

# **MIDWEST FLYER**

**MAGAZINE**

*JUNE/JULY 2019*



*Published For & By The Midwest Aviation Community Since 1978*

[midwestflyer.com](http://midwestflyer.com)

# The M-Class



## M600

1,658 nm | 274 ktas | 6 people



## M500

1,000 nm | 260 ktas | 6 people



## M350

1,343 nm | 213 ktas | 6 people



Exclusive Authorized Piper Sales & Service  
Over 75 Years of Excellent Customer Service & Expertise  
515.256.5300 | [DMFS.com](http://DMFS.com)







**TWO DAYS TO EXPERIENCE, LEARN,  
AND EXPLORE ALL THINGS AVIATION.**

Exhibit Hall // Aircraft Display // Free Educational Seminars  
Paid Ground School Workshops // Friday Flightline Cookout  
Excursions // Fly-Outs // Night Drone Show // and more!

**FREDERICK, MD | MAY 10-11, 2019**

**LIVERMORE, CA | JUNE 21-22, 2019**

**TULLAHOMA, TN | SEPT 13-14, 2019**



**LEARN MORE AT [AOPA.ORG/FLY-INS](https://AOPA.org/fly-ins)**

**ON THE COVER:** With smoke on, Chuck Doyle Jr. does a flyby in his 450 Stearman (N966CD) at Sky Park Airport in Lydia, Minnesota (MN67). Complete story beginning on page 42.  
John Chvatal Photo

## HEADLINES

Do I Owe Aircraft Taxes In Minnesota? .....	10
Zero Gravity Corporation & Space Florida Develop Special Weightless Flight To Honor 50th Anniversary of Apollo Lunar Mission.....	31
Third Time, Still A Charm... MSP Again Named Best Airport In North America .....	36
Airport Board Honors Midwest Flyer Magazine Contributing Editor, Dr. Bill Blank ...	39
Salina Snares National Aerobatic Contest.....	39
Minnesota Aviation Hall of Fame Inducts	
Addis, Bradshaw, Frankl, Grace, Kinneberg, Schellinger & Stone .....	44
LoCamp Kit Manufacturer Survives Flood! .....	49
Lightning... Take It Seriously! .....	52
Revolutionary New Business Jet Design Delivers Intercontinental Range At \$1 Per Nautical Mile & Will Still Land At Small GA Airports .....	57

## COLUMNS

<b>AOPA Great Lakes Regional Report:</b> Aircraft Ownership & State Taxes - by Kyle Lewis.....	24
<b>Ask Pete!</b> Buying & Selling An Airplane & The 100LL Revolution! - by Pete Schoeninger.....	19
<b>Aviation Law – On Your Side:</b> Understanding & Complying With Aircraft Truth In Leasing Requirements - by Greg Reigel.....	9
<b>Destinations:</b> A Side Trip From The Famous Grand Canyon - by Yasmina Soria Platt.....	22
<b>Dialogue:</b> Twin Cities Airports Pull Off Another Super Bowl-Like Win With Final Four - by Dave Weiman.....	8
<b>From AOPA Headquarters:</b> Welcome To The Club! - by Mark Baker.....	23
<b>High On Health:</b> A Pilot's Mental Health - by Dr. Bill Blank, M.D.....	17
<b>Instrument Flight:</b> The Mini Garmin GTN-650 & Take-Off Minimums - by Michael J. "Mick" Kaufman.....	11
<b>Minnesota Aeronautics Bulletin:</b> See Us At EAA AirVenture Oshkosh or Your Local Airport - by Cassandra Isackson .....	52
<b>Minnesota Education Section:</b> The Sky Brings The Crops - by Kathryn Brown.....	54
<b>Pilot Proficiency:</b> Airspace, Communications & Other Such Things - by Harold Green.....	14
<b>Wisconsin Aeronautics Report:</b> Protecting Airspace In The 21st Century: Making An Airport Manager's Life Easier With GIS - by Hal Davis.....	50

## FEATURES

A Seaplane Flight To Churchill - by Alan Lindquist.....	26
From Airports To People, The Minnesota Airports Conference Showcased Excellence In The Industry! - by Dave Weiman .....	32
64th Annual Wisconsin Aviation Conference... Airports, Businesses, Awards & Recognition - by Dave Weiman .....	37
N966CD, A Stearman Story - by Noel Allard.....	42
The New Golden Age of Small-Quantity, High-Quality Aircraft Parts Production: What Is It, And What's Making It Happen? - by Ed Leineweber .....	47
Women In Aviation International At Sun 'n Fun 2019 - by Nancy Blake.....	49

## SECTIONS

Aircraft.....	49	Classifieds.....	60
At Our Airports .....	32	Education .....	31
At Our State Capitols .....	41	Midwest Seaplane Pilot .....	26
Aviation Books .....	18	Minnesota Education Section .....	54
Awards & Recognition .....	44	The New Golden Age .....	47
Calendar .....	58		



26



31



44



54



*It doesn't matter what you see; you just have to see it for yourself.*

# **EXPERIENCE OSHKOSH**

*World's Greatest Aviation Celebration®*

*World-class daily air shows featuring 180 performing aircraft  
Presented by Quest Aircraft and Pratt & Whitney Canada*

*Commemorating the Apollo 11 50th Anniversary*

*1,000 forums and hands-on workshops*

*Year of the Fighter celebration*

*800+ exhibitors*

**EAA AIRVENTURE  
OSHKOSH  
2019**

**JULY 22-28**

**BUY NOW & SAVE!  
[EAA.org/Midwest](http://EAA.org/Midwest)**



**EDITOR/PUBLISHER**

Dave Weiman

**PRODUCTION DIRECTOR**

Peggy Weiman

**PHOTO JOURNALISTS**

Chris Bildilli, Brad Thornberg

**CONTRIBUTING EDITORS & PHOTOGRAPHERS**

Noel Allard	Michael Kaufman
Mark R. Baker	Russ Klingaman
Jonathan Beck	Ed Leineweber
Nancy Blake	Alan Lindquist
Dr. Bill Blank	Kyle Lewis
Kathryn Brown	Michael McCarthy
John Chvatal	Yasmina Soria Platt
Hal Davis	Greg Reigel
George Fischer	Pete Schoeninger
Harold Green	Dave Swartz
Cassandra Isackson	Tim Unruh
Nancy Johnson	Will Wilkens

**ADVERTISING**

PHONE: 608-772-1776

EMAIL:

info@midwestflyer.com

**EDITORIAL**

PHONE: 608-772-1776

EMAIL:

dave@midwestflyer.com

**ISSUE CLOSING DATES**

DEADLINE	ISSUE
October 15	December - January
December 15	February - March
February 15	April - May
April 15	June - July
June 15	August - September
August 15	October - November

**COPYRIGHTS**

MIDWEST FLYER MAGAZINE is published bimonthly by Flyer Publications, Inc. Copyright 2019 by Flyer Publications, Inc. All rights reserved. Nothing in whole or in part may be reproduced without the written permission of the publisher.

**DISTRIBUTION**

Readership consists of aircraft owners, fixed base operators, airport managers, and aircraft maintenance shops in Wisconsin, Minnesota, North Dakota, South Dakota, Illinois, Iowa, Michigan, Indiana, Missouri, Kansas, Nebraska, and Ohio.

**SUBSCRIPTIONS**

USA - \$20 per year  
 CANADA - \$39 per year  
 (In U.S. Funds)

**SUBSCRIBE ONLINE**

www.MidwestFlyer.com

**EMAIL-OR-MAIL ALL ORDERS  
& CORRESPONDENCE TO:**

info@midwestflyer.com

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

## Index To Advertisers

Academy College.....	21
Adventure Seaplanes.....	18
Aero Insurance.....	29
Aircraft Owners & Pilots Association (AOPA) .....	3
Airlake Airport.....	19
Airpac.....	60
AIR-PROS.com.....	60
Alexandria, Minnesota Municipal Airport .....	60
Anoka County-Blaine Airport.....	19
Avfuel Corporation .....	61
Aviation Insurance Resources .....	60
Beaver Aviation, Inc. ....	38 & 40
Bolduc Aviation Specialized Services..	13 & 38
Bolton & Menk, Inc.....	45
Brackett Aircraft Co., Inc. ....	64
Cape Air .....	21
Cessna Aircraft Co.....	38
Cirrus Aircraft .....	15
Commut Air .....	21
Crystal Airport .....	19
Des Moines Flying Service, Inc.....	2
EAA AirVenture Oshkosh 2019.....	5
Eagle Air.....	60
Eagle Fuel Cells .....	60
Eagle River Union Airport .....	39 & 60
Flying Cloud Airport .....	19
Fond du Lac Skyport.....	38
Freeflight .....	9
Garmin .....	9 & 64
Go Jet Airlines.....	21
Hangars For Rent (Janesville, WI).....	60
Harbor View Float-In.....	59
Harbor View Pub & Eatery.....	59
Horizon Aircraft Engine Services, Inc. .	13 & 38
Jet Air Group .....	38
Lake Elmo Airport .....	19
Leading Edge Air Foils LLC .....	35
Leineweber Law LLC .....	8
Lynx.....	9
Maxwell Aircraft Service.....	14
Metropolitan Airports Commission .....	19
Mid-Continent Insurance.....	60
Midwest Flyer Magazine .....	16, 38, 60 & 62

Mininiska Lodge, Ontario (Wilderness North)	63
Minneapolis-St. Paul International Airport ...	19
Minnesota Aviation Trades Ass'n (MATA) ....	33
Minnesota DOT Office of Aeronautics ....	52-53
Minnesota Petroleum Service .....	10
Minnesota State University – Mankato .....	64
Morey Airplane Company .....	60
National Association of State Aviation Officials (NASAO) .....	27
NewView Technologies, Inc. ....	9 & 38
North Star Aviation .....	64
Northland Aerospace .....	55
Northland Community & Technical College .	55
OMNNI Associates .....	20
Pat O'Malley's "Jet Room" Restaurant .....	12
Piper Aircraft, Inc. ....	2
Price County Fly-In & Airshow .....	59
Racine Commercial Airport .....	38
Red Wing Aviation .....	21
Rotax Aircraft Engines .....	35
Runway Three-Six .....	25
St. Paul Downtown Airport .....	19
Sandia .....	9
Schweiss Doors .....	43
Short Elliott Hendrickson Inc. (SEH) .....	11
Skycom Avionics, Inc. ....	64
Southern Wisconsin Regional Airport .....	60
Stratus .....	9
Sullivan's Harbor Springs Airpark .....	31
The Green Earth Deicer Company, Inc. ....	24
Thunderbird Aviation .....	17 & 21
Trig .....	9
Trimcraft Aviation .....	38
United Express .....	21
Washington Island Airport (2P2) .....	7 & 59
Washington Island Fish Boil Fly-In .....	7 & 59
West Bend Air, Inc. ....	38
Wiley Properties .....	16
Wisconsin Aviation, Inc. ....	38 & 61
Wisconsin Aviation Trades Ass'n (WATA) .....	38 & 45
Wisconsin DOT Bureau of Aeronautics ..	50-51
Wittman Regional Airport .....	23

*If Your Business Is Not Listed Above*

*Call 608-772-1776*

*Or Email dave@midwestflyer.com*

*www.midwestflyer.com*

**DISCLAIMER:** *Midwest Flyer Magazine* is a publication of Flyer Publications, Inc. *Midwest Flyer Magazine* endeavors to only accept reliable advertisements from legitimate businesses and organizations, but shall not be responsible for the reliability of advertisements, their contents, nor the businesses and organizations they represent. The publishers reserve the right to decline or discontinue any advertisement without explanation. Furthermore, the information provided may be the expressed opinion of the authors only, and readers are advised to seek the advice of their personal flight instructor and others, and refer to the Federal Aviation Regulations, FAA Aeronautical Information Manual and other instructional materials regarding any procedures discussed herein. Use of any information contained herein is at the reader's own risk and judgment.



# Washington Island Airport (2P2)

*Just Beyond The Tip of Wisconsin's Door County Peninsula*

*Historic Downtown District*

*Light House, Public Beaches & Rock Island State Park*

*Museums & Many Other Attractions*

*Restaurants, Lodging & Special Events Year Around*

**Lions Courtesy Van Available & "Free Bikes" - First Come Basis**

**Moped Rental: 920-854-2972**

**Bicycle Rental: 920-847-2126**

**The Cherry Train: 920-847-2546**



**Washington Island Fish Boil Fly-In**

**Saturday, July 20, 2019 - 11:00 am to 1:00 pm.**

**Hayrides, Music,**

**Locally Caught Fish**

***Camp Beneath Your Wings***



[www.WashingtonIsland-wi.gov](http://www.WashingtonIsland-wi.gov)

[www.VisitWashingtonIsland.com](http://www.VisitWashingtonIsland.com)



**Two Great Grass Runways**

**Both 2,250 ft. plus over-runs on each end.**

**[www.weather-wi2P2.com](http://www.weather-wi2P2.com)**

***For Airport Assistance Call***

**920-535-0546 (Dick Donnelly, Manager)**

**920-847-2448 (Airport Office)**

**920-847-2522 (Valerie Carpenter, Town Clerk)**



The ramp at Thunderbird Aviation, Flying Cloud Airport, Eden Prairie, Minnesota, April 5, 2019.

## Twin Cities Airports Pull Off Another Super Bowl-Like Win With Final Four

by Dave Weiman

MINNEAPOLIS, MINN. – Not since Super Bowl LII, February 4, 2018, have the airports in the Twin Cities metropolitan area been tested with such a large influx of aircraft than for the National Collegiate Athletic Association (NCAA) “Final Four” basketball tournament, April 5-9, 2019. The event, hosted by the University of Minnesota, was also held at the new \$1.1 billion multi-purpose U.S. Bank Stadium in downtown Minneapolis.

Minneapolis-St. Paul International Airport (KMSP) and its six reliever airports received high praise for their efforts to welcome visitors, direct them to the tournament and get them home safely and efficiently. Fortunately, the weather cooperated, and air traffic controllers again proved they are worthy of our nation’s support and admiration.

Winning the first round of the Final Four was the University of Virginia over Auburn University, 63 to 62. Then Texas Tech beat Michigan State, 61 to 51. The University



of Virginia beat Texas Tech, 85 to 77 in the final game in overtime, but the players weren’t the only team to work overtime. Airport personnel put in a little overtime as well, as they rolled out the red carpet for visitors.

The Metropolitan Airports Commission (MAC) accommodated 1600 corporate jets for the Super Bowl. In contrast, MAC accommodated 282 aircraft that flew into its reliever airports on Saturday before the semifinal games, and another 84 that flew in Monday for the final game. Among the reliever airports, St. Paul Downtown Airport was able to accommodate aircraft with no issues, despite the floodwall being deployed to contain the Mississippi River from the spring thaw.

“What a fantastic event – I’ve heard nothing but positive comments,” said Brian Ryks, MAC’s executive director and CEO. Ryks thanked everyone who played a role in making the event a success at a meeting of MSP’s Customer Service Action Council, April 11.

Among the fixed base operators serving MAC were Signature Flight Support at Minneapolis-St. Paul International and St. Paul Downtown Airports; Thunderbird Aviation at Crystal and Flying Cloud Airports; Elliott Aviation, Executive Aviation, Hummingbird Aviation, and Premier Jet Center at Flying Cloud Airport; Lynx FBO at Anoka County-Blaine Airport; Aircraft Resource Center at Airlake Airport; and Lake Elmo Aero at Lake Elmo Airport. The management at Thunderbird Aviation said that it had a “fantastic turnout” at both their Flying Cloud and Crystal Airport locations, serving everything from small piston aircraft to a Gulfstream 4 ([www.MetroAirports.org](http://www.MetroAirports.org)). □

### LEINEWEBER LAW LLC

AVIATION, BUSINESS & MEDIATION LAW PRACTICE

EDWARD E. LEINEWEBER 608-604-6515 RICHLAND CENTER, WI

CFII, Maintenance Technician, former Circuit Judge

[eleineweber@leineweberlaw.com](mailto:eleineweber@leineweberlaw.com) [www.leineweberlaw.com](http://www.leineweberlaw.com)



# Understanding & Complying With Aircraft Truth In Leasing Requirements

by Greg Reigel, AAL  
Copyright 2019. All Rights Reserved

If you lease an aircraft that is a “large civil aircraft,” as defined in 14 C.F.R. § 1.1 (12,500 pounds, maximum certificated takeoff weight), you should be aware of the truth-in-leasing (“TIL”) requirements of 14 C.F.R. § 91.23. Section 91.23(e) defines a lease as “any agreement by a person to furnish an aircraft to another person for compensation or hire, whether with or without flight crewmembers.” Assuming your arrangement for use of the large civil aircraft falls within this definition, then you must also comply with the following TIL requirements:



Greg Reigel

- The lease agreement must be in writing;
- The lease must include a written TIL clause that is in bold print, at the end of the lease, and immediately preceding the space for the parties' signatures, which includes:
  1. Identification of the Federal Aviation Regulations (“FAR”) under which the aircraft has been maintained and inspected during the 12 months preceding the execution of the lease and certification by the parties that the aircraft is in compliance with applicable maintenance and inspection requirements for the operations contemplated by the lease (e.g. typically Part 91 since TIL requirements don't apply to Part 121 or 135 air carrier lessees);
  2. The name, address and signature of the person responsible for operational control of the aircraft under the lease, and certification that each person understands that person's responsibilities for compliance with applicable FAR;
  3. A statement that an explanation of factors bearing on operational control

and pertinent FAR can be obtained from the responsible Flight Standards District Office (“FSDO”);

- A copy of the lease must be carried in the aircraft during all operations under the lease;
- A copy of the lease must be sent to the Aircraft Registration Branch, Attn: Technical Section, P.O. Box 25724, Oklahoma City, OK 73125, within 24 hours of execution; and



**Will Help  
You Meet  
The ADS-B 2020 Deadline!**



**Garmin GTX 345 ADS-B Compliant Transponder**



✦ **Comply & Enjoy The Benefits Including FREE Weather & Traffic**  
 ✦ **FAA's \$500.00 Rebate Program Once Again Available!**  
 ✦ **Call or Email Bruce For A Quote & Reserve Your Installation Date:**  
**920-303-0709 (bruce@newviewtech.com)**

**NewView Technologies, Inc.**  
**Wittman Regional Airport • Oshkosh, Wisconsin**  
 (FAA/CRS NU7R875N) is an authorized dealer for:  
**GARMIN      SANDIA      LYNX**  
**STRATUS      TRIG      FREEFLIGHT**  
**www.NewViewTech.com**

• At least 48 hours before takeoff of the first flight under the lease, the lessee must inform the responsible Flight Standards office by telephone or in-person of:

1. The location of the airport of departure;
2. The departure time; and
3. The registration number of the aircraft involved.

In the past, the regulation required that the 48-hour notification be provided to the “Flight Standards district office nearest the airport where the flight will originate.” However, when the FAA recently updated Section 91.23, it replaced this language with the a less specific reference to “the responsible Flight Standards office.” And, unfortunately, this change in language has now created some confusion as to which FSDO the notice must be given: the FSDO where the first flight will originate, or the FSDO responsible for the lessee’s home base?

However, based upon a review of the Final Rule that made the language change, as well as AC 91-37B, Truth in Leasing, I think the notice must still be provided to the FSDO with jurisdiction over the airport from which the first flight will originate consistent with past practice. Here’s why:

The Final Rule states “[t]his rule does not change any existing processes. Processes for public interaction with AIR and AFS (such as application processes, reporting processes, and oversight processes) are documented in orders, notices, advisory circulars (ACs), and policy statements. Where general references to “the FAA” are introduced in specific sections, existing advisory material for the affected section specifies the AIR and AFS offices responsible for the function identified in that Section.”

And then going back to AC 91-37B, Paragraph 10 states that the 48-hour notification must be made “to the

FAA,” with further clarification in Paragraph 10.1 that the “notification must be made to the FSDO nearest the airport where the lease or contract flight will originate.” So, I don’t think the Final Rule’s language changes past practice – which was to provide notification to the FSDO with jurisdiction over the airport where the first flight under the lease originates. However, I do think that it would make more sense for the notification to be made to the FSDO nearest the operator’s home base (and the language in AC 91-37B “where the lease or contract flight will originate” could support this position since it could be read to require notification to either the FSDO where the lease originates (home base) or where the first flight originates). And since one of the policy factors underlying the TIL requirement is FAA oversight lessees/operators, it would certainly make sense for the notification to be provided to the FSDO with jurisdiction over the lessee/operator, rather than a FSDO with no connection to the lessee/operator and within whose jurisdiction the first flight under the lease only happens to originate.

But for now, the conservative approach is to provide notice to the FSDO with jurisdiction over the airport where the first flight under the lease originates. And rather than providing the notice via telephone, the notice may also be provided via facsimile which then provides the lessee with proof of delivery of the notice in the event that a dispute ever arises as to whether the notice was given to the FAA.

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

---

## Do I Owe Aircraft Taxes In Minnesota?

ST. PAUL, MINN. – Non-Minnesota residents who purchase and take possession of an aircraft in Minnesota are exempt from Minnesota sales or use tax if they transport the aircraft outside the state and meet all of the following requirements:

\*The aircraft returns to Minnesota only for interstate commerce or occasional use.

\*The aircraft is registered in another state or country.

\*The aircraft meets the definitions in Minnesota Statutes 360.511 and is approved by the Federal Aviation Administration.

This exemption also applies if the buyer uses the aircraft in Minnesota only for a training period of up to 10 days before removing it from the state.

Please reference the Minnesota Department of Revenue’s aircraft industry guide: <https://www.revenue.state.mn.us/businesses/sut/Pages/Aircraft/Home.aspx>  
Statute reference M.S. § 297A.82, subd. 4(e): <https://www.revisor.mn.gov/statutes/cite/297A.82>

*EDITOR’S NOTE:* Any state agency in the Midwest is welcomed to share their sales and use tax policies with our readers. Information may be emailed to [info@midwestflyer.com](mailto:info@midwestflyer.com). □



**Minnesota Petroleum Service**  
**MPS Aviation Fueling Cabinet**

- Powder Coated Cabinet
- Power Rewind Hose Reel
- Aviation Filtering System
- Metering System

Phone: 763-780-5191  
Toll Free: 888-797-7677  
E-Mail: [sales@mnpetro.com](mailto:sales@mnpetro.com)



[www.mnpetro.com](http://www.mnpetro.com)



## The Mini Garmin GTN-650 & Take-Off Minimums

by Michael J. "Mick" Kaufman



Michael Kaufman

I have had the opportunity to fly some of the most sophisticated aircraft in the industry while instructing customers.

Aircraft with

state-of-the-art avionics. So, when it came time to update the avionics in my old Bonanza, I knew what I wanted, and what I could afford.

My current avionics included a pair of King KX-175 nav/coms, a King KR87 ADF and yes, a Loran C. I was able to find a used Garmin GTN-480 (Garmin end-of-life) navigator, and a used Automatic Dependent Surveillance - Broadcast (ADS-B) in/out transponder for a few hundred bucks on E-bay. I took out the Loran, kept one of the KX-175s and the ADF, and added GPS steering to the autopilot and a high-speed Internet box.

This article is focused on the Garmin GDL-52 and the Garmin Area 660, which I also decided to install in my airplane.

Last summer at EAA AirVenture Oshkosh, Sporty's Pilot Shop had a special promotion on a Sirius XM unit for satellite weather (WX), and I purchased one, as I was never happy with ADS-B weather after having XM weather on a portable Garmin 396 for a number of years. I used the WX box with ForeFlight on my third generation iPad and had to continue to reset the WX box every 20 minutes or so to keep current WX. I blamed the iPad being an older model. Then for my birthday, just before Christmas, I got a new iPad Mini from my wife. Same problem – now I blamed the WX box and called Sporty's, who I compliment on their super service, and had a replacement WX box in hand within four days. The new WX box played well on the iPad

Mini for about a month, then the same symptoms appeared again. I blamed a bad batch of an electronic component in the production run on the WX box. Again, Sporty's – with help from Sirius XM – allowed for me to return the defective WX box with a generous consideration for my trouble. At which time, I purchased the Garmin GDL-52 (from Sporty's, of course), after much research.

Garmin makes numerous ADS-B and Sirius XM receivers, both portable and fixed install boxes. I chose the GDL-52, as it gave me dual-band traffic, ADS-B WX and the capability of Sirius XM weather, which I mentioned earlier as being



**Let's show the world**

**what we can do together.**

Day by day. Project by project.

Together we're planning and engineering what's possible and moving the world forward.

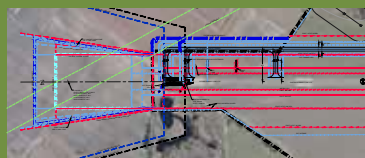


Airport Engineering, Architecture, Construction Administration, Design-build, Environmental, Funding/Grants, GIS, Land Acquisition, Planning, Public Involvement, Surveying, System Planning and Zoning.



