



President

Bruce Mundie
703-405-7817

president@eaa80.org

Vice-President

Bob Dyer
402-740-9309

vicepres@eaa80.org

Secretary

Craig Tylski

secretary@eaa80.org

Treasurer

Bob Cartwright
402-895-0125

treasurer@eaa80.org

Membership Coordinator

Bob Condrey

membership@eaa80.org

**Tech Counselors/
Flight Advisors**

Mike Howard
402-991-0403

&

Jerry Ronk
402-980-8973

&

Bob Condrey

tech-counselors@eaa80.org

**Young Eagle
Chair**

Scott Pridie

youngeagles@eaa80.org

Newsletter Editor

Chris Halfman
402-618-3148

newsletter@eaa80.org

Web Editor

Dale Botkin
402-676-4086

webmaster@eaa80.org

News!

March 2021

On the Web: www.EAA80.org

Facebook: www.facebook.com/eaa80

Twitter: https://twitter.com/eaa_80

Notes from the President

By Bruce Mundie



EAA 80 is rapidly gearing up for Spring. We had a very well attended February meeting, with an excellent speaking team from Garmin, and our momentum is building. The National "News Blast" did produce some new members to EAA 80, and since our chapter is very

active, I am sure that they will want to take an active part.

Our initial 2021 schedule has been published and it is still growing....

IMC Club: 11 March; 8 April; 13 May. Millard Airport, Oracle at 7:00 PM

Young Eagles: 17 April; 15 May; 12 June. Millard Airport, Oracle (AM start)

STEM DAY: 4 September (AM start)

Other events will include weekend flyouts, weekend builder visits, and others.

Big congratulations to member Jim Beyer and his Aviation Nation for finishing and flying their RV-12. This event has had a large impact on the local aviation community and provides a model for such programs to strive to.

Still no formal word if EAA 80 was selected to award a Ray Scholar in 2021. If we are selected, we will have the ability to award up to \$10,000 scholarship to a deserving private pilot student in the local area.

See you at our meeting on March 8. We are expecting Dave Greer from Omega Air Refueling Services to speak. I will send out a ZOOM link as the date gets a bit closer!

Bruce



Ray Aviation Scholarship

Chapter 80 has been recently selected by the EAA to grant a \$10,000 scholarship for flight training. There will more information at the meeting Monday night.

Aviation Nation First Flight!

Jim Beyer

On Saturday, February 20th, 2021 the AviationNation-Omaha youth built RV-12iS flew for the first time in full view of student builders, mentors, parents and media. The first flight was the culmination of over three years of work from 31 students, many from the Burke High School Air and Space Academy plus several other schools in the area, and a dozen or so mentor's dedicated efforts!



While the exact number of build hours isn't precisely known, we typically met twice a week for two hours—which, after allowing for three trips to EAA Airventure at Oshkosh, Wisc and a lengthy delay due to Covid-19,

figure the build took about 800 hours. An exact completion date was never the goal, rather we kept true to the AviationNation mantra, which is 'mentors build the students and students build the plane'...it was always about students learning.

Once the phase one flight test program is complete, we plan to fly many incentive flights with the students who built the plane, their parents, mentors, friends, sponsors and the like. Forming a club of sorts is also on the medium-range radar. And there are plans for a National Anthem flyover at a Burke High School football game this fall.

Finally, I want to publicly thank all of the adult leaders. I apologize in advance if I miss someone, but want to especially thank LeeAnn Vaughan, Pat Ryan and Andrew Brooks from Burke High School who were instrumental in sparking the students' interest to give this plane building thing a try, to Mary Shortridge for the cookies (yum!), and the following EAA80 members for all of the hands-on guidance: Bob Condrey, Mike Howard, Bob Cartwright, Craig Tylski, George Richmond, Ed Kirker, Paige Hoffart, Hal Johnson, Jon Fitzsimons, Tim Hewitt, and Nathan Beyer. And a special shout out to Trina, who attended more build sessions than I, and an extraordinary ability to find parts and tools that no one else could find. Once again THANK YOU to all who helped!

