NORTH DAKOTA AVIATION ASSOCIATION

FLY-ND

www.FLY-ND.com

QUARTERLY

VOL. 36 • ISSUE 1

WINTER 2024



Early Bird discount ends January 31st

North Dakota Aviation Association

FLY-ND

CONFERENCE

March 3-5, 2024 • Grand Forks

North Dakota Aviation

HALL OF FAME

2024 Inductee Announced

Pg. 5

FLY-ND QUARTERLY
www.FLY-ND.com
The official publication of the North Dakota Aviation Association

FLY-ND Quarterly Editorial Committee
Nicolette Russell, Editor (editor@fly-nd.com)
Chris Brown, Leisha Lunnie, Mike McHugh, Zach Peterson, Maria Romanick

Send Address Changes To: admin@fly-nd.com
FLY-ND Quarterly, P.O. Box 5020, Bismarck, ND 58502-5020
The Quarterly is published four times a year (winter, spring, summer and fall).

Advertising Inquiries: editor@fly-nd.com
Advertising deadline is the 1st of the preceding month.

Cover: *Submitted photo, see story on page 14.*

2023-2024 BOARD MEMBERS

NDAA
NORTH DAKOTA AVIATION ASSOCIATION

Justin Weninger – Board Chair

Darren Hall – Past Chair
Fargo Jet Center

Tanner Overland – Vice Chair

Jeremy Sobolik – Secretary/Treasurer
Fargo Jet Center

Jake Werner – Board Member
Experimental Aircraft Association

Devin Cole – Board Member

Ray Brooks – Board Member
State of ND - Pilot

ND Aeronautics Commission
Kyle Wanner, Director
Mike McHugh, Aviation Education Coordinator

NDAA Executive Director
[Vacant]
admin@fly-nd.com



From the Editor

The holidays have come and gone, but now is the most wonderful time of the year to celebrate aviation in North Dakota! Whether you've been to dozens of Fly-ND Conferences (previously the Upper Midwest Aviation Symposium) or never attended, I hope you are able to be there for the 2024 conference, held March 3-5 in Grand Forks, ND. It is a wonderful few days of learning about aviation in our great state, as well as networking with new and old friends. You can find the schedule with breakout session info, as well as this year's North Dakota Aviation Hall of Fame inductee and ceremony, in the following pages. We have a variety of other articles for you to enjoy, highlighting state aviation education programs that are taking off, as well as tips for aircraft maintenance and navigating airport ops during the winter months. Don't let the cold keep you at home, we look forward to seeing you at the Fly-ND Conference!

~Wishing you clear skies and unlimited visibility, Nicolette

Statements of fact and opinion are the responsibility of authors alone and do not imply an opinion on the part of officers and members of NDAA, or FLY-ND Quarterly staff. If you've received more than one copy of this newsletter, please share it with a friend. Email admin@fly-nd.com to update your address.





Justin Weninger, Chairman
North Dakota Aviation Association
chairman@fly-nd.com

CHAIRMAN'S COMMENTS

With 2023 wrapped up and 2024 opon us, it's a great time to look back and take stock of the year behind and the opportunities in front of us. This is true in our personal lives, professional lives, and in the North Dakota Aviation Association (NDAA).

We had a great year at the NDAA and were able to host and take part in several incredible events. The year started out with the **Fly-ND Conference** in Bismarck, ND. It also included the **Summerfest** in Bowman, ND, and the Career Expo in Minot, ND. We also helped sponsor the Air Race Classic, with its launch out of Grand Forks, ND. There were numerous other events that the NDAA had its hand in throughout the year.

The Association is only able to take part in and host these events because of our incredibly generous and supportive sponsors and members. Without all of you, we aren't able to do these things, and support aviation in North Dakota. So, a huge thank you to all of you!

Looking forward to 2024, we have a fantastic Fly-ND Conference in the works! I think this is one that you'll not want to miss – you can find more details and learn how to register on page 5.

I look forward to seeing all of you in Grand Forks for the Conference.

Take Care, Justin





Kyle Wanner, *Director*
North Dakota Aeronautics Commission
701-328-9650 | kcwanner@nd.gov

DIRECTOR'S Chair

Weather Reporting in North Dakota

Welcome back to winter in North Dakota! Navigating the skies above our state during this season serves as a reminder of the incredible importance of real-time weather reporting.

For pilots, the significance of precise weather information cannot be overstated. Variables such as wind speed, turbulence, visibility, and cloud cover wield substantial influence over flight operations. Real-time weather updates emerge as indispensable tools, enabling pilots to make informed decisions, adapt flight paths, and select optimal altitudes to navigate safely through potentially adverse conditions.

Beyond ensuring safety, weather conditions play a pivotal role in fuel consumption and overall operational efficiency. Factors like headwinds, tailwinds, and temperature fluctuations directly impact fuel burn rates and weather forecasts are utilized to fine-tune flight plans which can reduce operational costs and environmental impacts.

Over the past 15 years, North Dakota has demonstrated a steadfast commitment to enhancing weather reporting infrastructure. In 2008, the state had 23 Automated Weather Observation Systems (AWOS). Fast forward to 2023 and North Dakota now proudly has 35 sites delivering real-time weather reporting. This remarkable expansion has significantly benefited Part 135 and air ambulance operations and has elevated the reliability and accessibility of aviation across the entire state.

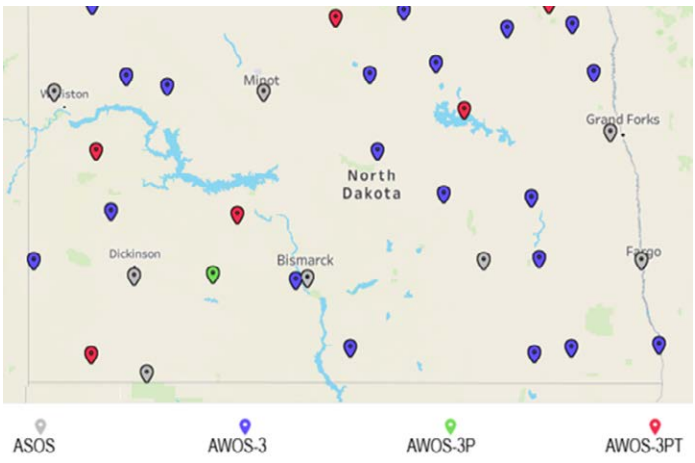
Recent additions, such as the Bottineau AWOS (2022) and the Killdeer AWOS (early 2024), exemplify North Dakota's dedication to advancing its weather reporting capabilities. The most recent addition of the Killdeer AWOS, promises to further augment the state's comprehensive weather reporting network in Western North Dakota.

Ensuring the sustainability of this crucial infrastructure, the North Dakota Aeronautics Commission provides on-going support for the system by covering the costs of the tri-annual inspections necessary to maintain AWOS certification. Additionally, the commission covers the expenses of the NADIN connection for each site, which allows direct internet access for the weather information to become available to the public. State grant funding is also available to install and replace equipment at AWOS sites throughout North Dakota. The state program has alleviated the financial burden on local communities and helps to ensure that the entire state system has robust weather reporting.