**For more information:**

Bob Cohrs  
bcohrs@sehinc.com  
651.490.2143  
sehinc.com/**subscribe**



Engineers | Architects | Planners | Scientists

**Building a Better World for All of Us®**

far superior to ADS-B WX, in my opinion. Yes, there is a subscription price, but having more up-to-date weather and many more products to help me, pays for a year's subscription on one flight. I want to stress in this article that any WX, other than live radar, should only be used for weather planning and avoidance...only live radar should be considered when penetrating WX or looking for a safe route through it.

The Garmin GDL-52 has worked great on my iPad with ForeFlight, but after reading more about the GDL-52, I found it supported other Garmin displays, as well. I was wondering if it would support my old Garmin 396, only to find no support listed. After talking with one of my colleagues, he told me about the Garmin Area 660 he had in his aircraft and could not stop bragging about what a great unit it was, and it worked perfectly with his Garmin GDL-52. So, I decided to retire my Garmin 396 to my seaplane and replace the docking station in my Bonanza with a new Area 660. Size-wise, the GDL-52 was a perfect fit, so my installer did not kill me for the last-minute panel change.

The Garmin Area 660 can be paired with the GDL-52 in two ways: through hard wire or by using a Bluetooth link. The Area 660 has two Bluetooth channels and two serial connections, so I decided to have my installer connect the Area 660 and the GDL 52 via serial channel, leaving one serial channel on the Area 660 to connect to the Garmin 480. The GDL 52 also has two Bluetooth channels for data, and one for audio and two serial data channels and one audio channel. This combination of Garmin boxes gives a lot of versatility to the pilot, allowing two iPads using ForeFlight to connect wirelessly. Only recently did ForeFlight begin supporting the Garmin GDL-52.

Garmin really hit a home run with the Area 660, mimicking most of the same format used in their 650/750 navigators. This simplifies the learning curve for pilots already using these navigators, plus it gives pilots considering an upgrade to these boxes a chance to see most of the functions before buying.

The screen on the Area 660 is extremely sharp and bright, which is one of the downfalls of an iPad running ForeFlight. Flight plans are easily entered, and modified and when connected to some Garmin panel-mounted navigators, and

can be uploaded or downloaded at the pilot's discretion.

Dual band ADS-B in traffic is displayed on a variety of available charts when connected to the GDL-52. You have a choice of either ADS-B weather, and Sirius XM weather, both from the GDL 52, or Internet weather on the ground via WiFi. Garmin makes several versions of the GDL series units, and I chose the 52 because of the better quality, speed, resolution and available products of Sirius XM as I mentioned earlier in this article.

There is so much information available from the many different databases in the Area 660, and a slot for a micro SD card for many specialized chart applications. The Area 660 even has instrument approach charts that are geo-referenced. If you can think of something usable to pilots in flight, it is in there -- fuel prices, radio frequencies, safe taxi charts, obstructions, and many more I have not yet mentioned. You can tune certain nav/com frequencies on some Garmin radios from the database and get backup gyro information from an attitude and heading reference system (AHARS) installed in the GDL-52 for emergency use.

I have never been a fan of portable avionics because of the kludge of wires running all over the cockpit, but with a professional installation and a custom docking station from Air Gizmos, most of that can be eliminated.

If these units were TSO'd panel mount units, they would cost us many times more. We, as pilots, need to continue to get as much information as we can when planning and executing a flight, and this combination of portable avionics is the best I have seen to date.

Please remember that the most important job we have is to fly the airplane. Don't get an information overload as I have emphasized in my column in previous issues of *Midwest Flyer Magazine*. I don't want to fall into this trap myself with these neat new boxes. I have only had the opportunity to fly these boxes with a portable set-up and can't wait until my aircraft comes out of the shop to see what else they can do.

I recently made a flight to the Joliet, Illinois airport in a beautiful G1000-equipped Cessna 206. It was still winter-like weather, and there was ice in the clouds. It was sure a comforting feeling to have the TKS in-flight de-icing system. Ceilings were low, and this was a training flight for a pilot customer who aced the entire flight. We did numerous approaches on the way home -- some in low instrument meteorological conditions

(IMC), which improved by the home airport. We were even able to do a circling approach for an instrument proficiency check (IPC).

I am mentioning this flight to remind pilots that even with the best equipment, "flight planning" is critical. Many pilots don't think enough about flight planning, thinking air traffic control (ATC) will not let them do something wrong. Many times, a clearance can be vague, luring a pilot to do something that could jeopardize a flight and may even cause a fatal accident. This was not the case on this flight, but I remind pilots to get and use all the information pertaining to their



**Pat O'Malley's  
JET ROOM**

Located Inside Wisconsin Aviation FBO  
Madison, Wis. (KMSN)

**Breakfast or Lunch  
With A Pilot's View!**

**6 a.m. - 2 p.m. Mon. thru Sat.  
8 a.m. - 2 p.m. Sunday**

[www.jetroomrestaurant.com](http://www.jetroomrestaurant.com)





Megan Tarczynski, Pat O'Malley & Nic Tarczynski

**608-268-5010**



flight.

I need to say a few great words about the Garmin Area 660 on this flight as Garmin provided departure procedures (DP) for the departing airport and in an easy instant-find location in one of its many databases.

One such fatal accident from many years back comes to mind and was mentioned in one of my previous columns. A pilot flying a Cirrus on an instrument flight plan in mountainous terrain asked ATC to go direct to a fix, and he was cleared as requested. He flew into a mountain and it was fatal. The outcome of the investigation (right or wrong) brought to our attention was that ATC is not responsible for terrain when requested "direct to" by the pilot. If the pilot in this case had requested "radar vectors" to that fix, ATC would have provided terrain clearance.

Another trap is when a pilot is departing a Class G airport under IMC with a clearance to enter controlled airspace on a specific heading. I doubt that ATC checked terrain before giving this clearance.

We have all seen on approach charts to climb to a certain altitude before turning, or no IMC departure from a certain runway. Departing Tri-County Regional Airport in Lone Rock, Wisconsin (KLNK) on Runway 36 in low IMC could ruin your day, and all the future days to come, as there are steep hills on the north end of the airport. Departures are

serious business, and in some cases, ATC will not give you a clearance unless you confirm that you can remain in visual meteorological conditions (VMC) until reaching a certain altitude. Pilots need to remember that there are two types of departures...Standard Instrument Departures (SIDs) when departing large airports, but there are also departure procedures, which cover obstacles that could ruin your day.

Stay current or get current and remember, flight planning is important!

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

*DISCLAIMER:* The information contained in this column is the expressed opinion of the author only, and readers are advised to seek the advice of their personal flight instructor and others, and refer to the Federal Aviation Regulations, FAA Aeronautical Information Manual and instructional materials before attempting any procedures discussed herein. □

## BOLDUC AVIATION



**Horizon** AIRCRAFT ENGINE SERVICES, INC.  
dba Bolduc Aviation

*Over 40 years of  
reliable maintenance!*

# 763-780-1185

Hours of Operation  
Monday - Friday  
8:00 a.m. - 4:30 p.m.

[bolducaviation.com](http://bolducaviation.com)

ENGINE REBUILD and REPAIR TO FACTORY ZERO-TIME SPECIFICATIONS

### Services include (but not limited to)

- Precision electronic crankshaft balancing
- Cylinder overhaul and repair
- Continental starter adapter overhaul
- Cleaning of all engine parts
- Engine balancing
- Cylinder grinding .010, .015
- Rebush and line boring of counterweight bushing
- Rebush and boring of connecting rods and rocker arms
- Overhaul of magnetos, starters, float-type carburetors and turbo controllers
- Magnaflux and zygo inspection of parts
- Ultrasonic inspection of Continental crankshafts



  
Fly in  
for  
estimates



FAA Repair Station #YZ8R163C • Anoka County Airport • 8891 Airport Road • Box 8A • Blaine, MN 55449

# Airspace, Communications & Other Such Things

by Harold Green

**I**t seems that airspace communications with air traffic control (ATC) remain a mystery to some folks. Let's take a look at what is involved. We'll take it by airspace type. However, please note that this discussion is just an overview and cannot address all the regulatory details in the limited space herein. This discussion is intended to merely review, or perhaps for some, introduce the subject.



Harold Green

There are some common-sense rules that apply to all radio communications. First, listen to what is going on or being said before you transmit. This will give you a good sense of what is happening. You will find out how many and what type of aircraft are communicating with the facility to whom you are going to speak and generally how busy the facility is. It will also give you a sense of when you can communicate without disrupting things.

When you report in, do so concisely without embellishing anything, and tell the controllers what type of airplane you are flying and your position. Your aircraft type should include more than Cessna or Piper, etc. Most manufacturers offer airplanes with a wide range of performance, and not only the controllers, but also other pilots would like to know about how fast your plane is so they can plan accordingly. A Cessna 210 is a great deal faster than a Cessna 152, and a Piper Malibu is much faster than a Tomahawk. Remember, since you are flying an airplane, your location includes your altitude.

It doesn't matter what airspace you are dealing with...you should always attempt to listen and then report when you are several minutes away from the boundary of the airspace.

(NOTE: Minutes, not miles, because you may be doing 3 miles per minute at 180 knots, or maybe 1 1/2 miles per minute at 90 knots, so distance is not as important as time.)

It is necessary to give yourself and the controllers time to react. Besides, when entering a control zone, you may be told to standby, and unless your call sign is used, you may NOT enter their airspace, so you might find yourself circling. Therefore, it is best to allow sufficient time for everyone to react. As an added aid, take a look at your sectional to see if there are little banner symbols on it. These symbols define points for which the location is defined on radar or is otherwise specified and known to controllers.

The definition of airspace classification is assumed to be familiar to all. If not, a review of the Aeronautical Information Manual (AIM) is in order.

For our purposes, we will divide the airspace into two types: general airspace and control zones. General airspace is Class G, E and A. This is airspace which has no or few specific geographic boundaries. Control Zones are Class B, C and D. These areas have specific geographic boundaries depicted on sectional charts. This discussion will NOT address special use airspace.

## General Airspace Classes

First, we will take on "general airspace" classes. There is no need to discuss Class A airspace (AIM 3-2-2) here because operation above 18,000 feet is mandated to be Instrument Flight Rules (IFR) and, in any event, all communications are with Air Route Traffic Control Centers (ARTCC) and subject to the same rules as Class E airspace.

Class G airspace is the least complex. The FAA defines Class G as NOT being controlled airspace (AIM 3-3-1). There are no formal requirements for communication in Class G airspace. However, there is a common sense requirement to communicate with traffic at pilot-controlled airports. Class E airspace (AIM 3-2-6) is where we spend the majority of our time flying. There is no regulatory requirement to talk with anyone while flying in Class E unless you are IFR. However, Class E controllers operating out of Air Route Traffic Control Centers are the fine folks who provide flight following services to VFR pilots on a workload permitting basis, so most of us will talk to them at least occasionally while flying cross country. The only thing that is required is to identify yourself, define your location, and if you are not squawking VFR 1200 on your transponder because departure control gave you a different squawk, tell them what you are squawking. It is also useful to tell controllers your destination. Typical: "Chicago Center, Piper Warrior November 54321, 15 north of Timbuktu at four thousand five hundred (4,500). VFR to Hindustan. Squawking 4577. Requesting flight

P
**PROP SHOP**

**NEW & USED PROPELLERS FOR SALE**  
**REPAIRS ★ EXCHANGES ★ OVERHAULS**  
**★ GOVERNOR EXCHANGES ★**

**Maxwell Aircraft Service**

Propeller Rating Class 1 & 2, Limited Accessory FAA Approved Station # UF2R211L

**CRYSTAL AIRPORT, MINNEAPOLIS, MINNESOTA**  
**CALL 1-800-964-4247 OR (763) 533-8611**



following.” (I know, the book says you should first establish contact and if they are busy, that is a good idea. But if they are not busy, this gets the job done quicker with less fuss.) The squawk 4577 assumes you have just left departure control and they told you to squawk 4577.

### Control Zones

Now it's on to specific “control zones.”

The least complex control zone airspace is Class D (AIM 3-2-5). Class D is intended to give a control tower a region of control to sequence traffic within the Class D airspace. Generally, Class D airspace extends in a 10-mile radius from the controlling facility, usually from the surface up to 2,500 feet above ground level (AGL). However, it may be modified to accommodate instrument approaches.

You will obviously need a two-way radio to enter Class D airspace, and you cannot assume that Class D facilities have radar available. Further, Class D airspace is where you will never need a transponder. Therefore, when reporting your location, it is important to be complete.

Note that you **MUST** report in before entering Class D airspace. Once communication is established, it is no longer

necessary to use the entire identification of your aircraft. It is generally sufficient to respond using the last three or four characters. For example, in responding to the tower, it is quite acceptable to say something like “Skylane 345.” If there is another plane with a similar call sign, it is important to be precise. For example, there could be another plane with the call sign ending in 345. In this case, use your entire call sign (i.e. 32345).

The definition for establishment of communication for Class D airspace is the same as Class C. If the controller uses your call sign, you may enter even if you are told to standby. If the controller does **NOT** use your call sign, you may **NOT** enter. You should be listening to the controlling frequency at least 5 minutes out to ascertain what is happening with respect to traffic.

Around some Class D zones, you may see a series of black rings. These rings define a Terminal Radar Service Area (TRSA). These define a control zone that provides the same services as Class C areas defined in the next paragraph. The crucial difference is that TRSA services are voluntary. TRSAs are a holdover from the days before the U.S. and European airspaces were “harmonized.” You won't find them in Europe and you won't find Class F airspace in the U.S.

## EXPERIENCE THE CIRRUS LIFE™



**Jake Fielstra**  
Great Plains Regional Sales Director  
[jfielstra@cirrusaircraft.com](mailto:jfielstra@cirrusaircraft.com)  
**218.730.8054**

**Al Waterloo**  
Regional Sales Director – IL and WI  
[awaterloo@cirrusaircraft.com](mailto:awaterloo@cirrusaircraft.com)  
**773.372.0104**

© Copyright 2019 Cirrus Design Corporation. All Rights Reserved.

So there! Initial contact goes something like this: “Timbuktu Tower, Piper Archer 4327 is 15 northwest at four thousand five hundred (4,500) with Charlie. Landing Timbuktu.” Typical Response: “Roger 4327. Wind 15 knots from 320, gusting 35. Plan on Runway 32. We have one on downwind for 32. Report left base for 32.”

Then we come to Class C airspace (AIM 3-2-4), which generally extends from the surface to 4,000 feet AGL, with a 5-mile circle centered on the airport, and then another ring going out 10 miles from the center, from 1,200 to 4,000 feet AGL. Note here that we get into equipment requirements. Of course, you need a two-way radio as in Class D, but now you need a transponder as well. The initial contact is the same as in Class D. Also, as in Class D, if the controller responds with your call sign, you are allowed to enter Class C, but if not, you must remain outside Class C. Example, “Piper 2345, standby,” allows you to enter Class C, but if the response is “Aircraft calling Timbuktu, standby,” you may not. Communications from the controller in Class C will be more detailed than with Class D because Class C controllers all have radar. In this case, it is necessary to repeat instructions from the controller, particularly altitude and headings. Their manual demands they hear you repeat these numbers. Eventually you will be told what runway to use (i.e. Rwy 32), and usually what part of the pattern to enter (i.e. left base), and then told to contact the tower on a specified frequency, such as 118.5. You then respond with “2345 going to tower on 118.5.” You make the next contact by saying, “Timbuktu tower, Piper 2345 on left base for 32.” Tower will respond with further instructions and you are home free!

Last to be considered is Class B airspace (AIM 3-2-3). The “B” in Class B airspace stands for the busiest. All of the previous comments apply, BUT in Class B, you MAY NOT enter until you hear the words “Cleared to enter Class Bravo.” The top of Class B generally goes up to 10,000 feet above the surface. Usually, there are multiple rings of various lower levels surrounding the airport. In addition, there are a few things different you should be aware of.

First, if you are a student pilot, you need a specific endorsement from an instructor in order to operate in each Class B area you will be operating in. Second, there is a 30-mile ring surrounding the Class B airport that is known as the Mode C veil. Inside this ring, you MUST have an altitude encoding transponder. Third, when operating in Class B airspace, cloud clearance requirements are “clear of clouds,” since you are always in radar contact and in communication with the controllers. Most Class B areas have defined VFR corridors, which can be used to operate near the Class B area. These are depicted on the appropriate Terminal Area Chart (TAC). VFR services will be provided on a workload-permitting basis. Otherwise, communications are the same as for Class C airspace.

In short, communications are the same with all; it’s the services provided that differ. It is best to consider these areas as providing service, rather than restrictions placed on the pilot. After all, as taxpayers and purchasers of aviation fuel, we pay the controllers’ salaries, and they, in the final analysis, work for us and generally do a good job on our behalf.

*EDITOR’S NOTE:* Harold Green is an Instrument and Multi-Engine Instrument Instructor (CFII, MEII) at Morey Airplane Company in Middleton, Wisconsin (C29). A flight instructor since 1976, Green was named “Flight Instructor of the Year” by the Federal Aviation Administration in 2011 and is a recipient of the “Wright Brothers Master Pilot Award.” Questions, comments and suggestions for future topics are welcomed via email at harlgren@aol.com, or by telephone at 608-836-1711 (www.MoreyAirport.com).

*DISCLAIMER:* The information contained in this column is the expressed opinion of the author only, and readers are advised to seek the advice of their personal flight instructor and others, and refer to the Federal Aviation Regulations, FAA Aeronautical Information Manual and instructional materials before attempting any procedures discussed herein. □



**Mike Wiley**

Office: 763.425.2315  
Mobile: 612.490.7052

### Hangar Spaces Available at Crystal Airport

- Separately partitioned, T-shaped aviation hangars
- Hard-surface runway and control tower
- Fueling and maintenance available onsite
- Site dimensions starting at 42 ft x 34 ft

*Follow Us On Facebook*  
*[www.facebook.com/](http://www.facebook.com/MidwestFlyer)*  
*MidwestFlyer*



## A Pilot's Mental Health

by Dr. Bill Blank, M.D.

**M**ental health issues are common in our society. The results of serious mental illness show up in the news: mass murders, the opioid crisis. Pilots are not immune. A recent crash of an airline freighter got me thinking about this. When I heard the details, I wondered if this could have been a suicide. The most recent preliminary National Transportation Safety Board (NTSB) report on the accident talked about pilot error and the control column being pushed full forward. Apparently, no attempt to recover was made. I hope I am wrong. There have been air carrier suicides: German Wings 9525 on 3/24/15 and EgyptAir 990 on 10/31/99. There are others. That is the most likely cause of Malaysian Airlines 370 on 3/8/14. In all of these accidents,



Dr. Bill Blank

many people lost their lives.

General aviation pilots are not immune. A pilot flew a Citation into his house to try to kill his wife. For more examples, you can do an internet search. Obviously, most mental health issues do not result in this extreme, destructive behavior. By far, the most common problem is depression. Accurate incidence figures are hard to obtain. Only the more serious cases seek medical help. Most people muddle through. Some self-medicate. Many suffer. A fair number, resolve.

From a pilot's perspective, we know that we shouldn't fly if we are feeling depressed. If we are aware of someone who is depressed, we can try to help them get help. I don't think notifying the FAA would be much help, at least for general aviation pilots. The wheels turn slowly. People drive all of the time with suspended driver's licenses. In the airline world, it would lead to help.

The FAA has been struggling with this issue. If the recent airline freighter accident turns out to be a suicide, there will be more pressure on the FAA to improve their procedures.



Charter Services ✈ Flight Training  
Maintenance ✈ Aircraft Management  
Aircraft Sales ✈ Pilot Shop  
Scenic Flights ✈ Price Match Guarantee  
Twin Cities Premier FBO, family-owned since 1962

### FLYING CLOUD AIRPORT

14091 Pioneer Trail  
Eden Prairie, MN 55347  
952.941.1212

### CRYSTAL AIRPORT

5800 Crystal Airport Road  
Crystal, MN 55429  
763.533.4162

[www.thunderbirdaviation.com](http://www.thunderbirdaviation.com) ✈ [fly@thunderbirdaviation.com](mailto:fly@thunderbirdaviation.com)

They have already been studying the problem. The problem is trying to predict which people are at risk.

The German Wings pilot held, at one time, an FAA medical. Because of German privacy laws, European certifying authorities were not aware of his problem, nor was his company. The FAA tries hard to certify everyone they possibly can without endangering public safety.

The FAA will certify people who have had minor depression or depression related to bereavement. In fact, in these situations, the Aviation Medical Examiner (AME), himself, can sometimes issue the certificate. For more severe conditions, including major depression, the decision will be made in Oklahoma City. Certain medications are sometimes approved. They are all selective serotonin reuptake inhibitors (SSRI): Prozac, Zoloft, Celexa and Lexapro. No others are permitted.

The FAA has realized that it is better for people who have problems, such as depression or substance abuse, to have a pathway to recovery and recertification. Prior to the initiation of this approach, people just hid the problem and flew. If you are interested in more detail on these FAA policies, Google "FAA psychiatric dispositions."

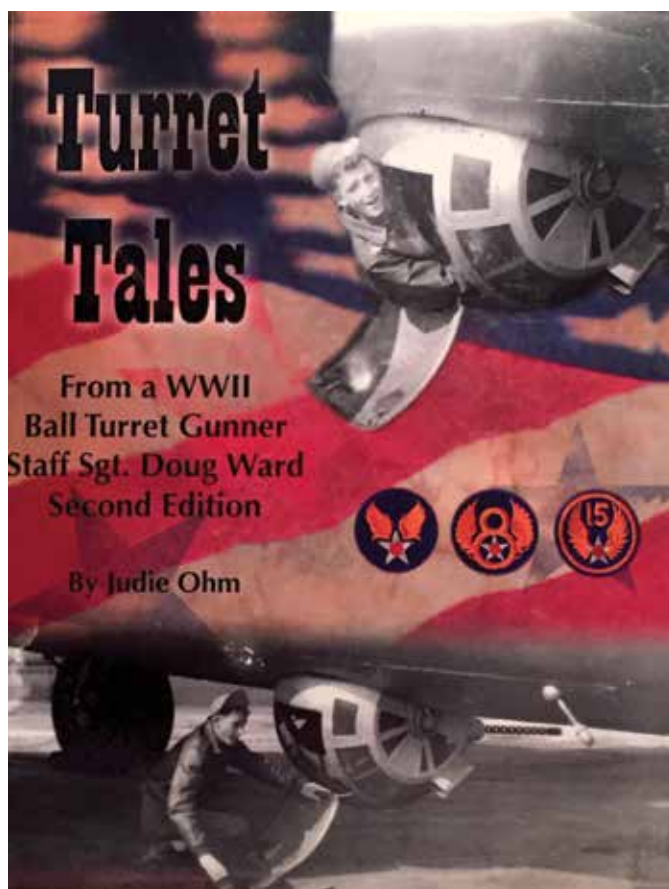
Hopefully, few of us will suffer from any of these problems, but treatment is becoming more effective and recertification is sometimes possible.

*EDITOR'S NOTE:* William A. Blank is a physician in La Crosse, Wisconsin, and has been an Aviation Medical Examiner (AME) since 1978, and a Senior AME since 1985.

Dr. Blank is a retired Ophthalmologist, but still gives some of the ophthalmology lectures at AME renewal seminars. Flying-wise, Dr. Blank holds an Airline Transport Pilot Certificate and has 5600 hours. He is a Certified Instrument Flight Instructor (CFII) and has given over 1200 hours of aerobatic instruction. In addition, Dr. Blank was an airshow performer through the 2014 season and held a Statement of Aerobatic Competency (SAC) since 1987.

*DISCLAIMER:* The information contained in this column is the expressed opinion of the author only, and readers are advised to seek the advice of others and refer to the Federal Aviation Regulations and FAA Aeronautical Information Manual for additional information and clarification. □

## AVIATION BOOKS



### "Turret Tales" Author, Judie Ohm Will Be At Oshkosh 2019

Attention all history buffs! You need to meet Judie Ohm at EAA AirVenture Oshkosh 2019, Oshkosh, Wisconsin, July 22-28, and get a copy of "Turret Tales," about S/Sgt Doug Ward of Mondovi, Wisconsin. Ward was a belly gunner in a B-17 during World War II and is credited with 37 missions in the European Theater. Ward was in the 15th Air Force, 301st Bomb Group in Italy, and the 8th Air Force and the 305th Bomb Group in England. The book contains the many stories Ward collected, photographs and excerpts from Ward's letters to his mother, and the diary he kept while in the service.

