Ader (Chicago/Waukegan, Illinois) and Jim Fellers (Chicago/Lake In The Hills, Illinois) received Outstanding Flight Instructor Awards (www.aopa.org). ❑

AOPA Launches Pro Pilot

FREDERICK, MD – The Aircraft Owners and Pilots Association (AOPA) has launched "Pro Pilot," a new level of membership available exclusively to professional pilots. For $21.99 per month, Pro Pilot provides services and protections to professional pilots whose livelihood depends on maintaining their pilot certificate and medical certification. Visit aopa.org/propilot for complete details. ❑

Photos by Chris Bildilli

Fly-Ins & Air Shows

AOPA Announces Fly-In Locations For 2016

FREDERICK, MD – The Aircraft Owners and Pilots Association (AOPA) will host four regional fly-ins in 2016 at new locations:

May 21 - Michael J. Smith Field (MRH) in Beaufort, North Carolina.

Aug. 20 - Bremerton National Airport (PWT) in Bremerton, Washington.

Sept. 17 - WK Kellogg Airport (BTL) in Battle Creek, Michigan.

Oct. 1 - Earnest A. Love Field (PRC) in Prescott, Arizona.

Since the AOPA Fly-Ins began in 2014, more than 27,000 people have attended and more than 4,000 aircraft have flown to a dozen events in 10 states.

The 2016 events will be the first AOPA has held in North Carolina, Michigan, and Arizona. Previously AOPA has held fly-ins in California, Colorado, Georgia, Indiana, Maryland, Massachusetts, Minnesota, Tennessee, Texas, and Washington.

Features for the 2016 fly-ins include a barnstormers party on Friday night with food and entertainment; free on-field camping at all four 2016 fly-in locations; traditional pancake breakfast cooked and served by local pilots and volunteers; lunch with a variety of offerings available from gourmet food trucks and local restaurants; dozens of aircraft displays and exhibitors; new seminars, speakers, and a Pilot Town Hall with AOPA President Mark Baker; and a free AOPA Rusty Pilots seminar.

Visit the 2016 AOPA Fly-In webpage to learn more as additional information becomes available: **www.aopa.org/Community-and-Events/AOPA-Fly-In/2016**

Those planning to attend one or more fly-ins will be able to pre-register beginning in early 2016. ❑

Products & Services

Aircraft Fleet Recycling Association Supports Recycling of Boeing ecoDemonstrator 757 Using Environmental Best Practices

WASHINGTON, DC – In a notable collaboration project, the Aircraft Fleet Recycling Association (AFRA) recently joined with Boeing and an AFRA-accredited airplane demolition company to disassemble and recycle the Boeing ecoDemonstrator 757 airliner using environmentally responsible best practices.

Following the 757's demolition, less than 10 percent of the airplane's total weight – filling just a single 15-yard dumpster – was labeled as waste or sent to a landfill.

The recycling event followed several months of flight tests by Boeing's ecoDemonstrator 757 to test technologies that could improve aviation's environmental performance by reducing fuel use and emissions. At the conclusion of the ecoDemonstrator flight tests, Boeing partnered with AFRA and the aircraft owner, the lessor Stifel, to recycle the 757 using AFRA's environmental best practices.

The AFRA-accredited company Aircraft Demolition, LLC, was selected by Stifel to conduct the airplane's disassembly and materials recycling at Grant County International Airport in Moses Lake, Washington. "This joint project was a great way to showcase the AFRA "Best Practices Manual" on how to perform a proper end-of-life program of an airliner," said Tim Zemanovic, Chief Executive Officer of Aircraft Demolition, LLC and its sister company, Jet Yard, LLC.

"The ecoDemonstrator disassembly was a powerful opportunity for AFRA to showcase the approved and accredited maintenance process for the removal of reusable parts; proper handling, packaging and preservation of spare parts; and the documentation to support traceability," said Reed Hitchcock, Executive Director of AFRA.

Certified maintenance technicians with Aircraft Demolition spent more than a month in Moses Lake, Washington preparing for the teardown and disassembly of

the 30-year-old Boeing 757. All recycling processes followed the AFRA Best Practices Manual and was concluded in under 30 days.

Aircraft Demolition developed a part "harvest list" to maximize the revenue of any used parts sales. Following AFRA's best-practices guidelines, each part removed was given a job card that included the Maintenance Manual (MM) and Illustrated Parts Catalog (IPC) reference. This extra step enhances the removal process and allows future tracking of parts in the aftermarket.

More than 1,100 parts from the Boeing 757-200, which was built in 1990, were harvested for reuse in the aftermarket for aviation parts. Additionally, some fuselage sections were removed for engineering, testing and other purposes.

For Boeing, the collaboration with AFRA, Stifel and Aircraft Demolition to recycle the ecoDemonstrator 757 was an opportunity to learn about end-of-service recycling. "Watching the recycling of this airplane provided insights into the potential to design and build the airplane with disassembly and recycling in mind," said Jeanne Yu, Boeing Commercial Airplanes director of Environmental Performance. "Our goal is to continue to reduce the amount of material from retired aircraft that will be sent to landfills in the future."

AFRA continues to build awareness of its mission as the leading global industry association dedicated to pursuing and promoting environmental best practices and sustainable development in aircraft disassembly, as well as salvaging and recycling of aircraft parts and materials. "Our recycling process guarantees that scrap is mutilated to ensure it does not find its way back into the aircraft aftermarket," Hitchcock said.

"AFRA's mission at the core is 'going green.' The process is rooted in making sure the industry is as thorough as possible capturing all the fluids, waste, and the segregation and recycling of all metals to safeguard the environment," said Zemanovic. "As we dismantled the ecoDemonstrator 757, all environmental safety protocols were followed and items were recycled to their highest and best use or value."

About the AFRA Accreditation Program

AFRA has published the only industry-developed Best Management Practices (BMP) guidebook for both aircraft disassembly and aircraft recycling. AFRA accredited companies pass rigorous audits to ensure compliance with the BMP.

Kingman Airline Services, Inc. (KASI) became a member of AFRA in spring 2015. This Kingman, Arizona based MRO facility has more than 250 aircraft in various stages of storage and recycling. As new members, KASI is currently in the process of planning for the AFRA Accreditation Program audit.

"We've been watching the industry progress AFRA has made over the last few years and have made the corporate decision to support and align with the AFRA process," said Kim Mercier, Director of Quality for KASI. "We agree a standard benchmarking protocol is better for the industry. Our customers recognize the accreditation as the expectation of doing the right thing."

About Aircraft Fleet Recycling Association

Aircraft Fleet Recycling Association (AFRA) is recognized as the leading global industry association dedicated to pursuing and promoting environmental best practice, regulatory excellence and sustainable development in aircraft disassemble, as well as the salvaging and recycling of aircraft parts and materials (www.AFRAassociation.org).

About Aircraft Demolition

Aircraft Demolition is a Women-Owned Small Business that provides complete, partout and disassembly services, as well as demolition and recycling for aging aircraft and engines. Aircraft Demolition provides 24/7 on-site disassembly and recycling operations worldwide.

Aircraft Demolition is the first dual accredited organization by AFRA, with accreditations in both disassembly of aircraft and recycling of aircraft materials (www.AircraftDemolition.com). ❑

Oxygen Systems For Your GA Airplane

Kenny Hill of Precise Flight demonstrates the use of an oxymizer nasal cannula breathing device. Oxygen face masks are also available.

A canvas case holds the oxygen cylinder and has storage compartments for the oxymizer nasal cannulas and oxygen face masks.

The canvas case holding the oxygen cylinder is securely strapped to the pilot's seat, and can easily be removed for servicing.

by Dave Weiman

I have always followed the FAA requirement to use oxygen for any flight over 30 minutes at 12,500 feet MSL and above, but seldom go that high, so this has not been an issue. But what I did not realize is that oxygen depletion actually begins at 5,000 feet MSL.

For years, when my wife, Peggy, and I would take a cross-country flight, she would ask me not to go above 5,000 feet because she would feel light-headed and sometimes get a headache. I have tried to accommodate her as much as possible, but as most instrument-rated pilots know, one's altitude depends on the weather, winds aloft, and cloud cover. So in the end, Peggy would usually give in and suffered the consequences, until a friend showed us his portable oxygen system. Our friend told us the same thing…above 5,000 feet MSL, he uses oxygen and feels great all day long.

"Hypoxia," or oxygen deficiency, is a progressive condition, and is undetectable by pilots and their passengers, which makes it even more dangerous.

Without supplemental oxygen at a sufficient flow, occupants will gradually and progressively lapse into incompetence while maintaining an absolutely euphoric faith in their own ability. The less oxygen in one's body, the greater the chance the pilot may make the wrong decision and could become unconscious.

While noticeable at 14,500 feet MSL due to the blood's inability to carry oxygen, there is dramatic drop in oxygen saturation, which will be approximately 80% or fully hypoxic. A person left at this altitude may experience vertigo, nausea, weakness, increased breathing, decreased eye-hand coordination, slowed decision-making ability and compromised vision.

So come Oshkosh time, I went shopping and stopped by the ***"Precise Flight"*** booth where I met account executives Kenny Hill and Joe Wanko, and engineer Rob Norris.

Kenny, Joe and Rob demonstrated how their oxygen system works, and why people should have oxygen above 5,000 feet MSL, and while flying at night. They also knew their competition, and had a display of the

"flow meters" for each manufacturer. The quality and ease of operation of the Precise Flight oxygen system made it clear as to whose equipment I wanted to buy.

Another great feature of the Precise Flight oxygen system is the "regulator." You have your choice between a two-outlet and a four-outlet regulator. Since our Cessna 182 Skylane has four seats, I chose the four-outlet regulator, even though we seldom travel with four people. Also in the event an outlet would malfunction, we have two other outlets to use.

You have your choice of aluminum oxygen cylinders: 6.3, 15 and 22 cubic ft. capacity. Of course, the larger the cylinder, the more oxygen you have and the less likely you are going to run out on a long cross-country flight. Also when you go to refill the cylinder, there's usually a flat rate, regardless of the size of the cylinder. On the other hand, the larger the cylinder, the more it weighs and it will consume more space inside your cabin. That's where a built-in oxygen system which Precise Flight also manufactures, is nice, but it would not be practical for a 39-year-old airplane like ours.

A display of various flow meters makes comparing equipment between manufacturers, easy.

We selected the 22 cubic ft. cylinder, which fits nicely behind the pilot or copilot seat, using Precise Flight's well-constructed canvas case and harness system. The canvas case also has several compartments for storing the oxymizer cannulas or nose-only breathing devices, and face masks.

