

EAA CHAPTER 80 NEBRASKA IOWA



News!

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July 2015

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Oshkosh

This is hopefully my third year to attend “Oshkosh,” more formally known as Air Venture 2015 hosted by the EAA at Oshkosh. But how many people ever call it by its formal name? My first year was 2005 when Spaceship One was on display. I’ve always thought that was pretty neat (I’m still waiting on the plans for the home build on that one). I was sort of looking at everything at that time, having just having finished a tail kit and starting a wing kit. Everything about building and airplanes was still a bit overwhelming. Two years ago I attended and pretty much never got out of the vendor’s hangars, looking at electronics for the airplane. If you are building and aren’t sure of which electronics package you might be installing, I highly recommend getting somewhere that has all the systems you might be thinking of installing and being able to play with them a bit. It completely changed my mind on what I installed.

This year, I’m not sure what my goal at Oshkosh will be. Might be to stay at the bar longer this time with everyone else! I was back to the (non-air conditioned) dorms relatively early so I could get up and attend a talk or look at more electronics last time I went. Maybe I’ll check out speed mods for the RV. After all, can you ever go too fast? I think not. Or, put a down payment on a car-plane! Ok, maybe not, but manufacturers seem to be getting closer to a workable idea all the time. For a cost. The main goal at the moment-don’t get sunburned!

For the July meeting, Mark Parry will give a brief talk about the services he provides. After that, he will share some of his experiences in his years working at Lockheed’s Skunkworks. Since many people might be at Oshkosh, there will not be a builder’s meeting in July.

Hope to see you at the next meeting! (And at OSH!)

Chris Halfman

June Meeting Minutes

The Chapter 80 meeting was held on June 8, 2015. Meeting was called to order at 7 PM by President Jerry Ronk.

Guests: There were no guests present.

New Members: We have new members! Bob Alf, Chris Beran, Dave Bentley, Shawn Farwell, Dan James and John Lindinger. Look them up and say hello.

Minutes: A motion was passed to approve the minutes of the May meeting as published in the newsletter.

Treasurer's Report: Treasurer was absent, no report.

Membership: We are up to 102 members as of the June meeting.

Young Eagles: There is a rally coming up on the 20th. IA School for the Deaf wants to get some of their kids up for flights; it would be during the week, probably July 16th. If you can assist with this, please contact Dale McClure.

Tech Counselor: Tech Counselor absent, no report.

Flyout Report: With Mike absent there was no official flyout report. However, Jerry reported there was a nice turnout for a trip over to Audubon for a breakfast. Those in attendance got to see a Cub nose over into the grass. Prop strikes don't count in grass, right? Good times.

Social Coordinator: No report (not present).

Tools: No change in tool status. The scales are still down in Plattsmouth being used by Chapter 80 members there.

Builders Reports: Dale Botkin has an engine for his RV-7 and is working on the fuselage. Mark Miller is getting closer to completion of his Zenith 601.650, and just got the canopy on.

There have been several Builders Meetings at various peoples' houses and hangars, and they have been very popular. If you have a project under construction, we need volunteers to host Builders Meetings in the future. It's a chance to show off your project, talk with other builders, and is also a good excuse get your shop cleaned up!

Old Business: Last month we voted on the "Silver Eagles" name. If you would like to participate and are looking for a chance to fill an empty seat on a flight, get your name on the list — contact Jerry or Chris.

New Business: Bob Cartwright has volunteered to take over engraving name tags for new members, thanks Bob!

Oracle Aviation is making good progress on their remodel, and appear to be on track to finish by the end of July.

The next **Builder's Meeting** will be on June 27th at the home of Dale Botkin, 16624 Elm St., Omaha. Contact Dale via email (dale@botkin.org) or call 402-896-6445 if you'll be attending... but if you don't call or email you're still more than

welcome to show up. There will be coffee and doughnuts.

Please take a few minutes to call, email or write your Congressional representatives regarding the **Pilots Bill of Rights 2** (S. 571 and H.R.1062). Deb Fischer has expressed her support for this bill, but so far no one has had any response from Ben Sasse, Brad Ashford or Jeff Fortenberry. AOPA and EAA both have web pages that make it easier to express your support.

