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2024 Nebraska Aviation Symposium

By David Morris



The 32nd annual Nebraska Aviation Symposium

The 32nd annual Nebraska Aviation Symposium was held January 24-27, 2024. This was the third year the symposium was held at the Crown Plaza in Kearney (EAR) with the Nebraska Aviation Council (NAC) organizing the event.

While registration began on Wednesday, January 24 at 1:00 p.m., guests who had pre-registered were able to attend a second year of Airport Management 201 from 12:00-4:00 p.m. This session was for all airport managers and was directed by Jeff Kohlman, Aviation Management Consulting Group (AMCG). During this presentation, exhibitors began to assemble their displays, finishing in time to enjoy a reception with all the attendees beginning at 5:00 p.m.

Following the reception, the evening session attracted numerous aviation enthusiasts for a pilot safety meeting. This presentation was led by the FAA FAAS Team and focused on general aviation accidents, to include a discussion on aeronautical decision making and additional comments about the Pinnacle Flight 3701 incident by Mark Gaffney, FAAS Team member. The session included a presentation on aviation issues by Tom Chandler, AOPA Regional Representative.

After registration and breakfast on Thursday beginning at 7:00 a.m., attendees gathered for the general session with opening remarks by Mike Olson, AAE, Chair, NAC. Following the opening remarks, FAA Central Region provided an update on the new FAA reauthorization plan.

Following a break with exhibitors, Nebraska Department of Transportation (NDOT), Director Vicki Kramer and Jeremy Borrell, Director of NDOT-Division of Aeronautics, presented thoughts on the



**Mike Olson addresses
Symposium members**

Vision of Aeronautics and the Value of its Funding. Next on the schedule was Colonel Aaron T. Gray, Deputy Commander, 55th Wing Offutt Air Force Base for an update on the Offutt flooding and restoration that took place recently.

During the Thursday luncheon, awards were presented by Jeremy Borrell. The "Airport of the Year" award went to Hastings Municipal Airport.

Receiving the award was Airport Manager Matthew Kuhr, along with Dan Spellman, Brent Hoops, Glen Brethauer, Jim Howsden, Aaron Shardt, Phil Beta and Jason Haasey. The "Project of the Year" award with honorable mention went to Kearney Regional Airport (EAR) for their Terminal Building Expansion and Remodel. Accepting the award was Andrew Beal and Alexander Bernhardson of Benesch, Jim Lynaugh, Airport Director, and Steve Cole, Assistant Airport Manager. The winning project award went to the Kimball Municipal Airport/Robert E. Arraj Field (IBM), Kimball. Accepting this award was Jeff Wolfe of M.C. Schaff & Associates, Inc., and members of the prime contractor IHC Scott, Inc.

Following the lunch session, Diane Hofer of Olsson Associates, moderated a session on aerial applicators' needs/requirements. The panel members were Randy Prellwitz, Fairbury, Kyle Gress, Nebraska City, Flynn Baker, Aurora Coop and Sean Penner, Aurora Coop.

Sessions in the afternoon included: Airport Wildlife Management with Cody Baciuska, V.P. Loomacres Wildlife Management; a session for pilots with Scott Vlasek, Director, UNO Aviation Institute; CIP Updates/Fuel & Hangar Loan Program with NDOT-Aeronautics; a pilot session with Captain Al Spain, UNK Aviation Program/FAASTeam; and a Nebraska Association of Airport Officials (NAAO) session on their general business meeting and legislative updates. Wrapping up the afternoon was Dr. Daniel K. Berry, Regional Flight Surgeon, FAA Central Region, who spoke primarily about the MedExpress Program and Pilot's Bill of Rights.

After the afternoon opening of registration for the Aviation Maintenance Seminar and a social hour with exhibitors, an evening banquet was held with additional awards presented. Inducted into the Nebraska Aviation Hall of Fame was Rodney Storm. Rodney became actively engaged in the aviation community when appointed the first manager of the Blair Executive Airport (BTA) in 1993. He has championed aviation in many ways, first in Blair and then across the state. Rodney was active in rewriting state laws regarding airport zoning. Rodney was also an activist in legislation that resulted in many needed improvements to the state's airport system.

Also inducted into the Nebraska Aviation Hall of Fame posthumous was James (Jim) C. Kelly. Jim started his career in aviation as a flight instructor in the Army Air



The "Airport of the Year" award went to Hastings Municipal Airport

Corps in B-25 aircraft during World War II. Living in the Lexington area, Jim championed many improvements for the Lexington Airport, which was eventually renamed Jim Kelly Field. Jim's campaigning for aviation reached many individuals as well as businesses. He was recognized as a leader and a visionary who cared deeply for his community. Present to accept the award were Jim's brothers Tom, James, and Lt. Governor Joe Kelly.

