

May 19, 2022

NAAA eNewsletter

Bullet Strikes Texas Operator's Ag Plane During Morning Corn Application

A Texas operator escaped injury after his plane was struck by a bullet sometime during a routine corn application. An investigation by the Fannin County Sheriff's Office remains ongoing.

After spraying a cornfield on the morning of May 7, Dennis Whitlock of Whitlock Air Service in Bonham, Texas, returned to Jones Field Airport to refuel and prepare for his next job. As he was about to fuel up, he noticed a hole on the side of the cowling surrounding the engine of the PA-36-400 Piper Brave. "I said to myself, 'That looks like a bullet hole,' and went to look and it," Whitlock said. Sure enough, a large bullet hole had punctured the cowling (*see photos below*).

Whitlock opened the cowling to discover that the bullet had ripped through a scat hose that feeds air to the oil cooler and then hit an air intake tube, which deflected the bullet. "Luckily, it didn't hit the fuel servo on the fuel injection or penetrate the crankcase or any part of the engine itself. It's kinda like in the movie when the old boy got shot and he pulled out his cell phone or his pocket watch and stopped the bullet," Whitlock said. "That air intake tube stopped the bullet for me."

Ultimately, the damage to the plane was relatively minor, but it could have been much worse. If the bullet had taken a slightly different path and penetrated the fuel injection system, it would have shut the airplane down. If it had penetrated the crankcase, the plane would have lost oil and also shut down.

Whitlock never heard any shots fired, but he's sure the shooting occurred sometime during his morning corn run. He always visually inspects the aircraft before flying, and everything was fine before he ferried to the cornfield 4 miles north of the airport. There were a few houses near the field he sprayed, but he didn't notice anything unusual.

After discovering the bullet hole, one of Whitlock's first calls was to his friend and occasional pilot, NAAA President Jim Perrin, who sent NAAA's [shooting-response checklist](#) to him.

Whitlock followed the checklist's suggestions and began by contacting the local Sheriff's Office. When a pair of deputies arrived at his hangar and examined the bullet hole, they told Whitlock the bullet was bigger than he had initially assumed. (No slug was recovered.)

"I thought just looking at the hole where it penetrated the outer cowling of the airplane, it was a small caliber, like maybe even a .22. They said, 'Oh, no, much bigger than that.' When you look inside the cowling where it impacted the air intake tube on the engine, it is much bigger. It's like maybe half a dollar or bigger size around." (*See photo below.*)

The gravity of the situation started to sink in for Whitlock then. "My first thought was .22, could have just been a kid or anybody just taking a pop shot, and I didn't think a whole lot about it. Then when they told me it was a larger caliber, that changed my thinking. Then it's more like, 'You know, somebody was really trying to do me harm.'"

Whitlock also contacted the FSDO regional operation center in Fort Worth and later spoke with a contact at his local FSDO office about the shooting incident.

On May 12, the Fannin County Sheriff's Office called Whitlock to inform him that they were making some progress on his case. They didn't offer more details, but Whitlock thinks they may have identified a person of interest. He has lots of questions that he hopes he'll get answered eventually.

"I'd love to know the age of the person involved. Were they male, female? What was the caliber of the weapon? There's a lot of things I'd love to know, but I don't know if I'll ever get the opportunity to know it or not."

Whitlock adds, "In the world I live in, in the spray business, I'm what I call cautiously optimistic. So I'm trying to be cautiously optimistic here."

NAAA will keep members informed as news develops in the shooting investigation of Whitlock's ag plane.

Tips for Responding to an Aircraft Shooting

Over and above state laws, it is a federal crime to shoot at aircraft, including unmanned aircraft systems. Penalties can be as severe as 20 years in prison and a \$250,000 fine. Even the threat of shooting down an aircraft can result in a five-year prison sentence.

Five years ago, after a series of shootings directed at ag aircraft, NAAA developed a [checklist](#) of actions operators and pilots can take in the event someone discharges a firearm at their aircraft. The checklist includes tips on how to report a shooting incident and spread the word to bring the perpetrator to justice. NAAA's shooting-response checklist is available [here](#) to print. It contains the following steps along with NAAA's advice.

