

MSO GA NEWS



If Missoula airport passengers of the 1950s could have seen how the terminal has evolved, they'd have been awestruck!

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Montana PBS producer Breanna McCabe talks about her production about the 1961 rescue of 20 smokejumpers from a wildfire in Idaho. [Read more](#)



Koua Moua is an iconic presence at MSO's Minuteman Aviation. [Read more](#)



MSO welcomes a new Northstar Jet General Manager. [Read more](#)



Shorter notes of special interest – GA BBQ, Museum of Mountain Flying, Neptune, Minuteman, Montana Aviation Conference, and others. [Read more](#)



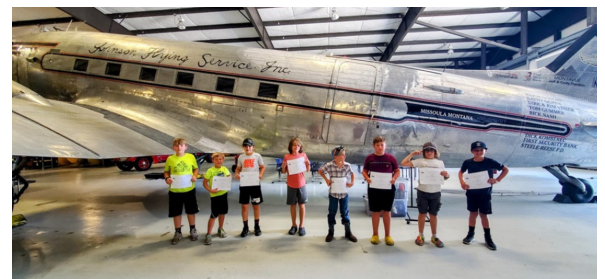
"Indiana Jones and the Temple of Doom" has nothing on our intrepid MSO airarcheologist. [Read more](#)



Unleaded avgas; sustainable aviation fuel (SAF) [Read more](#)



Missoula's EAA Chapter 517 has a lot going on! [Read more](#)



A unique summer camp for youth was among many summer activities of the Museum of Mountain Flying. [Read more](#)

Progress update with the Missoula Montana Airport new passenger terminal

By Tim Damrow, Airport Deputy Director

Well, it's been a whirlwind for the last 4 years, but we are finally open and operational in the new South Concourse Terminal of the Missoula Montana Airport! The new terminal project will fully replace the existing aging airport terminal and will modernize and expand the facility to accommodate growth for the next 30 years. As we close out a record-breaking summer, we thought this would be a good chance to recap, look forward, and answer some questions about the next phases of our project.

Aircraft gates

The first phase of the project, The South Concourse, opened this spring with 4 jet bridges and 3 ground loaded aircraft gates. This is a net increase from the old terminal's 3 jet bridges and 3 ground loaded gates. Subsequent project phases (listed below) will replace the remaining ground loaded aircraft gates with jet bridges to ease operations and enhance safety during inclement weather. Upon completion of all phases, the airport will have 7 jet bridges and a single ground loaded aircraft gate.

Construction phases

Phase 1 – South Concourse

What is it? Airline ticketing, security screening, holdrooms, tenant offices and airport administration

Estimated Completion? Fully operational - June 2022

What will it cost? Estimated \$67M

Phase 2 – East Concourse

What is it? Baggage claim, rental cars, holdrooms

Estimated Completion? Bag claim/rental cars – June '24; Holdrooms – June '25

What will it cost? Estimated \$44M

Phase 3 – East Concourse Extension

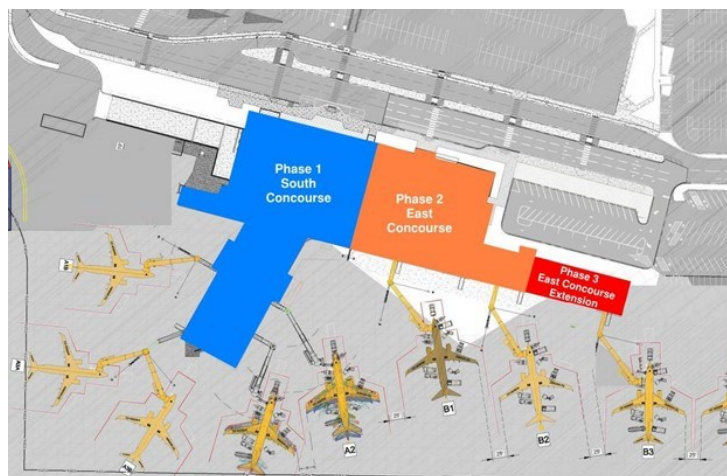
What is it? Extend East Concourse holdrooms by 150'

Estimated Completion? June '25

What will it cost? Estimated \$10M



The terminal 4 years ago and today.



Graphic provided by Tim Damrow



The light on top of the old control tower was saved. The light served for many years, helping pilots locate the airport at night and warning them if conditions were IFR. Much of the old terminal, now completely deconstructed, was recycled: Steel beams, wiring, insulation, etc. Photos courtesy of Tim Damrow and MSO GA News.

2-10-25

Northstar Jet has a new General Manager

By Gary Matson, MSO GA News



Alec Maguire became Northstar Jet's General Manager in September, taking the place of Kynan Spethman. Kynan's moved across the airport to become Washington Companies Aviation General Manager.

Alec brings a wealth of knowledge to Northstar, not only in aviation itself but in aviation business. He started flying his grandfather's T-34 when he was 15. The aircraft is high performance, complex, and far more capable than a typical trainer but Alec was undaunted. He got his private pilot certificate when he was 18, flying the same aircraft. Enamored with flying, Alec used what would have been his college funds to obtain his commercial, multi-engine, and instrument ratings.

Alec's grandfather is a story by himself. This "storied aviator" flew for Alaska Airlines in its early days. His skill and operational acumen led to his being handed the lead role in the historically unique "Operation Magic Carpet." The operation took place between June 1949 and September 1950. It brought 49,000 Yemenite Jews to the new nation of Israel. Alec's grandfather managed the operations of Alaska Airlines and other aircraft. Alec's dad was a constant companion of his grandfather, and he was brought along on Magic Carpet when he was only 13 or 14. Alec has found crew manifests from those days that listed his father as a crew member like navigator or mechanic.

Following Alec's completion of flight training and subsequent ratings, his flight instructor told him about a friend who was starting an aircraft management company. "VisionAir" provided pilots and maintenance for client-owned aircraft. The company's first client had a Citation business jet. Alec had about 750 hours of flight time, and the client helped him get his PIC type rating in the Citation. As VisionAir grew, Alec became type rated in other aircraft, one of his favorites being the Falcon 20 business jet.

Then, September 11th happened and "upset the apple cart." Alec went back to night school at UCLA and found himself attracted to the idea of becoming a chef, which was not a profession he would have predicted for himself. He went to chef school at Cordon Bleu in Pasadena and then started his own catering company. After a year and a half of 19 hour days, he decided to return to aviation.

