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News!

August 2023

On the Web: www.EAA80.org

Facebook: www.facebook.com/eaa80

Twitter: https://twitter.com/eaa_80

President's Corner



Bruce Mundie

If you got to go to AirVenture we would love to hear about your experience! Please bring your stories to our 14 August meeting.

The Ford is coming to Millard; and EAA 80 is hosting! Rides are open to the public on 10-13 August. Thursday 2 – 5 PM; Friday through Sunday 9 AM to 5 PM. Work sessions are set for half day shifts: Friday – Sunday 8:30 to 12:30 and 12:00 to 5:00. I need you to sign-up for at least one session. Jobs include shift lead; passenger loading and unloading; engine starting; and ticket sales and more. Text me at 703-405-7817 to sign-up.

Please consider running for an EAA 80 officer position this Fall! Elections will be November and December. New people, new ideas, and new leaders will help keep our chapter running smooth and healthy.

We are still looking for a project lead for the Glstar build. Let me know if you are interested.

It has been incredibly hot; please keep an eye on yourself and those around you. Also remember that high temperatures equate into high pressure altitudes and likely higher

engine temperatures. Please be careful during summer flying.

Thanks, and fly safe!

Bruce

Miscellaneous Notes

Vice President

Bob Dyer

For the August meeting, bring your stories and photos to debrief everyone on AirVenture 2023.

There will be no September meeting. The chapter picnic will replace the meeting.

October 9 Major General Scott Vander Hamm will talk about his experience as an Air Force bomber pilot.

If you have any future presenter ideas, drop Bob Dyer a note.

Social Coordinator

Ed Kirker

September 10 Plattsmouth Picnic at 12pm. Ed will be sending out an RSVP shortly for the picnic. It will be potluck, starting at noon. Please indicate what you will bring so there isn't too much duplication.

The Chapter Christmas Party will be December 11, 2023. The social hour will be 6pm and dinner at 7pm.

Young Eagles

Scott Pridie

There were 26 Young Eagles flown in July. Tom Ostlund and Dave Zajac both earned their 30th anniversary shirts for flying 30 kids since last August. Our next rally is August 19th.

Calendar of Events

Aug 10-13 Ford Tri-Motor
Aug 14 chapter meeting
Aug 19, Young Eagles
Sept 2, Young Eagles, STEM Day
Sept 10, Young Eagles
Sept 10, Plattsmouth Picnic, 12pm

Oct 9 Chapter meeting
Oct 14, Young Eagles
Nov 13 Chapter meeting
Nov 18, Young Eagles

Trial EAA 80 Text Reminder

Jim Beyer

The trial implementation of EAA80 text reminder is set-up and will be used in advance of the August 2023 meeting. If anyone wishes to be added, simply text EAA80 to (866) 508-4784. And if they wish to be removed, simply reply STOP as included in the text. Pointing a smart phone camera at this QR code is also an option to join.



EAA Chapter 80 Meeting Minutes

July 2023

The chapter meeting was held on July 10, 2023 at Oracle Aviation, and called to order at 7 PM by Bruce Mundie.

Guests and New Members: Guests attended: Jay Miller
New Members: No new members.

Meeting Minutes: Meeting Minutes from June were approved with no changes or modifications.

Treasurer's Report: After rent and dues paid the chapter has \$7,000 in the account. Chapter dues can now be paid using a credit card with a \$1 surcharge.

Membership: Rich Kolkman reported that the membership is at 132 with 75% Paid. Reminder Rich needs pictures of some members for the membership roster. Updated roster to be released by end of July.

Scholarship: Andrew Paneda, 2023 Ray Scholarship is overcoming his medical with

fly on the Ford

EXPERIENCE THE GOLDEN AGE OF AVIATION



MILLARD AIRPORT (MLE)

AUG 10TH-13TH | OMAHA, NE

PRICING: ADULT MEMBER: \$85 | ADULT NON-MEMBER: \$95 | CHILD (17 & UNDER): \$65

RIDES: THURS 2-5 PM | FRI-SUN 9 AM - 5 PM



FOR MORE INFO: FLYTHEFORD.ORG
OR CALL: 1-877-952-5395



the FAA.

Tech Counselors: No Update

Young Eagles (YE):

Upcoming events August 19, September 2 is STEM Day. September 10 will be at Plattsmouth in conjunction with Harvest Days. October 14, November 18. Text Scott Pridie at 832-489-2159 to volunteer as pilot or ground crew. See Rich Kolkman to get on the Young Eagles Email group.