Checklist for Pilots Subjected to Discharge of a Firearm Targeting an Ag Aircraft

- **Inform Local Law Enforcement**
- **Contact the FBI**
- **Report it to the FAA National Safety Hotline**
- **Call your Local Flight Standards Office (FSO)**
- **File a NASA Aviation Safety Report**
- **Tell Other Pilots**
- **Notify Local News Media**
- **Contact Your Insurance Agent if Warranted**

In addition to its shooting-response checklist, NAAA is available to offer additional assistance in the event of an ag aircraft shooting. Contact NAAA at (202) 546-5722 for further support.

NAAA Members Promote Careers in Agricultural Aviation to North Dakota Fifth Graders

Steve Iglehart (back right) and Brian Rau (middle) with Medina, N.D., fifth graders in front of Steve's AT-402.

Last week NAAA members Steve Iglehart and Brian Rau of North Dakota spoke to 834 fifth graders about agricultural aviation. They met with groups ranging from 10 to 30 students at a time. The career day they participated in is an annual event facilitated by Bismarck Aero Center and the North Dakota Aviation Association that exposes area fifth graders to many potential careers in aviation. The students rotate to stations featuring various aspects of aviation, including agricultural aviation. Steve and Brian gave a brief overview of what an agricultural pilot does and how to get started in the business. They emphasized why it is important to do well in school, especially in math, science, business and technology for careers in aviation, particularly agricultural aviation. The rest of the time is spent fielding questions about an ag pilot's work and the aircraft they fly. This cycle repeated throughout the day until all 834 students made it through the stations.

Iglehart speaks to a group of fifth graders about flying an AT-402.

Changes to EPA's Application Exclusion Zone Continue to be on Hold

At the end of 2020, the Environmental Protection Agency (EPA) revised the Application Exclusion Zone (AEZ) from the original requirements laid out in the 2015 Worker Protection Standard (WPS). NAAA and other agricultural groups had supported the 2020 revisions as an improvement over the original AEZ. Before the 2020 revisions could take effect, though, the EPA was sued in two separate cases over the changes to the AEZ laid out in the revision. A preliminary injunction from the U.S. District Court for the Southern District of New York stayed the effective date of the 2020 rules, meaning the 2015 AEZ rules are still in effect.

The 2015 AEZ rules, which are currently the law of the land, define the AEZ as an area surrounding the application equipment that must be free of all persons. For aerial applications, the distance is 100 feet. The applicator must suspend the application if any person enters the AEZ, even if the person is not on the property being treated. This suspension must occur for both workers and other persons within the AEZ. The only exception is for properly trained and equipped pesticide handlers. Property owners and their families are required to leave homes or buildings if they are within the AEZ. The 2015 AEZ rules do not clarify that the application suspension is meant to be temporary—it simply states the application must be suspended when someone enters the AEZ. For more information on the AEZ rules, visit [here](#).

The preliminary injunction on the 2020 rules, which are still not being implemented, was to remain in effect until August 2022. However, according to a recent EPA publication in the Federal Register, the EPA will be starting a new rulemaking effort to address the AEZ. This rulemaking process may modify the original 2015 AEZ, the 2020 revisions or both. The EPA expects to issue a proposal for its new AEZ rules sometime in 2022. NAAA will closely monitor this rulemaking process to ensure the EPA does not return to the original 2015 AEZ requirements, which did not recognize the impact that wind has on drift or that applicators cannot control people who are not on the property being treated.

NAAA Sends Preventative Letter to FAA Administrator Nolen to Defang Aviation Safety Compromises Recommended by Drone BVLOS ARC

In March, the FAA Aviation Rulemaking Committee (ARC) studying ways to allow for unmanned aircraft systems (UAS) to fly beyond visual line of sight (BVLOS)—where a drone operator cannot see the drone with the naked eye—submitted its report with recommendations to the agency. NAAA has digested the report and sent a letter last week to FAA Administrator Billy Nolen pointing out the serious aviation safety concerns the ARC's recommendations would have to manned pilots flying in low-altitude airspace.

In the letter, NAAA included statistics on the great value aerial application provides to agriculture, forestry and public health. It also explained the severe aviation risks that UAS flying BVLOS in the 10- to 500-foot AGL airspace pose to manned, low-altitude aircraft flying in the same airspace, particularly when the UAS may weigh up to 1,320 pounds (about the size and speed of a Piper J3 Cub), no longer be required to provide right of way if manned aircraft are not equipped with ADS-B technology, and be permitted to fly BVLOS without giving right of way or being ADS-B technology equipped when operating in “Shielded Areas.”