Friday and Saturday focused on aviation maintenance and provided an opportunity for aircraft maintenance personnel to complete their required continuing education as well as their FAA Aviation Maintenance Technical (AMT) awards. ■



Above: Hall of Fame recipients, award posthumous as L-R brothers James Kelly, Tom Kelly and Lt Gov. Joe Kelly. Below: Rodney Storm, one of the new Hall of Fame inductees, and in the background presenter Bob Tooker retired Duncan Aviation employee

Fastest Man on Earth

By David Morris

While the Wright brothers were trying to sell their aircraft, another aviation pioneer was entering the scene. Glenn Curtiss, a teenager in Hammondsport, New York, had turned his natural engineering talents to building gasoline engines for the motorcycles he loved to race, and was beginning to catch the interest of men in other fields. In 1907, Mr. Curtiss became known as the “fastest man on Earth” when he set the motorcycle speed record of 136 mph.

Mr. Curtiss’ motorcycle engines were so light and powerful that a balloonist named Thomas Baldwin asked Mr. Curtiss to build an engine for use on an airship. Mr. Baldwin’s airship, with its Curtiss engine, became the first powered dirigible in the United States. Other balloonists soon followed Baldwin’s lead and turned to Curtiss for engines for their ships. Another of his engines was used to power the first U.S. Army aircraft – the dirigible SC-1 (Signal Corps-1). Airplanes soon replaced motorcycles as Glenn Curtiss’ first love, and the “fastest man on Earth” went into the business of making flying machines.

In 1907, Curtiss and Alexander Graham Bell founded an organization called the Aerial Experiment Association. This organization designed and built several aircraft including the first American aircraft to be equipped with ailerons and the first seaplane to be flown in the United States.

In 1909, Glenn Curtiss won recognition for his fastest two laps around a triangular 6.21-mile course at an average speed of 47 mph. In the following years, the Wright brothers and Glenn Curtiss opened flying schools and went on to train the first two Army pilots.

Between 1904-1919, flight was in its formative years. Most people in the United States still looked at airplanes as toys and couldn’t understand that they could be put to practical use. As aviation progressed there became a far greater understanding of aviation as something useful. ■

Who was Robert Esnault-Pelterie

By David Morris

The Wright brothers’ wing-warping technique was a clumsy method to control the airplane. In Europe, a Frenchman named Robert Esnault-Pelterie built a Wright-style glider in 1904 and used ailerons to replace the wing-warping technique. Although Matthew P.W. Boulton had described the operation of ailerons in his 1868 British patent (No. 392), no one had actually built the devices to control lateral balance until Esnault-Pelterie’s 1904 glider. His use of ailerons spurred designers in several nations to experiment with their own aileron designs. Esnault-Pelterie also built the first fully enclosed fuselage airplane. ■

Intersection Names

David Moll, CFI, CFII, MEI, ATP

In a prior article, I wrote FAA Intersections had “weird names,” and in my opinion that is a very accurate statement, but do you know how they got those names? Assuming everything on the internet is exactly true, let’s see what the criteria is.

Occasionally local FAA employees will recommend a name be assigned to a fix. The Office of Aeronautical Information Management will check to make sure it is five letters long, unique, pronounceable, not obscene or controversial. Sometimes a fix can be named after an individual. An example of this is a fix while flying into the Dekalb-Peachtree KPDK airport in Atlanta Georgia where there is DEHAN intersection, plus the RNAV arrival procedure is named DEHAN3. This was named after an ATC controller who was also a corporate pilot by the name of Michael Dehan.

Flying into Orlando International (KMCO) Disney World clearly has some impact on intersection names. There is the MINEE5 arrival, with an intersection named MINEE. I can only guess this is a reference to Minnie Mouse. I’m also familiar with arrivals named GRNCH and GOOFY.

One article I read from aerosavvy.com had a reference to one fix I was not familiar with. At the Louisville Muhammad Ali International airport, on the ILS to 35L is an intersection called AWLEE. This is clearly showing respect to a Louisville native and the greatest boxer of all time, Muhammad Ali. Even Omaha has an intersection on the ILS 14L named BUFFT, also showing respect to the Oracle of Omaha, Warren Buffett.

While the above intersection names fit the requirement of being pronounceable, there are many that are not as easy.