In his lifetime, Ward was awarded the Distinguished Flying Cross, WWII Victory Medal, Air Medal with four oak leaves, Carbine Sharpshooter Award, and Pistol Sharpshooter Award in the European/African/Middle Eastern campaign, as well as the Legion of Honor Medal from the French Government.

Doug Ward passed away on January 26, 2018, but the book "Turret Tales" about his life and adventures lives on in his memory.

Judie Ohm will be in the Author's Corner during EAA AirVenture Oshkosh 2019. See the fly-in program schedule for signing times. □

**ADVENTURE SEAPLANES**

Brian Schanche  
612-868-4243 or  
612-749-1337  
adventureseaplanes@gmail.com

Surfside - Lino Lakes, Minn.  
Sky Harbor - Duluth, Minn.  
Lake Vermillion - Tower, Minn.  
PLUS Northern Training Vacations  
In Minnesota, Wisconsin & Canada!



# Buying & Selling An Airplane & The 100LL Revolution!

by Pete Schoeninger

**Q:** You said an airplane that is 8 months “out of annual” (defined as more than 12 months since last annual inspection), is worth less than the cost of an average annual inspection. Why?

**A:** For sale purposes, an airplane that is “out of annual” raises some concern on the part of a buyer. What might be wrong? Will it be expensive to fix? Some buyers will not consider the airplane. You cannot take a prospective buyer for a ride. That is why I recommend having an annual inspection done if it is due, rather than try to sell the airplane “out of annual.”

**Q:** Does the cost/quality/reputation of an engine rebuilder affect the value of an airplane? I am thinking about my son’s Cessna 150, and my 58 Baron.



Pete Schoeninger

**A:** On a single like a Cessna 150, I don’t think there is much difference in value between a “field overhauled” engine versus a “name brand overhauled” engine. But on the Baron, “name brand” overhauls are more desirable.

**Q:** I recently purchased an S35 Bonanza. I love it! Very fast and light on the controls. But I am having a difficult time trimming it for level flight. After reaching cruising altitude, I level off and reduce to cruise power settings, but it seems to need more and more nose down trim for the first few minutes or so. Have you ever heard of this or have any ideas?

**A:** Bonanzas are slick airplanes! After leveling off at altitude, they will slowly continue to accelerate for a few minutes, unlike airplanes with more drag that pretty much level off and accelerate just a bit, then settle down. When you level off your Bonanza at your selected cruising altitude and pull power back to cruise settings, the airplane will continue to slowly accelerate until it reaches cruising speed, requiring several trim changes. If you can reach cruising speed quickly, you won’t have to fiddle with the trim very long. Here are



## If the sky is home, we're your home away from home.

Land or lease at  
one of our airports.

Go to [MetroAirports.org](http://MetroAirports.org)  
and click on General Aviation.



Minneapolis-St. Paul International | St. Paul Downtown | Flying Cloud | Anoka County-Blaine | Crystal | Lake Elmo | Airlake

two ideas that some pilots use to quickly accelerate to cruising speed: 1) Leave climb power on when you level off, until you reach cruising speed, then reduce power to cruise settings. 2) Some pilots climb 100 feet above their desired altitude, then push the nose down to their desired altitude, which will cause speed to increase quickly. Doing either or both of these tricks will get you to cruising speed quicker, and eliminate many minutes of fiddling with the trim wheel as you slowly accelerate.

**Q:** In the late 1970s, both Cessna and Piper changed fuel requirements in their entry-level airplanes from 80 to 100LL octane fuel. Why?

**A:** During the 1970s, demand for 80 octane fuel dropped and some FBOs stopped carrying it. Some “little engines” did not do well with the surviving 100LL fuel. The most common problem was spark plug fouling. In 1977, Cessna changed the engine in their 172 from an 80 octane 150 hp engine to a 100LL octane 160 hp engine. In 1978, the 150 became the 152, with a different engine requiring 100LL octane fuel. Likewise, Piper changed engines on the Warrior from an 80 octane 150 hp engine, to a 100LL octane 160 hp engine. Piper also introduced a new trainer, the Tomahawk, in 1978, with a 100LL octane engine.

**Q:** I have a date for ADS-B “out” to be installed in my Beech Sierra. The manager at the avionics shop suggests I consider installing more stuff (and more money) to get ADS-B “in.” Would you install both ADS-B in and out if it were your airplane?

**A:** There are times of reduced visibility (think summer flying westbound into the afternoon sun with haze, when your forward visibility is poor), and you will quickly be glad you spent the extra bucks if you can afford it for more traffic information. Your avionics shop can give you some options on various installations.

**Q:** I’ve had a good relationship with my local bank. They hold a mortgage for my house, and they are financing one of my cars. My FICO score is about 770. Recently, I applied for a loan to buy a 1969 Cherokee Six and they politely told me “no thanks!” When I asked why, they said they don’t do airplanes. Why wouldn’t they?

**A:** There are many reasons why a local bank will hesitate to make an airplane loan. One big reason is their unfamiliarity with recording their security interest. In your case, I suspect the age of the airplane being 50 years old probably has also

scared them. There are various institutions that do specialize in airplane loans. Ask your local FBO and other airplane owners on your field for ideas, and do an online search for aircraft loans. Also, AOPA and EAA can help.

**Q:** I am finally ready to buy a used airplane, and have \$50,000 to spend. I am thinking of either a 1970s’ vintage Cessna 172, or one of the many Cherokees in that price range. Now, a friend has approached me, suggesting that we each throw in \$50K, and buy a high-performance airplane, like an F33A Bonanza of the same age. Does that make sense?

**A:** Co-ownership, on paper, makes sense as you usually split fixed costs like hangar rental, annual inspections, insurance, etc. But in the real world, it may become a difficult situation a few years after purchase for many reasons. I have seen some partnerships include one partner wanting avionics, paint or interior upgrades, and the other partner does not; or one partner wants to add his kid to the insurance policy, and the other partner does not; and on and on. My 2 cents of advice is, you’re usually better off being a whole owner than a half owner.

**Q:** At Oshkosh last summer, I noted that many of the fabric-covered airplanes had what looked like circles in the wings about the size of an inspection cover. But the fabric had not been cut and thus you could not look into the wing, so why did they have them?

**A:** Those plastic rings doped into the fabric are potential inspection holes. They are there in case you would ever have to open a wing for inspection or minor repair. A mechanic can cut out the fabric inside the ring, do their inspection or repair, then put an inspection cover over the hole. That saves having to make a difficult fabric patch. Pretty slick!

**Q:** I have given earnest money and signed a contract to purchase a nice 260 hp Comanche from a fixed base operator (FBO) at a field about 40 miles from my base, who is selling the aircraft for an estate. My mechanic has looked at the airplane and given his blessing. I have flown the airplane, and a title company says the title is clear. The seller has given me 10 days to come up with the balance of the funds, which I am doing by selling some mutual funds. I called the FBO yesterday and asked them to take some of my friends for a ride in the airplane before I close on the sale. The FBO manager declined, which frankly upset me. Am I being unreasonable?

**A:** YES! You have had your mechanic look at the airplane, and the title is clear to your satisfaction. There is a reason a “closing” is called a closing. At the moment you hand over your money and take title and physical possession, the airplane is yours. Until then, it is not. Your request is unreasonable, and as the FBO, I would not take your friends for a ride in that situation.

**Q:** My friend insists that Taylorcraft made a four-place airplane. I say no way and we have wagered an adult beverage

## OMNI ASSOCIATES

*“Airport Engineering and Design Services”*

For Additional Information Contact

Aaron Stewart At 920-735-6900

ONE SYSTEMS DRIVE, APPLETON, WI 54914



on your answer. What do you say?

**A:** You're buying! Taylorcraft made about 30 model 15A airplanes in the early 1950s. About eight are still registered with the Federal Aircraft Registry.

**Q:** I am considering purchasing a Cherokee 180 about 100 miles away from my base. I took my mechanic along to look at it. He noted an entry in the airframe maintenance logbook which said something to the effect of "All ADs complied with." My friend said this was not a good sign, but I forgot to ask him why? So, why?

**A:** When the "feds" issue an Airworthiness Directive against an airplane, or engine, or other component, they will often allow a couple of different means of compliance. A long time ago, a few control wheels in Cherokees were found to have cracks. The FAA issued an airworthiness directive which required EITHER repetitive inspections every 25 hours, or a onetime replacement with an improved unit. How that AD note was complied with, and when, should be spelled out in maintenance records.

**Q:** My friend says that he is going to put safety cables on the landing gear of his Cub. What are safety cables and what

do they do?

**A:** On Cubs, if part of the landing gear fails for any reason, that gear will often collapse, and the airplane will fall onto the belly and one wing tip. That will cause a prop strike, sudden engine stoppage, and other very expensive repairs. Safety cables, properly attached, greatly reduce this risk by usually not allowing a failed gear to completely fold up.

*EDITOR'S NOTE:* Pete Schoeninger appraises airplanes for estates, divorces, and partnership buyouts. He is a 40-year general aviation veteran, starting out as a line technician as a teenager, advancing through the ranks to become the co-owner and manager of a fixed base operation, and manager of an airport in a major metropolitan community. For aircraft appraisals, contact Pete at PeterSchoeningerLLC@gmail.com or call 262-533-3056 (peterschoeningerllc.wordpress.com).

*DISCLAIMER:* The information contained in this column is the expressed opinion of the author only, and readers are advised to seek the advice of others, and refer to aircraft owner manuals, manufacturer recommendations, the Federal Aviation Regulations, FAA Aeronautical Information Manual and instructional materials for guidance on aeronautical matters. □



**We'll help you  
get there quickly  
and safely!**

- ▲ Commercial Aviation BS
- ▲ Commercial Pilot AAS
- ▲ Aviation Business AAS
- ▲ Aircraft Dispatcher

Financial Aid available to those who qualify

IN PARTNERSHIP WITH



**952-851-0066 • [www.academycollege.edu](http://www.academycollege.edu)**

# A Side Trip From The Famous Grand Canyon

by Yasmina Soria Platt

**M**y husband, Jared, and I recently took a trip (a 10-year wedding anniversary trip!) to an area of Arizona's Grand Canyon we had never been to – Hualapai's Indian Reservation. I could write a blog about the wonderful 35-plus-mile hiking trip we did to multiple gorgeous waterfalls past Supai, the reservation's "capital," but we are not here to discuss hiking/camping trips. On our return trip from the wonderful experience, though, we stopped at the Grand Canyon Caverns on the original Route 66, near Peach Springs, because I had seen in a magazine where one could dine inside the caverns. I'm always looking for unique experiences and that sounded like one. It sure was... but, in addition to that, we also learned that one could fly into the Grand Canyon Caverns Airport (L37) and partake in other activities. That's what I want to tell you about here.



Yasmina Platt

sets of stairs). The caverns date back 345 million years, at the bottom of an ancient sea. You can read more about its history on their website: <https://gccaverns.com/about/history>.

During our visit to the caverns and lunch at "The Grotto," we had the opportunity to meet owner John McEnulty, who offered to give us a private tour.



The Grotto Restaurant

## Grand Canyon Caverns Airport

The Grand Canyon Caverns Airport (L37) (<https://www.airnav.com/airport/L37>), owned by Grand Canyon Caverns & Inn, LLC, is a privately-owned, public-use airport with a 5,100 x 45 ft. gravel runway (5/23) at an elevation of 5,397 feet. Keep in mind that the airfield does not sell fuel. The closest airport with fuel may be Kingman, Arizona (KIGM) (<https://www.airnav.com/airport/KIGM>) to the southwest, but L37 is strategically located within walking/biking distance of their recreational complex.



The view from our dining table.



This site map shows the airfield and the rest of the complex.

For more information and a video of a takeoff from the airport, visit: <https://gccaverns.com/grand-canyon-caverns-airport/>

## Recreational Complex

As its name implies, the recreational complex has caverns, the largest dry caverns in the U.S., located 200 to 300 feet below the surface, and accessible via an elevator (or multiple

In addition, there's a gas station, gift shop, motel, ranch house, campground, one underground suite inside the cave, convenience market, and (technically) two restaurants – the regular restaurant by the gift shop and The Grotto inside the caves. A variety of tours are also offered: one and two-day rafting trips covering the last 70 miles of the Colorado River; horseback riding; wagon rides; cattle drives; and a rodeo, in addition to tours of the caverns, of course.

## Conclusion

We only live once and life is short, so make it count! Travel, fly, explore, experience...!

**EDITOR'S NOTE:** Yasmina Platt has been with the international airport planning and development consulting firm AECOM since 2016. She also writes an aviation travel blog called "Air Trails" ([www.airtrails.weebly.com](http://www.airtrails.weebly.com)), in addition to articles on pilot destinations for *Midwest Flyer Magazine*. Pilots can locate articles Yasmina Platt has written by going to [www.MidwestFlyer.com](http://www.MidwestFlyer.com) and typing in her name in the search box. □



## Welcome To The Club!

*by Mark Baker*  
AOPA President & CEO

LIKE MANY NEW PILOTS, I learned to fly in an old reliable—a Cessna 150. And it's true; you never forget your first love. But after getting my certificate, I needed to upgrade to a four-seat piston. Tailwinds Flying Club in Lake Elmo, Minnesota, took me in, and that's where I got my first taste of shared ownership. I had to share that piston-single with other pilots in a crowded hangar, but nonetheless, sharing her gave me some of the greatest flying times of my life.

You see, in the mid-1980s, I couldn't afford my own airplane—but I could afford a piece of one. And whether that piece was the fuselage, wings, strut, or propeller, it was all mine and I couldn't be more grateful for it. In many ways, that first flying club taught me some valuable lessons and gave



Mark Baker

me more than experience with shared ownership; it gave me barbecue buddies and lifelong friends.

If you're new to flying, you may be struggling with what to do and where to go once you receive your certificate. Flying clubs provide a wonderful opportunity to begin your aviation adventure. Clubs often organize weekend fly-outs and getaways to grass airstrips and fun destinations. And few things in life are as satisfying as venturing to a new place, camping under the wing of your aircraft, and swapping flying stories with pilots from different backgrounds.

AOPA leads by example to showcase the fun and camaraderie of shared aircraft ownership through its Flying Clubs initiative—a key component in the You Can Fly program that helps get people flying and keep them flying. Our ambassadors, equipped with their yellow Cessna 152s and 172s, travel around to set up meetings, help start flying clubs, and conduct seminars. These are fully refurbished older aircraft that serve as examples of inexpensive and capable means of recreational flying.

## Come be part of the magic of **OSHKOSH!**



**Wittman Regional Airport**  
**Oshkosh**

**New 80 Acre Aviation Business Park**  
**Shovel Ready Building Sites**  
**Wisconsin Manufacturing Tax Credit**  
**Tax Incremental Financing District**  
**Busiest General Aviation Airport in Wisconsin**

**Contact Jim Schell, Airport Director**  
**(920) 236-4930**  
**WITTMANAIRPORT.COM**

AOPA Flying Clubs seminars, “Maximum Fun, Minimum Cost,” introduce pilots to the benefits and operations of starting and running flying clubs. We recently celebrated an incredible milestone at Sun ‘n Fun when we recognized the 100th flying club started since the program’s inception in 2015.

AOPA’s flying club initiative also has free resources for those searching for local clubs, including the Flying Club Finder at <https://www.aopa.org/community/flying-clubs>. Enter your zip code or airport ID to find nearby clubs; we have almost 1,500 clubs in our database.

The opportunities that come with being a part of a club are endless. But if you just can’t put down the classified section of *Trade-A-Plane*, or are seven pages deep in Barnstormers.com, solo ownership is always an option.

Today, I’m fortunate enough to have my own airplane, but I still think back to my early days in that club, and I’ll never forget the memories I made and the great flying times we had. It opened so many doors for me, and it can for you, too. As always, AOPA is there to lend a helping hand, and welcome you to the club. □



## GREAT LAKES REGIONAL REPORT

### Aircraft Ownership & State Taxes

by Kyle Lewis

*Regional Manager / Government Affairs & Airport Advocacy /  
Great Lakes / Aircraft Owners & Pilots Association*

**T**he cost of aircraft ownership runs much deeper than the upfront purchase cost. There are multiple factors to consider aside from the price paid, such as hangar rent, insurance, taxes, fuel consumption, annual inspections, etc. In general terms, many of those costs are somewhat fixed and don’t change much from state to state except...taxes. State taxes, such as “sales tax,” can vary depending on where and how you take delivery of an aircraft, whether it was a private sale or purchased via a broker or dealer. Some taxes are based on value or gross weight. Another sometimes overlooked situation is the collection of a “use tax” if you construct an airplane from a kit or raw materials. These “use taxes” usually coincide with a formula based on value.

This column would be tens, possibly hundreds of pages long if I went into detail on each state. Even states across the Great Lakes Region vary in terms of tax law. In Ohio, for example, if an aircraft is registered in Ohio and sold to a Ohio resident, there is zero sales tax owed. If I (as an Ohio resident)



Kyle Lewis

build an aircraft from a kit, when completed and registered as an aircraft in the Buckeye State, I owe Ohio use tax! NUTS! Some states have a “fly-away” rule. This is an interesting scenario. For instance, you may purchase an aircraft in Minnesota and take the aircraft back home to Wisconsin to be based, and there is no sales tax due to Minnesota. The catch is, states usually put a time limit to move the aircraft out of state, which can vary. Again, you will need to research each individual scenario as taxes may be due in your home state when the aircraft is registered. It is not uncommon for state tax agencies to track aircraft movements at airports to determine the “home base” of an aircraft. I have heard stories of inspectors walking ramps and collecting tail numbers in a database, and owner/operators being hit with a tax bill based on the amount of time the aircraft spends in a specific state.

AOPA has a plethora of resources available on state taxes. In fact, on our state advocacy webpage (<https://www.aopa.org/advocacy/state-advocacy>), there is a brief summary for each state that highlights the tax situations. For specific questions, consult with an appropriate tax attorney in your home state for ultimate guidance. AOPA offers these services under our Pilot Protection Services, which has a network of over 750 attorneys across all 50 states. Bottom line, spend some time during the purchase process and research what taxes may impact the sale, purchase, or registration of an aircraft.

AOPA is still investing in the Airport Support Network (ASN), and the program is just as relevant now as when it began in the mid-1990s. The ASN program mission is still the same, promote, protect, and defend America’s airports. As the day-to-day operations now fall under each regional manager, the connection to the whole of AOPA is very strong. At each of our regional fly-ins, and at EAA AirVenture Oshkosh, AOPA staff will be presenting a new seminar called “Will Your Airport Still Be Here Tomorrow.” The presentation is designed to give an overview of how airports are funded,

**The Green Earth Deicer Company, Inc.**  
*Specializing In Environmentally-Friendly  
Airport & Aircraft Deicing Products*  
**414-379-0601 or 920-238-0482**



## 2019 AOPA Fly-Ins

**June 21 and 22 in Livermore, California, at Livermore Municipal Airport**  
**September 13 and 14 in Tullahoma, Tennessee, at Tullahoma Regional Airport**

operate, and what each member can do to be diligent and educated when an airport becomes under threat of closure or encroachment that will impact its sustainability. Think of this as "Airports 101." Mike Ginter, AOPA's Vice President of Airports and State Advocacy, presented it for the first time at Sun 'n Fun in April of 2019. It was one of the highest attended seminars of the week, and as a result, AOPA added a few more ASN volunteers to the program. The seminar is open to anyone, and we encourage anyone interested to attend, not just our current volunteer force.

### Legislative Update

North Dakota legislators passed a bill recently that will have positive impact on aviation. House Bill 1066, dubbed "Operation Prairie Dog," implements a funding stream for transportation infrastructure statewide. The nearly \$100 million appropriations, based on forecasted oil tax revenues, will be put to use across all sectors of transportation infrastructure, with aviation-related spending at up to \$20 million each biennium. North Dakota Aeronautics Commission Director Kyle Wanner stated, "North Dakota fully understands the benefits of smart and efficient infrastructure, as well as the economic impact and heightened standard of living that our airports provide to their communities. We are excited to see that our state leaders have worked out a solution to establish a new airport infrastructure fund with the intent that it will allow the state to provide consistent, long-term airport infrastructure grant funding." Governor Doug Burgum signed the bill in late March of 2019.

As the summer months bring aviating opportunities, please consider attending AOPA Regional Fly-Ins in Livermore, California, June 21 -22, or Tullahoma, Tennessee, September 13-14, 2019. These events have been expanded to a full two-day format, and feature excellent programs and hospitable venues for attendees. Our events staff are in the process of selecting 2020 fly-in airports and the announcement should be made in late summer or early fall. If you have an airport you would like us to consider for 2021 and beyond, we encourage the airport sponsor to complete the AOPA Fly-In "Request for Proposal" packet that can be found on our website. It is truly a wonderful experience, not only for the airport, but also for the surrounding community.

It is always a privilege to be able to communicate my work with you and as always, please do not hesitate to contact me with questions or concerns (kyle.lewis@aopa.org). □



Available in **ALL 50 STATES + USA!**

**fly FREE AMERICA**

WITH **runway THREE-SIX**  
runwayTHREESIX.com

Flying in to EAA AirVenture?  
**Get your 'Good Rock' shirt now at a discount!**  
\*Must use promo code MIDWESTFLYER at checkout.

Hangar D Booth 4107-4108

www.runwayTHREESIX.com  
**641.330.2537** 



# Midwest Seaplane Pilot

## A Seaplane Flight To Churchill



Alan Lindquist and Barbara Wiley of Maple Grove, Minnesota, with Wiley's Cessna 172XP on amphibious floats.

*Nancy Johnson Photo*

*by Alan Lindquist*

**I**t's been 10 years since my wife, Barbara Wiley, talked me into accompanying her in her Cessna 172XP amphibious floatplane to Churchill, Manitoba. Our friend, Garith, who flies a Beaver, frequently visits friends that have hunting and fishing camps near Churchill. Barb previously flew fishing charters to lakes in the area, so she is familiar with the terrain.

The airport at Churchill (CYYQ) has a long history of

interesting facts associated with it. The runway was originally constructed to accommodate B-52s during the cold war era. When part of one end of the main runway (15/33, 9195 X 160 feet asphalt) needs repair, they just shorten it by that amount and continue using what's left. On a number of occasions, air carrier traffic has had to land at Churchill when they had experienced a mechanical problem when they were enroute via the great circle route over the north pole. The crosswind runway is gravel (07/25, 4000 X 100 feet).





The Churchill, Manitoba airport (CYYQ) as seen in the distance.

*Russ Klingaman Photo*

We left Minneapolis Crystal Airport (KMIC) in the early morning hours and flew to Crane Lake, Minnesota (KCDD), where we fueled the airplane and hopped over the Canadian border to clear Canada Customs at Sand Point Lake, Ontario (CJD6). We then proceeded to Sioux Lookout, Ontario (CYXL), fueled up again and on to the Ojibway Outfitters fishing camp on Lac Seul, Ontario where we spent the night.

We left early the following morning in flight with Garith and his Beaver.

I was really too naive to realize just how risky of a flight this was going to be. I had no reason to be concerned because my pilot has flown over 23,000 hours in a variety of aircraft ranging from a Cessna 150 to the Convair 580, DC-9, Airbus, and finally, the Boeing 747, at the conclusion of her

# NASAO

2019 CONVENTION + TRADESHOW

September 7-11, 2019 | St. Paul, Minnesota



## Take flight at NASAO's 88th Annual Convention

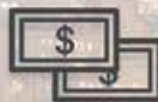
Learn innovative training techniques & best practices from aviation professionals on topics including:



**Aviation System  
Planning**



**UAS**



**Generating  
Revenue**



**FAA developments  
& updates**

Register at [nasao.org](http://nasao.org)



On the day this photo was taken in 2015, the airport ramp at Churchill, Manitoba (CYYQ) was filled with a variety of general aviation aircraft, representing Cirrus, Cessna, Piper, Mooney, and Lancair.

*Russ Klingaman Photo*

professional career as a captain with Northwest Airlines. Barb was one of the first female pilots hired by a major airline back in 1974.

As we watched Garith and his Beaver become a dot on our windshield and finally disappear completely, I realized how lonely a little single-engine aircraft can become in the wilds of northern Canada. There were no roads, no traffic and no people...only an occasional settlement with blue tarp roofs, visible from our 3000-ft altitude. One such native village we flew over was on Gods Lake in northern Manitoba.

Our next fuel stop was at Gillam, Manitoba (CYGX), located along the Nelson River. The runway was gravel, but packed down very hard. Garith landed on Landing Lake, which had facilities for fueling his aircraft. From there, Garith headed for North Knife Lake Lodge owned by Doug and Helen Webber, and we proceeded up the Nelson River past York Factory, a former trading post of the Hudson's Bay Company which was built in 1684. We then followed the shoreline of Hudson Bay to Churchill.

