

# PIREPS

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August-September  
2021

Volume 73, Issue 4

Published bi-monthly by

**Nebraska Dept. of Transportation**  
Aeronautics Division  
3431 Aviation Road Suite 150  
Lincoln NE 68524  
402-471-2371

[dot.nebraska.gov/aeronautics](http://dot.nebraska.gov/aeronautics)

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### Administration

Director ..... Ann B. Richart, AAE  
Deputy Director..... Andre Aman

For Comments/Questions, Contact  
[david.morris@nebraska.gov](mailto:david.morris@nebraska.gov)  
Circulation: 3320

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DEPARTMENT OF TRANSPORTATION

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## Arrow Aircraft of Havelock 95 years ago

By Penny Rafferty Hamilton, Ph.D.



An airworthy Arrow Sport built in Havelock is a rare bird at an antique aircraft show in Lakeland, Florida. (Wikicommons)

Who knew that at one time, Arrow Sport airplanes built in Havelock would have a waiting list of eager buyers from New York to Chicago? Well, in the spring of 1926, the Arrow Aircraft Corporation was formed by brothers, John D. and George E. Moore with partner, Frederick J. Platz. Their vision was to capitalize on the growing interest in airplanes. In 1926, Swen Swanson designed a sporty, small biplane for the Havelock Arrow Aircraft and Motor Corporation. Swanson's plane featured side-by-side seating, and a wide single-strut landing gear that made landing and taxiing in a crosswind more stable.

With the historic Spirit of St. Louis Flight in 1927 by Charles Lindbergh, the demand for small airplanes was sky high. By 1928, the truck body producer, Patriot Manufacturing Company, purchased the budding aviation factory in Havelock. The new company

was Arrow Aircraft and Motors. The company grew to 570 employees producing four airplanes a day. The popular bi-planes were built well with Nebraska know-how.

The Arrow Sport was affordable and easy to fly. Described as a great airplane, it was considered "reliable and safe." Although many of the airplane buyers were in larger cities, several were sold in Nebraska immediately. Of course, in the early 1920s, U.S. Air Mail on the North Platte to Omaha route used De Havillands. But, it helped to introduce airplanes to Nebraska's typically rural population.

Havelock's Arrow Aircraft Corporation even had a small tech school on-site to train employees in this new industry. By early 1929, 271 orders for the Arrow Sport plane were in hand. Originally, the planes were advertised for \$2,356 (about \$38,000 in 2021). Then, a fire

at the LeBlond Company engine manufacturing plant literally threw a wrench in the airplane manufacturing plant. Prices to build the Arrow Sport increased over \$1,300, or in 2021 prices increased \$21,000 overnight. Obviously, wholesale cancellation of existing orders happened.

Then, just a few months later, on October 29, 1929 the stock market crashed, plunging America into the Great Depression. Even with as great an airplane as the Arrow Sport, the Havelock company struggled financially. If only they could have limped along until World War II, the Havelock plant might have become part of the effort to build airplanes quickly.

Over 100 Arrow Sport airplanes were built and delivered to customers during the late 1920s and early 1930s. But, the company, as many in America did in the Great Depression, declared bankruptcy. The few remaining company assets were sold in a sheriff's sale. Several Arrow Sport airplanes are still airworthy across the country today. A static Arrow Sport, owned by the Nebraska State Historical Society, was on display in the Lincoln Airport terminal on our last visit.

Nebraska has a rich history of aviation which is an important part of our legacy.

**Author: Penny is a graduate of the University of Nebraska. She punched her aviation ticket at the beautiful Beatrice Airport BIE many years ago. Her web site is [www.PennyHamilton.com](http://www.PennyHamilton.com). ■**



**Arrow Sport airplane hanging in the Lincoln Airport Terminal tells an important story about airplane manufacturing in Havelock in the 1920s. (Penny Hamilton, photographer)**

## Aviation Art Contest Now Open for Ages 6 through 17 “Design Your Perfect Aircraft”

By David Morris



Have you ever drawn a picture of an airplane, helicopter or hot air balloon and added some extra details? Maybe you mixed and matched, combining the best features of different types of aircraft to create something unique. What is your perfect aircraft? What would power it through the sky? Would it be big or

small? What special features would make pilots and passengers excited to be in the air?

Each idea has the chance to change the way gliders soar, helicopters hover, and aerobatic racers twist and swoop through the sky. If you have ever looked up into the sky and thought, wouldn't it be great if... this art challenge is for you.

Youngsters ages 6 through 17, now is the time to get out your favorite artist supplies and give free rein to your imagination for the 2022 Aviation Art Contest. Create a poster that represents your thoughts about this year's theme “Design Your Perfect Aircraft.”

