

IAC AEROBATIC MEET HELD AT SEWARD

By Dennis Crispin



Things appeared to be off to a bad start—rain all night and thunderstorms predicted for the rest of the day. Then, about mid-morning, event organizers opened the hangar doors to discover the rain had stopped and patches of blue sky were appearing overhead. Then gentle breezes and comfortable temperatures allowed for a grand day of competition aerobatics.

IAC Chapter 80, also known as the Midwest Aerobatic Club (MAC80), holds the Midwestern Aerobatic Championships in Seward, Nebraska, each June. The club was organized in 1975 to support the aerobatic community in Nebraska and

Ivebraska and Iowa. This year's contest was held June 23-25, 2019.

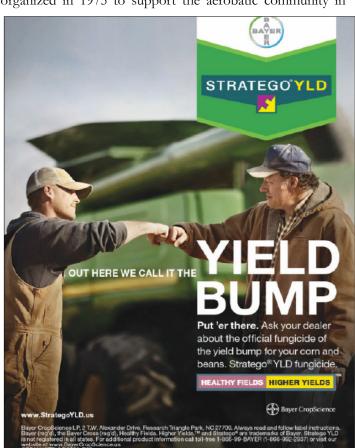
Competition Categories

Aerobatic competition is divided into five categories: Primary, Sportsman, Intermediate, Advanced and Unlimited. Each step represents an increased level of difficulty, skill and pilot qualification.

The contestant first flies a known sequence, a series of maneuvers standardized for all the contests across the nation. The next flight (for all categories except primary) allows the pilot to fly a freestyle sequence, combining elements that he or she designs to demonstrate the best the individual pilot and plane can do. Then the upper level classes finish with an unknown sequence. A list of maneuvers is given to the contestant one day ahead of time. The pilot has some time to mentally prepare for the flight but cannot practice the series. This first-time performance has to be done before the judges.

Judging is done by a panel of five experts, each with two assistants. Every element is graded according to a set standard on a scale from one to ten. The five grades are averaged, then multiplied by a "K factor" (a mathematical determination of the difficulty of the maneuver) to arrive at the points awarded.

The performance is contained strictly within a limited bit of airspace called "the box." The sides of the box are monitored by corner judges who deduct points for violating the space requirements. The floor of the box is set at 1,500 feet above the ground for the primary group and decreases in steps to 329 feet for the unlimited participants. The altitude is determined by the expertise of the judges. The elements of the flight program are diagramed, for both the contestants and the judges, in a form of shorthand called the Aresti Key. **Continued on Page 4...**



THE NATA VOICE

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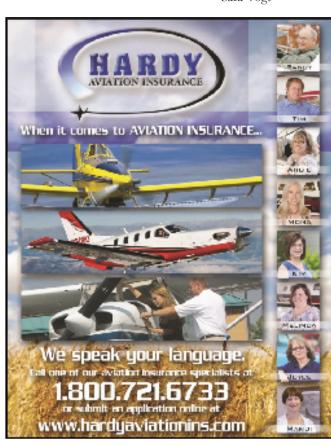
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THE 2019 AG AVIATION EXPOIS YOUR DESTINATION THIS NOVEMBER

Enjoy sunny Orlando at Rosen Shingle Creek By Lindsay Barber, Director of Meetings, Marketing & Special Projects Agricultural Aviation, Summer 2019

It's an amazing spring day and I'm visiting Rosen Shingle Creek in Orlando, Fla., to conduct my pre-planning site visit for the 2019 Ag Aviation Expo, Nov. 18–21. I've walked through our beautiful meeting space and sleeping rooms, met with many employees who are excited about our convention, and enjoyed an hour out of my busy schedule next to one of the hotel's three pools enjoying a cocktail and some sun. Pair this with the Ag Aviation Expo and you've got everything you need for a successful convention in sunny, subtropical Orlando!