The way the system works is you set the flow meter to the altitude you expect to be flying at, and the regulator will automatically provide you with the amount of oxygen you need and no more. The only time you get oxygen is when you breathe in through your nose using the oxymizer nasal cannula, or through your mouth when using the face mask.

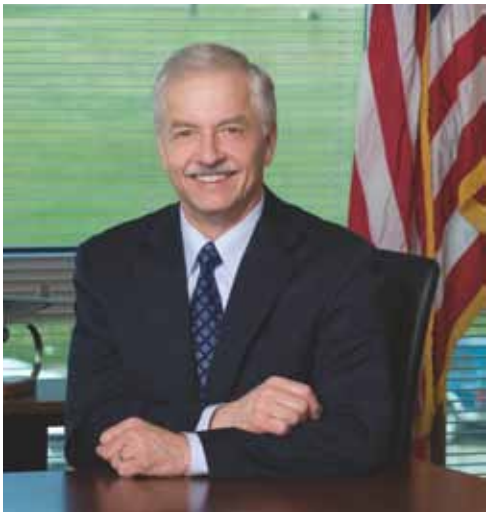
Another product offered by Precise Flight worth considering is "The Aviator's Rescue Ruck," which is a ready-to-go and lightweight aviation-specific emergency backpack, and bright red in color for easy recognition in an emergency. Included in the ruck is food, water, shelter, weather protection, first aid, cooking utensils, matches, communication devices and tools.

To learn about Precise Flight oxygen systems and other products, go to www.preciseflight.com or call 541-382-8684 and ask for Kenny, Joe or Rob. ❑

Metropolitan Airports Commission Executive Director/CEO Jeff Hamiel To Retire... America's Longest-Serving Major Airport CEO

MINNEAPOLIS-ST. PAUL, MINN. – The executive director of the Metropolitan Airports Commission (MAC), Jeff Hamiel, has announced that he will retire effective May 16, 2016.

As the MAC's executive director and CEO, Hamiel oversees day-to-day operations of one of the nation's largest airport systems, including Minneapolis-St. Paul International (MSP) and six general aviation airports in the Twin Cities metropolitan area: Airlake (in Lakeville), Anoka County-Blaine, Crystal, Flying Cloud (in Eden Prairie), Lake Elmo and St. Paul Downtown.



Jeff Hamiel

"Through nearly 40 years of service to the Metropolitan Airports Commission, Jeff Hamiel has made an indelible impact on air travel in Minnesota and has provided a strong voice for airports nationally," said MAC Chairman Dan Boivin. "Under his leadership Minneapolis-St. Paul International has earned a reputation as one of the nation's best managed airports. The number of passengers served annually has more than quadrupled during Jeff's tenure. He has provided a steady hand to keep air service strong in Minnesota not only in good times, but also when airlines one after another were filing for bankruptcy, merging and discontinuing hub operations at other airports."

A U.S. Air Force pilot, Hamiel joined the Metropolitan Airports Commission on May 16, 1977 as the organization's first noise program manager. He quickly rose through the ranks, becoming assistant operations director in 1980 and director of operations in 1983. He served as deputy executive director in 1984 before becoming MAC's executive director and CEO in 1985. At the same time, he continued to serve in the U.S. Air Force Reserve as its chief pilot and commander of the 96th Airlift Squadron until he retired from military duty in 1998.

In his years at MAC, Hamiel steered the organization through numerous critical events:

- Deregulation of the airline industry in 1978.
- Provision of more than $300 million in financing to Northwest Airlines in 1992, helping the carrier avoid bankruptcy.
- A dual-track planning process that ultimately led to the legislature's 1996 decision to expand MSP at its existing site, instead of replacing it with a new airport southwest of Hastings, Minnesota.
- The resulting $3 billion MSP 2010: Building a Better Airport expansion program, which transformed virtually every aspect of Minneapolis-St. Paul International Airport, including: a new Terminal 2-Humphrey; new Terminal 1-Lindbergh concourses A and B and additional gates on Concourse C; a new fourth runway, 17/35; new parking, transit and auto rental facilities; new cargo facilities; improved aircraft de-icing and storm water retention facilities; new roadways; installation of light rail tunnels and stations; and replacement of hundreds of acres of 1960s-era airfield pavement.
- Development of the most extensive airport noise mitigation program in the United States, through which nearly 15,000 homes around MSP have been insulated, including thousands of homes well beyond the federal standard for mitigation.
- Implementation of historically new aviation security measures following the 9-11 terrorist attacks on America.
- Airline negotiations aimed at maintaining air service and related jobs following the bankruptcy filing of hub carrier Northwest Airlines in 2005, and the acquisition of Northwest by Atlanta-based Delta Air Lines in 2008.

More than 35 million people traveled through MSP in 2014 compared to 8.4 million passengers in 1977, when Hamiel joined MAC. The number of flights also has increased, from 263,709 in 1977 to 412,695 in 2014. MSP is the 16th busiest airport in the United States in terms of passenger traffic and the 13th busiest for aircraft operations. A 2012 economic impact study, conducted by InterVISTAS Consulting LLC, estimates that MSP International Airport

generates more than $10 billion in annual economic activity for the Minneapolis-St. Paul metropolitan area and supports more than 76,000 area jobs.

In addition to his role at MAC, Hamiel has served as a board member of Airports Council International-North America (ACI-NA), and as that organization's chairman in 2001. In addition, he has chaired ACI-NA's International Affairs Committee and been a member of the organization's Governmental Affairs and Environmental committees. Hamiel also served for several years as a board member and special advisor to the global Airports Council International, then based in Geneva, Switzerland. He is also a certified member and former competition committee co-chair of the American Association of Airport Executives (AAAE).

Hamiel also served for eight years as vice chair of the Airport Cooperative Research Program under the auspices of the Transportation Research Board, a division of the National Academies of Science in Washington, D.C. Most recently, former U.S. Secretary of Transportation Ray LaHood appointed him as the airport representative to the Federal Aviation Administration's NextGen Advisory Committee. Hamiel has served on the Executive Committee of the University of Minnesota's Center for Transportation Studies since 2001, and as its chairman since 2011. He also served from 2009 to 2013 as a member of the Board of Trustees for Hamline University. Hamiel was inducted into the Minnesota Aviation Hall of Fame in 2003.

The Metropolitan Airports Commission has retained an executive recruiting firm, Spencer Stuart, to conduct a national search for Hamiel's replacement. ❑

Pelton Named CEO of EAA – Precourt Elected Vice Chairman of EAA Board


Jack Pelton

OSHKOSH, WIS. (November 9, 2015) - The Experimental Aircraft Association (EAA) Board of Directors has named EAA Chairman Jack Pelton Chief Executive Officer, adding the CEO title and responsibilities to the position Pelton has held with the organization since October 2012. The action was taken during EAA's annual fall board meeting in Oshkosh on November 6. In addition to this move, the EAA Board also elected Charlie Precourt Vice Chairman of the Board.

"Jack has done a marvelous job as Chairman and association leader on a volunteer basis after stepping into a challenging position three years ago," said Dan Schwinn, Chairman of the EAA Board's Human Resources and Governance Committee. "As his inaugural three-year term as Chairman was ending and we were searching for a CEO for the organization, we realized that the qualities we were seeking in a CEO were exactly the qualities and background that Jack possesses. He has a passion for EAA and a long background in recreational aviation, plus successful experience in business and government relations. We approached Jack with the idea and were very pleased when he and his wife, Rose, accepted our offer."

The EAA CEO position will be a paid position, although Pelton will continue as EAA's volunteer Chairman of the Board while he is CEO. He will maintain residences in Oshkosh and his hometown of Wichita, Kansas.

"I was flattered when the board approached me with this offer, not out of a professional desire, but as a person who believes deeply in EAA's mission, organization, and members," Pelton said. "Aviation and EAA have been irreplaceable parts of my life. Our organization – its mission, members, and volunteers – creates a community unmatched anywhere in aviation. I'm eager to see all of us work together to see EAA grow and thrive."

Pelton has had an extensive, renowned career in aviation, including as Chairman, President, and Chief Executive Officer of Cessna Aircraft. He also worked with Douglas

Aircraft and Dornier Aircraft, and was an acknowledged leader in the aviation community through his work with the General Aviation Manufacturers Association (GAMA), National Business Aviation Association (NBAA), and the National Air and Space Museum. Pelton's EAA history also has deep roots, as he was introduced to the organization when attending EAA Chapter 1 meetings in Riverside, California, as a teenager with his father. He continues his passion for recreational aviation today, restoring, maintaining, and flying several vintage aircraft.

Charlie Precourt

Precourt was elected as the EAA Board's Vice Chairman, a newly created position that will provide additional independent leadership for the board and provide a central point of board contact for Pelton as CEO. Precourt is Vice President and General Manager of Orbital ATK's Propulsion Systems Division, a four-time space shuttle mission astronaut (including two as commander), and a former U.S. Air Force pilot. He is also an experienced aircraft builder who leads EAA's safety committee that is spearheading research and activities to continue enhancing aviation safety. Precourt writes a monthly column for EAA's flagship *Sport Aviation* magazine.

About EAA: EAA embodies the spirit of aviation through the world's most engaged community of aviation enthusiasts. EAA's 190,000 members and nearly 1,000 local chapters enjoy the fun and camaraderie of sharing their passion for flying, building and restoring recreational aircraft. For more information on EAA and its programs, call 800-JOIN-EAA (800-564-6322) or go to www.EAA.org. For continual news updates, connect with www.twitter.com/EAA. ❑

The North American B-25 Mitchell Bomber, "Panchito," and Lt. Col. Dick Cole, one of the two surviving Doolittle Raiders from World War II, visited AOPA's National Aviation Community Center at Frederick Municipal Airport in Frederick, Maryland, Nov. 8, 2015. Cole, 100, who is one of only two of the 80 airmen still alive, did a book signing of his book about his experience in the China-Burma theater. The B-25 was available for paid rides after the signing. *Photo by David Tulis.*

(L/R) Utah Gov. and U.S. Ambassador to China, Jon Huntsman, greets Dick Cole at AOPA's National Aviation Community Center.
Photo by David Tulis

Doolittle Raider, Lt. Col. Dick Cole, Pays Visit To AOPA

FREDERICK, MD. – Lt. Col. Dick Cole, one of the two surviving Doolittle Raiders from World War II, visited the Aircraft Owners and Pilots Association's (AOPA) National Aviation Community Center (NACC) at Frederick Municipal Airport, as did the B-25, "Panchito."

Cole, who recently turned 100, was 26 when he volunteered for the secret Doolittle Raid mission where he and his fellow airmen took off from an aircraft carrier in B-25 bombers for targets in Japan.