So what's next? Let's help the students learn how to build a Zenith 750!

[Additional photos in Photo section. Ed]

My Young Eagle Flight

Nathan Beyer

On Sunday December 7th, 2003 I had the honor of becoming a Young Eagle. My dad and I drove out to Manassas airport in Manassas, VA from Burke, VA. We met up with a pilot named Tim Lewis, who was my Young Eagle instructor. Tim had an RV-6A, which is the first RV we'd ever seen. He kept it in a long row of hangers that have about five doors on each side. My dad had taken me up in airplanes before but this is the first one I remember, so I was very excited when I got into this plane.

Young Eagles is a program for young people so that they can go into airplanes and enjoy the experience of flight. My dad and I walked around the airplane with Tim so that he could show me what everything is. Then we got into the airplane taxied (kind of like driving) over to the gas pump and got some gas. After we got the gas, we taxied out to the runway and took off with me sitting in a car seat in the baggage compartment.

Once we were off the ground and into the air, Tim turned the aircraft towards the Warrenton airport. The whole way there we were following a very loud twin engine airplane. After a flight full of s-turns and barrel rolls, we landed at Warrenton and dropped off my dad. Then I got to get out of the baggage compartment and got in the co-pilot's seat. It was a very soft leather seat. After I got nice and comfortable, Tim strapped me in and we took-off. For the first time I realized that the engine is extremely loud during take-off. Then I noticed the panel. It had like 3 GPSs and about 7 steam gauges which are little round gauges that tell you engine information and airspeed. We flew around the Warrenton airport for a little while. During that time, I got to take the controls and fly the plane. I kept the plane straight and level and got to make a few turns. These seemingly easy maneuvers were very hard because the plane was very touchy. Even though it was hard it was amazing!

Tim landed the RV back at Warrenton so we could pick up my dad. Then after putting me back into the baggage compartment, we took-off from Warrenton again so that we could go back to Manassas. Once we were back at Manassas, Tim got out a Young Eagles certificate and filled out all the blanks and signed it. Then we all dispersed back to our homes.

That was the most amazing thing that happened to me when I was 8 years old. It sparked a life-long interest in flying. As a result of becoming a Young Eagle, my name was entered into the world's largest logbook at the EAA AirVenture Museum in Oshkosh, WI. Now after eight years I have become an EAA student member and I can finally start my flight training.

Gone West

Jim Fix 6/2/1943-1/30/2021

dignitymemorial.com/obituaries/lincoln-ne/james-fix-10032519

Jim Rush 6/28/1935-2/10/2021

<https://www.dignitymemorial.com/obituaries/maha-ne/james-rush-10052450>

EAA Chapter 80 Meeting Minutes February 2021

The chapter meeting was held on February 8th at Oracle Aviation. The meeting was called to order at 7 PM by President Bruce Mundie.

Three new guests were introduced. Graham Geyer (scholarship winner), Mati Party (99's, Women in Aviation), and Daniel Zavadil (UNK graduate, now local).

Meeting Minutes: The January 2021 minutes were approved.

Treasurer's Report: Bob Cartwright's treasurer report was presented for February. The opening balance was \$10,858.67. Chapter receipts totaled \$347.62 (EAA AHC borescope and YE reimbursements, dues). Expenses were \$0.00 (no expenses). The ending balance is \$11,901.52. The report was approved.

Membership: Bob Condrey reported membership at 104, with six members paying 2021 dues tonight.

Tech Counselors:

- Mike Howard reported that new experimental aircraft must submit their airworthiness application on-line accompanied by a program letter (the EAA has a satisfactorily template that can be used).
- Bob Condrey mentioned that experimental aircraft insurance is getting harder to obtain, requiring greater than 250hrs total time as well as time in type to qualify.
- Jim Beyer donated an EAA Flight Test workbook to the chapter, as well as test

cards that can be used. See Mike Howard to borrow.

Young Eagles: Scott Pridie provided information that YE flights will begin April 17th (KMLE). May 15th may be at Fremont if that works out. STEM and YE is planned for June 12th (KMLE). Plattsmouth YE and the chapter picnic is scheduled for September 12th. Other YE dates will be announced. There has been a request to do a YE event at Tecumseh airport this year (Bruce M will look into this more).

