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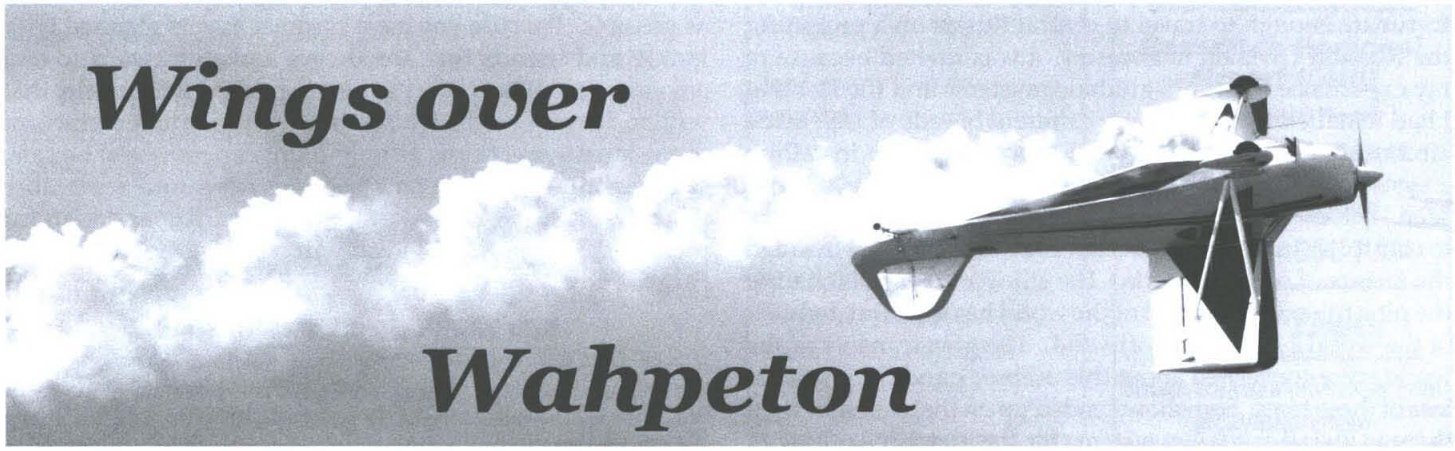
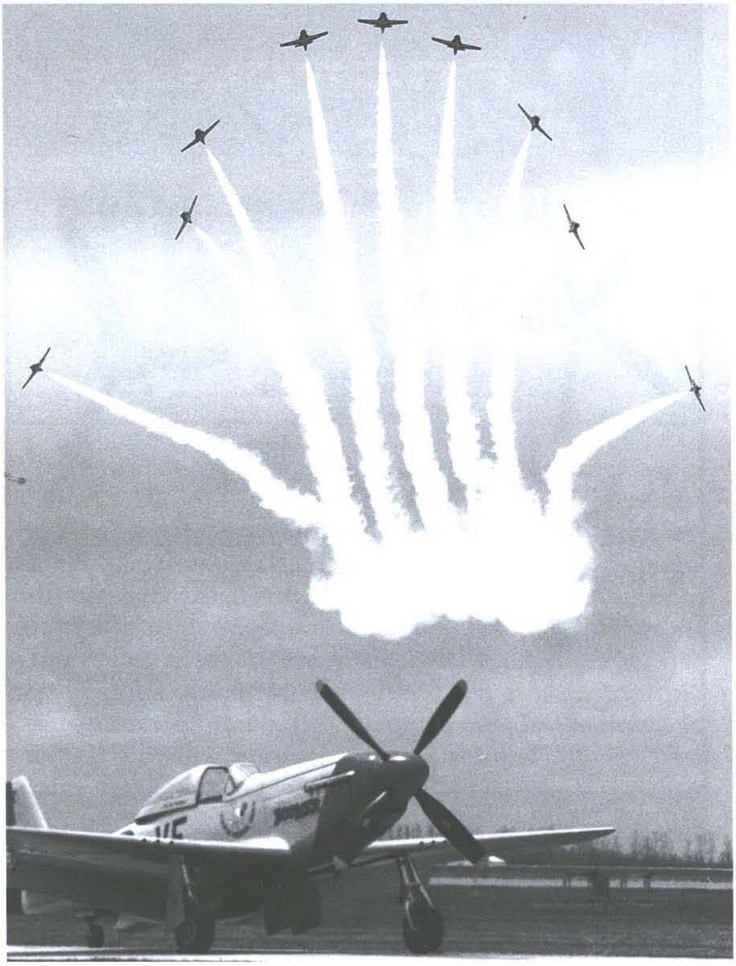
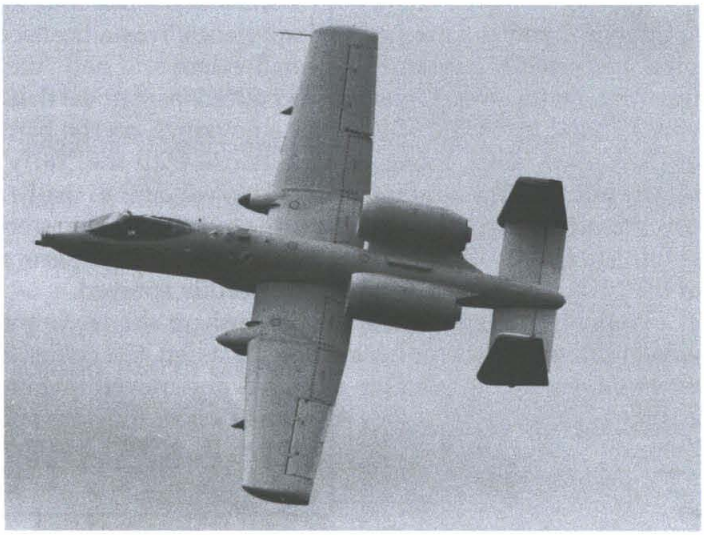




Top: Waren Pietsch opens *Wings Over Wahpeton* air show in Wahpeton, North Dakota on May 6, 2009.
Left: In an air demonstration, the Canadian Snowbirds fly over vintage aircraft during *Wings Over Wahpeton*. The free airshow brought out thousands to spend the day at Harry Stern Airport. Young and old alike enjoyed a full day of precision aerobatics. The show was a tribute to the late Gerry Beck.
Bottom: A P-10 Warthog screams past the crowd at *Wings Over Wahpeton* on May 6, 2009.

Photos by Amy Taborsky



CHAIRMAN'S CORNER

By Rod Brekken, Chairman

Did you go to the Paris Air show? It was held June 15th through the 19th and it was really a good time, I'm sure. No, I didn't go either, but it was available online from their blog with audio and video. It would have been a lot of fun and REALLY interesting. I've never had the opportunity to go to Oshkosh either, or Sun-N-Fun, or any of the huge ones. There is a very good one coming up in August though in Fargo on the 22nd and 23rd so you might want to put that one on your schedule.

I did get to go to an air show one time, though, and I didn't even know it was going to happen. It was when I was fortunate enough to travel to central Russia on a project for the Russian Division of Forestry. I was invited because of my experience with GPS guidance systems and the fact that I had installed them on many different brands of U.S. made aircraft. Of course over there, I was going to be installing a system on Russian spray planes, which I had never even seen. The World Bank sponsored project was designed to try to control an invasion of Siberian silkworm that had invaded the forests of central Siberia. The silkworm was defoliating the pine trees and this part of the world has an estimated 60% of the world's supply of softwood. The governments of the world were concerned about this outbreak and the potential loss of these trees. Somehow I ended up on the team that went there to install guidance systems for the Russian Antinov 2s that would be doing the spraying.