Tools: Contact Nathan Beyer your tools manager. *[A new tool manager will be required. Nathan is now working out of O'Hare and living in Illinois. -Ed.]*

Friends of EAA80: Levi Weeks announced StemDay was coming up on September 2, 2023. If you would like to be a part of StemDay reach out to Levi at 402-510-9822.

Builder Reports: Bill Haas reported no fuel leaks in his fuel tank.

Builder Meeting: No report.

Social Coordinator: Ed Kirker reported Chapter Picnic and Flyin September 10 at Plattsmouth.

Christmas Party 2023 December 2023 (Gorats)

IMC/VMC:

IMC On Summer Break until October.

VMC On Summer Break until October.

VP: Bob Dyer, Looking for ideas on speakers.

PRESIDENT: Bob Dyer in place of Bruce Mundie

- **Ford Tri-Motor is coming to Millard August 7-14**
- Rides- We need volunteers to help August 11-13
- Shifts are 8:15am to 1:00pm, 1:00pm to 6:30pm
- **Contact Bruce Mundie to volunteer!**
- Training is required for all volunteers

Calendar:

Next Young Eagle event will be July 15. Then August 19, September 2. September 10 will

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- Flight Training
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- MCX Redbird Flight Simulator
- FAA Testing
- Pilot Supplies/Merchandise
- Aircraft Brokerage
- Aircraft Acquisition

KMLE 12916 Millard Airport Plaza Omaha, NE 402.934.5300 www.oracleaviation.com

Oracle Aviation

Chapter Build:

- Zenith: Fuel tanks were checked for leaks and no leaks were found. Cowling had to be re-worked.
- Club RV 12: No Update
- Glastar needs a volunteer to lead on this project.
- Regarding the Metrotech RV no updates.

Fly-outs: There were no Flyouts in June.

be at Plattsmouth in conjunction with Harvest Days. October 14, November 18.

July 10 Meeting at Oracle

July 24-30 AirVenture at Oshkosh

August 11-13 Ford Tri-Motor Visit

August 14 Meeting at Oracle

New Business: NONE

Old Business: Chapter Coffee Mugs and Koozies are being ordered.

Announcements:

Oshkosh camping sites are full but if you are coming out and staying a day or two there might be a way to get you in still.

Al Nelson is looking for partners to put together a flying club around the club's RV12. This is a great way to get into a great airplane at a lower up front cost. Call Al at 402-305-3941. He has a plan.

Presentation: Owen Grimm with FAA FAAST presented on the rules and regulations surrounding aircraft repair.

Next Meeting: The next chapter meeting is August 14 at Oracle Aviation, 7pm.

→Koehler's Korner→



A few weeks ago, one of my fellow pilots and RV-6 owner was doing the annual periodic safety inspection on his plane. As part of the inspection, of course, he did a

compression check on the Lycoming O-360-D2J. Lycomings seem to either have very good compression numbers, like better than 70/80 or they fail pretty miserably, like something below 40/80. Well, he had a 35 on one cylinder, and the air was escaping past the exhaust valve. Next was a borescope of the low cylinder and a very obviously burned valve on the edge at one side. The decision was made to pull the cylinder and send it to a local cylinder shop, which was done with the help of a friend.

Continental's, by the way, seem to have softer compression results, with fully acceptable numbers in the 50s and 60s. If you fly with a Continental engine, be sure to read all their service advice on proper interpretation of compression test results and be sure to check your compression tester with a proper Continental calibration orifice.

Back to my friend's Lycoming. Since he had one cylinder off, he was able to view the cam lobes and tappets behind that cylinder. Much to his irritation, there was obvious damage to

the cam and associated tappet faces. The engine has about 1300 hours on it and was running fine, so queries were sent out to overhaul shops for just a cam/tappet replacement. One shop responded and said they would be happy to do the work, but it would take 14-18 weeks and cost \$20,000!

We decided to do the work ourselves. It took two days to carefully remove the engine from the RV-6 with lots of photo documentation. Then it took two afternoons to disassemble the engine. Here is a picture of the cam.