Tools: no report, but Mike Howard has the borescope in his hangar.

Builder Reports:

- The list of current builders was presented (Haas, Bahr, Gilbert, Beyer, Condrey, TW Wieduwilt & Kim Fostevet, and Aviation Nation).
- The chapter has a Zenith project to build, and there was talk of another possible donation to the chapter (Kit Fox).
- TW displayed an oil cooler duct that he had just pulled off the mold. The Bearhawk is progressing and they are hoping to get it in a hangar in a month or so.

Builder Meeting: no report

Chapter Build: Bruce reported that obtaining a facility to build the Zenith is not progressing. The previously reported building site has been rejected due to the high rental cost. He was recently notified that using the Oracle Aviation hangar is out. It was agreed that Bruce will look into renting a Millard hangar (with the hangar rent being reimbursed to the chapter after the sale of the Zenith).

Fly-outs: Mike Howard said there have been no fly-outs, but he did have an impromptu fly-out with his hangar neighbors, and ended up going to Yankton SD.

Social Coordinator:

- Bruce mentioned that 30 people participated in the holiday party at Anthony's. Due to the lower turnout the buffet was not available, and the party was somewhat spread out, but otherwise

a good event. Plan on the same place next year.

- The next social event is the Plattsmouth Harvest Day picnic and YE flights on September 12th.
- The new social coordinator is Ed Kirker.

VP: Bob Dyer has Dave Greer from Omega Aerial Refueling Services speaking in March. Dave Leslie from Omaha Soaring is on deck. Mark Gaffney, FSDO, is also lined up.

Calendar:

Mar 8, Chapter meeting, Oracle
Apr 12, Chapter meeting, Oracle
Apr 17, Resumption of Young Eagle flights
May 10, Chapter meeting, Oracle
May 15, YE at KFET with CAP (tentative at KFET)
Jun 12, YE flights, at KMLE
Jun 14, Chapter meeting, Oracle
Jul 26-Aug1 Air Venture Oshkosh (trying hard to do it this year)
Sep 4, STEM at KMLE *[updated by Ed]*

Old Business:

- Bruce handed out annual awards to the past year officers.
- There was a discussion on where to build the Zenith project, and the cost of hangars at KMLE (\$170/mo for a single non-heated hangar, \$300/mo for a larger heated hangar). Some discussion on raising the dues to offset the cost, but it was not seriously considered (for now).
- The Corvair engine that was donated is in Jim Beyer's hangar. If it hasn't been, it was recommended that it be pickled (sealed up).
- The Chapter scholarship was presented to Graham Geyer. Graham is a student pilot at Oracle Aviation, just passed his instrument check ride and will be working on his commercial license for about 7 months, then his CFI.
- Bruce reported that the \$10k Ray Scholarship application has been submitted to National (deadline was Jan 31). If we are selected to offer this scholarship, the monies will be paid to the flight training school of the recipient's choice.

New Business: None

Announcements: Nathan Andrick has a Kitfox Classic 4 project that he is sitting on and he's not sure how to proceed with it. At one point he considered donating it to the Chapter. He will be moving it into KMLE Hangar E3. The wing ribs are done but have not been covered. He will need assistance covering it (Bruce is certified with Polyfiber covering, as well as others). He has a Rotax 912 (100hp) engine.

Raffle Drawing: No raffle drawing

Presentation: Jim Laster and Chris Maddy from Garmin Avionics gave an overview of their latest new products – the GI-275 multi-function indicator and GFC500 autopilot. Jim has been with Garmin for 11 years and deals with new customer sales. Chris is a 2 year veteran and covers the OEM side of sales.