Everything you can imagine is located at Rosen Shingle Creek, including all activities at this year's Ag Aviation Expo. The hotel has a variety of cuisines at different price points, including an incredible steakhouse, Italian, Mexican and sushi restaurants, as well as a buffet and a 24-hour market with a deli.

The one thing I know our attendees love is a great bar! You'll enjoy the large Headwaters Lounge each evening after educational sessions, visiting with exhibiting companies and networking with friends, as well as bars in most of the onsite eateries. The hotel also features a top-flight golf course and relaxing spa.



Between the lavish amenities and copious business, learning and networking opportunities, you don't want to miss the world's largest gathering of aerial application professionals. Read on as we entice you with interesting events and great speakers topping the 2019 Ag Aviation Expo.



FLY-IN INFORMATION EVENTS CALENDAR

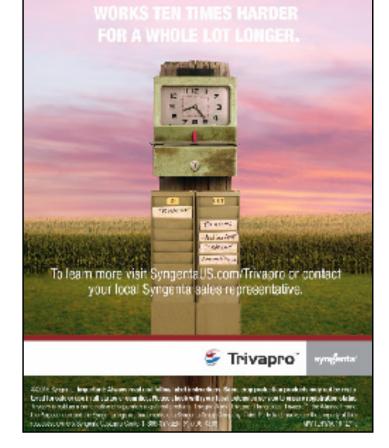
Sept. 7 – Norfolk Regional Airport (OFK) Barnstormers Restaurant "Wine & Wings" Live Music: 5 p.m. to close Crete Skydive tandem jumping all day

Sept. 8 – Norfolk Regional Airport (OFK)

75th Anniversary Pancake breakfast: 7 - 11 a.m. Food Truck: 11a.m. - 4 p.m. Various static displays Crete Skydive tandem jumping all day

Sept. 28 – Pawnee City (50K)

Fly-In breakfast: 7 - 11 a.m. Flour drop contest: 10 a.m. Contact Matthew Christen: 402-335-0256



IAC AEROBATIC MEET HELD AT SEWARD

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The pilots come from diverse backgrounds. Many are aviation professionals, but a good many are hobbyists who find the demands and rewards of aerobatic flight an exhilarating experience. Those who reach the higher levels of the sport spend years, hundreds of hours of practice and many competitions to perfect their skills.

Variety of Aircraft

Common aircraft do not have the inherent strength and maneuverability to perform competitive aerobatics. So, the planes used are designed and built expressly for the sport. Most have special fuel and oil systems that allow the engines to operate in inverted and high G-load situations.

The great majority of the competitors fly the Pitts Special. This small biplane, usually painted red, has become the iconic aerobatic airplane. Popular with the primary and sportsman categories is the Decathlon, a high-wing, two-seat aircraft that allows an instructor to coach the beginning pilot. The participants in advanced and unlimited categories often fly aircraft like the Extra 300 and MX2, sleek and powerful monoplanes expressly suited for difficult aerobatics. A sprinkling of homebuilt aircraft is included in the lineup.

While aircraft can be engineered to withstand the forces developed within the violent maneuvers, the human body is stuck with the



same old design and its inherent limits. A key part of the training and practice is acclimation of the body to the G-loads. The pilots learn to momentarily tense the abdominal and leg muscles to offset some of the negative physical effects of tight turns and sharp pullups. As a safety measure, parachutes are worn at all times while performing aerobatics.

A significant part of the competition is the collegiate aerobatic teams. Groups representing flying clubs and aviation programs of colleges and universities vie for nationwide ranking. Two groups participated at the Seward meet. A team of ten competitors with three ground crew represented the Aviation and Aerospace program at Metropolitan State University of Denver. They shared a Pitts S-2C. UND Aerospace at the University of North Dakota fielded a team of five with three support personnel. The UND group flew a bright green Super Decathlon.

I had the opportunity to talk to a few of these young people and found their stories fascinating.