Introducing innovative tools, the FAA weather camera program now also offers our airports with a weather reporting alternative, particularly when an investment in an AWOS system is not feasible. The Ashley Municipal Airport has recently become the first in North Dakota to enable a live weather camera feed. This weather reporting option can be further explored at www.weathercams.faa.gov. We encourage other airports to connect with us to also explore options to enter into this program and enhance their weather reporting capabilities.

In the realm of aviation, weather reporting stands as a cornerstone of safety and operational efficiency. To secure North Dakota's position in a competitive economic and business climate, we remain steadfast in our commitment to maintaining and improving our weather reporting capabilities. As technology also continues to evolve, we embrace the challenges and opportunities that it presents, as we work to ensure a safe and efficient future for aviation in our great state.

Kyle



North Dakota's 2024 Aviation Weather Map





North Dakota Aviation Association

FLY-ND CONFERENCE

March 3-5, 2024 • Grand Forks

Hosted by North Dakota Aviation Association

Early Bird discount ends January 31st

Schedule Highlights:

Saturday, March 2

Join the NDAA for the final home game of the season for UND Hockey. ***Tickets are limited and going fast!***

Sunday, March 3

- Aerial Applicator Safety Meeting
- Tours of facilities located at Grand Sky inc luding Northrop Grumman, General Atomics and the Mission and Network and Operations Center (MNOC) for VANTIS.
- Opening Social and Passport Awards Hosted by UND Aerospace including tours of UND Aerospace and ability to fly the flight simulators.

Monday/Tuesday General Sessions/Events:

- Panel discussion of a transition to UL94 Unleaded Aviation Fuel
- The State of Aviation in North Dakota
- NDAA Business Meeting and Organizational – All members are welcome and encourage to attend
- Monday Evening with the Exhibitors (Open to the Public at 7PM)
- Breakfast presentation from Dean of UND Aerospace, Robert Kraus
- North Dakota Aviation Hall of Fame Banquet honoring Dan Kasowski

First Time Attendees Register for FREE!

First time attendees – email conference@fly-nd.com for your registration code.

Registration and details at www.fly-nd.com/events/Conference

Thank You 2023 Fly-ND Conference SPONSORS

CONTROL TOWER SPONSORS

UND AEROSPACE
UNIVERSITY OF NORTH DAKOTA

Mead&Hunt

KLJ

MAIN RUNWAY SPONSOR

AVFUEL CORPORATION

CROSSWIND SPONSORS

PROPWORKS PROPELLER SYSTEMS

HDR

AERO CENTER

INTERSTATE ENGINEERING

Helms & Associates
CIVIL ENGINEERS & LAND SURVEYORS

OVERLAND AVIATION

CANADIAN PROPELLER
& AIRCRAFT COMPONENTS

Dan Kasowski to be inducted into
NORTH DAKOTA'S AVIATION HALL OF FAME

North Dakota Aviation
HALL OF FAME



The North Dakota Aviation Hall of Fame committee announces that Dan Kasowski has been selected for induction into the state's Aviation Hall of Fame. Dan will join the prestigious aviation hall of fame group that currently includes 48 other individuals who have all had a significant impact on the growth, development, and promotion of aviation in North Dakota. For more information on the North Dakota Aviation Hall of Fame, visit www.fly-nd.com/hall-of-fame.

Dan Kasowski was born in Buffalo, ND, in 1958. He grew up on his family's farm, where his mechanical aptitude began at a young age. His journey as an aviation mechanic began immediately after high school, when he pursued his Airframe & Powerplant (A&P) training and certification at Dakota Aero Tech in Fargo, ND. In 1978, he started his career at Rugbee Air Care in Rugby, ND. After one year in Rugby, he moved back to Fargo and worked at ProAir Services for a short time, until they permanently closed operations. In the fall of 1979, he emerged as a pioneering force in the new aviation school that was formed at the University of North Dakota (UND). As the second full-time mechanic employed by the organization, Dan became an integral part of UND's aviation program, eventually ascending to supervisory roles.



Throughout his career at UND, Dan's influence reached beyond the mechanics and technicians that he mentored, his impact extending to aviation professionals across North Dakota and the nation. He traversed various roles, progressing from a technician to supervisor, inspector, shop manager, and quality assurance manager. Notably, he held the position of Director of Maintenance for over two decades, overseeing both the main campus and satellite operations under the FAR Part 145 certificate. He received his Inspection Authorization (IA) in 1982 and his Private Pilot Certificate from the University of North Dakota in 1988. Dan currently oversees approximately 100 full and part time employees.

Under Dan's leadership, UND's flight operation consistently garnered the FAA Diamond Award, a testament to their commitment to training, safety, and professional development. His strategic guidance navigated the institution through multiple fleet changes, significantly enhancing safety across all flight operations. Dan's humble demeanor and unwavering dedication to safety contributed to UND's impeccable safety record, establishing North Dakota as a premier global destination for pilot training.

Beyond UND, Dan actively participated in the North Dakota Professional Aviation Maintenance Association (NDPAMA) throughout his entire career. He held various officer positions and served as its President multiple times. Dan also had a pivotal role in establishing the NDPAMA aviation mechanic scholarship which gave a preference for North Dakota students. He continually showcased his commitment to nurturing the next generation of aviation mechanic professionals.

Dan served on the North Dakota Aviation Council for seven years, and in 2004 and 2005

he assumed the role of Chair for the North Dakota Aviation Council, where he played a key role in organizing the state's annual conference and fostering collaboration among aviation stakeholders. His involvement extended to advisory boards at area technical schools offering A&P programs, where he championed the value of giving back to the aviation community by leading through example.

Dan's legacy is not just a testament to his technical expertise, but also to his commitment to mentorship, safety, and the broader aviation community. His profound impact, stemming from mentorship and dedicated work in the field, has positively impacted many individuals within and beyond the North Dakota aviation community.



The induction banquet ceremony will take place in Grand Forks, ND, at the annual Fly-ND Conference on Tuesday, March 5, 2024, at the Alerus Center. The social will begin at 6:00 p.m. and the banquet starts at 7:00 p.m.

To learn more about the state's aviation conference or to purchase tickets for the hall of fame event, visit fly-nd.com/events/conference. Questions can be directed to the North Dakota Aeronautics Commission at 701-328-9650.





Mike McHugh, Aviation Education Coordinator
North Dakota Aeronautics Commission
701-328-9650 | mmchugh@nd.gov

Aviation Education Resources

Did you know that aviation education is currently available to every high school student in North Dakota?

Though what is available may vary from school to school, every student has the opportunity to enroll in a high school education program through either a class offered in person at their high school, virtually through the Central Region Area Career and Technical Center, or through the North Dakota Center for Distance Education.

