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Meeting Our Members

Here at AOPA, 2014 has been a year of experimentation, and one of our biggest experiments has been hosting a series of regional fly-ins all across the country.

It was a tough decision to end the tradition of holding one big show every year. It was something AOPA had done for a long time, and there were members who really valued the chance to get together with us and one another at a three-day extravaganza.

While we loved welcoming members to these events, and getting to know the regular attendees, we also realized that we were seeing only a very



small segment of our membership—mostly people who lived on the East or West Coast and who could take several days to spend with us.

We knew we wanted to reach more of our members in more places, so we decided to experiment with smaller one-day events. Admission was free of charge and each event was held on a Saturday to make coming less of a commitment. In honor of our 75th anniversary, we scheduled a homecoming at our Frederick, Maryland, headquarters plus events at airports in Washington State, California, Texas, Georgia, Massachusetts, and Indiana.

Over the course of these seven gatherings, we met more than 16,000 members—that's more than three times as many people as attended our last annual convention.

It was a chance for me to tell thousands of members directly about our advocacy efforts in Washington, D.C., and in every state in the nation. It was also a chance for me to hear from our members about their questions and concerns.

But, perhaps best of all, every event was a chance to celebrate what's great about general aviation, starting with the people. Hanging out at the airport with a couple thousand of my fellow pilots and aviation enthusiasts is always my idea of a good time. Add in beautiful airplanes old and new, innovative avionics, pilot gear of every type, and entertaining and educational seminars, and you've got a perfect Saturday as far as I'm concerned.

We enjoyed meeting our members so much that we can't wait to do it again. In the next few weeks we'll be announcing our 2015 AOPA Fly-In schedule. Count on seeing us in Frederick for a 2015 Homecoming event, plus a series of all-new locations around the country. I can't wait to meet you there!

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.

Vol. 37. No. 1



ON THE COVER: Rory Fredstrom of Brainerd, Minnesota, flying his 1960 PA-18-95 Piper Super Cub over the fall terrain of northern Minnesota. Brad Thornberg Photo

HEADLINES

B-29 Superfortress Edges Closer To First Flight	
In More Than 60 Years	17
Minnesota Pilot Wins AOPA Sweepstakes Debonair	
AOPA President Stages Air-To-Air Delivery	22
The "Oscar Night of Aviation" Inducts Midwest Aviators	26
AOPA Works To End Border Crossing Frustrations	29
Lake Area Technical Institute Thriving!	34
GA Groups Oppose U.S. Senate Bill	
That Would Close Missouri's St. Clair Regional Airport	40
Morey & Teitell Complete Capital Air Tour As Planned	41
Industry Encouraged By Next Step In Collaborative Process	
For 100 Low-Lead Fuel Replacement	59

COLUMNS

AOPA Great Lakes Regional Report - by Bryan Budds	15
AOPA Central Regional Report - by Yasmina Platt	16
Ask Pete - by Pete Schoeninger	9
Aviation Law - On Your Side - by Gregory J. Reigel	8
Dialogue - by Dave Weiman	5
Flight Training - by Harold Green	20
From AOPA Headquarters - by Mark R. Baker	14
High On Health - by Dr. Bill Blank	18
Instrument Flight - by Michael J. "Mick" Kaufman	10
Minnesota Aeronautics Bulletin - by Cassandra Isackson	48
Wisconsin Aeronautics Report - by Hal Davis	44

FEATURES

Yingling Aviation Opens Subway Café - by Molly McMillin17
Once-And-For-All – No Question About It –
Flying Motor Gliders Is The Way To Fly Without A Medical
& Much More! – by Jim Hanson
Second Generation Gyroplanes In The Midwest - by Chris Laskey 47
Say Again? - by The Raviator



SECTIONS

At Our Airports	38
Calendar	58
Classifieds	60
Destinations	43
From Our Readers	7
From Wichita	17
Future Fuels	59
Hearing Protection	62
Insurance	57
Let's Fly & Dine	42
Minnesota Aviation Industry News	51
Minnesota Education Section	54
People In The News	22
Products & Services	53
Promoting General Aviation	41
WATA Difference	46
Washington	29



Your Feedback Is Important!

by Dave Weiman

Have you noticed an increase in the number of customer surveys in recent years? If you call your cell phone provider, for instance, a recorded message will ask you if you will take a few minutes after your call to evaluate their service. The deluge of requests like that is a bit overwhelming and can be very time consuming. However, at least you know your feedback is valued!



Providing feedback in areas where we have a vested interest like "aviation" is essential. If we have an idea on how we can improve or strengthen general aviation, we should take the time to contact our aviation organizations. Staff representatives will likely be very appreciative and receptive to your input.

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Index To Advertisers

Academy College11
Aero Fabricators, Inc
Aero Insurance, LLC
Aero Legal Services53
Aerolab USA18
Aircraft Owners & Pilots Association (AOPA). 3
AircraftInsurance.com60
airpac.com56
Airways Gifts60
Avfuel Corporation61
Basler Turbo Conversions, LLC46
Beaver Aviation, Inc
Becher Hoppe22
Best Oil Company
Bolduc Aviation Specialized Serv
Bolton & Menk, Inc20
Brackett Aircraft Co., Inc
Cessna Aircraft Co
Chicago Piper 2
Cirrus Aircraft61
DAHER-SOCATA (TBM 850)61
Des Moines Flying Service, Inc 2
Eagle Air
Eagle Fuel Cells43
Eagle River Union Airport43
Field of Dreams Airport (04W)
Fond du Lac Skyport46
Garmin
Gran-Aire, Inc
Hangar Building Sites (South St. Paul, MN)33
Hangar For Hent (Hartford, WI)
Hangar For Sale (Cumberland, WI)60
Hangars For Hent (Janesville, WI)
Hangars For Hent (La Crosse, WI)
Hangars For Hent (Lone Rock, WI)40
Hangars For Sale (Juneau, WI)
Harbor View Pub & Ealery
Jet Alf Group
Johnson Aviation Insurance
La Crosse Regional Airport
Maywall Aircraft Sanice
Macrodia Insurance Aganay Inc.
Mood & Hunt
Metropoliton Airporto Commission
weuopoinan Airpons Commission

Mid-Continent Aircraft Corp. (Cessna C-Star)60
Mid-Continent insurance
Midwest Aircrait Appraisal
Midwest Flyer Magazine 46, 57, 59 & 64
MIMINISKA Lodge (Wilderness North)63
Minnesota Aviation Maintenance Technician
Conference21
Minnesota Aviation Trades Ass'n (MATA)51
Minnesota DOT Office of Aeronautics
Minnesota Petroleum Service43
Morey Airplane Company 58 & 60
NationAir Aviation Insurance
NewView Technologies, Inc46
Northland Aerospace55
Northland Community & Technical College55
OMNNI Associates42
Pat O'Malley's "Jet Room" Restaurant
Phillips 6628, 33, 37 & 40
Piper Aircraft, Inc
Price County Airport (PBH)32
R.W. "Buzz" Kaplan -
The Life of an Adventurer25
Racine Commercial Airport46
Rapco Fleet Support, Inc46
Reigel Law Firm, Ltd53
Rice Lake Regional Airport - Carl's Field60
Schweiss Doors
Short Elliott Hendrickson Inc. (SEH) 7
Skycom Avionics, Inc64
S. St. Paul Municipal Airport (Fleming Field)33
Southern Wisconsin Regional Airport60
Tanis Aircraft Products, Inc24
The Green Earth Deicer Company, Inc42
Thunderbird Aviation 11 & 64
Tri-County Regional Airport (Lone Rock, Wis.).40
Trimcraft Aviation
Ulteig (Engineering, Surveying, Consulting)29
University of Wisconsin - Oshkosh
Wag-Aero Group
West Bend Air. Inc
Winona State University
Wipaire, Inc
Wisconsin Aviation, Inc
Wisconsin Aviation Trades Ass'n (WATA)46
Wisconsin DOT Bureau of Aeronautics44

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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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MIDWEST FLYER MAGAZINE 6031 Lawry Court OREGON, WI 53575-2617 USA

Dave:

Excellent series of articles on 3rd class medicals in Oct/Nov 2014 issue. Robert W. O'Brien, Jr., AAE Executive Director Wisconsin Airport Management Association (WAMA) Blue River, Wisconsin

Dave:

The recent fire at the Chicago ARTCC, with its disastrous and tragic consequences, may have been a blessing in disguise, as it demonstrated a weakness in our lack of backup plans and systems.

I recall an editorial by an aviation attorney about a "Good FAA and Bad FAA," in which he contrasted those aspects of the FAA that are necessary, and relate to safety with those that don't, such as the things aviation attorneys write about in aviation publications. The ARTCCs are part of the "Good FAA," and FAA funding should be transferred from the "Bad FAA" to provide us with backup capabilities.

Larry E. Nazimek Chicago, Illinois

Dave:

I just checked Flight Aware, and was tracking a Jet Blue A320 on a flight from New York to Las Vegas, and rather than fly direct, it flew northeast over Lake Michigan, then west over Madison, before proceeding towards the southwest to Vegas. Why don't they just fly direct and save the miles?

> GA Pilot Midwest U.S.A.

Dear GA Pilot:

We checked with a senior captain for a major airline, and this is what he has to say:

"We fly wind distance miles. We look at the great circle route (string on a globe) and then factor in the winds, always looking for more tailwinds and

FROM OUR READERS

less headwinds. The computer model figures the least time spent in the air, hence least fuel consumed and crew expenses paid. It is very sophisticated and accurate to within a few minutes even on my 15-hour trips from O'Hare to Shanghai. Of course, there is always weather, ATC flow control, over-flight permit fees, clear air turbulence reports, volcanic activity, one engine drift down over terrain, and much more to consider."

> Airline Captain Chicago, Illinois

Hi Dave:

I submitted our 12th annual fly-in event data on your form today. Thank YOU and *Midwest Flyer Magazine* for promoting not only us, but GA across the region.

> Respectfully, Scott Stuart Longville, Minnesota



FAA Takes A More Sensible Approach To First-Time, Inadvertent TFR Violations

by Greg Reigel Attorney At Law © December 2014. All rights reserved.

he FAA recently amended its enforcement guidelines for dealing with airmen who violate temporary flight restriction (TFR) airspace. In the past,



Greg Reigel

when the FAA alleged that an airman violated a TFR, and the incident was a first-time, inadvertent violation by the airman, and that airman would receive a Notice of Proposed Certificate Action (Notice) proposing suspension of his or her airman certificate for 30 days for violation of a variety of regulations. This was the FAA's "shoot from the hip," no questions asked approach. And once the Notice was issued, the FAA conceded very little, if anything, from that 30-day suspension.

Now, however, it appears the FAA may have recognized that this approach wasn't necessarily the best way of dealing with these types of violations. In June of 2014, the FAA amended Order 2150.3(b), the FAA's compliance and enforcement program, to change its approach to dealing with first-time, inadvertent TFR violators. According to the FAA, it is modifying its policy to provide more flexibility in dealing with TFR violators with the intent of reducing "the number of violations occurring in security airspace by using remedial training in appropriate circumstances to prevent repeated inadvertent violations." I'm not sure why it took the FAA this long to figure out that remedial training might be a better alternative to a suspension, but better late than never, I guess.

Under the amended guidelines, the FAA will apply the following sanction policy to TFR violations:

1. A single, first-time, inadvertent violation will result in a 30-day suspension EXCEPT in circumstances involving:

a. Inadvertent, first-time violations resulting from aircraft intruding one mile or less into the security airspace and then turning and exiting directly when there are no resulting complications for air traffic control or other aircraft; or

b. Inadvertent, first-time violations resulting from aircraft briefly (two minutes or less) squawking a 1200 code or failing to squawk an assigned discrete code, in security airspace that requires the aircraft to squawk a discrete code when there are no resulting complications for air traffic control or other aircraft.

In situations 1(a) and (b), the FAA will use remedial training, assuming the airman has no prior history of violations. This means the airman would receive a warning letter, remedial training and the airman would not have a finding of violation placed in his or her airman record. (In my opinion, a more appropriate response to this type of situation, rather than preventing an airman from staying current and competent by suspending his or her airman certificate, as was the case in the past.)

2. A new inadvertent violation and a history of 1 prior inadvertent TFR violation will result in a 45 to 90-day suspension of the airman's certificate.

3. A new inadvertent violation and a history of 2 prior inadvertent TFR violations will result in a 90 to 150-day suspension of the airman's certificate.

4. A new inadvertent violation and a history of 3 or more inadvertent TFR violations will result in revocation of the airman's certificate.

5. If the facts and circumstances surrounding the TFR violation call into question the qualifications of the airman, the FAA may also issue the airman a request for re-examination under 49 U.S.C. § 44709 (a "709 Ride").

6. Intentional TFR violations or "aggravated" violations (which isn't defined or explained in the amended policy) will result in revocation of the airman's certificate.

Unfortunately, informal counseling, whether oral or written, is not a permitted alternative for the FAA to deal with TFR violations. However, at least now the FAA has the option of remedial training to educate, rather than punish, inadvertent violators. Of course, this amended policy begs the question of what constitutes an "inadvertent" violation. Depending upon the FAA's interpretation of "inadvertent," which in the past hasn't always been the most reasonable, the amended policy may be for naught.

But the amended policy definitely appears to be a step in the right direction. Hopefully, this more enlightened approach, and the voice of reason, will prevail in the future. In any event, airmen should continue to check for NOTAMS, understand the scope of any TFR NOTAMS issued for their route of flight, obtain appropriate flight service briefings and updates, and either avoid TFRs or comply with the applicable requirements for operation within the TFR.

Fly smart and stay safe.

EDITOR'S NOTE: Greg Reigel is an attorney with Reigel Law Firm, Ltd., a law firm located in Hopkins, Minnesota, which represents clients in aviation and business law matters.

For assistance, call (952) 238-1060 or Twitter: @ReigelLaw (www.aerolegalservices.com)



by Pete Schoeninger

Email your questions to Pete@Flymilwaukee.com

Q: Pete, I think you are full of hot air. In the last issue of *Midwest Flyer Magazine*, you said an older four-seat airplane could be operated almost as cheaply as a Cessna 152. That's baloney, because my Cessna



Pete Schoeninger

172 burns 8.5 gallons per hour and a friend's 152 only burns 6 gph. That's a difference of \$15 an hour, to say nothing of more expensive engine overhauls, insurance, etc.

A: I have never denied being full of hot air. Slow down your 172, lean by the book if appropriate to cruise side by side

with the 152, and your fuel burn will drop to about 7 gph. For that one gallon per hour more at the same speed, you get 350 lbs more useful load, much more room inside, two more seats, and much longer range. Look at engine overhaul ads and you will see the cost of the 0-235 (C-152 engine) is about the same or even a little more than the 0-320 (in Cherokee 140s and many Cessna 172s.) Right now old Cherokee 140s – if anything – are a little cheaper to buy than 152s, and old 172s about the same price.

Q: How do manufacturers plan production numbers for next year's airplanes?

A: They might deny it, but manufacturers watch sale activity of used one, two and three-year-old models closely. If a two-year-old airplane has dropped quite a bit in value, there will not be as strong a demand for new ones. If the two-year-old airplane is bringing say 90% of a new one, a new airplane with warranty, etc. will be more attractive to buyers and that should mean good sales for new aircraft.

Q: Everybody knows Dacron fabric (Ceconite, etc.) will last almost indefinitely. Now, my mechanic is suggesting I recover my 25-year-old Citabria, even though the fabric tests okay. Is he nuts, or greedy, or both?

A: He's cautious. When Champs (the Citabria's father), Cubs, etc. were in large production in the late 1940s, they were all covered with grade A cotton. That had a useful life of 5 to 7 years. That meant a mechanic got a very detailed look at the bare frame of the airplane after that 5 to 7-year-old fabric was removed. Now, the fabric is so good it will last a very long time, but it is still a good idea to get a really good look at the airframe every once in a while. I have personally heard the owners of two well-known fabric airplane companies recommend no more than 20-25 years between cover. Mechanics who do recover work will tell you that in virtually every recover they do, there are issues to repair that could not be seen with the fabric on.

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INSTRUMENT FLIGHT

New Challenges In Picking Up An IFR Clearance Once Airborne

by Michael "Mick" Kaufman



Michael Kaufman

n the world of aviation, there are many items, procedures and regulations pilots do not have all of the answers for. Many times the people who should know – the FAA – don't have the answers, either!

Many aviation writers and selfappointed experts write articles that they have little or no knowledge of. Sometimes, I have the impression they have never flown in an aircraft. I do not

want to be put in that class, but on the other hand, there are times I have to talk to other pilots, Air Traffic Controllers and FAA officials to try to get the best answers possible for my column.

Over my last 49 years and 20K hours as a pilot, I have had many of my own experiences and will often use those experiences in my columns. I always appreciate input from our readers as well, and I may ask your permission to use your comments in my articles from time to time. In this issue, I will be writing about new challenges in taking off VFR and picking up an IFR clearance once airborne.

More than 20 years ago, I remember departing the Merrill, Wisconsin airport in a Piper Lance on a training flight that changed my personal practice of getting an IFR clearance after departing VFR. I was on a recurrency training flight with a pilot I had trained previously, and the weather (WX) would have been classified marginal VFR (MVFR). This was before the days of cell phones, remote communication outlets and iPads.

At that time, a pilot who was departing IFR at a nontower airport would get his preflight done and be ready to start engines. He/she would then call flight service to get a clearance with a void time, then make a RUN to the aircraft, taxi like on the way to a fire, and complete his checklist to get airborne before the departure window would close (i.e. "If not off by 00 hours, etc."). To avoid this rushed departure, many of us would depart VFR and once airborne and high enough to contact air traffic control (ATC), we would then pick up our IFR clearance. On one particular day, this was the plan to avoid a delay in departing and the rush to become airborne, but it backfired.

As we climbed out VFR, we had no luck communicating with ATC to get our clearance, the WX was rapidly deteriorating, and we were heading in a direction of rising terrain and obstacles. I tried a method used by many pilots of asking another pilot to relay our request to ATC, which worked, but I did not like the reply that echoed back to me from the other pilot. He told me that ATC could not issue us a clearance due to another aircraft on the approach to Merrill. Our only alternative was to return to Merrill, land and get the clearance via telephone. To add to the complications, there was an IFR aircraft on the approach, which we needed to avoid hitting with marginal and lowering weather conditions. All turned out okay, but I vowed that I would never again depart VFR hoping to pick up a clearance in the air until recently when I almost got burned again.

Over the years, many things have changed on how we get our IFR clearances. Today, we have cell phones and blue tooth headsets that allow us to call a clearance delivery number and get an IFR clearance from a non-towered airport and be able to copy it perfectly through our headsets. Using my *Lightspeed Zulu* headset, paired to my cell phone, I can call clearance delivery to get my clearance and it can be stored on an app from Lightspeed to be replayed later for any necessary clarification. The app will also store the entire radio communication of the flight.

This topic on picking up an IFR clearance for my column came about because the editor of *Midwest Flyer Magazine*, Dave Weiman, and I have both had recent denials of an IFR clearance from ATC after departing VFR. Here are our stories.

My story:

I was in a rush to depart Galesburg, Illinois in June 2014 in MVFR conditions with a new G36 Bonanza on my way back from the Beech factory in Wichita. I was giving training to the new aircraft owner/pilot. We had spent the night in Galesburg due to thunderstorms the previous day, and I wanted to pay my last respects to a long-time pilot and friend, Richard Young of Bear Valley, Wisconsin, whose funeral was that morning. We had the airplane in the hangar overnight because of the WX, and there was an unexpected delay with the line service in getting the airplane out. The flight route was simple and straightforward, but the ceiling was low at the destination airport – Lone Rock, Wisconsin (KLNR).

