



# EAA Chapter 100 April 2024 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.

## April Meeting

– Dwayne Hora

Here is the April 12th meeting agenda:

- Pledge of Allegiance
- Welcome Visitors
- Reports | As available
  - \*Secretary's Report
  - \*Treasurer's Report
- Committee Reports
  - \*Hangar
  - \*Breakfast
  - \*Young Eagles
- Old Business
- New Business
- Flight Advisor/Tech Counselor
- Builder Reports
- Adjourn

The next EAA Chapter 100 meeting is at 7:00 pm on Friday evening, April 12, 2024.

**The meeting location is at the Dodge Center Airport Admin Building (KTOB)**

Reminder, Don Fuller is hosting the meeting at KTOB.

Thank you,  
Dwayne Hora  
EAA Chapter 100  
President



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## A Note from the Treasurer

-- Chris Budahn

Hello EAA 100,

It's that time of year again where I have to ask for your membership dues. The dues are only \$10. Please be sure to keep your EAA national membership account current as well. This can be done at [www.eaa.org](http://www.eaa.org). If you haven't already given me your national membership number, please submit that with your dues payment. We use a roster management tool that links to your national membership. This allows us to keep track of things you have done on the national level such as Youth Protect training or background checks that are necessary for participation in the Young Eagles program.

You can mail the payment to me, or bring it to the next chapter meeting.

Thanks,

Chris Budahn  
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## 4 Considerations for Spring-time Flying

-- Hartzell Propeller

Spring is here, which means warmer weather is on the way for many parts of the United States. As the seasons change, pilots must also prepare for changing environmental and weather challenges, too. Keep these spring flying tips in mind before your next flight.

### Windy days

Spring is one of the windiest times of the year, in part due to the [jet stream](#) moving north and bringing with it competing high and low pressure weather systems. The differences in pressure systems often cause strong, unpredictable wind gusts. Strong winds can lead to a sudden loss of airspeed on final approach. For a more stabilized approach and landing on extremely windy days, the FAA recommends flying a slightly [faster final approach](#) by adding half the gust factor to the approach speed.

### Stormy weather

Thunderstorms are another major flying hazard in the spring and summer months. Thunderstorms are caused by three main ingredients: unstable air, an initial updraft, and high moisture content in the air. Because these conditions occur more often in warmer weather, spring is a prime time for dangerous storms. As a general rule, pilots should avoid thunderstorms and never fly closer than five miles to a visible storm cloud.

### Wet runways

Hydroplaning on wet runways is another dangerous concern in the rainy springtime months. [Hydroplaning](#) is caused when a layer of water builds between a tire and the ground and leads to a loss of traction, which in turn causes a loss of braking, steering, and control. To prevent hydroplaning while landing, avoid landing fast on a wet runway and use light brake pressure. It's also important to ensure your aircraft's tires are properly inflated since underinflated tires hydroplane more easily.

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## Secretary Comments

-- Jeff Hanson

**Editor:** Jeff was not able to attend the last meeting. There was a good presentation by Civil Air Patrol Squadron from Rochester. I put down the main points below. They are also looking for more pilots.

“Volunteers serving America's communities, saving lives, and shaping futures.”

### Emergency Services

Always prepared, both in the air and on the ground, members of Civil Air Patrol perform emergency services for state and local agencies as well as the federal government as the civilian auxiliary of the U.S. Air Force and for states/local communities as a nonprofit organization. Ever vigilant, these true patriots make a difference in their communities, not only assisting in times of disaster but also searching for the lost and protecting the homeland.

### Aerospace Education

Civil Air Patrol’s awarding-winning aerospace education program promotes aerospace, aviation, and STEM-related careers with engaging, standards-based, hands-on curriculum and activities. It shapes the experiences and aspirations of youth both in and outside CAP’s cadet program.

### Cadet Programs

Civil Air Patrol’s cadet program transforms youth into dynamic Americans and aerospace leaders through a curriculum that focuses on leadership, aerospace, fitness, and character. As cadets participate in these four elements, they advance through a series of achievements, earning honors and increased responsibilities along the way. Many of the nation’s astronauts, pilots, engineers, and scientists first explored their careers through CAP.

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(Continued from page 2) - 4 Considerations for Spring-time Flying

### Bird Strikes

The start of spring is migrating season for many types of birds. With an increased number of birds flying longer distances, spring is also a common time for bird strikes. Luckily, most airports have wildlife hazard programs in place to prevent such incidents. If you do encounter a bird strike or other wildlife incident, fill out a [wildlife incident report](#) to provide helpful information for the FAA’s ongoing wildlife hazard prevention efforts.

