

Montana and the Sky

Montana Department of Transportation

Aeronautics Division

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Aviation Career Exploration Academy to be held June 15 - 17

The 2023 Aviation Career Exploration (ACE) Academy for high school students will be conducted in Helena on June 15-17.

The camp will immerse students in wide ranging aspects of aeronautics that will include flights in general aviation airplanes. Other activities may include a tour of a state-of-the-art aerospace manufacturing facility, visits to a static Boeing 727 flight deck, the Army National Guard Aviation Support Facility, the cab of an air traffic control tower, the aviation maintenance technician program at Helena College, and other activities.

On day two, students will be driven to Missoula to tour the Museum of Mountain Flying, smokejumper base, and an aerial firefighting operation. The camp will wrap-up with a general aviation fly in at the Canyon Ferry airstrip. Please come with your airplane to 8U9 to show it off to students on June 17 at 8 a.m. (Please let Aeronautics know you are coming in advance). The cost of the academy is \$100 and includes all meals and double occupancy lodging.

Register online: <https://www.eventsquid.com/event/20173>

If you know of a high school student who may be interested in the benefits, challenges, rewards, and culture that working in the industry provides, please share this with them!

Contact the Montana Department of Transportation (MDT) Aeronautics Division with any questions at 406-44-2506 or mdtad@mt.gov.



Changes to Newsletter Coming

Efforts are underway to streamline our monthly *Montana and the Sky* Newsletter.

We are asking you to please consider opting-in to receive the newsletter by email every month.

Benefits of an emailed newsletter:

- Faster delivery.
- Easily shareable.
- Viewable on phone, tablet, or computer

To get the newsletter by email, please email us at mdtad@mt.gov or give us a call at (406)444-2506 and we can make the change quickly!



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Applications open for Future Takes Flight Scholarship

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Sheltair Aviation and Avfuel Corporation have opened applications for the 2023 Future Takes Flight Scholarship Program.

The second annual scholarship will again provide \$30,000 in educational funds, awarding six \$5,000 scholarships to aviators across three categories: Two for learning to fly or advanced pilot ratings; two for aviation technicians; and two for continuing education.

Scholarship applications and more details are available at Avfuel.com/Scholarships.

Applications are due June 1, 2023. A team of Avfuel and Sheltair executives will then evaluate the applications to select the year's six recipients based on essay submissions, with special consideration given to those facing financial hardship, according to company officials.

Scholarship recipients will be notified in September.

Courtesy Car Grant Application Period open April 1 – May 31

Reminder: The Airport Courtesy Car Application period is from April 1-May 31. There are up to four reimbursable grants of up to \$5,000 available for a courtesy car. A municipality or third party may apply. If you would like to see a courtesy car at your airport, talk with your airport manager.

The application and more information about the program can be found at:

<https://www.mdt.mt.gov/aviation/courtesy-cars.shtml>.

Please note that the link for the online application is available beginning April 1 and closes at 5 p.m. on May 31.

For more information, contact Stephen Torske at the Montana Department of Transportation (MDT) Aeronautics Division at 406-444-9569.



Test your Aeronautical Knowledge

1) About how many aircraft are registered in Montana in 2023?

- A: 4,400
- B: 5,200
- C: 52,000
- D: 984

2) About how many pilots are registered in Montana in 2023?

- A: 52,000
- B: 5,200
- C: 2,200
- D: 1,000

3) You must provide a copy of the FAA Bill of Sale to MDT Aeronautics upon sale of your aircraft.

- A: Yes, always
- B: Only upon request
- C: Never, that's not required

4) You can get carburetor ice up to what temperature?

- A: 32 degrees F
- B: 0 degrees F
- C: -5 degrees F
- D: 70 degrees F

5) An airplane can stall at any airspeed.

- A: True
- B: False

6) Generally, in light single engine tricycle gear aircraft, what condition should the aircraft be in upon touchdown?

- A: Fast
- B: $1.3x V_{so}$
- C: Stalled
- D: Stall speed plus adjustment for gust factor

Answers on Page 6

You Are Invited to Fly Into Canyon Ferry on June 17

Please fly your aircraft into Canyon Ferry on June 17 at 9a.m. to support the annual Aviation Career Exploration Academy.

The final day of the camp we host a general aviation fly-in. This is a great opportunity to show off your aircraft and talk to aspiring and interested high school students. Students love to hear how you got started in aviation and about your careers in the field. We want you to spend some time with us and talk about your airplanes. We hope for a diverse turnout!

The parking area along the strip should be nicely mowed prior to our fly-in, and the 3,200 ft. treated dirt runway is in good condition. For more information about ACE Academy, please see page 1.