Jenna Coffman was motivated toward an aviation career when she received a Young Eagle ride at age 15. She started flight training shortly after she turned 17 and received her Certified Flight Instructor license (CFI) on her 19th birthday. She then began teaching a younger sister to fly. Jenna competes with the MSU team while pursuing a degree in aerospace engineering.

Roger Austin Belleau is a technician in the Colorado Air Guard. He's enrolled in the commercial aviation program at MSU as a route to a career in military aviation.

Daniel Wilmoth was a Business Administration major but found he had neither the interest nor skill set for accounting. Upon hearing there is a demand for airline pilots, he transferred to the flight program. His short-term goal is to complete his CFI rating.

Leo Garzon's goal is simple. He wants a pilot's seat on the airlines. While visiting with the Metropolitan State University group, I was impressed with how fast they are working their way through the program. A couple of them are flying competition aerobatics only a little more than a year into their flying education and are bringing back first- and second place trophies! Even more impressive is they are doing it in the Pitts Special, a plane sometimes considered a handful for low-time pilots.

When Elizabeth Birch received an EAA Young Eagle ride at age 13, she knew she wanted to make flying airplanes her life work. She received the four-year degree in Commercial Aviation in just two and a half years and is now employed as an instructor in the UND flight program. Liz has been hired by Wisconsin Airlines, reports for training in September, and will be flying in the right seat of a regional jet



airliner by Christmas! Liz came to the MAC80 meet to compete in the Sportsman category and to serve as the safety pilot that rides the back seat of the Decathlon for the beginning competitors that are not yet qualified for solo aerobatics.

Meeting with these young people, I found them energetic, focused, dedicated, personable and motivated. With a new generation as fine as these, the future of aviation and American society is assured.

Unfortunately, the weather didn't hold. On Sunday, low ceilings canceled competition, so an awards ceremony was held before the contestants disbanded.

The Grass Roots Achievement Flight Medal acknowledges the IAC's commitment to grass roots development of the sport. The medallion is awarded to the highest scoring pilot in each category whose aircraft meets certain horsepower and speed limitations.

LOCAL PILOT PRESENTED MASTER PILOT AWARD

By David Morris

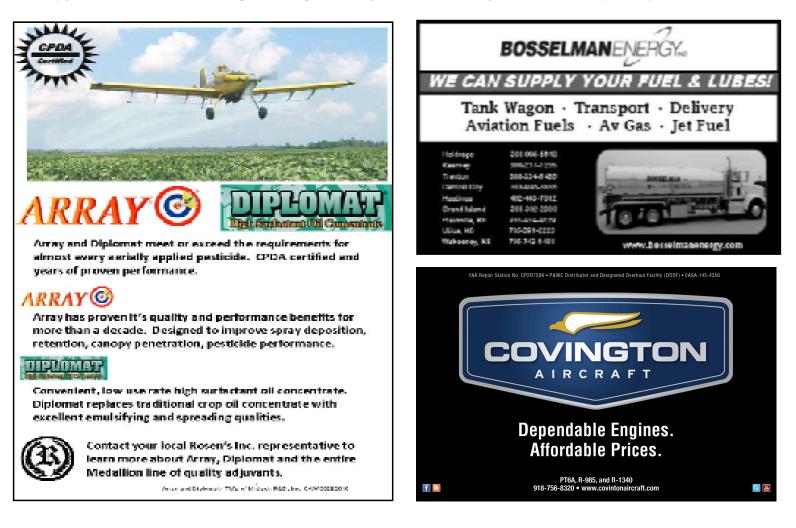
Roger Zimmerman, Manager of the Lincoln Flight Standards Office, presented David Moll with the Master Pilot Award on July 1st at Duncan Aviation in Lincoln, Nebraska. This award is the Federal Aviation Administration's (FAA) most prestigious award issued to pilots certified under Title 14 of the Code of Federal Regulations (14CFR) part 61. This award is named after the Wright Brothers, the first U.S. pilots, to recognize individuals who have exhibited professionalism, skill and aviation expertise for at least 50 years while piloting as "Master Pilots."