We flew into Moscow and then took an overnight flight to Krasnoyarsk in central Siberia. After a couple days there, we traveled by bus to Ashinsk where the spray company was based. We were supposed to work in hangars with Russian mechanics and were each supposed to have an interpreter. We worked out in the open, on the airfield, in the tall grass "berths" these airplanes were tied down in, and it rained. The Russian mechanics would not help us, and between 6 people, we had one interpreter. Needless to say, it took a few days to install the ten systems and we had to use some U.S. engineering to make things fit but they all worked well. When we had the airplanes all ready to go I found out I was the one that would be going with them, to the remote site for spraying! I had my mechanic's experience, was a licensed pilot, had used the system to a small extent and had "the" interpreter with me so I could answer questions. I guess that's why I ended up in the village of Asinovamys, on the bank of the Chuna River, living in a log house with the "biffy" up the hill, and the landing strip below, which was really a cow pasture the women kept the cattle out of when we were landing or taking off. It was an experience and we got several of the 10 by 20 killometer tracts successfully sprayed.

Well, after a few weeks, we finished up the work and went home only to come back when it was MUCH colder to remove the systems from the airplanes and moved them to airplanes closer to Moscow. As far as I know they are still there.

Oh, ya, we were talking about air shows! Well the one I went to and actually became a part of was in Ashinsk, Siberia. The occasion was National Aviation Day but you couldn't see "the other side" of the runway because of the fog until later in the afternoon! It didn't stop the Russians. They were there to celebrate, fly airplanes, celebrate, give rides, celebrate and have fun. We did too. They took us for a ride "around the patch" in one of the Antinovs, we got to look at a four place, radial engined, mono-plane which I have forgotten the name of. They let us in a backfire bomber and next to a MIG but we weren't allowed to take any pictures. The Russians are funny about that. Well, we made it home and the whole trip was an experience of a lifetime. If you ever have any questions about it, I'd be glad to answer them some time.

As we FINALLY get into summer weather, having totally missed spring weather, I ask you to enjoy these days as much as possible. I'm sure you have summer events planned with family and friends that are always looked forward to and enjoyed. It will be a short summer, packed with events that will be remembered for a lifetime. When you're flying out there, have a great time as only flight can give, and be safe. The council won't have any meetings now until September when we again begin the process to organize and plan for the March symposium, which will be at the Holiday Inn in Fargo. Have a great summer!

ROD BREKKEN, CHAIRMAN, NDAC

DIRECTOR'S CHAIR

By Larry Taborsky, Director,
North Dakota Aeronautics Commission

Hello, all. I've been enjoying my first few weeks as the Director of the North Dakota Aeronautics Commission. I've been to a lot of meetings, visited a handful of airports, had a lot of discussions on building runways and facilities, discussed some airspace issues, attended a few fly-ins and an awesome air show, and talked to a lot of aviators about how things are and how things ought to be.

What I have learned so far...

• The job includes lots of meetings. That is where the bits of information come from that help the Aeronautics Commission to become a resource for aviation.

• Gary is well-known, well-liked. He has left a trail of positive things for North Dakota that reaches across the country, and which I will try to build upon.

• The North Dakota Aeronautics Commission is well-respected among the other states, is right on track or ahead of the others in terms of state programs, and does what it can with a much smaller budget and staffing.

There a lot of challenges to making aviation prosper in North Dakota, and it takes all of us. Part of the challenge is due to the many different areas of interest we have in this small community. Corporate, private, military, agriculture–all have different and sometimes competing demands for airspace and land use. Everyone is interested in safety and prosperity for aviation. With partnerships and communication, the sky is the limit. I am committed to visiting airports one day each week, and look forward to meeting you. Until then, please pass along your ideas and solutions.

BE CAREFUL OUT THERE.

LARRY

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WATER, WATER EVERYWHERE

By Darrel Pittman, Past Chairman

When I was in High School, the Mesa High School drama department put on a play called "The Rhyme of the Ancient Mariner." As part of the script it had the rhyme about "Water, Water everywhere, and nary a drop to drink." For the life of me I cannot remember the whole rhyme now. But that play and the beginning words have stuck with me over the years. Why you say? Well our recent water dilemmas here in North Dakota started me trying to remember other times when water has played such a major role in the lives of so many. In 1997 we had major flooding. Again this year, 2009, we had major flooding, as I'm writing this it's happening again outside, I have over five inches of rain in my gauge. I've been stationed in many different parts of the country and cannot recall that much flooding and devastation caused by water and still "nary a drop to drink."

The Civil Air Patrol assisted the state by providing volunteer help from the approximately 300 members statewide. Ground crews helped out where needed, some drove for hours to help those in need of help, and then got stranded in a blizzard on the way home. The aircrews flew 132 Sorties for 324 flight hours. They sent back to the State Emergency Operations Center over 6200 photo images of the entire state's affected areas. Am I proud of our volunteers, what do you think? They did a fantastic job. We thank their employers for allowing them the time to support the State of North Dakota!

EAA1008 FLY-IN

On June 7th, our EAA chapter 1008 had planned the second annual "Buggies and Blues" Fly-in. We were well-prepared this time. We had a bus from Harlow's for a very nominal fee. We had airplane rides scheduled by Bismarck Aero Center with many folks excited about them. I had lots of e-mails telling me they were coming. The National Guard was prepared to bring in a Blackhawk Helicopter. Well, we all now know that Mother Nature did not smile on us. The Buggies and Blues car event was cancelled, but we did not cancel the fly-in.

However, as it turned out, the Mandan (Y19) airport was IFR all day long. That's the bad news. We did have some fairly good news. Many folks drove in just for the great breakfast that Dave Barth and his crew served. We had two special guests. One was Scott Nelson showing his new painting of Pershing Carlson's WWII Glider. The other was a WWII hero named Gene Wink, all the way from San Antonio, Texas. He was there selling his autographed book, "Born to Fly." He sold every book he had with him and took names for more. I've also made new, very dear friends.

DES/TSA

I have many friends who are employed by the Department of Homeland Security, DES/TSA. I hope I don't offend any of them. But I must comment on this, in the previous paragraph I told you about the WWII gentleman and his trip to Bismarck and his book. He came at my invitation through his daughter. When he left I escorted this frail old hero to the airport security line and watched as he had to remove his shoes and empty his pockets. They took his cane from him and instead of letting him walk through the electronic scanner they had him step aside and actually physically frisked him. When they finished that, he had to move to an area to gather his belongings. They did not offer any help. When he was all complete, he walked toward the gate. He was a gentleman all the time. I would have had a hard time keeping my cool through all that but he handled it very well.

My point in all this; I'm a veteran and I know that the security folks have an important job to do and I applaud the effort. But we need a better way of treating our Military heros, especially the WWII ones–they will not be with us much longer. Why can't we have some way of identifying them so they don't have to be put through this ordeal when they travel? It's due to the effort they put forth during that trying time that has ensured the freedoms we have today.

RESPECTFULLY AND CLEARED TO LAND,
DARREL

MARK'S HANGAR NEWS

By Mark J. Holzer,
ND Aeronautics Commission

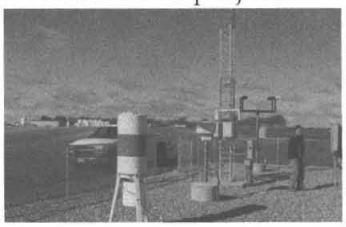
The summer news is full of construction ideas and plans for airports. Aviation businesses are using aircraft to the full extent to make profits. Aerial applicators are completing aircraft repairs and hiring loaders for the summer rush. Mechanics are planning their work schedules with aircraft to minimize the down time for their customers. Hangar doors are flying open with the nice weekends for fly-in recreational events. Let's take a look at the Aeronautics Commission's project for the summer.

Pavement Condition Field Surveys are being accomplished on every airport pavement at 72 airports in ND this summer. Two-man crews using golf carts are running up and down the airport measuring pavement distresses. The crews monitor Unicom radio and have flags on the carts. The survey will develop pavement condition ratings that assist our office and FAA in planning grants for rehabilitation of the airports. FAA offered the state commission a grant to do the work which is mandated every three years. Thus, all paved airports are done at once to save airport's time and money.