Please RSVP if you plan on flying in at mdtad@mt.gov or 406-444-2506.



Reno Air Races to End



The Reno Air Racing Association Board of Directors reported that after nearly 60 years of air racing at the Reno Stead Airport in Nevada, it will no longer be held there.

Officials from the board stated that the region's significant growth amongst other concerns drove the decision. The Board cites a commitment to finding a new location so that the event can continue.

When race ticket sales opened on March 22, it crashed the server due to high volume. It looks like the last Reno Air Race will be a historic one!

Aviation Maintenance Technician Day

Aviation Maintenance Technician Day is a United States day of recognition, observed on May 24, that recognizes the efforts of aviation maintenance professionals as well as the achievements of Charles Edward Taylor. Taylor built the engine used to power the airplane of the Wright Brothers. May 24 was selected to honor the birth date of Taylor.

This day of recognition is currently observed by 45 states in the United States.

On May 24, 2007, a United States House of Representatives resolution supporting the goals and ideals of a National Aviation Maintenance Technician Day was introduced. Without dedicated aviation maintenance professionals, we would not have the safest air transportation system in the world. Thank you for your hard work!



MDT Aeronautics A&P IA Derrick Olheiser checks out the Division's A36 Bonanza. Thanks for everything you do Derrick!

SB103 Revising Airport Courtesy Car Insurance Requirements Passes

SB103 was a bill sponsored by Senator Becky Beard to revise the insurance requirements for courtesy cars purchased through the MDT Aeronautics Courtesy Car grant program. MCA 67-10-904 no longer requires MDT to be named additionally insured for the vehicles that are purchased and titled under the municipality or third party who is awarded the grant. Additionally, the liability insurance limits of \$750,000 per claim and \$1.5 million for each occurrence have been removed, while still requiring liability insurance according to 61-6-301. This bill became law when it was signed by the Governor on 3/16/2023. You may find information about the bill located here by searching for SB103:

[http://laws.leg.mt.gov/legprd/law0203w\\$.startup?P_SESS=20231](http://laws.leg.mt.gov/legprd/law0203w$.startup?P_SESS=20231)

Airports are awarded based on the availability of alternate transportation, number of vehicles they are currently operating, distance to the nearest town, number and recency of previous awards, and airport operations. The Administrative Rules outlining the application process and the evaluation, selection, and award process may be found here:

<https://rules.mt.gov/gateway/Subchapterhome.asp?scn=18%2E12.9>

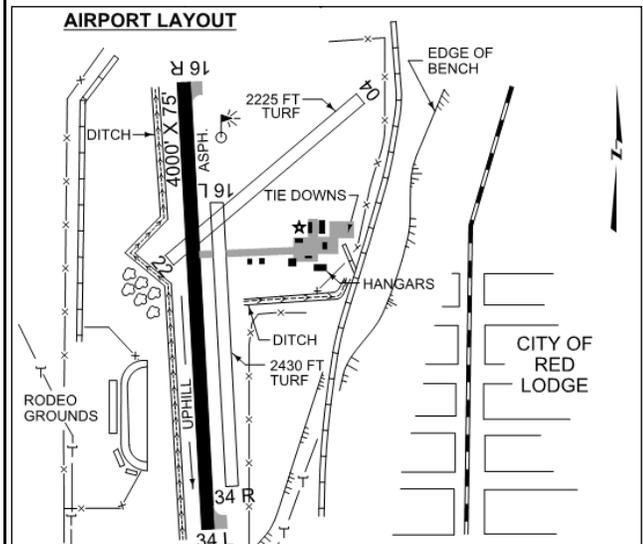
See article on page 2 for application information.

For more information, contact Stephen Torske at the Montana Department of Transportation (MDT) Aeronautics Division at 406-444-9569.

Red Lodge Airport Fuel System Upgrade

Recently, the Red Lodge Airport Installed a 24 hour credit card fuel system for 100LL avgas to improve services available at the airport.

Red Lodge, located next to the Beartooth Mountains sixty-five miles southwest of Billings, Montana, has a 4,000-foot surfaced runway and two turf strips for pilots looking to exercise their bush wheels. The airport is on top of the benchland just west of town, now with avgas accessible 24/7.



Density Altitude Remains a Top Nemesis of Pilots

Last year, the Aircraft Owners and Pilots Association (AOPA) launched a new campaign to bring additional awareness to density altitude (DA). In addition to their online training resources, the AOPA developed a new DA reminder poster visible at many airports which contain airport specific DA information. Montana's airports are no exception to this campaign! Be on the lookout for a poster like this at airports throughout Montana. You will commonly see them at self-serve fuel pumps, pilot lounges, fixed base operators, outhouses, fence posts, etc.