Cole served as Gen. Jimmy Doolittle's co-pilot on the raid and was the first to fly a twin-engine bomber from the deck of an aircraft carrier on a mission. He was one of 80 young airmen who went on the raid with 16 other B-25s.

Cole stayed in the war and flew the Hump out of Burma with the Air Commanders before returning stateside where he got married, raised four children, and retired to a small ranch in Comfort, Texas, where he still lives today. Cole recently received the Congressional Gold Medal (www.aopa.org). ❑

Wisconsin Pilot, USAF Veteran & Attorney Advocates For Fellow Vet's Disability Benefits

WATERLOO, WIS. – In a letter to U.S. Senators Tammy Baldwin and Ron Johnson, and U.S. Congressman Mark Pocan, pilot, U.S. Air Force veteran and attorney, Alvin E. Whitaker, Waterloo, Wis., has requested that the federal government recognize the injuries suffered by former F-105 Thunderchief

(Ret.) Captain Richard J. Maxwell

pilot, Richard J. Maxwell, Sun Prairie, Wis., and increase his disability payments. Whitaker is a seven-year veteran and was a crew chief on F-105s for one year while stationed in Southeast Asia during the Vietnam War. Whitaker wrote:

"Dear Senators and Representative, I am submitting this letter on behalf of a fellow serviceman and Vietnam veteran, Richard J. Maxwell, in the hope that you will intervene on his behalf to correct what I believe to be a "terrible wrong.

"Captain (Ret.) Maxwell has been engaged in a seemingly unending struggle with the Veterans Administration over his military retirement pay.

"Richard J. Maxwell (hereinafter 'Max') entered the USAF in January of 1965. He was commissioned a Second Lieutenant on March 1, 1965, and thereafter began his training in undergraduate pilot training in mid-March 1965, and advanced training in April of the following year.

"After a six-month stay at Nellis AFB, Max was given a permanent change of station (PCS) assignment to the 67th Tactical Fighter Squadron (TFS), Kadena AFB, Okinawa in November 1966. From Kadena, Max was assigned Temporary Duty (TDY) to Takhli Royal AFB (March 1967), only to again be returned to Kadena.

F-105D Thunderchief
National Museum of the U.S. Air Force

"His second TDY assignment to Takhli was in June 1967, followed again by a return to Kadena. Upon his request, Max was granted a PCS assignment to the 333rd Fighter Squadron, Takhli, Thailand, in August 1967. This voluntary combat assignment involved flying Republic F-105 fighter-bombers into North Vietnam against some of the most heavily defended targets in the history of aerial warfare.

"I have highlighted Max's career in this detailed manner in order to illustrate his unadulterated, selfless commitment to duty and his willingness to go anywhere, at any time, under any circumstances for his country. His record speaks for itself.

"The aircraft flown by Max, the Republic F-105 Thunderchief, is – to say the least – an awesome machine of war. It was, and remains, the largest single-engine jet fighter ever built. During the war, it flew 75% of the missions flown into North Vietnam, as well as a few in the South in support of ground operations. During his tour with the 333rd TFS, Max flew 56 missions. Mission 57 would be different.

"On January 15, 1968, Max experienced a total engine failure shortly after takeoff (for a night mission). The aircraft, burdened with a heavy load of ordinance and fuel, struggled against the inevitable. The crash landing, which followed, was horrific, causing Max massive, nearly fatal, bodily injury necessitating nearly a year of hospitalization (January – September 1968), followed by extensive rehabilitation. As a result of the accident, Max was offered the following choices:

a. Accept compensation under the Veterans Administration. Accepting this option would have mandated that

Max undergo periodic reevaluation to determine eligibility to continue to receive benefits, and at what level.

b. Alternatively, take Air Force medical retirement. This option, selected by Max, would result in compensation equivalent to 75% of a captain's base pay for the remainder of his life and as adjusted under Cost of Living Allowance (COLA).

"On October 7, 1968, Max retired from USAF service by reason of permanent physical disability (see DD Form 214).

"The present discord stems from a disagreement with the Veterans Administration with respect to whether Max's January 1968 crash qualifies as "Combat-Related Special Compensation" (CRSC). Rather than attempt a third-party presentation of the relevant facts and governing law, I will defer to the airman himself (see attached letter). Max's contact information is as follows: Richard J. Maxwell, 4918 Thorson Road, Sun Prairie, WI 53590; (608) 244-5173, (608) 244-0898, (608) 334-4426.

"I apologize for failing to contact you in a more timely manner with respect to this very serious matter. That said, it would have broken the bonds of brotherhood had I sat idly by while this fellow veteran struggles to receive what he sacrificed so much to earn. Surely our country is better than that. I ask for your help in righting this terrible wrong. Alvin E. Whitaker, 6422 York Heights Road, Waterloo, WI 53594."

EDITOR'S NOTE: If and when this matter is resolved, it will be reported in a future issue of *Midwest Flyer Magazine.* ❑

Hoot Gibson Wins Unlimited Gold In "Strega"

RENO, NEV. – The 52nd Annual National Championship Air Races came to a close, September 28, 2015, with Robert "Hoot" Gibson as the winner of the Unlimited Gold Race with a speed of 488.983 mph in "Strega."

Stewart Dawson flying "Rare Bear" was second (471.957) and Dennis Sanders in "Dreadnought" was third (420.361).

Steve Hinton, flying "Voodoo," who had won the Unlimited Gold Race the last six years in a row, did not finish the race.


Robert "Hoot" Gibson

Gibson, 68, is a former American naval officer and aviator, test pilot, aeronautical engineer, and a retired NASA astronaut, as well as a professional pilot who currently races regularly at the annual Reno Air Races (www.airrace.org). ❑

EAA Inducts Five Into Sport Aviation Halls of Fame

OSHKOSH, WIS. - The Experimental Aircraft Association (EAA) recognized the contributions made to the world of flight by five aviators at its Sport Aviation Halls of Fame banquet, November 5, 2015, at the EAA Aviation Center in Oshkosh, Wis. Persons recognized included Leonard Milholland of Brookshire, Texas, EAA Ultralight Hall of Fame; Sean D. Tucker of Salinas, California, International Aerobatic Club Hall of Fame; the late Dale "Gus" Gustafson, Vintage Aircraft Association Hall of Fame; Nelson Ezell of Breckenridge, Texas, Warbirds of America Hall of Fame; and Tom Hamilton of Priest River, Idaho, EAA Homebuilders Hall of Fame. ❑

Spot Landing Contest Raises Money For Vets

WAUSAU, WIS. – John Chmiel of Wausau Flying Service and Wausau Downtown Airport (KAWU), Wausau, Wis., has announced the winner of their "Spot Landing Contest In Honor of Veterans." Local pilot, Bob Mohr – a three-time winner of the event – was declared the winner once again.

There were a total of 70 landing attempts during the nine-day contest; 31 different pilots made landing attempts; and the evening of the airport's "hamburger night social" was a big success and accounted for 24 attempts, which is the most ever in one day.

Anyone wishing to send a cash donation to benefit disabled veterans may make their check payable to Men of Honor Society, c/o Wausau Flying Service, Wausau Downtown Airport, 725 Woods Place, Wausau WI 54403.

For additional information, contact John Chmiel at (715) 845-3400 or email taildraggerflyer@yahoo.com. ❑

Fleming Field Forms New Management Team

SOUTH ST. PAUL, MINN. – After 21 years under the leadership of Glenn Burke, South St. Paul Municipal Airport (Richard E. Fleming Field) has a new management team, led by Philip Tiedeman, Manager; Joseph Carney, Operations Specialist; and Steve Sommers, Maintenance Technician. Burke accepted a position with the Metropolitan Airports Commission (MAC) as manager of Anoka County – Blaine Airport in the northern Twin Cities suburb of Blaine.

Philip Tiedeman and Joseph Carney

Philip Tiedeman started at Fleming Field, August 19, 2015, after managing the Brookings, South Dakota airport for 5 years. Tiedeman describes himself as a "farm kid" from northwest Iowa, who was introduced to aviation by an uncle who took him on his first flight when he was a child. Another uncle was an aircraft mechanic in the U.S. Air Force, a cousin is also pilot, and Tiedeman's dad once took flying lessons. So Tiedeman had plenty of aviation role models growing up.

"Now I get to work at the airport and see aviation every day," said Tiedeman, who got his Aviation Management Degree at the University of North Dakota – Grand Forks. Tiedeman has Commercial and Flight Instructor pilot certificates, and Instrument, Multi-Engine, and High-Performance ratings. He also had some aerobatic training.

Tiedeman was the airport operations manager in Midland, Texas for 4 years prior to becoming the manager at Brookings. He and his wife, Katie, who was an adjunct professor in Therapeutic Recreation in Brookings before moving to the Twin Cities, have two young children.

Tiedeman sees aviation changing over the past decade since he graduated from UND, and he is excited about that.

"Today, we have Space X, and youth programs, such as EAA Young Eagles," said Tiedeman, who is pleased that the Civil Air Patrol (CAP) is based at Fleming Field, as is the Southern Minnesota Wing of the Commemorative Air Force (CAF). Like many UND college freshmen, Tiedeman had visions of becoming an airline pilot until he realized that the lifestyle was not what he wanted in a career. "Completing a large airport development project gives me a greater sense of accomplishment," he said. Tiedeman is a certified member of the American Association of Airport Executives (AAAE).

Joseph Carney has been the Airport Operations Specialist at Fleming Field since 2014. He spent 22 years in the U.S. Army as a Telecommunications Systems Supervisor, worked as a dispatcher with the Kansas Highway Patrol, and completed his degree in Aeronautical Technology – Airport Management at Kansas State University – Salina in 2014. Carney is also a certified member of the American Association of Airport Executives (AAAE), and an instrument-rated private pilot.

South St. Paul Municipal Airport – Richard E. Fleming Field (KSGS) is conveniently located near the I-494 corridor, 15 minutes from the Mall of America and Minneapolis-St. Paul International Airport. Fleming Field is a control tower-free airport with a 4000 ft. runway (Rwy 16/34), AWOS, and Approach Control through Minneapolis Air Traffic Control. Self-service 100LL, Jet A and Mogas are available 24/7 and is priced competitively for the area. Building sites with utilities are available for new hangar construction.

Tenants include Wipaire, Lake and Air, Lysdale Flying Service, Abtec Helicopters, Advanced Aviation, Alpha Zulu, Cadotte Training Systems, and J & J Aircraft Maintenance.

There are no landing fees, and Enterprise and Hertz car rental is available by reservation.