**Editor:** This is from Hartzell Propeller, URL: <https://hartzellprop.com/4-considerations-springtime-flying/>

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## ENGINE OIL 101

-- FAA Safety Briefing

Most people know engine oil is essential — it is the lifeblood of the reciprocating engine — but not everyone knows all the reasons why. So, besides lubrication, what exactly does engine oil do? Engine oil also cools, seals, and cleans. From viscosity to consumption, let’s explore the basics of engine oil.

The lubrication provided by engine oil is crucial for reducing friction between moving parts in the engine. This prevents wear and tear on the engine components. As it absorbs and dissipates the heat generated by the operation of the engine, oil contributes to the overall cooling of the engine. Oil also helps seal gaps between various components such as piston rings. This prevents leakage of combustion gases and helps maintain optimal pressure. Finally, engine oil helps keep the engine clean and functioning properly. It does this by carrying away contaminants, debris, and by-products of combustion.

There are different types of aircraft engine oil, so how do you know which type is best for your aircraft? This will depend on a few things. In addition to following the manufacturer’s recommendations, Jeff Simon, author of the Aircraft Owners and Pilots Association (AOPA) article “All About Oils,” says you should consider your

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operating environment, outside temperature, engine/cylinder type, and how often the aircraft is flown. From mineral-based to synthetic or semi-synthetic, each type of engine oil has specific properties suited for different types of engines and operating conditions.

Viscosity, the thickness of oil and its resistance to flow, is another factor to consider. Too low is a problem, but so is too high. Oil that is too thin won't provide enough lubrication. This increases wear and tear. Too much friction will damage essential engine parts. But if oil is too thick, there is too much fluid friction. This increases the power required to run the engine and lowers fuel economy. It can also lead to parts overheating. This can shorten the life of the lubricating effects by accelerating oxidation. Remember that cold weather is a consideration too. In colder climates, aircraft engine oil needs to be able to maintain proper viscosity at lower temperatures. Some oils are formulated specifically for cold weather to ensure adequate lubrication during start-up. So, when it comes to choosing what oil to use, use the Goldilocks method, and look for an oil that's just right!

Once you've selected the right oil for your aircraft, there are a few more things you should know. Proper storage is essential. Always store your oil in a cool, dry place away from direct sunlight and extreme temperatures. There are also environmental impacts to consider. Spillage or mishandling of engine oil can have severe environmental consequences. Keep an oil-absorbent pad on hand and be sure to follow any environmental regulations. It is also important to follow a strict maintenance schedule including regular oil changes and inspections, which is vital for the longevity and safety of your aircraft's engine.

Since oil plays such a vital role in the health and safety of your aircraft's oil analysis can be a valuable tool. This is a process that involves sending oil samples to a laboratory to check for contaminants, metal wear, and other indicators that can reveal potential engine problems. When collecting oil for analysis, take the sample mid-way through draining. To get an accurate picture of your engine's health, it's important to establish a trend. This means sampling 5 to 10 drains from your aircraft en-

gine.

With anything related to aircraft engine oil, it is always best to consult with certificated mechanics, follow the manufacturer's guidelines, and adhere to aviation regulations. Proper care and maintenance of engine oil systems contribute significantly to the overall reliability and safety of your aircraft engine.

**Rebekah Waters is an FAA Safety Briefing associate editor. She is a technical writer-editor in the FAA's Flight Standards Service.**

#### LEARN MORE

FAA's *Pilot's Handbook of Aeronautical Knowledge*, Chapter 7 [bit.ly/AeronauticalKnowledge](https://www.faa.gov/sites/aa.nauticalKnowledge)

"All About Oils," AOPA article [bit.ly/3HMyq4B](https://www.aopa.org/3HMyq4B)

AC 20-24D, *Approval of Propulsion Fuels, Additives, and Lubricating Oils* [bit.ly/4buV3YX](https://www.faa.gov/4buV3YX)

**Editor:** This article is from FAA Safety Briefing, URL: [https://www.faa.gov/sites/aa.gov/files/Safety\\_Briefing\\_MarApr2024.pdf](https://www.faa.gov/sites/aa.gov/files/Safety_Briefing_MarApr2024.pdf)

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## ***Grease: It's not one and done***

-- General Aviation News

Why can't you use just one grease in your aircraft?

It's a question I get a lot from pilots. And while I understand the reasoning for this, I always recommend against the practice.

Why?

One reason is that not all greases are created equal — and the differences can cause problems.

Let's start with the basics: Greases are not thick oil, but rather base oils that are thickened just like gravy in your kitchen.

And in aviation, there are many differences between base oils and thickeners.

The first variable is the base oil that begins the process.