Last summer, efforts brought forth by the Montana Pilots Association (MPA), other volunteers, and the Montana Aeronautics Division joined together to create a powerful force to calculate, produce, and install these posters in areas most visible to pilots. The MPA provided the time and mathematical skills to calculate the DA for Montana's public use airports as well as distribution and installation at many airports. Montana Aeronautics also aided in production of the signs, distribution, and installation. Paper posters can be found inside, and foam core signs laminated with aluminum sheeting and ultraviolet light resistant ink can be found outdoors.

As we know, the "three H's" are not a pilot's friend. When it is high, hot, and humid, we experience significant decreases in aircraft performance. Overlooked, these can prove to quickly be the leading cause of an accident. In Montana, we typically experience multiple aircraft accidents in which DA is suspected to have played a significant role in each year. Just because you depart from a 7,000-foot runway does not mean you will sustain the performance required to operate in areas with high DA, particularly in rising terrain.

High DA increases true airspeed, takeoff, and landing rolls, and reduces the rate of climb. Don't be fooled by your indicated airspeed, it isn't going to change. You ARE moving much faster over the ground when the DA is higher.

Remember: The performance data published in Pilots Operating Handbooks (POH) typically start at sea level. Always study your airplanes' performance charts prior to each flight, accounting for the variables you are currently encountering. Always follow your aircraft's POH to lean for best power. Just because it isn't "hot" outside does not mean that the DA's effects can't be substantially impactful or catastrophic. It is helpful to keep a copy of the Koch Chart in the cockpit for quick reference when the "three H's" are on your mind. It can be to remind you of DA, and it may make you think twice about the flight you are about to embark upon!

WARNING, PILOTS!
DENSITY ALTITUDE CAN KILL!
 High density altitude means longer takeoff and landing distances and shallow climb gradients.

Airport Name: _____
 Airport Elevation: _____ MSL Standard Temperature at This Airport: _____ OC / _____ OF

IMPORTANT! The density altitudes listed below reflect a **STANDARD DAY** at this airport. Altimeter settings below 29.92 will increase density altitude and decrease aircraft performance.

TEMPERATURE	DENSITY ALTITUDE
13°C/55°F	MSL
15°C/59°F	MSL
18°C/65°F	MSL
21°C/70°F	MSL
24°C/75°F	MSL
27°C/80°F	MSL
29°C/85°F	MSL
32°C/90°F	MSL
35°C/95°F	MSL
38°C/100°F	MSL

AIRCRAFT PERFORMANCE (indicated by a downward arrow on the left side of the chart)

What is Density Altitude?
 Density altitude is pressure altitude corrected for nonstandard temperature. In other words, the density of the air decreases as altitude, temperature, and humidity increase. This degrades power, thrust, lift, and flight control effectiveness. In a sense, it's the altitude at which the airplane "feels" it's flying. The thinner air results in longer takeoff and landing distances and degraded climb performance.

Know your aircraft performance!
 To learn more, scan the code below.

QR Code: [QR Code]

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Download a PDF of this poster at AirSafetyInstitute.org/DAPoster

Look for this poster at an airport near you as a reminder of the effects of density altitude. Image courtesy of AOPA.

Attention Future Airport Engineers!

The Federal Aviation Administration (FAA) is giving kids a free opportunity and challenge to design airports.

The FAA's Airport Design Challenge, which took off April 1, helps students design virtual airports using the Microsoft game called Minecraft. It is open to students in grades K-12. They may work individually, or in teams of up to five. The Airport Design Challenge combines gaming and aviation to inspire and develop our leaders of tomorrow.

Through organized lesson plans covering topics from airport layout, pavement, lighting, structures, and innovative growth, students learn about their local airports and complete developmental tasks in Minecraft. They participate in organized lesson plans covering topics ranging from airport layout, pavement and lighting to structures and more.

Certificates will be awarded for two age categories for both primary and non-primary airports. The program encourages Collaborative work between students, parents, and teachers performed in a virtual environment.

The program is operated by more than 150 FAA volunteer employees and will use weekly knowledge-check quizzes and screenshots of students' designs to assess progress and provide feedback.

Last year, approximately 800 students took part in the challenge.

For more information, visit FAA.gov/airport-design-challenge



Image courtesy of FAA STEM AVSED Program

How are Airports Funded?