RNAV14 here in Lincoln have ZUBTO as its initial approach fix, followed by OPIZU and HAGTI. These are not normal words anybody would use in their daily conversations, so how do you pronounce them if you are unsure? First of all, this is where a preflight briefing on the route, its intersections, crossing altitudes, speeds and their names, especially if this is a new route to the crew. Assuming the SIC is the non-flying pilot handling the radio, he or she must be totally familiar with these names. A simple procedure is to pronounce the intersection name just as ATC pronounces it, and pretty soon it makes perfect sense. The PIC retains full responsibility the crew understands what intersection ATC assigned you. This relates back to following your route using charts originally developed by Elroy Jeppesen. Bellevue ■

Migration Season in Nebraska



Jeremy Borrell

As I am writing this article, the temperature in Lincoln is 50 degrees and there is almost no sign of our recent snow events. While we are not yet to the Spring Equinox (March 19th), it is certainly on the horizon and feels a bit like spring at the moment. Because it is Nebraska, we can likely expect additional winter weather in the coming weeks or months, but many aviators will be taking advantage of the favorable conditions to get out and fly. Spring in Nebraska is a beautiful time of year, yet it brings with it some hazards that should not be overlooked.

Pilots share the airspace across the state with a significant number of waterfowl and other migratory birds including Sandhill Cranes. Nebraska is located in the central flyway and over the last several weeks, we have seen a significant increase of Canadian Geese flying through and we will begin to see the influx of Snow Geese and Sandhill Cranes. These species provide opportunities for sportsmen and women across Nebraska and serve to attract ecological tourism to our beautiful state. While this massive concentration of birds is amazing to see, it also constitutes a significant hazard to all aspects of aviation. The preliminary investigation surrounding the recent medical helicopter crash in Oklahoma indicated the presence of a goose (or geese) in the wreckage.

Bird strikes can cause significant and sometimes catastrophic damage to aircraft. It is important that aviators always maintain vigilance for birds, but the spring and fall migration makes it even more critical. As part of the flight planning process, it should be noted if there are NOTAM's for bird activity at departure or arrival airports. Airport operators can help communicate this information to transient pilots who may be unfamiliar with the seasonal migration pattern. Planning ahead and maintaining situational awareness can help reduce the potential for bird strikes or improve the response to an unavoidable scenario. ■



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Cost Effectiveness

By David Morris

In the past many businesses bought an aircraft based on speed plus the longest trip their employees traveled. This led to aircraft that were underutilized. For example, if a company makes only one 2,000-mile trip a year and all the rest are 300 miles, the company should consider if it really needs an airplane with a 2,000-mile range. Perhaps it would be better to purchase an airplane with a 500-mile range and consider other options for the 2,000-mile trip. A turboprop can make a 500-mile flight in 2 hours 15 minutes; a turbo jet can make the same flight in 1 hour 50 minutes. The turbojet saves 25 minutes on the flight. However, it costs a million dollars more to buy and burns 600 gallons more fuel on the trip. We should ask ourselves if 25 minutes savings is worth the additional cost? Many businesses are starting to look at these options.

As we look at and compare some of the aircraft used in business aviation, we should look at executive aircraft and business aircraft separately. Remember, the difference between a business aircraft and an executive or corporate aircraft is only in who is flying it. Many of the aircraft available as executive aircraft can be used as business aircraft, and vice versa. ■

More than 100,000 NASA Reports Expected to be Filed in 2023

General Aviation News

The year 2023 has been “a banner year” for NASA’s Aviation Safety Reporting System (ASRS), according to officials. “ASRS’s business of collecting, analyzing, and disseminating all kinds of aviation safety data has approached pre-pandemic levels and continues to grow,” officials reported in a year-end round-up of the Callback Newsletter.

They report more than 100,000 reports – commonly referred to as NASA Reports – will be filed this year, a 52% increase over 2020 levels.

“One benchmark of ASRS success is the number of alert notices that ASRS generates to provide critical safety information to responsible parties. At present pace, this number will approach 243 in 2023 and will best 2020’s yield by 52% as well,” officials noted.

To learn more about the ASRS program, go to [ASRS.arc.nasa.gov](https://asrs.arc.nasa.gov). ■

17-Yo Pilot Gains PPL Via High School Program

By Omaha University Kickstarts Careers Before Graduation



A dual-enrollment program in Omaha, Nebraska, is turning out private pilots younger than ever, with recent alum Thomas Reid finishing his check ride at seventeen.

He’s attending Burke High School’s Air and Space Academy, a section of the school made in partnership with the University of Nebraska Omaha’s Aviation Institute. The program allows high schoolers to log college credit for

appropriate courses, most of which sit somewhere in the 100 to 110 levels. Reid said enrolling in the program was an obvious choice for him.