On a boxer engine, the cam has one lobe that works the cylinders on opposite sides. In this case, on Lycomings, the exhaust lobe is shared, so there are three lobes for each two cylinders, or six lobes on a four-cylinder engine, or nine on a six-cylinder engine. The middle lobe is the shared exhaust lobe. Note also that the cam rotates at half the speed of the crankshaft, so the aluminum crankcase provides a sufficient bearing, and no additional bearing inserts are needed. Also note that the cam is geared to the crankshaft at the back. So, the lobes near the integral gear are for cylinders #3 and #4. One can clearly see the wear on the exhaust lobe for cylinders #1 and #2 versus #3 and #4. This badly worn lobe greatly reduced the lift on the exhaust valve, causing it to burn and fail the compression check.

Interestingly, the owner claims that the engine was running smoothly and developing good power from his recent experience flying formation with other RVs. So, what led to all this cam damage? The current theory is corrosion. As an engine sits through a day of temperature change, fresh moist air can be drawn into the crankcase as the air cools, and then the moisture can condense onto the metal surfaces inside the engine. The aluminum case heats and cools differently than the steel parts. On Lycomings the cam is above the crankshaft, in the very top of the crankcase. And the moisture tends to condense on the steel parts, which are high carbon steel, with only splash lubrication. This is why you should immediately bring a Lycoming up to 1000 to 1200 rpm after start to get splash lubrication on the cam and lifter bodies. The high carbon steel is extremely susceptible to corrosion, and once a small spot forms, the high pressures between the cam and the lifter faces guarantee wear at the pit, usually referred to as spalling. The following pictures are of the tappet faces in the case, the first for tappets associated with cylinders #1 and #3.



And the second for the left side or cylinders #2 and #4.



Inspection of the rest of the engine showed no damage. There is no evidence of any wear or scoring on the bearings. Lycomings have a reputation for very strong bottom ends. The owner used a full flow spin-on filter, changed the oil every 25 to 30 hours and regularly put STP in the oil. STP has excellent EP agents and has a lot of detergent agents which clean out the lead sludge in the engine. Indeed, the engine sump was pristine clean, with no sludge or deposits of any kind.

We bought a new PMAd Superior cam, eight new tappet bodies, a gasket kit, and some minor incidental parts like plain and star washers from AirPower in Texas for about \$1700. All the cylinders were sent to the local cylinder shop for R&R as necessary, plus honing and new rings. We do not have them back yet, but expect a cost in the neighborhood of \$2000 to \$2500, so we expect to have the engine back together for something like \$4000, a far cry from the overhaul shop's quote of \$20,000! The engine has been fully reassembled in two easy afternoons, and just awaits return of the cylinders, which are promised next week, again a far cry from the overhauler's estimate of 14-18 weeks.

Keep in mind that this work is on an Experimental Amateur Built aircraft. The owner will sign for all the work since it is all just normal maintenance.

I hope this little discussion of engine repair helps you better build and maintain your homebuilt.

Keep building, flying, and maintaining.

Dick 7/2023

What the MOSAIC NPRM?!?!

The Modernization of Special Airworthiness Certification Notice of Proposed Rule Making (MOSAIC NPRM) is a new proposal to change the definition of a Light Sport Aircraft (LSA) and sport pilot rules.

A link to the proposal is here (pdf version):
<https://public-inspection.federalregister.gov/2023-14425.pdf>

Directly from the proposal summary:

The FAA proposes to amend rules for the manufacture, certification, operation, maintenance, and alteration of light-sport aircraft. The proposed amendments would enable enhancements in safety and performance and would increase privileges under a number of sport pilot and light-sport aircraft rules. These enhancements include increasing suitability for flight training, limited aerial work, and personal travel. This proposed rule would expand what aircraft sport pilots may operate. This NPRM also includes proposals to amend the special purpose operations for restricted category aircraft; amend the duration, eligible purposes, and operating limitations for experimental aircraft; and add operating limitations applicable to experimental aircraft engaged in space support vehicle flights to codify statutory language.

Photos!

Misc



Special thanks to Dave Seger who led and coordinated the EAA Chapter 80 camp site at Air Venture 2023. While the weather was a little warm, the camp site was much more roomie than last year and ultimately fun was had by all. Let's do it again next year!

Photos!

Chapter Build RV-12ULS



The chapter build RV-12ULS continues at ABLE ACE. The rudder and horizontal stabilizer have been fitted and several factory service bulletins have been addressed. Build on!