Montana is the fourth largest state in the country with 127 public-use airports but only 7.09 persons per square mile. 55 of 56 counties in Montana have at least one airport and 13 communities receive commercial airline service. Since our sparse population creates a sparse tax base, Montana airports often have difficulty funding their airports. By necessity, Montana airports have become very creative in finding ways to maintain, preserve, and grow their airport infrastructure.

Airports are funded in two categories: federally funded (71 of 127) or non-federally funded (56 of 127). Federally funded airports receive federal dollars but have to provide a 10% match for qualifying airport improvement projects. Non-federally funded airports are responsible for the entire cost of all airport improvement projects. With new pavements costing more than ever, it can add up to be a substantial bill. Whether federally funded or not, the airports are challenged to generate revenue to maintain and grow their airports. Some of the mechanisms available include local government contributions (often collected through mill levies or other local taxes), state grants and loans, and community assistance in the form of donation and fund raisers. Some airports can generate significant revenue through oil/gas/agricultural leases, advertising, tenant/hangar leases, passenger fees, landing fees, fuel flowage fees, and ground leases for non-aeronautical purposes and development. Many airports rely on the good will of local volunteers to perform snow removal, mowing, weed control, and more. In fact, some airports have relied almost entirely on volunteer assistance for many years in order to remain open.

Funding sources vary from airport to airport but regardless of available funding sources, most of Montana's communities are challenged to meet the funding needs of their airports. Local politicians have a tough job balancing all the needs of their community with available funding. Next time you see your local politician, thank them for supporting your local airport.

QUIZ ANSWERS FROM PAGE 3: 1: B 2: C 3: A 4: D 5: A 6: D

Calendar of Events

May 19-21, 2023 — The Cub Doctor Seminar. Roundup, MT. Clyde Smith, Jr., aka "The Cub Doctor," will offer his Standard Seminar. Contact Clint Worman at 406-209-1802, or visit www.cubdoctor.com for information and registration. Seating is limited.

May 20, 2023 — Lincoln Airport Fly-in Breakfast. The Lincoln Airport Foundation will host fly-in breakfasts from 8 to 11 a.m. on the third Saturday of each month from May to September. Donations will be accepted to support the airport courtesy car. For more information, contact Doug Vulcan at yulcandg406@gmail.com.

May 27, 2023 — Spotted Bear Work Session. Fly in to help with airstrip maintenance. Session starts at 9 a.m. Lunch provided by Flathead Montana Pilots Association Chapter.

June 3, 2023 — First Annual Livingston Fly-In. Livingston, MT. Free Pancake breakfast with donation preferred begins at 7:30 a.m. Proceeds promote general aviation access for local youth. Pilot briefing for real-world safe STOL performance competition (flown at 85% of gross weight and minimum 90 minutes of usable fuel (self-calculated)) starts at 9 a.m. in the FBO. Sandbags will be available for participants to safely increase their weight. Engine start at 9:45 a.m., with prizes for the winners (including one for best go-around decision). For more information, contact Austin Timm at 406-220-0611.

June 10, 2023 — Butte Wings & Wheels. Butte, MT. Fly-in or drive to Bert Mooney Airport for the third annual aircraft fly-in and car/truck show! Enjoy a free breakfast from 7:30-10:00 a.m. (donations accepted), Avgas discount at Butte Aviation, and fun for young and old alike, plus prizes! Miss Montana will be there, weather permitting. For more information, contact Walt McIntosh at 406-670-1846.

June 13, 2023 — Del Bonita Work Session. Starting at 9 a.m. Contact Stephen Torske for details: storske@mt.gov

June 17, 2023 — Meadow Creek Work Session. Starts at 9 a.m. Bring your shovels to 0S1 and pitch in! Lunch provided.

June 17, 2023 — Lincoln Airport Fly-in Breakfast. Details above.

June 17, 2023 — Twin Bridges Fly-in. Starts at 8 a.m. pancake breakfast for a fee with a free lunch at 1 p.m. hosted by Ruby Valley Aviation. Young Eagle rides available. For details contact Kendra Horn: kendra@rubyvalleyaviation.com

June 20-25, 2023 — Flying Legends Victory Tour. Helena, MT. Boeing B-17 and B-25 bomber tours and rides hosted by Exec Air at the Helena Regional Airport. Tours: \$15/person or \$30/family, Tues—Thurs 9 a.m.-5 p.m.; Fri-Sun 2 – 6p.m. Rides available for a fee by booking online at www.flyinglegendstour.com.