Present with David was his wife Nancy. Nancy was also recognized by the FAA and presented a stickpin similar in design to the lapel pin David received in recognition of her support to David's aviation career. David admits that his aviation accomplishments would not have been possible without the support of Nancy, who is also an FAA certificated pilot and former aircraft owner.

David began his career in aviation by completing his Private Pilot Certificate in 1971. By 1976, he had completed his advanced FAA certificates, ratings, earned a Bachelor of Science degree in Business and received his Learjet type rating. David's vast aviation career encompasses piloting for Duncan Aviation, serving as a Chief Pilot in Atlanta, GA, flying for the NDOT–Division of Aeronautics, as well as past president of both the Denver Aerobatic Club and the Midwest Aerobatic Club.



After 51 years of flying, David holds type ratings in the Learjet, Hawker, Falcon 10, Citations 500, 650 and 750. David's Pilot Certificate includes an Airline Transport Pilot (ATP) with airplane category multi-engine class rating along with a Certified Flight Instructor "Instrument" (CFII) and Multi-Engine Instructor (MEI). David will now be added to the FAA's "Roll of Honor" located at www. faasafety.gov/content/MasterPilot/RecipientList.aspx. We congratulate David, along with his wife Nancy, on a "Job Well Done."



HEAT, HYDRATION AND HYPERTENSION

How to avoid getting grounded by the heat and a look at blood pressure By Brittany Kerr, PA-C, MPAS, MS Agricultural Aviation, Summer 2019

The flying season is cranking up full throttle! For many, that means long days in the cockpit and on the loading pad. As the workload increases, so do seasonal temperatures.

Heat-related illnesses are most common from May to September, reaching their peak in July. These illnesses include sunburns, heat cramps, heat exhaustion and the most severe, heat stroke. The most common risk factors for developing a heat-related illness include strenuous physical activity in high heat and humidity, lack of acclimation, poor physical fitness, obesity, dehydration and carrying a large external load (such as clothing, equipment and protective gear). Prior heat stroke, having high muscle mass and certain medications can also increase your chances of falling victim to the heat.

So, what exactly are the symptoms of a heat-related illness? One of the first signs is muscle pain or spasms in the legs, abdomen and arms. It can be easy to mistake those leg cramps as a natural part of flying and working rudder pedals all day. As these heat cramps progress, you can develop more severe symptoms such as nausea, vomiting, heavy sweating, tiredness, headache or dizziness. Taking a break to spend some time in a cool place and rehydrating with water or an electrolyte-rich drink (i.e., Gatorade, Powerade) are key to helping your body recover. Electrolytes are a key factor here, as they provide sodium and other elements your body's muscle cells need to function properly. Relaxing, stretching and massaging the affected muscle are all excellent strategies in alleviating discomfort. The most serious stage of heat illness is heat stroke. When your body reaches this point, your internal temperature is as high as 104 degrees or above. The body loses its ability to cool down, and the temperature continues to rise. The skin will be red and hot. Your pulse will be fast and strong, almost as if it's pounding out of your body. Nausea, confusion and even unconsciousness can develop. At this point, you need to SEEK MEDICAL ATTENTION IMMEDIATELY! In the most severe cases, this can lead to permanent disability or death.

In all of the above scenarios, hydration is a key factor in maintaining wellness and ensuring you're in prime operating condition. The body is made up of 60% water. When dehydrated, you can lose 1 to 2% of that volume rapidly. That doesn't seem like a lot, but to the mix in your body, that sort of change can cause increased stress, agitation and memory issues. Body water loss means you've also lost electrolytes. Aside from dry mouth and dry skin, you can also experience low urine output, rapid breathing and even chest discomfort—all related to the electrolytes you are lacking from low water volume. It's recommended that men drink 15.5 cups of

water per day and women 11.5 cups per day—but this need increases in times of water loss, including heat exposure. For every degree your body temperature goes over 98.6, you should add at least a half cup.

