



EAA Chapter 100
March 2022 Newsletter

<http://eaa100.org>

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EAA Chapter 100 is a nonprofit association involved in the promotion of aviation through adult and youth education, hands-on training, building and maintenance of experimental aircraft, and through community awareness programs.

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Reader submissions and comments are strongly encouraged.

March Meeting

– Dwayne Hora

Here is the 3-11-2022 regular meeting Agenda,

- “ Pledge of Allegiance
- “ Welcome Visitors
- “ Reports | As available
- * Secretary's Report
- * Treasurer's Report
- * Committee Reports
- Hangar
- Breakfast
- Need Volunteer to arrange food
- Need Volunteer for plates and utensils
- “ Flight Advisor/Tech Counselor
- “ Old Business
- * Young Eagles
- * Other
- Meeting Host Volunteers
- “ New Business
- * Update: Filing Tax Form 990 for EAA Chapter 100
- “ Project /Flying Reports
- “ Adjourn

Next business meeting May 3rd.

Thank you,
Dwayne Hora
EAA Chapter 100
President

A Note from the Treasurer

-- Chris Budahn

Hello EAA 100,

There really isn't much new to report this month. I haven't had a chance to dig into the taxes yet but intend to tackle that next week.

We're doing well with the new roster system. We have confirmed, and received dues, from 47 active members. Keep spreading the word.

Happy flying,

Chris



Mike Paulson, flight school manager and chief flight instructor at the Fargo Jet Center, shows off his winter flying clothes. It's important to dress for the possibility of an



off-airport landing, and a very long walk in sub-zero temperatures.

Out in the Cold

-- AOPA

Editor: Continued from last newsletter.

<https://www.aopa.org/news-and-media/all-news/2018/november/flight-training-magazine/out-in-the-cold>

STAY SAFE AND WARM TO ENJOY WINTER WEATHER FLYING

November 1, 2018 By W. Scott Olsen

Schlangen and I start wondering about performance charts. Stall speeds do not change with temperature; landing and takeoff speeds do not change—but just about everything else does.

The standard performance tables in the Cessna 172 POH only go 20 degrees below standard temperature. Standard temperature is 15 degrees Celsius, or 59 degrees F. Minus 5 C is only 23 degrees F. This isn't even close to winter flying on the northern prairie. While the jet center does not generally allow lessons or rentals when the air temperature is lower than 10 or 15 degrees below zero, it has reached 40 below.

For grins, we plug minus 40 and an altitude of 1,000 feet (Hector International Airport is actually 900) into an E6B flight computer. We use the current pressure: 29.79 inches mercury. Density altitude: minus 5,967 feet.

"Here's another thing," Schlangen says. "Carbon monoxide. You've seen those little stick-on things that change color if there's carbon monoxide? Think about the heaters in a small airplane. Outside air is ducted over the muffler, which is very hot, and then vented into the cabin. If there's a pinhole leak in the muffler, suddenly you have carbon monoxide in the air you're breathing. You'd never notice in summer because that same air is ducted back outside the aircraft."

(Continued on page 4)

Secretary Comments

-- Jeff Hanson

EAA Chapter 100

Chapter 100 meetings

Here are the minutes from the February meeting:

- 12 members were present.
- Business meeting review
- Brad Anderson and Dan Crandall have volunteered to start working on restarting the Young Eagles events. We are looking at a possibly scaled down event to get things going again.
- Pancake breakfast discussion. Dwayne has applied for the event insurance and will send the event request to the city of Dodge Center for event approval. We need volunteers to start working on food and supplies.
- Financial discussion - working on updating our current member roster.
- Hangar discussion: Dwayne is going to look into estimates for repairing the hangar floor.
- A sign-up sheet was passed around for members to sign up to host monthly meetings once again. If you would like to host a meeting at your home or shop to showcase your project or if you would just like to provide refreshments for a meeting at Dodge Center, please sign up.
- Tim Argo discussed the July EAA Ford tri-motor visit. We have agreed to assist with this event again as we have in the past. The dates are July 14th - 17th. Please plan to volunteer. The more volunteers we have, the shorter the shifts will be. It has always been a good time in the past.
- Meeting adjourned around 8:30 PM.

Respectfully submitted,

Jeff Hanson

Chapter Secretary

60 years of Sport Aviation

-- Gordy Westphal

I have 60 years of Sport Aviation to give to someone or its off to the recycle center.