For further details and/or an entry brochure, contact David Morris at the NDOT – Division of Aeronautics [david.morris@nebraska.gov](mailto:david.morris@nebraska.gov) or call 402-471-2371. The following link is available to download the brochure: [2022 Aviation Art Contest Brochure](#). All entries must be postmarked no later than January 10, 2022. ■



# Thanking Our Mentors



Ann B. Richart, AAE

Do you have a mentor that gave you that awesome start in your career? Is there someone who particularly piqued your interest in flying? I have many important people who supported and encouraged my career.

Dennis Parrish, currently Director of Flight Operations at ConocoPhillips Alaska,

hired me as his Operations Assistant at Aurora Air Service at FAI in 1985. That's the job that made me realize that a professional career in aviation was the course for me.

Mike Boggs hired me as the Airport Operations Manager at EUG when I was fresh out of Embry-Riddle Aeronautical University. That was an amazing opportunity for a first job and certainly set me on my path. But today I'm thinking about a special mentor and some information I just recently learned about him.

Paul Burkett, AAE, was the State Aeronautics Director in Oregon in the early '90s when I was learning the ropes at EUG. In those early days I was eager for tips and guidance about the industry. I felt like the staff at PDX looked down on us at the smaller airports and wouldn't deign to share information with the rest of us. In fact, many airport managers were unwilling to share pro tips with a kid further down the organizational structure, like me. But Paul Burkett was always open and willing. He spoke with authority and, clearly, had a lot of knowledge and experience. He was always willing to talk with me.

In 1997, I became the State Airports Manager in charge of Oregon's 36 state-owned airports. Paul was retired by this time, but still attended the Oregon Airport Management Association meetings and still talked with me. In 1999, the Oregon Legislature separated the Aeronautics Division out of Oregon DOT and created the Oregon Department of Aviation. Governor Kitzhaber appointed me to be the first Director of the new agency. Paul showed up the Capitol to witness my confirmation by the State Senate.

Paul became a regular friend and would often stop by the office to help me with problems or just to chat. He would give me important information about challenges

that he had faced to keep me from making the same mistakes. He also enjoyed telling me stories about how things used to be in the "good ol' days": things like showing me the drawer where he always kept a good bottle of scotch for those special occasions. I knew that Paul had been an airport manager in the past and that he was in Nebraska before he came to Oregon. At the time I never imagined that I would be working in Nebraska, so I didn't think much of it. It was kind of in my mind that he had managed LBF. I haven't been able to confirm this one way or another.

I left Oregon in 2007 and lost track of Paul. I'm sure he's left this world by now. But, in a strange coincidence, I recently learned that Paul Burkett, AAE, had been the Director of the Nebraska Department of Aeronautics before moving to Oregon. My wonderful mentor had preceded me at two jobs! Paul managed one stand-alone agency and one DOT division, just like me! There are only a handful of people who have been lucky enough to manage two state aeronautics agencies in the history of aviation, so for me to have followed Paul in two is amazing. What a delightful way to remember a smart, dedicated, and thoughtful man who made a significant difference in my life!

If you have a mentor who helped you get a good start, please thank them before it's too late. And if you have the opportunity to be a mentor to someone just learning the ropes, remember how important your time and advice can be for the future of our industry!

Thank you, Paul!!! ■

**OUR VISION**  
A dynamic aviation system which  
enhances quality of life through  
infrastructure and services that meet the  
diverse and evolving needs of all  
Nebraskans.

# Civil Air Patrol Forms New Flight at Offutt Airforce Base

By 1st Lt. Brian Schlueter



The Fort Crook Senior Flight was established for senior members with the focus of pilot onboarding and emergency services response. It was named after Offutt's historic Fort Crook heritage,

which was established back in 1894 off the Missouri River and used as a dispatching point in the Great Plains area. Fort Crook Senior Flight is building its volunteer base to deploy and help Nebraskans and surrounding states and regions.

The new Flight has just completed its first month in August 2021 with 18 members and growing. The Flight meets online every Monday for those pilots and senior members that are not in the local area. Its new Commander, 1st Lt. Brian Schlueter, encourages virtual meetings, something learned from the COVID phase. The Flight also meets every first Monday of the month at 1930 hours at Offutt Aero Club in building 306, Hanger 1. The focus onsite is building camaraderie and fellowship, giving senior members the tools and knowledge to advance their volunteer service.

The Flight helps build knowledge of how to understand and use the Civil Air Patrol system and offers reassurance that you're not going to go it alone. Our goal is to build a Nebraska-wide emergency

service response team to help state agencies and local officials when requested.