I broke my long-standing rule of departing in MVFR weather and picking up a clearance once airborne. When I contacted Moline Approach Control for my clearance, the controller asked me if I could maintain VFR to 3000 ft. in order to receive my clearance. My answer was that I could not, and I was denied my clearance, so I continued VFR northbound knowing that the WX at Moline was good VFR, and I would be able to climb to 3000 ft. in a few miles. Once I was able to maintain VFR at 3000 ft., I was given my IFR clearance and proceeded to my destination without further incident.

I spent some time thinking about this encounter with ATC, but it went on the backburner until Dave Weiman had a similar incident.

Dave's story:

Dave was departing his home airport in Oregon, Wisconsin, enroute to an aviation event in Grand Forks. The WX was marginal VFR, and Dave had filed an IFR flight plan prior to departure. Dave's scenario closely followed my story in the beginning, except he was flying in the direction of lowering weather conditions. Upon calling Madison Approach, which was 15 miles to the north, ATC responded almost identical to my situation in asking if he could climb to and maintain 3500 feet on a prescribed heading towards Madison (and television towers) and clear all terrain and obstacles on the ground. Dave's response was that the ceiling was 2000 feet and he would be in IMC (Instrument Meteorological Conditions) on the climb-out, and therefore would be unable to see obstacles on the ground. Like me, Dave tried flying towards an area he thought the ceilings were higher and he could reach 3500 in VFR conditions, but no joy! He then canceled his squawk code with Madison Approach and returned to his home field to consider his options and called me to get my feedback, at which time I shared my experience with him.

We came to the same conclusion... ATC could have worded their request more clearly, but that may be more of a problem of a poorly written and misunderstood regulation than it was the fault of the controllers.

In my case, I was asked if I could maintain VFR to the altitude required to pick up the clearance, and Dave was asked if he could clear all terrain and obstacles on the ground up to and maintain the Minimum Vectoring Altitude (MVA) on a prescribed route as per his flight plan. We each agreed to look for answers and relay our findings to you. I called a close friend who is a supervisor at Boston Center, and Dave contacted a number of people inside and outside the FAA, the Aircraft Owners & Pilots Association, and the National Air Traffic Controllers Association. We both received similar replies to our questions.

As you read the quoted response below to Dave Weiman's questions from Andy Marosvari of the National Air Traffic Controllers Association, it will make sense with one exception, which should be obvious:

"As the rule is written, unless I know that you **can't** provide your own terrain and obstruction clearance until reaching the appropriate altitude, I don't have to ask. But for the sake of this discussion, let's assume that I do know or that you have told me.

"This is the first step a controller will take in order to issue a clearance below the minimum IFR/MVA altitude."

d. When a VFR aircraft, operating below the minimum altitude for IFR operations, requests an IFR clearance and you are aware that the pilot is unable to climb in **VFR** conditions to the minimum IFR altitude:

"Notice the bolded text (my emphasis). The next step in the process depends on the answer to the following question:"

1. Before issuing a clearance, ask if the pilot is able to **maintain terrain and obstruction clearance** during a climb to the minimum IFR altitude.

"Again, the bolded text is my emphasis, but you will notice there is no mention of maintaining VFR. If you answer



DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE 11

'yes,' that tells the controller that you understand that you are responsible for the terrain and obstruction (clearance), even if you are unable to do this in VFR conditions. The controller can issue you a clearance **PROVIDED** no course guidance is included. If the answer is '**no**,' the controller will instruct you to maintain VFR and ask for your intentions.

"Is it safe and legal? It is for the controller, provided he/she has complied with the rules in our handbook. As a pilot, if I were to accept the clearance knowing that I have the responsibility to provide my own terrain and obstruction clearance. I would want to be able to see these obstructions OR plot out a course that would provide the required minimum IFR altitude for my route (in a large part of the country, that would be 1,000 feet above the highest point 4nm either side of the planned route). The point being is that unless the pilot is flying a published FAA procedure or the controller is vectoring in an approved Diverse Vectoring Area, the PILOT is responsible to avoid obstructions. The controller cannot accept that responsibility.

Vectoring to avoid obstructions and terrain is not necessarily a discretionary practice...these obstructions must be mapped. Towers that are shown on a sectional aren't necessarily mapped on a radar map.

An assigned squawk code aids the controller in radar identification and the AIM advises pilots that just because an aircraft is in radar, doesn't transfer the responsibility for terrain and obstruction clearance.

In your example, I will assume that Class E airspace starts at 700 AGL. A departing aircraft would enter controlled airspace (Class E) at 1,650 MSL. A 2,000 ft. overcast ceiling would put the aircraft 1,300 ft below the bases. MVA altitudes are MSP, so an MVA of 3,500 in that area means the pilot would be responsible for terrain and obstruction (clearance) for 550 ft. of that climb. Our rules don't allow for ATC to accept that responsibility. A controller who doesn't issue the clearance is following agency rules and not avoiding liability. **The expectation in this case is that the pilot wouldn't deviate from required visibility rules.** Andy Marosvari NATCA

MY CONCLUSION: So according to Andy, "the expectation is that the pilot would not deviate from required visibility rules." Then the question remains, are we safe, legal and approved to climb in IMC to







the Minimum Vectoring Altitude (MVA) if we accept responsibility for terrain and obstruction avoidance? If the answer is YES, why doesn't ATC

state their question that way, "if we accept responsibility for terrain and obstruction avoidance?"

The pilot must also consider the airspace issue, and the fact that he does not yet have a clearance issued.

When you depart an uncontrolled airport, you are in Class G airspace. Controlled airspace usually begins at 700 feet AGL at airports with published instrument approaches and 1200 feet AGL at a majority of the remaining VFR airports. There are a few airports in sparsely populated areas of the country where controlled airspace begins at 14,500 feet MSL (see fig 1), but at Galesburg, controlled airspace goes to the surface depicted by the magenta dashed line (fig 2). If we were climbing out in uncontrolled airspace IFR, we are not protected from other traffic, and another aircraft could be in the traffic pattern legally with one mile of visibility and clear of clouds. It is perfectly legal to fly IFR in uncontrolled airspace, but you must be qualified, current and have a properly equipped aircraft. There is no flight plan filed, no clearance given and no separation of aircraft given in uncontrolled airspace so, (ya all be careful, ya hear?).

In my story because there is a published obstacle departure procedure for Galesburg (see fig 3), I would be allowed to get my clearance on the ground and depart into controlled or uncontrolled airspace, whichever is the case. In Dave's story, he would not be able to do the same, as usually, there is not an obstacle departure procedure published for private airports. We would have an interesting situation to contend with if we are not allowed to fly IFR in controlled airspace, and we could not get a clearance to do so because we were not high enough to be issued that clearance.

So what were Dave's options, other than land and cancel the trip?

1) Dave could have proceeded VFR to the closest airport with a published obstacle departure procedure, land, and pick up his clearance on the ground. At least then, ATC could have given him



Figure 3

radar advisories to that airport. He still would have been responsible for terrain and obstacle clearance enroute.

2) Rather than proceed on the flight plan route to the north, could Dave have requested - or the

controller suggested - a deviation towards the west in an area free of television towers and safe to climb in IMC to the MVA? We are still trying to get a confirmation on that option.

We have just seen some interesting scenarios to think about until the next issue of Midwest Flyer Magazine.

Merry Christmas, Happy New Year, and fly safe and out of the ice. That applies to aircraft and Santa as well!!!

EDITOR'S NOTE: The information contain in this article is based solely on the experiences and opinions of two pilots, and should in no way be misconstrued as approved Federal Aviation Regulations, policy or procedures. For additional information, contact the Federal Aviation Administration. Comments are welcomed and may be emailed to info@MidwestFlyer.com.



"ATC promises that once we get to their Minimum Vectoring Altitude, there will be less obstructions." Randy Arneson



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The Future of the FAA

bv Mark R. Baker President & CEO Aircraft Owners & Pilots Association

he FAA's funding is set to expire on Sept. 30, 2015, and crafting a new long-term funding package, along with the guidance and direction on how the money can be used, will be an important job for Congress in the coming year.



As an industry and activity that's highly regulated by the FAA, general

aviation is an important stakeholder in that reauthorization process and we need to be sure our perspective is heard.

In November, I had the chance to testify before the House Transportation and Infrastructure Committee-a group that will play a major role in deciding FAA funding-on the subject of "FAA Reauthorization: Issues in Modernizing and Operating the Nation's Airspace."

I told the Committee that when the FAA really listens



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to the aviation community and works with stakeholders collaboratively from the beginning, we can accomplish great things. The Piston Aviation Fuels Initiative is an example of how the government and industry are working together effectively to find a replacement for leaded avgas.

On the other hand, it's hard to overlook the fact that the FAA is a giant bureaucracy that can be painfully slow, risk averse, and wasteful. FAA Administrator Michael Huerta has been working to turn around the cumbersome organization and find ways to keep pace with rapidly changing technology, but more needs to be done.

Right now, overly complex and costly certification and regulatory processes are making it difficult or impossible for many owners of older aircraft to install modern safety equipment like electronic flight displays, digital autopilots, and advanced engine monitoring technology. That's because the FAA must approve the design, production, and installation process for each individual make and model of aircraft. The result is limited availability and high cost.

And that's just one example of how the FAA, despite the best intentions, can get in its own way. As the debate over the future of the FAA heats up in 2015, we'll make sure Congress knows what's important to the general aviation community. We want the FAA to have stable long-term funding so it can achieve big goals like modernizing our air traffic system, investing in airports and infrastructure, and continuing to provide the safest air transportation system in the world. And we believe strongly that the current funding system of fuel taxes-and not user fees-is the most efficient and effective way to come up with the money.

But we also want the FAA to take a hard look at how it operates and find ways to better serve its constituents, move away from a one-size-fits-all approach to regulation, support incremental safety improvements, cut waste, and work with the general aviation industry to create an environment where we can get and keep more people flying. And we're ready to work closely with FAA, Congress, and the rest of the GA industry to make it happen.

> **AOPA Announces Exit From Electronic Flight Bag Market**

FREDERICK, MD. - Over the past several years, the Aircraft Owners and Pilots Association (AOPA) partnered with Seattle Avionics to create "FlyQ EFB," an electronic flight bag (EFB) iPad application, and FlyQ Pocket, a smartphone application. Following a review of member benefits and products, AOPA has decided to exit the EFB market, and develop a distinct smartphone application focusing on content and functions driven by member needs. The new smartphone application will remain a free member benefit. AOPA's replacement smartphone application will be available for members in 2015.

AOPA GREAT LAKES REGIONAL REPORT

Great Lakes State Committees Guide Aviation Into The Future

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

ver the past year, several state aviation offices have created advisory committees to help guide the offices as they look to bolster general aviation with everdeclining funds. AOPA is very proud to have partnered with the Michigan Aeronautics Commission as a member of the General Aviation Committee, the Minnesota Office of Aeronautics as part of its "Soup Group" of industry



Bryan Budds

representatives, and the Ohio Office of Aviation as part of the Ohio Airports Focus Study Project Advisory Committee. While you likely have not heard of these groups, they have proven to be extremely valuable in strengthening the GA industry in a variety of ways.

The Michigan Aeronautics Commission, the governing body of aviation in the state, realized there was a need for a group to keep their pulse on the GA industry from all parts of the state. To help the commission make informed decisions, the commission tapped people from all walks of the aviation life – from airport managers and commissioners, airport consultants, business aviation pilots, unmanned systems operators, pilot groups, back-country flyers and even Science, Technology, Mathematics, and Engineering (STEM) education specialists. The goal is simple: "To promote and increase the use and enjoyment of general aviation in Michigan."

One way the Michigan committee has done that over

its two years of existence is through the reactivation of the "STEM in Flight" teacher workshop. The workshop brings educators from across the state together in an immersive aviation-themed day. The intent of the day is to show educators just how well-suited aviation is as a teaching tool and how their local airport can be an excellent classroom. With the help of each member of the General Aviation Committee, the teacher workshops have been very successful.

Similarly, the Minnesota Office of Aeronautics called together a similar group of aviation professionals to help promote general aviation and to assist the office on general aviation specific issues. Having been in existence for just slightly over a year, the Minnesota Soup Group continues to recruit new members and to set its sights on achievable goals. Recent sessions have centered on growing participation and awareness for the Aeronautics Office's current aviation education programs including Aviation Career Education (ACE) camps, teacher presentations, elementary outreach and other great resources.

The Ohio Office of Aviation formed a Project Advisory Committee (PAC) to help guide the office as it progressed through the Ohio Airports Focus Study. While PAC has a slightly different charge than the groups above, it does similarly important work in bringing all components of the aviation industry together to help guide airport engineers and consultants, ODOT staff, and others as they forge a plan to keep Ohio's airport system strong in the face of shrinking budgets.

I cannot commend MDOT, MnDOT, and ODOT enough for their outreach to the aviation community to help better their respective states. As AOPA has seen across the country, having an already 'dialed in' group of aviation leaders as a sounding board when critical issues arise is critical. We are proud to continue to grow these relationships on behalf of AOPA members from across the region! If you are interested in participating or sharing any issues you notice in your state, please let me know!

Contact Bryan Budds @ bryan.budds@aopa.org

AOPA CENTRAL REGIONAL REPORT

Showcasing "Kansas Aviation Is For Everybody"... The 2014 Fly Kansas Air Tour

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

by Yasmina Platt Manager, AOPA Central Southwest Region

ave you ever flown on an air tour? I recently joined the 2014 Fly Kansas Air Tour – part of a week-long series of aviation events around the state held September 22-26 as part of the Kansas Aviation Expo.

What a great experience! Can you imagine... flying about 700 nm in 10 hours of flight time to 10 airports, in 9 cities, in 3 days, with about 60 other pilots in close to 40 different aircraft



Yasmina Platt

while learning about general aviation in your state and sharing your love for general aviation and flying with over 600 school children? That's what Joey Colleran, AOPA's Director of the Airport Support Network (ASN) program, and I did when we participated in the air tour.

Lots of aircraft, including some pilots who did not participate in the air tour, came to the Wellington Municipal Airport (KEGT) to kick it off with officials from the Kansas DOT-Aviation Division and locals. Skydivers brought down the U.S. flag as the local high school band sang the national anthem and a Stearman with smoke flew around them. A local ag operator performed an ag spraying demonstration and lots of local students got the chance to walk around all the aircraft. And Kansas Governor Sam Brownback showed his appreciation by proclaiming the week as "Aviation Appreciation Week."

We then flew to Hutchinson (KHUT) for lunch at the Airport Steakhouse before traveling to the Cosmosphere for a behind-the-scenes tour and aerodynamics activities with local students. Once back at the airport, students interacted with the pilots, learning all about their aircraft, how to become a pilot, pilot jobs, etc. They also got a chance to see a Life Team helicopter and a fly-by by several Stearman and a Navion.

We were on to Dodge City (KDDC) for the night where Joey and I had a good time showing a group of Boy Scouts and Girl Scouts (and their parents) the Archer we were flying. They had great questions and we enjoyed linking Science, Technology, Engineering, and Math (STEM) to aviation by doing a few math problems and science experiments with them. Tuesday started off with a stop at Scott City (KTQK) where we toured the Spencer Flight Training Center – a non-profit center whose objective is to provide access to resources and training opportunities for pilots to keep their skills as sharp as possible and help ensure their safety while in flight.

The flight to Salina was our longest leg, so we were ready for lunch upon arrival. Salina had organized booths for several of their based tenants to include military, law enforcement, and K-State's aviation program.

And we made it to the Capital... Topeka – Philip Billard Municipal Airport (KTOP)... to learn about the Aviation Explorers Post 8, where kids learn about aviation, flying, and leadership. The organization operates two aircraft to provide young people an introduction to aviation and a private pilot certificate! We also enjoyed dinner with KDOT Secretary Mike King.

On Wednesday, we were off to Pittsburg (KPTS) where one of the largest student crowds was awaiting our arrival. This stop focused on business aviation because several local companies operate aircraft. We talked about using the Archer for AOPA business and they understood it well when we put it in perspective and worked some example trips with them.

And, because "aviation means independence" everywhere, but especially in Independence, Kansas, we stopped at KIDP. A group of kids had already taken the tour of the Cessna facility, so they were pumped to see the aircraft pull up. We gave the students an opportunity to jump in our aircraft and ask questions.

The final stop of the tour was at Benton-Lloyd Stearman Field (1K1), where we had a hangar party and shared our great air tour experience with other people.

All along the three-day tour, the pilots developed a great camaraderie and lasting relationships. We were also able to get a couple of rusty pilots back into flying and one worked on his tailwheel endorsement. In addition, we showed each local community the importance of their airport, including the access and economic impact it provides. Joey and I were also able to meet with our wonderful Airport Support Network Volunteers (ASNVs) along the route and even recruited some new ones.

We invite you to consider flying the 2015 Fly Kansas Air Tour, already being organized for September 28-30.

As always, you can stay up-to-date with my schedule and regional happenings via our Twitter page:

www.twitter.com/@AOPACentralSW.

FROM WICHITA

B-29 Superfortress Edges Closer To First Flight In More Than 60 Years

WICHITA, KAN. - Doc's Friends, the Wichita-based nonprofit organization restoring the B-29 Superfortress "Doc" to flying condition, has now installed the aircraft's flaps. It was the last major structural piece to be installed onto the aircraft as part of this historic restoration.

Over 30 volunteers arrived on-site to help with this project. "It has been incredible to witness the dedication of all the volunteers supporting Doc's Friends throughout this journey. Taking the time out of their own week to work on this aircraft just shows the unified passion we all share to get this warbird back in the air," said TJ Norman, Doc's Friends operations manager.



The same manpower technique used to install the original flaps on the B-29 at the Boeing factory were used to reinstall the flaps on "Doc."



Wing flaps installation at the Boeing factory.

Strongly resembling the original technique used in the Boeing factory decades ago, only organized manpower was utilized to lift and install the flaps. In addition to the flap installation, progress on other remaining key components, including the fuel cells and avionics, is also advancing smoothly.

Doc's restoration will soon culminate in the aircraft's return to the skies by the end of this year. Shortly thereafter, the B-29 will begin its threepronged mission - to honor, educate and connect - as a flying museum.

For more information about Doc's Friends, or to follow Doc's progress, visit www.b-29Doc.com.

Yingling Aviation Opens Subway Café

by Molly McMillin The Wichita Eagle

WICHITA, KAN. - Yingling Aviation, the fixed base operation at Wichita Mid-Continent Airport, has opened a Subway Café inside one of its hangars. The restaurant has glass walls so customers can view airport activity on the east runway. It is the first Subway Café franchise of its kind in Kansas.

The restaurant offers an expanded menu compared to typical Subways. It also offers a full range of catering services.

The Subway Café offers seating for up to 46 customers, and employs 15 to 20 full-time and part-time employees. Yingling Aviation owner, Lynn Nichols, has wanted a restaurant inside the facility since 2000 when he acquired the operation.

"You could say this plan has been in the works for 14 years," said Nichols. "It was part of the original vision we had for this business ... and now it's happening."

Nichols' son-in-law, Zach Theademan, serves as general manager. The restaurant is inside the hangar previously used to assemble Cessna Skycatchers, the light sport aircraft that



is no longer being built by Cessna.

The Subway Café offers Subway's standard menu of sandwiches, salads and breakfast items, as well as a larger selection of breakfast items, pastries and beverages, including espresso lattes and smoothies.