The ARC’s definition of a shielded area is a “volume of airspace that includes 100 feet above the vertical extent of an obstacle or critical infrastructure and is within 100 feet of the lateral extent of the same obstacle or critical infrastructure...” The ARC defined an obstacle as “any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used and any permanent or temporary apparatus.” In this volume of airspace, UAS do not need to have ADS-B or other means to detect manned aircraft (MA) because, according to the ARC report, manned aircraft do not operate in this airspace. NAAA responded in the letter stating, “This claim is dumbfoundingly inaccurate ... it is the exact space that aerial applicators operate in when performing their mission treating cropland bordered by trees, utility poles, within 100 feet AGL and the like.” Included in the letter was a GPS printout satellite map of manned aircraft swaths to cropland surrounded by obstacles (*see illustration below*).

The figure above shows the proximity of ag aircraft working next to obstacles. The color lines represent the flight tracks of ag aircraft while making applications, including the individual spray passes and turns. The lines extending off the image to the left are ferry flights to and from the application sites. The blue circles indicate the location of obstacles taken from the FAA’s DOF (Digital Obstacle File) database and clearly demonstrate the proximity to obstacles within which ag aircraft operate.

NAAA also stated that other manned aircraft besides agricultural aircraft also operate in the 500-foot AGL airspace or below to properly perform their missions, such as emergency medical services, law enforcement, fire suppression, wildlife surveys, powerline patrol and others. These operations occur in a task-saturated environment for pilots due to the numerous existing obstructions, including wires, towers and terrain. BVLOS operations would add to the saturation by concentrating more aircraft in that airspace.

NAAA also stated that the current relatively small size of UAS makes visual detection nearly impossible and referenced the 2015 Colorado Agricultural Aviation Association tests conducted to see if manned agricultural aircraft, both fixed-wing and rotor, could locate a drone over a field. The results were that of four fixed-wing aircraft pilots, only one could locate the UAS and could only do so for a few seconds. The only helicopter, which included a pilot and a visual observer, found the UAS but reported that it was extremely difficult to maintain visual contact. NAAA followed up the point to make the case that it would be perilous for drones not to always be mandated to give way to manned aircraft by stating that for “a low-altitude manned aircraft to visually track a darting ... [UAS] while also avoiding ground affixed objects and performing either a policing, application, search, and rescue, etc. task is impossible and a safety hazard.”

An FAA ARC makes recommendations, not policy. The agency takes into account ARC reports and recommendations before proceeding with draft policy. The recommendations from this FAA UAS BVLOS ARC were not unanimously supported. Helicopter Association International, the General Aviation Manufacturers Association, Aircraft Owners & Pilots Association and Air Line Pilots Association voted against the ARC’s recommendations and were just a few of the manned aircraft organizations asked to serve on the FAA UAS BVLOS ARC. NAAA served on the FAA UAS Remote ID ARC in 2017 and co-signed a minority report that urged the agency to require drones from 0.5 pounds or greater to be equipped with remote ID (RID) technology. That requirement was ultimately included in the final RID rule. To read the full NAAA letter to FAA Administrator Nolen, click [here](#).

NAAA Member Doug Thiel Discusses Ag Aviation on ‘Pilots, Props and Planes’

NAAA member Doug Thiel discussed his career as an agricultural aviator on *Pilots, Props and Planes*, a show airing on public television in the San Joaquin Valley of central California. The agricultural aviation segment also highlighted the significance of the century-old industry to farmers and consumers.

Thiel owns Thiel Air Care in Chowchilla, California. During a sit-down interview with host Bill Vasilovich, Thiel discussed how he got into the agricultural aviation profession, why making aerial applications at night is common in central California, the advantages of aerial application, particularly for tree crops like almonds and pistachios grown in San Joaquin Valley—“With 80% of their crop being in the top 25% of the canopy of the tree, that’s where we are most effective,” he explained—the G-forces ag pilots experience, how the hands-on, stick-and-rudder nature of flying an ag aircraft is aided by technology in the cockpit, how one might become an ag pilot, and finally how his Air Tractor AT-802 came to supply the sound of Dusty Crophopper’s engine in the Disney films *Planes* and *Planes: Fire & Rescue*.

“That was really a fun experience,” Thiel told Vasilovich. “My grandkids have a little Dusty Crophopper toy that is sold around the world [where] the sound is my engine. That’s kind of cool.”