We currently have in person instruction offered around the state in the following locations: Bismarck, Jamestown, Kindred, West Fargo, Grand Forks, Minot, and Williston. While in person instruction is the preferred method of delivery, it is exciting that schools who may not be able to offer a class because of a low number of students, do have the availability to collaborate with a distance education provider for this instruction. This allows for around 500 students in North Dakota to learn about the aviation opportunities available, including flying and non-flying career paths.

For schools looking to start an aviation program, even small or rural schools, there are resources available. One such FREE resource is the AOPA High School STEM curriculum: https://youcanfly.aopa.org/high-school/high-school-curriculum. Though many resources exist, AOPA has put ample resources into this curriculum to ensure it remains free and available to schools. Furthermore, the curriculum is designed for any teacher, even those without an aviation background, to effectively teach the curriculum. What this means is any school with a licensed teacher may use the curriculum regardless of the teacher's content background. AOPA provides six different courses for schools to choose from and provides for a potential four year pathway, if the school chooses.

There are many possibilities to gain access to aviation education in your local school. If you would like to help get more opportunities in your local community, I recommend first reaching out to your school to see what opportunities currently exist, and then contacting the North Dakota Aeronautics Commission to see how we can help.

Together, we can help more students see the many opportunities that exist for careers in aviation.



AIRLOAN
LOCAL PILOTS | LOCAL LENDING
AIRLOAN.COM 218-456-2231

Call for Board Members!

www.FLY-ND.com/news/13297108

NDAA
NORTH DAKOTA
AVIATION ASSOCIATION

NDAA Board members should be interested in serving and contributing to the association's goals in Growing aviation across the state of ND and beyond.

Serving on this volunteer Board is a unique way to strengthen the North Dakota aviation community and expand your professional experience. The Board composition is designed to be diverse group of aviation professionals all with a common interest shared by the vision of NDAA in serving and growing aviation across North Dakota and beyond.

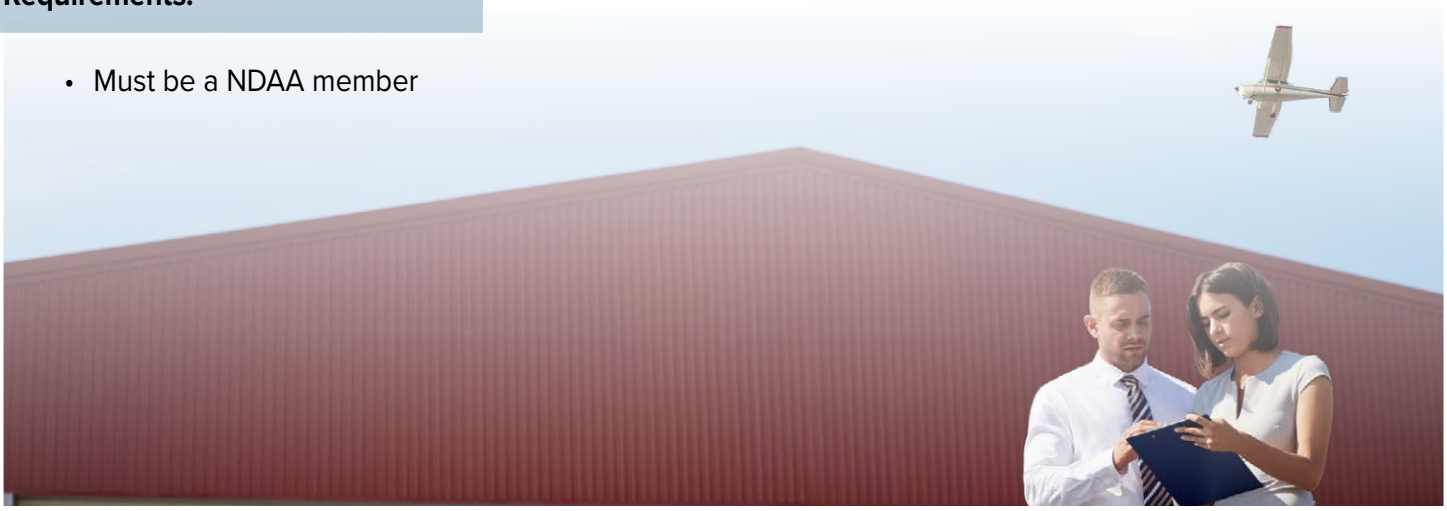
Board responsibilities include:

- Participating in committees planning events (ex: FLY-ND Conference, Summerfest and Career Expo, ND Aviation Quarterly, NDAA Membership Committee, Nominating Committee, and other professional programs)
- Representing member interests with government and community groups
- Work with Executive Director to achieve NDAA Goals
- Participation in Board meetings as scheduled – Generally 6-8 times per year (in-person and virtual options)
- Provide assistance to the Executive Committee and Executive Director as needed
- At-large board member terms are two years following the NDAA fiscal year calendar starting on July 1st
- The time commitment varies with roles and interests. Plan on 2-4 hours a week. Everyone recognizes our individual business responsibilities continue to take priority. We encourage you to visit with any Board member to gain additional insight.

The time commitment varies with roles and interests. Plan on 2-4 hours a week. Everyone recognizes our individual business responsibilities continue to take priority. We encourage you to visit with any Board member to gain additional insight.

Requirements:

- Must be a NDAA member



Helping Students Soar

By Amy Johnson,
CRACTC Registrar/Marketing Coordinator

The Central Regional Area Career and Technical Center (CRACTC) is a "Virtual" Career and Technical Education (CTE) Center, approved by the North Dakota Department of Career and Technical Education, that provides CTE opportunities to students within our member districts (and sometimes beyond), where every student has the same educational opportunity regardless of the size or location of the school. Aviation is one of eight program areas that the CRACTC has to offer. Currently, 40 students from 22 schools throughout North Dakota are enrolled in aviation classes, ranging from Ray in the west to Central Valley on the eastern side of the state; Towner in the north, to Linton in the southern part of the state. Regardless of your high school location, students can explore the A\aviation industry through CRACTC's Aviation I, Aviation II, and Unmanned Aircraft Systems (UAS - Drones) programming.

Aviation instructor Jeff Horan, a full-time Executive Pilot who teaches part-time for CRACTC to give back to the aviation industry and its future workforce, states the program is designed to include STEM based learning preparing students for a career either on the flight deck or exploring all the other career pathways within the aviation industry. Students' aviation online classwork is also supplemented with desktop flight simulators provided to each participating school, Redbird simulators through collaboration with Bismarck Public Schools, flying drones, troubleshooting preflight exercises at an Aero Center, and participating in student flights with certified flight instructors (yes, students actually get to fly!) through collaborations with our industry partners.