"This is an exciting development for Mid-Continent Airport," said Victor White, Wichita Airport Authority Director of Airports. "It helps fill a void for quick food service for visiting and local general aviation and military aviation customers, as well as the thousands of employees working on the airport campus who don't always have time on their lunch breaks to leave the airport to find a good meal."

The Subway Café is the second business housed inside Yingling. "The Aviator's Attic," a pilot shop that offers pilot supplies, aviation-related gifts and apparel, also is operated at the site.

EDITOR'S NOTE: This article is being published courtesv of The Wichita Eagle, which first published the article on February 27, 2014, prior to the opening of the café. The article has since been updated for publication in Midwest Flver Magazine (Copyright 2014).



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HIGH ON HEALTH As We Age As Pilots

by Dr. Bill Blank Aviation Medical Examiner

he average age of pilots has been increasing. This is due to several factors. Because of improvements in lifestyles and health care, people are living longer.



Dr. Bill Blank

Airline pilots are now permitted to fly until they reach 65. Fewer young people are becoming pilots. This increases the percentage of older pilots. When changes occur in regards to the Third Class Medical, more older pilots will take advantage of this.

We frequently read about automobile accidents involving senior citizens. This has been studied extensively. Some research suggests that there is a marked increase in accidents and a corresponding decrease in performance after the age of 75. So far there hasn't been such a marked increase among older pilots.

Statistical and simulator studies have been done on older groups of pilots. They seem to show that older pilots benefit from their years of experience, which tends to offset the effects of aging. The group, which appears to be at the highest risk, is older low-time pilots.

What are some of effects of aging which we may have to cope with as we age?

Vision deteriorates with age. Even though some of us may still meet the visual standards for a First Class Medical, it is highly unlikely that we see as well as we did when we were 20. The standard for a First Class Medical is 20/20. Most young people can see much better, namely the bottom line on the chart, 20/10. It would be very rare for one of my older airmen to be able to do that.

Night vision deteriorates. How about hearing? We all know older people with hearing problems. The solution for that is fairly simple. Frequently, turning up the volume on the headphones will suffice.

Reaction time decreases with age. The older pilot compensates by better



being able to anticipate the need to react and can start to react sooner.

We lose strength, too. Some airplanes have very heavy controls, so we may need to use both hands when previously one was enough. This may become a problem if a rapid full deflection of the controls is needed.

Short-term memory deteriorates with age. We use short-term memory a lot when flying, especially when receiving clearances. More insidious are changes in cognition. This can decrease our ability to handle emergencies. Advanced cases of Alzheimer's disease are obvious. What about early changes? When do they start to affect flying safety?

We all would like to be able to fly as long as we safely can. What can we do to continue to fly safely as long as possible?

A healthy lifestyle is important. This includes diet, weight control, moderate exercise, and keeping our mind active. No smoking. Up-to-date glasses and hearing aids should help.

Obviously making all right turns as is recommended for older drivers is not practical, but there are many things we can do.

Consider making shorter flights. We can change our personal minimums, such as having lower crosswind limits, and increasing our IFR minimums. Avoiding busy airspace, flying less at night and earlier at night could help. Only flying IFR with a co-pilot and writing down clearances along with flying less complex aircraft might be good ideas.

For those of you who would like to explore this more in depth, I recommend AOPA's Air Safety Foundation's online course "Aging Gracefully, Flying Safely." It is comprehensive, excellent, and free! You can even get credit for it for your flight review. I have used some of the ideas in it for this article.

Email comments to info@MidwestFlyer.com.

Happy, safe and healthy flying!

18 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE

AOPA Medical Advisory Board Supports Third Class Medical Reform

he AOPA Medical Advisory Board is the latest group to urge quick action on the proposed Federal Aviation Administration (FAA) rule that would allow thousands more pilots to fly without the need for a third class medical certificate.

In a Sept. 24 letter, the board asked the Department of Transportation and Office of Management and Budget to expedite their reviews of the notice of proposed rulemaking (NPRM).

Board members, all of whom are pilots and doctors – including some FAA Aviation Medical Examiners (AMEs) – said that they believe changing the process will improve safety, save millions of dollars and keep more pilots in the air. They added that the FAA actually recognized issues with the current medical certification system more than 10 years ago when it implemented the sport pilot rule, which has allowed thousands of pilots to fly safely without a third class medical certificate.

Continental & Aircraft Specialties To Evaluate CamGuard

CONTINENTAL Motors Services (CMS), a division of Continental Motors Group, has entered into an agreement and established a joint evaluation program with Aircraft Specialties Lubricants (ASL) to verify the benefits of CamGuard, an aviation oil additive manufactured by ASL. This program will evaluate CamGuard in engines overhauled or repaired by CMS (formerly Mattituck). Both companies agree the time is appropriate to demonstrate merits of pairing the latest lubricant technology with the current engine technology resulting in less maintenance, lower overall operating cost and greater longevity. If this program can demonstrate conclusively the positive benefits of oil additive technology found in CamGuard, it could change the way engine manufacturers deal with oil product specifications.

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Flight Training

The Annual Pilgrimage To AirVenture – Good For GA & You & Me!

by Harold Green

AA AirVenture Oshkosh, also known as "Oshkosh," took place this year in Oshkosh, Wisconsin, July 28 thru August 3, 2014,



Harold Green

as it has each summer since the early 1960s. In the early years the fly-in convention was known as "Rockford," and held in Rockford, Illinois. It is the annual convention of homebuilders, warbird owners, classic airplane aficionados, and just generally anyone nutty enough to think that airplanes, and things that fly by whatever means in general, are worth devoting a large portion of their time and resources to. I just happen to be in that group myself.

If you have never attended one of these happenings, you should. With thousands of airplanes and hundreds of thousands of people involved, there is nothing else like it on this planet. AirVenture attendees are courteous, civil, thoughtful of others, and even keep the grounds clean throughout the weeklong event. It is absolutely astounding when you think of it. This atmosphere is a tribute to the people who attend and to the Experimental Aircraft Association (EAA) that produces the event... It is also a tribute to the organization's founder, the late Paul Howard Poberezny, who set the standards high and the pleasant mood for AirVenture for generations to come.

Since the focus of this column is "training" and "education," most of my time was spent looking into training aids and programs offered by various vendors at the event. These included avionics vendors, aircraft manufacturers and book publishers.

The avionics vendors, as usual, were emphasizing new gadgets and improvements on the old. The emphasis was on "glass cockpits" and the biggest difficulty was getting close enough to the equipment to check it out due to the number of people that gathered around each exhibit.

ADS-B was once again at a high level of visibility and interest with FAA's 2020 deadline for ADS-B Out glaring at us on the horizon. There were no apparent new approaches in terms of training aids or programs. However, there were advances on previous offerings.

Books have become more polished and some have even gotten away from a total dependence on reprinted FAA manuals.

The advent of technically advanced



aircraft has added a new dimension to flight training. We now spend as much time on the avionics of an airplane, as we do on flying the airplane. Frankly, vendors of such equipment seem to ignore the fact that not only do pilots have to know how to use the equipment correctly, they also need to know how to correct their errors without becoming distracted from their principal task of flying the airplane.

I have yet to check out a pilot on advanced aircraft that he does not make a mistake during set up and entry of data. This invariably results in loss of attention to flying the aircraft, while the pilot sorts out the problem with the avionics. Printed material seems intended to espouse the capabilities of the equipment, rather than firmly guide the pilot in its use in flight. I saw no evidence of vendors addressing this issue, even though their material is generally good with respect to the set up of the equipment.

When checking on the offerings of aircraft manufacturers, the results were interesting. Questions I asked of the folks manning the booths that related to the training available to purchasers elicited a range of answers. The results were very divergent. All of them offer glass cockpits, either as standard or as an option. Interestingly, the amount and extent of training is directly correlated with unit sales volume of the aircraft.

In short, the top selling aircraft seem to come with training in use of their advanced avionics, while the lesser sales entities either don't offer training or offer a re-hash of the standard aircraft checkout. As with any equipment purchase, one has to be proactive in getting trained in its use, be it a glass cockpit or an iPad and their related programs. It is just nice when educational materials are available to reduce the time it takes to use equipment to its fullest.

AirVenture is a great place to

showcase general aviation to the nonflying public. A non-pilot I know took his father, an aviation buff, and his two young pre-teenage sons to AirVenture for the first time this year. They came away impressed with not only the airplanes, but equally important, the people they met. Everyone was willing and eager to tell them about the airplanes they own, and was very friendly and open with them. The boys got to meet members of the military color guard and have their picture taken with them and came away enthusiastic about airplanes and the whole experience in general. This indicates that inviting a non-flying acquaintance to join you at AirVenture is not only fun, but advantageous for general aviation as well.

Occasionally a student begins flying without an awareness of what they are becoming a part of. Flight instructors would certainly not be remiss in suggesting that their students attend AirVenture.

In summary, EAA AirVenture Oshkosh is both a pleasure and, if we choose to use it as such, a tremendous opportunity for all concerned.

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

EAA Director Of Publications Named

OSHKOSH, WIS.

 Jim Busha, editor of EAA's Warbirds and Vintage Airplane magazines and a frequent contributor to Sport Aviation, had been named EAA director of publications, assuming responsibilities that J. Mac McClellan



Jim Busha Photo courtesy of Brady Lane

has held in recent years. McClellan will retire as editor in chief after April 2015. Busha retired from his current position as a lieutenant with the Oshkosh Police Department.

Global Parts Expands

AUGUSTA, KAN. - Global Parts Group, Inc. of Augusta, Kan., distributors and producers of parts for business, general, and commercial aviation, has announced that it has acquired the assets of Tulakes Aero, Inc. of Bethany, Oklahoma and incorporated them into a new division of the Global Parts Group, named Global Parts Aero Structures, Inc. Tulakes also offers manufacturing, engineering, and quality inspection services to commercial, military and corporate operators as well as service centers, fixed base operators and charter companies.



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People In The News

Minnesota Pilot Wins AOPA Sweepstakes Debonair.... **AOPA President Stages Air-To-Air Delivery**

LITCHFIELD, MINN. -The Aircraft Owners and Pilots Association (AOPA) has awarded its 2014 Sweepstakes Airplane, a fully-restored 1963 Beechcraft 35-B33 Debonair, to Steve Lagergren, an AOPA member from Litchfield, Minn.

Lagergren, who built and flies his own RV-7 kitplane, was flying with another pilot October 5, 2014, when AOPA President Mark Baker and AOPA Pilot Editor at Large Tom Horne flew up alongside him in the Debonair and - on a common radio frequency informed Lagergren that he had won the airplane.

"I'm Mark Baker from AOPA and I'm here to present you with your new airplane," Baker said on the multicom frequency, 122.9 MHz.

"Yeah, that's a good one," Lagergren replied, dismissing the statement as a ioke.

"It's also true," Baker replied.

There was a long pause before Lagergren keyed the microphone again.

"Unbelievable – I love that airplane!" he said as reality sunk in. "I've got to calm down a little bit to land. Oh my gosh!"



Steve and Dawn Lagergren with their daughters Nora and Holly. AOPA Photo

Lagergren's flying companion, Bob Collins - another RV-7 builder and pilot who works for Minnesota Public Radio - took part in the ruse. Collins arranged Lagergren's flight by convincing him that a group of RV pilots wanted to look over his plane.

"None of us knew Steve," Collins said, "but we told him we threw a dart at a Minnesota map and it happened to land on Litchfield, and we wanted to drop in there and hoped he might show us around."

The pair first flew to a grass strip in nearby Winstead, where they did meet with fellow RV pilots. In the meantime. Baker and Horne flew the Debonair into the area to be able to



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Contact: Marijean Hoppe, PE Airport Services Group Manager mhoppe@becherhoppe.com

intercept Lagergren on the return flight to Litchfield Municipal Airport (KLJF).

Once airborne on the crisp Minnesota morning, Baker asked Lagergren if he could join the RV-7 and follow him back to Litchfield. When they were in visual contact, Collins asked Lagergren whether he recognized the distinctive Debonair from the July cover of AOPA Pilot magazine and showed him a copy he brought along with him.

Collins had been coordinating and refining the plan with AOPA staff for several weeks in advance.

"It was a complicated plan, but it went about as well as it could possibly go," Collins said. "It all went beautifully."

"It was a total surprise," Lagergren, 43, said afterward. "There were a few things going on that seemed unusual in retrospect, but I never suspected this."

Lagergren's wife Dawn and daughters Nora and Holly were listening to the exchange on the radio base station at the Litchfield airport, the girls giggling as their dad figured out the secret they had learned just that morning. Baker had called Dawn Lagergren at 9:35 a.m. to tell her the good news and invite the family to be at the airport when the airplane was awarded. They brought along a dozen friends.

"Today has to be one of the best days I've had at AOPA," said President Mark Baker. "I loved pulling up next to Steve's red RV and letting him know he'd won this wonderful Debonair. And it was so great that his family and friends were able to listen in on the surprise. Steve's a homebuilder and a pilot who is out flying on an overcast, 30-degree Sunday - that's a GA pilot! And we're more than thrilled to be able to award the Debonair to him."

The sweepstakes Debonair – a 1963 Beechcraft model 35-B33 – was discovered at Brainard Airport in Hartford, Connecticut, where it had been languishing in its tiedown space for years.

After AOPA selected it, a massive, two-year restoration effort began. Virtually every component of the original airplane has been refurbished, as detailed in the July 2014 AOPA Pilot feature, "Debonair on deck." The one-of-a-kind aircraft, recently professionally appraised, is valued at some \$150,000.

D'Shannon Aviation provided a new "speed slope" windshield and side windows, flap and aileron gap seals, and installed 20-gallon wingtip fuel tanks. Santa Fe Aero Services ripped out the funky, dated instrument panel, replaced it with a new one of their design, and then filled it with a complete selection of the most modern retrofit avionics.

These include Aspen's three-screen Evolution primary and multifunction displays, Garmin's new GTN 750/650 touchscreen GPS nav/coms, Electronics International's MVP-50P engine and systems analyzer, and Garmin's GDL 88 datalink transceiver, which gives the Debonair full ADS-B capability.

As if that weren't enough, Garmin's GDL 393D glareshield-mounted ADS-B-In receiver puts a movingmap display front and center on an iPad Mini. The iPad Mini also shows electronic charts and much more.

It all adds up to a whopping total of six display screens—and maximum information redundancy. That includes weather information: the GTN 750 shows FIS-B weather and TIS-B traffic, and XM WX's datalink weather plays on the Aspen multifunction displays. And that's just a partial list of the Debonair's avionics. The sweepstakes grand prize also includes a set of Lightspeed Zulu headsets and a host of additional accessories.

The original, 225-horsepower IO-470-K engine has received a major overhaul and conversion to IO-470-N status courtesy of Genesis Engines by D'Shannon, which included an upgrade to 260 hp.

American Propeller overhauled the prop, Air Mod yanked out the old interior and replaced it with a custom design featuring leather seats and air bags, and KD Aviation blasted off the old paint and gave it a new paint scheme designed by Scheme Designers. The new paint scheme retains some design elements of the stock 1963 paint job, yet has a fresh new look that promises to stay in style for years to come (www.aopa.org).

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PEOPLE IN THE NEWS R.W. "Buzz"Kaplan: The Life of an Adventurer

A Book by Kristin Kaplan Holsworth

OWATONNA, MINN. -

There's a new series of paperback books out on the life of the late Owatonna pilot, adventurer and industrialist, Reuben W. "Buzz" Kaplan. The author is Kaplan's granddaughter, Kristin Kaplan Holsworth of St. Paul.

Kaplan's travels began when he joined the U.S. Army and was sent to Germany in 1943 during World War II. Upon returning home, he earned his pilot certificate and pursued the life of an adventurer.

Kaplan flew his airplanes in more than 75 countries and six continents, winning numerous awards for his flight achievements, including being inducted into the Minnesota Aviation Hall of Fame in 1999. His adventures included a wild game hunt in Africa, numerous Arctic fishing trips, and Friendship Flights to the Soviet Union, Europe, and South America. As part of the Greenland Expedition, he worked to recover airplanes from the Lost Squadron, buried 270 feet below the Greenland ice cap.

Kaplan's airplane restoration company, Born Again Restorations, rebuilt a Savoia-Marchetti flying boat, which became the oldest Italian airplane in operation. In 1988, he landed the



Buzz Kaplan's Savoia-Marchetti flying boat.



Buzz Kaplan

aircraft on Lake Geneva, Switzerland – a first since 1912 – and in 1990, he flew it around the Statue of Liberty. Kaplan's adventures made headlines and friendships all over the world. Although Buzz Kaplan rarely passed up an opportunity to travel the globe, he never forgot the community where he grew up.

Kaplan was the chairman and CEO of Owatonna Tool Company



24 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE

and founder of the Heritage Halls Transportation & Children's Museum, which he founded in 1998 to showcase his collection of vintage airplanes. Three T-38 jet aircraft painted in U.S. Air Force Thunderbird colors were displayed outside the entrance of the museum.

and its subsidiaries, and the president

To attract more people to the museum, Kaplan founded Three Corners development that brought the Cabela's store to Owatonna, and several hotels and restaurants. The museum closed in September 2001 and the three T-38s were relocated to Owatonna Degner Regional Airport in 2007.

On June 26, 2002, Buzz Kaplan, 78, was killed while flying his replica Curtiss Jenny at Owatonna Degner Regional Airport. The National Transportation Safety Board reported that the probable cause of the accident was inadequate airspeed on the takeoff climb, which resulted in an inadvertent stall. There was insufficient altitude to recover. Kaplan's mechanic, Brent Langer, was on board and survived with serious injuries. Kaplan had accumulated more than 10,000 hours of flight time.

The box set of six limited edition paperback books is available for \$75 at www.BuzzKaplan.com or by calling 612-356-2055.

Priester Aviation Names Bowers Sales VP

WHEELING, Ill. – Priester Aviation, LLC, has named Amy Bowers as Vice President of Sales. Bowers, who recently served in a similar position at NetJets, Inc., will be instrumental in the growth of Priester



Amy Bowers

Aviation's full suite of private travel solutions in the South Central market. She will be based in Dallas.

The Right Guy With The Right Stuff Receives Wright Brothers Master Pilot Award

STOUGHTON, WIS. – The FAA Milwaukee Flight Standards District Office presented the family of noted corporate pilot, flight instructor and aircraft builder, Roger Amundson, with the FAA's Wright Brothers Master Pilot Award at ceremonies held October 26, 2014 at Matson Field, Stoughton, Wis. The award is presented to pilots who have 50 years or more of flying without an accident.



(L/R) Wes Hakari, Anita and Bill Amundson, and Doug Tomas. Dave Weiman Photo

Amundson first soloed in June 1939 in a J-2 Piper Cub in Van Nuys, Calf. He continued to fly for 66 years until October 2005. At that time, Amundson had flown 15,000-plus hours. Amundson flew west on June 17, 2014 at age 96.

Wes Hakari of the FAA FAAST Team presented the award to Amundson's son, Bill Amundson, and his wife, Anita. Nominating Amundson for the award was Doug Tomas of East Troy, Wis.

Wichita Aero Club Trophy To Be Presented To Al Higdon

WICHITA, KAN. – The Wichita Aero Club will present its fifth annual Wichita Aero Club Trophy to former Learjet Public Relations Executive and cofounder of Sullivan Higdon & Sink



Al Higdon

Advertising to Al Higdon at its annual trophy gala on January 24, 2015, at the Doubletree by Hilton Hotel Wichita Airport. Along with Jim Greenwood, who served with him at Learjet, Higdon can be credited with making Learjet virtually a generic term for business jets, and he helped to establish corporate aviation as a viable industry segment in its early days.