The episode of *Pilots, Props and Planes* is available for viewing [here](#) (enter password PPPEp4 to access it).

From start to finish, the segment is arguably one of the best media pieces on ag aviation you will ever see. NAAA commends Thiel for a job well done promoting the aerial application profession!

Pilots, Props and Planes informs and educates viewers about different aviation sectors. It only airs in the San Joaquin Valley/central California area at present, but the show’s executive producer informs NAAA that the program will soon be streaming across the country,

and it will have national distribution by late fall. Another episode on agricultural aviation is planned for *Pilots, Props and Planes*' second season in 2023. **Underwriting opportunities** are also available for season 2.

Ag Aviation Expo Sponsorships Available—Boost Your Company's Brand!

Join us for the **2022 Ag Aviation Expo** in Knoxville, Tennessee, Dec. 5-8. Sponsorship sales are open for this year's convention, where we're expecting a large crowd at this new Ag Aviation Expo location. Branding at the Ag Aviation Expo is a great opportunity to get your message in front of the agricultural aviation industry and reach a targeted and nationwide audience of aerial applicators in North America—an audience responsible for applying 28% of crop protection products to commercial cropland in the U.S.

Take advantage of **getting your company name** in front of the expected 1,500+ operators, ag pilots and other attendees directly related to the agricultural aviation industry through an Ag Aviation Expo sponsorship.

Six reasons why you should be a sponsor at the 2022 NAAA Ag Aviation Expo:

1. A targeted audience will see your company's name and/or logo.
2. Sponsorship enhances your company's credibility and rapport.
3. You will gain brand awareness and recognition.
4. You will generate new sales and/or leads and potential business partnerships.
5. You can drive attendees to your booth and message through your sponsorship.
6. According to a post-convention survey, 75% of aerial applicators stated that they would be "very likely" to use the products and services of a company that sponsors an event at the Ag Aviation Expo. View **sponsorship opportunities here**.

By becoming a sponsor, attendees will:

- Remember your company, services and products.
- See you as a supporter of the ag aviation industry.
- Recognize your brand.
- See you as a partner and industry visionary.
- Hold you above others in purchasing decisions.

For more information, contact **Lindsay Barber** by email or phone at (202) 546-5722.

Details for the 2022 Ag Aviation Expo

- **Dates:** Dec. 5-8, 2022
- **Location:** Knoxville Convention Center
- **Kickoff Breakfast Speaker:** **Captain Scott Kelly**, first astronaut to complete year-in-space mission.
- **General Session Speakers:** **Dr. Stan Musick & Michelle Miller**
- **Schedule of Events:** See the current, tentative schedule **here**.
- **Hotel:** Details **here**.
- **Attendee Registration:** Opens July 1.
- **Exhibitor Booth Sales:** Large booth sales open. 10'x10' and 10'x20' booth sales open July 14. Please **email Lindsay Barber** if you would like to secure a large booth space.
- **Sponsorship Opportunities:** Sponsorships are now available. View the **opportunities online**. Please **email Lindsay** if you would like to secure a sponsorship from last year or would like to be contacted about 2022 opportunities! We have sponsorships available for all budget sizes.
- **Auction Donations:** **Thank you to Pratt & Whitney Canada for donating a PT6-34AG to this year's NAAA Live Auction.** While we are still several months away from the Ag Aviation Expo, we are already accepting donations for the **Live and Silent Auction**. The earlier you inform us of your auction donation, the more advertising you will receive on the NAAA website and in NAAA publications. Support the aerial application industry by donating an item today. **Email Lindsay** with your donation details.

NAAA Submits Augmented Tower Marking Proposal to Congressional Transportation Committees as 2023 FAA Reauthorization Process Begins

Earlier this spring, the two congressional transportation committees requested legislative proposals directly from NAAA for the upcoming 2023 FAA Reauthorization. The FAA functions under a five-year congressional reauthorization that provides the agency with a host of new authorities and responsibilities on a broad range of aviation issues. Congress last authorized it in 2018 through 2023.

Last week NAAA submitted a proposal for the upcoming reauthorization that would strengthen a tower marking statute that it successfully had included in the 2018 bill by requiring **all** towers between 50 and 200 feet in rural areas meeting certain physical standards to be marked and logged into an FAA database. Already staff for the chair and ranking members of the House Transportation & Infrastructure Committee and ranking member staff of the Senate Commerce Science & Transportation Committee have acknowledged receipt and appreciation of NAAA's proposal.