Air Service and Air Cargo Study will be conducted over the next year to address the impacts of airline mergers like Northwest and Delta airlines, airfare comparisons in the region, and seat capacity offered as airlines adjust aircraft size to market fluctuations. Several route analyses shall be developed to assist communities in enhancing air service hub connections. Currently, the Essential Air Service two-year contract at Devils Lake and Jamestown is up for renewal of which we recommend flight schedule changes. The need for a western hub for Minot and Grand Forks shall also be investigated. Growth of charter airlines such as Allegiant has boosted the passenger total for leisure markets at Las Vegas, Orlando, Phoenix, and Los Angeles. Passenger emplanements at the eight commercial airports are up 3% year-to-date while domestically a drop of 4-6% is occurring.

Air cargo study will be performed by the Upper Great Plains Transportation Institute-NDSU for the Aeronautics Commission to be able to forecast airport development needs. Growth in the state's cargo traffic has impacted airport planning to set aside new airport sites in master and layout plans. Consolidation of domestic automotive dealers, farm implements and other industries puts a burden on rural areas to compete globally, thus air cargo connects our state for "just-in-time" freight movements.

Airport Rates and Charges survey will be conducted among the 90 airports in ND. The survey goal is to provide real time rates and fees for airport tenants. Both state and FAA guidance suggests the airport be profitable. The philosophy is that airport fees charged to tenants be fair and reasonable. To determine this concept, the airports in a region of comparable size and economies can be reviewed by airport managers. The Airport Association of North Dakota has expressed interest in this project.



Automated Weather Services with 32 weather service units in our state, the Commission is working with National Association of State Aviation Officials (NASAO) to connect most units to National Weather Service and post on web sites. The NASAO group and FAA are working with the State of Colorado to set up a networked server to National Weather Service. With 20 new AWOS units installed in ND the last two years along with Bowman, Gwinner, and Wahpeton, we hope to connect 23 units to the FAA for web site access and Flight Service briefings. This is another service the Commission plans to enhance weather access for safe flying in ND.

Airport State Grants were offered on July 1st at a Commission meeting to airports that applied for state grants up to 90%. Yes, it's true, we can offer state grants up to 90% versus past where maximum was 50%. Thus, we anticipate the 37 non-federal airports in ND to benefit from additional funding ratio. Asphalt paving increased 30% in past few years. Keeping runways operational and safe at non-federal airports is a challenge. The state legislature was supportive by increasing authority by 52% for state airport funding. Also, federal airports can apply for work that FAA may not fund at commercial airports such as crack sealing, pavement markings, mowers and other items.

Airspace Utilization cases are anticipated to generate another public hearing in the Powder River area of Southwestern North Dakota and Devils Lake areas for Unmanned Aerial Missions. No updated information on Powder River airspace case is available at this time. The Devils Lake area Unmanned Airspace plan is taking a dual track environmental process. The first approach the Commission prefers is to maintain the Devils Lake Military Operation's north and south areas rather than the second option of converting the east half to Restricted Areas. FAA and the US Air Force are working on the best communications, radar separation and flight options to insure a safe and efficient airspace plan.

TRIM TAB

SUMMER FLYING

By Bob Simmers

It is June 8 and I have just returned from Medora where I woke up to 2 inches of fresh snow on Saturday morning. Sort of reminds me of winter. By now we are to be enjoying the mild days of a lingering spring and anticipating the arrival of summer. Hard to believe. However I must say that I was not totally surprised by the white stuff. Shortly after I awoke, I received a phone call from one of my students who happens to live in Belfield. He informed me that his world was even smaller than mine in that he could not see across the street at that time. Almost a blizzard.

What we should be thinking about this time of year is DENSITY ALTITUDE and the effect that it plays in our flying. Our aircraft performance is based on a standard day at sea level. A standard day, as you recall, is a temperature of 59° F or 15° C and barometer of 29.92 inches of mercury. As the temperature increases and the altitude increases, the performance of the aircraft decreases. So, the hotter and the higher, the longer the takeoff roll and the slower the climb rate. The only way that we have of determining the aircraft performance is by the performance charts that accompany each aircraft. Even though you fly the same aircraft all of the time, you should review the performance charts, especially when the atmosphere becomes hot and the barometer is non-standard.

As technology continues to bless our industry, we have more and more information at our fingertips. You may recall that when you listen to all of the new AWOS's and ASOS's, they notify you of the density altitude of the airport that they are reporting for. When they say that the density altitude is 3,000 feet and you are at an airport that has a field elevation of 1500 feet, you know that your aircraft is not going to perform like it did last winter when the density altitude at that same airport was 900 feet. Check your performance charts!!!

Although humidity is not a factor in your aircrafts performance charts, it does play a part in the performance. There is no way to calculate what the factor is. When the humidity is high, I would suggest that you increase any takeoff distances by another 10% and that you reduce your climb performance by 10%, just to be on the safe side.

So till' next time, keep it trimmed,

Bob Simmers

NDAA

NORTH DAKOTA AVIATION ASSOCIATION

By Jon Simmers

The North Dakota Aviation Association's (NDAA) steering team has been diligently working toward re-defining the Mission and Objectives of the business aviation-focused association. The steering team is made up of several individuals with a vested interest in business aviation ranging from business users to business operators.

This steering committee has completed a draft Mission and Objectives statement that has been prepared for review by all business aviators in the state of North Dakota. ***We are actively seeking your input on the following Mission and Objectives:***

Mission:

To promote the interests of those that benefit from the use of business aviation in North Dakota. This will be accomplished through the following Objectives:

Objectives:

- Foster the highest degree of operational efficiency, safety, and security.
- Provide a unified voice in issues of interest to NDAA locally, regionally, and nationally.
- Promote professional development through education and training.
- Promote positive public relations for business aviation.
- Bring members in to closer personal and friendly relations with each other through networking to help provide solutions to common issues.
- Gain credibility through active state and regional involvement.

The bottom line is that this steering committee feels that this organization can help form a common bond between all types of business aviation users ranging from part 91, 135, FBO and from single engine pistons ranging up to turbo jet aircraft. ***We need your involvement!***

Please contact Jon Simmers at jons@bismarckaero.com or Fred Adams at fadams@bepc.com to discuss the direction of NDAA and to provide your feedback on the outlined Mission Statement.

REGISTRATIONS AND LICENSES

By Sheila Doll, NDAC

As we head into the full flying swing for the summer season, we tend to sometimes forget the paperwork that gets put on the backburner as other interests, conflicts and responsibilities take over our lives. So I have written out for you a reminder of the Rules and Regulations for making sure your aircraft is registered with the Aeronautics Commission in the State of North Dakota. The aircraft registration renewals were sent out in late December of 2008 for the 2009 calendar year of flying. All aircraft bought and owned in this state must have the excise tax paid in full and all airworthy aircraft must be registered.

The State of North Dakota has an aircraft registration law – NDCC 2-05-11.

You may register your aircraft by completing the North Dakota Aircraft Registration form SFN-11627 (167kb pdf), found on the agency website. Return it to the ND Aeronautics Commission along with the registration fee.

Fees are paid in relation to year of aircraft manufacture and the maximum gross weight. The Schedule of Registration Fees may also be found on the website. Fees are due January 1 of each year. Penalty is applied to registration fees after May 15th if delinquent.

Aircraft must be registered within 30 days after being brought into North Dakota. Excise tax is paid at a 5% rate on the purchase price for all non-ag aircraft and a 3% rate on the purchase price on all agricultural aircraft. The taxes should be paid along with the aircraft registration. Aircraft leased can submit taxes on an hourly basis rented dry.