For additional information, call Philip Tiedeman or Joseph Carney at 651-554-3350 (www.flemingfield.com). ❑

WATA Difference

WISCONSIN AVIATION TRADES ASSOCIATION

Wisconsin FBO Hosts Workshop For Drone Operators

MADISON, WIS. – Wisconsin Aviation, Inc. hosted its second workshop October 27, 2015 on Unmanned Aircraft Systems (UAS) at its Dane County Regional Airport, Madison, Wis. location. The workshop featured a display of UAS, ranging from very small aircraft costing less than $50.00, to more sophisticated models costing several hundred dollars.

Dan Spangler

Russell A. Klingaman

The fear in the general aviation community is that UAS operators will violate the 5 nm zone that surrounds all airports without first notifying the airport owner or operator, and there will be a collision.

Speakers included Dan Spangler of Wisconsin Aviation, who himself is a UAS owner and operator; Russell A. Klingaman of Hinshaw & Culbertson, an attorney in Milwaukee who specializes in aviation law; and Dr. Chris Johnson, a flight instructor at Wisconsin Aviation, who also consults with businesses interested in utilizing drones. Craig Larson of the Milwaukee FAA Flight Standards District Office explained what he knew about current and upcoming Federal Aviation Regulations affecting UAS operations.

Anticipated skyrocketing sales of UAS over the Christmas holidays are expected to compound the problem for all pilots and airport operators. ❑

UAS Task Force Formed By U.S. Department of Transportation/FAA

WASHINGTON, D.C. – U.S. Department of Transportation (DOT) Secretary Anthony Foxx and FAA Administrator Michael Huerta announced October 29, 2015, the formation of an Unmanned Aircraft Systems (UAS) Registration Task Force (RTF) for the purpose of developing recommendations for a registration process for UAS.

The task force is composed of 25 to 30 representatives from the unmanned and manned aircraft industries, the federal government, and other stakeholders. Among participants are representatives of the Aircraft Owners & Pilots Association (AOPA), National Association of State Aviation Officials (NASAO), Association for Unmanned Vehicle Systems International (AUVSI), Academy of Model Aircraft (AMA), Air Line Pilots Association (ALPA), American Association of Airport Executives (AAAE), Helicopter Association International (HAI), PrecisionHawk, AirMap, Small UAV Coalition, and Consumer Electronics Association.

At the task force's first meeting, November 3, 2015 at FAA Headquarters, FAA Administrator Huerta stated that the task force will advise the department on which aircraft should be exempt from registration due to a low safety risk, including toys and certain other small UAS, and explore options for a streamlined system that would make registration less burdensome for commercial UAS operators. The task force may make additional safety recommendations as it deems appropriate.

Do you think they see us, Roger?

DOT Secretary Foxx has directed the group to deliver its report by November 20, 2015, with a goal of registration rules to be in place by mid-December, ahead of what some have estimated to be the purchase of one million drones as Christmas gifts.

Related to this initiative, the FAA has released the beta version of a new smartphone application called "B4UFLY," which alerts UAS operators to restrictions or requirements in effect at their current or planned flight location. ❑

EAA Committed To Manned Aircraft Safety When It Comes To Integrating UAS Operations

OSHKOSH, WIS. –The Experimental Aircraft Association (EAA) is maintaining that although the popularity and number of unmanned aerial systems (UAS), commonly known as drones, is rising rapidly, their entrance into the national airspace system cannot come to the detriment of manned aircraft operations.
EAA made that point as part of its official comments to a proposal by the U.S. Department of Transportation and Federal Aviation Administration that would require registration of UAS, including those used for recreation or hobby purposes. The comment period is part of a fast-track effort by the government to finalize registration procedures by the end of the year.

EAA remains committed to the safety of manned aircraft operations as regulations catch up to the fast-growing demand for drone activities," said Sean Elliott, EAA Vice President of Advocacy & Safety. "No new airspace restrictions should be forced on manned operations

because of drone flights, and right-of-way and priority should always be given to manned aircraft operations. In addition, aircraft owners and pilots should not have to be required to install new equipment to track and 'see' drones beyond that already required by FAA regulations."

Along with an established hierarchy of manned air operations over UAS uses, EAA sees potential for education within the UAS community in keeping with the organization's "education is more effective than regulation" philosophy. EAA was one of the inaugural aviation organizations to join with the "Know Before You Fly" education campaign that promoted safety education and accountability among UAS users. ❑

Awards & Recognition

Gibson, Gorak, Igou & Vehlow Inducted Into Wisconsin Aviation Hall of Fame

OSHKOSH, WIS. – A professional pilot and fixed based operator, a flight instructor and businessman, a World War II veteran and crop duster, and a career soldier and aviation businessman, were inducted into the Wisconsin Aviation Hall of Fame at ceremonies held October 24, 2015 at the EAA AirVenture Museum, Oshkosh, Wis.

James Igou, Greg Gorak, Darrel Gibson, and Charles Vehlow were recognized for their achievements and contributions to aviation.

Dave Weiman Photo

Darrel Gibson

Darrel Gibson took his first flight lesson in 1951 and went to work for Badger Aviation, located in Eau Claire, Wis., in 1958. Gibson founded Gibson Aviation in 1961, a family-own and operated fixed base operation in Eau Claire, Wis., where he also served as airport manager from 1961-1976. Gibson Aviation provided flight training, charter, and aircraft maintenance, and was a dealer for Cessna Aircraft and Piper Aircraft. Under Gibson's watch, the airport saw many improvements. Gibson was also an active member of the Wisconsin Aviation Trades Association (WATA) throughout his career.

Although Darrel and his wife, Cleo, have retired from aviation, the Gibson Aviation legacy continues as son, Darrel, Jr., operates Gibson Aviation at the Menomonie and Osceola, Wisconsin airports.

Dave Weiman Photo

Gregory Gorak

Gregory Gorak of Milwaukee, Wis., founded Gaits Aviation Seminars in 1977 to conduct flight instructor refresher clinics throughout the United States. To date, the program has graduated more than 18,000 flight instructors.

A pilot since 1962, Gorak has logged 8,600 flight hours as an instructor, charter pilot and chair of the Career Pilot Program at Gateway Technical College in Kenosha, Wis. Gorak was awarded the distinction of Master CFI and named FAA Flight Instructor of the Year in 1977.

James Igou served as a B-29 maintenance instructor and later as a crew chief on B-17 weather aircraft. After leaving the military, Igou attended

Dave Weiman Photo

The family of Darrel and Cleo Gibson displayed a poster of congratulatory cards and comments from friends and former employees at the WAHF banquet.

Spartan School of Aeronautics, earning commercial and flight instructor pilot certificates, and instrument and multi-engine ratings. In 1953, Igou moved to Wisconsin and became a crop duster, amassing nearly 21,000 flight hours throughout his 25-year career. The FAA awarded Igou the Wright Brothers Master Pilot Award in 2007, recognizing his 50 years of accident-free flight.

Charles Vehlow was born and raised in Waukesha, Wis., and graduated from West Point in 1968. He received helicopter training at Ft. Rucker, Alabama, and completed a 12-month tour in Vietnam. Once home, Vehlow became a professor at West Point, then

Dave Weiman Photo

Charles Vehlow

transferred to the Army Reserve. After 26 years in the service, Vehlow retired as a colonel, and went on to work for McDonnell Douglas as a member of the Longbow AH-64D Apache helicopter design team. From there, he became president and CEO of MD Helicopters, and was later named vice president and general manager of Boeing's U.S. Army military rotorcraft division.

The Wisconsin Aviation Hall of Fame has inducted 120 men and women since 1985, when Wisconsin DOT Bureau of Aeronautics official, Carl E. Guell, founded the organization. Guell was the first subscriber of *Wisconsin Flyer* in 1978, which was renamed *Midwest Flyer Magazine* in 1980. ❑

Carl E. Guell

IA Mechanic Refresher Seminar

The annual Wisconsin DOT IA Mechanic Refresher Seminar will be held March 5, 2015 at the Holiday Inn Hotel & Convention Center in Stevens Point, Wis. The seminar will feature an exhibit hall with numerous industry representatives and displays. Speakers will present a variety of FAA-approved aviation maintenance topics throughout the day.

For more information, visit the WisDOT website at: http://wisconsindot.gov/Pages/doing-bus/aeronautics/trng-evnts/mech-ia.aspx. ❑

Flight Instructor Refresher Course

The next Wisconsin Flight Instructor Refresher Course (FIRC) will be held March 19-20, 2015 at the Gateway Technical College Horizon Center in Kenosha, Wisconsin. The course will be updated with new topics, in addition to the core topics of the course that include *Ethics and Professionalism; How to Give an Effective Flight Review; Pilot Deviations: Their Causes; How to Teach Effectively; and Creating a Culture of Safety.*

The course is open to Certified Flight Instructors (CFIs) whose certificates expire in March through June of 2016. Other pilots may audit the course at a reduced fee and receive a certificate of completion.

Speakers at the FIRC will include several Designated Pilot Examiners (DPEs) and CFIs who always provide an insightful perspective on flight training.

For more information, visit the WisDOT website at: http://wisconsindot.gov/Pages/doing-bus/aeronautics/trng-evnts/firc.aspx. ❑

Minnesota State University-Mankato Student Receives Scholarship Sponsored by Aviation Trades Group

EDITOR'S NOTE: The following essay was written by Minnesota State University-Mankato student, Caitlyn Brady, in applying for a scholarship sponsored by the Minnesota Aviation Trades Association. Brady was chosen among eight candidates to receive the scholarship.

An Aviation Scholarship Essay
by Caitlyn Brady


Caitlyn Brady

My name is Caitlyn Brady and I am currently an instrument rated private pilot. Growing up a military brat, our family moved a lot and I have been on more airplanes than I can remember. I always felt a sense of comfort at the airports we visited, even if they were in different countries. Twelve-plus hour flights seemed like an inconvenience to others, but I was always excited to board the plane and look out the window. The power of these huge planes always made takeoffs and landings my favorite part of the flights. My dream is to be the pilot flying these incredible airplanes.

Living in Alaska half of my life, we often flew with Alaska Airlines. The Boeing 737s were my favorite planes because they were powerful and could make it out of Alaska's weather seemingly effortlessly. My final career aspiration is to be a captain for Alaska Airlines, and then work for the National Transportation Safety Board (NTSB) after I have reached the maximum allowed retirement age to fly professionally.

I have high career aspirations of becoming an airline pilot, but it has not come without obstacles.

I believe that I should receive this scholarship because the financial support would help me to reach my goal of becoming an airline pilot.

I cannot say that I do not have any support because I do. My parents have supported my dream of flying in more ways than just financially. They did pay for my private pilot flight training; however, the rest is on me. The only scholarship I have received was a $1,000 scholarship from North Star Aviation, the airport I received my training from. The rest of my flight training is paid through student loans. In my opinion, it is worth it, but financial help would ease the worry of how much money I spend every time I jump into the airplane with my instructor, as well as pay back my loans.