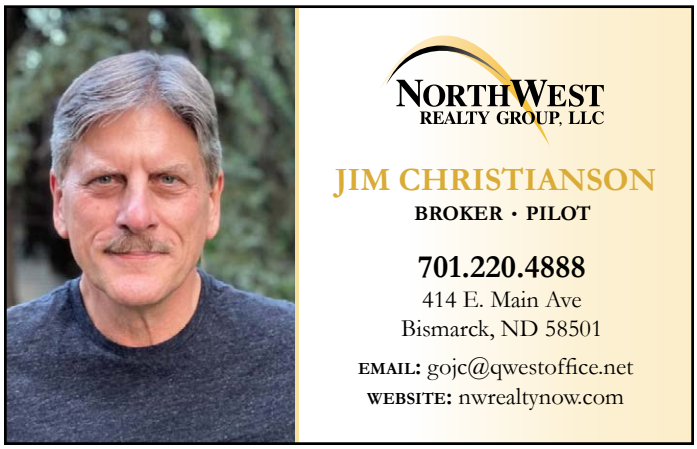


Clayton Vert is a student from Max, ND, currently enrolled in the CRACTC Aviation II course programming, who recently completed his Student Flight at the Minot Aero Center. "It was amazing! I got to experience some parts of the pilot career that I had never experienced before, namely the checklist procedures and ATC communications. As for flying itself, I flew the airplane from taxi way to ramp with almost no assistance, which is a huge mile marker for me," Clayton states.

The CRACTC also works alongside industry leaders at the Bismarck Aero Center, Minot Aero Center, and Grand Forks Aero Center, along with Basin Electric and other industry partners, to provide unique experiences for our students. Students have the opportunity to learn from industry experts, which they normally wouldn't have access to and experience new technologies within the aviation field.

Please follow CRACTC on our social media platforms, Central Regional Area Career and Technical Center on Facebook and @CRACTC1 on X (formerly Twitter) or check us out on our website at CRACTC.org.

Happy Flying!





Learn & Build Model Building Sessions Keep Community Engaged in the Off-Season

By Jenna Grindberg, Dakota Territory Air Museum Director





Photos by: Katy Larcombe

We are always looking for new, refreshing ideas to keep the community engaged with the museum during the winter off-season. On December 2, 2023, the museum hosted 20 participants aged eight and up, along with their adult chaperones, in the museum's first ever Learn and Build Model Building Session. For the first session, the participants got an up-close history tour of P-51D "Little Horse" before sitting down and building their very own P-51 Mustang. We are currently planning one session per month through April and will feature additional aircraft in the museum's collection. You can sign up for the next session at www.dakotaterritoryairmuseum.com!

If you would like to sponsor spots in upcoming sessions for families in need, please reach out to the museum directly at 701-852-8500 or airmuseum@minot.com.

MINOT AEROCENTER
www.minotaerocenter.com

TAILWHEEL



MULTI-ENGINE



CONTACT US:
2216 N. Broadway - Minot
Call: 701-852-4092
Email: info@minotaerocenter.com

AIRCRAFT MAINTENANCE
- Authorized Mooney Service Center
- Altimeter/static & transponder testing
- Annual/100 hr inspections
- Piston/turbine engine repairs & overhauls
- Propeller balancing
- Repairs & alterations
- Routine maintenance
- 24 hr on call maintenance
- Magneto & cylinder repair

FLIGHT DEPARTMENT
- 7 Aircraft Rentals
- Flight Instruction
- Multi-Engine Instruction/Rental
- Tailwheel Instruction/Rental
- Pilot Services

TESTING CENTER
- FAA Regulated Testing

FIND US ON SOCIAL MEDIA:
@minotaerocenter

Flying in the Wire and Obstruction Environment Course

The North Dakota Aviation Association (NDAA), along with other Tri-State Agricultural Aviation members, is hosting a Flying in the Wire and Obstruction Environment Course. This course is acclaimed by professional airplane and helicopter operators world-wide and will be held on Wednesday, March 13, 2024, at the Holiday Inn in Fargo, ND.

This course will be a full-day, eight-hour course. The instructors give low-altitude aviators the essential skills needed to safely operate an aircraft in wire and obstruction environments. This course is for both airplane and helicopter pilots that are working in the wire environment. Learn how to identify signs of wires and why ag aviators hit wires they already knew were there. This course may very well save your life – wire strike accidents continue to harm the ag aviation industry. Nationally in 2022, there were eleven wire strike accidents, one of which was fatal. In the 2023 season, there were 16 wire strike accidents, 7 of which were fatal.

This training will be free to attend. The course will be taught by Utilities / Aviation Specialists Inc. (UAS), a unique group of aviation safety practitioners who provide safety auditing, specialized training, installation of safety management systems, and technical aviation consulting. They provide mission-specific expertise in specialized applications which require skill sets above those found in most routine transport operations.

NDAA
NORTH DAKOTA
AVIATION ASSOCIATION

UTILITIES/AVIATION SPECIALISTS



LAUNCHPAD TO OPPORTUNITY

Northland Community & Technical College's aerospace programs provide a high-quality education using state-of-the-art technology and one-on-one training.

- Aviation Maintenance Technology
- Aviation Maintenance Technician Plus
- Small UAS Field Service Technician
- Small UAS Technician
- UAS & Geospatial Applications
- UAS Maintenance Technician

NORTHLAND
COMMUNITY & TECHNICAL COLLEGE
A MEMBER OF MINNESOTA STATE.



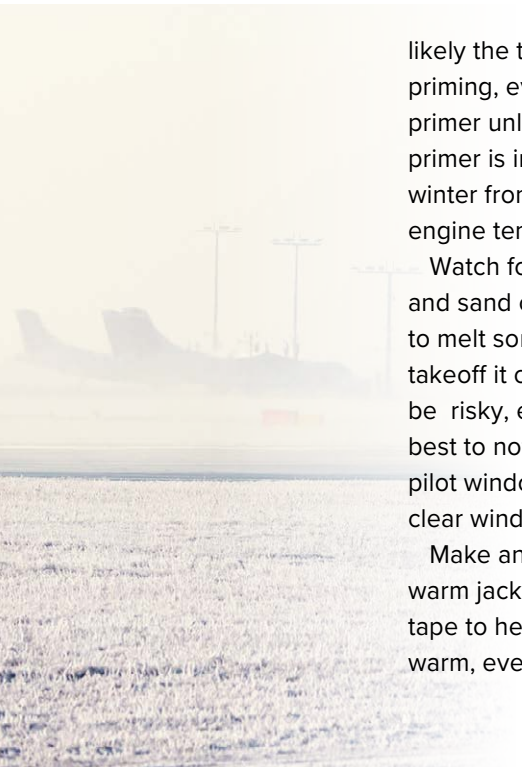
From concept and quality design to full-service installation and follow-up support, we'll partner with you for the best bi-fold and hydraulic doors to meet your needs. We offer customized solutions for new and existing buildings and unmatched customer service, *so you'll find the door is always open.*

MIDLAND DOOR SOLUTIONS

1021 7th St. N.E. - West Fargo, ND 58078 // 701.277.8836 // www.MidlandDoorSolutions.com

Smooth Flying

By: Jay Blessum, President of Minot Aero Center



Short daylight and busy lifestyles for most of us result in not getting off the ground very often during winter months. Get out there! It can be a lot of fun when you do. Low density altitudes make your airplane perform well and most days the air will be stable and make for smooth flying. There are some things I have learned from my experiences that I would like to share.