Unfortunately, due to pressure from the Goliath communications industry, language was added to the 2018 reauthorization bill that allowed communications towers to only be marked or logged, but not both, while all other towers would be required to both mark and log—even if

they had identical physical characteristics and dimensions.

NAAA informed the two transportation committees in its letter this week about the importance of the aerial application industry—that it treats approximately one-third of our nation's commercial cropland (127 million acres of a total of roughly 347 million acres); that it is the most economical method for timely pesticide applications to be made due to its speed and ability to treat rolling hills and wet land that terrestrial equipment is unable to work; and that the industry's value to farmers, input suppliers, processors and agricultural transportation and storage industries for just corn, wheat, cotton, soybeans and rice production in the U.S. is estimated to be about \$37 billion annually. NAAA added that aerial application's importance is expected to grow substantially as food prices increase and food production becomes an issue of growing importance due to the Russian invasion of Ukraine, supply and demand issues, and a growing global population, hence, assuring aerial applicators' safety is paramount.

NAAA included statistics in its proposal to both committees that due to the industry treating at 120 mph just 10 feet off the ground, from 2008 to 2018, there were 22 agricultural aviation accidents from collisions with METs, communication towers, towers supporting powerlines and wind turbines that resulted in nine fatalities. For all general aviation, there were 40 tower-related accidents and incidents, resulting in 36 fatalities over the same 11-year period. NAAA also mentioned that the National Transportation Safety Board recommended guidance for marking certain towers below 200 feet. These recommendations included creating and maintaining a database for the required registration of certain towers and a requirement to mark and light (where feasible) certain towers.

NAAA also stated that the number of wind energy, meteorological evaluation towers and communication towers to broadcast broadband and the like is expected to grow significantly in the next decade and beyond. In 2000 there were 60,000 towers for wireless communication in the U.S. Today there are 150,000 such towers; by 2025, 200,000 are expected. Renewable energy policies in the early 2000s led to extensive growth of wind turbines and METs being erected in rural areas, causing more and more accidents for low-altitude ag aircraft. Furthermore, last year's infrastructure law funds a huge expansion for rural broadband. NAAA concluded that this exacerbates the risks for aerial applicators and towers that fit certain physical and dimension specifications, regardless of their use, must be both marked and logged.

To read NAAA's legislative proposal letter to the Senate, click [here](#). To read NAAA's legislative proposal letter to the House, click [here](#).

NAAA Attends Energy Conference Trade Show to Promote Better Wire Marking

NAAA recently spent two days at the IEEE PES (Institute of Electrical and Electronics Engineers Power & Energy Society) T&D Conference and Exposition in New Orleans. IEEE PES is the world's largest convention for the electrical power industry. NAAA member Tom Wolf from JBI Helicopter Services and NAAA staff member Scott Bretthauer were there to promote the use of Balmoral Engineering's rotating wire marker, the [RotaMarka](#), on power lines in rural areas in order to reduce the number of wire strike agricultural aviation accidents.

The RotaMarka is designed to increase visibility compared to standard wire marker balls. This increased visibility is because of its spinning movement combined with contrasting blade colors. RotaMarkas are also cheaper and easier to install than other wire marking products on the market. Balmoral Engineering is from Australia, where the RotaMarka is already being used to reduce agricultural aviation wire strikes. RotaMarkas are distributed in the U.S. by Sicame Corp., and NAAA spent two days at Sicame's trade show display talking with other convention participants about how RotaMarkas would decrease accidents in the agricultural aviation industry and save rural electrical companies the cost of having to repair wires downed by agricultural aircraft.

Attending the IEEE PES conference was part of NAAA's initial efforts to promote the use of better wire marking on power lines in the U.S. that are most likely to be struck by agricultural aircraft. NAAA has been in communication with representatives from Balmoral and Sicame to work on a strategy toward achieving this goal. [Balmoral gave a presentation](#) at the 2021 Ag Aviation Expo in Savannah, Georgia, to start the process of coordinating the effort. The task is more daunting in the U.S., where there are more than 3,300 electrical companies, compared to just 12 companies in Australia.