Growing up with my dad being a flight engineer in the Air Force, I learned to not give up even if you reach obstacles in your life. The cost of flight training is one of my obstacles, but I won't let it hold me back.

I took a big step of moving out of my home state of Alaska to benefit from the safer and more cost-effective flight training at Minnesota State University (MSU).

The transition in moving here and living by myself has been a great one. I keep busy by immersing myself in aviation-related activities. Last year I was chosen as treasurer of MSU's Women in Aviation, International (WAI) chapter, as well as a member of the Aviation Club. I have now been selected president for the upcoming school year.

I attend almost all WAI meetings and leadership meetings as an officer, as well as the tours and trips we put together. This year I had the opportunity to attend the 2015 WAI Conference, which was a great experience! I hope to attend every year because I learned so much and met so many prospective employers in just three days. The next step in my aviation involvement is to join the MSU flight team, when I am able to make the time with all of my school activities.

On top of keeping a minimum 3.0 GPA while taking more than a full load of classes, I have been an MSU Football and Basketball Cheerleader and a member of Sigma Sigma Sigma Sorority the last two years.

With aviation being a major part of my life, I immerse it in everything I do. Last semester I was my sorority's Recognized Student Organization Collaborator, so naturally I set up an event with my sorority meeting with some members of my WAI club. My sorority had very interesting questions for us and a few lucky girls got to fly with a certified flight instructor who was an officer of WAI.

Being a cheerleader and a member of my sorority, I am happy to say I have had many community service opportunities. Even with my busy schedule every semester, I make time to put in at least 20 hours of community service ranging from RPM Children's Play therapy fundraisers and highway cleanup, to volunteering with the local Girl and Boy Scouts. In the upcoming year, I was chosen to be philanthropy chair of my sorority. I am excited to play a bigger part in planning our various philanthropy events.

In contrast to the community service I do, I also make time to educate myself more in aviation. I was awarded my Basic FAA Safety Wings this last semester, and I am planning on continuing my FAA Safety Team education throughout my flying career.

Safety in my flying career is extremely important to me. I read several books, other than used for training, to further my aviation knowledge that will help me be a better pilot. In the future, I hope to be able to attend Minnesota ACE Camp as a counselor. I believe it is important to give back and try to spark an interest in aviation among young kids.

For the last two years, I have helped set up Aviation Day, as well, and work at the event. It is very rewarding being able to share aviation with the local Boy Scout troop, but I hope to one day do more.

My next step in my flight training is my commercial pilot license. Even though I did enjoy instrument training, I am excited to learn more maneuvers and take my flying to the next level. Once I have completed my commercial license and multi-engine training, I plan on getting all the ratings to be a certified flight instructor. I plan on working as a flight instructor to build my hours and learn more through teaching students, before working for a regional airline. I have a lot to learn and a long road ahead before I am able to fly professionally for a major airline.

Thank you for taking the time to read my essay, and I hope to hear from you soon!

EDITOR'S NOTE: Congratulations, Caitlyn, on being selected to receive the MATA Scholarship for 2015.

❑

Lake Superior College Opens New Facilities At Duluth International Airport

DULUTH, MINN. – Lake Superior College opened new facilities for its Center for Advanced Aviation, Sept. 16, 2015, at Duluth International Airport. The center includes professional pilot and aviation maintenance technician programs. Of the 4,200 students enrolled at the two-year college, 100 students are enrolled in aviation programs. ❑

Aeronautics Report

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Based Aircraft Defined!

by Hal Davis
WisDOT Bureau of Aeronautics


Hal Davis

By their very nature, aircraft are commonly on the move. Sure, most aircraft have one airport they call "home," but others may share time between multiple airports. In the Midwest, occasionally an aircraft owner will move their aircraft to a warmer climate during the winter months. Other times, an aircraft owner may have a hangar elsewhere, but spend the majority of his or her time "Up North" when the weather is good.

The Federal Aviation Administration (FAA) defines a "based aircraft" as an aircraft that is operational and air worthy, which is based at a specific facility for a majority of the year. It sounds simple enough, but in reality, applying that definition can be complicated. Fortunately, the Wisconsin Bureau of Aeronautics is here to help!

For airports in the FAA National Plan of Integrated Airport Systems (NPIAS), the number of based aircraft can affect airport classification and can factor into eligibility for airport improvement projects. Historically, airport managers were responsible for counting the number of based aircraft and reporting the totals to FAA and state inspectors. These totals would then show up on the airport's master record form, also known as the "5010." At the time, little guidance was provided on how the based aircraft numbers should be determined and there was no method of validating the counts. As a result, based aircraft counts were often unreliable.

To increase the accuracy of the data, FAA moved the process online. Today, BasedAircraft.com is home to FAA's National Based Aircraft Inventory Program. Here, operators of non-primary, NPIAS airports use tail numbers to report based aircraft at their airport.

If you are an operator of a non-primary NPIAS airport, make sure someone is reporting your based aircraft on BasedAircraft.com.

To get access, go to http://BasedAircraft.com
Click 'Login Support'

Fill out the required information
Click Send

The FAA will process your request and send you your login credentials once authorized.

Once logged in, it's a simple process to add aircraft with the "Add Aircraft" button. Aircraft can also be deleted or edited after they are added. Upon entering a new aircraft, the site will check to see if the tail number is found in the FAA's Aircraft Registration Database and then, based on the information in the Aircraft Registration data, provide the type (single-engine, multi-engine, jet or helicopter) automatically. Ultralights and military aircraft without tail numbers can also be listed.

The website will also check to see if the tail number has been reported by another airport. Tail numbers that are reported by more than one airport are considered to be duplicates and are excluded from the based aircraft counts of either facility. Although FAA recognizes there are valid reasons for some duplication of aircraft, they believe it is most often caused by outdated aircraft lists. However, airport operators are still encouraged to report tail numbers for all aircraft that they believe spend the majority of their time based at their airport. If a tail number is found to be a duplicate, both airports are encouraged to provide comments on why the aircraft should be considered as based at their airport.

After the initial list of aircraft are entered into BasedAircraft.com, keeping the list up to date should take minimal time and effort. Individual aircraft can be removed and added as they come and go. While FAA recommends that airport operators update their aircraft list on BasedAicraft.

com *at least* once per year, I would recommend that you make changes to the list as they occur.

In 2010, FAA conducted a review of all general aviation airports in the NPIAS known as the ASSET study. FAA has plans to update this study in 2016. It is expected that based aircraft will continue to be a significant component to the study. Therefore, it is highly recommended that general aviation airports ensure that their based aircraft lists are entered and up to date on BasedAircraft.com by spring 2016, so the new ASSET study includes the current based aircraft count at your airport.

If you have any questions about based aircraft or BasedAircraft.com, please contact Mark Pfundheller at 608-267-5272 or Mark.Pfundheller@dot.wi.gov. ❑

Air Sports In Harmony With Nature, Theme of International Aviation Art Contest

by Karen Broitzman
WisDOT Bureau of Aeronautics


Karen Broitzman

Calling all artists between the ages of 6 and 17, the International Aviation Art Contest is now underway!

This year's theme is "Air Sports In Harmony With Nature."

The beauty of the earth is never clearer than when seen from the air. From above, the fullness of nature is seen in ways unknowable from the ground. Helicopters give tours of the inaccessible rivers and canyons as balloons float across hometowns, each giving new insight into how land, water, animals, and people share their environments.

Entries will be judged on the creative use of the theme in relation to the aviation world. The top three entries in each age group will advance to the national competition and receive the following awards:

1st Place: $100 art supply gift certificate or an *airplane ride* for the winner and a guest.

2nd Place: $75 art supply gift certificate.

3rd Place: $50 art supply gift certificate.

National 1st, 2nd and 3rd place winners receive certificates, ribbons, a framed reproduction of their artwork, and advance to the international competition where entrants compete for certificates and gold, silver and bronze medals.

Wisconsin participants, please send artwork to:

Karen Broitzman
Wisconsin DOT Bureau of Aeronautics
4802 Sheboygan Avenue Room 701
Madison, WI 53707-7914

All artwork for the state competition must be postmarked by **Friday, January 22, 2016.**

To download the official brochure and entry form or view past Wisconsin winners and more, please visit the Art Contest web page on the Wisconsin Bureau of Aeronautics website at: http://wisconsindot.gov/Pages/doingbus/aeronautics/education/art.aspx.

For questions, contact Karen Broitzman at karenl.broitzman@dot.wi.gov or call (608) 266-8166.


Destiny Gonzalez
Ages 6-9


Sarah Drogseth
Ages 10-13


Connor Andersen
Ages 14-17

Annual Airport Engineer's Workshop

The 2016 Wisconsin Bureau of Aeronautics Airport Engineer's Workshop will be held Tuesday, February 16, 2015 at the Crowne Plaza Hotel in Madison. This day-long workshop brings airport engineering consultants together with Bureau of Aeronautics staff to focus on airport development projects and associated issues. Prospective attendees are asked to register by January 31. Registration information can be found by visiting www.dot.wisconsin.gov/news/events/air/engineers-workshop.htm.

For additional information, or to submit topic ideas for this year's workshop, contact Tom DeWinter at thomas.dewinter@dot.wi.gov or call (608) 266-8073.

MINNESOTA AERONAUTICS BULLETIN
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Education Is Key

by Cassandra Isackson
Director, Minnesota DOT Office of Aeronautics


Cassandra Isackson

Education at its most basic level is the key to the success of any individual. What ultimately sets us apart from others is our use of what we have learned, and our unending desire to continue learning.

One part of MnDOT Aeronautics' mission is aviation education. We are charged with helping to educate the people of Minnesota about aviation and the positive impact it has upon everyone's life. We do that through our Technical Bulletins, Internet Web Pages, and even our Facebook and Twitter accounts. We also get input and ideas from grassroots aviation organizations and groups as well as schools and colleges around the state.

We recently commissioned a study to take a fresh look at what we are currently doing and point out any gaps that exist in our approach. As we are waiting for the study results, we are excited to think there may be some changes and new products or services we can provide for the Aviation Education concepts and outreach. What better way is there to start a new year than with exciting new concepts designed to inform, educate and help people enjoy aviation and a quality of life in Minnesota that is truly outstanding?

We understand that pilots and mechanics are always in the learning mode. But we ask you to help us think of ideas and ways we can work together to reach more youth and get them excited about and interested in becoming a part of the aviation family. If you already have an idea of how we can improve, please share it with us at: aeroinfo.dot@state.mn.us ❑

Holiday Gifts That Fly

by Rick Braunig & Tara Kalar, with Dan McDowell

The Federal Aviation Administration (FAA) is concerned about the estimated 1,000,000 "drones" that are expected to be purchased and potentially flown starting around the Christmas Holiday. The possibility of one million new "drone" flyers out there all over the country represents a challenge to the aviation community to educate these new owners on the safety guidelines for these new vehicles.