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## Newsletter Editor

-- Art Howard

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For example, in general aviation, most applications use Aeroshell Grease 5 or 6 or the equivalent. These are both mineral oil-based products, but with varied viscosity base oils.

Grease 5 uses a thick base oil similar to that contained in Aeroshell 120 grade engine oil. It is primarily used in wheel bearings and can stand up to the high temperatures from touch and go training in the summer heat.

Grease 6 is similar, but is blended with a thinner base oil more like a grade 65 or even thinner engine oil.

The problem is the thick base oil in Grease 5 works in wheel bearings at cold temperatures because of the high torque that is applied to wheel bearings. But if it is used in flight control systems, it will make for very stiff controls at cold temperatures.

Conversely, Grease 6 works well in flight control systems even at cold temperatures, but would not hold up in wheel bearings, especially if subjected to multiple touch and goes at summer-time temperatures.

I have also received questions from people who look at the specification sheet for aviation greases and wish to use Aeroshell Grease 7 in all applications on their aircraft.

Again, this is not recommended. Even though Grease 7 has better low temperature characteristics than Grease 6 and better high temperature characteristics than Grease 5, it is blended with a synthetic base oil and it would probably ruin all of your airplane's grease seals, plus leak everywhere.

The second component of grease that may not be compatible is the thickener system.

When engine oils are blended, the manufacturer just dumps the components into a tank and mixes it up.

However, with grease, it is more like a cooking show where the components are added in a certain sequence, heated, and then stirred and the mixture suddenly thickens to the desired consistency.

There are many different thickening systems and many are not compatible.

Winter, where did it go. Opps! Mother nature decided to fool us once again and provide a nice March snow-storm. Robins are back and the saying is the "robins have to have snow on their tail three times before spring arrives"! Google it and see what you get!

Since the last newsletter, I have flown to Detroit Lakes for lunch with my brother, completed a Basic Wings (with an IPC), and am night current again. It is easier to get night current this time of the year. Very difficult in June since the sun goes down so late in the evening. IPC means Instrument Proficiency Check. I was a little rusty since I had not flown since last January. Good practice to pick up the proficiency skills again.

I will miss the April meeting. Heading off to Sun n Fun again. This will be my 27 or 28th year volunteering. Lots of fun and get to meet folks I have not seen since last year.

See you around the patch.

I need more articles from the membership. Please send your articles and pictures to [alhowar@attglobal.net](mailto:alhowar@attglobal.net).

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For example, if you should mistakenly mix Aeroshell Grease 14 into a bearing that contained Aeroshell Grease 5, you would end up with a soup-like product that would probably leak everywhere.

Then there are the many aircraft owners who have been using automotive or heavy-duty greases in their airplanes because of lower cost and better availability.

Why is this a problem?

It all comes back to compatibility. You can't just mix two different greases.

This especially can be a problem should the aircraft change owners and the new owner starts using the approved grease.

That's why it's important that when buying a used air-

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## Fly-in Event Websites

The following are websites to use to look for fly-in activities:

<https://www.dot.state.mn.us/aero/events/flyins-and-events.html>

<https://wisconsindot.gov/Pages/doing-bus/aeronautics/trng-evnts/flyins.aspx>

<http://www.moonlightflight.com/>

<https://www.socialflight.com/search.php>

If you know of any others, please send the link to me at:

[alhowar@attglobal.net](mailto:alhowar@attglobal.net)

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craft, always go through the maintenance records to see how often the airframe has been serviced and with what products.

If it has been serviced using non-approved greases, you will need to completely clean the bearings and start over with the correct product.

How do you know what is the correct grease for each application?

The airframe maintenance recommendations for your airplane will specify what mil specification grease can be used at each lubrication point — and only a grease that is qualified against that mil spec should be used.

Remember, when repacking wheel bearings, always use latex or rubber gloves for your protection and for the protection of the bearings.

Wash the bearing in a solvent like mineral spirits before inspecting the bearing.

Before repacking with the correct grease, wash the bearing with something like isopropyl alcohol, which will remove any film and provide better adhesion for the grease.

Another tip is if you are not re-installing the bearing immediately and plan to store it for some time: Do not wrap it in a paper or cloth towel. This will wick out the

## 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](https://EAA.org/YouthProtection).

**Editor:** Make sure you are current to fly Young Eagles at the EAA Chapter 100 Young Eagles events.

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base oil and cause a problem later.

For proper storage use an oil paper like that used for new bearings.

### ABOUT BEN VISSER

Ben Visser is an aviation fuels and lubricants expert who spent 33 years with Shell Oil. He has been a private pilot since 1985.

**Editor:** This article is from General Aviation News, URL: <https://generalaviationnews.com/2024/03/14/grease-its-not-one-and-done/>

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