PBOR2 is more than third class medical reform, which is a concept that has been proven by over a decade of safe flying by tens of thousands of pilots flying under Sport Pilot rules. There are provisions for improving representation and process for various certificate actions for all FAA certificate holders such as pilots, mechanics, and charter operators.

Former EAA 80 member **Vince Robertson** has a Durand Mk V biplane project that he'd really like to get rid of. If you're looking for a rather unique airplane at a very low cost, look Vince up.

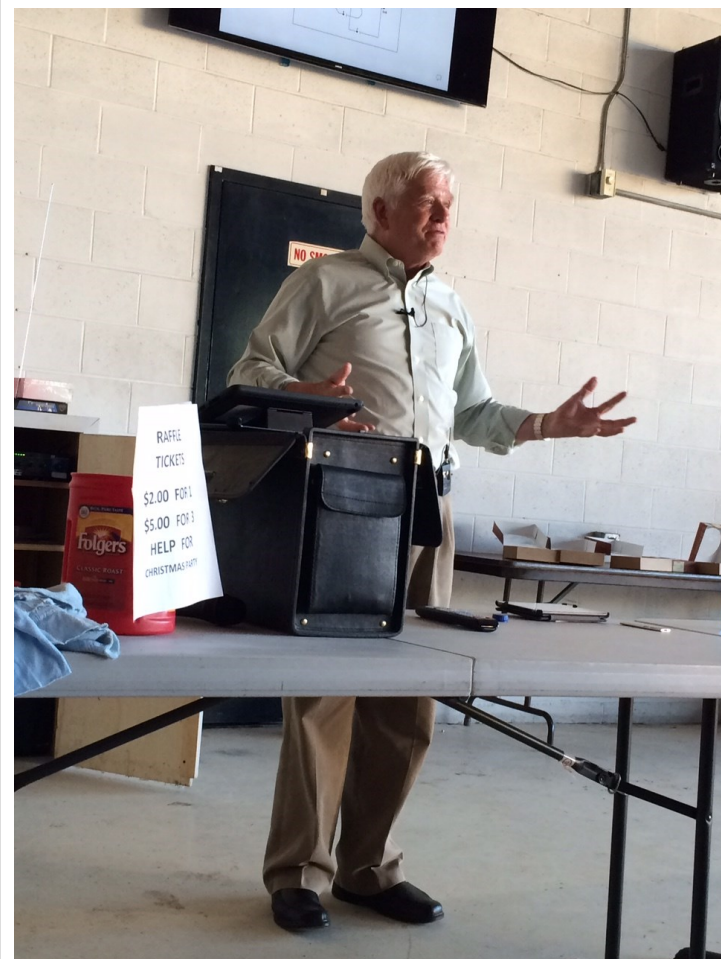
The Chapter thanks **Kevin Faris** for providing the sodas and refreshments for the meetings for the past months.

BREAK

The presentation was a very interesting overview of competition aerobatics by Jon Vanderhoof. His Pitts was parked in the hangar for display as well.

Respectfully submitted,

Dale Botkin
Secretary



Upcoming Events

- June 20: Young Eagles rally, 8 AM at Millard Airport (MLE)
June 27: Builders Meeting, 9 AM at Dale Botkin's house, 16624 Elm St. in Omaha
July 10-12: EAA UL 17 Annual Nebraska Ultralight gathering at David City (93Y)
July 13: EAA Chapter 80 meeting, Oracle Aviation hangar at Millard Airport (MLE)
July 18: Young Eagles rally, 8 AM at Millard Airport (MLE)
July 18: EAA 569 breakfast at Crete (CEK), 8 AM
July 20-26: EAA Airventure (Oshkosh)
Aug 10: EAA Chapter 80 meeting, Oracle Aviation hangar at Millard Airport (MLE)
Aug 15: Young Eagles rally, 8 AM at Millard Airport (MLE)

Density Altitude

With the approach of summer's hot weather, please keep density altitude in mind! The following is taken from FAA-P-8740-2, available on the web from faasafety.gov.

Although density altitude is not a common subject for "hangar flying" discussions, pilots need to understand this topic. Density altitude has a significant (and inescapable) influence on aircraft and engine performance, so every pilot needs to thoroughly understand its effects. Hot, high, and humid weather conditions can cause a routine takeoff or landing to become an accident in less time than it takes to tell about it.