“I first started getting interested in aviation in middle school,” Reid says. “Just from random YouTube videos, aircraft

investigations and general stuff. When Burke had an aviation program, it just kind of made sense.” Thanks to their UNO partnership, they even boast the same type of in-school flight simulator has proven particularly popular among video game enthusiasts, allowing them a realistic challenge in a familiar environment.

“It was just like addicting,” says Reid about his first time in the simulator. “I

just kept wanting to come back and do more, like I’d always try to get my work done early like ‘can I go fly the simulator?’ “Mrs. Rosenberg, let me go fly the simulator!”

The UNO Aviation partnership doesn’t quite extend to actual flight time, however. Most of their work is relegated to the ground and sim, giving students a solid base to draw from if they can fund their flight training after school. Reid made plenty of use of the flight sim, practicing his maneuvers after each lesson to show up to the next one as spot-on as he could be. Reid had plenty of practice heading into his check ride, too, taking the test with 55 hours in his logbook. He passed on the first try, getting his PPL at 17. So far, he’s on the right track, planning to move on up to UNO’s Aviation Institute once graduated. From there, it’s on to instructing and the airlines. ■

Spins

By David Morris

A major cause of fatal accidents in general aviation airplanes is a spin. Stall demonstrations and practice are a means for a pilot to acquire the skills to recognize when a stall is about to occur and to recover as soon as the first signs of a stall are evident. If a stall does not occur- a spin cannot occur. It is important to remember, however, that a stall can occur in any flight attitude, at any airspeed, if controls are misused.

If an airplane is placarded against intentional spins, one should presume that the airplane may become uncontrollable in a spin. This is why airplanes are placarded against intentional spins, and this is why stall avoidance is our protection against an inadvertent spin.

In any twin engine airplane, fundamental aerodynamics

dictate that if the airplane is allowed to become fully stalled while one engine is providing lift-producing thrust, the yawing moment which can induce a spin will be present. Consequently, it is important to immediately reduce power on the operating engine, lower the nose to reduce the angle of attack, and increase the airspeed to recover from the stall. In any twin engine airplane, if application of stall recovery controls is delayed, a rapid rolling and yawing motion may develop, even against full aileron and rudder, resulting in the airplane becoming inverted during the onset of a spinning motion. Once the airplane has been permitted to progress beyond the stall and is allowed to reach the rapid rolling and yawing condition, the pilot must immediately initiate the

generally accepted spin recovery procedure for multi-engine airplanes: (1) Immediately move the control column full forward, (2) apply full rudder opposite to the direction of the spin, (3) and reduce power on both engines to idle. These three actions should be done as near simultaneously as possible; then continue to hold this control position until rotation stops and finally neutralize all controls and execute a smooth pullout. Ailerons should be neutral during recovery. The longer the pilot delays before taking corrective action, the more difficult recovery will become.

Always remember that extra alertness and good pilot techniques are required for slow flight maneuvers, including the practice or demonstration of stalls or Vmca. ■

Vortices Wake Turbulence

By David Morris

Every airplane generates wakes of turbulence while in flight. Part of this is from the propeller or jet engine, and part from the wing tip vortices. The larger and heavier the airplane, the more pronounced and turbulent the wakes will be. Wing tip vortices from large, heavy airplanes are very severe at close range, degenerating with time, wind and distance. These are rolling in nature, from each wing tip. In tests, vortices velocities of 133 knots have been recorded. Encountering the rolling effect of wing tip vortices within two minutes after passage of large airplanes is extremely hazardous to small airplanes. This roll effect can exceed the maximum counter roll obtainable in a small airplane. The turbulent areas may remain for three minutes or more, depending on wind conditions and

may extend several miles beyond the airplane.

Remember, wake turbulence descends downward at 500-600 feet/minute and levels off at approximately 800-900 feet. During flight, the safest path to crossing wake turbulence is at a 90-degree angle. Plan to fly slightly above and to the windward side of other airplanes. Because of the wide variety of conditions that can be encountered, there is no set rule to follow to avoid wake turbulence in all situations. However, the Airman's Information Manual, and to a greater extent Advisory Circular 90-23 - Aircraft Wake Turbulence, provides a thorough discussion of the factors we should be aware of when wake turbulence may be encountered. ■

Takeoff and Landing Conditions

by David Morris

When taking off on runways covered with water or freezing slush, a consideration of leaving the landing gear extended for approximately ten seconds longer than normal, might help in allowing the wheels to spin and dissipate the freezing moisture. The landing gear should then be cycled up, then down, wait approximately five seconds and then retracted again. If following this procedure, caution must be exercised to ensure that the entire operation is performed below the Maximum Landing Gear Operating Airspeed.