The owner of the company Alec had previously worked for, VisionAir, invited Alec to acquire the company, which

he did. He grew the business and in 4 years it was debt free. Meanwhile, his dad had become interested in owning and operating an FBO at Van Nuys, California. Alec blended his VisionAir into his dad's Maguire Aviation and the two worked together for several years. The FBO became one of the largest in the country. Alec took advantage of many opportunities to learn from a number of very bright people in the company.

Eventually, Maguire Aviation was sold to Signature Aviation. Alec was employed as a consultant with Signature's parent company. His task was to find ways to give Signature customers confidence that their clients' aircraft operation needs were being well met, and to provide incentives for increasing reliance upon the company and its FBOs. Alec was able to come up with some programs that were successful.

Following his association with Signature, Alec and two of his former colleagues formed a consulting company, "FBO Partners." Their first project was designing and hosting workshops on the topic of "Best Practices in Hangar Subleasing." Through these well-attended workshops, FBO Partners came to be more broadly utilized as consultants to FBOs wanting assistance with the often-encountered issues that complicated their business survival. Although FBO Partners was successful, Alec missed having greater opportunities for in-person engagement.

Then Covid hit. Alec and his wife "...kind of hunkered down for a year" in Los Angeles. Alec asked his FBO Partners colleague, Doug, if he knew of any challenging employment opportunity in the aviation field. In May of this year, Doug called and said he had an FBO client in Missoula that was looking for a General Manager. Alec had never been to Missoula but had often been to Bozeman to consult with a client during his early years in the aviation business. He "fell in love" with Bozeman (Alec may need guidance in fully understanding why Grizzlies, not Bobcats, are local favorites!). Interviews with Neptune leadership and on-site visits enabled him to meet everyone. He very much liked the people of Neptune/Northstar and embraced the direction sought for ongoing development of the FBO.

Alec has "...fallen in love with this place." He thoroughly enjoys leading and mentoring his young staff of line persons and considers himself their advocate. His broad experience in both business and aviation makes him an advisor of exceptional value. Some of his young line staff will go on to other fields in aviation. Some are in the midst of an education leading to a career outside of

(See **Maguire** continued on page 6)

Koua Moua

By Gary Matson, MSO GA News



Minuteman's staff, visitors, and clients have enjoyed Koua's cheerful presence for 33 years! Gary Matson photo

Koua Moua is an iconic presence at Minuteman Aviation, having started working there in 1989 during the FBO's earliest days. He's always hard at work keeping the facilities clean and in top shape. Although Koua is quiet and unassuming, his story is incredible and far beyond what most of us

would even think of experiencing in our lives. I'll only be able to touch on some of it.¹

One of the Hmong people, Koua was born in northeastern Laos, "For thousands of years, the Hmong maintained a distinctive culture, including dress, oral literature and religion, valuing their autonomy and close-knit community above all. In pre-war Laos, the Hmong remained intact, because they lived high in the mountains and had little contact with other people. They farmed in the highlands and harvested enough crops for their own needs."²

As a small boy, Koua remembers going to the fields in the morning and returning in the evening, day after day. It was a peaceful life for the family of seven, Mom, Dad, two brothers, and two sisters. Tragedy struck first with the death of one brother and then again with the coming of war. The Vietnam war began in the 1950s and the United States had provided some support. In 1961, U.S. involvement ramped up. President Kennedy sent helicopters and Green Berets to the conflict. The U.S. Central Intelligence Agency recruited the alliance of the Hmong, and provided training, money, and logistical support for their people to participate in combat against the North Vietnamese.³

Fighting drove Koua's family from their village. They began a series of moves from village to village as the fighting followed them. Koua remembers moving to a place on a mountain that had been burned. He witnessed a CIA helicopter being downed by hostile gunfire, and learned that its passenger had been shot and later died. The passenger was one of the two CIA agents involved in supporting the Hmong as military allies.

Koua's family and other people moved from place to place to escape the fighting. "Everybody was sick; we had no money." He recalls ending up in the village of San Tong where they lived in a small shack. Koua's younger sister became ill and died.

San Tong had a school but Koua was too young to attend. There were no birth records so to determine if a child was old enough to attend school, the youngster needed to be able to reach with an arm across his/her head and touch an ear. Koua could not do that, but sometimes accompanied his cousin to school anyway.

San Tong was close to the Ho Chi Minh Trail, heavily utilized by the North Vietnam army to supply its troops in the south. Koua has vivid memories of watching T-28 aircraft strafing the trail. He was sure that he could see the aircraft slow as the guns fired. The T-28s flew low over San Tong on their way back to the airport at Long Tieng. The aircraft were flown by Hmong pilots, trained in Thailand. Koua observed that it was kind of funny that the skilled Hmong pilots learned to fly aircraft before they drove cars.⁴

When the fighting approached San Tong, Koua's family moved to the west side of the village and found a house to live in. Koua was old enough to go to school. Although there were no birth records, he thinks he was born in 1961 or 1962. His family lived in San Tong for about one year.

The Vientiane Agreement, signed in 1973 marked the end of U.S. support of the Hmong people in Laos. They were left alone to defend themselves. The U.S. military made its final evacuation at Long Tieng (also called Long Chen) May 14, 1975. Thousands of Hmong were there seeking evacuation but were left behind. Koua was not there but says it was as chaotic as the recent U.S. evacuation in Afghanistan.

Many Hmong left San Tong and Long Chen in hopes of being able to cross the border into Thailand. Koua's family tried joining them but was turned back by soldiers guarding a bridge near the border. When fighting overran San Tong, the family escaped to the jungle and stayed for about a year. There was very little to eat. Koua's father passed away. Now the family was six: Mom, Koua, one sister, and three brothers (one had been added to the family in 1973 and another in 1975.)

The family left the jungle and stayed for about two years in a village that was under communist control. Koua, two brothers, and five of their relatives decided to leave and escape into Thailand. They left on foot without telling

(See Koua continued on page 5)

(Koua continued from page 4)

anyone. Along the way they were joined by others. Their group eventually grew to 117 people. Because day travel was unsafe, they traveled at night. The people at the front of the group led the way; only the lead person had a flashlight. They traveled both on the road and off road in the jungle for nine days.