Please call me at:

(507) 282-9981 Home

(507) 259-8018 Cell

ICEPORT 2022

-- Art Howard



I flew up to ICEPORT 2022 on Sunday, March 5. The weather was MVFR with icing forecast in the clouds. I flew the low route to Isle, MN and landed on the ice on Mille Lacs Lake. I took the above picture in the afternoon after probably 20 airplanes or more had left. The runway on the ice was nice. The runway had been freshly plowed and had enough snow so as to not be slippery. The tent on the ice had heat from a standing patio heater, a propane fire pit with seating, stage with a guitar player, food table with chips, candy bars, pulled pork sandwich, brats, pop, etc. Tanis had a drawing at 1 pm and all three winners were present!

(Continued from page 2) - Out in the Cold

“Is this common?” I ask, worried.

“If there’s a hole, it should be caught during an annual,” Schlangen says.

“Why doesn’t the 172 have those stickers?” I ask.

Schlangen smiles. “The G1000 [digital avionics suite] has a carbon monoxide warning.”

Schlangen asks me if I’ve heard of the runway condition scale. I tell him I’ve heard reports about marginal braking and such, but not about a scale.

“It’s part of the FICON, field condition reports,” he says. He shows me a page on his computer, the Runway Condition Assessment Matrix (RCAM). A code of 6 is a clear and dry runway. Code 3 is slippery when wet. Code 1 is ice. Code 0 is wet ice, slush over ice, water on top of compacted snow, dry snow, or wet snow over ice.

“Always plan your winter landings as if you have no brakes at all,” Schlangen says. “That’s the length you need. Because if you’re landing on ice, you really don’t have any brakes at all.”

“And tires,” he continues. “You can bald-spot tires really fast if you’re on ice and pressing on brakes, then hit a patch of dry runway.”

I remember a winter flight when the air was very cold and ice crystals hung at eye level. I remember asking if there was such a thing as clear-air icing. It seemed to me that if I could see the ice, could feel it sticking to my nose and eyes, then it might be sticking to wings as well.

No, I learned. There is no such thing as clear-air icing. And the fact that I could see crystals meant the water was already solid. It would bounce off the wings. Icing is when liquid or vapor water hits a cold wing and freezes, turns to solid immediately.

Deicing is the obvious topic for winter flying. And according to Jeremy Sobolik, line manager at Fargo Jet, the very best deicing is hangar space.

“Beyond that,” he says, “There is Type 1 and Type 4 deicing fluid. Type 1 is deicing. It’s a heated fluid, propylene glycol, very similar to an antifreeze. Type 4 is an anti-ice. It’s thicker than Type 1 and applied cold. It

helps create a barrier so precipitation does not stick.

“It has a shear factor,” Sobolik says. “As the wind moves over the wing, it thins the fluid out so it become very viscous.”

Type 1 is what they spray on a 172 that’s been sitting outside.

Cold air is dry air. I ask Schlangen about carburetor ice. Frankly, he says, there’s less of a problem in winter than in summer. The air is that dry, at least in the upper plains. That’s not necessarily the same in the Ohio Valley and New England. But the routine, the habits of mind and hands, should be the same.

There is one wrinkle to hangared airplanes, though. Moving an airplane from a nice, warm hangar into cold air can cause condensation on the engine and carburetor. This can cause carb ice. You likely won’t know it until runup.

“Low temperature means low water vapor content,” Remer says. “Relative humidity plummets. It’s very easy to saturate cold air and any addition of moisture can cause rapid saturation.”

“Do you know about the ideal gas law?” Remer asks.

“Perhaps,” I say.

If you can, you want to avoid long stretches of remote areas. If something does go wrong, you want to be near someone who can help. Even a walk of a quarter mile when the temperature is below zero and the wind is strong can be life-threatening.

“The atmosphere is a mixture of gasses. And there are three variables in the ideal gas law,” he says.

“Pressure, temperature, and density. Those three are always jockeying with each other, always changing in the atmosphere. And the three always respond to each other. So when we get these really cold Canadian high-pressure systems coming through in winter, when pressure goes way up and temperature goes way down, you know that density is going to be high, too.

“Dense air,” he continues, “has more molecules per volume of air. There is more oxygen in a given volume of air. That changes the mixture you’re sending to the

(Continued on page 5)

Newsletter Editor

-- Art Howard

(Continued from page 4) - Out in the Cold

We have left warm Florida. The sailboat, Samana, is back on the hard. We had a short time on the water, making a motoring adventure on the Okeechobee Waterway and the Caloosahatchee River to LaBelle, Florida and return to Indiantown Marina, Indiantown, Florida. We also took some friends for a motor trip to Lake Okeechobee and actually did a little sail with the main and jib sails until the wind died.



Samana at anchor on the Caloosahatchee River, LaBelle, Florida. We took the picture from our support boat, a dinghy we tow behind when on a waterway.