PEOPLE IN THE NEWS

In the early 1960s, Higdon's efforts to promote the newly launched Learjet led to the brand becoming synonymous with business jets. As part of Bill Lear's public relations team, Higdon worked to promote a brand-new product in a newly emerging market segment and was an early innovator of nontraditional brand building (e.g. pursuing Hollywood product placements, posting world speed records, etc.). fellow aviation-marketing expert, Wendell Sullivan. Their agency, which became Sullivan Higdon & Sink, worked with major aviation clients and continues to do so today. SHS clients have included Learjet, Cessna, Rockwell Collins, AMR Combs, Signature Flight Support, XM Satellite Weather, Spirit AeroSystems, TECT Corporation, Curtiss-Wright Controls, and Lycoming Engines (www.wichitaaeroclub.org).

In 1971, Higdon joined forces with longtime friend and

The "Oscar Night of Aviation" Inducts Midwest Aviators

DAYTON, OHIO – The National Aviation Hall of Fame 52nd Annual Enshrinement Ceremony was held October 4, 2014 in Dayton, Ohio, and featured air racer Sylvester "Steve" J. Wittman of Oshkosh, Wis., and Cirrus founders Dale and Alan Klapmeier of Duluth, Minn. Other aviation greats inducted included aeronautical engineer, the late Bertrand "Bert" B. Acosta; astronaut Brig. Gen. James A. McDivitt, USAF (Ret); and the first female pilot and captain of a scheduled, jet-equipped U.S. airline, Emily Howell Warner.

The black-tie dinner and ceremony took place in the NAHF Learning Center and the adjacent National Museum of the United States Air Force. Widely known as America's "Oscar Night of Aviation,"

the celebration's 600 guests included former NAHF enshrinees Joe Engle, Keith Ferris, Robert "Hoot" Gibson, Charles E. McGee and S. Harry Robertson. Pilot/actor David Hartman was the emcee.



Alan Klapmeier. Presenter Pete Bunce is seen in background. Photo by Mike Ullery/NAHF



(L/R) Former air racer, Bill Brennand, who once flew for Steve Wittman, presented the award to Wittman's grand nephew, Chris Andersen, on behalf of the late Steve Wittman. Photo by Mike Ullery/NAHF

The late Sylvester "Steve" J. Wittman learned to fly and built his first airplane in 1924, and competed in his first air race in 1926. Wittman managed the Oshkosh, Wisconsin airport (now Wittman Regional Airport), and operated a fixed base operation and flight school there while continuing to design, build and fly innovative aircraft. Known as "The Dean of Air Racing," he last raced in 1989 at age 85.

Alan and Dale Klapmeier founded Cirrus Design in 1984 to fulfill their youthful dream of manufacturing a certified airplane of their own design. Within 20 years, Cirrus earned its position as the dominant market leader in highperformance, single-engine, four-place airplanes. Today, Alan serves as President



Dale Klapmeier Photo by Mike Ullery/NAHF

and CEO of Kestrel Aircraft in Superior, Wis., and Dale as CEO of Cirrus Design in Duluth, Minn.

The late Bertrand "Bert" B. Acosta built and flew his first airplane in 1910, and soon



became one of America's first test pilots and the first aviator commissioned both into the Army Air Service and the U.S. Navy. Also a mechanic, flight instructor, and aeronautical engineer, Acosta consulted for aircraft companies worldwide and set numerous national and world flight records.

Brig. Gen. James A. McDivitt, USAF (Ret) flew 145 combat missions over Korea as an Air Force fighter pilot, earned a degree in aeronautical engineering, and served as a test pilot at Edwards Air Force Base. Selected as an astronaut in 1962, McDivitt served as Command Pilot for Gemini 4 and Command Pilot for Apollo 9, eventually managing the Apollo Spacecraft Program.

Emily Howell Warner was an experienced Colorado flight

school manager, flight instructor and FAA designated flight examiner holding multiple ratings when she was hired by Frontier Airlines in 1973, earning additional distinctions as the first female pilot and captain of a scheduled, jet-equipped U.S. airline. She amassed more than 21,000 flight hours over her career.

Rachael Manzer, a teacher at the Annie Fisher Magnet School in East Hartford, Connecticut, was named the "2014 A. Scott Crossfield Educator of the Year." Manzer's STEM students have developed and placed experiments on NASA Shuttle missions and she is one of seven "Teachers In Space" astronaut candidates (www.nationalaviation.org).

AOPA Announces 2014 Flight Training Awards & Scholarships

FREDERICK, MD - The Aircraft Owners and Pilots Association (AOPA) has awarded its third annual Flight Training Excellence Awards to top flight schools and flight instructors ranked by more than 3,600 flight students who voluntarily reviewed their flight training experience through an AOPA online poll. AOPA has recognized Paragon Flight of Fort Meyers, Fla., as the 2014 Best Flight School and Spencer Watson of Manassas, Va., as the 2014 Best Flight Instructor. Ten additional flight schools and 10 instructors were named "Outstanding" by AOPA as a result of the poll results. AOPA has also named an Honor Roll of 62 flight schools and 75 flight instructors, all of which demonstrated a high standard of accomplishment and received at least three nominations. In addition, a Student's Choice Award was given to the flight school that received the highest number of positive nominations. For the third year in a row, Aviation Adventures of Virginia won that award with 198 nominations. The 2014 President's Choice Award winner is GIFT Academy of Vernon, Texas. The president of AOPA presented the award for significant and innovative contributions to the flight training community. GIFT Academy is aimed at helping female pilots find success in flight training in a supportive setting.

In the Midwest, St. Charles Flying Service (Portage Des, Sioux, MO) was named Outstanding Flight School. In addition, the AOPA Foundation has awarded \$65,000 in flight training scholarships to prospective pilots from eight states as part of its program to expand the pilot community and support flight training

The Able Flight Scholarship, whose mission is to offer people with disabilities a unique way to challenge themselves through flight and aviation career training, was awarded to Ellen Howards of Boston, Mass. Ellen was born with spina bifida occulta, which caused severe scoliosis in adolescence, requiring surgery. Howards is an adjunct professor at a Boston area college, and earned her pilot certificate after training at Able Flight's program at Purdue University's Department of Aviation Technology. In the Midwest, The Richard R. and Gretchen E. Harper Scholarship in memory of Richard R. Harper, was presented to Kurt Clemenz of Fishers, Indiana.

AOPA President Mark Baker presented the awards and scholarships during a Pilot Town Hall at AOPA's Homecoming Fly-in at its headquarters in Frederick, Md., October 4, 2014.



Wipaire is now offering a range of new and overstock parts for sale online. These include a variety of avionics, Cessna parts, Wipaire parts, de Havilland parts and other miscellaneous items.

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DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE 27

NASAO Announced Greg Principato as President and CEO

WASHINGTON,

D.C. – The National Association of State Aviation Officials (NASAO) has announced that Greg Principato has been named President and CEO of the 83-year-old



Grea Principato

organization based in Washington D.C.

Principato, who most recently served as President and CEO of ACI-NA from 2005-2013, was a Trade and Transportation Specialist at Hunton & Williams from 1991-2005 and served as Executive Director of the National Commission to Ensure a Strong Competitive Airline Industry in 1993.

"I am excited to be joining the NASAO team as its President and CEO," said Principato. "From my time working for an innovative, transportation-oriented governor through my career in aviation, I have become convinced that the states are "where it's at" when promoting aviation as a force for building modern communities connected to the national and global economy."

Principato worked in the administration of Virginia Governor Gerald L. Baliles from 1986-1990 and on the staff of U.S. Senators I. Bennett Johnston (1979-81) and Joseph R Biden (1982-86). Currently, he is a Senior Advisor to National Strategies LLC and owns his own consulting firm.

"Aviation needs a strong NASAO, and its members and I share that vision," said Principato, who took the reins of the association on November 17th. "I want to thank NASAO Chair Carol Comer and the entire board for their confidence in me."

Comer, NASAO Chair and Director of the Division of Intermodal for the Georgia Department of Transportation, said that the NASAO Board is pleased with the selection. "On behalf of the Board of Directors of NASAO,

we are pleased to welcome Greg as our new President and CEO. Greg's prior experience leading an aviation association provides a solid foundation on which to develop new value for our membership and strengthen the voice of NASAO as an advocate for public aviation policy."

Principato also expressed his thanks to Kim Stevens and Bridgette Bailey for their hard work these past many months. "Their hearts and souls are totally invested in NASAO." Principato said he was humbled and deeply honored to follow his good friend Henry Ogrodzinski as President of NASAO. "He was a legendary aviation leader and a very good friend of mine," said Principato. "I will call upon him often for inspiration and guidance."

Principato has a Bachelor of Arts in Government from the University of Notre Dame (1978) and a Master of Arts in International Relations from The University of Chicago (1979). He is married with two grown sons.

Paulisms by Paul Poberezny

(September 14, 1921 - August 22, 2013)

aul 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 an aircraft designer. But, more than that, he was a leader.





With the permission of EAA and the Poberezny family, we are happy 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.

OPPORTUNITY: "Can you imagine living years and years ago, as a person with a desire to fly, but no way to achieve it?"

28 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE

Ulteig Celebrates 70th Anniversary

FARGO, N.D. – 2014 marks Ulteig's 70th anniversary, making the engineering firm one of the oldest in the Upper Midwest.

Founded in 1944 as an electrical engineering firm, Ulteig has expanded its service sectors beyond power. With eight offices in five states, the 100% employeeowned firm now serves the energy, municipal, and communications industries, as well as airports, and plans to keep developing its business model.



Eric Michel

Chief client development officer Marti Nyman said any business celebrating 70 years of success is momentous. "Either companies are acquired or they go out of business," he said. "It's very difficult for companies to maintain that kind of longevity. To stay relevant over those 70 years is another accomplishment that's noteworthy."

Looking toward Ulteig's next chapter, President and CEO Eric Michel said, "The services we provide are likely to continue to change. I think that adaptability is a big part of sustainability."

Ulteig employs more than 300 people with offices in Bismarck, Fargo and Williston, N.D.; Detroit Lakes and St. Paul, Minn.; Sioux Falls, S.D.; Denver, Colo.; and Cedar Rapids, Iowa. Ulteig is a nationally accredited company, ranked number 227 in the Top 500 Engineering Design Firms in the nation by Engineering News Record and considered among the top firms in electrical transmission and distribution services (www.ulteig.com)

WASHINGTON

AOPA Works To End Border Crossing Frustrations

WASHINGTON, D.C. – AOPA brought together U.S. and Canadian officials October 2, 2014, in an effort to make crossing the border a simpler, less cumbersome and more manageable experience for general aviation pilots and passengers. U.S. Customs and Border Protection (CBP) leaders met in Washington, D.C. with their counterparts from the Canada Border Services Agency (CBSA) to discuss ways to ease GA border crossings without compromising security.

Canada is in the process of developing an electronic version of its Interactive Advance Passenger Information System, similar to the eAPIS (electronic Advance Passenger Information System) that has been used by GA in the United States since 2008.

At the meeting, CBP officials offered to share their insights and experiences in establishing eAPIS in order to help CBSA leaders avoid some of the pitfalls and challenges encountered in the development and implementation of that system.

CBP officials said they will continue working on needed improvements to the eAPIS system, including adding electronic submission options, such as the ability to cancel a manifest, as well as providing more services for mobile devices and increasing the use of plane-side processing for "trusted travelers."

In addition to AOPA, CBP, and CBSA, the meeting included representatives from the Canadian Owners and Pilots Association, Experimental Aircraft Association, General Aviation Manufacturers Association, National Air Transportation Association, and National Business Aviation Association.



Fargo • Sioux Falls • St. Paul • Williston

Once-And-For-All – No Question About It

Flying Motor Gliders Is The Way To Fly Without A Medical & Much More!

by Jim Hanson

Like gliders. They are pure sport. There is not pretension of being able to use them for efficient and reliable travel. Gliders fly more like jets than piston airplanes fly like jets. Like jets,



Jim Hanson

gliders are so low in drag that when you put the nose down, the aircraft accelerates. They have retractable gear, complex flap systems, and speed brakes. Like a jet, you manage the energy. Some even have a deceleration chute like a jet. Gliders are just FUN!

The fun doesn't stop when the lift quits, either. Flying a glider involves a number of people – a tow pilot, someone to run your wing, perhaps help with assembling, and a chase crew if you set off cross-country. When the gliders are put away, the social side of flying sets in. Grills come out, families gather, and everyone shares in the stories of the events of the day. It is something sorely missed in the powered side of flying, and the chance to socialize with others is one of the reasons that soaring – along with ballooning, skydiving, and flying ultralights and light sport aircraft – is increasing.

If there is a down side to glider flying, it is that same need for people. Sometimes, you just want to go flying, and it is hard to fly a glider by yourself, or perhaps you don't have a tow plane. There are other ways to launch a glider – a winch launch, an automobile launch – or the ultimate freedom to fly gliders by yourself – the MOTOR GLIDER.

Motor gliders come in two styles – "self-launch" and "sustainer." As the names imply, "self-launching" gliders have the capability to launch by themselves. "Sustainer" engines provide only enough power to keep the glider aloft if it encounters unexpected sink. Lakes Area Technical Institute (LATI) aviation department head, Greg Klein, and author, Jim Hanson, fly the Schweizer SGM 2-37 motor glider over Albert Lea, Minnesota. Flying formation with Bob Lynn's Aviat Husky was difficult, matching the low-drag glider with the Husky. The issue was made easier by partially employing the air brakes on the motor glider.

This glider must be launched by other means.

Why Motor Gliders?

Motor gliders are a cross between airplanes and gliders. They offer the following advantages:

• The ability to fly without a medical certificate. Since they are *gliders*, there is no provision for denial of this privilege in the event that a medical certificate has been previously denied, as in Light Sport Aircraft. Like any other glider (or airplane, for that matter), the pilot is expected to *not fly* if they believe they are not fit to fly –self-certification.

• The ability to self-launch without a tow plane or winch.

• The ability to fly during times when there is no lift – early mornings, evenings – winter.

• The ability to go places. Many of these are well-designed traveling machines, capable of long-distance flights. (Most Brazilian-built Ximango motor gliders are flown here from Brazil!)

• Since they have an electrical system, they are usually equipped with radios, GPS, and transponder/ encoders, allowing flight within Class B airspace.

• Unlike LSA aircraft, they are not restricted to altitudes of 10,000 feet.

• With their long wings, they burn very little fuel -2.5 to 5.5 gallons per hour, depending on the engine type. Of course, they burn NO fuel with the engine shut off! Rotax engines are designed for auto fuel.

• With their large wing area, these aircraft offer low stall speeds, fast climb, and near-STOL capabilities. They usually employ glider-like spoilers or airbrakes for direct lift control and steep descents. Once you fly an aircraft with spoilers, you'll wonder why *every* airplane doesn't have them.

• The ability to own or fly a unique aircraft... an aircraft sure to turn heads wherever it flies.

The Disadvantages

• Since motor gliders are certified as self-launching *gliders*, you have to have a glider rating to carry passengers. This isn't a big issue. For a private pilot converting to gliders, a minimum of 10 solo flights are required to qualify to take the glider flight test. No written exam is required – just a flight test – and it counts as a biennial flight review.

• These aircraft are BIG! Unless they have folding wings, they won't fit in a t-hangar. Fortunately, many designs have folding or quick removable wings. They can be rigged or derigged in 20 minutes or less, and then you can put *several* of them in one hangar, or in your garage!

• Some airports have narrow runways and taxiways, lights, or other obstructions that may make the motor glider difficult to operate.

• They can be more difficult to fly in strong winds (but no more so than LSA aircraft).

What Are My Choices?

Motor gliders have been popular in Europe for decades due to the high cost of fuel, so it stands to reason that most of them are imported. They tend to fall into two general categories – the training-sport-utility gliders with glide ratios approximating 27:1 – and the high-performance gliders with



retractable gear – often capable of nearly 50:1 performance. Like all high-performance machines, high performance costs *money*!

• I owned a Romanian motor glider – an **IS-28B2B Lark.** It was a two-place, side-by-side retractable gear aircraft, powered by a Limbach/VW engine with a full-feathering propeller. It had a 55 ft wingspan, and very effective spoilers emanating from the top and bottom of the wing. It offered

27:1 glide ratio – cruise speeds up to 120 mph, and a 1700 lb gross weight. About 400 Larks have been built, but a check of Trade-A-Plane doesn't show any for sale today.

• Schweizer built a dozen **SGM 2-37** motor gliders – 9 of which were destined for the USAF Academy at Colorado Springs. Four remain flyable.

• Diamond Aircraft builds the **HK-36 Super Dimona.** They shortened up the wings and introduced it to North America as the Katana – a certified *airplane*. With the long wings, the Dimona is not only a motor glider, but is strong enough to be used to tow *other* gliders aloft! Over 1000 have been built, and even better, you can RENT one in a school



Also, Auto & Workers Compensation

in Waukegan, Illinois! Here's the link: https://www.dropbox. com/s/dws378cx8exo362/GliderBrochure-Prices.pdf

• Like the GA industry in general, sometimes the best way to get the aircraft you want at an affordable price means building it yourself. For decades, the Europa has met that need with nearly 1000 aircraft kits produced. The aircraft is unique in that it can be built with interchangeable wings long wings for better soaring, or speed wings for touring (up to 150 mph and 1000 fpm climb). It offers a wide cabin, lots of baggage space, great economy, limited aerobatic performance, and the ability to rig or de-rig *either* set of wings in less than 20 minutes. The quick-build kit is \$70,000 U.S. It can be built with either the single, retractable glider-like main wheel (preferred by Europeans for rough-field operations) or tri-gear. (If the airplane looks familiar, it is because it is type-certified in the U.S. as the Liberty LSA airplane). Don't dismiss the mono-wheel until you've tried it... it offers many advantages: http://www.europa-aircraft.com/motorglider/index.php

• There are any number of European imports that come on the market from time to time, the most common of which are the **Fornier** and **Sheibe** models, constructed of wood, tube, and fabric.

• Perhaps the most common motor gliders in the U.S. are the Brazilian **Ximango**, a two-place, side by side aircraft with a claimed 31:1 glide ratio. For a short video of just how much fun a motor glider can be, go to http://www. touringmotorgliders.org/forum/showthread.php/179-Ximango-Video-Clips. The other entrant in this class is the **Grob 109.** The Grob is built in Germany, and Grob gliders are among the world's best. The early aircraft are heavy and have smaller powerplants, and the useful load is not good—all that changed with the B model. An added advantage is that the wings fold for storage, but despite factory claims, they are so heavy that you really need a helper. These aircraft can be purchased in the \$50,000 range.

• The high-performance class of motor gliders are true sailplanes, and not designed for touring or powered cross country. Though most are very expensive (Nimbus 4, DG-29, Ventus), the single-place PIK-20E version of the PIK-20 can occasionally be found, and most at a reasonable price. It offers a 42:1 glide ratio while soaring. There are also the "superships" – very expensive gliders with glide



performance of 50:1 or better. (Think about it... one of these gliders located a mile above your home airport could reach any airport within 50 miles in a no-wind condition, with no lift at all! Another way to think about it, since we usually can't SEE 50 miles from 5000 feet. That means "if you can *see* it, you can *get to it!*" This class includes the **Stemme**, with a retractable propeller in the nose) and the **Antares** – an electric-powered self-launcher that has been out for many years. There are even jet-powered self-launchers!