Residents of the camp in Thailand were each given document to accompany them on their trip to the U.S. Koua was a teenager at the time of the photo. Photo courtesy of Koua Moua

Reaching the Mekong River, the border between Laos and Thailand, they found a place to cross the river where it wasn't very deep or wide. They traveled to a Thai village where some among the group had acquaintances. After staying in a small camp for a couple of days they were moved to a big camp, Ban Vinai. They arrived March 20, 1980. There were only Hmong people in the camp; no Laotians or Vietnamese. Koua's mother, sister, and

youngest brother found a way to get to the Ban Vinai and the family was reunited. They stayed for several months while they looked for ways to be allowed to come to the U.S.

A group of about a hundred Hmong, including Koua's family were given permission to go to Bangkok to prepare for traveling to the U.S. The camp was sponsored by the United Nations. During the six months they spent there, residents were taught what to expect when they reached the U.S. Residents were provided with their own packets of documents which would stay with them through their time of entry into the U.S. and after.

When it came time to travel to the U.S., the departure of Koua's family was delayed because his brother had become ill. Eventually, after treatment in Thailand and assurance that treatment was available at their U.S. arrival point, Missoula, they were allowed to depart.

Koua, his mother, sister, and brother arrived together in Missoula on March 5, 1982. Their sponsor in Missoula was a relative. He had found an apartment for them and upon their arrival the family moved in.

Koua and his brother attended Hellgate High School

and both graduated in 1986. Not sure about what he wanted to do for a living, Koua decided to enroll in Merced Community College in California. After attending for a short time, he changed plans and went to work for a company assembling windows. He met a Mai Ly Vang, fell in love, and the couple was married in 1988. In the fall, he was laid off from his job and Koua's cousin in Missoula paved the way for his return to Montana. His cousin was employed to clean an Aero Commander. The owner kept his aircraft at Minuteman and knew the FBO's owner, Jerry Mamuzich. Jerry was looking for someone to work at Minuteman as a custodian. The cousin thought right away of Koua, who accepted the position. He and Mai Ly moved to Missoula and Koua started work in 1989.

Koua and Mai Ly live near Frenchtown. Their son and daughter, now in their 30s, attended Frenchtown schools. Their daughter graduated from UM with degrees in pharmacy and accounting. She lives in Sacramento and was recently married. Their son graduated from UM with a Masters in Social Work and lives in St. Paul, Minnesota.

Given the adversities he had overcome in his remarkably event-filled and challenging life in Laos, I asked Koua if he had any words of wisdom to pass along to others. Koua replied, "When I work, I work harder. I don't mind working hard!"

Koua, thank you for sharing some of your remarkable story with us. Best of luck to you and your family in the years ahead!

1. Missoulian reporter Kim Briggeman gives a short history of the Hmong People in Missoula: https://missoulian.com/news/local/hmong-missoula-came-to-grips-with-each-other-in-1st-refugee-resettlement/article_35fd33a4-8089-517a-b5d5-693d9aa12303.html#:~:text=The%20International%20Rescue%20Committee%20had,to%20communist%20forces%20in%201975
2. The History of the Hmong People from Laos. Hmong Association of Washington. <https://www.hmongofwa.org/our-history.html>
3. Missoulian reporter Kim Briggeman explores the legend and mysterious disappearance of former Missoula smokejumper and CIA agent Jerry Daniels, who was one of two advisors to the Hmong People and their military (reprinted in Smokejumper Magazine): https://smokejumpers.com/index.php/smokejumpermagazine/getitem/articles_id=385
4. Lee Lue was a famous Hmong pilot, flying over 5,000 missions in his T-28. Lee Lue (Lis Lwm) (hmonglessons.com)


EAA Chapter 517 has a lot going on

MSO GA News

Headlining chapter news is its 2022 Fundraising Raffle. If you've not yet gotten your raffle ticket, "time's a wastin'." The raffle ends December 3, 2022. Take a look at the amazing prizes gathered together by the hardworking EAA team <https://chapters.eaa.org/ea517/raffle>. As noted on the fundraising website: "Proceeds from all ticket sales directly support our youth and adult aviation programs, our free youth aviation flights, our scholarship program, our regular monthly activities, and the amazing hangar space that we get to share with the local community to support aviation in the region!" Raffle tickets are \$10 each or 10 for \$75. Get them from an EAA Chapter member or contact President Ed Lovrien edlovrien@msn.com.

The chapter hosts breakfast at the chapter hangar on the first Saturday of every month during the warmer seasons, typically April through September. Besides breakfast,

these Saturdays also feature Young Eagle flights when the weather permits. Pilots and youth have enjoyed several good flights over the summer and fall, including one with the sixth graders in Superior, Montana, and one with Missoula Youth Homes in Missoula. Got kids, grandkids, friends' kids who'd like to take a Young Eagles flight? Go to youngeaglesday.org and enter your zip code to learn about the next and nearest YE event and have an opportunity to register.

Meetings are monthly on the third Monday at 7:00 PM, and feature a presentation on an aviation topic. In place of breakfast, coffee and donuts will be served from 8:30 to 10:00 on the first Saturday of November, December, January, February, and March. All are welcome. Come to the Missoula Airport, 4198 Corporate Way, Hangar 4 of the East LZ hangar complex. Join as a chapter member! Contact EAAChapter517@gmail.com. 



MSO pilot Dave Mihalic's painting "Friends Drop In" is among the many valuable raffle prizes.



Chapter members Orson Jordan and Bill Schertz are EAA's expert breakfast chefs.




EAA Young Eagles Pilot Ed Lovrien gives a ride to a Superior, Montana 6th grader

(Maguire continued from page 3)

aviation. Alec himself likes working the line and staying in touch with the FBO's operations.

Northstar's mission at Missoula has many elements. General aviation pilots are familiar with the fuel and maintenance services provided by Northstar Jet. The FBO also supports "Part 135" charter aircraft (non-scheduled air charter carrier) operated by its parent company, Neptune Aviation, as well as charter aircraft owned by others such as Alpine Aviation. Northstar has a flight school with a long history at MSO. It has contributed many pilots to both the general and commercial aviation fleets. The school now has two Cessna 172s with another on its way. There is also a

flight club, offering pilots a less expensive avenue for flying than aircraft ownership.