While talking with attendees at the conference, NAAA also had numerous discussions with Balmoral and Sicame representatives to refine the plan for promoting the RotaMarka. A presentation developed by NAAA will be updated and used at conferences where rural electrical cooperatives can be reached. A one-page handout will be developed for NAAA members to give to personnel from local electrical companies to explain the benefits of marking wires with the RotaMarka. NAAA will continue efforts to reduce the number of wire strike accidents and save lives.

NAAA Spearheads Ag Aviation Association Effort to Protect GPS

In April, NAAA and 27 state and regional agricultural aviation associations joined with 61 other organizations in letters written to President Joe Biden and the U.S. House of Representatives and Senate. The letters were sent on the second anniversary of the [FCC's approval of Ligado Networks'](#) application to operate a 5G network in the L-band radio spectrum, the band adjacent to the one used for GPS.

The letter reminds elected officials of the harm Ligado's proposed network presents to GPS, satellite communications, and weather forecasting services. It asks them to work with the FCC to stay the order and allow congressionally mandated studies currently being conducted sufficient time to conclude and be analyzed. The letter to President Biden can be read [here](#).

NAAA continues to work with a coalition of organizations across numerous industries, including aviation, agriculture, meteorological and

marine, seeking to overturn the Ligado decision and protect GPS. Furthermore, NAAA is extremely grateful to our brethren state and regional ag aviation associations for their support on this and multiple issues affecting the well-being of the aerial application industry.

Spring 2022 Issue of Agricultural Aviation Now Online!

The Spring 2022 issue of *Agricultural Aviation* is available [online](#) and in the Agricultural Aviation Magazine App. Branded as “The Safety Issue,” the focus of this special issue is all about safety—from aviation to environmental safety to ensure ag pilots’, farmers’ and planet Earth’s well-being.

Featured content in the Spring 2022 issue includes:

- **The Perils of Pushing Yourself to the Brink**
Kole Pederson's days as an ag pilot ended in the blink of an eye, but his love for the profession will never wane
- **Cockpit Therapy**
Almost 12 years after being paralyzed in a helicopter crash, getting back into the cockpit one more time lifted a weight off Rob Hammons' shoulders
- **'Your Health is Your Livelihood'**
A massive stroke cost 2013 NAAA President Dana Ness his livelihood; he urges ag aviators to zealously protect their health
- **Inadvertent IMC Avoidance and Survival Strategies**
The IIMC avoidance and survival strategies covered in the 2021-22 PAASS Program could save your life
- **PAASS Potpourri: A Winning Safety Concoction**
More lessons from the 2021-22 PAASS Program to get you primed for the new season
- **Roundtable: Agricultural Aviation at 101 & Beyond**
After a century of agricultural aviation, a panel of experts explores where the industry goes from here
- **Persuasive Pesticide Messaging**
Unpacking CropLife America's research on consumers' perceptions of pesticides
- **President's Message: Prepare for the Season Expecting Supply Chain Turbulence**
Planning and training to avoid self-inflicted supply needs may be one of the keys to maintaining profitability, NAAA President Jim Perrin writes
- **CEO's Message: Safety = Longevity: Yours and the Aerial Application Industry's**
NAAA CEO Andrew Moore outlines how the air carrier segment of aviation was able to markedly reduce fatal accidents to zero over several years and how participating in ag aviation educational programs augments professionalism and can also lead to zero fatal ag aviation accidents
- **Bringing in Out-of-State Pilots During Busy Times**
Plus, how to navigate the requirements for importing ag pilots and aircraft from Canada

Back issues are available in *Agricultural Aviation's* [Issue Library](#).

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Special Conditions Issued for Pressure Refueling of Robinson Helicopter Company Model R66 Helicopter

On April 27, the FAA published the following special conditions as part of the type certification basis for Robinson Helicopter Company Model R66 helicopters. The pressure refueling system must be designed and installed as follows:

- a. Each fueling connection below the fuel level in each tank must have the means to prevent the escape of hazardous quantities of fuel from that tank in case of malfunction of the fuel entry valve.
- b. For systems intended for pressure refueling, a means in addition to the normal means for limiting the tank content must be installed to prevent damage to the fuel tank in case of failure of the normal means.
- c. The rotorcraft pressure fueling system (not fuel tanks and fuel tank vents) must withstand an ultimate load that is two (2.0) times the load arising from maximum pressure, including a surge, that is likely to occur during fueling. The maximum surge pressure must be established with any combination of tank valves being either intentionally or inadvertently closed.

The complete issuance is available [here](#). Contact your Robinson maintenance facility for more information.