The weather had gone sour. By the time we landed, it began to rain and the wind kicked up to the point that Barb remained in the cockpit on the brakes, while I directed the airplane between three huge concrete tie-downs and secured it. The fixed base operator told us the combination to the terminal security door, so we walked across the ramp in the rain to the terminal. We punched in the numbers and entered the building.

We had previously been advised that our rental pickup would be parked in spot number 14. We picked up our nice new truck and went back to the aircraft to retrieve our baggage. When we went to the service station to pay for the truck, they informed us that the nice truck we were driving wasn't the one we had rented. The one we rented was in the garage. It was so old and rusty that it still had the headlight dimmer switch on the floor boards next to the brake pedal. It was like my old car all over again!

There are only 11 miles of road in Churchill and apparently the truck we rented was owned by a local resident, because every time we drove it, someone would wave at us like they knew us. It was very strange. We had asked people at the airport if we could just walk to the hotel, but they said no one could walk the streets of Churchill because of the polar bears. After 9:00 pm, the city blows a siren and that means "do not

go outside because the polar bears come to town and will eat you alive!" Needless to say, we took their advice.

There is a jail in Churchill to house bears that have wandered into town and become hazardous. They are kept in the jail and not fed, so when the ice goes out and the bears are released, they find their own way back to the wild.

We drove to our hotel and found buckets in the lobby full of fresh rain water. We checked out our room and then went to the restaurant the hotel manager had recommended. We ordered dinner and didn't realize we were the evening entertainment in Churchill that night. Everyone in the restaurant seemed to enjoy watching us eat.

At the conclusion of our meal, a couple at an adjoining table came over and asked if we were the people who had just flown in from Minneapolis. The couple were Doug and Hellen Webber who were entertaining Garith for dinner the following evening. I asked what it would take to get invited to that dinner, and Helen said a bottle of wine.

The next morning, a school bus took us to the tundra buggy location. When we arrived, the driver drove all around the parking lot to make sure the area was clear of polar bears before he let us get off. After getting off the bus, we climbed a substantial staircase to get into the tundra buggies. The tires on these machines are about eight feet tall, so when a polar bear stands on his hind legs, he can just barely reach the windows. There were about 25 to 30 people on this trip and the host provided coffee and donuts for breakfast, and sandwiches, beverages and dessert for lunch.

A number of people on the trip were from the Sierra Club and were on a study program. There was plenty of room to walk around the tundra buggy, stand at the windows or find a comfortable place to sit. As the driver proceeded on his route which took us over huge boulders, across small rivers and out into Hudson Bay, he stopped briefly and said "that tan rock wasn't there yesterday."

The windows on the Tundra buggy were open and the wind blew through it toward where the "rock" was located. In just a moment, the "rock" moved and we could see the black eyes and black nose of a polar bear. He could smell our scent and the driver said the bear thought it must be lunch time, and we were lunch. We waited for a while, and after rolling in the melted water to cool off, the bear began a casual walk toward the buggy. The temperature this time of the





Churchill, Manitoba.  
George Fischer Photo

year was unusually warm, about 80 degrees Fahrenheit, and so the bear uses the cool water to keep their heat down to a manageable level.

The bear finally arrived at the buggy and decided to scratch his back on a large boulder directly in front of us. He then sat down and relaxed. Rules required us to wait until the bear decided to wander off on its own before our trip could be resumed.

In the 1950s during the Eisenhower Administration, a line of wooden observation towers was constructed across northern Canada where military personnel could observe the horizon to determine if the Russians were coming. The towers were in pretty rough shape after all these years, but I was able to get out of the tundra buggy and crawl up into one to see what standing watch was like. Pretty lonely. I guess the Russians never did arrive.

For the benefit of the Sierra Club members, I said to Barb, "Wouldn't that bear hide make a beautiful jacket." None of the club members would speak to me after that. Finally, we got back to the bus and rode to town, but by this time, the liquor store had closed. There went our ticket for a nice dinner. As it turned out, Doug Webber had plenty of wine and so they came and picked us up for dinner just after 6 o'clock. And what a fine dinner it was. Helen Webber is a fabulous cook who has written seven cook books about preparing moose, goose, caribou, trout, northern pike and a variety of gourmet desserts.



## GET CLEARED FOR TAKEOFF

from our aviation insurance experts



### ONE STOP FOR ALL YOUR AVIATION INSURANCE NEEDS

**(800) 210-8242 • AERO-INS.COM**

LEADING PROVIDER OF PERSONAL & BUSINESS INSURANCE





A group of Beluga Whales enjoy the sunshine and cool waters.  
*Travel Manitoba Photo*



Polar bears may be beautiful, but Churchill residents and visitors take special precautions year around to avoid them.  
*Travel Manitoba Photo*

Helen told the story about waking up a group of hunters for breakfast that were staying in an adjacent cabin. Normally she would run from the cook cabin to the sleeping quarters in the dark to wake the hunters and never turn on the outside lights. One morning she had a thought... "maybe I should turn on the lights this time." Before running next door to wake her guests, she flipped on the outside lights and saw an eight-foot polar bear between her cook shack and the bunk house. Somebody was looking out for her that day.

At the conclusion of dinner, I asked where they kept their house key when winter arrives. They said that no one shows up in the winter months. Temperatures reach 50 below zero with 50 knot winds. The growing season in Churchill lasts from August 4-25. The short pine trees only grow on the east side of their trunk because the high winds stunt their growth on their west side. The pine trees only grow to about 4 feet high. So, if you want to go to Churchill in the winter, the home we had dinner at is always open.

The next morning, we went to the airport to fuel the airplane. We had to purchase a 55-gallon drum of 100LL octane fuel in advance. They only had three drums left for the season. Another old pickup arrived with a pump that would transfer the fuel from the drum to our aircraft. In order to check for water in the fuel, a gob of something was stuck on the end of what appeared to be a broom handle which was put into the barrel. When the broom handle was pulled out, the gob was gone, which understandably made Barb very nervous. She wasn't aware that there was a large filter in the hose line to our aircraft, so not to worry! The gob indicated there was no water in the fuel container. We could not use all the fuel in the drum, so we left the rest for Garith.

Two personally owned helicopters had taken on fuel at Churchill and left for the lower 48 the same day. We proceeded to Gillam to gas up once again. After we filled the tanks, we noticed that a commercial aircraft had just arrived and someone was on a dead run from that aircraft directly toward us. It was Doug and Helen's son-in-law enroute

to Churchill. He had spoken with the Webbers about the delightful evening the night before and was anxious to meet us. We had a brief conversation and he said he was about to start a polar bear observation camp which would be open the following year. He then ran back across the ramp to catch his flight before it left for Churchill.

After we were airborne, it became obvious we would be unable to comfortably make our destination. We called the flight of two helicopters to determine their plan and they said the copter with the reciprocating engine had run low on fuel and had to set down on a beach. The jet-powered copter went on to the airport and brought fuel back for his buddy. Their plan was to proceed to Weagamow Lake, popularly called Round Lake, because no one can pronounce "Weagamow."

They told us to land in the back bay because the waves were very high in the main part of the lake. We landed, taxied across the lake and fueled up at the seaplane base. We then thanked the copter pilots for their help and were on our way to Lac Seul. The first hint of civilization occurred when we noticed a two-rut logging road. Our ETA to Lac Seul was close to sunset. If we couldn't make it before dark, our backup plan was to land at the Sioux Lookout Airport (CYXL) in Ontario.

As it turned out, we arrived at the Lac Seul fishing camp just as the sun was setting. The camp had one available cabin left which had been aired out all day and was full of hungry mosquitoes. We closed all the doors and windows and fell asleep, regardless of the buzz of the man-eating creatures. The next morning, the staff left the food our cabin mates had overlooked the previous day when they left for home. We enjoyed a coke, toast and jam breakfast. We were in the air by noon, cleared U.S. Customs at Scott's Resort & Seaplane Base on Crane Lake, Minnesota (KCDD), and were back at Crystal that afternoon.

There are only a couple of ways to get to Churchill. You can fly your own aircraft, ride on a commercial aircraft, or go to Winnipeg and ride the train. The problem with taking the train is that the railroad didn't compensate for the





construction on the tundra, and so it travels at a very slow pace and all there is to see are acres and acres of wheat. The trip from Winnipeg takes about three days.

If you have a longing for adventure, find a friend and fly to Churchill. We had a terrific time and enjoyed all the interesting people we met. After writing this article, my interest is renewed and we may take another trip back there sometime soon. Looking forward to another adventure!

The wreck of the MV Ithaca sits at the western tip of Bird Cove, close to the town of Churchill, Manitoba. Mystery shrouds the exact details of this shipwreck that eerily disappears during swirling mists and high tide. One version of the story tells how the ship ran aground in a terrible windstorm in 1961, while carrying nickel ore from Rankin Inlet to Montreal. Another variation says the ship broke its right rudder and floundered in 1960 while carrying supplies from Churchill to Rankin Inlet. While it is too dangerous to board the ship's remains, visitors can get a little closer with a short hike during low tide.

Travel Manitoba Photo ☐

## EDUCATION

### Zero Gravity Corporation & Space Florida Develop Special Weightless Flight To Honor 50<sup>th</sup> Anniversary of Apollo Lunar Mission



Apollo enthusiasts will experience what it's like to float on the moon with this special lunar-focused ZERO-G flight on July 20, 2019 at Space Florida's Launch and Landing Facility (formerly the NASA Shuttle Landing Facility) at the Cape Canaveral Spaceport, Cape Canaveral, Fla.

Zero Gravity Corporation Photo

ORLANDO, FLA. – To commemorate the 50th anniversary of the iconic Apollo 11 lunar landing on July 20, 1969, Zero Gravity Corporation (ZERO-G) will partner with Space Florida to take fans of the cosmos where few have gone before. Taking off July 20, 2019 from Space Florida's Launch and Landing Facility (formerly the NASA Shuttle Landing Facility) at the Cape Canaveral Spaceport, ZERO-G will offer Apollo enthusiasts the chance to join an elite group of individuals who have experienced weightlessness high above the earth's surface.

To mark the exciting occasion, flyers will take off alongside former astronaut Dan Barry on ZERO-G's specially modified Boeing 727, G-FORCE ONE®. Before retiring from NASA in 2005, Barry took part in several missions, including three space flights, four spacewalks and two trips to the International Space Station.

**CONTINUED ON PAGE 62**

**Sullivan's**  
HARBOR SPRINGS  
AIRPARK

**LIMITLESS ADVENTURE LUXURY ARCHITECTURE**

*An exclusive Fly-in community situated  
along the northern shores of Lake Michigan*

[www.mgn-airpark.com](http://www.mgn-airpark.com)

# From Airports To People, The Minnesota Airports Conference Showcased Excellence In The Industry!

*by Dave Weiman*

**T**he annual Minnesota Airports Conference held April 24-26, 2019 at the Willmar Conference Center, Willmar, Minnesota, featured everyone from the managers of large commercial service airports, to the smallest of general aviation airports, and their commission members; as well as experts in everything from airport engineering to unmanned aircraft systems and airport funding and regulations. The conference, held in conjunction with the Minnesota Council of Airports (MCOA) and Minnesota Aviation Trades Association (MATA) annual meetings, included exhibits, an awards program, and tours of Willmar Municipal Airport and the Fagen Fighter WWII Museum in Granite Falls, Minn.

Minnesota Vikings player, Harrison Smith, escorted conference attendees to the Fagen Museum prior to the opening luncheon at the Willmar Convention Center in which he was the keynote speaker. The museum houses a pristine collection of fully operational World War II aircraft and vehicles, and features fine art, bronze sculptures, and interactive multimedia displays. The museum is a tribute to the men and women of the “Greatest Generation.”

Following the tour, Willmar Mayor Marvin Calvin introduced Smith at the luncheon and welcomed attendees to his community.

Throughout Smith’s college career at Notre Dame, and into his early years in Minnesota, the star safety football player felt a gripping anxiety whenever he flew on team charters, so he decided there was no better way to get over his fear than to learn how to fly himself. Smith got his private pilot certificate at Flying Cloud Airport in Eden Prairie, Minn.

Cassandra Isackson, Director of the MnDOT Office of Aeronautics, and Kathy Vesely, Assistant Director, briefed attendees on airport funding, personnel changes in their office, changes at the State Capitol, changes that will occur with state-owned nav aids, and the increased use of drones in the state.

“In 2019, we’ve seen Governor Walz take office and we’ve welcomed Commissioner Margaret

Anderson Kelliher to the Minnesota Department of Transportation,” stated Isackson. “The Commissioner knows



Brian Ryks  
*Dave Weiman Photo*

the passion aviation brings and understands the impact our airport system has on businesses all around Minnesota. New faces are appearing at MnDOT Aeronautics, too, and we continue to have the same commitment we have always had – to serve Minnesota airports!”

Isackson said that the time to modernize the state’s navigation systems has arrived, and mentioned that the use of drones will likely increase throughout the state, but that they are regulated by state and federal law, and regulatory compliance takes effort.

Lindsay Butler, Deputy FAA Airports District Office Manager, gave an update on airports from her perspective, and Brian Ryks, Executive Director of the Metropolitan Airports Commission (MAC), describe the activities and developments at Minneapolis-St. Paul International Airport (MSP) and its six general aviation reliever airports: Airlake (in Lakeville), Anoka County-Blaine, Crystal, Flying Cloud (in Eden Prairie), Lake Elmo and St. Paul Downtown.

Ryks said that airline



Receiving the “Minnesota Governor’s Award” was Alexandria Municipal Airport. (L/R) Presenting was Cassandra Isackson, Director of the MnDOT Office of Aeronautics. Accepting the award on behalf of the City of Alexandria, Minnesota was Kreg Anderson, airport manager.





Receiving MCOA's "Outstanding Leadership in Airport Planning, Environment & Strategic Initiative Award" was Lake Elmo Airport. Metropolitan Airports Commission, airport sponsor. Mead & Hunt, Inc., consultant.



Receiving MCOA's "Outstanding Leadership in Airport Planning, Environment & Strategic Initiative Award" was Falls International Airport. International Falls-Koochiching County Airport Commission, airport sponsor. Short Elliott Hendrickson, Inc., consultant.

passenger numbers are gradually increasing, despite a trend toward less operations as larger jet aircraft have been replacing the smaller regional jets at MSP. Eleven (11) airlines have added 45 new routes between 2016-19. Sun Country Airlines, which has traditionally flown north/south routes, is now

adding east/west routes to connect travelers through Terminal 2 at MSP. MSP ranks 17th in the country in total passengers among commercial airports.

Construction-wise, MSP cut the ribbon on its new InterContinental hotel on July 30, 2018. The hotel is just

## Minnesota Aviation Trades Association – Investing In The Future!

***Congratulations to NATHAN WURST of Chaska, Minnesota, who was selected to receive the 2019 MATA Scholarship!***

Nathan is working on his private pilot certificate at Thunderbird Aviation at Flying Cloud Airport in Eden Prairie, Minnesota, and has been accepted at the University of North Dakota John D. Odegard School of Aerospace Sciences beginning this fall.

To help pay for his education, Nathan started working as a line service technician at Thunderbird Aviation in the fall of 2018 while a senior in high school. Nathan stated: ***"I believe in hard work and focus in order to succeed as a pilot. I see the aviation community as bonded over its love of flight... It is a community that I am proud to be a part of for the rest of my life."***

To be eligible for the MATA Scholarship, applicants must be currently enrolled in a flight training curriculum at a Minnesota flight school that is also a member of MATA, and write an essay on why they want to learn to fly or continue their training. The applicant's ability to communicate their current position and future goals is very important. The scholarship application, details, updates and requirements can be found at <https://www.mata-online.org/>

One of the goals of the Minnesota Aviation Trades Association is to help create tomorrow's aviation professionals, while supporting member flight schools.

Aviation businesses interested in becoming a MATA member and supporting the organization's efforts to promote and represent the industry before government, should contact **Nancy Olson at 952-851-0631 Ext 322 or email [ngo@thunderbirdaviation.com](mailto:ngo@thunderbirdaviation.com).**



***MATA – The Choice & Voice of Aviation Businesses Since 1945***





Rochester International Airport received MCOA's "Project of the Year Award" (Key Commercial Service Airport Category) for its U.S. Customs and Border Protection and terminal modernization project. Mead & Hunt, Inc., consultant. Kraus-Anderson, contractor.



Albert Lea Municipal Airport received MCOA's "Project of the Year Award" (Key Intermediate GA Airport Category) for its new arrival/departure building and parking lot. Mead & Hunt, Inc., consultant. JD Driver, Ltd., contractor.

steps away from Terminal 1, Concourse C, and features sophisticated guestrooms with spectacular views of the airport, three bars and restaurants, 30,000-square-feet of meeting space, and is conveniently located 20 minutes from downtowns Minneapolis and St. Paul, and 5 minutes from the Mall of America. The hotel is already getting awards. The Minnesota Real Estate Journal chose the InterContinental hotel the winner in its Hospitality Category in 2018.



Redwood Falls Municipal Airport received MCOA's "Project of the Year Award" (Intermediate GA Airport Category) for its multi-bay storage hangar. Bolton & Menk, Inc., consultant. Everstrong Construction, Inc., contractor.

Currently under construction at MSP is a 5,000-space parking ramp, which will include auto rental facilities and a transit center, at a cost of \$240 million.

The total annual economic output of MSP is \$15.9 billion with an economic impact of \$7.1 billion.

MAC's six reliever airports may be small when compared with Minneapolis-St. Paul International Airport, but a recently completed economic impact study shows they have a substantial impact on the area's economy.

According to a study by InterVISTAS Consulting, LLC, MAC's reliever airports generate an estimated \$756 million in total annual economic output for the seven-county Minneapolis-St. Paul metropolitan area. The airports also support nearly 1,030 jobs directly, producing \$56 million in wages, and an estimated \$94 million in annual visitor spending.

MAC is investing in its reliever airports with a new, expanded and relocated primary runway at Lake Elmo from 2849 to 3400 feet. Airlake is expanding Runway 12/30

an additional 800 feet to approximately 4900 feet, and Crystal Airport will be resized to better reflect its current operations. In addition to St. Paul Downtown Airport - Holman Field getting a new restaurant in its historic terminal building, the flood wall built in 2008, was deployed for the 6th time this year and has done a great job of keeping the Mississippi River at bay during this year's spring thaw. The deployable part of the flood wall can

reach an additional 3200 feet in length and is 8.5 feet in height ([www.metroairports.org](http://www.metroairports.org)).

Steve Wright, Director at Brainerd Lakes Regional Airport, and former Manager at Willmar Municipal Airport-John L. Rice Field, told the "Willmar Airport Story" with Eric Rudningen of Eric's Aviation Services. Much of the success of the airport is attributed to the pioneering efforts of John and Mary Jane Rice of Willmar Air Service, who made the airport one of the largest Mooney sales and service centers in the world, along with their son-in-law, Bruce Jaeger ([www.jaegeraviation.com](http://www.jaegeraviation.com)).

Concurrent sessions at the conference included engineering/technical, airports 101; land use compatibility; airport design and operations considerations for special operations; airport managers: 60 tips in 60 minutes; concurrent uses and land releases; sustainable and resilient airport design; the Capital Improvement Program and airport funding; solar panels and tall towers; a discussion on what to do if obstructions are identified on an airport; snow and ice control planning; and how best to connect an airport to its



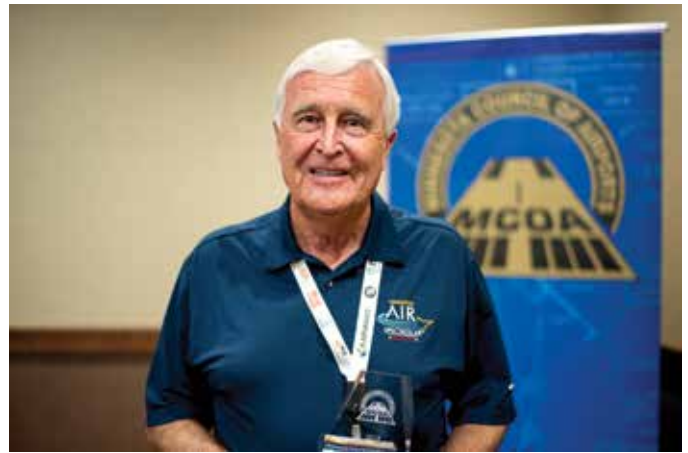
St. Paul Downtown Airport/Holman Field received MCOA's "Non-Aeronautical Business Development Award" for its new "Holman's Table" terminal restaurant. Metropolitan Airports Commission, airport sponsor. Miller Dunwiddie and Michaud Cooley Erickson, consultants. Hunnerberg Construction Company, contractor.



Backus Municipal Airport received MCOA's "Project of the Year Award" (General Aviation Airport/Landing Strip Category) for replacing its airfield lighting. Short Elliott Hendrickson, Inc., consultant. Neo Electrical Solutions, contractor.



Wade Boyat of ARFF Specialists received MCOA's Outstanding Service Award.



Fred L. Lutz of Mankato, Minnesota, received MCOA's "Award of Excellence" for his contributions to the Minnesota Air Spectacular airshow and Minnesota State University-Mankato.

community.

The tornado that severely damaged the Faribault, Minn. airport on September 20, 2018, was the example used in how best to respond to an airport disaster. Travis Block of the City of Faribault and Mark Knoff, Executive Director of MCOA, focused on the lessons learned throughout the ongoing recovery process, many of which can be applied to other types of disasters.

Unmanned aerial systems (UAS), and how they affect airports, was discussed at length. The session covered FAA's historical regulation of UAS, modern restrictions of their use around airports, and attempts being made to integrate them into the National Airspace System.

Stephanie Ward, AICP, Aviation Planning Manager, Mead & Hunt,

discussed concurrent uses and land releases, and whether or not they are right for airports.

Brent Goetz, Senior Aviation Environmental Specialist,

Place Your Order by July 18th for Pick Up at AirVenture Hangar A, Booth 1118

*Fly High and Carefree*

**LEADING EDGE AIR FOILS**

The Central USA independent SERVICE CENTRE

■ Large Inventory of Engines	■ A&P Technicians on Staff
■ Maintenance	■ Overhaul
	■ Parts and Repairs

**onlinecatalog.leadingedgeairfoils.com**

1216 North Road Lyons, WI 53148 **1.800.532.3462**

INFMSB



RS&H; and Matt Dubbe, National Market Leader, Architecture, Mead & Hunt, discussed sustainable and resilient airport design. The general aviation terminal at Appleton International Airport (KATW) in Appleton, Wis., was cited as an example of sustainable and resilient design.

To help take the stress out of developing an airport Capital Improvement Program, Melissa

Underwood, Sr. Planner Project Manager, Short Elliott Hendrickson, Inc. (SEH); Jake Martin, Aviation Safety Inspector, FAA; Dan Boerner, MnDOT; and Pam Schroeder, Airport Manager, Fillmore County, provided resources to answer questions about funding sources, financial plans, and preparing an airport board or city council for existing and future project needs at their airport.

The session “Connecting Airports to the Community: Last Mile,” discussed the importance of reliable/dependable ground transportation at airports. Among the options discussed were rental cars and courtesy cars. While rental cars are seldom available at small general aviation airports, some airports have been successful in getting the local car dealer to sponsor a courtesy car in exchange for displaying an advertisement on the doors of the vehicle. Otherwise, the norm is for the municipality to commission a used police car. Regardless, all airports need to ensure that the ground transportation needs for pilots and their passengers are met, and that this information is available in airport directories and on ForeFlight. Speakers included Chris Morgan, South Region Planner at MnDOT Aeronautics; Kreg Anderson, Airport Manager of Chandler Field Airport in Alexandria, Minn., and Mark Nelson of Hawk Aviation in Rush City,



Laura Caldwell, a student at the University of North Dakota, received MCOA's “Academic Scholarship Award.”

Minn.

Other speakers included Kevin Baker of Mankato Regional Airport, Garrett Caffee of Fafinski Mark & Johnson, Kurt Claussen of Rochester International Airport, Chris Fredrick of the City of Buffalo, Minn., Brent Goetz of RS&H, Eric Hanson and B.J. Skar of HDR, Matt Wagner of Mead & Hunt, Marcus Watson of TKDA, Bill Towle of St. Cloud Regional Airport, and

Rylan Juran, Christopher Morgan, Praveena Pidaparthi, and John Schroeder of the MnDOT Office of Aeronautics.

At the annual awards luncheon, individuals were recognized for their accomplishments and contributions, and airport sponsors, consultants and contractors for their excellence in airport development. Please refer to each photo and their captions for details. Photos by Michael McCarthy of the Center for Transportation Studies, University of Minnesota.