Alec has a lot of responsibilities on his managerial plate, but his love for aviation and wealth of experience are assets for MSO and Northstar. "High on his personal list" is getting back in the air as a VFR private pilot. He hasn't been current for a while but looks forward to brushing up on his pilot skills and getting a flight review so he can join in celebrating the amazing experiences enjoyed by western Montana private pilots. Our best to you in the times ahead, Alec! Welcome to MSO! We'll look forward to seeing you both on the ground and in the air! 

Museum of Mountain Flying


MSO GA News

Museum news has taken a giant leap forward thanks to Kaye Ebelt. She's a private pilot as well as the Museum's "Newsletter and Community Outreach" specialist. The first, quarterly edition of the newsletter, "Backcountry Flyer," will be sent out soon to Museum members. Kaye taught in Missoula's Target Range School. She's received several awards in recognition of her science and math teaching. Kaye now teaches 5th and 6th grade at the Greene School in South Palm Beach, Florida. She spends

summers in Missoula where she is active in aviation education and activities for both youngsters and adults. Thanks, Kaye, for your outstanding contributions to aviation at MSO!

Join the Museum to get regular announcements of the Museum's activities and receive the Backcountry Flyer. Email N24320@icloud.com and request membership information. Follow the Museum of Mountain Flying on Facebook.

The fall issue of the Backcountry Flyer newsletter highlights recent Museum events, including:

- Eric Ristau's exceptional documentary "Return to the Big Skies: Miss Montana to Normandy" is now available on Amazon Prime. Eric chronicles the efforts of the dedicated group of volunteers that enabled the restoration of the DC-3 Miss Montana and its flight to Normandy for the 75th anniversary of D-Day.
- Community outreach – Kaye's Mountain Flying and Fishing Camp, featuring fishing and flying experiences for youth. The camp was "inspired by John N. Maclean's new book *Home Waters*, celebrating the Macleans' corner of Montana and merging mountain flying, and fly fishing."
- A recap of summer events involving Miss Montana
- A history of the Higgins Ridge Fire of 1961 and the helicopter rescue of trapped smokejumpers by Johnson Flying Service pilot Rod Snider.
- Miss Montana at OshKosh 



*Left:
Fly fishing the Clark Fork at Milltown.
Photo courtesy of Kaye Ebelt.*

Right:

Kaye Ebelt, Author John Mclean, Museum Volunteer Coordinator John Haines



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Higgins Ridge Film Premieres in Missoula

by Breanna McCabe, Montana PBS producer of "Higgins Ridge"

MISSOULA – Six smokejumpers who survived the Higgins Ridge wildfire in 1961 and the pilot who rescued them attended a special screening for an upcoming Montana PBS documentary retelling the story.

Higgins Ridge, named for location of the fire in Idaho's Selway Bitterroot Wilderness, debuted at the historic Wilma theater in downtown Missoula to an audience of more than 500 attendees on Oct. 6, 2022.

In the film, 12 of the 20 smokejumpers who jumped onto Higgins Ridge on Aug. 4, 1961, share the story of how the fire surrounded them, forcing them to shelter in place. About three hours later, Johnson Flying Service helicopter pilot Rod Snider managed to land on the ridge in smoke and wind and shuttle the smokejumpers to safety. Snider, now 92 years old, is featured in the documentary along with many of his original photos taken in 1961.

Snider and six of the smokejumpers he saved attended the premiere. Family members of Higgins Ridge Fire

foreman Fritz Wolfrum, squadleader Darrel "Pete" Peterson, Moose Creek Ranger Bill Magnuson, and smokejumpers Roger Siemens and Jim Elms were also recognized during the premiere, along with Jack Gordon, a smokejumper who started in 1964, whose brother Don Gordon was on Higgins Ridge but unable to attend the Missoula event.

Most of the interviews for Higgins Ridge were collected in 2019 as part of the National Museum of Forest Service History's Higgins Ridge Oral History Project. The museum partnered with Montana PBS producer Breanna McCabe for technical assistance recording the interviews, and McCabe collected additional interviews and materials to weave the stories into one hourlong film. **Montana PBS plans to broadcast "Higgins Ridge" statewide on Monday, Jan. 30.**

For up-to-date information on the production, visit Higgins Ridge (montanapbs.org/programs/higgins-ridge)



Top Left: John Holtet, Dale Graff, Tom Kovalicky, Rod Snider, Bill Schroeder, Roy Korkalo and Mark Greydanus stand on stage at the Wilma Theater in Missoula during a special preview screening of "Higgins Ridge" on Oct. 6, 2022. The film also features interviews with Ross Parry, Don Gordon, James Van Vleck, Neil Walstad and the late Wade Erwin and Roger Siemens. (Photo by Andrew Kemmis Photography)

Top Right: UM alumna Breanna McCabe (center) helped capture more than a dozen interviews with smokejumpers, including Roger Siemens (left) and Mark Greydanus, for her upcoming Montana PBS film Higgins Ridge (Photo courtesy of Montana PBS)

Left: Helicopter pilot Rod Snider was among the 500 attendees at Missoula's Wilma Theater for the October 6, 2022 debut of the Higgins Ridge documentary. (Breanna McCabe photo)



From Dan's Desk

By Dan Neuman, MSO Business Development Mgr.

As I am prone to do from time to time, I went back and looked at all of the Dan's Desk submissions I have written over the years. As near as I can tell, I started torturing folks with my aimless musings in early 2015 and have continued unabated up until now. As I traversed these wandering missives, it occurred to me that I have never shared the story of the missing airplane.

Back when I was a young and impressionable fellow, some 20 years ago, I was informed by none other than MSO's legendary Operations Mgr. Dennis Chudy, that there was an unknown aircraft buried somewhere on airport property. Whether he was just messing with me or if indeed there is (or was) an airplane entombed on this property, the mystery and intrigue of this subject continued to grow in my mind. Every time that there was any kind of

notable excavation on airport property, I would have Indiana Jones inspired visions of finding this cryptic plane and exploring the site of its final resting place. I have peered into the excavated depths of FedEx, Taxiway Bravo 1, New Terminal, Old Terminal, Northstar Hangar(s), Homestead Hangar(s), Minuteman Hangar(s), LZ hangar, Deice Pad and various other sections of ramp and tarmac.

Alas, I have yet to lay eyes on this mystical and elusive aircraft. It does occur to me though that we have built a lot of projects over the years, which has led to me looking at a lot of dirt. Perhaps one day this mystery will be solved and I can lay to rest the nagging suspicion that I was the subject of a cruel prank which resulted in my restless scouring the excavations of every major building project that has happened in my tenure here at MSO.