Shine a Light on the Industry's Unsung Heroes!

Eight recipients received NAAA Awards in 2021. Who will be among this year's awardees? Nominations are due by Sept. 9.

One of the highlights of each NAAA convention is the chance to honor a distinct group of the committed individuals and companies for their service to the agricultural aviation industry. The aerial application industry is filled with exceptional people who go above and beyond the call of duty, often with little fanfare. Make someone's day, year or career by nominating him or her for a 2022 NAAA Award!

NAAA's online submission form is the fastest and simplest way to nominate someone in just a few clicks, but the traditional PDF-based awards forms are also available options. The following submission methods are available at [AgAviation.org/awards](https://www.agaviation.org/awards).

- **2022 Awards Nomination Online Submission Form** (recommended)
- **2022 Award Nomination Form** (Fillable PDF)
- **2022 Award Nomination Form** (print version)

The online submission form is the fastest and simplest way to nominate someone in just a few clicks, but the traditional PDF-based awards forms are also available options. Completed entries using the traditional PDF forms may be emailed or faxed to NAAA at information@agaviation.org or (202) 546-5726 (fax).

There are nine NAAA Award categories and one NAAREF Award. The nomination deadline is Sept. 9, but early nominations are encouraged. The longer you wait, the busier you'll be as the summer season approaches.

NAAA Award Categories

Agrinaut Award: Honors an agricultural aircraft operator, operating organization or allied member company that has made an outstanding contribution in the field of ag aircraft operations. The achievement cited shall have contributed to the "state-of-the-art" for the benefit of the agricultural aircraft industry as a whole.

Allied Industry Individual Award: Recognizes an NAAA member or staff and/or an allied industry individual who has significantly contributed their efforts for the benefit of the allied industry and the aerial application industry. *(Presented by the NAAA Allied Industry Committee.)*

Delta Air Lines "Puffer" Award: Recognizes an individual who has made an outstanding contribution to the design of agricultural aircraft and/or related equipment.

Evans-Christopher Operation S.A.F.E. Award: Recognizes individuals or entities that have made outstanding contributions to the Operation S.A.F.E. program. *(Presented by NAAREF.)*

John Robert Horne Memorial Award: Honors a pilot with five or fewer years of experience in the agricultural aviation industry who has an exemplary safety record and has contributed to safety in ag aviation. ***This award no longer has carryover nominations from year to year; a new nomination must be submitted every year.***

Larsen-Miller Community Service Award: Recognizes outstanding contributions by a member to his or her community.

Opal and Bill Binnion Memorial Award: Acknowledges those who contribute to NAAA in its efforts to educate the public about aerial application.

Richard "Dick" Reade Memorial Award: Recognizes outstanding contributions by an allied industry member and their company.

William O. Marsh Safety Award: Recognizes significant achievements in safety, safety education or an outstanding operational safety program.

Zoren and Joan O'Brien Memorial Outstanding Service Award: Awards outstanding service to the commercial agricultural aviation industry or to its association.

The 2022 NAAA Award recipients will be announced in the fall and honored at the Excellence in Ag Aviation Banquet Dec. 8 in Knoxville, Tennessee.

We All Have a Telling History: Use Yours and NAAA's Materials to Broadly Communicate Agricultural Aviation's

By Andrew Moore, NAAA CEO

If you are an active citizen in the world of aerial application, don't be a static audience member during this epic centennial event. Take the stage with us and bring out your inner thespian as we enunciate the gospel of agricultural aviation to the public.

History is not just documenting famous or infamous people, times and events. We all have a history—a story to tell about ourselves that can contribute to the next and future generations' betterment. One could also believe that sharing our history is one of the meanings of life—to improve and evolve our world by sharing the key to living a good life and sharing the hazards and obstacles that may hinder such living.

NAAA has reached the climax in the centennial epic of sharing our industry's history to the public, which of course was Aug. 3, 2021. But just because the official centennial anniversary date is behind us doesn't mean all efforts to share the importance of our industry to the public have passed you by. We will be celebrating the centennial of agricultural aviation for an entire year. We continue to reach out to policymakers, our brethren in the fields of agriculture and aviation, to the trade press, to the public and to the national news media. We continue to share our history of improving the cultivation of food, fiber and bioenergy consumed globally and how we've learned from harrowing experiences and evolved technologically to fine-tune our craft, use less product to cover more acres and better care for Mother Earth. We are continuing to use all types of media to educate the public—three different length video documentaries, a comprehensive book of our history, social, print, trade and news media releases and a special website, AgAviation100.com, to share the 10-decade story of ag aviation and we will continue to do so through July of 2022.