If the aircraft is un-airworthy, the aircraft fees do not apply. Taxes still apply to the value of the aircraft according to the Blue Book. However, you are required to notify our office of the un-airworthy status. If the aircraft becomes airworthy after July 1st, a one-half year fee can be paid. If the aircraft becomes airworthy after October 1st, a one-fourth year fee can be paid.

AERIAL APPLICATORS

Every person, partnership, company, corporation, association, or organization desiring to become engaged in, and every person engaged in the activity of business of aerial spraying, dusting, fertilizing, or insect control of crops or areas by aircraft or helicopter shall make application for and obtain an aerial applicators license from the North Dakota Aeronautics Commission. All aircraft or helicopters operated in aerial spraying, dusting, fertilizing and insecticide requiring a North Dakota aerial applicators license shall be registered with the ND Aeronautics commission prior to actual use of the aircraft in this state and prior to the issuance of an aerial applicators license. Annual aircraft registration fees shall be in accordance with the schedule set format in the ND Century code Section 2-05-11 and 2-05-18 and shall be paid in full in advance. The fee for each annual spray license is $150.00 per business. The application shall be filed on forms furnished by the commission and shall set forth the following information:

☐ Meet the qualifications of an aerial applicator as set forth in the Rules and Regulations of the ND Aeronautics Commission relating to aerial spraying, fertilizing and insect control by aircraft or helicopter.

☐ Must be registered as a Certified Agricultural Chemical Applicator before application can be made for a state applicator certification. Examination may be taken at your county Agent's office, NDSU Extension Service (701-231-6274).

☐ Non-resident aerial applicators from neighboring states may use their chemical certification from their state. Check with NDSU Extension Service (701-231-6274) to verify if a regional reciprocating agreement is valid.

☐ To receive a North Dakota certification, non-residents must obtain a form from the North Dakota Secretary of State (701-328-2900) designating the Secretary as your resident agent.

☐ Must have an FAA Part 137 "Agricultural Aircraft Operator Certificate", that can be obtained from FAA FSDO, (701-232-8949). Non-residents must attach a copy of their Part 137 to state spray application. New applicators need an affidavit of experience and hours in aircraft requested on the license.

☐An application must be completed for aerial applicators listing all aircraft and pilots. All aircraft must be registered with the state of North Dakota. All pilots must have a current FAA Airman Certificate.

☐ Aerial applicators hiring any personnel must take out ND Worker's Compensation on all employees, including pilots, flagmen and ground crews. All operators must have a policy number of their Workmen's Compensation denoted on the spray application before a license will be issued. The phone number for Workmen's Compensation is (701-328-3800). Family members may be exempt. Ground crew must be 18 years old or greater in age and requested to have chemical training per label.

☐ Applicators must maintain an aerial spraying record report for each application. Report is due December 1st, submit to the Aeronautics Commission a summary report of the acres aerial sprayed by category. Non-resident spraying reports shall be mailed to our office before the operator leaves the State of North Dakota.

☐ Chief Pilots located within the state of North Dakota have requirements. It is the responsibility of the chief pilot to determine the amount of supervision a pilot requires. The chief pilot must be familiar with the area in which the supervised pilot or pilots are flying and be able to contact each pilot daily as needed. Pilots with less than 2 years experience and less than 250 hours of actual aerial application must be under the direct, personal supervision of a chief pilot and must be flying out of the same airport as the airport in which the chief pilot is operating. The chief pilot of every aerial spraying, dusting and fertilizing operation licensed by the Aeronautics commission must be located within North Dakota during the time of actual aerial spraying, dusting fertilizing or insecticide operations and the chief pilot shall be responsible for the actions of all pilots under the chief pilot's supervision.

☐ License reciprocity between states – nonresidents: License reciprocity may be granted to non residents who meet the aeronautical experience requirements for the operational level sought, except chemical knowledge certification of nonresident aerial applicators must be obtained in North Dakota in accordance with current pesticide regulations.

☐ Airworthiness certificate required: Every airplane or helicopter licensed for aerial spraying, dusting, or fertilizing operations in North Dakota shall have a current and valid federal aviation administration airworthiness certificate.

Chemical Applicator Financial Responsibility must have proof of financial responsibility. A commercial pesticide applicator certificate may not be used or renewed unless the applicant furnished proof of financial responsibility. Minimum financial responsibility must be demonstrated annually in the amount of one hundred thousand dollars, and may be demonstrated by a notarized letter from an officer for a financial institution or from a certified public accountant attesting to the existence of net assets equal to at least one hundred thousand dollars, a performance bond, or a general liability insurance policy. The performance bond or insurance policy must obtain a provision requiring the termination or other modification of the bond or insurance policy. The commissioner of agriculture must immediately require the suspension of the certification of a person who fails to maintain the minimum financial responsibility standards. If there is any recovery against the certificate holder, the holder must demonstrate continued compliance with the minimum standards. An employee of a commercial pesticide application business is not required to meet these standards separately if the business documents compliance with the minimum financial responsibility standards. An application for reinstatement of a suspended certificate under this section must be accompanied by proof of satisfaction of any judgment previously rendered. A rancher is exempt from this section if the ranch is required to obtain a commercial pesticide applicator certificate for controlling noxious weeds on the leased federal acreage as a condition of a federal grasslands lease NDCC 4-35, ND Agriculture Department, NDSU Extension Service.

☐ Revoking of aerial spraying license: The ND Aeronautics Commission or its duly appointed director reserved the right to revoke or refuse to issue an aerial applicator's license for just cause, or for violation of any rule, regulation, procedure or standard set forth after a hearing has been held, provided that on the basis of proper cause shown, the director of this Aeronautics Commission may suspend a license or refuse to issue a license until such time as a hearing has been held.

☐ Penalty for violation of the rules and regulations: Attention is drawn to ND Century Code section 2-05-18, which relates to the licensing of aerial applicators of agricultural chemicals and provides that any person convicted of violation of any provision of that section or rules or regulation promulgated under the authority of that section shall be guilty of a class B misdemeanor.

For more information Regarding Registrations and Licensing for aircraft, dealers and agricultural spray licensing, go to the website www.nd.gov/ndaero/ for all the information you need.

Have a safe flying season and don't forget to register your aircraft!

WANTED: STUDENTS

Anyone having trouble locating a flight instructor?

Maybe the Aeronautics Commission can help!

Call 1-701-328-9650 and tell us your need, chances are a CFI can come to your aid.

Plus...Did you know...

Bismarck and Fargo now have designated examiners?

ADS-B IN NORTH DAKOTA

By Peter Schumacher, UND Aerospace

"ADS-B rocks! I can't wait until we have full national ADS-B coverage." This pilot comment pretty much reflects UND's experience with ADS-B. By displaying the location of other aircraft, and current weather information, ADS-B enhances situation awareness and helps the pilot make critical in-flight decisions. UND has been using and evaluating ADS-B in its flight training operation for the past four years, and across the board, student pilots, flight instructors, dispatchers, and ops managers have been genuinely impressed by its capabilities.

ADS-B (Automatic Dependent Surveillance-Broadcast) is the new system being implemented by the FAA to replace many of the aging and more costly ground-based radars currently being used for air traffic control. The system relies on an aircraft's GPS receiver and on-board ADS-B data link transmitters to broadcast aircraft location, airspeed, altitude, and direction of travel. This information is then received by Ground Based Transceivers (GBT's) for dissemination throughout the ATC network, and by ADS-B equipped aircraft for display in the cockpit. The FAA has proposed making ADS-B equipment mandatory by 2020 for all aircraft operating in airspace that currently requires a transponder. Their Notice of Proposed Rule Making (NPRM) only requires aircraft to have ADS-B Out capability, which means the ability to transmit ADS-B information. With the right avionics equipment, however, aircraft can also receive ADS-B, thus making this valuable information available to pilots at their fingertips.