We must remind ourselves to use caution when landing on runways that are covered by water or slush which cause hydroplaning, a phenomenon that renders braking and steering ineffective because of the lack of sufficient surface friction.

Use caution when taking off or landing during gusty wind conditions. Also, be aware of the special wind conditions caused by buildings or other obstructions located near the runway in a crosswind pattern. ■

Springtime in Nebraska, Get Ready for Thunderstorms

By Mark A. Sheldon, University of Nebraska-Omaha, Aviation Institute

Although thunderstorms can occur during any month of the year in Nebraska, they occur most frequently from April – August. With the start of that season just around the corner, I thought we would look at them and some of the phenomena they produce.

Let's first look at what a thunderstorm is. A thunderstorm is a local storm produced by a cumulonimbus cloud and is always accompanied by lightning and thunder. Thunderstorms can also produce heavy rains, hail, strong winds, severe icing, extreme turbulence, and tornadoes. Pilots should stay at least 20 nautical miles away from thunderstorms. (Foot Stomp!!)



Figure 1 - Supercell over Millard, NE., Jun 29, 2016.

What conditions are needed for a thunderstorm to form? Thunderstorms can develop anytime there is a source of lift (surface heating, fronts, low pressure centers, convergence, or orographic) and the atmosphere is unstable. Moisture is also an important part of thunderstorm development, and the more the moisture the better! As an air parcel is lifted, it will cool, and when it cools to the dew point temperature, clouds can start to form. If the atmosphere is stable, you may only get cumulus clouds to form. But if the atmosphere is unstable, and the air parcel continues to rise, cumulonimbus clouds can form. Thunderstorm heights can range from 20,000 – 80,000 feet tall, and no matter their height, you should respect all of them.

How long do thunderstorms last? Thunderstorms generally last 30 – 90 minutes and go through three stages of development during this time. The first stage is the cumulus stage which is marked by only updrafts. These updrafts can reach speeds of 22 – 34 mph. The second stage is the mature stage which is the most severe part of the thunderstorm development. During this stage, downdrafts begin, and precipitation starts to occur at the Earth's surface. The updrafts during this stage can reach speeds of 56 – 90 mph, and in supercell thunderstorms, the speeds can reach 175 mph. This is also the stage where hail and tornadoes can be produced. The last stage is the dissipation stage, which is dominated by downdrafts. The rain will end, and the thunderstorm will dissipate.

Thunderstorms generally fall into three different categories: air mass, multi-cell, and supercell. Air mass thunderstorms will develop either because of convection, orographic lift, or nocturnal lift. Convective thunderstorms are formed by surface heating and occur mostly in the mid to late afternoon. Orographic thunderstorms form as air is lifted by a mountain. Lastly, nocturnal thunderstorms form at night by lift provided by the low-level jet.

Multi-cell thunderstorms are clusters of single cell thunderstorms. The life cycle is the same as other thunderstorms, but as the storms interact with each other, they can produce even more thunderstorms.

Supercell thunderstorms are the most dangerous, but the least common. A supercell thunderstorm is associated with a rotating mesocyclone and can produce violent tornadoes and very large hail.

What makes a thunderstorm severe? A thunderstorm is classified as severe if it produces winds > 50 knots (58 mph) and/or hail > 3/4 inch.

What is the difference between a tornado and a funnel cloud? A tornado is a rotating column of air extending from a supercell that reaches the ground. A funnel cloud extends from the base of the supercell but does not reach the ground. Tornadoes occur most frequently during May and June in Nebraska but can occur during any month. Tornadoes form because of wind shear. Wind shear is the change in wind speed or direction over a short distance. Let's say the winds at the surface are 18030KT, and the winds at 5,000 feet are 25050KT. This shear causes the winds between the two levels to spiral in a tube. Now, if a thunderstorm develops in the area, the updraft can tilt this spiraling tube of wind horizontally. As the tube is tilted upward, it will shrink in size and start to spin faster. From here, only the perfect conditions will create a tornado.

Another phenomenon that occurs in Nebraska are cold air funnel clouds. Cold air funnel clouds form under weak thunderstorms when the air aloft is very cold. They occur most frequently in the spring and fall, when cold air aloft moves south, and convection is initiated by surface heating. These funnel clouds generally do not reach the ground, but can on rare occasions, and cause minor damage.