The GI-275 is a TSO'd touchscreen multi-function display that can perform as a primary attitude indicator or primary EHSI. It can display flight director bars when coupled with an autopilot (Garmin or 3rd party) that has flight director outputs. There is a built-in ADAHRS as well as backup battery. For some installations it can be used as a standby attitude display (replacing old vacuum driven ones) and can switch between either attitude or heading formats. For a dual installation if the primary attitude indicator fails, the other unit reverts to an attitude indication (dual redundancy). This 3-1/4" round unit is 7.24" deep and sells for \$3,995 (plus labor). The non-TSO version is the Garmin G5 (similar capability but sells for \$2,249).

The GFC500 autopilot has been developed for use in single engine as well as light twins. High performance aircraft utilize the GFC600. The GFC500 is being certified in numerous commercial singles, including Mooney's. It uses brushless DC servo motors, has low speed and overspeed protection, and can perform coupled go-arounds. The G5 attitude indicator is designed to go with this autopilot. The installed price for a GFC500 in a Mooney is roughly \$15,000.

Next Meeting: The next meeting is March 8th at Oracle Aviation, 7pm.

EAA 80 Calendar of Events

March 8, 7 PM

Chapter meeting, Oracle
Dave Greer, Omega Aerial Refueling Services

April 12, 7 PM

Chapter meeting, Oracle

April 17

Resumption of Young Eagle flights

May 10, 7 PM

Chapter meeting, Oracle

May 15,

YE at KFET with CAP (tentative at KFET)

June 12,

YE flights, at KMLE

June 14,

Chapter meeting, Oracle

July 26-August 1

Air Venture Oshkosh

September 4

STEM at KMLE

Technical Advisor

Koehler's Korner



Just got back from a short flight in a relatively new Beech A36 with the CMI IO550 engine. The engine is the latest development of a big six -cylinder engine in the 300 hp class and has

rapidly shown itself to be a very smooth and reliable powerplant. My friend's engine has the GAMI balanced injector modification and can easily be leaned to lean-of-peak operation at cruise. However, when the engine is started from cold, for the first few

minutes at fast idle it has a noticeable “miss” or vibration. Manual leaning seems to immediately solve it and the problem does not come back once the engine has warmed a bit.

One of the local closet “experts” told the A-36 owner (a doctor, of course) that the engine was suffering from “morning sickness” and he should do the “rope trick” to remove all his valves and ream the valve guides! In lieu of this radical plan, the doctor sought out a second opinion, and since I was a neighbor (and free) I got called in on the consultation. I witnessed a cold start and confirmed the slight vibration when the engine was cold. In my humble opinion, it was not anything close to “morning sickness.” How did I know?

First off, “morning sickness” is a term some folks use for a stuck valve. The most common failure mode for a stuck valve is an exhaust valve that cokes up with carbon so much that it literally sticks in the valve guide. The sticking classically happens after the engine is shut down and the aluminum cylinder head cools, and hence shrinks around the guide, which also shrinks around the (coked) valve stem. Because Lycoming uses a sodium filled valve to transfer heat from the face of the valve to the stem for further transfer to the guide and head, they tend to run hotter, making them more vulnerable to burning oil residue creating a coked surface. Continental engines do not use sodium filled exhaust valves, making them more vulnerable to heat damage on the face, but less likely to coke the stem. So, “morning sickness” is more common February 2021 EAA Chapter 186 Stick & Rudder Page 3 Web site: www.eaa186.org Facebook: <https://www.facebook.com/eaa-186> in Lycomings than Continentals, with one exception. The problem will also happen in the older very small engines made by both engine companies. In this case, the engines run so cool that the valves literally can gum-up and stick, again, usually when the engine has thoroughly cooled. So, again, the big-bore Continentals do not have a reputation for sticking valves.

With this background, we investigated the engine, and I noticed it had a multi-probe EGT (exhaust gas temperature) and CHT (cylinder head temperature) system. It was easy to download the data from this digital system

and review the traces. Looking at them, I saw no indication of any stuck valves. If an exhaust valve sticks open, one will see an immediate drop in EGT, because there cannot be any compression in the cylinder. Continued low EGT will lead to a lower CHT, also, relative to the other cylinders.