Was this airplane and its mystery occupants part of the Legend of the Buried Airplane at MSO?

MSO General Aviation Barbecue (GABBQ)

This much-anticipated annual event is hosted every by the Missoula Airport. Covid and weather has interfered with past BBQ's and that made this year's October 1 event even more special. Hearty thanks go out to EAA Chapter 517 for hosting the event at the Chapter's East LZ hangar. The Chapter's hangar neighbor, Bruce Doering, opened his up to give us not only plenty of room but also a chance to see his beautifully restored Model T. As usual, our exceptional chefs Brian Ellestad's and Tim Damrow's brats and burgers were the best! We enjoyed seeing old friends and meeting new ones at this special occasion where all of us who participate in MSO aviation have an opportunity to come together. The GA BBQ is unique in that regard.

MSO Chief of Public Safety Justin Shaffer drove one of the two impressively equipped Fire and Rescue trucks.

Justin thrilled youngsters and oldsters alike by giving rides and showing off the trucks' remarkable capacity for shooting out big streams of water!

More hearty thanks to MSO for sponsoring the BBQ and to all who attended and made it enjoyable. Don't miss next year's! The more the merrier!



Right: Missoula Montana Airport Director, Brian Ellestad, and Deputy Director, Tim Damrow provided unsurpassable BBQ fare. (More BBQ photos pg 18)

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Briefly Noted – topics of special interest to Missoula general aviation

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Washington Companies Aviation gets a new General Manager

MSO GA News



Kynan Spethman Photo by Gary Matson

The MSO aviation community has long appreciated the contributions of Kynan Spethman, former Northstar Jet General Manager. Under Kynan's leadership, Northstar contributed not only fuel and mechanical services but also gave major support to general aviation events like the Montana Aviation Conference. He'll be missed in those roles but is still at our airport. As of May 30th he is now General Manager for The Washington Flight Department based at MSO. The Washington Companies were looking for a new GM and reached out to Kynan. Having worked alongside them and supported them for many years he was very familiar with their operation which made for a very easy transition.

As Washington Companies' Aviation General Manager, Kynan oversees all operations of the companies' aircraft. The flight department

fleet consists of

- 4 - Challenger 300's and 350's (3 based in MSO)
- 2 - EC 135 helicopters
- 1 - B-737 Boeing Business Jet
- 1 - Twin Otter on floats

The fleet is constantly busy transporting the companies' personnel on business trips to its worldwide locations, as well as supporting the Washington families' flight needs. The companies' hangar has offices for its mechanics, pilots, and Kynan; a passenger lounge; and work rooms for its mechanics. The hangar is also complimented with its own fuel tank and system for largely independent operations. The Washington Companies are one of Montana's largest philanthropic donors and a significant contributor to the Missoula area in many ways. Their flight department has had a presence on the field in MSO since the 70s.

Kynan grew up in Missoula and is a Hellgate High graduate. His family lives near Potomac and their three youngsters attend Valley Christian School in Missoula. Our thanks go to Kynan for his years of supporting GA at MSO, and best wishes for the good years ahead.

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Neptune Aviation Services Update

Thanks to Kevin Condit, Neptune Marketing Manager

Fire season is slowing down for Neptune Aviation. Only T12 remains in the field (stationed in Fresno with CalFire until early December). For Neptune Aviation, the 2022 Fire Season was about average – things started very busy but tapered off as the summer progressed. A few approximate numbers from the fire season (thru 10/24):

-5,126,400 Gallons of Retardant Dropped

-1,709 Missions/Fires Flown

-1935 Hours Flown

-774,000 Miles Flown

There is a chance that some of the Neptune aircraft in Missoula could be called up for duty the next few months – dry conditions persist in the Great Plains & in parts of California.

Most of the Neptune fleet will begin winter maintenance with heavy duty checks, medium duty checks, painting, and avionics work scheduled.



Tanker 12, 2022 Fire Season.
Photo by Matthias Heisig



After fire season, maintenance technicians begin their work in Neptune's well-equipped hangars. Photo courtesy of Kevin Condit.

Minuteman Aviation shifts with the seasons

A note from Jillian Mamuzich

As leaves begin to fall, fire season 2022 has come to an end. Here at Minuteman Aviation, we had a busy and safe season. We continue to be grateful for our team members and are proud of all that has been accomplished. With the season shifting, we are busy doing maintenance and getting inspections done. Our FBO continues to cater to our local pilots and travelers visiting the beautiful state of Montana.



Left: Beauty and action fill the aviation experiences at Minuteman.

Thanks to Minuteman's Josh Johnson for the photos.

2023 Montana Aviation Conference

An email note 10/26/22 from Mike Vivion, President, Montana Pilots Association

A reminder that registration for the 2023 Montana Aviation Conference is now open. The conference will be held at the Billings Hotel and Conference Center March 2nd, 3rd, and 4th, 2023.

When this conference is held in Billings, it generally draws a pretty big crowd, so if you're planning to attend, be sure to sign up as soon as possible. Here's a link to the registration: <https://www.mdt.mt.gov/aviation/conference.aspx>

If your business is in aviation, please consider being an exhibitor at the conference. Details on exhibit space and costs as well as registering as an exhibitor are found on the above link.

If you wish to support this event and aviation in Montana, whether or not you're able to attend, please consider becoming a donor to help support the expense of this program.

So, please plan to join us in Billings for what is shaping up to be a great conference! See you there!

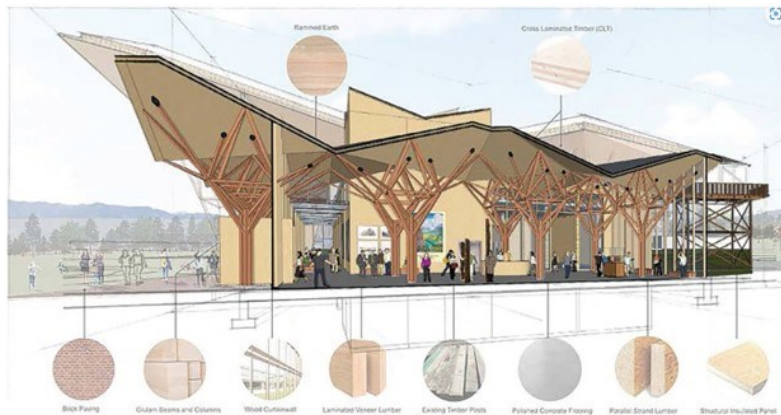
“More Good News” from Mike 10/28/22

AOPA has just agreed to bring their great "Rusty Pilot Seminar" to the Montana Aviation Conference! This seminar has helped hundreds of pilots who were not very active get back into flying, and safely! The Rusty Pilots Seminar will be held at the Montana Aviation Conference in Billings, Saturday morning, March 4th, 2023.