Hail is formed within a cumulonimbus cloud anytime it reaches the freezing level. Water droplets are carried upward beyond the freezing level by the updraft where they freeze. The hailstone will grow larger as more water is lifted and freezes on the hailstone that is formed. The hailstone will continue to grow if the updraft can support it. Once it is too heavy, it will fall to the ground. Most hail produced is small (< 3/4 inch) but they can be quite large. The largest hailstone fell in Vivian, SD on 23 June 2010. It weighed 1 lb. 19 oz, was 8

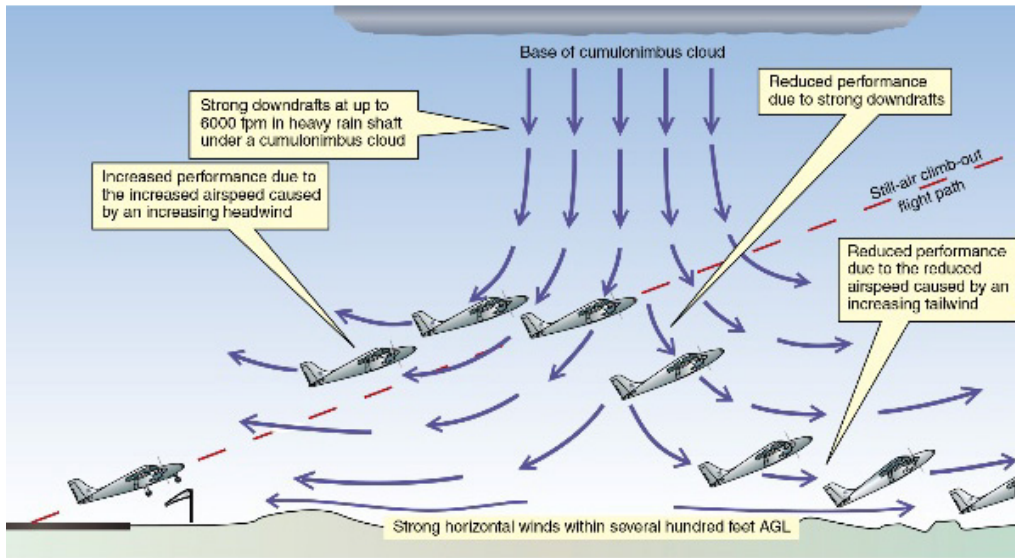


Figure 2- Image credit to learnflyblog.com

inches in diameter and had a circumference of 18.62 inches.

What is a microburst and how can it be dangerous to aircraft. A microburst is a concentrated severe downdraft from a thunderstorm or rain shower that creates an outward burst of damaging winds at the Earth's surface. The occurrence of a microburst is dangerous to aircraft because they create low-level wind shear (LLWS), which as was mentioned earlier, is a sudden change in wind speed and/or direction. Figure 3 below shows a depiction of the conditions you can expect when encountering a microburst.

Microbursts are so dangerous that Low-Level Wind Shear Alert Systems (LLWAS) and specialized Terminal Doppler Weather RADARs (TWDR) have been installed at numerous airports around the United States to help prevent accidents from LLWS.

Another phenomenon that can be created by thunderstorms is a gust front. Also known as an outflow boundary, they are formed when a downdraft from a thunderstorm reaches the ground. The gust front can spread out in all directions or can be focused on a single direction. They can be dangerous as they have upward motion along the front edge, and downward motion behind it. The passage of the gust front is associated with a pressure jump, strong winds, and a significant drop in temperature. You can identify this feature moving at you because it forms an arcus cloud, which is better known as a roll cloud because of the rotation of the cloud as it moves toward you.



Figure 3 - Roll Cloud taken in Millard, NE, Aug 31, 2014.

If a microburst or downburst moves over a weather sensor, you could see a squall (SQ) carried in the present weather section of an observation. It will look something like this: 3/4SM +TSRA SQ. By definition, a squall occurs whenever the reported wind speed increases by at least 16 knots to a sustained speed of 22 knots or more for at least a one-minute period.

The last item I want to talk about are cumulonimbus mammatus (CBMAM) clouds. Because of their ominous appearance, I get more questions about these clouds than any other. CBMAMs are pouches that form on the underside of a thunderstorm anvil

as cool air within the cloud sinks. And contrary to popular belief, these clouds do not mean that tornadoes or hail are going to occur. The clouds indicate there is strong turbulence within the cloud. And yes, if the conditions are there to produce these clouds, then tornadoes or hail could occur.



Figure 4 - Cumulonimbus Mammatus clouds over Millard, NE., May 11, 2014.

So how can you prepare yourself for thunderstorms before you fly? 1. Read the TAFs and observations. Look at all the TAFs and observations along your route and look for any forecasted or observed thunderstorms. Be sure and read the whole TAF. Pay attention to the lines before and after your arrival/takeoff times. For the observation, be sure and read the remarks section. Lots of good information about thunderstorms and lightning will be included there. Doing all of this will give you a complete picture of the weather. 2. Watch the local RADAR. Look at your favorite App or go to the local NWS website and look at their RADAR. 3. If you look at the TAFs/Obs and RADAR, and are not quite sure, get a weather briefing before you take off. If you have any questions about making that Go-No Go decision, you can always call 1-800-Wxbrief and talk to an aviation weather forecaster for assistance.