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Upcoming Webinars

Unbelievable Compressions

Qualifies for FAA WINGS and AMT credit.
8/9/23, 7 p.m. CDT
Mike Busch

Vintage Aircraft Parts Substitution

Qualifies for FAA WINGS and AMT credit.
8/16/23, 7 p.m. CDT
Tom Charpentier

Swift Fuels Unleaded Avgas

Qualifies for FAA WINGS and AMT credit.
8/23/23, 7 p.m. CDT
Chris D'Acosta

Introduction to Siemens Solid Edge CAD Program

8/30/23, 7 p.m. CDT
Doug Stainbrook

Legal Interpretations

Qualifies for FAA WINGS and AMT credit.
9/6/23, 7 p.m. CDT
Mike Busch

The Sikorsky S-38

Museum Webinars Series
9/12/23, 7 p.m. CDT
Chris Henry

Dealbreakers - Lessons Learned from Prebuy Examinations

Qualifies for FAA WINGS and AMT credit.
9/13/23, 7 p.m. CDT
Prof. H. Paul Shuch

IAC Aerobatic Center Highlights from AirVenture 2023

9/20/23, 7 p.m. CDT
Lorrie Penner

Fortunate Catch

Qualifies for FAA WINGS and AMT credit.
10/4/23, 7 p.m. CDT
Mike Busch

Cloudy With A Chance of PIREPs

Qualifies for FAA WINGS credit
11/08/23, 7 p.m. CST
Prof. H. Paul Shuch

These are the current webinars listed on eaa.org.
Please check the site at:
www.eaa.org/en/eaanews-and-publications/eaawebinars to see if there are other webinars available.

<u>EAA 80 MONTHLY TREASURER REPORT</u>		
Jul-23		
Opening Balance		\$6,859.02
DEPOSITS	Dues	\$545.00
	OSH Camping	\$1,200.38
EXPENSES		
	Oak View Rent	\$150.00
Ending Balance		<u>\$8,454.40</u>

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 officer to inquire about making a tax free donation.



EAA CHAPTER 80

NEW MEMBER APPLICATION FORM

CONTACT INFORMATION

NAME:	<input type="text"/>	EAA #:	<input type="text"/>
HOME ADDRESS:	<input type="text"/>	SPOUSE NAME:	<input type="text"/>
E-MAIL ADDRESS:	<input type="text"/>	HOME PHONE #:	<input type="text"/>
PROFESSION:	<input type="text"/>	CELL PHONE #:	<input type="text"/>
RETIRED? [<input type="checkbox"/> Yes <input type="checkbox"/> No]		STUDENT? [<input type="checkbox"/> Yes <input type="checkbox"/> No]	

MEMBERSHIP PROFILE

OWNED AIRCRAFT? [<input type="checkbox"/> Yes <input type="checkbox"/> No]	TYPE: <input type="text"/>	N-NUMBER: <input type="text"/>
AIRCRAFT BUILDER? [<input type="checkbox"/> Yes <input type="checkbox"/> No]	TYPE: <input type="text"/>	% COMPLETE: <input type="text"/>
AIRPORT BASE: <input type="text"/>	HANGER: <input type="text"/>	
PILOT LICENSE/RATINGS: <input type="text"/>		
JOIN E-MAIL GROUPS: [<input type="checkbox"/> Fly-Out <input type="checkbox"/> Builders <input type="checkbox"/> Young Eagles <input type="checkbox"/> AirVenture <input type="checkbox"/> Chapter Build]		
YOUNG EAGLE VOLUNTEER? [<input type="checkbox"/> Yes <input type="checkbox"/> No]	YOUTH PROTECTION TRAINING CURRENT? [<input type="checkbox"/> Yes <input type="checkbox"/> No]	
OK TO PUBLISH INFO. IN CHAPTER DIRECTORY? [<input type="checkbox"/> Yes <input type="checkbox"/> No]	DO YOU HAVE A NAME TAG? [<input type="checkbox"/> Yes <input type="checkbox"/> No]	YEAR JOINED EAA80? <input type="text"/>

ANNUAL DUES – \$25 (\$15 STUDENT)

PAYMENT FOR YEAR(S):	[<input type="checkbox"/> 2023 <input type="checkbox"/> 2024 <input type="checkbox"/> 2025 <input type="checkbox"/> 2026 <input type="checkbox"/> 2027]		
PAYMENT DETAILS:	TYPE: <input type="text"/>	AMOUNT: <input type="text"/>	DATE: <input type="text"/>

MAIL CHECK TO:

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