We visited with my daughter in Cleveland, Tennessee. The grass is turning green and daffodils are blooming, so I know spring is working its way towards Minnesota and Wisconsin.

I wrote about ICEPORT 2022 on page 3. Lake Country Air, LLC flew in and gave away hats to pilots. This is their aircraft!



engine. If you've not adjusted, you're probably running a bit leaner than you think you are. But that greater amount of oxygen means you've got greater combustion. Your engine is running better.

"An aircraft works much better with the lift equation in winter," he says. "There's an increase to both lift and drag but not to weight."

A bit like a first solo, I think, when everything is just the same except there's a lot less weight—the CFI isn't there any more—and the flying is so much fun.

Winter advice comes from experience. Some of it is practical. For example, if you're flying to a small airport, call ahead to get field conditions. The runways may be plowed by volunteers and it can be several days after a storm until they get out of their own driveways and over to the field. Even at a popular airfield, remember that frost on a taxiway can cause an airplane to slide.

Airports often put sand down on taxiway ice, but they don't use chemicals to melt the ice. If you taxi too close behind another airplane, especially a turboprop, you can find yourself in a minor sandstorm.

When sumping fuel, it's possible that nothing will come out. Not a drop. That means water in the fuel has iced up inside the tank.

Airplane heaters, especially in older airplanes, are often more hoped-for than real, especially with little 80- or 100-horsepower engines. Paulson tells a story of reaching for a bottle of water he had in the back of a 152 and finding it frozen. Small airplanes in general don't have defroster fans—it's all ram air—and window fogging can be a real problem.

On the plus side, snow blowing across the runway makes crosswind detection easier.

Some of the advice is more personal. I remember a winter sightseeing flight several years ago. My goal was to fly north of Fargo, turn west when the Red River of the North met the Sheyenne River, and then follow the Sheyenne, banking left and right with the river bends, for as long as the afternoon light lingered. The air was

(Continued on page 6)

Items for Sale

Editor: Please send me a description and photo, if you have one, and I will place your for sale item here.

(Continued from page 5) — Out in the Cold

cold and clear and as gentle as I could dream. As I was walking out the door, Paulson called to me. “Climb out at 90 instead of 80,” he said. I must have looked confused. “At 80,” he said, “in this air you’ll be a rocket.”

Likewise, route planning should favor FBOs that can service common problems, such as a leaking seal around the front strut or a flat tire.

Some of the advice can save your life. “Flying cross-country,” Paulson says, “in terms of route planning up here on the prairie, should be different. In summertime you just fly point A to point B. In winter, we tend to follow roads a bit more. If you can, you want to avoid long stretches of remote areas. If something does go wrong, you want to be near someone who can help. Even a walk of a quarter-mile when the temperature is below zero and the wind is strong can be life-threatening.”

I ask Paulson for favorite winter flying stories and he tells me about winter fly-ins at Minnesota lake resorts where someone has taken a plow to a frozen lake and cleared a runway of 10,000 feet or more as well as alternate runways, taxiways, parking areas, and more than 100 airplanes—sometimes as heavy as a Cessna 310—arrive for chili or barbecue. “That really is a fun adventure,” he says.

But then he pauses. “The visibility at night,” he says, “is astounding. The air is so clear. A town you would think is 20 miles away is really 60. And the northern lights! Dim down your cockpit lights and there is no better way to see the auroras than from an airplane cockpit.

“If you can stand the cold of the preflight,” Paulson says, “winter flying is pretty special.”

W. Scott Olsen is an English professor at Concordia College in Moorhead, Minnesota.

EAA Young Eagles Pilot Requirements

-- EAA

Editor: This is from the EAA Young Eagles **Pilot Guidelines** brochure: **Pilot Requirements**

The Young Eagles pilot requirements are basic, but **MUST** be followed.

- ◆ Be a current EAA® member and hold an appropriate airman’s certificate (sport pilot or greater)
- ◆ Possess a current medical certificate (if applicable)
- ◆ Be current to carry passengers in the aircraft you plan to use
- ◆ Have a current flight review
- ◆ Complete the Young Eagles registration form before the flight, including parent or legal guardian signature, and pilot signature
- ◆ Conduct flights in an aircraft that is in airworthy condition
- ◆ Have aircraft passenger liability insurance for the aircraft used (owned, rented, or borrowed)
- ◆ Adhere to all applicable Federal Air Rules (FARs)
- ◆ Complete both the online training and basic background check as a part of EAA’s Youth Protection Policy. For more information, visit EAA.org/YouthProtection.

Editor: Make sure you are current to fly Young Eagles at the EAA Chapter 100 Young Eagles events. Hopefully, this event will occur this year.



Art Howards 1962 Piper Cherokee at ICEPORT 2022.