The conference is hosted by the Minnesota Council of Airports (MCOA) and the Minnesota Department of Transportation, and facilitated by the Airport Technical Assistance Program (AirTAP) of the University of Minnesota. The emcee for the conference was Bill Towle, Chairman of MCOA and Airport Director at St. Cloud Regional Airport. Mark Knoff is Executive Director of MCOA.

The 2020 Minnesota Airports Conference will be held April 29 – May 1 at the Mayo Civic Center in Rochester, Minn.

*Minnesota Airports Conference photos by Michael McCarthy of the Center for Transportation Studies, University of Minnesota.*

## Third Time, Still A Charm... MSP Again Named Best Airport In North America

MINNEAPOLIS/ST. PAUL, MINN. – Airports Council International (ACI) recently named Minneapolis-St. Paul International Airport (MSP) the “Best Airport In North America” in its size category for 2018, along with Detroit Metropolitan Wayne County Airport.

The award follows MSP receiving the same recognition in 2016 and 2017. For each of those years, MSP earned the highest score among North American airports serving 25 to 40 million passengers annually. The score stems from ACI's

ranking of the world's airports by region and size category based on its Airport Service Quality (ASQ) passenger survey program.

ASQ is the only industry award based on research actually gathered at airports, using information provided by travelers rating their satisfaction on the day of travel. Survey questions cover everything from airport access to check-in, security screening, restrooms, stores, restaurants and more. □

# 64th Annual Wisconsin Aviation Conference... Airports, Businesses, Awards & Recognition

by Dave Weiman

**T**he Wisconsin Aviation Conference (WAC) was held in Green Bay, Wis., May 5-7, 2019, at the Radisson Hotel & Convention Center, directly across the highway from the host airport, Green Bay Austin Straubel International Airport (KGRB).

The conference is sponsored by the Wisconsin Airport Management Association (WAMA), and supported by the Wisconsin Aviation Trades Association (WATA) and Wisconsin Business Aviation Association (WBAA).

Sporting events and networking opportunities began on Sunday, continued with professional sessions on Monday, and wrapped up following sessions and lunch on Tuesday.

The conference was filled with timely topics for airport managers and commission members, consultants, fixed base operators, and representatives of the Wisconsin Bureau of Aeronautics and Federal Aviation Administration.

In between the luncheons, receptions and coffee breaks in which the vast majority of networking takes place, are the informational and educational sessions, such as one-on-one “speed dating” between airports and the FAA Chicago Airports District Office (ADO). There, airport managers and commissioners are able to meet with FAA officials on proposed and active airport development projects.

Sunday evening’s entertainment included dinner at the “Packers Hall of Fame” at Lambeau Field. Monday evening’s entertainment was a reception and dinner at the “Titledown Brewing Company.”

Monday’s general session featured a panel of state and federal aviation officials: David Greene, Scott Brummond and Matthew Malicki of the Wisconsin Bureau of Aeronautics (WBOA); and Sue Mowery-Schalk, Deb Bartell, and Christina Drouet of the FAA.

One of the hottest topic nowadays is the “labor shortage,” and John Chmiel of Wausau Flying Service; Alaine Olthafer-Lange of A&A Aviation, Platteville, Wis.; and Meredith Alt and Jared Huss of WBOA addressed the role our schools and universities are playing.

Other session topics included airport firefighting foam and the environmental impact of polyfluoroalkyl substances (PFAS); airport protection through improved airport zoning; airport public relations and crisis management; non-aeronautical airport development; the Snowy Owl and wildlife mitigation at airports; a report on the condition of pavement at Wisconsin airports; drones – law, order and security; special



Wisconsin Aviation Conference award recipients: (L/R) Brian Grefe, WAMA Vice-President, airport director at Central Wisconsin Airport, Mosinee, Wis.; David Mann, recently retired airport manager, Batten International Airport, Racine, Wis.; Hal Davis, airport compliance manager, WisDOT Bureau of Aeronautics; Mark Graczykowski, P.E., airport development engineer, WisDOT - Bureau of Aeronautics; Jed Mattmiller, engineer, Becher-Hoppe, Inc.; and Charles Sweet, WAMA President, airport superintendent, Sheboygan Memorial Airport, Sheboygan, Wis.

events at airports; AOPA on the airport, and what AOPA is doing to create a pathway to careers in aviation through scholarships and high school STEM programs; airfield electrical and navaid technology; and what ADS-B means for airports.

## Awards & Recognition

Among the awards presented included the Distinguished Service Award to an individual who has made an outstanding contribution to aviation; Blue Light Award to an individual in the media for their excellence in reporting Wisconsin aviation events and activities; Person of the Year Award to an individual for their contributions to aviation in Wisconsin during the past calendar year; Lifetime Service Award to an individual for their contributions to aviation in Wisconsin for at least 10 years; and Airport Engineering Award to an individual who has made significant professional contributions in airport engineering or architecture.

Receiving the “Lifetime Service Award” was David Mann, longtime airport manager at Batten International Airport, Racine, Wisconsin (KRAC). Mann was born and raised in Pineview, Georgia, and graduated the top of his class of which there were only nine students. He received a Bachelor’s Degree in Business Administration from the University of Georgia. Following graduation, Mann enlisted in the U.S. Army where he flew fixed-wing aircraft and completed one tour in Vietnam. Following service, Mann flew for Eastern Airlines for 15 years; corporate in Austria; fire bombing missions in





Wisconsin Aviation Trades Association

**PROUD SPONSORS  
HELPING TO MOVE  
WISCONSIN BY AIR!**

### **GOLD**

**Midwest Flyer Magazine**  
608-772-1776  
www.midwestflyer.com  
Oregon, Wis.

### **SILVER**

**Cessna Aircraft Company**  
800-848-5181  
www.cessna.com  
Milwaukee, Wis.

**Beaver Aviation**  
920-386-2636  
Juneau, Wis.

**Horizon Aircraft Engine Services,  
Inc. - d/b/a Bolduc Aviation**  
763-780-1185  
www.bolducaviation.com  
Minneapolis, Minn.

### **BRONZE**

**Fond du Lac Skyport**  
920-922-6000  
www.fdlskyport.com  
Fond du Lac, Wis.

**Jet Air Group**  
866-676-7835  
www.jetairgroup.com  
Green Bay, Wis.

**NewView Technologies**  
877-303-0709  
www.newviewtech.com  
Oshkosh, Wis.

**Racine Commercial Airport**  
262-631-5620  
Racine, Wis.

**Trimcraft Aviation**  
800-558-9405  
www.TrimcraftAviation.com  
Genoa City, Wis.

**West Bend Air, Inc.**  
800.310.5603  
www.wbair.net  
West Bend, Wis.

**Wisconsin Aviation, Inc.**  
800-657-0761  
www.wisconsinaviation.com  
Juneau • Madison  
• Watertown, Wis.

**For Membership Application  
Call 920-303-0709  
wataonline.org**

Alaska; and spent eight years as the aviation department head at Virginia Tech University. Mann holds an Airline Transport Pilot Certificate and has accumulated 17,680 hours of flying time. For 27 years, Mann served as airport manager at Racine.

Mann is a longtime member of the American Association of Airport Executives (AAAE), Aircraft Owners & Pilots Association (AOPA), Experimental Aircraft Association (EAA), National Business Aviation Association (NBAA), Wisconsin Aviation Trades Association (WATA), Wisconsin Airport Management Association (WAMA), and Wisconsin Business Aviation Association (WBAA).

Receiving WAMA's "Blue Light Award" for excellence in journalism promoting aviation in Wisconsin was Hal Davis, Airport Compliance Manager with the WisDOT Bureau of Aeronautics. Davis has written and coordinated the publication of "Wisconsin Aeronautics Report," published in *Midwest Flyer Magazine*, since 2012.

Davis is instrumental in sharing updates about bureau policy, programs, and activities; discusses hot issues in the aviation community; and positively promotes aviation in the state. In addition, Davis is a photographer and has his photographs featured on posters, banners and in numerous aviation publications, including the covers of the bureau's airport directory, pilot's guide, and the Wisconsin Aeronautical Chart.

Receiving WAMA's "Engineer of the Year Award" was Mark Graczykowski, P.E., of the WisDOT Bureau of Aeronautics. Graczykowski was nominated for his outstanding contributions to both Chippewa Valley Regional Airport and Southern Wisconsin Regional Airport.

Graczykowski has been with the bureau for only 18 months, but his dedication to his projects demonstrates an excellent work ethic, especially in meeting timelines desired by airport managers. Graczykowski's willingness to take on difficult conversations and project issues speaks to his passion for the projects he manages.

Jed Mattmiller, airport engineer with Becher-Hoppe, Inc., received WAMA's traveling trophy for sporting clays competition. The trophy is awarded to the participant receiving the highest score. The event provides yet another networking opportunity for attendees.

Clinton Torp, former airport director at La Crosse Regional Airport in La Crosse, Wis., received WAMA's "Distinguished Service Award" for outstanding contributions to aviation in Wisconsin. Torp has distinguished himself amongst his peers for the past 12 years, serving the La Crosse community, first as assistant director and then as airport director.

Torp has been a long-time member of the WAMA board of directors, and also served as an officer and president. He was instrumental in the behind-the-scenes work for the organization, keeping up its website and registration databases. Torp also represented Wisconsin in the Great Lakes Chapter of the American Association of Airport Executives (AAAE). He is highly respected by state and federal aviation officials alike for his forward leading, and can do/will do attitude. Torp recently accepted an airport operations manager's position at Des Moines Regional Airport in Iowa, and was unable to attend the conference.

WAMA awarded \$3,000 in collegiate scholarships to students who are either attending a Wisconsin university or technical college, or who are Wisconsin residents seeking a degree in aviation. The collegiate scholarships are sponsored in part by WAC sponsors, exhibitors and attendees through a silent auction at the conference. Another \$1,000 was awarded in the "Professional Development Scholarship" category for those WAMA members seeking to further themselves in the airport management profession.

### **Exhibitors & Sponsors**

The conference would not be possible without the support of sponsors and exhibitors, including: Aero Insurance, LLC; Alfred Benesch and Company; Airport Lighting; Arconas Corporation; Arrow Energy, Inc.; Avflight Corporation; Becher-Hoppe Associates; Bird Strike Committee; DBT Transportation Services; Endpoint Solutions Corp; Ennis-Flint, Inc.; Epic Fuels; Erect-A-Tube; Executive Air; Fabick Cat; Fahrner Asphalt Sealers LLC; Fortbrand, Inc.; iFirst Class Concessions; Fortress Fence; Gee Asphalt Systems, Inc.; Genetec; Greater Green Bay Convention & Visitors Bureau; Hinshaw & Culbertson, Inc.; HUB Parking Technology

**CONTINUED ON PAGE 62**

# Airport Board Honors *Midwest Flyer Magazine* Contributing Editor, Dr. Bill Blank

LA CROSSE, WIS. – The City of La Crosse Regional Airport Aviation Board passed the following resolution recently, recognizing Dr. Bill Blank for his service to the airport.

**Whereas** Bill Blank served as a member of the City of La Crosse Regional Airport Aviation Board for a term beginning February 2014 and ending October 2018, and

**Whereas** Bill Blank served as vice chairman during his tenure on the board, and

**Whereas** over the years, Bill Blank performed as an aerobatic pilot for many La Crosse area tourism events, thereby sparking an interest in General Aviation piloting, and

**Whereas** Bill Blank has conducted many Ophthalmology seminars for Federal Aviation Administration Medical Examiners, and

**Whereas** in December 2018, Bill Blank was presented with the Federal Aviation Administration Wright Brothers Master Pilot Award - the highest award the FAA bestows.

**Therefore**, the City of La Crosse Regional Airport Aviation Board (hereby) recognizes Bill Blank for his significant achievements and contributions as a General Aviation pilot.



Dr. Bill Blank

*EDITOR'S NOTE:* Dr. Bill Blank is a contributing editor to *Midwest Flyer Magazine* in which he writes the column High On Health. "I received congratulations from several FAA doctors (from Oklahoma City and elsewhere)," said Blank. "The real honor was receiving congratulations from the Federal Air Surgeon, himself, Dr. Mike Berry." □

---

## Salina Snares National Aerobatic Contest

by Tim Unruh  
*Salina Airport Authority*

SALINA, KAN. – Local promoters are doing loop de loops over news that Salina Regional Airport will play host to the 2019 U.S. Aerobatic Championships in late September. The seven-day event is expected to bring nearly 100 pilots to Salina, injecting the city with nearly \$250,000 in direct economic impact.

"We are ecstatic," said Sylvia Rice, director of Visit Salina, a division of the Salina Area Chamber of Commerce. Some of the nation's top aerobatic pilots will compete.

Salina bested a field of 44 airports in middle America.

The field was trimmed to three Kansas candidates – Salina, Great Bend and Lawrence – and those were personally visited by Bob Freeman and

other members of the International Aerobatic Club (IAC), which is staging the competition.

The local aviation community is no stranger to such events. Freeman and the IAC working group cited a number of reasons why Salina "came out on top," among them the historic nature of the former Schilling Air Force Base, and





serving as host of many aviation events. Those include the National Intercollegiate Flying Association's SAFFRON national championships, and multiple U.S. Military Jaded Thunder exercises. Perhaps best known is the 2005 world-record flight by aviation adventurer Steve Fossett. In a 67-hour flight, from February 28 to March 2, 2005, covering 22,936 miles, Fossett became the first person to fly solo, nonstop around the world, without refueling.

The U.S. Nationals will be based in Salina Regional Airport's historic Hangar 606 from September 21 through 27. Many of the details have yet to be determined, but competitors and their aircraft will be in Salina to demonstrate precision flying skills in both compulsory and freestyle performances. Local and area elementary and high school students will be invited to witness the thrills of aerobatic competition. "It is a means to inspire youth to consider careers in aviation," said Tim Rogers, executive director of the Salina Airport Authority.

The competition "is judged for its precision and excellence," according to IAC. "The judging is very similar to

that seen in figure skating, as the competitors must execute prescribed maneuvers as part of an overall performance. It places high demands on both the pilot and aircraft to be at their best."

Pilots compete in five categories: Primary, Sportsman, Intermediate, Advanced, and Unlimited in both power and glider aerobatics. Pilots in each category fly at least three routines:

- Known: where all competitors fly a pre-published set of maneuvers.
- Unknown: maneuvers are presented to the pilot 12 hours before.
- Freestyle: pilots create their own routine based on maneuvers allowed in their category.

All routines are scored by judges, and those posting the highest scores in each category are named national champions. Top finishers in the advanced category will earn berths on the U.S. Unlimited Aerobatic Team and will compete in the 2020 World Aerobatic Championships.



## Doug Nehls – A Lifetime of Service



(L/R) John Lowe of Des Moines Flying Service with long-time employee, Doug Nehls. *DMFS Photo*

Few people nowadays can say they have been employed by the same employer for their entire professional career. Likewise, there are few employers who can say they have retained employees for 30-plus years. But such is the case with Doug Nehls, general manager of aircraft maintenance at Des Moines Flying Service in Des Moines Iowa.

Nehls was one of 12 children in his family growing up in Charles City, Iowa. He served in the U.S. Navy from 1971 to 1975 as an aircraft maintenance technician and as plane captain on a Grumman US2B antisubmarine aircraft.

From 1975 to 1977, Nehls attended the Hawkeye Institute of Technology in Waterloo, Iowa, and graduated with a degree in Applied Science - Aircraft Maintenance. While attending Hawkeye, he worked at Connell Aviation in Independence, Iowa, and received his Airframe and Powerplant Certificate in 1977.

Later in 1977, Nehls started working at Des Moines Flying Service as a maintenance technician and became chief

inspector in 1986. He continued his career at Des Moines Flying Service as service manager, operations manager and general manager of aircraft maintenance. After 41 years, Doug Nehls retired on February 1, 2019, to devote more time to his family, his love of playing the guitar, and Ford Mustangs.

Josh Boyd, a 14-year veteran of Des Moines Flying Service, has assumed the role of general manager of aircraft maintenance.

Congratulations, Doug Nehls, for a lifetime of service to the aviation community!



**BEAVER AVIATION, INC.**  
**920-386-2636**  
**SPECIALIZING IN**

- Annual Inspections
- Aircraft Restorations & Repairs
- All Makes & Models
- Pre-purchase Inspections
- Great Turn-Around Time!**



Eric Nelson & Chuck Swain, A&Ps with Inspection Authorization      Since 1946

**Dodge County Airport • Juneau, Wisconsin**

## Members of GA Groups In Minnesota Meet With Their State Representatives At Annual Aviation Day At The Capitol



Pilots, airport managers and aviation business men and women participated in "Minnesota Aviation Day At The Capitol."

ST. PAUL, MINN. – There's no stronger way to demonstrate unity in aviation than for pilots, airport managers and aviation business men and women to meet with their respective state legislators once a year. Members of the three professional aviation organizations sponsoring the event -- Minnesota Business Aviation Association (MBAA), Minnesota Council of Airports (MCOA) and Minnesota Aviation Trades Association (MATA) -- gathered April 10, 2019 in St. Paul to solicit support for their local airports and aviation in general.

Meetings with representatives were scheduled in advance. Topics discussed ranged from airport funding to tuition reimbursement for Minnesota residents seeking careers in aviation. Following morning appointments with legislators, the group met back at St. Paul Downtown Airport – Holman Field for lunch, and for a presentation by Alex Gertsen, C.M., director of airports and ground infrastructure with the National Business Aviation Association (NBAA).

Talking points included:

1. The importance of adequately funding the Minnesota Airport System, and the correlation between a community having a good airport and a strong economy.
2. Support for proposed changes to Minnesota airport zoning statutes, which would improve the integration of airport zoning with local planning and zoning.
3. Remind legislators that the Minnesota Airports Fund is totally user fee generated through the aircraft registration tax,

flight property tax, and fuel tax, and that no general funds are used for airport development.

4. Aviation has a \$12.1 billion economic impact on the Minnesota economy, and provides nearly 165,000 jobs, generating more than \$6.4 billion in labor income.

5. Medium and small general aviation airports are

important to local businesses, and are used for medical air services, firefighting, aerial application, and the inspection of pipelines and transmission lines. Only nine (9) airports in Minnesota are served by the airlines, while all 134 public-use airports are used by general aviation.

Organizers hope to involve the members of other state aviation organizations in the event in 2020, including the Minnesota Pilots Association (MPA), Minnesota Seaplane Pilots Association (MSPA), Aircraft Owners & Pilots Association

(AOPA), Commemorative Air Force (CAF), and chapters of the Experimental Aircraft Association (EAA). In addition, airport consultants, aircraft manufacturers, corporate flight department managers, and other leaders throughout the Minnesota aviation community, are encouraged to participate.

Coordinating the event was Tim Cossalter of the Minnesota Business Aviation Association. Hosting the event at St. Paul Downtown Airport was Joe Harris, airport manager. Catering was provided by Holman's Table, which is located in the historic terminal building at the airport. Meetings with state representatives were held at the state capitol.



Nancy Grazzini-Olson, President of Academy College, Bloomington, Minn., and Thunderbird Aviation, Flying Cloud Airport, Eden Prairie, Minn., and Crystal Airport in Minneapolis, and Conrad Ketelsen, corporate pilot with the Carlson Companies, discuss issues facing general aviation with Minnesota State Senator Eric Pratt. Sen. Pratt represents District 55 in the southwestern area of the Twin Cities. Olson and Ketelsen also met with Representative Tony Albright, who represents District 55B in the southwestern part of the Twin Cities.





## N966CD, A Stearman Story

With smoke on, Chuck Doyle Jr. does a flyby in his 450 Stearman at Sky Harbor Residential Airpark in Webster, Minnesota.

*SmugMug Photo by Dave Swartz (www.daveswartz.com).*

*by Noel Allard*

**T**he Chuck Doyle (Sr) story is long in the telling, but for this narrative, let us focus on one airplane; one airplane from a collection of dozens owned from 1933 until Doyle's death in 2008.

The airplane we've come to know as "the Doyle Stearman" has a record going back to its manufacture in 1942. Stearman PT-17D rolled out of the factory with a shipping label to Corpus Christi, Texas, one of America's training bases. It was used by the U.S. Army Air Force for training pilot candidates in basic training in cross-country and aerobatic maneuvers.

In 1948, Chuck Doyle purchased five PT-17's from Angelo "Shorty" De Ponti, who held a War Assets Administration license to sell surplus military aircraft. At the same time, Doyle purchased five surplus BT-13 aircraft. His plan was to swap the Pratt & Whitney R985, 450 hp engines from the BT's into the Stearmans. This he proceeded to do, selling the engine-less BT's for scrap, and taking three of the Stearmans to Grand Forks, North Dakota where he leased them to airport manager and agricultural pilot, Les Jolly.

Doyle was a captain with Northwest Airlines at this point and took the time between airline flights to commute in a Staggerwing from Minneapolis to Grand Forks for a second job as a spray pilot.

In the meantime, Doyle had plans for the two other Stearmans as well. The two remaining were licensed NC5445N and N966CD. The pair were built up in a tuck-under garage at his mother's home at 50th and Morgan Avenue in South Minneapolis. Floyd Homstad, a highly skilled welder, built up the engine mounts for all five Stearmans and Doyle fitted all of them, including the ones he attached to the Stearmans in his mother's garage.

When NC5445N was in the construction stage, Doyle fitted a smoke oil system to it and a banner tow hitch. Doyle had learned these skills from his contemporary, Red McManus.

With this biplane he set out to earn extra money towing banners and "smoke-writing," as he called it. The second Stearman in his possession, N966CD, was also rebuilt under a standard aerobatic license, so he could use it to perform aerobatics in airshows. This aircraft lacked the smoke and banner hooks. Doyle incorporated a company called "Sky Signs" for the part-time business.

The smoke-oil system incorporated a 50-gallon Corvus oil tank that fed the paraffin-type oil through a tube into the hot exhaust pipe of the big 450 hp Stearman engine. (Corvus oil is not as flammable as other oil. Instead, it vaporizes and produces voluminous white smoke, ideal for trailing big letters across a blue sky).

Doyle decided later on that he preferred N966CD for the sky signs business and had the smoke system and banner hookup refitted to it. Doyle also did extensive modifications to the Stearman, including removing the upper-wing cutout for front seat passengers. The Corvus oil tank replaced the passenger seats. Doyle added wheel pants, a headrest, cowling, prop spinner, dorsal fin fairing and a nifty cut down BT canopy to keep him warm at 10,000 feet where he did his sky-writing, and in fall weather closer to the ground where he towed banners over University of Minnesota football games.

In 1951, Doyle made a deal to sell NC5445N to a budding aerobatic pilot who promised to pay the \$3,000 asking price following an airshow performance with a wingwalker at the Minnesota State Fair in St. Paul.

Unfortunately, the pilot misjudged a loop and pancaked into the ground in front of the grandstands, throwing the female wingwalker to her death and losing his own life when the crashed airplane caught fire. That incident caused the fair officials to cancel all airshows in the future, and Doyle also decided to have no further involvement in airshows.

Doyle continued using N966CD until the 1980s. The turquoise and cream starburst-striped plane and its pilot became fixtures in the Minneapolis-St. Paul area, where on almost any given day, a tiny spec in the sky might be writing advertising slogans or greetings, or even wedding proposals! Or over some events, as many as five to eight banners might



(L/R) Chuck Doyle Sr. and Chuck Doyle Jr. at the Minnesota Aviation Hall of Fame in 1992 when Chuck Doyle Sr. was inducted.



Chuck Doyle Sr. in his 450 Stearman, N966CD.

be towed, such as during the course of a university football game or a baseball game at the old Met Stadium in Bloomington, Minnesota – the growl of the big Pratt & Whitney engine bringing everyone's attention skyward. But the impact of Doyle's skywriting was felt further than the football field.

Dave Weiman of *Midwest Flyer Magazine* attributes his early interest in aviation to watching Doyle perform skywriting near his parents' home while growing up in Minneapolis near the University of Minnesota campus. Weiman met Doyle on several occasions in more recent years and shared his story with him, and he was pleased.

From the air, Doyle could not see the letters directly from his perspective looking out over the smoke. Before each flight, he blocked out his message in crayon on cardboard scraps as it might look from on top of the letters, just the reverse of the view 10,000 ft. below. Smoke letters were generally three miles long and two miles wide. In his prime, Doyle was one of only five skywriters doing this craft in the U.S.

Banners were towed using a 400 ft. rope attached to a weighted pole from which the banners trailed. Individual 7 ft. or sometimes 10 ft. high letters could be clipped onto the banner lines to form the message. When alone, Doyle would lay out the banner on the ground with the 400 ft. rope lying across the letters. He would commence his takeoff over the sign, pulling the rope into the air first, then the banner as he gained airspeed. If he

**CONTINUED ON PAGE 62**



# DOORS

507-426-8273

Nobody Does it Better!