UND's evaluation of this new system was made possible thanks to a $600,000 research grant supplied by the FAA, with matching funds provided by UND. The state of North Dakota had previously installed GBT's at both Grand Forks and Devils Lake, and with these resources, North Dakota became one of only five geographical areas in the U.S. with the necessary infrastructure to fully use and evaluate this new system. With its vigorous 100,000 annual flight hour program, large core of students, instructors, managers, and aircraft, UND was able to give ADS-B a thorough workout.

The first step was installation of ADS-B avionics equipment in 60 training aircraft. UND's fleet, at that time, was predominately Piper aircraft plus four Cirrus SR-22's. The Piper fleet, which included a variety of Warriors, Arrows, and Seminoles, was almost equally divided between traditional analog instruments and Avidyne glass (Figures 1 and 2). The Cirrus SR-20's were exclusively Avidyne glass. All aircraft were factory equipped with dual Garmin 430 GPS receivers.

Figure 1 – Analog Piper Instruments

Figure 2 – Avidyne Glass Display

To add ADS-B capability, analog aircraft required an ADS-B transceiver, a GAE-43 digital encoder, two UAT antennas, and a combination GPS/communication (COMDAT) antenna (Figure 3). Garmin GMX-200 Multi-Function Displays (MFD's) were also added to the analog aircraft to provide a larger display of ADS-B information (Figure 4). The glass equipped aircraft required essentially the same equipment, but because they already had MFD's, the GMX-200 was not required.

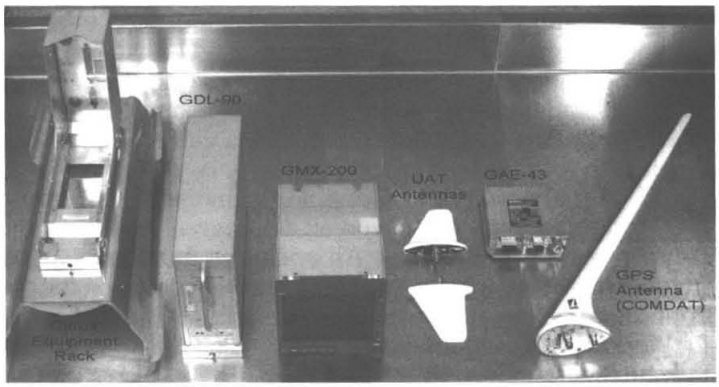


Figure 3 – Typical Equipment Required for ADS-B Installation

The average cost to add ADS-B capability was $16,500 for analog aircraft (equipment and installation) and $7,800 for glass aircraft. Large ticket items included $6000 for the GDL-90 transceiver and $6750 for the GMX-200 MFD. Equipment installation averaged 44 man-hours for each analog aircraft and 25 man-hours for each glass aircraft.

When UND began ADS-B installation, the GDL-90 was the only ADS-B transceiver suitable for general aviation. It weighed nine pounds and was installed in the tail of the aircraft. The encoder and antennas were required for proper system interface, and the GMX-200 was added to analog aircraft only to provide a larger ADS-B presentation.

The GMX-200 was by far the most capable of any of the ADS-B displays evaluated at UND because it provided both ADS-B traffic and weather information and a host of other features. The Avidyne MFD, Garmin 430 screen, or G-1000 MFD's (installed in the new Cessna fleet) were not as capable as they could not display weather---only traffic. Below is the GMX-200 traffic display.

Figure 4 – GMX-200 Multi-Function Display

In this display you can see ADS-B traffic symbols, call signs, relative altitude, direction of travel, and (reference target at 11:00) a down arrow to indicate that the target is descending at least 500 feet per minute. Specific targets can be highlighted to gain additional information, such as aircraft type, distance from receiver aircraft, and ground speed. Once again, these additional features were not available on the other display models.

In addition to cockpit displays, ADS-B information was also available to flight instructors for their preflight preparations through dedicated LCD screens located throughout the UND flight operations area (Figure 5). These displays provided a birds-eye-view of the local training area and gave insight into the general level of flight activity, practice area saturation, satellite airport utilization, and general weather patterns. Flight supervisors and dispatchers also referenced these displays to monitor and manage the daily flight operation. In addition to routine uses, such as practice area assignment, traffic monitoring, and solo supervision, it also played a critical role in locating lost or overdue aircraft. On several occasions ADS-B was used to locate missing aircraft that neither ATC or FSS could find.

Figure 5 – ADS-B Flight Operations Display

As has been suggested, nearly all personnel with access to ADS-B were thrilled by its capabilities. Statistical analysis of more than 26,000 post-flight, instructor, dispatcher, and management surveys showed that ADS-B had made a significant impact on the overall efficiency and safety of UND's flight operation. Pilots flying ADS-B equipped aircraft saw twice as many aircraft per flight than non-ADS-B aircraft, had significantly better overall situation awareness with regards to both traffic and weather, and were able to make more timely and accurate in flight decisions. Personnel on the ground reported that ADS-B had likewise made a significant improvement in their capabilities and was viewed as an essential element in their daily management of the flight operation.

Despite these obvious benefits, UND flight instructors voiced concern regarding several aspects of ADS-B operation. For example, ADS-B has a disconcerting habit of displaying false traffic (Figure 6). These "ghost targets", as they are called, will sometimes appear nearly on top of the receiver aircraft. They are caused by faulty GBT filters which erroneously display the receiver aircraft as its own target. This can obviously get a pilot's attention in a big way. The FAA is addressing this problem and future GBT improvements should eliminate it.

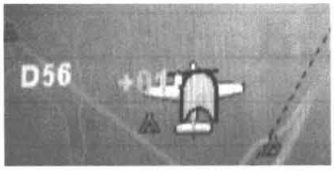


Figure 6 – Ghost Traffic

Flight instructors also voiced concern that over-reliance on ADS-B was having a negative impact on basic scanning and aircraft position reporting skills. Pilots must be reminded that ADS-B cannot display traffic that is not transmitting ADS-B signals or being painted by radar (TIS-B traffic). A balance must exist between basic see-and-avoid efforts and the heads-down time devoted to ADS-B displays.

Avionics technicians also experienced a number of challenges when installing the new ADS-B equipment. Several compatibility issues arose between the new ADS-B components and various other black boxes in the aircraft. In some cases, equipment manufacturers themselves were unaware of these problems and could not provide solutions. UND technicians were thus left to their own troubleshooting efforts to determine root causes and to engineer solutions. As ADS-B technology evolves, however, fewer problems are anticipated.

Despite these initial challenges, overall, UND was extremely impressed with ADS-B–so impressed, in fact, that ADS-B equipment is now being installed in their new fleet of Cessna aircraft and paid for it out of their own pocket. ADS-B is considered a vital link in the efficiency and safety of UND's overall flight training operation and well worth the expenditure. To put it in a nutshell, UND's ADS-B experience is best summarized by this final flight instructor comment: "Best box in the airplane–I feel naked without it!"

Mandan - Beaulah - Garrison Fly-In Breakfasts

Photos by Amy Taborsky

The weather couldn't dampen the spirits of all who showed up for the Mandan Airport fly-in breakfast.

Gene Wink, a WWII pilot reminisces while he studies the historical artwork of Scott Nelson on display at the Mandan airport fly-in breakfast.

North Dakota Aeronautics Director Larry Taborsky takes a peek inside a '73 Midget Mustang owned by Eric Klein at the Beulah Airport fly-in breakfast.

A T-28 kept guests at the Beulah Airport fly-in breakfast shaded as they watched flying demonstrations by Shawn Morten of Dakota Helicopters.

The Garrison Airport fly-in breakfast had plenty for the young pilots of tomorrow to look at as Blake Rustad, Dan Rouse and Dalton Rouse wave goodbye to Chris Susie while he taxies to leave the Garrison Airport.

Breakfast was a hit at the Garrison Airport fly-in where the Garrison Fire Department cooked up biscuits and gravy, and eggs.