So, what was causing the problem? First off, I do not think there is any problem. Many air-cooled engines will initially idle a little roughly until they warm-up. The fuel injection system is designed to be balanced at full power, not idle. Plus, most engines still use a magneto for firing the spark plug and they have fixed timing, usually in the 20° to 25° before-top-dead-center range, which again, is optimized for full power, not idle, where this spark is too much advanced for a smooth idle. The owner stated that leaning the mixture at idle eliminated the problem, which makes me think the problem is a slightly rich mixture on one cylinder at idle. The cold engine was not vaporizing all the fuel completely prior to combustion, resulting in a rich late firing and the little bump vibration. Leaning reduces the fuel, and conversely, when the cylinder heated up, all the fuel was vaporized and hence burned completely, even at idle.

I hope this engine troubleshooting discussion helps you understand what is really happening with your engine, and knowledge you may have gained will help you fly safer in the future.

Next month we will try to go into engine analyzer systems a bit more, so stay tuned.

Keep building, flying and maintaining.

Dick 2/2021

Re-published with permission of Dick Koehler, EAA 186

Photos

Additional AviationNation photos



EAA Chapter 80 is classified as a Non-Profit Charitable Organization per section 501(c)3 of the Internal Revenue Code. As a result, we are eligible to receive tax-deductible contributions in accordance with Code section 170.



Your contributions will go towards such things as:

- ✓ Aviation scholarships
- ✓ Scholarships to send kids to EAA's Air Academy in Oshkosh, Wisconsin
- ✓ Helping promote Young Eagles events and rallies for the community
- ✓ Many other events that promote aviation in the Eastern Nebraska and Western Iowa region.

EAA 80 is a 100% volunteer organization, there are no paid members to the staff. Our only funding comes from chapter dues and occasional fund raising.

Please visit our website eaa80.org or contact an office to inquire about making a tax free donation.



EAA Chapter 80 Tool Crib List

Tool	Location
Flat bed trailer designed for moving aircraft (dimensions 8-1" x 16'-7" load capacity 2000 pounds)	Oracle next to gas pumps
Aircraft scales (4ea) low rise (about 1 ½")	Jerry Ronk
2 ea wing jacks for low wing aircraft	Bob Cartwright
10' sheet metal break	Dave Bently
5' sheet metal break	Dave Bently
5' sheet metal shear	Jerry Ronk
6' aluminum step ladder	Mike Howard
Pressure pot break bleeder (deigned to bleed breaks from the bottom up)	Gene Larson
Long handle nicopress sleeve squeezer	Jerry Ronk
Heavy electrical lug swaging tool	Jerry Ronk
Control cable tension meter	Mike Howard
Pull scale for measuring deflection force	Jerry Ronk
2 ea "C" frames for dimpling large sheet metal parts	Jerry Ronk
Maul fabric tester	Jerry Ronk
4 ea wheel dollies for moving aircraft perpendicular to wheels	Jerry Ronk
Wheel balance device for small wheels with 5/8" ID bearings	Mike Howard
EAA Flight Test Manual	Mike Howard
Boroscope - Vividia Ablescope VA-400	Mike Howard
EAA Flight Test Manual and test card list	Mike Howard

Upcoming Webinars

[Bong: America's Ace of Aces](#)

MUSEUM WEBINAR SERIES

3/9/21, 7 p.m. CST

Chris Henry

[Pushing Past TBO - Running your Rotax Engine "On Condition"](#)

Qualifies for FAA WINGS and AMT credit

3/10/21, 7 p.m. CST

Prof. H. Paul Shuch

[Rolling Fear Upside Down with Aerobatics](#)

Qualifies for FAA WINGS credit

3/16/21, 7 p.m. CDT

Cecilia Aragon

[Sling Aircraft Kits](#)

3/17/21, 7 p.m. CDT

Mike Blyth

[SNAGGED! Dealing with Defects Safely and Legally](#)

Qualifies for FAA WINGS and AMT credit.

3/24/21, 7 p.m. CDT

Sebastien Seykora

[Engine Care Items Every Pilot Should Know](#)

Qualifies for FAA WINGS and AMT credit.