Safe Flying Everyone!!

Jepp Charts for Navigation

David Moll, CFI, CFII, MEI, ATP

In my last article I mentioned one way to be better organized is by decluttering your multi-function display (MFD), but what about the airplanes that don't have such fancy avionics? While this shows my age, there is such a thing called paper charts. Yes, these ancient flight navigation aids were initially developed in 1934 by Elroy Borge Jeppesen who wrote them by hand. These "Jepps" are now the standard for navigation throughout the world that can be viewed on MFDs, iPads, iPhones, and even on paper.

The correct procedure after loading any navigation box is to read out loud to the other pilot, or to yourself, each fix by name from the Jepp chart, and confirm this with how the long-range box shows it. For example, Lincoln to Grand Island on V138 would have the following fixes: KLNK (Lincoln Airport) - direct to LNK (VOR) - OCEYI - GAMBL - YATDO - BRADY - GRI (Grand Island VOR) and then direct to the Grand Island airport which is KGRI. This way you positively know you've loaded the navigation box correctly and you somewhat know how to pronounce the weird names assigned to these intersections. Remember, the prefix of "K" signifies the airport and not the VOR.

Shortly before Thanksgiving, while leaving the West Coast, our controller was with SoCal Tracon, (Southern California) which is the busiest Tracon in the world. This controller was unbelievably busy, and one of his clearances he issued was something like "...N123 you're cleared direct to Palm Springs." The pilot came back with "is that PSP?" The controller repeated his clearance "direct to Palm Springs." Again, the pilot came back as "is that PSP?" I'm not quite sure where this pilot's head was, maybe sightseeing, but clearly did not verify his filed route or identify each fix and their names. More importantly, where were his "Jepps"?

Here is a solution he should have used: Anytime you are confused which fix you are cleared to, a simple question to ATC asking if that's to the VOR or to the airport, and I guarantee you they will be more than happy to clarify this.

Elroy created the best navigation aids ever imagined, all you have to do is use them. ■

\$15.3 Million Federal Investment to Improve Infrastructure at 21 Nebraska Airports

By Article courtesy of 10/11 NOW

WASHINGTON, D.C. (KOLN) - U.S. Senators Deb Fischer and Pete Ricketts announced on Tuesday that the Nebraska Department of Transportation will receive \$15.3 million in federal funding for airport infrastructure.

"From Omaha to Chadron, Atkinson to Lexington — Nebraska's airports connect our communities, ensure accessibility for travel, and grow the rural economy," said Sen. Fischer. "I was proud to vote for the Bipartisan Infrastructure Law to support Nebraska's airports. Nebraska continues to see a return on that investment, as our state will now receive \$15.3

million to support and maintain essential airports statewide."

These funds will be used to enhance and maintain existing infrastructure at 21 airports statewide. Eppley Airfield in Omaha will get the most funding, with \$5,371,090 allocated towards the airport. This is followed by the North Platte-Lee Bird Regional Airport with \$2,689,920 and Lincoln Airport with \$1,458,000.

"Nebraska's airports are essential to our state's economy," Sen. Ricketts said. "These strategic investments in critical infrastructure will improve safety and support the continued growth of communities across our state." ■

Fun Facts from Boeing

Boeing Website

- A 747-400 has six million parts, half of which are fasteners.
- A 747-400 has 171 miles (274 km) of wiring and 5 miles (8 km) of tubing.
- A 747-400 consists of 147,000 pounds (66,150 kg) of high-strength aluminum.
- The 747-400 has 16 main landing gear tires and two nose landing gear tires.
- The 747-400 tail height is 63 feet 8 inches (19.4 m), equivalent to a six-story building.
- The 747-400 wing weighs 95,000 pounds (43,090 kg), more than 30 times the weight of the first Boeing airplane, the 1916 B&W.
- The 747-400 wing measures 5,600 square feet (524.9 m²), an area large enough to hold 45 medium-sized automobiles.
- Four World War I vintage JN4-D "Jenny" airplanes could be lined up on each of the Boeing 747 wings.
- How much weight does an additional 6-foot (1.8-m) wingtip extension and winglet add to the 747-400 wing? None! A weight savings of approximately 5,000 pounds (2,270 kg) was achieved in the wing by using new aluminum alloys, which offset the weight increase of the wing tip extension and winglet. ■