• On the other side of the performance spectrum, Pipestrel Aircraft makes the *Sinus* – the motorglider version of the Virus *(Who picks these names? Are they English-proficient?)*. This VERY capable aircraft has flown around the world (including over-flying Mt. Everest)! You can have it YOUR way – factory built, or 400-hour kit. It is available as a tri-gear or taildragger. You can license it as a motor glider with the 50 ft wings, and also build the 40 ft wings for ease of hangaring (they change in 20 minutes). Glide ratio is 30:1. The aircraft is artificially limited to 120 kts to make it LSA-capable, but you can license it experimental (aircraft or motor glider) and go much faster. The aircraft has a range in excess of 700 miles. The kit costs \$81,000 U.S: http://www.pipistrel-usa.com/models/sinus.html

The Touring Motor Glider Association (http://www. touringmotorgliders.org/) is a great source for information. This link takes you to their home page, with lots of photos of different motor gliders. Here's the link to the forums on each type http://www.touringmotorgliders.org/forum/forum.php.

Look over these links and give motor gliders some thought. If you have a problem with the FAA medical, or are simply tired of the FAA dithering on the medical issue, give them more thought. If the nice FAA man asks to see your medical certificate, simply smile and tell him *"I'm a glider pilot,"* and go about your business!

Glider Flying—An Observation

Recently, a group of glider pilots got together at my home field of Albert Lea, Minnesota to celebrate the 25th anniversary of our first *glider regatta* – or get-together. This isn't a sailplane competition, like sailboat owners or owners of classic cars. It's just a chance to get together, to appreciate the sport, renew old friendships, and generally socialize. Fourteen of the 50 or so attendees gathered at my house for dinner. When we asked "how many of you here tonight were at the first gathering 25 years ago, 11 of the 14 raised their hands – a pilot retention rate that would be the envy of the power pilot industry. Glider pilots (and other sport pilots) tend to stay active in aviation at a rate far greater than private pilots as a whole. Why?

1) It's inexpensive. Glider pilots burn little fuel. They usually keep their gliders in the trailer – no hangar fees. Annual inspections are inexpensive—no engine, fuel, exhaust, or electrical systems to inspect and break. Insurance is cheap, and for only half the year. 2) It's harder to get a glider rating in the first place than a power rating. For a power rating, you can just show up at the airport. For a glider-only rating, it takes time to get the glider into position, make the tow, make the flight(s), and put it back. It may take a couple of years to get the rating, and people who work hard for a rating, usually stick with it.

3) Glider ratings have no pretensions of being useful. With power ratings, pilots often attempt

to justify the rating as being able to go someplace with an airplane, but many rarely do. With gliders, it's just about the FUN... no apologies.

4) There's little over-regulation. No medical certificate. No night currency qualifications. No "high-performance" endorsement. No "complex endorsement." No instrument currency requirements. No need for a lot of equipment and expense to gain access to airspace that you don't want to go into anyway. Glider pilots self-regulate, and have an accident rate year by year that is equal to or better than power pilots. So much for "regulation increases safety."

5) With gliders, it's about socializing, and unlike power flying, there's very little "social stratification" in gliding... no ATPs... few commercial operators. Everyone is pretty equal, and everyone can identify with what others have gone through.

There's a lesson in here for the rest of the aviation industry.

Flying The Schweizer SGM 2-37

When we announced the fun fly-in, I received an e-mail from Greg Klein, Aviation Department Supervisor at Lake Area Technical Institute, located in Watertown, South Dakota. The school trains aviation mechanics and those seeking a career as "aerial applicators" – crop dusters. To give the mechanics experience in handling and ground handling aircraft, and to teach pilots stick-and-rudder skills, tailwheel operations, and energy management, the school utilizes an ex-USAF Schweizer SGM 2-37 (TG-7A) and a Ximango motor glider.

"The Ximango is the racehorse, and the Schweizer is the workhorse," Greg explained. "We can give more rides in an hour in the Schweizer than in the Ximango. For us, it's all about the experience for the student... not how well we can work lift."

Greg volunteered to bring the Schweizer to Albert Lea to let other glider pilots (and a few lucky power pilots) experience motor gliding. When it came my turn to fly, I got a double dose of Schweizer flying – we would do some airto-air shots first, flying formation with the Aviat Husky tow plane with a cameraman on board. Formation flying is tricky enough, flying orbits to highlight the selected background, but flying dissimilar airplanes (the low-drag motor glider and



Schweizer SGM 2-37

the higher-drag Husky) makes it even harder.

It was a classic case of "crack the whip" as the subject airplane is usually on the outside of the turn, causing it to lag in the turn, then surge ahead when the turn stops. *Fortunately*, the Schweizer has those wonderful speed brake/spoilers. *Unfortunately*, they make the workload harder. The speed brakes gives an immediate slowdown, but it also spoils lift, causing the glider to drop. It's a tough balancing

act—fly the airplane, manage the throttle, deploy the speed brakes. The solution? *Partially* deploy the speed brakes to approximate the drag of the camera ship. Note that in the photos, the speed brakes are partially deployed.

After the photo session, we climbed to altitude, then throttled back to cool and stabilize the engine. After a few minutes, Greg shut down the engine. I slowed to 60 mph to stop the prop and we explored silent flight. There was no yaw string on the aircraft—just a turn and bank. It wasn't hard to coordinate the turns. Like most gliders, we led with the rudder to balance out adverse aileron yaw from the long wings.



When it came time to enter the pattern, we increased speed to 80 mph to give us additional potential energy. We deliberately flew a high base leg, and used those marvelous spoiler/ speed brakes to bring us down. Spoilers provide for direct control of lift. Unlike flaps, there is no ballooning or sink as there are with flap changes. It's easy to put the aircraft exactly where you want it.

I asked Greg "wheel landing or stall landing?" He responded with "try a wheel landing. If it doesn't work out, make it a tail-low wheel landing." (Gliders are typically not flared for a landing... they are flown right onto the ground, then spoilers applied to kill lift... again, much like a jet). The forward-swept metal gear legs made the landing a good one. We turned off the runway onto the taxiway, all without power – just like Bob Hoover! – then started the engine and taxied in. Like every other pilot that flew the airplane, I was grinning from ear to ear!

I've kept track of the airplanes I've logged time in. This is the 314th unique type of aircraft I have flown. I don't count it unless I make a takeoff or landing (no holding the wheel enroute), and I don't count it as a separate type unless there are material differences (such as engine types) from previouslylogged types. Almost all of them have been fun, but this one was memorable. Thanks, Greg, for a great trip "around the patch."

The Schweizer SGM 2-37

Schweizer Aircraft has a long history of producing special-mission aircraft, including the "Q-Star" very quiet observation aircraft that served in Vietnam – a design based on the 2-32 glider. East Bloc countries train their military pilots in gliders to develop pilot skills, and the USAF Academy did the same. When the academy sought a motor glider, they wanted a U.S. manufacturer, and approached Schweizer Aircraft. The company quickly responded with an aircraft built to Air Force specifications. They started with the wings of their singleplace 1-36 – built a new center section to accommodate side-by-side seating, provide for fuel, and extend the wings – used the tail of the versatile 2-32 commercial ride sailplane, and grafted the engine, mount, and cowling from the Piper Tomahawk to provide the power. Specifications:

• Glide Ratio: 19:1 at minimum sink.

• Power: Lycoming O-235, 112 hp, non-feathering prop.

• Empty Weight: 1200 lbs. Max gross weight 1850 lbs.

• Wingspan: 56 ft 6 inches.

• Cruise Speed: 112 mph.

• Fuel Consumption: 4 to 6 gph.

• Fuel Capacity: 14 gallons

• Service Ceiling: 14,000 feet.

Nine aircraft were built for the Air Force Academy and delivered in 1983. They served until 2003. Schweizer also certified the aircraft with the FAA with optional 150 and 180 hp engines. Additional special-mission aircraft were built for the other Armed Services, with 235 and 250 hp engines.

Lake Area Technical Institute Thriving!

SIDEBAR: The *irony* of it all! At a time when *pilots* are in short supply, *avionics technicians* are in short supply, and *mechanics* are in short supply, many university programs are shutting down. Lake Area Technical Institute (LATI), located at Watertown, South Dakota, has elected not to participate in the shutdown. Instead, they are *thriving*!

It's a small school, but in view of its

success, it should borrow a term from the corporate world—it is *right-sized*. One of the secrets of its success just might be the small-school personalized learning environment that students enjoy. Part of the success might be its location... the school serves the surrounding area (*though it does take in students from neighboring states!*)

Students in Watertown are serious

about their training mission. Success might also be attributed to aviation department head, Greg Klein.

When Greg heard that a group of Minnesota, Iowa, and Wisconsin pilots were getting together in Albert Lea, Minnesota for a "Soaring Regatta," he contacted me and asked if I would mind if he brought the Schweizer 2-37 over for free rides for the soaring pilots. *MIND?* I jumped at the chance! In addition to being a glider pilot, Greg



34 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE



The Citabria at Lake Area Technical Institute (LATI) obtained an FAA Supplemental Type Certificate for the use of up to 100% ethanol for the Citabria engine and airframe combination. For their efforts, they were awarded the aircraft when they completed the project. LATI uses the Citabria, motor gliders, and a Cessna T-41 Skyhawk to teach pilots and mechanics aircraft operations, with emphasis on stick and rudder skills.

was out to promote his school.

Rather than wait for business to come to Watertown, Greg aggressively goes looking for it. By the time he gave rides to the glider pilots and talked to the onlookers, everyone in the surrounding soaring community knew about Lake Area Technical Institute, all about their program, and knew that Greg *literally was* a "go-getter."

LATI's two-year Aviation Maintenance Technician program started in 1965. The first year focuses on FAA general aviation and airframe maintenance subjects. At the end of the first year, students are able to test for their airframe certificates, and many students go out on summer internships. The second year is dedicated to powerplant certification.

LATI offers flight training as either an elective in the aviation maintenance training, or as an integral part of the recently established **AG**-**Aviation** program. In Ag-Aviation, students are offered the opportunity to take important agronomy, chemical handling, and regulatory coursework in addition to flight training leading to Aerial Application Certification.

The uniqueness of the Ag-Aviation program is that it is one of very few in the country that enables the student to take the agriculture courses and flight training in one location. Thinking about it, why would anyone do it any other way? Greg explained how the flight training portion of the program works:

"We don't know how many A&P schools in the country have gliders in their maintenance and flight training, but ours are solidly embedded in important roles. When a student learns to fly here, they start out with 10 hours of dual time in the Citabria and then move on to 10 more hours of motor glider dual training. From that point they move on to the Cessna 172 to complete their solo, cross-country, and night flying requirements. It ends up being a rich blend of tail-dragger, soaring, and 172 experience from which we intend to make better pilots.

"The students make up the maintenance crew, under the direction of FAA Inspection Authorization certified instructors. They accomplish the annuals, 100-hour inspections, oil changes, and unscheduled maintenance. Both the flight training students and maintenance students, *most being one and the same*, are in a win-win training environment that sends better pilots and better aircraft maintenance technicians out into the world of work."

The Aircraft

The aircraft that make up the training fleet are good examples of Midwest resourcefulness.

A former **Air Force T-41** aircraft was declared surplus. Located at Travis



Cessna T-41 Skyhawk

AFB in California, it was in serious disrepair – a candidate for scrapping. LATI is an eligible receiver for federal surplus property, and upon application, the school was awarded the aircraft. LATI hauled it back on a trailer for restoration.

Greg gives credit to the students: "An enthusiastic effort by the A&P classes of 2010, 2011, and 2012 resurrected it into an awesome looking,





The Cessna T-41 not only received an airframe update, but the engine compartment did as well. The Continental IO-360 engine lives comfortably in its remodeled "home."

great flying civil-certified airplane. If you look up the specs for a T-41C, you'll find that the 210 hp fuel-injected engine, fixed-pitch prop, and light-weight makes it into a mini 182."

I asked Greg, "Why gliders?" He responded, "Gliders are an excellent teacher of airmanship. They require coordination of the flight controls. They teach energy management. With an airplane, you can power through different flight conditions... with a glider, you have to manage the aircraft. Gliders also teach planning... every landing is an accuracy landing. Aero-tows teach formation flying... students learn to think not only about their own aircraft, but the other aircraft."

"Because of their low drag, gliders fly more like jets than power planes fly like jets. No wonder that the East Bloc countries start their military pilots in gliders, as does the U.S. Air Force.

"With impeccable timing, an owner of a project **Schweizer SGS 2-22** approached us to see if we would be interested in resurrecting his aircraft as a school project. It took about 3 years, but the students and staff adopted it, restoring it with great pride. The idea of a glider, restored at the school, being towed up by a tow plane restored there as well, became reality in June of 2013."

Since the program had a tow plane and a glider, and the ability to teach in them, other options presented themselves. Klein elaborates: "We feel pretty fortunate as an A&P school to have flyable aircraft in addition to the standard staple of



ground maintenance trainers. The **Aeromot AMT-200S** motor glider was acquired from an Army unit assigned to Holloman AFB, NM. The **Schweizer SGM 2-37** motor glider came from the Air Force Academy, and the **Beech Sundowner** came here from a school district in Roanoke, Va. The **American Champion 7ECA** is a 2007 model that we acquired upon completion of an ethanol-based aviation fuel research project that we worked on with South Dakota State University."

WOW! That's quite a fleet, and all built up by the students and faculty!

Looking Forward To A Bright Future... Honors, Recognition, Research & NASA Grant

The aviation department, like the rest of Lake Area Tech, takes great pride in having a culture of caring integrity, and professionalism. This chemistry results in many significant recognitions and achievements. The Chronicle of Higher Education has labeled LATI as one of the best colleges in the nation to work for, six years in a row. It proudly and humbly received the distinguished designation as one of the Top Five Two-Year Colleges in the country by the Aspen Institute in 2011 and was again named one of the top four in 2013, and was recently selected as one of the top 10 competing for #1 for 2015.

Specifically for the aviation department, the latest big news has been the recent award of a \$500,000 NASA grant to fund scholarships promoting Science, Technology, Education, and Math (STEM) in aviation education. Activities within that grant will be drone construction and operation, pilot training, and NASA Space Center internships. Recruiting efforts will emphasize minorities and women.

I asked Greg about the ethanol research project. He explained: "Working with South Dakota State University as a partner, we were able to succeed in acquiring an FAA Supplemental Type Certificate (STC) (after an extensive research and flight test project) to run Aviation Grade Ethanol in a Cessna 180. It was actually certified to run on any mix of the ethanol fuel or 100LL, thereby eliminating the concern of being limited to burning either one of them, exclusively."



(L/R) Tony Wiegman, LATI instructor with Criss Berry and Jose Correa of Bizjet with hot section parts of the Rolls-Royce Tay and Spey training aid.

Like most Midwesterners, during all of our time together, Greg Klein never mentioned himself. He is a success story from LATI himself, having attended in 1977. He went on to a career as a maintenance technician in the United States Air Force, working on fighters and training aircraft. After retirement, he became an instructor at LATI in 1995. He has been a pilot since 1981, and a glider pilot since 2003. He holds multiengine and instrument ratings in airplanes in addition to his glider pilot certificate, and is an FAA glider flight instructor.

On the maintenance side, Greg holds an FAA Inspection Authorization Certificate, and is an FAA Designated Mechanic Examiner. He has been honored with the Women In Aircraft Maintenance Teacher of the Year Award in 2008, and in 2013, the FAA Rapid City Flight Standards District Office selected him as their General Aviation Maintenance Technician of the Year.

Greg Klein is living the good life in South Dakota, near the area where he grew up: "Aviation is all I've ever wanted to do since I was a youngster," he says. His wife, Ginny, his three grown children, and his seven grandchildren, would agree. When not working, teaching, and flying, Greg enjoys flying model airplanes, especially gliders thrown off the slopes overlooking the Missouri River.

There is an old saying often quoted by astronaut Jim Lovell: *"There are those who make things happen, some that watch things happen, and those who wonder what happened. To be successful, you need to make things happen!"* Lake Area Technical Institute and people like Greg Klein are just what general aviation needs today – people who don't wait for students to come to them... they make the extra effort to go find the right students, and to find the resources to make things happen.

Do You Know Someone Who Would Like To Attend Lake Area Technical Institute?

Have them call Greg Klein at 605-882-6311 or view their website: http://www.lakeareatech.edu/academics/programs/ aviation/. Be sure to click on the glider link on the right side to see what motor gliding is all about.



Aviation department chairman, Greg Klein of Lake Area Technical Institute, has done wonders with their program. A turbine engine trainer was donated by Bizjet, Inc. of Tulsa, Oklahoma in addition to the aircraft. The Rolls-Royce Tay and Spey series of engines power Gulfstream jets.

EDITOR'S NOTE: Jim Hanson is the long-time operator of the Albert Lea, Minnesota airport. He has flown 314 unique types of aircraft in his 51-year flying career, and is a rated flight instructor in airplanes, gliders, instruments, and multiengine airplanes. Gliders fly in thermals, rising columns of warm air. There are those that say there is a perpetual thermal over the Albert Lea airport whenever Jim is around. Jim can be reached at 507-373-0608 or jimhanson@deskmedia.com, when he is not flying.



At OUR AIRPORTS

Appleton Airport Continues Expanding.... New Ramp To Increase Hard-Surface Parking For EAA AirVenture Oshkosh, & Year-Round Business & Tourism



U.S. Congressman Reid Ribble (left) recognized the importance of the new general aviation ramp at Outagamie County Regional Airport (KATW) in Appleton, Wis. to the economy of northeast Wisconsin. Gulfstream Aerospace uses the airport for one of its major aircraft maintenance facilities, and employs over 1,000 people. Other businesses are also booming in the region and rely on the airport. The airport also serves as a major reliever airport for EAA AirVenture Oshkosh each year. Outagamie County Regional Airport is served by the airlines and features Wisconsin's newest fixed base operation, Platinum Flight Center. Abe Weber (right) is airport director. Midwest Flyer Magazine Photo by Dave Weiman

APPLETON, WIS. - If you are one of the growing number of pilots who fly to Outagamie County Regional Airport in Appleton, Wisconsin, for EAA AirVenture Oshkosh, you and hundreds of other aircraft owners - will be treated to a new ramp in 2015.

Marking the start of the new general aviation ramp, October 17, 2014, were Outagamie County officials and U.S. Representative Reid Ribble, a member of the House Transportation Committee. Congressman Ribble helped secure \$2.3 million in federal funding for the project.

"I support the work being done at Outagamie County Regional Airport to expand the South General Aviation Ramp," Ribble said. "When completed, this project will support both general and business aviation, which are integral to our economy here in Northeastern Wisconsin." Federal funds will cover 90 percent of project costs; state and county funds will each contribute five percent.

Outagamie County Executive Thomas Nelson joined



38 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE



Outagamie County officials join U.S. Congressman Reid Ribble (second from right) in watching the first load of dirt placed into position for the new general aviation ramp at Outagamie County Regional Airport, Appleton, Wis. Midwest Flyer Magazine Photo by Dave Weiman



The grass area behind the aircraft pictured here at Outagamie County Regional Airport (KATW) in Appleton, Wis., will be paved prior to EAA AirVenture Oshkosh 2015. Midwest Flyer Magazine Photo by Dave Weiman

Congressman Ribble, saying, "This ramp expansion is the next phase in the planned growth of our General Aviation area. The new ramp will add 245,880 square feet of pavement for aircraft parking and enable us to offer more services at Outagamie County Regional Airport."

"EAA traffic was up 9% this year, and our new LEED Platinum FBO impressed everyone who flew into Appleton," Nelson added. "EAA pilots told us they want more hardsurface parking, and this ramp expansion will meet that need during the busiest week of the year." This was the first time in years that aircraft had to be turned away from Wittman Regional Airport due to sheer volume. Hundreds of pilots also prefer less congestion at the Appleton airport.