June 23-25, 2023 — Annual Missouri Breaks Fly-in. Winifred, MT. Explore seven airstrips in the Upper Missouri Breaks, based out of Winifred. Restaurant available and some meals will be provided at the airport. Saturday will feature a fly out to Lewistown, MT, (KLWT), for a pancake breakfast put on by the Central Montana Hangar of Montana Pilots Association. Contact: michael.vivion@gmail.com

June 24, 2023 — Whitefish Fly-In. Come to 58S for a fly-in June 24th for a free BBQ Lunch from 11 a.m.- 3 p.m! Donations accepted. For more information, contact Bill McKinney at 406-261-4385.

June 24, 2023 — Choteau Fly-In. 6:30-10 a.m. Free breakfast, donations welcome. Young Eagles airplane rides available. See and tour Miss Montana! For more information, contact Scott Gasvoda at 406-590-2836.

July 15, 2023 — Lincoln Airport Fly-in Breakfast. Details above.

July 15, 2023 — Schafer Meadows Work Party. Fly to 8U2 to help out. Starts at 9 a.m. Dinner provided.

July 15-16, 2023 — St. Ignatius Fly-In. Come to St. Ignatius, 52S, for a weekend of fun. Saturday, July 15 there will be a free barbeque, as well as helicopter rides available for purchase from 4 - 8 p.m. Fly in Sunday, July 16 for a free huckleberry pancake breakfast, and more opportunities for affordable helicopter rides from 8 a.m. – 12 p.m. For more information, contact Michael Kuefler at (406) 544-2274.

July 21-23, 2023 — Big Sky International Balloon Rendezvous. Billings, MT. Calling all hot air balloon pilots! Come gather with other balloon pilots and enthusiasts. There is limited space for balloons. Interested pilots can register at: <https://forms.gle/UcsA76r1WY8R8Ahg9>

August 5-6, 2023 — Montana Antique Aircraft Association Fly-In. Three Forks, MT.

August 12-13, 2023 — Yellowstone International Airshow. Billings, MT. Experience a two-day lineup of family-friendly aviation excitement featuring the US Navy's Blue Angels flight demonstration team. For tickets and information visit: <https://yellowstoneairshow.com/>

Do You Know of an Aviation Event in Montana?

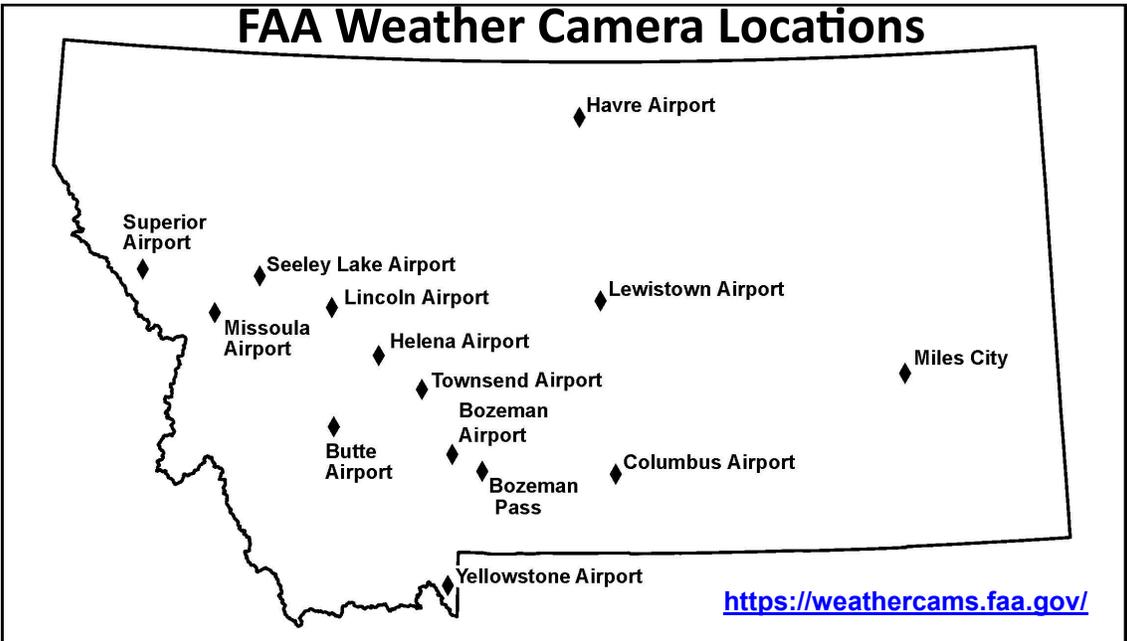
Montana Aeronautics relies on sponsors, planners, hosts, and volunteers of aviation events to inform us about planned activities. Please let us know what events you have planned, and we will add them to our calendar of events to share with the flying community.

Email your events to mdtaerosafetied@mt.gov.

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