Plan to preheat your engine; if it is colder than 25 degrees, the overnight low is likely the temperature of your engine. Multigrade oil is beneficial. Start cranking immediately after priming, every second that you don't give the fuel, you just primed time to drain out. Leaving the primer unlocked during start will give the engine a little more fuel. After the start, make sure the primer is in and locked as that extra fuel will make the engine run poorly. Some aircraft have a winter front that covers a portion of the air inlets or a cover for the oil cooler that will help keep engine temperatures up.

Watch for sand and ice when you choose where to do a runup. You might not be able to hold still and sand can damage the prop. Don't taxi through snow. Your brake discs will be warm enough to melt some, get wet, and freeze later, possibly causing a skidding wheel. If that happens during takeoff it could result in a flat spotted tire, sometimes severe enough to go flat. Taxiing on ice can be risky, especially moving downwind where you could lose control even at slow speeds. Try your best to not breathe on the windows and even though it's cold in the cockpit try opening a vent or pilot window to keep condensation from making foggy windows. Only use a soft cloth or heat to clear windows, as plexiglass scratches easily.

Make any power changes gradually and use the carburetor heat plenty. Make sure you bring a warm jacket, hat, and gloves, maybe a blanket for passengers. Drafty vents can be covered with tape to help keep the cockpit warm. If you make a stop, consider using an engine cover to keep it warm, even in a light breeze your engine will cool off in minutes.



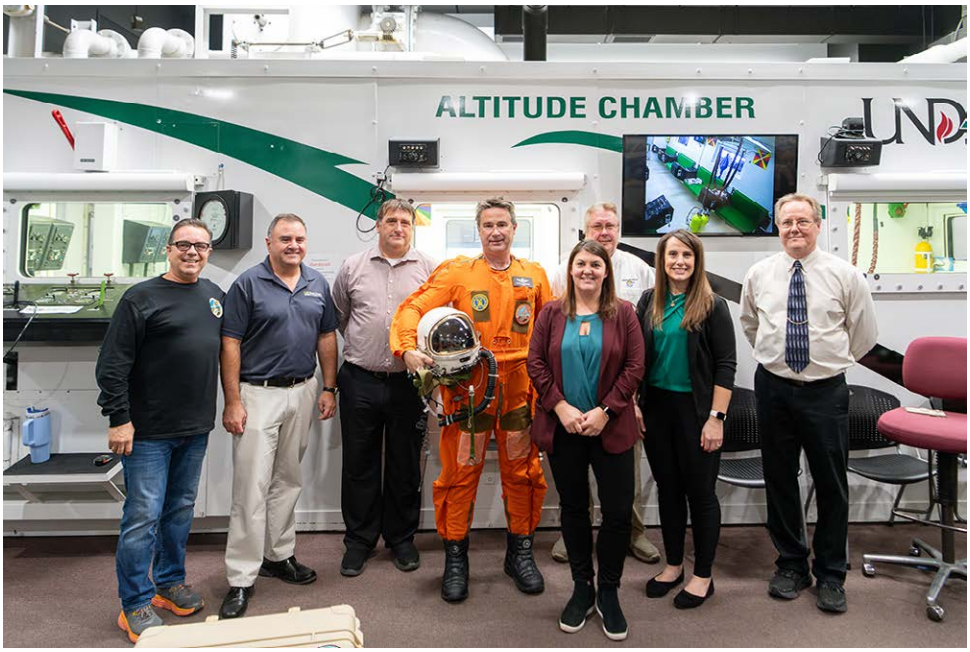
By Adam Kurtz
Reprinted with permission from UND Today

A BATTERY-POWERED PLANE AT 44,000 FEET? NO PRESSURE!

After successful pressure-suit test at UND, Helios Horizon pilot preps for record-breaking flight in Nevada

Some tense moments arose on Nov. 8 in the room housing UND's high-altitude chamber, located on the ground floor of Odegard Hall.

But all was well in the end. UND Aerospace physiologists successfully assisted Helios Horizon — a private electrical aviation entity — test a partial-pressure suit, a piece of equipment needed for pilot safety when flying at high altitudes. That meant pilot Miguel Iturmendi had to sit in the subway car-like chamber while UND technicians decreased the air pressure to create the conditions he will experience flying in an unpressurized cockpit at more than 44,000 feet.



Helios Horizon pilot Miguel Iturmendi stands with his project manager, Javier Merino (far left), UND Space Studies Chair Pablo De León and the UND team members who operate the high-altitude chamber. Photo by Arjun Jagada/School of Aerospace Sciences.

A failure of the suit, or other piece of equipment, could have led to physical consequences such as "the bends," otherwise known as decompression sickness, which many may associate with undersea divers. It also impacts pilots flying at high altitudes.

"When you go up to altitude, we lose the atmospheric pressure," explained Tom Zeidlik, UND's director of Aerospace Physiology. "That atmospheric pressure is what keeps the nitrogen in our blood. As soon as you lose that pressure, the nitrogen comes out of the solution, so we get air bubbles in our tissue — and that's how we get the bends."

Zeidlik, speaking to this reporter (who tries to avoid the deep end of the pool, much less high altitudes, and is not a good flyer) broke down the importance of the pressure suit:

"He has inflatable bladders inside his suit. It'd be like when I pull my shirt real tight. So, instead of using atmospheric pressure, he is using the pressure from the suit to keep all the bubbles inside, so he doesn't end up with decompression sickness."

Why do this? Why test the suit at UND?

Iturmendi and project manager Javier Merino are with Helios Horizon, the company that is working to advance electric or battery-powered flight. They are doing that by setting and then smashing records for high-altitude flight in a battery-powered airplane.

Iturmendi holds the current record of about 16,000 feet, set in June 2023. Early next year, he intends to blow past that record by flying at about 45,000 feet in Nevada.

For Merino, it's about proof of concept; that electrical planes have a place in aviation.

"We've seen that electric aviation is the future, so we wanted to prove the concept that we can fly high with batteries, when people thought it was not possible," he said.

Reaching an altitude of 45,000 feet in the electric plane meant testing the suit. It just so happens that pilot Iturmendi knows Pablo de León, chair of the Department of Space Studies, and his work designing spacesuits. The pair spoke at a conference in Argentina in April, and Iturmendi broached the idea of using UND's altitude chamber.

De León agreed and ran the idea by Aerospace Dean Robert Kraus, who gave the test the green light.