A Drone By Several Other Names

Sometimes called Unmanned Aerial Vehicles (UAVs), sometimes called Unmanned Aircraft Systems (UAS), sometimes called Remotely Piloted Aircraft (RPA), sometimes called Model Aircraft, the titles are interchangeable and the regulations that apply are contingent upon the use and not the vehicle.

The Minnesota Department of Transportation and the Federal Aviation Administration are working with unmanned aircraft organizations to promote UAV safety and help the operators to understand their responsibilities when operating their UAVs.

Recreational Use

Model aircraft operations are for hobby or recreational purposes only. The FAA recently released an updated advisory circular on model aircraft, which made four points significant to UAV operators:

- The FAA considers UAVs to be aircraft.
- The FAA sets out five criteria for determining if an operation meets the requirement to be considered model aircraft.
- The FAA makes it clear that model aircraft operators can be cited for careless and reckless operations and for operations that endanger the National Airspace System.

• Model Aircraft operators need to understand the airspace system well enough to check Notices To Airmen (NOTAMs), to avoid Temporary Flight Restrictions (TFRs), and to avoid other controlled airspace, such as Class B airspace, Class E airspace and the airspace around airports.

Here is a link to the Advisory Circular: http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_91-57A.pdf

Learn more about model aircraft operations.

Another good resource is: knowbeforeyoufly.org

Unmanned Aircraft System or Drone

David Gonzales, MnDOT Photographer

Commercial Use of a UAV

Before using a UAV for business use, the operator must have an airworthiness certificate or a Section 333 Exemption. In addition, the operator must have a Certificate of Waiver or Authorization from the FAA for the operations to be conducted. Operators can find help on the web in completing the requests that need to be submitted to the FAA: https://www.faa.gov/uas/civil_operations/

Any aircraft covered by an airworthiness certificate or a Section 333 exemption has to have an N-number. N-numbers are registration numbers assigned by the FAA. They are called N-numbers because they all start with the letter N, which is the country code for the United States. To get an N-number for your aircraft, start here: http://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/n_numbers/

MnDOT Requires UAVs With FAA-Issued N-Numbers To Be Registered

Under Minnesota state law, UAVs are required to be registered with the MnDOT Office of Aeronautics. Registration is not required for unmanned aircraft operated solely for recreational use. Learn more about Aircraft Registration.

All operators of UAVs that operate their aircraft for compensation or hire are required to obtain a commercial operations license from the Minnesota Department of Transportation. Forms and instructions can be found at this website: http://www.dot.state.mn.us/aero/licensing/commercialoperations.html

Questions? Email us at **droneinfo.dot@state.mn.us.**

So, if you find a "drone" under your Christmas tree, we strongly urge you to follow the rules and guidelines shown here and via the links included throughout this article. Your safety, and the safety of those around you, and even in the air above you, depends on your preparation *before* you fly, as well as your skill *when* you fly. ❑

CARB ICE!

It is time to think about CARB ICE! Actually *any time* is time to think about carb ice. So here is a simple reminder:

According to FAA Advisory Circular 20-113, Pilot Precautions and Procedures to be taken in Preventing Aircraft Reciprocating Engine Induction System and Fuel System Icing Problems: "Heat should be applied for a short time to warm the induction system before beginning a prolonged descent with the engine throttled and left on during the descent. Power lever advancement should be performed periodically during descent to assure that power recovery can be achieved."

Remember the basics like proper handling of carb heat. Avoid letting your glass cockpit and portable "gee-whiz" gadgets distract you from taking proper care of your engine, your aircraft and your flight. ❑

www.dot.state.mn.us/aero/

Pilots Crisscross USA In Experimental Aircraft & Set World Records

(L/R) John Craparo and Dayton Dabbs at LaGuardia Airport, New York City, N.Y.

Two pilots departed from Dallas Love Field on October 4, 2015 in an attempt to set four speed records in a two-seat open-cockpit gyroplane. The duo flew the following routes: Dallas to Los Angeles, Los Angeles to New York City, and New York City to Dallas, and their routes took them over some scenic parts of the Midwest, including stops in Dodge City (KDDC) and McPherson, Kansas (KMPR); Lee's Summit (KLXT) and Cape Girardeau, Missouri (KCGI); Pittsfield (KPPQ) and Decatur, Illinois (KDEC); and Sidney (KSCA) and East Liverpool, Ohio (02G).

John S. Craparo and Dayton A. Dabbs were co-pilots during this National Aeronautic Association (NAA) sanctioned flight. Their aircraft was a Magni M16 gyroplane, designated as an Experimental Amateur Built (EAB) aircraft, built by Craparo in 2014. The duo alternated as pilot in command (PIC) on each leg of the 5,365-statute-mile flight. The M16 has two open tandem cockpits, with one pilot in front of the other. Each cockpit is equipped with dual controls.

Major airports visited during the flight included Dallas Love Field, Santa Monica Municipal Airport and LaGuardia Airport. The pair navigated the gyroplane at various altitudes taking advantage of the most favorable wind, weather and geographic conditions. Cruising altitudes ranged from 500 to 12,500 feet AGL. The aircraft is equipped with advanced navigation and radio transceivers. Satellite tracking allowed the mission support team and all interested parties to track the flight in real-time.

Records claimed include:

Speed over a recognized course in a gyroplane, weighing less than 500 kg/1,102 lbs (including pilots, fuel and baggage).

Results*: Dallas, TX to Los Angeles, CA – average speed: 56 km/h.

Los Angeles, CA to New York City, NY – average speed: 64 km/h

New York City, NY to Dallas, TX – average speed: 38 km/h.

Eastbound Transcontinental Speed Record in a Gyroplane < 500 kg – average speed: 64 km/h.

*Speed calculation starts at initial takeoff and ends at final landing including all rest periods and delays. World and national records are not official until the National Aeronautic Association (NAA) and Fédération Aéronautique Internationale (FAI) complete an audit of claims.

Unlike most general aviation aircraft and all commercial and military aircraft, Craparo and Dabbs' gyroplane was hand flown during the entire 73 hours in the air. The gyroplane does not have an autopilot. Such flying requires superior

Craparo and Dabbs just east of Kansas City, Missouri.

concentration and communication.

During the flight from Dallas to Los Angeles, heavy fog blocked their route into California from Lake Havasu, Arizona, causing an eight-hour delay before reaching Twenty Nine Palms, Calif. The pair later flew for 10 hours over the Rocky Mountains at high altitude while temperatures plunged to 10 degrees Fahrenheit.

With the Continental Divide behind them, temperatures warmed as they crossed Kansas, Missouri, Illinois and Indiana. Night flying in Ohio and Pennsylvania brought some rain and mountainous terrain that challenged the skills of both pilots. On their return flight to Dallas, the forests and mountains of Maryland and West Virginia pressed the pair to constantly scan for emergency landing sites among the tall trees and crevasses that carpeted their route.

Craparo and Dabbs say that kudos goes to Federal Aviation Administration (FAA) personnel for their assistance.

In order to obtain sanctions for these flights between the three major cities, the gyroplane had to take off and land no further than 20 km or 13 miles from city center at a tower controlled airport. Tower controllers would act as official timekeepers and observers for takeoffs and landings. That left few choices other than highly controlled and congested Class B airspace. The team received fantastic cooperation from airport authorities and FAA as they helped the pair with expeditious handling for takeoffs and landings. All three tower managers went above and beyond in so many ways, said Craparo.

Robert Russ, upon learning that weather would delay the flight's landing at Santa Monica Airport, offered to

Crossing the Mississippi on the way to Pittsfield, Illinois.

remain at the closed tower until late into the night to ensure an official observer could record the landing time. At LaGuardia, the team was informed that neither an autogiro nor gyroplane had ever landed there in its 75-year-history.

James Law insured that controllers in New Jersey and New York knew that the Magni was on its way. On departure, they allowed a flight down the East River where it passed the United Nations, Brooklyn Bridge and the Statue of Liberty. The view from the

Continued On Page 62

Unmanned Aircraft Systems... Technology Creating New Perspectives That Will Open The Imagination of Future Generations

by Jonathan Beck


Jonathan Beck

Imaginations fueled with fascination continue to explore the potential Unmanned Aircraft Systems (UAS) have to positively benefit our lives and change the way we look at the world. UAS are another contributor in the aviation community fostering excitement and intrigue, driving people's creativity, and inventions for new ways to utilize technology. UAS continue to be an exciting technology with broad impact to many disciplines.

Although a small acronym, UAS are a very large topic raising hot debates across the county. Five years ago, headlines were filled with controversial stories about bringing military technology used overseas in war back to the United States and into the airspace overhead. This raised privacy concerns and fears of what else might accompany the use of UAS technology.

In the last few years, there has been a dramatic shift with the emergence of small UAS for a wide range of civil applications, demonstrating the positive impact these systems offer for diverse industries and applications. Some of the most predominant industries impacted by the technology today include cinematography, agriculture, land survey and mapping, infrastructure inspection, logistics, and public safety. Although the positive benefits are being realized, the proliferation of small UAS has caused concerns with routine sighting of UAS in areas posing safety hazards.

A key to advancing UAS technology safely will be the education of the technicians who operate and maintain UAS. Effective use of the technology will require technicians skilled at operating the systems for a wide range of demands including the processing and analysis of the imagery and data collected. Future technicians and entrepreneurs pursuing UAS technology must understand the differences in system interfaces and their correlation relating to specific tasks.

There are many platforms with a wide range of options and accessories available based on how the operator intends to use the system. Two of the most well known manufacturers in the small UAS industry are DJI and 3D Robotics.

The "DJI Go" application can be downloaded to a smart device and used with a DJI remote control for flying DJI UAS and to monitor and capture live video and imagery.

DJI is an industry leader in small UAS and offers platforms that utilize an application that can be downloaded on iPhones or other smart devices. The "Go Pilot" app provides a user-friendly interface the operator can use to monitor digital readouts for altitudes, distances, rate of change measurements and battery status. Operators are

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Rex Hammarback
Executive Director, Northland Aerospace Foundation
rex.hammarback@northlandaerospace.com
218.399.3939

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

northlandaerospace.com

able to perform automatic flight modes with the click of a button for multiple functions including takeoff, GPS waypoint navigation, return to home point and landing. The application on the smart device, paired with the remote control, allows the operator the ability to maneuver the aircraft and the built-in camera sensor while monitoring the live video downlink. With the latest platforms, 4k-resolution video and 12 mega pixel still imagery can be captured. Imagery and data is stored onboard the aircraft, but it can also be seamlessly transferred to a smart device or a computer for further processing.