Why Does Density Altitude Matter?

High Density Altitude = Decreased Performance

The important thing to understand is that density altitude is an indicator of aircraft performance. The term comes from the fact that the density of the air decreases with altitude. A "high" density altitude means that air density is reduced, which has an adverse impact on aircraft performance. The published performance criteria in the Pilot's Operating Handbook (POH) are generally based on standard atmospheric conditions at sea level (that is, 59 °F or 15 °C and 29.92 inches of mercury). Your aircraft will not perform according to "book numbers" unless the conditions are the same as those used to develop the published performance criteria. For example, if an airport whose elevation is 500 MSL has a reported density altitude of 5,000 feet, aircraft operating to and from that airport will perform as if the airport elevation were 5,000 feet.

High, Hot, and Humid

High density altitude corresponds to reduced air density and thus to reduced aircraft performance. There are three important factors that contribute to high density altitude:

1. **Altitude.** The higher the altitude, the less dense the air. At airports in higher elevations, such as those in the western United States, high temperatures sometimes have such an effect on density altitude that safe operations are impossible. In such conditions, operations between midmorning and midafternoon can become extremely hazardous. Even at lower elevations, aircraft performance can become marginal and it may be necessary to reduce aircraft gross weight for safe operations. Note: This document was adapted from the original Pamphlet P-8740-2 on density altitude. Density Altitude
2. **Temperature.** The warmer the air, the less dense it is.

When the temperature rises above the standard temperature for a particular place, the density of the air in that location is reduced, and the density altitude increases. Therefore, it is advisable, when performance is in question, to schedule operations during the cool hours of the day (early morning or late afternoon) when forecast temperatures are not expected to rise above normal. Early morning and late evening are sometimes better for both departure and arrival.

3. **Humidity.** Humidity is not generally considered a major factor in density altitude computations because the effect of humidity is related to engine power rather than aerodynamic efficiency. At high ambient temperatures, the atmosphere can retain a high water vapor content. For example, at 96° F, the water vapor content of the air can be eight (8) times as great as it is at 42° F. High density altitude and high humidity do not always go hand in hand. If high humidity does exist, however, it is wise to add 10 percent to your computed takeoff distance and anticipate a reduced climb rate.

Check the Charts Carefully

Whether due to high altitude, high temperature, or both, reduced air density (reported in terms of density altitude) adversely affects aerodynamic performance and decreases the engine's horsepower output. Takeoff distance, power available (in normally aspirated engines), and climb rate are all adversely affected. Landing distance is affected as well; although the indicated airspeed (IAS) remains the same, the true airspeed (TAS) increases. From the pilot's point of view, therefore, an increase in density altitude results in the following:

- Increased takeoff distance.
- Reduced rate of climb.
- Increased TAS (but same IAS) on approach and landing.
- Increased landing roll distance.

Because high density altitude has particular implications for takeoff/climb performance and landing distance, pilots must be sure to determine the reported density altitude and check the appropriate aircraft performance charts carefully during pre-flight preparation. A pilot's first reference for aircraft performance information should be the operational data section of the aircraft owner's manual or the Pilot's Operating Handbook developed by the aircraft manufacturer. In the example given in the previous text, the pilot may be operating from an airport at 500 MSL, but he or she must calculate performance as if the airport were located at 5,000 feet. A pilot who is complacent or careless in using the charts may find that density altitude effects create an unexpected—and unwelcome—element of suspense during takeoff and climb or during landing.

If the airplane flight manual (AFM)/POH is not available, use the Koch Chart to calculate the approximate temperature and altitude adjustments for aircraft takeoff distance and rate of climb.

At power settings of less than 75 percent, or at density altitude above 5,000 feet, it is also essential to lean normally aspirated engines for maximum power on takeoff (unless the aircraft is equipped with an automatic altitude mixture control). Otherwise, the excessively rich mixture is another detriment to overall performance. Note: Turbocharged engines need not be leaned for takeoff in high density altitude conditions because they are capable of producing manifold pressure equal to or higher than sea level pressure.



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