HYDRAULIC

ONE-PIECE DOORS

— OR —

BIFOLD

STRAP LIFT DOORS









Current and past Minnesota Aviation Hall of Fame inductees.

## Minnesota Aviation Hall of Fame Inducts Addis, Bradshaw, Frankl, Grace, Kinneberg, Schellinger & Stone

BLOOMINGTON, MINN. – More than 400 people gathered to honor this year's inductees at the Minnesota Aviation Hall of Fame, April 27, 2019, at the Double Tree By Hilton Hotel in Bloomington, Minnesota.

Inducted were the following individuals:

Brian Addis, pilot examiner, educator, seaplane instructor, owner of Wings Aviation at St. Paul Downtown Airport – Holman Field.

Lee Bradshaw, airshow performer, airline pilot, flight instructor, world air traveler, and recipient of the FAA's Master Pilot Award.

Leon Frankel, World War II torpedo bomber pilot, and pilot with the Israeli Air Force in their battle for independence in 1948.

Dick Grace, barnstormer, movie stunt pilot, World War II

pilot and author.

Glenn Kinneberg, Cold War veteran, member of the International Flying Farmers, and proud owner of a Piper Cub for 65 years.

Tom Schellinger, military flight instructor, Northwest Airlines Captain and training manager, member of the Civil Air Patrol, and an educator.

Charles Stone, World War II flight instructor, Korean War veteran, and director of the Lindbergh Museum in Little Falls, Minnesota.

In addition, the Minnesota Aviation Hall of Fame presented awards to Jeff Jorgenson for "Best Aviation Writing by a Minnesotan" for 2019, and to photographer Larry Grace, as "Best Aviation Artist by a Minnesotan" for 2019 ([www.mnaviationhalloffame.org](http://www.mnaviationhalloffame.org)). □

---

### Independence Municipal Airport Re-Dedicated James H. Connell Field

INDEPENDENCE, IOWA – The City of Independence, Iowa, alongside the Connell family, held a ribbon cutting ceremony and open house, April 13, 2019, to officially rename the local airport "James H. Connell Field" (KIIB). The airport was renamed after longtime legacy airport manager and retired fixed base operator, James "Jim" Connell,

who dedicated more than 45 years to building a strong aviation community in the community and region.

In 1967, Connell started his fixed base operation at the airport and was appointed airport manager in 1980. He dedicated the next 45 years to building and expanding the airport into an "enhanced services airport," making it the business-class facility it is today.

During his tenure, Connell felt strongly about bringing awareness and knowledge about the benefits of the airport to the community. He enjoyed showcasing the airport's facilities to residents of Independence and surrounding communities. It was his mission to host as many public events at the airport



James "Jim" Connell



Dave Weiman Photo

during his tenure, including starting free airshows that were held for close to 30 years.

"One of the highlights of my aviation career includes the many friends I made along the way," said Connell. "It was the pleasure of my life to share my love of aviation with my family and friends."

Connell started out hosting small fly-in breakfasts in the 1970s and then airshows with as many as 9,000 people, featuring the late Marion Cole and Joe Dooley, the "Flying Irishman."

Additionally, for nearly a decade, Connell advanced the agriculture industry in the area with his aerial application spraying business, flying the Grumman Ag Cat.

Jim Connell received numerous awards and accolades during his career. One of his most notable was the Charles Taylor Award for 50 years of aircraft maintenance, and the Wright Brothers Master Pilot Award for 50 years of flying with no incidents, accidents or violations. His name is on a scroll in the Wright Brothers building in Washington, D.C., and he is listed among some 1500 pilots in the nation to receive this honor thus far. Connell's aircraft maintenance technician certificate number is 1,441,859, which he acquired in 1959.

In 2015, Connell was inducted into the Iowa Aviation Hall of Fame and forever commemorated in the Iowa Aviation Museum in Greenfield, Iowa.

Together, Jim and his wife, Karen, were dedicated aviation professionals. Jim Connell served on the Aviation Maintenance Advisory Board at Hawkeye Community College in Waterloo, Iowa from 1972 until the program was eliminated. Karen Connell also served on the college's board for more than 15 years. Additionally, Jim was an FAA Safety Officer for many years, and both Jim and Karen served on the

Iowa Department of Transportation Aviation Advisory Board. Karen was also president of the Iowa Public Airports Association and served several years on its board of directors.

The original airport in Independence was a grass airstrip located west of the airport's present site. Initially, there were no buildings at the airport's current site with only a 2800 X 50 ft sub base runway with no lighting. The City of Independence had enough lumber delivered to the airport to build a building about the size of a double garage.

In 1971, under Jim Connell's leadership and help from airport enthusiasts, the first airport office building was built, and three community hangars were built by renters.

The first metal building for the maintenance shop was built in 1972, supported financially by "Indy Aviation Boosters, Inc." Jim rented this building for his shop, and when it was paid for, it reverted to the City of Independence.

Next, under Connell's leadership, the first row of T-hangars (10 stalls) were built through Indy Aviation Boosters, Inc. They supported the costs, and when the building was paid for, it too reverted to the City of Independence.

At this time, the FAA funded the non-directional beacon (NDB) and it was maintained for many years

We devote ourselves to delivering the

# BEST SOLUTIONS

possible to each individual client—  
**whatever it takes.**

[Bolton-Menk.com](http://Bolton-Menk.com)





**BOLTON & MENK**  
Real People. Real Solutions.





Local pilots gathered to honor James Connell.  
Dave Weiman Photo



James H. Connell Field (KIIB), Independence, Iowa.

by Larry Torgerson under the supervision of the Federal Aviation Administration and the Federal Communications Commission. In 1985, the second terminal building was built, along with a 4000 X 75 ft. concrete runway that includes automatic lighting, VASI lights, and strobe lights. The cost of this expansion project was approximately \$6

million.

The last airport project under Connell's leadership was in 2010-11 when the runway (18/36) was expanded to 5500 X 100 feet at a cost of \$17.5 million. An AWOS system was also added. □

## Don Pellegrino... A Pilot Who Loved Airplanes

**I**n writing about Don Pellegrino, the question becomes one of including 60 years of flying and restoring aircraft into a story that is not a heavy book. Soloing an Aeronca Champ in 1960 was the beginning of his love of and interest in all facets of aviation. After receiving a private pilot license in 1962 in his Cessna 140, he soon began looking closely at the airplanes themselves.

Yes, flying was fun, but building and restoring airplanes also beckoned. Seeing the photograph of a Smith Miniplane on the cover of *Air Progress*, he ordered the 12 pages of plans. Needing to weld, he took a course and practiced on pieces of an old fuselage. This first airplane was a total learning experience, from constructing the fuselage, to assembling the many wooden pieces for the wings, to ordering a Lycoming O-290 GPU, and finally covering the aircraft. And what a thrill it was to take to the air in his biplane!

This encouraged him to use his new skills on other aircraft, and this he did with the varying array of aircraft that arrived at his workshop. Along with these airplanes came many friends from the Experimental Aircraft Association (EAA) and Antique Airplane Association (AAA) with whom

he had countless conversations and enjoyed the camaraderie of a cadre of people with similar interests in aviation.

In his life away from airplanes, Don was a professor at Bradley University and Iowa State University. In Iowa he and his wife, Ann, purchased a 120-acre farm northwest of Story City and seeded a 2300-foot runway for a private airport



Don Pellegrino by his recently-restored one-and-only Rearwin 8090 at the 2011 AAA/APM Fly-In in Blakesburg, Iowa.

called Aerodrome, which was active from 1970 through 1997. Many fly-ins and chapter meetings occurred there.

Don obtained his A&P license so he could work on certificated airplanes and engines. Additionally, he maintained his 1952 Bonanza and a 1967 Cherokee Arrow that enabled the couple to fly to Alaska and many other states, often to fly-ins and other aviation gatherings.

**CONTINUED ON PAGE 48**

# The New Golden Age of Small-Quantity, High-Quality Aircraft Parts Production: What Is It, And What's Making It Happen? *Second In A Series of Articles*

by Ed Leineweber

In the December 2018/January 2019 issue of *Midwest Flyer Magazine*, I introduced Tromblay Tool, LLC to epitomize what I called the “New Golden Age of Small-Quantity Parts Production.” That article, the first in a series I intend to write on this fascinating topic, touched briefly upon one small company capitalizing on this rapidly-evolving phenomenon, to the benefit of all segments of aviation, but especially to those of us interested in vintage, experimental or kit-built aircraft. My purpose in this second article is to begin to explore the confluence of various developments which have contributed to the rise of this New Golden Age.

Adam Morrison is a mechanical/aeronautical engineer based in Franklin, Indiana, just southeast of Indianapolis. His firm is Streamline Designs (<https://enablingflight.com>). While currently experiencing rapid growth and expansion into several areas of aircraft design, production and certification, Adam positions the firm as providing strategic consultation, alongside design and technical

services, primarily for “things that fly.” With more than 20 years of aeronautical engineering experience, Adam looks back on the first 10 to 12 years, which focused mainly on the experimental and light sport segment of the aviation industry,



Adam Morrison, founder of Streamline Designs, received the Light Aircraft Manufacturers' Association's (LAMA) President's Award for his service to the light aircraft community.



Adam Morrison

and forward to the expanding scope of activities which now finds Streamline Designs moving quickly into general aviation and unmanned aircraft systems (drones).



The staff at Streamline Designs includes Nathan Snyder, Matthew Dale, Adam Morrison and Marcie Morrison, all engineers. Not pictured is Lael Butler, technical writer and office administrator.

The staff at Streamline Designs includes four engineers, including Adam and his wife, Marcie, and a technical writer. Three of the engineers are graduates of Rose-Hulman Institute of Technology, which for years has consistently been rated as the best undergraduate engineering school in the nation. This small firm clearly has the potential for making significant contributions to this New Golden Age and is experiencing great success while doing so.

I first met Adam in his role as the chair of the ASTM Light Sport Aircraft Consensus Standards Committee known as F37. This is the committee, along with its numerous subcommittees, that initially developed and continues to monitor and improve the industry consensus standards under which all Light Sport Aircraft are manufactured, operated and maintained.

The extensive knowledge and experience Adam gained in this work led him naturally into involvement in the similar processes being employed in the revisions to FAR Part 23, the federal regulations under which Standard Category “certified” aircraft are produced and flown. From there it was a natural step into the additional realms of drones, avionics and defense and transport category aircraft certification consulting.

## New Golden Age?

I admit that referring to this topic as a “New Golden Age” is an imperfect and perhaps even deceiving way of describing the phenomena I have in mind. Adam suggested that perhaps calling it the “digital golden age” might better describe the subject and avoid the possible inference of it being “old fashioned,” rather than cutting edge. But the



confluence of factors which is contributing to this sweet spot in rapid and accelerating technological advancement, really is reminiscent of a similar period in aviation during the 1920s, '30s and '40s. Although the new technology today is primarily digital, the synergistic effects of these developments are creating an explosion of advancing products, as earlier technology did back then, propelling the aviation industry and related markets forward at an astonishing pace. And we are probably only in the early stages of this rapid advancement.



Streamline Designs played a large role in the development of the ICON A5, including coaching, directing and evaluating the certification testing, analysis and documentation efforts to assure a successful certification. Streamline Designs also developed and manages the technical publications for the aircraft.

Those of us who have been involved in aviation for a long time know well the painstakingly slow and extremely expensive processes by which new aviation products achieve certification, and how this has resulted in the aviation industry lagging in the adoption of new technology and production methods. All signs now indicate that things are changing, and the future is likely to see rapid innovation, cheaper prices and a stream of new aircraft and aeronautical products coming to market. These developments can enable us to produce some

So, what are these factors? Here's a list of some of them:

- Affordable, easy-to-use Computer Aided Design (CAD) software tools.
- Newer, more easily programed Computer Numerical Control (CNC) machines.
  - Connected and networked factories.
  - Associated reductions in labor inputs and price.
  - Specialization culture versus mass production.
  - Rapid prototyping and on-demand production capabilities.
- Reduced cost of machines with good capability.
- Open-source tools and methods.
- Crowdsourcing and crowdfunding access to start-up capital.
- Agile product management making its way into hardware production.
  - Emergence of additive versus subtractive manufacturing.
  - The availability of on-demand services and the gig economy.
- The expanding use of industry consensus standards as a means of accelerating the pace of new product certification.

of our own parts at home, small shops to keep vintage aircraft flying, and kit companies to roll out affordable, state-of-the-art personal aircraft, among other opportunities.

In future articles in this series, Adam Morrison and I will describe in detail each of the factors listed above, and how they interact to produce the phenomenon I believe is well described as the New Golden Age of Small-Quantity, High-Quality Parts Production. Stay tuned!

Meanwhile, readers are encouraged to suggest other candidates in the Midwest for future articles in this series. Suggestions may be forwarded to Ed Leineweber at [eleineweber@leineweberlaw.com](mailto:eleineweber@leineweberlaw.com), or call (608) 604-6515.

**EDITOR'S NOTE:** Ed Leineweber is licensed to practice law in Wisconsin. Now, mostly retired from the legal profession, including 20 years as a circuit court judge, Ed focuses his limited practice in aviation law and alternative dispute resolution, including mediation. As a pilot for nearly 40 years, aircraft owner, Certified Flight Instructor, licensed aviation maintenance technician, former fixed base operator, airport manager, and FAA Safety Team member, Ed is experienced in most aspects of general aviation. When not practicing law, he enjoys working in his shop at the airport on aircraft restorations and on his aircraft kit company. □

## DON PELLEGRINO FROM PAGE 46

In hangars on the Iowa farm and later in Texas, aircraft received the chance to be flown again after Don restored them. Among these aircraft were an Aeronca C-3, Aeronca Chief, a Schweizer glider, Beech Staggerwing, Christen Eagle, Cessna LC-126, Rose Parrakeet, the only Rearwin 8090, and a Piper Cub.

Don's largest project was a Fairchild XNQ-1, one of two built that flew. This aircraft arrived at the farm in September 1982. Ten years later Don test flew it on June 1, 1992. Piece

by piece this entire airplane had been painstakingly restored – a beauty to see and to fly. That year he took it to the EAA Fly-In at Oshkosh, Wis. and the AAA Fly-In in Blakesburg, Iowa. Through the years Don received much recognition for his outstanding restorations.

Don always helped others with their aircraft projects. Along the way he gathered many lifelong friends. This pilot truly loved his airplanes and maintained them so they always presented a like-new appearance as he flew them above this beautiful planet. □



## LoCamp Kit Manufacturer Survives Flood!

LONE ROCK, WIS. – Golden Age Aeroworks, located at Tri-County Regional Airport (KLNK) in Lone Rock, Wisconsin, reports that despite flooding that occurred in March 2019, recovery efforts are going well for the manufacturer of the nostalgic “LoCamp” monoplane.

“Over the last several weeks, we’ve cleaned up the flood mess in our shop and parts inventory hangars, and learned that things are not as bleak as they seemed in the immediate aftermath (of the flood),” says Ed Leineweber, managing member of Golden Age Aeroworks.

The shop equipment, tools and supplies sustained very

little permanent damage, and the aircraft inside were not damaged at all, says Leineweber. While the loss in the kit parts inventory hangar was more extensive, the parts needing to be scrapped were limited to electronic components purchased for inclusion in the kits. “These components can be resupplied fairly quickly,” says Leineweber.

Meanwhile, Golden Age Aeroworks is working to complete the prototype Titan OX-340 engine installation, although flight testing has been delayed by the flood.

For additional information, contact Ed Leineweber at 608-604-6515 ([eleineweber@goldenageaeroworks.com](mailto:eleineweber@goldenageaeroworks.com)). □

## Women In Aviation International At Sun 'n Fun 2019

*by Nancy Blake*

I had the opportunity to renew an acquaintance of mine at Sun 'n Fun 2019, when I saw Dr. Peggy Chabrian, President and CEO of Women In Aviation International (WAI). WAI is a 25-year-old non-profit organization. The WAI quotes in their brochure that their mission is “an organization dedicated to the encouragement and advancement of women in all aviation career fields of interests.” WAI’s diverse membership includes astronauts, pilots, maintenance technicians, air traffic controllers, engineers, business owners, educators, journalists, flight attendants, high school and university students, airshow performers, airport managers, and many others.

In total, there are more than 13,500 members and 120 local chapters from 82 countries in WAI. Chapters host local meetings, programs and speakers. To find a chapter near you, go to [www.WAI.org/chapters](http://www.WAI.org/chapters).

In addition to local chapter meetings, WAI membership benefits include career mentors, an online service for helping members at [www.WAI.org/members/mentors](http://www.WAI.org/members/mentors), and a career



Dr. Peggy Chabrian, President  
& CEO, Women In Aviation International.

resources program – WAI Jobs Connect – which posts open jobs and internships for members at [www.WAI.org/members/jobs-connects](http://www.WAI.org/members/jobs-connects). WAI College Connect is a program that encourages students at colleges and universities with

**CONTINUED ON PAGE 56**



# Aeronautics Report

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

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

www.wisconsindot.gov



## Protecting Airspace In The 21st Century: Making An Airport Manager's Life Easier With GIS



Hal Davis

by Hal Davis  
WisDOT Bureau of Aeronautics

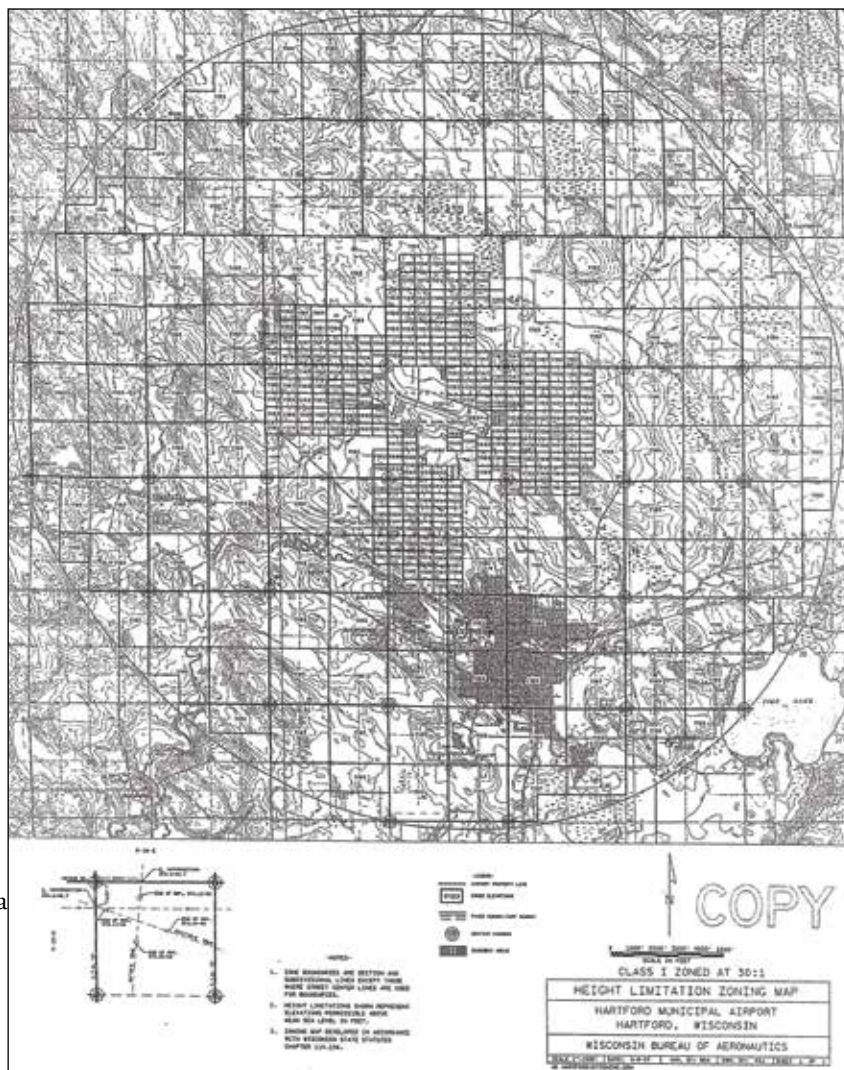
**A**s is the case across the country, most airports in Wisconsin were built during or shortly after World War II. The majority were built in areas that were then on the outskirts of towns, where land

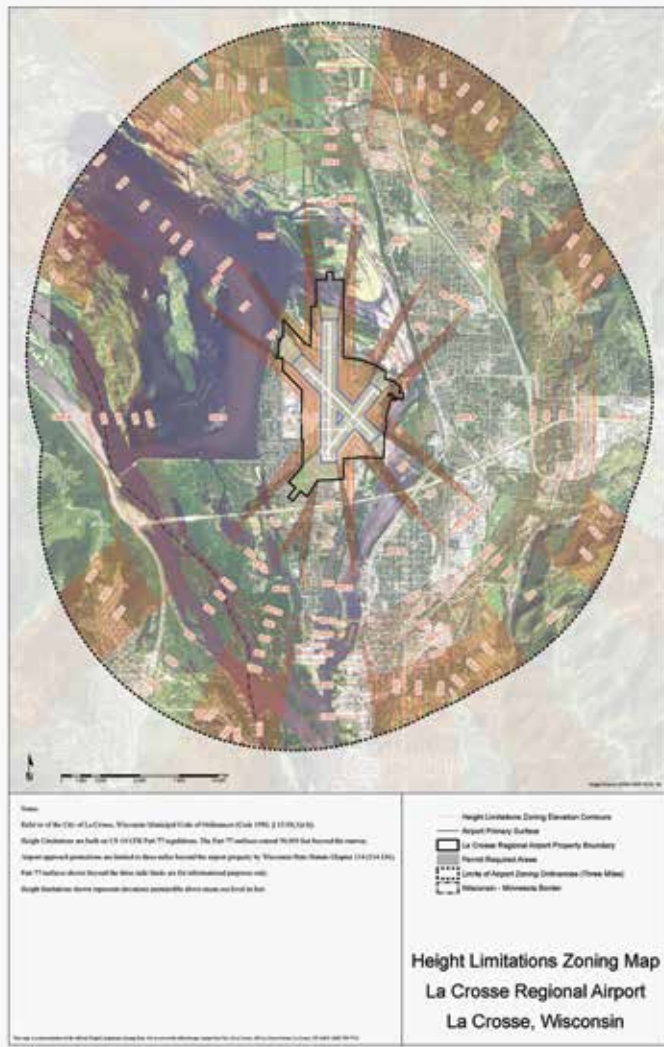
was cheap and plentiful. As towns and airports grew over the next few decades, and radio and telecommunication towers became more prolific, conflict became inevitable. Fortunately for aviators, the Wisconsin legislature has given airport owners overarching authority to protect and preserve airspace within three miles of their airports. Height limitation zoning ordinances (HLZO) are one of the strongest tools available to a municipal airport owner to protect the airport and its airspace.

An HLZO is made up of two parts: the ordinance language and a map. The language describes the scope of the restrictions, while the map identifies the exact height restrictions for specific areas. In general, the height restrictions were designed to provide the maximum protection under state law with little regard for the actual protection needed for the visual and instrument procedures at a given airport. In other words, HLZOs were often more restrictive than needed. Great news for aviators...not so great news for developers.

The HLZO maps were drawn utilizing two-dimensional grid to protect a three-dimensional surface. Today, advances in technology and data availability provide an enormous opportunity to improve HLZO maps.

Enter geographic information systems (GIS). Much like Google Maps and ForeFlight have all but done away with paper maps, GIS has rendered traditional HLZO maps obsolete as well. Utilizing GIS for HLZO maps has significant advantages over traditional HLZO maps. Instead of requiring a magnifying glass to decipher traditional HLZO maps, GIS





allows the user to pan and zoom around the map. Utilizing aerial imagery as the base map increases the usability of the map, making it much easier to locate a precise location.

Many cities and counties already have public GIS-viewers that can make the map more accessible than ever. This means fewer phone calls to the airport manager from developers and easier evaluation of potential impacts. Simply converting an airport's existing HLZO map to GIS would allow the airport to benefit from these advantages.

Some airport owners have also leveraged GIS to improve the height restrictions as well. For instance, several airports have replaced the traditional grid design with contours that more closely match the slope and dimensions of the airspace specific to that individual airport. This method allows the airport owner to focus on protecting the airspace that is most critical, as well as improve the developability of surrounding land, benefiting the community as a whole.

Pressure to develop near the airport will only increase as time goes by. Take the time now to make sure your HLZO protects both the existing and future airspace needs of the airport; establish communication between airport management and local zoning and permitting departments; and utilize GIS to make your map user-friendly and widely available. Your future self, airport users, and developers will thank you.