Test Our Aviation Knowledge

- The record for endurance flights (the longest time in the air without landing) was flown when?
- Why is such a joyous-sounding word as “Mayday” used to declare an emergency?
- On what date is National Aviation Day observed?
- Who was the first active U.S. president to fly in an airplane, and what was the type of aircraft in which he flew?
- For what aeronautical purpose was the tower atop the Empire State Building originally intended?
- Why is that lifesaving device called a parachute?
- is it customary for the captain of an airplane to sit on the left instead of the right?
- Why is the structure used to house an airplane called a hangar?
- German airship designers obviously knew that hydrogen is flammable, and that helium is not. Why was hydrogen used on the ill-fated Hindenburg and other German airships?
- What is the largest number of people ever to fly together on one flight?

Quiz Answers

1. *In 1958 and 1959, Robert Timm of Las Vegas and John Cook of Los Angeles flew a Cessna 172 for 64 days, 22 hours, 19 minutes. Refueling was accomplished by handing a fuel hose to one of the pilots as they flew low and slow over a pickup truck.*
2. *Mayday has nothing to do with the first day of May. It is the Anglicized spelling and pronunciation of the French m'aidez, which means help me, or the latter part of the phrase, (venez m'aider, which means (come) help me.*
3. *April 16, Wilbur Wright's birthday.*
4. *President Franklin D. Roosevelt (FDR) flew to Casablanca during World War II in a Boeing 314 flying boat (a “Pan Am Clipper”).*
5. *The original tower (now at the base of the TV tower) was designed as a mooring mast for transatlantic airships. Gusty winds at the top of the building resulted in several unsuccessful mooring attempts, and the idea was abandoned.*
6. *Literally translated from French, parachute means to guard against a fall.*
7. *The custom seems to have evolved from a maritime rule of the road. It states that vessels approaching each other head-on must pass port to port (left side to left side). Sitting on the left afforded the best view of such a passing vessel.*
8. *The word, hangar, comes from the French word, hangar, which means outhouse or shed.*
9. *The United States had a monopoly on the world production of helium and would not sell this inert gas to the German government*
10. *In 1991, a Boeing 747 operated by El Al Israel airlines took off during an evacuation from Ethiopia with 1,084 people on board. Three births occurred during the flight, which landed in Tel Aviv with 1,087 people on board..*

**Sat. March 23, 2024
11AM to 1PM**

Harlan, IA

Fly in for our FREE soup!

Fly to Harlan, IA (KHNR) to try our collection of homemade soup and chili.



Courtesy of 8-Ball Aviation Club.
Scott Pigsley, Airport Manager
(712) 744-3366



Registration Now Open

The Air Race Classic women's cross-country air race is set to launch June 18 from Southern Illinois Airport in Carbondale, Illinois. The race will conclude June 21 at Northern Colorado Regional Airport in Loveland, Colorado. The total course is 2,628 statute miles.

New Entry Procedures In Effect In Mexico

According to an internal memo, the Mexican Federal Civil Aviation Agency implemented new entry procedures for all foreign aircraft entering the country starting January 1. The new "Single Entry Authorization" (Autorización de Internación Única) is required for all foreign registered aircraft and is valid for 180 days; during that time aircraft may enter and depart Mexico freely.

Events Calendar

Please check the Aeronautics web page for a list of upcoming aviation events.

York Airport (KJYR)
EAA Chapter 1055 Fly-in
Breakfast
(free-will donation)
1st Saturday of the month
8:00 a.m. to 10:00 a.m.

Crete Airport (KCEK)
EAA Chapter 569 Fly-in Breakfast
3rd Saturday of every month,
8:00 a.m. - 10:00 a.m.
Suggested donation:
\$10 for adults; \$5 for kids

3rd Thursday Pilot Lunch
Jams – Midtown
7814 West Dodge Road,
Omaha, NE 68114
3rd Thursday of every month at
11:00 a.m.

Harlan, IA Airport (KHNR)
Fly in for our FREE soup!
Sat. March 23, 2024
11:00 a.m. to 1:00 p.m.
Courtesy of 8-Ball Aviation Club.
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Sioux City airport KSUX
Pancake Breakfast
Sat. May 4, 2024
8:00 a.m. to 12:00 p.m.
The breakfast is to benefit
the Mid America Museum of
Aviation and Transportation
In addition to the Pancakes we
will have EAA Young Eagles
flights weather permitting.
The event will be held on the
south ramp at Revv Aviation.

The Nebraska Division of Aeronautics is Hiring!

Visit <https://statejobs.nebraska.gov/> and search for "Aviation Operations Chief" to learn more about how you can join NDOT as a pilot and manage the Flight Operations Division.