The test got started at 9 a.m. Nov. 8, with Iturmendi breathing pure oxygen for about 100 minutes, prior to the chamber door being sealed. That purges the blood of nitrogen and is done prior to an event that exposes one to great changes in air pressure, De León said.

A tense moment

Once the test got underway, Steven Martin, manager of aerospace physiology operations, sat at the control panel of the chamber and communicated with Iturmendi about altitude, and how he was feeling. Every so often, as the pressure decreased in the chamber, he asked Iturmendi "cognitive questions," to make sure he was not experiencing any difficulty in thinking that would have indicated a medical problem.



Miguel Iturmendi and Javier Merino, with Helios Horizon, go over equipment, while Pablo de Leon, UND Space Studies professor, assists. Photo by Arjun Jagada/School of Aerospace Sciences.

"What's 6 times 6 times 2?" went one question. "72," Iturmendi answered, without difficulty.

Had there been a medical emergency, Eric Toutenhoofd, an aerospace physiology technician and instructor, was also inside the chamber — in a sealed and separate compartment — to render assistance. Toutenhoofd experienced only 25,000 feet of atmospheric pressure, which is the altitude UND Aerospace students experience during their training.

The idea was to have a trained person in the chamber who'd be more readily able to have access to Iturmendi. Outside the chamber were two Altru paramedics and an off-duty member of the Grand Forks Fire Department. As luck would have it, they were not needed, though there was a tense moment.

As the air pressure decreased — simulating an increase in altitude — Iturmendi seemed to have some difficulty closing the visor of his helmet. His fingers also seemed to tremble, and the room outside the chamber quickly got very quiet.

"He got our attention," Zeidlik said, but a quick cognitive question later determined he was not in any danger.

Martin announced they hit 44,000 feet, and Iturmendi quickly gave the signal to level off and descend.

And just like that, the test was over. Altitude Chamber Technicians Alyssa Geatz and Jennifer Watne slowly restored the air pressure in the two compartments to normal (for them, the work was a balancing act of maintaining airflow in and out of the chamber).

"I'm alive!" Iturmendi shouted to applause, as he finally exited the chamber. He breathed deeply, to get used to the normal air pressure. He described the experience as uncomfortable to say the least, but the test was successful.

He said he is looking forward to the record-breaking high-altitude flight, and to flights even beyond that:

"Next year, we will try to do a stratospheric flight," he said, and mentioned the possibility of coming back to UND for more testing on the pressure suit.

Speaking after the test, Dean Robert Kraus said he was pleased with the results, and with the efforts of the UND and Helios Horizon teams.

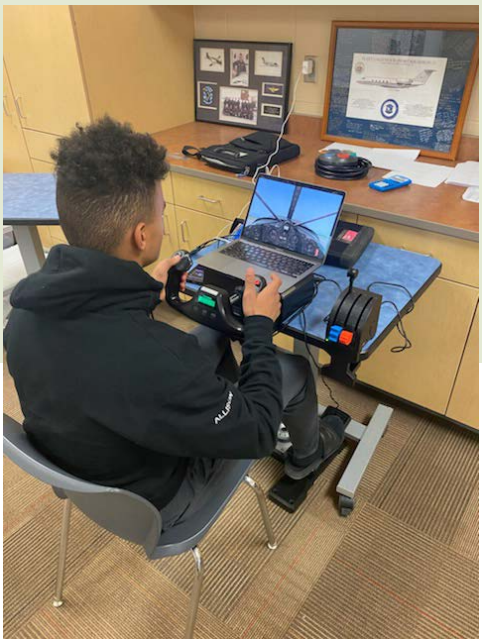
"UND Aerospace has long been recognized as one of the top aviation programs in the country," he said. "Our faculty and researchers continue to expand the limits, and Tom Zeidlik and his team of experts in aerospace physiology are recognized across the industry. The group from Helios Horizon has been great to work with, and we look forward to their success in setting new altitude records for electric aircraft."



Steven Martin, manager of aerospace physiology operations (right) and Altitude Chamber Technician Alyssa Geatz look on while Miguel Iturmendi tests his suit. Photo by Arjun Jagada/School of Aerospace Sciences.

Kindred High School Aviation Program Expands





By Ron Lundquist

Starting with the fall of the 2023 school year, there's another high school that's offering aviation as an elective. Kindred High School in Kindred, ND, has launched its aviation class with 30 kids divided into two sections. Not bad for the first year!

The class has been trying to get off the ground (pun intended) for a few years and finally the stars lined up. With funding from the North Dakota Aeronautics Commission (NDAC) and the high school itself, the program is showing very promising signs of success!

Aviation has such a rich history in the Kindred area, with of course Bob Odegaard and his world renown warbird restorations, but the airport is literally across the street from the school. The city boasts the states' only residential airpark but even nonresidents of the park witness aircraft landing and departing daily as the airport is in their backyard. It's hard not to get excited about airplanes! Colonel Lyle Andvik, a Kindred High graduate, commanded the 119th Happy Hooligans in Fargo,





ND. Major General Mac Macdonald and Major General Darrol Shroeder, also of the 119th and both North Dakota Aviation Hall of Famers, both grew up just miles away in nearby Davenport, ND. Today Captain Brian Kesselring, past commander of the Blue Angels, has his personal hangar and airplane at Kindred, continuing that military aviation connection.

Scott Bartram, the instructor for the class, is a former Naval Aviator himself. Scott served 24 years at various posts around the globe, flying the Beechjet 400, B737, B707 and the Gulfstream IV. He flew for a short time for Skywest Airlines on the CRJ 200/700/900. He retired for good from the Navy in 2017 and in 2018 began teaching Math and Computer Science at Kindred High; when approached to lead the aviation program, he responded with an enthusiastic "yes!"

As of now, there are a number of kids that want to pursue flying lessons and local Certified Flight Instructor (CFI) Mark Burke is able to accommodate at least some of them. Other students expressed interest in the maintenance field, drone technology, and some are just curious. With the course centered around the core curriculum from AOPA, the class will prepare the students for the FAA Private Pilot written exam but also aims to expose them to all the careers that exist in the aerospace field through speakers that visit the class and field trips. The program also started its own drone flying club that meets regularly.

This statewide program owes a huge thank you to the North Dakota Aeronautics Commission and more specifically Mike McHugh, the NDAC Education Coordinator, for his vision and enthusiasm to expose kids to aviation! If you're curious about starting this worthwhile program in your school, Mike is the first phone call you should make to accomplish this. The people that have spearheaded aviation programs throughout the state can also help you.

Don't wait! Make that phone call!

Thank You to the NDAA Allied Members

OFFICIAL NORTH DAKOTA AVIATION ASSOCIATION FLY-ND MEMBER

Asphalt Systems Inc.
Bismarck Aero Center
Bolton and Menk
Corporate Air
Fargo Jet Center
Interstate Engineering
KLJ Engineering
MDU Resources
Mead & Hunt
Midland Door
Minot Aero Center
ND Aeronautics Commission
Northstar Aviation Insurance
Overland Aviation
SEH
Thales
TKDA
University of North Dakota

Want to enjoy all the benefits of being a NDAA Allied Member too? Join today at www.fly-nd.com!