In addition to supporting daily general aviation traffic, the new ramp will provide a secure location for military charters.

This project is being undertaken in accordance with sustainability practices. Contractors are importing 47,000 yards of base material from another location on the airport, helping to reduce transportation and material costs and mitigate environmental impact. Officials estimate more than 1,000 truckloads of concrete will be used to complete the ramp.

Park Rapids Municipal Airport – Konshok Field Opens New Crosswind Runway





MnDOT Aeronautics Photo by Dan McDowel

(L/R) Minnesota Department of Transportation Commissioner, Charlie Zelle, with Park Rapids Airport Commission Chairman, David Konshok. MnDOT Aeronautics Photo by Dan McDowell

PARK RAPIDS, MINN. – Park Rapids Municipal Airport — Konshok Field has replaced its turf crosswind runway (Runway 36-18) with a new 75 X 3,500 ft paved and lighted runway, positioning the airport for future growth with improved year-round operations.

"The new crosswind runway is all about safety," said David Konshok, 88, Park Rapids Airport Commission Chairman, longtime pilot and namesake of the airfield. "Aircraft are becoming more and more sophisticated, they are lighter and faster, and they respond better and are able to land more safely on a hard surface."

The multi-year improvement project also included a new partial parallel taxiway. New runway and taxiway edge lighting and navigation aids, including Precision Approach Path Indicators (PAPI) and Runway End Identifier Lights (REIL) were added to allow operations 24 hours a day.

The airfield has logged increasing numbers of business pilots, flying very sophisticated private jets. In addition, the area is a popular vacation destination and attracts private pilots.

Park Rapids is home to two large aviation repair and service providers, Park Rapids Aviation and Park Rapids Avionics, which has increased traffic at the airport.

TKDA, the St. Paul-based engineering, architectural and planning firm, worked closely with Park Rapids city staff and its airport commission on the airport improvements.

As operations increase and funding becomes available, plans are to extend the runway to 4,100 feet.

Brainerd Lakes Regional Airport Expands GA Services... Features Airport Restaurant!



Brainerd Lakes Regional Airport as it appears on left base to Runway 05, east of the field over Rice Lake and the Mississippi River. Brad Thornberg Photo

BRAINERD, MINN. – Located on the south bank of the Mississippi River approximately 2.5 miles east of Brainerd, Brainerd Lakes Regional Airport (KBRD) encompasses 2,567 acres of hills, forests and wetlands, public access to the Mississippi River, and two small lakes. The airport has 84 based aircraft including 10 jets and turbo props, eight helicopters, and 12 different businesses and organizations, including Avionics of Minnesota, Brainerd Helicopter Service, and the Minnesota Department of Natural



At Our Airports



Some transient aircraft visiting Brainerd Lakes Regional Airport. Brad Thornberg Photo

Resources and Minnesota State Patrol. North Memorial Air Care also has its largest flight operations and maintenance base at the airport.

Airmotive Enterprises is the fixed base operation and provides fuel, heavy maintenance, aircraft management and

flight instruction in addition to serving as the central U.S. and Canada dealer for the short-field heavy-hauling, "Quest Kodiak."

Pilots looking for an airport restaurant will appreciate the "Wings Café," located in the general aviation terminal. The Wings Café' serves breakfast and lunch and has a great view of the ramp!

Jeff Wig was appointed airport manager in early 2013, having taught business and accounting at Central Lakes College in Brainerd and Staples for



Jeff Wig



The airline terminal building at Brainerd Lakes Regional Airport. Brad Thornberg Photo

the past 23 years. Wig was a dean there for five years, but managing Brainerd Lakes Regional Airport was a lifelong dream of his. From 1980-1988, Wig worked as a line crewman and later as manager at Airmotive Enterprises.

"We have new FBO owners who are really expanding the

business, we are selling new airplanes at Brainerd for the first time in 32 years, and I have a great café just 40 feet from my office door. What more could a guy want?" Wig and his staff invite pilots to stop in for good food, good conversation and good service in the heart of Minnesota's lakes region!

For more information on the airport visit www. brainerdairport.com. For vacation information visit www.brainerd.com. Car rental is available at the airport.

GA Groups Oppose U.S. Senate Bill That Would Close Missouri's St. Clair Regional Airport

WASHINGTON, D.C. - The presidents of the Aircraft Owners & Pilots Association (AOPA), General Aviation Manufacturers Association (GAMA), National Business Aviation Association (NBAA) and National Air Transportation Association (NATA) have urged key members of the U.S. Senate to forgo legislation that could close St. Clair Municipal Airport (K39) near St. Louis, and instead follow established Federal Aviation Administration (FAA) procedures for the potential closure of airports that have accepted federal grants.

In a Sept. 16 letter, the presidents of the four leading



40 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE

general aviation organizations told U.S. Senators John D. Rockefeller IV (D-W.Va.) and John Thune (R-S.D.), chairman and ranking member of the U.S. Senate Commerce Committee, that a bill in their committee could improperly close the airport.

"As you know, this legislation would close the St. Clair Regional Airport, in St. Clair, Missouri," the letter states. "As representatives of the general aviation community, we have serious concerns about closing and further limiting access to general aviation airports across the country, especially through legislation."

U.S. Senate Bill 2759 would, "release the City of St. Clair, Missouri, from all restrictions, conditions, and limitations on the use, encumbrance, conveyance, and closure of the St. Clair Regional Airport." It was passed by the Senate Committee on Commerce, Science and Transportation on a voice vote and next will go before the full Senate. Sen. Claire McCaskill (D-Mo.) introduced the legislation. The City of St. Clair has sought to close the airport and make that land available for commercial development, according to news reports. The FAA is conducting a review of the city's request to close the field since the city has previously accepted FAA airport improvement funds. The airport has been in operation since 1965.

PROMOTING GENERAL AVIATION



The "Green Hornet" touches down at Medford, Oregon, completing its two-week trip to 49 state capitals.



(L/R) Field Morey and Conrad Teitell with Morey's 2013 Cessna Corvalis TTx nicknamed the "Green Hornet."

Morey & Teitell Complete Capital Air Tour As Planned

MEDFORD, OREGON - Field Morey, an FAA-Certified Flight Instructor from Medford, Oregon, with roots in Wisconsin, and Conrad Teitell of Greenwich, Connecticut, an attorney with Cummings & Lockwood, successfully flew to all 49 state capitals in the lower 48 plus Alaska in just two weeks. The flight, which was flown in Morey's 2013 Cessna Corvalis TTx, started September 16, 2014 at Medford, Oregon (KMFR), returning to Medford on September 29. The objective of the flight was to raise public awareness of the value of smaller municipal airports as important business assets for cities and as the gateway for bringing tourism to an area.

The entire flight could be tracked as the pilots had an onboard Spot Generation 3 GPS tracking device, showing the real-time location of the Corvalis TTx. Some elementary school teachers tracked the plane, and gave lessons in time, distance and U.S. capitals.

The Cessna Corvalis TTx is the fastest single-engine, fixed gear production aircraft on the market, Morey said, and has a maximum cruising speed of 235 knots. The aircraft's speed and avionics enabled Morey and Teitell to fly over 12,000 miles with stops at 57 airports in two weeks.

The airplane was nicknamed "The

Green Hornet," and was equipped with a Garmin G2000 "glass cockpit" panel that includes NEXRAD radar for storm avoidance, anti-ice equipment, and terrain and traffic avoidance devices, along with the latest autopilot technology, essential for avoiding crew fatigue.

Midwest Flyer Magazine (MFM) asked Field Morey about the trip:

MFM: How did you decide on the route?

MOREY: "We did not use a computer program, but took the obvious route to Alaska and back, then on to Wisconsin where we would make a decision with respect to any current or future hurricanes. That left us two alternate routes to decide upon. Fortunately we did not have to change our route from Plan A and rebook all the accommodations as a result."

MFM: What altitude did you fly at mostly and why?

MOREY: "The legs were short enough so we did not take the time to climb to a high altitude and wear oxygen. Had we been flying say from Oregon to Wisconsin, we would have been flying in the flight levels. Most of our legs we flew at 11,000 or 12,000. On one leg we took her up to FL180 to get above icing. Icing was only an issue on one leg of the tour."

MFM: **Did you encounter any** weather along the route?

MOREY: "On the second day we landed at Ketchikan, Alaska in a 200 ft ceiling due to fog. The leg from Santa Fe to Phoenix was at the south end of a



monsoonal moisture system, streaming north into Utah and Colorado. We caught the end of that and bumped along in the cumulus. Going higher would have meant much stronger headwinds. Speaking of headwinds, we had tailwinds and VFR weather on 50 of 57 legs!!! The only other weather issue was that we had to settle for an ILS instead of a visual approach going into Boise, Idaho, due to smoke from the western forest fires."

MFM: How cooperative was ATC?

MOREY: "Very cooperative! We filed IFR for every leg. I must say that Canadian controllers are friendlier than the U.S. (Unions???)"

MFM: How did the aircraft perform?

MOREY: "As we told the Cessna

LET'S FLY & DINE

Last Dash To Lone Rock!

LONE ROCK / SPRING GREEN, WIS. – With warnings of an earlier winter freeze in the forecast, aircraft flew in and out of Tri-County Regional Airport in Spring Green, Wisconsin, October 26, 2014 in droves. For nearly 8 hours, there was a steady flow of aircraft in and out of the airport, which features the "Piccadilly Lilly Airport Diner" and self-service fuel.

The Piccadilly Lilly Airport Diner is owned and operated by Kathryn Stenulson and specializes in madefrom-scratch home cooking. The diner offers breakfast and lunch all day, and during the week it offers lunch specials. The diner is known for its Biscuits 'n' Gravy and Big Dilly & Little Dilly Hashbrowns.

For information visit www. piccadillylillydiner.com or call (608) 583-3318. folks when we stopped at Wichita, the plane performs wonderfully."

MFM: How many hours total time for the trip?

MOREY: "We forecast 77 and clocked in at 76 on the head."

MFM: Did any governors greet you upon your arrivals and what comments did they make?

MOREY: "Negative... just a whole lot of General Aviation terminal people. Notice I dislike the term FBO?"

MFM: What kind of media coverage did you get?

MOREY: "Lots of network TV affiliates and local print, including AOPA."

MFM: What was your statement or speech or main comments at each stop with the media or local officials? MOREY: "GA aircraft bring business and tourism to the area and General Aviation airports – especially reliever airports – should be supported, not only for the fact that they relieve congestion at the main airport, but as I cited the case for C29, Morey Field, they attract businesses to locate in the community."

MFM: Did the tour live up to your expectations?

MOREY: "Went far beyond.... we didn't want it to end."

MFM: What would you do differently?

MOREY: "Stay a day at each stop."

To learn more about "Morey West Coast Adventures," and "IFR West," visit www.ifrwest.com/cat.



Tri-County Regional Airport Lone Rock / Spring Green, Wisconsin Midwest Flyer Magazine Photo by Dave Weiman

The diner is open daily from 6:00 am to 2:00 pm. Tri-County Regional Airport features 5,000 and 1,850 ft runways, ASOS and instrument approaches. For airport information call 608-583-2600.

The Green Earth Deicer Company, Inc. Specializing In Environmentally-Friendly Airport & Aircraft Deicing Products 920-923-4077 or 414-379-0601

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"Airport Engineering and Design Services" For Additional Information Contact Aaron Stewart At 920-735-6900 ONE SYSTEMS DRIVE, APPLETON, WI 54914





Jack Dekens' circumnavigation of Canada provided him with an adventure many pilots dream about, but few ever experience firsthand.

This map shows the route Jack Dekens took as he circumnavigated Canada in his 1975 Cessna 172M Skyhawk.

Circumnavigating Canada In A Skyhawk

CHILLIWACK, B.C. – Jack Dekens got his Private Pilot Certificate at age 58 for one major purpose: he wanted to circumnavigate Canada. For Dekens, it was the ultimate cross-country flight and an adventure he had dreamed about for many years.

Dekens made up for his limited flight hours with thorough planning. Since avgas is hard to find in northern Canada, he called every airport he planned to visit to make sure he would be able to refuel. Though he was heading north as a tourist, he did not fill his suitcase with colorful shirts; rather, survival gear and provisions.

Dekens purchased a 1975 172M Skyhawk, removed all but one seat, replaced the engine with a factory-new installation and bought a new prop. Knowing he could use some extra horsepower in the mountains and that he needed to make his fuel burn as efficient as possible, Dekens also installed a Power Flow Tuned Exhaust System. There were long legs on the flight, especially above the Arctic Circle, where he was really happy to have the benefits of tuned exhaust.

Dekens practiced a lot of landings on grass and gravel strips, did a lot flying above the clouds, got his night flying endorsement and purchased a satellite phone so he could file flight plans up north (a requirement since the arctic is a military zone). He carried five Jerry cans of fuel and used a special funnel to filter out impurities. Since he knew that magnetic compasses can swing wildly up north, Dekens also relied on GPS and it served him well.

Departing from Vancouver, B.C., Dekens flew clockwise around the country. The trip took 30 days, covered nearly 10,000 miles and consumed \$6,000 of fuel. This included the quantities of avgas he had made special arrangements to have pre-positioned at northern strips that normally offer only Jet A.

Along the way Dekens visited Frobisher Bay, Resolute Bay, Iqaluit, and Pond Inlet on Baffin Island. It was the west coast and the northern islands that most intrigued him on the trip. Dekens made the journey in July though he now believes it might have been a little easier in August when there was less snow up north. Dekens' hope on returning home was that he would be able to take his five girls flying and maybe instill in them some of his own sense of adventure.

Jack Dekens' daughter, Louise Chapman, interviewed her father after his adventure and wrote up a description of his preparations and experiences during the flight, which can be accessed through this link: http://www.wildopajack.blogspot. ca/2014_09_01_archive.html.



Aeronautics Report

Wisconsin Bureau of Aeronautics P.O. Box 7914, Madison, WI 53707-7914

David M. Greene, Director (608) 266-3351



www.dot.wisconsin.gov

Airport Reference Points

by Hal Davis WisDOT Bureau of Aeronautics

I like a good map. I like to know where I am, where I'm going and what's around me. Whether in the air or on the ground, good situational awareness is important. With the advent of GPS navigation and smart phones, the days of paper maps and charts are numbered, and that's not necessarily a bad thing! Google Earth and applications like it are powerful tools. In particular,



Hal Davis

they can be used as platforms to view endless amounts of third-party data.

If you too are an enthusiast of aviation and maps, the Wisconsin Bureau of Aeronautics has a data set that you may find useful. Known as the airport reference points, when imported into Google Earth or ArcGIS, this data set depicts all public-use airports and seaplane bases in Wisconsin. In addition, all private-use airports, seaplane bases, heliports and ultralight fields are also displayed. If you find an airport that interests you, click on it, and additional information about that particular airport will appear. For example, contact information is available if you want to call the airport to find out more about current field conditions and services offered. Whether flying to an unfamiliar part of the state or just



curious about where the closest seaplane base is to your home, this data set can be a helpful resource.

To view the airport reference point data you first need Google Earth which is available for free at www.google.com/ earth. Next, visit the airport reference point web page at www.dot.wisconsin.gov/travel/air/arp.htm and download the "kmz" file. Once downloaded, open the file, and it should automatically appear in Google Earth.

If you have questions or technical difficulties, call our office at 608-266-3351 or email me at

howard.davis@dot.wi.gov.

2014 Airport Operations & Land Use Seminar

STEVENS POINT, WIS. – More than 100 people, representing approximately 40 airports around Wisconsin, gathered in Stevens Point in late September for the annual Airport Operations & Land Use Seminar hosted by the Wisconsin Bureau of Aeronautics. This year's seminar featured speakers from the Wisconsin Bureau of Aeronautics, Federal Aviation Administration, Airport Cooperative Research Program, Wisconsin Land Information Association, Experimental Aircraft Association and more. Session topics included the basics of airport funding and airport operations, 44 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE unmanned aircraft systems, protecting airport property, airport special events, growing community support, and increasing airport activity. If any of these topics interest you, copies of the presentations are available for download by visiting www.dot.wisconsin.gov/news/events/air/operationsseminar.htm.

Mark your calendars; the 2015 Airport Operations & Land Use Seminar will be held September 23rd and 24th at the Stevens Point Holiday Inn and Convention Center.

International Aviation Art Contest

he 2015 International Aviation Art Contest is now underway. This year's theme is "World Air Games." Artists are encouraged to create a poster that captures the excitement of the FAI World Air Games Dubai. All children between the ages of 6 and 17 are invited and encouraged to participate!

Submit entries to the Wisconsin Bureau of Aeronautics for statewide judging. The top three posters in each age bracket 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.



1st Place

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 or bronze medals.

Over the years, Wisconsin has had both national and international winners. Last year, we had over 400 entries. This year, we are hoping to nearly double that in an effort to encourage young artists to become more familiar with aviation, science and engineering.

Entries must be postmarked to the Wisconsin Bureau of Aeronautics by *Friday, January 23, 2015.* We look forward to seeing your school represented in the 2015 International Aviation Art Contest!

For an electronic copy of the brochure, please visit www.dot.wisconsin.gov/travel/air/art.htm.

If you have any questions, please contact Karen Broitzman at karenl.broitzman@dot.wi.gov or call 608-266-8166.



2nd Place



3rd Place

Annual Airport Engineer's Workshop

he 2015 Wisconsin Bureau of Aeronautics Airport Engineer's Workshop will be held Tuesday, February 17th 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.

DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE 45



WATA Difference

WISCONSIN AVIATION TRADES ASSOCIATION

New Jet Air Hangar Spells Economic Development For Green Bay



The partners of Jet Air-Signature Select with Wisconsin Governor Scott Walker. (L/R): Ben Meeuwsen, David Krause, Dr. Bruce Bressler, Gov. Scott Walker, Alan Timmerman, and Dr. Per Anderas. Photo Courtesy of Bayland Buildings, Inc.

GREEN BAY, WIS. – Jet Air-Signature Select held a grand opening October 21, 2014, for its new 36,000 square foot hangar at Austin Straubel International Airport in Green Bay.

"We have seen tremendous growth over the last several years," stated Al Timmerman, CEO of Jet Air. "Building this hangar was the next step in our development to expand operations."

The new hangar features aircraft storage space, a complete aircraft and avionics installation and repair center, aircraft interior refurbishment services, heated garage parking stalls available for short or long-term use, and it is the largest heated



The new 36,000 square foot hangar at Jet Air-Signature Select, Austin Straubel International Airport in Green Bay. Photo Courtesy of Bayland Buildings, Inc.

hangar in northeast Wisconsin. With the expanded operations Jet Air now has the ability to work on regional airline jets when they need service.

"We knew we had the repair and maintenance expertise, but lacked a large enough space to be able to offer these services to the airlines," said Timmerman. "This new hangar will go a long way to support our current and future operational goals."

With this growth, Jet Air has added five full-time positions and one part-time position in the maintenance and repair service area, avionics, customer service and aircraft



refurbishment.

Timmerman says Jet Air also had many supporters and partners with this effort, including a \$200,000 loan from the Wisconsin Economic Development Corporation to help complete the \$1.7 million project. Jet Air was also able to gain additional ramp space through a partnership with the Wisconsin Department of Transportation, Bureau of Aeronautics; Brown County; and Austin Straubel International Airport.

"The additional space will provide

extra parking for aircraft and better accommodate larger aircraft that fly in to clear customs," said Timmerman. "These partnerships show that the region supports the development of a strong transportation infrastructure, which is important to future economic growth."