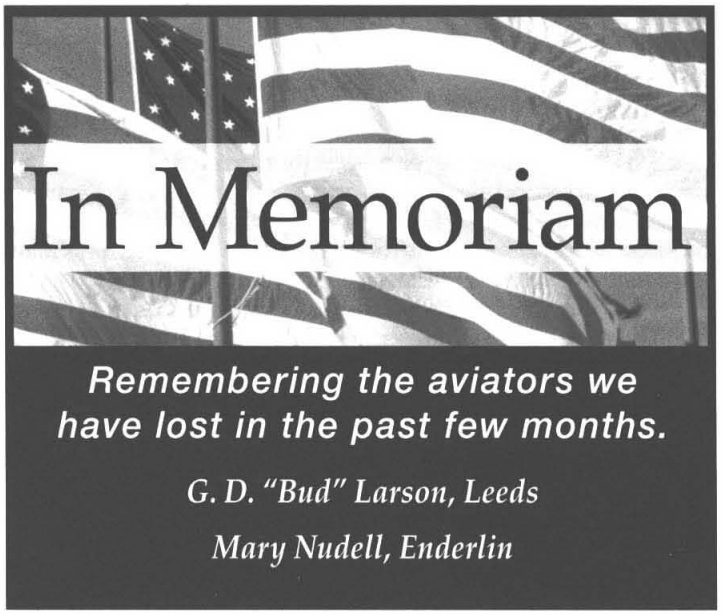
FAASTEAM CFI/DPE WORKSHOPS

By Al Skramstad

Module 3 - Fargo - June 13 - Sport Pilot/IACRA
Module 4 - Minot - August 8 - Security Related Special Use Airspace/TSA
Module 5 - Bismarck - November 14 - Safety Trends in GA/Risk Management-Risk Intervention Strategies

FAASTeam CFI/DPE Workshops are planned in cycles. A cycle consists of 8 quarterly workshop events and takes 24 months to complete. After the completion of a Workshop cycle (Workshops #1 through #8), including all required Core Topics, the FAASTeam CFI/DPE Workshop cycle will repeat, beginning with Workshop #1.

1. At least one FAASTeam CFI/DPE Workshop will be scheduled per quarter.
2. All Workshops at all locations, held during a quarter, will present the same Core Topic Module.
3. Each Workshop will be at least 3 hours in duration. Minimum of 2 hours must be scheduled per Workshop to cover the Core Topics. A Minimum of 1 hour must be spent discussing local CFI/DPE issues in an interactive mode.
   Additional time at any Workshop may be devoted to CFI/DPE collaboration and/or break-out group development of "Best Practice" solutions to aviation accident causal factors.
4. The CFI/DPE interactive discussion in each Workshop will include a targeted analysis of the FAASTeam's most current accident statistics, the associated causal factors, and any relationship(s) to the appropriate Practical Test Standards.
5. Attendees can attend any workshop in any area, and can start their 24-month cycle at any time and on any workshop.
   A person who attends any FAASTeam CFI/DPE Workshop, held at any location, will receive nationally recognized credit for that Workshop.
6. CFIs (who's CFI has not expired) that meet the minimum participation in all 8 workshops within a cycle are eligible to renew their flight instructor certificate.
   If you're unable to register due to attendance limitations, please email Allan Skramstad, askramstad@ideaone.net or call (701)282-8198.



OFFICE OF RUNWAY SAFETY SUMMER INITIATIVE

By Wes Timmons, Director FAA Office of Runway safety

A beautiful May afternoon, sunset was almost three hours away. A Cessna C172 was on 2-mile final when it was instructed by air traffic control to go around for a Cessna C152 holding in position on the runway. The pilot of the 172 acknowledged, but continued to descend toward the runway. Alarmed, the controller repeated his instruction to go around which the 172 pilot again acknowledged. Finally, the 172 passed over the aircraft holding in position by 200 feet and performed a touch-and-go. In a later interview, the pilot explained that he did not know what "go around" meant; it was only his third time flying at a towered airport.

10:45 AM on a hot August morning. A student solo pilot in a Cessna C172 was instructed to taxi to the runway via taxiways W and S. The student, however, missed the turn on S and entered the runway as a second aircraft was on departure roll. The departing aircraft saw the taxiing C172 enter the runway and believed a collision was imminent if he rotated. Instead he aborted his take-off, veering to the side and passing the C172 by 10 feet.

Summer increase in runway incursion risks

These stories are representative of a recurring problem for airports, and in particular, airports that serve large general aviation populations: the seasonal increase in runway incursions during the summer months—roughly May through August (see figure). Based on data from 2001 to 2008, in a typical January there are about 55 runway incursions (RI) nationwide, but May-August average over 80 RI's per month.

What accounts for this increase? Certainly the summertime increase in traffic is one explanation; more operations mean more opportunities for mistakes. Traffic, however, is not the whole story. A breakdown of the statistics shows that most of the increase is attributable to pilot deviations. Moreover, while commercial carriers typically averaged 9-10 pilot deviation RI's per month during the 2001-2008 period, general aviation RI's tend to sharply increase during the summer months from a low of about 20 in January to an average of almost 35 per month for May-August—a 75 percent increase.

Examinations of official reports and discussions with pilots and controllers point to several underlying causal factors:

- Lack of familiarity with layout and procedures at towered airports. Pilots based at non-towered airports who use towered facilities (for example, to practice IFR approaches) must take the time to thoroughly familiarize themselves with the airport layout, procedures, and phraseology for movement on the airport surface.
- Pilot reluctance to ask for help when confused about their position. Anecdotal reports indicate that general aviation pilots are sometimes reluctant to ask for help when uncertain about their location. This reluctance can be exacerbated during heavy periods when controllers, busy with several aircraft or preoccupied with other duties, issue quick instructions and miss subtle cues that a pilot is unfamiliar with the airport.
- Communication errors. Common communications errors include taking a clearance meant for another aircraft or vehicle—in particular, when callsigns are similar, misunderstood communications, incorrect readback and hearback, or acting on an anticipation of a clearance. The underlying causal factor, though, can often be traced to the seasonal pilot's inexperience with proper communications procedure and surface movement phraseology.

FAA Summer Runway Safety Initiative

Faced with this challenge, the FAA Office of Runway Safety is launching a summer initiative aimed at reducing runway incursion risks. This year, the effort is targeted in selected northwest and upper mid-west states where historically the May-August increase in RI's has been the most pronounced. In the future, the plan is to expand the program across the country and incorporate the lessons learned this year.

Pilots may not always take the time to read available FAA-produced literature on runway safety, or study the Runway Safety Office website. Thus, the primary objective of the initiative is to contact as many pilots as possible using multiple methods to highlight the critical importance of runway safety—especially for pilots who do most of their flying during the summer, and who therefore may be a little rusty on surface movement best practices.

The summer campaign started with a mass mailing to pilots in specific areas within each of the targeted regions. This will be followed by an e-mail notification with links to further information, pilot's meetings, and briefings to facility and ATC management.

How can you help reduce the risk of an incursion?

Allow extra time to study the airport diagram when planning any flight to or from a towered facility. Keep a copy readily available in the cockpit. Current airport diagrams are available free of charge online at http://www.naco.faa.gov.