The new Fort Crook Senior Flight will continue classroom-scheduled training to teach pilot and non-pilot senior members how to participate in emergency services. Some of the training involves doing airtime in the aircraft as a mission scanner, looking out the window and identifying targets, reading navigational charts, becoming a mission observer communicating with the radios, and talking with ground units helping the pilot from the right seat. If you're into photography or wish to learn, we have that option available as well with aerial photography. There are many facets of the Civil Air Patrol, many opportunities for learning, and we're here to help our members make that a reality.

Fort Crook Senior Flight's goal is focusing on excellence, helping its members to become the best at what they wish to volunteer their service for, getting in the field and doing what we learned. The Flight is located on base for the purpose of making it easier for our armed force service members as pilots or non-pilots to join and engage. We also encourage members from our community to join our team.

For more information about Fort Crook Senior Flight, visit us online at [gocivilairpatrol.com](http://gocivilairpatrol.com) or call 402-880-2276. ■

## Why do Propellers on Aircraft Have a Slight Offset Angle?

By David Morris

The direction of rotation of the propeller introduces an asymmetry which it seems designers try to alleviate by adding more asymmetries. Specifically, a right-turning propeller will swirl the propeller wake in the same direction which adds a negative sideslip angle on the vertical tail. By pointing the axis of rotation of the propeller slightly to the right, this sideslip angle is reduced.

On multi-engine aircraft, a side thrust can help to reduce rudder input in an engine-out scenario. Here, each wing engine points slightly away from the fuselage, so its thrust will pull the aircraft into a helpful sideslip when the opposite engine has failed.

World War II fighters didn't use an offset. When increasing power for take-off or climb, hard right rudder is required. On some aircraft, the vertical stabilizer on the airplane is offset at a considerable angle to combat right-turning tendencies.

Keep in mind that any rotating component creates asymmetrical forces and moments on an aircraft. Even the rotating fans and turbines in modern jet engines will do so, but these effects are usually so small that they are difficult to notice. While it looks a bit strange, the performance over many years has proven this design to be effective. ■



# Aviation STEM Day at Millard Airport invites kids to explore passions and careers

## *3rd annual showcase also featured drone, robot technology*

By José Zozaya, Anchor Reporter KETV Newswatch 7, photos taken by Chris Bradley



LifeNet helicopter is guided in for landing, following demonstration.

In Millard, an aviation and stem showcase invited young kids to learn about aircraft. The hope is that knowledge and passion can lead to a promising career.

No grounding the planes for this year – a local aviation and STEM program will showcase young kids from around the Omaha metro to learn more about aircraft and how that knowledge and passion could lead to a promising career in the future.

After watching the planes soar above them at Millard Airport, a group of five boys from Boy Scout Troop 357 wanted to know what made the flying machines around them tick.

“I want to learn about the plane’s functions and the main parts about the plane,” Josh Grigsby said.

“I wanted to see all the different types of planes in person,” Charlie Clifton said.

Their scoutmaster, pilot Bryan Clifton, guided them through the inner workings of a LifeNet helicopter.

“It’s really great to be able to actually get hands on and see what we’re talking about in the classroom and during our activities,” Clifton said. “Just to get a view of everything.”

It wasn’t just choppers and old war planes on display at the 3rd annual Greater Omaha Aviation STEM Day.



Child uses joystick to control a drone.



Children explore activities at STEM Day event.



Child studies rocket.



Experts and aficionados representing clubs and companies showed young visitors the other things stem knowledge can create: drones big and small as well as bomb defusing robots.

Over by another hangar, Nebraska Civilian Air Patrol Cadet Patrick Stolinski took questions from curious visitors.

Stolinski commented, “[They’ll say] now that I’m actually up close to it, how does it fly? How does the airplane work?”

His passion for planes started when he was younger and Stolinski’s work earned him a scholarship to keep training.

He said he thinks other kids can also follow their passion to fly, design or create something that makes a difference in aviation.

“Not only is it really enjoyable for people, it can lead to so many things later in life,” said Stolinski. “It’s just really nice to see the public coming out and being invested in seeing what we’re working towards.”

Article reprinted with permission of KETV Newswatch 7. ■

**Bottom Left: Young girl examines robot**

**Top Right: Technician explaining drone**

**Middle Right: Civil Air Patrol opportunities discussed**

**Bottom Right: Vintage aircraft on display**





# Thomas County Airport: The Aviation Hub of the Sandhills

By Jack Johnston



This Cessna Citation 560 is among the many planes that utilize the Thomas County Airport (KTIF) at Thedford.

Thomas County Airport (KTIF), located one mile south of Thedford, Nebraska, is now fully operational after being closed for five months to complete restoration of the runway, turnarounds, taxiway, ramp, and lighting. This improvement was made possible due to a substantial grant of \$4.365 million awarded to the Thomas County Airport Authority as part of the federal government's \$1 billion funding to upgrade rural airports. Of all the rural airports in Nebraska that applied for the state's share of the 100% grant, requiring no matching funds, we were one of only five that received money.