Jet Air-Signature Select is a fullservice fixed base operator located on the east side of Austin Straubel International Airport in Green Bay, Wis. Jet Air Group provides customer service to charter, domestic and international flights with onsite U.S. Customs clearance and international regulated trash disposal. In addition, Jet Air Group offers aircraft storage and maintenance services and has one of the most comprehensive fight training centers in northeast Wisconsin.

Jet Air was named the 2012 Aviation Business of the Year by the Wisconsin Aviation Trades Association. For more information visit www.jetairgroup.com or Facebook at www.facebook.com/ frontlineaviation.

Second Generation Gyroplanes In The Midwest

A Personal Historical Narrative by Chris Laskey

ack in the very early 1970s, I became acquainted with a group of folks belonging to an organization known as "PRA Chapter 18," The Greater Midwest Rotorcraft Club. They were involved in flying and teaching in aircraft called "gyrocopters," and since I was a many-hour helicopter pilot, I thought I might get involved with them and look into an alternative type of rotorcraft flight. Over the next few years this experience became an association with a lot of good people, some fabulous fly-ins and a little bit of flight time in a gyro glider with Ken Brock, an Air & Space 18A with Don Farrington, and a Marchetti gyro with Frank Marchetti. As a whole, the experience was a lot of fun, but life got in the way and I had to make a living flying choppers and leave my gyro plans on the back burner.

Then in 2013, I met Chris Lord of Pictaio Aerospace (pictaioaerospace. com), and approached him with the idea of adding one of his AutoGyro Calidus gyroplanes to our Midwestern Helicopters business in Kenosha, Wisconsin. The Calidus he was flying was a newer second-generation aircraft with very clean lines and a proven track record, and it appeared to fit in with the focus of our current professional operation. The idea was met with



Xenon IV Gyroplane enthusiasm by Lord, and Midwestern Helicopters became a local gyroplane training operation (AutoGyro Calidus).

In spite of last winter's polar vortex, my gyro soon began flying.

The Calidus gets a great deal of eyeball interest since we are based in the terminal building at Kenosha Regional Airport, Kenosha, Wis., and there is a constant parade of inbound professional pilots. Questions abounded and many introductory flight lessons followed. Since then, more than a few Sport Pilot Certificates through CFI Certificates have been issued.

EDITOR'S NOTE: Chris Lord is a dealer for the AutoGyro Calidus, and the USA importer for Celier Aviation Xenon IV Gyroplane (www.Pic-Aero. com), both of which are second generation gyroplanes certified in various European countries. These aircraft are available in the Experimental Amateur Built Category, allowing the builder/owner to perform their own maintenance.

Pilots interested in flying the gyrocopter or taking lessons may contact Chris Laskey at Midwestern Helicopters: 262-657-7700 (www.Midwesternhelicopter.com).



www.mndot.gov



THE STATE OF MINNESOTA PROVIDES THIS TECHNICAL BULLETIN IN THE INTEREST OF AVIATION SAFETY AND TO PROMOTE AERONAUTICAL PROGRESS IN THE STATE AND THE NATION

Cassandra Isackson, Director

Dan McDowell. Editor

Minnesota DOT Office of Aeronautics Mail Stop 410 • 222 East Plato Boulevard • St. Paul, MN 55107-1618 651-234-7200 or (toll free) 1-800-657-3922

As The Holidays Arrive

by Cassandra Isackson Director, Minnesota DOT Office of Aeronautics

s the holiday season arrives, many people will take vacation to spend time with family and friends. It is our hope that vou will have a wonderful and safe time, and will take

NNESOTA



Cassandra Isackson

advantage of the opportunity to share your passion for aviation with those around you.

In our technical bulletin, you will find several very important articles that I hope you will spend time reading and absorbing. Safety is our number one

concern for everyone, here at MnDOT, so we ask you to take time and consider your safe driving and safe flying practices.

Read the article by Rachel Obermoller, AvRep for the Office of Aeronautics, and think about your crew resource management (CRM) efforts and practices when you fly. Ask yourself what you could or should be doing better, or differently, to improve your flying safety.

In keeping with the safety theme, I next direct you to the article by Rick Braunig, AvRep for the Office of Aeronautics, on the subject of Unmanned Aerial Systems, commonly called UAS's or Drones. Individuals and companies are already attempting to use these unique aircraft in the airspace that piloted aircraft use. Thus safety is even more important, as the practice of

"see-and-avoid" takes on an expanded meaning. Until the FAA provides the rules and practices for UAS use in U.S. airspace, we must rely on heightened situational awareness and enhanced safe practices when we fly.

So take advantage of your time with friends and family, and let them know about aviation and how it benefits them. Remember to practice good CRM when you fly, and keep your eyes and head on a swivel when flying, so you can spot potential traffic, including perhaps, a small unmanned aerial vehicle (UAV), and other unmanned or manned aircraft. As pilot-in-command, you are responsible for your safety and that of your passengers. Make sure you are always alert and practicing the best safety and awareness procedures, anytime, but especially as the holidays arrive.

The Promise of Unmanned Aerial Systems (plus updates)

by Richard Braunig AvRep, MnDOT Aeronautics

AS, UAV, Drones: it seems everywhere you turn you hear about some new application for these vehicles and how the FAA is stifling this emerging industry



Richard Braunia

because they can't figure out how to integrate them into the National 48 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE

Airspace System (NAS). It is true; they (UAS's) can do some amazing things. They can fly into burning buildings and search for people; they can fly over crops and identify moisture content and a half dozen other conditions allowing farmers to target the treatment of their crops, often referred to as precision agriculture. News stations could use them to get great live shots. Real estate agents could use them to help sell houses and Amazon wants to deliver your packages all with UAS.

I can imagine urban areas with UAS stacked one on top of another, some hovering, some transiting, and all working below building top height. This isn't a nightmare for the FAA. This is a nightmare for the public. Sure the UAS can be programmed to avoid buildings, but what about birds or other UAS? None of the current systems have the capability to avoid moving objects in their path. That is one of the things that still needs to be figured out. So when a UAS hits a bird, or two UAV's collide, where do the parts fall? What happens when people are injured or property is damaged? Can you even tell who the owner/operator of the UAS was? Then there is the question of operations in controlled airspace.

There have already been several reports of UAS operating in close proximity to airliners on approach. What happens when one gets swallowed by a jet engine? How do we educate UAS operators about airspace and avoiding full sized aircraft? How do we keep the news agencies or anyone else with a UAS from getting in the way of the air medical helicopter coming in to pick up an accident victim?

When you look at the UAS of the past: model aircraft, they have some really good operating practices. They stay away from populated areas and they test the aircraft that will be flying to make sure that they don't have frequency interference between aircraft and controllers. They always keep their aircraft in sight and in range of the controller and they stay away from airports.

Clearly things have changed. People want to operate UAS in populated areas or send them off over the horizon to accomplish a task. While the model aircraft community had many safeguards, I never hear this new group of operators talking about how they can mitigate the risks. I'm not sure they have even thought about the risks.

There is a lot of promise for the future of UAS, but rushing forward can cause serious setbacks. We have already seen several bills in the legislature that would restrict UAS operations to protect our privacy. It wouldn't take very many irresponsible operators to ground the whole industry and that would be a shame.

We could be moving forward faster if there was a coordinated program to work out the answers to the tough questions, but since the FAA isn't putting any money into the six designated test sites, they are also not providing guidance on what to work on either. UAS could eat up a lot of resources and that is an area where the FAA is already short. It is hard to envision them leading the charge for development of the UAS industry. Still they clearly have a responsibility for aviation safety and since UAS fly, they will need to be involved in any solution.

While there is great promise for the future of UAS, there is also great risk. I think of the great pioneers of the jet age and the risks that they took. Many of them paid with their lives. Unfortunately, where UAS are concerned the individuals pushing forward, willing to take the risks, will most likely not be the ones who are injured if things go bad. True supporters of UAS will recognize the dangers and not skip any steps on the way to figuring out how they can be safely operated. The risk takers, the ignorant, the irresponsible will be their biggest foes.

Editors update notes: (1) In an

article in Defense Systems Magazine dated 14 Oct 2014, author/editor Kevin McCaney said "The ability to sense and avoid other aircraft is a key element in one of the next steps for unmanned vehicles-being able to fly in airspace also occupied by manned aircraft. Congress has given the Federal Aviation Administration a 2015 target date for beginning to allow unmanned aircraft in domestic airspace, but the Defense Department told Congress earlier this year (2014) that reliable sense-and-avoid technology was still two to three years away. FAA has said it doesn't expect to certify an airborne sense-and-avoid system until 2016 at the earliest.

(2) In a separate announcement posted in the same magazine it said: Defense Research Associates, Inc., Dayton, Ohio, has been awarded a \$23,500,000 cost-plus-fixed-fee, indefinite-delivery/indefinite-quantity for the Collision Warning Using Existing Sensors (CUES) program. Contractor will commercialize the technology matured under previous efforts by incorporating collision warning capability into fielded aircraft sensor suites without sustaining aircraft modifications. ... Work will be performed at Dayton, Ohio, and is expected to be completed by Oct. 24, 2020. (From Defense Systems Magazine dated 14 Oct 2014).

Flying Single Pilot – What can we learn from fun and games?

by Rachel Obermoller Aviation Representative, MnDOT Aeronautics

Tasked a few fellow pilots over the

last couple weeks if they had any good single pilot flying stories to tell – perhaps a hangar-flying tale they learned a lesson from, or an interesting technique or skill



Rachel Obermoller

they picked up along the way, which has served them well.

One of them told me, "I generally avoid flying alone, but when I have to, I talk to myself. Then I always have a crew of two!" While it doesn't quite solve the problem of being the only pilot in the plane, and might get you funny glances from passengers, depending on how you converse with yourself, this idea isn't without merit.

So, what makes a good pilot, and beyond that, what makes someone a good single pilot? Is talking out loud, or unfailingly running checklists, the solution to the risk of single-pilot operations?

How does crew resource management (CRM) play in to all of this?

The majority of all fixed-wing general aviation accidents can be attributed to pilot-related causes. Research shows that among general aviation commercial operators, the likelihood of a single pilot being involved in an accident is 1.6 times greater than a multi-crew operation. Pilots are often a critical link in the error chain leading up to an accident, and the risk increases when there's only one pilot in the chain. The increase in safety for multi-crew operations can be attributed to many things, including frequent and comprehensive recurrent training and experienced crew members, but resource management also plays an important role.

What began in the 1970s as a concept for airline crews, can also be applied today to general aviation and single-pilot operations. MnDOT Aeronautics presents safety seminars around the state for pilot groups and local airports. These seminars span a wide range of topics, from use of current technology to accident survival to our newest seminar on single-pilot resource management. We call this presentation the "CRM Olympics," and use activities and games, or "events," to debrief single-pilot resource management concepts and apply them to single-pilot operations.

In this safety seminar, we debrief the activities using concepts, such as aeronautical decision making (ADM), automation, task and risk management, situational awareness, and controlled flight into terrain (CFIT) avoidance. Teams compete in three events, which highlight these concepts using basic aviation skills suitable for pilots and non-pilots alike.

Discussion surrounding ADM focuses on making and acting on good decisions under pressure and with limited information. Using the model of Perceive, Process, and Perform, we debrief how experience, information, and stress impact decisions. Automation includes the use of onboard equipment, such as autopilots and GPS units, as well as iPads and other portable electronic devices.

Task management and related concepts, such as prioritization and checklist usage, help to increase safety, especially in times of high stress. Risk management and the process of mitigating or eliminating risk whenever possible is critical to improving flight safety. Situational awareness ties many of these concepts together, and is paramount to CFIT avoidance as well.

Case studies and scenarios in our presentation highlight these concepts and provide practical applications, and the wrap-up includes a discussion about professionalism. While most general aviation pilots who fly single pilot are not paid to fly, we can and should still operate professionally. Professionalism and fun flying can and do coexist. An attitude of professionalism can improve safety and help passengers to feel more comfortable and confident in the pilot's abilities and enjoy the flight.

Consider the average Saturday flight to a nearby airport or for some sightseeing. A first-time passenger who shows up at the airport to find the pilot preflighting a clean airplane and able to hold a brief but wellinformed conversation about the day's weather and flight conditions, puts the passenger much more at ease than finding a pilot rushing to take care of last minute details, checking weather on their cell phone while they preflight the plane, add oil, and clean the windshield. The first pilot in our scenario, who planned ahead and got their weather briefing ahead of time, is likely less distracted, has more thoroughly reviewed the day's flight, and is more aware of the weather and aircraft conditions than the second pilot, who is multi-tasking from the get-go.

Let's go back to the pilot at the beginning who decided talking out loud was the solution to flying single pilot.

From checklists to decisionmaking to approach briefing, in a crew environment there is a lot of discussion and talking that goes into even a routine visual approach. This discussion helps ensure that both pilots are in the loop and that the decisions are informed ones based upon all the information present in the situation. When flying single pilot, the act of reading a checklist out loud and verifying the action or taking an extra minute to assess the situation when making a decision that is not time critical, provides an extra layer of safety and reinforces good habits in a similar manner. Professionalism, CRM, and single-pilot flying can all go hand in hand, and talking about practical ways to apply these concepts is a good first step to minimizing the risk for pilot error.

If your pilot group, airport, or other aviation organization is interested in having our office present the "CRM Olympics" or speak on another topic, please don't hesitate to contact us. You can reach me at rachel.obermoller@ state.mn.us, and I would be happy to help you arrange a speaker. We enjoy meeting pilots throughout the state and learning about what is important to them and how we can better serve the Minnesota aviation community.

2015 Minnesota Aviation Maintenance Technician Conference March 30-31, 2015 | Earle Brown Heritage Center | Brooklyn Center, MN 55430 *For more info see ad on page 21!*

Adopt-An-Airport (Minnesota) For more information on adopting an airport, visit http://www.dot.state.mn.us/aero/aviationeducation/aviationadoptanairport/adoptanairport.html

Minnesota Aviation Industry News

Meet Greg Reigel President, Minnesota Aviation Trades Association

GREG REIGEL of Reigel Law Firm, Ltd/Aero Legal Services of Hopkins, Minnesota, is serving his second term as president of the Minnesota Aviation Trades Association (MATA). He is an attorney specializing in aviation law, an author, adjunct professor and an instrument-rated commercial pilot. Reigel is rated for single-engine land and sea, and multi-engine land aircraft.

Greg Reigel's law practice concentrates on aviation litigation, including insurance matters and creditor's rights, FAA certificate actions and aviation transactional matters. He is admitted to practice law in Minnesota and Wisconsin and advises clients nationally on aviation law matters.

Reigel gives his clients information



and alternatives so they can choose options that best meet their needs and objectives. The aviation industry is highly regulated and can be very technical, but Reigel's experience allows him to "speak the language" and save clients time and money.

A cum laude graduate of William Mitchell College of Law in St. Paul, Minnesota, Reigel is an adjunct professor at Minnesota State University – Mankato, teaching aviation law courses. He is also an adjunct professor at William Mitchell College of Law where he has taught the Business Law Clinic and Advocacy courses.

Reigel's articles have been published in a variety of magazines and law journals. His "Aviation Law – On Your Side" column appears in *Midwest Flyer Magazine*. He frequently speaks to groups on aviation and business law issues.

When Going It Alone Is Not An Option, Membership In The Minnesota Aviation Trades Association Is.

MATA – The Choice & Voice Of Industry Professionals Since 1945

> Liaison With Minnesota DOT Office of Aeronautics Metropolitan Airports Commission State Legislature Federal Aviation Administration Other State & National Aviation Organizations

- Cosponsor of "Minnesota Aviation Day At The Capitol"
- Affiliate Member of the National Air Transportation Association

 Nine-Member Board Committed To Protecting & Promoting Minnesota Aviation Businesses

• Strong Lobbying Force Working On Behalf of General Aviation In Minnesota

For Membership Application or Additional Information, Go To: http://www.mata-online.org/ "Membership" Or Call or Email Nancy at 952-851-0631 ext 322 • ngo@thunderbirdaviation.com In addition to being president of the Minnesota Aviation Trades Association, Reigel is a member of the AOPA Legal Services Panel, editor of the International Air and Transportation Safety Bar Association Reporter, and a member of the National Business Aviation Association, Minnesota Business Aviation Association, Lawyer-Pilot Bar Association and Experimental Aircraft Association.

Greg Reigel can be reached at (952) 238-1060 or via email at greigel@aerolegalservices.com (www. aerolegalservices.com).

Tanis Aircraft Products Partners With Bruce's Custom Covers For AOG Protection

GLENWOOD, MINN. – Tanis Aircraft Products has entered into a business partnership with Bruce's Custom Covers to fabricate Tanis brand of insulated aircraft covers for protection of aircraft in harsh and demanding winter conditions. Tanis is known as the leader in providing aircraft preheat systems to the global aviation industry. Bruce's Custom Covers is the renowned global leader in supplying aircraft covers.

With over 8,500 patterns, Bruce's Custom Covers offers the most comprehensive line of custom made covering systems for airplanes, jets, helicopters, and gliders. Together, Tanis and Bruce's will manufacture and sell the aviation industry's broadest line of custom-fitted aircraft covers—both insulated and non-insulated—for a full range of fixed and rotary wing aircraft.

Covers are available for engine cowlings, propellers/



BRACKETT AIRCRAFT CO., INC. 7045 Flightline Dr. • Kingman, AZ 86401



A Bruce's Custom Cover on a Cirrus at the Tanis Aircraft Products exhibit, EAA AirVenture Oshkosh 2014. Dave Weiman Photo

fuselages, cabin/

spinners,

canopies, wings, empennages/tails, and cowl plugs.

For further information on Bruce's Custom Covers, call Bruce's at 1-800-777-6405 (www.AircraftCovers.com).

For further information on Tanis Aircraft Products, call Tanis at 1-800-443-2136, or 952-224-4425 (www.TanisAircraft.com).

Transport Canada Awards STC To Tanis

BLAINE, MINN. – Tanis Aircraft Products has received formal acceptance by Transport Canada for its Supplemental Type Certificate on both the four and six cylinder Continental, Lycoming, and Franklin engines. The STC will be entered into the Canadian index of STCs that have been familiarized or accepted by Transport Canada for installation on Canadian Type Certified / Accepted Aeronautical Products.

Tanis Aircraft Products manufactures the only engine preheat system that applies heat directly to all cylinder heads, and the oil sump and crankcase.

For more information, contact Tanis Aircraft Products at 952-224-4425 or 1-800-443-2136 (www.tanisaircraft.com).

Fargo Jet Center Expands To Eden Prairie

EDEN PRAIRIE, MINN. – Exclusive Aerospace LLC, an affiliate of Fargo Jet Center (FJC), Fargo, N.D., has purchased the assets of Premier Jet Center at Flying Cloud Airport (KFCM) in Eden Prairie, Minnesota.

PRODUCTS & SERVICES



Backup door opening systems are available for Schweiss bifold and hydraulic doors in case of a power outage.



The new, powerful Schweiss hydraulic door pump unit is all selfcontained and can be mounted on the wall or tucked away anywhere on the building floor. Hydraulic doors feature three backup systems.

Backup Door Opening Systems For Your Hangar Door In Case of Power Outage

Before you place an order for a hydraulic or bifold door, have you given any thought to how you would get that big, heavy door open in case of a power outage.

Schweiss Doors, manufacturers of hydraulic and bifold liftstrap doors, has backup systems that come standard with their doors, and additional ones you may also consider.