3D Robotics manufactures a number of systems compatible with typical remote control, but can also perform a variety of automated flight modes. Switches on the remotes can be programmed to perform functions of altitude hold, position hold, orbit a point or transfer control to a ground control station (GCS) computer. Once control is transferred to the GCS, the operator has a much more detailed view of the performance of the aircraft, along with control functions, such as preprogrammed flight plan navigation. Flight plans can be generated to perform specific patterns that may assist in collecting the desired imagery and data for specific applications.

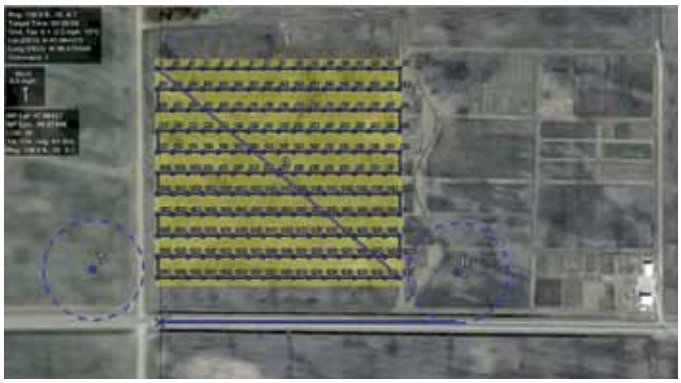
There are many do-it-yourself homebuilt UAS that provide a platform to install aftermarket parts and camera systems. These additions may or may not tie directly into the electronic control unit for the system.

A common example of a stand alone after market add-on is to mount a Go-Pro camera system onto a UAS. The Go-Pro system allows the operator to start recording before the aircraft takes off and continues to record the whole time the aircraft is in flight. This might be good for cinematography as it offers a good solution to capture high-resolution video, but it requires additional data storage and post flight editing.

Engineers continue to invent new designs and features to increase the capabilities of UAS. However, many manufacturers have also recognized hazards UAS can pose when operated in certain areas, such as airport environments, temporary flight restrictions (TFRs), or at distances and altitudes not allowing the operator to visually monitor the aircraft to perform see and avoid. As a result, many systems now employ "geo-fencing" defined boundaries in the control software that can be adjusted by the operator.

A geo-fence is a boundary created using GPS technology that defines a specific area or distance including the altitude that the aircraft can fly from the operator. This provides a control zone or containment area that can be very useful and assist in situational awareness for operating UAS.

Some manufacturers have gone so far as to build in restriction zones based on airports, airways and critical areas, such as TFRs. DJI has several UAS that incorporate a boundary within certain proximity of airports that will not allow the UAS to turn motors. If slightly outside the boundary area, the operator can fly up to 35 feet and then climb at a slant to 400 feet once 5 miles or greater from an airport. These implementations are not a perfect solution to prevent common safety hazards, but are a great step to continue advancing the technology, while acting as good stewards of the airspace.



A typical flight plan, takeoff and landing setup for the ground control station software for operating Sentera's Phoenix UAS.

Over the past few years, after obtaining a Certificate of Authorization (COA) or Federal Aviation Administration (FAA) approval, Northland Community and Technical College has conducted extensive work using the Phoenix fixed-wing UAS manufactured by Minnesota-based company, Sentera LLC of Minneapolis. This system is flown completely off of a ground control station (GCS) computer. Operators must ensure proper input of preset information into the software driving the flight of the UAS. The operator always maintains the ability to manually control the aircraft at anytime. When information is properly inputted, the result will allow for many automated flight mode functions.

The configuration of the Phoenix Northland uses is designed specifically around agriculture, but can also be modified based on application. The GCS allows a flight plan to be generated by simply clicking in the middle of a field on a software map for application in production agriculture. A square is generated to define the boundary and the operator can expand the edges to the outside boundaries of the field. Once the boundary is defined, a default flight plan is created consisting of parallel passes the aircraft will fly while capturing still images. If there is a crosswind at altitude, the autopilot turns the aircraft into the wind the necessary amount to compensate and maintain the preprogrammed flight path. The images are captured with a preset amount of overlap to be processed post flight for further evaluation.

In the first year of Northland's UAS flight operations, a lot of images and data were collected and analyzed by growers, commodity associations and industry partners. The result was a Minnesota Department of Agriculture grant being awarded to Northland this past year based on the identification of a handful of field level practical applications for the technology.

The title of the project is "Digital Imagery, Precision Agriculture," with a goal to streamline the process of turning digital imagery into usable products that could be read and utilized by commercial applicator vehicles in farming. This

More than 500 images collected by the Phoenix UAS have been stitched together into one large mosaic image of the University of Minnesota Magnusson Research Farm in Roseau, Minnesota.

requires applied research to create an efficient and effective use of the information collected using UAS technology.

The Minnesota Department of Agriculture project has lead to an understanding of the necessary software tools, database management practices and processing techniques to develop the imagery and data collected for uses, such as identifying specific signatures for weeds and plant stress leading to prescriptions that can be utilized by applicator vehicles. Some of the tools include software to combine or "stitch" the multiple still images by correlating pixel points and geo-tags to make a mosaic or single image of a large section. Once a mosaic is created, it can be imported into a geographic information system tool and used for a wide range of applications, such as marking geo-reference areas, topography mapping, or identifying visual signatures of interest. The outputs of the project will lead to increased yield production, reduction of inputs, and greater environmental stewardship.

Different applications will greatly change the operational concepts and safety considerations that UAS technicians need to take into account. For example, the collection of information to support production agriculture, infrastructure inspection and public safety will all require very different considerations for planning. Production agriculture provides a static environment, typically very little for obstacles and obstructions, and would most likely utilize a preset flight plan in which the UAS technician monitors systems to make sure they are functioning properly. Infrastructure inspection would most likely involve operating around obstructions and understanding the correct stand-off distance for both safety and capturing the desired information relevant to the application. Public safety requires a high level of safety considerations based on a dynamically changing situation on the ground and during flight. Each application requires a unique understanding of the end user requirements, as well as a comprehensive approach on how to employ UAS effectively, to produce the desired products while doing it safely.

UAS technology is transforming aviation and the demands for future technician education. Northland is developing the necessary technician education programs to support these needs. This year, Northland was awarded a National Science Foundation (NSF) Advanced Technological Education (ATE) Project Grant (DUE 1501629) to develop curriculum and pathways material for emerging careers in UAS technology. This coming summer, Northland will provide workshops for educators and summer camps for secondary students. These opportunities will provide access and create awareness of the potential UAS have and the impact they are creating.

Six National UAS Test Sites are already leading the way on integration initiatives, but the initiative stretches beyond these boundaries and across the country. Now is the time to prepare by leveraging the expertise of aviation innovators who have led us to today to help write the pages of tomorrow. Relationships between education, government and industry partners are key to advance technician education, parallel to significant changes resulting from integration of UAS technology. A highly educated technician workforce will allow for safe and effective integration of UAS technology across a wide range of applications expanding beyond potential into actual transformation of our future. It will also allow for all stakeholders affected by the integration of UAS to advance with the technology, create opportunities, and expand careers in related disciplines. The results will open the doors to advance our knowledge about a technology creating new perspectives that have never existed. These perspectives will open the imagination of future generations, only limited by what we choose to explore.

EDITOR'S NOTE: This material is based in part upon work supported by the National Science Foundation (DUE 1501629). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Jonathan Beck is the UAS Instructor/Program Manager at Northland Community & Technical College in Thief River Falls, Minnesota.

❑

Calendar

Send the **DATE, TIMES, LOCATION** *(INCLUDE CITY, STATE & AIRPORT NAME & I.D.),* and **CONTACT PERSON'S TELEPHONE NUMBER**, as well as that person's address & email address for reference. First 15 words **FREE.** $.75 for each additional word.

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NOTAM: Pilots, be sure to call events in advance to confirm dates and for traffic advisories and NOTAMs. Also, use only current aeronautical charts, etc., for navigation and not calendar listing information.

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* INDICATES ANY NEW OR UPDATED CALENDAR LISTINGS SINCE THE PREVIOUS ISSUE.

2015

DECEMBER 2015

11* **OSHKOSH, WIS.** - EAA's Annual Wright Brothers Memorial Banquet. Speaker is Erik Lindbergh. www.eaa.org

2016

JANUARY 2016

20-23 **SEBRING, FLA.** - U.S. Sport Aviation Expo. www.sportaviationexpo

27-28* **KEARNEY, NEB.** - Nebraska Aviation Syposium at the Holiday Inn-Kearney. Schedule is tentative and subject to change. www.nebraskaaviationcouncil.org/NAC/AviSym.html

29-30* **KEARNEY, NEB.** - Nebraska Aviation Maintenance Seminar at the Holiday Inn-Kearney. www.nebraskaaviationcouncil.org/NAC/MechSch.html

FEBRUARY 2016

5-6* **DES MOINES, IOWA** - Midwest Regional Aircraft Maintenance Seminar at Holiday Inn Conference Center . iaaviation.com/index.html

16* **MADISON, WIS.** - WisDOT Aeronautics Airport Engineer's Workshop at the Crowne Plaza Hotel. Register by January 31. Contact Tom DeWinter - thomas.dewinter@dot.wi.gov or 608-266-8073.

28* **WARROAD (KRRT), MINN.** - 38th Annual Ski Plane Fly-In & Breakfast. Ski Planes land on the Warroad River, wheel planes at the Warroad Airport (KRRT). Shuttle service available. 8am-Noon. Contact Dave Paulson 218-386-1818 or 218-386-2098. E-mail: dpaulson@ssbwarroad.com

MARCH 2016

2* **STEVENS POINT, WIS.** - WisDOT IA Mechanic Refresher Seminar at the Holiday Inn Hotel & Convention Center. http://wisconsindot.gov/Pages/doing-bus/aeronautics/trng-evnts/mech-ia.aspx

5* **GARRISON, MINN.** - Iceport 2016 Fly-In On The Shores Of Twin Pines Resort on Mille Lacs Lake. 122.9 320-200-8050 - 320-692-4413. *Raindate 12th.* See Video of Past Fly-Ins *www.twinpinesmillelacs.com*

8-9* **ASHBURN, VIRG.** - 2016 Air Charter Safety Foundation Safety Symposium at the NTSB Training Center in Dulles. 202-774-1515.