Winter Airport Ops Q&A: MOT

By Maria Romanick, Operations and Maintenance Manager, Minot International Airport

Winter Ops – It sure doesn't seem like we've had much of a true winter yet this year, but I am not going to fall for that quite yet. At the time thi s article gets published, we will have made it through the holidays without significant snowfall to affect holiday travel. I don't think that's something that can be said for the last few years, and boy, am I grateful! As the Operations and Maintenance Manager for the Minot International Airport, there are a lot of things to juggle, and the juggling only intensifies during what we call a "snow event." There are the standard day-to-day functions like monitoring the various surface areas of the airfield and notating them properly within the NOTAMs and FICONS. Daily inspections required by the FAA have to get logged appropriately and timely. Things really start to get exciting once the snow starts flying.

As for many employers these days, it's been challenging to get and retain skilled employees. A lot of our current employees have started out with little-to-no experience. The time and dedication our team spends on learning from within and from industry experts is vital to what we do. Our team and our equipment fleet is all ages. From brand new to Vietnam-era equipment, the skill sets needed to operate the various types of equipment are endless. And now for a word from our Operations and Maintenance Foreman, Alex Choi.

Q: What goes into keeping an airport safe and operational in the winter?

Continue with recurrent training, continue to be knowledgeable of what we are doing as airport operations and snow removal, share our knowledge, and communicate with each other during actual operations. It is a never-ending task to ensure our equipment is safe and fully functional. Airports must have a good fleet replacement program to replace aging equipment. When the snow flies, airports are required to continuously monitor the airfield. That requires staff to stay alert and be ready to go out as needed. Operations staff must understand the situation and how to react if weather shifts/changes. We do our best to follow Department of Labor and Department of Transportation requirements as good guidelines, in order to prevent operator exhaustion. To the best of our ability,





it is our goal to have a fully open and operational airfield throughout the winter, providing a safe and welcoming experience for everyone who uses the airport as their mode of transportation.

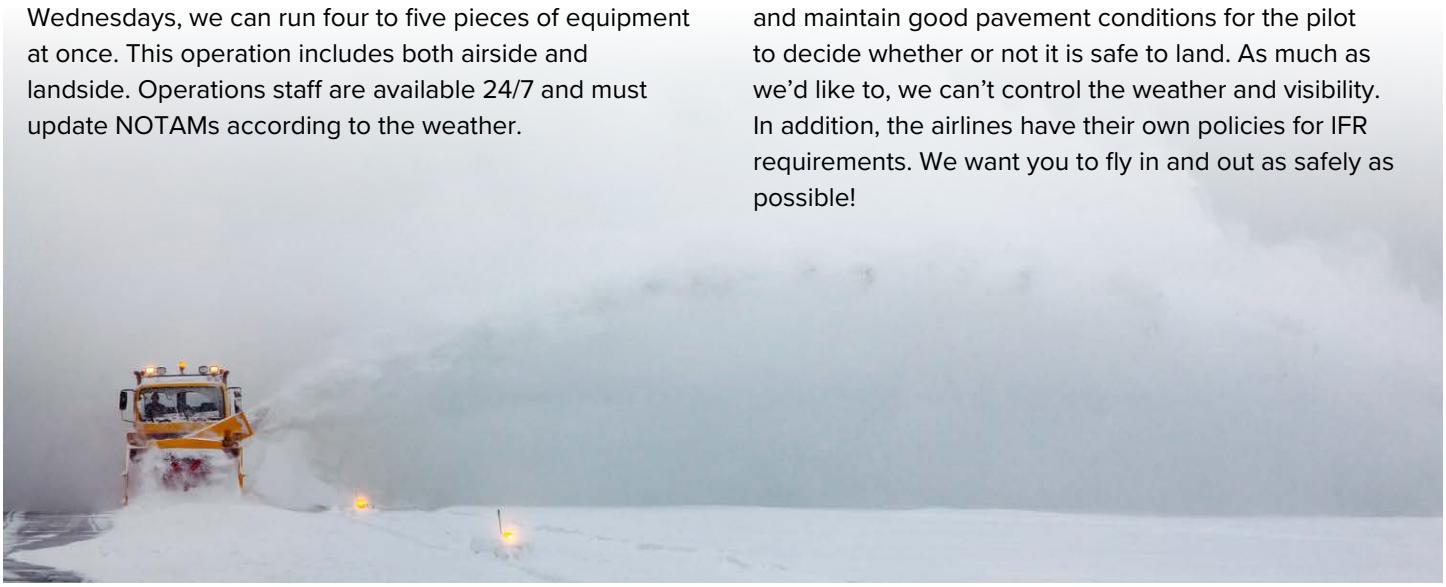
Q: How many pieces of equipment do we have working at one time during a snow event?

With our current staffing and schedule, normally we can run one to three pieces of equipment at a time. During Wednesdays, we can run four to five pieces of equipment at once. This operation includes both airside and landside. Operations staff are available 24/7 and must update NOTAMs according to the weather.

Q: What advice do you have for pilots and passengers? And what can pilots do to assist you in this process?

It would be much appreciated if pilots would make a radio call when leaving from the ramp and coming in to land on the runway. Please read NOTAMs for what is open and closed. Any questions? Airport Operations is here to help!

As always, we like to remind the public and passengers that we are trying our best to keep the airfield open and maintain good pavement conditions for the pilot to decide whether or not it is safe to land. As much as we'd like to, we can't control the weather and visibility. In addition, the airlines have their own policies for IFR requirements. We want you to fly in and out as safely as possible!





Eye in the Sky: Helicopter squadron secures missile fields from above

By Airman 1st Class Kyle Wilson, 5th Bomb Wing Public Affairs

MINOT AIR FORCE BASE – Minot Air Force Base hosts several tenant units that are critical to the success of its mission. These units all play a role in Minot Air Force Base's daily operations and provide unique capabilities to the skill set. The 54th Helicopter Squadron (HS) is one of these units.

The 54th HS is a geographically separated unit from the 582nd Helicopter Group, headquartered at F.E. Warren AFB, Wyoming. Since 1993, the 54th HS has been assigned to Minot AFB where it provides helicopter response capabilities in support of 91st Missile Wing operations.

The support the 54th HS provides to the 91st Missile Wing (MW) includes contributing rapid security response capabilities to Minot's missile fields, providing overwatch security during convoy operations, as well as executing search and rescue and medical evacuation operations.

"The primary mission of the 54th HS is nuclear deterrence and nuclear surety," said Capt. Matthew Weaver, 54th Helicopter Squadron aircraft commander. "We're heavily involved with the 91st MW and supporting their mission."