We take great care to make sure that our aircraft, pumps and other equipment are in working order, but it's easy to neglect routine maintenance on your own health!

MAILBOX

Q. I've been trying to watch my blood pressure, since my doctor commented it was creeping up at my last flight physical. What's the cause of that? If I exercised more when I'm not flying, would that help?

A. There are several factors and mechanisms in your body that help regulate your blood pressure. All of the organs and tissues in your





body need to receive adequate blood to work properly. Perfusion, or the passage of blood to these tissues, is necessary to deliver oxygen and nutrients that drive our body's systems. Blood pressure is the driving force that ensures everything is receiving adequate blood supply. When your blood pressure drops too low, those organs don't receive the oxygen they need, and your body experiences a shutdown of systems—that's what happens when a person goes into shock.

There are three main factors that help determine your blood pressure: your nervous system, the kidneys and the amount of fluid volume circulating in your body. Within the body, there are baroreceptors that sense pressure changes and help regulate your blood pressure. Over time, these can get worn out and the system can kick into overdrive. Whether it's constricting vessels, releasing hormones that regulate blood pressure or our body retaining fluid to keep pressure up, high blood pressure results. Systolic blood pressure, or the top number, is when your heart is contracting and pumping blood out into your arteries. Diastolic, the bottom number, is when your heart relaxes and refills with blood. Normal blood pressure is defined as 120/80. Stage 1 Hypertension is 130-139/80-89. Stage 2 is anything over 140/90 and above.

Ways to lower your blood pressure without medication include: restricting salt intake, increasing potassium in your diet, weight loss, exercise, limiting alcohol intake and the "DASH Diet." This diet is heavy on fruits, vegetables, and low-fat dairy, while reducing snacks, sweets, certain meats and saturated fats. Meats that are lean are best. Moderation is key!

Now, what about your flight physical? The FAA's limit for blood pressure is 155/95. If you are over this threshold there are steps that can be taken to make sure you get your medical. As far as taking blood pressure medications, the good news is, yes, you can fly while taking these medications. Unrestricted medical certificates can be issued in most cases, as long as you are on an approved drug with no side effects and do not need more than three blood pressure medications.

Common approved blood pressure medications include (but are not limited to): ACE inhibitors (end in -pril), ARBs (end in -sartan), Beta blockers (end in -prolol) and diuretics (most commonly hydrochlorothiazide and furosemide).

Bottom line: if your blood pressure is high, that doesn't mean you're automatically grounded. There are lifestyle changes you can make and medications that may help you. Keep in mind that part of blood pressure is genetic, and you can pick your friends but not your relatives!

Brittany Kerr is a certified physician assistant (PA-C) specializing in Internal Medicine in South Dakota. In the course of her practice, she also works as a hospitalist and spends time in the ER. Prior to pursuing a career in medicine, Brittany spent nearly 10 years working in the aerial application industry and is a graduate of the NAAA/Syngenta Leadership Training Program. As a private pilot, you can usually find her flying or at the local airport when not at the hospital or clinic.

Do you have an Aviation event to promote? Let us know! Article and pictures are always welcomed. Contact us via the information below. 521 First Street, Milford, NE 68405 Phone: 531-289-8323 Email: taylor@youraam.com



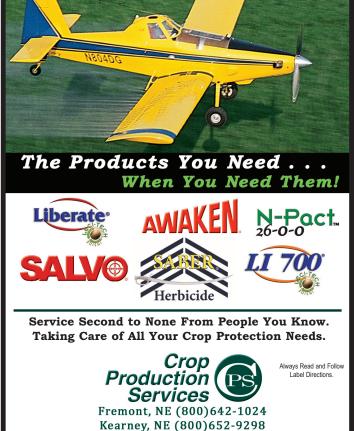
FUTURE NATA

CONVENTIONS

February 23-26, 2020 Younes Center, Kearney

February 14-17, 2021 Embassy Suites, LaVista

February 27-March 2, 2022 Younes Center, Kearney





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