So, if you are, or you know, a pilot who hasn't done much flying lately, but might be interested in getting back to flying, this seminar is a real winner! Presenters cover all aspects of things pilots need to be aware of as they get back into flying.

We'll get the word out as soon as Registration opens. AOPA will register folks for this seminar, but participants are also welcome to attend the entire conference, so help us get the word out.....this conference is going to be a great one!

The National Museum of Forest Service History



The National Conservation Legacy Center will be a world class museum featuring state of the art participatory and immersion exhibitory. Fundraising for the construction of the center is ongoing.

The museum is a nearby neighbor of the Missoula Airport. Among its historical artifacts and histories there are many involving aviation. The museum sponsored in June of 2019 a first time gathering of the pilot and smokejumpers involved in the Higgins Ridge rescue. The gathering created an opportunity for these firefighting veterans to document and share their experiences. Most recently, the powerfully unique Higgins Ridge rescue has been the subject of a Montana Public Broadcasting production. Whether it's aviation or forestry history, visitors will enjoy the museum's campus – a great activity to help pass the time while waiting for a MSO arrival or departure, or at any time! Today's displays in the modest visitor center will soon find a home in the museum's world class National Conservation Legacy Center (<https://forestservicemuseum.org/the-center/>)
Become a member!

<https://forestservicemuseum.org/become-a-member/>

Helicopter wake turbulence

MSO Air Traffic Manager Christel Terrell passed along an eye-opening video about the potential consequences of small aircraft encountering helicopter wake turbulence. <https://www.youtube.com/watch?v=9YvL62T3Hm0>



These images taken from the video are grainy but clearly show the Cessna 120 becoming inverted by the wake turbulence, just before it crashed. The helicopter's flight path, seconds before the C120 landing, was parallel to the runway. Miraculously, there was only one minor injury. A - Cessna 120; H - Helicopter.

Montana Real ID

You are not required to get a Montana REAL ID compliant license or ID; however, a Montana REAL ID compliant license or ID or another acceptable form of identification is required to fly domestically and access federal facilities by May 3, 2023. Appointments can be made by phone or online.

To learn more go to <https://mtrealid.gov/>

Starter gear: Add this preflight check item

By Cessna 150 pilot Gary Matson



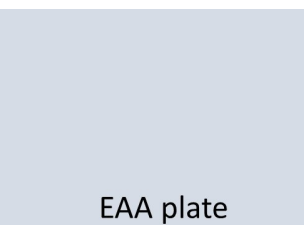
Matson's Cessna 150 still safely plies the skies thanks to his flying friends Ed and John.

As I was taxiing back after my flight at MSO with an EAA Young Eagle, two of my fellow pilots noticed a concerning noise coming from the nose of my Cessna 150. I could hear nothing unusual from inside the plane. At my friends' insistence, we took a close look and found that the starter gear was failing to disengage. I had been planning to leave on a 1,000 mile cross country the following day. Had the problem not been found and repaired there could have been serious flight safety consequences. I owe "everything" to my fellow pilots Ed Lovrien and John Barba. Thanks, you two! If you hadn't insisted on locating the source of the noise, an eventual bad outcome was nearly certain. Lesson learned! Add to the preflight: Inspect the starter gear and confirm that it's disengaged from the flywheel.

Aviation license plates



MPA plate



EAA plate



Montanans are greatly blessed to have two special license plates that boost general aviation. The Montana Pilot Association plate raises funds to establish an effective "endowment" which will fund at least two flight training or mechanic scholarships of \$4000 every year. MPA President Mike Vivion notes just how important scholarships are, given the increasing need for pilots and aviation mechanics. Mike says, "We have a LOT of very generous folks in Montana. This is just a very painless way for someone to make a difference year after year without even having to think about it."

Missoula's EAA Chapter 517 also has a specialty plate. Funds provide aviation scholarships and pay the expenses needed to keep the Chapter's hangar viable as a place to promote general aviation. The chapter sponsors Young Eagles events at its monthly breakfast. Young people interested in aviation can go for a ride with one of the chapter's pilots and also can sharpen their piloting skills in the hangar's flight simulator.

Weather cameras in Montana

In an email to members on October 18, 2022, Montana Pilots Association President Mike Vivion provided this updated, complete list of currently operating weather cameras:

Bozeman, Bozeman Pass, Butte, Helena, Lewistown, Lincoln, Missoula, Seeley Lake, West Yellowstone

Camera systems will be operational soon at three more locations:

Columbus, Havre, Superior

Find the weather cams here: <https://weathercams.faa.gov/map/-115.31093,44.38126,-106.87343,46.99755>

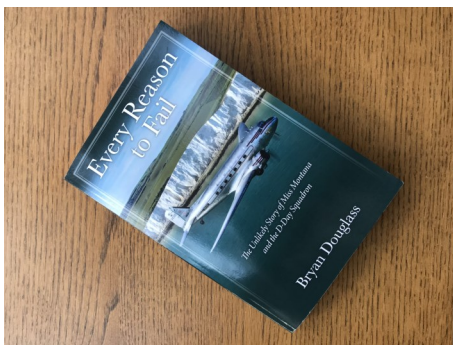
Airport access badges

- Check your badge renewal date. It expires every two years, on your birthday.
- It can be renewed anytime within the 30 days before your birthday. There is no “grace period” after the renewal date. (If you use an electronic calendar, I recommend adding the date as a reminder tool)
- Badge renewals are \$20; new badges \$25
- Compliance Officer Jesse Johnson handles badging procedures and is available for badging 10am-3pm Mon., Tues., Thurs., and Fri. These are the days where appointments can be made online at: <http://flymissoula.com/badging>. Jesse says:
- *Please do not assume we are able to attend to walk-ins. Other duties are taken care of outside of the badging office when appointments are not made.
- *Please keep in mind that it is a lot easier to accommodate requests if you call or email ahead of time. This way I can adjust my schedule. Admin. Office phone: 728-4381 jjohnson@flymissoula.com
- *The appointment scheduler for badging allows us to make sure we get all the information out to each applicant, so they have the proper forms, know about the ID requirements, and make sure their signatory OK's the paperwork prior to coming in for badging.
- Moving?! PLEASE let your sponsoring FBO or hangar association managers know! They are required to report changes in hangar occupancy within 24 hours of the change. It is now the sponsor's (signatory's) responsibility to: a) Let the Airport Public Safety Office know within 24 hours of any move; b) Ensure that the AOA badge is turned in to the Airport within 30 days. The sponsor (not the badge holder, though the sponsor may attempt to collect from the badge holder) may receive a monetary fine if either the 24-hour notification or the badge return is not done.