If you are an active citizen in the world of aerial application—whether an operator, pilot, crew member, service-parts-equipment provider or related tangentially to the industry in another way—don't be a static audience member during this epic, year-long centennial event. Take the stage with us as we enunciate the gospel of agricultural aviation to the public. Inform your local television stations, newspapers and radio stations about the industry's 100th anniversary, even if it is by simply directing them to AgAviation100.com. On that site, there is a "Get Involved" tab with a draft press release about the 100th that discusses the importance of the industry, its progressive evolution, and directs readers to AgAviation100.com to learn more. Feel free to cater that press release to your own operation and experience and send it to your local news outlets.

You can also brush up on the ag aviation script about the importance of ag aviation, environmental safeguards that are common practice today and other industry talking points on NAAA's media relations kit webpage that may be found [here](#).

The media relations kit also includes suggestions on how to best communicate to the media and public when espousing ag aviation's significance. If you don't feel comfortable communicating directly, no worries. NAAA staff and an assortment of ag aviation ambassadors can be used as understudies and take over that role, but do make sure the public and news media in your area are informed of our centennial milestone to maximize the value of this pivotal once-in-a-lifetime event.

Don't forget, we all have a great story to tell about this industry. Whether it is how one got into the industry; the training to fine-tune ag aircraft and the application equipment; how ag aviation provides to local employment and the local economy; or how after five generations, our technology and experience are such that we produce more per acre, showing that our care for the environment continues to progress—all of these anecdotes are both important and fascinating to public audiences.

It's up to us all to tell the story to continue this industry's remarkable legacy. And again, just because the official anniversary date has occurred, our centennial lasts a year and you can still contribute plenty. Please join the ag aviation cast for this once-in-a-100-year performance that is leading to glowing public reviews and will continue to do so throughout the year.

NAAA Releases Book of the Century! Buy It Today

NAAA has released the book of the century—a century of agricultural aviation, that is.

One hundred years ago, an aerial crop dusting experiment spawned the birth of the agricultural aviation industry. To commemorate agricultural aviation's 100th anniversary, NAAA is pleased to present [*Agriculture's Air Force: 100 Years of Aerial Application*](#).

Agriculture's Air Force provides a new, updated account of aerial application's history, 35 years after Mabry Anderson's masterpiece, *Low & Slow: An Insider's History of Agricultural Aviation*, was published. NAAA's meticulously sourced book is based on a collective history of the agricultural aviation industry based on material from *Agricultural Aviation* magazine, *AgAir Update*, *Low & Slow* and other resources.

Beginning with *Agricultural Aviation's* Spring 2021 issue, NAAA has been publishing excerpts from *Agriculture's Air Force* and will continue to do so through the Fall 2021 issue. Those stories are just a small slice of what's in the 268-page hardback edition, however. The complete book contains so much more.

Agriculture's Air Force delves into the intersection of agriculture and aviation. It chronicles the agricultural aviation industry's growth from its infancy in 1921 through the boom times after World War II and on to today's modern era of high-tech aerial application.

The finished hardback book has been years in the making but well worth the effort. "This is a significant piece of work covering not just the industry's history, but its essence," NAAA CEO Andrew Moore said. "We are proud of it and believe it will make a lasting contribution to the industry."

The story of agricultural aviation is much like the broader story of aviation: It is mostly punctuated with interesting smaller moments sandwiched between milestone developments. Aerial application is also the story of technological leaps and bounds.

Agriculture's Air Force covers five eras spanning more than 10 decades. In addition, it features 34 Spotlight pieces focused on significant individuals, organizations, trends, technologies and topics related to aerial application.

Agriculture's Air Force: 100 Years of Aerial Application may well be NAAA's most enduring 100th anniversary initiative. One thing's for sure: It is no textbook. The commemorative book is written from a fresh perspective that is entertaining and enlightening. Readers will come away with a new appreciation for agricultural aviation as a profession and the dedicated individuals who propel it forward.

Order Your Copy of Agriculture's Air Force Today!

Agriculture's Air Force retails for \$45, excluding shipping. Order it from [AgAir Update's Online Store](#).