> *"We provide a skill set and dynamic support that only helicopters can provide,"*
>
> *– Senior Airman Daniel Barker*
>
> *54th HS special missions aviator instructor.*

The 54th also integrates with Security Forces units on the ground to provide comprehensive





security throughout Minot missile fields, which cover approximately 8,500 square miles of North Dakota. This includes Tactical Response Force, Convoy Response Force and in-field Security Forces teams.

"The TRF, CRF and in-field Security Forces teams all have Forward Observers out in the missile fields that communicate directly with us," said Barker.

"The assets that we control here are extremely important to defend," said Weaver. "If anyone was to try to gain access to those, we're going to respond as quickly as possible."

The 54th HS currently employs the UH-1N Iroquois as its primary aircraft in daily operations. The UH-1N Iroquois, however, is slated to be replaced in the coming years by the MH-139 Gray Wolf.

"The UH-1N is a very reliable aircraft and it's worked well for our mission set," said Barker. "In the next few years, we're switching to the MH-139, which is going to enhance our capabilities into the far future."



Submitted Photo U.S. Air Force Capt. Matthew Weaver, 54th Helicopter Squadron (HS) aircraft commander, left, and Senior Airman Daniel Barker, 54th HS special missions aviator instructor, pose at Minot Air Force Base on Dec. 20, 2023. Photo by U.S. Air Force Airman 1st Class Kyle Wilson.

Reprinted with permission from The Minot Daily News



Become an NDAA member today!

Sign up at www.fly-nd.com/Memberships

NDAA Membership Benefits

All Member Types of the organization will have the opportunity to participate in and benefit from the following items:

- *Fly-ND Quarterly* magazine subscription
- Network with other aviation enthusiasts and industry partners
- Help support the future of Aviation in ND
- Opportunity for committee involvement – Conference, Advocacy, Strategic Planning, etc.
- Advocacy and lobbying efforts which benefit the aviation industry
- "Regional Voice" through representation on other boards and other advocacy
- Collaborate with other member groups
- Help student members to fuel aviation for tomorrow
- Protect aviation in North Dakota
- Communicate concerns or issues to the board and organization
- Information focus on website, jobs, blogs, advertising, etc.
- Stay informed on aviation – related issues through regular communication
- Participate in NDAA events and functions



Individual Member ($40) is for those with personal or employment interest in the aviation profession or industry and who support the purpose of NDAA.

- Member discounts from participating business partners
- Member discounts from participating North Dakota aviation museums
- IA renewals through ND PAMA at the Fly-ND Annual Conference
- Ability to vote at the NDAA annual meeting to elect officers, update bylaws, and vote on large issues and run for office and/or board position

Organizational Member ($250) is for agencies and non-profit groups whose mission serves the aviation professions, industries, and supports the purpose of NDAA.

- Special Priority at the Fly-ND Annual Conference (Including hosting training opportunities, discounted booths, meeting rooms, and award recognition)
- Representation and link on the NDAA Fly-ND website
- Assistance with distribution of your organization's information and dues processing
- Organization member websites and logos are advertised on NDAA website and at the Fly-ND Conference
- Ability to submit articles for the Fly-ND Quarterly regarding organizational updates

Allied Member ($250/500) is for firms, companies, and consultants who are actively engaged in providing products and/or services to aviation professions, and companies who support the purpose of NDAA. Allied members do not have voting rights.

- Listed in *Fly-ND Quarterly* and website as an Allied Member
- Certificate of Membership
- Opportunity for collaborative involvement in aerospace advocacy
- Network with the aviation community as well as participate in the Career Expo & other NDAA functions
- Advertise open job opportunities

Student Member (free) is for individuals enrolled in an institution of higher learning who have a keen interest in aviation and support the purpose of NDAA. Student Members are not entitled to vote or hold a board position.

- Explore all facets of aviation
- Eligible for scholarships
- Professional development credits
- Member discounts from participating North Dakota aviation museums
- Complimentary attendance at the annual conference
- Networking opportunities
- Mentorship & training
- Career advancement through job boards

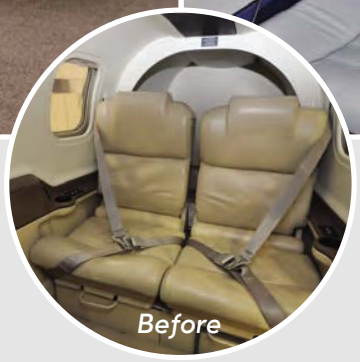
SIGN UP TODAY! www.fly-nd.com/Membership

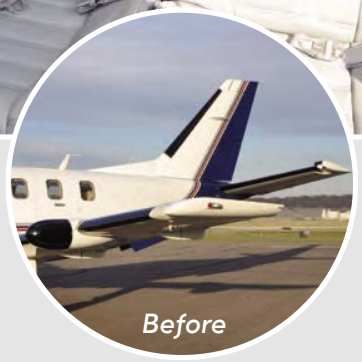
EXCLUSIVE AIRCRAFT SALES | FARGO JET CENTER | PREMIER JET CENTER











With 30+ years of experience refurbishing aircraft of all sizes, we can help bring new life to your airplane.

PAINT SERVICES

- Exterior Scheme Design
- Paint Refurbishment
- New Striping
- Stripe Color Redesign
- Registration Number Changes
- Post Maintenance Care

INTERIOR SERVICES

- Re-Foam + Re-Cover Seats, Divans
- Customized Side Walls, Bulkheads
- Seatbelt Rewebbing
- Carpeting, Vinyl Flooring, Runners
- Sound Insulation Kits
- Custom Embroidery

refurb@flypremierjet.com | +1 (952) 697-3170

FLY-ND QUARTERLY

North Dakota Aviation Association
P.O. Box 5020
Bismarck, ND 58502-5020

PRSRTD STD
US POSTAGE
PAID
UNITED PRINTING

Conference Early Bird Deadline January 31!
www.fly-nd.com/events/Conference

CALENDAR of EVENTS

Check out the online calendar for details on these events: aero.nd.gov/events

FEBRUARY 2024

2024 Tri-State Aerial Applicators Convention

Feb 06 to Feb 07 • Waite Park, Minnesota
The Tri-State Aerial Applicators Convention heads back to Minnesota in 2024! Join us at the Park Event Center, Waite Park, Minnesota February 6 & 7, 2024. This year's program will feature one of the largest trade shows in the nation for agricultural aviation professionals, great networking opportunities, and a dynamic line-up of speakers and events.

MARCH 2024

Fly-ND Conference – Early Bird Ends Jan. 31st!

www.fly-nd.com/events/Conference
Mar 03 to Mar 05 • Alerus Center, Grand Forks, ND
Mark your calendars and watch the website for registration information coming soon.

Flying in the Wire Environment

Fargo Holiday Inn – March 13
Time all day 0800-1700
Cost = Free. Room Block the night before at the Holiday Inn

OFFICIAL NORTH DAKOTA AVIATION ASSOCIATION FLY-ND MEMBER

Become a NDAA Member Today!

Sign up at www.fly-nd.com