10-12 **NASHVILLE, TENN.** - Annual International Women in Aviation Conference at the Gaylord Opryland Resort. www.wai.org

16* **ST. PAUL, MINN.** - 5th Annual Minnesota Aviation Day At The Capitol. For additional information contact GORDON.HOFF@COMCAST.NET

19-20* **KENOSHA, WIS.** - Wisconsin Flight Instructor Refresher Course (FIRC) at the Gateway Technical College Horizon Center. http://wisconsindot.gov/Pages/doing-bus/aeronautics/trng-evnts/firc.aspx

21-22* **BROOKLYN CENTER, MINN.** - 2016 MN Aviation Maintenance Technician Conference at the Earle Brown Heritage Center: 651-234-7248.

APRIL 2016

5-6* **DEADWOOD, S.D.** - South Dakota Aiports Conference at The Lodge. April 5 (Tuesday) will be sponsor meetings, and April 6&7 will be the conference.

5-10* **LAKELAND, FLA.** - Sun 'n Fun.

20-22* **BRAINERD, MINN.** - The annual Minnesota Airports Conference will be held at Maddens Conference Center. The conference, held in conjunction with the Minnesota Council of Airports annual meeting, also includes technical and safety presentations, an industry trade show, and an awards and recognition program. www.airtap.umn.edu/events/airportsconference/2016/

30* **BLOOMINGTON, MINN.** - Minnesota Aviation Hall of Fame Induction Banquet at the Ramada, Mall of America Hotel. 800-328-1931. www.mnaviationhalloffame.org/award.html

MAY 2016

2-4 **OSHKOSH, WIS.** - 2016 Wisconsin Aviation Conference. For additional info contact bob@thewisconsinriver.com.

20-22 **BRAINERD, MINN.** - 2016 Minnesota Airports Conference at Madden's On Gull Lake (www.mnairports.org).

21* **BEAUFORT (MRH), N.C.** - Regional AOPA Fly-In at Michael J. Smith Field. www.aopa.org/Community-and-Events/AOPA-Fly-In/2016

JUNE 2016

5* **WILD ROSE (W-23), WIS.** - Pancake, eggs, sausage, applesauce & more Breakfast 8-11am. Pig Roast (Pork-Beef-potato salad-Beans & more) 11:30am till gone at Wild Rose Idlewild Airport. Rain or Shine. 715-513-0911

JULY 2016

1-2* **PHILLIPS (PHB), WIS.** - Fly-In/Float-In Airshow (Friday 7pm & Saturday 11am). Breakfast & Lunch before or after airshow on Saturday at Harbor View Pub & Eatery. Also band 8pm-Midnight.

16* **WASHINGTON ISLAND (2P2), WIS.** - 63rd Annual Washington Island Fish Boil Fly-In, 11:00 am to 1:00 pm, Washington Island Airport, Wis. (2P2). No fee for tie-downs or camping. Lodging also available: 920-847-2448 or 920-847-2147 (www.WashingIsland-wi-gov and www.WashingtonIsland.com). Sponsored by the Washington Island Lions Club.

23-24* **SIOUX FALLS (FSD), S.D.** - "Power on the Prairie" Air Show.

25-31* **OSHKOSH, WIS.** - EAA AirVenture Oshkosh, Wittman Regional Airport. www.eaa.org

AUGUST 2016

8-11* **MIMINISKA LODGE, ONTARIO** - 2016 Canadian Fishing Fly-Out. 3-Night/2-Day Trip.

8-13* **MIMINISKA LODGE, ONTARIO** - 2016 Canadian Fishing Fly-Out. 5-Night/4-Day Trip.

11-14* **MIMINISKA LODGE, ONTARIO** - 2016 Canadian Fishing Fly-Out. 3-Night/2-Day Trip.

FOR MORE INFO ON CANADIAN FISHING FLY-OUT
EMAIL: info@midwestflyer.com

14* **Lino Lakes, Minn. -** Minnesota Seaplane Pilots Association Pig Roast, Surfside Seaplane Base. www.mnseaplanes.com

20* **Bremerton (PWT), Wash. -** Regional AOPA Fly-In at Bremerton National Airport. www.aopa.org/Community-and-Events/AOPA-Fly-In/2016

SEPTEMBER 2016

17* **Battle Creek (BLT), Mich. -** Regional AOPA Fly-In at WK Kellogg Airport. www.aopa.org/Community-and-Events/AOPA-Fly-In/2016

26* **Eden Prairie (FCM), Minn. -** Chili Cook-Off/Feed & Open House at Modern Avionics 9am-1pm. Anyone interested in entering the chili contest, please call or email Gloria 952-941-2783 or gloria@modernaviationscom.

OCTOBER 2016

1* **Prescott (PRC), Ariz. -** Regional AOPA Fly-In at Earnest A. Love Field. www.aopa.org/Community-and-Events/AOPA-Fly-In/2016

For More Listings, Information & Updates Go To www.midwestflyer.com (Calendar Of Events)

Email your aviation calendar event - dates, city, state, airport ID and what kind of event – to info@midwestflyer.com

Airport Restaurants

Airport	Airport ID	Restaurant	Website
Dane County Regional Airport, Madison, Wis.	KMSN	Pat O'Malley's "Jet Room" Restaurant	www.jetroomrestaurant.com
Price County Airport, Phillips, Wis.	KPBH	Harbor View Pub & Eatery	www.harborviewonline.com
Tri County Regional Airport, Spring Green, Wis.	KLNR	Picadilly Lilly Airport Diner	www.piccadillylillydiner.com

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HANGAR FOR SALE – Wisconsin – Dodge County Airport (KUNU) – 54W X 45D, Door 44W x 11H. $42,500. Contact **Mary at 920-386-2402 or Mary.Gasper@WisconsinAviation.com.** More details and photos available at **WisconsinAviation.com.**

RESTAURANT SPACE AVAILABLE (3,695 sq. ft.) at Southern Wisconsin Regional Airport (KJVL) in our newly remodeled terminal building in Janesville, Wisconsin. This airport is known for being an airfield with a restaurant for over 50 years. The space offers panoramic views of the three runways and is conveniently located between Janesville and Madison to the north, and Beloit and Rockford, Illinois to the south. For additional information contact **Ron Burdick at 608-757-5768.**

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Pilots Crisscross USA From Page 53

cockpit was surreal as activities around Central Park, the Empire State Building and the new World Trade Center could practically be heard… rustling leaves, clicking keyboards, whistle-hailed taxis, honking horns and chatter formed an imagined Gershwinesque cacophony.

Doug Boyson at Dallas Love Field, tracked each of the flights closely, offering encouragement and concern by email over the entire 10-day voyage. Craparo and Dabbs were surprised and delighted by this air traffic controller's simple greeting upon their success-filled touchdown… "Good morning and welcome home guys!"

Dabbs states, "Aside from any record-setting, we displayed the capability of this small aircraft as a safe, comfortable and economical touring vehicle for short and long distance travel." The gyroplane uses about 5 gallons of premium auto fuel for every hour of flight, while cruising at 100 mph. John Craparo stresses the safety and stability record of the Magni designed gyroplane. He also says, "It is fun and its simple controls make it easy to fly with proper training."

John Craparo, 56, of Georgetown, Texas, is a retired senior vice president of Hewlett-Packard Company. He holds pilot privileges in airplane, seaplane, gyroplane, powered parachute, glider, and hot air balloon. He is also a certificated advanced ground instructor and aircraft repairman. Craparo is the author of the book, *You Can Fly Now,* and is a regular contributor to *Powered Sport Flying Magazine.*

Dayton Dabbs, 30, Taylor, Texas, is the president of Lone Star Magni Gyro, Inc. The company trains gyroplane pilots and is a leading distributor for Magni Gyroplanes in the USA. Dabbs holds a commercial pilot certificate for airplane and gyroplane. He is also a certificated flight instructor (CFI) and aircraft repairman, and a designated pilot examiner (DPE).

A gyroplane is a category of aircraft utilizing non-motorized overhead rotor blades for lift with an engine-driven propeller for forward thrust. The Magni M16 is an open cockpit, two-place carbon fiber and steel aircraft equipped with a 115 hp Rotax 914 turbocharged aircraft engine. The rotor blades measure 28 feet in diameter. The gyroplane, as configured for the record attempt, had a takeoff weight of 1,100 lbs. The aircraft can cruise at speeds from 30 to 100 mph at a maximum altitude of 14,000 feet. Short takeoff and landing distances on paved or turf runways allows it to operate where airplanes cannot.

The precursor of the modern gyroplane was the "autogiro," invented in 1923 by Juan de la Cierva of Spain. The aircraft was hailed for its ability to make very short takeoffs and landings. In addition, it was extremely safe due to its inability to suddenly lose aerodynamic lift, which plagued fixed-wing airplanes of the day.

During the 1930s, the autogiro was imported into the United States under license to aviation entrepreneurs like Harold Pitcairn and Wallace Kellett. In May 1931, the experienced exhibition pilot, Johnny Miller, took off for the west coast in an attempt to be the first person to cross the country in an autogiro. Amelia Earhart, who was better known than Miller and much better financed, also left the east coast trying to add that title to her list of aviation triumphs. When she reached California in her Pitcairn Autogiro, she was surprised and angered to learn that Miller beat her there by one week in the same make and model machine.

In 1939, Miller and Eastern Airlines entered into a contract with the U.S. Postal Service. Miller was contracted to fly the world's shortest airmail route between the rooftop of the new Philadelphia central post office and the Camden, New Jersey airport. Miller flew over 3,000 successful flights between the downtown office building and the airport over the course of 12 months. The gyroplane used by Craparo and Dabbs carries the same registration number as the Kellett Autogiro flown by Miller, N15069. It is also dressed with a modernized Eastern Airlines logo from that era – a stylized eagle in a circle.

The autogiro was displaced by the helicopter during the Second World War due to the latter's vertical takeoff and landing capability. In the early 1990s, Vittorio Magni, an Italian engineer, developed the prototype for the modern gyroplane flown by Craparo and Dabbs, the Magni M16. The M16 is today flown all over the world for recreation and commercial use including aerial photography, nature conservation, pipeline patrol, traffic reporting, agricultural spraying, ranching and police surveillance. ❑

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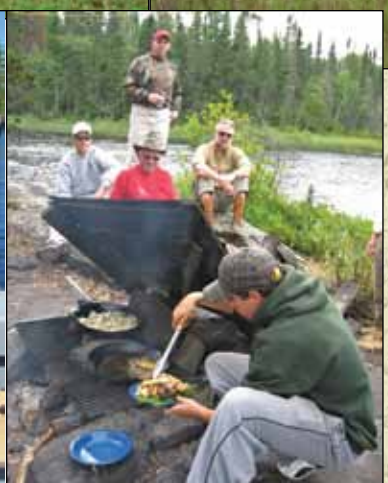

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