Airport weather and conditions by phone and radio

- ATIS by phone 406-549-2989, when you're away from a radio during hours of tower operation
- ASOS (Automated Surface Observing System). 406-728-3743. MSO weather 24/7.
- After the tower closes, ASOS weather is available by radio at 126.65.
- Talk to a real person. 406-329-4840. The staff at our local National Weather Service office are always glad to visit with pilots about weather and can often clarify uncertainties in a forecast.

Every Reason to Fail



Bryan Douglass' book about the epic adventure of Miss Montana to Normandy is absolutely a “must read” for aviators, especially those of us sharing a base with the historic DC-3. Bryan's story creates in the reader a deep appreciation for a number of things: The success of a near-impossible effort to make the aircraft flyable in less than a year's time and starting with zero resources; the rarely seen volunteer energy that showed up again and again to do the work; the rich relationships among the Miss Montana crew that flourished because of their sharing of an epic adventure; the physical and performance challenges involved in participating with many DC-3s never before together as a group and called upon to skillfully execute a “one-shot-only” D-Day Seventy Fifth Anniversary performance. The historical accounts included in the book,

Mann Gulch, WWII, the Berlin Airlift, give added value.

Every Reason to Fail can be purchased on Amazon. Bryan will sell an autographed copy for \$20. Contact him at bryan@everyreasonstofail.com

Cleaner fuels for aviation

By Gary Matson

Unleaded Avgas

The years-long effort to remove lead from Avgas has culminated in success. It's long been known that the 100 octane, low lead fuel 100LL releases small amounts of lead into the atmosphere (similar to the automobiles of years gone by but in vastly lower total quantities). Fortunately and as of late, we can now see the light at the end of the tunnel in our journey to "get the lead out." General Aviation Modification Inc.'s years of research and development finally resulted in a lead-free aviation fuel, G100UL. The Federal Aviation Administration recently granted GAMI a fleet-wide Supplemental Type Certificate (STC) enabling the new fuel to be used in essentially all models of today's fleet of general aviation piston aircraft. The comprehensive list of models/engines to which the STC applies are listed by GAMI here: <https://gami.com/g100ul/downloads.php>

The long-sought STC has been widely described in general aviation publications, including an article by Jill Tallman in AOPA's November issue of Pilot. Jill's article provides answers to commonly asked questions. "When will G100UL reach airports and aircraft tanks?" At present, there is neither refining nor infrastructure to deliver the fuel on a large-scale basis. That will take time. "What will G100UL cost?" It will cost more than 100LL but as production and deliveries ramp up the cost will come down.

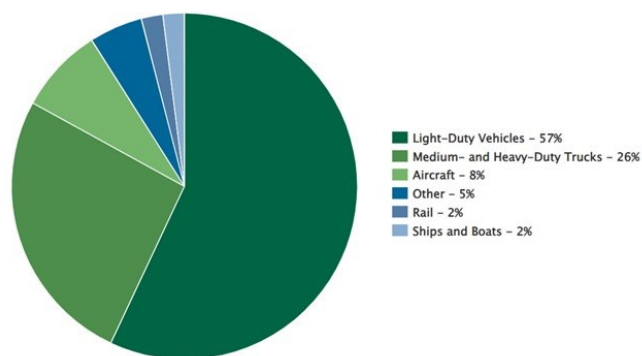
"How can I get an STC for my airplane?" GAMI's STC will allow the fuel to be used in almost all piston aircraft but an STC will be required for each one using the new fuel. These individually applicable STCs should be available for purchase from GAMI within a couple of months, and certainly well ahead of the time when the fuel is widely available. According to GAMI, "The STC pricing will be based on engines and horsepower, in a manner similar to the pricing for other fuel STCs that have been available for low octane gasolines." What's included in the STC? "A very short Approved Flight Manual Supplement (AFMS) and placards to be installed around the fuel filler ports on the aircraft and one on each engine. There is a short set of routine I.C.A.'s (Instructions for Continued Airworthiness) and Installation Instructions for the placards."

Sustainable Aviation Fuel

Aviation currently accounts for 8% of the U.S. transportation carbon footprint; 2-3% globally. In response to rising concern about greenhouse gas emissions and climate change, the commercial airline industry has committed to efforts that will lower its carbon emissions.

The International Air Transport Association (IATA) has set a goal of net-zero carbon emissions by 2050¹. Delta airlines has set the same goal, and other airlines similar ones. What does "net-zero" mean? It means that for every amount of carbon dioxide (CO₂) emitted into the atmosphere an equal amount is removed. How does the industry plan to reach these goals? The IATA strategy includes new technologies (electric and hydrogen), more efficient aircraft designs and powerplants, and carbon capture. The IATA expects the greatest decrease in CO₂ emissions, however, to come from increased utilization of Sustainable Aviation Fuel (SAF). The IATA goal is for SAF to provide 65% of the total commercial aviation fuel requirement by 2050.

2020 U.S. Transportation Sector GHG Emissions by Source



Graphic source: U.S. Environmental Protection Agency <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions>

What is SAF and why is it "sustainable?" It's considered a full replacement for "Jet A," the fuel universally used to power jet and turbine aircraft. Sustainability is predicated on the cycle of CO₂ utilization and emissions. Sustainable fuels have organic origins as feedstocks. The Bioenergy Office of the U.S. Department of energy lists these: Corn grain, oil seeds, algae, fats and oils, agricultural and forestry residues, wood mill waste, municipal solid waste streams, wet wastes (manures, wastewater treatment sludge), and dedicated energy crops.² Here's the basic idea: Organic feedstocks used to produce SAF utilized CO₂ in their growth. So, when CO₂ is emitted during SAF combustion, it is not creating "new" CO₂ but simply replacing the gas that was consumed by the SAF feedstock. Sound good? Sure. A perfect tradeoff? No. Conventional energy is required to refine the feedstock. Still, the fuel is expected to produce 80% less net CO₂ emissions than today's Jet A fuel

(See **Fuels** Continued on page 17)

(**Fuel** continued from page 16)

because of CO₂ cycling.³

There are complications. Today's jet engines are limited to a 50% mixture of standard Jet A and SAF. Engines under development are expected to operate on 100% SAF. Is it possible to refine enough SAF to fully supply the global aviation fleet? Possibly not, but advocates will say that every little bit helps.