Hydraulic tractor fittings come standard on all Schweiss hydraulic doors. In addition to that the Schweiss hydraulic door can be opened or closed with a DC battery-motorized back-up control station that operates with the press of a button. The new compact hydraulic unit is also designed with a drill-driven backup using a 7/16-inch hex head. Just attach a socket to raise and lower your door at any time or from any position.

Emergency door lowering can also be as simple as turning a screw on the pump. Your large moving door will close at a controlled, safe speed, no matter the situation or emergency. It's that easy – no mess, no oil drains back into the tank.

All Schweiss bifold doors have an electrical disconnect to allow manual operation by an emergency backup system if power is lost. Bifold doors can be manually operated in the event of a power outage using an emergency backup hand crank, powered generator, battery powered drill, tractor-powered hydraulic coupler fittings or 12 Volt DC emergency backup.

Included is an electrical disconnect device to completely disable the door for service, maintenance and emergency backup operations. This will prevent the motor from operating when manually operating the door.

For more information on Schweiss Doors, go to www.schweissdoors.com or call us at 800-746-8273.

Nextant 400XTi Named One of Five "Best Light Jets" by Barron's



Nextant 400XTi

CLEVELAND, OHIO – Nextant Aerospace ("Nextant"), maker of the Nextant 400XTi – the world's only remanufactured business jet, has announced that the Nextant 400XTi has been included in Barron's *Finest Five* listing of the best light jets on the market. The 400XTi is the winner in the light jet category with Gulfstream, Dassault Falcon, Cessna and Embraer being featured in other categories. The jet is a completely rebuilt Beechjet 400A/XP with Williams FJ44-3AP engines and the Rockwell Collins Pro Line 21 integrated avionics suite. □





Minnesota Education Section

Minnesota Transportation Center of Excellence

Stay Current On Technological Advances or Fall Behind

by Tom Biller

hese are exciting times in the world of aviation! Never have we seen so much innovation and promise of technology impacting its



Tom Biller

future. Buzz words like NextGen, sense and avoid, drones, etc., seem to jump out at us every day from TV commercials and magazine articles. All of these things involve increasingly advanced technical skills to maintain and repair the more advanced fleet of general aviation and commercial aircraft.

In speaking with many local Part 145 repair stations, the need for skilled installation technicians is skyrocketing and will continue for the foreseeable future. According to data obtained by the Aircraft Electronics Association (AEA) through its network of repair stations, the demand just to meet the ADS-B mandate by the 2020 deadline will cause 73% of these repair stations to increase new hires just to keep up. So what can current industry mechanics do to get in on this wave of opportunity?

That's where schools like Northland Community and Technical College located in Thief River Falls, Minnesota, come in. Today's modern avionics suites and integrated systems are not your father's avionics as the old saying goes. Technicians in the field require new and updated skill sets in addition to the tried and true methods already in place in many existing Part 147 Aircraft Maintenance Technical (AMT) schools.

When you think of a modern glass

cockpit, you are essentially talking about computer maintenance and networking. Things like data bus and IP addresses are becoming more and more entrenched in what today's avionics technicians need to know and apply on the job. Many newer systems are more likely to have software issues versus hardware failures that require traditional troubleshooting skills. Technicians need newer and more specialized test equipment to troubleshoot some of these systems, especially when it comes to the satellite portions. Another area we see changing rapidly is "aircraft construction."

With the push to get more bang for the buck, many aircraft companies are going heavily toward composite construction. The materials save weight while increasing strength, which in turn makes it less costly to operate the aircraft. However, using these materials puts many limitations on mechanics currently in the field.

Many Part 147 schools are addressing this by expanding core curriculum to include heavier doses of the composites process and more importantly, how to recognize damage and make repairs if needed.

At Northland, we go a step further and offer advanced composites in addition to the normal training received as part of the AMT program. This training in addition to advanced avionics is all covered in our one-of-akind Unmanned Aerial Systems (UAS) Maintenance Program.

Although known as the first and only current UAS Maintenance Program in the nation, don't let the unmanned wording throw you. All of the courses prepare you for modern manned aircraft, as well as the unmanned versions. In fact, many technology breakthroughs for aviation are coming from the research involved with the unmanned systems.

Northland currently offers a two-semester, 30-credit certification program for UAS maintenance that covers all of the updated skill sets needed for manned and unmanned aviation. We cover advanced avionics and installation, composite repair, computer networking, hardware maintenance, UAS ground station, and unmanned vehicle maintenance. We are the one stop shop to get all your skills updated and some very credible industry certifications.

Northland Community and Technical College is a recognized National Center for Aerospace & Transportation Technologies (NCATT) training provider for avionics as well as unmanned systems. We prepare you for the increasingly in demand Aircraft **Electronics Technician Certification** exam with NCATT. Once you pass, we prepare you for the endorsement exams covering communications, navigation, and autonomous systems. Finally, to culminate the 30-credit program, Northland, along with NCATT, offers the UAS certification exam. We helped develop this test and still maintain continued feedback and updates to NCATT to keep the test accurate and relevant.

In the July issue of AEAs magazine, Brad Hayden, founder of Robotic Skies, mentions the huge potential for UAV maintenance in repair stations nationwide. Although we don't know exactly how that will play out, you can rest assured that business will only increase. Another major shift for current technicians will be the fact



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that the UAV itself is only half of the equation. Almost any sizeable platform requires a ground station, which essentially serves as the flight deck. These "flight decks" can range from an iPad, all the way up to a hardened central control building. So it's safe to assume the entire UAS system, including link antennas, ground control, and the vehicle itself, would require established inspection and repair criteria to meet airworthiness standards. This is a whole new ball game as these ground control stations are often very sophisticated and software centric. Even the user interfaces are more akin to a video game system than anything we deal with in our glass cockpits. It's all about graphical interfaces and streaming video or data. Many ground stations use extensive fiber optic networks, so learning fiber repairs and fabrication is a critical skill when dealing with them.

The bottom line is if you aren't updating skills and continuously learning in this business, you are falling further behind. I liken what we are seeing in aviation right now to the early 1980s when the U.S. car companies were introducing the first computer controlled cars. We had a severe shortage of qualified mechanics to fix them and spent many years just catching up to the technology! I see that happening with aviation at this moment. Technological advances are outpacing us right now and with a vast majority of the current work force nearing the retirement years, it's not hard to see we are going to need new pipelines of skilled technicians to keep aviation moving forward. One thing for sure, change and innovation are inevitable and will occur with or in spite of us.

The question then becomes, what can I do to keep my

skills current when I'm working a full-time job and have a family to take care of?

Time is the master of us all and finding the extra time to update skill-sets can seem impossible. But there are always things you can do, such as taking a networking class from your local community college, or attending professional development classes, such as those offered by AEA.

Here at Northland, we offer our entire 1st semester online now through the use of tele presence technology. We can also customize our training to fit your needs. For instance, avionics technicians probably don't need avionics courses, but may be interested in networking or ground control station maintenance. We can minimize your time away from work by tailoring the program to your situation and needs.

The sky is truly the limit with where you can go and what you can work on in today's aviation environment. Northland Community and Technical College has graduates all over the world working with the Department of Defense in places like Italy and Guam or right here in the U.S. with companies like Northrup Grumman, General Atomics, and Raytheon to name a few. So don't hesitate any longer, take the next step for your future and find ways to stay abreast of industry trends, even if school time doesn't fit your current life situation. There is always a way and the only limitation is you!

EDITOR'S NOTE: Tom Biller is an avionics instructor at Northland Community and Technical College in Thief River Falls, Minnesota. He can be reached at 1-800-959-6282. www.northlandaerospace.com

Is A SkyCruiser In Your Future?

t Krossblade Aerospace of Tempe/Mesa, Arizona, a group of six young men have developed the concept for a hybrid 5-seat transformer airplane called "SkyCruiser," and a prototype called "SkyProwler," a VTOL transformer unmanned aerial vehicle (UAV) or drone. SkyCruiser takes off and lands vertically (VTOL), cruises at more than 500 kph/300 mph, and also has road drive capability.





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The patent pending switchblade mechanism forms the basis of the transformation of SkyCruiser and SkyProwler. Airplanes need to fly fast, and to fly fast, an aircraft needs to be as aerodynamically clean as possible. That's why airplanes are long and narrow, somewhat drop-shaped, with as few of 'things' sticking out as possible.

For vertical take-off and landing on the other hand, an aircraft needs to be the opposite of aerodynamic. The more things you have sticking out producing lift (think of the extreme of a parachute, for example), the easier it is to hover. This is one of the main reasons that helicopters, which are great at hovering, are not very good at forward flight, being slow, as well as needing a lot of fuel.

The switchblade mechanism transforms an aircraft from the aerodynamically clean airplane configuration to the VTOL configuration, which features a number of rotors that together have a large rotor disc area that is ideal for hovering at low power.

The switchblade mechanism is of similar technical complexity as a gear retraction mechanism and in itself adds very little weight to SkyCruiser and SkyProwler.

SkyCruiser has four rotors, but is designed to be able

to land safely with only three rotors (using some thrust vectoring with the thrusters at the tail to counteract yaw). For a controlled crash landing, all the SkyCruiser needs are two rotors, but it has to have one rotor operating on each side. The movable arms can be used for this purpose to slightly reconfigure the position of the large VTOL rotors. Also, each arm carries two rotors, a big one carrying most of the weight and a small one, carrying some weight, but being mainly used for control and stabilization (www.krossblade.com).

INSURANCE

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Jeff Bauer

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NationAir's contracts partner is Gary Stewart of Ascot Aviation Consulting. Prior to joining Ascot, Stewart was director of contracts for Signature Flight Support.

"Insurance and contracts are inexorably tied together," Bauer said. "We ensure our clients are getting the most from their insurance by reducing their risk exposure with their contracts." NationAir is one of the country's largest and oldest independent aviation insurance specialty brokers and handles insurance for more than \$4 billion in aviation assets.

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DECEMBER 2014

- 6* SALINA, KAN. Candy Canes & Airplanes Fly-In & Open House 2-4pm. at Salina Airport / Kansas State University. Santa arrives 2:15pm.
- 12* Osнкоsн, Wis. Wright Brothers Memorial Banquet at the EAA AirVenture Museum. Darrell Collins, a National Park Service historian from Kitty Hawk, is the evening's featured speaker. Tickets are available through the AirVenture Museum secure website at www.EAA.org/Wrightbrothers or by calling 920-426-6880.

2015

FEBRUARY 2015

- 17* MADISON, WIS. Wisconsin Bureau of Aeronautics Engineer's Workshop will be held at the Crowne Plaza Hotel. Registration go to http://www.dot. wisconsin.gov/news/events/air/ engineers-workshop.htm.
- 21* Milwaukee, Wis. Mechanics refresher and inspection authorization (IA) renewal seminar at the Crowne Plaza Hotel. A block of rooms are reserved at the rate of \$80 a night. You must identify yourself with "Wisconsin Dept.



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23-24* LANSING, MICH. - Great Lakes Aviation Conference at The Lansing Center. www.GreatLakesAviatonConference.com

MARCH 2015

1-3* FARGO, N.D. - Upper Midwest Aviation Symposium at Holiday Inn. 701-328-9650.

30-31* BROOKLYN CENTER, MINN. - 2015 Minnesota Aviation Maintenance Technician Conference at the Earle Brown Heritage Center. www.regonline.com/1596744. For more information visit: mndot.gov/aero. 800-657-3922 ext. 7248.

APRIL 2015

- 15-17 ST. CLOUD, MINN. Minnesota Airports Conference at Rivers Edge Convention Center.
- **21-22** Des Moines, Iowa Iowa Aviation Conference at the Sheraton.

MAY 2015

- 11-13 La CROSSE, Wis. Wisconsin Aviation Conference at the Radisson Hotel. For additional information go to www. wiama.org, or contact Bob O'Brien at 815-757-2869.
- 13-14 ROCKFORD, ILL. Illinois Aviation Conference at Clock Tower Resort. Hangar Party Sponsored by Poplar Grove Airmotive, Poplar Grove Airport/ Museum.

JUNE 2015

- 6* HEBRON (KHJH), NEB. Nebraska State Fly-In and Air Show. www. hebronairport.com.
- 7* WILD ROSE (W23), WIS. Pancake Breakfast 8am 'til gone and Pig/ Beef Roast and more lunch, 11:30 'til

gone. Free kiddie "Plane Train" rides, Gamma Goat rides, 50/50 Raffles and Airplane rides (fee charged for airplane rides). Event held rain or shine.

JULY 2015

20-26 OSHKOSH (OSH), WIS. - EAA AirVenture 2015 www.airventure.org

AUGUST 2015

- 10-13 MIMINISKA LODGE, ONTARIO Canadian Fishing Fly-Out 2015. 3-Night/2-Day Trip. (See ad on page 63 for more info.) 1-888-465-3474.
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SEPTEMBER 2015

23-24 STEVENS POINT, Wis. - Wisconsin 2015 Airport Operations & Land Use Seminar at Stevens Point Holiday Inn & Convention Center (715-344-0200). For seminar information contact: Hal Davis - (608) 267-2142 or email howard.davis@dot.wi.gov

NOVEMBER 2015

17-19 Las Vegas, Nev. - NBAA 2015 Business Aviation Convention & Exhibition. www. nbaa.com.

Wisconsin Flying Hamburger Socials www.wisconsinflying.com/flysocial Airports or EAA Chapters, go to this site

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58 DECEMBER 2014/JANUARY 2015 MIDWEST FLYER MAGAZINE

FUTURE FUELS

Industry Encouraged By Next Step In Collaborative Process For 100 Low-Lead Fuel Replacement

FAA selects four fuels for initial testing.

WASHINGTON, D.C. – The aviation industry is encouraged with the announcement made September 8, 2014 by the Federal Aviation Administration (FAA), which has selected four unleaded aviation fuels to undergo initial testing in the search for a viable alternative to leaded avgas. Those fuels – two from Swift Fuels, one from Shell, and one from TOTAL – will begin Phase 1 lab and rig testing this fall at the FAA's William J. Hughes Technical Center in Atlantic City, New Jersey. Testing will continue until fall 2015.

"We all have a single goal: finding the best possible outcome for the widest spectrum of the GA fleet," said Jack Pelton, EAA's chairman of the board. "EAA stands ready to continue its active participation in this important initiative." The companies submitted fuels for consideration through the Piston Aviation Fuels Initiative (PAFI), a joint industry-government effort to facilitate the development and deployment of a new unleaded avgas that will best meet the needs of the existing piston-engine aircraft fleet.

The PAFI Steering Group includes the Federal Aviation Administration, Experimental Aircraft Association, Aircraft Owners and Pilots Association, American Petroleum Institute, General Aviation Manufacturers Association, National Air Transportation Association, and National Business Aviation Association.

After the submission process, which closed July 1, the FAA assessed the viability of the candidate fuels and evaluated the proposals in terms of impact on the existing fleet, production and distribution infrastructure, environmental considerations, toxicological effects, and cost of aircraft operations.

For Phase 1 testing, fuel developers supply 100 gallons of fuel, and successful fuels will move on to aircraft and engine testing. Phase 2, which the FAA expects to conclude in 2018, will require 10,000 gallons of fuel and will generate standardized qualification and certification data, as well as property and performance data.

There are approximately 167,000 aircraft in the United States and a total of 230,000 worldwide that primarily rely on low-lead avgas, the only transportation fuel in the United States that contains added tetraethyl lead (TEL) in order to create the very high octane levels required by high-performance aircraft engines. Operations with inadequate octane can result in engine failures.



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HEARING PROTECTION

Say Again? by The Raviator Presented by AKG Headsets

ll of us lose some hearing as we age, but for every nonpilot reporting hearing loss at age 50, there are five pilots who report hearing loss. Moreover, as an aviator and musician, I encounter more hearing impaired pilots than rock n' roll guitar players. This caught me by surprise because while deaf musicians may not make the prettiest music (Beethoven being a notable exception), depriving pilots of any one primary sense is a safety hazard to themselves, their passengers, and those on the ground. Therefore, I felt compelled to investigate further.

While music fluctuates across the frequency spectrum, airplanes relentlessly push the same ones. That makes aviation punishing to the ears because the duration of noise is as relevant as its volume - the louder the sound, the quicker the damage.

For example, passing truck traffic will put you at risk after eight hours, while rumbling subway trains will get you in four hours. Most general aviation airplanes emit sufficient noise to cause damage after just one hour. The magic number is 85 decibels (dB) - anything less poses little-to-no risk. The rule of thumb is that any noise is potentially dangerous if you must shout over it in order to be heard. In other words, everyone traveling in small planes must wear hearing protection.

Hearing damage may not be immediate or apparent. However, once it happens, it cannot be reversed. Human hairs deep in the ear canal carry sound to the auditory nerve. These hair cells are vulnerable to noise, and excessive exposure leads to cell death and Noise Induced Hearing Loss (NIHL). Unlike amphibian hair cells, ours do not grow back.

The most obvious preventative measure pilots can take is to wear appropriate headsets. Given the many options available, it can be difficult



to identify the line between need and want.

Ultimately, any mid-priced basic passive headset should adequately protect against NIHL due to flying. That usually means a larger ear cup that seals well around your ear and is made from quality materials by a reputable manufacturer. Some models implement special foam to improve the seal around sunglasses, while others provide adjustable clamping force around the ears. Depending on how well a particular headset fits a unique head, these features can enhance overall noise attenuation. Ear plug style headsets also provide adequate protection as long as the seal in the ear remains tight.

While passive headsets protect against NIHL, there are other safety issues that Active Noise Reduction (ANR) headsets help resolve. The most notable is fatigue due to noise. When one is subjected to constant sound pressure, awareness and response time diminish. The consequences can be catastrophic. Other than ear plugs, which can be tiring if uncomfortable, ANR is the only technology that adequately reduces engine noise. With it engaged, you lower the overall noise floor, which keeps your hearing threshold low. Because one needs communications to be 10-15 dB above background noise in order to be intelligible, ANR also enables one to lower the radio and thus maintain a quieter volume across the entire frequency spectrum.

Within ANR, there is analog and digital, feedback and feedforward. ANR recognizes noise within predictions set by manufacturers, and consequently

produce an inverse wave to cancel that noise. However, digital enables the headset to survey and analyze present and changing conditions irrespective of manufacturer predictions, essentially adapting to the pilot's head and current cockpit conditions. Feedback addresses undesirable noise inside the ear cup, while feedforward catches noise

before it gets in. When combined ("hybrid circuit"), the result is greater noise reduction across a wider frequency range because feedforward does not have to avoid frequencies being used for communications inside the cup.

ANR is complex technology and costs more. However, the value is huge when compared to the overall expense of being a pilot. If one flies two hours a week on average, a premium headset adds about \$1 per flight hour; this assumes 10 years of headset life, which is perfectly reasonable. For this reason, a headset that offers both passive and active noise protection is about the cheapest insurance money can buy. Plus, one normally gets a host of other benefits that enhance comfort and convenience, as well as improve the overall flying experience.

NIHL is completely preventable according to the National Institute of Health. It isn't rocket science, and one doesn't need to labor over graphs and comparative analysis. Implementing common sense and an "investment versus expense" attitude will go a long way to preserving safety and quality of life.

EDITOR'S NOTE: The Raviator, a musician and pilot, is a thoughtprovoking speaker on two primary issues: marketing to the next generation and preventing pilot hearing loss. Learn more at http://Raviator.com.

AKG is a new addition to the premium pilot headset market, offering hybrid active noise canceling, Bluetooth connectivity, and integrated LED map lights. Learn more at http://akg.com/ akg+aviation-1704.html

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