3/31/21, 7 p.m. CDT

Bill Ross

[Wittman Tailwind & Buttercup](#)

HOMEBUILDERS WEBINAR SERIES

4/6/21, 7 p.m. CDT

Earl Luce

[How Risky is Maintenance](#)

Qualifies for FAA WINGS and AMT credit.

4/7/21, 7 p.m. CDT

Mike Busch

[The E-1 and the Pursuit of a Record](#)

MUSEUM WEBINAR SERIES

4/13/21, 7 p.m. CDT

Eileen Bjorkman

[Canadian Airspace 101](#)

Qualifies for FAA WINGS credit.

4/14/21, 7 p.m. CDT

Radek Wyrzykowski

[Flying Clubs – Getting Started](#)

4/27/21, 7 p.m. CDT

David Leiting

[Flying Safe with BasicMed](#)

Qualifies for FAA WINGS credit.

4/28/21, 7 p.m. CDT

Dr. Brent Blue and Tom Charpentier

[The History of Air Racing](#)

MUSEUM WEBINAR SERIES

5/11/21, 7 p.m. CDT

Connor Madison

[Are you Stumped About Weather? Here are the Top Ten FAQs](#)

Qualifies for FAA WINGS credit.

5/19/21, 7 p.m. CDT

Scott Dennstaedt

[Spirit of St. Louis](#)

MUSEUM WEBINAR SERIES

6/8/21, 7 p.m. CDT

Chris Henry and Ben Page

These are the current webinars listed on eaa.org.

Please check the site at:

www.eaa.org/en/ea/news-and-publications/ea-webinars to see if there are other webinars available.

Monthly Funny



Dr Kevin Fong

@Kevin_Fong

...

Watched Top Gun with the kids
& suddenly realised that F14
Tomcats today are as old as
Spitfires were when Top Gun
was released in 1986 🤔

[#TopGun](#) [#TopGunMaverick](#)



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EAA 80 MONTHLY TREASURER REPORT

Mar-21

Checking

Acct. 310

Opening Balance \$11,901.52

Receipts

2/5/2021 Winter Gathering	Chks	\$300.00
2/5/2021 (Not All Paid)	Cash	\$420.00
2/8/2021 Wntr Gathr Add'l	Cash	\$30.00
2/8/2021 Dues	Cash	\$275.00
2/8/2021 Dues	Chks	\$125.00

Expenses

Y.E. Expnse

2/5/2021 Winter Gathering	Mundie	\$ 1,227.46
2/8/2021 Refresh&Gthr Tip	Mundie	\$ 120.04

Ending Balance \$11,704.02

Asset Accounting

Date	Item	Value	Date	Item	Value
6/17/2020	T-Shirts	\$125.00	5/22/2020	Zenith 750 Proj.	TBD
7/13/2020		\$100.00			
8/10/2020		\$25.00			
Info, Bruce Mundie Donate					
T-Shirts to Chptr.					
Current Value \$436.68					
Total to Date		\$250.00			\$0.00

AS INFO MAR 2020 \$12,976.24

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Mail checks to:
 Bob Condrey
 1105 Kountze Memorial Dr.
 Bellevue, NE 68005

EAA CHAPTER 80

2021 APPLICATION FORM

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CONTACT INFORMATION			
NAME		EAA NUMBER	
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SPOUSE NAME			
HOME PHONE		CELL PHONE	
E-MAIL ADDRESS			
PROFESSION		RETIRED	

MEMBERSHIP PROFILE							
OWNED ACFT					N-NUMBER		
ACFT BUILDER		TYPE:		COMPLETE %			
PILOT LICENSE							
AIRPORT BASE		HANGAR #					
EMAIL GROUPS	FLY-OUT		BUILDERS		YOUNG EAGLES		
PUBLISH INFORMATION IN CHAPTER DIRECTORY			HAVE A NAME TAG		YEAR JOINED CHAPTER 80		
YOUNG EAGLE VOLUNTEER		YOUTH PROTECTION TRAINING CURRENT					

OFFICE USE: (DUES \$25 PER YEAR)									
2021		2022		2023		2024		2025	
PAYMENT	TYPE			AMOUNT			DATE		

Last updated: 1/3/2020