Here's another complication. The IATA's goal is for "Net-zero by 2050." That's 28 years away. Even if we stopped all CO₂ emissions today, global warming will continue because the greenhouse gas CO₂ lasts for thousands of years once it's up there.⁴ There is little SAF refining capacity currently and it will take years for it to ramp up and become a major fuel alternative for Jet A.

Are there other fuels that will reduce the carbon footprint of jet-powered aviation? How about hydrogen? Airbus has a goal to bring a zero-emissions,⁵ hydrogen-powered aircraft into service by 2035⁶. Meanwhile, SAF seems like the best alternative in the near term.

How about SAF for general aviation? Several FBOs offer limited amounts of SAF for jet and turbine aircraft (see sidebar story about Signature Aviation). Pilots of piston planes can look for other ways to lower their personal carbon footprints.

But wait!

Consider a flight today from Missoula to Phoenix, Arizona in an Airbus 320. Using simple math and credible information sources the amount of CO₂ generated is less than 50,000 pounds. If the 180 passengers drove to Phoenix with 2 passengers per car averaging 30 mpg the amount of CO₂ generated would be more than 70,000 pounds. So at least for now commercial aviation in aircraft flown near their passenger capacity is cleaner than car travel. The difference between the two is that ground transportation is on track to become cleaner sooner.

1. International Air Transport Association (IATA). <https://www.iata.org/en/programs/environment/flynetzero/>
2. Bioenergy Technologies Office, U.S. Department of Energy. <https://www.energy.gov/eere/bioenergy/sustainable-aviation-fuels>
3. International Air Transport Association. <https://www.iata.org/contentassets/d13875e9ed784f75bac90f000760e998/saf-and-sustainability.pdf>
4. Environmental Protection Agency. <https://www.epa.gov/climate-indicators/greenhouse-gases>
5. Hydrogen combustion emits zero CO₂ but has significant nitrogen oxide emissions (NO_x). These interact with trace

gases in the troposphere and stratosphere to create an effect like that of the most potent greenhouse gas, methane. <https://pubmed.ncbi.nlm.nih.gov/24234471/>

6. Financial Times. July 19, 2022. <https://www.ft.com/content/a35c2f15-7f24-4022-9860-6e7382af8f02?shareType=nongift>



Signature Renew contributes to sustainable aviation

MSO GA News

Signature Flight Support, the world's largest network of fixed base operations (FBOs), offers programs aimed at reducing aviation's carbon footprint. Through its "Signature Renew" program, clients have opportunities to increase the sustainability of their operations. Sustainable aviation fuel (SAF) is available at 10% of Signature's FBOs, numbering over 200 worldwide. Ten of these are in California, two in Texas, one in Colorado, and three are in the United Kingdom. Signature's SAF is a mixture of 30% SAF and 70% Jet A. Depending upon the blend of an individual batch, their SAF reduces CO₂ emissions by up to 25%. Typically, SAF costs about \$1.50/gallon more than Jet A.

The Aircraft Owners and Pilots Association (AOPA) announced in the October 18th ePilot that aircraft manufacturer Bombardier "will cover all its flight operations with sustainable aviation fuel (SAF) from Signature Aviation starting in January. Bombardier will purchase the fuel from Signature through the Signature Renew Book and Claim system, which 'ensures rigorous accounting of greenhouse gas emission reductions while optimizing the logistics,' according to the companies."

Here's an example of how Book and Claim works:

The jet/turbine fuel at the Signature FBO in San Francisco is 100% SAF. Suppose a customer does not want SAF but instead requests 300 gallons of the lower cost "Jet A." Signature provides the SAF at the Jet A cost. It will then put the reduced carbon attributes of the 300 gallons of SAF into its "virtual inventory." The client subscribing to Book and Claim can purchase the carbon credits from this virtual inventory whenever it fuels at a site where there is no availability of SAF. That is, a Book and Claim client fueling with 300 gallons of Jet A anywhere can purchase the carbon savings event generated by the San Francisco aircraft who received SAF but paid for Jet A, allowing the purchaser to claim the actual reduced carbon event for their GHG reduction goals.

(See **SAF** continued on page 18)



GABBQ 2022

(SAF continued from page 17)

In the case of Bombardier's commitment to sustainable aviation, the firm will purchase carbon emissions savings from Signature's virtual inventory. That is, if Bombardier purchases 1000 gallons of Jet A it can purchase the carbon emissions savings that Signature provided through its sale of 1000 gallons of SAF that was sold at the lower cost Jet A in San Francisco. In return for its Book and Claim purchase, Bombardier gets a certificate validating the real

amount of carbon emissions savings that have resulted from Signature's sale of the 1000 gallons of SAF at San Francisco. This gives Bombardier the ability to claim that it is lowering its carbon footprint through SAF even though the only fuel available was actually Jet A.

Learn more about Signature Renew at <https://signatureflight.com/services/sustainable-aviation-fuel>

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If you have something interesting to write about we'd like to put it in the newsletter and share it with the Missoula aviation community! Long (about 500 words), short, funny, serious, whatever. The News is published intermittently. Interested in contributing? Contact the editor (see below).

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MISSOULA AVIATION WEB SITES

Ace Aviation: <https://www.aceaviationmso.com/>

Aerotronics: <http://www.aerotronics.com/>

Flying drones safely: <http://knowbeforeyoufly.org/>

Homestead Helicopters: <http://www.homesteadhelicopters.com/>

Minuteman Aviation: <https://www.minutemanaviation.net/>

Missoula International Airport: <http://www.flymissoula.com>

Nat'l Museum of Forest Service History: <http://www.forestservicemuseum.org/>

Neptune Aviation: <http://www.neptuneaviation.com>

Northstar Jet: <http://www.northstarmso.com>



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