The airport was closed from March 6, 2021 until July 21, 2021 for completion of the rehabilitation project. Paulsen Construction of Cozad, Nebraska, was the general contractor and Olsson of Lincoln, Nebraska, was our engineering firm.

Our old asphalt runway, hammerhead turnarounds, taxiway, and apron were replaced with all new concrete.



HONDAjet 515HJ

We currently have a 4,400 X 60-foot runway, 35-foot-wide teacup-handle turnarounds, and a 35-foot-wide taxiway. All lighting is LED, including our new state-of-the-art LED beacon. Our apron was expanded by another 120 feet to give more maneuvering and parking space for the big jets and turboprops.

## Large Aircraft

Owned by the Thomas County Airport Authority, KTIF serves as an important hub for larger aircraft. We have two world-class golf courses to the west that bring in a lot of jet traffic, along with King Airs, TBMs, Piper 600s, and the Pilatus.

Thomas County Airport also features an upgraded fuel island with credit card pumps (not grant funded) for both 100LL and Jet A+ aviation fuel. Our fuel is self-serve with single point fueling for larger aircraft if needed. Our airport can service firefighting aircraft in the Halsey National Forest and neighboring ranch lands with both water and fuel. For additional airport security, we have installed a 12-camera security system (not grant funded) to monitor the facility. A Ford van is available as a courtesy car and all donations are appreciated!

## Aviation Hub

We are the "Aviation Hub of the Sandhills," as there's not another lighted field within 65 miles in any direction that can handle jet and turboprop traffic. The new runway, turnarounds, and taxiway LED lights are on all night; however, pilots can control runway lights on 122.9 megahertz (MHz), day or night, for instrument approaches.

Because the Nebraska Sandhills are among the top regions in the U.S. for beef cattle production, with grazing land and rolling hills, ranchers from other states have

purchased property in the area, with some having their own airplanes – usually turboprops that use Thomas County Airport. Yet another source of air traffic, breeders of purebred cattle have people fly in from all over the U.S. for their heifer sales in the fall and bull sales in the spring.

The airport does not have a Fixed Base Operator (FBO), but that is on the wish list, as are additional hangars and another 600 feet on the runway. We recently finished construction of a new hangar with Hackel Construction of Ord as our contractor. Already full, the large box hangar and four T-hangars are fully insulated and heated. We have room for more hangars, but as a small county with Halsey National Forest covering almost a quarter of the land, our tax base is small, and we must rely on grants and donations to do expansions or upgrades.

### Continued Success

Special credit goes to The Thomas County Airport Authority Board for the airport’s continued success. They are forward thinkers and all but one are pilots. The longest-serving board member does not fly, but his dad flew B-17s during World War II and he loves aviation. Also, thank you to the Aeronautics Division of the Nebraska Department of Transportation (NDOT) and Olsson for their help in guiding us through the legal paperwork.

Our grand opening will be October 1st at noon with prime rib sandwiches served. The ribbon-cutting ceremony is not only for the project just completed, but also for the new hangar. We hope to have representatives from Olsson, Paulsen, Hackel, the Aeronautics Division of NDOT, the Governor’s office, our Washington representative, and senators, along with our state senator representing us in the 43rd district. Everyone is welcome, come and enjoy a meal and view our new airport facilities.

Jack Johnston is President of the Thomas County Airport Authority and Airport Manager. ■



Cirrus SR22



Cirrus SF50



Nebraska’s state airplane, the Beechcraft King Air C90GTx, makes frequent stops at the Thomas County Airport.

## Events Calendar

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

Crete Airport (KCEK),  
EAA Chapter 569 Fly-in breakfast  
(free-will donation) on the  
3rd Saturday of every month,  
8:00-10:00 a.m.

Martin Field Airport (7K8)  
South Sioux City, NE Fly-in breakfast  
September 19th 8:00–11:00 a.m.  
712-490-0324 (Rick Alter)  
Email: rick.alterii@gmail.com

Pawnee City, NE (50K) Fly-in Breakfast  
September 25, 2021 7:00 –11:00 a.m.  
Flour Drop contest at 10:00 a.m, prize  
awarded for farthest distance flown.  
Contact Matthew Christen  
(402) 335-0256

Harlan Municipal Airport (HNR), Harlan, IA  
Chili/Soup Fly-In  
Saturday, October 23, 2022, 11:00 a.m.  
Free courtesy of 8-Ball Flying Club  
Contact: Scott Pigsley, Airport Manager  
(712) 744-3366

30th Annual Nebraska State Fly-In, Grant  
Municipal Airport (GGF)  
Saturday, June 18, 2022  
Contact: City of Grant, 308-352-2100