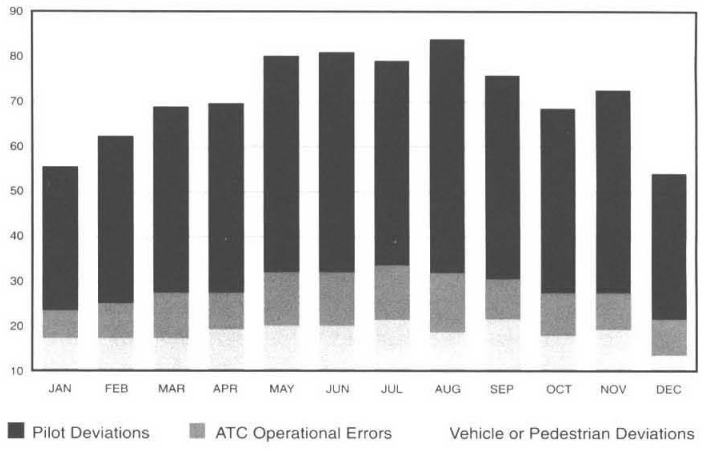
Develop a good working knowledge of standards for airfield signs and markings to help maintain situational awareness while operating on the airport. The Aeronautical Information Manual (AIM) is an excellent resource for this information. If you are uncertain about your position on the airport surface and not on a runway or otherwise creating a safety hazard, stop and contact air traffic control. Always remember "if in doubt… ask."

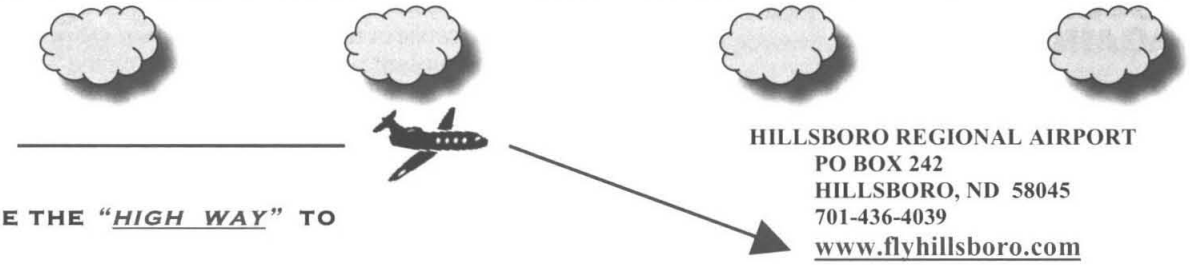
Listen carefully to and read back all air traffic clearances. In particular, the use of any runway, under all circumstances requires ATC clearance. Take a moment to review and clearly understand the requirements associated with "taxi to" clearances in Part 91.129. If you are uncertain about a hold short instruction or whether or not you are cleared to enter or cross a runway, stop and contact air traffic control. Always remember "if in doubt… ask."

Practice heads-up and heads-out when taxiing. Avoid any cockpit task that could be a distraction from navigating safely on the airport. Checklists, programming, and other pre-flight activities should be completed while the aircraft is stopped.

In almost all cases, breaking the chain of events that lead to an incursion can result from your efforts to reduce risk and make safety a priority. Through its summer initiative, the FAA is confident that you can help reduce runway incursion risks and enhance the fun of summer aviation.

Average Monthly Runway Incursions, 2001-2008





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- Airport Terminal and lounge
- Weather station and computer system (wireless internet available – no charge)
- Flying club memberships
- New Full Service FBO on field (see ad below)
- Youth Flight Activities
- Annual Fly In (held in summer)

LOCAL HILLSBORO ATTRACTIONS

Goose River Golf Club – 9 hole golf course (701-636-5556)
Hillsboro Inn Hotel – Pilot special $38/night (701-436-5501)
Museum's (Plummer House and agriculture museum)
Goose River Park (swimming pool and camping)

Dining:

- Burger King
- Chicken Shack
- Country Hearth
- Paddle Wheel
- Pizza Ranch
- Sports Bar and Grill
- Subway

Night Life:

- Sports Bar
- Paddle Wheel
- Vets Club
- A&R Bar
- Granny's Bar

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THUNDERSTORMS ... IT'S THAT SEASON AGAIN!

By Dana Siewert, FAA FAASTeam, UND

Thun-der-storm - n. A large dark cloud charged with electricity and producing thunder and lightning. Known to be extremely hazardous to aircraft.

Year after year, numerous articles are published about why pilots should avoid thunderstorms. Yet annually, 25% of all weather-related aircraft accidents involve encounters with this weather phenomenon. The National Weather Service (NWS) estimates 100,000 thunderstorms develop each year in the United States! On average, 44,000 thunderstorms occur each day around the world. There are four categories of thunderstorms:

Single Cell Storms

Typically last 20-30 minutes. Pulse storms can produce severe weather elements such as downbursts, hail, some heavy rainfall and occasionally, weak tornadoes.

Multicell Cluster Storms

A group of cells moving as a single unit, with each cell in a different stage of the thunderstorm life cycle. Multicell storms can produce moderate size hail and weak tornadoes.

Multicell Line Storms

Multicell line storms consist of a line of storms with a continuous, well-developed gust front at the leading edge of the line. Also known as squall lines, these storms can produce small to moderate size hail and weak tornadoes.

Supercells

Defined as a thunderstorm with a rotating updraft, these storms can produce strong downbursts, large hail and weak to violent tornadoes.

A pilot's inability to make a good aeronautical decision, relative to flight during thunderstorm season, can be disastrous! Some key points to remember:

1. Always get an official weather briefing before every flight!

2. Hail is one of the greatest hazards produced by thunderstorms. Because hailstones are carried upward on strong updrafts and blown downwind, hail can occur as far as 15 miles away from the storm cloud itself. This information alone should give you a good clue as to how far away, at a minimum, to fly from the thunderstorm cell(s) should you make a "go"decision.

3. Turbulence is found in all thunderstorms. These updrafts and downdrafts are potentially destructive to any type aircraft!

4. Lightning is caused by the discharge of electrical voltage within, or between a cloud. While the potential for injury in an aircraft by lightning is low, a lightning strike can cause severe damage to aircraft electrical equipment.

5. Always know the direction of movement of the cell(s). Keep in mind however, that while deviating around cells may be possible, there are no guarantees! Holes between developing thunderstorms can close in very quickly. It's also very unlikely you'll be able to out-climb a developing cell. For most general aviation pilots, the safest option when confronted with thunderstorm activity is to stay on the ground, or find a place to land. Be sure to pick an airport that's at least 20 miles from the storm. The further the better! That will allow for time to make a safe landing and secure the aircraft.

Finally, some food-for-thought. On June 1st, an Air France jet with 228 people on a flight from Brazil to Paris vanished over the Atlantic Ocean after flying into towering thunderstorms and sending an automated message that the electrical system had failed. While it will be many months, perhaps years, before the probable cause of this tragedy is known, it appears for now anyway, that violent weather may have played a factor.

Siewert is presently the Director of Aviation Safety at the University of North Dakota. He also directs safety programs at three UND satellite sites including Phoenix, Arizona; Spokane, Washington and Crookston, Minnesota. Mr. Siewert is also a designated FAA Pilot Examiner for Private through Airline Transport Pilot and Flight Instructor certificates.

HAVE YOU REGISTERED WITH FAASAFETY.GOV ?

By Steven R. Hoogerhyde, FAASTeam Program Manager

Here are just a few things FAASafety.gov offers:

1. Set preferences for information specific to what you want
2. Learning Center Library
3. Online Courses
4. Variety of Online Resources
5. E-mail Notification of Safety Seminars
6. Receive Safety of Flight Information
7. Local Safety Contact Information

Register today and receive automatic safety updates and join more than 300,000 other airmen who now use the Safety Program Airmen Notification System (SPANS). As a SPANS user, your personal profile information is protected from public use. New information is added continuously to keep you updated and current on safety related issues. So what are you waiting for?

SECURITY COMPLIANCE DEADLINE IS HERE !

The deadline is fast approaching for compliance with the Department of Homeland Security Rule. On December 18, 2009, the Department of Homeland Security (DHS), US Bureau of Customs & Border Protection (CBP) issued a new rule that affects private aircraft operating on international flights. The rule, title 19 CFR Part 122, is titled "Advanced Information on Private Aircraft Arriving and Departing the United States." Compliance with the new regulation has been voluntary since December 18, 2008; however compliance became mandatory effective May 18, 2009. The DHS final rule can viewed at: http://edocket.access.gpo.gov/2008/pdf/E8-26621.pdf

Beginning May 18, 2009, all general aviation flight arriving into or departing out of the United States require the pilot to electronically submit crew and passenger manifest along with other flight information to the CBP using their electronic advance passenger information system (eAPIS) website or through and authorized third party vendor. This new rule does not apply to domestic flights.