For assistance converting traditional HLZO maps to GIS, contact Brenda Hanson at [BrendaE.Hanson@dot.wi.gov](mailto:BrendaE.Hanson@dot.wi.gov). For general assistance with HLZOs, contact me at [Howard.Davis@dot.wi.gov](mailto:Howard.Davis@dot.wi.gov). □

## Meet Mallory Palmer

### *Environmental Analysis & Review Specialist - WisDOT Bureau of Aeronautics*

In March 2019, Mallory Palmer joined the Wisconsin Department of Transportation's (WisDOT) Bureau of Aeronautics (BOA) as an environmental analysis and review specialist. Mallory is responsible for ensuring compliance with state and federal environmental laws regarding Wisconsin state-funded airport projects.

Mallory's duties include coordination with regulatory agencies, including the Wisconsin Department of Natural Resources (WDNR) and U.S. Army Corps of Engineers. She is also responsible for completing the associated environmental documentation required for Wisconsin airport projects that utilize state or federal



Mallory Palmer

funding. Mallory also serves as an internal resource to BOA staff.

Mallory earned a bachelor's degree in Political Science from Edgewood College in Madison, Wisconsin. She also holds a Master of Public Affairs (MPA) and a Master of Environmental Conservation (MS) from the University of Wisconsin-Madison. Before joining WisDOT, she worked for WDNR in the Bureau of Environmental Analysis and Sustainability.

For any questions concerning environmental issues at the Wisconsin Bureau of Aeronautics, contact Mallory Palmer at [malloryk.palmer@dot.wi.gov](mailto:malloryk.palmer@dot.wi.gov) or (608) 261-5861. □





The State of Minnesota provides this Technical Bulletin in the interest of Aviation Safety and to Promote Aeronautical Progress in the State and Nation.

**Cassandra Isackson, Director**

**Dan McDowell, Editor**

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

## See Us At EAA AirVenture Oshkosh or Your Local Airport

*by Cassandra Isackson*

*Director, Minnesota DOT Office of Aeronautics*

**W**e are just weeks away from the opening of EAA AirVenture Oshkosh in Oshkosh, Wisconsin, July 22-28, 2019. AirVenture is well known as the world's largest aviation gathering and fly-in. For us at MnDOT Aeronautics, the event offers an opportunity to meet individual Minnesota pilots, welcome attendees to stop and visit Minnesota airports on the way to and from the event, and meet with our peers from across the nation. It is a fun and productive time for all things aviation!



Cassandra Isackson

We have heard that the Experimental Aircraft Association (EAA) expects nearly 800 exhibitors this year, including about 30 from our own state. We are excited to be one of them! MnDOT Aeronautics will have a large, open, inviting booth space at numbers **3170 & 3171** in the Epic Exhibit Hangar C – the hangar with the nice restrooms, sort of by the control tower. We are in the first isle in the northeast area of the building. Please stop in to say “Hi,” and chat with us about your favorite airport – or favorite aviation activity.

I will be there, along with other Aeronautics staff,

to answer your questions about the “Fly-in-Minnesota” program and State Aviation System Plan (SASP), provide state charts and directories, and other information. Other folks will join us at our booth as well. Individual airports will send representatives to talk about their community and give a personal insight into why you might want to fly in to their community. We are also hoping that the Minnesota Department of Natural Resources and other state agencies will send their experts to tell you more about state parks and trails you may want to explore.

Summer will also be filled with a variety of airport fly-in breakfasts and BBQs. Although my schedule fills up quickly, I am still open on a few weekends. Mama always said, “Don’t go where you are not invited.” So, if you would like us to attend, please invite us in advance.

There are many new faces in our office as the result of staff changes. We have said our good-byes to those who have retired or moved on to other jobs, and have welcomed our new employees with smiles. We’d like you to meet the new folks too, and let them get to know your airport and community, so they can serve you better as they gain experience.

As always, we love to come to your community and share the excitement and wonder of flying in our beautiful state. Until then, fly safely, and happy landings! □

## Lightning... Take It Seriously!

**L**ightning is a phenomenon that occurs in nature at nearly any time of the year, even in Minnesota. We can expect to see it in the spring and all the way through fall as the seasons warm and then rapidly cool. And we have even had “thunder snow” during a number of our snowy winters. While awe inspiring and occasionally frightening, lightning should always be taken seriously.

The greater part of this article will deal with lightning and its potential impacts to those on the ground. This information relates to people who are in their hangars getting ready to fly, or those on the tarmac starting a walk-around for instance,

when a thunderstorm suddenly pops up, or can be seen or heard in the near distance! Whatever the case, *please* read on.

### On The Ground

In the words of the National Oceanic and Atmospheric Administration (NOAA), lightning is quite simply “...a giant spark of electricity in the atmosphere or between the atmosphere and the ground. In the initial stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the

ground. However, when the differences in charges become too great, this insulating capacity of the air breaks down and there is a very rapid discharge of electricity that we call lightning.”

From 2016-2018, 76 people in the United States alone were victims of lightning strikes. A majority of these deaths occurred in the months of June and July, and interestingly, a majority of the victims were men. While most often it isn't possible to know how a victim has been struck, there are five known ways that lightning can injure or kill a person. They are:

1. The Direct Strike
2. The Side Flash
3. Ground Current
4. Conduction
5. Streamers

The Direct Strike occurs when the victim becomes a part of the main channel of the lightning discharge. These strikes most often occur when people are in open areas.

A Side Flash occurs when lightning strikes a taller object close to the victim and a portion of the current produced by that strike jumps from the taller object to the person. The person in this case acts as a “short-circuit” for a portion of the energy released from that initial discharge.

The Ground Current strike occurs when lightning hits an object, or a tree for instance, and travels outward from the strike point on the surface of the ground. Because the charge covers a much greater area than other types of strikes, it claims more victims as it travels through garage floors that contain conductive materials (like rebar, for instance). The Ground Current strike also kills more farm animals than most other types of strikes.

Conduction takes place when lightning (current) travels through metal surfaces. It can travel very long distances along metal fences. If you are touching a fence when conduction occurs, it could cause fatal injuries. Bear in mind that metal does not attract lightning as many people think, but it does provide a pathway for the charge to flow. Contact with anything connected to metal wires, metal surfaces, or plumbing, whether inside or outside, is risky.

A Streamer develops as a downward-moving leader approaches the ground. NOAA advises, “Typically, only one of the streamers makes contact with the leader as it approaches the ground and provides the path for the bright return strike. However, when the main channel discharges, so do all the other streamers in the area. If a person is a part



*Photo Courtesy of Willi Wilkens/UWP NOAA/NWS*

of one of these streamers, they could suffer significant injury or death as the streamer discharges.”

So, what can you do to protect yourself from being hit by lightning on the ground? As soon as you see lightning or hear thunder, take shelter in a sturdy building. If you are in your standard vehicle, roll up the windows and stay inside. If you are in a soft-top vehicle, get out and go find a sturdy building. Stay away from trees, metal poles, fences, pipes and other metal structures. If you are caught in the open or feel a tingling sensation on your body, do the following:

1. Do not lie down on the ground.
  2. Quickly put your feet and knees close together.
  3. Crouch down on the balls of your feet, getting as low as possible. Crouching down is the best combination of touching the ground as little as possible and being as low as possible.
  4. Put your forearms on your knees and put your head on your hands, covering your ears.
  5. Close your eyes to protect them from the bright flash.
  6. Do not put your hands or knees on the ground.
- Also, it is wise to remember that lightning strikes have been recorded 20 miles from the parent storm cell.

### **In The Air**

General aviation pilots should always avoid flying near thunderstorms. Besides the potential of a lightning strike on the aircraft, it is very likely a thunderstorm will encounter a number of weather conditions that could take down a small aircraft. Those conditions may include severe turbulence, large hail, wind shear, powerful up and down drafts, and more.

Most commercially constructed general aviation aircraft with aluminum skins provide at least a basic level of protection from lightning strikes. But if struck, an aircraft can suffer significant damage to its propellers and wingtips. Pilots should not fly anywhere near a lightning storm or through other clouds associated with that cell as they may contain sufficient electric charge to produce lightning.

The point is, lightning can be beautiful and awe-inspiring, but given the right path or right conditions, it can be deadly and destructive. That is why it is extremely important to always take it seriously.

For additional information, go to: <https://www.weather.gov/safety/lightning>. □





NORTHLAND AEROSPACE

www.northlandaerospace.com

1.800.959.6282

## Minnesota Education Section

Minnesota Transportation Center of Excellence

### The Sky Brings The Crops



(L/R) Northland Aerospace students James Arnt and Dakota Petersen stand next to a Grumman Ag Cat that was donated to the facility by Aaron Peterson. The aircraft is one of many that are housed in a climate-controlled hangar that students regularly frequent for class and labs.

*by Kathryn Brown*

**W**ith the retreat of snow and ice, the Midwest's empty fields come to life, and as they do, so too do the skies above them. Spray pilots look forward to leaning into the growing season and prepare to grace the skies with their aircraft in a display that is as iconic as spring's first droning insects.

It's not surprising that many who find themselves manning the occupation of spray pilot, come from strong agricultural backgrounds. James Arnt, 20, of Worthington, Minnesota, grew up knowing he wanted to be a pilot, but was also heavily influenced by his father, who was a spray pilot for 44 years and owned his own business centered around it. Arnt followed

and achieved his dream, starting to fly in high school, and soloing when he was 16 in a Civil Air Patrol Cessna 172. It wasn't until 2017 that Arnt started to actually begin spraying in a Weatherly 620B, and even before he began, he already had a job lined up.

As I spoke with Arnt, his passion for both flying and spraying became apparent. He mentioned how many people start their careers simply loading spray planes before going on to become pilots themselves, and how it is a great way to get to know a company while also learning the important terminology associated with the various chemicals used. Arnt said that he operated mostly in Minnesota and Iowa, although he could always switch airports if he wanted to. He smiled as he added that, "the work can and does fluctuate depending

on the weather, so you have to be a little lucky and make money where you can. But it's an enjoyable occupation nonetheless, and it hardly feels like work most of the time. I wouldn't trade it for anything."

One thing Arnt was sure to mention was the personal satisfaction that went into seeing the crops he had worked come to fruition. As an owner of his own land, he could personally attest to that.

"You go out, and you see these weeds coming up alongside your crop in your fields... and then you get to head up and spray, and you see how much better everything is doing a week or so later. It's great."

There is, of course, also the pleasure of working the process from start to finish; from having the seed put into the ground, to watching it grow, to the actual event of the harvest. Arnt has taken part in the entire operation from the time he was a child to the present.

With sights set so high on flying aircraft, it only makes sense that Arnt is also interested in maintaining the aircraft. When asked why he chose Northland Community and Technical College to pursue aviation maintenance technology, he explained that the school has a good reputation, it wasn't too far from his home, and the cost of tuition was reasonable. Arnt is pushing to get his airframe and powerplant (A&P) certifications more out of necessity, as he would like to be able to work on any aircraft he owns or flies. Regardless, Arnt was quick to tell me that he also enjoys working with his hands and is looking forward to being an aircraft technician in addition to flying as a spray pilot.

Northland Aerospace recently acquired a Grumman Ag Cat that was donated to the college by Aaron Peterson of Advantage Ag Air in 2018, and Arnt was excited to get to work on it. He helped to replace the number one cylinder and did some cosmetic work that was much needed, including patching the wings. He hopes to be able to help balance the propeller before he graduates from the program, although

he is waiting until the school's first year students get a chance to try their hand at repairing some parts of the aircraft first.

Dakota Petersen, 19, of Kenmare, North Dakota, doesn't have to think twice when asked if being a pilot was a childhood dream of his. He grew up farming and was always very involved in agriculture, and has fond memories of going up in his father's Cessna 175 from a young age. While he didn't know much about flying personally, the curiosity was there.

Petersen said that he has worked for the aerial applicator company, Great Plains Aero, since 2015, as a member of the load crew, and that it was this experience that seriously piqued his interest in flying. He was 16 when he first soloed in a Citabria.



**CAREER  
READY  
FASTER**



**NORTHLAND  
COMMUNITY & TECHNICAL COLLEGE**

**northlandcollege.edu**

A member of Minnesota State.



"Flying is more than a job...it is something I like to do," said Petersen when asked how he views flying as a career. "It's exciting and challenges you with experiences every time you go out. No two days are the same, and technology is always changing, so that's a big part of it, as well."

The moment Petersen started working for Great Plains Aero, the company treated him very well, and he liked the business enough to stay with them after he graduated from college.

Petersen considers Northland Community and Technical College a top choice for training to become an aviation maintenance technician, in part due to the large variation in the programs it offers, and also due to the large number of aircraft they have available to learn from. Petersen is on track to graduate in 2020, and chose to pursue his airframe and powerplant certifications so that he could work on his own aircraft. In addition to a Citabria, Petersen owns a Grumman Ag Cat that he recently purchased. He intends to fly the plane when he goes back to work in the aerial application business this summer.

Petersen is no stranger to the work involved in agriculture, and is looking forward to a career involving both aerial application, farming and aircraft maintenance. "There's a personal satisfaction in the work," he said. "It's good to know you're making a positive difference for the country and for the people who live in it."

Petersen also got the opportunity to work on the newly

acquired Grumman Ag Cat at Northland Aerospace. He patched holes in the wings and worked with a small group of classmates to rig the upper level wings on the biplane. Together with the second-year class and under the guidance of knowledgeable instructors, the aircraft is now in operating condition. It's just one of a great number of aircraft available to students to work with, although Petersen said that it's nice to be able to gain experience with one of the aircraft he will likely encounter frequently in his career.

With the growing season here, spray pilots everywhere are gearing up for what will hopefully be a busy and profitable season. It's a profession that benefits many people in the end, and one that those who participate in it are undoubtedly passionate about.

Many pilots are paid by the acre, and the average operator typically owns two or three aircraft of their own. There are some businesses, however, that maintain fleets that can number in the dozens. With technology marching forward, the business is constantly changing. Unmanned Aircraft Systems (UAS) may soon be a part of many operations, though it's hard to predict with any certainty just how pervasive they may be in the near future. One thing is for certain, however; the soon-to-be graduates of Northland Community & Technical College will soon be part of the ranks of professionals dedicated to making sure quality crops reach tables all around the country. □

---

### ***WOMEN IN AVIATION INTERNATIONAL FROM PAGE 49***

aviation programs to join WAI and use the resources of the organization in their studies. Membership benefits also include discounts on tickets to airshows like Sun 'n Fun and EAA AirVenture Oshkosh.

One hundred (100) aviation scholarships and internships totaling \$600,000 are given away yearly to WAI members.

*Aviation for Women* magazine is published six times a year and is available in digital and print formats. The magazine is very informative for women pilots of all ages. A monthly newsletter called WAIConnect eNewsletter is sent by email each month with WAI and chapter news.

The fourth edition of a new magazine called *Aviation for Girls* focuses on girls ages 8-17. The articles cover every aspect of aviation. This is an international aviation outreach program for girls and young women. *Aviation for Girls Day* will be October 5, 2019 and will be held at airports or other aviation venues nationally and internationally.

A five-day overnight camp for girls ages 11-15 called PreFlight Aviation Camp, is held in San Marcos, Texas at Texas State University every summer. All camp counselors are

professional female pilots. STEM-based lessons are taught. Opportunities to tour a control tower, learn how airplanes fly, learn the phonetic alphabet, do a flight plan, and fly a plane are some of the activities held during camp. A mentor is assigned to each girl when they leave camp. Contact the camp at [www.PreFlightCamp.com](http://www.PreFlightCamp.com).

The Women In Aviation International Conference is held annually. The 2020 conference will be held in Orlando, Florida, March 5-7, 2020 at Disney Coronado Springs Resort.

For membership information, visit [www.WAI.org/membership/join-renew](http://www.WAI.org/membership/join-renew).

The information I gathered for this article is so inspiring, I am planning to become a member, and I urge you to become a member, too!

*EDITOR'S NOTE:* Nancy Blake is an instrument-rated pilot and aircraft owner, and resides in Sarasota, Florida with her husband Bill Blake, who is also a pilot and the former director of aeronautics for the State of Illinois. The Blakes are originally from Peoria, Illinois. □

# Revolutionary New Business Jet Design Delivers Intercontinental Range At \$1 Per Nautical Mile & Will Still Land At Small GA Airports



SkyFan™

BROOMFIELD, COLO. – Business jet design has been stagnating for decades – a simple tube with wings and two engines – one on each side. Granted, they vary in size, range, speed, and comfort, but in the end, there has been nothing disruptive—just evolutionary. Frontline’s eye-catching “SkyFan™” business jet design will change this by dramatically doubling the overall energy efficiency of the aircraft, along with a mindful eye toward established passenger requirements of the industry.

SkyFan™ has solved the long-standing challenges of business jets—namely dramatic range and productivity improvements, fuel efficiency, noise reduction, and landing zone flexibility. SkyFan™ is a revolutionary business jet with a propulsive efficiency of a 50 to 1 bypass ratio, compared to typical business jets at 5 to 1. This coupled to mature GE

CT7/T700 turboshaft engines, enables SkyFan’s ducted fan to deliver a thrust-to-weight ratio near 1 to 1, a four-passenger range of 5,200 nm, M 0.8 cruise, with a typical fuel economy of \$1 per nautical mile. It also achieves short take-off and landing (STOL), and substantial fuselage drag reduction with the centerline ducted fan and diamond-box-wing configuration. These disruptions in business jet design create the core of this revolutionary transformation.

Another innovation in the SkyFan design is the drag reduction afforded by the centerline ducted fan, which ingests and energizes the fuselage boundary layer, reducing the base drag. The diamond box wing allows a very structurally sound, lightweight, high-aspect ratio wing, which also reduces drag and improves efficiency. □



# CALENDAR

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

Go to "Calendar" at [www.MidwestFlyer.com](http://www.MidwestFlyer.com) and post your aviation event.

You can also email: [info@midwestflyer.com](mailto:info@midwestflyer.com) – Or – Mail To: Midwest Flyer Magazine, 6031 Lawry Court, Oregon, WI 53575

**NOTAM: Pilots, be sure to call events in advance to confirm dates and for traffic advisories and NOTAMs.**

**Also, use only current aeronautical charts, etc., for navigation and not calendar listing information.**

**MIDWEST FLYER MAGAZINE** IS NOT RESPONSIBLE FOR THE ACCURACY OF, OR RELIANCE ON, ANY INFORMATION PUBLISHED.

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

## JUNE 2019

- 1 **MANITOWOC (KMTW)**, Wis. - EAA Chapter 383 Pancake Breakfast. Enjoy our "secret recipe" pancakes, with sausages, apple sauce, coffee, milk, juice.
- 1\* **AMERY (KAHH)**, Wis. - Pancake, Keilbasa, Orange Juice, Milk, & Coffee Breakfast 7-11am. 715-554-3958.
- 1\* **GRAND RAPIDS (KGPZ)**, MINN. - Pancakes, Sausage, Eggs, Coffee & Juice Breakfast 8am-Noon.
- 1\* **WEIDMAN (KD11)**, MICH. - Breakfast Fly-In at the Ojibwa Airport 7-11am. Overnight camping on the field is welcomed. 586-805-0853.
- 1\* **ALMA (KAMN)**, MICH. - Warbird in Review of the RC45J & Pancake Breakfast starts at 7:30am & program at 9am at the Gratiot Community Airport. 913-956-6795.
- 1\* **GRAND HAVEN (K3GM)**, MICH. - Breakfast & Lunch 8am-1pm. 616-842-4430.
- 2 **AUDUBON**, IOWA - Breakfast 6:30-10:30am. 712-563-3780.
- 2\* **COLDWATER (KOEB)**, MICH. - Pancake Breakfast at the Branch County Memorial Airport 7am-Noon. Motorcycles, classic cars & flying model airplanes. 269-419-9904.
- 2-5 **UNITED KINGDOM** - National Warbird Operator Conference (NWOC) has announced a strategic partnership with the D-Day Squadron at Duxford Airfield. To read more go to [midwestflyer.com/?p=12288](http://midwestflyer.com/?p=12288)
- 8\* **BRIGHTON (K45G)**, MICH. - Breakfast & Open House 7-10am at Brighton Field. 810-241-6328.
- 8\* **MUSKEGON (KMKG)**, MICH. - Pancake Breakfast 8am-Noon at our annual Wings of Mercy fly-in fundraiser. 616-610-5857.
- 8\* **EASTPORT (K59M)**, MICH. - Aircraft & Auto Show with Pancake Breakfast 8am-2pm at the Torch Airpark. 231-632-2412.
- 8\* **HOLLAND (KHLM)**, MICH. - Pancake Breakfast & Open House 8am-2pm at Park Township Airport. 616-399-9333.
- 5-9 **NORMANDY, FRANCE** - National Warbird Operator Conference (NWOC) has announced a strategic partnership with the D-Day Squadron at Caen-Carpiquet Airport. To read more go to [midwestflyer.com/?p=12288](http://midwestflyer.com/?p=12288)
- 8\* **SOUTH ST. PAUL, MINN.** - Spring Swing Big Band Hangar Dance being hosted by CAF Minnesota Wing. Free dance lesson 7-8pm. Dance starts at 8pm. Food and drinks are available to purchase. For more info go to [www.cafmn.org/hangar-dances.html](http://www.cafmn.org/hangar-dances.html)
- 9 **RUSH CITY (KROS)**, MINN. - Pancake Breakfast. Warbirds, classic cars, vendors, lots to see! [shochstatter@ci.rush-city.mn.us](mailto:shochstatter@ci.rush-city.mn.us)
- 9 **MONTEVIDEO (KMVE)**, MINN. - EAA Chapter 688 Fly-In Breakfast served 8am-1pm. Free Young Eagles rides for ages 8-17. Ping pong ball drop for ages 0-10.
- 9\* **SPENCER (KSPW)**, IOWA - Flight Breakfast 7-11am. 712-262-1000. [www.leaspw.com](http://www.leaspw.com)
- 9\* **PRINCETON (KPNM)**, MINN. - Breakfast Fly-In & Car Show 7am-Noon. 763-389-8812.
- 9\* **MASON (KTEW)**, MICH. - Pancake Breakfast 7-11am at Mason Jewett Field. 517-333-4561.
- 9\* **WILD ROSE (KW23)**, Wis. - Pancake, Eggs & Sausage Breakfast 7:30-11am & Pig Roast, Beef, Baked Beans, Cheese Hash Browns Potatoes Lunch 11:30am-1pm at the Wild Rose Idlewood Airport.
- 15\* **KEOSAUQUA (K6K9)**, IOWA - Fly Van Buren Fly-In 7-10am. 319-293-7111. [www.villagesofvanburen.com](http://www.villagesofvanburen.com)
- 15\* **MOOSE LAKE (KMZH)**, MINN. - Breakfast 7:30-11am. 218-485-4441.
- 15\* **WEST BRANCH (KY31)**, MICH. - Pancake Breakfast 8am-Noon. 989-345-1453.
- 15\* **SAINT HELEN (K6Y6)**, MICH. - Breakfast & a car show to celebrate the St Helen Bluegill Festival. 989-387-7412.
- 15\* **CARO (KCFS)**, MICH. - Wings & Wheels Fly-In 11am-1pm at Tuscola Area Airport. 989-672-1388.
- 15-16 **MANKATO (KMKT)**, MINN. - MN Air Specacular with the USAF Thunderbirds. [www.mnairspectacular.com](http://www.mnairspectacular.com). Contact Fred Lutz. [flutz@netscape.com](mailto:flutz@netscape.com) 507-381-0300.
- 16 **PALMYRA (K88C)**, Wis. - 70th Annual Father's Day Fly-In/Drive-In Pancake Breakfast, eggs, ham, and of course RADISHES from 7am-noon. Antique and Classic Car Show, a Tractor Show, Airplane and Helicopter rides for a fee, the Palmyra Community Band, & various vendors!
- 16 **GENESEO (3G8)**, ILL. - Father's Day Fly-In Breakfast 7-11am. Young Eagle Rides, Skydiving Demonstration. Runway is 2600' turf.
- 16\* **DODGE CENTER, (KTOB)**, MINN. - Breakfast 7am-Noon. 507-282-9682. [www.eaa100.44rf.com](http://www.eaa100.44rf.com)
- 16\* **LE MARS, (KLRJ)**, IOWA - Breakfast 7-11am. 712-540-1665.
- 16\* **PLYMOUTH (K1D2)**, MICH. - Father's Day Pancake Breakfast 7-11am at the Canton-Plymouth-Mettetal Airport. 248-872-3220.
- 16\* **WHITE CLOUD (K42C)**, MICH. - Father's Day Breakfast 7-11am. 231-301-5609
- 18\* **CEDAR RAPIDS, (KCID)**, IOWA - EAA B-17 Tour (Aluminum Overcast) at the Eastern Iowa Airport 9am-5pm. 800-359-6217. [www.b17.org](http://www.b17.org)
- 20 & 22-24\* **BURLINGTON (KBRL)**, IOWA - Ford Tri-Motor Tour at the Southeast Iowa Regional Airport (20th - 2-5pm) (22nd-24th 9am-5pm) [www.eaa.org/shop/Flights/FlyTheFord.aspx](http://www.eaa.org/shop/Flights/FlyTheFord.aspx)
- 20\* **HIBBING, (KHIB)**, MINN. - Top Bun Burger Baskets Fly-In at the Range Regional Airport 5-7pm.
- 21-22 **LIVERMORE (KLVK)**, CALIF. - AOPA 2019 Regional Fly-In. For more information on each fly-in, visit [www.aopa.org/fly-ins](http://www.aopa.org/fly-ins).
- 23\* **MARION (KC17)**, IOWA - Breakfast 6am-Noon. 319-777-9488.
- 23\* **WELLS (K68Y)**, MINN. - Pancakes, French Toast, Ham, Eggs to Order, Coffee, Milk & Juice Breakfast & Classic Car Show 7am-Noon. 507-553-3100.
- 29\* **WADENA (KADC)**, MINN. - Pancake Breakfast 7am-12:30pm.
- 29-30\* **DAVENPORT, IOWA** - Quad City Airshow Featuring U.S. Navy Blue Angels. [www.quadcityairshow.com](http://www.quadcityairshow.com)
- 30 **AITKIN (KAIT)**, MINN. - Flyin Wild Rice Pancake Breakfast. Aviation booths that include pilot training scholarships available, flight simulators, special speakers including AOPA representative, DNR/ Forestry Aircraft & Equipment Display, Young Eagles Flights (free for Kids), BiPlane Rides, Fly Overs & More. 612-600-1230.
- 30\* **ST. CLOUD (KSTC)**, MINN. - Granite City Days Pancake & Sausage Breakfast Fly-In 8am-1pm in Hangar 2 & Car Show.
- 30\* **RED OAK (KRDK)**, IOWA - Breakfast 7-11am. 712-370-1511.