Pilots failing to meet these reporting requirements can be fined $5,000 for the first violation and $10,000 for each subsequent violation.

Pilots are encouraged to become familiar with the CBP crew and passenger manifest reporting requirements prior to planning any flight across the US borders. More information can be found at the US Customs & Border Protection website: http://www.cbp.gov/xp/cgov/travel/pleasure_boats/private_flyers

Be Informed and Fly Safely !

91.213(D) VS. MMEL VS. PART 91 MEL

By Vance Q. Emerson, FAA FSDDO

This quarter I have focused my energy towards a discussion on operating your aircraft with inoperative equipment under part 91 rules.

There are three acceptable methods to operate your aircraft with inoperative equipment, and these options are:

You can produce a Minimum Equipment List (MEL) with the respective maintenance and operations procedures, also identified as your procedures document. You will then request authorization from the local FSDO to use the MEL you created and the FSDO may issue you a Letter of Authorization. Your MEL, the developed procedures document and the Letter of Authorization will constitute an STC for your specific aircraft.

Another option for part 91 operators is to identify and request the Master Minimum Equipment List (MMEL) as your MEL. The operator is required to make a written request to their local FSDO asking for authorization to use the MMEL as their MEL. The FSDO may issue you an LOA identifying the MMEL as your MEL. The operator is then obligated to follow the limitations set forth on the LOA.

The operators most likely to employ one of the two options listed above are turbine operators or operators of large aircraft (over 12,500 gtow), since §91.213(d)(1)(i-ii) EXCLUDES them from using that regulation as a means to operate with inoperative equipment.

Your third option is to utilize §91.213(d)(1-4). Regulation §91.213(d) identifies the limitations and procedures associated with operating an aircraft with known deficiencies without an MEL and LOA. If you own/operate a single/twin reciprocating engine aircraft this option is the easiest way for you and your mechanic to manage inoperative equipment.

So which option is the best for you? Turbine operators only have one choice and that is the MEL or MMEL option. Between the two the easiest authorization to obtain is to request the MMEL as your MEL.

Flight departments operating twin piston powered aircraft, the MMEL as your MEL option may be your best choice. I only say this because, GENERALLY working off of the MMEL will give you some more room to work if you are dealing with complex aircraft. An example would be fuel indicating systems. §91.205 requires a fuel indicating system to be installed and operational, as a result utilizing §91.213(d) is not an option. However, if you had an LOA allowing you to operate with inoperative equipment with the MMEL you could keep flying by verifying the fuel level prior to takeoff. All of this is dependent on the complexity and revision status of the MMEL. It is the operator's responsibility to verify they are utilizing the most current MMEL revision.

The most current MMELs can be found at:
http://fsims.faa.gov/PublicationForm.aspx

For the weekend pilot flying his or her single engine piston powered aircraft §91.213(d) is your best approach.

Now I want to take some time to emphasize the responsibilities of the operator and mechanic as they relate to operating aircraft with inoperative equipment. SIMPLY ACKNOWLEDGING A PIECE OF EQUIPMENT IS INOPERATIVE VIA A NOTE ON THE WORK ORDER OR A TELEPHONE CALL OPENS THE DOOR TO A VIOLATION. CFR §43 and §91 identify placarding, removal of equipment and/or deactivation of the system, and applicable maintenance entries to be performed prior to operating the aircraft with inoperative equipment. The careless omission or improper documentation of any of the preceding actions once discovered by the Administrator will likely result in an investigation.

I have only covered the tip of the iceberg with respect to operating with inoperative equipment. If you are interested in obtaining an MEL for your aircraft please contact a Principal Operations Inspector at the FSDO.

Fly Safe

KNOWN "BEST PRACTICES" FOR AIRFIELD SAFETY

1. Encourage use of correct terminology and proper voice cadence.
2. Eliminate distractions in the operational area.
3. Obtain and use airport diagrams. Use the FAA runway safety website to find airport diagrams for all airports.
4. Conduct "Clearing Turns" prior to entering ANY runway.
5. Maintain a sterile cockpit when taxing.
6. Maintain appropriate Taxi speed.
7. Encourage pilots to have their "eyes out" when taxiing.
8. Encourage pilots to have a "heads up" policy when taxiing.
9. Attend safety seminars and programs and RUNWAY SAFETY.
10. Improve safety by teaching, advocating, stressing and understanding situational awareness.
11. Customize RUNWAY SAFETY presentations for targeted audiences such as pilot organizations, safety seminars, airport authorities, etc.
12. Cite specific airport RUNWAY SAFETY web pages.
13. Distribute RUNWAY SAFETY materials to every aviation entity.
14. Package and distribute runway safety materials to: Flight Schools, Flight Safety International, Maintenance Centers, Aircraft Manufacturers, etc.
15. Realize that every airport is unique and presents its own set for RUNWAY SAFETY challenges.
16. Stay alert; state alive.
17. Declare war on errors; make it everyone's responsibility.

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

RETURN SERVICE REQUESTED

CALENDAR OF EVENTS

July 15th, 2009
Hillsboro Airport (3H4) Fly-In
5 pm till dark
Brats, beans, and whatever else we can find in the fridge.
There will be food, there will be fellowship,
and Duggy will be here with a smile on his face!!!
(This thing is happening this time – rain or shine!)

July 18, 2009
Minot Air Force Base
Northern Neighbors Day & Civilian Fly-In
Contact: 5th Bomber Wing Flight Safety
(701) 723-7271

July 25, 2009
Northwood
Old Fashioned Saturday
Fly-In Breakfast
7:00 am - 10:30 am
Contact: Craig Hanson
(218) 779-2928

July 27 - August 2, 2009
EAA AirVenture
Oshkosh, Wisconsin
www.airventure.org

August 9, 2009
Dickinson Airport
Planes on the Prairie
Contact: Matthew Remynse
(701) 483-1062

August 16, 2009
Planes on the Plains
Casselton Regional Airport
Contact: Robert Miller
(701) 347-0201 or 347-5519

August 22, 2009
Blue Angels Fever at the
Fargo Air Museum
Blue Angels and a 50's Rock
and Roll Hangar Dance
Put on your blue suede shoes!
Contact: Fargo Air Museum
(701) 293-8043

August 22, 2009, and
August 23, 2009
Fargo Air Sho - ***Blue Angels***
Fargo Hector International Airport
For more information,
contact FMCVB at
(701) 282-3653.
Also visit :
www.fargoairsho.com

September 20, 2009
Turtle Lake Municipal Airport
Fly-In Breakfast
Contact: Dianne Herr
(701) 448-2253

25th AIRPORT ANNIVERSARY

September 20, 2009
Thief River Falls, MN Regional Airport
Fly-In Breakfast & 50th Anniversary
NCTC Aviation Maintenance Facility
Contact: Joe
(218) 681-5585

Visitors and aviation enthusiasts are invited to join the Fargo Air Museum team Saturday morning , August 22, for blueberry pancakes at Applebee's (located next to the museum) from 8 am - 10 am for $5. The gates for the Fargo AirSho open at 9 am with the show running from 11 am - 4 pm. Consider a special free tour of the museum from 4 - 5:30 pm to view the historic Warbirds, aviation exhibits and library. Across the street, Applebee's will host a "Blue Angel Meet and Greet" at Applebee's from 5:30 - 7:30 pm, followed by a rock and roll 50's hangar concert/dance at the Fargo Air Museum. The well known Shadows, who performed with Bobby Vee, will perform two concert/dance sets at the museum. Tickets are available for $10.