## JULY 2019

- 4\* **CORNING (KCRZ)**, IOWA - Breakfast & live music 7-10am.

www.adamscountyiowa.com

- 5-6 **PHILLIPS (KPBH), Wis. - Fly-In & Harbor View Float-In - Airshow.**  
*(See ad on following page.)*
- 7\* **AUSTIN (KAUM), MINN.** - Pancakes, SPAM, Sausage, Milk, Coffee & Juice Breakfast 7am-1pm. 507-440-6596.
- 14\* **PLATTEVILLE (KPVB), Wis.** - Boy Scout Fly-In Pancake Breakfast. CTAF 122.7 608-348-3582
- 15\* **BOONE (KBNW), Iowa** - Sweet Corn Feed & Fly-In 6-8:30pm. 515-432-1018. www.farnhamaviation.com
- 18-21 **BRODHEAD (KC37), Wis.** - Pietenpol 90th anniversary reunion and Hatz biplane fly-in. Visit www.eaa431.org
- 19-21 **JANESVILLE (KJVL), Wis.** - Southern Wisconsin Regional Airport Janesville Warbird Weekend 2019. WWII aircraft displays and 1940s Swing & Wings hangar dance Saturday, July 20th, www.JVL19.splashthat.com and www.swingwings2019.splashthat.com, 913-850-1522.
- 20 **WASHINGTON ISLAND (K2P2), Wis. - Fish Boil Fly-In Sponsored by the Lions Club. Also music, hay rides, hot dogs & ice cream.**  
[washingtonisland.com/event/lions-club-fly-in-fish-boil/](http://washingtonisland.com/event/lions-club-fly-in-fish-boil/)
- 20\* **MOSINEE (KCWA), Wis.** - Warbird Rendezvous at Central Wisconsin Airport to benefit "Never Forgotten Honor Flight." 8am-4pm.
- 22-28 **OSHKOSH, Wis. - EAA is marking the 50th consecutive year of its annual EAA AirVenture Oshkosh 2019 fly-in convention.**  
[www.eaa.org/en/airventure](http://www.eaa.org/en/airventure)
- 24-26\* **CLINTON (KCWI), Iowa** - Cessna 152 Fly-In. 301-275-2476. [www.cessna150152flying.org](http://www.cessna150152flying.org)

#### AUGUST 2019

- 3-4 **BOONE (NBNW), Iowa** - Fly Iowa Boone 2019 is Iowa's Air Fair. The main date of the event is Saturday, August 3 with Sunday being a weather date if the air show is postponed. Event includes a fly-in, static displays and exhibits, air safety seminar, youth activities, and an air show. Admission is FREE. chuckdsmcc@aol.com
- 8-11 **MIMINISKA LODGE, ONTARIO CANADA - Canada Fishing Fly-Out 3-Night/2-Day Trip. FOR RESERVATIONS: Contact Lynette Mish at Wilderness North toll free: 1-888-465-3474.**
- 8-13 **MIMINISKA LODGE, ONTARIO CANADA - Canada Fishing Fly-Out 5-Night/4-Day Trip. FOR RESERVATIONS: Contact Lynette Mish at Wilderness North toll free: 1-888-465-3474.**
- 10 **CAMERON (KRPD), Wis.** - Pancake breakfast 7am-2pm. Breakfast free for pilot flying in.
- 11 **LINO LAKES (8Y4), MINN.** - Annual Pig Roast at the Surfside Seaplane Base. www.mnseaplanes.com
- 11\* **HUMBOLDT (KOK7), Iowa** - Breakfast 7am-Noon. 515-368-1714.
- 11-14 **MIMINISKA LODGE, ONTARIO CANADA - Canada Fishing Fly-Out 3-Night/2-Day Trip. FOR RESERVATIONS: Contact Lynette Mish at Wilderness North toll free: 1-888-465-3474.**
- 17\* **NEENAH (K79C), Wis.** - Brennan Old-Time Airport Days 9am-3pm. [www.eaa1.org/event/brennan-old-time-airportdays-annual-fly-in-2019/](http://www.eaa1.org/event/brennan-old-time-airportdays-annual-fly-in-2019/) 612-756-4495.
- 25 **BOSCOBEL (KOV5), Wis.** - Fly-in/Drive-in Breakfast. Pilot in command eats free. Visit beautiful Boscobel- Wisconsin's Outdoor Recreation Destination.
- 26-28\* **KANSAS CITY, Mo.** - 4 States Airport Conference 2019 at the Kansas City Marriott Downtown. [www.4statesairportconference.com](http://www.4statesairportconference.com)
- 31 **GLENCOE (KGYL), MINN.** - Sweet Corn & Bratwurst Fly-In 10am-2pm. The contact person is Stuart Selchow cell: 320-583-8367, email: [stuart.selchow@gmail.com](mailto:stuart.selchow@gmail.com) ([www.eaau192.weebly.com](http://www.eaau192.weebly.com)).
- 31\* **SHELL LAKE (KSSQ), Wis.** - Pancakes, Sausage, Beverage Breakfast 7:30-11:30am. Held during Shell Lake Town and Country days celebration. 715-

296-3638.

#### SEPTEMBER 2019

- 7 **OSCEOLA (KOEO), Wis.** - Osceola Wheels and Wings.
- 7\* **MERRILL (KRRL), Wis.** - Merrill Airport Day 9am-3pm. Food, flea market and kid's activities. 715-536-5266
- 8\* **CARROLL (KCIN), Iowa** - Breakfast 6:30am-1pm. 712-792-4980.
- 8\* **DUBUQUE (KDBQ), Iowa** - Open house & Fly-In Breakfast 8am-Noon. 563-589-4128. [www.flydbg.com](http://www.flydbg.com)
- 9 **CRAWFORDSVILLE (KCFJ), IND.** - Airport Day. FOLLOW US on Facebook @CrawfordsvilleRegionalAirport as we update with more information and pricing.
- 7-11 **ST. PAUL, MINN. - NASAO's Annual Conference at the Intercontinental Hotel. Watch for more information soon.**
- 13-14 **TULLAHOMA, (KTHA) TENN. - AOPA 2019 Regional Fly-In. For more information on each fly-in, visit [www.aopa.org/fly-ins](http://www.aopa.org/fly-ins).**
- 17\* **BOONE (KBNW), Iowa** - Watermelon Feed & Fly-In 6-8:30pm. 515-432-1018. [www.farnhamaviation.com](http://www.farnhamaviation.com)
- 21-22 **ANGOLA, IND.** - 17th Annual Indiana Seaplane Pilots Association Splash-In at Pokagon State Park.
- 22 **JOLIET (KJOT), ILL.** - Joliet Airport Festival. Pancake Breakfast 8-11am, Lunch 11am-3pm (nominal fee). Static aircraft and warbird displays, children's activities, airplane, warbird and helicopter rides (nominal fee) Car show featuring the Coachman Car Club until 3pm. Free Admission!

### FLY & DINE - HARBOR VIEW PUB & EATERY

On Long Lake Next To Price County Airport - Phillips, WI (KPBH)

OPEN 7 DAYS A WEEK • 715-339-2626

[www.harborviewonline.com](http://www.harborviewonline.com)



HOST OF THE ANNUAL HARBOR-VIEW FLOAT-IN

HELD IN CONJUNCTION WITH PRICE COUNTY AIRSHOW - JULY 5-6, 2019

- Dinner & Refreshments Immediately Following Friday Night Air Show, July 5th
- Breakfast Prior To 11:00 A.M. Air Show On Saturday, July 6th - 8:30-11:30 A.M.
- Lunch Following Air Show
- Lake Rattle & Roll - Live Band, Saturday, July 6th (8:00 pm to Midnight)

Come For The Day Camp At The Airport or Stay At A Resort or Hotel

[www.pricecountywi.net](http://www.pricecountywi.net) • 800-269-4505

## Visit Beautiful Washington Island (2P2)

### Off The Tip of Door County, Wisconsin

Washington Island Fish Boil Fly-In • Saturday, July 20, 2019 - 11:00 am to 1:00 pm.

★ Two Great Grass Runways:  
Both 2,250 ft. plus  
over-runs on each end.  
[www.weather-wi2P2.com](http://www.weather-wi2P2.com)

★ Lions Courtesy Van Available  
★ Camp Beneath Your Wings.

For Airport Assistance Call 920-535-0546 - 920-847-2448

[www.WashingtonIsland-wi.gov](http://www.WashingtonIsland-wi.gov)  
[www.VisitWashingtonIsland.com](http://www.VisitWashingtonIsland.com)



## CLASSIFIEDS

**SINGLE LISTING: \$.75 per word. Minimum order is \$20 per insertion.**

**ORDER ONLINE: [www.MidwestFlyer.com](http://www.MidwestFlyer.com)**

**or MAIL LISTING TO – Midwest Flyer Magazine, 6031 Lawry Court, Oregon, WI 53575**

**Please include payment with order! NOTE: We can invoice municipalities.**

**ALL LISTINGS ARE ALSO POSTED AT [www.midwestflyer.com](http://www.midwestflyer.com)**

**GET THREE MONTHS FREE RENT ON HANGARS** at Southern Wisconsin Regional Airport (JVL), Janesville, WI. Available on T-hangar units #25-#44 only (1-year commitment required). Check out our website [www.jvlairport.com](http://www.jvlairport.com) for airport amenities and call **608-757-5768** for current availability. Better yet, fly in and see for yourself. While you're here, enjoy a meal at Bessie's Diner or 18-holes of golf at the Glen Erin Golf Club.

**COMMERCIAL BUILDING ON AIRPORT FOR SALE** - The City of Alexandria, Minnesota has an approximately 56,000 sq ft building for sale on Alexandria Municipal Airport (KAXN) property. Was formerly used by aircraft manufacturer Bellanca Aircraft. Would make a great facility for a large operation or to lease out to multiple companies. Any offer will be considered. Contact Airport Manager Kreg Anderson at **320-760-7175** or [kanderson@alexandriamn.city](mailto:kanderson@alexandriamn.city) for additional information.

**MACKINAC ISLAND. SPECTACULAR VICTORIAN COTTAGE** The only TRUE fly-in cottage on MACKINAC ISLAND. Land and walk 2 minutes to your home. Professionally designed and custom built. Four bedrooms, 4.5 baths. Each with its own hot tub. Chef's kitchen. Cherry floors throughout. Many extras. Views of Mackinac Bridge, Woods Golf Course and west end of runway. **Search Bridgeview Cottage Mackinac Island on YouTube** for video. Call realtor **Bill Borst 906-430-0831** today.

**AVIATION INSURANCE RESOURCES** – Best Rates, Broadest Coverage, All Markets. Access the entire market with just one phone call: **1-877-247-7767**. Or online at [www.AIR-PROS.com](http://www.AIR-PROS.com).

**WANTED** – Aircraft paint shop or other aviation business seeking a location in east central MN. New beautiful hangar, public-use airport, asphalt ramp/runway. Call **Brian at Eagle Air** at **320-384-6667**.

**INSURANCE** – 67 years risk management serving aircraft operators and owners. Superior, empathetic service. **Mid-Continent Aircraft Corp., Hayti, MO. [acinsurance@midcont.com](mailto:acinsurance@midcont.com). 1-800-325-0885.**

### FLIGHT INSTRUCTOR WANTED

**Morey Airplane Company is seeking a full/part time flight instructor.**

We are a family owned and operated flight school. The ideal candidate will hold a CFI certificate to train advanced students as well as a second class medical to perform scenic and photo flights.

CFIs are encouraged to apply as well.

We have a fleet of well maintained

Cessna 152 and 172 aircraft to instruct in.

The full time position includes health insurance, 401k retirement plan and paid vacation after one year of employment.

**Please email your resume to [dmaier@moreyairport.com](mailto:dmaier@moreyairport.com) or call 608-836-1711.**

### MIDWEST FLYER MAGAZINE

#### SUBSCRIBE



OFFER EXPIRES DEC. 31, 2019

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY, STATE & ZIP \_\_\_\_\_

#### USA SUBSCRIPTIONS

**\$20.<sup>00</sup> ONE YEAR (6 issues)**

#### CANADA SUBSCRIPTIONS - IN U.S. FUNDS

**\$39.<sup>00</sup> ONE YEAR (6 issues)**

#### SUBSCRIBE AT

[WWW.MIDWESTFLYER.COM](http://WWW.MIDWESTFLYER.COM)

OR COMPLETE & RETURN FORM TO

**MIDWEST FLYER MAGAZINE**

**6031 LAWRY COURT**

**OREGON WI 53575-2617**

### Eagle River Union Airport

Your Full-Service airport in the Northwoods

**EGV - Eagle River, Wisconsin**



Restaurants & hotels nearby  
Clean courtesy car  
After-hour service  
Overnight hangars  
Preheat & ground power  
Flight planning room  
Pilot lounge w/ Direct TV  
Ice machine  
100LL  
Jet A

Airport / tourist info 715-479-7442 or [www.erairport.com](http://www.erairport.com)  
**OPEN 7 DAYS/WK & HOLIDAYS**

### FUEL CELLS

All Makes & Models

#### Eagle Fuel Cells

Eagle River, Wisconsin



TF 800-437-8732  
Tel 715-479-6149 Fax 6344

[www.eaglefuelcells.com](http://www.eaglefuelcells.com)

### Reach New Customers

- Custom targeted lists, labels, postcards, Excel, or CSV files
- Windows software plus 20 databases on DVD Search, print, & export
- Low cost update options provide fresh names each month
- Aircraft Owners
- Monthly new registrations
- Monthly Address Changes
- Deregistered Owners
- Pilots
- Monthly pilots with any new certificate
- New Student Pilots
- Pilots by date of certificate
- Pilots by aircraft type rating
- A&P Mechanics by date
- Flight and Ground Schools
- Airports, Air Taxi Operators, Repair Stations

**Call 1-800-654-2066**



[www.airpac.com](http://www.airpac.com)  
[airpac@airpac.com](mailto:airpac@airpac.com)





## AIRCRAFT RENTAL

Diversified fleet of over 25 aircraft!



- Cessna 152 (7)
- Cessna 172 (4)
- Piper Warrior (3)
- Piper Archer (4)
- Piper Arrow (3)
- Citabria Taildragger
- Cirrus SR20 (2)
- Cirrus SR22 (2)
- Piper Seneca (2)

800-594-5359

## MAINTENANCE



Expect reliability at 10,000 feet.

- Authorized Service Center for Cirrus, Cessna & Socata
- Airframe & composite repairs
- Certified for CAPS replacement
- Dynamic prop balancing
- Piston & turbine inspections (100-hour, annual & pre-purchase)
- Citation phase & doc inspections
- Owner-assisted annuals
- Owner pick-up & drop-off service

800-657-0761

## AIRCRAFT SALES



2003 Cirrus SR20 – N774C..... \$139,000  
1865 TTSN, 647 SMOH, GNS 430W/420W, S-TEC 30 autopilot, Terrain & SiriusXM, CMax, EMax, 406 ELT, heavy-duty brakes. More! Clean! NDH.



1979 Cessna 310R – N2638Y ..... **Steal at \$99,995!**  
Boots and hot props, 203-gal fuel, Primus 200 color radar, GNS 430W, HSI, KFC-200 coupled autopilot with flight director! More! 9545 TT, 1200 SMOH, January Annual.



1979 Piper Navajo C/R – N56ND.....\$259,000/  
**OFFER/TRADE**  
Full Panther Conversion! 4-blade Q-tips, winglets, VGs, 6760 TT, 740/920 SMOH, known ice, A/C, oxygen, GNS530, KFC200 AP/FD/HSI, radar. Professionally managed. Sold with fresh annual.

**COMING SOON**

C172 - C150 - C162

## CONSIGNMENTS WANTED

Buying or selling, we'll work for you!

800-657-0761



## ZERO GRAVITY FROM PAGE 31

Conjuring the curiosity of moon-bound astronauts in the past, the specialized anniversary flight will demonstrate the feeling of exploring the moon's surface by recreating lunar gravity and allowing participants to float with the ease of carrying one-sixth their normal body weight.

Talented ZERO-G pilots will perform a series of parabolic arcs while flying in FAA-designated airspace. At the top of each arc, participants will soar through the plane in a floating playground, perform effortless tricks and flips and share a world known only by a small fraction of the population. The flight will also include several zero gravity and Martian gravity parabolas.

The historic Apollo 11 program paved the way for future research and development and opened the door to boundless discovery. Taking place exactly 50 years after the

Lunar Module *Eagle* landed on the Moon, the unique flight opportunity is as close to landing on the moon as fans can get.

A limited number of tickets for this exclusive flight are now on sale to the general public. For ticket and flight information, visit ([www.gozerog.com](http://www.gozerog.com)).

Space Florida was created to strengthen Florida's position as the global leader in aerospace research, investment, exploration and commerce. As Florida's aerospace and spaceport development authority, it is committed to attracting and expanding the next generation of space industry businesses. With its highly trained workforce, proven infrastructure and unparalleled record of achievement, Florida is the ideal location for aerospace businesses to thrive – and Space Florida is the perfect partner to help them succeed ([www.spaceflorida.gov](http://www.spaceflorida.gov)). □

## WISCONSIN AVIATION CONFERENCE FROM PAGE 38

USA, Inc.; Interstate Sealant & Concrete, Inc.; ISG; Jet Air Group; Jviation, Inc.; Leibowitz & Horton Airport Management Consultants, Inc.; Leonard & Finco Public Relations, Inc.; LUMACURVE; M-B Companies; MacQueen Equipment/Oshkosh Airport Products; Mead & Hunt; METCO Midwest Electro Tech Corp; Midwest Flyer Magazine/Flyer Publications, Inc.; MSA Professional Services; Multi Electric Mfg; NASI Transportation & Mining; New Deal Deicing; OMNNI Associates, Inc.; ProTec Fire; Quantum Spatial, Inc.; Shell Aviation/Titan Aviation Fuels; Sherwin Industries, Inc.; Short Elliott Hendrickson, Inc.

(SEH); SP+; Strand Associates; T.E. Brennan Company; Thales Air Traffic Management, U.S.; The Green Earth Deicer Company, Inc.; Volaire Aviation, Inc.; TKDA; Vandeerloop Equipment; Westmor Industries; Wisconsin Aviation Hall of Fame; Wisconsin Concrete Pavement Association; Wisconsin Surplus Online Auction; and World Fuel Services.

Sheboygan County Memorial Airport (KSBM) will sponsor the 65th Annual Wisconsin Aviation Conference, May 3-5, 2020, at The Osthoff Resort in Elkhart Lake, Wisconsin (<https://wiama.org>). □

## N966CD FROM PAGE 43

was fortunate to have an assistant, the assistant could hold the banner pole in the air and Doyle would pull it out of his hands. Chuck Doyle Jr. held his first banner pole at the age of 9.

Upon Chuck Doyle Sr.'s death in 2008, his son, Chuck Doyle Jr., acquired N966CD. Doyle rebuilt the biplane, and then had it rebuilt again by Rare Aircraft of Faribault, Minnesota.

Chuck Doyle Jr. had his first solo flight in the Stearman at age 16. After a day of making up banners and running for them as they were dropped, Chuck Doyle Sr. felt it was time for his son to take the Stearman "around the patch" for the first time. So, Jr. took off, and did a couple more things to his father's displeasure.

Now retired from the airlines, himself, Chuck Doyle Jr.

has continued the tradition started by his father in collecting and restoring vintage aircraft at his shop at Sky Harbor Residential Airpark in Webster, Minnesota, and the beautiful biplane is flying better than ever. But he has not continued his father's smoke-writing or banner-towing business. Instead, Doyle rebuilt the Stearman with four ailerons, an inverted fuel and oil system, installed a real front seat under the fairing cover, and licensed the aircraft in the experimental category. □

# MIDWEST FLYER MAGAZINE

## SUBSCRIBE



OFFER EXPIRES DEC. 31, 2019

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY, STATE & ZIP \_\_\_\_\_

### USA SUBSCRIPTIONS

\$20.<sup>00</sup> ONE YEAR (6 issues)

### CANADA SUBSCRIPTIONS - IN U.S. FUNDS

\$39.<sup>00</sup> ONE YEAR (6 issues)

### SUBSCRIBE AT

[WWW.MIDWESTFLYER.COM](http://WWW.MIDWESTFLYER.COM)

OR COMPLETE & RETURN FORM TO

MIDWEST FLYER MAGAZINE

6031 LAWRY COURT

OREGON WI 53575-2617





# ***A Flying Fishing Adventure To Miminiska Lodge Ontario, Canada***



196 nm north of Thunder Bay, Ontario  
on the Albany River Watershed

**TRIP #1: (3-Night/2-Day Trip): August 8 - 11, 2019.**

**TRIP #2: (3-Night/2-Day Trip): August 11 - 14, 2019.**

**TRIP #3: (5-Night/4-Day Trip): August 8 - 13, 2019.**

FOR SPECIAL  
GROUP RATES  
& DETAILS,  
EMAIL

[info@midwestflyer.com](mailto:info@midwestflyer.com)

*Space Is Limited!*

**FOR RESERVATIONS**  
Contact **Lynette Mish**  
At Wilderness North  
toll free: **1-888-465-3474**

Wilderness North  
PO Box 22012, Strathcona RPO  
Thunder Bay, ON P7A8A8  
CANADA





## BRACKETT TOWBARS



CESSNA 150  
THRU  
GULFSTREAM V

plus  
HELICOPTER



**(928) 757-4005**

FAX: (928) 757-1948

E-Mail: [brackett@ctaz.com](mailto:brackett@ctaz.com)

Website: [www.brackettaircraft.com](http://www.brackettaircraft.com)

BRACKETT AIRCRAFT CO., INC.

7045 Flightline Dr. • Kingman, AZ 86401

*Let Skycom Avionics demonstrate how the latest  
technology can work for you!*



Waukesha County Airport (KUES) - Waukesha, WI **262-521-8180**



Visit [www.skycomavionics.com](http://www.skycomavionics.com) to view our  
custom panels and installations including  
the new Garmin GTN Touchscreen Series.

**GARMIN**

# ELEVATE YOUR EDUCATION!



Prepare for a career in aviation with  
Minnesota State University, Mankato  
and North Star Aviation.

### Degree Options:

- Bachelor of Science in Aviation,  
Professional Flight Emphasis
- Bachelor of Science in Aviation,  
Management Emphasis
- Aviation Minor

**Let us help guide you to becoming the  
aviation professional you want to be.**

Contact us to learn more | [rmcgregor@flymankato.com](mailto:rmcgregor@flymankato.com) | 507-386-2344

[WWW.MNSU.EDU/AVIATION](http://WWW.MNSU.EDU/AVIATION) | [WWW.FLYMANKATO.COM](http://WWW.FLYMANKATO.COM)

